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National Hydrography Dataset (NHD) Model (v2.3)

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The Catalog View

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Attribute Tables

Feature Detail

Table
NHDFCode

An inventory of all feature codes and their characteristics in the NHD.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
FCode	Long integer	No			0			Five-digit integer value comprised of the feature type and the combinations of characteristics and values.
Description	String	No					255	
CanalDitchType	String	Yes					32	Function or purpose (Aqueduct or Unspecified).
ConstructionMaterial	String	Yes					32	Predominant material used (Earthen, Nonearthen, or Unspecified.
HydrographicCategory	String	Yes					32	Portion of the year the feature contains water (Intermittent or Perennial).
InundationControlStatus	String	Yes					32	Existence of functional control sturctures (Controlled or Not Controlled).
OperationalStatus	String	Yes					32	State or condition (Abandoned or Operational).
PipelineType	String	Yes					32	Function or purpose (Aqueduct, General, Penstock, or Siphon).
PositionalAccuracy	String	Yes					32	The accuracy a feature can be confidently positioned (Approximate or Definite).
RelationshipToSurface	String	Yes					32	Vertical location relative to the surface (Abovewater or Underwater).
ReservoirType	String	Yes					32	Function or purpose (Aquaculture, Decorative Pool, Disposal, Evaporator, Swim Pool, Treatment, Unspecified, or Water Storage).
Stage	String	Yes					32	Height of water surface is the basis for elevation.

Table
NHDFlow

Flow table values are derived from the topologic connectivity of the geometric network and attribute values of NHDFlowline features.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
DeltaLevel	Long integer	Yes			0			Difference in level from first reach to second reach.
Direction	Long integer	Yes		FlowDirection	0			Integer code for the direction of flow.
From_Permanent_Identifier	String	No					40	Permanent_Identifier **from** which feature flows.
To_Permanent_Identifier	String	No					40	Permanent_Identifier **to** which feature flows.

Table
NHDFlowlineVAA

NHDFlowline Value Added Attributes are entirely derived from the NHDFlowline features and the Flow table values.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
Permanent_Identifier	String	No					40	40-char GUID value that uniquely identifies the occurrence of each feature in *The National Map.*
FDate	Date	Yes			0	0	8	Date of last feature modification.
StreamLevel	Long integer	Yes			0			Drain_level of the downstream mainstem drain.
StreamOrder	Long integer	Yes			0			Strahler stream order number for the drain.
FromNode	Double	Yes			0	0		Nationally unique ID for the "from" node endpoint of the drain.
ToNode	Double	Yes			0	0		Nationally unique ID for the "to" node endpoint of the drain.
HydroSeq	Double	Yes			0	0		Nationally unique sequence number that places the reach in hydrologic sequence.
LevelPathID	Double	Yes			0	0		Hydro Sequence No. of downstream drain that is on the same level path as this drain according to the NHDFlow Table.
PathLengthKM	Double	Yes			0	0		Distance from this drain pourpoint to its terminal drain's pourpoint according to the NHDFlow Table.
TerminalPathID	Double	Yes			0	0		Hydrologic sequence number of terminal flowline.
ArbolateSumKM	Double	Yes			0	0		Sum of the lengths of all the drains that drain to the downstream end of the current drain.
DivergenceFlag	Long integer	Yes			0			If this drain is 1 branch of a flow split, 1=drain is main branch, 2=otherwise, 0= drain not a branch of flow split.
StartFlag	Long integer	Yes			0			Set to '1' if the drain is a headwater drain according to the NHDFlow Table, otherwise '0'.
TerminalFlag	Long integer	Yes			0			Set to '1' if drain is a terminal drain (flows into ocean, Great Lakes, Canada, Mex. or the ground) otherwise set to '0'.
DnLevel	Long integer	Yes			0			Stream level of drain.
ThinnerCode	Long integer	Yes			0			Ordinal value designed to allow selection of progressively more dense networks. Least dense network=1.
UpLevelPathId	Double	Yes			0	0		LevelPathID of upstream mainstream drain.
UpHydroSeq	Double	Yes			0	0		Hydro Sequence No. of upstream mainstem drain.
UpMinHydroSeq	Double	Yes			0	0		Minimum Hydro Sequence No. of all upstream drains.
DnLevelPathID	Double	Yes			0	0		Level path ID of downstream drain.
DnMinHydroSeq	Double	Yes			0	0		At a divergence, the Hydro sequence number of the minor downstream drain.
DnDrainCount	Long integer	Yes			0			Number of drains immediately downstream.

Table
NHDVerticalRelationship

Only NHDFlowline features can participate in vertical relationships.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
Permanent_Identifier	String	No					40	40-char GUID value that uniquely identifies the occurrence of each feature in *The National Map.*
Above_Permanent_Identifier	String	No					40	Permanent Identifier of feature **above** vertical offset.
Below_Permanent_Identifier	String	No					40	Permanent Identifier of feature **below** vertical offset.

Table
ExternalCrosswalk

Contains associations of Permanent_Identifiers to external source identifiers. (one-to-many relationship)

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
Permanent_Identifier	String	No					40	40-char GUID value that uniquely identifies the occurrence of each feature in *The National Map.*
ExternalID	String	Yes					40	Uniquely identifies the occurrence of each feature in the source dataset.
ExternalIDName	String	Yes					50	Field name in the external source dataset that contains the unique IDs.
ExternalIDOriginator	String	Yes					130	Name of the organization or individual who developed the external dataset/features.
OrganizationType	Long integer	Yes		Organization Type	0			Administrative level of the organization who developed the external dataset/features.
ExternalIDEntryDate	Date	Yes			0	0	8	Load date of ExternalID record.

Processing

Table
NHDProcessingParameters

This table lists the schema and the version of the master NHD database that was used to generate extracted NHD data. This table is most useful to USGS to verify the version used by data stewards for updates.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
ParameterName	String	No		ParameterName Domain			24	The name of the Parameter.
ParameterValue	String	No					100	The value of the Parameter.

Table
NHDStatus

Information to track data changes for transaction uploads to the central depository.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
ID	String	No			0		40	Temporary ID assigned to track feature edits.
Permanent_Identifier	String	No			0		40	40-char GUID value that uniquely identifies the occurrence of each feature in *The National Map.*
Status	Long integer	No		Status	0			Type of edit.

