**Imiq Database Documentation**

Data Dictionary, DAILY Stored Procedures and Queries

University of Alaska Fairbanks, Internatioal Arctic Research Center

**Abstract**

This document contains the data dictionary for the Imiq database. It also contains the stored procedures and queries that were used to create the DAILY data values air temperature (2m), precipitation, snow depth, snow water equivalent, relative humidity and discharge.

Data Dictionary 4

Imiq Table and Field Structure. 4

ISOMetadata 4

Sources 5

Organizations 6

OrganizationDescriptions 6

Processing (Optional) 7

Sites 8

Attributes (Optional) 10

SiteAttributes (Optional) 10

Incidents (Optional) 10

Categories (Optional) 12

Variables 12

Devices 13

Methods 14

QualityControlLevels (Optional) 14

OffsetTypes (Optional) 15

Datastreams 15

Qualifiers (Optional) 16

DerivedFrom (Optional) 17

Groups (Optional) 17

GroupDescription (Optional) 17

DataValues 18

RasterDataValues 19

DataValuesRaw 20

ImiqVersion 20

Figure 1 Imiq database schema 21

Figure 2 Imiq process flow diagram 22

Figure 3: Imiq process flow diagram (con’t) 23

Daily Data Value Stored Procedures and Queries 24

Daily Air Temperature (2m) 24

Daily Air Temperature (2m) Stored Procedure 24

Daily Air Temperature (2m) Insert Query 37

Air Temperature Variables used to determine Daily Air Temperature (2m) 48

Daily Precipitation 49

Daily Precipitation Stored Procedure 49

Daily Precipitation Insert Query 59

Precipitation variables used to create Daily Precipitation 69

Daily Wind Speed 70

Daily Wind Speed Stored Procedure 70

Daily Wind Speed Insert 78

Wind Speed Variables used to determine Daily Wind Speed 85

Daily Snow Depth 86

Daily Snow Depth Stored Procedure 86

Daily Snow Depth Insert 92

Snow Depth Variables used to Determine Daily Snow Depth 98

Daily Snow Water Equivalent 99

Daily Snow Water Equivalent Stored Procedure 99

Daily Snow Water Equivalent Insert 103

Snow Water Equivalent Variables used to create Daily Snow Water Equivalent 106

Daily Relative Humidity (2m) 107

Daily Relative Humidity (2m) Stored Procedure 107

Daily Relative Humidity (2m) Insert 113

Relative Humidity Variables used to create Daily Relative Humidity (2m) 124

Daily Discharge 125

Daily Discharge Stored Procedure 125

Daily Discharge Insert 132

Discharge Variables used to created Daily Discharge 139

YEARLY SQL queries 140

Query to insert data values into ‘YEARLY\_PeakSnowDepth\_Avg’ table 140

Query to insert data values into ‘YEARLY\_PeakSWE\_Avg’ table 141

Query to insert data values into ‘YEARLY\_AvgWinterRHs ’ table 142

Query to insert data values into ‘YEARLY\_SummerRHs\_Avg ‘ table 142

Query to insert data values into ‘YEARLY\_WinterRHs\_Avg’ table 142

Query to insert data into `ANNUAL\_PeakMayJuneDischargeDataValues` table 143

IMIQ Database Design Specifications

# Data Dictionary

## Imiq Table and Field Structure.

The following is a description of the tables, data types and data of the Imiq. Examples are given of the information stored in each field, constraints imposed on each field, and the origin of each field (CUAHSI, UAF-IARC, Berkeley-Sensor). In some cases fields originating from one database are stored in a table originating from another database -- "Berkeley Sensor / CUAHSI" means that the table is from Berkeley sensor, but the field was originally associated with the CUAHSI ODM database. Tables are organized by the order in which they should be added to the database. Controlled vocabulary tables are not included. For more information on the controlled vocabulary tables, see the "CUAHSI Community Observation Data Model Design (ODM) Version 1.1 Design Specifications" (Tarboton et al 2008).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ISOMetadata | This table lists project level metadata for partial compliance with the draft ISO 19115 standards. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| MetadataID | integer | Primary key. Unique integer identifier. | "23" | mandatory, primary key | CUAHSI |
| TopicCategory | nvarchar(255) | Describes a broad topic category for data that is populated by the TopicCategoryCV lookup table. | "biota", "inlandWaters", "climatology/meteorology/atmosphere" | mandatory, foreign key | CUAHSI |
| Title | nvarchar(255) | Title of project -- the title should be somewhat descriptive and include limited information about location and variables measured. | "Climate monitoring in the Kuparuk River Basin" | mandatory | CUAHSI |
| Abstract | nvarchar(MAX) | Abstract for a specific data source. This abstract should be related to the TopicCategory selected in the previous field. |  | mandatory | CUAHSI |
| ProfileVersion | nvarchar(255) | The profile version of metadata. | "ISOXXX" | mandatory | CUAHSI |
| MetadataLink | nvarchar(500) | Additional metadata provided by the data source can be linked here. | "http…" | optional | CUAHSI |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sources | Source information for the Sites that are populating the database. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| SourceID | integer | Primary key. Unique integer identifier. | "149" | mandatory, primary key | CUAHSI |
| Organization | nvarchar(255) | Name of the organization that collected or published the data. | BLM and UAF\_WERC | mandatory | CUAHSI |
| SourceDescription | nvarchar(MAX) | A more detailed description of where the data was actually obtained and/or is currently stored. For example, data were obtained from a scanned report (see citation link) and are now stored in a csv file on Xxxx XXXX's computer in documents/sources/Xxxx/Xxxxx/Xxxxx.csv." | "http…" or "frost.ine.uaf.edu/documents…" | mandatory | CUAHSI |
| SourceRole | nvarchar(50) | Notes whether the source is the 'originator', 'publisher' or both. |  | mandatory | UAF-IARC |
| SourceLink | nvarchar(500) | Link that can be pointed at the original data file, associated metadata, and/or project website. | "http…" | optional | CUAHSI |
| ContactName | nvarchar(255) | Name of contact for information about data. | "Jane Doe" | mandatory | CUAHSI |
| Phone | nvarchar(255) | Phone number of contact. | xxx-xxx-xxxx | mandatory | CUAHSI |
| Email | nvarchar(255) | Email address of contact. | [xxxxx@xxx.xxx](mailto:xxxxx@xxx.xxx) | mandatory | CUAHSI |
| Address | nvarchar(255) | Street address of contact. | 456 Xxxxxx St. | mandatory | CUAHSI |
| City | nvarchar(255) | City associated with contact person's mailing address. | Fairbanks | mandatory | CUAHSI |
| State | nvarchar(255) | State/territory associated with contact person's mailing address. | AK | mandatory | CUAHSI |
| ZipCode | nvarchar(255) | Zip code associated with contact's mailing address. | 99709 | mandatory | CUAHSI |
| Citation | nvarchar(MAX) | Citation to be used when the data from this source is used. When available, journal citations should be used. Published dataset example: Y. Xxxxx, Z. Rrrrrrr, and M. Nnnnnn. Surface water and fisheries data collected between 2002 and 2006 at Xxxxx. Hyperlink. (year and date of retrieval). Published article example: Y. Xxxxx, Z. Rrrrrrr, and M. Nnnnnn. 2009. Vulnerability of XXX to climate change. Water Resources Research. 92(9): 172-187. |  | mandatory | CUAHSI |
| MetadataID | integer | Integer identifier that references the record in the ISOMetadata table. | 23 | mandatory, foreign key | CUAHSI |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Organizations | Data source that is associated with multiple organizations. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| OrganizationID | integer | Integer identifier that references a record in the OrganizationDescriptions table. | 60 | mandatory, foreign key | UAF-IARC |
| SourceID | integer | Integer identifier that references the record in the Sources table. | 142 | mandatory, foreign key | UAF-IARC |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| OrganizationDescriptions | Organizations, which are associated with Sources. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| OrganizationID | integer | Primary key. Unique integer identifier. | 60 | mandatory, Primary key | UAF-IARC |
| OrganizationCode | nvarchar(50) | Organization code used by organization that collects the data. | “USGS” | mandatory | UAF-IARC |
| OrganizationDescription | nvarchar(max) | Full text description of the organization. | “U.S. Geological Survey” | mandatory | UAF-IARC |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Processing (Optional) | The Processing table lists Qa/Qc that was done to the Sources, ISOMetadata and Sites tables. It also lists any known data restrictions, priority of data entry and processing needs that need to be done. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| ProcessingID | integer | Primary key. Unique integer identifier. |  | mandatory, primary key | UAF-IARC |
| SourceID | integer | Integer identifier that references a record in the Sources table. |  | Optional, foreign key | UAF-IARC |
| SiteID | Integer | Integer identifier that references a record in the Sites table. |  | Optional, foreign key | UAF-IARC |
| MetadataID | integer | Integer identifier that references a record in the ISOMetadata table. |  | Optional, foreign key | UAF-IARC |
| DataRestrictions | nvarchar(255) | Any known restrictions on data | “na”, “no” | optional | UAF-IARC |
| DataPriority | integer | Priority level for data entry | “High priority”, “Low priority” | optional | UAF-IARC |
| ProcessingNeeds | nvarchar(MAX) | Things that need to be done before data are entered into the database. | enter data from field 27 field notebooks | optional | UAF-IARC |
| QaQcPerson | nvarchar(255) | Name of database team member who has performed the QaQc on a Sources, ISOMetadata or Sites record. |  | optional | UAF-IARC |
| QaQcComments | nvarchar(MAX) | The QA/QC comments | “QaQc at level A”,  "Metadata was verified by the Xxxx Xxxx, position, affillitation on 5May 2011 via email. A record of this email can be found on…."  “Fifty percent of the data values entered (hand-typed) from the report were randomly selected and qa/qc'd. Two out of 100 data values had to be corrected. These data were checked again and no additional errors were found. The other half of the data values were QA/QC'd and no additional errors were found. All variable information for this datastream was verified.” | optional | UAF-IARC |
| QaQcDate | nvarchar(50) | Date that QaQc was performed. |  | optional | UAF-IARC |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sites | Site information that describes where the data values were sampled. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| SiteID | integer | Primary key. Unique integer identifier. | 2460 | mandatory, primary key | CUAHSI |
| SiteCode | nvarchar(50) | Unique text code for site. | "UAFWERC\_BettyPingoMet", "UAFWERC\_BettyPingo\_SnowSurvey" | mandatory | CUAHSI |
| SiteName | nvarchar(255) | Site name used by organization that collects data. | “USK1” | optional, | CUAHSI |
| SpatialCharacteristics | nvarchar(50) | Indicates whether site is a point, polygon, linestring. | “point”, “polygon” | mandatory | SciScope |
| SourceID | integer | Integer identifier that references the record in the Sources table. | 149 | mandatory, foreign key | CUAHSI |
| VerticalDatum | nvarchar(255) | Vertical datum of the elevation. Use Controlled Vocabulary. | “NAVD88”, “Unknown” | optional, foreign key | CUAHSI |
| LocalProjectionID | integer | Integer identifier that references a record in the SpatialReferences table. For this implementation, all local coordinates should be converted to WGS84, so that the spatial capabilities of SQL Server 2008 R2 can be utilized. | NULL | optional | CUAHSI |
| PosAccuracy\_m | float | Positional accuracy of coordinates in meters. | 30 | optional | CUAHSI |
| State | nvarchar(255) | State/territory where site is located. | “AK”, “Yukon” | optional | CUAHSI |
| County | nvarchar(255) | County /country where site is located. | “North Slope Borough”, “Canada” | optional | CUAHSI |
| Comments | nvarchar(MAX) | Any additional site comments that are not related to the location of the site. | "GPS location was recorded while flying over site", "coordinates were inferred from Google Maps". | optional | CUAHSI |
| LatLongDatumID | integer | Foreign key references SpatialReferenceID in SpatialReferences table. To enable spatial calculations, all datum should be WGS84 (the code for this is 3). | 3 (WGS84) | mandatory, foreign key | CUAHSI |
| GeoLocation | nvarchar(MAX) | Coordinates and elevation given in a specific format for points and polygons. Latitude and Longitude should be in decimal degrees. Elevation is in meters. Point locations are stored as "Point (long lat elevation)". | POINT(-141.78956 69.12345 312),  POLYGON (-146.34425083697045 69.688296227508985, -146.34308827446938 69.688355477509049,...) | optional | SciScope |
| LocationDescription | nvarchar(MAX) | Description of location from publication or project web site. | "Station is on east bank of XX Rver. Surrounding vegetation consists of…." | optional | UAF-IARC |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attributes (Optional) | Lookup table, used with the SiteAttributes table, of attributes for a Site. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| AttributeID | integer | Primary key. Unique integer identifier. | 1 | mandatory,  primary key | UAF-IARC |
| AttributeName | nvarchar(255) | The name of the attribute. | “Water Type”, “Citation”, “References” | mandatory | UAF-IARC |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SiteAttributes (Optional) | Lists site attributes values that are non-numeric. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| SiteID | integer | Integer identifier that references a record in the Sites table. |  | mandatory,  foreign key | UAF-IARC |
| AttributeID | integer | Integer identifier that references a record in the Attributes table. | 1 | mandatory,  foreign key | UAF-IARC |
| AttributeValue | nvarchar(255) | The non-numeric data value | "Lake", "Stream" | mandatory | UAF-IARC |
| AttributeComment | nvarchar(MAX) | Attribute comment. |  | optional | UAF-IARC |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Incidents (Optional) | Lists natural or anthropogenic incidents, that may have affected a site, data values or an instruments ability to collect data. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| IncidentID | integer | Primary key. Unique integer identifier. |  | mandatory, primary key | UAF-IARC |
| SiteID | integer | Integer identifier that references a record in the Sites table. |  | optional | UAF-IARC |
| DatastreamID | integer | Integer identifier that references a record in the Datastreams table. |  | optional | UAF-IARC |
| StartTime | Datetime | When incident started -- note this does not refer to the measurement start time. | 4/3/2011 | optional | UAF-IARC |
| StartPrecision | nvarchar(255) | Precision of the recorded incident start time. | "sometime after 4/3/2011" | optional | UAF-IARC |
| EndTime | Datetime | When incident ended. | 9/30/2011 | optional | UAF-IARC |
| EndPrecision | nvarchar(255) | Precision of the recorded incident end time. | "one day" | optional | UAF-IARC |
| Type | nvarchar(255) | Type of incident that affected data collection or values. | "animal attack", "sensor malfunction", "programming error", etc | mandatory | UAF-IARC |
| Description | nvarchar(MAX) | Detailed description of what happened (or what state equipment was found in" and what measurements may have been affected | "Found met station tripod and sensors on ground on 9/30/2011, soil sensors were intact, air temperature sensor was on ground…" OR "Data logger malfunctioned…" | optional | UAF-IARC |
