Australian Hydrological Geospatial Fabric (Geofabric)

Tutorial

Extending AHGFCatchment attribution

Version 2.0 – November 2011

Australian Government
Bureau of Meteorology

Water Information
DATA · INFORMATION · INSIGHT

Contact details

Geospatial Data unit

Bureau of Meteorology
GPO Box 2334 CANBERRA ACT 2601

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

Contents

1 Introduction.....5
2 Tutorial.....6

1 Introduction

The feature classes included in Geofabric Surface Catchments are designed to represent geographic surface boundaries that have a hydrological relationship to other surface water features included in Geofabric Surface Network. It is envisaged that there may be cases where it is desirable to extend the supplied set of AHGFCatchment attributes with supplementary attribution. One such set of supplementary attribution that some users may find useful has been included with Geofabric Surface Catchments in the form of a table named NCBPfafstetter.

This tutorial describes the steps required to extend and use the AHGFCatchment attribute table of Geofabric Surface Catchments with supplementary attribution. The supplementary attribute table included NCBPfafstetter, provides additional information that allows the AHGFCatchment features to be used with the Pfafstetter coding system as well as to be approximately mapped back to AWRC[1] basins. The extension of AHGFCatchment features with NCBPfafstetter attribution also opens up access to a comprehensive set of National Environmental Stream Attributes[2].

[1] Geoscience Australia (1997). *Australia's River Basins: Metadata statement*.

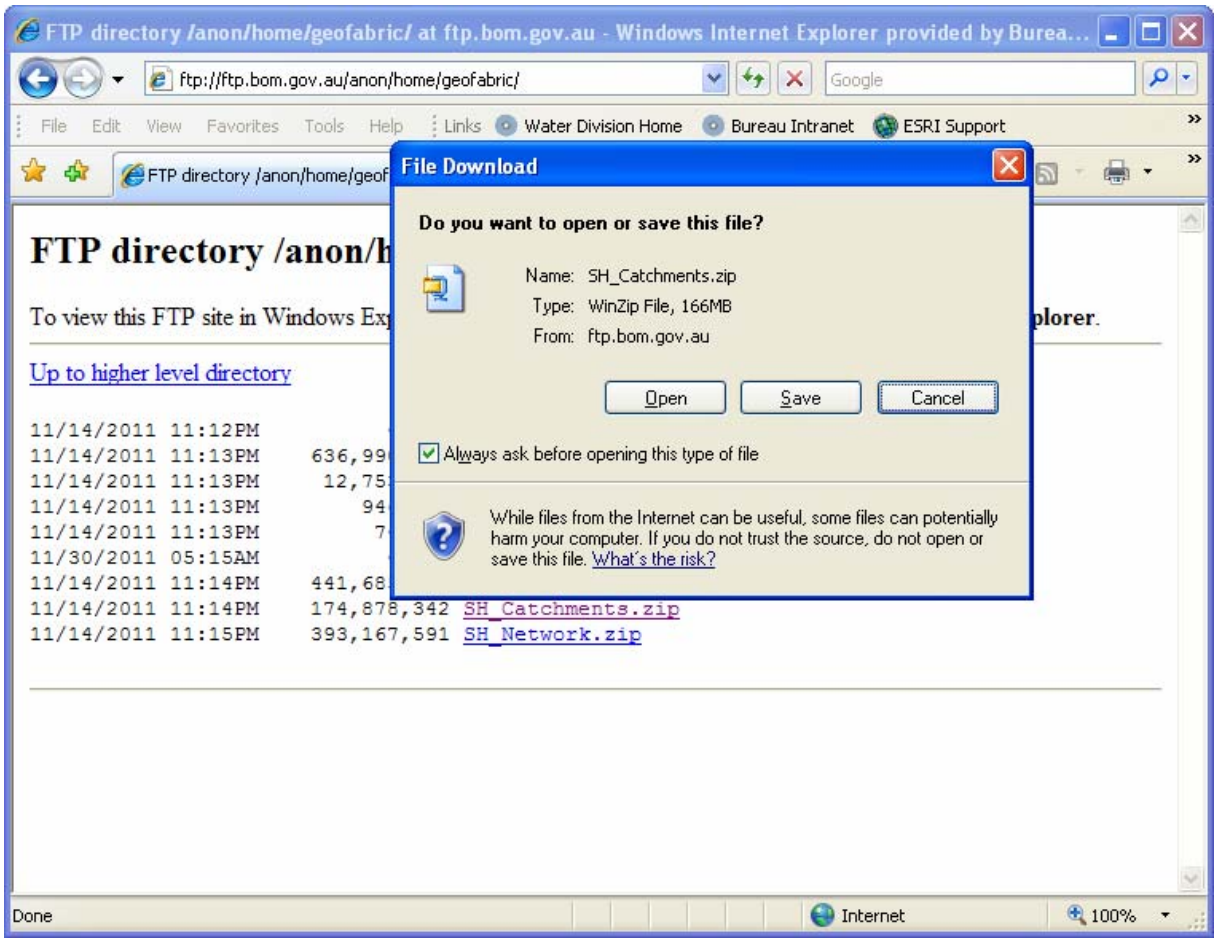
Located at http://www.ga.gov.au/meta/ANZCW0703005427.html

