DRAFT ACES Geodatabase Schema Diagram: New Coastal Feature Dataset for Arc Hydro and expanded Time Series Datacube

Geodatabase C:\Projects\SJRWMD\Arc Hydro Customization 2007\Data\ACES.mdb
Date generated Tuesday, April 17, 2007
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SJRWMD Arc Hydro Feature Dataset

Arc Hydro Geometric Network

Complex edge feature class ArcHydro_NET_HydroEdge (Geometry *Polyline*; Contains M values *No*; Contains Z values *No*)

HydroEdges are the network of lines describing may hydrography. They are instrumental in the geometric network

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
RCH_CODE	String	Yes					14	From the NHD
LEVEL_	Long integer	Yes			0			
NAME	String	Yes					99	
ENABLED	Short integer	Yes	1	EnabledDomain	0			
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
FLOWDIR	Short integer	Yes	1	GISLIB_FlowDirection	0			Defines the direction of flow of the edge
FTYPE	String	Yes					25	Descriptor of flow type
EDGETYPE	Long integer	Yes	1	GISLIB_HydroEdgeType	0			
REACHCODE	String	Yes					50	From the NHD
HYDROCODE	String	Yes					30	Permanent public identifier of the feature
LENGTHKM	Double	Yes			0	0		Length of the edge in kilometers
LENGTHDOWN	Double	Yes			0	0		Length to nearest downstream sink
SHAPE	Geometry	Yes						
SHAPE_Length	Double	Yes			0	0		
QueryString	String	Yes					255	
QueryFloat	Float	Yes			0	0		

Simple junction feature class ArcHydro_NET_HydroJunction (Geometry *Point*; Contains M values *No*; Contains Z values *No*)

HydroJunctions area a set of points located a strategic locations on the flow network

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
ENABLED	Short integer	Yes	1	EnabledDomain	0			
ANCILLARYROLE	Short integer	Yes	0	AncillaryRoleDomain	0			Defines whether a junction is a sink, a source, or neither
HYDROCODE	String	Yes					30	Permanent public identifier of the feature
DRAINAREA	Double	Yes			0	0		
FTYPE	String	Yes		GISLIB_JunctionType			100	Descriptor of feature type
NEXTDOWNID	Long integer	Yes			0			HydroID of the next downstream HydroJunction
LENGTHDOWN	Double	Yes			0	0		Length to the nearest downstream sink
SHAPE	Geometry	Yes						
TIDE_DESC	Long integer	Yes			0			Place a succinct description of the field in this text

Simple junction feature class ArcHydro_NET_Junctions (Geometry *Point*; Contains M values *No*; Contains Z values *No*)

Generic junctions created during the building of a geometric network

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length
OBJECTID	Object ID						
ENABLED	Short integer	Yes	1	EnabledDomain	0		
SHAPE	Geometry	Yes					

Simple feature class ArcHydro_Pnt_Structure (Geometry *Point*; Contains M values *No*; Contains Z values *No*)

SJRWMD Engineering Structures

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
FTYPE	String	Yes		GISLIB_HydroStructureType			30	Desc of feature (culver, pump, spillway, weir)
NAME	String	Yes					100	
JUNCTIONID	Long integer	Yes			0			HydroID of the HydroJunction at structure
SHAPE	Geometry	Yes						

Simple feature class ArcHydro_Pnt_Dam (Geometry *Point*; Contains M values *No*; Contains Z values *No*)

An embankment or structure that ponds water to create a reservoir (from National Inventory of Dams)

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
NAME	String	Yes					100	
JUNCTIONID	Long integer	Yes			0			HydroID of the HydroJunction at the structure
SHAPE	Geometry	Yes						

Simple feature class ArcHydro_Pnt_Spring (Geometry *Point*; Contains M values *No*; Contains Z values *No*)

SJRWMD Springs

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
NAME	String	Yes					100	
JUNCTIONID	Long integer	Yes			0			HydroID of the HydroJunction at the spring
SHAPE	Geometry	Yes						

Simple feature class ArcHydro_Pnt_TidalNullPoint (Geometry *Point*; Contains M values *No*; Contains Z values *No*)

Approximate location of diverging flow on an outgoing tide, especially along the Intracoastal Waterway

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
ENABLED	Short integer	Yes	1		0			
ANCILLARYROLE	Short integer	Yes	0		0			
SHAPE	Geometry	Yes						

Arc Hydro polygon feature classes

Simple feature class ArcHydro_Poly_Waterbody (Geometry *Polygon*; Contains M values *No*; Contains Z values *No*)

Waterbodies in the SJRWMD Arc Hydro prototype

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
FTYPE	String	Yes		GISLIB_WBDinNW			24	Descriptor of feature type
NAME	String	Yes					99	
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
JUNCTIONID	Long integer	Yes			0			HydroID of the HydroJunction at waterbody outlet
AREASQKM	Double	Yes			0	0		Area in square kilometers
SHAPE	Geometry	Yes						
SHAPE_Length	Double	Yes			0	0		
SHAPE_Area	Double	Yes			0	0		
QueryString	String	Yes					255	
QueryFloat	Float	Yes			0	0		

Simple feature class ArcHydro_Poly_Basin (Geometry *Polygon*; Contains M values *No*; Contains Z values *No*)

Basins are a set of administratively selected standard drainage areas

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
HYDROCODE	String	Yes					30	Permanent public identifier of the feature
AREASQKM	Double	Yes			0	0		Area in square kilometers
SHAPE	Geometry	Yes						
SHAPE_Length	Double	Yes			0	0		
SHAPE_Area	Double	Yes			0	0		