| ReportedBy | nvarchar(96) | Person who reported incident. | "Jane Doe" | optional | UAF-IARC |
| Comments | nvarchar(MAX) | Additional comments on incident. |  | optional | UAF-IARC |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Categories (Optional) | The Categories table defines the non-numeric data values for categorical variables. Records are required for Variables that have a DataType specified as "Categorical." A Variable can have multiple entries, one for each possible non-numeric data value. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| CategoryID | integer | Primary key. Unique integer identifier. |  | mandatory, primary key | UAF-IARC |
| VariableID | integer | Integer identifier that references a record in the Variables table | 12 | mandatory, foreign key | CUAHSI |
| CategoryName | nvarchar(255) | Name of the category used in the data set. | “00” ,“A” | mandatory | UAF-IARC |
| CategoryDescription | nvarchar(MAX) | Description of categorical variable value. If provided, the description of the CategoryName given by the data source. | "” None, SKC or CLR”, “Abridged Beaufort, NCDC ISH” | mandatory | CUAHSI |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variables | This table provides a complete description about variables measured. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| **VariableID** | integer | Primary key. Unique integer identifier. | 42 | mandatory, primary key | CUAHSI |
| VariableCode | nvarchar(50) | Text code to identify the variable. | “USFWS\_0003” | mandatory | CUAHSI |
| VariableName | nvarchar(255) | Variable name, which is selected from the VariableNameCV table’s controlled vocabulary. | “discharge” | mandatory, foreign key | CUAHSI |
| VariableDescription | nvarchar(MAX) | Description of the variable. | discharge\_cfs\_daily\_avg\_-9999 | optional | UAF-IARC |
| Speciation | nvarchar(255) | Speciation code, which is selected from the SpeciationCV table’s controlled vocabulary. | “NO3” | mandatory, foreign key | CUAHSI |
| VariableUnitsID | integer | Measured unit, which is selected from the Units table’s controlled vocabulary. | 4 | mandatory, foreign key | CUAHSI |
| SampleMedium | nvarchar(255) | Sample medium, which is selected from the SampleMediumCV table’s controlled vocabulary. | “surface water”, “air” | mandatory, foreign key | CUAHSI |
| ValueType | nvarchar(255) | Value type, which is selected from the ValueTypeCV table’s controlled vocabulary. | "model simulation results", "field observation" | mandatory, foreign key | CUAHSI |
| IsRegular | bit | Indicates whether data are from a regularly sampled time-series (TRUE or FALSE) | "True", "False" | mandatory | CUAHSI |
| TimeSupport | float | Interval of measure. | “15” for every 15 minutes | mandatory | CUAHSI |
| TimeUnitsID | integer | Unit ID, which is selected from the Units table’s controlled vocabulary. | UnitID 104 = ‘daily’ measurement | mandatory, foreign key | CUAHSI |
| DataType | nvarchar(255) | Data type, which is selected from the DataTypeCV table’s controlled vocabulary. If the data type is categorical, then there must be at least one associated CategoricalID to the VariableID. | "average", "categorical", "continuous", "cumulative", "minimum" | mandatory, foreign key | CUAHSI |
| GeneralCategory | nvarchar(255) | General category, which is selected from the GeneralCategoryCV table’s controlled vocabulary. | "water quality", "climate" | mandatory, foreign key | CUAHSI |
| NoData value | float | Numeric value used to encode no data values for this variable. | -9999 | mandatory | CUAHSI |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Devices | This table provides a description of devices used to collect data. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| **DeviceID** | integer | Primary key. Unique integer identifier. |  | mandatory, primary key | Berkeley Sensor |
| DeviceName | nvarchar(255) | Make and model or type of device | WS2000 CRX | mandatory | Berkeley Sensor |
| SerialNumber | nvarchar(50) | Serial number associated with device | 1728360271 | optional | Berkeley Sensor |
| DateActivated | date | date sensor was activated | 3/4/2010 | optional | Berkeley Sensor |
| DateDeactivated | date | date sensor was deactivated | 3/6/2011 | optional | Berkeley Sensor |
| Comments | nvarchar(MAX) | how the device was installed, what height, etc |  | optional | Berkeley Sensor |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Methods | This table provides a description of methods used to collect data. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| **MethodID** | integer | Primary key. Unique integer identifier. | 6 | mandatory, primary key | CUAHSI |
| MethodName | nvarchar(255) | Name of method used. |  | mandatory |  |
| MethodDescription | nvarchar(MAX) | Description of method. | "turbidity was measured using a Horiba XXX…" | mandatory | CUAHSI |
| MethodLink | nvarchar(500) | Link to additional reference material on method. |  | optional | CUAHSI |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| QualityControlLevels (Optional) | This table references the quality control levels used to indicate what level of quality control data has been through and allows for versioning of the data in the database. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| **QualityControlLevelID** | integer | Primary key. Unique integer identifier. | 0, 1, 2, 3, 4, or 5 | mandatory, primary key | CUAHSI |
| QualityControlLevelCode | nvarchar(50) | Code used to identify the level of quality control to which data values have been subjected. | "raw", "qc checked", etc | mandatory, no tab line feed or carriage return characters | CUAHSI |
| Definition | nvarchar(255) | Definition of quality control level | "Raw data", "quality control level", "published data", etc. | mandatory, no tab line feed or carriage return characters | CUAHSI |
| Explanation | nvarchar(MAX) | Explanation of quality control level | "raw data has not undergone quality control" | mandatory | CUAHSI |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| OffsetTypes (Optional) | This table describes measurement offsets, including vertical and horizontal offsets. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| **OffsetTypeID** | integer | Primary key. Unique integer identifier. | 3 | mandatory, primary key | CUAHSI |
| OffsetUnitsID | integer | Units for horizontal or vertical offset, which is selected from the Units table’s controlled vocabulary. |  | mandatory, foreign key | CUAHSI |
| OffsetDescription | nvarchar(MAX) | Description of offset type. | “vertical distance above ground in meters” | mandatory | CUAHSI |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Datastreams | This table lists relevant information about a particular datastream. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| **DatastreamID** | integer | Primary key. Unique integer identifier. | 312 | mandatory, primary key | Berkeley Sensor |
| DatastreamName | nvarchar(255) | Name of the datastream. | “WindDir\_Jago\_10\_meter” | mandatory, foreign key | Berkeley Sensor |
| SiteID | integer | Integer identifier that references a record in the Sites table | 2300 | mandatory, foreign key | Berkeley Sensor / CUAHSI |
| VariableID | integer | Integer identifier that references a record in the Variables table | 57 | mandatory, foreign key | Berkeley Sensor / CUAHSI |
| FieldName | nvarchar(50) | Field name of incoming datastream. | “airtemp\_2m” | optional | Berkeley Sensor |
| DeviceID | integer | Integer identifier that references a record in the Device table | 7 | mandatory, foreign key | Berkeley Sensor |
| MethodID | integer | Integer identifier that references a record in the Methods table | 9 | mandatory, foreign key | Berkeley Sensor / CUAHSI |
| Comments | nvarchar(MAX) | Comments related to the incoming datastream. |  | optional |  |
| QualityControlLevelID | integer | Integer identifier that references a record in the QualityControlLevels table | 0 | optional, foreign key | Berkeley Sensor / CUAHSI |
| RangeMin | decimal(8, 2) | Minimum threshold value for a sensor | 0 | optional | Berkeley Sensor / CUAHSI |
| RangeMax | decimal(8, 2) | Maximum threshold value for a sensor | 360 | optional | Berkeley Sensor / CUAHSI |
| StartDate | date | Start date of a sensor. | 5/30/1998 | optional | IARC-UAF |
| EndDate | date | End date of a sensor. | 9/30/2000 | optional | IARC-UAF |
| AnnualTiming | nvarchar(255) | Annual timing of data collection. | May to Sept | optional | IARC-UAF |
| DownloadDate | date | Date that data set was acquired from a source. | 2/26/2010 | optional | IARC-UAF |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Qualifiers (Optional) | Provides additional information concerning the conditions of the weather, instrumentation, etc, that a data value was collected. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| QualifierID | integer | Primary key. Unique integer identifier. | 9 | mandatory, primary key | CUAHSI |
| QualifierCode | nvarchar(50) | Code used by organization collecting the data. | "i" | optional, no tab line feed or carriage return characters | CUAHSI |
| QualifierDescription | nvarchar(MAX) | Description of the conditions in which the data value was acquired. | "ice affected" | mandatory | CUAHSI |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| DerivedFrom (Optional) | Contains two data values, one for the derived data value and one for the data value it was derived from. If the ValueID was derived from more than one ‘DerivedFromID’, then all should be listed separately. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| DerivedFromID | integer | The ValueID of the data value that the ‘derived from’ data value is based on. | 7 | mandatory, primary key | CUAHSI |
| ValueID | integer | The ValueID of the derived data value. | 10234568 | mandatory | CUAHSI |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Groups (Optional) | Groups data values that are related to each other. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| GroupID | integer | Integer identifier that references a record in the GroupDescriptions table |  | mandatory, foreign key | CUAHSI |
| ValueID | integer | Integer identifier that references a record in the Data values, RawData values or RasterData values table |  | mandatory, foreign key | CUAHSI |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| GroupDescription (Optional) | Describes the relation of a group of data values. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| GroupID | integer | Primary key. Unique integer identifier. |  | mandatory, primary key | CUAHSI |
| GroupDescription | nvarchar(MAX) | Describes how the data values are related to each other. | "Snow survey measurements taken along a 50 meter transect near Betty Pingo, May 2011” | optional | CUAHSI |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| DataValues | Data values. If the data value is non-numeric, the data value should be NULL and the Categories table should be used. If the data value is missing, the data value should be NULL and the QualifierID should be set to a missing marker. | | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | | **Origin** |
| ValueID | integer | Primary key. Unique integer identifier. | 10265349 | mandatory, primary key | | CUAHSI |
| Data value | float | Numeric or NULL data value. The data value is NULL if it is Categorical or the data value is missing. | 6.5, NULL | optional | | CUAHSI |
| ValueAccuracy | float | Measurement accuracy of the data value. | 9.99 | optional | | CUAHSI |
| LocalDateTime | datetime | Local date and time in the following format (Month/Date/Year): 00/00/0000 0:00:00 |  | mandatory | | CUAHSI |
| UTCOffset | float | Offset in hours from UTC time for the corresponding LocalDateTime. |  | mandatory | | CUAHSI |
| QualifierID | integer | Integer identifier that references a record in the Qualifiers table |  | optional, foreign key | | CUAHSI |
| DerivedFromID | integer | Integer identifier that references a record in the DerivedFrom table |  | optional, foreign key | | CUAHSI |
| DatastreamID | integer | Integer identifier that references a record in the Datastreams table |  | mandatory, foreign key | | CUAHSI |
| CensorCode | nvarchar(50) | Indication of censoring from the CensorCodeCV controlled vocabulary. The default for this field is 'nc' (not censored). Other censor codes include codes to modify the data value, such as 'lt' for 'less than' the data value. | "lt", "gt", "nc" | optional, foreign key | | CUAHSI |
| OffsetTypeID | integer | Integer identifier that references a record in the OffsetTypes table | 2 | | optional, foreign key | Berkeley Sensor / CUAHSI |
| OffsetValue | float | A set distance from a base point that the data value was measured. | 10 | | optional | Berkeley Sensor / CUAHSI |
| CategoryID | integer | Integer identifier that references a record in the OffsetTypes table | 7 | | optional, foreign key | UAF-IARC |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| RasterDataValues | Similar to the Data values table, but used for raster and grid data. This table is not currently in use and is based on SciScope’s handling of non-point data values. Please refer to: http://research.microsoft.com/pubs/70602/tr-2008-92.pdf | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| ValueID | integer | Primary key. Unique integer identifier. |  | mandatory, primary key | SciScope / CUAHSI |
| Data value | nvarchar(MAX) | GRID(3 4 5, 6 7 8), 10: Rows separated by commas and data values separated by spaces. The cell size is specified in decimal degrees. |  | optional | SciScope / CUAHSI |
| ValueAccuracy | float | Measurement accuracy of the data value. |  | optional | SciScope / CUAHSI |
| LocalDateTime | datetime | Local date and time in the following format (Month/Date/Year): 00/00/0000 0:00:00 |  | mandatory | SciScope / CUAHSI |
| UTCOffset | float | Offset in hours from UTC time for the corresponding LocalDateTime. |  | mandatory | SciScope / CUAHSI |
| QualifierID | integer | Integer identifier that references the record in the Qualifiers table |  | optional, foreign key | SciScope / CUAHSI |
| DerivedFromID | integer | Integer identifier that references the record in the DerivedFrom table |  | optional, foreign key | SciScope / CUAHSI |
| DatastreamID | integer | Integer identifier that references the record in the Datastreams table |  | mandatory, foreign key | SciScope / CUAHSI |
| CensorCode | nvarchar(50) | Indication of censoring from the CensorCodeCV controlled vocabulary. The default for this field is 'nc' (not censored). Other censor codes include codes to modify the data value, such as 'lt' for 'less than' the data value. | "lt", "gt", "nc" | optional, foreign key | / CUAHSI |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| DataValuesRaw | Data values that are not made available to the general public. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| ValueID | integer | Primary key. Unique integer identifier. |  | mandatory, primary key | CUAHSI |
| Data value | float | Numeric or NULL data value. The data value is NULL if it is Categorical or the data value is missing. |  | optional | CUAHSI |
| ValueAccuracy | float | Measurement accuracy of the data value. |  | optional | CUAHSI |
| LocalDateTime | datetime | Local date and time in the following format (Month/Date/Year): 00/00/0000 0:00:00 |  | mandatory | CUAHSI |
| UTCOffset | float | Offset in hours from UTC time for the corresponding LocalDateTime. |  | mandatory | CUAHSI |
| QualifierID | integer | Integer identifier that references the record in the Qualifiers table |  | optional, foreign key | CUAHSI |
| DatastreamID | integer | Integer identifier that references the record in the Datastreams table |  | mandatory, foreign key | CUAHSI |