Table
NHDReachCodeMaintenance

Table used to maintain links for backward compatibility.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
Permanent_Identifier	String	No					40	40-char GUID value that uniquely identifies the occurrence of each feature in *The National Map.*
ReachCode	String	No					14	Unique identifier composed of two parts, first eight digits = subbasin code as defined by FIPS 103, and next six digits = random-assigned sequential number unique within a Cataloguing Unit.
ReachSMDate	Date	Yes			0	0	8	Reach Spatial Modification Date.
Resolution	Long integer	No		Resolution	0			Code of source resolution: local, high, medium.
GNIS_ID	String	Yes					10	Unique identifier assigned by GNIS.
GNIS_Name	String	Yes					100	Proper name, specific term, or expression by which a particular geographic entity is known.

Table
NHDReachCrossReference

Information that tracks changes, over time, to reach codes

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
OldReachCode	String	Yes					17	Reach code prior to change.
OldReachDate	Date	Yes			0	0	8	Date when OldReachCode was originally assigned (yyyymmdd).
NewReachCode	String	Yes					17	Reach code after change.
NewReachDate	Date	Yes			0	0	8	Date when NewReachCode was assigned (yyyymmdd).
OldUPMI	String	Yes					5	Upstream Marker Index of Old Reach (RF-3-Alpha Only).
NewUPMI	String	Yes					5	Upstream Marker Index of New Reach (RF-3-Alpha Only).
ChangeCode	String	Yes		ChangeCode Domain			4	Type of change to the reach feature.
Process	String	Yes		Process Domain			6	Process where the change occurred.
ReachFileVersion	String	Yes		ReachFileVersion Domain			10	Reach File Version in which change became effective.
OldHUCode	String	Yes					8	Hydrologic Unit of feature prior to migration.
NewHUCode	String	Yes					8	Hydrologic Unit of feature after migration.

Processing Domains

Coded value domain
ChangeCode Domain
Description
Field type *String*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
11	11 Old reach to new reach
1P	1P Old reach to part of new reach
P1	P1 Part of old reach to new reach
A	A Add new reach
D	D Delete old reach
PP	PP Part of old reach to part of new reach
1M	1M (historic) Old reach split to multiple new reaches
M1	M1 (historic) Mult old reaches merged to single new reach

Coded value domain
ReachFileVersion Domain
Description
Field type *String*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
M002.00000	M002.00000 GEO Medium Resolution
H002.00000	H002.00000 GEO High Resolution
L002.00000	L002.00000 GEO Local Resolution
TBD	TBD
M001.00000	M001.00000 (historic) FOD Medium Resolution
H001.00000	H001.00000 (historic) FOD High Resolution
L001.00000	L001.00000 (historic) FOD Low Resolution
M000.00000	M000.00000 (historic) Pre-FOD

Coded value domain
ParameterName Domain
Description
Field type *String*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
Version	Version
Resolution	Resolution
Processing_Organization	Processing_Organization
SchemaVersion	SchemaVersion
Work_Type	Work Type
JTXWorkflow	JTX Workflow Type
Jobid	JTX Job Id
ReachFileVersion	Reach File Version
WBDSchemaVersion	WBDSchemaVersion
ReleaseBuild	ReleaseBuild
SourceDB	SourceDB

Coded value domain
Process Domain
Description
Field type *String*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
AVEDIT	AVEDIT
GDBEDT	GDBEDT
100_24	100_24
24_loc	24_loc
AK2FOD	AK2FOD (historic)
ARCUPD	ARCUPD (historic)
FODGDB	FODGDB (historic)
FTIEDT	FTIEDT (historic)
FTIFLO	FTIFLO (historic)
GDBCVN	GDBCVN (historic)
NHDVIS	NHDVIS (historic)
PNWNHD	PNWNHD (historic)
RF3DBL	RF3DBL (historic)

Coded value domain
Status
Description
Field type *Long integer*
Split policy *Default value*
Merge policy *Default value*

Code	Description
1	Add Feature
2	Modify Feature Attribute
3	Modify Feature Geometry
5	Delete Feature
6	Delete Relationship
7	Add Metadata
8	Modify VAA
9	Add Event
10	Modify Event
11	Delete Event
12	Modify VAA All
13	Add Relationship
14	Add Metadata All (historic)
15	Add FeatureToMetadata All (historic)
16	Add FeatureToMeta Relationship
17	Create External Crosswalk
18	Modify External Crosswalk
19	Process External Crosswalk All

FEATURE CLASSES

Simple feature class
NHDPoint
Geometry *Point*
Contains M values *No*
Contains Z values *Yes*

Contains points representing NHD hydrographic landmark features.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
Shape	Geometry	Yes						
Permanent_Identifier	String	No					40	40-char GUID value that uniquely identifies the occurrence of each feature in *The National Map.*
FDate	Date	No			0	0	8	Date of last feature modification.
Resolution	Long integer	No		Resolution	0			Code for source resolution: local, high, medium.
GNIS_ID	String	Yes					10	Unique identifier assigned by GNIS, length 10.
GNIS_Name	String	Yes					65	Proper name, specific term, or expression by which a particular geographic entity is known.
ReachCode	String	Yes					14	Unique identifier composed of two parts. The first eight digits are the subbasin code defines by FIPS 103, next six digits is a randomly assigned sequential number unique within a Cataloging Unit, length 14.
FType	Long integer	No	458		0			Three-digit integer value, unique identifier of a feature type.
FCode	Long integer	Yes	45800		0			Five-digit integer value comprised of the feature type and combinations of characteristics and values.

Subtypes of NHDPoint
Subtype field *FType*
Default subtype *458*

List of defined default values and domains for subtypes in this class

Subtype Code	Subtype Description	Field name	Default value	Domain	*Definitions of features*
343	DamWeir	Resolution FCode	 34305	Resolution DamWeir FCode	Barrier constructed to control the flow, or raise the level, of water.
367	Gaging Station	Resolution FCode	 36700	Resolution Gaging Station FCode	Structure used to measure the characteristics of a hydrographic feature.
369	Gate	Resolution FCode	 36900	Resolution Gate FCode	Structure that may be swung, drawn, or lowered, to block an entrance or passageway.
398	Lock Chamber	Resolution FCode	 39800	Resolution Lock Chamber FCode	Enclosure on a waterway used to raise or lower the vessels as they pass from one level to another.
431	Rapids	Resolution FCode	 43100	Resolution Rapids FCode	Area of swift current in a stream or river characterized by standing waves, boulders, or rocks.
436	Reservoir	Resolution FCode	 43600	Resolution Reservoir FCode	Constructed basin formed to contain water or other liquids.
441	Rock	Resolution FCode	 44101	Resolution Rock FCode	Concreted mass of stony material.
450	SinkRise	Resolution FCode	 45000	Resolution SinkRise FCode	Place at which a stream disappears underground, or reappears at the surface in a karst area.
458	SpringSeep	Resolution FCode	 45800	Resolution SpringSeep FCode	Place where water issues from the ground naturally.
485	Water IntakeOutflow	Resolution FCode	 48500	Resolution Water IntakeOutflow FCode	Structure through which water enters or exits a conduit.
487	Waterfall	Resolution FCode	 48700	Resolution Waterfall FCode	Vertical or near vertical descent of water over a step or ledge in the bed of a river.
488	Well	Resolution FCode	 48800	Resolution Well FCode	Pit or hole, dug or bored into the earth for the extraction of water or other fluids, or gasses.