Simple feature class ArcHydro_Poly_QuadBasin (Geometry *Polygon*; Contains M values *No*; Contains Z values *No*)

The QuadBasin feature class is a modification of the Arc Hydro Catchment feature class – being the elementary drainage areas for SJRWMD

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
HYDROCODE	String	Yes					30	Permanent public identifier of the feature
AREASQKM	Double	Yes			0	0		Area in square kilometers
JUNCTIONID	Long integer	Yes			0			HydroID of the HydroJunction at QuadBasin outlet
NEXTDOWNID	Long integer	Yes			0			HydroID of the next down stream QuadBasin
ISSWCONTR	Short integer	Yes			0			SJRWMD specific descriptor
SHAPE	Geometry	Yes						
SHAPE_Length	Double	Yes			0	0		
SHAPE_Area	Double	Yes			0	0		
QueryString	String	Yes					255	
QueryFloat	Float	Yes			0	0		

Simple feature class ArcHydro_Poly_Watershed (Geometry *Polygon*; Contains M values *No*; Contains Z values *No*)

Watersheds are drainage areas defined by subdividing the landscape: (holdover from standard Arc Hydro schema)

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
HYDROCODE	String	Yes					30	Permanent public identifier of the feature
AREASQKM	Double	Yes			0	0		Area in square kilometers
JUNCTIONID	Long integer	Yes			0			HydroID of the HydroJunction at watershed outlet
SHAPE	Geometry	Yes						
SHAPE_Length	Double	Yes			0	0		
SHAPE_Area	Double	Yes			0	0		

Simple feature class ArcHydro_Poly_GWModelDomain (Geometry *Polygon*; Contains M values *No*; Contains Z values *No*)

Feature class created to hold the boundaries (domains) of SJRWMD groundwater models

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
SHAPE	Geometry	Yes						
ModelName	String	Yes					255	Model name
ModelID	String	No					255	Unique identifier
SourceDept_	String	Yes					255	
ModelType	String	Yes					255	Type of model
SHAPE_Length	Double	Yes			0	0		
SHAPE_Area	Double	Yes			0	0		

Monitoring Points

Simple feature class ArcHydro_Pnt_Surr_SWQM (Geometry *Point*; Contains M values *No*; Contains Z values *No*)

Points operating as surrogates for Arc Hydro function (ie. Trace) when SWQM point is located in lake or estuary

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
HYDROID	Long integer	Yes			0			Unique feature identifier in geodatabase
ENABLED	Short integer	Yes	1	EnabledDomain	0			
ANCILLARYROLE	Short integer	Yes	0	AncillaryRoleDomain	0			
HYDROCODE	String	Yes					30	
FTYPE	String	Yes					100	
SHAPE	Geometry	Yes						

Simple feature class ArcHydro_Pnt_MonitorPoint_ED (Geometry *Point*; Contains M values *No*; Contains Z values *No*)

Water Quality Monitoring sites in the SJRWMD Environmental Database (not already in other feature class)

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
PNT_LOC_DS	String	No					76	
LAKEID	Long integer	Yes			0			HydroID of the Waterbody (if point is in lake)
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
JUNCTIONID	Long integer	Yes			0			HydroID of the HydroJunction at the site
NAME	String	Yes					100	
SITE	String	Yes					15	
HYDROCODE	String	Yes					30	Permanent public identifier of the feature
SHAPE	Geometry	Yes						
QueryString	String	Yes					255	
QueryFloat	Float	Yes			0	0		

Simple feature class ArcHydro_Pnt_MonitorPoint_NWIS (Geometry *Point*; Contains M values *No*; Contains Z values *No*)

Monitoring sites in the National Water Information System (USGS)

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
SITE	String	Yes					15	
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
JUNCTIONID	Long integer	Yes			0			HydroID of the HydroJunction at the site
HYDROCODE	String	Yes					30	Permanent public identifier of the feature
FTYPE	String	Yes		GISLIB_MPType_NWIS			30	Descriptor of feature
NAME	String	Yes					100	
LAKEID	Long integer	Yes			0			HydroID of the Waterbody (if point is in lake)
SHAPE	Geometry	Yes						

Simple feature class ArcHydro_Pnt_MonitorPoint_HDS (Geometry *Point*; Contains M values *No*; Contains Z values *No*)

Monitoring sites in the SJRWMD Hydrologic Data Services

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
SITE	String	Yes					15	
HYDROID	Long integer	Yes			0			Unique feature identifier in the geodatabase
JUNCTIONID	Long integer	Yes			0			HydroID of the HydroJunction at the site
HYDROCODE	String	Yes					30	Permanent public identifier of the feature
FTYPE	String	Yes		GISLIB_HDS_MPType			30	Descriptor of the feature
NAME	String	Yes					100	
SHAPE	Geometry	Yes						

Simple feature class SWQM (Geometry *Point*; Contains M values *No*; Contains Z values *No*)

Water Quality monitoring sites of the Surface Water Quality Monitoring Program

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
SHAPE	Geometry	Yes						
SITE	String	Yes					15	
HydroID	Long integer	Yes			0			Unique feature identifier in the geodatabase
JunctionID	Long integer	Yes			0			HydroID of the HydroJunction at the site
HydroCode	String	Yes					30	Permanent public identifier of the feature
Name	String	Yes					100	
Subtype	Long integer	Yes	1		0			

Relationship classes (SJRWMD Arc Hydro Feature Dataset)

Relationship class HydroEdgeHasModelInfo — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *ModelInfo*; Backward label *ArcHydro_NET_HydroEdge*. Origin feature class: Name *ArcHydro_NET_HydroEdge*, Primary key *HydroEdge*, Foreign key *HYDROID*. Destination table: Name *ModelInfo*, Primary key *ModelInfoID*, Foreign key *HYDROID*, *ModelInfoID*. No relationship rules defined.