## 

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ImiqVersion | The current version of the Imiq database. | | | | |
| **Field Name** | **Data Type** | **Description** | **Example** | **Constraint** | **Origin** |
| VersionNumber | nvarchar | The current version of the Imiq database. | 1.0 | mandatory | CUAHSI |

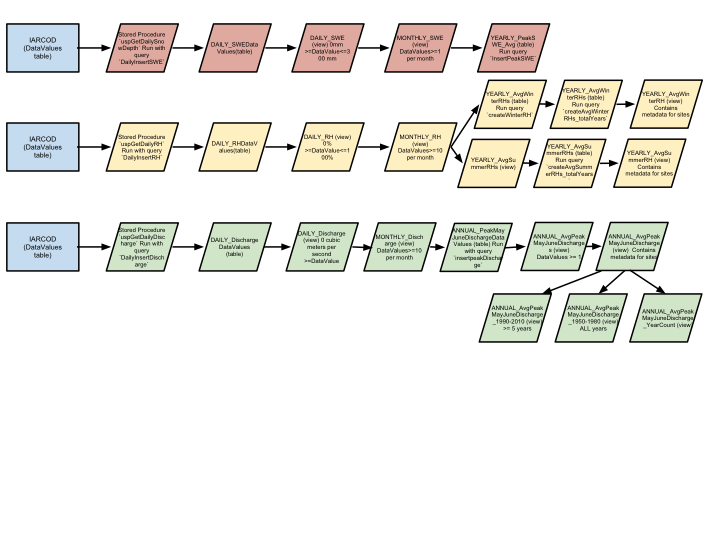
## Figure 1 Imiq database schema



## Figure Imiq process flow diagram



## Figure : Imiq process flow diagram (con’t)



# Daily Data Value Stored Procedures and Queries

The following are stored procedures and queries used to create the DAILY data values only.

## Daily Air Temperature (2m)

The daiy air temperature (2m) was created from 1m, 1.5m, 2m and 3m air temperature data values.

If the data value was a 1.5m or a 2m, both were considered to be 2m air temperature data values.

If the data value was 1m or 3m, then

* If there is both a 1m and a 3m average data value, then
  + Average data value = (3m average data value - 1m average data value)/2 + 1m average data value
* If there is a 1m average data value and no 3m average data value, then
  + Average data value = 1m average data value

If there is a MIN/MAX GHCN data value available:

* Average data value = (average maximum data value – average minimum data value ) / 2 + average minumum data value

Measurement units have been converted to Celcius; time units are daily and the timestamps to UTC.

The data values have been stored in ‘DAILY\_AirTempDatavalues ‘ table. These data values have been used to calculate monthly, seasonal and yearly data values. The data values were stored with a precision of .00

The range of data values in the VIEW ‘DAILY\_AirTemp’ for the air temperatures (2m) daily data values is:

* Data value >= -57 and Data value <= 37

### Daily Air Temperature (2m) Stored Procedure

-- =============================================

-- Author: Amy Jacobs

-- Create date: Feb 16,2012

-- Description: Create the daily air temperatures at 2m.

-- Updated: 8/2/2012

-- Updates: This stored procedure is sending the data to a temp table for the DAILY\_AirTempData values, which will be used to calculate

-- monthly, yearly data values

-- =============================================

CREATE PROCEDURE [dbo].[uspGetDailyAirTemp]

-- Add the parameters for the stored procedure here

@SiteID int, @VarID int

AS

BEGIN

-- SET NOCOUNT ON added to prevent extra result sets from

-- interfering with SELECT statements.