Simple feature class
NHDLine
Geometry *Polyline*
Contains M values *No*
Contains Z values *Yes*

Contains routes representing linear NHD hydrographic landmark features.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
Shape	Geometry	Yes						
Permanent_Identifier	String	No					40	40-char GUID value that uniquely identifies the occurrence of each feature in *The National Map.*
FDate	Date	No			0	0	8	Date of last feature modification.
Resolution	Long integer	No		Resolution	0			Code for source resolution: local, high, medium.
GNIS_ID	String	Yes					10	Unique identifier assigned by GNIS, length 10.
GNIS_Name	String	Yes					65	Proper name, specific term, or expression by which a particular geographic entity is known.
LengthKm	Double	Yes			0	0		Length of linear feature, Albers Equal Area Conic, length 8.
FType	Long integer	No	411		0			Three-digit integer value, unique identifier of a feature type.
FCode	Long integer	Yes	41100		0			Five-digit integer value comprised of the feature type and combinations of characteristics and values.
Visibility Filter	Long integer	No	0	VisibilityFilter Domain	0			Represents the appropriate use of individual features through scale. Does not reflect capture conditions.
Shape_Length	Double	Yes			0	0		

Subtypes of NHDLine
Subtype field *FType*
Default subtype *411*

List of defined default values and domains for subtypes in this class

Subtype Code	Subtype Description	Field name	Default value	Domain	*Definitions of features*
318	Bridge	Resolution FCode	 31800	Resolution Bridge FCode	Structure spanning and providing passage over a waterway, railway, or other obstacle.
343	DamWeir	Resolution FCode	 34305	Resolution DameWeir FCode	Barrier constructed to control the flow, or raise the level, of water.
362	Flume	Resolution FCode	 36200	Resolution Flume FCode	Open inclined artificial channel constructed of wood, metal, or concrete; generally elevated.
369	Gate	Resolution FCode	 36900	Resolution Gate FCode	Structure that may be swung, drawn, or lowered, to block an entrance or passageway.
568	Levee	Resolution FCode	 56800	Resolution Levee FCode	A natural or manmade embankment along the edge of a stream/river, canal/ditch, or waterbody, that protects the surrounding land from flooding.
398	Lock Chamber	Resolution FCode	 39800	Resolution Lock Chamber FCode	Enclosure on a waterway used to raise or lower vessels as they pass from one level to another.
411	Nonearthen Shore	Resolution FCode	 41100	Resolution Nonearthen Shore FCode	Structure built of stone, concrete, or other building material, that borders a body of water.
431	Rapids	Resolution FCode	 43100	Resolution Rapids FCode	Area of swift current in a stream or river characterized by standing waves, or by boulders and rocks.
434	Reef	Resolution FCode	 43400	Resolution Reef FCode	Chain of rocks or coral at, or near, the surface of the water.
450	SinkRise	Resolution FCode	 45000	Resolution SinkRise FCode	Place at which a stream disappears underground or reappears at the surface in a karst area.
503	Sounding Datum Line	Resolution FCode	 50302	Resolution Sounding Datum Line FCode	Line representing the tidal datum to which bathymetric contours are referenced.
478	Tunnel	Resolution FCode	 47800	Resolution Tunnel FCode	Underground or underwater passage.
483	Wall	Resolution FCode	 48300	Resolution Wall FCode	Upright structure of masonry, wood, plaster, or other building material serving to enclose, divide, or protect an area.
487	Waterfall	Resolution FCode	 48700	Resolution Waterfall FCode	Vertical or near vertical descent of water over a step or ledge in the bed of a river.

Simple feature class
NHDFlowline
Geometry *Polyline*
Contains M values *Yes*
Contains Z values *Yes*

Consists of routes that make up a linear surface water drainage network.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
Shape	Geometry	Yes						
Permanent_Identifier	String	No					40	40-char GUID value that uniquely identifies the occurrence of each feature in *The National Map.*
FDate	Date	No			0	0	8	Date of last feature modification.
Resolution	Long integer	No		Resolution	0			Code for source resolution: local, high, medium.
GNIS_ID	String	Yes					10	Unique identifier assigned by GNIS, length 10.
GNIS_Name	String	Yes					65	Proper name, specific term, or expression by which a particular geographic entity is known, length 65.
LengthKm	Double	Yes			0	0		Length of linear feature, Albers Equal Area Conic, length 8.
ReachCode	String	Yes					14	Unique identifier composed of two parts. The first eight digits is the subbasin code as defined by FIPS 103. The next six digits are randomly assigned, sequential numbers that are unique within a Cataloging Unit, length 14.
FlowDir	Long integer	No	0	HydroFlowDirections	0			Direction of flow relative to coordinate order, length 4.
WBArea_Permanent_Identifier	String	Yes					40	Permanent_Identifier of the waterbody through which the Flowline (Artificial Path) flows.
FType	Long integer	No	🟦 468		0			Three digit integer value, unique identifier of a feature type.
FCode	Long integer	Yes	🟦 46800		0			Five-digit integer value comprised of the feature type and combinations of characteristics and values.
MainPath	Long integer	No	0	MainPath Domain	0			The mainstream path that tributary streams converge to or diverge from.
InNetwork	Long integer	Yes	1	NoYes Domain	0			Identifies the subset of the NHDFlowline features that will be used/included in NHDPlus.
VisibilityFilter	Long integer	No	0	VisibilityFilter Domain	0			Represents the appropriate use of individual features through scale. Does not reflect capture conditions.
Shape_Length	Double	Yes			0	0		