Relationship class HydroJunctionHasWaterbody — Type *Simple*; Cardinality *One to many*; Notification *None*; Forward label *ArcHydro_Waterbody*; Backward label *ArcHydro_HydroJunction*. Origin feature class: Name *ArcHydro_NET_HydroJunction*, Primary key *HydroJunction*, Foreign key *HYDROID*, *JUNCTIONID*. Destination feature class: Name *ArcHydro_Poly_Waterbody*. No relationship rules defined.

Relationship class HydroJunctionHasQuadBasin — Type *Simple*; Cardinality *One to many*; Notification *None*; Forward label *ArcHydro_QuadBasin*; Backward label *ArcHydro_HydroJunction*. Origin feature class: Name *ArcHydro_NET_HydroJunction*, Primary key *HydroJunction*, Foreign key *HYDROID*, *JUNCTIONID*. Destination feature class: Name *ArcHydro_Poly_QuadBasin*. No relationship rules defined.

Relationship class HydroJunctionHasWatershed — Type *Simple*; Cardinality *One to many*; Notification *None*; Forward label *ArcHydro_Watershed*; Backward label *ArcHydro_HydroJunction*. Origin feature class: Name *ArcHydro_NET_HydroJunction*, Primary key *HydroJunction*, Foreign key *HYDROID*, *JUNCTIONID*. Destination feature class: Name *ArcHydro_Poly_Watershed*. No relationship rules defined.

Relationship class HydroJunctionHasStructure — Type *Simple*; Cardinality *One to many*; Notification *None*; Forward label *ArcHydro_Structure*; Backward label *ArcHydro_HydroJunction*. Origin feature class: Name *ArcHydro_NET_HydroJunction*, Primary key *HydroJunction*, Foreign key *HYDROID*, *JUNCTIONID*. Destination feature class: Name *ArcHydro_Pnt_Structure*. No relationship rules defined.

Relationship class HydroJunctionHasDam — Type *Simple*; Cardinality *One to many*; Notification *None*; Forward label *ArcHydro_Dam*; Backward label *ArcHydro_HydroJunction*. Origin feature class: Name *ArcHydro_NET_HydroJunction*, Primary key *HydroJunction*, Foreign key *HYDROID*, *JUNCTIONID*. Destination feature class: Name *ArcHydro_Pnt_Dam*. No relationship rules defined.

Relationship class HydroJuctionHasSpring — Type *Simple*; Cardinality *One to many*; Notification *None*; Forward label *ArcHydro_Spring*; Backward label *ArcHydro_HydroJunction*. Origin feature class: Name *ArcHydro_NET_HydroJunction*, Primary key *HydroJunction*, Foreign key *HYDROID*, *JUNCTIONID*. Destination feature class: Name *ArcHydro_Pnt_Spring*. No relationship rules defined.

Relationship class WaterBodyHadModelInfo — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *ModelInfo*; Backward label *ArcHydro_Poly_Waterbody*. Origin feature class: Name *ArcHydro_Poly_Waterbody*, Primary key *Waterbody*, Foreign key *HYDROID*. Destination table: Name *ModelInfo*, Primary key *ModelInfoID*, Foreign key *HYDROID*, *ModelInfoID*. No relationship rules defined.

Relationship class QuadBasinHasModelInfo — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *ModelInfo*; Backward label *ArcHydro_Poly_QuadBasin*. Origin feature class: Name *ArcHydro_Poly_QuadBasin*, Primary key *QuadBasin*, Foreign key *HYDROID*. Destination table: Name *ModelInfo*, Primary key *ModelInfoID*, Foreign key *HYDROID*, *ModelInfoID*. No relationship rules defined.

Relationship class GWModelHasModelInfo — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *ModelInfo*; Backward label *ArcHydro_Poly_GWModelDomain*. Origin feature class: Name *ArcHydro_Poly_GWModelDomain*, Primary key *ModelID*, Foreign key *ModelID*. Destination table: Name *ModelInfo*, Primary key *ModelInfoID*, Foreign key *ModelID*. No relationship rules defined.

Relationship class WaterbodyHasMonitorPoint_ED — Type *Simple*; Cardinality *One to many*; Notification *None*; Forward label *ArcHydro_MonitorPoint_ED*; Backward label *ArcHydro_Waterbody*. Origin feature class: Name *ArcHydro_Poly_Waterbody*, Primary key *HYDROID*, Foreign key *LAKEID*. Destination feature class: Name *ArcHydro_Pnt_MonitorPoint_ED*. No relationship rules defined.

Relationship class WaterbodyHasMonitorPoint_NWIS — Type *Simple*; Cardinality *One to many*; Notification *None*; Forward label *ArcHydro_MonitorPoint_NWIS*; Backward label *ArcHydro_Waterbody*. Origin feature class: Name *ArcHydro_Poly_Waterbody*, Primary key *HYDROID*, Foreign key *LAKEID*. Destination feature class: Name *ArcHydro_Pnt_MonitorPoint_NWIS*. No relationship rules defined.

Relationship class HydroJunctionHasMonitorPoint_ED — Type *Simple*; Cardinality *One to many*; Notification *None*; Forward label *ArcHydro_MonitorPoint_ED*; Backward label *ArcHydro_HydroJunction*. Origin feature class: Name *ArcHydro_NET_HydroJunction*, Primary key *HYDROID*, Foreign key *JUNCTIONID*. Destination feature class: Name *ArcHydro_Pnt_MonitorPoint_ED*. No relationship rules defined.