SET NOCOUNT ON;

DECLARE @localDateTime datetime, @maxValue float,

@minValue float, @avgValue float, @avgValue1m float, @avgValue3m float, @maxValue1m float, @maxValue3m float, @minValue1m float, @minValue3m float,

@methodID int, @qualifierID int, @variableID int;

-- NCDC GHCN. SourceID = 4

-- VariableID = 403 is TMAX

-- VariableID = 404 is TMIN

IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND VariableID=403)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT dv.LocalDateTime, dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=403;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=403;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @maxValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

SELECT @minValue = dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.DatastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=404 and dv.LocalDateTime = @localDateTime;

SELECT @avgValue = ( @maxValue - @minValue ) / 2 + @minValue;

--if the avgValue is NULL, but we have a max or a min value stored, use it

IF(@avgValue is NULL and @maxValue is not NULL)

BEGIN

SELECT @avgValue = @maxValue;

END

ELSE IF (@avgValue is NULL and @minValue is not NULL)

BEGIN

SELECT @avgValue = @minValue;

END

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @maxValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- If there is no GHCN, check for ISH

-- VariableID = 218 is ISH Average Air Temp hourly. Needs to be converted to a Daily value. SourceID = 4

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=218)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), AVG(dv.Data value)

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=218

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=218;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF/WERC: Temp/hourly/C, AST

-- VariableID = 81. Needs to be converted to a Daily value. SourceID = 29, 30, 31, 34

-- Need to make sure offset is 2m or 1.5m

-- Need to convert to UTCDateTime

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID=81 AND (OffsetValue = 2 or OffsetValue = 1.5))

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=81 and (dv.offsetvalue = 2 or dv.offsetvalue = 1.5) and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=81;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF/WERC: Temp/hourly/C, AST

-- VariableID = 81. Needs to be converted to a Daily value. SourceID = 29, 30, 31, 34

-- Need to convert 1m and 3m to 2m

-- Need to convert to UTCDateTime

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID=81 AND OffsetValue = 1)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=81 and dv.offsetvalue = 1 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=81;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue1m;

WHILE @@FETCH\_STATUS = 0

BEGIN

SELECT @avgValue3m = avg(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=81 and dv.offsetvalue = 3 and @localDateTime = CONVERT(Date,dv.DateTimeUTC) and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

SELECT @avgValue = (@avgValue3m - @avgValue1m)/2 + @avgValue1m;

-- If the 2m average temp is NULL, check and see if there is a 1m air temp and use it.

IF (@avgValue is NULL and @avgValue1m is not NULL)

BEGIN

SELECT @avgValue = @avgValue1m;

END

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue1m;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- USGS: Temp/hourly/C, AST

-- VariableID = 310. Needs to be converted to a Daily value. SourceID = 39

-- No offset value is given

-- Need to convert to UTCDateTime

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=310)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=310 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=310;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- RAWS/NPS: Temp/daily/C, UTC

-- VariableID = 432, SourceID = 114 and SourceID = 116

-- No offset value is given

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=432)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=432;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=432;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- SNOTEL Temp/daily/C, UTC

-- VariableID = 393, SourceID = 124

-- No offset value is given

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=393)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=393;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=393;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- Toolik Temp/hourly/C, AST

-- VariableID = 489 (TMIN), VariableID = 487 (TMAX), SourceID = 145

-- Need to calculate 2m AT by using 1m and 3m AT

-- Need to convert hourly to daily

-- Need to convert from AST to UTC time

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=489)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT dv.LocalDateTime, dv.Data value

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=489 and dv.offsetvalue = 1 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=489;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @minValue1m;

WHILE @@FETCH\_STATUS = 0

BEGIN

SELECT @maxValue1m = dv.Data value

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=487 and dv.offsetvalue = 1 and @localDateTime = dv.LocalDateTime and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

SELECT @avgValue1m = (@maxValue1m - @minValue1m)/2 + @minValue1m;

select @minValue3m = dv.data value

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=489 and dv.offsetvalue = 3 and @localDateTime = dv.LocalDateTime and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

select @maxValue3m = dv.data value

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=487 and dv.offsetvalue = 3 and @localDateTime = dv.LocalDateTime and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

SELECT @avgValue3m = (@maxValue3m - @minValue3m)/2 + @minValue3m;

SELECT @avgValue = (@avgValue3m - @avgValue1m)/2 + @avgValue1m;

-- if the 2m AT avg is NULL, check and see if there is a 1m AT and use that

IF (@avgValue is NULL and @avgValue1m is not NULL)

BEGIN

SELECT @avgValue = @avgValue1m;

END

ELSE IF (@avgValue1m is NULL and @maxValue1m is not NULL)

BEGIN

SELECT @avgValue = @maxValue1m;

END

ELSE IF (@avgValue1m is NULL and @minValue1m is not NULL)

BEGIN

SELECT @avgValue = @minValue1m;

END;

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @minValue1m;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- McCall Temp/daily/F, AST

-- VariableID = 195 (TMAX), VariableID = 196 (TMIN), SourceID = 178 and SourceID = 182

-- Need to convert to AVG AT

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND @VarID=195)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT dv.LocalDateTime, dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=195;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=195;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @maxValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

SELECT @minValue = dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=196 and dv.LocalDateTime = @localDateTime;

SELECT @avgValue = (@maxValue - @minValue ) / 2 + @minValue;

IF (@avgValue is NULL and @maxValue is not NULL)

BEGIN

SELECT @avgValue = @maxValue;

END

ELSE IF (@avgValue is NULL and @minValue is not NULL)

BEGIN

SELECT @avgValue = @minValue;

END

SELECT @avgValue = (@avgValue - 32) / 9 \* 5;

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @maxValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- McCall Temp/daily/C, AST

-- VariableID = 277, SourceID = 179

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=277)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT dv.LocalDateTime, dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=277;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=277;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF. Temp/C/Daily SourceID = 180

-- VariableID = 223 is TMAX

-- VariableID = 225 is TMIN

-- Need to compute average.

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND VariableID=223)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT dv.LocalDateTime, dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=223;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=223;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @maxValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

SELECT @minValue = dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.DatastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=225 and dv.LocalDateTime = @localDateTime;

SELECT @avgValue = ( @maxValue - @minValue ) / 2 + @minValue;

IF (@avgValue is NULL and @maxValue is not NULL)

BEGIN

SELECT @avgValue = @maxValue;

END

ELSE IF (@avgValue is NULL and @minValue is not NULL)

BEGIN

SELECT @avgValue = @minValue;

END

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @maxValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- Chamberlin. Temp/F/Daily SourceID = 183

-- VariableID = 295 is TMAX

-- VariableID = 296 is TMIN

-- Need to compute average.

-- Need to convert from F to C.

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND VariableID=295)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT dv.LocalDateTime, dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=295;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=295;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @maxValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

SELECT @minValue = dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.DatastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=296 and dv.LocalDateTime = @localDateTime;

SELECT @avgValue = ( @maxValue - @minValue ) / 2 + @minValue;

IF (@avgValue is NULL and @maxValue is not NULL)

BEGIN

SELECT @avgValue = @maxValue;

END

ELSE IF (@avgValue is NULL and @minValue is not NULL)

BEGIN

SELECT @avgValue = @minValue;

END

SELECT @avgValue = (@avgValue - 32) / 9 \* 5;

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @maxValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- BLM/Kemenitz. Temp/C/Daily SourceID = 199

-- VariableID = 61 AVG AT

-- Need to compute average.

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @VarID=61)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT dv.LocalDateTime, dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=61;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=61;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- BLM/Kemenitz. Temp/C/Hourly SourceID = 199

-- VariableID = 442 AVG AT

-- Need to compute daily average

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @VarID=442)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), AVG(dv.Data value)

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=442

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=442;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- BLM/Kemenitz. Temp/C/Minute SourceID = 199

-- VariableID = 504 AVG AT

-- Need to compute daily average

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @VarID=504)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), AVG(dv.Data value)

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=504

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=504;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- ARM. Temp/C/Minute SourceID = 35

-- VariableID = 519 AVG AT

-- Need to compute daily average

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID = @SiteID AND VariableID=519)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=519

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from ODMData values s

WHERE s.SiteID = @SiteID and s.VariableID=519;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- ARM. Temp/C/Minute SourceID = 203

-- VariableID = 527 AVG AT

-- Need to compute daily average

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID = @SiteID AND @VarID=527)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@VarID

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from ODMData values s

WHERE s.SiteID = @SiteID and s.VariableID=@VarID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- ARM. Temp/C/Second SourceID = 203

-- VariableID = 538 AVG AT

-- Need to compute daily average

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID = @SiteID AND @VarID=538)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@VarID

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from ODMData values s

WHERE s.SiteID = @SiteID and s.VariableID=@VarID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- LPeters. Temp/F/Hourly SourceID = 182

-- VariableID = 279 AVG AT

-- Need to compute daily average

-- Need to convert to UTC time

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @VarID=279)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@VarID

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from ODMData values s

WHERE s.SiteID = @SiteID and s.VariableID=@VarID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

SELECT @avgValue = (@avgValue - 32) / 9 \* 5;

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- LPeters. Temp/F/Hourly SourceID = 182

-- VariableID = 288 AVG AT

-- Need to compute daily average

-- Need to convert to UTC time

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @VarID=288)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@VarID

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from ODMData values s

WHERE s.SiteID = @SiteID and s.VariableID=@VarID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

SELECT @avgValue = (@avgValue - 32) / 9 \* 5;

INSERT INTO DAILY\_AirTempData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

END

GO

### Daily Air Temperature (2m) Insert Query

declare @siteID as int, @sourceID as int, @varID as int;

/\*GHCN and NCDC load

SourceID: 4

VariableID for GHCN: 403 (TMAX), 404 (TMIN)

VariableID for ISH: 218

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (4);

select @varID = 403;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF/WERC

SourceID: 29, 30, 31, 34

VariableID: 81

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (29, 30, 31, 34);

select @varID = 81;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*USGS

SourceID: 39

VariableID: 310

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (39);

select @varID = 310;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*RAWS/NPS

SourceID: 114,116

VariableID: 432

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in ( 114,116);

select @varID = 432;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*SNOTEL

SourceID: 124,

VariableID: 393

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (124);

select @varID = 393;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*Toolik Field Service

SourceID = 145,

VariableID = 489 (TMIN), 487 (TMAX)

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (145);

select @varID = 489;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*McCall

SourceID: 178, 182

VariableID: 195 (TMAX) 196 (TMIN)

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (178,182);

select @varID = 195;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*McCall

SourceID: 179

VariableID: 277

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (179);

select @varID = 277;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF

SourceID: 180

VariableID: 223 (TMAX), 225(TMIN)

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (180);

select @varID = 223;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*Chamberlin

SourceID: 183

VariableID: 295 (TMAX), 296(TMIN)

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (183);

select @varID = 295;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*BLM/Kemenitz

SourceID: 199

VariableID: 61

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (199);

select @varID = 61;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*BLM/Kemenitz

SourceID: 199

VariableID: 442

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (199);

select @varID = 442;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*BLM/Kemenitz

SourceID: 199

VariableID: 504

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (199);

select @varID = 504;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*ARM

SourceID: 35

VariableID: 519

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (35);

select @varID = 519;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*ARM

SourceID: 203

VariableID: 527

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (203);

select @varID = 527;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*ARM

SourceID: 203

VariableID: 538

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (203);

select @varID = 538;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*LPeters

SourceID: 182

VariableID: 279

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (182);

select @varID = 279;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*LPeters

SourceID: 182

VariableID: 288

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (182);

select @varID = 288;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyAirTemp @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

### Air Temperature Variables used to determine Daily Air Temperature (2m)

select distinct VariableID,VariableName, VariableCode

from seriesCatalog

where SampleMedium like '%air%' and VariableName like '%Temperature%' and DatastreamID not like '%10m%' and VariableCode not like '%NCDC\_COOP%'

and VariableName not like '%temperature, dew point%' and VariableCode not like '%flag%' and VariableCode not like '%std%' and VariableCode not like '%10m%'

and VariableID <> 521 and VariableID <> 479

order by VariableCode

## Daily Precipitation

The daily precipitation data values are calculated as the total precipitation in one day.

