AnnAGNPS Version 6.00:

Input File Specifications for CSV-formatted Input Data

January 2, 2024

Input Specification Document for AnnAGNPS

User Responsibility

Results from the model can be extremely sensitive to the input data. It is the user's responsibility to ensure that all input data (whether it is actually entered or implied through default values for blank data fields) is appropriate for the watershed and watershed conditions being analyzed. Operations data is of particularly importance as it defines the changes that occur in the watershed over the simulation period.

AnnAGNPS Operation Modes

AnnAGNPS can now be operated in only one mode. The standard mode (AnnAGNPS) allows for continuous simulation of a watershed using a daily time step. The second mode, previously available, called the AGNPS mode is no longer supported because it can be duplicated by the AnnAGNPS mode which can be used for a simulation period of one day.

Input Files for AnnAGNPS

These specifications apply to AnnAGNPS version 6.00 csv-formatted input files. Previous versions of input specifications will apply to associated input files of those previous versions. It is recommended that the input files be brought up to the current version of AnnAGNPS.

There are four possible user-input file types to AnnAGNPS. Of the four, two are required and two are optional. AnnAGNPS requires watershed input data and daily climate input data. The user may optionally supply a control file or storm type input data. The input data types are described in more detail below.

1.) Control file – optional
2.) Watershed input data – required
3.) Daily climate input data – required
4.) Storm type input data – optional

There are currently two input formats that AnnAGNPS recognizes for watershed data, climate data, and storm type data. One format is Fixed-Formatted Data (FFD) and the other is CSV-formatted data (CSV). The following is a brief description of the two formats:

1.) Fixed-formatted Data (FFD) – FFD is a text-based input format that has all data contained within fields of records made up of a fixed starting and ending columns. This is a very rigid format and all data must fall correctly within the starting and ending column as specified in the input specifications document "***Input_Specifications.PDF***".

2.) CSV-formatted Data (CSV) – CSV is a format where commas are used to separate the data values. Watershed data in this format can be created and modified in common applications such as Excel and then used as input directly into AnnAGNPS. Data fields (or columns in Excel) must still be in a certain order as specified in this input specifications document.

Note: This document is only concerned with the CSV-formatted data. For information on the FFD-formatted data, please view the "***Input_Specifications.PDF***" document.

Note: For a detailed explanation of input files and formats, please view the ***"AnnAGNPS_User's_Guide_for_Input_Files_&_Formats.pdf"*** document.

CONTROL FILE: "ANNAGNPS.FIL" OR "ANNAGNPS.CSV"

Historically, AnnAGNPS has used an optional FFD control file that can be used to specify the path and filename of watershed data, climate data, and storm type data. The name of the control file is required to be "AnnAGNPS.fil". A new control file called, "AnnAGNPS.csv" has been added with version 6.00. This is a csv-formatted control file described below.

If neither "AnnAGNPS.fil" nor "AnnAGNPS.csv" are present, then two input files are required and must be in FFD format. The watershed input filename must be "AnnAGNPS.inp" and the climate filename must be "DayClim.inp". If the optional storm type input file is to be used, then the storm type filename must be "Storm_Type.inp". The tables in this document give detailed information as to the layout of the data for these three inputs.

If "AnnAGNPS.fil" is used, then AnnAGNPS reads this file first to determine the path and filename of the watershed data, climate data, and optionally, the storm type data.

"AnnAGNPS.fil" consists of three records:

1.) The first record is the path and filename of the CSV master list file which will be briefly described later in this document. A more detailed explanation can be found in the ***"AnnAGNPS_User's_Guide_for_Input_Files_&_Formats.pdf"*** document. The extension of the CSV master list file must be ".csv". If this record is blank then AnnAGNPS assumes the FFD default watershed input file name of "AnnAGNPS.inp" and expects all input data to be in FFD format.

2.) The second record is the path and filename of the FFD climate file. If the watershed input file is in CSV format, then the climate data may also be in CSV format and its path and filenames specified in the csv master list as described below. If the watershed input file is in FFD format, then the climate data must also be in FFD format. If the climate data is in FFD format and this record is blank then AnnAGNPS assumes the default climate input file name of "DayClim.inp".

3.) The third record is the path and filename of the optional storm type file. If the watershed input file is in CSV format, then the storm type data may also be in CSV format and its path and filenames specified in the csv master list as described below. If the watershed input file is in FFD format, then the storm type data must also be in FFD format. If the storm type data is in FFD format and this record is blank then AnnAGNPS assumes the default storm type input file name of "Storm_Type.inp".

The file path is optional and if omitted, then AnnAGNPS expects the input files to be in the same folder as the AnnAGNPS executable file.

If "AnnAGNPS.csv" is used, then AnnAGNPS reads this file first to determine the path and filename of the watershed data, climate data, and optionally, the storm type data.

"AnnAGNPS.csv" consists of two records:

1.) The first record contains the keyword headers of which there are three:
   a.) "MASTER" – This required keyword record allows the user to specify the name and location of the AnnAGNPS watershed input file that is to be used. If the filename is not included then AnnAGNPS will produce an error message and terminate execution. REQUIRED; NO DEFAULT
   b.) "CLIMATE" – This optional keyword record allows the user to specify the name and location of the fixed-formatted (FFD) primary climate file to be used. If the watershed input file is in CSV format, then the climate data may also be in CSV format and its path and filenames specified in the csv master list file. If the climate data is in FFD and this record is blank then AnnAGNPS assumes the default climate input file name of "DayClim.inp". DEFAULT = "DayClim.inp"
   c.) "STORM_TYPE" – This optional keyword record allows the user to specify the name and location of the optional fixed-formatted (FFD) storm type file to be used. If the watershed input file is in CSV format, then the storm type data may also be in CSV format and its path and filenames specified in the csv master list. If the watershed input file is in FFD format, then the storm type data must also be in FFD format. If the storm type data is in FFD format and this record is blank then AnnAGNPS assumes the default storm type input file name of "Storm_Type.inp". DEFAULT = "Storm_Type.inp"

2.) The second record contains the associated values for each of the included keyword headers. Each included value must be a valid path/filename to the referenced file.

For example:

MASTER	CLIMATE	STORM_TYPE
annagnps_master.csv	./climate/climate.inp	./climate/storm_type.inp

If both, "AnnAGNPS.fil" and "AnnAGNPS.csv" are present, then the "AnnAGNPS.csv" will be used as the control file.

WATERSHED INPUT FILE(S):

Since the inception of AnnAGNPS, the watershed input file has been required. The watershed input file contains all of the data that describes the watershed. It also contains control information used to specify various parameters such as the period of

simulation along with any initialization period and initial conditions. If the control file "AnnAGNPS.fil" is not used then the watershed input filename must be "AnnAGNPS.inp" and uses the FFD format.

AnnAGNPS accepts the watershed input data in one of two formats; fixed-formatted (FFD) and csv-formatted (CSV). This document is only for the csv-formatted input data.

CSV formatted data – this format requires multiple CSV input files. Typically, there is one CSV input file per data section as described in this document. There are a few sections where a second CSV input file may be required. For example, soils require two csv input files; one describes the soil and the other contains the soil layer information. The first record of each CSV input file is a header record that describes the parameter expected for that column. The proceeding record(s) in the input file will contain the appropriate data.

A CSV formatted master list file is needed so that AnnAGNPS can determine the path and filename of the CSV input files to be used. There is no required data section order in the master list because AnnAGNPS will read the master list and sort it into the required order before attempting to read the data. Also, there is no requirement on the name of the master list except that it must have the ".csv" extension and be a CSV formatted file. The user would use this master list filename on the first record of the "AnnAGNPS.fil" control file to indicate to AnnAGNPS that the watershed inputs are CSV formatted input files.

The ***"AnnAGNPS_User's_Guide_for_Input_Files_&_Formats.pdf"*** document contains a more detailed explanation of the csv master list file. A table giving a brief example is included in this document below.

DAILY CLIMATE INPUT FILE:

Daily climate information must be supplied covering the entire period of simulation. A primary climate dataset is required for AnnAGNPS. If the watershed input file is FFD then the climate file must also be FFD. If the watershed inputs are from CSV files as described above then the climate data may be FFD or CSV files that contain daily climate information for the watershed. The contents, layout, and descriptions are contained in the "***Input_Specifications.PDF***" documentation for FFD and this document for CSV. If the control file "AnnAGNPS.fil" is not used then the climate data must be FFD and the filename must be "DayClim.inp".

If the climate data is in CSV format, then two entries are required in the master list:
1.) "Climate Data – Daily" – the primary station's daily climate records (required)
2.) "Climate Data – Station" – the primary station's information (required)

STORM TYPE INPUT FILE:

An optional storm type input file may be used. This file allows for user-customized storm type input data. If the watershed input file is FFD then the storm type file must also be FFD. If the watershed inputs are from CSV files as described above then the storm type data may be FFD or CSV files that contain storm type information for the watershed. The contents, layout, and descriptions are contained in the "***Input_Specifications.PDF***" documentation for FFD and this document for CSV. If the control file is not used then the storm type data must be FFD and the filename must be "Storm_Type.inp".

If the storm type data is in CSV format, then two entries are possible in the master list:
1.) "Storm Type Data – RFD" – the rainfall distribution file (required)
2.) "Storm Type Data – UPDRC" – the unit peak discharge regression coefficients (optional)

RUSLE2 CSV-FORMATTED EROSION INPUT FILE(S) (.CSV):

Starting with AnnAGNPS v5.50, RUSLE2 erosion values and particle size distributions may be inputted directly via a csv-formatted input file(s). The input filenames will be specified in the RUSLE2 Data section as described further in this document. The user will specify whether RUSLE2 erosion is to be used or if AnnAGNPS will calculate erosion using RUSLE as historically done.

The user may specify input parameters within the "Global Ids, Factors, and Flags Data", "Cell Data", and "RUSLE2 Data" sections to instruct AnnAGNPS to use RUSLE2 erosion values retrieved from the file(s) the user provides. There are also two output options data sections that have parameters for reporting RUSLE2 information: "OUTPUT OPTIONS – DPP" AND "OUTPUT OPTIONS - NPT".

The input file must adhere to the following format where the first record is the required header line and records 2 – n are the data records:

Date	Erosion [tns/ac]	Clay [%]	Silt [%]	Sand [%]	Small Aggregate [%]	Large Aggregate [%]
01/01/1982	0.0	5.2003	23.9975	6.5531	36.0018	28.2473
01/02/1982	1.9					
…	…					
12/31/1982	0.0					

The date and erosion value are required as columns 1 and 2. However, the particle size distributions are optional. If present, only the first data record needs to be populated as shown above and total 100%. These values are used for each day of the simulation. If the distribution values are not present as shown in the table below, then AnnAGNPS will determine the particle size distributions.

Date	Erosion [tns/ac]
01/01/1982	0.0
01/02/1982	1.9
…	…
12/31/1982	0.0

Table Layout Information

There are two informational table layouts used in this document; 1.) data parameter definitions; and 2.) layout matrix.

DATA PARAMETER DEFINITION TABLE

The first portion of this document contains tables with the following information:

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.

Description – describes the data parameter.
Field Header for Record #1 – every csv-formatted input file for AnnAGNPS requires a header row. Rows are commonly called "records" and is the term used throughout this document. The header record contains the column headings, commonly called "fields" as used throughout this document, for each data parameter. This header record is always located as the first record in the csv input file. This column in the table shows the required header information expected by AnnAGNPS.
Units {English} [SI] – This column shows the units that are expected for each of the data parameters.
Domain {English} [SI] – This column shows the range of values that are acceptable to AnnAGNPS for each data parameter.
Format – This column shows the acceptable format of data that is acceptable to AnnAGNPS for each data parameter.
Record No. – There are only two records defined in the tables. Record one is always the header record. All data begins on record two and repeats as needed for remaining data. For example, a watershed data set may have 100 cells. The csv input file will have the column headings on record one. Records 2 – 101 will contain all cell information. Each record contains information for one cell.
Field No. – This column contains the numerical column index of each data parameter.

LAYOUT MATRIX TABLE

The second portion of the document contains tables with the following information:

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field m
1	Cell_ID	Soil_ID	Mgmt_Field_ID	Reach_ID	Reach_Location_Code	Cell_Area	
2							

Record – there are two records shown in the layout matrix. Record 1 contains the field (column) headings for each of the data parameters in the data section as required by AnnAGNPS. This header record is required for each data section. Record two is left blank in this document but illustrates that data values are stored in records 2 – n, where n is the number of data records that may exist in a data section. For example, if there are 100 cells represented in the cell data section then record 1 contains the header information and records 2 – n contain the data; one record per cell.

Field – the number of fields (columns) depends on the number of data parameters in the data section. There is one field per data parameter. For example, the cell data section currently contains 34 data parameters; therefore, there will be 34 fields per record.

INPUT PARAMETER DEFINITION: ANNAGNPS.FIL

<table>
<tr><th>Description</th><th>Domain</th><th>Format</th><th>Record No.</th><th>Field No.</th></tr>
<tr><td>AnnAGNPS Input File Name—Path and file name to the AnnAGNPS Input file. If blank, the default “AnnAGNPS.inp” will be used for the filename and all input data is expected in fixed format (FFD).

If a filename is entered in this field with a .csv extension, then it is assumed that it is a csv file that contains the master list of csv input files for AnnAGNPS. The AnnAGNPS Input Editor is able to export watershed data into separate csv files and will create the related master list csv file with a default filename of “annagnps_master.csv. The csv master list is comprised of two columns of data; 1.) Data Section ID (column 1) and must be exact as defined for each data section described in this documentation; 2.) The file path and filename (column 2). The first row is a required header row. The following table is an example:

<table>
<tr><td>Data Section ID</td><td>File Path</td></tr>
<tr><td>AnnAGNPS ID</td><td>c:\~agedit\simulation\annaid.csv</td></tr>
<tr><td>Cell Data</td><td>c:\~agedit\watershed\celldata.csv</td></tr>
<tr><td>Crop Data</td><td>c:\~agedit\general\cropdata.csv</td></tr>
<tr><td>Simulation Period Data</td><td>c:\~agedit\simulation\sim_period.csv</td></tr>
<tr><td>Watershed Data</td><td>c:\~agedit\watershed\watershed_data.csv</td></tr>
<tr><td>Wetland Data</td><td>c:\~agedit\watershed\wetland.csv</td></tr>
</table>
</td><td>Computer platform acceptable path and filename</td><td>A80</td><td>1</td><td>1</td></tr>
<tr><td>Climate Input File Name—For climate data in CSV format, this field should be left blank and entries made in the csv master list file for the climate data. There are two required csv-formatted climate files needed; one for climate station information and the other for daily climate data. These are described later in this document.

Secondary climate files may be used in AnnAGNPS. The secondary climate filenames do not go into the “AnnAGNPS.fil” file. The secondary climate files are specified in the CELL DATA section in the field labeled “Climate file ID:” and must have the same 'root' as the primary climate file. For example, if the primary climate filename is "climate_daily.csv" as specified in the csv master list file, then the related secondary files must have the same 'root' name of "climate_daily" followed with the underscore character "_" and then a user-specified appendage such as "01".

For example:
Primary climate: "climate_daily.csv" (Specified in the csv master list file.)
Secondary filenames:
"climate_daily_01.inp"
"climate_daily_02.inp"
"climate_daily_03.inp"
"climate_daily_04.inp"
"climate_daily_05.inp"
"climate_daily_06.inp"

Then the individual cells in the Cell Data section for which a secondary climate file is to be used would specify the secondary climate ID appendage of "01", "02", "03", "04", "05", or "06".</td><td>Computer platform acceptable path and filename</td><td>A80</td><td>2</td><td>1</td></tr>
<tr><td>Storm Type Data Input File Name— For storm type data in CSV format, this field should be left blank and entries made in the csv master list file for the storm type data. There are two possible csv-formatted storm type files; one for the rainfall distribution and the other for unit peak discharge regression coefficients data. These are described later in this document.</td><td>Computer platform acceptable path and filename</td><td>A80</td><td>3</td><td>1</td></tr>
</table>

Description	Domain	Format	Record No.	Field No.
Blank Line			Last	

INPUT FILE LAYOUT MATRIX: ANNAGNPS.FIL

Data Field 1	Data Field 2	Data Field 3	Data Field 4	Data Field 5	Data Field 6	Data Field 7	Data Field 8
AnnAGNPS csv master list input file name							
Daily Climate Data input file name (leave blank if csv inputs are used for climate data)							
Storm Type Data input filename (leave blank if csv inputs are used for storm type data)							

AnnAGNPS: CSV-formatted Input File Descriptions

DATA SECTION REQUIREMENTS

	Data Section Heading	Required	Optional		Referenced by Data Section(s)
			Independent	Dependent	
1.	ANNAGNPS ID*	X			
2.	WATERSHED DATA	X			
3.	SIMULATION PERIOD DATA	X			
4.	GLOBAL ERROR AND WARNING LIMITS DATA		X		
5.	GLOBAL IDS, FACTORS, AND FLAGS DATA		X		
6.	SOIL INITIAL CONDITIONS DATA			X	“SOIL DATA”
7.	PESTICIDE INITIAL DATA		X		
8.	PL CALIBRATION DATA		X		
9.	RCN CALIBRATION DATA			X	“CELL DATA”
10.	AQUACULTURE POND DATA		X		
11.	AQUACULTURE POND MANAGEMENT SCHEDULE DATA			X	“AQUACULTURE POND DATA”
12.	CELL DATA	X			“AQUACULTURE POND DATA”, “CLASSIC GULLY DATA”, “EPHEMERAL GULLY DATA”, “FEEDLOT DATA”, “FIELD POND DATA”, “LANDSLIDE DATA”, “POINT SOURCE DATA”, “RIPARIAN BUFFER DATA”
13.	CLASSIC GULLY DATA		X		
14.	CONTOUR DATA			X	“MANAGEMENT SCHEDULE DATA”
15.	CROP DATA			X	“MANAGEMENT SCHEDULE DATA”
16.	EPHEMERAL GULLY DATA		X		
17.	FEEDLOT DATA		X		
18.	FEEDLOT MANAGEMENT DATA			X	“FEEDLOT DATA”
19.	FERTILIZER APPLICATION DATA			X	“MANAGEMENT SCHEDULE DATA”
20.	FERTILIZER REFERENCE DATA			X	“FERTILIZER APPLICATION DATA”
21.	FIELD POND DATA		X		
22.	GEOLOGY DATA			X	“CELL DATA”, “GLOBAL IDS, FACTORS, AND FLAGS DATA”
23.	HYDRAULIC GEOMETRY DATA			X	“CELL DATA”, “EPHEMERAL GULLY DATA”, “GLOBAL IDS, FACTORS, AND FLAGS DATA”, “REACH DATA”
24.	IMPOUNDMENT DATA		X		
25.	IRRIGATION APPLICATION DATA			X	“MANAGEMENT SCHEDULE DATA”
26.	LANDSLIDE DATA		X		
27.	MANAGEMENT FIELD DATA	X			“CLASSIC GULLY DATA”, “EPHEMERAL GULLY DATA”, “LANDSLIDE DATA”
28.	MANAGEMENT OPERATION DATA			X	“MANAGEMENT SCHEDULE DATA”
29.	MANAGEMENT SCHEDULE DATA	X			“MANAGEMENT FIELD DATA”
30.	NON-CROP DATA			X	“MANAGEMENT SCHEDULE DATA”
31.	PESTICIDE APPLICATION DATA			X	“MANAGEMENT SCHEDULE DATA”, “SIMULATION PERIOD DATA”
32.	PESTICIDE REFERENCE DATA			X	“PESTICIDE APPLICATION DATA”
33.	POINT SOURCE DATA		X		

	Data Section Heading	Required	Optional		Referenced by Data Section(s)
			Independent	Dependent	
34.	REACH DATA	X			"CELL DATA", "CLASSIC GULLY DATA", "EPHEMERAL GULLY DATA", "IMPOUNDMENT DATA"
35.	REACH NUTRIENT HALF-LIFE		X		
36.	RIPARIAN BUFFER DATA		X		
37.	RUNOFF CURVE NUMBER DATA	X			"MANAGEMENT SCHEDULE DATA"
38.	RUSLE2 DATA			X	"CELL DATA", "GLOBAL IDS, FACTORS, AND FLAGS DATA"
39.	SOIL DATA	X			"CELL DATA", "CLASSIC GULLY DATA", "EPHEMERAL GULLY DATA", "LANDSLIDE DATA"
40.	STRIP CROP DATA			X	"MANAGEMENT SCHEDULE DATA"
41.	TILE DRAIN DATA			X	"MANAGEMENT FIELD DATA"
42.	WETLAND DATA		X		
43.	OUTPUT OPTIONS DATA		X		
44.	END DATA	X			

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ANNAGNPS ID

Required

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field as listed below.				A	1	1-5
Watershed File Input Version ID—Unique alphanumeric string identifying the watershed file's input.	**"Version"**		**6.00**	A4	2	1
Input Units code—Code identifying whether input is in English or metric units. Acceptable values are: 0 = English ,1 = SI (Blank indicates 0)	**"Input_Units"**		Blank, 0 or 1	I1	2	2
Output Units code—Code identifying whether output is in English or metric units. Acceptable values are: 0 = English ,1 = SI (Blank indicates 0)	**"Output_Units"**		Blank, 0 or 1	I1	2	3
CCHE1D Output Units code—Code used to identify output units for output file to be used with CCHE1D file. Acceptable values are: 0 = English ,1 = SI (Blank indicates no CCHE1D output desired)	**"CCHE1D_Output_Units"**		Blank, 0 or 1	I1	2	4
Screen Output code—Code indicating whether screen output is desired. To be used when AnnAGNPS is embedded within an preprocess/post-process code. Leave blank when directly running AnnAGNPS. Acceptable codes are: 0 = Screen output 1 = No screen output. (Blank indicates 1)	**"Screen_Output_Units"**		Blank, 0 or 1	I1	2	5

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AQUACULTURE POND DATA

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-13
The following record repeats for the number of Aquaculture ponds.						
Pond identifier—unique alphanumeric string identifying the aquaculture pond. Multiple aquaculture ponds within the same cell may be aggregated and entered as a single pond for simulation convenience.	**"Pond_ID"**			A100	2	1

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Pond-Cell identifier—alphanumeric string identifying cell that contains the aquaculture pond(s). Must be the same as a cell identifier in the CELL DATA section already included within the watershed.	**"Cell_ID"**			A100	2	2
Pond area—area of aquaculture pond(s). Multiple aquaculture ponds in the same cell may be aggregated together as a single aquaculture pond for convenience. Defaults to cell area.	**"Pond_Area"**	{acres} [hectares]	Blank, {0.0—10000.0} [0.0—4000.0]	F10	2	3
Pond depth—Maximum depth of water in the aquaculture pond	**"Pond_Depth"**	{in} [mm]	{0.0 to 393.72} [0.0 to 10000.0]	F10	2	4
Seepage Rate--- Daily water loss due to seepage. If left blank, the seepage loss will be 0.	**"Seepage_Rate"**	{in/day} [mm/day]	Blank, {0.0 to 393.72} [0.0 to 10000.0]	F10	2	5
Sediment Delivery Ratio—Fraction of pond discharge delivered to the receiving reach. If left blank, the value is assumed to be 1.0.	**"Sediment_Delivery_Ratio"**		Blank, 0.0 – 1.0	F10	2	6
Relative Rotation Year—Relative year in the aquaculture pond management rotation for starting simulation for this aquaculture pond. (Example: For a 3 year rotation, starting year can be 1, 2 or 3). Blank defaults to 1.	**"Relative_Rotation_Year"**		Blank, or 1 to 100	I10	2	7
Pond Management Schedule Identifier—alphanumeric string identifying the Aquaculture Pond Management Schedule for this aquaculture pond.	**"Mgmt_Schd_ID"**			A100	2	8
Organic Carbon Calibration Factor—used to calibrate aquaculture pond organic carbon for this pond only. Defaults to the watershed-scale organic carbon from pond sources calibration factor in the PL CALIBRATION DATA section.	**"OC_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	9
Nitrogen Calibration Factor—used to calibrate aquaculture pond nitrogen for this pond only. Defaults to the watershed-scale nitrogen from pond sources calibration factor in the PL CALIBRATION DATA section.	**"N_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	10
Phosphorus Calibration Factor—used to calibrate aquaculture pond phosphorus for this pond only. Defaults to the watershed-scale phosphorus from pond sources calibration factor in the PL CALIBRATION DATA section.	**"P_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	11
Erosion Calibration Factor—used to calibrate aquaculture pond erosion for this pond only. Defaults to the watershed-scale sediment from pond sources calibration factor in the PL CALIBRATION DATA section.	**"Erosion_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	12
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**		Blank, 0 or 1	I1	2	13
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AQUACULTURE POND MANAGEMENT SCHEDULE DATA

Optional unless referenced in Aquaculture Pond Data

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-45
The following record repeats for the number of Aquaculture pond events.						
Aquaculture Pond Management Schedule identifier—unique alphanumeric string identifying the Aquaculture pond management schedule. Multiple aquaculture ponds within the same cell may be aggregated and entered as a single pond for simulation convenience. (Note - Required for first event of each schedule; leave blank for subsequent events within a schedule.)	**"Pond_Mgmt_Schd_ID"**			A100	2	1

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Event Date—Month, day, and relative year (within a set of aquaculture pond operations) water additions and releases. This day will be converted internally from a relative rotation date (mm/dd/ry) to a 2-dimensional variable which will be the rotation year & Julian day for the event. Blank year defaults to 1.	**"Month"** **"Day"** **"Year"**	mm dd yy	1-12 1-31 Blank, 1-99	I2, I2, I2	2	2-4
Water Operation code—Code that specifies the type of fill or release. 0 = Fill 1 = Initial Drain 2 = Midseason Drain 3 = Harvest Drain 4 = Other release. Options 1,2,3 for rice only.	**"Water_Operation_Code"**		Blank, 0 or 1	I1	2	5
Aquaculture Identifier—unique alphanumeric string identifying the aquaculture type. May be entered for the first event in the schedule or when a change occurs. Currently, only "Crawfish" is allowed.	**"Aquaculture_ID"**		Blank, "Crawfish"	A100	2	6
Crop Identifier——unique alphanumeric string identifying the crop, if any. Currently only "Rice", "Sorghum", "Native" are allowed. To be entered on the day the crop is planted.	**"Crop_ID"**		Blank, "Rice", "Sorghum", "Native"	A100	2	7
Planting Type Code – Code that specifies the planting type. Allowable Entries are: 1 – No-till, 2 – Water-seeded with retention, 3 – Clear Water, 4 – Traditional water seeding Currently used for rice only.	**"Planting_Type_Code"**		Blank, 1-4	I1	2	8
Gate Open/Close—Indicator for whether the filed pond gate is closed (pond exists) or open (pond does not exist).	**"Gate_Status"**		Blank, "Open", "Close"	A5	2	9
Maximum Pool Depth—Upper limit for depth of water in pond. If the water level exceeds this depth due to filling or precipitation the excess amount will go into the receiving reach of the cell. This maximum will be maintained until reset, or a gate status change occurs.	**"Max_Pool_Depth"**	{in} [mm]	Blank, {0.0 to 393.72} [0.0 to 10000.0]	F10	2	10
Minimum Pool Depth—Lower limit for depth of water in pond. This minimum will be maintained until reset, or a gate status change occurs.	**"Min_Pool_Depth"**	{in} [mm]	Blank, {0.0 to 393.72} [0.0 to 10000.0]	F10	2	11
Fill/Release Volume—amount of water added to or released from the aquaculture pond on this date; depth in linear units. May be left blank if release rate is entered.	**"Fill/Release_Vol"**	{in} [mm]	Blank, {>0. – 99999.} [>0 – 4000.]	F10	2	12
Fill/Drain Time—time for the current fill/release. Will be used if the fill/release rate field is blank. A blank in both the fill/drain time & fill/ release rate fields will default to a 24-hr fill/drain time.	**"Fill/Drain_Time"**	hr	Blank, > 0.0—48.0	F10	2	13
Fill/Release Rate—rate of aquaculture pond fill/release as depth in linear units per hour. May be left blank, in which case the rate will be calculated from the values for the volume of fill/release water (and pond area) and fill/drain time. A blank in both the fill/drain time & fill/release rate fields will default to a 24-hr fill/drain time.	**"Fill/Release_Rate"**	{in/hr} [mm/hr]	Blank, {>0. – 99999.} [>0. – 4000.]	F10	2	14
Fill/Drain All—code indicating that the pond is to be filled the maximum depth or drained to the minimum depth Enter "1" for true, or leave blank for false.	**"Fill/Drain_All_Code"**		Blank, 1	I1	2	15
Total Sediment Concentration—Concentration of suspended sediment in the fill/release water	**"Total_Sed_Conc"**	ppm	Blank, 0. – 999999.	F10	2	16
Clay Content—Percentage of suspended sediment that is clay in the fill/release water. Default is 0. for fills. For releases, the value is internally calculated based on pond management, if possible; is 0. otherwise.	**"Clay_Content"**	%	Blank, 0. – 100.	F10	2	17
Silt Content—Percentage of suspended sediment that is silt in the fill/release water. Default is 0. for fills. For releases, the value is internally calculated based on pond management, if possible; is 0. otherwise.	**"Silt_Content"**	%	Blank, 0. – 100.	F10	2	18
Total Nitrogen—Total concentration of nitrogen in water added to or released from the aquaculture pond. Default is 0. for fills. For releases, the value is internally calculated based on pond management, if possible; is 0. otherwise.	**"Total_N"**	ppm	Blank, 0. – 999999.	F10	2	19

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Dissolved Nitrogen—total concentration of dissolved nitrogen in water added to or released from the Aquaculture pond. Default is 0. for fills. For releases, the value is internally calculated based on pond management, if possible; is 0. otherwise.	**"Dissolved_N"**	ppm	Blank, 0. – 999999.	F10	2	20
Total Phosphorus—total concentration of Phosphorus in water added to or released from the Aquaculture pond. Default is 0. for fills. For releases, the value is internally calculated based on pond management, if possible; is 0. otherwise.	**"Total_P"**	ppm	Blank, 0. – 999999.	F10	2	21
Dissolved Phosphorus—concentration of dissolved Phosphorus in water added to or released from the Aquaculture pond. Default is 0. for fills. For releases, the value is internally calculated based on pond management, if possible; is 0. otherwise.	**"Dissolved_P"**	ppm	Blank, 0. – 999999.	F10	2	22
Pesticide Applications—Number of pesticide applications associated with the event. Currently not used – Reserved.	**"Num_Pest_Apps"**		Blank	I10	2	23
Seasonally Adjust Concentrations—Start/Stop use of seasonal average concentrations. Must supply values below, if "Y" is entered. Y = Yes(Start) N = No(Stop) Blank is no change.	**"Season_Adjust_Conc"**		Blank, 'Y' or 'N'	A10	2	24
Sediment Concentration—Winter	**"Sed_Conc_Winter"**	ppm	Blank, 0. – 999999.	F10	2	25
Total Nitrogen—Winter	**"Total_N_Winter"**	ppm	Blank, 0. – 999999.	F10	2	26
Dissolved Nitrogen—Winter	**"Dissolved_N_Winter"**	ppm	Blank, 0. – 999999.	F10	2	27
Total Phosphorus—Winter	**"Total_P_Winter"**	ppm	Blank, 0. – 999999.	F10	2	28
Dissolved Phosphorus—Winter	**"Dissolved_P_Winter"**	ppm	Blank, 0. – 999999.	F10	2	29
Sediment Concentration—Spring	**"Sed_Conc_Spring"**	ppm	Blank, 0. – 999999.	F10	2	30
Total Nitrogen—Spring	**"Total_N_Sprin g"**	ppm	Blank, 0. – 999999.	F10	2	31
Dissolved Nitrogen—Spring	**"Dissolved_N_Spring"**	ppm	Blank, 0. – 999999.	F10	2	32
Total Phosphorus—Spring	**"Total_P_Sprin g"**	ppm	Blank, 0. – 999999.	F10	2	33
Dissolved Phosphorus—Spring	**"Dissolved_P_Spring"**	ppm	Blank, 0. – 999999.	F10	2	34
Sediment Concentration—Summer	**"Sed_Conc_Summer"**	ppm	Blank, 0. – 999999.	F10	2	35
Total Nitrogen—Summer	**"Total_N_Summer"**	ppm	Blank, 0. – 999999.	F10	2	36
Dissolved Nitrogen—Summer	**"Dissolved_N_Summer"**	ppm	Blank, 0. – 999999.	F10	2	37
Total Phosphorus—Summer	**"Total_P_Summer"**	ppm	Blank, 0. – 999999.	F10	2	38
Dissolved Phosphorus—Summer	**"Dissolved_P_Summer"**	ppm	Blank, 0. – 999999.	F10	2	39
Sediment Concentration—Autumn	**"Sed_Conc_Autumn"**	ppm	Blank, 0. – 999999.	F10	2	40
Total Nitrogen—Autumn	**"Total_N_Autumn"**	ppm	Blank, 0. – 999999.	F10	2	41
Dissolved Nitrogen—Autumn	**"Dissolved_N_Autumn"**	ppm	Blank, 0. – 999999.	F10	2	42
Total Phosphorus—Autumn	**"Total_P_Autumn"**	ppm	Blank, 0. – 999999.	F10	2	43
Dissolved Phosphorus—Autumn	**"Dissolved_P_Autumn"**	ppm	Blank, 0. – 999999.	F10	2	44

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**		Blank, 0 or 1	I1	2	45
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CELL DATA

Required

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-34
The following record repeats for the number of cells. For cells with a Cell-Field ID of WATER, only fields 1-8 are used in processing.						
Cell ID—Alphanumeric string identifying the cell.	**"Cell_ID"**			A100	2	1
Soil ID—Alphanumeric string identifying the soil type for the cell. Must be the same as a soil ID in the SOIL DATA section. Leave blank if Management Field ID is "WATER".	**"Soil_ID"**			A100	2	2
Management Field ID—Alphanumeric string identifying the field for the cell. Must be the same as a management field ID in the MANAGEMENT FIELD DATA section. For a cell which is flooded with water throughout the year (such as the pool area behind a dam) enter "WATER",	**"Mgmt_Field_ID"**			A100	2	3
Reach ID—Alphanumeric string identifying the receiving reach. Must be the same as a reach ID in the REACH DATA section .	**"Reach_ID"**			A100	2	4
Reach Location code—Code identifying where runoff is added to the specified reach. (Blank indicates 0) 0—Runoff added at upstream end of reach. 1—Runoff added at downstream end of reach.	**"Reach_Location_Code"**		Blank, 0, or 1	I10	2	5
Cell Area—Area within the cell.	**"Cell_Area"**	{acres} [hectares]	{0.000004 to 10000.0} [0.0000016 to 4000.0]	F10	2	6
Cell time of concentration—Time required to concentrate water at outlet from cell. If not a "WATER" cell and blank, AnnAGNPS will compute time of concentration from Sheet flow and concentrated flow variables for the cell.	**"Time_of_Conc"**	hr	Blank or 0.01 to 100.0	F10	2	7
Cell average elevation—Representative elevation for the cell.	**"Avg_Elevation"**	ft [m]	{-3280.8 to 32808.3} [-1000.0 to 10000.0]	F10	2	8
RCN Calibration ID—Alphanumeric string identifying the RCN calibration ID to be used for this cell. If non-blank, must be the same as a RCN Calibration ID in the RCN CALIBRATION DATA section. If RCN calibration has been requested, a blank defaults to the watershed-scale RCN Calibration ID. If RCN calibration has not been requested, then this field is ignored.	**"RCN_Calib_ID"**			A100	2	9
Cell average land slope—Representative land slope for the cell.	**"Avg_Land_Slope"**	len-vert / len-horz (nd)	0.00001 to 3.0	F10	2	10
Cell aspect—Representative land slope orientation for cell measured from north in a clockwise direction.	**"Aspect"**	decimal °	Blank or 0.0 to 360.0	F10	2	11
RUSLE/USLE 'ls' factor—RUSLE/USLE erosion equation length-slope factor for normal erosion conditions.	**"RUSLE_ls_Fctr"**		0.00001 to 100.0	F10	2	12

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
RCN Retention Calibration Factor—used to calibrate the RCN retention variable only for this cell. If RCN calibration has been requested, a blank defaults to the cell's RCN calibration ID's retention factor. If RCN calibration has not been requested, then a blank defaults to 1.0.	**"RCN_Rtn_Calib_Fctr"**	(nd)	Blank, or 0 to ∞	F10	2	13
Secondary Climate File ID—Secondary Climate file ID for this cell. Leave blank if primary climate station file.	**"Secondary_Climate_File_ID"**			A100	2	14
Sheet flow Manning's "n"—Roughness coefficient for Sheet flow within the cell. Otherwise blank defaults to 0.150. Should be left blank if cell time of concentration (t_c) has been entered. Regardless, the entered value for cell t_c is used in lieu of any value in this field.	**"Sheet_Flow_Mannings_n"**		Blank, or 0.005 to 1.000	F10	2	15
Geology ID—Alphanumeric string identifying the Geology data set used for baseflow calculations for this cell. Must be the same as a Geology ID in the GEOLOGY DATA section. Leave Blank if watershed-scale defaults are to be used for baseflow calculations.	**"Geology_ID"**			A100	2	16
Concentrated flow slope—Slope of concentrated flow path within the cell. Should be left blank if cell time of concentration (t_c) has been entered. Regardless, the entered value for cell t_c is used in lieu of any value in this field. Blank defaults to the Cell's average land slope.	**"Conc_Flow_Slope"**	len-vert / len-horz (nd)	Blank, or 0.00001 to 3.0	F10	2	17
Concentrated flow length—Length of concentrated flow path within the cell after the first 100 meters (328 feet). Blank indicates value is computed from receiving reach length coefficient and exponent. Should be left blank if cell time of concentration (t_c) has been entered. Regardless, the entered value for cell t_c is used in lieu of any value in this field.	**"Conc_Flow_Length"**	{ft} [m]	Blank, or {0.0 to 328080.0} [0.0 to 99999.0]	F10	2	18
Hydraulic Geometry ID—Alphanumeric string identifying the Hydraulic Geometry ID to be used for this cell. Must be the same as an available bulit-in Hydraulic Geometry ID or a valid Hydraulic Geometry ID created by the user in the HYDRAULIC GEOMETRY DATA section. Blank defaults to Hydraulic Geometry ID for the cell's receiving reach.	**"Hydraulic_Geom_ID"**		Blank or valid Hydraulic Geometry ID	A100	2	19
Concentrated flow hydraulic depth—Representative rectangular channel hydraulic depth for concentrated flow path within the cell. Depth is for a 2 year 24-hr storm event runoff as determined by the flow area divided by the top width. Blank indicates value is computed from receiving reach width coefficient and exponent. Should be left blank if cell time of concentration (t_c) has been entered. Regardless, the entered value for cell t_c is used in lieu of any value in this field.	**"Conc_Flow_Hydraulic_Depth"**	{ft} [m]	Blank, or {0.0 to 131.0} [0.0 to 40.0]	F10	2	20
Concentrated flow Manning's "n"—Roughness coefficient for concentrated flow within the cell. Blank defaults to 0.040. Should be left blank if cell time of concentration (t_c) has been entered. Regardless, the entered value for cell t_c is used in lieu of any value in this field.	**"Conc_Flow_Mannings_n"**		Blank, or 0.005 to 1.000	F10	2	21
Sheet flow slope—Slope of Sheet (sheet) flow path within the cell. Should be left blank if cell time of concentration (t_c) has been entered. Regardless, the entered value for cell t_c is used in lieu of any value in this field. Blank defaults to the Cell's average land slope.	**"Sheet_Flow_Slope"**	len-vert / len-horz (nd)	Blank, or 0.00001 to 3.0	F10	2	22
Sheet flow length—Length of Sheet (sheet) flow path within the cell. Default value is 50 meters (164 feet). Should be left blank if cell time of concentration (t_c) has been entered. Regardless, the entered value for cell t_c is used in lieu of any value in this field.	**"Sheet_Flow_Length"**	{ft} [m]	Blank, or {0.0 to 164.} [0.0 to 50.0]	F10	2	23
Shallow Concentrated flow slope—Slope of shallow concentrated flow path within the cell. Should be left blank if cell time of concentration (t_c) has been entered. Regardless, the entered value for cell t_c is used in lieu of any value in this field. Blank defaults to .00001.	**"Shallow_Conc_Flow_Slope"**	len-vert / len-horz (nd)	Blank, or 0.00001 to 3.0	F10	2	24

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Shallow Concentrated flow length—Length of shallow concentrated flow path within the cell. Default value is 50 meters (164 feet). Should be left blank if cell time of concentration (t_c) has been entered. Regardless, the entered value for cell t_c is used in lieu of any value in this field.	**"Shallow_Conc_Flow_Length"**	{ft} [m]	Blank, or {0.0 to 164.} [0.0 to 50.0]	F10	2	25
Delivery Ratio—Delivery ratio from all landscape sources of erosion (sheet & rill and gullies) to sediment yield at the cell's receiving stream reach. Recommended procedure is the HUSLE equation which is the default procedure when this field is left blank.	**"Delivery_Ratio"**	(nd)	Blank, or 0. to 1.	F10	2	26
Constant USLE C-factor—constant USLE C-factor which will supercede any internal calculated RUSLE C-factor values. Blank defaults to internal RUSLE calculated C-factor values.	**"Constant_USLE_C_Fctr"**		Blank, 0. to 1.	F10	2	27
Constant USLE P-factor—constant USLE P-factor which will supercede any internal calculated RUSLE P-factor values. Blank defaults to internal RUSLE calculated P-factor values.	**"Constant_USLE_P_Fctr"**		Blank, 0. to 1.	F10	2	28
All Organic Carbon Calibration Factor—used to calibrate all organic carbon for this cell only. Defaults to the watershed-scale organic carbon from all sources calibration factor in the PL CALIBRATION DATA section.	**"All_OC_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	29
All Nitrogen Calibration Factor—used to calibrate all nitrogen for this cell only. Defaults to the watershed-scale nitrogen from all sources calibration factor in the PL CALIBRATION DATA section.	**"All_N_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	30
All Phosphorus Calibration Factor—used to calibrate all phosphorus for this cell only. Defaults to the watershed-scale phosphorus from all sources calibration factor in the PL CALIBRATION DATA section.	**"All_P_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	31
Sheet & Rill Erosion Calibration Factor—used to calibrate sheet & rill erosion for this cell only. Defaults to the watershed-scale sediment from sheet & rill sources calibration factor in the PL CALIBRATION DATA section.	**"Sheet_and_Rill_Erosion_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	32
Gullies Erosion Calibration Factor—used to calibrate gully erosion for this cell only. Defaults to the watershed-scale sediment from gully sources calibration factor in the PL CALIBRATION DATA section.	**"Gullies_Erosion_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	33
RUSLE2 ID—Alphanumeric string identifying the RUSLE2 ID to be used for this cell. If non-blank, must be the same as a RUSLE2 ID in the RUSLE2 DATA section. If this parameter is blank and 1.) The RUSLE2 flag is set to true and a default RUSLE2 ID specified in the "Global IDs, Factors, and Flags Data" section then the default RUSLE2 ID will be used. 2.) The RUSLE2 flag is set to false then RUSLE2 parameters will not be used for this cell.	**"RUSLE2_ID"**			A100	2	34
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**		Blank, 0 or 1	I1	2	35

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CELL-SOURCE DATA

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-6
The following record repeats for the number of cell-sources.						
Cell-Source ID—Alphanumeric string identifying the cell-source from the independent run of AnnAGNPS. This ID must be unique and not match any other cell ID in the AnnAGNPS Cell Data section.	**"Cell_Source_ID"**			A100	2	1

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Reach ID—Alphanumeric string identifying the receiving reach in the current simulation of AnnAGNPS. The loads will be added to the upstream end of this reach. Must be the same as a reach ID in the REACH DATA section.	**"Reach_ID"**			A100	2	2
Input Filename—Name of the gaging station file from an independent run of AnnAGNPS for which the loads are to be added to the current simulation. (Relative paths are allowable).	**"Filename"**			A255	2	3
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CLASSIC GULLY DATA[1]

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Note: A gully is either cell-located or reach-located. The gully is cell-located if the gully is wholly contained within a single AnnAGNPS cell; the gully is reach-located if the gully is located within the thalweg of a reach. A cell-located gully is affected by only one AnnAGNPS cell; a reach-located gully is affected by more than just one AnnAGNPS cell—all cells upstream of the upstream end of the reach plus any contribution from the reach's local cells. A gully's delivery ratio is defined to be the gully yield to its receiving stream divided by the gully's sediment yield to the gully mouth. The delivery ratio for the gully erosion to its mouth is internally determined. If the gully is cell-located, the gully's cell is a single AnnAGNPS cell which is the "Gully's Cell ID". The gully's cell's drainage area that affects the gully erosion may be only a portion or can be all of this cell's total drainage area. The drainage area affecting the cell-located gully erosion is the "Gully's Cell's Drainage Area".. The delivery ratio to the gully's cell's receiving stream is also a function of the drainage area of this cell's subarea to its receiving stream. The drainage area of the gully's cell's subarea is described as the "Cell's Drainage Subarea". A gully's cell may be composed entirely of just one subarea, where the gully's subarea would be equal to the gully's cell's total drainage area, or many subareas, where the gully may be located in only one of the gully's cell's subareas. If the gully is reach-located, the drainage area affecting the gully is all or part of each of the reach's local-contributing AnnAGNPS cells' drainage area (Gully's Reach's Local-Cells Drainage Area)—both the reach's left-bank cell and the reach's right-bank cell—and all of the drainage area above the upstream end of the reach. For a reach-located gully, the "Gully's Reach's Local-Cells Drainage Area Fraction" is ratio of the sum of all local-cells' drainage area contributing to the gully mouth to the sum of all local-cells' total drainage area. Since the reach-located gully's mouth is located within the reach, the gully's sediment yield from the mouth to the receiving reach is equal to the gully's sediment yield to the mouth and its subsequent "Delivery Ratio" must be unity. Therefore, no subarea information is required.						
Field Header— Required unique field header for each field listed below.				A	1	1-21
The following record repeats for the number of classic gullies. Multiple gullies within a cell must be consecutive.						
Classic Gully ID—Alphanumeric string identifying the classic gully.	**"Gully_ID"**			A100	2	1
Cell ID—Only if gully is cell-located, alphanumeric string identifying the cell that contains the classic gully if the gully's drainage area is wholly contained within a single cell (cell-located). Must be the same as a cell ID in the CELL DATA section.	**"Cell_ID"**			A100	2	2
Reach ID—Only if gully is reach-located, alphanumeric string identifying the reach ID whose thalweg contains the gully mouth. Must be the same as a reach ID in the REACH DATA section.	**"Reach_ID"**			A100	2	3
Soil ID -Alphanumeric string identifying the dominant soil type for the gully or other erosion point source. Must be the same as a soil ID (in the SOIL DATA section). Blank defaults to the Soil ID for the cell that contains the mouth of the gully, or the left-bank cell if the gully is in the cell's receiving reach.	**"Soil_ID"**			A100	2	4
Cell's Drainage Area—Only if the gully is cell-located, the drainage area is that portion of the cell's drainage area contributing to the mouth of the gully. A blank defaults to the entire cell drainage area. The default is the entire cell's drainage area.	**"Cell_Drainage_Area"**	{acres} [hectares]	Blank, or {0.000025 to 9884.} [0.00001 to 4000.0]	F10	2	5

[1] A classic gully is cell-located if only one cell contributes to the flow at the mouth of the gully. A classic gully is reach-located if more than one cell contributes to the flow at the mouth of the gully.