Subtypes of NHDFlowline
Subtype field *FType*
Default subtype *460*

List of defined default values and domains for subtypes in this class

Subtype Code	Subtype Description	Field name	Default value	Domain	*Definitions of features*
558	Artificial Path	Resolution FlowDir FCode	 0 55800	Resolution HydroFlowDirections Artificial Path FCode	Abstraction to facilitate hydrologic modeling through open water bodies and along coastal and Great Lakes shorelines and to act as a surrogate for lakes and other water bodies.
336	CanalDitch	Resolution FlowDir FCode	 0 33600	Resolution HydroFlowDirections CanalDitch FCode	Artificial open waterway constructed to transport water, to irrigate or drain land, to connect two or more bodies of water, or to serve as a waterway for watercraft.
566	Coastline	Resolution FlowDir FCode	 0 56600	Resolution HydroFlowDirections Coastline FCode	Line that follows the main outline of the land, including bays, but crosses rivers at their mouth. In the NHD, the outline of selected coastal islands are included as part of the coastline.
334	Connector	Resolution FlowDir FCode	 0 33400	Resolution HydroFlowDirections Connector FCode	Known, but unspecific, connection between two nonadjacent network segments.
🟨 468	🟨 Drainageway	🟨 Resolution FlowDir FCode	 0 46800	Resolution HydroFlowDirections Drainageway FCode	A watercourse that conveys, or is likely to convey, water but lacks a clearly-defined channel or banks, which differentiates it from an ephemeral stream/river. Drainageways typically convey water for limited periods of time and do not carry perennial flow. Drainageways may follow natural topographic flow paths or constructed or human-made flow paths.
428	Pipeline	Resolution FlowDir FCode	 0 42805	Resolution HydroFlowDirections Pipeline FCode	Closed conduit with pumps, valves, and control devices, for conveying fluids, gasses, or finely divided solids.
460	StreamRiver	Resolution FlowDir FCode	 0 46006	Resolution HydroFlowDirections StreamRiver FCode	Body of flowing water.
420	Underground Conduit	Resolution FlowDir FCode	 0 42000	Resolution HydroFlowDirections Underground Conduit FCode	Underground passage of surface water.

Simple feature class
NHDArea
Geometry *Polygon*
Contains M values *No*
Contains Z values *Yes*

Contains regions representing areal NHD hydrographic waterbody features.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
Shape	Geometry	Yes						
Permanent_Identifier	String	No					40	40-char GUID value that uniquely identifies the occurrence of each feature in *The National Map.*
FDate	Date	No			0	0	8	Date of last feature modification.
Resolution	Long integer	No		Resolution	0			Code for source resolution: 1 = Local resolution, 2 = High resolution, 3 = Medium resolution.
GNIS_ID	String	Yes					10	Unique identifier assigned by GNIS, length 10.
GNIS_Name	String	Yes					65	Proper name, specific term, or expression by which a particular geographic entity is known, length 65.
AreaSqKm	Double	Yes			0	0		Area of areal features, Albers Equal Area Conic, length 8.
Elevation	Double	Yes		ElevationRange	0	0		Elevation, in meters, of water surfaces where water pools are encoded for a few features.
FType	Long integer	No	460		0			Three-digit integer value, unique identifier of a feature type.
FCode	Long integer	Yes	46006		0			Five-digit integer value comprised of the feature type and combinations of characteristics and values.
VisibilityFilter	Long integer	No	0	VisibilityFilter Domain	0			Represents the appropriate use of individual features through scale. Does not reflect capture conditions.
Shape_Area	Double	Yes			0	0		

Subtypes of NHDArea
Subtype field *FType*
Default subtype *460*

List of defined default values and domains for subtypes in this class

Subtype Code	Subtype Description	Field name	Default value	Domain	*Definitions of features*
537	Area of Complex Channels	Resolution Elevation FCode	 53700	Resolution ElevationRange Area of Complex Channels FCode	Area where a stream or river flows in an intricate network of interlacing channels.
307	Area to be Submerged	Resolution Elevation FCode	 30700	Resolution ElevationRange Area to be Submerged FCode	Known extent of the intended lake that will be created behind a dam under construction.
312	BayInlet	Resolution Elevation FCode	 31200	Resolution ElevationRange BayInlet FCode	Water opening that is an opening into the sea/ocean into the land, or of an estuary, lake, or river into its shore.
318	Bridge	Resolution Elevation FCode	 31800	Resolution ElevationRange Bridge FCode	Structure spanning and providing passage over a waterway, railroad, or other obstacle.
336	CanalDitch	Resolution Elevation FCode	 33600	Resolution ElevationRange CanaDitch FCode	Artificial open waterway constructed to transport water, to irrigate or drain land, to connect two or more bodies of water, or to serve as a waterway for watercraft.
343	DamWeir	Resolution Elevation FCode	 34305	Resolution ElevationRange DamWeir FCode	Barrier constructed to control the flow or raise the level of water.
362	Flume	Resolution Elevation FCode	 36200	Resolution ElevationRange Flume FCode	Open, inclined, artificial channel constructed of wood, metal, or concrete; generally elevated.
364	Foreshore	Resolution Elevation FCode	 36400	Resolution ElevationRange Foreshore FCode	Part of a seashore between high-water and low-water marks.
403	Inundation Area	Resolution Elevation FCode	 40308	Resolution ElevationRange Inundation FCode	Area of land subject to flooding.
568	Levee	Resolution Elevation FCode	 56800	Resolution ElevationRange Levee FCode	A natural or manmade embankment along the edge of a stream/river, canal/ditch, or waterbody, that protects the surrounding land from flooding.
398	Lock Chamber	Resolution Elevation FCode	 39800	Resolution ElevationRange Lock Chamber FCode	Enclosure on a waterway used to raise/lower vessels as they pass from one level to another.
431	Rapids	Resolution Elevation FCode	 43100	Resolution ElevationRange Rapids FCode	Area of swift current in a stream or river, characterized by standing waves or by boulders and rocks.
445	SeaOcean	Resolution Elevation FCode	 44500	Resolution ElevationRange SeaOcean FCode	Great body of salt water that covers much of the earth.
455	Spillway	Resolution Elevation FCode	 45500	Resolution ElevationRange Spillway FCode	Constructed passage for surplus water to run over or around a dam.
460	StreamRiver	Resolution Elevation FCode	 46006	Resolution ElevationRange StreamRiver FCode	Body of flowing water.
461	Submerged Stream	Resolution Elevation FCode	 46100	Resolution ElevationRange Submerged Stream FCode	Old river course inundated by an impounded water body.
484	Wash	Resolution Elevation FCode	 48400	Resolution ElevationRange Wash FCode	Usually dry portion of a stream bed that contains water only during or after a local rainstorm or heavy snowmelt.
485	Water IntakeOutflow	Resolution Elevation FCode	 48500	Resolution ElevationRange Water IntakeOutflow FCode	Structure through which water enters or exits a conduit.