Relationship class MonitoringPointEDHasModelInfo — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *ModelInfo*; Backward label *ArcHydro_Pnt_MonitorPoint_ED*. Origin feature class: Name *ArcHydro_Pnt_MonitorPoint_ED*, Primary key *HYDROID*. Destination table: Name *ModelInfo*, Primary key *ModelInfoID*, Foreign key *HYDROID*, *ModelInfoID*. No relationship rules defined.

Relationship class HydroJunctionHasMonitorPoint_NWIS — Type *Simple*; Cardinality *One to many*; Notification *None*; Forward label *ArcHydro_MonitorPoint_NWIS*; Backward label *ArcHydro_HydroJunction*. Origin feature class: Name *ArcHydro_NET_HydroJunction*, Primary key *HYDROID*, Foreign key *JUNCTIONID*. Destination feature class: Name *ArcHydro_Pnt_MonitorPoint_NWIS*. No relationship rules defined.

Relationship class HydroJunctionHasMonitorPoint_HDS — Type *Simple*; Cardinality *One to many*; Notification *None*; Forward label *ArcHydro_MonitorPoint_HDS*; Backward label *ArcHydro_HydroJunction*. Origin feature class: Name *ArcHydro_NET_HydroJunction*, Primary key *HYDROID*, Foreign key *JUNCTIONID*. Destination feature class: Name *ArcHydro_Pnt_MonitorPoint_HDS*. No relationship rules defined.

Coastal Feature Dataset

Simple feature class Estuary (Geometry *Polygon*; Contains M values *No*; Contains Z values *Yes*)

The Estuary feature class stores the estuary waterbody.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
SHAPE	Geometry	Yes						
HydroID	Long integer	Yes			0			Unique feature identifier in the geodatabase
HydroCode	String	Yes					50	Permanent public identifier of the feature
FType	String	Yes					50	Descriptor – tidal datum of estuary polygon
Name	String	Yes					100	Feature name
AreaSqKm	Double	Yes			0	0		Area in Square Kilometers
Surface_Elevation	Double	Yes			0	0		Elevation of tidal datum used to create estuary feature
Up_JunctionID	Long integer	Yes			0			HydroID of HydroJunction
SHAPE_Length	Double	Yes			0	0		
SHAPE_Area	Double	Yes			0	0		
EstuaryID	String	Yes					50	Place a succinct description of the field in this text
EstuaryType	Long integer	Yes		ESTUARYTYPE	0			Place a succinct description of the field in this text

Simple feature class TidePoint (Geometry *Point*; Contains M values *No*; Contains Z values *No*)

NOAA tidal datum dataset

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
SHAPE	Geometry	Yes						
HydroID	Long integer	Yes			0			Unique feature identifier in the geodatabase
HydroCode	String	Yes					30	Permanent public identifier of the feature
FType	String	Yes					30	Descriptor of the feature
Name	String	Yes					100	Feature name
Up_JunctionID	Long integer	Yes			0			HydroID of the HydroJunction at the Tide point
Lo_Tide_Ht	Double	Yes			0	0		Height of low tide
Hi_Tide_Ht	Double	Yes			0	0		Height of high tide
Tidal_Range	Double	Yes			0	0		Tide range

Relationship class EstuaryHasHydroJunction — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *ArcHydro_NET_HydroJunction*; Backward label *Estuary*. Origin feature class: Name *Estuary*, Primary key *EstuaryID*, Foreign key *EstuaryID*. Destination feature class: Name *ArcHydro_NET_HydroJunction*, Primary key *HydroJunction*, Foreign key *HYDROID*, *HydroID*. No relationship rules defined.

Relationship class EstuaryHasHDS — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *ArcHydro_Pnt_MonitorPoint_HDS*; Backward label *Estuary*. Origin feature class: Name *Estuary*, Primary key *EstuaryID*, Foreign key *EstuaryID*. Destination feature class: Name *ArcHydro_Pnt_MonitorPoint_HDS*, Primary key *MonitorPoint_HDS*, Foreign key *HYDROID*, *HydroID*. No relationship rules defined.

Relationship class EstuaryHasSWQM — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *SWQM*; Backward label *Estuary*. Origin feature class: Name *Estuary*, Primary key *EstuaryID*, Foreign key *EstuaryID*. Destination feature class: Name *SWQM*, Primary key *HydroID*, Foreign key *HydroID*. No relationship rules defined.

Relationship class EstuaryHasRegressionModel — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *RegressionModels*; Backward label *Estuary*. Origin feature class: Name *Estuary*, Primary key *EstuaryID*, Foreign key *EstuaryID*. Destination table: Name *RegressionModels*, Primary key *ModelID*, Foreign key *ModelID*. No relationship rules defined.

Relationship class EstuaryHasTidePoint — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *TidePoint*; Backward label *Estuary*. Origin feature class: Name *Estuary*, Primary key *EstuaryID*, Foreign key *EstuaryID*. Destination feature class: Name *TidePoint*, Primary key *HydroID*, Foreign key *HydroID*. No relationship rules defined.