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Reach's Local-Cells Drainage Area—Only if the gully is reach-located, this drainage area is sum of that portion of the drainage areas from all of the contributing reach's local-cells' drainage areas draining to the mouth of the gully. The default is sum of the all of the local-cell's drainage areas.	**"Reach_Drainage_Area"**	{acres} [hectares]	Blank, or {0.000025 to 9884.} [0.00001 to 4000.0]	F10	2	6
Head Cut Depth -Gully (erosion point-source) head cut depth, used to composite the eroded soil layers. Blank defaults to 1st soil layer.	**"Headcut_Depth"**	{in} [mm]	Blank, or {0.00 to 120.} [0.00 to 3000]	F10	2	7
Erosion Coefficient—Coefficient in classic gully erosion power curve (note that the units for both the erosion (Q_s) and the rainfall/runoff (Q_w)) may be unit area or totals but must be consistent within a power curve): $Q_s = coef * Q_w^{exp}$ where Q_w = rainfall/runoff volume [unit area–(in or mm[3]); total units–(AF or Mg)] Q_s = sediment discharge [unit area–(T/ac or Mg/ha); total units–(T or Mg)]. A blank is not allowed	**"Erosion_Coef"**		[>0.0 to 50. for Q_s in mm][2]	F10	2	8
Erosion Exponent—Exponent in classic gully erosion power curve (note that the units for both the erosion (Q_s) and the rainfall/runoff (Q_w)) may be unit area or totals but must be consistent within each power curve): $Q_s = coef * Q_w^{exp}$ where Q_w = rainfall/runoff volume [unit area–(in or mm[3]); total units–(AF or Mg)] Q_s = sediment discharge [unit area–(T/ac or Mg/ha); total units–(T or Mg)]. A blank defaults to zero.	**"Erosion_exp"**		Blank or [0.0 to 3.0 for Q_w in mm]	F10	2	9
Delivery Ratio—Delivery ratio of gully erosion to gully yield. Blank defaults to HUSLE delivery ratio algorithm for cell-located gully; one if reach-located.	**"Delivery_Ratio"**	(nd)	Blank, 0 to 1	F10	2	10
Management Field ID—Alphanumeric string identifying the field for the classic gully. Must be the same as a management field ID in the Management Field Data section. Blank defaults to no field management effects.	**"Mgmt_Field_ID"**			A100	2	11
Cell's Drainage Subarea—If the gully is cell-located (i.e.; the gully's drainage area is located wholly within one AnnAGNPS cell), the cell's total drainage area may actually be comprised of many subareas that drain separately into and along the receiving reach such as likely to be the case for either the left- or right-bank cells, even though the cell's entire drainage is designated to only enter either the upstream or downstream end of the reach. Then the gully may be located in one of these cell's subareas, requiring a designation of the drainage area of the subarea containing the gully to the receiving reach as the Cell's Drainage Subarea. A blank means that cell's drainage subarea is composed of the entirely cell's drainage area (such as a source cell with the gully mouth located at the downstream end of the cell), resulting in the subarea containing the gully to be equal to the cell's total drainage area. A blank is required if the gully is reach-located.	**"Cell_Drainage_Subarea"**	{acres} [hectares]	Blank, or {0.000025 to 9884.} [0.00001 to 4000.0]	F10	2	12
Load Calibration Factor—calibration factor used to calibrate the classic gully sediment yield to its loading at a known point (usually at a USGS gaging station). Blank defaults to 1. Currently not used – Reserved.	**"Load_Calib_Fctr"**		Blank, 0 to ∞	F10	2	13
Rainfall/Runoff Indicator—Code to indicate whether the power curve's volume (Q) is a function of rainfall or runoff. Blank defaults to 1; 0–rainfall, 1–runoff	**"Rainfall/Runoff_Indicator"**		Blank, 0 or 1	I1	2	14

[2] Unit conversion from English to SI is non-linear. Appropriate English ranges would restrict the erosion to less than 136 T/ac.

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Units Indicator—Code to indicate whether the regression coefficient and exponents are for unit area or total units. Blank defaults to 1; 0–unit area, 1–total mass.	**"Units_Indicator"**		Blank, 0 or 1	I1	2	15
Gully Location Code—If gully is cell-located, code ,must be a "T" or blank. If gully is reach-located, code must be an "F". Blank defaults to true "T". (Note to Editor's editor: this field is not to be seen within the Editor's menu for Classic Gully Data, but is to be determined within the Editor depending upon whether the user designates the gully as cell- or reach-located.)	**"Gully_Location_Code"**		Blank, "T" or "F"	L1	2	16
Organic Carbon Calibration Factor—used to calibrate classic gully organic carbon for this classic gully only. Blank defaults to the watershed-scale organic carbon from classic gully sources calibration factor in the PL CALIBRATION DATA section. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"OC_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	17
Nitrogen Calibration Factor—used to calibrate classic gully nitrogen for this classic gully only. Blank defaults to the watershed-scale nitrogen from classic gully sources calibration factor in the PL CALIBRATION DATA section. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"N_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	18
Phosphorus Calibration Factor—used to calibrate classic gully phosphorus for this classic gully only. Blank defaults to the watershed-scale phosphorus from classic gully sources calibration factor. in the PL CALIBRATION DATA section. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"P_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	19
Erosion Calibration Factor—used to calibrate classic gully erosion for this classic gully only. Blank defaults to the watershed-scale sediment from classic gully sources calibration factor in the PL CALIBRATION DATA section. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"Erosion_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	20
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**		Blank, 0 or 1	I1	2	21
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CONTOUR DATA

Optional unless referenced in Management Schedule Data

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-6
The following record repeats for the number of contour sets.						
Contour ID—Alphanumeric string identifying the Contour Data.	**"Contour_ID"**			A100	2	1
Ridge Height code—Code indicating the height of the contour ridges. Allowable codes are: 0 = No ridge (non-cropland only) 1 = very low (0.5"-2") ridges 2 = low (2"-3") ridges 3 = moderate (3"-4") ridges 4 = high (4"-6") ridges 5 = very high (>6") ridges 6 = variable ridge heights. Zero value is entered for non-crop landuse where only mechanical disturbance calculation is desired. If blank, 3–moderate ridges will be used.	**"Ridge_Height_Code"**		Blank, or 0 to 6	I1	2	2
Furrow Slope—Slope of the furrow. Can be left blank if the landuse is non-crop and only mechanical disturbance calculation is desired.	**"Furrow_Slope"**	len-vert / len-horz (nd)	Blank, or 0.00001 to 1.0	F10	2	3
Disturbed cover code- Code indicating condition of cover related to soil disturbance. Acceptable codes are: <u>Cropland with EI distribution number < 400</u> 1 = C1) established = sod-forming grass 2 = C2) 1st year grass or cut for hay 3 = C3) heavy cover = And/or very rough 4 = C4) moderate cover = and/or rough 5 = C5) light cover = and/or mod = rough 6 = C6) no cover and/or min = rough. 7 = C7) clean tilled, smooth, fallow <u>Cropland with EI distribution number ≥ 400</u> 8 = VR) very rough with stubble <u>Non-cropland</u> 1 = R1) very rough; plant + rock cover > 50% 2 = R2) very rough; plant + rock cover < 50% 3 = R3) rough; plant + rock cover > 50% 4 = R5) moderately rough; plant + rock cover ≤50% 5 = R7) slightly rough; plant + rock cover < 25% A blank defaults to 5.	**"Disturbed_Cover"**		Blank, or 1 to 8	I1	2	4
Consolidated cover code- Code indicating condition of cover related to soil consolidation. Required only for non-crop landuse. Acceptable codes are: 1 = R3) rough; plant + rock cover > 50% 2 = R4) rough; plant + rock cover < 50% 3 = R6) moderately rough; est = veg.; cover < 40% 4 = R8) slightly rough; est = veg.; cover < 35% 5 = R9) smooth; est. veg.; plant + rock cover < 25% A blank defaults to 3.	**"Consolated_Cover"**		Blank, or 1 to 5	I1	2	5
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**		Blank, 0 or 1	I1	2	6
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CROP DATA

Optional unless referenced in Management Schedule Data

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-41
The following record repeats for number of crops.						
Crop ID—Alphanumeric string identifying the crop.	**"Crop_ID"**			A100	2	1
Yield Units Harvested per Area—Number of units of yield per unit of area at harvest. (e.g. For a yield of 50 bushels per acre: enter 50.)	**"Yield_Units_Harvested"**	{yield units /ac} [yield units/ha]	{0.0 to 101171.0} [0.0 to 250000.0]	F10	2	2
Residue Mass Ratio—Mass ratio of residue to yield.	**"Residue_Mass_Ratio"**	[nd]	0.0 to 1000.0	F10	2	3
Surface decomposition—Surface residue decomposition coefficient. (Blank defaults to 0.016)	**"Surface_Decomp"**		Blank or 0.0 to 1.0	F10	2	4
Sub-surface decomposition—Sub-surface residue decomposition coefficient. (Blank defaults to 0.016)	**"Sub-surface_Decomp"**		Blank or 0.0 to 1.0	F10	2	5
USLE C-Factor—optional, constant USLE C-factor to be used in lieu of computed RUSLE time-varying value. This value will be used unless overridden by the **Constant USLE C-factor** located in the CELL DATA section. Blank field defaults to either the computed RUSLE time-varying value or the **Constant USLE C-factor** in the CELL DATA section.	**"USLE_C_Fctr"**		Blank or 0.0 to 1.0	F10	2	6
Moisture Depletion—Rate of moisture depletion, used only for the Pacific Northwest. Only needed for following EI distribution numbers: 6-10, 14-15, 31-40, 58-60, 63 (EI distribution number entered with Simulation Period Data) otherwise leave blank. Blank defaults to 0.0. Example values from RUSLE: w. wheat & other deep rooted crops 1.0 spring wheat & barley 0.75 spring peas & lentils 0.67 shallow rooted crops 0.50 summer fallow 0.0	**"Moisture_Depletion"**	{??} [??]	Blank, or 0.0 to 1.0	F10	2	7
Residue Adjust Amount—Minimum residue amount to adjust runoff curve number. (Blank defaults to 0) Currently not used – Reserved.	**"Residue_Adjust_Amt"**	{lb / acre} [kg / hectare]	Blank, or {0.0 to 99924.} [0.0 to 112000.0]	F10	2	8
Crop Residue—Surface residue from crop. (Three values in order for 30, 60, and 90 percent cover.). At least one of the three values must be >0. (Blank defaults to 0.0)	**"Crop_Residue_30%", Crop_Residue_60%, Crop_Residue_90%**	{lb / acre} [kg / hectare]	Blank, or {0.0 to 99924.} [0.0 to 112000.0]	3F10	2	9-11
Annual crop code.—Acceptable values are: 0 = cool season 1 = Annual 2 = perennial Blank defaults to 0. Currently not used – Reserved.	**"Annual_Crop_Code"**		Blank , 0, 1 or 2	I1	2	12
Legume code.- Acceptable values are : Y = Yes and N = No (Blank indicates No) Currently not used.	**"Legume_Code"**	[nd]	Blank, Y or N	A1	2	13
Senescence code—Code indicating whether crop senescence increases with crop residue. Acceptable values are: Y = Yes N = No (Blank indicates yes.)	**"Senescence_Code"**	[nd]	Blank, Y or N	A1	2	14
Yield Unit Name (optional)—Yield unit name for crop. (Optional—For user reference only. Not read by AnnAGNPS.)	**"Yield_Unit_Name"**			A10	2	15
Yield Unit Mass—Mass of the unit of yield for the crop. (See **Yield Unit Name** for unit description.).	**"Yield_Unit_Mass"**	{lb per unit of yield} [kg per unit of yield]	{0.0 to 88105.} [0.0 to 40000.0]	F10	2	16
Harvest C-N Ratio—Ratio of Carbon to Nitrogen for crop at harvest.	**"Harvest_C-N_Ratio"**		1.0 to 200.0	F10	2	17

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Pre-harvest C-N Ratio—Ratio of Carbon to Nitrogen for crop before harvest. Currently not used – Reserved.	"Pre-Harvest_C-N_Ratio"		Blank or 1.0 to 200.0	F10	2	18
Harvest Water—Water content of harvested portion of crop. Currently not used – Reserved.	"Harvest_Water"	wt / wt (nd)	Blank or 0.0 to 1.0	F10	2	19
N Uptake—Nitrogen uptake per yield unit	"N_Uptake"	wt-N / wt-harvest unit (nd)	0.0 to 1.0	F10	2	20
P Uptake—Phosphorus uptake per yield unit	"P_Uptake"	wt-P / wt-harvest unit (nd)	0.0 to 1.0	F10	2	21
Harvest C-P Ratio—Ratio of Carbon to Phosphorus for crop at harvest.	"Harvest_C-P_Ratio"		50.0 to 400.0	F10	2	22
Pre-harvest C-P Ratio—Ratio of Carbon to Phosphorus for crop before harvest. Currently not used – Reserved.	"Pre-Harvest_C-P_Ratio"		Blank or 50.0 to 400.0	F10	2	23
Growth Time—Accumulated fraction of time from planting to harvest for ending each of 4 growth stages: initial; development; mature; and senescence. Fourth entry must be 1.0.	"Growth_Time_Ini" , "Growth_Time_Dev", "Growth_Time_Mat", "Growth_Time_Sen"		0.0 to 1.0	4F10	2	24-27
Growth N Uptake—Fraction of Nitrogen uptake from planting to harvest for each of 4 growth stages: initial; development; mature; and senescence. Four fractions entered must sum to 1.0.	"Growth_N_Uptake_Ini" , "Growth_N_Uptake_Dev", "Growth_N_Uptake_Mat", "Growth_N_Uptake_Sen"		0.0 to 1.0	4F10	2	28-31
Growth P Uptake—Fraction of Phosphorus uptake from planting to harvest for each of 4 growth stages: initial; development; mature; and senescence. Four fractions entered must sum to 1.0.	"Growth_P_Uptake_Ini" , "Growth_P_Uptake_Dev", "Growth_P_Uptake_Mat", "Growth_P_Uptake_Sen"		0.0 to 1.0	4F10	2	32-35
Basal Crop Coefficient ("Kcb-ini")—Coefficient for the initial growth stage; used in adjusting the potential evapotranspiration (ET). The coefficient for all days in growth stage 1 will be equal to this value. The coefficient is internally set to 0.0 for all days outside of the growing season. Blank defaults to 0.15.	"Basal_Crop_Coef_Ini"	[nd]	0.0 to 1.2	F10	2	36
Basal Crop Coefficient ("Kcb-dev")—Coefficient for the development growth stage; used in adjusting the potential evapotranspiration (ET). (Currently reserved for future use.) Currently, the days in growth stage 2 will be linearly interpreted between the last day of stage 1 to the first day of stage 3. The coefficient is internally set to 0.0 for all days outside of the growing season. Blank defaults to 1.0.	"Basal_Crop_Coef_Dev"	[nd]	0.0 to 1.2	F10	2	37
Basal Crop Coefficient ("Kcb-mid")—Coefficient for the mature growth stage; used in adjusting the potential evapotranspiration (ET). The coefficient for all days in growth stage 3 will be equal to this value unless internally adjusted based on climate conditions. The coefficient is internally set to 0.0 for all days outside of the growing season. Blank defaults to 1.15.	"Basal_Crop_Coef_Mid"	[nd]	0.0 to 1.2	F10	2	38

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Basal Crop Coefficient ("Kcb-end")—Coefficient for the last day of the senescence growth stage; used in adjusting the potential evapotranspiration (ET). The days in growth stage 4 will be linearly interpreted between the last day of stage 3 to the last day of stage 4. Futher adjustment may be made based on climate conditions. The coefficient is internally set to 0.0 for all days outside of the growing season. Blank defaults to 0.15.	**"Basal_Crop_Coef_End"**	[nd]	0.0 to 1.2	F10	2	39
Basal Crop Coefficient Climatic Adjustment code—Code indicating whether the basal crop coefficients "Kcb-mid" and "Kcb-end" will be adjusted based on climate conditions. Acceptable values are: Y = Adjustment; N = No adjustment. Blank will default to 'Y' unless the global basal crop climate adjustment code is set to false in the Global IDs, Factors, and Flags Data section.	**"Basal_Crop_Coef_Climate_Adjust"**	[nd]	Blank, Y or N	A1	2	40
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	8	41
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CROP GROWTH DATA

Optional unless CROP DATA is referenced in Management Schedule Data

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-5
The following record repeats 1 to 24 times for each crop in the CROP DATA section. Each crop-growth record represents a 15+ day period in a year for the crop. At least one crop-growth record is required for each crop. Time is measured from the planting of crop.						
Crop Growth ID—Alphanumeric string identifying the crop for which this crop-growth record applies. Must match a Crop ID in the CROP DATA section. Crop-growth records must be contiguous and sequential.	**"Crop_Growth_ID"**			A100	2	1
Root Mass—Array representing the live root mass in the top 100 mm (4 inch) of soil. The values start at 0 days of plant growth and increment each 15 days.	**"Root_Mass"**	{lb / acre} [kg / hectare]	{0.0 to 99924.} [0.0 to 112000.0]	F10	2	2
Canopy Cover—Array representing the ratio of ground covered by the crop canopy to total ground area. The values start at 0 days of plant growth and increment each 15 days.	**"Canopy_Cover"**		0.0 to 1.0	F10	2	3
Rain Fall Height—Array representing the average intercepted rain drop fall height from the plant canopy to the ground. The values start at 0 days of plant growth and increment each 15 days.	**"Rain_Fall_Height"**	{ft} [m]	{0.0 to 262.} [0.0 to 80.0]	F10	2	4
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	5
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EI PERCENTAGE DATA

Optional unless the EI number specified in the SIMULATION PERIOD DATA section above is > 149 or replacement percentages for a built-in EI number are desired

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-24

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	For mat	Record No.	Field No.
The following record is entered only if the "EI number" specified in the SIMULATION PERIOD DATA section above is > 149 or if replacement percentages for a built-in EI number are desired (Values for EI numbers up to 149 are built-in to the AnnAGNPS model). This is a non-repeating record.						
EI Percentages (Periods 1 to 24)—Cummulative EI percentages for the 24 15+ day periods in a year for the "EI number" entered in the SIMULATION PERIOD DATA section.	**"EI_Pct_xx" where "xx" = "01" to "24"**		0.0 to 100.0	24F10	2	1-24
Go to Layout Matrix		Go to Table of Contents				

EPHEMERAL GULLY DATA[3]

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	For mat	Record No.	Field No.
Note: A gully is either cell-located or reach-located. The gully is cell-located if the gully is wholly contained within a single AnnAGNPS cell; the gully is reach-located if the gully is located within the thalweg of a reach. A cell-located gully is affected by only one AnnAGNPS cell; a reach-located gully is affected by more than just one AnnAGNPS cell—all cells upstream of the upstream end of the reach plus any contribution from the reach's local cells. A gully's delivery ratio is defined to be the gully yield to its receiving stream divided by the gully's sediment yield to the gully mouth. The delivery ratio for the gully erosion to its mouth is internally determined. If the gully is cell-located, the gully's cell is a single AnnAGNPS cell which is the "Gully's Cell ID". The gully's cell's drainage area that affects the gully erosion may be only a portion or can be all of this cell's total drainage area. The drainage area affecting the cell-located gully erosion is the "Gully's Cell's Drainage Area".. The delivery ratio to the gully's cell's receiving stream is also a function of the drainage area of this cell's subarea to its receiving stream. The drainage area of the gully's cell's subarea is described as the "Cell's Drainage Subarea". A gully's cell may be composed entirely of just one subarea, where the gully's subarea would be equal to the gully's cell's total drainage area, or many subareas, where the gully may be located in only one of the gully's cell's subareas. If the gully is reach-located, the drainage area affecting the gully is all or part of each of the reach's local-contributing AnnAGNPS cells' drainage area (Gully's Reach's Local-Cells Drainage Area)—both the reach's left-bank cell and the reach's right-bank cell—and all of the drainage area above the upstream end of the reach. For a reach-located gully, the "Gully's Reach's Local-Cells Drainage Area Fraction" is ratio of the sum of all local-cells' drainage area contributing to the gully mouth to the sum of all local-cells' total drainage area. Since the reach-located gully's mouth is located within the reach, the gully's sediment yield from the mouth to the receiving reach is equal to the gully's sediment yield to the mouth and its subsequent "Delivery Ratio" must be unity. Therefore, no subarea information is required.						
Field Header— Required unique field header for each field listed below.				A	1	1-30
The following record repeats for the number of ephemeral gullies. Multiple gullies within a cell must be consecutive.						
Ephemeral Gully ID—Alphanumeric string identifying the ephemeral gully.	**"Gully_ID"**			A100	2	1
Cell ID—Only if gully is cell-located, alphanumeric string identifying the cell that contains the ephemeral gully if the gully's drainage area is wholly contained within a single cell (cell-located). Must be the same as a cell ID in the CELL DATA section.	**"Cell_ID"**			A100	2	2
Reach ID—Only if gully is reach-located, alphanumeric string identifying the reach ID whose thalweg contains the gully mouth. Must be the same as a reach ID in the REACH DATA section.	**"Reach_ID"**			A100	2	3
Soil ID—Alphanumeric string identifying the dominant soil type for the ephemeral gully. Must be the same as a soil ID in the SOIL DATA section. Blank defaults to the Soil ID for the cell (1st) that contains the mouth of the gully, or the 1st cell identified as contributing to the reach if the gully is reach-located.	**"Soil_ID"**			A100	2	4
Drainage Area to Mouth—The total drainage area is the entire drainage area contributing to the mouth of the gully. A blank default for a cell-located gully is the entire cell's drainage area.	**"Drainage_Area_to_Mouth"**	{acres} [hectares]	Blank, or {0.000025 to 9884.} [0.00001 to 4000.0]	F10	2	5

[3] An ephemeral gully is cell-located if only one cell contributes to the flow at the mouth of the gully. A gully is reach-located if more than one cell contributes to the flow at the mouth of the gully.

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Local Drainage Area—Only if the gully is reach-located, this drainage area is sum of that portion of the drainage areas from all of the contributing reach's local-cells' drainage areas draining to the mouth of the gully. The default is sum of the all of the local-cell's drainage areas.	**"Local_Drainage_Area"**	{acres} [hectares]	Blank, or {0.000025 to 9884.} [0.00001 to 4000.0]	F10	2	6
Gully Slope—Land slope immediately upstream from the mouth of the gully. Blank defaults to 0.00001.	**"Gully_Slope"**	l-vert / l-horz (nd)	Blank, or 0.00001 to 3.0	F10	2	7
Critical Shear Stress—Critical shear stress at which gully erosion begins. Blank defaults to internal calculation based upon the gully's clay, silt, & sand content as determined using the gully's soil ID.	**"Critical_Sheer_Stress"**	{lbs/ft^2} [N/m^2]	Blank, or {>0 to 2.05} [>0 to 100.0]	F10	2	8
Gully Location Code—If gully is cell-located, code ,must be a "T" or blank. If gully is reach-located, code must be an "F". Blank defaults to true "T" (Note to Editor's editor: this field is not to be under the user's direct control, but is to be determined within the Editor depending upon whether the user completes the fields as cell- or reach-located.)	**"Gully_Location_Code"**		Blank, "T" or "F"	L1	2	9
Management Field ID—Alphanumeric string identifying the field for the ephemeral gully. Must be the same as a management field in the MANAGEMENT FIELD DATA section. A management field ID of 'BUFFER' is internally defined as the gully headcut location in a non-crop riparian buffer, resulting in no gully erosion. A management field ID of 'WETLAND' is internally defined as the gully headcut location in a wetland, resulting in no gully erosion. Blank defaults to Management Field ID for the cell that contains the mouth of the gully, or the primary cell identified as contributing to the reach if the gully is reach-located.	**"Mgmt_Field_ID"**		Blank or valid Management Field ID	A100	2	10
Erosion Depth—ephemeral gully depth of erosion. If blank, the erosion depth is determined by the maximum 'Operation Tillage Depth' found for all associated operations where the surface 'Area Disturbed' is 50% or greater. See the 'Management Operation Data' section for more details on the 'Operation Tillage Depth' and 'Area Disturbed' parameters.	**"Erosion_Depth"**	{in} [mm]	Blank, or 0 to bottom of soil column.	F10	2	11
Cell's Drainage Subcell—If the gully is cell-located (i.e.; the gully's drainage area is located wholly within one AnnAGNPS cell), the cell's total drainage area for local subareas that are created as left- & right-bank cells may actually be comprised of many subcells that drain separately into and along the receiving reach or riparian buffer such as likely to be the case for either the left- or right-bank cells, even though the cell's entire drainage is designated to only enter either the upstream or downstream end of the reach. Then the gully may be located in one of these cell's subcells, requiring a designation of the drainage area of the subcell containing the gully to the receiving reach or to the location where the flow path enters the riparian buffer, if present. A blank means that cell's drainage subcell is composed of the entirely cell's drainage area (such as a source cell with the gully mouth located at the downstream end of the cell), resulting in the cell containing the gully to be equal to the cell's total drainage area. A blank is required if the gully is reach-located.	**"Cells_Drainage_Subcell"**	{acres} [hectares]	Blank, or {0.000025 to 9884.} [0.00001 to 4000.0]	F10	2	12

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Hydraulic Geometry ID—Alphanumeric string identifying the hydraulic geometry to be used for the ephemeral gully. Must be the same as an available bulit-in Hydraulic Geometry ID or a valid Hydraulic Geometry ID created by the user in the HYDRAULIC GEOMETRY DATA section. Blank defaults to Hydraulic Geometry ID for the cell that contains the mouth of the gully, or for the reach that contains the mouth of the gully if it is reach-located. The width algorithm for the gully-location's hydraulic geometry equation (c) must also be true to be effective.	**"Hydraulic_Geometry_ID"**		Blank or valid ID from the Hydraulic Geometry Data section.	A100	2	13
Width Algorithm—Flag to indicate if Nachtergaele et al's (2002) equation may be used as a candidate for this ephemeral gully width. Default for this width algorithm is the watershed flag for Nachtergaele et al's (2002) equation (b).	**"Width_Nachtergaele"**		Blank, or T/F	L1	2	14
Width Algorithm—Flag to indicate if the gully-location's hydraulic geometry equation may be used as a candidate for this ephemeral gully width. Default for this width algorithm is the watershed flag for the gully-location's hydraulic geometry equation (c).	**"Width_Hydraulic_Geometry"**		Blank, or T/F	L1	2	15
Width Algorithm—Flag to indicate if non-submerging tailwater at headcut crest equation may be used as a candidate for this ephemeral gully width. Default for this width algorithm is the watershed flag for the non-submerging tailwater at headcut crest equation (d).	**"Width_Non-submerging_Tailwater"**		Blank, or T/F	L1	2	16
Width Algorithm—Flag to indicate if Woodward's (1999) equilibrium gully width equation may be used as a candidate for this ephemeral gully width. Default for this width algorithm is the watershed flag Woodward's (1999) equilibrium gully width equation (e).	**"Width_Woodwards_Equilibrium"**		Blank, or T/F	L1	2	17
Width Algorithm—Flag to indicate if Woodward's (1999) ultimate gully width equation may be used as a candidate for this ephemeral gully width. Default for this width algorithm is the watershed flag for Woodward's (1999) ultimate gully width equation (f).	**"Width_Woodwards_Ultimate"**		Blank, or T/F	L1	2	18
Width Algorithm—Flag to indicate if Modified Wells' (2013) gully width equation #9 may be used as a candidate for this ephemeral gully width. Default for this width algorithm is the watershed flag for Modified Wells' (2013) gully width equation (g).	**"Width_Wells_Eq.9"**		Blank, or T/F	L1	2	19
Note: See additional available width algorithms beginning in field #31						
Delivery Ratio—Delivery ratio of ephemeral gully's yield at its mouth to its yield at its receiving stream. Blank defaults to the HUSLE equation.	**"Delivery_Ratio"**	(nd)	Blank, 0. to 1.	F10	2	20
Manning's "n"—Roughness coefficient for concentrated flow within the gully. Blank defaults to 0.040.	**"Mannings_n"**		Blank, or 0.005 to 1.000	F10	2	21
Re-Plant Period—numbers of days between planting and sufficient crop development that, if an ephemeral gully developed, the eroded area would be replanted. Any tillage operation that distributes the surface layer resets any ephemeral gully voids to zero. Blank defaults to 30 days.	**"Replant_Period"**	{days} [days]	Blank, or 0 to 365	I10	2	22
Organic Carbon—used to calibrate ephemeral gully organic carbon for this ephemeral gully only. Blank defaults to the watershed-scale organic carbon from ephemeral gully sources calibration factor in the PL CALIBRATION DATA section. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"OC_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	23

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Nitrogen—used to calibrate ephemeral gully nitrogen for this ephemeral gully only. Blank defaults to the watershed-scale nitrogen from ephemeral gully sources calibration factor in the PL CALIBRATION DATA section. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"N_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	24
Phosphorus—used to calibrate ephemeral gully phosphorus for this ephemeral gully only. Blank defaults to the watershed-scale phosphorus from ephemeral gully sources calibration factor in the PL CALIBRATION DATA section. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"P_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	25
Erosion—used to calibrate ephemeral gully erosion for this ephemeral gully only. Blank defaults to the watershed-scale sediment from ephemeral gully sources calibration factor in the PL CALIBRATION DATA section. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"Erosion_Calib_Fctr"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	26
Headcut Migration Barrier—the sum of the drainage areas of all immediate upstream barriers to headcut migration which, if any limit exists, may be due to the sum of: (a) upstream gullies; and (b) any natural geologic man-made barriers such as a rock outcrop, rock chute, or a drop-structure. Immediate upstream limits are the downstream most upstream gully(s) or blockages that are in parallel with and upstream from this gully. Blank defaults to internal calculation for approximate initial plot-size sheet & rill area (initial 72.6 ft. flow paths).	**"Headcut_Migration_Barrier"**	{acres} [hectares]	Blank, 0. to drainage area at mounth	F10	2	27
Headcut detachment leading coefficient "a"—a local leading coefficient used to determine the headcut detachment(K_{ch}) which is used to calculate headcut migration. The headcut detachment equation is: $K_{ch} = a \bullet e^{(b \bullet \tau_c)}$ The detachment & erodibility options share this field. If the detachment option has been activated, a blank field defaults to the global headcut detachment's leading coefficient. If non-blank and the detachment option has been activated, "a" must be equal to or greater than 0.	**"Headcut_Dtach/Erod_Coef_a"**	K_{ch} in {lb_mass/s / lb_force} [g/s-N]; τ_c in {psi} [Pa]	Blank, $a \geq 0$	F10	2	28

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Headcut erodibility leading coefficient "a"—If the erodibility's global fields have been activated, then this is the local leading coefficient used to determine the headcut erodibility(K_d) which is used to calculate headcut migration. The headcut erodibility equation is: $K_d = a \bullet \tau_c^{\ b}$ The detachment & erodibility options share this field. If the erodibility option has been activated, a blank field defaults to the global headcut erodibility's leading coefficient. If non-blank and the erodibility option has been activated, "a" must be equal to or greater than 0	**"Headcut_Dtach/Erod_Coef_a"**	K_d in {in^3/s/ lb_force} [cm^3/s-N]; τ_c in {psi} [Pa]	Blank, a ≥ 0	F10	2	28
Headcut detachment exponent coefficient "b"—a local exponent coefficient used to determine the headcut detachment(K_{ch}) which is used to calculate headcut migration. The headcut detachment equation is: $K_{ch} = a \bullet e^{(b \bullet \tau_c)}$ The detachment & erodibility options share this field. If the detachment option has been activated, a blank field defaults to the global headcut detachment's exponent coefficient. If non-blank and the detachment option has been activated, "b" must be equal to or less than 0.	**"Headcut_Dtach/Erod_Exp_Coef_b"**	K_{ch} in {lb_mass/s / lb_force} [g/s-N]; τ_c in {psi} [Pa]	Blank, b ≤ 0	F10	2	29
Headcut erodibility exponent coefficient "b"— If the erodibility's global fields have been activated, then this is the local exponent coefficient used to determine the headcut erodibility(K_d) which is used to calculate headcut migration. The headcut erodibility equation is: $K_d = a \bullet \tau_c^{\ b}$ The detachment & erodibility options share this field. If the erodibility option has been activated, a blank field defaults to the global headcut erodibility's exponent coefficient. If non-blank and the detachment option has been activated, "b" must be equal to or less than 0.	**"Headcut_Dtach/Erod_Exp_Coef_b"**	K_d in {in^3/s/ lb_force} [cm^3/s-N]; τ_c in {psi} [Pa]	Blank, b ≤ 0	F10	2	29
Maximum Buffer Trapping Efficiency "TE-m"—Maximum buffer trapping efficiency for the gully. (Blank defaults to: if a buffer is present in the cell or reach that contains the gully then the maximum buffer trapping efficiency determined for the entire buffer would be applied to the gully; or if no buffer is present then the maximum buffer trapping efficiency is 0.)	**"Max_Trapping_Efficiency"**	[nd]	Blank, 0. to 1.	F10	2	30
Width Algorithm—Flag to indicate if WELLS' (2013) gully width equation #8 may be used as a candidate for this ephemeral gully width. Default for this width algorithm is the watershed flag for WELLS' (2013) gully width equation (h).	**"Width_Wells_Eq.8"**		Blank, or T/F	L1	2	31
Width Algorithm—reserved	**"Width_reserved_i"**		Blank, or T/F	L1	2	32
Width Algorithm— reserved	**"Width_reserved_j"**		Blank, or T/F	L1	2	33
Width Algorithm— reserved	**"Width_reserved_k"**		Blank, or T/F	L1	2	34
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	35
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FEEDLOT DATA

Optional

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-25
The following record repeats for the number of feedlots. Multiple feedlots for a given cell outlet should be entered as consecutive sets.						
Feedlot ID—Alphanumeric string identifying the feedlot.	**"Feedlot_ID"**			A100	2	1
Feedlot Manage ID—Alphanumeric string identifying the feedlot management schedule for the feedlot. Must be the same as a feedlot management ID (in Feedlot Management Data). Leave blank to use initial feedlot conditions as steady state values.	**"Feedlot_Mgmt_ID"**			A100	2	2
Open Area—Total open (uncovered) area of the feedlot.	**"Open_Area"**	{acres} [hectares]	{0.0 to 9884.} [0.0 to 4000.0]	F10	2	3
Paved Ratio—Paved open feedlot area to total open feedlot area ratio.	**"Paved_Ratio"**		0.00 to 1.00	F10	2	4
Roof Area—Total roofed area (in all cells) for feedlot.	**"Roof_Area"**	{acres} [hectares]	{0.0 to 9884.} [0.0 to 4000.0]	F10	2	5
Upslope Area—Total area (in all cells) upslope of feedlot whose runoff drains across the feedlot.	**"Upslope_Area"**	{acres} [hectares]	{0.0 to 9884.} [0.0 to 4000.0]	F10	2	6
Feedlot Initial N—Initial daily Nitrogen production for the feedlot expressed on a per unit area basis.	**"Initial_N"**	{lb / day / acre} [kg / day / hectare]	{0.0 to 999.} [0.0 to 1120.0]	F10	2	7
Feedlot Initial P—Initial daily Phosphorus production for the feedlot expressed on a per unit area basis.	**"Initial_P"**	{lb / day / acre} [kg / day / hectare]	{0.0 to 999.} [0.0 to 1120.0]	F10	2	8
Feedlot Initial OrgC—Initial daily organic Carbon production for the feedlot expressed on a per unit area basis.	**"Initial_OC"**	{lb / day / acre} [kg / day / hectare]	{0.0 to 9992.} [0.0 to 11200.0]	F10	2	9
Delta N—Daily increase in Nitrogen production for the feedlot expressed on a per unit area basis.	**"Delta_N"**	{Δlb / day / acre} [Δkg / day / hectare]	{0.0 to 999.} [0.0 to 1120.0]	F10	2	10
Delta P—Daily increase in Phosphorus production for the feedlot expressed on a per unit area basis.	**"Delta_P"**	{Δlb / day / acre} [Δkg / day / hectare]	{0.0 to 999.} [0.0 to 1120.0]	F10	2	11
Delta OrgC—Daily increase in organic Carbon production for the feedlot expressed on a per unit area basis.	**"Delta_OC"**	{Δlb / day / acre} [Δkg / day / hectare]	{0.0 to 999.} [0.0 to 1120.0]	F10	2	12
Feedlot Max N—Maximum concentration of Nitrogen in feedlot runoff.	**"Max_N"**	ppm	0.0 to 1000.0	F10	2	13
Feedlot Max P—Maximum concentration of Phosphorus in feedlot runoff.	**"Max_P"**	ppm	0.0 to 1000.0	F10	2	14
Feedlot Max OrgC—Maximum concentration of organic Carbon in feedlot runoff.	**"Max_OC"**	ppm	0.0 to 10000.0	F10	2	15
Feedlot Pack N—Initial amount of Nitrogen in the feedlot manure pack expressed on a per unit area basis.	**"Pack_N"**	{lb/acre} [kg / hectare]	{0.0 to 9992.} [0.0 to 11200.0]	F10	2	16
Feedlot Pack P—Initial amount of Phosphorus in the feedlot manure pack expressed on a per unit area basis.	**"Pack_P"**	{lb / acre} [kg / hectare]	{0.0 to 9992.} [0.0 to 11200.0]	F10	2	17
Feedlot Pack OrgC—Initial amount of organic Carbon in the feedlot manure pack expressed on a per unit area basis.	**"Pack_OC"**	{lb / acre} [kg / hectare]	{0.0 to 9992.} [0.0 to 11200.0]	F10	2	18

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Organic Carbon Calibration Factor—used to calibrate feedlot organic carbon for this feedlot only. Defaults to the watershed-scale organic carbon from feedlot sources calibration factor in the PL CALIBRATION DATA section.	**"OC_Calib_Fctr"**	(nd)	Blank, 0.0 or .000000001 to 999999999.	F10	2	19
Nitrogen Calibration Factor—used to calibrate feedlot nitrogen for this feedlot only. Defaults to the watershed-scale nitrogen from feedlot sources calibration factor in the PL CALIBRATION DATA section.	**"N_Calib_Fctr"**	(nd)	Blank, 0.0 or .000000001 to 999999999.	F10	2	20
Phosphorus Calibration Factor—used to calibrate feedlot phosphorus for this feedlot only. Defaults to the watershed-scale phosphorus from feedlot sources calibration factor in the PL CALIBRATION DATA section.	**"P_Calib_Fct"**	(nd)	Blank, 0.0 or .000000001 to 999999999.	F10	2	21
Erosion Calibration Factor—used to calibrate feedlot erosion for this feedlot only. Defaults to the watershed-scale sediment from feedlot sources calibration factor in the PL CALIBRATION DATA section.	**"Erosion_Calib_Fctr"**	(nd)	Blank, 0.0 or .000000001 to 999999999.	F10	2	22
Feedlot Cell ID—Alphanumeric string identifying which cell contains the feedlot.	**"Cell_ID"**			A100	2	23
Cell Buffer Length—Flow length of buffer area in this cell. (Blank defaults to 0, i.e., no buffer length thus no buffer area is considered)	**"Cell_Buffer_Length"**	{ft} [m]	{0.0 to 984.} [0.0 to 300.0]	F10	2	24
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	25
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FEEDLOT MANAGEMENT DATA

Optional unless referenced by Feedlot Data

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-12
The following record is repeated for each operation in the feedlot management schedule. Multiple operations for a feedlot management schedule must be in sequential time order.						
Feedlot Management ID—Alphanumeric string identifying the feedlot management schedule.	**"Mgmt_ID"**			A100	2	1
Feedlot Operation Date—Month, day and year the feedlot operation occurs. Year is relative to feedlot management schedule. Blank year defaults to 1.	**"Month" "Day" "Year"**	mm dd yyyy	mm—1 to 12 dd—1 to 31 yyyy—1 to 1000	I2, I2, I4	2	2-4
Pack Remove Ratio—Ratio of feedlot manure pack removed by scraping operation. (Leave blank for animal operations)	**"Pack_Remove_Ratio"**		Blank, or 0.0 to 1.0	F10	2	5
Pack Start N—Starting daily rate for Nitrogen produced by all animals changed on the feedlot with this operation. (Leave blank for scraping operation)	**"Pack_Start_N"**	{lb / day} [kg / day]	Blank, or {-88105. to 88105.} [-40000.0 to 40000.0]	F10	2	6
Pack Start P—Starting daily rate for Phosphorus produced by all animals changed on the feedlot with this operation.. (Leave blank for scraping operation)	**"Pack_Start_P"**	{lb / day} [kg / day]	Blank, or {-88105. to 88105.} [-40000.0 to 40000.0]	F10	2	7
Pack Start OrgC—Starting daily rate for organic Carbon produced by all animals changed on the feedlot with this operation. (Leave blank for scraping operation)	**"Pack_Start_OC"**	{lb / day} [kg / day]	Blank, or {-88105. to 88105.} [-40000.0 to 40000.0]	F10	2	8

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Pack Change N—Daily rate change for Nitrogen produced by all animals changed on the feedlot with this operation. (Leave blank for scraping operation)	**"Pack_Change_N"**	{Δ lb / day} [Δkg / day]	Blank, or {-881. to 881.} [-400.0 to 400.0]	F10	2	9
Pack Change P—Daily rate change for Phosphorus produced by all animals changed on the feedlot with this operation. (Leave blank for scraping operation)	**"Pack_Change_P"**	{Δ lb / day} [Δkg / day]	Blank, or {-881. to 881.} [-400.0 to 400.0]	F10	2	10
Pack Change OrgC—Daily rate change for organic Carbon produced by all animals changed on the feedlot with this operation. (Leave blank for scraping operation)	**"Pack_Change_OC"**	{Δ lb / day} [Δkg / day]	Blank, or {-881. to 881.} [-400.0 to 400.0]	F10	2	11
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	12
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FERTILIZER APPLICATION DATA

Optional unless referenced in Management Schedule Data

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-6
The following record repeats repeats for the number of fertilizer applications.						
Fertilizer Application ID—Alphanumeric string identifying the fertilizer application.	**"Application_ID"**			A100	2	1
Fertilizer Name ID—Alphanumeric string that is the name of the fertilizer or type manure. Must be the same as a Fertilizer reference ID (in Fertilizer Reference Data).	**"Name_ID"**			A100	2	2
Fertilizer Rate—Fertilizer application rate	**"Application_Rate"**	{lb / acre} [kg /hectare]	{0.0 to 49974.} [0.0 to 56000.0]	F10	2	3
Fertilizer Depth—Fertilizer application depth in the soil. Zero indicates fertilizer is applied to the soil surface. Currently not used – Reserved.	**"Depth"**	{in} [mm]	Blank or {0.0 to 59.} [0.0 to 1500.0]	F10	2	4
Fertilizer mixing code—Code indicating whether fertilizer is mixed uniformly between the soil surface and the depth of incorporation. Acceptable values are: N—no, Y—yes (Blank indicates yes)	**"Mixing_Code"**		Blank, Y or N	A10	2	5
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	6
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FERTILIZER REFERENCE DATA

Optional unless referenced in Fertilizer Application Data

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-13
The following record repeats for the number of fertilizer references.						
Fertilizer Reference ID—Alphanumeric string that is the name of the fertilizer. Could also be a manure type.	**"Reference_ID"**			A100	2	1

