

Australian Hydrological Geospatial Fabric (Geofabric) Data Dictionary

Hydrology Reporting Catchments

Version 2.1 – November 2012



Australian Government
Bureau of Meteorology



Contact details

Geospatial Data Unit

Bureau of Meteorology
GPO Box 2334 CANBERRA ACT 2601

Phone: 02 6232 3502
Email: ahgf@bom.gov.au

Geofabric Hydrology Reporting Catchments V2.1

Table Of Contents

Domains	<i>Listing of Coded Value and Range Domains.</i>
ObjectClasses	<i>Listing of Tables and FeatureClasses.</i>
Relationships	<i>Listing of Geodatabase Relationships.</i>
Spatial Reference	<i>Listing of Spatial References used by FeatureClasses and FeatureDatasets.</i>

[Back to Top](#)

Domains

Domain Name	Domain Type
AHGFContractedCatchmentType	Coded Value
AHGFDiffusedNodeType	Coded Value
AHGFNetworkLinkType	Coded Value
AHGFNetworkNodeType	Coded Value
EnabledDomain	Coded Value
HydroFlowDirections	Coded Value

[Back to Top](#)

AHGFFContractedCatchmentType

Description	Types of contracted catchment areas.
Domain Type	Coded Value
Field Type	Integer
Merge Policy	Default Value
Split Policy	Default Value

Domain Members

Name	Value
ContractedArea	22
NonContractedArea	23
NoFlowArea	24

[Back to Top](#)

AHGFDiffusedNodeType

Description	Types of diffused nodes.
Domain Type	Coded Value
Field Type	String
Merge Policy	Default Value
Split Policy	Default Value

Domain Members

Name	Value
Coastal	Coastal
Delta	Delta
Inter-catchment	Inter-catchment

[Back to Top](#)

AHGFNetworkLinkType

Description	Surface water geoschematic link (terrain based).
Domain Type	Coded Value
Field Type	Integer
Merge Policy	Default Value
Split Policy	Default Value

Domain Members

Name	Value
NetworkLink	65

[Back to Top](#)

AHGFNetworkNodeType

Description	Node types derived from network (terrain based) streams.
Domain Type	Coded Value
Field Type	Integer
Merge Policy	Default Value
Split Policy	Default Value

Domain Members

Name	Value
NetworkJunctionNode	4
NetworkTerminusNode	5
NetworkArtificialNode	6
NetworkWaterAreaNode	7
NetworkGhostNode	8
NetworkHeadNode	9
NetworkCliffNode	10

[Back to Top](#)

EnabledDomain

Description	Flag indicating whether a feature allows flow or is blocked.
Domain Type	Coded Value
Field Type	Small Integer
Merge Policy	Default Value
Split Policy	Default Value

Domain Members

Name	Value
False	0
True	1

[Back to Top](#)

HydroFlowDirections

Description	Flow directions in relation to the digitised direction.
Domain Type	Coded Value
Field Type	Integer
Merge Policy	Default Value
Split Policy	Default Value

Domain Members

Name	Value
Uninitialized	0
WithDigitized	1
AgainstDigitized	2
Indeterminate	3

[Back to Top](#)

ObjectClasses

ObjectClass Name	Type	Geometry	Subtype
HR_Catchments			Spatial References
AHGFContractedCatchment	Simple FeatureClass	Polygon	ContractedArea NoFlowArea NonContractedArea
AHGFLink	Simple FeatureClass	Polyline	- NetworkArtificialNode NetworkCliffNode NetworkGhostNode
AHGFNode	Simple FeatureClass	Point	NetworkHeadNode NetworkJunctionNode NetworkTerminusNode NetworkWaterAreaNode
Stand Alone ObjectClass(s)			
NodeLinkConnectivityDown	Table	-	-
NodeLinkConnectivityUp	Table	-	-

[Back to Top](#)

AHGFFContractedCatchment

Alias	AHGFFContractedCatchment	Geometry:Polygon
Dataset Type	FeatureClass	Average Number of Points:0
FeatureType	Simple	Has M:No Has Z:No Grid Size:1,000