[2] Geoscience Australia (2011). *National Environmental Stream Attributes v1.1: Metadata statement*. Located at https://www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=73045

2 Tutorial

1 Download the Geofabric Surface Catchment File Geodatabase from the Geofabric ftp site

1.1 From the Bureau of Meteorology Geofabric website browse to Downloads and select Download the Geofabric data from the Geofabric FTP site. Select SH_Catchments.zip and save this to disk.

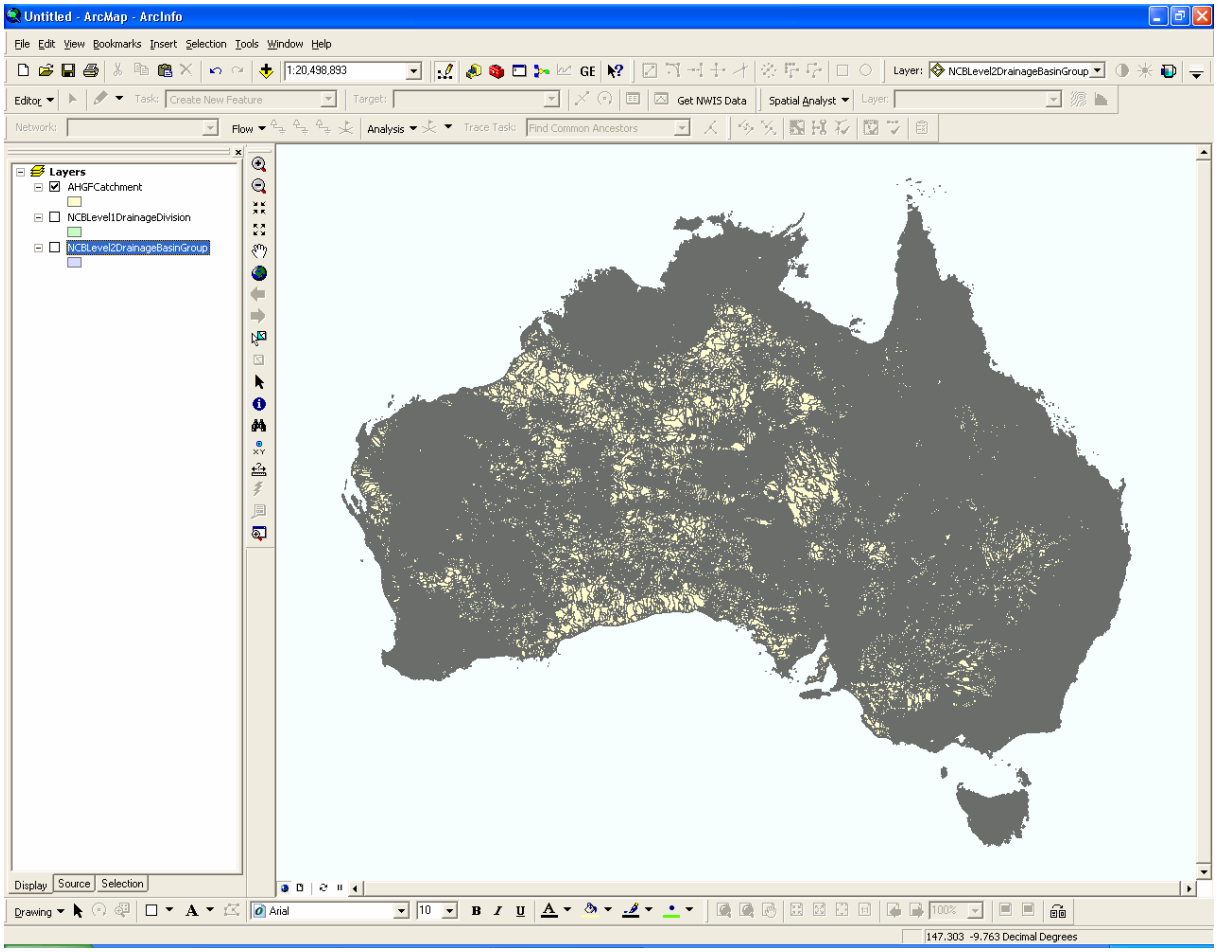


1.2 Unzip the downloaded file, ensuring the resulting folder ends with .gdb (e.g. the contents of the file SH_Catchments.gdb.zip should be unzipped to a folder called SH_Catchments.gdb).

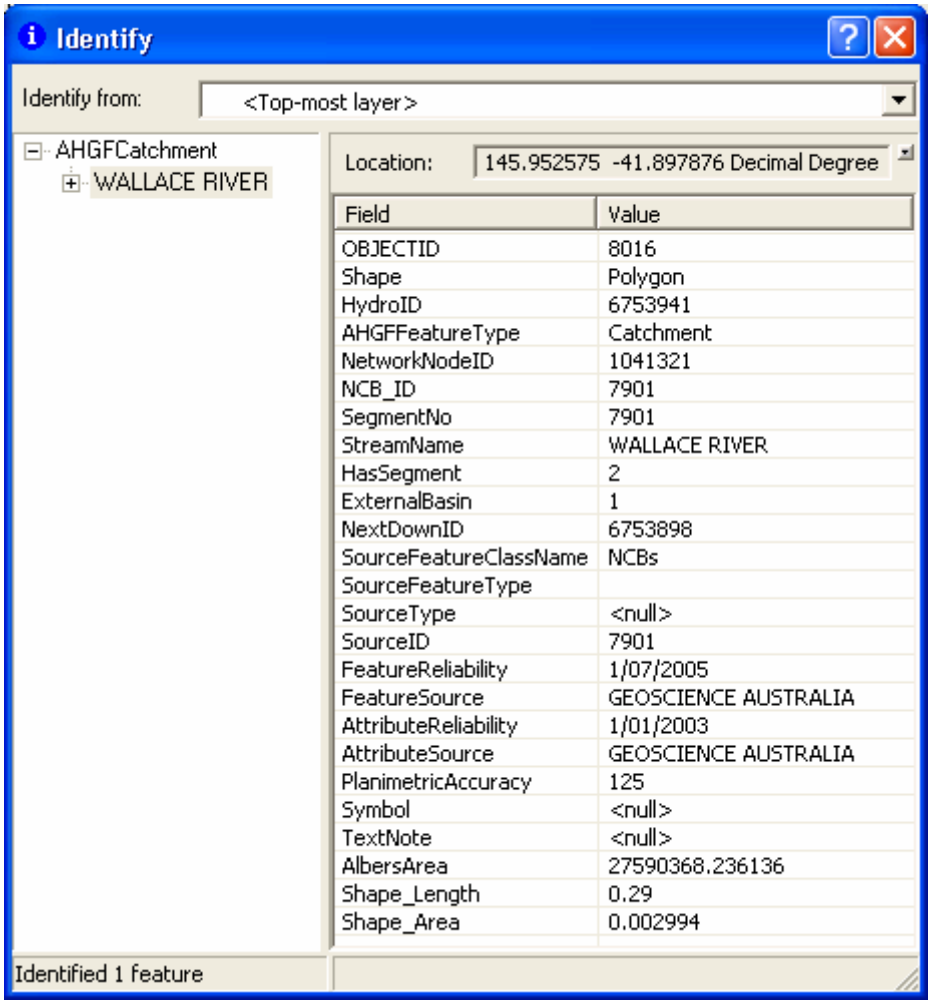
2 Access NCBPfafstetter attribution via the supplied relationship class