Attributed relationship class EstuaryHasDrainageArea — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *ArcHydro_Poly_QuadBasin*; Backward label *Estuary*. Origin feature class: Name *Estuary*, Primary key *EstuaryID*, Foreign key *EstuaryID*. Destination feature class: Name *ArcHydro_Poly_QuadBasin*, Primary key *HYDROID*, Foreign key *HYDROID*. No relationship rules defined.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
DrainageType	String	Yes					50	Place a succinct description of the field in this text
RID	Object ID							Place a succinct description of the field in this text
EstuaryID	String	Yes					50	Place a succinct description of the field in this text
HYDROID	Long integer	Yes			0			Place a succinct description of the field in this text

TABLES

Check-out/in and Inventory Tool tables *(FY 2006 SWQM Arc Hydro customization project)*

Table ModelInfo

ModelInfo table for Model Inventory tools. Holds information about each model.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
ModelInfoID	Long integer	No			0			Index for ModelInfo table
ModelInfoCode	String	Yes					255	Text description of Model
RelationType	Long integer	Yes		RelationType	0			CVD to indicate type of related features (not used)
ModelName	String	Yes					255	Name of model software (eg. HecRAS)
ModelPath	String	Yes					255	Path to model file
ModelClass	String	Yes					255	Class of Model (eg. Water Quality, Hydraulic, etc.)
EffectiveDate	Date	Yes			0	0	8	Date Model was made effective
ModelExe	String	Yes					255	Path to model Exe (used for opening model)
Comment	String	Yes					255	Comment
ModelFeatureDataSet	String	Yes					255	Name of Model Feature Dataset – for models with a GIS component
IDMName	String	Yes					255	Name of GDB that hold GIS portion of model
IDMPath	String	Yes					255	Path of GDB that holds GIS portion of model
IDMStatus	String	Yes					255	Status of IDM – not used
IDMMxd	String	Yes					255	MXD for for GIS portion of model
ModelType	String	Yes					255	Type of Model – subcategory to Model Class – Eg. Class – Hydraulic, Type – GeoHecRas 4
ModelVersion	String	Yes					255	Version of Model EXE
ModelDetail	Long integer	Yes	1	ModelDetail	0			Level of Detail of Model – (Hydraulic) – not used
ModelStatus	Long integer	Yes	1	ModelStatus	0			Status of Model – eg. Effective, Proposed

Table CheckBookKeeper

Table for Keeping Disconnected Editing Statistics (Check-out / Check-in Tool)

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
PU_ID	Long integer	Yes			0			HydroID of checked out Planning Unit
LastChecked	Date	Yes			0	0	8	Date a GDB was last checked out from this planning unit
CheckCount	Long integer	Yes			0			Number of times Planning Unit has been checked out
TimeSinceCheckOut	Double	Yes			0	0		Time in seconds since last checkout

Table SASResults

Results of SAS Models – to be related as 1:1 with MonitoringPoint_ED

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
HYDROID	Long integer	Yes			0			HydroID of Monitoring Point
Trend	Double	Yes			0	0		Trend (SAS results) improving, degrading, etc.
Status	Double	Yes			0	0		Status (SAS results) good, poor, etc.
Comment	String	Yes					255	Comment
ModelName	String	Yes					255	Name of Model

Time Series Tables: DataCubes

The datacube is actually two tables – a catalog that stores a single record for each time series and a data table that stores the time series data itself with one record per value. The two tables are linked by a t:many relationship with TSID as the index

Table HDSDataCube_TSCatalog

Type a description of this feature class or table in this placeholder text.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
VARIABLE	String	Yes					30	Place a succinct description of the field in this text
UNITS	String	Yes					30	Place a succinct description of the field in this text
ISREGULAR	Long integer	Yes		ISREGULAR	0			Place a succinct description of the field in this text
TSINTERVAL	Long integer	Yes		TSINTERVALTYPE	0			Place a succinct description of the field in this text
DATATYPE	Long integer	Yes		TSDATATYPE	0			Place a succinct description of the field in this text
ORIGIN	Long integer	Yes		TSORIGINS	0			Place a succinct description of the field in this text
StartTime	Date	Yes			0	0	8	Place a succinct description of the field in this text
EndTime	Date	Yes			0	0	8	Place a succinct description of the field in this text
TSID	String	Yes					50	Index value that links catalog table with time series table

Table HDSDataCube_TimeSeries

Type a description of this feature class or table in this placeholder text.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
TSDATETIME	Date	Yes			0	0	8	Place a succinct description of the field in this text
TSVALUE	Double	Yes			0	0		Place a succinct description of the field in this text
TSID	String	Yes					50	Index value that links catalog table with time series table
QUALITY	String	Yes					50	Place a succinct description of the field in this text

Relationship class HDSHasTimeSeries — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *HDSDataCube_TSCatalog*; Backward label *ArcHydro_Pnt_MonitorPoint_HDS*. Origin feature class: Name *ArcHydro_Pnt_MonitorPoint_HDS*, Primary key *HYDROID*, Foreign key *HydroID*. Destination table: Name *HDSDataCube_TSCatalog*, Primary key *TSID*, Foreign key *TSID*. No relationship rules defined.

Relationship class HDSTimeSeriesHasData — Type *Simple*; Cardinality *One to many*; Notification *Both*; Forward label *HDSDataCube_TimeSeries*; Backward label *HDSDataCube_TSCatalog*. Origin table: Name *HDSDataCube_TSCatalog*, Primary key *TSID*, Foreign key *TSID*. Destination table: Name *HDSDataCube_TimeSeries*. No relationship rules defined.