Simple feature class
NHDWaterbody
Geometry *Polygon*
Contains M values *No*
Contains Z values *Yes*

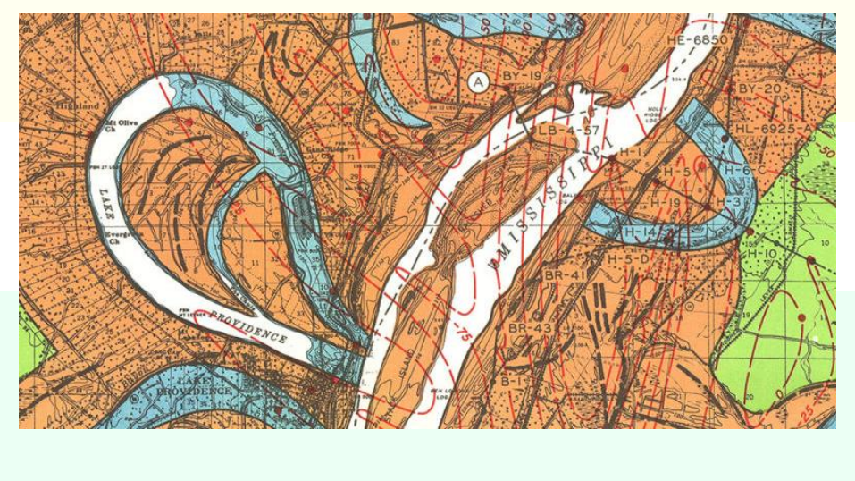
Contains regions representing areal NHD hydrographic waterbody features.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
Shape	Geometry	Yes						
Permanent_Identifier	String	No					40	40-char GUID value that uniquely identifies the occurrence of each feature in *The National Map.*
FDate	Date	No			0	0	8	Date of last feature modification.
Resolution	Long integer	No		Resolution	0			Code for source resolution: 1 = Local resolution, 2 = High resolution, 3 = Medium resolution.
GNIS_ID	String	Yes					10	Unique identifier assigned by GNIS, length 10.
GNIS_Name	String	Yes					65	Proper name, specific term, or expression by which a particular geographic entity is known, length 65.
AreaSqKm	Double	Yes			0	0		Area of areal features, Albers Equal Area Conic, length 8.
Elevation	Double	Yes		ElevationRange	0	0		Elevation, in meters, of water surfaces where water pools are encoded for a few features.
ReachCode	String	Yes					14	Unique identifier composed of two parts, first eight digits is subbasin code as defined by FIPS 103, next six digits is randomly assigned sequential number unique within a Cataloging Unit, length 14.
FType	Long integer	No	390		0			Three-digit integer value, unique identifier of a feature type.
FCode	Long integer	Yes	39004		0			Five-digit integer value comprised of the feature type and combinations of characteristics and values.
VisibilityFilter	Long integer	No	0	VisibilityFilter Domain	0			Represents the appropriate use of individual features through scale. Does not reflect capture conditions.
Shape_Area	Double	Yes			0	0		

Subtypes of NHDWaterbody
Subtype field *FType*
Default subtype *390*

List of defined default values and domains for subtypes in this class

Subtype Code	Subtype Description	Field name	Default value	Domain	*Definitions of features*
493	Estuary	Resolution Elevation FCode	 49300	Resolution ElevationRange Estuary FCode	Lower end of a river, or a semi-enclosed coastal body of water with access to the open ocean, which is affected by the tides and where fresh and salt water mix.
378	Ice Mass	Resolution Elevation FCode	 37800	Resolution ElevationRange Ice Mass FCode	A field of ice, formed in regions of perennial frost.
390	LakePond	Resolution Elevation FCode	 39004	Resolution ElevationRange LakePond FCode	Standing body of water with a predominantly natural shoreline surrounded by land.
361	Playa	Resolution Elevation FCode	 36100	Resolution ElevationRange Playa FCode	Flat area at the lowest part of an undrained desert basin, generally devoid of vegetation.
436	Reservoir	Resolution Elevation FCode	 43600	Resolution ElevationRange Reservoir FCode	Constructed basin formed to contain water or other liquids.
466	SwampMarsh	Resolution Elevation FCode	 46600	Resolution ElevationRange SwampMarsh FCode	Noncultivated, vegetated area that is inundated or saturated for a significant part of the year. The vegetation is adapted for life in saturated soil conditions.



Event Feature Classes

Simple feature class
NHDAreaEventFC
Geometry *Polygon*
Contains M values *No*
Contains Z values *No*

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length
Shape	Geometry	Yes					
OBJECTID	Object ID						
Permanent_Identifier	String	No					40
EventDate	Date	Yes			0	0	8
ReachCode	String	No					14
ReachSMDate	Date	Yes			0	0	8
ReachResolution	Long integer	No		Resolution	0		
Feature_Permanent_Identifier	String	Yes					40
FeatureClassRef	Long integer	Yes		Event Feature Class Reference	0		
Source_Originator	String	Yes					130
Source_DataDesc	String	Yes					100
Source_FeatureID	String	Yes					100
FeatureDetailURL	String	Yes					255
EventType	Long integer	No		Area Event Type	0		
Shape_Length	Double	Yes			0	0	
Shape_Area	Double	Yes			0	0	

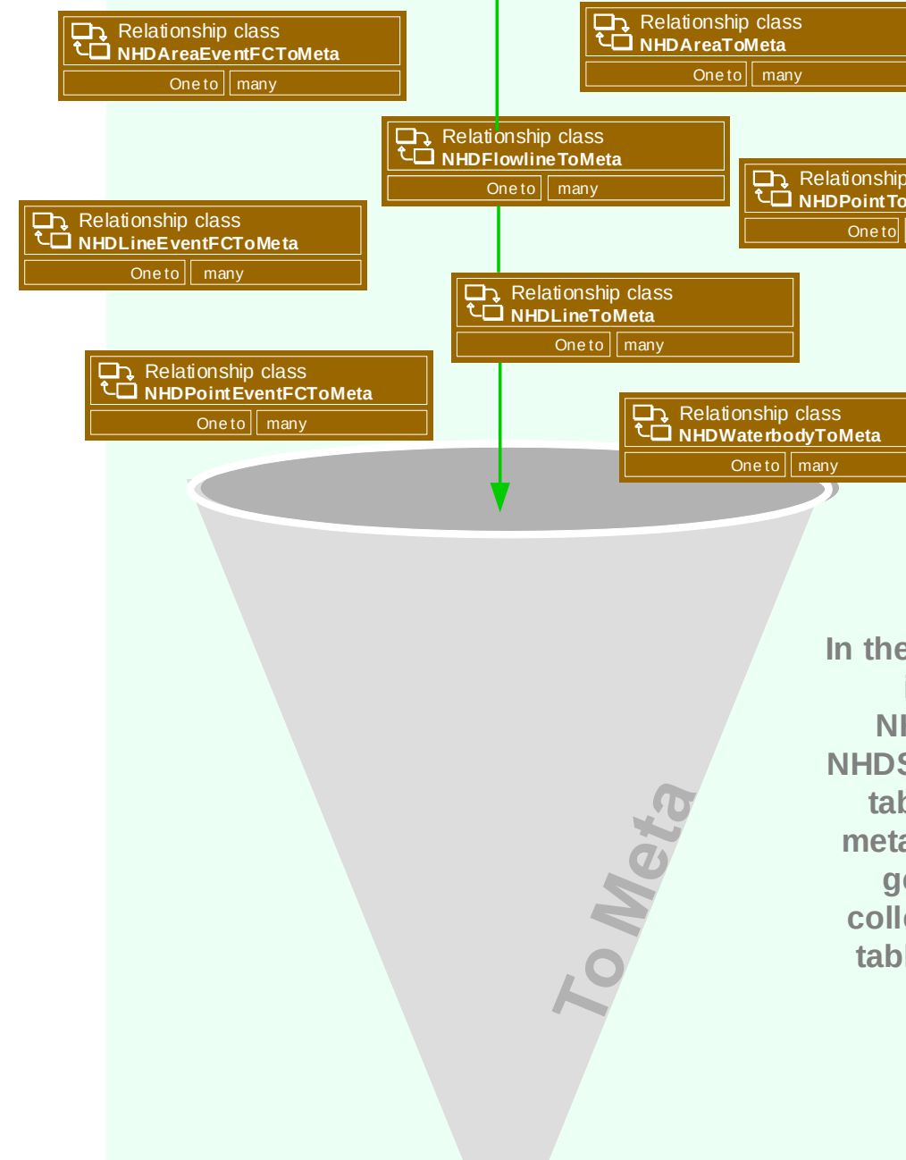
Simple feature class
NHDLineEventFC
Geometry *Polyline*
Contains M values *No*
Contains Z values *No*