Field Name	Alias Name	Model Name	Type	Precn.	Scale	Length	Null
OBJECTID	OBJECTID	OBJECTID	OID	0	0	4	No
Shape	Shape	Shape	Geometry	0	0	0	Yes
HydroID			Integer	0	0	4	No
AHGFFType	AHGFFeatureType	AHGFFType	Integer	0	0	4	No
ConCatID	ContractedCatchmentID	ConCatID	Integer	0	0	4	Yes
ConNodeID	ContractedNodeID	ConNodeID	Integer	0	0	4	Yes
ConLevel	ContractLevel	ConLevel	Small Integer	0	0	2	Yes
FConNodeID	FromContractedNodeID	FConNodeID	Integer	0	0	4	Yes
NetNodeID	NetworkNodeID	NetNodeID	Integer	0	0	4	Yes
MapNodeID	MappedNodeID	MapNodeID	Integer	0	0	4	Yes
SrcFCName	SourceFeatureClassName	SrcFCName	String	0	0	25	No
SrcFType	SourceFeatureType	SrcFType	String	0	0	32	No
SrcType	SourceType	SrcType	Integer	0	0	4	Yes
SourceID			Integer	0	0	4	Yes
FeatRel	FeatureReliability	FeatRel	Date	0	0	8	Yes
FSource	FeatureSource	FSource	String	0	0	25	No
AttrRel	AttributeReliability	AttrRel	Date	0	0	8	Yes
AttrSource	AttributeSource	AttrSource	String	0	0	25	No
PlanAcc	PlanimetricAccuracy	PlanAcc	Small Integer	0	0	2	Yes
Symbol			Small Integer	0	0	2	Yes
TextNote			String	0	0	50	Yes
AlbersArea			Double	0	0	8	Yes
Shape_Length	Shape_Length	Shape_Length	Double	0	0	8	Yes
Shape_Area	Shape_Area	Shape_Area	Double	0	0	8	Yes

Subtype Name	Default Value	Domain
ObjectClass		
AHGFFType	22	AHGFFContractedCatchmentType
ContractedArea (AHGFFType=22) [Default]		
AHGFFType	22	AHGFFContractedCatchmentType
NoFlowArea (AHGFFType=24)		
AHGFFType	24	AHGFFContractedCatchmentType
NonContractedArea (AHGFFType=23)		
AHGFFType	23	AHGFFContractedCatchmentType

Index Name	Ascending	Unique	Fields
FDO_OBJECTID	Yes	Yes	OBJECTID
FDO_Shape	No	No	Shape
GDB_25_ConNodeID	Yes	No	ConNodeID
GDB_25_HydroID	Yes	No	HydroID

[Back to Top](#)

Australian Hydrological Geospatial Fabric (Geofabric) Data Dictionary - Hydrology Reporting Catchments

AHGFLink

Alias	AHGFLink	Geometry:Polyline					
Dataset Type	FeatureClass	Average Number of Points:0					
		Has M:No					
FeatureType	Simple	Has Z:No					
		Grid Size:1,000					
Field Name	Alias Name	Model Name	Type	Precn.	Scale	Length	Null
OBJECTID	OBJECTID	OBJECTID	OID	0	0	4	No
Shape	Shape	Shape	Geometry	0	0	0	Yes
HydroID			Integer	0	0	4	No
AHGFFType	AHGFFeatureType	AHGFFType	Integer	0	0	4	No
ConLinkID	ContractedLinkID	ConLinkID	Integer	0	0	4	Yes
FConNodeID	FromContractedNodeID	FConNodeID	Integer	0	0	4	Yes
TConNodeID	ToContractedNodeID	TConNodeID	Integer	0	0	4	Yes
DrainID			Integer	0	0	4	Yes
Enabled	Enabled	Enabled	Small Integer	0	0	2	No
FlowDir	FlowDir	FlowDir	Integer	0	0	4	No
SrcFCName	SourceFeatureClassName	SrcFCName	String	0	0	25	No
SrcFType	SourceFeatureType	SrcFType	String	0	0	32	No
SrcType	SourceType	SrcType	Integer	0	0	4	Yes
SourceID			Integer	0	0	4	Yes
FeatRel	FeatureReliability	FeatRel	Date	0	0	8	Yes
FSource	FeatureSource	FSource	String	0	0	25	No
AttrRel	AttributeReliability	AttrRel	Date	0	0	8	Yes
AttrSource	AttributeSource	AttrSource	String	0	0	25	No
PlanAcc	PlanimetricAccuracy	PlanAcc	Small Integer	0	0	2	Yes
Symbol			Small Integer	0	0	2	Yes
TextNote			String	0	0	50	Yes
GeodesLen	GeodesicLength	GeodesLen	Double	0	0	8	Yes
Shape_Length	Shape_Length	Shape_Length	Double	0	0	8	Yes
Subtype Name	Default Value	Domain					
ObjectClass							
AHGFFType	65	AHGFNetworkLinkType					
Enabled		EnabledDomain					
FlowDir		HydroFlowDirections					
Index Name	Ascending	Unique	Fields				
FDO_OBJECTID	Yes	Yes	OBJECTID				
FDO_Shape	No	No	Shape				
GDB_23_DrainID	Yes	No	DrainID				