The datacube is actually two tables – a catalog that stores a single record for each time series and a data table that stores the time series data itself with one record per value. The two tables are linked by a t:many relationship with TSID as the index

Table QuadBasinDataCube_TSCatalog

Type a description of this feature class or table in this placeholder text.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
VARIABLE	String	Yes					30	Place a succinct description of the field in this text
UNITS	String	Yes					30	Place a succinct description of the field in this text
ISREGULAR	Long integer	Yes		ISREGULAR	0			Place a succinct description of the field in this text
TSINTERVAL	Long integer	Yes		TSINTERVALTYPE	0			Place a succinct description of the field in this text
DATATYPE	Long integer	Yes		TSDATATYPE	0			Place a succinct description of the field in this text
ORIGIN	Long integer	Yes		TSORIGINS	0			Place a succinct description of the field in this text
StartTime	Date	Yes			0	0	8	Place a succinct description of the field in this text
EndTime	Date	Yes			0	0	8	Place a succinct description of the field in this text
TSID	String	Yes					50	Place a succinct description of the field in this text

Table QuadBasinDataCube_TimeSeries

Type a description of this feature class or table in this placeholder text.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
TSDATETIME	Date	Yes			0	0	8	Place a succinct description of the field in this text
TSVALUE	Double	Yes			0	0		Place a succinct description of the field in this text
TSID	String	Yes					50	Place a succinct description of the field in this text
QUALITY	String	Yes					50	Place a succinct description of the field in this text

Relationship class QuadBasinHasTimeSeries — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *QuadBasinDataCube_TSCatalog*; Backward label *ArcHydro_Poly_QuadBasin*. Origin feature class: Name *ArcHydro_Poly_QuadBasin*, Primary key *HYDROID*, Foreign key *HYDROID*. Destination table: Name *QuadBasinDataCube_TSCatalog*, Primary key *TSID*, Foreign key *TSID*. No relationship rules defined.

Relationship class QuadBasinTimeSeriesHasData — Type *Simple*; Cardinality *One to many*; Notification *Both*; Forward label *HDSDataCube_TimeSeries*; Backward label *HDSDataCube_TSCatalog*. Origin table: Name *QuadBasinDataCube_TSCatalog*, Primary key *TSID*, Foreign key *TSID*. Destination table: Name *QuadBasinDataCube_TimeSeries*. No relationship rules defined.

Table RegressionModels

Type a description of this feature class or table in this placeholder text.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
ModelName	String	Yes					255	Place a succinct description of the field in this text
ModelType	String	Yes					50	Place a succinct description of the field in this text
ModelID	String	Yes					50	Place a succinct description of the field in this text
Description	String	Yes					255	Place a succinct description of the field in this text

Relationship class RegressionModelHasTimeSeries — Type *Simple*; Cardinality *One to many*; Notification *Both*; Forward label *RegressionDataCube_TSCatalog*; Backward label *RegressionModels*. Origin table: Name *RegressionModels*, Primary key *ModelID*, Foreign key *ModelID*. Destination table: Name *RegressionDataCube_TSCatalog*. No relationship rules defined.

The datacube is actually two tables – a catalog that stores a single record for each time series and a data table that stores the time series data itself with one record per value. The two tables are linked by a t:many relationship with TSID as the index

Table RegressionDataCube_TSCatalog

Time Series Catalog Table

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
VARIABLE	String	Yes					30	Place a succinct description of the field in this text
UNITS	String	Yes					30	Place a succinct description of the field in this text
ISREGULAR	Long integer	Yes		ISREGULAR	0			Place a succinct description of the field in this text
TSINTERVAL	Long integer	Yes		TSINTERVALTYPE	0			Place a succinct description of the field in this text
DATATYPE	Long integer	Yes		TSDATATYPE	0			Place a succinct description of the field in this text
ORIGIN	Long integer	Yes		TSORIGINS	0			Place a succinct description of the field in this text
StartTime	Date	Yes			0	0	8	Place a succinct description of the field in this text
EndTime	Date	Yes			0	0	8	Place a succinct description of the field in this text
TSID	String	Yes					50	Place a succinct description of the field in this text
Aggregation	String	Yes					50	Place a succinct description of the field in this text
Statistic	String	Yes					50	Place a succinct description of the field in this text
EndDate	Date	Yes			0	0	8	Place a succinct description of the field in this text
StartDate	Date	Yes			0	0	8	Place a succinct description of the field in this text
Multiplier	Double	Yes			0	0		Place a succinct description of the field in this text
Coefficient	Double	Yes			0	0		Place a succinct description of the field in this text
PairwiseCorrelation	Double	Yes			0	0		Place a succinct description of the field in this text
PValue	Double	Yes			0	0		Place a succinct description of the field in this text
TransformMax	Double	Yes			0	0		Place a succinct description of the field in this text
TransformMin	Double	Yes			0	0		Place a succinct description of the field in this text
Trend	Double	Yes			0	0		Place a succinct description of the field in this text
Type	String	Yes					50	Place a succinct description of the field in this text
RootTSID	String	Yes					255	Place a succinct description of the field in this text
RootTSIDTable	String	Yes					255	Place a succinct description of the field in this text
ModelID	String	Yes					50	Place a succinct description of the field in this text

Table RegressionDataCube_TimeSeries

Type a description of this feature class or table in this placeholder text.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
TSDATETIME	Date	Yes			0	0	8	Place a succinct description of the field in this text
TSVALUE	Double	Yes			0	0		Place a succinct description of the field in this text
TSID	String	Yes					50	Place a succinct description of the field in this text
QUALITY	String	Yes					50	Place a succinct description of the field in this text

Relationship class RegressionTimeSeriesHasData — Type *Simple*; Cardinality *One to many*; Notification *Both*; Forward label *HDSDataCube_TimeSeries*; Backward label *HDSDataCube_TSCatalog*. Origin table: Name *RegrDataCube_TSCat*, Primary key *TSID*, Foreign key *TSID*. Destination table: Name *RegressionDataCube_TimeSeries*. No relationship rules defined.