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length
Shape	Geometry	Yes					
OBJECTID	Object ID						
Permanent_Identifier	String	No					40
EventDate	Date	Yes			0	0	8
ReachCode	String	No					14
ReachSMDate	Date	Yes			0	0	8
ReachResolution	Long integer	No		Resolution	0		
Feature_Permanent_Identifier	String	Yes					40
FeatureClassRef	Long integer	Yes		Event Feature Class Reference	0		
Source_Originator	String	Yes					130
Source_DataDesc	String	Yes					100
Source_FeatureID	String	Yes					100
FeatureDetailURL	String	Yes					255
FMeasure	Double	No			0	0	
TMeasure	Double	No			0	0	
EventType	Long integer	No		Line Event Type	0		
EventOffset	Double	Yes			0	0	
Shape_Length	Double	Yes			0	0	

Simple feature class
NHDPointEventFC
Geometry *Point*
Contains M values *No*
Contains Z values *No*

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length
Shape	Geometry	Yes					
OBJECTID	Object ID						
Permanent_Identifier	String	No					40
EventDate	Date	Yes			0	0	8
ReachCode	String	No					14
ReachSMDate	Date	Yes			0	0	8
ReachResolution	Long integer	No		Resolution	0		
Feature_Permanent_Identifier	String	Yes					40
FeatureClassRef	Long integer	Yes		Event Feature Class Reference	0		
Source_Originator	String	Yes					130
Source_DataDesc	String	Yes					100
Source_FeatureID	String	Yes					100
FeatureDetailURL	String	Yes					255
Measure	Double	No			0	0	
EventOffset	Double	Yes			0	0	
EventType	Long integer	No		Point Event Type	0		

Feature Metadata


Relationship class NHDAreaEventFCToMeta One to many
Relationship class NHDAreaToMeta One to many
Relationship class NHDFlowlineToMeta One to many
Relationship class NHDLineEventFCToMeta One to many
Relationship class NHDPointToMeta One to many
Relationship class NHDLineToMeta One to many
Relationship class NHDPointEventFCToMeta One to many
Relationship class NHDWaterbodyToMeta One to many
To Meta

In the NHD geodatamodel, feature-level metadata information is included in three tables: NHDFeatureToMetadata, NHDMetdata, and NHDSourceCitation. The NHDFeatureToMetadata table links the features to their instances of metadata. The NHDMetadata table contains the general metadata characteristics for each collection of features. The NHDSourceCitation table details the source associated with each metadata instance.

This table links every feature in the NHD to one or many metadata records.

Table
NHDFeatureToMetadata

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length
OBJECTID	Object ID						
Permanent_Identifier	String	Yes					40
Meta_ProcessID	String	Yes					40

Relationship class **NHDMetaToFeature** One to many

Relationship class **NHDMetadataHasSourceCitation** One to many

Table
NHDMetadata

This table contains data quality information

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
Meta_ProcessID	String	Yes					40	Unique permanent ID value which uniquely identifies a process in *The National Map.*
ProcessDescription	String	No					4000	Explanation of the process, including parameters or tolerances.
ProcessDate	Date	No			0	0	8	Date when the process was completed.
AttributeAccuracyreport	String	Yes					1800	Explanation of entities and assignments of values in dataset.
LogicalConsistencyReport	String	Yes					🟦 3100	Explanation of fidelity of relationships in dataset, and tests used.
CompletenessReport	String	Yes					2400	Information about omissions, criteria, definitions used to derive dataset.
HorizPositionalAccuracyReport	String	Yes					3100	Horizontal coordinate measurements and description of tests used.
VertPositionalAccuracyReport	String	Yes					3100	Vertical coordinate measurements and description of tests used.
MetadataStandardName	String	Yes					100	Name of the metadata standard used to document the dataset.
MetadataStandardVersion	String	Yes					40	Identification of the version of the metadata standard used to document the dataset.
MetadataDate	Date	Yes			0	0	8	Date the metadata was last created or updated.
DataSetCredit	String	Yes					4000	Recognition of those who contributed to the dataset.
ContactOrganization	String	Yes					100	Name or organization to which type of contact applies.
AddressType	String	Yes					40	Information provided about the address, i.e.; mailing, physical, etc.
Address	String	Yes					100	Address line for the address.
City	String	Yes					40	City of the address.
StateOrProvince	String	Yes					30	State or province of the address.
PostalCode	String	Yes					20	ZIP or other postal code of the address.
ContactVoiceTelephone	String	Yes					40	Telephone number to reach organization or individual.
ContactInstructions	String	Yes					120	Supplemental instructions to contact organization or individual
ContactEmailAddress	String	Yes					40	E-mail address to reach contact organization or individual.