2.1 Consider the extended Pfafstetter attribution via utilisation of the supplied relationship class (CatchmentIsExtendedByPfafstetter). In order to do this, start an ArcMap session and add in the SH_Catchments feature dataset and NCBPfafstetter table from File Geodatabase downloaded in step 1.

2.2 Click on the Display tab of the content pane in order to change to feature view.

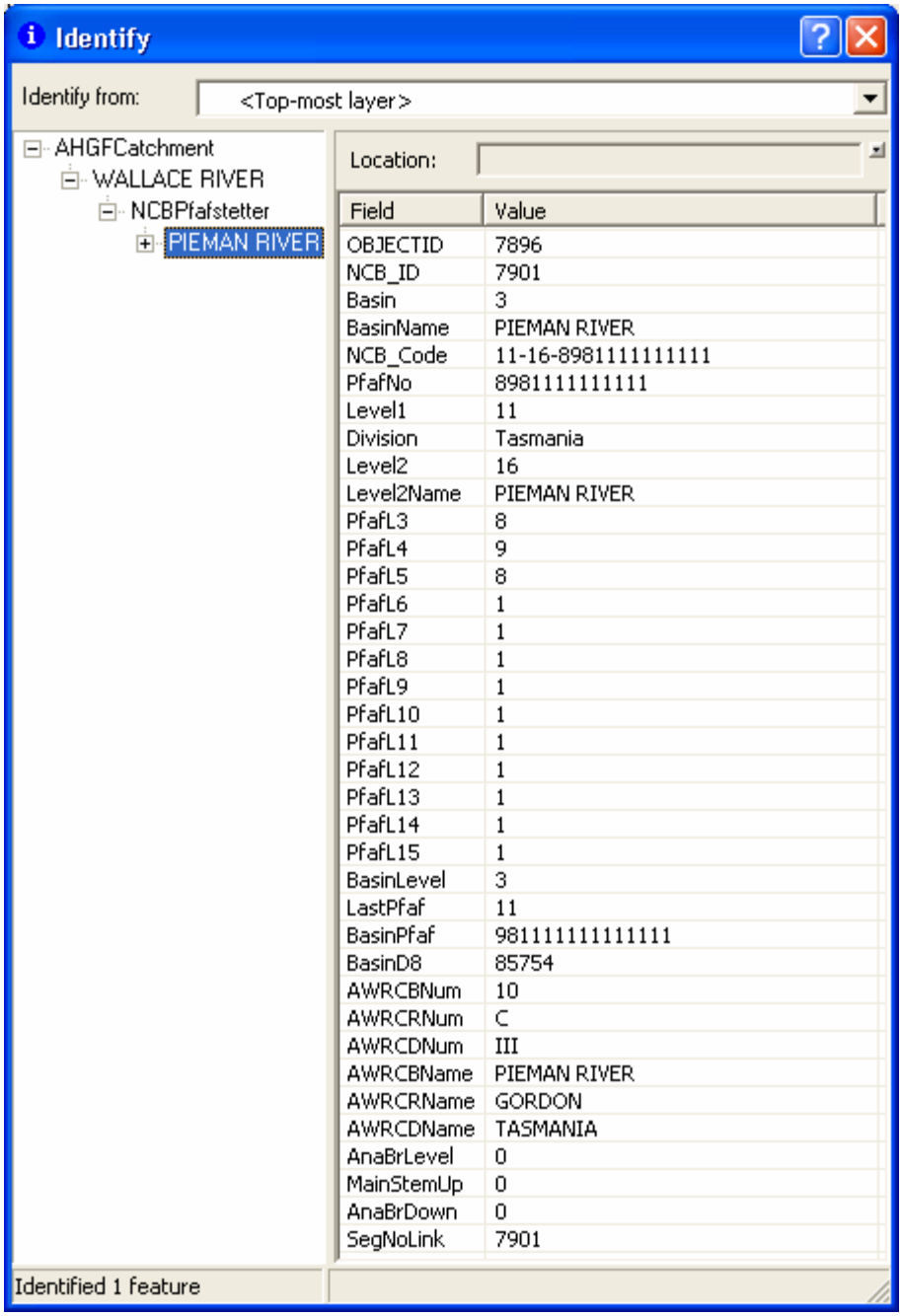