The datacube is actually two tables – a catalog that stores a single record for each time series and a data table that stores the time series data itself with one record per value. The two tables are linked by a t:many relationship with TSID as the index

Table SWQMDataCube_TSCatalog

Type a description of this feature class or table in this placeholder text.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
VARIABLE	String	Yes					30	Place a succinct description of the field in this text
UNITS	String	Yes					30	Place a succinct description of the field in this text
ISREGULAR	Long integer	Yes		ISREGULAR	0			Place a succinct description of the field in this text
TSINTERVAL	Long integer	Yes		TSINTERVALTYPE	0			Place a succinct description of the field in this text
DATATYPE	Long integer	Yes		TSDATATYPE	0			Place a succinct description of the field in this text
ORIGIN	Long integer	Yes		TSORIGINS	0			Place a succinct description of the field in this text
StartTime	Date	Yes			0	0	8	Place a succinct description of the field in this text
EndTime	Date	Yes			0	0	8	Place a succinct description of the field in this text
TSID	String	Yes					50	Place a succinct description of the field in this text

Table SWQMDataCube_TimeSeries

Type a description of this feature class or table in this placeholder text.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
TSDATETIME	Date	Yes			0	0	8	Place a succinct description of the field in this text
TSVALUE	Double	Yes			0	0		Place a succinct description of the field in this text
TSID	String	Yes					50	Place a succinct description of the field in this text
QUALITY	String	Yes					50	Place a succinct description of the field in this text

Relationship class SWQMHasTimeSeries — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *SWQMDataCube_TSCatalog*; Backward label *SWQM*. Origin feature class: Name *SWQM*, Primary key *HydroID*, Foreign key *HydroID*. Destination table: Name *SWQMDataCube_TSCatalog*, Primary key *TSID*, Foreign key *TSID*. No relationship rules defined.

Relationship class SWQM_TSHasData — Type *Simple*; Cardinality *One to many*; Notification *Both*; Forward label *SWQMDataCube_TimeSeries*; Backward label *SWQMDataCube_TSCatalog*. Origin table: Name *SWQMDataCube_TSCatalog*, Primary key *TSID*, Foreign key *TSID*. Destination table: Name *SWQMDataCube_TimeSeries*. No relationship rules defined.

Table TideData

Data from NOAA tide guage

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
Station	String	Yes					50	Station identifier (NOAA)
Epoch	String	Yes					255	Current tidal epoch
MHHW	Double	Yes			0	0		Mean higher high water
MHW	Double	Yes			0	0		Mean high water
DTL	Double	Yes			0	0		Diurnal tide level
MTL	Double	Yes			0	0		Mean tide level
MSL	Double	Yes			0	0		Mean sea level
MLW	Double	Yes			0	0		Mean low water
MLLW	Double	Yes			0	0		Mean lower low water
GT	Double	Yes			0	0		Great diurnal range
MN	Double	Yes			0	0		Mean range of tide
DHQ	Double	Yes			0	0		Diurnal high water inequality
DLQ	Double	Yes			0	0		Diurnal low water inequality
HWI	Double	Yes			0	0		High water interval
LWI	Double	Yes			0	0		Lowe water interval
NAVD	Double	Yes			0	0		National annual vertical datum
Maximum	Double	Yes			0	0		Maximum recorded tide
MaxDate	Long integer	Yes			0			Date of maximum recorded tide
MaxTime	Date	Yes			0	0	8	Time of maximum recorded tide
Minimum	Double	Yes			0	0		Minimum recorded tide
MinDate	Long integer	Yes			0			Date of minimum recorded tide
MinTime	Date	Yes			0	0	8	Time of minimum recorded tide

The datacube is actually two tables – a catalog that stores a single record for each time series and a data table that stores the time series data itself with one record per value. The two tables are linked by a t:many relationship with TSID as the index

Table TideDataCube_TSCatalog

Type a description of this feature class or table in this placeholder text.

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
VARIABLE	String	Yes					30	Place a succinct description of the field in this text
UNITS	String	Yes					30	Place a succinct description of the field in this text
ISREGULAR	Long integer	Yes		ISREGULAR	0			Place a succinct description of the field in this text
TSINTERVAL	Long integer	Yes		TSINTERVALTYPE	0			Time interval represented by each measurement
DATATYPE	Long integer	Yes		TSDATATYPE	0			Type of time series data e.g. instantaneous, cumulative
ORIGIN	Long integer	Yes		TSORIGINS	0			Origin of the time series data
StartTime	Date	Yes			0	0	8	Start time of time series
EndTime	Date	Yes			0	0	8	End time of time series
TSID	String	Yes					50	Place a succinct description of the field in this text

Table TideDataCube_TimeSeries

Table storing time varying attributes of the features

Field name	Data type	Allow nulls	Default value	Domain	Precision	Scale	Length	Description
OBJECTID	Object ID							
TSDATETIME	Date	Yes			0	0	8	Date and time of the time series value
TSVALUE	Double	Yes			0	0		Time series value
TSID	String	Yes					50	Place a succinct description of the field in this text
QUALITY	String	Yes					50	Place a succinct description of the field in this text

Relationship class TidePtHasTimeSeries — Type *Simple*; Cardinality *Many to many*; Notification *Both*; Forward label *TideDataCube_TSCatalog*; Backward label *TidePoint*. Origin feature class: Name *TidePoint*, Primary key *HydroID*, Foreign key *HydroID*. Destination table: Name *TideDataCube_TSCatalog*, Primary key *TSID*, Foreign key *TSID*. No relationship rules defined.