The measurement units are mm, time units are daily and the timestamp is UTC.

The data values are stored in ‘DAILY\_PrecipDatavalues ‘ and are used to calculate monthly, seasonal and yearly precipitations. The precision is .00

The VIEW ‘DAILY\_Precip’ contains the data values that fall in the range:

* Data value >= 0 and Data value < 60

### Daily Precipitation Stored Procedure

-- =============================================

-- Author: Amy Jacobs

-- Create date: March 2,2012

-- Description: Create the daily total precip.

-- =============================================

CREATE PROCEDURE [dbo].[uspGetDailyPrecip]

-- Add the parameters for the stored procedure here

@SiteID int, @VarID int

AS

BEGIN

-- SET NOCOUNT ON added to prevent extra result sets from

-- interfering with SELECT statements.

SET NOCOUNT ON;

DECLARE @localDateTime datetime, @maxValue float,

@minValue float, @AvgValue float, @AvgValue1m float, @AvgValue3m float, @maxValue1m float, @maxValue3m float, @minValue1m float, @minValue3m float,

@methodID int, @qualifierID int, @variableID int;

-- NCDC GHCN. Precip/mm/Daily. SourceID = 4

-- VariableID = 398

IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND VariableID=398)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=398;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=398;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- If there is no GHCN, check for ISH

-- VariableID = 340 is ISH Precip/UTC hourly/mm. Needs to be converted to a Daily value. SourceID = 4

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=340)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), SUM(dv.Data value)

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=340

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=340;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF/WERC: Precip/mm, AST

-- VariableID = 84. SourceID = 29, 30, 31, 34

-- Needs to be converted to a Daily value.

-- Need to convert to UTCDateTime

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID=84)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), SUM(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=84 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=84;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- USGS: Precip/hourly/mm, AST

-- VariableID = 319. SourceID = 39

-- Needs to be converted to a Daily value.

-- Need to convert to UTCDateTime

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=319)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), SUM(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=319 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=319;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- RAWS/NPS: Precip/daily/mm, UTC

-- VariableID = 441, SourceID = 114 and SourceID = 116

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=441)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=441;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=441;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- SNOTEL Temp/daily/inches, UTC

-- VariableID = 394, SourceID = 124

-- Convert from inches to mm

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=394)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=394;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=394;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @AvgValue = @AvgValue \* 25.4;

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- Toolik Precip/hourly/mm, AST

-- VariableID = 461, SourceID = 145

-- Need to convert hourly to daily

-- Need to convert from AST to UTC time

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID= 461)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), SUM(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=461 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=461;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- McCall Precip/daily/inches

-- VariableID = 199, SourceID = 178 and SourceID = 182

--need to convert from inches to mm

-- need to do an average on the LocalDateTime, since three of the data values are not daily, but hourly.

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND @VarID=199)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), SUM(dv.Data value)

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=@VarID

group by CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=@VarID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @AvgValue = @AvgValue \* 25.4;

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF. Precip/mm/Daily SourceID = 180

-- VariableID = 274

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND VariableID=274)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=274;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=274;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- Chamberlin. Precip/inches/Daily SourceID = 183

-- VariableID = 301

-- Need to convert to mm.

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND VariableID=301)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=301;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=301;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @AvgValue = @AvgValue \* 25.4;

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- BLM/Kemenitz. Precip/mm/Hourly SourceID = 199

-- VariableID = 496

-- Need to compute daily.

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @VarID=496)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), SUM(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=496 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=496;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- BLM/Kemenitz. Precip/inches/every 15 minutes SourceID = 199

-- VariableID = 458

-- Need to convert to mm

-- Need to convert to UTC

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @varID=458)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), SUM(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=458 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=458;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @AvgValue = @AvgValue \* 25.4;

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- BLM/Kemenitz. Precip/inches/daily SourceID = 199

-- VariableID = 62

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @varID=62)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), dv.Data value

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@varID and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=@varID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @AvgValue = @AvgValue \* 25.4;

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- BLM/Kemenitz. Precip/inches/Minute SourceID = 139

-- VariableID = 336

-- Convert from inches to mm

-- Convert from AST to UTC

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID = @SiteID AND @varID=336)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), SUM(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@varID and dv.siteid in

(select distinct siteid from ODMData values where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from ODMData values s

WHERE s.SiteID = @SiteID and s.VariableID=@varID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @AvgValue = @AvgValue \* 25.4;

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- ARM. Precip/mm/Minute SourceID = 35

-- VariableID = 522

-- Need to compute daily average

-- These values are all NULL, as of 2/17/2012

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID = @SiteID AND VariableID=522)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), SUM(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=522

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from ODMData values s

WHERE s.SiteID = @SiteID and s.VariableID=522;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- ARM. Precip/mm/Minute SourceID = 1,203

-- VariableID = 539 Precip Rate/hour

-- Need to compute daily average

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @VarID=539)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), SUM(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@VarID

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=@VarID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- ARM. Precip/mm/Second SourceID = 203

-- VariableID = 530 Precip rate

-- Need to compute daily average

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID = @SiteID AND @VarID=530)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), SUM(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@VarID

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from ODMData values s

WHERE s.SiteID = @SiteID and s.VariableID=@VarID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- LPeters. Precip/inches/Hourly SourceID = 182

-- VariableID = 294 Avg AT

-- Need to compute daily average

-- Need to convert to UTC time

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @VarID=294)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), SUM(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@VarID

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from ODMData values s

WHERE s.SiteID = @SiteID and s.VariableID=@VarID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @AvgValue = @AvgValue \* 25.4;

INSERT INTO DAILY\_PrecipData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@AvgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @AvgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

END

GO

### Daily Precipitation Insert Query

declare @siteID as int, @sourceID as int, @varID as int;

/\*GHCN and NCDC load

SourceID: 4

VariableID for GHCN: 398

VariableID for ISH: 340

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (4);

select @varID = 398;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF/WERC

SourceID: 29, 30, 31, 34

VariableID:84

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (29, 30, 31, 34);

select @varID = 84;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*USGS

SourceID: 39

VariableID: 319

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (39);

select @varID = 319;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*RAWS/NPS

SourceID: 114,116

VariableID: 441

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in ( 114,116);

select @varID = 441;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*SNOTEL

SourceID: 124,

VariableID: 394

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (124);

select @varID = 394;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*Toolik Field Service

SourceID = 145,

VariableID = 461

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (145);

select @varID = 461;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*McCall

SourceID: 178, 182

VariableID: 199

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (178,182);

select @varID = 199;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF

SourceID: 180

VariableID: 274

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (180);

select @varID = 274;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*Chamberlin

SourceID: 183

VariableID: 301

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (183);

select @varID = 301;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*BLM/Kemenitz

SourceID: 199

VariableID: 496

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (199);

select @varID = 496;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*BLM/Kemenitz

SourceID: 199

VariableID: 458

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (199);

select @varID = 458;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*BLM/Kemenitz

SourceID: 199

VariableID: 62

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (199);

select @varID = 62;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*BLM/Kemenitz

SourceID: 139

VariableID: 336

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (139);

select @varID = 336;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*ARM

SourceID: 35

VariableID: 522

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (35);

select @varID = 522;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*ARM

SourceID: 1,203

VariableID: 539

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (1,203);

select @varID = 539;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*ARM

SourceID: 203

VariableID: 530

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (203);

select @varID = 530;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*LPeters

SourceID: 182

VariableID: 294

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (182);

select @varID = 294;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyPrecip @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

### Precipitation variables used to create Daily Precipitation

select distinct VariableID,VariableName, VariableCode

from seriesCatalog

where VariableName like '%precipitation%' and SampleMedium like '%precipitation%'

and VariableCode not like '%\_total\_%' and VariableCode not like '%\_PWS\_%' and VariableCode not like '%code%' and VariableCode not like '%flag%'

and VariableID <> 308 and VariableID <> 390

order by VariableCode

## Daily Wind Speed

The daily wind speed data values are the average wind speed values over one day.

The measurement units are in m/s, the time units are daily and the timestamp is UTC.

The data values are stored in the table ‘DAILY\_AvgWindSpeedDatavalues ‘ and are used to calculate monthly, seasonal and yearly data values. The precision is .00

The VIEW ‘DAILY\_AvgWindSpeed’ has the data value range of:

* Data value >= 0 and Data value < 60

### Daily Wind Speed Stored Procedure

-- =============================================

-- Author: Amy Jacobs

-- Create date: August 7, 2012

-- Description: Create the daily wind speed average.

-- =============================================

CREATE PROCEDURE [dbo].[uspGetDailyWindSpeed]

-- Add the parameters for the stored procedure here

@SiteID int, @VarID int

AS

BEGIN

-- SET NOCOUNT ON added to prevent extra result sets from

-- interfering with SELECT statements.

SET NOCOUNT ON;

DECLARE @localDateTime datetime, @maxValue float,

@minValue float, @avgValue float, @avgValue1m float, @avgValue3m float, @maxValue1m float, @maxValue3m float, @minValue1m float, @minValue3m float,

@methodID int, @qualifierID int, @variableID int;

-- NCDC: WindSpeed/ms

-- VariableID = 335. SourceID = 4

-- Needs to be converted to a Daily value.

-- Need to convert to UTCDateTime

IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID=335)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=335 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=335;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AvgWindSpeedData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF/WERC: WindSpeed/ms, AST

-- VariableID = 82. SourceID = 29,30,31,34

-- Needs to be converted to a Daily value.