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Fertilizer Nitrite—Fertilizer fraction which is nitrite (NO_2) to total amount. Currently not used – Reserved.	"Nitrite"	wt /wt (nd)	Blank	F10	2	2
Fertilizer Nitrate—Fertilizer fraction which is nitrate (NO_3) to total amount. Currently not used – Reserved.	"Nitrate"	wt /wt (nd)	Blank	F10	2	3
Fertilizer Inorganic N—Fertilizer fraction which is mineralizable (inorganic) Nitrogen. Blank defaults to 0.	**"Inorganic_N"**	wt /wt (nd)	Blank or 0.0 to 1.0	F10	2	4
Fertilizer Organic N—Fertilizer fraction which is organic Nitrogen. Blank defaults to 0.	**"Organic_N"**	wt /wt (nd)	Blank or 0.0 to 1.0	F10	2	5
Fertilizer Ammonia—Fertilizer fraction which is ammonia (NH_4). Currently not used – Reserved.	"Ammonia"	wt /wt (nd)	Blank or 0.0 to 1.0	F10	2	6
Fertilizer Mineral Ammonia—Fertilizer fraction which is mineralizable ammonia. Currently not used – Reserved.	"Mineral_Ammonia"	wt /wt (nd)	Blank	F10	2	7
Fertilizer Elemental P—Fertilizer fraction which is phosphorus (P) of any elemental P form. Currently not used – Reserved.	"Elemental_P"	wt /wt (nd)	Blank	F10	2	8
Fertilizer Soluble P—Fertilizer fraction which is soluble Phosphorus to total amount. Currently not used – Reserved.	"Soluble_P"	wt /wt (nd)	Blank	F10	2	9
Fertilizer Inorganic P—Fertilize fraction which is mineralizable (inorganic) Phosphorus. Blank defaults to 0.	**"Inorganic_P"**	wt /wt (nd)	Blank or 0.0 to 1.0	F10	2	10
Fertilizer Organic P—Fertilizer fraction which is organic Phosphorus. Blank defaults to 0.	**"Organic_P"**	wt /wt (nd)	Blank or 0.0 to 1.0	F10	2	11
Fertilizer Organic Matter—Fertilizer fraction which is organic matter. Blank defaults to 0.	**"Organic_Matter"**	wt /wt (nd)	Blank or 0.0 to 1.0	F10	2	12
Fertilizer Consistency code—Fertilizer (or manure) consistency code. Acceptable values are: 1= Liquid, 2 = Slurry, 3 = Solid Currently not used – Reserved.	"Consistency_Code"		Blank or 1, 2, or 3	I1	2	13
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FIELD POND DATA

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-22
The following record repeats for the number of field ponds.						
Field Pond ID—unique alphanumeric string identifying the field pond. Multiple field ponds within the same cell may be aggregated and entered as a single pond for simulation convenience.	**"Pond_ID"**			A100	2	1
Field Pond-Cell ID—alphanumeric string identifying cell that contains the field pond(s). Must be the same as a cell ID in the CELL DATA section already included within the watershed.	**"Cell_ID"**			A100	2	2
Field Pond area—area of field pond(s). Multiple field ponds in the same cell may be aggregated together as a single field pond for convenience.	**"Pond_Area"**	{acres} [hectares]	{0.0—9884.} [0.0—4000.0]	F10	2	3
Number of rotation years—number of years in rotation for the management of this field pond.	**"Number_of_Rotation_Years"**		< 10000	I10	2	4
Number gate operations—total number of field pond gate openings & closures within the rotation period for this field pond. For every opening (closing) there has to be a closing (opening).	**"Number_of_Gate_Operations"**		2—10000	I10	2	5
Delivery Ratio—	**"Delivery_Ratio"**		0.0 – 1.0	10	2	6
Volume of release water—amount of water released from field pond per gate open operation; depth in linear units. May be left blank if release rate is entered.	**"Volume_of_Release_Water"**	{in} [mm]	{>0. – 393.} [>0 – 10000.]	F10	2	7

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Drain time—time to drain field pond's release. Will be used if the release rate field is blank. A blank in both the drain time & release rate fields will default to a 24-hr drain time.	**"Drain_Time"**	hr	> 0.0 – 8784.	F10	2	8
Release rate—rate of field pond release as depth in linear units per hour. May be left blank, in which case the rate will be calculated from the values for the volume of release water (and pond area) and drain time. A blank in both the drain time & release rate fields will default to a 24-hr drain time.	**"Release_Rate"**	{in/hr} [mm/hr]	{>0. – 393.} [>0. – 10000.]	F10	2	9
Sediment concentration—average total sediment concentration in release water. Blank field defaults to 0 ppm.	**"Sediment_Conc"**	ppm	0. – 1000000.	F10	2	10
Clay content—percent of clay content in sediment yield from the field pond. Clay plus silt contents must not add up to more than 100 %. Blank fields for both clay & silt contents defaults to 100% clay. A blank field for clay with a silt content greater than 0%, defaults to 0% content for clay. If the sum of clay & silt content adds up to less than 100%, the difference is assumed to be sand.	**"Clay_Content"**	%	0. – 100.	F10	2	11
Silt content—percent of silt content in sediment yield from the field pond. Clay plus silt contents must not add up to more than 100 %. If sum adds up to less than 100%, the difference is assumed to be sand. Blank field defaults to 0% for silt.	**"Silt_Content"**	%	0. – 100.	F10	2	12
Nitrogen concentration—total concentration of nitrogen (both dissolved & attached) in release water. Blank defaults to 0. Currently not used – Reserved.	**"N_Conc"**	ppm	Blank or 0. – 1000000.	F10	2	13
Phosphorus concentration—total concentration of Phosphorus (both dissolved & attached) in release water. Blank defaults to 0. Currently not used – Reserved.	**"P_Conc"**	ppm	Blank or 0. – 1000000.	F10	2	14
Organic carbon concentration—total concentration of organic carbon (both dissolved & attached) in release water. Blank defaults to 0. Currently not used – Reserved.	**"OC_Conc"**	ppm	Blank or 0. – 1000000.	F10	2	15
Pesticide reference id—ID of the pesticide in the release water in pesticide reference list. ID must be in the pesticide reference list. ID will be converted to the array index of the pesticide in the pesticide reference list. Only one pesticide per field in each field pond release is allowed. Currently not used – Reserved.	**"Pesticide_Reference_ID"**			A40	2	16
Pesticide concentration—total concentration of pesticide (both dissolved & attached) in release water. Only one pesticide allowed per field pond. Blank defaults to 0. Currently not used – Reserved.	**"Pesticide_Conc"**	ppm	Blank or 0. – 1000000.	F10	2	17
Organic Carbon Calibration Factor—used to calibrate field pond organic carbon for this field pond only. Defaults to the watershed-scale organic carbon from field pond sources calibration factor in the PL CALIBRATION DATA section.	**"OC_Calib_Fctr"**	(nd)	Blank, 0.0 or .000000001 to 999999999.	F10	2	18
Nitrogen Calibration Factor—used to calibrate field pond nitrogen for this field pond only. Defaults to the watershed-scale nitrogen from field pond sources calibration factor in the PL CALIBRATION DATA section.	**"N_Calib_Fctr"**	(nd)	Blank, 0.0 or .000000001 to 999999999.	F10	2	19
Phosphorus Calibration Factor—used to calibrate field pond phosphorus for this field pond only. Defaults to the watershed-scale phosphorus from field pond sources calibration factor in the PL CALIBRATION DATA section.	**"P_Calib_Fctr"**	(nd)	Blank, 0.0 or .000000001 to 999999999.	F10	2	20
Erosion Calibration Factor—used to calibrate field pond erosion for this field pond only. Defaults to the watershed-scale sediment from field pond sources calibration factor in the PL CALIBRATION DATA section.	**"Erosion_Calib_Fctr"**	(nd)	Blank, 0.0 or .000000001 to 999999999.	F10	2	21
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	22

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	For mat	Record No.	Field No.
Go to Layout Matrix			Go to Table of Contents			

FIELD POND OPERATIONS DATA

Optional unless FIELD POND DATA is present.

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	For mat	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-5
The following record repeats for the number of field pond operations.						
Field Pond ID—unique alphanumeric string identifying the field pond. Multiple field ponds within the same cell may be aggregated and entered as a single pond for simulation convenience.	**"Pond_ID"**			A100	2	1
Open/close—gate action as to whether the gate is opened (water release) or closed. The time period (days) during which gate is opened (before it is closed), the field pond will be treated as a part of the homogeneous cell. The time period during which the gate is closed (before it is opened again), will be treated as no runoff; i.e., all rainfall is assumed to be captured within the pond and infiltrates into the ground.	**"Open/Close_Gate_Action"**		'open' or 'close'	A100	2	2
Opening/closure rotation day—Month, day, and relative year (within a set of field pond operations) for gate openings & closures. This day will be converted internally from a relative rotation date (mm/dd/ry) to a 2-dimensional variable which will be the rotation year & Julian day for the release/gate closure. If the operation month and day are blank, and this operation is the first in a set of field pond operations grouping, then this operation is used as initial conditions for starting the simulation. Blank year defaults to 1.	**"Open/Close_Rotation_Month", "Open/Close_Rotation_Day", "Open/Close_Rotation_Year"**	mm/ dd/ yy	Blank, or 1—12 1—31 1—99	I2, I2, I2	2	3-5
Go to Layout Matrix			Go to Table of Contents			

GEOLOGY DATA

Optional unless referenced by Cell Data or Global IDs, Factors, and Flags Data

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	For mat	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-12
The following record repeats for the number of geology sets.						
Geology ID—Alphanumeric string identifying the geology set.	**"Geology_ID"**			A100	2	1
Delay Time—Drainage time of the overlying geologic formations (days). Blank defaults to 3 days.	**"Delay_Time"**	days	Blank, 1 to 365	I10	2	2
Water Table—Depth of water table. The depth at which the water pressure equals atmospheric pressure.	**"Water_Table"**	{ft} [m]	{0.0 to 98.424} [0.0 to 30.0]	F10	2	3
Aquifer Saturated Hydraulic Conductivity—Hydraulic conductivity of the aquifer. Blank defaults to the hydraulic conductivity of soil layer 2.	**"Aquifer_Sat_Hyd_Conduct"**	{in/day} [mm/day]	Blank or {0.0 to 99999999.9} [0.0 to 30480000.0]	F10	2	4
K-vadose Saturated Hydraulic Conductivity—Hydraulic conductivity of the vadose zone. Blank defaults to the hydraulic conductivity of soil layer 2.	**"Vadose_Sat_Hyd_Conduct"**	{in/day} [mm/day]	Blank or {0.0 to 99999999.9} [0.0 to 30480000.0]	F10	2	5
Aquifer Porosity—Porosity of the aquifer. Blank defaults to the porosity of soil layer 2.	**"Porosity"**		Blank or 0.00001 to 1.0	F10	2	6

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Aquifer Field Capacity—Field capacity of the aquifer. Blank defaults to the field capacity of soil layer 2.	"Field_Capacity"		Blank, or 0.00001 to 1.0	F10	2	7
Aquifer Specific Yield—Specific yield of the aquifer. It is also called drainable pore space. It can be approximately calculated as the difference between the porosity and the field capacity.	"Specific_Yield"		Blank, or 0.00001 to 1.0	F10	2	8
Aquifer Thickness—Thickness of the aquifer from the water table to the bottom of the aquifer. Blank defaults to 30 m.	"Thickness"	{ft} [m]	Blank or {0.0 to 99999999.9} [0.0 to 30480000.0]	F10	2	9
Aquifer Soluble Nitrogen—Concentration of nitrate in groundwater contribution to stream flow from sub-basin. Blank defaults to 0.0.	"Soluble_N"	{ppm} [mg/L]	Blank or {0.0 to 100.0} [0.0 to 100.0]	F10	2	10
Aquifer Soluble Phosphorus—Concentration of phosphorus in groundwater contribution to stream flow from sub-basin. Blank defaults to 0.0.	"Soluble_P"	{ppm} [mg/L]	Blank or {0.0 to 100.0} [0.0 to 100.0]	F10	2	11
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	"Input_Units_Code"			I1	2	12
Go to Layout Matrix		Go to Table of Contents				

GLOBAL ERROR AND WARNING LIMITS DATA

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-5
The following record repeats for the number of global error & warning sets requested.						
Keyword ID—Alphanumeric string identifying the error and warning record ID. Only warning limits can be changed at this time. Allowable keywords are:	"Keyword_ID"			A10	2	1

Keyword ID	Description
"CLB EROS"	erosion calibration factor
"CLB NIT"	nitrogen calibration factor
"CLB ORGC"	organic carbon calibration factor
"CLB PHOS"	phosphorus calibration factor
"CLB RCN"	RCN calibration factor
"DA"	drainage area
"ELE"	elevation
"MAN N"	Manning's N
"SLP"	slope
"TC"	time of concentration

<table>
<tr><th>Description</th><th>Field Header for Record #1</th><th>Units {English} [SI]</th><th>Domain {English} [SI]</th><th>Format</th><th>Record No.</th><th>Field No.</th></tr>
<tr><td>Warning Minimum—Value defined to be the minimum allowable threshold below which an AnnAGNPS warning message will be generated. This value must be between the error minimum and maximum limits defined within AnnAGNPS. Blank defaults to the initial warning minimum defined within AnnAGNPS.
<table>
<tr><th>Keyword ID</th><th>Default Warning Minimum</th><th>AnnAGNPS Error Minimum</th></tr>
<tr><td>“CLB EROS”</td><td>0.5</td><td>0.0</td></tr>
<tr><td>“CLB NIT”</td><td>0.5</td><td>0.0</td></tr>
<tr><td>“CLB ORGC”</td><td>0.5</td><td>0.0</td></tr>
<tr><td>“CLB PHOS”</td><td>0.5</td><td>0.0</td></tr>
<tr><td>“CLB RCN”</td><td>0.5</td><td>0.0</td></tr>
<tr><td>“DA”</td><td>0.09</td><td>.000000001</td></tr>
<tr><td>“ELE”</td><td>0.0</td><td>-300.0</td></tr>
<tr><td>“MAN N”</td><td>0.01</td><td>0.01</td></tr>
<tr><td>“SLP”</td><td>0.0001</td><td>.00001</td></tr>
<tr><td>“TC”</td><td>0.1</td><td>0.0</td></tr>
</table></td><td>“Warning_Min”</td><td></td><td>Blank or {error minimum to maximum} [error minimum to maximum]</td><td>F10</td><td>2</td><td>2</td></tr>
<tr><td>Warning Maximum—Value defined to be the maximum allowable threshold above which an AnnAGNPS warning message will be generated. This value must be between the error minimum and maximum limits defined within AnnAGNPS. Blank defaults to the initial warning maximum defined within AnnAGNPS.
<table>
<tr><th>Keyword ID</th><th>Default Warning Maximum</th><th>AnnAGNPS Error Maximum</th></tr>
<tr><td>“CLB EROS”</td><td>2.0</td><td>999999999.</td></tr>
<tr><td>“CLB NIT”</td><td>2.0</td><td>999999999.</td></tr>
<tr><td>“CLB ORGC”</td><td>2.0</td><td>999999999.</td></tr>
<tr><td>“CLB PHOS”</td><td>2.0</td><td>999999999.</td></tr>
<tr><td>“CLB RCN”</td><td>2.0</td><td>999999999.</td></tr>
<tr><td>“DA”</td><td>100.0</td><td>999999999.</td></tr>
<tr><td>“ELE”</td><td>5000.0</td><td>10000.</td></tr>
<tr><td>“MAN N”</td><td>0.5</td><td>999999999.</td></tr>
<tr><td>“SLP”</td><td>1.0</td><td>3.0</td></tr>
<tr><td>“TC”</td><td>24.0</td><td>999999999.</td></tr>
</table></td><td>“Warning_Max”</td><td></td><td>Blank or {error minimum to maximum} [error minimum to maximum]</td><td>F10</td><td>2</td><td>3</td></tr>
<tr><td>Error Minimum—Value defined to be the minimum allowable threshold below which an AnnAGNPS error message will be generated. This value must be between the error minimum and maximum limits defined within AnnAGNPS. Blank defaults to the initial error minimum defined within AnnAGNPS.
Currently not used – Reserved.</td><td>“Error_Min”</td><td></td><td>Blank or {error minimum to maximum} [error minimum to maximum]</td><td>F10</td><td>2</td><td>4</td></tr>
<tr><td>Error Maximum—Value defined to be the maximum allowable threshold above which an AnnAGNPS error message will be generated. This value must be between the error minimum and maximum limits defined within AnnAGNPS. Blank defaults to the initial error maximum defined within AnnAGNPS.
Currently not used – Reserved.</td><td>“Error_Max”</td><td></td><td>Blank or {error minimum to maximum} [error minimum to maximum]</td><td>F10</td><td>2</td><td>5</td></tr>
<tr><td colspan="3">Go to Layout Matrix</td><td colspan="4">Go to Table of Contents</td></tr>
</table>

[45]GLOBAL IDS, FACTORS, AND FLAGS DATA:

Optional

[4] This section must be placed immediately following the GLOBAL ERROR AND WARNING LIMITS DATA if included; otherwise must follow SIMULATION PERIOD DATA section.

[5] All global factors & flags are used as defaults for local values but are subsidiary to local values if the local values are explicit input, that is, the local values are not blank fields. This is consistent with the default rule where local values override global values for the local variable.

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-57
The following record is non-repeating						
Headcut detachment leading coefficient (a)—a global leading coefficient used to determine the headcut detachment(K_{ch}) which is used to calculate headcut migration. The headcut detachment equation is: $K_{ch} = a \bullet e^{(b \bullet \tau_c)}$ If the headcut erodibility fields are not activated, a blank field will default to "29.1". If non-blank, the detachment option is activated, the erodibility option may not be activated, and"a" must be equal to or greater than 0. If all fields for the detachment and erodibility options are blank, the detachment option is activated with its defaults.	**"Hdct_Detachment_Coef_a"**	K_{ch} in {lb_mass/s/lb_force} [g/s/N]; τ_c in {lb/ft^2} [Pa]	a ≥ 0	F10	2	1
Headcut detachment exponent coefficient (b)—a global exponent coefficient used to determine the headcut erodibility(K_d) which is used to calculate headcut migration. The headcut erodibility equation is: $K_{ch} = a \bullet e^{(b \bullet \tau_c)}$ If the headcut erodibility fields are not activated, a blank field will default to "-0.224". If non-blank, the detachment option is activated, the erodibility option may not be activated, and "b" must be equal to or less than 0. If all fields for the detachment and erodibility options are blank, the detachment option is activated with its defaults.	**"Hdct_Detachment_Exp_Coef_b"**	K_{ch} in {lb_mass/s/lb_force} [g/s/N]; τ_c in {lb/ft^2} [Pa]	b ≤ 0	F10	2	2
URBAN landuse repair date—Date when any prior urban landuse ephemeral gullying will be repaired. Complete the month, day, & relative year [mm/dd/yyyy] when the repair is to be scheduled. The relative year is interpreted as follows: if yyyy="0001", then repair will take place every year; if yyyy="0002", then repair will take place every other year; if yyyy="0003", then every third year; etc. To ensure no repairs are to be made, set date to "00/00/0000". Default for this repair date is "10/01/0001"..	**"Urban_Repair_Month", "Urban_Repair_Day", "Urban_Repair_Year"**	mm dd yyyy	0 to 12 0 to 31 0 to 9999	I2, I2, I4	2	3-5
CROPLAND landuse repair date—Date when any prior cropland landuse ephemeral gullying will be repaired. Complete the month, day, & relative year [mm/dd/yyyy] when the repair is to be scheduled. The relative year is interpreted as follows: if yyyy="0001", then repair will take place every year; if yyyy="0002", then repair will take place every other year; if yyyy="0003", then every third year; etc. To ensure no repairs are to be made, leave date blank or set date to "00/00/0000". Blank defaults to "00/00/0000".	**"Cropland_Repair_Month", "Cropland_Repair_Day", "Cropland_Repair_Year"**	mm dd yyyy	0 to 12 0 to 31 0 to 9999	I2, I2, I4	2	6-8
FOREST landuse repair date—Date when any prior forest landuse ephemeral gullying will be repaired. Complete the month, day, & relative year [mm/dd/yyyy] when the repair is to be scheduled. The relative year is interpreted as follows: if yyyy="0001", then repair will take place every year; if yyyy="0002", then repair will take place every other year; if yyyy="0003", then every third year; etc. To ensure no repairs are to be made, set date to "00/00/0000". Default for this repair date is "11/01/0001".	**"Forest_Repair_Month", "Forest_Repair_Day", "Forest_Repair_Year"**	mm dd yyyy	0 to 12 0 to 31 0 to 9999	I2, I2, I4	2	9-11
PASTURE landuse repair date—Date when any prior pasture landuse ephemeral gullying will be repaired. Complete the month, day, & relative year [mm/dd/yyyy] when the repair is to be scheduled. The relative year is interpreted as follows: if yyyy="0001", then repair will take place every year; if yyyy="0002", then repair will take place every other year; if yyyy="0003", then every third year; etc. To ensure no repairs are to be made, set date to "00/00/0000". Default for this repair date is "10/01/0001".	**"Pasture_Repair_Month", "Pasture_Repair_Day", "Pasture_Repair_Year"**	mm dd yyyy	0 to 12 0 to 31 0 to 9999	I2, I2, I4	2	12-14

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
RANGELAND landuse repair date—Date when any prior rangeland landuse ephemeral gullying will be repaired. Complete the month, day, & relative year [mm/dd/yyyy] when the repair is to be scheduled. The relative year is interpreted as follows: if yyyy="0001", then repair will take place every year; if yyyy="0002", then repair will take place every other year; if yyyy="0003", then every third year; etc. To ensure no repairs are to be made, set date to "00/00/0000". Default for this repair date is "00/00/0000".	**"Rangeland_Repair_Month", "Rangeland_Repair_Day", "Rangeland_Repair_Year"**	mm dd yyyy	0 to 12 0 to 31 0 to 9999	I2, I2, I4	2	15-17
Headcut erodibility leading coefficient (a)—a global leading coefficient used to determine the headcut erodibility(K_d) which is used to calculate headcut migration. The headcut erodibility equation is: $K_d = a \bullet \tau_c^{\,b}$ A blank field will default to headcut detachment. If non-blank, the detachment option fields must be blank and are deactivated, and the erodibility option is activated. "a" must be equal to or greater than 0. If all fields for the detachment and erodibility options are blank, the detachment option is activated with its defaults.	**"Hdct_Erodibility_Coef_a"**	K_d in {$in^3/s/lb\_force$} [$cm^3/s/N$]; τ_c in {lb/ft^2} [Pa]	$a \geq 0$	F10	2	18
Headcut erodibility exponent coefficient (b)—a global exponent coefficient used to determine the headcut erodibility(K_d) which is used to calculate headcut migration. The headcut erodibility equation is: $K_d = a \bullet \tau_c^{\,b}$ If non-blank, the detachment option fields must be blank, the erodibility field for "a" must be non-blank, and "b" must be equal to or less than 0. If "a" is non-blank and this field is blank, "b" will default to "-0.5". If all fields for the detachment and erodibility options are blank, the detachment option is activated with its defaults.	**"Hdct_Erodibility_Exp_Coef_b"**	K_d in {$in^3/s/lb\_force$} [$cm^3/s/N$]; τ_c in {lb/ft^2} [Pa]	$b \leq 0$	F10	2	19
Width Algorithm—Flag to indicate if Nachtergaele et al's (2002) equation may be used as a candidate for the ephemeral gully width. Default for this width algorithm is false.	**"Width_Nachtergaele"**		T/F	L1	2	20
Width Algorithm—Flag to indicate if gully-location's hydraulic geometry equation may be used as a candidate for the ephemeral gully width. Default for this width algorithm is false.	**"Width_Hydraulic_Geometry"**		T/F	L1	2	21
Width Algorithm—Flag to indicate if non-submerging tailwater at headcut crest equation may be used as a candidate for the ephemeral gully width. Default for this width algorithm is false.	**"Width_Non-submerging_Tailwater"**		T/F	L1	2	22
Width Algorithm—Flag to indicate if Woodward's (1999) equilibrium gully width equation may be used as a candidate for the ephemeral gully width. Default for this width algorithm is false.	**"Width_Woodwards_Equilibrium"**		T/F	L1	2	23
Width Algorithm—Flag to indicate if Woodward's (1999) ultimate gully width equation may be used as a candidate for the ephemeral gully width. Default for this width algorithm is false.	**"Width_Woodwards_Ultimate"**		T/F	L1	2	24
Width Algorithm—Flag to indicate if Modified Wells' (2013) gully width equation #9 may be used as a candidate for the ephemeral gully width. Default for this width algorithm is false.	**"Width_Wells_Eq.9"**		T/F	L1	2	25
Note: See additional available width algorithms beginning in field #52						
Erosion verification file—Flag to indicate if the ephemeral gully erosion file (AnnAGNPS_SIM_Ephemeral_Gully_Erosion.sim) will be included in the output requests. The "Process_Gully" field in the Simulation Verification Files submenu within the OUTPUT OPTIONS DATA menu must also be requested by the user (set to true). Default for this verification file is set to true.	**"Erosion_Vrfy"**		T/F	L1	2	26

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Hydrograph & section geometry verification file—Flag to indicate if the ephemeral gully hydrograph & section geometry verification file (AnnAGNPS_SIM_Ephemeral_Gully_Section_&_Hydrograph.sim) will be included in the output requests. The "Process_Gully" field in the Simulation Verification Files submenu within the OUTPUT OPTIONS DATA menu must also be requested by the user (set to true). Default for this verification file is set to true.	**"Hydrograph_Vrfy"**		T/F	L1	2	27
Nickpoint verification file—Flag to indicate if the ephemeral gully nickpoint verification file (AnnAGNPS_SIM_Ephemeral_Gully_Nickpoint.sim) will be included in the output requests. The "Process_Gully" field in the Simulation Verification Files submenu within the OUTPUT OPTIONS DATA menu must also be requested by the user (set to true) . Default for this verification file is set to true.	**"Nickpoint_Vrfy"**		T/F	L1	2	28
Repair dates verification file—Flag to indicate if the ephemeral gully repair dates verification file (AnnAGNPS_SIM_Ephemeral_Gully_Repair_Date.sim) will be included in the output requests. The "Process_Gully" field in the Simulation Verification Files submenu within the OUTPUT OPTIONS DATA menu must also be requested by the user (set to true) . Default for this verification file is set to true.	**"Repair_Dates_Vrfy"**		T/F	L1	2	29
Sediment yield to the gully's mouth verification file—Flag to indicate if the ephemeral gully's sediment yield to its mouth verification file (AnnAGNPS_SIM_Ephemeral_Gully_Yield_to_Mouth.sim) will be included in the output requests. The "Process_Gully" field in the Simulation Verification Files submenu within the OUTPUT OPTIONS DATA menu must also be requested by the user (set to true) . Default for this verification file is set to true.	**"Sed_Yield_to_Gully_Mouth_Vrfy"**		T/F	L1	2	30
Sediment yield to its receiving stream verification file—Flag to indicate if the ephemeral gully's sediment yield to its receiving stream verification file (AnnAGNPS_SIM_Ephemeral_Gully_yield.sim) will be included in the output requests. The "Process_Gully" field in the Simulation Verification Files submenu within the OUTPUT OPTIONS DATA menu must also be requested by the user (set to true) . Default for this verification file is set to true.	**"Sed_Yield_to_Rcvg_Reach_Vrfy"**		T/F	L1	2	31
Minimum Interception Evaporation—maximum amount of expected intercepted precipitation subject to evaoporation prior to infiltration (surface retention) at 100% relative humidity. Blank defaults to 1.000 [mm].	**"Min_Interception_Evaporation"**	{in} [mm]	Blank, or {0.0 to 0.250} [0.0 to 6.350]	F10	2	32
Maximum Interception Evaporation—maximum amount of expected intercepted precipitation subject to evaoporation prior to infiltration (surface retention) at 0% relative humidity. Blank defaults to 2.500 [mm].	**"Max_Interception_Evaporation"**	{in} [mm]	Blank, or {0.0 to 0.250} [0.0 to 6.350]	F10	2	33
Detention Coefficient "a"—rainfall/runoff detention's constant coefficient to account for depressions (puddles, etc.) Blank defaults to 0.	**"Detention_Coef_a"**	{in} [mm]	Blank, or {0.0 to 39.37} [0.0 to 1000]	F10	2	34
Detention Coefficient "b"— rainfall/runoff detention's saturated hydraulic conductivity coefficient multiplier to account for the ability of the water to infiltrate into the soil column. Blank defaults to 1.	**"Detention_Coef_b"**	{in} [mm]	Blank, or {0.0 to 3.937} [0.0 to 100]	F10	2	35
RCN Convergence Tolerance—RCN calibration iterations will continue until the calculated water load at the subwatershed outlet is within +- of the tolerance from the target water load or until the number of iterations reaches the maximum. Blank defaults to 6.35 [mm] (1/4 [in]).	**"RCN_Convergence_Tolerance"**	{in} [mm]	Blank or $\{4.0 \cdot 10^{-9}$ to 1.0} [0.0000001 to 25.4]	F10	2	36

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
RCN Maximum Number of Iterations—maximum number of iterations before calibration creases regardless of the specified tolerance. Blank defaults to 10.	**"RCN_Max_Iterations"**		1 to 100	I10	2	37
Available Soil Moisture Ratio for AMC II—soil column's available soil moisture for antecedent moisture condition II (AMC II). It is the ratio of the available soil moisture, which is the amount of water in the soil column less the amount of pore space at the wilting point, to the difference between the amount of pore space at the field capacity less the amount of pore space at the wilting point. Value must be between 0 & 1; blank defaults to 0.5.	**"Avbl_Soil_Moist_Ratio_AMC_II"**	[nd]	Blank, or 0.0 to 1.0	F10	2	38
Maximum Available Sediment Concentration for Sheet Flow—maximum allowable sediment concentration of sediment yield from sheet flow erosion at the cell's receiving reach.	**"Max_Avbl_Sed_Conc_for_Sht_Flw"**	[%]	Blank, or 0.0 to 100.0	F10	2	39
Maximum Available Sediment Concentration for Concentrated Flow—maximum allowable sediment concentration of sediment yield from concentrated flow erosion at the cell's receiving reach.	**"Max_Avbl_Sed_Conc_for_Conc_Flw"**	[%]	Blank, or 0.0 to 100.0	F10	2	40
Average Annual Unit-Area Baseflow—Average annual baseflow which will be used when reach routing. Currently not used – Reserved.	**"AA_Unit_Area_Baseflow"**	{in/yr} [mm/yr]	Blank or [0 to 10.} [0 to 254]	F10	2	41
RCN Calibration Only— flag to indicate if execution will only calibrate the runoff curve numbers and not continue with any other loading analyses; true if calibration only, false otherwise. Blank defaults to false.	**"RCN_Calib_Only"**		Blank, or T/F	L1	2	42
Calculate Baseflow— Baseflow calculations will be performed if True. No baseflow is calculated if False. Default = False	**"Calculate_Baseflow"**		Blank, or T/F	L1	2	43
FAO ET Enhancement—If true then the FAO (Allen et al., 1998) enhancement for calculating the evapotranspiration will be used. If false then no enhancement will be performed and all enhancement related crop and non-crop parameters will be ignored. Default = True	**"FAO_ET_Enhancement"**		Blank, or T/F	L1	2	44
Basal Crop Coefficient Climatic Adjustment code—If true then the basal crop coefficient for "Kcb-mid" and "Kcb-end" will be adjusted, if necessary, based on climate conditions for crop data and non-crop data unless overridden by the local flag in the Crop Data section and the Non-Crop Data section. Default = True	**"Basal_Crop_Coef_Climate_Adjust"**		Blank, or T/F	L1	2	45
Watershed Storm Type ID—ID indicating one of the preset synthetic or user-requested storm types to use with pre-calculated solutions using extended TR-55: Acceptable preset IDs are: blank which defaults to Std SCS Type II, (1) Std. SCS Type I; (2) Std. SCS Type Ia; (3) Std. SCS Type II; (4) Std. SCS Type III; (5) Std. Uniform; (6) Std. SCS NM60; (7) Std. SCS NM65; (8) Std. SCS NM70; & (9) Std. SCS NM75; other IDs, limited to eleven (11) additional, require user-defined storm type input for both the rainfall distribution & optional unit peak discharge regression coefficients.	**"Wshd_Storm_Type_ID"**			A100	2	46
Default Geology ID—This geology set will be used for all cells that do not have a specific Geology ID assigned within the CELL DATA section. Must be the same as a Geology ID in the GEOLOGY DATA section. If blank, a pre-defined Geology set called "geol_set_1" will be used for baseflow calculations for all cells that do not have a Geology ID specified in the CELL DATA section with corresponding Geology IDs in the GEOLOGY DATA section.	**"Dflt_Geology_ID"**			A100	2	47

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Default Hydraulic Geometry ID—Alphanumeric string identifying the hydraulic geometry data which will be used for the CELL DATA & REACH DATA sections as the default for their Hydraulic Geometry fields. Blank in this field defaults to Curve B. The bulit-in data are: Curve A—Mediterranean climate of winter rainfall such as San Francisco region at 30 inches annual precipitation (Leopo&ld et al); Curve B: high-rainfall areas such as Pennsylvania, with annual accumulation precipitation of 45 inches (Leopold et al); Curve C: mountain areas in the Upper Green River, Wyoming (Leopold et al); Curve D: mountain areas in the Upper Salmon River, Idaho (Leopold et al); Curve E—Pacific Maritime Mountains--north Cascades, Puget lowland, coast range, & Willamette valley (Castro); Curve F—Western Cordillera--Klamath mountains, Cascades, eastern Cascades, Blue mountains, northern Rockies, middle Rockies, and Wasatch & Uinta mountains (Castro); Curve G—Western Interior Basin & Ranges--Columbia Basin, Snake River Basin/high Desert, northern Basin & range, ands Wyoming Basin (Castro); Curve H—Mission Creek, Oregon--eastern slopes of the Umatilla Mountains (Theurer & Pedone); Curve I—Seco Creek, Texas--north of San Antonio in the Edwards Aquifer (Theurer et al, 1995); Curve J—Davis Hollow Basin & Hole Basin, West Virginia--tributaries to the Greenbriar River in karst geomorphology (Theurer et al, 1995) ; Curve K—Wrights Brook & Kiff Brook--New York City water supply watersheds in the West Branch of the Delaware River Basin, New York (Theurer et al, 1995); Curve L—Cole Gully & Wikoff Bayou--subwatersheds within the Bayou Plaquemine Brule in the Mermentau River Basin, southwestern Louisiana (Kolian & Theurer, 2001); Curve M—Carneros Creek in Monterey & San Benito Counties, central coast, California (Merkel, 1999). Any other Hydraulic Geometry IDs must be created using the HYDRAULIC GEOMETRY DATA section.	**"Dflt_Hydraulic_Geom_ID"**		Blank, Curve A, Curve B, Curve C, Curve D, Curve E, Curve F, Curve G, Curve H, Curve I, Curve J, Curve K, Curve L, Curve M, or a valid Hydraulic Geometry ID from the HYDRAULIC GEOMETRY DATA section	A100	2	48
Default Initial Soil Conditions ID—ID of the initial soil conditions record set that will be used for all soils that do not have a specific Initial Soil Conditions ID assigned within the SOIL DATA section. If present, must be the same as an Initial Soil Conditions ID in the SOIL INITIAL CONDITIONS DATA section. If blank, pre-defined values will be used.	**"Dflt_Init_Soil_Conditions_ID"**			A100	2	49
Default Crop RCN ID—Curve Number ID of the RCN set that will be used as a default for the first event of each "crop" schedule in the MANAGEMENT SCHEDULE DATA. If present, must be the same as a Curve Number ID in the RUNOFF CURVE NUMBER DATA section. If blank, an internally defined curve number set with the ID of "Default Crop CN" will be used. The curve numbers supplied for A, B, C, and D are 72, 81, 88, and 91 respectively.	**"Dflt_Crop_RCN_ID"**			A100	2	50
Default Non-Crop RCN ID—Curve Number ID of the RCN set that will be used as a default for the first event of each "non-crop" schedule in the MANAGEMENT SCHEDULE DATA. If present, must be the same as a Curve Number ID in the RUNOFF CURVE NUMBER DATA section. If blank, an internally defined curve number set with the ID of "Default Non-Crop CN" will be used. The curve numbers supplied for A, B, C, and D are 68, 79, 86, and 89 respectively.	**"Dflt_Non-Crop_RCN_ID"**			A100	2	51

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Width Algorithm—Flag to indicate if WELLS' (2013) gully width equation #8 may be used as a candidate for the ephemeral gully width. Default for this width algorithm is false.	**"Width_Wells_Eq.8"**		T/F	L1	2	52
Width Algorithm—reserved	**"Width_Reserved_i"**		T/F	L1	2	53
Width Algorithm—reserved	**"Width_Reserved_j"**		T/F	L1	2	54
Width Algorithm—reserved	**"Width_Reserved_k"**		T/F	L1	2	55
Critical Shear Stress—Critical shear stress at which gully erosion begins. If a value is supplied here, it is used as a global default for all gullies that do not have a local critical shear stress value supplied in the Ephemeral Gully Data section. Blank means that for all gullies that do not have a local critical shear stress value supplied, a critical shear stress value will be internally calculated based upon the gully's clay, silt, & sand content as determined using the gully's soil ID.	**"Critical_Shear_Stress"**	{lbs/ft^2} [N/m^2]	Blank, or {>0 to 2.05} [>0 to 100.0]	F10	2	56
RUSLE2—This serves as a toggle (on/off) switch for RUSLE2. If this parameter is true (on) and 1.) A default RUSLE2 ID is specified in this section then the RUSLE2 parameters selected in that RUSLE2 ID's record will be used for all cells. If the cell's RUSLE2 ID is present then it will be used; otherwise, the default RUSLE2 ID will be used. 2.) A default RUSLE2 ID is -not- specified in this section then only cells with a specified RUSLE2 ID will use RUSLE2 data; otherwise RUSLE2 will not be used. If this parameter is false (off) then RUSLE2 will not be used for any cells even if RUSLE2 IDs are specified. Default = false.	**"RUSLE2_Flag"**		T/F	L1	2	57
Default RUSLE2 ID—ID of the RUSLE2 set that will be used as a global default. If present, must be the same as a RUSLE2 ID in the RUSLE2 DATA section. If the RUSLE2 flag is true and: 1.) This parameter is specified then it will be used for all cells with no locally specified RUSLE2 ID. 2.) This parameter is -not- specified then only cells with a locally specified RUSLE2 ID will use RUSLE2 parameters as selected in the RUSLE2 ID's record.	**"Dflt_RUSLE2_ID"**			A100	2	58
Reach Routing—Allows user to specify if reach routing will occur or be bypassed in processing. If this flag is true, then reach routing will be processed as a part of normal execution. Otherwise, reach routing will be bypassed. Default = True; reach routing will occur	**"Reach_Routing"**		Blank, or T/F	L1	2	59
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	60
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HYDRAULIC GEOMETRY DATA (BUILT-IN)

There are several built-in reach geometry coefficient sets. The built in sets are:

Hydraulic Geometry ID	Representing	Channel		Valley Width
		Width	Depth	

		Coeff. (m)	Exp.	Coeff. (m)	Exp.	Coeff. (m)	Exp.
Curve A	Mediterranean climate of winter rainfall such as San Francisco region at 30 inches annual precipitation	0.5889	.38	0.5889	.38	0.5889	.38
Curve B	High-rainfall areas such as Pennsylvania, with annual accumulation precipitation of 45 inches	0.4901	.39	0.4901	.39	0.4901	.39
Curve C	Mountain areas in the Upper Green River, Wyoming	0.1878	.45	0.1878	.45	0.1878	.45
Curve D	Mountain areas in the Upper Salmon River, Idaho	0.2546	.39	0.2546	.39	0.2546	.39
Curve E	Pacific Maritime Mountains (N. Cascades, Puget Lowland, coast range, & Willamette valley)	0.3462	.43	0.3462	.43	0.3462	.43
Curve F	Western Cordillera--Klamath mountains, Cascades, eastern Cascades, Blue mountains, northern Rockies, middle Rockies, and Wasatch & Uinta mountains	0.2777	.42	0.2777	.42	0.2777	.42
Curve G	Western Interior Basin & Ranges--Columbia Basin, Snake River Basin/high Desert, northern Basin range, ands Wyoming Basin	0.0586	.51	0.0586	.51	0.0586	.51
Curve H	Mission Creek, Oregon—eastern slopes of the Umatilla Mountains	0.3008	.378	0.3008	.378	3.1002	.294
Curve I	Seco Creek, Texas--north of San Antonio in the Edwards Aquifer	1.4926	.3151	1.4926	.3151	1.4926	.3151
Curve J	Davis Hollow Basin & Hole Basin, West Virginia--tributaries to the Greenbriar River in karst geomorphology	0.4016	.4193	0.4016	.4193	0.4016	.4193
Curve K	Wrights Brook & Kiff Brook--New York City water supply watersheds in the West Branch of the Delaware River Basin, New York	0.0132	.8033	0.0132	.8033	0.0132	.8033
Curve L	Cole Gully & Wikoff Bayou--subwatersheds within the Bayou Plaquemine Brule in the Mermentau River Basin, southwestern Louisiana	5.9843	.1448	5.9843	.1448	34.7450	.1448
Curve M	Carneros Creek in Monterey & San Benito Counties, central coast, California	1.1985	.7338	1.1985	.7338	2.5476	.5141
No layout matrix available		Go to Table of Contents					

All built-in sets use the same Geometry Length Coefficient (79.19) and Exponent (0.60).

HYDRAULIC GEOMETRY DATA (USER-DEFINED IN INPUT)

If sets other than the built-in ones are desired then enter using format below.
Optional unless referenced in Cell Data, Global IDs, Factors, and Flags Data, or Reach Data.

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-9
The following record repeats for the number of reach geometry coefficient sets.						
Hydraulic Geometry ID—Alphanumeric string identifying a reach geometric coefficient and exponent set. Blank defaults to what is set in Simulation Period section.	**"Hydraulic_Geom_ID"**			A100	2	1

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Channel Length Coefficient—Geomorphic length coefficient in equation: length = coef * Da^{exp}. Where length = distance from hydraulically most distant point in watershed (ft or m) Da = total drainage area (acres or hectares) at the reach outlet.. Reach length is determined by the difference in two solutions of this relationship. One at the downstream end and the other at the upstream end of the reach.	**"Channel_Length_Coef"**		Blank or {0.00000001 to 99999999.9} [0.00000001 to 99999999.9]	F10	2	2
Channel Length Exponent—Geomorphic length exponent in equation: length = coef * Da^{exp}. Where length = distance from hydraulically most distant point in watershed (ft or m) Da = total drainage area (acres or hectares) at the reach outlet. Reach length is determined by the difference in two solutions of this relationship. One at the downstream end and the other at the upstream end of the reach	**"Channel_Length_Exp"**		Blank or {0.00000001 to 99999999.9} [0.00000001 to 99999999.9]	F10	2	3
Channel Width Coefficient—Geomorphic width coefficient in equation: width = coef * Da^{exp}. Where width = channel bank full width (ft or m) Da = total drainage area (acres or hectares) at the reach outlet.	**"Channel_Width_Coef"**		{0.00000001 to 99999999.9} [0.00000001 to 99999999.9]	F10	2	4
Channel Width Exponent—Geomorphic width exponent in equation: width = coef * Da^{exp}. Where width = channel bank full width (ft or m) Da = total drainage area (acres or hectares) at the reach outlet.	**"Channel_Width_Exp"**		{0.0 to 99999999.9} [0.0 to 99999999.9]	F10	2	5
Channel Depth Coefficient—Geomorphic depth coefficient in equation: depth = coef * Da^{exp}. Where depth = channel bank full depth (ft or m) Da = total drainage area (acres or hectares) at the reach outlet..	**"Channel_Depth_Coef"**		{0.00000001 to 99999999.9} [0.00000001 to 99999999.9]	F10	2	6
Channel Depth Exponent—Geomorphic depth exponent in equation: depth = coef * Da^{exp}. Where depth = channel bank full depth (ft or m) Da = total drainage area (acres or hectares) at the reach outlet.	**"Channel_Depth_Exp"**		{0.0 to 99999999.9} [0.0 to 99999999.9]	F10	2	7
Valley Width Coefficient—Geomorphic valley width coefficient in equation: width = coef * Da^{exp}. Where valley width = valley width (ft or m) Da = total drainage area (acres or hectares) at the reach outlet. Blank defaults to Channel Width Coefficient; note—Valley Width Exponent field must also be blank.	**"Valley_Width_Coef"**		Blank, or {0.00000001 to 99999999.9} [0.00000001 to 99999999.9]	F10	2	8

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Valley Width Exponent—Geomorphic valley width exponent in equation: width = coef * Da^{exp}. Where valley width = valley width (ft) Da = total drainage area (acres or hectares) at the reach outlet. Blank defaults to Channel Width Exponent; note—Valley Width Coefficient field must also be blank.	"Valley_Width_Exp"		Blank, or {0.0 to 99999999.9} [0.0 to 99999999.9]	F10	2	9
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IMPOUNDMENT DATA

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-12
The following record repeats for the number of impoundments.						
Impoundment ID—Alphanumeric string identifying the impoundment.	"Impoundment_ID"			A100	2	1
Impoundment Infiltration—Infiltration rate for bottom the impoundment. Blank will default to 0.	"Infiltration"	{in / hr} [mm / hr]	Blank, or {0.0 to 19.} [0.0 to 500.0]	F10	2	2
Impoundment Seepage—Constant value seepage rate through the embankment. Blank will default to 0.	"Seepage"	{cfs} {m^3/sec}	Blank, or {0.0 to 105.} [0.0 to 3.0]	F10	2	3
Permanent Pool Depth—Depth used as the base for impoundment temporary storage and spillway discharge. If zero or blank, there is no permanent pool.	"Permanent_Pool_Depth"	{ft} [m]	Blank, or {0.0 to 328.0} [0.0 to 100.0]	F10	2	4
Impound Volume Coefficient—Coefficient in power curve describing the volume- depth relationship: Vol = coef $(Depth)^{exp}$ where: Vol = Storage volume above channel bottom elevation. (acre-feet or hectare-meter). Depth = Vertical distance above channel bottom (feet or meters)	"Volume_Coef"		[>0.0 to 260.][6]	F10	2	5
Impound Volume Exponent—Exponent in power curve describing the volume-depth relationship: Vol = coef $(Depth)^{exp}$ where: Vol = Storage volume above channel bottom elevation. (acre-feet or hectare-meter). Depth = Vertical distance above channel bottom (feet or meters) Blank defaults to 1.	"Volume_Exp"		Blank, or 0. to 10.	F10	2	6
Impound Discharge Coefficient—Coefficient in power curve describing the discharge- depth relationship: Q = coef $(Depth)^{exp}$ where: Q = Principal spillway discharge (cfs or m^3/sec). Depth = Vertical distance above channel bottom (for pressure flow) or above permanent pool (for weir flow) (feet or meters) .	"Discharge_Coef"		[>0.0 to 2000.0][7]	F10	2	7

[6] Unit conversion from English to SI is non-linear. Appropriate English ranges are: {>0.0 to 642.} for minimum Impound Volume Exponent; and {>0.0 to 59.7} for maximum Impound Volume Exponent.