2.3 Zoom in to an area of choice and select the Identify tool ( ). Click on a single AHGFCatchment feature to view its attribution.



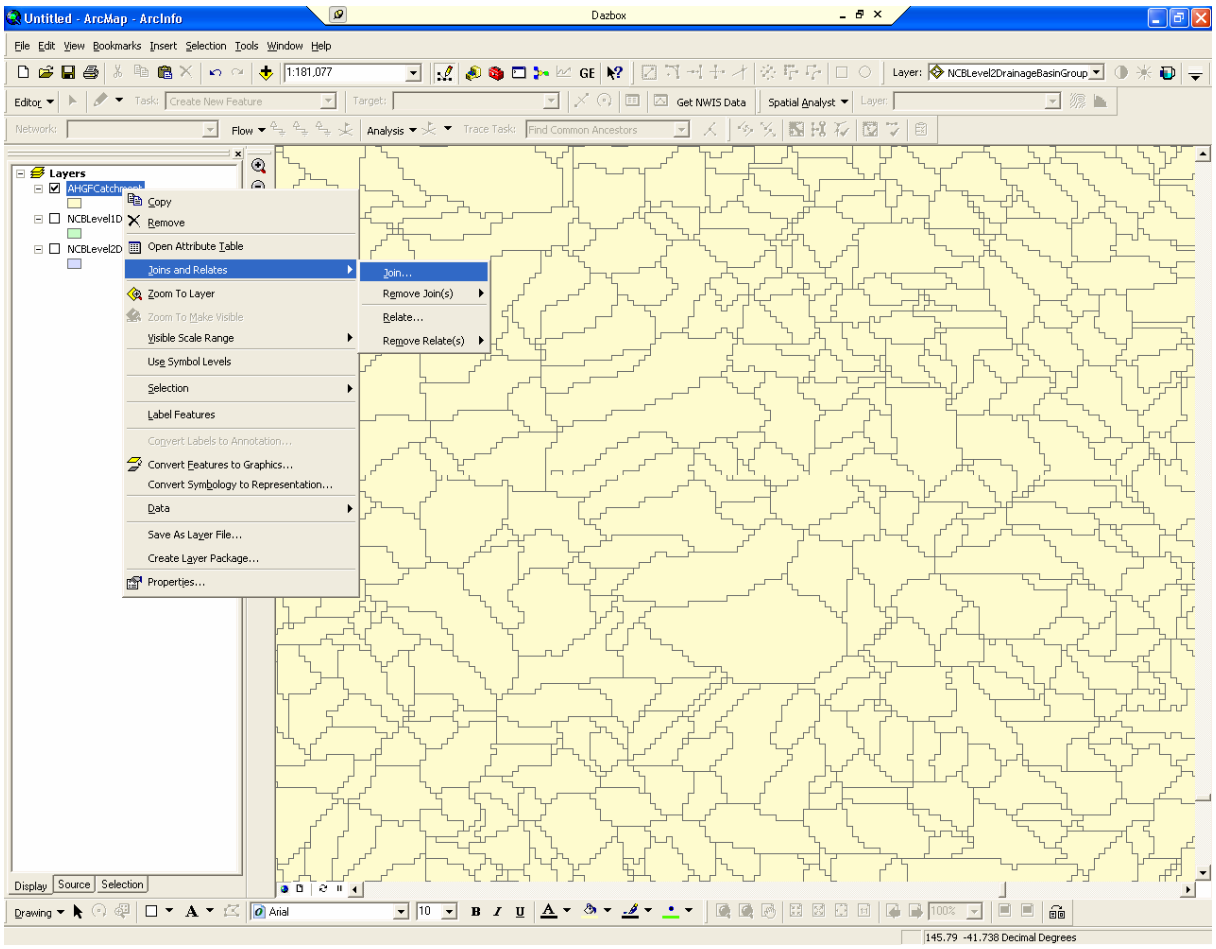
Note: This screenshot was generated from version 9.3.1 of ArcGIS Desktop for Windows. This version of the product contains a known issue that stops relationship class labels from being displayed in the Identify window.