[Back to Top](#)

Australian Hydrological Geospatial Fabric (Geofabric) Data Dictionary - Hydrology Reporting Catchments

AHGFNode

Alias	AHGFNode	Geometry:Point					
Dataset Type	FeatureClass	Average Number of Points:0					
		Has M:No					
FeatureType	Simple	Has Z:No					
		Grid Size:1,000					
Field Name	Alias Name	Model Name	Type	Precn.	Scale	Length	Null
OBJECTID	OBJECTID	OBJECTID	OID	0	0	4	No
Shape	Shape	Shape	Geometry	0	0	0	Yes
HydroID			Integer	0	0	4	No
AHGFFType	AHGFFeatureType	AHGFFType	Integer	0	0	4	No
ConNodeID	ContractedNodeID	ConNodeID	Integer	0	0	4	Yes
ConLevel	ContractLevel	ConLevel	Small Integer	0	0	2	Yes
MapNodeID	MappedNodeID	MapNodeID	Integer	0	0	4	Yes
DiffusGrp	DiffusedGroup	DiffusGrp	Integer	0	0	4	Yes
DiffusType	DiffusedType	DiffusType	String	0	0	25	Yes
DiffusKey	DiffusedKey	DiffusKey	Small Integer	0	0	2	Yes
MergedSink			Integer	0	0	4	Yes
NextDownID			Integer	0	0	4	Yes
Enabled	Enabled	Enabled	Small Integer	0	0	2	No
SrcFCName	SourceFeatureClassName	SrcFCName	String	0	0	25	No
SrcFType	SourceFeatureType	SrcFType	String	0	0	32	No
SrcType	SourceType	SrcType	Integer	0	0	4	Yes
SourceID			Integer	0	0	4	Yes
FeatRel	FeatureReliability	FeatRel	Date	0	0	8	Yes
FSource	FeatureSource	FSource	String	0	0	25	No
AttrRel	AttributeReliability	AttrRel	Date	0	0	8	Yes
AttrSource	AttributeSource	AttrSource	String	0	0	25	No
PlanAcc	PlanimetricAccuracy	PlanAcc	Small Integer	0	0	2	Yes
Symbol			Small Integer	0	0	2	Yes
TextNote			String	0	0	50	Yes

