

# Australian Hydrological Geospatial Fabric (Geofabric) Data Dictionary

Hydrology Reporting Catchments

Version 2.0 – November 2011



**Australian Government**  
**Bureau of Meteorology**



## Contact details

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## Geofabric Hydrology Reporting Catchments V2.0

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## Domains

Domain Name	Domain Type
<a href="#">AHGFContractedCatchmentType</a>	Coded Value
<a href="#">AHGFNetworkLinkType</a>	Coded Value
<a href="#">AHGFNetworkNodeType</a>	Coded Value
<a href="#">EnabledDomain</a>	Coded Value
<a href="#">HydroFlowDirections</a>	Coded Value

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### AHGFContractedCatchmentType

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

#### Domain Members

Name	Value
ContractedArea	22
NonContractedArea	23
NoFlowArea	24

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## AHGFNetworkLinkType

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

### Domain Members

<b>Name</b>	<b>Value</b>
NetworkLink	65

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## AHGFNetworkNodeType

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

### Domain Members

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

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## EnabledDomain

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

### Domain Members

<b>Name</b>	<b>Value</b>
False	0
True	1

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## HydroFlowDirections

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

### Domain Members

<b>Name</b>	<b>Value</b>
Uninitialized	0
WithDigitised	1
AgainstDigitised	2
Indeterminate	3

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## ObjectClasses

ObjectClass Name	Type	Geometry	Subtype
<b>HR_Catchments</b>			<a href="#">SR</a>
<a href="#">AHGFContractedCatchment</a>	Simple FeatureClass	Polygon	ContractedArea NoFlowArea NonContractedArea
<a href="#">AHGFLink</a>	Simple FeatureClass	Polyline	-
<a href="#">AHGFNode</a>	Simple FeatureClass	Point	NetworkArtificialNode NetworkCliffNode NetworkGhostNode NetworkHeadNode NetworkJunctionNode NetworkTerminusNode NetworkWaterAreaNode
<b>Stand Alone ObjectClass(s)</b>			
<a href="#">AHGFNodeLinkConnectivityDown</a>	Table	-	-
<a href="#">AHGFNodeLinkConnectivityUp</a>	Table	-	-

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## 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	Length	Null	
OBJECTID	OBJECTID	OBJECTID	OID	4	No	
Shape	Shape	Shape	Geometry	0	Yes	
HydroID			Integer	4	No	
AHGFFType	AHGFFeatureType	AHGFFType	Integer	4	No	
ConNodeID	ContractedNodeID	ConNodeID	Integer	4	Yes	
ConLevel	ContractLevel	ConLevel	Small Integer	2	Yes	
FConNodeID	FromContractedNodeID	FConNodeID	Integer	4	Yes	
NetNodeID	NetworkNodeID	NetNodeID	Integer	4	Yes	
MapNodeID	MappedNodeID	MapNodeID	Integer	4	Yes	
SrcFCName	SourceFeatureClassName	SrcFCName	String	25	No	
SrcFType	SourceFeatureType	SrcFType	String	32	No	
SrcType	SourceType	SrcType	Integer	4	Yes	
SourceID			Integer	4	Yes	
FeatRel	FeatureReliability	FeatRel	Date	8	Yes	
FSource	FeatureSource	FSource	String	25	No	
AttrRel	AttributeReliability	AttrRel	Date	8	Yes	
AttrSource	AttributeSource	AttrSource	String	25	No	
PlanAcc	PlanimetricAccuracy	PlanAcc	Small Integer	2	Yes	
Symbol			Small Integer	2	Yes	
TextNote			String	50	Yes	
AlbersArea			Double	8	Yes	
Shape_Length	Shape_Length	Shape_Length	Double	8	Yes	
Shape_Area	Shape_Area	Shape_Area	Double	8	Yes	
Subtype Name	Default Value	Domain				
<b>ObjectClass</b>						
AHGFFType	22	<a href="#">AHGFFContractedCatchmentType</a>				
<b>ContractedArea (AHGFFType=22) [Default]</b>						
AHGFFType	22	<a href="#">AHGFFContractedCatchmentType</a>				
<b>NoFlowArea (AHGFFType=24)</b>						
AHGFFType	24	<a href="#">AHGFFContractedCatchmentType</a>				
<b>NonContractedArea (AHGFFType=23)</b>						
AHGFFType	23	<a href="#">AHGFFContractedCatchmentType</a>				

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<b>Index Name</b>	<b>Ascending</b>	<b>Unique</b>	<b>Fields</b>
FDO_OBJECTID	Yes	Yes	OBJECTID
FDO_Shape	No	No	Shape
GDB_25_ConNodeID	Yes	No	ConNodeID
GDB_25_HydroID	Yes	No	HydroID