[7] Unit conversion from English to SI is non-linear. Appropriate English ranges are: {>0.0 to 39000.} for minimum Impound Discharge Exponent; and {>0.0 to 3620.} for maximum Impound Discharge Exponent.

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	For mat	Record No.	Field No.
Impound Discharge Exponent—Exponent in power curve describing the discharge- depth relationship: $Q = coef\ (Depth)^{exp}$ where: Q = Principal spillway discharge (cfs or m^3/sec). Depth = Vertical distance above channel bottom (for pressure flow) or above permanent pool (for weir flow) (feet or meters) . Use 0.5 for pressure flow and 1.5 for horizontal weir flow and 2.5 for v-notch weir flow. Blank defaults to 0.5	**"Discharge_Exp"**		Blank, 0.5 , 1.5, or 2.5	F10	2	8
Sediment Clean Out Depth—- Depth of sediment accumulation before clean out. A blank defaults to the permanent pool depth.	**"Sed_Clean_Out_Depth"**	(ft.) m	Blank, or 0 to permenant pool depth	F10	2	9
Sediment Clean Out Year—- Number of years of sediment accumulation before clean out. A blank in, "**Permanent Pool Depth"** and **"Sediment Clean Out Depth"** fields and this field **will** default to 5 years. Conversely, a nonblank in either "**Permanent Pool Depth"** or **"Sediment Clean Out Depth"** fields and a blank in this field will default to no clean out.	**"Sed_Clean_Out_Year"**		Blank, or >=0	I10	2	10
Reach ID—Alphanumeric string identifying the reach in which the impoundment is located. Must be the same as a reach ID in the REACH DATA section.	**"Reach_ID"**			A100	2	11
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	12
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IRRIGATION APPLICATION DATA

Optional unless referenced in Management Schedule Data

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	For mat	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-18
The following record repeats for the number of Irrigation Applications.						
Irrigation Application ID—Alphanumeric string identifying the irrigation schedule. Each application method may be automatic, single-manual, or interval-manual irrigation. The automatic method must have a: (1) begin irrigation season which is the "Management Schedule Event Date" field within the MANAGEMENT SCHEDULE DATA when also referring there to this "Irrigation Application ID"; (2) end irrigation season date which is the "Irrigation End Date" field within this Irrigation Application ID; and (3) the "Irrigation Depletion Limit" field within this Irrigation Application ID. The single-manual irrigation method must leave theis "Irrigation End Date" field totally blank while completing .the other necessary fields. The interval-manual irrigation method must have an end of irrigation seasom which is the "Irrigation End Date" field while also completing the appropriate other fields.	**"Application_ID"**			A100	2	1
Season End Date—Month, day and relative operation (rotation) year that the irrigation season ends. Entry requires that one (and only one) of either Irrigation Depletion Limit, Interval Number, or Interval Days be entered. Leave blank for single-manual application. Blank year defaults to 1. Note–each automatic irrigation season (rotation year) must have its own end of season date or automatic irrigation will continue through the winter months until the next entered rotaion year's end date.	**"Season_End_Month", "Season_End_Day", "Season_End_Year"**	mm dd yyyy	1 to 12 1 to 31 1 to 1000	I2, I2, I4	2	2-4

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Method Code—Acceptable values are:: 1 = Furrow—open ends, alternating 2 = Furrow—open ends, adjacent 3 = Furrow—blocked, alternating 4 = Furrow—blocked, adjacent 5 = Surge 6 = Border (level or graded) 7 = Level Basin 8 = Center Pivot (inc LEPA) 9 = Linear Move 10 = Sprinkler (set Move or Solid Set) 11 = Big Gun (Moving or Solid Set) 12 = Trickle (Drip, Micro Spray etc) 13 = Sub-surface	**"Method_Code"**		1-13	I10	2	5
Water Source Code—Source of water used for irrigation. 1=Subsurface; 2=Surface. Blank defaults to 1 (Subsurface).	**"Water_Source"**		Blank or 1 to 2	F10	2	6
Cycle Duration—Duration of irrigation application cycle. This field is ignored for automatic applications. Blank defaults to 24 hours for manual applications.	**"Cycle_Duration"**	hr	Blank or 0.1 to 24.0	F10	2	7
Amount Lost—Percentage of applied irrigation water that runs off. Only applies to method codes 1, 2, and 5. Blank defaults to 0.0	**"Amount_Lost"**	%	Blank or 0.0 to 100.0	F10	2	8
Application Rate—Irrigation application rate expressed as inches [English] or mm [SI] in a 24-hour period. Blank defaults to 1 inch [English] or 25.4 mm [SI] per 24-hr.	**"Application_Rate"**	{in/24-hr} [mm/24-hr]	Blank or {0.0 to 36..0} [0.0 to 914.4]	F10	2	9
Tailwater Recovery—Effectiveness of tailwater recovery; blank defaults to 100. Only applies to method codes 1, 2, and 5.	**"Tailwater_Recovery"**	%	0.0 to 100.0	F10	2	10
Depletion Lower Limit—Soil moisture depletion lower limit for automatic irrigation scheduling to begin. The depletion lower limit is defined as the fraction of total available soil moisture in the soil column where irrigation will begin. This is equivalent to the soil column's soil moisture where irrigation will begin divided by the soil column's total available soil moisture. The total available soil moisture or water capacity in the soil column is defined to be the amount of water available between field capacity and the wilting point. Only used with automatic irrigation and requires irrigation season's Irrigation End Date entry. Blank defaults to a manual irrigation application (can be either single or interval).	**"Depletion_Lower_Limit"**	(nd)	Blank or 0.0 to 1.0	F10	2	11
Application Amount—Amount of water to be applied during an irrigation cycle. Blank defaults to calculation between rate & duration.	**"Application_Amount"**	{in} [mm]	Blank {0. to 4.0} [0. to 101.6]	F10	2	12
Area Fraction- Fraction of cell (field) area which has irrigation water applied. Blank defaults to 1.0	**"Area_Fraction"**		Blank or 0.0 to 1.0	F10	2	13
Interval Number—Number of fixed interval irrigations during the irrigation period. Only used with fixed interval irrigation where Interval is not specified. Requires Irrigation End Date entry. Leave blank for automatic irrigation or single-manual irrigation application.	**"Interval_Number"**		Blank or 1 to 100	I10	2	14
Interval Days—Fixed number of days between irrigations. Only used with manually-scheduled irrigation applications at fixed intervals where the Interval Number is not specified. Requires an Irrigation End Date entry. Leave blank for automatic irrigation or a single manually-scheduled irrigation application.	**"Interval_Days"**	Days	Blank or 1 to 100	I10	2	15
Chemical Multiple—Multiple of manual irrigation applications between irrigation applications with chemicals added to the irrigation water. Requires entry of Interval Number or Interval Days. Leave blank for automatic irrigation or single-manual application irrigation.	**"Chemical_Multiple"**		Blank or 1 to 100	I10	2	16

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Sediment Rate—Sediment yield rate (including all particle sizes) at end of field. (Blank defaults to 0.0)	**"Sediment_Rate"**	{tons / acre / in of irrigation water yield} [metric tons / hectare / mm of irrigation water yield]	Blank or {0.0 to 6.0} [0.0 to 0.53]	F10	2	17
Depletion Upper Limit—Soil moisture depletion upper limit for automatic irrigation scheduling to stop. This depletion upper limit is defined as the fraction of total available soil moisture in the soil column at the irrigation's highest controllable level where irrigation will stop. This is equivalent to the soil column's soil moisture where irrigation will stop divided by the soil column's total available soil moisture. The total available soil moisture or water capacity in the soil column is defined to be the amount of water available between field capacity and the wilting point. Blank defaults to 1.0 (at field capacity).	**"Depletion_Upper_Limit"**	(nd)	Blank or 0.0 to 1.0	F10	2	18
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	19
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MANAGEMENT FIELD DATA

Required

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-11
The following record repeats for the number of fields.						
Field ID—Alphanumeric string identifying the field.	**"Field_ID"**			A100	2	1
Field Landuse Type ID—Alphanumeric string describing the landuse type. Acceptable values are: "Cropland", "Pasture", "Rangeland", "Forest", "Urban".	**"Landuse_Type_ID"**			A10	2	2
Management Schedule ID—Alphanumeric string identifying the management schedule for the field. Must be the same as a management schedule ID (in Management Schedule Data).	**"Mgmt_Schd_ID"**			A100	2	3
Gregorian Year for a 1st Year of Rotation—A Gregorian calendar year for a 1st year of rotation in the designated Management Schedule. (Example: For a Management Schedule involving a 3 year rotation, assigning a Gregorian year of 2000 for a 1st year of rotation would result in the first rotation year in the management schedule to occur in Gregorian calendar years 2000, 2003, 2006, etc. and in 1997, 1994, 1991, etc.) The date when a management schedule event would occur during the simulation period would be based on this association. Note that there are many such years that can be used which will all results in the same rotation schedule with respect to the Gregorian calendar. Blank defaults to Gregorian calendar year 1 C.E./A.D.	**"Greg_Yr_for_1st_Yr_of_Rotation"**		Blank, or -100 to 9999	I10	2	4
Percent Rock Cover—Percent surface area covered by rocks. Blank defaults to 0.0.	**"Percent_Rock_Cover"**		Blank, or 0.0 to 100.0	F10	2	5

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Inter-rill Erosion code—Beta code indicating the ratio of rill to inter-rill erosion. Acceptable values are: 1 = rill/inter-rill erosion equal for bare soil (ratio = 0.035) 2 = interrill erosion dominant for bare soil (ratio = 0.025) 3 = rill erosion dominant for bare soil (ratio = 0.050) 4 = coarse soil; low ppt.; cover strongly affects runoff (ratio = 0.045) Blank defaults to 3.	**"Interrill_Erosion_Code"**		Blank or 1—4	I10	2	6
Random Roughness—Long term random roughness. Surface random roughness resulting from rocks, roots, or any other vegetative effects on surface at the time the field is left undisturbed for greater than number of years it takes for the soil to fully consolidate. Blank defaults to 1.25 in (32 mm).	**"Random_Roughness"**	{in} [mm]	Blank, or {0.000004 to 19.6} [0.00001 to 500.0]	F10	2	7
Terrace Horizontal Distance—Distance between terraces on the field. Leave blank if there are no terraces on the field.	**"Terrace_Horizontal_Distance"**	{ft} [m]	Blank or {0.000033 to 9842.} [0.00001 to 3000.0]	F10	2	8
Terrace grade.—Grade in terrace to outlet Zero or blank indicates a flat bottom detention terrace. Must be blank if Terrace Horizontal Distance is blank.	**"Terrace_Grade"**	len-vert / len-horz (nd)	Blank or 0.0 to 10.0	F10	2	9
Tile Drain ID .—Alphanumeric string identifying the tile drainage applied to the field. Leave blank if no tile drains present	**"Tile_Drain_ID"**			A100	2	10
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	11
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MANAGEMENT OPERATION DATA

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-19
The following record repeats for the number of operations references.						
Management Operation ID—Alphanumeric string identifying the management operation.	**"Mgmt_Operation_ID"**			A100	2	1
Effect Codes—Operation effects codes describing field changes. Enter up to 5 codes. Allowable codes are: 1 = no effect 2 = soil surface disturbed 3 = current crop residue added to surface 4 = other residue added to the field 5 = current residue removed from field 6 = current crop harvested 7 = plant crop (growth begins) 8 = current crop killed 9 = call in a new crop growth set 10 = current and previous residue removed from field. Only # 1 can be repeated in the array. Blanks default to #1.	**"Effect_Code_01", Effect_Code_02, Effect_Code_03, Effect_Code_04, Effect_Code_05**		1 to 10	I2, I2, I2, I2, I2	2	2-6

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Residue Cover Remaining—Percent residue cover remaining on the surface after a soil surface disturbing operation. Only used if an operation effect is 2 and % of residue weight remaining is not available. If the effect code is 2, either "Residue Cover Remaining" or "Residue Weight Remaining" must be >0 while the other is 0.0 or blank. Blank defaults to 0.0. Must be blank or 0.0 for other than effect code 2.	**"Residue_Cover_Remaining"**	%	Blank, or >0. to 100.0	F10	2	7
Residue Weight Remaining—Percent residue weight remaining on the surface after a soil surface disturbing operation. Only used if an Effect code is 2 and Residue Cover Remaining is not available. If the effect code is 2, either "Residue Cover Remaining" or "Residue Weight Remaining" must be >0 while the other is 0.0 or blank. Blank defaults to 0.0. Must be blank or 0.0 for other than effect code 2.	**"Residue_Weight_Remaining"**	%	Blank or >0. to 100.0	F10	2	8
Area Disturbed—Percent surface area disturbed by operation. Only used if Effect code is 2. Effect code of 2 requires a value >0. Must be blank or 0.0 for other than effect code 2.	**"Area_Disturbed"**	%	Blank or >0. to 100.0	F10	2	9
Initial Random Roughness—Initial random roughness. Only used if Effect code is 2. Effect code of 2 requires a value >0. Must be blank for other than effect code 2.	**"Initial_Random_Roughness"**	{in} [mm]	Blank or {>0. to 10.0} [>0. to 254.0]	F10	2	10
Final Random Roughness—Final consolidated random roughness. Only used if Effect code is 2. Effect code of 2 requires a value >0. Must be blank for other than effect code 2.	**"Final_Random_Roughness"**	{in} [mm]	Blank or {>0. to 10.0} [>0. to 254.0]	F10	2	11
Operation Tillage Depth—Depth of tillage operation. Only used if Effect Code is 2. Effect code of 2 requires a value >0. If any Effect Code is 2, then a blank defaults to 200 [mm]; othetrwise the default is zero..	**"Operation_Tillage_Depth"**	{in} [mm]	Blank or {>. to 100.} [>0.0 to 2540.}	F10	2	12
Added Surface Residue—Additional residue applied that remains on the surface. Only used if Effect code is 4.Blank defaults to 0.0 meaning no added residue is applied. Must be blank for other than effect code 4.	**"Added_Surface_Residue"**	%	Blank or 0. to 100.0	F10	2	13
Surface Decomposition—Surface decomposition coefficient for added residue. Only used if Effect code is 4.Blank or 0.0 defaults to 0.016. Must be blank for other than effect code 4.	**"Surface_Decomp"**		Blank or 0. to 10.0	F10	2	14
Sub-surface Decomposition—Sub-surface decomposition coefficient for added residue. Only used if Effect code is 4.Blank or 0.0 defaults to 0.016. Must be blank for other than effect code 4.	**"Subsurface_Decomp"**		Blank or 0. to 10.0	F10	2	15
Surface Residue—Added surface residue amounts at three cover percentages. The order and value of the cover percentages are: 30%, 60%, and 90% Effect code of 4 requires a value >0. If effect code = 4 and all values are blank, then the surface residue at 30% defaults to 0.01. This parameter is only used for non-crop in the RUSLE1 version within AnnAGNPS. Must be blank for other than effect code 4.	**"Surface_Residue_30%", Surface_Residue_60%, Surface_Residue_90%**	{lb / acre} [kg / hectare]	{>0. to 99924.} [>0. to 112000.0]	3F10	2	16-18
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	19

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MANAGEMENT SCHEDULE DATA

Required

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-18

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
The following record repeats for the number of events within a scheduled grouping. All events within a grouping must be sequential in time.						
Management Schedule ID—Alphanumeric string identifying the management schedule. Must be present for the start of a new schedule. Use only once per schedule; leave blank for subsequent events within a schedule.	**"Mgmt_Schd_ID"**			A100	2	1
Event Date—Complete date (month, day, & relative year within a scheduled grouping) for the **event**. Blank defaults to 1 for the event year. NOTE: for management schedule purposes, leap year is not considered when determining the Julian day, Gregorian day, and Gregorian date for the scheduled events. This is because there can be many management field IDs that use the same management schedule but with different "Gregorian Year for 1st Year of Rotation".	**"Event_Month", "Event_Day", "Event_Year"**	mm dd yyyy	Blank, or 1 to 12 1 to 31 1 to 1000	I2, I2, I4	2	2-4
Event Contour ID—Alphanumeric string identifying contour data. Must be the same as a contour ID (in Contour Data). Only needed for the first **event** involving contours or when a change occurs.	**"Contour_ID"**			A100	2	5
Event New Crop ID—Alphanumeric string identifying new crop information for the **event**. Must be the same as a crop ID (in Crop Data). Required for one **event** in a cropland **event** set with additional entries if a change occurs.	**"New_Crop_ID"**			A100	2	6
Event Strip Crop ID—Alphanumeric string identifying strip crop data for the **event**. Must be the same as a strip crop ID (in Strip Crop Data). Only needed for the first **event** involving strip crops in a **management schedule** or when a change occurs.	**"Strip_Crop_ID"**			A100	2	7
Event New Non-crop ID—Alphanumeric string identifying new non-crop landuse data for the event. Must be the same as a non-crop ID (in **Non-Crop** Data). Required for one event of a non-crop **management schedule**.	**"New_Non-Crop_ID"**			A100	2	8
Curve Number ID—A runoff curve number ID that must match a corresponding ID in the **RUNOFF CURVE NUMBER DATA** section and is scheduled to become effective on or shortly after the scheduled date. A curve number ID may be entered for the first scheduled date for each **Management Schedule** ID and when a change in runoff curve number is to occur. . This field may be left blank. If blank, AnnAGNPS checks for the presence of a user-entered "Default Crop RCN ID" or "Default Non-Crop RCN ID" in the GLOBAL IDS, FACTORS, AND FLAGS DATA section based on the "Event New Crop ID" or "Event New Non-crop ID" of this section. If a default RCN ID is present, AnnAGNPS will use that RCN ID. If a default RCN ID is not present (blank), AnnAGNPS will use an internally defined RCN ID as described in the GLOBAL IDS, FACTORS, AND FLAGS DATA section. When a scheduled Curve Number ID is specified alone without a New Crop ID also being specified, the curve number becomes effective that day. When a Scheduled Curve Number ID is specified along with a New Crop ID and a Management Operation ID that includes a planting (7) effect code also being specified, the curve number transitions from the old to the new curve number as a function of the days from planting to harvest. The curve number represents a mature crop when a planting management operation ID is specified.	**"Curve_Number_ID"**			A100	2	9
Post Event Manning's n—Manning's n value to use after operation occurs. Required for first operation in a **management schedule** and when a change occurs Defaults to cell's current value.	**"Post_Event_Mannings_n"**		blank, 0.005 to 1.0	F10	2	10

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Post Event Surface Constant—Surface condition constant to use after operation occurs. Required for first operation in a **management schedule** and when a change occurs Defaults to cell's current value.	**"Post_Event_Surface_Constant"**		blank, 0.0 to 1.0	F10	2	11
Operation Residue Change—Residue amount added or subtracted for the operation. Amount is always a positive number. Data interpretation depends on the effect codes (in Operation Reference Data) associated with the operation. Blank defaults to 0.0. Actions by effect codes are: 3, (optional). If 0, the current crop potential residue is added otherwise this amount is added to the current crop residue. 4, (required) added as a unique residue. 5, (optional) If 0, then all of the current crop surface residue will be removed otherwise only this amount is subtracted. 10, (optional) If 0, then all surface residues are removed, otherwise this value is divided by the total of all surface residues to determine a fraction to remove from each residue. Not used with other effect codes.	**"Operation_Residue_Change"**	{lb/acre} [kg/hectare]	Blank or {0.0 to 99924.} [0.0 to 112000.0]	F10	2	12
Event Fertilizer Application ID—Alphanumeric string identifying the fertilizer information for the operation. Must be the same as a fertilizer application ID (in Fertilizer Application Data). Blank indicates no fertilizer applied with event.	**"Fertilizer_Application_ID"**			A100	2	13
Event Irrigation Application ID—Alphanumeric string identifying the irrigation application record to be used for this event. Must be the same as an irrigation application ID in the Irrigation Application Data section. Note: Irrigation will begin on the relative year event date specified in this management schedule and will end based on the relative year "Season End Date" in the corresponding "Irrigation Application Data" record. If the irrigation season end date is in a relative year prior to the irrigation begin date in this management schedule then irrigation will continue until the relative year rotation has occurred and the irrigation season end date is reached. If a single manually-scheduled irrigation application is designated then the season end date should be left blank in the corresponding irrigation application record. Blank indicates no irrigation applied with event.	**"Irrigation_Application_ID"**			A100	2	14
Management Operation ID—Alphanumeric string identifying the operation information for the operation. Must be the same as an operation ID (in Management Operation Data). Blank indicates a "NO OPERATION". Note–if a "NO OPERATION" ID is not found in the MANAGEMENT OPERATION DATA section, AnnAGNPS inserts one with all effect codes equal to 1.	**"Mgmt_Operation_ID"**			A100	2	15
Tile Drain Controlled Status —Alphanumeric string indicating a change in controlled tile drain status. "Open" or "close" are acceptable inputs. The initial tile drain status is "Open" when there is a tile drain. Blank defaults to the previous controlled status. This field is ignored if a tile drain has not been assigned to the cell when this specific schedule is active.	**"Tile_Drain_Controlled_Status"**		Blank, or "Open" or "Close"	A10	2	16
Tile Drain Controlled Depth —Numeric value indicating a change in the controlled tile drain depth. Entry of a non-zero value indicates a change in the tile drain depth via controlling the drain outlet. Entering a value of '0.0' in this field is the same as entering "close" in the Tile Drain Controlled Status field. Entering a value equal to or greater than the tile drain invert depth returns the control to the invert (e.g., a value of 2000. [mm]). This field is ignored if a tile drain has not been assigned to the active cell.	**"Tile_Drain_Controlled_Depth"**	{in} [mm]	Blank, or {0. to 78.74} [0. to 2000].	F10	2	17

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	18
Event Pesticide Application ID—Alphanumeric string identifying the pesticide application information for operation. Must be the same as a pesticide application ID (in Pesticide Application Data). Leave fields blank if no pesticides are applied in the operation. The maximum allowable number of pesticide ids for any event is 5.	**"Pest_App_ID_1", "Pest_App_ID_2", "Pest_App_ID_3", "Pest_App_ID_4", "Pest_App_ID_5",**			A100	2	19-23
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MODFLOW DATA

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-2
The following record repeats for the number of geology sets.						
Modflow ID—Alphanumeric string identifying the modflow grid cell.	**"Modflow_ID"**			A100	2	1
Steady State Days—Days in steady state. Blank defaults to 0.	**"Steady_State_Days"**	[day]	Blank or [0 to 365000]	I10	2	2
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NON-CROP DATA

Optional unless referenced in Management Schedule Data

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-14
The following record repeats for the number of Non-Crops.						
Non-Crop ID—Alphanumeric string identifying a non-cropland landuse.	**"Non-Crop_ID"**			A100	2	1
Non-Crop Description—Description of the **non-crop** landuse. (For user reference only. Not used within AnnAGNPS.)	**"Non-Crop_Description"**			A60	2	2
Annual Root Mass—Average annual live root mass in the top 4 in (100 mm) of soil. This parameter is required if the 'USLE C-Factor' below is blank. If the 'USLE C-Factor' parameter below is populated then this parameter is not used.	**"Annual_Root_Mass"**	{lb / acre} [kg / hectare]	Blank or {0.0 to 99924.} [0.0 to 112000.0	F10	2	3
Annual Cover Ratio—Average annual ratio of ground covered by canopy cover to total ground area. This parameter is required if the 'USLE C-Factor' below is blank -or- if the FAO ET Enhancement feature is enabled (true - default). May be left blank if the 'USLE C-Factor' parameter below is populated -and- the FAO ET Enhancement feature is disabled (set to false) in the GLOBAL IDS, FACTORS, AND FLAGS DATA section.	**"Annual_Cover_Ratio"**		Blank or 0.0 to 1.0	F10	2	4

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Annual Rain Fall Height—Average annual distance rainfall falls after being intercepted by the crop canopy. This parameter is required if the 'USLE C-Factor' below is blank -or- if the FAO ET Enhancement feature is enabled (true - default). May be left blank if the 'USLE C-Factor' parameter below is populated -and- the FAO ET Enhancement feature is disabled (set to false) in the GLOBAL IDS, FACTORS, AND FLAGS DATA section.	**"Annual_Rain_Fall_Height"**	{ft} [m]	Blank or {0.0 to 262.0} [0.0 80.0]	F10	2	5
Surface Residue Cover—Percent surface residue cover. Plant basal area is not considered as being part of the ground cover. Blank = 0.0%	**"Surface_Cover_Residue"**	%	Blank or 0 to 100.0	F10	2	6
USLE C-Factor—optional , constant USLE C-factor to be used in lieu of computed RUSLE time-varying value. Blank field defaults to computed RUSLE time-varying value.	**"USLE_C-Fctr"**		Blank or 0.0 to 2.0	F10	2	7
Basal Crop Coefficient ("Kcb-mid")—Average annual coefficient at the mature growth stage; used in adjusting the potential evapotranspiration (ET). The coefficient for all days in the growing season will be equal to this value unless internally adjusted based on climate conditions. The coefficient is internally set to 0.0 for all days outside of the growing season. Blank defaults to 1.0.	**"Basal_Crop_Coef_Mid"**	[nd]	Blank or 0.0 to 1.2	F10	2	8
Growing Season Start Month—Month when the growing season begins. Blank = 01	**"Growing_Season_Start_Month"**	[month]	Blank or 1 to 12	I5	2	9
Growing Season Start Day—Day when the growing season begins. Blank = 01	**"Growing_Season_Start_Day"**	[day]	Blank or 1 to 31	I5	2	10
Growing Season End Month—Month when the growing season ends. Ending date cannot be chronologically earlier than the beginning date. Blank = 12	**"Growing_Season_End_Month"**	[month]	Blank or 1 to 12	I5	2	11
Growing Season End Day—Day when the growing season ends. Ending date cannot be chronologically earlier than the beginning date. Blank = 31	**"Growing_Season_End_Day"**	[day]	Blank or 1 to 31	I5	2	12
Basal Crop Coefficient Climatic Adjustment code— Code indicating whether the basal crop coefficient "Kcb-mid" will be adjusted based on climate conditions. Acceptable values are: Y = Adjustment; N = No adjustment. Blank will default to 'Y' unless the global basal crop climate adjustment code is set to false in the Global IDs, Factors, and Flags Data section.	**"Basal_Crop_Coef_Climate_Adjust"**		Blank or Y or N	A1	2	13
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	14
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OUTPUT OPTIONS DATA – GLOBAL

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1-40
The following record does not repeat.							
Global request for all version 3 comma separated variable format database files (*.csv); default is false.	**"Glbl_All_V3_csv"**			blank, T, or F	A1	2	1
Global request for all version 3 data preparation verification files (*.dpp); default is false.	**"Glbl_All_V3_dpp"**			blank, T, or F	A1	2	2

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Global request for all version 3 input data verification files (*.npt); default is false.	**"Glbl_All_V3_npt"**			blank, T, or F	A1	2	3
Global request for all version 3 simulation verification files (*.sim); default is false.	**"Glbl_All_V3_sim"**			blank, T, or F	A1	2	4
Global request for all version 3 formatted individual table files (*.txt); default is false.	**"Glbl_All_V3_txt"**			blank, T, or F	A1	2	5
Global request for the program execution log file (AnnAGNPS.log); default is true.	**"Log_to_File"**			blank, T, or F	A1	2	6
Global request for the program execution log to the screen; default is true.	**"Log_to_Screen"**			blank, T, or F	A1	2	7
Global request for the warning file; default is true.	**"Warning_File"**			blank, T, or F	A1	2	8
Global request for the version 1 & 2 formated table output files; default is false.	**"V1/2_Output_Files"**			blank, T, or F	A1	2	9
Reserved.	**"Reserved"**			blank only	—	2	10
Global request for all cells to be included in the output; default is true.	**"Glbl_All_Cells"**			blank, T, or F	A1	2	11
Global request for all feedlots to be included in the output; default is true.	**"Glbl_All_Feedlots"**			blank, T, or F	A1	2	12
Global request for all field ponds to be included in the output; default is true.	**"Glbl_All_Fld_Ponds"**			blank, T, or F	A1	2	13
Global request for all gullies to be included in the output; default is true.	**"Glbl_All_Gullies"**			blank, T, or F	A1	2	14
Global request for all point sources to be included in the output; default is true.	**"Glbl_All_Pt_Srcs"**			blank, T, or F	A1	2	15
Global request for all reaches to be included in the output; default is OUTLET only.	**"Glbl_All_Reaches"**			blank, T, or F	A1	2	16
Global request for all impoundments to be included in the output; default is true.	**"Glbl_All_Impound"**			blank, T, or F	A1	2	17
Global request for all wetlands to be included in the output; default is true.	**"Glbl_All_Wetlands"**			blank, T, or F	A1	2	18
Global request for all nutrients to be included in the accumulation & average annual output; default is true.	**"Glbl_All_AA_Nutr"**			blank, T, or F	A1	2	19
Global request for all pesticides to be included in the accumulation & average annual output; default is true.	**"Glbl_All_AA_Pest"**			blank, T, or F	A1	2	20
Reserved.	**"Reserved"**			blanks only	—	2	21
Reserved.	**"Reserved"**			blanks only	—	2	22
Global request for all sediment to be included in the accumulation & average annual output; default is true.	**"Glbl_All_AA_Sed"**			blank, T, or F	A1	2	23
Global request for all water to be included in the accumulation & average annual output; default is true.	**"Glbl_All_AA_Wtr"**			blank, T, or F	A1	2	24
Global request for all nutrients to be included in the event output; default is true.	**"Glbl_All_EV_Nutr"**			blank, T, or F	A1	2	25
Global request for all pesticides to be included in the event output; default is true.	**"Glbl_All_EV_Pest"**			blank, T, or F	A1	2	26
Global request for all sediment to be included in the event output; default is true.	**"Glbl_All_EV_Sed"**			blank, T, or F	A1	2	27
Global request for all water to be included in the event output; default is true.	**"Glbl_All_EV_Wtr"**			blank, T, or F	A1	2	28
Reserved.	**"Reserved"**			blanks only	—	2	29
Reserved.	**"Reserved"**			blanks only	—	2	30
Global request for version 2 & 3 output to be in total mass units [water & sediment are in tons (English) or Mg (SI), chemicals are in lbs (English) or kg (SI)]; default is false.	**"Glbl_All_V2/3_Mass"**			blank, T, or F	A1	2	31
Global request for version 2 & 3 output to be in ratio units [total mass from contributing source divided by total mass at reference reach location]; default is false.	**"Glbl_All_V2/3_Ratio"**			blank, T, or F	A1	2	32

Description	Field Header for Record #1	Code Index	Col.	Domain	For mat	Record No.	Field No.
Global request for version 2 & 3 output to be in units of total mass divided by contributing area (unit area) [water & sediment are in tons/ac (English) or Mg/ha (SI), chemicals are in lbs/ac (English) or kg/ha (SI)]; default is false. 1 [lbs/ac] = 1.120848 [kg/ha]	**"Glbl_All_V2/3_UA"**			blank, T, or F	A1	2	33
Reserved.	**"Reserved"**			blank only	—	2	34
Local request for version 2 CONCEPTS formatted output file (AnnAGNPS.cpt); default is false.	**"V2_Concepts"**			blank, T, or F	A1	2	35
Reserved.	**"Reserved"**			blank only	—	2	36
Local request for version 2 average annual formated output file (AnnAGNPS_AA.csv); default is true.	**"V2_AA"**			blank, T, or F	A1	2	37
Local request for version 2 event formated output file (AnnAGNPS_EV.csv); default is false.	**"V2_EV"**			blank, T, or F	A1	2	38
Local request for version 1 accumulated data output file (AnnAGNPS.acc); default is false.	**"V1_AA"**			blank, T, or F	A1	2	39
Local request for version 1 event data output file (AnnAGNPS.evn); default is false.	**"V1_EV"**			blank, T, or F	A1	2	40
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OUTPUT OPTIONS DATA – AA

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	For mat	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1-55
The following record does not repeat.							

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
The following lines in this section are for parent files with associated flags in the OUTPUT OPTIONS DATA section		**Base_aa_01= 1000 +**					
AnnAGNPS_AA_Feedlots_(mass).txt (Reserved – Not currently produced)	**"Reserved"**	1.		blank, T, or F	A1	2	1.
AnnAGNPS_AA_Feedlots_(ratio).txt (Reserved – Not currently produced)	**"Reserved"**	2.		blank, T, or F	A1	2	2.
AnnAGNPS_AA_Feedlots_(unit area).txt (Reserved – Not currently produced)	**"Reserved"**	3.		blank, T, or F	A1	2	3.
AnnAGNPS_AA_Field_Ponds_(mass).txt (Reserved – Not currently produced)	**"Reserved"**	4.		blank, T, or F	A1	2	4.
AnnAGNPS_AA_Field_Ponds_(ratio).txt (Reserved – Not currently produced)	**"Reserved"**	5.		blank, T, or F	A1	2	5.
AnnAGNPS_AA_Field_Ponds_(unit area).txt (Reserved – Not currently produced)	**"Reserved"**	6.		blank, T, or F	A1	2	6.
AnnAGNPS_AA_Gullies_(erosion).csv	**"AA_Gullies_Erosion"**	7.		blank, T, or F	A1	2	7.
AnnAGNPS_AA_Gullies_(sediment).txt (Reserved – Not currently produced)	**"Reserved"**	8.		blank, T, or F	A1	2	8.
AnnAGNPS_AA_Gullies_(nutrients).txt (Reserved – Not currently produced)	**"Reserved"**	9.		blank, T, or F	A1	2	9.
AnnAGNPS_AA_Nitrogen_load_(mass).csv	**"AA_N_Ld_Mass"**	10.		blank, T, or F	A1	2	10.
AnnAGNPS_AA_Nitrogen_load_(ratio). csv	**"AA_N_Ld_Ratio"**	11.		blank, T, or F	A1	2	11.
AnnAGNPS_AA_Nitrogen_load_(unit_area). csv	**"AA_N_Ld_UA"**	12.		blank, T, or F	A1	2	12.
AnnAGNPS_AA_Nitrogen_yield_(mass). csv	**"AA_N_Yld_Mass"**	13.		blank, T, or F	A1	2	13.
AnnAGNPS_AA_Nitrogen_yield_(ratio). csv	**"AA_N_Yld_Ratio"**	14.		blank, T, or F	A1	2	14.
AnnAGNPS_AA_Nitrogen_yield _(unit_area). csv	**"AA_N_Yld_UA"**	15.		blank, T, or F	A1	2	15.
AnnAGNPS_AA_Organic_Carbon_load_(mass). csv	**"AA_OC_Ld_Mass"**	16.		blank, T, or F	A1	2	16.
AnnAGNPS_AA_Organic_Carbon_load_(ratio). csv	**"AA_OC_Ld_Ratio"**	17.		blank, T, or F	A1	2	17.
AnnAGNPS_AA_Organic_Carbon_load_(unit_area). csv	**"AA_OC_Ld_UA"**	18.		blank, T, or F	A1	2	18.
AnnAGNPS_AA_Organic_Carbon_yield_(mass). csv	**"AA_OC_Yld_Mass"**	19.		blank, T, or F	A1	2	19.
AnnAGNPS_AA_Organic_Carbon_yield_(ratio). csv	**"AA_OC_Yld_Ratio"**	20.		blank, T, or F	A1	2	20.
AnnAGNPS_AA_Organic_Carbon_yield_(unit_area). csv	**"AA_OC_Yld_UA"**	21.		blank, T, or F	A1	2	21.
AnnAGNPS_AA_Pesticides_load_(mass).txt (Reserved – Not currently produced)	**"Reserved"**	22.		blank, T, or F	A1	2	22.
AnnAGNPS_AA_Pesticides_load_(ratio).txt (Reserved – Not currently produced)	**"Reserved"**	23.		blank, T, or F	A1	2	23.
AnnAGNPS_AA_Pesticides_load_(unit_area).txt (Reserved – Not currently produced)	**"Reserved"**	24.		blank, T, or F	A1	2	24.
AnnAGNPS_AA_Pesticides_yield_(mass).txt (Reserved – Not currently produced)	**"Reserved"**	25.		blank, T, or F	A1	2	25.
AnnAGNPS_AA_Pesticides_yield_(ratio).txt (Reserved – Not currently produced)	**"Reserved"**	26.		blank, T, or F	A1	2	26.
AnnAGNPS_AA_Pesticides_yield_(unit_area).txt (Reserved – Not currently produced)	**"Reserved"**	27.		blank, T, or F	A1	2	27.
AnnAGNPS_AA_Phosphorus_load_(mass).csv	**"AA_P_Ld_Mass"**	28.		blank, T, or F	A1	2	28.

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
AnnAGNPS_AA_Phosphorus_load_(ratio). csv	**"AA_P_Ld_Ratio"**	29.		blank, T, or F	A1	2	29.
AnnAGNPS_AA_Phosphorus_load _(unit_area). csv	**"AA_P_Ld_UA"**	30.		blank, T, or F	A1	2	30.
AnnAGNPS_AA_Phosphorus_yield_(mass). csv	**"AA_P_Yld_Mass"**	31.		blank, T, or F	A1	2	31.
AnnAGNPS_AA_Phosphorus_yield_(ratio). csv	**"AA_P_Yld_Ratio"**	32.		blank, T, or F	A1	2	32.
AnnAGNPS_AA_Phosphorus_yield_(unit_area). csv	**"AA_P_Yld_UA"**	33.		blank, T, or F	A1	2	33.
AnnAGNPS_AA_Point_Sources_(mass).txt (Reserved – Not currently produced)	**"Reserved"**	34.		blank, T, or F	A1	2	34.
AnnAGNPS_AA_Point_Sources_(ratio).txt (Reserved – Not currently produced)	**"Reserved"**	35.		blank, T, or F	A1	2	35.
AnnAGNPS_AA_Point_Sources_(unit area).txt (Reserved – Not currently produced)	**"Reserved"**	36.		blank, T, or F	A1	2	36.
AnnAGNPS_AA_Sediment_Erosion_(mass). csv	**"AA_Sed_Eros_Mass"**	37.		blank, T, or F	A1	2	37.
AnnAGNPS_AA_Sediment_Erosion_(ratio). csv	**"AA_ Sed_Eros_Ratio"**	38.		blank, T, or F	A1	2	38.
AnnAGNPS_AA_Sediment_Erosion_(unit_area). csv	**"AA_ Sed_Eros_UA"**	39.		blank, T, or F	A1	2	39.
AnnAGNPS_AA_Sediment_Load_(mass). csv	**"AA_Sed_Ld_Mass"**	40.		blank, T, or F	A1	2	40.
AnnAGNPS_AA_Sediment_Load_(ratio). csv	**"AA_Sed_Ld_Ratio"**	41.		blank, T, or F	A1	2	41.
AnnAGNPS_AA_Sediment_Load_(unit_area). csv	**"AA_Sed_Ld_UA"**	42.		blank, T, or F	A1	2	42.
AnnAGNPS_AA_Sediment_Yield_(mass). csv	**"AA_Sed_Yld_Mass"**	43.		blank, T, or F	A1	2	43.
AnnAGNPS_AA_Sediment_Yield_(ratio). csv	**"AA_Sed_Yld_Ratio"**	44.		blank, T, or F	A1	2	44.
AnnAGNPS_AA_Sediment_Yield_(unit_area). csv	**"AA_Sed_Yld_UA"**	45.		blank, T, or F	A1	2	45.
AnnAGNPS_AA_Water_load_(mass). csv	**"AA_Wtr_Ld_Mass"**	46.		blank, T, or F	A1	2	46.
AnnAGNPS_AA_Water_load_(ratio). csv	**"AA_Wtr_Ld_Ratio"**	47.		blank, T, or F	A1	2	47.
AnnAGNPS_AA_Water_load_(unit_area). csv	**"AA_Wtr_Ld_UA"**	48.		blank, T, or F	A1	2	48.
AnnAGNPS_AA_Water_yield_(mass). csv	**"AA_Wtr_Yld_Mass"**	49.		blank, T, or F	A1	2	49.
AnnAGNPS_AA_Water_yield_(ratio). csv	**"AA_Wtr_Yld_Ratio"**	50.		blank, T, or F	A1	2	50.
AnnAGNPS_AA_Water_yield_(unit_area). csv	**"AA_Wtr_Yld_UA"**	51.		blank, T, or F	A1	2	51.
The remaining lines in this section are for children files with no associated flags in the OUTPUT OPTIONS DATA section		**Base_aa_chld= 1100 +**	**Par't Field**				
NOTE: Separate ranked ratio output files are produced for each reach for which output has been requested and for which one or more cells have contributed to the reach. Separate files are produced for the OUTLET, the upstream end, and the downstream end of the reach.							
AnnAGNPS_AA_Nitrogen_load_UA_RR_Total_***reach-ID_reach-location***.csv		1.	AA 01 12				
AnnAGNPS_AA_Nitrogen_load_ UA_RR_Attached_***reach-ID_reach-location***.csv		2.	AA 01 12				
AnnAGNPS_AA_Nitrogen_load_ UA_RR_Soluble_***reach-ID_reach-location***.csv		3.	AA 01 12				

Description	Field Header for Record #1	Code Index	Col.	Domain	For mat	Record No.	Field No.
NOTE: Separate ranked ratio output files are produced for each reach for which output has been requested and for which one or more cells have contributed to the reach. Separate files are produced for the OUTLET, the upstream end, and the downstream end of the reach.							
AnnAGNPS_AA_Organic_Carbon_load_UA_RR_Total_***reach-ID_reach-location***.csv		4.	AA 01 18				
AnnAGNPS_AA_Organic_Carbon_load_UA_RR_Attached_***reach-ID_reach-location***.csv		5.	AA 01 18				
AnnAGNPS_AA_Organic_Carbon_load_UA_RR_Soluble_***reach-ID_reach-location***.csv		6.	AA 01 18				
NOTE: Separate ranked ratio output files are produced for each reach for which output has been requested and for which one or more cells have contributed to the reach. Separate files are produced for the OUTLET, the upstream end, and the downstream end of the reach.							
AnnAGNPS_AA_Phosphorus_load_UA_RR_Total_***reach-ID_reach-location***.csv		7.	AA 01 30				
AnnAGNPS_AA_Phosphorus_load_UA_RR_Attached_Organic_***reach-ID_reach-location***.csv		8.	AA 01 30				
AnnAGNPS_AA_Phosphorus_load_UA_RR_Attached_Inorganic_***reach-ID_reach-location***.csv		9.	AA 01 30				
AnnAGNPS_AA_Phosphorus_load_UA_RR_Soluble_Inorganic_***reach-ID_reach-location***.csv		10.	AA 01 30				
AnnAGNPS_AA_Sediment_load_by_source_(mass).csv		11.	AA 01 40				
AnnAGNPS_AA_Sediment_load_by_source_(ratio). csv		12.	AA 01 41				
AnnAGNPS_AA_Sediment_load_by_source_(unit-area). csv		13.	AA 01 42				
NOTE: Separate ranked ratio output files are produced for each reach for which output has been requested and for which one or more cells have contributed to the reach. Separate files are produced for the OUTLET, the upstream end, and the downstream end of the reach.							
AnnAGNPS_AA_Sediment_load_UA_RR_Total_***reach-ID_reach-location***.csv		14.	AA 01 42				
AnnAGNPS_AA_Sediment_load_UA_RR_Clay_***reach-ID_reach-location***.csv		15.	AA 01 42				
AnnAGNPS_AA_Sediment_load_UA_RR_Silt_***reach-ID_reach-location***.csv		16.	AA 01 42				
AnnAGNPS_AA_Sediment_load_UA_RR_Sand_***reach-ID_reach-location***.csv		17.	AA 01 42				
AnnAGNPS_AA_Sediment_load_UA_RR_Total_SnR_Gly_Pnd_***reach-ID_reach-location***.csv		18.	AA 01 42				
AnnAGNPS_AA_Sediment_load_by_reach_(mass).csv		19.	AA 01 40				
NOTE: Separate ranked ratio output files are produced for each reach for which output has been requested and for which one or more cells have contributed to the reach. Separate files are produced for the OUTLET, the upstream end, and the downstream end of the reach.							
AnnAGNPS_AA_Water_load_UA_RR_Total_***reach-ID_reach-location***.csv		20.	AA 01 48				
AnnAGNPS_AA_Water_load_UA_RR_Baseflow_***reach-ID_reach-location***.csv (Reserved - Not currently produced)		21.	AA 01 48				
AnnAGNPS_AA_Water_load_UA_RR_Direct_***reach-ID_reach-location***.csv (Reserved - Not currently produced)		22.	AA 01 48				
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OUTPUT OPTIONS DATA – CSV

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	For mat	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1-61
The following record does not repeat.							