-- Need to convert to UTCDateTime

IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID=82 and OffsetValue=10)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=82 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=82;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_AvgWindSpeedData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- Toolik Windspeed/ms, AST

-- VariableID = 469, SourceID = 145

-- Need to convert hourly to daily

-- Need to convert from AST to UTC time

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID= 469 and OffsetValue=5)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=469 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=469;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue;

INSERT INTO DAILY\_AvgWindSpeedData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- USGS Windspeed/ms

-- VariableID = 313, SourceID = 39

-- Need to convert hourly to daily

-- Need to convert from AST to UTC time

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID= 313)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=313 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=313;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue;

INSERT INTO DAILY\_AvgWindSpeedData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- RAWS Windspeed/ms

-- VariableID = 429, SourceID = 114,116

-- Need to convert hourly to daily

-- Need to convert from AST to UTC time

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID= 429)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=429 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=429;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue;

INSERT INTO DAILY\_AvgWindSpeedData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- RAWS Windspeed/ms

-- VariableID = 429, SourceID = 114,116

-- Need to convert hourly to daily

-- Need to convert from AST to UTC time

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID= 429)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=429 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=429;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue;

INSERT INTO DAILY\_AvgWindSpeedData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- McCall Windspeed/ms

-- VariableID = 227, SourceID = 180

-- Need to convert hourly to daily

-- Need to convert from AST to UTC time

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID= 227)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=227 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=227;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue;

INSERT INTO DAILY\_AvgWindSpeedData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- ARM Windspeed/ms

-- VariableID = 529, SourceID = 202

-- Need to convert hourly to daily

-- Need to convert from AST to UTC time

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID= 529)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=529 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=529;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue;

INSERT INTO DAILY\_AvgWindSpeedData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- ARM Windspeed/ms

-- VariableID = 541, SourceID = 1,203

-- Need to convert hourly to daily

-- Need to convert from AST to UTC time

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID= 541)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=541 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=541;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue;

INSERT INTO DAILY\_AvgWindSpeedData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- ARM Windspeed/ms

-- VariableID = 535, SourceID = 203

-- Need to convert hourly to daily

-- Need to convert from AST to UTC time

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID= 535)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=535 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=535;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue;

INSERT INTO DAILY\_AvgWindSpeedData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- LPeters Windspeed/ms

-- VariableID = 292, SourceID = 182

-- Need to convert hourly to daily

-- Need to convert from AST to UTC time

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID= 292)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=292 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=292;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue;

INSERT INTO DAILY\_AvgWindSpeedData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- NOAA Windspeed/ms

-- VariableID = 513, SourceID = 35

-- Need to convert hourly to daily

-- Need to convert from AST to UTC time

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID= 513)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=513 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=513;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue;

INSERT INTO DAILY\_AvgWindSpeedData values (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

END

GO

### Daily Wind Speed Insert

declare @siteID as int, @sourceID as int, @varID as int;

/\*GHCN and NCDC load

SourceID: 4

VariableID for ISH: 335

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (4);

select @varID = 335;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyWindSpeed @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF/WERC

SourceID: 29, 30, 31, 34

VariableID: 82

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (29, 30, 31, 34);

select @varID = 82;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyWindSpeed @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*USGS

SourceID: 39

VariableID: 313

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (39);

select @varID = 313;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyWindSpeed @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*RAWS/NPS

SourceID: 114,116

VariableID: 429

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in ( 114,116);

select @varID = 429;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyWindSpeed @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*Toolik Field Service

SourceID = 145,

VariableID = 469

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (145);

select @varID = 469;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyWindSpeed @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*McCall

SourceID: 180

VariableID: 227

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (180);

select @varID = 227;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyWindSpeed @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*ARM

SourceID: 202

VariableID: 529

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (202);

select @varID = 529;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyWindSpeed @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*ARM

SourceID: 1,203

VariableID: 541

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (1,203);

select @varID = 541;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyWindSpeed @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*ARM

SourceID: 203

VariableID: 535

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (203);

select @varID = 535;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyWindSpeed @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*LPeters

SourceID: 182

VariableID: 292

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (182);

select @varID = 292;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyWindSpeed @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*NOAA

SourceID: 35

VariableID: 513

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (35);

select @varID = 513;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyWindSpeed @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

### Wind Speed Variables used to determine Daily Wind Speed

select distinct VariableID,VariableName, VariableCode, VariableUnitsID

from seriesCatalog

where VariableName like '%wind speed%'

and VariableCode not like '%gust%' and VariableCode not like '%max%' and VariableCode not like '%top%'

order by VariableCode

## Daily Snow Depth

The daily snow depth is the average snow depth for one day.

The measurement units are meters, the time units are daily and the timestamp is UTC

The data values are stored in the table ‘DAILY\_SnowDepthDatavalues ‘ and are used to calculate monthly, seasonal and yearly data values. The precision is .00

The view ‘DAILY\_SnowDepth’ has the data value range:

* Data value >= 0 and Data value <= 1.5

### Daily Snow Depth Stored Procedure

-- =============================================

-- Author: Amy Jacobs

-- Create date: August 14, 2012

-- Description: Create the daily snow depth average.

-- Units: meters, format Decimal(6,3)

-- =============================================

CREATE PROCEDURE [dbo].[uspGetDailySnowDepth]

-- Add the parameters for the stored procedure here

@SiteID int, @VarID int

AS

BEGIN

-- SET NOCOUNT ON added to prevent extra result sets from

-- interfering with SELECT statements.

SET NOCOUNT ON;

DECLARE @localDateTime datetime, @maxValue float,

@minValue float, @avgValue float, @avgValue1m float, @avgValue3m float, @maxValue1m float, @maxValue3m float, @minValue1m float, @minValue3m float,

@methodID int, @qualifierID int, @variableID int;

-- NCDC GHCN. Snow Depth/mm/Daily. SourceID = 4

-- VariableID = 402

-- Convert from mm to meters

IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND VariableID=402)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime),dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=402;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=402;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue / 1000;

INSERT INTO DAILY\_SnowDepthDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(6,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- If there is no GHCN, check for ISH

-- VariableID = 370 is ISH Snow Depth/hourly/cm. Needs to be converted to a Daily value. SourceID = 4

-- Convert from cm to meters

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=370)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), AVG(dv.Data value)

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=370

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=370;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue / 100;

INSERT INTO DAILY\_SnowDepthDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(6,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF/WERC: Snow Depth/cm, AST

-- VariableID = 75. Needs to be converted to a Daily value. SourceID = 29, 30, 34

-- Need to convert to UTCDateTime

-- Need to convert from cm to meters

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID=75)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=75 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=75;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue / 100;

INSERT INTO DAILY\_SnowDepthDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(6,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- USGS: Snow depth/hourly/cm, AST

-- VariableID = 320. Needs to be converted to a Daily value. SourceID = 39

-- Need to convert to UTCDateTime

-- Need to convert from cm to meters

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=320)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=320 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=320;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue / 100;

INSERT INTO DAILY\_SnowDepthDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(6,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- RAWS/NPS: Snow depth/daily/mm, UTC

-- VariableID = 440, SourceID = 116

-- Convert from mm to meters

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=440)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=440;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=440;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue / 1000;

INSERT INTO DAILY\_SnowDepthDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(6,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- Snow Course Snow Depth/daily/inches, UTC

-- VariableID = 396, SourceID = 200

-- Convert from inches to mm

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=396)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=396;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=396;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue \* 0.0254;

INSERT INTO DAILY\_SnowDepthDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(6,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF/WERC. Snow Depth/meters/Daily SourceID = 31

-- VariableID = 339 AST

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @varID=339)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@varID and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=@varID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_SnowDepthDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(6,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF/WERC. Snow Depth/meters/Hourly SourceID = 31

-- VariableID = 193

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @varID=193)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@varID and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=@varID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_SnowDepthDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF/WERC. Snow Depth/cm/Yearly SourceID = 3, SourceID = 193

-- VariableID = 142 AST

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @varID=142)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime),dv.Data value

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@varID and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=@varID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue / 100;

INSERT INTO DAILY\_SnowDepthDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- ARM. Snow Depth/mm/Minutely SourceID = 1, 203

-- VariableID = 543

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID = @SiteID AND @varID=543)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=@varID and dv.siteid in

(select distinct siteid from ODMData values where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from ODMData values s

WHERE s.SiteID = @SiteID and s.VariableID=@varID;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue / 1000;

INSERT INTO DAILY\_SnowDepthDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

END

GO

### Daily Snow Depth Insert

declare @siteID as int, @sourceID as int, @varID as int;

/\*GHCN and NCDC load

SourceID: 4

VariableID GHCN:402 and VariableID ISH: 370

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (4);

select @varID = 402;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySnowDepth @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF/WERC

SourceID: 29, 30, 34

VariableID: 75

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (29, 30, 34);

select @varID = 75;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySnowDepth @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*USGS

SourceID: 39

VariableID: 320

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (39);

select @varID = 320;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySnowDepth @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*RAWS/NPS

SourceID: 116

VariableID: 440

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (116);

select @varID = 440;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySnowDepth @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*Snow Course

SourceID: 200

VariableID: 396

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (200);

select @varID = 396;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySnowDepth @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF/WERC

SourceID: 31

VariableID: 339

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (31);

select @varID = 339;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySnowDepth @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF/WERC

SourceID: 31

VariableID: 193

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (31);

select @varID = 193;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySnowDepth @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF/WERC

SourceID = 3,193

VariableID: 142

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (3,193);

select @varID = 142;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySnowDepth @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\* ARM

SourceID = 1,203

VariableID: 543

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (1,203);

select @varID = 543;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySnowDepth @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

### Snow Depth Variables used to Determine Daily Snow Depth

select distinct VariableID,VariableName, VariableCode,VariableUnitsID

from seriesCatalog

where SampleMedium like '%snow%' and VariableName like '%snow depth%' and VariableCode not like '%flag%' and VariableCode not like '%stdev%' and VariableCode not like '%code%'

and VariableCode not like '%max%' and VariableCode not like '%min%'

order by VariableCode

### 

## Daily Snow Water Equivalent

The daily snow water equivation data values are the average snow water equivalent for one day.

The measurement units are mm, the time units are daily and the timestamp is UTC.

The data values are stored in the table ‘DAILY\_SWEDataValues ‘ and are used to calculate monthly, seasonal and yearly data values. The precision is .00

The VIEW ‘DAILY\_SWE’ has the data value range:

* DataValue >= 0 and DataValue <= 300

### Daily Snow Water Equivalent Stored Procedure

-- =============================================

-- Author: Amy Jacobs

-- Create date: Feb 17,2012

-- Description: Create the daily snow depth average.

-- Units: meters, format Decimal(6,3)

-- =============================================

CREATE PROCEDURE [dbo].[uspGetDailySWE]

-- Add the parameters for the stored procedure here

@SiteID int, @VarID int

AS

BEGIN

-- SET NOCOUNT ON added to prevent extra result sets from

-- interfering with SELECT statements.