Relationship class TideTimeSeriesHasData — Type *Simple*; Cardinality *One to many*; Notification *Both*; Forward label *TideDataCube_TimeSeries*; Backward label *TideDataCube_TSCatalog*. Origin table: Name *TideDataCube_TSCatalog*, Primary key *TSID*, Foreign key *TSID*. Destination table: Name *TideDataCube_TimeSeries*. No relationship rules defined.

CODED VALUE DOMAINS

Coded value domain ESTUARYTYPE — Description *Estuary identifier*; Field type *Long integer*; Split policy *Default value*; Merge policy *Default value*

Code	Description
1	REPRESENTATIVE
2	HITIDE
3	LOTIDE

Coded value domain ModelDetail — Field type *Long integer*; Split policy *Default value*; Merge policy *Default value*

Code	Description
1	Approximate
2	Limited Detail
3	Full Detail

Coded value domain GISLIB_FlowDirection — Description *Flow Direction*; Field type *Short integer*; Split policy *Default value*; Merge policy *Default value*

Code	Description
0	Unitialized
1	WithDigitized
2	AgainstDigitized
3	Indeterminate

Coded value domain ModelStatus — Field type *Long integer*; Split policy *Default value*; Merge policy *Default value*

Code	Description
1	Effective
2	Proposed

Coded value domain RelationType — Field type *Long integer*; Split policy *Default value*; Merge policy *Default value*

Code	Description
1	HydroEdge
2	HydroJunction

Coded value domain GISLIB_HDS_MPType — Description *HDS MonitoringPoint Type in ArcHydro*; Field type *String*; Split policy *Default value*

Code	Description
HDS Discharge	HDS Discharge
HDS Spring	HDS Spring
HDS Water Level	HDS Water Level
NWIS	NWIS
SWQM	SWQM

Coded value domain TSDATATYPE — Description *Time Series Data Type*; Field type *Long integer*; Split policy *Default value*

Code	Description
1	INSTANTANEOUS
2	CUMULATIVE
3	INCREMENTAL
4	AVERAGE
5	MAXIMUM
6	MINIMUM

Coded value domain GISLIB_HydroEdgeType — Description *Edge Type for hydroEdge*; Field type *Long integer*; Merge policy *Default value*

Code	Description
1	Flowline
2	Shoreline

Coded value domain GISLIB_HydroStructureType — Description *Structure Type*; Field type *String*; Split policy *Default value*; Merge policy *Default value*

Code	Description
Culvert	Culvert
Pump	Pump
Spillway	Spillway
Weir	Weir

Coded value domain TSINTERVALTYPE — Description *Time Series Data Collection Interval*; Field type *Long integer*; Split policy *Default value*; Merge policy *Default value*

Code	Description
1	1 MIN
2	2 MIN
3	3 MIN
4	4 MIN
5	5 MIN
6	10 MIN
7	15 MIN
8	20 MIN
9	30 MIN
10	1 HOUR
11	2 HOUR
12	3 HOUR
13	4 HOUR
14	6 HOUR
15	8 HOUR
16	12 HOUR
17	1 DAY
18	1 WEEK
19	1 MONTH
20	1 YEAR
99	OTHER

Coded value domain GISLIB_JunctionType — Description *Junction Type for ArcHydro HydroJunction*; Merge policy *String*

Code	Description
CmtOutlet	CatchmentOutlet
Dam	Dam
MonitoringPoint	MonitoringPoint
Sink	Sink
Spring	Spring
Structure	Structure
WbdOutlet	WaterbodyOutlet
WshOutlet	WatershedOutlet
IWRM	Integrated Water Resource MonitoringPoint
SurrMonitoringPoint	Surrogate MonitoringPoint
Coastal	Coastal Basin
Riverine	Riverine
ICWW	Intercoastal waterway
Ocean	Oceanic

Coded value domain AncillaryRoleDomain — Field type *Short integer*; Split policy *Default value*; Merge policy *Default value*

Code	Description
0	None
1	Source
2	Sink

Coded value domain GISLIB_MPType_NWIS — Description *NWIS MonitoringPoint Type in ArcHydro*; Merge policy *String*

Code	Description
Small Lake MP	NWIS Small Lake MonitoringPoint
Large Lake MP	NWIS Large Lake MonitoringPoint
Small Stream MP	NWIS Small Stream MonitoringPoint
Large River MP	NWIS Large River MonitoringPoint

Coded value domain EnabledDomain — Field type *Short integer*; Split policy *Default value*; Merge policy *Default value*

Code	Description
0	False
1	True

Coded value domain GISLIB_WBDinNW — Description *Indicate whether waterbody participate network or not*; Merge policy *String*

Code	Description
0	Not participate Hydro-Network
1	Participate Hydro-Network

Coded value domain TSORIGINS — Field type *Long integer*; Split policy *Default value*; Merge policy *Default value*

Code	Description
1	RECORDED
2	GENERATED

Coded value domain HydroEdgeType — Field type *Long integer*; Split policy *Default value*; Merge policy *Default value*

Code	Description
1	Flowline
2	Shoreline

Coded value domain HydroFlowDirections — Field type *Long integer*; Split policy *Default value*; Merge policy *Default value*

Code	Description
0	Uninitialized
1	WithDigitized
2	AgainstDigitized
3	Indeterminate

Coded value domain ISREGULAR — Description *BOOLEAN*; Field type *Long integer*; Split policy *Default value*; Merge policy *Default value*

Code	Description
1	YES
0	NO