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
The following lines in this section are for parent files with associated flags in the OUTPUT OPTIONS DATA section		**Base_csv_01= 1200 +**					
All event loadings from cell to downstream reaches	**"All_Evt_Lds_Cell_to_DS_Rchs"**	1.		blank, T, or F	A1	2	1.
All annual accumulations	**"All_AA"**	2.		blank, T, or F	A1	2	2.
All events	**"All_Events"**	3.		blank, T, or F	A1	2	3.
All nitrogen	**"All_N"**	4.		blank, T, or F	A1	2	4.
All organic carbon	**"All_OC"**	5.		blank, T, or F	A1	2	5.
All pesticides	**"All_Pesticides"**	6.		blank, T, or F	A1	2	6.
All phosphorus	**"All_P"**	7.		blank, T, or F	A1	2	7.
All sediment	**"All_Sediment"**	8.		blank, T, or F	A1	2	8.
All water	**"All_Water"**	9.		blank, T, or F	A1	2	9.
Annual accumulation nitrogen load from cell to downstream reaches	**"AA_N_Ld_Cel_to_DS_Rchs"**	10.		blank, T, or F	A1	2	10.
Annual accumulation nitrogen load in reaches	**"AA_N_Ld_in_Rchs"**	11.		blank, T, or F	A1	2	11.
Annual accumulation nitrogen yield from cell to receiving reach	**"AA_N_Yld_Cel_to_Rcv_Rch"**	12.		blank, T, or F	A1	2	12.
Annual accumulation organic carbon load from cell to downstream reaches	**"AA_OC_Ld_Cel_to_DS_Rchs"**	13.		blank, T, or F	A1	2	13.
Annual accumulation organic carbon load in reaches	**"AA_OC_Ld_in_Rchs"**	14.		blank, T, or F	A1	2	14.
Annual accumulation organic carbon yield from cell to receiving reach	**"AA_OC_Yld_Cel_to_Rcv_Rch"**	15.		blank, T, or F	A1	2	15.
Annual accumulation pesticide load from cell to downstream reaches	**"AA_Pest_Ld_Cel_to_DS_Rchs"**	16.		blank, T, or F	A1	2	16.
Annual accumulation pesticide load in reaches	**"AA_Pest_Ld_in_Rchs"**	17.		blank, T, or F	A1	2	17.
Annual accumulation pesticide yield from cell to receiving reach	**"AA_Pest_Yld_Cel_to_Rcv_Rch"**	18.		blank, T, or F	A1	2	18.
Annual accumulation phosphorus load from cell to downstream reaches	**"AA_P_Ld_Cel_to_DS_Rchs"**	19.		blank, T, or F	A1	2	19.
Annual accumulation phosphorus load in reaches	**"AA_P_Ld_in_Rchs"**	20.		blank, T, or F	A1	2	20.
Annual accumulation phosphorus yield from cell to receiving reach	**"AA_P_Yld_Cel_to_Rcv_Rch"**	21.		blank, T, or F	A1	2	21.
Annual accumulation bed & bank erosion within reach	**"AA_BB_Eros_in_Rch"**	22.		blank, T, or F	A1	2	22.
Annual accumulation bed & bank load in downstream reaches	**"AA_BB_Ld_in_DS_Rchs"**	23.		blank, T, or F	A1	2	23.
Annual accumulation erosion within cells	**"AA_Eros_in_Cels"**	24.		blank, T, or F	A1	2	24.
Annual accumulation gully yield from cell to receiving reach	**"AA_Gly_Yld_Cel_to_Rcv_Rch"**	25.		blank, T, or F	A1	2	25.
Annual accumulation landscape erosion within cells	**"AA_LS_Eros_in_Cels"**	26.		blank, T, or F	A1	2	26.
Annual accumulation landscape load from cell to downstream reaches	**"AA_LS_Ld_Cels_to_DS_Rchs"**	27.		blank, T, or F	A1	2	27.
Annual accumulation landscape load in downstream reaches	**"AA_LS_Ld_in_DS_Rchs"**	28.		blank, T, or F	A1	2	28.

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Annual accumulation landscape yield from cell to receiving reach	**"AA_LS_Yld_Cel_to_Rcv_Rch"**	29.		blank, T, or F	A1	2	29.
Annual accumulation & rill erosion within cells	**"AA_Rill_Eros_in_Cels"**	30.		blank, T, or F	A1	2	30.
Annual accumulation sheet & rill yield from cell to receiving reach	**"AA_SR_Yld_Cel_to_Rcv_Rch"**	31.		blank, T, or F	A1	2	31.
Annual accumulation water load from cell to downstream reaches	**"AA_Wtr_Ld_Cel_to_DS_Rchs"**	32.		blank, T, or F	A1	2	32.
Annual accumulation water load in downstream reaches	**"AA_Wtr_Ld_in_DS_Rchs"**	33.		blank, T, or F	A1	2	33.
Annual accumulation water yield from cell to receiving reach	**"AA_Wtr_Yld_Cel_to_Rcv_Rch"**	34.		blank, T, or F	A1	2	34.
Nitrogen event loading from cell to downstream reaches	**"N_Evt_Ld_Cel_to_DS_Rchs"**	35.		blank, T, or F	A1	2	35.
Nitrogen event loading in reaches	**"N_Evt_Ld_in_Rchs"**	36.		blank, T, or F	A1	2	36.
Nitrogen event yield from cell to receiving reach	**"N_Evt_Yld_Cel_to_Rcv_Rch"**	37.		blank, T, or F	A1	2	37.
Organic Carbon event loading from cell to downstream reaches	**"OC_Evt_Ld_Cel_to_DS_Rchs"**	38.		blank, T, or F	A1	2	38.
Organic Carbon event loading in reaches	**"OC_Evt_Ld_in_Rchs"**	39.		blank, T, or F	A1	2	39.
Organic Carbon event yield from cell to receiving reach	**"OC_Evt_Yld_Cel_to_Rcv_Rch"**	40.		blank, T, or F	A1	2	40.
Pesticides event loading from cell to downstream reaches	**"Pest_Evt_Ld_Cel_to_DS_Rchs"**	41.		blank, T, or F	A1	2	41.
Pesticides event loading in reaches	**"Pest_Evt_Ld_in_Rchs"**	42.		blank, T, or F	A1	2	42.
Pesticides event yield from cell to receiving reach	**"Pest_Evt_Yld_Cel_to_Rcv_Rch"**	43.		blank, T, or F	A1	2	43.
Phosphorus event loading from cell to downstream reaches	**"P_Evt_Ld_Cel_to_DS_Rchs"**	44.		blank, T, or F	A1	2	44.
Phosphorus event loading in reaches	**"P_Evt_Ld_in_Rchs"**	45.		blank, T, or F	A1	2	45.
Phosphorus event yield from cell to receiving reach	**"P_Evt_Yld_Cel_to_Rcv_Rch"**	46.		blank, T, or F	A1	2	46.
Sediment event bed & bank erosion within reach	**"Sed_Evt_BB_Eros_in_Rch"**	47.		blank, T, or F	A1	2	47.
Sediment event bed & bank load in downstream reaches	**"Sed_Evt_BB_Ld_in_DS_Rchs"**	48.		blank, T, or F	A1	2	48.
Sediment event gully erosion within cells	**"Sed_Evt_Gly_Eros_in_Cels"**	49.		blank, T, or F	A1	2	49.
Sediment event gully yield from cell to receiving reach	**"Sed_Evt_Gly_Yld_Cel_to_Rcv_Rch"**	50.		blank, T, or F	A1	2	50.
Sediment event landscape erosion within cells	**"Sed_Evt_LS_Eros_in_Cels"**	51.		blank, T, or F	A1	2	51.
Sediment event landscape load from cell to downstream reaches	**"Sed_Evt_LS_Ld_Cel_to_DS_Rchs"**	52.		blank, T, or F	A1	2	52.
Sediment event landscape load in reaches	**"Sed_Evt_LS_Ld_in_Rchs"**	53.		blank, T, or F	A1	2	53.
Sediment event landscape yield from cell to receiving reach	**"Sed_Evt_LS_Yld_Cel_to_Rcv_Rch"**	54.		blank, T, or F	A1	2	54.
Sediment event sheet & rill erosion within cells	**"Sed_Evt_SR_Eros_in_Cels"**	55.		blank, T, or F	A1	2	55.
Sediment event sheet & rill yield from cell to receiving reach	**"Sed_Evt_SR_Yld_Cel_to_Rcv_Rch"**	56.		blank, T, or F	A1	2	56.
Water event load from cell to downstream reaches	**"Wtr_Evt_Ld_Cel_to_DS_Rchs"**	57.		blank, T, or F	A1	2	57.
Water event load in downstream reaches	**"Wtr_Evt_Ld_in_DS_Rchs"**	58.		blank, T, or F	A1	2	58.

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Water event Peak discharges in downstream reach	**"Wtr_Evt_Pk_Disch_in_DS_Rch"**	59.		blank, T, or F	A1	2	59.
Water event yield from cell to receiving reach	**"Wtr_Evt_Yld_Cel_to_Rcv_Rch"**	60.		blank, T, or F	A1	2	60.
Water event baseflow	**"Wtr_Evt_Baseflow"**	61.		blank, T, or F	A1	2	61.
The remaining lines in this section are for children files with no associated flags in the OUTPUT OPTIONS DATA section		**Base_csv_chld= 1300 +**	**Par't Field**				
(Currently, there are no child files for this section)							
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OUTPUT OPTIONS DATA – DPP

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1-47
The following record does not repeat.							

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
The following lines in this section are for parent files with associated flags in the OUTPUT OPTIONS DATA section		**Base_dpp_01= 1400 +**					
AnnAGNPS_DPP_Accumulation_Setup.dpp	**"Acc_Setup"**	1.		blank, T, or F	A1	2	1.
Note: This flag produces all of the cell initialization children files listed below but does not produce an output file itself as parent. The reserved filename for this flag is: AnnAGNPS_DPP_Cell_Initialization.dpp	**"Cell_Initial"**	2.		blank, T, or F	A1	2	2.
AnnAGNPS_DPP_Cell_Time_of_Concentration.dpp	**"Cell_TOC"**	3.		blank, T, or F	A1	2	3.
AnnAGNPS_DPP_Crop_Growth.dpp	**"Crp_Grwth"**	4.		blank, T, or F	A1	2	4.
AnnAGNPS_DPP_Pointers_Data_Prep.dpp	**"Data_Prep_Pointers"**	5.		blank, T, or F	A1	2	5.
Note: This flag produces all of the climate station and weather related children files listed below but does not produce an output file itself as parent. If this flag is set to 'T' then it overrides the parent flag in column 56 and produces the Climate Station Daily Weather file even if that flag is 'F'. The reserved filename for this flag is: AnnAGNPS_DPP_Weather.dpp	**"Weather"**	6.		blank, T, or F	A1	2	6.
AnnAGNPS_DPP_Operation_Rotation.dpp	**"Opr_Rotation"**	7.		blank, T, or F	A1	2	7.
AnnAGNPS_DPP_Pesticide_Metabolite_Reordering.dpp	**"Pest_Metabolite"**	8.		blank, T, or F	A1	2	8.
AnnAGNPS_DPP_Process_Flag_Set.dpp	**"Process_Flag"**	9.		blank, T, or F	A1	2	9.
AnnAGNPS_DPP_Quadrature.dpp	**"Quadrature"**	10.		blank, T, or F	A1	2	10.
AnnAGNPS_DPP_Hydraulic_Geometry.dpp	**"Hydraulic_Geom"**	11.		blank, T, or F	A1	2	11.
AnnAGNPS_DPP_Reach_Routing_Order.dpp	**"Rch_Routing"**	12.		blank, T, or F	A1	2	12.
AnnAGNPS_DPP_Reach_Time_of_Concentration.dpp	**"Rch_TOC"**	13.		blank, T, or F	A1	2	13.
AnnAGNPS_DPP_RUSLE_C_Factors.dpp	**"RUSLE_C_Fctr"**	14.		blank, T, or F	A1	2	14.
AnnAGNPS_DPP_RUSLE_C_Factors_Soil_Consoldation.dpp	**"RUSLE_C_Fctr_SC"**	15.		blank, T, or F	A1	2	15.
AnnAGNPS_DPP_RUSLE_Canopy_Cover.dpp	**"Canopy_Cover"**	16.		blank, T, or F	A1	2	16.
AnnAGNPS_DPP_RUSLE_Crop_Residue.dpp	**"Crp_Residue"**	17.		blank, T, or F	A1	2	17.
AnnAGNPS_DPP_RUSLE_Dead_Roots.dpp	**"Dead_Roots"**	18.		blank, T, or F	A1	2	18.
AnnAGNPS_DPP_RUSLE_Preprocessed_C_Factors.dpp	**"PreProc_C_Fctr"**	19.		blank, T, or F	A1	2	19.
AnnAGNPS_DPP_RUSLE_Dominate_Contour.dpp	**"Dom_Contour"**	20.		blank, T, or F	A1	2	20.
AnnAGNPS_DPP_RUSLE_EI_Percentages.dpp	**"EI_Pcts"**	21.		blank, T, or F	A1	2	21.
AnnAGNPS_DPP_RUSLE_Growth_Days.dpp	**"RUSLE_Grwth_Days"**	22.		blank, T, or F	A1	2	22.
AnnAGNPS_DPP_RUSLE_Initialize_Local_Operations.dpp	**"RUSLE_Init_Loc_Oprs"**	23.		blank, T, or F	A1	2	23.
AnnAGNPS_DPP_RUSLE_K_Factors.dpp	**"RUSLE_K_Fctr"**	24.		blank, T, or F	A1	2	24.
AnnAGNPS_DPP_RUSLE_LS_Factors.dpp (Reserved – Not currently produced)	**"Reserved"**	25.		blank, T, or F	A1	2	25.
AnnAGNPS_DPP_RUSLE_Non_Cropland_C_Factors.dpp	**"RUSLE_Non-crp_C_Fctr"**	26.		blank, T, or F	A1	2	26.

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
AnnAGNPS_DPP_RUSLE_Num_Soil_Layers_Soil_Residue.dpp	**"RUSLE_Num_SLyr_SRes"**	27.		blank, T, or F	A1	2	27.
AnnAGNPS_DPP_RUSLE_P_Factors.dpp	**"RUSLE_P_Fctr"**	28.		blank, T, or F	A1	2	28.
AnnAGNPS_DPP_RUSLE_P_Factors_Contours.dpp	**"RUSLE_P_Fctr_Cntrs"**	29.		blank, T, or F	A1	2	29.
AnnAGNPS_DPP_RUSLE_P_Factors_Strip.dpp	**"RUSLE_P_Fctr_Strp"**	30.		blank, T, or F	A1	2	30.
AnnAGNPS_DPP_RUSLE_P_Factors_Strip_Rotation.dpp	**"RUSLE_P_Fctr_Strp_Rot"**	31.		blank, T, or F	A1	2	31.
AnnAGNPS_DPP_RUSLE_Prior_Landuse.dpp	**"RUSLE_Prior_LU"**	32.		blank, T, or F	A1	2	32.
AnnAGNPS_DPP_RUSLE_Residue_Coefficients.dpp	**"RUSLE_Res_Coef"**	33.		blank, T, or F	A1	2	33.
AnnAGNPS_DPP_RUSLE_Seg_Residue.dpp	**"RUSLE_Seg_Res"**	34.		blank, T, or F	A1	2	34.
AnnAGNPS_DPP_RUSLE_Setup_Prd_Seg.dpp	**"RUSLE_Setup_Prd_Seg"**	35.		blank, T, or F	A1	2	35.
AnnAGNPS_DPP_RUSLE_Soil_Moisture.dpp	**"RUSLE_Soil_Moisture"**	36.		blank, T, or F	A1	2	36.
AnnAGNPS_DPP_RUSLE_Surface_Cover.dpp	**"RUSLE_Surf_Cover"**	37.		blank, T, or F	A1	2	37.
AnnAGNPS_DPP_RUSLE_Surface_Roughness.dpp	**"RUSLE_Surf_Rough"**	38.		blank, T, or F	A1	2	38.
AnnAGNPS_DPP_RUSLE_Unique_Residue.dpp	**"RUSLE_Unique_Res"**	39.		blank, T, or F	A1	2	39.
AnnAGNPS_DPP_Sediment_Particle_Distribution.dpp	**"Sed_Part_Distrib"**	40.		blank, T, or F	A1	2	40.
AnnAGNPS_DPP_Seg_EI_Prcp.dpp	**"Seg_EI_Prcp"**	41.		blank, T, or F	A1	2	41.
AnnAGNPS_DPP_Setup_Seg.dpp	**"Setup_Seg"**	42.		blank, T, or F	A1	2	42.
AnnAGNPS_DPP_Soil_Composite_(surface).dpp	**"Soil_Comp_Surf"**	43.		blank, T, or F	A1	2	43.
AnnAGNPS_DPP_Soil_Composite_(layers).dpp	**"Soil_Comp_Lyrs"**	44.		blank, T, or F	A1	2	44.
AnnAGNPS_DPP_Storm_Types.dpp	**"Storm_Types"**	45.		blank, T, or F	A1	2	45.
AnnAGNPS_DPP_Climate_Station_Daily_Weather.dpp	**"Climate_Daily_Wthr"**	46.		blank, T, or F	A1	2	46.
AnnAGNPS_DPP_Ephemeral_Gully_Information.csv	**"Eph_Gully_Info"**	47.		blank, T, or F	A1	2	47.
AnnAGNPS_DPP_RUSLE2_Information.csv	**"RUSLE2_Info"**	48.		blank, T, or F	A1	2	48.
The remaining lines in this section are for children files with no associated flags in the OUTPUT OPTIONS DATA section		**Base_dpp_chld= 1500 +**	**Par't Field**				
AnnAGNPS_DPP_Cell_Initial_Crop_and_Non-Crop.dpp		1.	DPP 01 02				
AnnAGNPS_DPP_Cell_Initial_Frozen_Soil_n_Snow.dpp		2.	DPP 01 02				
AnnAGNPS_DPP_Cell_Initial_Irrigation.dpp		3.	DPP 01 02				
AnnAGNPS_DPP_Cell_Initial_Nutrient.dpp		4.	DPP 01 02				
AnnAGNPS_DPP_Cell_Initial_Pesticide.dpp		5.	DPP 01 02				
AnnAGNPS_DPP_Cell_Initial_Precipitation.dpp		6.	DPP 01 02				
AnnAGNPS_DPP_Cell_Initial_RCN_and_Retention.dpp		7.	DPP 01 02				
AnnAGNPS_DPP_Cell_Initial_Soil_Moisture.dpp		8.	DPP 01 02				

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
AnnAGNPS_DPP_Cell_Initial_Surface_Conditions.dpp		9.	DPP 01 02				
AnnAGNPS_DPP_Cell_Initial_Temperature_Air.dpp		10.	DPP 01 02				
AnnAGNPS_DPP_Cell_Initial_Tile_Drain.dpp		11.	DPP 01 02				
AnnAGNPS_DPP_Climate_Station_Monthly_Precipitation.dpp		12.	DPP 01 06				
AnnAGNPS_DPP_Primary_Station_Initial_Weather.dpp		13.	DPP 01 06				
AnnAGNPS_DPP_Primary_Station_Typical_Weather.dpp		14.	DPP 01 06				
AnnAGNPS_DPP_Ephemeral_Gully_Section_Development.dpp		15.	orphan				
AnnAGNPS_DPP_Cell.dpp (Note: The parent flag for this file is located in the NPT 01 record)		1.	NPT 01 01				
AnnAGNPS_DPP_Reach_Routing_Strahler_Stream_Order.csv		2.	DPP 01 12				
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OUTPUT OPTIONS DATA – EV

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1-54
The following record does not repeat.							

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
The following lines in this section are for parent files with associated flags in the OUTPUT OPTIONS DATA section		**Base_ev_01= 1600 +**					
AnnAGNPS_EV_Feedlots_(mass).txt (Reserved – Not currently produced)	**"Reserved"**	1.		blank, T, or F	A1	2	1.
AnnAGNPS_EV_Feedlots_(ratio).txt (Reserved – Not currently produced)	**"Reserved"**	2.		blank, T, or F	A1	2	2.
AnnAGNPS_EV_Feedlots_(unit area).txt (Reserved – Not currently produced)	**"Reserved"**	3.		blank, T, or F	A1	2	3.
AnnAGNPS_EV_Field_Ponds_(mass).txt (Reserved – Not currently produced)	**"Reserved"**	4.		blank, T, or F	A1	2	4.
AnnAGNPS_EV_Field_Ponds_(ratio).txt (Reserved – Not currently produced)	**"Reserved"**	5.		blank, T, or F	A1	2	5.
AnnAGNPS_EV_Field_Ponds_(unit area).txt (Reserved – Not currently produced)	**"Reserved"**	6.		blank, T, or F	A1	2	6.
AnnAGNPS_EV_Gullies_(mass).txt (Reserved – Not currently produced)	**"Reserved"**	7.		blank, T, or F	A1	2	7.
AnnAGNPS_EV_Gullies_(ratio).txt (Reserved – Not currently produced)	**"Reserved"**	8.		blank, T, or F	A1	2	8.
AnnAGNPS_EV_Gullies_(unit area).txt (Reserved – Not currently produced)	**"Reserved"**	9.		blank, T, or F	A1	2	9.
AnnAGNPS_EV_Nitrogen_load_(mass). csv	**"EV_N_Ld_Mass"**	10.		blank, T, or F	A1	2	10.
AnnAGNPS_EV_Nitrogen_load_(ratio). csv	**"EV_N_Ld_Ratio"**	11.		blank, T, or F	A1	2	11.
AnnAGNPS_EV_Nitrogen_load_(unit_area). csv	**"EV_N_Ld_UA"**	12.		blank, T, or F	A1	2	12.
AnnAGNPS_EV_Nitrogen_yield_(mass). csv	**"EV_N_Yld_Mass"**	13.		blank, T, or F	A1	2	13.
AnnAGNPS_EV_Nitrogen_yield_(ratio). csv	**"EV_N_Yld_Ratio"**	14.		blank, T, or F	A1	2	14.
AnnAGNPS_EV_Nitrogen_yield_(unit_area). csv	**"EV_N_Yld_UA"**	15.		blank, T, or F	A1	2	15.
AnnAGNPS_EV_Organic_Carbon_load_(mass). csv	**"EV_OC_Ld_Mass"**	16.		blank, T, or F	A1	2	16.
AnnAGNPS_EV_Organic_Carbon_load_(ratio). csv	**"EV_OC_Ld_Ratio"**	17.		blank, T, or F	A1	2	17.
AnnAGNPS_EV_Organic_Carbon_load_(unit_area). csv	**"EV_OC_Ld_UA"**	18.		blank, T, or F	A1	2	18.
AnnAGNPS_EV_Organic_Carbon_yield_(mass). csv	**"EV_OC_Yld_Mass"**	19.		blank, T, or F	A1	2	19.
AnnAGNPS_EV_Organic_Carbon_yield_(ratio). csv	**"EV_OC_Yld_Ratio"**	20.		blank, T, or F	A1	2	20.
AnnAGNPS_EV_Organic_Carbon_yield_(unit_area). csv	**"EV_OC_Yld_UA"**	21.		blank, T, or F	A1	2	21.
AnnAGNPS_EV_Pesticides_load_(mass).txt (Reserved – Not currently produced)	**"Reserved"**	22.		blank, T, or F	A1	2	22.
AnnAGNPS_EV_Pesticides_load_(ratio).txt (Reserved – Not currently produced)	**"Reserved"**	23.		blank, T, or F	A1	2	23.
AnnAGNPS_EV_Pesticides_load_(unit_area).txt (Reserved – Not currently produced)	**"Reserved"**	24.		blank, T, or F	A1	2	24.
AnnAGNPS_EV_Pesticides_yield_(mass).txt (Reserved – Not currently produced)	**"Reserved"**	25.		blank, T, or F	A1	2	25.
AnnAGNPS_EV_Pesticides_yield_(ratio).txt (Reserved – Not currently produced)	**"Reserved"**	26.		blank, T, or F	A1	2	26.
AnnAGNPS_EV_Pesticides_yield_(unit_area).txt (Reserved – Not currently produced)	**"Reserved"**	27.		blank, T, or F	A1	2	27.
AnnAGNPS_EV_Phosphorus_load_(mass). csv	**"EV_P_Ld_Mass"**	28.		blank, T, or F	A1	2	28.

Description	Field Header for Record #1	Code Index	Col.	Domain	For mat	Record No.	Field No.
AnnAGNPS_EV_Phosphorus_load_(ratio). csv	"EV_P_Ld_Ratio"	29.		blank, T, or F	A1	2	29.
AnnAGNPS_EV_Phosphorus_load_(unit_area). csv	"EV_P_Ld_UA"	30.		blank, T, or F	A1	2	30.
AnnAGNPS_EV_Phosphorus_yield_(mass). csv	"EV_P_Yld_Mass"	31.		blank, T, or F	A1	2	31.
AnnAGNPS_EV_Phosphorus_yield_(ratio). csv	"EV_P_Yld_Ratio"	32.		blank, T, or F	A1	2	32.
AnnAGNPS_EV_Phosphorus_yield_(unit_area). csv	"EV_P_Yld_UA"	33.		blank, T, or F	A1	2	33.
AnnAGNPS_EV_Point_Sources_(mass).txt (Reserved – Not currently produced)	"Reserved"	34.		blank, T, or F	A1	2	34.
AnnAGNPS_EV_Point_Sources_(ratio).txt (Reserved – Not currently produced)	"Reserved"	35.		blank, T, or F	A1	2	35.
AnnAGNPS_EV_Point_Sources_(unit area).txt (Reserved – Not currently produced)	"Reserved"	36.		blank, T, or F	A1	2	36.
AnnAGNPS_EV_Sediment_Erosion_(mass). csv	"EV_Sed_Eros_Mass"	37.		blank, T, or F	A1	2	37.
AnnAGNPS_EV_Sediment_Erosion_(ratio). csv	"EV_Sed_Eros_Ratio"	38.		blank, T, or F	A1	2	38.
AnnAGNPS_EV_Sediment_Erosion_(unit_area). csv	"EV_Sed_Eros_UA"	39.		blank, T, or F	A1	2	39.
AnnAGNPS_EV_Sediment_Load_(mass). csv	"EV_Sed_Ld_Mass"	40.		blank, T, or F	A1	2	40.
AnnAGNPS_EV_Sediment_Load_(ratio). csv	"EV_Sed_Ld_Ratio"	41.		blank, T, or F	A1	2	41.
AnnAGNPS_EV_Sediment_Load_(unit_area). csv	"EV_Sed_Ld_UA"	42.		blank, T, or F	A1	2	42.
AnnAGNPS_EV_Sediment_Yield_(mass). csv	"EV_Sed_Yld_Mass"	43.		blank, T, or F	A1	2	43.
AnnAGNPS_EV_Sediment_Yield_(ratio). csv	"EV_Sed_Yld_Ratio"	44.		blank, T, or F	A1	2	44.
AnnAGNPS_EV_Sediment_Yield_(unit_area). csv	"EV_Sed_Yld_UA"	45.		blank, T, or F	A1	2	45.
AnnAGNPS_EV_Water_load_(mass). csv	"EV_Wtr_Ld_Mass"	46.		blank, T, or F	A1	2	46.
AnnAGNPS_EV_Water_load_(ratio). csv	"EV_Wtr_Ld_Ratio"	47.		blank, T, or F	A1	2	47.
AnnAGNPS_EV_Water_load_(unit_area). csv	"EV_Wtr_Ld_UA"	48.		blank, T, or F	A1	2	48.
AnnAGNPS_EV_Water_yield_(mass). csv	"EV_Wtr_Yld_Mass"	49.		blank, T, or F	A1	2	49.
AnnAGNPS_EV_Water_yield_(ratio). csv	"EV_Wtr_Yld_Ratio"	50.		blank, T, or F	A1	2	50.
AnnAGNPS_EV_Water_yield_(unit_area). csv	"EV_Wtr_Yld_UA"	51.		blank, T, or F	A1	2	51.
AnnAGNPS_EV_Landscape_Runoff_(all_sources_total).csv	"EV_LS_Rnof_All_Srcs"	52.		blank, T, or F	A1	2	52.
AnnAGNPS_EV_Landscape_Yield_(all_sources_total).csv	"EV_LS_Yld_All_Srcs"	53.		blank, T, or F	A1	2	53.
AnnAGNPS_EV_Gullies_(erosion).csv	"EV_Gullies_Erosion"	54.		blank, T, or F	A1	2	54.
The remaining lines in this section are for children files with no associated flags in the OUTPUT OPTIONS DATA section		**Base_ev_ chld= 1700 +**	**Par't Field**				
AnnAGNPS_EV_Sediment_load_by_source_(mass). csv		1.	EV 01 40				
AnnAGNPS_EV_Sediment_load_by_source_(ratio). csv		2.	EV 01 41				
AnnAGNPS_EV_Sediment_load_by_source_(unit-area). csv		3.	EV 01 42				

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
AnnAGNPS_EV_Landscape_Runoff_(CCHE1D).csv (Not currently produced)		4.	EV 01 52				
AnnAGNPS_EV_Landscape_Runoff_(sheet_and_rill_all_sources).csv		5.	EV 01 52				
AnnAGNPS_EV_Landscape_Runoff_(feedlot).csv		6.	EV 01 52				
AnnAGNPS_EV_Landscape_Runoff_(point_source).csv		7.	EV 01 52				
AnnAGNPS_EV_Landscape_Runoff_(gully).csv		8.	EV 01 52				
AnnAGNPS_EV_Landscape_Runoff_(pond).csv		9.	EV 01 52				
AnnAGNPS_EV_Landscape_Runoff_(sheet_and_rill_irrigation).csv		10.	EV 01 52				
AnnAGNPS_EV_Landscape_Yield_(CCHE1D).csv		11.	EV 01 53				
AnnAGNPS_EV_Landscape_Yield_Sheet_and_Rill_(all_sources).csv		12.	EV 01 53				
AnnAGNPS_EV_Landscape_Yield_(feedlot).csv		13.	EV 01 53				
AnnAGNPS_EV_Landscape_Yield_(point_source).csv		14.	EV 01 53				
AnnAGNPS_EV_Landscape_Yield_(gully).csv		15.	EV 01 53				
AnnAGNPS_EV_Landscape_Yield_(pond).csv		16.	EV 01 53				
AnnAGNPS_EV_Landscape_Yield_(sheet_and_rill_irrigation).csv		17.	EV 01 53				
The following children files are produced automatically if the associated parent is set to 'T'. The filenames are built internally based on the parent filename and used a different base index.		**Unit_num_base_2= 20000 + base_ev_01 +**	**Par't Field**				
AnnAGNPS_EV_Outlet_Sediment_load_(mass). csv		40	EV 01 40				
AnnAGNPS_EV_Outlet_Water_load_(mass). csv		46	EV 01 46				
AnnAGNPS_EV_Outlet_Water_load_(unit-area). csv		48	EV 01 48				
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OUTPUT OPTIONS DATA – NPT

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1-36
The following record does not repeat.							

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
The following lines in this section are for parent files with associated flags in the OUTPUT OPTIONS DATA section		Base_npt_01= 1800 +					
AnnAGNPS_NPT_AnnAGNPS_Identifier.npt	**"AnnAGNPS_ID"**	1.		blank, T, or F	A1	2	1.
AnnAGNPS_NPT_Cell.npt (Note: this is the parent flag for "AnnAGNPS_DPP_Cell.dpp" listed in the DPP 01 record.)	**"Cell"**	2.		blank, T, or F	A1	2	2.
AnnAGNPS_NPT_Climate_Station_Information.npt	**"Climate_Station"**	3.		blank, T, or F	A1	2	3.
AnnAGNPS_NPT_Contour.npt	**"Contour"**	4.		blank, T, or F	A1	2	4.
AnnAGNPS_NPT_Crop.npt	**"Crop"**	5.		blank, T, or F	A1	2	5.
AnnAGNPS_NPT_Feedlot_&_Management.npt	**"Feedlot"**	6.		blank, T, or F	A1	2	6.
AnnAGNPS_NPT_Fertilizer_Application_&_Reference.npt	**"Fertilizer"**	7.		blank, T, or F	A1	2	7.
AnnAGNPS_NPT_Management_Sequence.npt	**"Mgmt_Seq"**	8.		blank, T, or F	A1	2	8.
AnnAGNPS_NPT_Field_Pond.npt	**"Field_Pond"**	9.		blank, T, or F	A1	2	9.
AnnAGNPS_NPT_Global_Output_Options.npt	**"Glbl_Output_Opts"**	10.		blank, T, or F	A1	2	10.
AnnAGNPS_NPT_Gully.npt	**"Gully"**	11.		blank, T, or F	A1	2	11.
AnnAGNPS_NPT_Hydraulic_Geometry.npt	**"Hydraulic_Geom"**	12.		blank, T, or F	A1	2	12.
AnnAGNPS_NPT_Impoundment.npt	**"Impoundment"**	13.		blank, T, or F	A1	2	13.
AnnAGNPS_NPT_Irrigation_Application. csv	**"Irrigation"**	14.		blank, T, or F	A1	2	14.
AnnAGNPS_NPT_Landuse_Reference.npt	**"Landuse_Ref"**	15.		blank, T, or F	A1	2	15.
AnnAGNPS_NPT_016_reserved.npt	**"Reserved"**	16.		blank only	—	2	16.
AnnAGNPS_NPT_Output_Options.npt	**"Output_Options"**	17.		blank, T, or F	A1	2	17.
AnnAGNPS_NPT_Pesticide_Application_&_Reference.npt	**"Pesticide"**	18.		blank, T, or F	A1	2	18.
AnnAGNPS_NPT_Point_Source.npt	**"Point_Source"**	19.		blank, T, or F	A1	2	19.
AnnAGNPS_NPT_Reach.npt	**"Reach"**	20.		blank, T, or F	A1	2	20.
AnnAGNPS_NPT_Runoff_Curve_Number.npt	**"Runoff_Curve_Num"**	21.		blank, T, or F	A1	2	21.
AnnAGNPS_NPT_Simulation_Period_Data.npt	**"Simulation_Period"**	22.		blank, T, or F	A1	2	22.
AnnAGNPS_NPT_Soil_Actual_(Surface).npt	**"Soil_Actual_Surface"**	23.		blank, T, or F	A1	2	23.
AnnAGNPS_NPT_Strip_Crop.npt	**"Strip_Crop"**	24.		blank, T, or F	A1	2	24.
AnnAGNPS_NPT_Tile_Drain.npt	**"Tile_Drain"**	25.		blank, T, or F	A1	2	25.
AnnAGNPS_NPT_Management_Field.npt	**"Mgmt_Field"**	26.		blank, T, or F	A1	2	26.
AnnAGNPS_NPT_Management_Schedule.npt	**"Mgmt_Sched"**	27.		blank, T, or F	A1	2	27.
AnnAGNPS_NPT_Management_Operation.npt	**"Mgmt_Opr"**	28.		blank, T, or F	A1	2	28.

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
AnnAGNPS_NPT_Soil_Actual_(Layers).npt	**"Soil_Actual_Layers"**	29.		blank, T, or F	A1	2	29.
AnnAGNPS_NPT_Aquaculture_Pond.npt	**"Aquaculture_Pond"**	30.		blank, T, or F	A1	2	30.
AnnAGNPS_NPT_Aquaculture_Pond_Management_Schedule_A.npt	**"Aquaculture_Pond_Mgmt_Schd_A"**	31.		blank, T, or F	A1	2	31.
AnnAGNPS_NPT_Global_Error_&_Warning.npt	**"Glbl_Err/Wrn"**	32.		blank, T, or F	A1	2	32.
AnnAGNPS_NPT_Soil_Initial_Conditions.npt	**"Soil_Init_Cond"**	33.		blank, T, or F	A1	2	33.
AnnAGNPS_NPT_Pesticide_Inital_Conditions.npt	**"Pest_Init_Cond"**	34.		blank, T, or F	A1	2	34.
AnnAGNPS_NPT_Wetland.npt	**"Wetland"**	35.		blank, T, or F	A1	2	35.
AnnAGNPS_NPT_Riparian_Buffers.npt	**"Riparian_Buffers"**	36.		blank, T, or F	A1	2	36.
AnnAGNPS_NPT_RUSLE2. csv	**"RUSLE2"**	37.		blank, T, or F	A1	2	37.
The remaining lines in this section are for children files with no associated flags in the OUTPUT OPTIONS DATA section		**Base_npt_chld = 1900 +**	**Par't Field**				
AnnAGNPS_NPT_Feedlot.npt		1.	NPT 0106				
AnnAGNPS_NPT_Feedlot_Management.npt		2.	NPT 0106				
AnnAGNPS_NPT_Classic_Gully.npt		3.	NPT 0111				
AnnAGNPS_NPT_Ephemeral_Gully.npt		4.	NPT 0111				
AnnAGNPS_NPT_Landslide_Gully.npt		5.	NPT 0111				
AnnAGNPS_NPT_Aquaculture_Pond_Management_Schedule _B.npt		6.	NPT 0131				
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OUTPUT OPTIONS DATA – SIM

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1-40
The following record does not repeat.							

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
The following lines in this section are for parent files with associated flags in the OUTPUT OPTIONS DATA section		**Base_sim_01= 2000 +**					
AnnAGNPS_SIM_Cell_Components_Accumulation.sim	**"Cell_Components"**	1.		blank, T, or F	A1	2	1.
AnnAGNPS_SIM_Conversion_Units.sim	**"Conversion_Units"**	2.		blank, T, or F	A1	2	2.
AnnAGNPS_SIM_Sheet_&_Rill_Erosion_&_Sediment_Yield.csv	**"Sht/Rill_Eros_Sed_Yld"**	3.		blank, T, or F	A1	2	3.
AnnAGNPS_SIM_Feedlots.sim	**"Feedlots"**	4.		blank, T, or F	A1	2	4.
AnnAGNPS_SIM_Insitu_Nitrogen_Inorganic. csv	**"Insitu_N_Inorg"**	5.		blank, T, or F	A1	2	5.
AnnAGNPS_SIM_Insitu_Nitrogen_Organic. csv	**"Insitu_N_Org"**	6.		blank, T, or F	A1	2	6.
AnnAGNPS_SIM_Insitu_Residue. csv	**"Insitu_Residue"**	7.		blank, T, or F	A1	2	7.
AnnAGNPS_SIM_Insitu_Organic_Carbon. csv	**"Insitu_OC"**	8.		blank, T, or F	A1	2	8.
AnnAGNPS_SIM_Insitu_Phosphorus_Inorganic. csv	**"Insitu_P_Inorg"**	9.		blank, T, or F	A1	2	9.
AnnAGNPS_SIM_Insitu_Phosphorus_Organic. csv	**"Insitu_P_Org"**	10.		blank, T, or F	A1	2	10.
AnnAGNPS_SIM_Insitu_Soil_Moisture_Daily_Cell_Data. csv	**"Insitu_Soil_Moist_Daily"**	11.		blank, T, or F	A1	2	11.
AnnAGNPS_SIM_Irrigation_Applications.sim	**"Irrigation"**	12.		blank, T, or F	A1	2	12.
AnnAGNPS_SIM_Pesticide_Application.sim	**"Pesticide_App"**	13.		blank, T, or F	A1	2	13.
AnnAGNPS_SIM_Pesticides_Insitu.sim	**"Pesticide_Insitu"**	14.		blank, T, or F	A1	2	14.
AnnAGNPS_SIM_Gully.sim	**"Gully"**	15.		blank, T, or F	A1	2	15.
AnnAGNPS_SIM_Reach_Accumulation_(mass).sim	**"Reach_Acc_Mass"**	16.		blank, T, or F	A1	2	16.
AnnAGNPS_SIM_Reach_Accumulation_(ratios).sim	**"Reach_Acc_Ratio"**	17.		blank, T, or F	A1	2	17.
AnnAGNPS_SIM_ Landscape_Yield_(all_sources).sim (Reserved – Not currently produced)	**"LS_Yld_All_Srcs"**	18.		blank, T, or F	A1	2	18.
AnnAGNPS_SIM_Reach_Loadings_Nutrients. Csv	**"Reach_Ld_Nutr"**	19.		blank, T, or F	A1	2	19.
AnnAGNPS_SIM_Reach_Loadings_Pesticide.sim (Reserved – Not currently produced)	**"Reserved"**	20.		blank, T, or F	A1	2	20.
AnnAGNPS_SIM_Reach_Loadings_Sediment. csv	**"Reach_Ld_Sed"**	21.		blank, T, or F	A1	2	21.
AnnAGNPS_SIM_Reach_Loadings_Water. csv	**"Reach_Ld_Wtr"**	22.		blank, T, or F	A1	2	22.
AnnAGNPS_SIM_Impoundment_Routings_Part_A.sim	**"Impound_Routing_A"**	23.		blank, T, or F	A1	2	23.
AnnAGNPS_SIM_Reach_Routing_Nutrients.sim (Reserved – Not currently produced)	**"Reserved"**	24.		blank, T, or F	A1	2	24.
AnnAGNPS_SIM_Reach_Routing_Pesticide.sim	**"Reach_Routing_Pest"**	25.		blank, T, or F	A1	2	25.
AnnAGNPS_SIM_Reach_Routing. csv	**"Reach_Routing"**	26.		blank, T, or F	A1	2	26.
AnnAGNPS_SIM_Reach_Routing_Water.csv (Reserved – Not currently produced)	**"Reach_Routing_Wtr"**	27.		blank, T, or F	A1	2	27.
AnnAGNPS_SIM_Runoff_Curve_Number. csv	**"Runoff_Curve_Num"**	28.		blank, T, or F	A1	2	28.

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
AnnAGNPS_SIM_Scheduled_Operations.sim	"Schd_Oprs"	29.		blank, T, or F	A1	2	29.
AnnAGNPS_SIM_Soil_Particle_Distribution.sim	"Soil_Part_Distrib"	30.		blank, T, or F	A1	2	30.
AnnAGNPS_SIM_Pond_Release_n_Yield.sim	"Pond_Release/Yield"	31.		blank, T, or F	A1	2	31.
AnnAGNPS_SIM_Winter_Routines_Thermal_Layers.sim	"Winter_Thermal"	32.		blank, T, or F	A1	2	32.
AnnAGNPS_SIM_Winter_Routines_Summary.sim (Reserved – Not currently produced)	"Reserved"	33.		blank, T, or F	A1	2	33.
AnnAGNPS_SIM_USLE_Parameters. Csv	"USLE_Params"	34.		blank, T, or F	A1	2	34.
AnnAGNPS_SIM_Baseflow.sim	"Baseflow"	35.		blank, T, or F	A1	2	35.
AnnAGNPS_SIM_Insitu_Soil_Moisture_Watershed_Annual_Summaries. csv	"Insitu_Soil_Moist_Wshd_Sum"	36.		blank, T, or F	A1	2	36.
AnnAGNPS_SIM_Wetland_Effects.csv	"Wetland_Effects"	37.		blank, T, or F	A1	2	37.
AnnAGNPS_SIM_Potential_ET_Adjustment. csv	"Pot_ET_Adjust"	38.		blank, T, or F	A1	2	38.
AnnAGNPS_SIM_Landscape_Runoff_(all_sources).sim (Reserved – Not currently produced)	"LS_Rnof_All_Srcs"	39.		blank, T, or F	A1	2	39.
AnnAGNPS_SIM_Riparian_Buffers.csv	"Riparian_Buffers"	40.		blank, T, or F	A1	2	40.
The remaining lines in this section are for children files with no associated flags in the OUTPUT OPTIONS DATA section		**Base_sim_chld = 2100 +**	**Par't Field**				
AnnAGNPS_SIM_Soil_Moisture_Time_Step_Parameters.sim		1.	SIM 01 11				
AnnAGNPS_SIM_Solar_and_Atmospheric_Radiation.sim		2.	SIM 01 11				
AnnAGNPS_SIM_Insitu_Soil_Moisture_Tile_Drain_Data. csv		3.	SIM 01 11				
AnnAGNPS_SIM_Classic_Gully_erosion.sim		4.	SIM 01 15				
AnnAGNPS_SIM_Classic_Gully_yield.sim		5.	SIM 01 15				
AnnAGNPS_SIM_Ephemeral_Gully_erosion. csv		6.	SIM 01 15				
AnnAGNPS_SIM_Ephemeral_Gully_yield. csv		7.	SIM 01 15				
AnnAGNPS_SIM_Landslide_Gully_erosion.sim		8.	SIM 01 15				
AnnAGNPS_SIM_Landslide_Gully_yield.sim		9.	SIM 01 15				
AnnAGNPS_SIM_Landscape_Yield_(CCHE1D).sim (Not currently produced)		10.	SIM 01 18				
AnnAGNPS_SIM_Landscape_Yield_(sheet_rill).sim (Not currently produced)		11.	SIM 01 18				
AnnAGNPS_SIM_Landscape_Yield_(feedlot).sim (Not currently produced)		12.	SIM 01 18				
AnnAGNPS_SIM_Landscape_Yield_(point_source).sim (Not currently produced)		13.	SIM 01 18				
AnnAGNPS_SIM_Landscape_Yield_(gully).sim (Not currently produced)		14.	SIM 01 18				
AnnAGNPS_SIM_Landscape_Yield_(pond).sim (Not currently produced)		15.	SIM 01 18				
AnnAGNPS_SIM_Landscape_Yield_(irrigation).sim (Not currently produced)		16.	SIM 01 18				
AnnAGNPS_SIM_Impoundment_Routings_Part_B.sim		17.	SIM 01 23				
AnnAGNPS_SIM_Scheduled_Events.sim		18.	SIM 01 29				
AnnAGNPS_SIM_Pond_Sediment_release_and_yield.sim		19.	SIM 01 31				

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
AnnAGNPS_SIM_Pond_Nutrient_release_and_yield.sim		20.	SIM 0131				
AnnAGNPS_SIM_Landscape_Runoff_(CCHE1D).sim (Not currently produced)		21.	SIM 0139				
AnnAGNPS_SIM_Landscape_Runoff_(sheet_rill).sim (Not currently produced)		22.	SIM 0139				
AnnAGNPS_SIM_Landscape_Runoff_(feedlot).sim (Not currently produced)		23.	SIM 0139				
AnnAGNPS_SIM_Landscape_Runoff_(point_source).sim (Not currently produced)		24.	SIM 0139				
AnnAGNPS_SIM_Landscape_Runoff_(gully).sim (Not currently produced)		25.	SIM 0139				
AnnAGNPS_SIM_Landscape_Runoff_(pond).sim (Not currently produced)		26.	SIM 0139				
AnnAGNPS_SIM_Landscape_Runoff_(irrigation).sim (Not currently produced)		27.	SIM 0139				
AnnAGNPS_SIM_Ephemeral_Gully_Sections. csv		28.	SIM 0115				
AnnAGNPS_SIM_Ephemeral_Gully_Yield_to_Mouth. csv		29.	SIM 0115				
AnnAGNPS_SIM_Ephemeral_Gully_Hydrograph. csv		30.	SIM 0115				
AnnAGNPS_SIM_Ephemeral_Gully_Nickpoint. csv		31.	SIM 0115				
AnnAGNPS_SIM_Ephemeral_Gully_Repair_Date. csv		32.	SIM 0115				
AnnAGNPS_SIM_Insitu_Soil_Moisture_AET_AA_Totals.csv		33.	SIM 0136				
AnnAGNPS_SIM_Insitu_Soil_Moisture_AET_AA_Monthly_Totals.csv		34.	SIM 0136				
AnnAGNPS_SIM_Insitu_Soil_Moisture_AET_Monthly_Totals.csv		35.	SIM 0136				
AnnAGNPS_SIM_Sheet_and_Rill_Erosion.csv		36.	SIM 0103				
AnnAGNPS_SIM_EI_AA_Totals.csv		37.	SIM 0103				
AnnAGNPS_SIM_EI_AA_Monthly_Totals.csv		38.	SIM 0103				
AnnAGNPS_SIM_EI_Monthly_Totals.csv		39.	SIM 0103				
AnnAGNPS_SIM_Insitu_Soil_Moisture_Daily_Cell_Data_ht-H2O.csv		40.	SIM 0111				
AnnAGNPS_SIM_Irrigation_Cycle_Parameters_(Automatic).csv		41.	SIM 0112				
AnnAGNPS_SIM_Irrigation_Cycle_Parameters_(Manual).csv		42.	SIM 0112				
AnnAGNPS_SIM_EI_Daily_Values.csv		43.	SIM 0103				
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OUTPUT OPTIONS DATA – TBL

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1-5
The following record does not repeat.							