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## AHGFLink

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

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### AHGFNode

Alias	AHGFNode	Geometry:	Point		
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	Length	Null
OBJECTID	OBJECTID	OBJECTID	OID	4	No
Shape	Shape	Shape	Geometry	0	Yes
HydroID			Integer	4	No
AHGFFType	AHGFFeatureType	AHGFFType	Integer	4	No
ConNodeID	ContractedNodeID	ConNodeID	Integer	4	Yes
ConLevel	ContractLevel	ConLevel	Small Integer	2	Yes
MapNodeID	MappedNodeID	MapNodeID	Integer	4	Yes
NextDownID			Integer	4	Yes
Enabled	Enabled	Enabled	Small Integer	2	No
SrcFCName	SourceFeatureClassName	SrcFCName	String	25	No
SrcFType	SourceFeatureType	SrcFType	String	32	No
SrcType	SourceType	SrcType	Integer	4	Yes
SourceID			Integer	4	Yes
FeatRel	FeatureReliability	FeatRel	Date	8	Yes
FSource	FeatureSource	FSource	String	25	No
AttrRel	AttributeReliability	AttrRel	Date	8	Yes
AttrSource	AttributeSource	AttrSource	String	25	No
PlanAcc	PlanimetricAccuracy	PlanAcc	Small Integer	2	Yes
Symbol			Small Integer	2	Yes
TextNote			String	50	Yes
Subtype Name	Default Value	Domain			
<b>ObjectClass</b>					
AHGFFType	5	<a href="#">AHGFNetworkNodeType</a>			
Enabled		<a href="#">EnabledDomain</a>			
<b>NetworkArtificialNode (AHGFFType=6)</b>					
AHGFFType	6	<a href="#">AHGFNetworkNodeType</a>			
Enabled		<a href="#">EnabledDomain</a>			
<b>NetworkCliffNode (AHGFFType=10)</b>					
AHGFFType	10	<a href="#">AHGFNetworkNodeType</a>			
Enabled		<a href="#">EnabledDomain</a>			
<b>NetworkGhostNode (AHGFFType=8)</b>					
AHGFFType	8	<a href="#">AHGFNetworkNodeType</a>			

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Enabled			<a href="#">EnabledDomain</a>
<b>NetworkHeadNode (AHGFFType=9)</b>			
AHGFFType	9		<a href="#">AHGFNetworkNodeType</a>
Enabled			<a href="#">EnabledDomain</a>
<b>NetworkJunctionNode (AHGFFType=4)</b>			
AHGFFType	4		<a href="#">AHGFNetworkNodeType</a>
Enabled			<a href="#">EnabledDomain</a>
<b>NetworkTerminusNode (AHGFFType=5) [Default]</b>			
AHGFFType	5		<a href="#">AHGFNetworkNodeType</a>
Enabled			<a href="#">EnabledDomain</a>
<b>NetworkWaterAreaNode (AHGFFType=7)</b>			
AHGFFType	7		<a href="#">AHGFNetworkNodeType</a>
Enabled			<a href="#">EnabledDomain</a>
<b>Index Name</b>	<b>Ascending</b>	<b>Unique</b>	<b>Fields</b>
FDO_OBJECTID	Yes	Yes	OBJECTID
FDO_Shape	No	No	Shape
GDB_24_ConNodeID	Yes	No	ConNodeID

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### AHGFNodelinkConnectivityDown

<b>Alias</b>	AHGFNodelinkConnectivityDown				
<b>Dataset Type</b>	Table				
<b>Field Name</b>	<b>Alias Name</b>	<b>Model Name</b>	<b>Type</b>	<b>Length</b>	<b>Null</b>
OBJECTID	OBJECTID	OBJECTID	OID	4	No
From_ID			Integer	4	No
To_ID			Integer	4	No
Link_ID			Integer	4	No
<b>Subtype Name</b>	<b>Default Value</b>		<b>Domain</b>		
<b>Index Name</b>	<b>Ascending</b>	<b>Unique</b>	<b>Fields</b>		
FDO_OBJECTID	Yes	Yes	OBJECTID		

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## AHGFNodeLinkConnectivityUp

<b>Alias</b>	AHGFNodeLinkConnectivityUp				
<b>Dataset Type</b>	Table				
<b>Field Name</b>	<b>Alias Name</b>	<b>Model Name</b>	<b>Type</b>	<b>Length</b>	<b>Null</b>
OBJECTID	OBJECTID	OBJECTID	OID	4	No
From_ID			Integer	4	No
To_ID			Integer	4	No
Link_ID			Integer	4	No
<b>Subtype Name</b>	<b>Default Value</b>		<b>Domain</b>		
<b>Index Name</b>	<b>Ascending</b>	<b>Unique</b>	<b>Fields</b>		
FDO_OBJECTID	Yes	Yes	OBJECTID		

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## Relationships

Name	Origin	Destination	Attributed	Composite	Rules
<a href="#">ContractedCatchmentDrainsToLink</a>	AHGFCContractedCatchment	AHGFLink	No	No	No
<a href="#">NodeDrainsContractedCatchment</a>	AHGFCNode	AHGFCContractedCatchment	No	No	No

### ContractedCatchmentDrainsToLink

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

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### NodeDrainsContractedCatchment

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

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## Spatial references

Dimension	Minimum	Precision
<b>HR_Catchments</b>		
<b>X</b>	-400	1,000,000,000
<b>Y</b>	-400	
<b>M</b>	0	100,000
<b>Z</b>	0	100,000
<b>Coordinate System Description</b> 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]]		

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