SET NOCOUNT ON;

DECLARE @localDateTime datetime, @maxValue float,

@minValue float, @avgValue float, @avgValue1m float, @avgValue3m float, @maxValue1m float, @maxValue3m float, @minValue1m float, @minValue3m float,

@methodID int, @qualifierID int, @variableID int;

-- NCDC ISH. SWE/mm/Minute. SourceID = 4

-- VariableID = 373

IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND VariableID=373)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), SUM(dv.Data value)

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=373

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=373;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_SWEDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(6,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF/WERC: daily/SWE/cm, AST

-- VariableID = 215. SourceID = 31,193

-- Need to convert to UTCDateTime

-- Need to convert from cm to mm

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID=215)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=215 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=215;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue \* 10;

INSERT INTO DAILY\_SWEDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(6,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- Snow Course SWE/daily/inches, UTC

-- VariableID = 397, SourceID = 200

-- Convert from inches to mm

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=397)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=397;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=397;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue \* 25.4;

INSERT INTO DAILY\_SWEDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(6,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- SNOTEL SWE/daily/inches, UTC

-- VariableID = 395, SourceID = 124

-- Convert from inches to mm

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=395)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=395;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=395;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue \* 25.4;

INSERT INTO DAILY\_SWEDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(6,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF/WERC: SWE/cm/year, AST

-- VariableID = 21. SourceID = 3

-- Need to convert to UTCDateTime

-- Need to convert from cm to mm

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID=21)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=21 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=21;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue \* 10;

INSERT INTO DAILY\_SWEDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(6,3),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

END

GO

### Daily Snow Water Equivalent Insert

declare @siteID as int, @sourceID as int, @varID as int;

/\*GHCN and NCDC load

SourceID: 4

VariableID:373

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (4);

select @varID = 373;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySWE @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF/WERC

SourceID: 31,193

VariableID: 215

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (31,193);

select @varID = 215;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySWE @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*Snow Course

SourceID: 200

VariableID: 397

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (200);

select @varID = 397;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySWE @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*SNOTEL

SourceID: 124

VariableID: 395

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (124);

select @varID = 395;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySWE @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF/WERC

SourceID: 3

VariableID: 21

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (3);

select @varID = 21;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailySWE @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

### Snow Water Equivalent Variables used to create Daily Snow Water Equivalent

select distinct VariableID,VariableName, VariableCode, VariableUnitsID

from seriesCatalog

where SampleMedium like '%snow%' and VariableName like '%snow water equivalent%' and VariableCode not like '%code%'

## Daily Relative Humidity (2m)

The daiy relative humidity (2m) was created from 1m, 1.5m, 2m and 3m relative humidity data values. If the data value was a 1.5m or a 2m, both were considered to be 2m relative humidity data values. If the data value was 1m or 3m, then

* If there is both a 1m and a 3m average data value, then
  + Average data value = (3m average data value - 1m average data value)/2 + 1m average data value
* If there is a 1m average data value and no 3m average data value, then
  + Average data value = 1m average data value

Measurement units are percent, time units have been converted to daily and the timestamps are UTC.

The data values have been stored in ‘DAILY\_RHDatavalues ‘ table. These data values have been used to calculate monthly, seasonal and yearly data values. The data values were stored with a precision of .00

The data value range for the VIEW ‘DAILY\_RH’ for the relative humidity (2m) daily data values is:

* Data value >= 0 and Data value <= 100

### Daily Relative Humidity (2m) Stored Procedure

-- =============================================

-- Author: Amy Jacobs

-- Create date: March 7, 2012

-- Description: Create the daily relative humidity at 2m.

-- =============================================

CREATE PROCEDURE [dbo].[uspGetDailyRH]

-- Add the parameters for the stored procedure here

@SiteID int, @VarID int

AS

BEGIN

-- SET NOCOUNT ON added to prevent extra result sets from

-- interfering with SELECT statements.

SET NOCOUNT ON;

DECLARE @localDateTime datetime, @maxValue float,

@minValue float, @avgValue float, @avgValue1m float, @avgValue3m float, @maxValue1m float, @maxValue3m float, @minValue1m float, @minValue3m float,

@methodID int, @qualifierID int, @variableID int;

-- ARM. RH/Minute/UTC SourceID = 202

-- VariableID = 523, Minute

-- Needs to be converted to a Daily value.

IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID= 523)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), AVG(dv.Data value)

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID= 523

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID= 523;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_RHDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF/WERC: RH/hourly/1m and 3m/AST

-- VariableID = 80. Needs to be converted to a Daily value. SourceID = 29, 30, 31, 34

-- Need to make sure offset is 2m or 1.5m

-- Need to convert to UTCDateTime

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID=80 AND (OffsetValue = 2 or OffsetValue = 1.5))

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=80 and (dv.offsetvalue = 2 or dv.offsetvalue = 1.5) and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=80;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_RHDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAF/WERC: RH/hourly/1m and 3m/AST

-- VariableID = 80. Needs to be converted to a Daily value. SourceID = 29, 30, 31, 34

-- Need to convert 1m and 3m to 2m

-- Need to convert to UTCDateTime

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID=80 AND OffsetValue = 1)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=80 and dv.offsetvalue = 1 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=80;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue1m;

WHILE @@FETCH\_STATUS = 0

BEGIN

SELECT @avgValue3m = avg(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=80 and dv.offsetvalue = 3 and @localDateTime = CONVERT(Date,dv.DateTimeUTC) and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

SELECT @avgValue = (@avgValue3m - @avgValue1m)/2 + @avgValue1m;

-- If the 2m average temp is NULL, check and see if there is a 1m air temp and use it.

IF (@avgValue is NULL and @avgValue1m is not NULL)

BEGIN

SELECT @avgValue = @avgValue1m;

END

INSERT INTO DAILY\_RHDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue1m;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- Toolik: RH/hourly/1m and 3m/AST

-- VariableID = 467. Needs to be converted to a Daily value. SourceID = 145

-- Need to convert 1m and 3m to 2m

-- Need to convert to UTCDateTime

ELSE IF EXISTS (SELECT \* FROM ODMData values WHERE SiteID= @SiteID AND VariableID=467 AND OffsetValue = 1)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=467 and dv.offsetvalue = 1 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC)

order by CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=467;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue1m;

WHILE @@FETCH\_STATUS = 0

BEGIN

SELECT @avgValue3m = avg(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=467 and dv.offsetvalue = 3 and @localDateTime = CONVERT(Date,dv.DateTimeUTC) and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

SELECT @avgValue = (@avgValue3m - @avgValue1m)/2 + @avgValue1m;

-- If the 2m average temp is NULL, check and see if there is a 1m air temp and use it.

IF (@avgValue is NULL and @avgValue1m is not NULL)

BEGIN

SELECT @avgValue = @avgValue1m;

END

INSERT INTO DAILY\_RHDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue1m;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- LChamberlin: RH/Daily/AST

-- VariableID = 299. SourceID = 183

-- No offset value is given

-- Need to convert to UTCDateTime

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=299)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), dv.Data value

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=299 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=299;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_RHDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- RAWS/NPS: RH/daily/UTC

-- VariableID = 435, SourceID = 114 and SourceID = 116

-- No offset value is given

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=435)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=435;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=435;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_RHDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- NOAA. RH/Minute SourceID = 35

-- VariableID = 518

-- Need to compute average.

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @VarID=518)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), AVG(dv.Data value)

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID= 518

GROUP BY CONVERT(Date,dv.LocalDateTime);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID= 518;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_RHDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- LPeters. RH/hourly SourceID = 182

-- VariableID = 293

-- convert to utc

-- Need to compute average.

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @VarID=293)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE SiteID = @SiteID and VariableID= 293

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID= 293;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_RHDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- McCall. RH/daily/AST SourceID = 198

-- VariableID = 198

-- convert to utc

-- Need to compute average.

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @VarID=198)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE SiteID = @SiteID and VariableID= 198

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID= 198;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_RHDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

END

GO

### Daily Relative Humidity (2m) Insert

declare @siteID as int, @sourceID as int, @varID as int;

/\*ARM

SourceID: 202

VariableID: 523

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (202);

select @varID = 523;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF/WERC

SourceID: 29, 30, 31, 34

VariableID: 80

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (29, 30, 31, 34);

select @varID = 80;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*Toolik

SourceID: 145

VariableID: 467

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (145);

select @varID = 467;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*LChamberlin

SourceID: 183

VariableID: 299

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (183);

select @varID = 299;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*RAWS/NPS

SourceID = 114,116

VariableID: 435

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (114,116);

select @varID = 435;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*NOAA

SourceID = 35

VariableID = 518

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (35);

select @varID = 518;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*LPeters

SourceID: 182

VariableID: 293

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (182);

select @varID = 293;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*McCall

SourceID: 198

VariableID: 198

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (198);

select @varID = 198;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAF

SourceID: 180

VariableID: 223 (TMAX), 225(TMIN)

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (180);

select @varID = 223;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*Chamberlin

SourceID: 183

VariableID: 295 (TMAX), 296(TMIN)

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (183);

select @varID = 295;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*BLM/Kemenitz

SourceID: 199

VariableID: 61

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (199);

select @varID = 61;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*BLM/Kemenitz

SourceID: 199

VariableID: 442

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (199);

select @varID = 442;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*BLM/Kemenitz

SourceID: 199

VariableID: 504

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (199);

select @varID = 504;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*ARM

SourceID: 35

VariableID: 519

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (35);

select @varID = 519;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*ARM

SourceID: 203

VariableID: 527

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (203);

select @varID = 527;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*ARM

SourceID: 203

VariableID: 538

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (203);

select @varID = 538;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*LPeters

SourceID: 182

VariableID: 279

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (182);

select @varID = 279;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*LPeters

SourceID: 182

VariableID: 288

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (182);

select @varID = 288;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyRH @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

### Relative Humidity Variables used to create Daily Relative Humidity (2m)

select distinct VariableID,VariableName, VariableCode

from seriesCatalog

where SampleMedium like '%air%' and VariableName like '%Relative Humidity%' and

VariableCode not like '%max%' and VariableCode not like '%min%'

order by VariableCode

## Daily Discharge

The daily discharge data values are the average discharge for one day.

The data values are stored in the table ‘DAILY\_DischargeDatavalues ‘ and are used to calculate monthly, seasonal and yearly discharge data values. The precision is .00

The measurement units are cubic meters per second, the time units are daily and the timestamp is UTC.

The VIEW ‘DAILY\_Discharge has the data values range of:

* Data value >= 0

### Daily Discharge Stored Procedure

-- =============================================

-- Author: Amy Jacobs

-- Create date: August 9,2012

-- Description: Create the daily Discharge average in cubic meters per second.

-- =============================================

CREATE PROCEDURE [dbo].[uspGetDailyDischarge]

-- Add the parameters for the stored procedure here

@SiteID int, @VarID int

AS

BEGIN

-- SET NOCOUNT ON added to prevent extra result sets from

-- interfering with SELECT statements.