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
The following lines in this section are for parent files with associated flags in the OUTPUT OPTIONS DATA section		**Base_tbl_01= 2200 +**					
AnnAGNPS_TBL_CCHE1D.txt	**"CCHE1D"**	1.		blank, T, or F	A1	2	1.
AnnAGNPS_TBL_CONCEPTS.xml	**"CONCEPTS_XML"**	2.		blank, T, or F	A1	2	2.
AnnAGNPS_TBL_Gaging_Station_Data_Hyd.csv Blank defaults to true; "T".	**"Gaging_Station_Hyd"**	3.		blank, T, or F	A1	2	3.
AnnAGNPS_TBL_REMM_Input.txt	**"REMM"**	4.		blank, T, or F	A1	2	4.
AnnAGNPS_TBL_Gaging_Station_Data_Evt.csv	**"Gaging_Station_Evt"**	5.		blank, T, or F	A1	2	5.
The remaining lines in this section are for children files with no associated flags in the OUTPUT OPTIONS DATA section		**Base_tbl_chld = 2300 +**	**Par't Field**				
AnnAGNPS_WRK_TIEGEM.inp			orphan				
Verify_Aqua_Pond_Process.csv			orphan				
Verify_Aqua_Pond_Yield.csv			orphan				
AnnAGNPS_TBL_Gaging_Station_Data_Hyd.csv			TBL 01 03				
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OUTPUT OPTIONS DATA – MIN/MAX (LIMITS)

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1-12
The following record does not repeat.							
Minimum Event Date—minimum event date to include runoff data into event output files [mm/dd/yyyy]; defaults to begin simulation date.	**"Min_Evt_Date"**			mm–1-12 dd–1-31 yyyy–1-9999	I2/I2/I4	2	1
Maximum Event Date—maximum event date to include runoff data into event output files [mm/dd/yyyy]; defaults to end simulation date.	**"Max_Evt_Date"**			mm–1-12 dd–1-31 yyyy–1-9999	I2/I2/I4	2	2
Maximum Number Events—maximum number of events to be included in the event output files; defaults to 3000 events in excess of the minimum runoff at the outlet.	**"Max_Number_Evts"**			0—100000	I10	2	3
Minimum Runoff for Event Output—minimum water runoff at watershed outlet to be included in the event output files, runoff greater than 1mm is always accumulated and included with the average annual data; defaults to 6.35 mm (1/4 in).	**"Min_Rnof_Evt"**			0 – 508 mm (20 in)	I10	2	4
Minimum Runoff for Cell—minimum water runoff for a cell to be included as runoff for the event, accumulated, and included in the average annual data; defaults to 0.10 mm (0.04 in).	**"Min_Rnof_Cell"**			0 – 508 mm (20 in)	I10	2	5
Minimum Runoff at Outlet—minimum water runoff at watershed outlet to be included as runoff for the event, accumulated, and included in the average annual data; defaults to 0.01 mm (0.004 in).	**"Min_Rnof_Outlet"**			0 – 508 mm (20 in)	I10	2	6
Minimum Subarea ID—excludes cell & reach data from output files whose subarea ID is outside of this lower limit; defaults to 0. Works only with TopAGNPS generated cell & reach numeric IDs.	**"Min_Subarea_ID"**			1—100000	I10	2	7
Maximum Subarea ID—excludes cell & reach data from output files whose subarea ID is outside of this upper limit; defaults to 2^31. Works only with TopAGNPS generated cell & reach numeric IDs.	**"Max_Subarea_ID"**			1—100000	I10	2	8

Description	Field Header for Record #1	Code Index	Col.	Domain	For mat	Record No.	Field No.
Subarea Units Position—includes only those subareas whose ID's unit position is listed. Blank defaults to no exclusion; includes source, leftside, and rightside cells and related reaches. Works only with TopAGNPS generated cell & reach numeric IDs: 0–same as blank; 1–source cells only; 2–leftside cells only; 3–rightside cells only; & 4–reachs only.	"Subarea_Units_Positn"			blank, 0, 1, 2, 3, & 4	I10	2	9
Maximum Number Verification File Accesses—maximum number of write accesses to each verification file; defaults to 1000.	"Max_Vrfy_File_Access"			1—4000	I10	2	10
Maximum Number Verification File Bytes—maximum number of bytes written to each verification file; defaults to 2^24	"Max_Vrfy_File_Bytes"			16,777,216	I10	2	11
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	"Input_Units_Code"				I1	2	12
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OUTPUT OPTIONS DATA – CELL

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	For mat	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1
The following record repeats for each requested cell.							
Cell ID—ID for cell selected to be included in version 3 output; Must match a valid cell id in the CELL DATA section.	"Cell_ID"				A100	2	1
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OUTPUT OPTIONS DATA – FEEDLOT

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	For mat	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1
The following record repeats for each requested feedlot.							
Feedlot ID—ID for feedlot selected to be included in version 3 output; Must match a valid feedlot id in the FEEDLOT DATA section.	"Feedlot_ID"				A100	2	1
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OUTPUT OPTIONS DATA – FIELD POND

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	For mat	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1
The following record repeats for each requested field pond.							
Field Pond ID—ID for feedlot selected to be included in version 3 output; Must match a valid feedlot id in the FEEDLOT DATA section.	"Field_Pond_ID"				A100	2	1
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OUTPUT OPTIONS DATA – GULLY, CLASSIC

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1
The following record repeats for each requested classic gully.							
Classic Gully ID—ID for gully selected to be included in version 3 output; Must match a valid gully id in the CLASSIC GULLY DATA section.	**"Classic_Gully_ID"**				A100	2	1
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OUTPUT OPTIONS DATA – GULLY, EPHEMERAL

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1
The following record repeats for each requested ephemeral gully.							
Ephemeral Gully ID—ID for gully selected to be included in version 3 output; Must match a valid gully id in the EPHEMERAL GULLY DATA section.	**"Ephemeral_Gully_ID"**				A100	2	1
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OUTPUT OPTIONS DATA – IMPOUNDMENT

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1
The following record repeats for each requested impoundment.							
Impoundment ID—ID for impoundment selected to be included in version 3 output; Must match a valid impoundment id in the IMPOUNDMENT DATA section.	**"Impoundment_ID"**				A100	2	1
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OUTPUT OPTIONS DATA – POINT SOURCE

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1
The following record repeats for each requested point source.							
Point Source ID—ID for point source selected to be included in version 3 output; Must match a valid point source id in the POINT SOURCE DATA section.	**"Point_Source_ID"**				A100	2	1
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OUTPUT OPTIONS DATA – REACH

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1
The following record repeats for each requested reach.							
Reach ID—ID for reach selected to be included in version 3 output; Must match a valid reach id in the REACH DATA section.	**"Reach_ID"**				A100	2	1
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OUTPUT OPTIONS DATA – WETLAND

See Attachment A for a detailed explanation

Optional

Description	Field Header for Record #1	Code Index	Col.	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.					A	1	1
The following record repeats for each requested wetland.							
Wetland ID—ID for wetland selected to be included in version 3 output; Must match a valid wetland id in the WETLAND DATA section.	**"Wetland_ID"**				A100	2	1
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PESTICIDE APPLICATION DATA

Optional unless referenced in Management Schedule Data or Simulation Period Data

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-8
The following record repeats for the number of pesticide application sets.						
Pesticide Application ID—Alphanumeric string identifying the pesticide application.	**"Application_ID"**			A100	2	1
Pesticide ID—Alphanumeric string identifying the pesticide. Must be the same as a pesticide reference ID (in Pesticide Reference Data).	**"Reference_ID"**			A10	2	2
Pesticide Rate—Application rate for pesticide active ingredient.	**"Application_Rate"**	{lb / acre} [kg / hectare]	{0.0 to 100.0} [0.0 to 112.0]	F10	2	3
Pesticide Depth—Soil depth to which is pesticide is applied. Zero depth implies the pesticide was not incorporated in the soil.	**"Depth"**	{in} [mm]	{0.0 to 60.0} [0.0 to 1500.0]	F10	2	4
Pesticide Mixing code- Indicator of whether pesticide is mixed uniformly between the soil surface and the depth of incorporation: Acceptable values are: Y- yes, N—no (Blank indicates yes)	**"Mixing_Code"**		Blank, Y, or N	A10	2	5
Pesticide Foliage Fraction—Decimal fraction of pesticide applied to the foliage	**"Foliage_Fraction"**		0.0 to 1.0	F10	2	6
Pesticide Soil Fraction—Decimal fraction of pesticide applied to the ground	**"Soil_Fraction"**		0.0 to 1.0	F10	2	7
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	8
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PESTICIDE INITIAL CONDITIONS DATA

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-5
The following record repeats for the number of initial pesticide records. Enter only for pesticides that require other than the global initial condition defaults.						
Initial Pesticide ID—Alphanumeric string identifying the pesticide initially in the soil profile.	**"Initial_Pesticide_ID"**			A100	10	1
Crop Initial Pesticide Amount—Initial pesticide amount to be used for each cropland cell. Two soil layers are used first is top 8 in (200 mm), second is remaining soil profile. (Blank defaults to 0.0)	**"Crop_Initial_Amount_1", Crop_Initial_Amount_2**	mass-pest / mass-soil (nd)	Blank, or 0.0 to 1.0	2F10	10	2-3
Non-crop Initial Pesticide Amount—Initial pesticide amount to be used for each non-cropland cell. Two soil layers are used first is top 8 in (200 mm), second is remaining soil profile. (Blank defaults to 0.0)	**"Non-Crop_Initial_Amount_1", Non-Crop_Initial_Amount_2**	mass-pest / mass-soil (nd)	Blank, or 0.0 to 1.0	2F10	10	4-5
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PESTICIDE REFERENCE DATA

Optional unless referenced in Pesticide Application Data or Simulation Period Data

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-9
The following record repeats for the number of pesticide references.						
Pesticide Reference ID—Alphanumeric string identifying the pesticide.	**"Pesticide_Reference_ID"**			A100	2	1
Pesticide Solubility—Solubility of the pesticide in water; weight of the pesticide divided by the weight of the total solution (water).	**"Solubility"**	wt / wt (nd)	0 .0 to 10000000·0	F10	2	2
Pesticide Partition—Soil pesticide partitioning coefficient "Koc" normalized for organic carbon.	**"Partition"**	ml/g	0.0 to 100000000.	F10	2	3
Pesticide Soil Half-life—Time it takes half of the pesticide to degrade into or on the soil. This combines all the degradation methods e.g. chemical, biological, photo.	**"Soil_Half-life"**	days	0.1 to 50000.0	F10	2	4
Pesticide Foliage Half-life—Time it takes half of the pesticide to degrade on the foliage. This is a combination of all degradation methods e.g. chemical, biological, photo.	**"Foliage_Half-life"**	days	0.1 to 50000.0	F10	2	5
Pesticide Washoff—Fraction of pesticide that washes foliage once a threshold value of 0.1 inch (2.5 mm) of rainfall or spray irrigation is exceeded.	**"Washoff"**		0.0 to 1.0	F10	2	6
Metabolite ID—Common scientific name of the resulting chemical after breakdown of the parent compound. Must be the same as a pesticide reference ID (in Pesticide Reference Data). Leave blank if no metabolite is to be considered.	**"Metabolite_ID"**			A100	2	7
Metabolite Transformation—Fraction of pesticide that is transformed to the metabolite in one day. Leave blank if no Metabolite ID is provided. Blank (if a Metabolite ID is provided) defaults to 1.0	**"Metabolite_Transformation"**		Blank or 0.0 to 1.0	F10	2	8
Pesticide Reach Half-life—Time it takes half of the pesticide to degrade while in a reach (channel). This combines all the degradation methods e.g. chemical, biological, photo. Blank defaults to no pesticide degradation in the reach.	**"Reach_Half-life"**	days	Blank or 0.1 to 50000.0	F10	2	9
Go to Layout Matrix	Go to Table of Contents					

PL CALIBRATION DATA

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-28
The following record repeats for watershed-scale calibration factors.						
Fields 1-7 are from organic carbon sources.						
Organic carbon from all sources—This calibration factor, if present, will be used as the default for organic carbon within field where blank fields exist in this record from sheet & rill, feedlot, point source, gully, pond, and irrigation. If blank, coded defaults will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"OC_All_Sources"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	1
Organic carbon from sheet & rill—This calibration factor, if present, will be used for all sheet & rill sources of organic carbon. If blank, the organic carbon calibration factor from sheet & rill sources will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"OC_Sheet_and_Rill"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	2
Organic carbon from feedlot—This calibration factor, if present, will be used for all feedlot sources of organic carbon. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"OC_Feedlot"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	3
Organic carbon from point source—This calibration factor, if present, will be used for all point source sources of organic carbon. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"OC_Point_Source"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	4
Organic carbon from gully—This calibration factor, if present, will be used for all gully sources of organic carbon yield to their mouths. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"OC_Gully"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	5

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	For mat	Record No.	Field No.
Organic carbon from pond—This calibration factor, if present, will be used for all pond sources of organic carbon yield to their outlets. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"OC_Pond"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	6
Organic carbon from irrigation—This calibration factor, if present, will be used for all irrigation sources of organic carbon. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"OC_Irrigation"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	7
Fields 8-14 are from nitrogen sources.						
Nitrogen from all sources—This calibration factor, if present, will be used as the default for nitrogen within field where blank fields exist in this record from sheet & rill, feedlot, point source, gully, pond, and irrigation. If blank, coded defaults will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"N_All_Sources"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	8
Nitrogen from sheet & rill—This calibration factor, if present, will be used for all sheet & rill sources of nitrogen. If blank, the nitrogen calibration factor from all sources will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"N_Sheet_and_Rill"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	9
Nitrogen from feedlot—This calibration factor, if present, will be used for all feedlot sources of nitrogen. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"N_Feedlot"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	10

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Nitrogen from point source—This calibration factor, if present, will be used for all point source sources of nitrogen. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"N_Point_Source"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	11
Nitrogen from gully—This calibration factor, if present, will be used for all gully sources of nitrogen yield to their mouths. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"N_Gully"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	12
Nitrogen from pond—This calibration factor, if present, will be used for all pond sources of nitrogen yield to their outlets. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"N_Pond"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	13
Nitrogen from irrigation—This calibration factor, if present, will be used for all irrigation sources of nitrogen. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"N_Irrigation"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	14
Fields 15-21 are from phosphorus sources.						
Phosphorus from all sources—This calibration factor, if present, will be used as the default for phosphorus within field where blank fields exist in this record from sheet & rill, feedlot, point source, gully, pond, and irrigation. If blank, coded defaults will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"P_All_Sources"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	15

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	For mat	Record No.	Field No.
Phosphorus from sheet & rill—This calibration factor, if present, will be used for all sheet & rill sources of phosphorus. If blank, the phosphorus calibration factor from all sources will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"P_Sheet_and_Rill"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	16
Phosphorus from feedlot—This calibration factor, if present, will be used for all feedlot sources of phosphorus. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"P_Feedlot"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	17
Phosphorus from point source—This calibration factor, if present, will be used for all point source sources of phosphorus. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"P_Point_Source"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	18
Phosphorus from gully—This calibration factor, if present, will be used for all gully sources of phosphorus yield to their mouths. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"P_Gully"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	19
Phosphorus from pond—This calibration factor, if present, will be used for all pond sources of phosphorus yield to their outlets. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"P_Pond"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	20
Phosphorus from irrigation—This calibration factor, if present, will be used for all irrigation sources of phosphorus. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"P_Irrigation"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	21
Fields 22-28 are from sediment sources.						

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Sediment from all sources—This calibration factor, if present, will be used as the default for erosion/sediment yield within field where blank fields exist in this record from sheet & rill, feedlot, point source, gully, pond, and irrigation. If blank, coded defaults will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"Sediment_All_Sources"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	22
Sediment from sheet & rill—This calibration factor, if present, will be used for all sheet & rill sources of erosion. If blank, the watershed-scale sediment from all sources will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"Sediment_Sheet_and_Rill"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	23
Sediment from feedlot—This calibration factor, if present, will be used for all feedlot sources of erosion. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"Sediment_Feedlot"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	24
Sediment from point source—This calibration factor, if present, will be used for all point source sources of erosion. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"Sediment_Point_Source"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	25
Sediment from gully—This calibration factor, if present, will be used for all gully sources of sediment yield to their mouths. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"Sediment_Gully"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	26

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Sediment from pond—This calibration factor, if present, will be used for all pond sources of sediment yield to their outlets. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"Sediment_Pond"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	27
Sediment from irrigation—This calibration factor, if present, will be used for all irrigation sources of erosion. If blank, the watershed-scale global calibration factor will be used. A "0.0" (at least one zero & a decimal) means that none of this pollutant originates from this source. A complete field for the real-number input consisting of nine 9's & a decimal ("999999999."), which is AnnAGNPS' real-number input for infinity, means that all physically-possible pollutant originates instantaneously from this source for each runoff event. Any real-number smaller than this "infinity" is taken to be exactly the value of this real-number.	**"Sediment_Irrigation"**	(nd)	Blank, 0.0, or .000000001 to 999999999.	F10	2	28
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POINT SOURCE DATA

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-11
The following record repeats for the number of point sources. Multiple point sources for a cell should be consecutive records here.						
Point Source ID—Alphanumeric string identifying the Point Source.	**"Point_Source_ID"**			A100	2	1
Point Cell ID—Alphanumeric string identifying cell that contains the point source. Must be the same as a cell ID in the CELL DATA section.	**"Cell_ID"**			A100	2	2
Point Flow—Constant runoff flow rate from point source.	**"Point_Flow"**	{cfs} [m^3 / sec]	{0.0033 to 10000.0} [0.00001 to 300.0]	F10	2	3
Point Nitrogen—Concentration of elemental nitrogen in solution in the discharge	**"Point_N"**	ppm	0.0 to 1000.0	F10	2	4
Point Phosphorus—Concentration of elemental phosphorus in solution in the discharge	**"Point_P"**	ppm	0.0 to 1000.0	F10	2	5
Point Organic Carbon—Concentration of organic Carbon in solution in the discharge	**"Point_OC"**	ppm	0.0 to 100000.0	F10	2	6
Organic Carbon Calibration Factor—used to calibrate point source organic carbon for this point source only. Defaults to the watershed-scale organic carbon from point sources calibration factor in the PL CALIBRATION DATA section.	**"OC_Calib_Fctr"**	(nd)	Blank, 0.0 or .000000001 to 999999999.	F10	2	7
Nitrogen Calibration Factor—used to calibrate point source nitrogen for this point source only. Defaults to the watershed-scale nitrogen from point sources calibration factor in the PL CALIBRATION DATA section.	**"N_Calib_Fctr"**	(nd)	Blank, 0.0 or .000000001 to 999999999.	F10	2	8
Phosphorus Calibration Factor—used to calibrate point source phosphorus for this point source only. Defaults to the watershed-scale phosphorus from point sources calibration factor in the PL CALIBRATION DATA section.	**"P_Calib_Fctr"**	(nd)	Blank, 0.0 or .000000001 to 999999999.	F10	2	9

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Erosion Calibration Factor—used to calibrate point source erosion for this point source only. Defaults to the watershed-scale sediment from point sources calibration factor in the PL CALIBRATION DATA section.	"Erosion_Calib_Fctr"	(nd)	Blank, 0.0 or .000000001 to 999999999.	F10	2	10
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	"Input_Units_Code"			I1	2	11
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[8]RCN CALIBRATION DATA:

Optional unless referenced in Cell Data

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-9
The following record repeats for each RCN calibration ID						
RCN Calibration ID—ID for an RCN calibration subwatershed. The 1st record must have an ID of "WATERSHED" which is to apply to all cells not otherwise associated with an RCN calibration area.	"RCN_Calib_ID"			A100	2	1
Target Average Annual Direct Runoff Load—the desired average annual direct (surface plus quick return flow) runoff at the subwatershed outlet associated with the RCN calibration ID. Blank defaults to no calibration iterations.	"Target_AA_Direct_Runoff_Load"	{in} [mm]	Blank, or {0.0 to 472.44} [0.0 to 12000.]	F10	2	2
Previous Estimate for the Average Annual Direct Runoff Load—the average annual direct (surface plus quick return flow) runoff load at the subwatershed outlet associated with the RCN retention factor from a previous execution. Blank defaults to no previous estimate. Currently not used - Reserved.	"Prev_Estimate_for_Water_Load"	{in} [mm]	Blank, or {0.0 to 472.44} [0.0 to 12000.]	F10	2	3
RCN Retention factor—RCN retention variable calibration factor applied to all cells above the subwatershed's outlet not otherwise specifically calibrated. The value for this field is used as the starting retention calibration factor if the target water load is given. Blank defaults to 1.	"RCN_Retention_Fctr"	(nd)	Blank, or 0 to ∞	F10	2	4
Reach ID Site—Reach ID of outlet for the RCN Calibration ID subwatershed. Blank defaults to watershed outlet for one RCN Calibration ID only.	"Reach_ID_Site"			A100	2	5
Reach Ratio—ratio of the reach's local cells' drainage area contribution at the RCN calibration site to the reach's total local cells' drainage area at the downstream end of the reach. (Blank defaults to 1.)	"Reach_Ratio"	(nd)	Blank, 0. to 1.	F10	2	6
Available Soil Moisture, AMC-II—available soil moisture for AMC-II used to determine the daily RCN. Blank defaults to 0.50.	"Avbl_Soil_Moist_AMC_II"	(nd)	Blank, 0. to 1.	F10	2	7
Target Average Annual Total Streamflow —the desired total streamflow (direct runoff plus baseflow). Blank defaults to no baseflow. Currently not used - Reserved.	"Target_AA_Total_Streamflow"	{in} [mm]	Blank, or {0.0 to 472.44} [0.0 to 12000.]	F10	2	8
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	"Input_Units_Code"			I1	2	9
Go to Layout Matrix	Go to Table of Contents					

[8] This section must be placed immediately following the GLOBAL IDS, FACTORS, AND FLAGS DATA section.

REACH DATA

Required

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-28
The following record repeats for the number of reaches.						
Reach ID—Alphanumeric string identifying the channel reach.	**"Reach_ID"**			A100	2	1
Receiving Reach ID—Alphanumeric string identifying the receiving reach. Must be the same as a reach ID in the REACH DATA section or "Outlet". Use "Outlet" for the flow from the downstream most reach in the watershed.	**"Receiving_Reach"**			A100	2	2
Reach Vegetation code—Acceptable values are: 0 = Reach is not vegetated. 1 = Reach is vegetated 2 = Reach is submerged due to an impoundment. May be blank if Reach Manning's N is entered for reach. Blank defaults to 1.	**"Vegetation_Code"**		Blank, 0,1 or 2	I10	2	3
Reach Elevation—Elevation of the downstream end of the reach	**"Elevation"**	{ft} [m]	{-3280.8. to 32808.3} [-1000.0 to 10000.0]	F10	2	4
Reach Slope—Average channel slope for the reach.	**"Slope"**	len-vert / len-horz (nd)	0.00001 to 10.0	F10	2	5
Reach Manning's n—Representative roughness coefficient for reach. Blank defaults to: 0.04—(for Reach Vegetation code of 1) 0.02—(for Reach Vegetation code of 0 or 2) If Reach Vegetation code is blank and Reach Manning's n is blank then this value defaults to 0.04.	**"Mannings_n"**		Blank, or 0.005 to 1.0	F10	2	6
Reach Infiltration Rate—Infiltration rate of the reach bottom. (Blank defaults to 0.0) Currently not used - Reserved.	**"Infiltration_Rate"**	{in/hr} [mm/hr]	Blank, or {0.0 to 100.0 } [0.0 to 2540.0]	F10	2	7
Hydraulic Geometry ID—Alphanumeric string identifying the hydraulic geometry data. Must be the same as a Hydraulic Geometry ID in the HYDRAULIC GEOMETRY DATA section. Leave blank if the reach length, width, depth and valley width are entered unless required for cells contributingl directly to the reach and the cell's time of concentration (T_c) is not entered. Blank defaults to the default Hydraulic Geometry ID in Simulation Period Data section.	**"Hydraulic_Geom_ID"**			A100	2	8
Reach Length—Length of the channel reach. Blank indicates AnnAGNPS computes from geometric relationship based on reach geometry ID specified above.	**"Length"**	{ft} [m]	Blank or {0.0 to 99999999.9} [0.0 to 30480000.0]	F10	2	9
Reach Top Width—Top width of the channel at bank full flow. Blank indicates AnnAGNPS computes from geometric relationship based on reach geometry ID specified above.	**"Top_Width"**	{ft} [m]	Blank or {0.0 to 984.} [0.0 to 300.0]	F10	2	10
Reach Flow Depth—Flow depth of the channel at bank full flow. Blank indicates AnnAGNPS computes from geometric relationship based on reach geometry ID specified above.	**"Flow_Depth"**	{ft} [m]	Blank or {0.0 to 984.} [0.0 to 300.0]	F10	2	11
Valley Width—Width of the floodplain. The width of the floodplain entered includes the bankfull top width of the channel, which will be subtracted out in AnnAGNPS. Blank indicates AnnAGNPS computes from geometric relationship based on reach geometry ID specified above.	**"Valley_Width"**	{ft} [m]	Blank or {0.0 to 98425.} [0.0 to 30000.0]	F10	2	12
Valley n—Floodplain Manning's "n" roughness coefficient. Blank defaults to 0.150.	**"Valley_Mannings_n"**		Blank or 0.005 to 1.0	F10	2	13

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Start Diversion—Reach flow rate above which water is diverted from the reach to a sink/diversion. Water discharged to a sink/diversion is lost from the watershed. Zero or blank signifies no flow is diverted to the sink. Currently not used.	"Start_Diversion"	{cfs} [m^3/sec]	Blank or {0.0 to 35287552.} [0.0 to 1000000.0]	F10	2	14
Stop Diversion—Maximum capacity of the sink/diversion. Flows exceeding the maximum sink capacity continue down the reach. Zero or blank indicates no sink. Currently not used.	"Stop_Diversion"	{cfs} [m^3/sec]	Blank or {0.0 to 35287552.} [0.0 to 1000000.0]	F10	2	15
Travel Time—travel time through reach. Default is to use the reach hydraulic parameters and assume uniform flow at bank full discharge.	"Travel_Time"	hr	Blank or 0.0 to 50 hr	F10	2	16
Clay Scour code—Code indicating if clay sized particles are to be allowed to scour the reach channel. Acceptable codes are : Y = Yes N = No (Blank defaults to N) Currently not used.	"Clay_Scour_Code"		Blank, Y, or N	A2	2	17
Silt Scour code—Code indicating if silt sized particles are to be allowed to scour the reach channel. Acceptable codes are : Y = Yes N = No (Blank defaults to N)	"Silt_Scour_Code"		Blank, Y, or N	A2	2	18
Sand Scour code—Code indicating if sand sized particles are to be allowed to scour the reach channel. Acceptable codes are : Y = Yes N = No (Blank defaults to N)	"Sand_Scour_Code"		Blank, Y, or N	A2	2	19
Small Aggregate Scour code—Code indicating if small aggregate sized particles are to be allowed to scour the reach channel. Acceptable codes are : Y = Yes N = No (Blank defaults to N)	"Small_Agg_Scour_Code"		Blank, Y, or N	A2	2	20
Large Aggregate Scour code—Code indicating if large aggregate sized particles are to be allowed to scour the reach channel. Acceptable codes are: Y = Yes N = No (Blank defaults to N)	"Large_Agg_Scour_Code"		Blank, Y, or N	A2	2	21
Valley Clay Scour code—Code indicating if clay sized particles are to be allowed to scour the reach valley (excluding channel). Acceptable codes are: Y = Yes N = No (Blank defaults to N) Currently not used.	"Valley_Clay_Scour_Code"		Blank, Y, or N	A2	2	22
Valley Silt Scour code—Code indicating if silt sized particles are to be allowed to scour the reach valley (excluding channel). Acceptable codes are : Y = Yes N = No (Blank defaults to N)	"Valley_Silt_Scour_Code"		Blank, Y, or N	A2	2	23
Valley Sand Scour code—Code indicating if sand sized particles are to be allowed to scour the reach valley (excluding channel). Acceptable codes are : Y = Yes N = No (Blank defaults to N)	"Valley_Sand_Scour_Code"		Blank, Y, or N	A2	2	24
Valley Small Aggregate Scour code—Code indicating if small aggregate sized particles are to be allowed to scour the reach valley (excluding channel). Acceptable codes are : Y = Yes N = No (Blank defaults to N)	"Valley_Small_Agg_Scour_Code"		Blank, Y, or N	A2	2	25
Valley Large Aggregate Scour code—Code indicating if large aggregate sized particles are to be allowed to scour the reach valley (excluding channel). Acceptable codes are : Y = Yes N = No (Blank defaults to N)	"Valley_Large_Agg_Scour_Code"		Blank, Y, or N	A2	2	26
Delivery Ratio—Delivery ratio from all sources of sediment load at the reach's upstream end to its downstream end. Recommended procedure is the sediment transport algorithm which is the default procedure when this field is left blank.	"Delivery_Ratio"	(nd)	Blank, or 0. to 1.	F10	2	27
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	"Input_Units_Code"			I1	2	28

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REACH NUTRIENT HALF-LIFE

Optional

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-3
The following record does not repeat.						
Reach Nitrogen Half-life—Time it takes half of the Nitrogen to degrade while in a reach (channel). This combines all the degradation methods e.g. chemical, biological, photo. Blank defaults to 730.0 days.	**"N_Half-life"**	days	Blank or 0.0 to 50000.0	F10	2	1
Reach Phosphorus Half-life—Time it takes half of the Phosphorus to degrade while in a reach (channel). This combines all the degradation methods e.g. chemical, biological, photo. Blank defaults to 730.0 days.	**"P_Half-life"**	days	Blank or 0.0 to 50000.0	F10	2	2
Reach Organic Carbon Half-life—Time it takes half of the organic Carbon to degrade while in a reach (channel). This combines all the degradation methods e.g. chemical, biological, photo. Blank defaults to 730.0 days.	**"OC_Half-life"**	days	Blank or 0.0 to 50000.0	F10	2	3
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RICEWQ DATA

Optional

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-9
The following record repeats for the number of RUSLE2 records.						
RiceWQ ID— Alphanumeric string identifying the RiceWQ record. This corresponds to the grouping of AnnAGNPS cells to a unique identifier. This typically will be the committal area ID used with RiceWQ.	**"RiceWQ_ID"**			A100	2	1
Cell ID— Alphanumeric string identifying the AnnAGNPS cell ID. This corresponds to the AnnAGNPS cell ID within the RiceWQ grouping.	**"Cell_ID"**			A100	2	2
Pesticide Reference ID— Name of pesticide for this record. Not currently used.	**"Pesticide_Reference_ID"**		-	A100	2	3
Intersected Area— This represents the area of the AnnAGNPS cell ID within the RiceWQ committal area.	**"Intersected_Area"**	[ha]	-	F10	2	4
Suspended Sediment Concentration – (Css) Concentration of suspended sediment in the water. Blank defaults to 30 ppm.	**"Suspended_Sediment_Concentration"**	[ppm]	Blank, or 0.0 – 1000000.	F10	2	5
Organic Carbon Partition Coefficient – (Koc). Blank defaults to 900 ml/g.	**"Organic_Carbon_Partition_Coef"**	[ml/g]	Blank, or 0.0 – 1000000.	F10	2	6
RiceWQ Treated Area Filename— This is the relative path and filename of the csv-formatted file that describes the total treated area within the committal. Blank defaults to the RiceWQ ID + "_TrAreaChange.dat" in the folder where execution is invoked. The relative path may be included with or without the filename. If only the path is used, it must include either "/" or "\" as the last character.	**"Treated_Area_Filename"**		-	A250	2	7

Description	Field Header for Record #1	Units	Domain	For mat	Record No.	Field No.
RiceWQ Loadings Filename— This is the relative path and filename of the csv-formatted file associated with the committal area describing the Month, Day, Year, water loading [m3], pesticide loading [mg], and pesticide concentration [ppm]. Blank defaults to the RiceWQ ID + "_Out.dat" in the folder where execution is invoked. The relative path may be included with or without the filename. If only the path is used, it must include either "/" or "\" as the last character.	**"RiceWQ_Loadings_Filename"**		-	A250	2	8
Carbon to Clay Ratio—ratio of organic carbon mass to total mass of clay. Blank defaults to 0.5.	**"Carbon_to_Clay_Ratio"**	[Mg-C/Mg-clay]	Blank, or 0.0 – 1.0	F10	2	9
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RIPARIAN BUFFER DATA

Optional

Description	Field Header for Record #1	Units	Domain	For mat	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-20
The following record repeats for the number of buffer records.						
Buffer ID— Alphanumeric string identifying the buffer record.	**"Buffer_ID"**			A100	2	1
Location ID—Alphanumeric string identifying the cell or reach that contains the buffer. Must match a cell ID in the Cell Data section for cell-located buffers or a Reach ID in the Reach Data section for reach-located buffers.	**"Location_ID"**			A100	2	2
Vegetative Type—Alphanumeric string identifying the vegetative type. The acceptable values are "forest" and "grass" (Blank defaults to "grass")	**"Vegetative_Type"**		Blank, or "forest" or "grass"	F10	2	3
Slope— Slope of the buffer. (For cell located buffers, blank defaults to slope of the cell. For reach located buffers, blank defaults to the reach slope.)	**"Buffer_Slope"**	[nd]	Blank, or 0.00001 to 3.0	F10	2	4
Maximum Trapping Efficiency "TE-m"—Maximum buffer trapping efficiency. If the user enters a value for this parameter then values for buffer width and slope are ignored. (Blank indicates that AnnAGNPS will calculate value based on vegetative type and slope.)	**"Max_Trap_Efficiency"**	[nd]	Blank, or [0.0 to 1.0]	F10	2	5
Effective Buffer Width—Effective width of the buffer associated with the length of the flow path through the buffer. (Blank defaults to 10.0 m).	**"Eff_Wdth_Thru_Buffer"**	{ft} [m]	Blank, or {0.0 to 5000.} [0.0 to 5000.]	F10	2	6
Effective Concentrated Flow Width—Effective width for the concentrated flow path through the buffer. (For cell located buffers, blank defaults to the hydraulic geometry width of concentrated flow in the cell. For reach located buffers, blank defaults to the reach width.)	**"Eff_Wdth_Along_Buffer"**	{ft} [m]	Blank, or {0.0 to 5000.} [0.0 to 5000.]	F10	2	7
Buffer Location Code— If buffer is cell-located, code must be a "T" or blank. If buffer is reach-located, code must be an "F". Blank defaults to true "T"	**"Buffer_Location_Code"**		Blank, "T" or "F"	L1	2	8

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Drainage Area to Upstream Portion of Buffer—The total drainage area contributing to the flow entering the upstream portion of the buffer. For cell-located buffers, blank defaults to the cell's entire drainage area. For reach-located buffers, blank defaults to the drainage area at the downstream end of the reach.	**"Drainage_Area_to_Buffer"**	{acres} [hectares]	Blank, or {0.000025 to 9884.} [0.00001 to 4000.0]	F10	2	9
Actual Trapping Efficiency "TE-a"—Actual trapping efficiency for each particle size. If the user enters a value for this parameter then all other parameters are ignored. (Blank indicates that AnnAGNPS will calculate values.)	**"Actual_Trap_Efficiency_Clay", "Actual_Trap_Efficiency_Silt", "Actual_Trap_Efficiency_Sand", "Actual_Trap_Efficiency_Sm_Agg", "Actual_Trap_Efficiency_Lg_Agg"**	[nd]	Blank, or [0.0 to 1.0]	5F10	2	10-14
Fraction Trapped "TE-ps"— Fraction trapped for each AnnAGNPS particle size. (Blank indicates that AnnAGNPS will calculate values.)	**"Fraction_Trapped_Clay", "Fraction_Trapped_Silt", "Fraction_Trapped_Sand", "Fraction_Trapped_Sm_Agg", "Fraction_Trapped_Lg_Agg"**	[nd]	Blank, or 0.00001 to 3.0	5F10	2	15-19
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	20
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RUNOFF CURVE NUMBER DATA (BUILT-IN)

There are two internally defined curve number sets.

RCN ID	Curve "A"	Curve "B"	Curve "C"	Curve "D"
"Default Crop CN"	72.	81.	88.	91.
"Default Non-Crop CN"	68.	79.	86.	89.
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RUNOFF CURVE NUMBER DATA

Required

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-5
The following record repeats for the number of runoff curve numbers.						
Curve Number ID—Alphanumeric string ID for the specific cover (cover type, treatment and hydrologic condition) for Runoff Curve Number data.	**"Curve_Number_ID"**			A100	2	1
Curve Number "A"—Runoff Curve Number for Soil Hydrologic Group "A"	**"CN_A"**		30.0 to 100.0	F10	2	2
Curve Number "B"—Runoff Curve Number for Soil Hydrologic Group "B"	**"CN_B"**		30.0 to 100.0	F10	2	3
Curve Number "C"—Runoff Curve Number for Soil Hydrologic Group "C"	**"CN_C"**		30.0 to 100.0	F10	2	4
Curve Number "D"—Runoff Curve Number for Soil Hydrologic Group "D"	**"CN_D"**		30.0 to 100.0	F10	2	5
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RUSLE2 DATA

Optional unless referenced in other data sections

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-3
The following record repeats for the number of RUSLE2 records.						
RUSLE2 ID— Alphanumeric string identifying the RUSLE2 record.	**"RUSLE2_ID"**			A100	2	1
RUSLE2 Filename— Filename of the csv-formatted RUSLE2 erosion file to use as input..	**"RUSLE2_Filename"**		-	A250	2	2
RUSLE2 Erosion Flag— True if RUSLE2 erosion values are to be used. If this flag is set to false then RUSLE1 erosion will calculated. Default = true.	**"RUSLE2_Erosion_Flag"**		Blank, T or F	L1	2	3
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SIMULATION PERIOD DATA

Required

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-17
The following record does not repeat.						
Simulation Begin Date—Month, day, and year the watershed simulation begins.	**"Simulation_Begin_Month", "Simulation_Begin_Day", "Simulation_Begin_Year"**	mm dd yyyy	1 to 12 1 to 31 1 to 9999	I2, I2, I4	2	1-3
Simulation End Date—Month, day, and year the watershed simulation ends. Leave blank for a single event simulation .	**"Simulation_End_Month", "Simulation_End_Day", "Simulation_End_Year"**	mm dd yyyy	Blank, or 1 to 12 1 to 31 1 to 9999	I2, I2, I4	2	4-6
Rainfall factor—Average annual RUSLE rainfall factor.	**"Rainfall_Fctr"**	{100 ft-ton-in / (acre-hr year)} [megajoule-mm / hectare-hr year]	{0.0 to 2000.0} [0.0 to 34100.0]	F10	2	7
10-yr EI—RUSLE energy intensity for 10 year frequency rainfall.	**"10-Year_EI"**	{100 ft-ton-in / (acre-hr)} [megajoule-mm / hectare-hr]	{0.000006 to 2000.0} [0.0001 to 34100.0]	F10	2	8
EI Number—Energy Intensity (EI) distribution number identifying the EI distribution curve. For values > 400, the EI curve accounts for frozen soil effects such as in the Pacific Northwest Palouse region. EI distributions from RUSLE automatically entered for EI codes 1-149. Optionally, the user may enter the EI distribution values through the EI PERCENTAGE DATA section. To account for frozen soil effects, the user must enter a code value > 400, and enter the EI distribution values in the EI PERCENTAGE DATA section.	**"EI_Number"**		1 to 500	I10	2	9
Irrigation Climate code—Code indicating the climate category to use for irrigation. Acceptable values are: 1 = arid; 2 = humid (Blank is 2)	**"Irrigation_Climate_Code"**		Blank, 1 or 2	I10	2	10
Soil Moisture Steps—Number of soil moisture computation time steps within a day. (Blank defaults to 8 time steps.)	**"Soil_Moisture_Steps"**		Blank, 1 to 24	I10	2	11

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Annual K-factor code—Code indicating whether average annual USLE soil losses are based on nomographs and volcanic soil equations or to use K factors provided with soil data. Acceptable values are: Y = Yes N = No (Blank defaults to Yes).	"Annual_K_Fctr_Code"		Blank, Y or N	A10	2	12
Variable K-factor code—Code indicating whether to vary the average annual USLE soil loss throughout the year. Acceptable values are: Y = Yes N = No (Blank defaults to Yes).	"Variable_K_Fctr_Code"		Blank, Y or N	A10	2	13
Number of Initialization Years—Number of climate data years to run for initializing variables prior to watershed simulation. The climate data used for initialization will be based on the record in the climate data file that corresponds to the years of initialization in the climate data before the simulation start date. If there is insufficient data in the climate file for initialization, then the option selected in the Initialization Method Code parameter will be used to complete the initialization record that is missing in the climate file. (Blank defaults to 2)	"Number_Init_Years"		Blank, 0 to 100	I10	2	14
Initialization Method Code—Code for initialization method; This is only used if the "Number of Initialization Years" parameter is populated in the SIMULATION PERIOD DATA section (where two initialization years are defined by default) and there are not this number of years defined before the start of the simulation within the climate data input file. 0 = typical weather; precipitation monthly normals are calculated based on the entire climate data input file. Then, a determination is made as to the month and year of the actual climate data that had the smallest deviation from the normal. The actual climate data from that month and year is used for the corresponding month of initialization and repeated for each year of initialization. 1 = re-use input weather; AnnAGNPS calculates a pseudo-year based on the simulation beginning year less the current year of initizalization. The actual climate data for the pseudo-year is used in its entirety for the current year of initialization. The pseudo-year decrements for each subsequent year of initialization. If initialization years requested exceeds the years of actual climate data supplied, then the last year of actual climate data is repeated as needed. (Blank defaults to 0)	"Init_Method_Code"		Blank, 0 to 1	I10	2	15
Winter Bouts—not currently used – Reserved.	"Winter_Bouts"			10	2	16
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	"Input_Units_Code"			I1	2	17
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SOIL DATA

Required

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-12
The following record repeats for the number of soils. The accompanying required soil layer data is specified in the SOIL LAYER DATA section.						
Soil ID—Soil Survey area ID combined with soil survey mapping unit symbol. (e.g., 013Mbac)	"Soil_ID"			A100	2	1