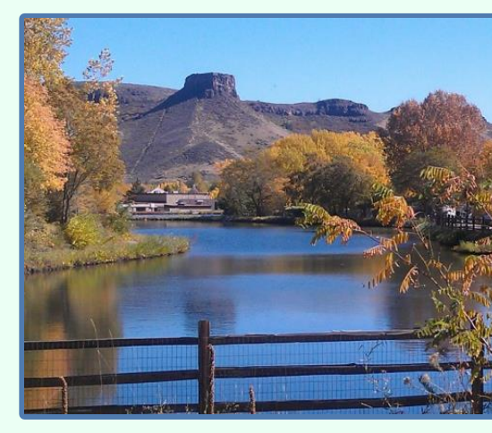


Table
NHDSourceCitation

This table links to process description information in the NHDMetadata table. Not all process descriptions have a source citation.

Field name	Data type	Allow nulls	Default value	Domain	Prec-ision	Scale	Length	
OBJECTID	Object ID							
Source_DatasetID	String	Yes					40	Unique permanent ID value which uniquely identifies a source dataset used in *The National Map.*
Title	String	Yes					255	Name by which the dataset is known.
SourceCitationAbbreviation	String	Yes					255	Short form alias for source citation.
Originator	String	Yes					400	Name of an organization or individual that developed the dataset.
PublicationDate	Date	Yes			0	0	8	Date the dataset is published or made available for release.
BeginningDate	Date	Yes			0	0	8	First year of the event (if Range_of_Dates applies).
EndingDate	Date	Yes			0	0	8	Last year of the event (if Range_of_Dates applies).
SourceContribution	String	Yes					255	Brief statement identifying information contributed by source to dataset.
SourceScaleDenominator	Long integer	Yes			0			Denomination of representative fraction on a map.
TypeOfSourceMedia	String	Yes					255	The medium of the source dataset, i.e. paper, CD-ROM, online, etc.
CalendarDate	Date	Yes			0	0	8	The year (if Single_Date applies).
SourceCurrentnessReference	String	Yes					255	The basis on which the source time period of content information of the source data set is determined.
Meta_ProcessID	String	Yes					40	Unique permanent ID value which uniquely identifies a process used in *The National Map.*

FCode (Feature) Domains

Coded value domain
Area of Complex Channels FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
53700	Area of Complex Channels

Coded value domain
Area to be Submerged FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
30700	Area to be Submerged

Coded value domain
ArtificialPath FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
55800	Artificial Path

Coded value domain
BayInlet FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
31200	Bay/Inlet

Coded value domain
Bridge FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
31800	Bridge

Coded value domain
CanalDitch FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
33600	Canal Ditch
33601	Canal Ditch: Canal Ditch Type = Aqueduct
33603	Canal Ditch: Canal Ditch Type = Stormwater

Coded value domain
Coastline FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
56600	Coastline

Coded value domain
Connector FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
33400	Connector

Coded value domain
DamWeir FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
34300	Dam/Weir
34305	Dam/Weir: Construction Material = Earthen
34306	Dam/Weir: Construction Material = Nonearthen

Coded value domain
Drainageway FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
46800	Drainageway

Coded value domain
Estuary FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
49300	Estuary

Coded value domain
Flume FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
36200	Flume

Coded value domain
Foreshore FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
36400	Foreshore

Coded value domain
Gaging Station FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
36700	Gaging Station
36701	Gaging Station: Gaging Station Status = Active; Record = Continuous

Coded value domain
Gate FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
36900	Gate

Coded value domain
Ice Mass FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
37800	Ice Mass

Coded value domain
Inundation Area FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
40300	Inundation Area
40308	Inundation Area; Inundation Control Status = Controlled
40309	Inundation Area; Inundation Control Status = Controlled; Stage = Flood Elevation
40307	Inundation Area; Inundation Control Status = Not Controlled

Coded value domain
LakePond FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
39000	Lake/Pond
39001	Lake/Pond: Hydrographic Category = Intermittent
39006	Lake/Pond: Hydrographic Category = Intermittent; Stage = Date of Photography
39005	Lake/Pond: Hydrographic Category = Intermittent; Stage = High Water Elevation
39004	Lake/Pond: Hydrographic Category = Perennial
39009	Lake/Pond: Hydrographic Category = Perennial; Stage = Average Water Elev
39011	Lake/Pond: Hydrographic Category = Perennial; Stage = Date of Photography
39010	Lake/Pond: Hydrographic Category = Perennial; Stage = Normal Pool
39012	Lake/Pond: Hydrographic Category = Perennial; Stage = Spillway

Coded value domain
Levee FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
56800	Levee

Coded value domain
Lock Chamber FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
39800	Lock Chamber

Coded value domain
Nonearthen Shore
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
41100	Nonearthen Shore

Coded value domain
Pipeline FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
42800	Pipeline
42816	Pipeline: Pipeline Type = Aqueduct
42801	Pipeline: Pipeline Type = Aqueduct; Relationship to Surface = At or Near
42802	Pipeline: Pipeline Type = Aqueduct; Relationship to Surface = Elevated
42803	Pipeline: Pipeline Type = Aqueduct; Relationship to Surface = Underground
42804	Pipeline: Pipeline Type = Aqueduct; Relationship to Surface = Underwater
42814	Pipeline: Pipeline Type = General Case
42805	Pipeline: Pipeline Type = General Case; Relationship to Surface = At or Near
42806	Pipeline: Pipeline Type = General Case; Relationship to Surface = Elevated
42807	Pipeline: Pipeline Type = General Case; Relationship to Surface = Underground
42808	Pipeline: Pipeline Type = General Case; Relationship to Surface = Underwater
42815	Pipeline: Pipeline Type = Penstock
42809	Pipeline: Pipeline Type = Penstock; Relationship to Surface = At or Near
42810	Pipeline: Pipeline Type = Penstock; Relationship to Surface = Elevated
42811	Pipeline: Pipeline Type = Penstock; Relationship to Surface = Underground
42812	Pipeline: Pipeline Type = Penstock; Relationship to Surface = Underwater
42813	Pipeline: Pipeline Type = Siphon
42820	Pipeline: Pipeline Type = Stormwater
42821	Pipeline: Pipeline Type = Stormwater; Relationship to Surface = At or Near
42822	Pipeline: Pipeline Type = Stormwater; Relationship to Surface = Elevated
42823	Pipeline: Pipeline Type = Stormwater; Relationship to Surface = Underground
42824	Pipeline: Pipeline Type = Stormwater; Relationship to Surface = Underwater

Coded value domain
Playa FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
36100	Playa

Coded value domain
Rapids FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
43100	Rapids

Coded value domain
Reef FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
43400	Reef