SET NOCOUNT ON;

DECLARE @localDateTime datetime, @maxValue float, @minValue float, @avgValue float, @avgValue1m float, @avgValue3m float, @maxValue1m float, @maxValue3m float, @minValue1m float, @minValue3m float, @methodID int, @qualifierID int, @variableID int;

-- NWIS. Discharge/cubic feet per second/Daily. AST

-- SourceID = 139,199

-- VariableID = 56

-- convert from cfs to cms

IF EXISTS (SELECT \* FROM seriesCatalog where SiteID = @SiteID AND @VarID=56)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=56;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=56;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue \* 0.02832;

INSERT INTO DAILY\_DischargeDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- LChamberlinStreamDischarge\_cfs\_dataTypeUnk AST

-- VariableID = 304 Discharge/Daily/cfs. SourceID = 183

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=304)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM Data values AS dv

INNER JOIN seriesCatalog ON seriesCatalog.datastreamID = dv.datastreamID

WHERE seriesCatalog.SiteID = @SiteID and seriesCatalog.VariableID=304;

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=304;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue \* 0.02832;

INSERT INTO DAILY\_DischargeDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- FWS\_Discharge: Discharge/cfs/Daily AST

-- VariableID = 343. Sourceid = 154

-- Need to convert to UTCDateTime

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND VariableID=343)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.LocalDateTime), dv.Data value

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=343 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=343;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue \* 0.02832;

INSERT INTO DAILY\_DischargeDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- USGS\_BLM\_Discharge: Discharge/minutely/cfs, AST

-- VariableID = 445. Needs to be converted to a Daily value. SourceID = 199

-- Need to convert to UTCDateTime

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND @VarID=445)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=445 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=445;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue \* 0.02832;

INSERT INTO DAILY\_DischargeDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- USGS\_BLM\_Discharge: Discharge/every 30 minutes/cfs, AST

-- VariableID = 497. Needs to be converted to a Daily value. SourceID = 199

-- Need to convert to UTCDateTime

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND @VarID=497)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=497 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=497;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

select @avgValue = @avgValue \* 0.02832;

INSERT INTO DAILY\_DischargeDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAFWERC\_Discharge: Discharge/hourly/cms, AST

-- VariableID = 90, SourceID = 30

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND @VarID=90)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=90 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=90;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_DischargeDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAFWERC\_Discharge\_MINUTE\_calculated: Discharge/minute/cms, AST

-- VariableID = 145, SourceID = 31

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND @VarID=145)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=145 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=145;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_DischargeDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAFWERC\_Discharge\_QUARTER\_HOUR\_calculated: Discharge/every 15 minute/cms, AST

-- VariableID = 148, SourceID = 31

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND @VarID=148)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=148 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=148;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_DischargeDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAFWERC\_Discharge\_HOURLY\_calculated: Discharge/hourly/cms, AST

-- VariableID = 149, SourceID = 31

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND @VarID=149)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=149 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=149;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_DischargeDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- UAFWERC\_Discharge\_Sporadic: Discharge/sporadic/cms, AST

-- VariableID = 150, SourceID = 31

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND @VarID=150)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=150 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=150;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_DischargeDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

-- BLM-WERC\_Whitman-Arp\_Discharge: Discharge/sporadic/cms, AST

-- VariableID = 152, SourceID = 164

ELSE IF EXISTS (SELECT \* FROM seriesCatalog where SiteID= @SiteID AND @VarID=152)

BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT CONVERT(Date,dv.DateTimeUTC), AVG(dv.Data value)

FROM ODMData values AS dv

WHERE dv.SiteID = @SiteID and dv.VariableID=152 and dv.siteid in

(select distinct siteid from seriesCatalog where @SiteID = siteid)

GROUP BY CONVERT(Date,dv.DateTimeUTC);

select @methodID = s.methodID, @variableID=s.VariableID

from seriesCatalog s

WHERE s.SiteID = @SiteID and s.VariableID=152;

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO DAILY\_DischargeDataValues (Data value,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@avgValue), @localDateTime, @variableID,@SiteID, @methodID);

FETCH NEXT FROM max\_cursor INTO @localDateTime, @avgValue;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

END

END

GO

### Daily Discharge Insert

declare @siteID as int, @sourceID as int, @varID as int;

/\*NWIS load

SourceID: 139,199

VariableID: 56

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (139,199);

select @varID = 56;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyDischarge @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*LChamberlinStreamDischarge\_cfs\_dataTypeUnk AST

SourceID: 183

VariableID: 304

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (183);

select @varID = 304;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyDischarge @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*FWS\_Discharge:

SourceID: 154

VariableID: 343

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (154);

select @varID = 343;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyDischarge @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*USGS\_BLM\_Discharge

SourceID: 199

VariableID: 445

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (199);

select @varID = 445;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyDischarge @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*USGS\_BLM\_Discharge

SourceID: 199

VariableID: 497

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (199);

select @varID = 497;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyDischarge @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAFWERC\_Discharge

SourceID = 30

VariableID = 90

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (30);

select @varID = 90;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyDischarge @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAFWERC\_Discharge\_MINUTE\_calculated

SourceID: 31

VariableID: 145

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (31);

select @varID = 145;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyDischarge @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAFWERC\_Discharge\_QUARTER\_HOUR\_calculated

SourceID: 31

VariableID: 148

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (31);

select @varID = 148;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyDischarge @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAFWERC\_Discharge\_HOURLY\_calculated

SourceID: 31

VariableID: 149

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (31);

select @varID = 149;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyDischarge @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*UAFWERC\_Discharge\_Sporadic

SourceID: 31

VariableID: 150

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (31);

select @varID = 150;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyDischarge @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

/\*BLM-WERC\_Whitman-Arp\_Discharge

SourceID: 164

VariableID: 152

\*/

DECLARE loop\_cursor CURSOR FOR

SELECT SourceID from Sources where sourceID in (164);

select @varID = 152;

OPEN loop\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

WHILE @@FETCH\_STATUS = 0

BEGIN

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM seriesCatalog

WHERE sourceid = @sourceID;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0

BEGIN

execute uspGetDailyDischarge @siteID,@varID;

FETCH NEXT FROM site\_cursor INTO @siteID;

END;

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

FETCH NEXT FROM loop\_cursor INTO @sourceID;

END;

CLOSE loop\_cursor;

DEALLOCATE loop\_cursor;

### Discharge Variables used to created Daily Discharge

select distinct VariableID,VariableName, VariableCode, VariableUnitsID

from seriesCatalog

where SampleMedium like '%surface water%' and VariableName like '%discharge%' and VariableCode not like '%flag%' and VariableCode not like '%remarks%' and VariableCode not like '%peak%'

and VariableCode not like '%mcall%'

order by VariableCode

## YEARLY SQL queries

### Query to insert data values into ‘YEARLY\_PeakSnowDepth\_Avg’ table

/\* insertPeakSnowDepth.sql

This query will populate the YEARLY\_PeakSnowDepth\_Avg table.

\*/

SET NOCOUNT ON;

DECLARE @maxYear int, @maxValue float,

@methodID int, @SiteID int, @variableID int;

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM DAILY\_SnowDepth;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT YEAR(d.UTCDateTime)as max\_year, max(d.DataValue) as max\_value, d.siteid,d.variableid, d.methodid

from DAILY\_SnowDepth d

where MONTH(d.UTCDateTime) in (5,6)

and d.siteid = @siteid

GROUP by YEAR(d.UTCDateTime),d.siteid,d.variableid,d.methodid

ORDER BY YEAR(d.UTCDateTime)

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @maxYear, @maxValue, @SiteID,@variableID,@methodID;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO YEARLY\_PeakSnowDepth\_Avg (DataValue,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@maxValue), convert(Date,'1/1/'+STR(@maxYear)), @variableID,@SiteID,@methodID);

FETCH NEXT FROM max\_cursor INTO @maxYear, @maxValue, @SiteID,@variableID,@methodID;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

END

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

### Query to insert data values into ‘YEARLY\_PeakSWE\_Avg’ table

/\* insertPeakSWE.sql

This query will populate the YEARLY\_PeakSWE\_Avg table.

\*/

SET NOCOUNT ON;

DECLARE @maxYear int, @maxValue float,

@methodID int, @SiteID int, @variableID int;

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM DAILY\_SWE;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT YEAR(d.UTCDateTime)as max\_year, max(d.DataValue) as max\_value, d.siteid,d.variableid, d.methodid

from DAILY\_SWE d

where MONTH(d.UTCDateTime) in (4,5)

and d.siteid = @siteid

GROUP by YEAR(d.UTCDateTime),d.siteid,d.variableid,d.methodid

ORDER BY YEAR(d.UTCDateTime)

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @maxYear, @maxValue, @SiteID,@variableID,@methodID;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO YEARLY\_PeakSWE\_Avg (DataValue,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@maxValue), convert(Date,'1/1/'+STR(@maxYear)), @variableID,@SiteID,@methodID);

FETCH NEXT FROM max\_cursor INTO @maxYear, @maxValue, @SiteID,@variableID,@methodID;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

END

CLOSE site\_cursor;

DEALLOCATE site\_cursor;

### Query to insert data values into ‘YEARLY\_AvgWinterRHs ’ table

/\*\*\*\*\*\* Script for SelectTopNRows command from SSMS \*\*\*\*\*\*/

/\*

createWinterRH.sql

This query will calculate the average winter relative humidity, winter being 12(yyyy-1),1(yyyy),2(yyyy)

\*/

DECLARE @yearNum AS int = 1902;

DECLARE @SeasonalAvg AS float = NULL;

WHILE @yearNum <= 2011

BEGIN

INSERT INTO YEARLY\_AvgWinterRHs (SiteID, year, SeasonalAvg) select SiteID, @yearNum, AVG(MonthlyAvg)

from MONTHLY\_RH

where ((month=12 and year=@yearNum - 1) or

(month in (1,2) and year=@yearNum))

group by SiteID

having COUNT(\*) = 3;

SET @yearNum = @yearNum+1

END

### Query to insert data values into ‘YEARLY\_SummerRHs\_Avg ‘ table

/\*

Create the averages per site, with the total years used to compute the average

\*/

INSERT INTO YEARLY\_SummerRHs\_Avg (SiteID, Avg,totalYears) select siteid, AVG(SeasonalAvg) as Avg, COUNT(\*) as totalYears

from YEARLY\_AvgSummerRHs

group by SiteID

order by SiteID

### Query to insert data values into ‘YEARLY\_WinterRHs\_Avg’ table

/\*

Create the averages per site, with the total years used to compute the average

\*/

INSERT INTO YEARLY\_WinterRHs\_Avg(SiteID, Avg,totalYears) select siteid, AVG(SeasonalAvg) as Avg, COUNT(\*) as totalYears

from YEARLY\_AvgWinterRHs

group by SiteID

order by SiteID

### Query to insert data into `ANNUAL\_PeakMayJuneDischargeDataValues` table

SET NOCOUNT ON;

DECLARE @maxYear int, @maxValue float,

@methodID int, @SiteID int, @variableID int;

DECLARE site\_cursor CURSOR FOR

SELECT distinct siteid

FROM DAILY\_Discharge;

OPEN site\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

WHILE @@FETCH\_STATUS = 0BEGIN

DECLARE max\_cursor CURSOR FOR

SELECT YEAR(d.UTCDateTime)as max\_year, max(d.DataValue) as max\_value, d.siteid,d.variableid, d.methodid

from DAILY\_Discharge d

where MONTH(d.UTCDateTime) in (5,6)

and d.siteid = @siteid

GROUP by YEAR(d.UTCDateTime),d.siteid,d.variableid,d.methodid

ORDER BY YEAR(d.UTCDateTime)

OPEN max\_cursor;

FETCH NEXT FROM max\_cursor INTO @maxYear, @maxValue, @SiteID,@variableID,@methodID;

WHILE @@FETCH\_STATUS = 0

BEGIN

INSERT INTO ANNUAL\_PeakMayJuneDischargeDataValues (DataValue,UTCDateTime, VariableID,SiteID,MethodID)

VALUES(convert(decimal(10,2),@maxValue), convert(Date,'1/1/'+STR(@maxYear)), @variableID,@SiteID,@methodID);

FETCH NEXT FROM max\_cursor INTO @maxYear, @maxValue, @SiteID,@variableID,@methodID;

END

CLOSE max\_cursor;

DEALLOCATE max\_cursor;

FETCH NEXT FROM site\_cursor INTO @siteID;

END

CLOSE site\_cursor;

DEALLOCATE site\_cursor;