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Hydrologic Soil Group—Soil Hydrologic group (see TR-55). Acceptable values are : A, B, C, D	"Hydrologic_Soil_Group"		A, B, C, or D	A10	2	2
K-factor—USLE & RUSLE K factor for whole soil: Note this has already been adjusted to add the rock fragments > 2 mm.	"K_Factor"	{(ton ac hr)/ (100 ac ft tonf in)} [(met. ton hec hr) / (hec Mj mm)]	{0.0 to 1.0} [0.0 to .1317]	F10	2	3
Albedo—Solar radiation reflection from the bare soil surface.	"Albedo"	Radiation reflected / radiation incoming	Blank or 0.0 to 1.0	F10	2	4
Time to consolidation—Time for 95% of effect of disturbance to have disappeared due to consolidation.	"Time_to_Consolidation"	years	0.0 to 100.0	F10	2	5
Impervious Depth—Depth to impervious layer in soil column. Blank defaults to a depth of 1000 [m]. Note: RUSLE assumes that residue incorporation cannot occur within a soil depth of 2 inches or less.	"Impervious_Depth"	{in} [mm]	Blank, or {2.01 to 393701.0} [50.9 to 10000000.0]	F10	2	6
Specific Gravity—Average specific gravity for the total mass in the soil column. (Blank defaults to 2.65)	"Specific_Gravity"	mass-soil / mass-H_2O (nd)	Blank or 0.0 to 4.0	F10	2	7
Initial Soil Conditions ID—Alphanumeric string identifying the initial conditions record to be used for this soil. This is an optional parameter. This ID, if present, must have a matching ID and record set in the "Soil Initial Conditions Data" section. If this parameter is left blank, a check is made to see if a global "Default Initial Soil Conditions ID" has been specified in the "Global IDs, Factors, and Flags Data" section. If so, the associated global default "Soil Initial Conditions Data" ID and record set will be used. Therefore, if this ID parameter is populated –or– is blank and a global "Default Initial Soil Conditions ID" has been specified in the "Global IDs, Factors, and Flags Data" section, then the initial conditions parameters specified in the associated "Soil Initial Conditions Data" record are used for those associated parameters in this Soil Data section that are blank. Otherwise, internally-defined values will be used as defaults.	"Initial_Soil_Conditions_ID"			A100	2	8
Soil Name—Full name for the soil	"Soil_Name"			A40	2	9
Soil Texture—Unabbreviated soil texture (e.g., clay loam)	"Soil_Texture"			A40	2	10
Number Soil Layers—Number of soil layers for this soil. At least one soil layer record is required for each soil. The soil layer information is specified in the SOIL LAYER DATA section.	"Number_of_Soil_Layers"		1 to 2147483647	I10	2	11
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	"Input_Units_Code"			I1	2	12

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SOIL INITIAL CONDITIONS DATA

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-20

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
The following record repeats for the number of soil initial conditions records. This data section is optional and is needed only if the global soil initial conditions defaults are not sufficient for initial conditions. Initial conditions are effective on the first day of initialization, if initialization years are defined, or the first day of simulation if there are no initialization years defined.						
Initial Soil Conditions ID—Alphanumeric string identifying the initial conditions record.	**"Initial_Soil_Conditions_ID"**			A100	2	1
Landuse Type ID—Alphanumeric string describing the landuse type. Acceptable values are: "Cropland" or "Non-Crop" (Blank defaults to "Cropland") Reserved –Currently not used.	**"Landuse_Type_ID"**			A10	2	2
Inorganic N—Initial soil inorganic nitrogen to be used for each cell. Two soil layers are used, first is the top 200 mm (~8 in), second is the remaining soil profile. Blank = -999. This means that a determination of the default value will be made after the "Organic Matter Ratio" parameter is read in the Soil Data section. The default value will then be calculated as (Organic Matter Ratio *as determined in the Soil Data section* * 2700).	**"Inorganic_N_1" for layer 1 and "Inorganic_N_2" for layer 2**	ppm	Blank, or 0.0 to 100000.0	2F10	2	3-4
Inorganic P—Initial soil inorganic phosphorus to be used for each cell. Two soil layers are used, first is the top 200 mm (~8 in), second is the remaining soil profile. Blank = -999. This means that a determination of the default value will be made after the "Organic Matter Ratio" parameter is read in the Soil Data section. The default value will then be calculated as (Organic Matter Ratio *as determined in the Soil Data section* * 7500).	**"Inorganic_P_1" for layer 1 and "Inorganic_P_2" for layer 2**	ppm	Blank, or 0.0 to 100000.0	2F10	2	5-6
Soil Moisture— Initial soil moisture, in non-dimensional units [nd] of available soil moisture, to be used for each cell. The non-dimensional units is a ratio of the initial soil moisture divided by the available soil moisture. Available soil moisture is the soil moisture at field capacity less the soil moisture at the wilting point. Two soil layers are used; the first layer is the top 200 [mm] (8 [in]), the second layer is called the bottom layer and is the remaining soil profile. Blank defaults to 0.5 [nd] which is the average soil moisture between the field capacity, which is 1.[nd], and the wilting point, which is 0.[nd]. Any value greater than "1." will default to the total saturation which is the entitre.porosity. (Blank defaults to 0.5)	**"Soil_Moisture_1" for layer 1 and "Soil_Moisture_2" for layer 2**	ht-H_2O / ht-soil layer (nd)	Blank, or 0.0 to 1.0, or >1.	2F10	2	7-8
Organic Matter—Initial soil organic matter to be used for each cell. Two soil layers are used, first is the top 200 mm (~8 in), second is the remaining soil profile. (Blank defaults to 0.05 for each layer)	**"Organic_Matter_1" for layer 1 and "Organic_Matter_2" for layer 2**	mass—org matter / mass-soil (nd)	Blank, or 0.0 to 1.0	2F10	2	9-10
Organic N—Initial soil organic nitrogen to be used for each cell. Two soil layers are used, first is the top 200 mm (~8 in), second is the remaining soil profile. Blank = -999. This means that a determination of the default value will be made after the "Organic Matter Ratio" parameter is read in the Soil Data section. The default value will then be calculated as (Organic Matter Ratio *as determined in the Soil Data section* * 90000).	**"Organic_N_1" for layer 1 and "Organic_N_2" for layer 2**	ppm	Blank, or 0.0 to 100000.0	2F10	2	11-12
Organic P—Initial soil organic phosphorus to be used for each cell. Two soil layers are used first is top 8 in (200 mm), second is remaining soil profile. Blank = -999. This means that a determination of the default value will be made after the "Organic Matter Ratio" parameter is read in the Soil Data section. The default value will then be calculated as (Organic Matter Ratio *as determined in the Soil Data section* * 15000).	**"Organic_P_1" for layer 1 and "Organic_P_2"for layer 2**	ppm	Blank, or 0.0 to 100000.0	2F10	2	13-14
Surface Residue—Initial surface residue to be used for each cell. (Blank defaults to 0.0)	**"Surface_Residue"**	{lb / acre} [kg / hectare]	{0.0 to 100000.0} [0.0 to 112000.0]	F10	2	15
Manning's n—Initial condition overland flow Manning's n to be used for each cell if not defined as part of an initial operations data for the first field management. (Blank defaults to 0.035)	**"Mannings_n"**		0.005 to 1.0	F10	2	16

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Snow Depth—Initial condition depth of snow on ground to be used for each cell. (Blank defaults to 0.0)	"Snow_Depth"	{in} [mm]	Blank or {0.0 to 1000.0} [0.0 to 25400.0]	F10	2	17
Snow Density—Initial condition snow density if any snow is to be on ground for each cell. Must have value if positive snow depth is indicated above. Leave blank if no snow depth is indicated above. (Blank defaults to 0.0)	"Snow_Density"	{lb / ft^3} [Mg / m^3]	Blank, or {0.0006 to 62.4} [0.00001 to 1.0]	F10	2	18
Surface Constant—Initial condition surface condition constant to be used for each cell if not defined as part of an initial operations data for the first field management. (Blank defaults to 0.15 for "Cropland"; 0.30 for "Non-crop")	"Surface_Constant"		Blank, or 0.0 to 1.0	F10	2	19
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	"Input_Units_Code"			I1	2	20
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SOIL LAYER DATA

Required

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-24
The following record repeats for the number of soil layers for each soil specified in the SOIL DATA section. All layer data must be sequential and contiguous for each specified soil in the SOIL DATA section.						
Soil ID—Soil ID of the soil for which this record applies. Must match a Soil ID specified in the SOIL DATA section.	"Soil_ID"			A100	2	1
Layer Number—Sequential and contiguous layer number for the applicable soil.	"Layer_Number"		1 to 2147483647	I10	2	2
Layer Depth—Depth from the soil surface to the bottom of the soil layer	"Layer_Depth"	{in} [mm]	{1.0 to 120.0} [1.0 to 3000.0]	F10	2	3
Bulk Density—Dry bulk density of soil layer (assumed to be the consolidated stage for cropland top layer).	"Bulk_Density"	{lb / ft^3} [Mg / m^3]	{6.25 to 168.0} [0.1 to 2.7]	F10	2	4
Clay Ratio—Clay mass ratio to sum total mass of mineral soil (sand, silt, clay) excluding rock for the soil layer.	"Clay_Ratio"	mass-clay/ mass-mineral soil (nd)	0.0 to 1.0	F10	2	5
Silt Ratio—Silt mass ratio to sum total mass of mineral soil (sand, silt, clay) excluding rock for the soil layer.	"Silt_Ratio"	mass-silt/ mass-mineral soil (nd)	0.0 to 1.0	F10	2	6
Sand Ratio—Sand mass ratio to sum total mass of mineral soil (sand, silt, clay) excluding rock for the soil layer.	"Sand_Ratio"	mass-sand / mass-mineral soil (nd)	0.0 to 1.0	F10	2	7
Rock Ratio—Ratio of rock fragment mass (fraction greater than 2 mm) to sum total mass of mineral soil (sand, silt, clay, & rock)in the soil layer. Blank defaults to 0.0	"Rock_Ratio"	mass—rock / mass—mineral soil (nd)	Blank or 0.0 to 1.0	F10	2	8

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Very Fine Sand Ratio—Ratio of very fine sand (0.05 mm to 0.1mm) to the sum of total mass of mineral soil (sand, silt, clay) excluding rock in the soil layer. Blank defaults to 0.0	**"Very_Fine_Sand_Ratio"**	mass-very fine sand / mass-mineral soil (nd)	Blank or 0.0 to 1.0	F10	2	9
CaCO3—Calcium carbonate content of soil layer.	**"CaCO3_Content"**	wt CaCO3 / wt < 2mm soil (nd)	Blank or 0.0 to 1.0	F10	2	10
Saturated Conductivity—-Saturated hydraulic conductivity of the soil layer.	**"Saturated_Conductivity"**	{in / hr} [mm / hr]	{0.0 to 10000.0} [0.0 to 254000.0]	F10	2	11
Field Capacity—Fraction of water volume at field capacity (300 kPa) to the soil volume in the soil layer. Based on whole soil (includes rock fragments).	**"Field_Capacity"**	ht-H_2O / ht-soil layer (nd)	wilting point fraction to 1.0	F10	2	12
Wilting Point—Fraction of water volume at wilting point (1500 kPa) to the soil volume in the soil layer. Based on whole soil (includes rock fragments).	**"Wilting_Point"**	ht-H_2O / ht-soil layer (nd)	0.0 to 1.0	F10	2	13
Volcanic code—Code indicting whether soil layer is from a volcanic parent material. Y = volcanic N = not volcanic (Blank defaults to No)	**"Volcanic_Code"**		Blank, Y, or N	A10	2	14
Base Saturation—Base saturation of the soil layer for volcanic soils. This parameter is only used if the Volcanic code is set to Yes and the Annual K-factor code is set to Yes in the Simulation Period Data Section. The use of this parameter should only be considered for those soils that are similar to soils found in Hawaii. (See Equation 3-2 in the RUSLE Handbook, Renard et al., 1997)	**"Base_Saturation"**	%	Blank, 0.0 to 100.0	F10	2	15
Unstable Aggregate Ratio—Ratio of unstable aggregates (< .25 mm) to sum total mass of soil (sand, silt, clay, rock, & organic matter) in the soil layer. Leave blank if soil layer is not from a volcanic parent material	**"Unstable_Aggregate_Ratio"**	mass-unstable agg / mass-soil (nd)	Blank or 0.0 to 1.0	F10	2	16
pH—Representation of the Hydrogen ion concentration (pH) for the soil layer. pH which is the logarithm of the reciprocal of the H concentration (g atoms /l) is a measure of acidity / alkalinity. Blank defaults to 6.5	**"pH"**		Blank, 1.0 to 14.0	F10	2	17
Organic Matter Ratio—Ratio of organic matter to the sum of the total mass of soil (sand, silt, clay, rock, & organic matter) in the soil layer. Blank defaults to 0.05 if "Initial Soil Conditions ID" is not specified for this soil and "Default Initial Soil Conditions ID" is not specified in the "Global IDs, Factors, and Flags Data" section. Otherwise, blank will default to the "Organic Matter" in the "Soil Initial Conditions Data" record referenced by this soil or by the "Global IDs, Factors, and Flags Data" section.	**"Organic_Matter_Ratio"**	mass-org matter / mass-soil (nd)	Blank, 0.0 to 1.0	F10	2	18
Organic N Ratio—Ratio of initial amount of organic nitrogen in the soil layer at the start of the simulation. Blanks defaults to (Organic Matter Ratio * 90000) if "Initial Soil Conditions ID" is not specified for this soil and "Default Initial Soil Conditions ID" is not specified in the "Global IDs, Factors, and Flags Data" section. Otherwise, blank will default to the "Organic N" in the "Soil Initial Conditions Data" record referenced by this soil or by the "Default Initial Soil Conditions ID" in the "Global IDs, Factors, and Flags Data" section.	**"Organic_N_Ratio"**	ppm	Blank, 0.0 to 100000.0	F10	2	19

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Inorganic N Ratio—Ratio of initial amount of inorganic nitrogen in the soil layer at the start of the simulation. Blanks defaults to (Organic Matter Ratio * 2700) if "Initial Soil Conditions ID" is not specified for this soil and "Default Initial Soil Conditions ID" is not specified in the "Global IDs, Factors, and Flags Data" section. Otherwise, blank will default to the "Inorganic N" in the "Soil Initial Conditions Data" record referenced by this soil or by the "Default Initial Soil Conditions ID" in the "Global IDs, Factors, and Flags Data" section.	**"Inorganic_N_Ratio"**	ppm	Blank, 0.0 to 100000.0	F10	2	20
Organic P Ratio—Ratio of initial amount of organic phosphorus in the soil layer at the start of the simulation. Blanks defaults to (Organic Matter Ratio * 15000) if "Initial Soil Conditions ID" is not specified for this soil and "Default Initial Soil Conditions ID" is not specified in the "Global IDs, Factors, and Flags Data" section. Otherwise, blank will default to the "Inorganic N" in the "Soil Initial Conditions Data" record as referenced by this soil or by the "Default Initial Soil Conditions ID" in the "Global IDs, Factors, and Flags Data" section.	**"Organic_P_Ratio"**	ppm	Blank, 0.0 to 10000.0	F10	2	21
Inorganic P Ratio—Ratio of initial amount of inorganic phosphorus in the soil layer at the start of the simulation. Blanks defaults to (Organic Matter Ratio * 7500) if "Initial Soil Conditions ID" is not specified for this soil and "Default Initial Soil Conditions ID" is not specified in the "Global IDs, Factors, and Flags Data" section. Otherwise, blank will default to the "Inorganic P" in the "Soil Initial Conditions Data" record referenced by this soil or by the "Default Initial Soil Conditions ID" in the "Global IDs, Factors, and Flags Data" section.	**"Inorganic_P_Ratio"**	ppm	Blank, 0.0 to 10000.0	F10	2	22
Soil Structure code—Code indicating average aggregate soil structure size for soil layer. Acceptable values are: 1 = very fine granular (< 1mm) 2 = fine granular (1 to 2mm) 3 = medium or coarse granular (2 to 5mm) 4 = blocky, platey or massive (> 5mm) Blank defaults to 3.	**"Soil_Structure_Code"**		Blank, 1 to 4	I10	2	23
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	24
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STRIP CROP DATA

Optional unless referenced in Management Schedule Data

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-3
The following record repeats for the number of strip crop sets.						
Strip Crop ID—Alphanumeric string identifying the Strip Crop Data.	**"Strip_Crop_ID"**			A100	2	1
P Factor—The RUSLE conservation support practice associated with the entire impact of strip crop support practices applied on the entire field on the average annual erosion rate associated with the Strip Crop ID. Blank defaults to 1.0.	**"P_Factor"**	[nd]	Blank, 0. to 1.	F10	2	2
Sediment Delivery Ratio—The fraction of the gross soil loss from all of the strip crops in the field to the amount of sediment leaving the strips at the bottom of the slope in the field. Blank defaults to 1.0.	**"Delivery_Ratio"**	[nd]	Blank, 0. to 1.	F10	2	3
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TILE DRAIN DATA

Optional unless referenced in Management Field Data

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-4
The following line repeats for the number of tile drain sets (specified above).						
Tile Drain ID—Alphanumeric string identifying the Tile Drainage Scheme.	**"Tile_Drain_ID"**			A100	2	1
Drain Rate—Daily reduction in height of water table. If entered by the user, this Value is used for all tile drainage calculations. Default value is 0.5 inches or 12.7 mm	**"Drain_Rate"**	{in / day} [mm / day]	0.0 to 999999.9	I10	2	2
Invert Depth—Depth of installed tile drain invert below the surface. Default value is 800 [mm] or 31.5 [in]	**"Invert_Depth"**	{in} [mm]	0.0 to 999999.9	F10	2	3
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	4
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WATERSHED DATA

Required

Description	Field Header for Record #1	Units	Domain	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-5
The following record does not repeat.						
Watershed Name—Name of the watershed (Optional).	**"Wshd_Name"**		Blank or name up to 80 characters	A100	2	1
Watershed Description—Description of the watershed (Optional).	**"Wshd_Description"**		Blank or description up to 80 characters	A80	3	2
Watershed Location—Location of the watershed (Optional).	**"Wshd_Location"**		Blank or location up to 60 characters	A60	4	3
Latitude—Latitude for centroid of watershed. Latitude is expressed as "+" for North and "-" for South. (This is only used for reporting purposes; not used in any calculations therefore blank is acceptable and a "-999" will be reported in applicable verification output files)	**"Latitude"**	decimal °	Blank or -90. To 90.	F10	4	4
Longitude—Longitude for centroid of watershed. Longitude is expressed as "+" for East and "-" for West. (This is only used for reporting purposes; not used in any calculations therefore blank is acceptable and a "-999" will be reported in applicable verification output files)	**"Longitude"**	decimal °	Blank or -180. To 180.	F10	4	5
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WETLAND DATA

Optional

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-17
The following record repeats for the number of wetland records.						

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Wetland ID—Alphanumeric string identifying the wetland record.	**"Wetland_ID"**			A100	2	1
Reach ID—Alphanumeric string identifying the reach that contains the wetland. Must be the same as a reach ID in the REACH DATA section. Note: AnnAGNPS currently only allows one wetland per reach.	**"Reach_ID"**			A100	2	2
Wetland Area—The area of the wetland. (Blank defaults to 2% of the drainage area at the upstream end of the reach. The maximum value allowed is less than or equal to the drainage area at the upstream end of the reach.)	**"Wetland_Area"**	{acre} [hectare]	Blank, or >0.0 to 999999999.	F10	2	3
Initial Water Depth—Initial water depth in the wetland. (Blank defaults to 0.0)	**"Initial_Water_Depth"**	{in} [mm]	Blank, or {0.0 to 1968.5} [0.0 to 50000.0]	F10	2	4
Minimum Water Depth—Minimum water depth in the wetland. (Blank defaults to 0.0)	**"Min_Water_Depth"**	{in} [mm]	Blank, or {0.0 to 196.8} [0.0 to 5000.0]	F10	2	5
Maximum Water Depth—Maximum water depth in the wetland. (Blank defaults to 1000.0; this value cannot be less than the Minimum Water Depth.)	**"Max_Water_Depth"**	{in} [mm]	Blank, or {>0.0 to 1968.5} [>0.0 to 50000.0]	F10	2	6
Water Temperature—Wetland water temperature. (Blank defaults to AnnAGNPS average air temperature.)	**"Water_Temperature"**	{^{o}F} [^{o}C]	Blank, or {32.0 to 104.0} [0.0 to 40.0]	F10	2	7
Potential Daily Infiltration—Constant daily infiltration rate applied after water ponds in the wetland. (Blank defaults to; 1. First cell encountered in the sorted list of cell ids that has the same reach id as that of the wetland; or 2. Calculated watershed average daily infiltration value.)	**"Potential_Daily_Infiltration"**	{in/day} [mm/day]	Blank, or {0.0 to 100.0} [0.0 to 2540.0]	F10	2	8
Weir Coefficient—Weir coefficient. (Blank defaults to 2.0)	**"Weir_Coef"**	(nd)	Blank, or >0.0 to 10.0	F10	2	9
Weir Width—Width of weir opening. (Blank defaults to 1.0)	**"Weir_Width"**	{ft} [m]	Blank, or {0.03 to 328083} [0.01 to 100000.0]	F10	2	10
Weir Height—Height of the weir. (Blank defaults to 1.0)	**"Weir_Height"**	{ft} [m]	Blank, or {0.00328 to 32.8} [0.001 to 10.0]	F10	2	11
Soluble N Concentration—Initial concentration of soluble nitrogen. (Blank defaults to 0.0)	**"Soluble_N_Conc"**	{ppm} [mg/L]	Blank, or 0.0 to 100.0	F10	2	12
Nitrate-N Loss Rate—Nitrate-N loss rate. (Blank defaults to AnnAGNPS internally calculated value.)	**"Nitrate-N_Loss_Rate"**	{lb/ft^2/day} [g/m^2/day]	Blank, or >0.0 to 100.0	F10	2	13
Nitrate-N Loss Rate Coefficient—The area-based first order loss rate coefficient for nitrate-N at 20 ^{o}C (Blank defaults to 0.15)	**"Nitrate-N_Loss_Rate_Coef"**	{ft/day} [m/day]	Blank, or 0.05 to 0.5	F10	2	14
Temperature Coefficient—The temperature coefficient for nitrate-N loss. (Blank defaults to 1.09)	**"Temperature_Coef"**	(nd)	Blank, or 0.1 to 2.5	F10	2	15
Weir Exponent—Weir coefficient. (Blank defaults to 1.5)	**"Weir_Exp"**	(nd)	Blank, or 0.0 to 100.0	F10	2	16
Input Units Code— Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**			I1	2	17

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Input File Layout Matrix

ANNAGNPS ID

Record	Field 1	Field 2	Field 3	Field 4	Field 5					
1	Version	Input_Units	Output_Units	CCHE1D_Output_Units	Screen_Output_Units					
2	5.20									

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AQUACULTURE POND DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Pond_ID	Cell_ID	Pond_Area	Pond_Depth	Seepage_Rate	Sediment_Delivery_Ratio	Relative_Rotation_Year	Mgmt_Schd_ID	OC_Calib_Fctr	N_Calib_Fctr
2										

Record	Field 11	Field 12	Field 13							
1	P_Calib_Fctr	Erosion_Calib_Fctr	Input_Units_Code							
2										

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AQUACULTURE POND MANAGEMENT SCHEDULE DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Pond_Mgmt_Schd_ID	Month	Day	Year	Water_Operation_Code	Aquaculture_ID	Crop_ID	Planting_Type_Code	Gate_Status	Max_Pool_Depth
2										

Record	Field 11	Field 12	Field 13	Field 14	Field 15	Field 16	Field 17	Field 18	Field 19	Field 20
1	Min_Pool_Depth	Fill/Release_Vol	Fill/Drain_Time	Fill/Release_Rate	Fill/Drain_All_Code	Total_Sed_Conc	Clay_Content	Silt_Content	Total_N	Dissolved_N
2										

Record	Field 21	Field 22	Field 23	Field 24	Field 25	Field 26	Field 27	Field 28	Field 29	Field 30
1	Total_P	Dissolved_P	Num_Pest_Apps	Season_Adjust_Conc	Sed_Conc_Winter	Total_N_Winter	Dissolved_N_Winter	Total_P_Winter	Dissolved_P_Winter	Sed_Conc_Spring
2										

Record	Field 31	Field 32	Field 33	Field 34	Field 35	Field 36	Field 37	Field 38	Field 39	Field 40
1	Total_N_Spring	Dissolved_N_Spring	Total_P_Spring	Dissolved_P_Spring	Sed_Conc_Summer	Total_N_Summer	Dissolved_N_Summer	Total_P_Summer	Dissolved_P_Summer	Sed_Conc_Autumn
2										

Record	Field 41	Field 42	Field 43	Field 44	Field 45					
1	Total_N_Autumn	Dissolved_N_Autumn	Total_P_Autumn	Dissolved_P_Autumn	Input_Units_Code					
2										

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CELL DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Cell_ID	Soil_ID	Mgmt_Field_ID	Reach_ID	Reach_Location_Code	Cell_Area	Time_of_Conc	Avg_Elevation	RCN_Calib_Fctr	Avg_Land_Slope
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Aspect	RUSLE_ls_Fctr	RCN_Rtn_Calib_Fctr	Secondary_Climate_File_ID	Sheet_Flow_Mannings_n	Geology_ID	Conc_Flow_Slope	Conc_Flow_Length	Hydraulic_Geom_ID	Conc_Flow_Hydraulic_Depth
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**	**Field 29**	**Field 30**
1	Conc_Flow_Mannings_n	Sheet_Flow_Slope	Sheet_Flow_Length	Shallow_Conc_Flow_Slope	Shallow_Conc_Flow_Length	Delivery_Ratio	Constant_USLE_C_Fctr	Constant_USLE_P_Fctr	All_OC_Calib_Fctr	All_N_Calib_Fctr
2										
Record	**Field 31**	**Field 32**	**Field 33**	**Field 34**	**Field 35**					
1	All_P_Calib_Fctr	Sheet_and_Rill_Erosion_Calib_Fctr	Gullies_Erosion_Calib_Fctr	RUSLE2_ID	Input_Units_Code					
2										

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CELL-SOURCE DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Cell_Source_ID	Reach_ID	Input_Filename							
2										

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CLASSIC GULLY DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Gully_ID	Cell_ID	Reach_ID	Soil_ID	Cell_Drainage_Area	Reach_Drainage_Area	Headcut_Depth	Erosion_Coef	Erosion_exp	Delivery_Ratio
2										

Record	Field 11	Field 12	Field 13	Field 14	Field 15	Field 16	Field 17	Field 18	Field 19	Field 20
1	Mgmt_Field_ID	Cell_Drainage_Subarea	Load_Calib_Fctr	Rainfall/Runoff_Indicator	Units_Indicator	Gully_Location_Code	OC_Calib_Fctr	N_Calib_Fctr	P_Calib_Fctr	Erosion_Calib_Fctr
2										

Record	Field 21
1	Input_Units_Code
2	

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CONTOUR DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6
1	Contour_ID	Ridge_Height_Code	Furrow_Slope	Disturbed_Cover	Consolated_Cover	Input_Units_Code
2						

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CROP DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Crop_ID	Yield_Units_Harvested	Residue_Mass_Ratio	Surface_Decomp	Sub-surface_Decomp	USLE_C_Fctr	Moisture_Depletion	Residue_Adjust_Amt	Crop_Residue_30%	Crop_Residue_60%
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Crop_Residue_90%	Annual_Crop_Code	Legume_Code	Senescence_Code	Yield_Unit_Name	Yield_Unit_Mass	Harvest_C-N_Ratio	Pre-Harvest_C-N_Ratio	Harvest_Water	N_Uptake
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**	**Field 29**	**Field 30**
1	P_Uptake	Harvest_C-P_Ratio	Pre-Harvest_C-P_Ratio	Growth_Time_Ini	Growth_Time_Dev	Growth_Time_Mat	Growth_Time_Sen	Growth_N_Uptake_Ini	Growth_N_Uptake_Dev	Growth_N_Uptake_Mat
2										
Record	**Field 31**	**Field 32**	**Field 33**	**Field 34**	**Field 35**	**Field 36**	**Field 37**	**Field 38**	**Field 39**	**Field 40**
1	Growth_N_Uptake_Sen	Growth_P_Uptake_Ini	Growth_P_Uptake_Dev	Growth_P_Uptake_Mat	Growth_P_Uptake_Sen	Basal_Crop_Coef_Ini	Basal_Crop_Coef_Dev	Basal_Crop_Coef_Mid	Basal_Crop_Coef_End	Basal_Crop_Coef_Climate_Adjust
2										
Record	**Field 41**									
1	Input_Units_Code									
2										

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CROP GROWTH DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5					
1	Crop_Growth_ID	Root_Mass	Canopy_Cover	Rain_Fall_Height	Input_Units_Code					
2										

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EI PERCENTAGE DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	“EI_Pct_01”	“EI_Pct_02”	“EI_Pct_03”	“EI_Pct_04”	“EI_Pct_05”	“EI_Pct_06”	“EI_Pct_07”	“EI_Pct_08”	“EI_Pct_09”	“EI_Pct_10”
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	“EI_Pct_11”	“EI_Pct_12”	“EI_Pct_13”	“EI_Pct_14”	“EI_Pct_15”	“EI_Pct_16”	“EI_Pct_17”	“EI_Pct_18”	“EI_Pct_19”	“EI_Pct_20”
2										

Record	Field 21	Field 22	Field 23	Field 24						
1	"EI_Pct_21"	"EI_Pct_22"	"EI_Pct_23"	"EI_Pct_24"						
2										

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EPHEMERAL GULLY DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Gully_ID	Cell_ID	Reach_ID	Soil_ID	Drainage_Area_to_Mouth	Local_Drainage_Area	Gully_Slope	Critical_Sheer_Stress	Gully_Location_Code	Mgmt_Field_ID
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Erosion_Depth	Cells_Drainage_Subcell	Hydraulic_Geometry_ID	Width_Nachtergaele	Width_Hydraulic_Geometry	Width_Non-submerging_Tailwater	Width_Woodwards_Equilibrium	Width_Woodwards_Ultimate	Width_Wells_Eq.9	Delivery_Ratio
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**	**Field 29**	**Field 30**
1	Mannings_n	Replant_Period	OC_Calib_Fctr	N_Calib_Fctr	P_Calib_Fctr	Erosion_Calib_Fctr	Headcut_Migration_Barrier	Headcut_Dtach/Erod_Coef_a	Headcut_Dtach/Erod_Exp_Coef_b	Max_Trapping_Efficiency
2										
Record	**Field 31**	**Field 32**	**Field 33**	**Field 34**	**Field 35**					
1	Width_Wells'_Eq.8	Width_Reserved_i	Width_Reserved_j	Width_Reserved_k	Input_Units_Code					
2										

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FEEDLOT DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Feedlot_ID	Feedlot_Mgmt_ID	Open_Area	Paved_Ratio	Roof_Area	Upslope_Area	Initial_N	Initial_P	Initial_OC	Delta_N
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Delta_P	Delta_OC	Max_N	Max_P	Max_OC	Pack_N	Pack_P	Pack_OC	OC_Calib_Fctr	N_Calib_Fctr
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**					
1	P_Calib_Fctr	Erosion_Calib_Fctr	Cell_ID	Cell_Buffer_Length	Input_Units_Code					
2										

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FEEDLOT MANAGEMENT DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Mgmt_ID	Month	Day	Year	Pack_Remove_Ratio	Pack_Start_N	Pack_Start_P	Pack_Start_OC	Pack_Change_N	Pack_Change_P
2										
Record	**Field 11**	**Field 12**								
1	Pack_Change_OC	Input_Units_Code								
2										

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FERTILIZER APPLICATION DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6				
1	Application_ID	Name_ID	Application_Rate	Depth	Mixing_Code	Input_Units_Code				
2										

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FERTILIZER REFERENCE DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Reference_ID	Nitrite	Nitrate	Inorganic_N	Organic_N	Ammonia	Mineral_Ammonia	Elemental_P	Soluble_P	Inorganic_P
2										
Record	**Field 11**	**Field 12**	**Field 13**							
1	Organic_P	Organic_Matter	Consistency_Code							
2										

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FIELD POND DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Pond_ID	Cell_ID	Pond_Area	Number_of_Rotation_Years	Number_of_Gate_Operations	Delivery_Ratio	Volume_of_Release_Water	Drain_Time	Release_Rate	Sediment_Conc
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Clay_Content	Silt_Content	N_Conc	P_Conc	OC_Conc	Pesticide_Reference_ID	Pesticide_Conc	OC_Calib_Fctr	N_Calib_Fctr	P_Calib_Fctr
2										
Record	**Field 21**	**Field 22**								
1	Erosion_Calib_Fctr	Input_Units_Code								
2										

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FIELD POND OPERATION DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5					
1	Pond_ID	Open/Close_Gate_Action	Open/Close_Rotation_Month	Open/Close_Rotation_Day	Open/Close_Rotation_Year					
2										

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GEOLOGY DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Geology_ID	Delay_Time	Water_Table	Aquifer_Sat_Hyd_Conduct	Vadose_Sat_Hyd_Conduct	Porosity	Field_Capacity	Specific_Yield	Thickness	Soluble_N
2										
Record	**Field 11**	**Field 12**								
1	Soluble_P	Input_Units_Code								
2										

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GLOBAL ERROR AND WARNING LIMITS DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5					
1	Keyword_ID	Warning_Min	Warning_Max	Error_Min	Error_Max					
2										

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GLOBAL IDS, FACTORS, AND FLAGS DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Hdct_Detachment_Coef_a	Hdct_Detachment_Exp_Coef_b	Urban_Repair_Month	Urban_Repair_Day	Urban_Repair_Year	Cropland_Repair_Month	Cropland_Repair_Day	Cropland_Repair_Year	Forest_Repair_Month	Forest_Repair_Day
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Forest_Repair_Year	Pasture_Repair_Month	Pasture_Repair_Day	Pasture_Repair_Year	Rangeland_Repair_Month	Rangeland_Repair_Day	Rangeland_Repair_Year	Hdct_Erodibility_Coef_a	Hdct_Erodibility_Exp_Coef_b	Width_Nachtergaele
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**	**Field 29**	**Field 30**
1	Width_Hydraulic_Geometry	Width_Non-submerging_Tailwater	Width_Woodwards_Equilibrium	Width_Woodwards_Ultimate	Width_Wells_Eq.9	Erosion_Vrfy	Hydrograph_Vrfy	Nickpoint_Vrfy	Repair_Dates_Vrfy	Sed_Yield_to_Gully_Mouth_Vrfy
2										
Record	**Field 31**	**Field 32**	**Field 33**	**Field 34**	**Field 35**	**Field 36**	**Field 37**	**Field 38**	**Field 39**	**Field 40**
1	Sed_Yield_to_Rcvg_Reach_Vrfy	Min_Interception_Evaporation	Max_Interception_Evaporation	Detention_Coef_a	Detention_Coef_b	RCN_Convergence_Tolerance	RCN_Max_Iterations	Avbl_Soil_Moist_Ratio_AMC_II	Max_Avbl_Sed_Conc_for_Sht_Flw	Max_Avbl_Sed_Conc_for_Conc_Flw
2										
Record	**Field 41**	**Field 42**	**Field 43**	**Field 44**	**Field 45**	**Field 46**	**Field 47**	**Field 48**	**Field 49**	**Field 50**
1	AA_Unit_Area_Baseflow	RCN_Calib_Only	Calculate_Baseflow	FAO_ET_Enhancement	Basal_Crop_Coef_Climate_Adjust	Wshd_Storm_Type_ID	Dflt_Geology_ID	Dflt_Hydraulic_Geom_ID	Dflt_Init_Soil_Conditions_ID	Dflt_Crop_RCN_ID
2										
Record	**Field 51**	**Field 52**	**Field 53**	**Field 54**	**Field 55**	**Field 56**	**Field 57**	**Field 58**	**Field 59**	**Field 60**
1	Dflt_Non-Crop_RCN_ID	Width_Wells'_Eq. 8	Width_Reserved_i	Width_Reserved_j	Width_Reserved_k	Critical_Shear_Stress	RUSLE2_Flag	Dflt_RUSLE2_ID	Reach_Routing	Input_Units_Code
2										

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HYDRAULIC GEOMETRY DATA (USER DEFINED)

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	
1	Hydraulic_Geom_ID	Channel_Length_Coef	Channel_Length_Exp	Channel_Width_Coef	Channel_Width_Exp	Channel_Depth_Coef	Channel_Depth_Exp	Valley_Width_Coef	Valley_Width_Exp	
2										

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IMPOUNDMENT DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Impoundment_ID	Infiltration	Seepage	Permanent_Pool_Depth	Volume_Coef	Volume_Exp	Discharge_Coef	Discharge_Exp	Sed_Clean_Out_Depth	Sed_Clean_Out_Year
2										
Record	**Field 11**	**Field 12**								
1	Reach_ID	Input_Units_Code								
2										

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IRRIGATION APPLICATION DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Application_ID	Season_End_Month	Season_End_Day	Season_End_Year	Method_Code	Cycle_Duration	Amount_Lost	Application_Rate	Tailwater_Recovery	Depletion_Lower_Limit
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	
1	Application_Amount	Area_Fraction	Interval_Number	Interval_Days	Chemical_Multiple	Sediment_Rate	Depletion_Upper_Limit	Input_Units_Code	Water_Source	
2										

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MANAGEMENT FIELD DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Field_ID	Landuse_Type_ID	Mgmt_Schd_ID	Greg_Yr_for_1st_Yr_of_Rotation	Percent_Rock_Cover	Interrill_Erosion_Code	Random_Roughness	Terrace_Horizontal_Distance	Terrace_Grade	Tile_Drain_ID
2										
Record	**Field 11**									
1	Input_Units_Code									
2										

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MANAGEMENT OPERATION DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Mgmt_Operation_ID	Effect_Code_01	Effect_Code_02	Effect_Code_03	Effect_Code_04	Effect_Code_05	Residue_Cover_Remaining	Residue_Weight_Remaining	Area_Disturbed	Initial_Random_Roughness
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	
1	Final_Random_Roughness	Operation_Tillage_Depth	Added_Surface_Residue	Surface_Decomp	Subsurface_Decomp	Surface_Residue_30%	Surface_Residue_60%	Surface_Residue_90%	Input_Units_Code	
2										

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MANAGEMENT SCHEDULE DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Mgmt_Schd_ID	Event_Month	Event_Day	Event_Year	Contour_ID	New_Crop_ID	Strip_Crop_ID	New_Non-Crop_ID	Curve_Number_ID	Post_Event_Mannings_n
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Post_Event_Surface_Constant	Operation_Residue_Change	Fertilizer_Application_ID	Irrigation_Application_ID	Mgmt_Operation_ID	Tile_Drain_Controlled_Status	Tile_Drain_Controlled_Depth	Input_Units_Code	Pest_App_ID_1	Pest_App_ID_2
2										
Record	**Field 21**	**Field 22**	**Field 23**							
1	Pest_App_ID_3	Pest_App_ID_4	Pest_App_ID_5							
2										

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MODFLOW DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Modflow_ID	Steady_State_Days								
2										

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NON-CROP DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Non-Crop_ID	Non-Crop_Description	Annual_Root_Mass	Annual_Cover_Ratio	Annual_Rain_Fall_Height	Surface_Cover_Residue	USLE_C-Fctr	Basal_Crop_Coef_Mid	Growing_Season_Start_Month	Growing_Season_Start_Day
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**						
1	Growing_Season_End_Month	Growing_Season_End_Day	Basal_Crop_Coef_Climate_Adjust	Input_Units_Code						
2										

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OUTPUT OPTIONS DATA – GLOBAL

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Glbl_All_V3_csv	Glbl_All_V3_dpp	Glbl_All_V3_npt	Glbl_All_V3_sim	Glbl_All_V3_txt	Log_to_File	Log_to_Screen	Warning_File	V1/2_Output_Files	Reserved
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Glbl_All_Cells	Glbl_All_Feedlots	Glbl_All_Fld_Ponds	Glbl_All_Gullies	Glbl_All_Pt_Srcs	Glbl_All_Reaches	Glbl_All_Impound	Reserved	Glbl_All_AA_Nutr	Glbl_All_AA_Pest
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**	**Field 29**	**Field 30**
1	Reserved	Reserved	Glbl_All_AA_Sed	Glbl_All_AA_Wtr	Glbl_All_EV_Nutr	Glbl_All_EV_Pest	Glbl_All_EV_Sed	Glbl_All_EV_Wtr	Reserved	Reserved
2										
Record	**Field 31**	**Field 32**	**Field 33**	**Field 34**	**Field 35**	**Field 36**	**Field 37**	**Field 38**	**Field 39**	**Field 40**
1	Glbl_All_V2/3_Mass	Glbl_All_V2/3_Ratio	Glbl_All_V2/3_UA	Reserved	V2_Concepts	Reserved	V2_AA	V2_EV	V1_AA	V1_EV
2										

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OUTPUT OPTIONS DATA – AA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	AA_Feedlots_Mass	AA_Feedlots_Ratio	AA_Feedlots_UA	AA_Fld_Ponds_Mass	AA_Fld_Ponds_Ratio	AA_Fld_Ponds_UA	AA_Gullies_Erosion	AA_Gullies_Sediment (Reserved)	AA_Gullies_Nutrients (Reserved)	AA_N_Ld_Mass
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	AA_N_Ld_Ratio	AA_N_Ld_UA	AA_N_Yld_Mass	AA_N_Yld_Ratio	AA_N_Yld_UA	AA_OC_Ld_Mass	AA_OC_Ld_Ratio	AA_OC_Ld_UA	AA_OC_Yld_Mass	AA_OC_Yld_Ratio
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**	**Field 29**	**Field 30**
1	AA_OC_Yld_UA	AA_Pest_Ld_Mass	AA_Pest_Ld_Ratio	AA_Pest_Ld_UA	AA_Pest_Yld_Mass	AA_Pest_Yld_Ratio	AA_Pest_Yld_UA	AA_P_Ld_Mass	AA_P_Ld_Ratio	AA_P_Ld_UA
2										
Record	**Field 31**	**Field 32**	**Field 33**	**Field 34**	**Field 35**	**Field 36**	**Field 37**	**Field 38**	**Field 39**	**Field 40**
1	AA_P_Yld_Mass	AA_P_Yld_Ratio	AA_P_Yld_UA	AA_Pt_Src_Mass	AA_Pt_Src_Ratio	AA_Pt_Src_UA	AA_Sed_Eros_Mass	AA_Sed_Eros_Ratio	AA_Sed_Eros_UA	AA_Sed_Ld_Mass
2										
Record	**Field 41**	**Field 42**	**Field 43**	**Field 44**	**Field 45**	**Field 46**	**Field 47**	**Field 48**	**Field 49**	**Field 50**
1	AA_Sed_Ld_Ratio	AA_Sed_Ld_UA	AA_Sed_Yld_Mass	AA_Sed_Yld_Ratio	AA_Sed_Yld_UA	AA_Wtr_Ld_Mass	AA_Wtr_Ld_Ratio	AA_Wtr_Ld_UA	AA_Wtr_Yld_Mass	AA_Wtr_Yld_Ratio
2										
Record	**Field 51**									
1	AA_Wtr_Yld_UA									
2										

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OUTPUT OPTIONS DATA – CSV

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	All_Evt_Lds_Cell_to_DS_Rchs	All_AA	All_Events	All_N	All_OC	All_Pesticides	All_P	All_Sediment	All_Water	AA_N_Ld_Cel_to_DS_Rchs
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	AA_N_Ld_in_Rchs	AA_N_Yld_Cel_to_Rcv_Rch	AA_OC_Ld_Cel_to_DS_Rchs	AA_OC_Ld_in_Rchs	AA_OC_Yld_Cel_to_Rcv_Rch	AA_Pest_Ld_Cel_to_DS_Rchs	AA_Pest_Ld_in_Rchs	AA_Pest_Yld_Cel_to_Rcv_Rch	AA_P_Ld_Cel_to_DS_Rchs	AA_P_Ld_in_Rchs
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**	**Field 29**	**Field 30**
1	AA_P_Yld_Cel_to_Rcv_Rch	AA_BB_Eros_in_Rch	AA_BB_Ld_in_DS_Rchs	AA_Eros_in_Cels	AA_Gly_Yld_Cel_to_Rcv_Rch	AA_LS_Eros_in_Cels	AA_LS_Ld_Cels_to_DS_Rchs	AA_LS_Ld_in_DS_Rchs	AA_LS_Yld_Cel_to_Rcv_Rch	AA_Rill_Eros_in_Cels
2										
Record	**Field 31**	**Field 32**	**Field 33**	**Field 34**	**Field 35**	**Field 36**	**Field 37**	**Field 38**	**Field 39**	**Field 40**
1	AA_SR_Yld_Cel_to_Rcv_Rch	AA_Wtr_Ld_Cel_to_DS_Rchs	AA_Wtr_Ld_in_DS_Rchs	AA_Wtr_Yld_Cel_to_Rcv_Rch	N_Evt_Ld_Cel_to_DS_Rchs	N_Evt_Ld_in_Rchs	N_Evt_Yld_Cel_to_Rcv_Rch	OC_Evt_Ld_Cel_to_DS_Rchs	OC_Evt_Ld_in_Rchs	OC_Evt_Yld_Cel_to_Rcv_Rch
2										
Record	**Field 41**	**Field 42**	**Field 43**	**Field 44**	**Field 45**	**Field 46**	**Field 47**	**Field 48**	**Field 49**	**Field 50**
1	Pest_Evt_Ld_Cel_to_DS_Rchs	Pest_Evt_Ld_in_Rchs	Pest_Evt_Yld_Cel_to_Rcv_Rch	P_Evt_Ld_Cel_to_DS_Rchs	P_Evt_Ld_in_Rchs	P_Evt_Yld_Cel_to_Rcv_Rch	Sed_Evt_BB_Eros_in_Rch	Sed_Evt_BB_Ld_in_DS_Rchs	Sed_Evt_Gly_Eros_in_Cels	Sed_Evt_Gly_Yld_Cel_to_Rcv_Rch
2										
Record	**Field 51**	**Field 52**	**Field 53**	**Field 54**	**Field 55**	**Field 56**	**Field 57**	**Field 58**	**Field 59**	**Field 60**
1	Sed_Evt_LS_Eros_in_Cels	Sed_Evt_LS_Ld_Cel_to_DS_Rchs	Sed_Evt_LS_Ld_in_Rchs	Sed_Evt_LS_Yld_Cel_to_Rcv_Rch	Sed_Evt_SR_Eros_in_Cels	Sed_Evt_SR_Yld_Cel_to_Rcv_Rch	Wtr_Evt_Ld_Cel_to_DS_Rchs	Wtr_Evt_Ld_in_DS_Rchs	Wtr_Evt_Pk_Disch_in_DS_Rch	Wtr_Evt_Yld_Cel_to_Rcv_Rch
2										
Record	**Field 61**									
1	Wtr_Evt_Baseflow									
2										