Subtype Name	Default Value	Domain	
ObjectClass			
AHGFFType	5	AHGFNetworkNodeType	
DiffusType		AHGFDiffusedNodeType	
Enabled		EnabledDomain	
NetworkArtificialNode (AHGFFType=6)			
AHGFFType	6	AHGFNetworkNodeType	
DiffusType		AHGFDiffusedNodeType	
Enabled		EnabledDomain	
NetworkCliffNode (AHGFFType=10)			
AHGFFType	10	AHGFNetworkNodeType	
DiffusType		AHGFDiffusedNodeType	
Enabled		EnabledDomain	
NetworkGhostNode (AHGFFType=8)			
AHGFFType	8	AHGFNetworkNodeType	
DiffusType		AHGFDiffusedNodeType	
Enabled		EnabledDomain	
NetworkHeadNode (AHGFFType=9)			
AHGFFType	9	AHGFNetworkNodeType	
DiffusType		AHGFDiffusedNodeType	
Enabled		EnabledDomain	
NetworkJunctionNode (AHGFFType=4)			
AHGFFType	4	AHGFNetworkNodeType	
DiffusType		AHGFDiffusedNodeType	
Enabled		EnabledDomain	
NetworkTerminusNode (AHGFFType=5) [Default]			
AHGFFType	5	AHGFNetworkNodeType	
DiffusType		AHGFDiffusedNodeType	
Enabled		EnabledDomain	
NetworkWaterAreaNode (AHGFFType=7)			
AHGFFType	7	AHGFNetworkNodeType	
DiffusType		AHGFDiffusedNodeType	
Enabled		EnabledDomain	
Index Name	Ascending	Unique	Fields
FDO_OBJECTID	Yes	Yes	OBJECTID
FDO_Shape	No	No	Shape
GDB_24_ConNodeID	Yes	No	ConNodeID

[Back to Top](#)

NodeLinkConnectivityDown

Alias	NodeLinkConnectivityDown						
Dataset Type	Table						
FeatureType							
Field Name	Alias Name	Model Name	Type	Precn.	Scale	Length	Null
OBJECTID	OBJECTID	OBJECTID	OID	0	0	4	No
From_ID			Integer	0	0	4	No
To_ID			Integer	0	0	4	No
Link_ID			Integer	0	0	4	No
Subtype Name	Default Value			Domain			
Index Name	Ascending	Unique	Fields				
FDO_OBJECTID	Yes	Yes	OBJECTID				

[Back to Top](#)

NodeLinkConnectivityUp

Alias	NodeLinkConnectivityUp						
Dataset Type	Table						
FeatureType							
Field Name	Alias Name	Model Name	Type	Precn.	Scale	Length	Null
OBJECTID	OBJECTID	OBJECTID	OID	0	0	4	No
From_ID			Integer	0	0	4	No
To_ID			Integer	0	0	4	No
Link_ID			Integer	0	0	4	No
Subtype Name	Default Value			Domain			
Index Name	Ascending	Unique	Fields				
FDO_OBJECTID	Yes	Yes	OBJECTID				

[Back to Top](#)

Relationships

Name	Origin	Destination	AttributedCompositeRules		
ContractedCatchmentDrainsToLink	AHGFCContractedCatchment	AHGFLink	No	No	No
NodeDrainsContractedCatchment	AHGNode	AHGFCContractedCatchment	No	No	No

ContractedCatchmentDrainsToLink

Composite	No
Cardinality	One To One
Notification	None
Attributed	No
	Origin
ObjectClass	AHGFCContractedCatchment
Key	HydroID (<i>Origin Primary Key</i>)
Labels	drains
	Destination
	AHGFLink
	DrainID (<i>Origin Foreign Key</i>)
	is drained by

[Back to Top](#)

NodeDrainsContractedCatchment

Composite	No
Cardinality	One To Many
Notification	None
Attributed	No
	Origin
ObjectClass	AHGNode
Key	ConNodeID (<i>Origin Primary Key</i>)
Labels	is drained by
	Destination
	AHGFCContractedCatchment
	ConNodeID (<i>Origin Foreign Key</i>)
	drains

[Back to Top](#)

Spatial References

Dimension	Minimum	Precision
HR_Catchments		
X	-400	
Y	-400	1,000,000,000
M	0	100,000
Z	0	100,000

Coordinate System Description

```
GEOGCS["GCS_GDA_1994",  
DATUM["D_GDA_1994",  
SPHEROID["GRS_1980",6378137.0,298.257222101]],  
PRIMEM["Greenwich",0.0],  
UNIT["Degree",0.0174532925199433],  
AUTHORITY["EPSG",4283]]
```

[Back to Top](#)



Water Information
DATA › INFORMATION › INSIGHT

Through the *Water Act 2007*, the Australian Government has given the Bureau of Meteorology responsibility for compiling and delivering comprehensive water information across Australia.

For more information

Visit our website at www.bom.gov.au/water

Send an email request to waterinfo@bom.gov.au



Australian Government

Bureau of Meteorology