Coded value domain
Reservoir FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
43600	Reservoir
43618	Reservoir: Construction Material = Earthen
43619	Reservoir: Construction Material = Nonearthen
43601	Reservoir: Reservoir Type = Aquaculture
43609	Reservoir: Reservoir Type = Cooling Pond
43603	Reservoir: Reservoir Type = Decorative Pool
43606	Reservoir: Reservoir Type = Disposal
43625	Reservoir: Reservoir Type = Disposal; Construction Material = Earthen
43626	Reservoir: Reservoir Type = Disposal; Construction Material = Nonearthen
43607	Reservoir: Reservoir Type = Evaporator
43623	Reservoir: Reservoir Type = Evaporator; Construction Material = Earthen
43610	Reservoir: Reservoir Type = Filtration Pond
43611	Reservoir: Reservoir Type = Settling Pond
43612	Reservoir: Reservoir Type = Sewage Treatment Pond
43608	Reservoir: Reservoir Type = Swimming Pool
43605	Reservoir: Reservoir Type = Tailings Pond
43604	Reservoir: Reservoir Type = Tailings Pond; Construction Material = Earthen
43624	Reservoir: Reservoir Type = Treatment
43617	Reservoir: Reservoir Type = Water Storage
43614	Reservoir: Reservoir Type = Water Storage; Construction Material = Earthen; Hydro Cat = Intermittent
43615	Reservoir: Reservoir Type = Water Storage; Construction Material = Earthen; Hydro Cat = Perennial
43613	Reservoir: Reservoir Type = Water Storage; Construction Material = Nonearthen
43621	Reservoir: Reservoir Type = Water Storage; Hydrographic Category = Perennial

Coded value domain
Rock FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
44100	Rock
44101	Rock: Relationship to Surface = Abovewater
44102	Rock: Relationship to Surface = Underwater

Coded value domain
SeaOcean FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
44500	Sea Ocean

Coded value domain
SinkRise FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
45000	SinkRise: Flow = Unknown
🟨 45001	SinkRise: Type = Sink; Flow = Into ground
🟨 45002	SinkRise: Type = Rise; Flow = Out of ground
🟨 45003	SinkRise: Type = Estevelle; Flow = Bidirectional

Coded value domain
Sounding Datum Line FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
50300	Sounding Datum Line
50301	Sounding Datum Line: Positional Accuracy = Approx
50302	Sounding Datum Line: Positional Accuracy = Definite

Coded value domain
Spillway FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
45500	Spillway

Coded value domain
SpringSeep FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
45800	Spring/Seep

Coded value domain
StreamRiver FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
46000	Stream/River
46003	Stream/River: Hydrographic Category = Intermittent
46006	Stream/River: Hydrographic Category = Perennial
46007	Stream/River: Hydrographic Category = Ephemeral

Coded value domain
Submerged Stream FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
46100	Submerged Stream

Coded value domain
SwampMarsh FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
46600	Swamp/Marsh
46601	Swamp/Marsh: Hydrographic Category: Intermittent
46602	Swamp/Marsh: Hydrographic Category: Perennial

Coded value domain
Tunnel FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
47800	Tunnel

Coded value domain
Underground Conduit FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
42000	Underground Conduit
42001	Underground Conduit: Positional Accuracy = Definite
42002	Underground Conduit: Positional Accuracy = Indefinite
42003	Underground Conduit: Positional Accuracy = Approx

Coded value domain
Wall FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
48300	Wall

Coded value domain
Wash FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
48400	Wash

Coded value domain
Water IntakeOutflow FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
48500	Water Intake/Outflow

Coded value domain
Waterfall FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
48700	Waterfall

Coded value domain
Well FCode
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
48800	Well

Non-FCode Domains

Coded value domain
Area Event Type
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description

Coded value domain
Line Event Type
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description

Coded value domain
Point Event Type
Description *Point Event Type*
Field type *Domain*
Split policy *Long integer*
Merge policy *Duplicate*

Code	Description
57001	Streamgage: Streamgage Status = Active; Record = Continuous
57002	Streamgage: Streamgage Status = Active; Record = Partial
57003	Streamgage: Streamgage Status = Inactive
57004	Water Quality Station
57100	Dam
57201	Flow Alteration = Addition
57202	Flow Alteration = Removal
57203	Flow Alteration = Unknown
57300	Hydrologic Unit Outlet

Range domain
ElevationRange
Description
Field type *Double*
Split policy *Default value*
Merge policy *Default value*

Minimum value	Maximum value
-400	9000

Coded value domain
Event Feature Class Reference
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
1	NHDArea
2	NHDFlowline
3	NHDLine
4	NHDPoint
5	NHDWaterbody

Coded value domain
FlowDirection
Description
Field type *Long integer*
Split policy *Default value*
Merge policy *Default value*

Code	Description
709	In
712	NetworkStart
713	NetworkEnd
714	Non-Flowing

Coded value domain
HydroFlowDirections
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
0	Uninitialized
1	WithDigitized

Coded value domain
HydrologicUnitSource
Description
Field type *Long integer*
Split policy *Default value*
Merge policy *Default value*

Code	Description
0	Watershed Boundaries Dataset
1	NHD
2	Other

Coded value domain
MainPath Domain
Description *MainPath Domain*
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
0	Unspecified
1	Confluence Main
2	Divergence Main
3	Both Confluence and Divergence

Coded value domain
NoYes Domain
Description *NoYes Domain*
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
0	No
1	Yes

Coded value domain
Organization Type
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
0	Unknown
1	International
2	Federal
3	Tribal
4	State
5	Regional
6	County
7	Municipal
8	Private

Coded value domain
Resolution
Description
Field type *Long integer*
Split policy *Duplicate*
Merge policy *Default value*

Code	Description
1	Local
2	High
3	Medium

Coded value domain
VisibilityFilter Domain
Description *VisibilityFilter*
Field type *Domain*
Split policy *Long integer*
Merge policy *Duplicate*

Code	Description
0	Unspecified
4800	Approximately 1:4,800 or Larger Scale
12500	Approximately 1:12,500 or Larger Scale
24000	Approximately 1:24,000 or Larger Scale
50000	Approximately 1:50,000 or Larger Scale
100000	Approximately 1:100,000 or Larger Scale
150000	Approximately 1:150,000 or Larger Scale
250000	Approximately 1:250,000 or Larger Scale
500000	Approximately 1:500,000 or Larger Scale
1000000	Approximately 1:1,000,000 or Larger Scale
2000000	Approximately 1:2,000,000 or Larger Scale
5000000	Approximately 1:5,000,000 or Larger Scale

NHD 2.3 Model Changes

Data model updates highlighted in diagram:

🟨 New element 🟦 Update 🟧 Delete

For more information on the ***National Hydrography Dataset (NHD),*** *the* ***Watershed Boundary Dataset (WBD),*** *and the* ***NHDPlus High Resolution (NHDPlus HR)*** *program, please visit:*

usgs.gov/nathydro