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OUTPUT OPTIONS DATA – DPP

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Acc_Setup	Cell_Initial	Cell_TOC	Crp_Grwth	Data_Prep_Pointers	Weather	Opr_Rotation	Pest_Metabolite	Process_Flag	Quadrature
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Hydraulic_Geom	Rch_Routing	Rch_TOC	RUSLE_C_Fctr	RUSLE_C_Fctr_SC	Canopy_Cover	Crp_Residue	Dead_Roots	PreProc_C_Fctr	Dom_Contour
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**	**Field 29**	**Field 30**
1	EI_Pcts	RUSLE_Grwth_Days	RUSLE_Init_Loc_Oprs	RUSLE_K_Fctr	RUSLE_LS_Fctr	RUSLE_Non-crp_C_Fctr	RUSLE_Num_SLyr_SRes	RUSLE_P_Fctr	RUSLE_P_Fctr_Cntrs	RUSLE_P_Fctr_Strp
2										
Record	**Field 31**	**Field 32**	**Field 33**	**Field 34**	**Field 35**	**Field 36**	**Field 37**	**Field 38**	**Field 39**	**Field 40**
1	RUSLE_P_Fctr_Strp_Rot	RUSLE_Prior_LU	RUSLE_Res_Coef	RUSLE_Seg_Res	RUSLE_Setup_Prd_Seg	RUSLE_Soil_Moisture	RUSLE_Surf_Cover	RUSLE_Surf_Rough	RUSLE_Unique_Res	Sed_Part_Distrib
2										
Record	**Field 41**	**Field 42**	**Field 43**	**Field 44**	**Field 45**	**Field 46**				
1	Seg_EI_Prcp	Setup_Seg	Soil_Comp_Surf	Soil_Comp_Lyrs	Storm_Types	Climate_Daily_Wthr				
2										

Go to Data Section Description | Go to Table of Contents

OUTPUT OPTIONS DATA – EV

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	EV_Feedlots_Mass	EV_Feedlots_Ratio	EV_Feedlots_UA	EV_Fld_Ponds_Mass	EV_Fld_Ponds_Ratio	EV_Fld_Ponds_UA	EV_Gullies_Mass	EV_Gullies_Ratio	EV_Gullies_UA	EV_N_Ld_Mass
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	EV_N_Ld_Ratio	EV_N_Ld_UA	EV_N_Yld_Mass	EV_N_Yld_Ratio	EV_N_Yld_UA	EV_OC_Ld_Mass	EV_OC_Ld_Ratio	EV_ OC_Ld_UA	EV_ OC_Yld_Mass	EV_ OC_Yld_Ratio
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**	**Field 29**	**Field 30**
1	EV_ OC_Yld_UA	EV_ Pest_Ld_Mass	EV_ Pest_Ld_Ratio	EV_ Pest_Ld_UA	EV_ Pest_Yld_Mass	EV_ Pest_Yld_Ratio	EV_ Pest_Yld_UA	EV_P_Ld_Mass	EV_P_Ld_Ratio	EV_P_Ld_UA
2										
Record	**Field 31**	**Field 32**	**Field 33**	**Field 34**	**Field 35**	**Field 36**	**Field 37**	**Field 38**	**Field 39**	**Field 40**
1	EV_P_Yld_Mass	EV_P_Yld_Ratio	EV_P_Yld_UA	EV_Pt_Src_Mass	EV_Pt_Src_Ratio	EV_Pt_Src_UA	EV_Sed_Eros_Mass	EV_Sed_Eros_Ratio	EV_Sed_Eros_UA	EV_Sed_Ld_Mass
2										
Record	**Field 41**	**Field 42**	**Field 43**	**Field 44**	**Field 45**	**Field 46**	**Field 47**	**Field 48**	**Field 49**	**Field 50**
1	EV_Sed_Ld_Ratio	EV_Sed_Ld_UA	EV_Sed_Yld_Mass	EV_Sed_Yld_Ratio	EV_Sed_Yld_UA	EV_Wtr_Ld_Mass	EV_Wtr_Ld_Ratio	EV_Wtr_Ld_UA	EV_Wtr_Yld_Mass	EV_Wtr_Yld_Ratio
2										
Record	**Field 51**	**Field 52**	**Field 53**	**Field 54**						
1	EV_Wtr_Yld_UA	LS_Rnof_All_Srcs	LS_Yld_All_Srcs	EV_Gullies_Erosion						
2										

Go to Data Section Description | Go to Table of Contents

OUTPUT OPTIONS DATA – NPT

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	AnnAGNPS_ID	Cell	Climate_Station	Contour	Crop	Feedlot	Fertilizer	Mgmt_Seq	Field_Pond	Glbl_Output_Opts
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Gully	Hydraulic_Geom	Impoundment	Irrigation	Landuse_Ref	Reserved	Output_Options	Pesticide	Point_Source	Reach
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**	**Field 29**	**Field 30**
1	Runoff_Curve_Num	Simulation_Period	Soil_Actual_Surface	Strip_Crop	Tile_Drain	Mgmt_Field	Mgmt_Sched	Mgmt_Opr	Soil_Actual_Layers	Aquaculture_Pond
2										
Record	**Field 31**	**Field 32**	**Field 33**	**Field 34**	**Field 35**	**Field 36**				
1	Aquaculture_Pond_Mgmt_Schd_A	Glbl_Err/Wrn	Soil_Init_Cond	Pest_Init_Cond	Wetland	Riparian_Buffers				
2										

Go to Data Section Description | Go to Table of Contents

OUTPUT OPTIONS DATA – SIM

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Cell_Components	Conversion_Units	Sht/Rill_Eros_Sed_Yld	Feedlots	Insitu_N_Inorg	Insitu_N_Org	Insitu_Residue	Insitu_OC	Insitu_P_Inorg	Insitu_P_Org
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Insitu_Soil_Moist_Daily	Irrigation	Pesticide_App	Pesticide_Insitu	Gully	Reach_Acc_Mass	Reach_Acc_Ratio	LS_Yld_All_Srcs	Reach_Ld_Nutr	Reach_Ld_Pest
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**	**Field 29**	**Field 30**
1	Reach_Ld_Sed	Reach_Ld_Wtr	Impound_Routing_A	Reach_Routing_Nutr	Reach_Routing_Pst	Reach_Routing	Reach_Routing_Wtr	Runoff_Curve_Num	Schd_Oprs	Soil_Part_Distrib
2										
Record	**Field 31**	**Field 32**	**Field 33**	**Field 34**	**Field 35**	**Field 36**	**Field 37**	**Field 38**	**Field 39**	**Field 40**
1	Pond_Release/Yield	Winter_Thermal	Winter_Summary	USLE_Params	Baseflow	Insitu_Soil_Moist_Wshd_Sum	Wetland_Effects	Pot_ET_Adjust	LS_Rnof_All_Srcs	Riparian_Buffers
2										

Go to Data Section Description | Go to Table of Contents

OUTPUT OPTIONS DATA – TBL

Record	Field 1	Field 2	Field 3	Field 4	Field 5					
1	CCHE1D	CONCEPTS_XML	Gaging_Station_Hyd	REMM	Gaging_Station_Evt					
2										

Go to Data Section Description | Go to Table of Contents

OUTPUT OPTIONS DATA – MIN/MAX (LIMITS)

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Min_Evt_Date	Max_Evt_Date	Max_Number_Evts	Min_Rnof_Evt	Min_Rnof_Cell	Min_Rnof_Outlet	Min_Subarea_ID	Max_Subarea_ID	Subarea_Units_Positn	Max_Vrfy_File_Access
2										
Record	**Field 11**	**Field 12**								
1	Max_Vrfy_File_Bytes	Input_Units_Code								
2										

Go to Data Section Description | Go to Table of Contents

OUTPUT OPTIONS DATA - CELL

Record	Field 1									
1	Cell_ID									
2										

Go to Data Section Description | Go to Table of Contents

OUTPUT OPTIONS DATA – FEEDLOT

Record	Field 1									
1	Feedlot_ID									
2										

Go to Data Section Description | Go to Table of Contents

OUTPUT OPTIONS DATA – FIELD POND

Record	Field 1									
1	Field_Pond_ID									
2										

Go to Data Section Description | Go to Table of Contents

OUTPUT OPTIONS DATA – GULLY, CLASSIC

Record	Field 1									
1	Classic_Gully_ID									
2										
Go to Data Section Description						Go to Table of Contents				

OUTPUT OPTIONS DATA – GULLY, EPHEMERAL

Record	Field 1									
1	Ephemeral_Gully_ID									
2										
Go to Data Section Description						Go to Table of Contents				

OUTPUT OPTIONS DATA – IMPOUNDMENT

Record	Field 1									
1	Impoundment_ID									
2										
Go to Data Section Description						Go to Table of Contents				

OUTPUT OPTIONS DATA – POINT SOURCE

Record	Field 1									
1	Point_Source_ID									
2										
Go to Data Section Description						Go to Table of Contents				

OUTPUT OPTIONS DATA – REACH

Record	Field 1									
1	Reach_ID									
2										
Go to Data Section Description						Go to Table of Contents				

OUTPUT OPTIONS DATA – WETLAND

Record	Field 1									
1	Wetland_ID									
2										
Go to Data Section Description						Go to Table of Contents				

PESTICIDE APPLICATION DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8		
1	Application_ID	Reference_ID	Application_Rate	Depth	Mixing_Code	Foliage_Fraction	Soil_Fraction	Input_Units_Code		
2										
Go to Data Section Description						Go to Table of Contents				

PESTICIDE INITIAL CONDITIONS DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5					
1	Initial_Pesticide_ID	Crop_Initial_Amount_1	Crop_Initial_Amount_2	Non-Crop_Initial_Amount_1	Non-Crop_Initial_Amount_2					
2										

Go to Data Section Description | Go to Table of Contents

PESTICIDE REFERENCE DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	
1	Pesticide_Reference_ID	Solubility	Partition	Soil_Half-life	Foliage_Half-life	Washoff	Metabolite_ID	Metabolite_Transformation	Reach_Half-life	
2										

Go to Data Section Description | Go to Table of Contents

PL CALIBRATION DATA:

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	OC_All_Sources	OC_Sheet_and_Rill	OC_Feedlot	OC_Point_Source	OC_Gully	OC_Pond	OC_Irrigation	N_All_Sources	N_Sheet_and_Rill	N_Feedlot
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	N_Point_Source	N_Gully	N_Pond	N_Irrigation	P_All_Sources	P_Sheet_and_Rill	P_Feedlot	P_Point_Source	P_Gully	P_Pond
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**		
1	P_Irrigation	Sediment_All_Sources	Sediment_Sheet_and_Rill	Sediment_Feedlot	Sediment_Point_Source	Sediment_Gully	Sediment_Pond	Sediment_Irrigation		
2										

Go to Data Section Description | Go to Table of Contents

POINT SOURCE DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Point_Source_ID	Cell_ID	Point_Flow	Point_N	Point_P	Point_OC	OC_Calib_Fctr	N_Calib_Fctr	P_Calib_Fctr	Erosion_Calib_Fctr
2										
Record	**Field 11**									
1	Input_Units_Code									
2										

Go to Data Section Description Go to Table of Contents

RCN CALIBRATION DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	
1	RCN_Calib_ID	Target_AA_Direct_Runoff_Load	Prev_Estimate_for_Water_Load	RCN_Retention_Fctr	Reach_ID_Site	Reach_Ratio	Avbl_Soil_Moist_AMC_II	Target_AA_Total_Streamflow	Input_Units_Code	
2										

Go to Data Section Description Go to Table of Contents

REACH DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Reach_ID	Receiving_Reach	Vegetation_Code	Elevation	Slope	Mannings_n	Infiltration_Rate	Hydraulic_Geom_ID	Length	Top_Width
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Flow_Depth	Valley_Width	Valley_Mannings_n	Start_Diversion	Stop_Diversion	Travel_Time	Clay_Scour_Code	Silt_Scour_Code	Sand_Scour_Code	Small_Agg_Scour_Code
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**	**Field 25**	**Field 26**	**Field 27**	**Field 28**		
1	Large_Agg_Scour_Code	Valley_Clay_Scour_Code	Valley_Silt_Scour_Code	Valley_Sand_Scour_Code	Valley_Small_Agg_Scour_Code	Valley_Large_Agg_Scour_Code	Delivery_Ratio	Input_Units_Code		
2										

Go to Data Section Description Go to Table of Contents

REACH NUTRIENT HALF-LIFE

Record	Field 1	Field 2	Field 3							
1	N_Half-life	P_Half-life	OC_Half-life							
2										

Go to Data Section Description Go to Table of Contents

RICEWQ DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	RiceWQ_ID	Cell_ID	Pesticide_Reference_ID	Intersected_Area	Suspended_Sediment_Concentration	Organic_Carbon_Partition_Coef	Treated_Area_Filename	RiceWQ_Loadings_Filename	Carbon_to_Clay_Ratio	
2										

Go to Data Section Description Go to Table of Contents

RIPARIAN BUFFER DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Buffer_ID	Location_ID	Vegetative_Type	Buffer_Slope	Max_Trap_Efficiency	Eff_Buffer_Width	Eff_Conc_Flow_Width	Drainage_Area_to_Buffer	Buffer_Location_Code	Actual_Trap_Efficiency_Clay
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Actual_Trap_Efficiency_Silt	Actual_Trap_Efficiency_Sand	Actual_Trap_Efficiency_Sm_Agg	Actual_Trap_Efficiency_Lg_Agg	Fraction_Trapped_Clay	Fraction_Trapped_Silt	Fraction_Trapped_Sand	Fraction_Trapped_Sm_Agg	Fraction_Trapped_Lg_Agg	Input_Units_Code
2										

Go to Data Section Description Go to Table of Contents

RUNOFF CURVE NUMBER DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5					
1	Curve_Number_ID	CN_A	CN_B	CN_C	CN_D					
2										

Go to Data Section Description Go to Table of Contents

RUSLE2 DATA

Record	Field 1	Field 2	Field 3							
1	RUSLE2_ID	RUSLE2_Database	"RUSLE2_Erosion_Flag"							
2										

Go to Data Section Description Go to Table of Contents

SIMULATION PERIOD DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Simulation_Begin_Month	Simulation_Begin_Day	Simulation_Begin_Year	Simulation_End_Month	Simulation_End_Day	Simulation_End_Year	Rainfall_Fctr	10-Year_EI	EI_Number	Irrigation_Climate_Code
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**			
1	Soil_Moisture_Steps	Annual_K_Fctr_Code	Variable_K_Fctr_Code	Number_Init_Years	Init_Method_Code	Winter_Bouts	Input_Units_Code			
2										

Go to Data Section Description | Go to Table of Contents

SOIL DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Soil_ID	Hydrologic_Soil_Group	K_Factor	Albedo	Time_to_Consolidation	Impervious_Depth	Specific_Gravity	Initial_Soil_Conditions_ID	Soil_Name	Soil_Texture
2										
Record	**Field 11**	**Field 12**								
1	Number_of_Soil_Layers	Input_Units_Code								
2										

Go to Data Section Description | Go to Table of Contents

SOIL INITIAL CONDITIONS DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Initial_Soil_Conditions_ID	Landuse_Type_ID (Currently not used)	Inorganic_N_1	Inorganic_N_2	Inorganic_P_1	Inorganic_P_2	Soil_Moisture_1	Soil_Moisture_2	Organic_Matter_1	Organic_Matter_2
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Organic_N_1	Organic_N_2	Organic_P_1	Organic_P_2	Surface_Residue	Mannings_n	Snow_Depth	Snow_Density	Surface_Constant	Input_Units_Code
2										

Go to Data Section Description | Go to Table of Contents

SOIL LAYER DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Soil_ID	Layer_Number	Layer_Depth	Bulk_Density	Clay_Ratio	Silt_Ratio	Sand_Ratio	Rock_Ratio	Very_Fine_Sand_Ratio	CaCO3_Content
2										

Record	Field 11	Field 12	Field 13	Field 14	Field 15	Field 16	Field 17	Field 18	Field 19	Field 20
1	Saturated_Conductivity	Field_Capacity	Wilting_Point	Volcanic_Code	Base_Saturation	Unstable_Aggregate_Ratio	pH	Organic_Matter_Ratio	Organic_N_Ratio	Inorganic_N_Ratio
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**						
1	Organic_P_Ratio	Inorganic_P_Ratio	Soil_Structure_Code	Input_Units_Code						
2										

Go to Data Section Description | Go to Table of Contents

STRIP CROP DATA

Record	Field 1	Field 2	Field 3							
1	Strip_Crop_ID	P_Factor	Delivery_Ratio							
2										

Go to Data Section Description | Go to Table of Contents

TILE DRAIN DATA

Record	Field 1	Field 2	Field 3	Field 4						
1	Tile_Drain_ID	Drain_Rate	Invert_Depth	Input_Units_Code						
2										

Go to Data Section Description | Go to Table of Contents

WATERSHED DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5					
1	Wshd_Name	Wshd_Description	Wshd_Location	Latitude	Longitude					
2										

Go to Data Section Description | Go to Table of Contents

WETLAND DATA

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Wetland_ID	Reach_ID	Wetland_Area	Initial_Water_Depth	Min_Water_Depth	Max_Water_Depth	Water_Temperature	Potential_Daily_Infiltration	Weir_Coef	Weir_Width
2										

Record	Field 11	Field 12	Field 13	Field 14	Field 15	Field 16	Field 17			
1	Weir_Height	Soluble_N_Conc	Nitrate-N_Loss_Rate	Nitrate-N_Loss_Rate_Coef	Temperature_Coef	Weir_Exp	Input_Units_Code			
2										

Go to Data Section Description | Go to Table of Contents

Daily Climate Data

The daily climate data is in a separate file from other input for AnnAGNPS. The climate data can either be inputted as fixed-formatted data as specified in the fixed-formatted version of the input specifications document or as csv-formatted data according to the tables below.

There are two possible climate related csv files; 1.) climate station csv file, 2.) daily climate data csv file. The filenames of the primary climate files are user-defined and placed in the csv master list file where AnnAGNPS will read the filenames and open the files for input. The required data section name for identification in the csv master list file for the climate station information is "Climate Data - Station". The required data section name for identification in the csv master list file for the daily climate data information is "Climate Data - Daily".

Primary climate data is required for AnnAGNPS, therefore, if primary climate data is in csv-format then both station and daily csv input files are required in the AnnAGNPS csv master list. If climate data is not specified in the csv master list file then fixed-formatted climate data is assumed according to the fixed-formatted version of the input specifications document

Secondary climate files are optional. If secondary climate files are to be included, they must be in the same format as the primary climate file whether fixed-formatted or csv-formatted. Secondary filenames are not included in the csv master list file. Rather, they are internally defined within AnnAGNPS based on the primary climate filename. See the "Daily Climate input file" section of the document called "AnnAGNPS User's Guide for Input Files & Formats" for more information.

All data must be complete and have continuous daily record. Data can be from an actual weather station, a combination of weather stations, synthetically generated data, or a composite of weather stations & synthetically generated data. Note: Longitude, latitude, & wind direction are expressed in decimal degree units—not degrees & minutes for units.

CLIMATE STATION INFORMATION

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-24
The following record does not repeat.						
Climate Input Version ID — Unique alphanumeric string identifying the climate file's input version number	**"Version"**		**6.00**	A10	2	1
Climate Input Units code — Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	**"Input_Units_Code"**		Blank, 0 or 1	I1	2	2
Climate File Name — Alphanumeric string describing the climate station name and description.	**"Climate_Station_Name"**			A130	2	3
Climate Begin Date—Beginning month, day, & year for the weather data. Year can be specified as calendar years (e.g., 1960) or as simulation year which must be year 1. If blank, the date of the first daily record will be used.	**"Beginning_Climate_Date"**	mm/dd/yyyy	Blank, or mm—1 to 12 dd—1 to 31 yyyy—1 to 9999	A10	2	4
Climate End Date—Ending month, day, & year for the weather data. Year can be specified as calendar years (e.g., 1960) or as simulation year which must be the total number of years for the simulation. If blank, the date of the last daily record will be used.	**"Ending_Climate_Date"**	mm/dd/yyyy	Blank, or mm—1 to 12 dd—1 to 31 yyyy—1 to 9999	A10	2	5
Station Latitude—Representative climate station latitude. Latitude is expressed as "+" for North and "-" for South.	**"Latitude"**	^{O}lat	-90. to 90.	F10	2	6
Station Longitude—Representative climate station longitude. Longitude is expressed as "+" for East and "-" for West.	**"Longitude"**	^{O}long	-180. to 180.	F10	2	7
Station Elevation—Representative climate station elevation.	**"Elevation"**	{ft} [m]	{-3280.8 to 32808.3} [-1000.0 to 10000.0]	F10	2	8
Adiabatic Air Temperature Lapse Rate—Air temperature change with respect to representative climate station elevation. Default is a decrease of 2°F for every 1000 ft increase in elevation (-0.002 °F/ft.).	**"Temperature_Lapse_Rate"**	{°F / ft} [^{o}C / m]	Blank or {-0.002 to 0.002} [-0.0032 to 0.0032]	F10	2	9

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Precipitation Nitrogen—Nitrogen concentration in precipitation. Blank defaults to 0.0.	**"Precipitation_N"**	1 g-N / 1 Mg-precip (ppm)	Blank or 0.0 to 1.0	F10	2	10
Global Storm Type ID—Storm type ID which will be used for all storms designated by this climate file except where seasonal or daily IDs are given. Acceptable IDs are: (1) blank which defaults to the Watershed Storm Type code designated in the watershed data input file's GLOBAL IDS, FACTORS, AND FLAGS DATA section; (2) any of the preset storm type IDs; or (3) any new storm type IDs given in the STORM TYPE DATA input file. Preset IDs are: (1) Std. SCS Type I; (2) Std. SCS Type Ia; (3) Std. SCS Type II; (4) Std. SCS Type III; (5) Std. Uniform; (6) Std. SCS NM60; (7) Std. SCS NM65; (8) Std. SCS NM70; & (9) Std. SCS NM75. New storm type IDs require user input for the rainfall distribution.	**"Global_Storm_Type_ID"**		Blank, preset IDs for SCS synthetic storm types, or user-defined IDs for user requested input. Blank defaults to the watershed storm type as given by its code in the GLOBAL IDS, FACTORS, AND FLAGS DATA section	A100	2	11
Elevation Difference (1)—1st elevation with respect to representative climate station elevation for rainfall correction relationship. Paired with 1st spatial rainfall factor. Default is no change from representative station rainfall. Blank may be entered if no variation of precipitation with elevation is desired. If blank, then Elevation Rain Factor (1), Elevation Difference (2), and Elevation Rain Factor (2) must also be blank.	**"1st_Elevation_Difference"**	{feet} [m]	Blank, or {-1500.0 to 30000.0} [-500.0 to 10000.0	F10	2	12
Elevation Rain Factor (1)—1st average annual rainfall factor with respect to representative climate station precipitation for rainfall correction relationship. Paired with 1st spatial rainfall elevation. Blank may be entered if no variation of precipitation with elevation is desired. If blank, then Elevation Difference (1), Elevation Difference (2), and Elevation Rain Factor (2) must also be blank.	**"1st_Elevation_Rain_Factor"**	Depth-annual precip at 1st elev/ depth-annual precip at station (dimension less)	Blank, or 0.00001 to 10.0	F10	2	13
Elevation Difference (2)—2nd elevation with respect to representative climate station elevation for rainfall correction relationship. Paired with 2nd spatial rainfall factor. Blank may be entered if no variation of precipitation with elevation is desired. If blank, then Elevation Difference (1), Elevation Rain Factor (1), and Elevation Rain Factor (2) must also be blank.	**"2nd_Elevation_Difference"**	{feet} [m]	Blank, or {-1500.0 to 30000.0} [-500.0 to 10000.0	F10	2	14
Elevation Rain Factor (2)—2nd average annual rainfall factor with respect to representative climate station precipitation for rainfall correction relationship. Paired with 2nd spatial rainfall elevation. Blank may be entered if no variation of precipitation with elevation is desired. If blank, then Elevation Difference (1), Elevation Rain Factor (1), and Elevation Difference (2) must also be blank.	**"2nd_Elevation_Rain_Factor"**	Depth-annual precip at 2nd elev/ depth-annual precip at station (dimension less)	Blank, or 0.00001 to 10.0	F10	2	15
2 Yr 24 Hr Precipitation—Maximum 24 hour precipitation that is expected during a two year period	**"2_Yr_24_hr_Precipitation"**	{in} [mm]	{0.04 to 12.0} [1.0 to 305.0]	F10	2	16

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Rainfall Calibration or Areal Correction Coefficient—when used as an areal correction, then this field is an exponential curve coefficient used to correct point rainfall to average rainfall over the climate station (units must be consistent within the power curve): $correction = 1 - \left\{ coef \bullet \left[1 - e^{-(\exp \bullet D_a)} \right] \right\}$ where: correction = areal rainfall correction factor [decimal] coef = rainfall areal correction coefficient exp = rainfall areal correction exponent D_a = drainage area of climate station [ac or ha]. A blank defaults to 1. If this field is blank, then the **Areal Rainfall Correction Coefficient** field must also be blank. If the **Areal Rainfall Correction Coefficient** field is blank, this field is used as a rainfall calibration factor. Tip—TP40, fig.15 suggests that a close fit for a 24-hour storm's areal correction coefficient would be 0.092 where D_a can be in either acres or hectares.	**"Calibration_or_Areal_Correction_Coefficient"**		Blank or if rainfall calibration, then > 0 if areal correction, then 0 < coef < 0.02	F10	2	17
Areal Rainfall Correction Exponent—only used as an areal correction exponential curve exponent to correct point rainfall to average rainfall over the climate station : $correction = 1 - \left\{ coef \bullet \left[1 - e^{-(\exp \bullet D_a)} \right] \right\}$ where: correction = areal rainfall correction factor [decimal] coef = rainfall areal correction coefficient exp = rainfall areal correction exponent D_a = drainage area of climate station [ac or ha]. A blank defaults to 0. If the **Areal Rainfall Correction Coefficient** field is blank, then this field must also be blank. Tip—TP40, fig.15 suggests that a corresponduing exponent to the TP40 areal correction coefficient of 0.092 is 0.000023 when Da is acres and 0.000057 when D_a is in hectares. The difference between T(40 and this exponential formula is less than ± 0.6 %.	**"Calibration_or_Areal_Correction_Exponent"**		Blank or {0.0 to 1.} [0.0 to 1.]	F10	2	18
Minimum interception evaporation—Minimum evaporation associated with the interception for each precipitation event. Blank defaults to 1.000mm.	**"Minimum_Interception_Evaporation"**	{in} [mm]	Blank or {0 to 0.25} [0 to 6.350]	F10	2	19
Maximum interception evaporation—Maximum evaporation associated with the interception for each precipitation event. Blank defaults to 2.500mm.	**"Maximum_Interception_Evaporation"**	{in} [mm]	Blank or {0 to 0.25} [0 to 6.350]	F10	2	20
Winter Season Storm Type ID—Storm type ID which will be used for all storms designated by this climate file during the winter months (22 Dec – 20 Mar) except where daily IDs are given. Acceptable IDs are: (1) blank which defaults to the Watershed Storm Type code designated in the watershed data input file's SIMULATION PERIOD DATA section; (2) any of the preset storm type IDs; or (3) any new storm type IDs given in the storm type input file.. Preset IDs are: (1) Std. SCS Type I; (2) Std. SCS Type Ia; (3) Std. SCS Type II; (4) Std. SCS Type III; (5) Std. Uniform; (6) Std. SCS NM60; (7) Std. SCS NM65; (8) Std. SCS NM70; & (9) Std. SCS NM75. New storm type IDs require user input for the rainfall distribution.	**"Winter_Storm_Type_ID"**		Blank, preset IDs for SCS synthetic storm types, or user-defined IDs requiring additional input. Blank defaults to the global storm type.	A100	2	21

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Spring Season Storm Type ID—Storm type ID which will be used for all storms designated by this climate file during the spring months (21 Mar – 21 June) except where daily IDs are given. Acceptable IDs are: (1) blank which defaults to the Watershed Storm Type code designated in the watershed data input file's SIMULATION PERIOD DATA section; (2) any of the preset storm type IDs; or (3) any new storm type IDs given in the storm type input file.. Preset IDs are: (1) Std. SCS Type I; (2) Std. SCS Type Ia; (3) Std. SCS Type II; (4) Std. SCS Type III; (5) Std. Uniform; (6) Std. SCS NM60; (7) Std. SCS NM65; (8) Std. SCS NM70; & (9) Std. SCS NM75. New storm type IDs require user input for the rainfall distribution.	"Spring_Storm_Type_ID"		Blank, preset IDs for SCS synthetic storm types, or user-defined IDs requiring additional input. Blank defaults to the global storm type.	A100	2	22
Summer Season Storm Type ID—Storm type ID which will be used for all storms designated by this climate file during the summer months (22 Jun – 21 Sep) except where daily IDs are given. Acceptable IDs are: (1) blank which defaults to the Watershed Storm Type code designated in the watershed data input file's SIMULATION PERIOD DATA section; (2) any of the preset storm type IDs; or (3) any new storm type IDs given in the storm type input file.. Preset IDs are: (1) Std. SCS Type I; (2) Std. SCS Type Ia; (3) Std. SCS Type II; (4) Std. SCS Type III; (5) Std. Uniform; (6) Std. SCS NM60; (7) Std. SCS NM65; (8) Std. SCS NM70; & (9) Std. SCS NM75. New storm type IDs require user input for the rainfall distribution.	"Summer_Storm_Type_ID"		Blank, preset IDs for SCS synthetic storm types, or user-defined IDs requiring additional input. Blank defaults to the global storm type.	A100	2	23
Autumn Season Storm Type ID— Storm type ID which will be used for all storms designated by this climate file during the autumn months (22 Sep – 21 Dec) except where daily IDs are given. Acceptable IDs are: (1) blank which defaults to the Watershed Storm Type code designated in the watershed data input file's SIMULATION PERIOD DATA section; (2) any of the preset storm type IDs; or (3) any new storm type IDs given in the storm type input file.. Preset IDs are: (1) Std. SCS Type I; (2) Std. SCS Type Ia; (3) Std. SCS Type II; (4) Std. SCS Type III; (5) Std. Uniform; (6) Std. SCS NM60; (7) Std. SCS NM65; (8) Std. SCS NM70; & (9) Std. SCS NM75.. New storm type IDs require user input for the rainfall distribution.	"Autumn_Storm_Type_ID"		Blank, preset IDs for SCS synthetic storm types, or user-defined IDs requiring additional input. Blank defaults to the global storm type.	A100	2	24
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DAILY CLIMATE INFORMATION

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-16
The following line is repeated for each day of the climate record.						
Daily Weather Date—Month, day, & year according to the Gregorian calendar for the weather data for the day specified. Years can be specified as calendar years (e.g., 1960) or as simulation years which must begin with year 1.	"Month", "Day", "Year"	mm dd yyyy	mm—1 to 12 dd—1 to 31 yyyy—1 to 9999	A2, A2, A4	2	1-3
Daily Max Temperature—Maximum air temperature for the day specified.	"Max_Air_Temperature"	{^{O}F} [^{o}C]	{-100.0 to 150.0} [-75.0 to 65.0]	F10	2	4
Daily Min Temperature—Minimum air temperature for the day specified.	"Min_Air_Temperature"	{^{O}F} [^{o}C]	{-100.0 to 150.0} [-75.0 to 65.0]	F10	2	5
Daily Precipitation—Total precipitation for the day specified.	"Precip"	{in} [mm]	{0.0 to 30.0} [0.0 to 750.]	F10	2	6
Daily Dew Point Temperature—24-hour average dew point temperature for the day specified.	"Dew_Point"	{^{O}F} [^{o}C]	{-100.0 to 150.0} [-75.0 to 65.0]	F10	2	7

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Daily Sky Cover—24-hour average total opaque sky cover for the day specified. If blank, then its corresponding daily solar radiation at ground level must be given.	"Sky_Cover"	%	Blank, 0.0 to 100.0	F10	2	8
Daily Wind Speed—24-hour average wind speed for the day specified.	"Wind_Speed"	{mph} [m / sec]	{0.0 to 200.0} [0.0 to 90.0]	F10	2	9
Daily Wind Direction—24-hour average wind direction for the day specified. Measured clockwise degrees from north.	"Wind_Direction"	Decimal °	0.0 to 360.0	F10	2	10
Daily Solar Radiation at Ground Level—solar radiation at ground surface. Optional input for sky cover. If sky cover is blank, then this field will be used to calculate sky cover. Based on ASCE (1996).	"Solar_Radiation"	{BTU/hr/ft^2} [J/sec/m^2]	{0.0 to 433.34} [0.0 to 1367]	F10	2	11
Daily Storm Type ID—Storm ID for this day indicating one of the preset synthetic or user-requested storm type IDs to use with pre-calculated solutions using extended TR-55: Acceptable IDs are: blank which defaults to seasonal storm type. Preset IDs are: (1) Std. SCS Type I; (2) Std. SCS Type Ia; (3) Std. SCS Type I I; (4) Std. SCS Type III; (5) Std. Uniform; (6 Std. SCS NM60; (7) Std. SCS NM 65; (8) Std. SCS NM 70; & (9) Std. SCS NM75. Other IDs require user input for both the rainfall distribution & unit peak discharge regression coefficients.	"Storm_Type_ID"		Blank, preset IDs for SCS synthetic storm types, or user-defined IDs for user requested input. Blank defaults to seasonal storm types.	A100	2	12
Potential ET—User supplied potential ET value for the current day. If blank, the potential ET will be calculated internally.	"Potential_ET"	{in} [mm]	Blank, or {0.0 to 30.0} [0.0 to 750.]	F10	2	13
Actual ET—User supplied actual ET value for the current day. If blank, the actual ET will be calculated internally.	"Actual_ET"	{in} [mm]	Blank, or {0.0 to 30.0} [0.0 to 750.]	F10	2	14
Actual EI—User supplied actual EI value for the current day. If blank, the EI will be calculated internally.	"Actual_EI"	{(100 ft-ton-in) / (ac-hr)} [MJ-mm/ha-hr]	Blank, or {0.0 to 1175.0} [0.0 to 20000.]	F10	2	15
Climate Input Units code — Code identifying whether input is in English or SI units. 0 = English ,1 = SI (Blank defaults to the input units code in the AnnAGNPS ID data section)	"Input_Units_Code"		Blank, 0 or 1	I1	2	16

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CLIMATE INPUT FILE LAYOUT MATRIX – STATION

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Version	Input_Units_Code	Climate_Station_Description	Beginning_Climate_Date	Ending_Climate_Date	Latitude	Longitude	Elevation	Temperature_Lapse_Rate	Precipitation_N
2	6.00									
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20**
1	Global_Storm_Type_ID	1st_Elevation_Difference	1st_Elevation_Rain_Factor	2nd_Elevation_Difference	2nd_Elevation_Rain_Factor	2_Yr_24_hr_Precipitation	Calibration_or_Areal_Correction_Coefficient	Calibration_or_Areal_Correction_Exponent	Minimum_Interception_Evaporation	Maximum_Interception_Evaporation
2										
Record	**Field 21**	**Field 22**	**Field 23**	**Field 24**						
1	Winter_Storm_Type_ID	Spring_Storm_Type_ID	Summer_Storm_Type_ID	Autumn_Storm_Type_ID						
2										

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CLIMATE INPUT FILE LAYOUT MATRIX – DAILY

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	Month	Day	Year	Max_Air_Temperature	Min_Air_Temperature	Precip	Dew_Point	Sky_Cover	Wind_Speed	Wind_Direction
2										
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 15**				
1	Solar_Radiation	Storm_Type_ID	Potential_ET	Actual_ET	Actual_EI	Input_Units_Code				
2										

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Storm Type Data

Storm type data is an optional input into AnnAGNPS. The storm type data can either be inputted as fixed-formatted data as specified in the fixed-formatted version of the input specifications document or as csv-formatted data according to the tables below.

There are two possible storm type related csv files; 1.) Rainfall distribution csv file (RFD), 2.) Unit peak discharge regression coefficients csv file (UPDRC). The filenames are user-defined and placed in the master list file where AnnAGNPS will read the filenames and open the files for input. Although storm type data is optional, if the UPDRC is present in the AnnAGNPS master list then the RFD file is required.

Data can be from an actual storm patterns, a combination of patterns, synthetically generated patterns, or a composite of actual patterns & synthetically generated data.

RAINFALL DISTRIBUTION

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-243
The following record repeats for the number of rainfall distribution records.						
Storm Type File Input Version ID — Unique alphanumeric string identifying the storm type file's input version number	**"Version"**		6.00	A10	2	1
StormType ID — Unique storm type ID.	**"Storm_Type_ID"**			A20	2	2
Accumulative Rainfall Amount—Monotonically increasing accumulative rainfall amount expressed as the ratio of rainfall at time t_i to the total 24-hr rainfall in 0.1 hour increments.	**"0.0", "0.1", "0.2", "0.3", … "24.0"**	(mm-t_i) / (mm-t_{24})	0.0 – 1.0	F10	2	3-243
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UNIT PEAK DISCHARGE REGRESSION COEFFICIENTS

Description	Field Header for Record #1	Units {English} [SI]	Domain {English} [SI]	Format	Record No.	Field No.
Field Header— Required unique field header for each field listed below.				A	1	1-121
The following record repeats for the number of unit peak discharge records.						
StormType ID — Unique storm type ID. Must match a "StormType ID" in the "Rainfall Distribution" table; otherwise, the record will be ignored.	**"Storm_Type_ID"**			A20	2	1
Regression Coefficients—the six (6) regression coefficients, a-f, for the rational polynominal: qup = {a+[c*tc]+[e*(tc**2)]}/{1+[b*tc]+[d*(tc**2)]+[f*(tc**3)]} Where Ia/P_{24} which indicates the initial abstraction/24-hr rainfall ratio for the following fields from 0.00 to 0.95 in 0.05 increments.	**"a@0.00", "b@0.00", "c@0.00", "d@0.00", "e@0.00", "f@0.00", "a@0.05", "b@0.05", "c@0.05", "d@0.05", "e@0.05", "f@0.05", . . . "a@0.95", "b@0.95", "c@0.95", "d@0.95", "e@0.95", "f@0.95"**	-	-∞ to +∞	E15	2	2-121
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STORM TYPE INPUT FILE LAYOUT MATRIX – RAINFALL DISTRIBUTION

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	**Version**	**Storm_Type_ID**	**0.0**	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**
2	**6.00**		amount at $t_{0.0}$=0.0	amount at t=0.1	amount at t=0.2	amount at t=0.3	amount at t=0.4	amount at t=0.5	amount at t=0.6	amount at t=0.7
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20-243**
1	**0.8**	**0.9**	**1.0**	**1.1**	**1.2**	**1.3**	**1.4**	**1.5**	**1.6**	**1.7 – 24.0**
2	amount at t=0.8	amount at t=0.9	amount at t=1.0	amount at t=1.1	amount at t=1.2	amount at t=1.3	amount at t=1.4	amount at t=1.5	amount at t=1.6	amount at t=1.7 – 24.0

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STORM TYPE INPUT FILE LAYOUT MATRIX – UNIT PEAK DISCHARGE REGRESSION COEFFICIENTS

Record	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
1	**Storm_Type_ID**	**a@0.00**	**b@0.00**	**c@0.00**	**d@0.00**	**e@0.00**	**f@0.00**	**a@0.05**	**b@0.05**	**c@0.05**
2		Coefficient “a” for Ia/P=0.00	Coefficient “b” for Ia/P=0.00	Coefficient “c” for Ia/P=0.00	Coefficient “d” for Ia/P=0.00	Coefficient “e” for Ia/P=0.00	Coefficient “f” for Ia/P=0.00	Coefficient “a” for Ia/P=0.05	Coefficient “b” for Ia/P=0.05	Coefficient “c” for Ia/P=0.05
Record	**Field 11**	**Field 12**	**Field 13**	**Field 14**	**Field 15**	**Field 16**	**Field 17**	**Field 18**	**Field 19**	**Field 20-121**
1	**d@0.05**	**e@0.05**	**f@0.05**	**a@0.10**	**b@0.10**	**c@0.10**	**d@0.10**	**e@0.10**	**f@0.10**	**a@0.15 – f@0.95**
2	Coefficient “d” for Ia/P=0.05	Coefficient “e” for Ia/P=0.05	Coefficient “f” for Ia/P=0.05	Coefficient “a” for Ia/P=0.10	Coefficient “b” for Ia/P=0.10	Coefficient “c” for Ia/P=0.10	Coefficient “d” for Ia/P=0.10	Coefficient “e” for Ia/P=0.10	Coefficient “f” for Ia/P=0.10	Coefficient “a” for Ia/P=0.15 - Coefficient “f” for Ia/P=0.95

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Appendix A: Output Files

Versions 1 & 2 Output-Related Options

Although the original four output-related data sections (five counting the "out-of-pocket" CONCEPTS output file request in the Watershed Data section) will remain within AnnAGNPS for an indefinite time; no further coding support will be provided for them. In fact, if any part of the output options feature is activated by input, AnnAGNPS will ignore entirely any of the versions 1 & 2 output-related data sections during execution. In short, if the "Output Options Data:" section(s) is activated, only the logic associated with the new output options will be used during execution.

The older versions of the output-related sections were very difficult to use and the various verification output data were all forced into the same file which made them almost unusable except when only an individual verification file was requested; and they did not always activate as indicated by the Editor.

Output File Structure

All current & future output will be under positive control of the user through Output Options Data section(s) and, therefore, will be accessible through the Editor or other software products.

Output files are typically categorized by type. The output filenames produced by AnnAGNPS have characters embedded that indicate the type of output contained in the file. The different types are "AA"- average annual, "CSV" - database, "DPP" - data preprocessing, "EV" - event, "NPT" - input, "SIM" - simulation, and "TBL" - tables. Output files are largely written in a fixed format. All extensions used are fixed format output files with the exception of ".csv" extensions. These are csv-formatted output files.

All output will be under user control according to typical AnnAGNPS global & local true (T), false (F), or blank fields.

DATABASE, TEXT, & VERIFICATION FILES

All output files are ASCII formatted. Some are meant to be used with database managers and use a standard comma separated variable format (*.csv). Others are heavily formatted with column headings, page & line counters and are meant to be viewed and interpreted using a text editor. Some are meant for the program coders and scientist to verify and analysis internal calculations for purposes of verification & validation (*.dpp, *.npt, & *.sim). Some of the output restrictions have certain rules and all have defaults.

The user will be able to restrict loadings—water, sediment, nutrients, & pesticides—in the verification and formatted text files. Further restrictions will be allowed to reduce the cell/reach(s) included in these output files. This will be done by allowing the user to explicitly indicate which: (1) reaches, in addition to the "outlet", will be included as a reference location for sediment tracking; (2) cells will be included, but the default will be all cells; (3) subareas will be included for those cell/reach IDs that are all numeric such as created by TopAGNPS'; (4) event outputs will be included by specifying a minimum/maximum dates that the event must fall within to be included in the event output; and (5) the minimum event runoff at the outlet before this particular event is included in any event output.

REACH RULES

The reach default is for only the outlet to be included in the output files. If additional reaches are indicated, they will be in included along with the outlet which will always be included.

CELL RULES

The cell default is for all cells to be included in the output files. To select specific cells, first set the global flag to false and then select the desired cells for output.

SUBAREA RULES

The subarea default is for all subareas to be included in the formatted & verification output files. The subarea restriction is by a minimum & maximum integer subarea ID. Any integer subarea IDs that are included within the minimum to maximum integer number, and any non-numeric IDs, will be included in the output files. A further detail is that for integer cell/reach IDs within any included subarea only, the subarea output can be restricted to include only source cells, left bank cells, right bank cells, or reaches. That is, the subarea output can be restricted to eliminate integer subareas outside of the min/max integer specification and, unless the default is left active, all cells & reaches within the specified integer subareas not specifically requested.

MINIMUM/MAXIMUM EVENT DATE RULES

The minimum/maximum event date default is for all events between the entire simulation period.

MINIMUM EVENT RUNOFF RULES

The minimum event runoff default is ¼ inch at the outlet.

DATABASE (*.CSV) FILES

Standard-formatted database (*.csv) files will contain complete input and all output-generated event-related erosion, yield, & instream loading cell/reach data because the database manager(s) used will have their own macros to perform arithmetical operations, extract, & produce hard copies for reports and subsidiary files that will be used with other software such as ArcView.

TEXT (*.TXT) FILES

Text (*.txt) files are designed tables that have been hard-coded in Fortran with fixed formats that show column & row headings & dimension units associated with the output statistics. These files contain output of interest to the normal, non-model development user who is performing the analyses. They are designed to be easily read and viewed by text editors and/or MSWORD.

VERIFICATION (*.DPP, *.NPT, & *.SIM) FILES

Verification files (*.dpp, *.npt, & *.sim) are designed to be used by scientists and programmers to verify & validation the model. These files may also be used to calibrate the input.

Not all processes are available to verify the simulation output yet and the ease of reading any particular currently available verification file varies depending upon the effort of the original coder and any modifications subsequently made. The specific format within any one verification file may change as needs require.

Output File Names & Indices

The file names follow a formal, consistent convention to ensure a logical listing order in their directory. Every output file from AnnAGNPS begins with the “AnnAGNPS” and followed by their type of output grouping—database, formatted, input, preparation, & simulation. The extensions indicate their function. The “*.csv” files are designed to be used as standard database files that can be read by most database managers. All other extensions are for user-friendly, hard copy, output tables that are to be read by text. The verification files are designed to be used by the more experienced users (usually program developers—scientists and/or programmers) to analyze internal calculations. These files can also be used to calibrate input.