2.4 To view the feature's related attribution, expand two levels of 'plus' icons (⊞) and click on the related record to reveal the corresponding NCBPfafstetter attributes.



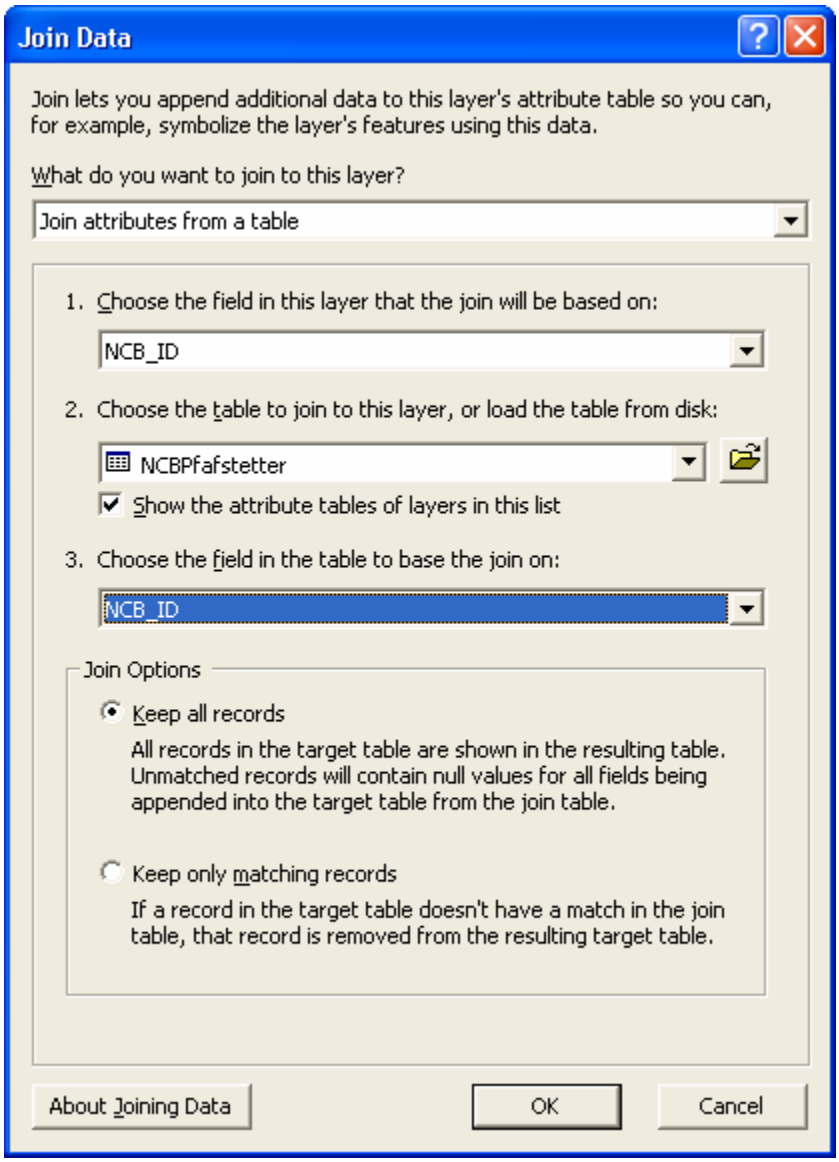
3 Join NCBPfafstetter attribution to AHGFCatchment

3.1 Perform a simple table join to extend the AHGFCatchment attribution with the NCBPfafstetter attributes. In ArcMap, right-click on the AHGFCatchment feature class and choose Joins and Relates>Join....

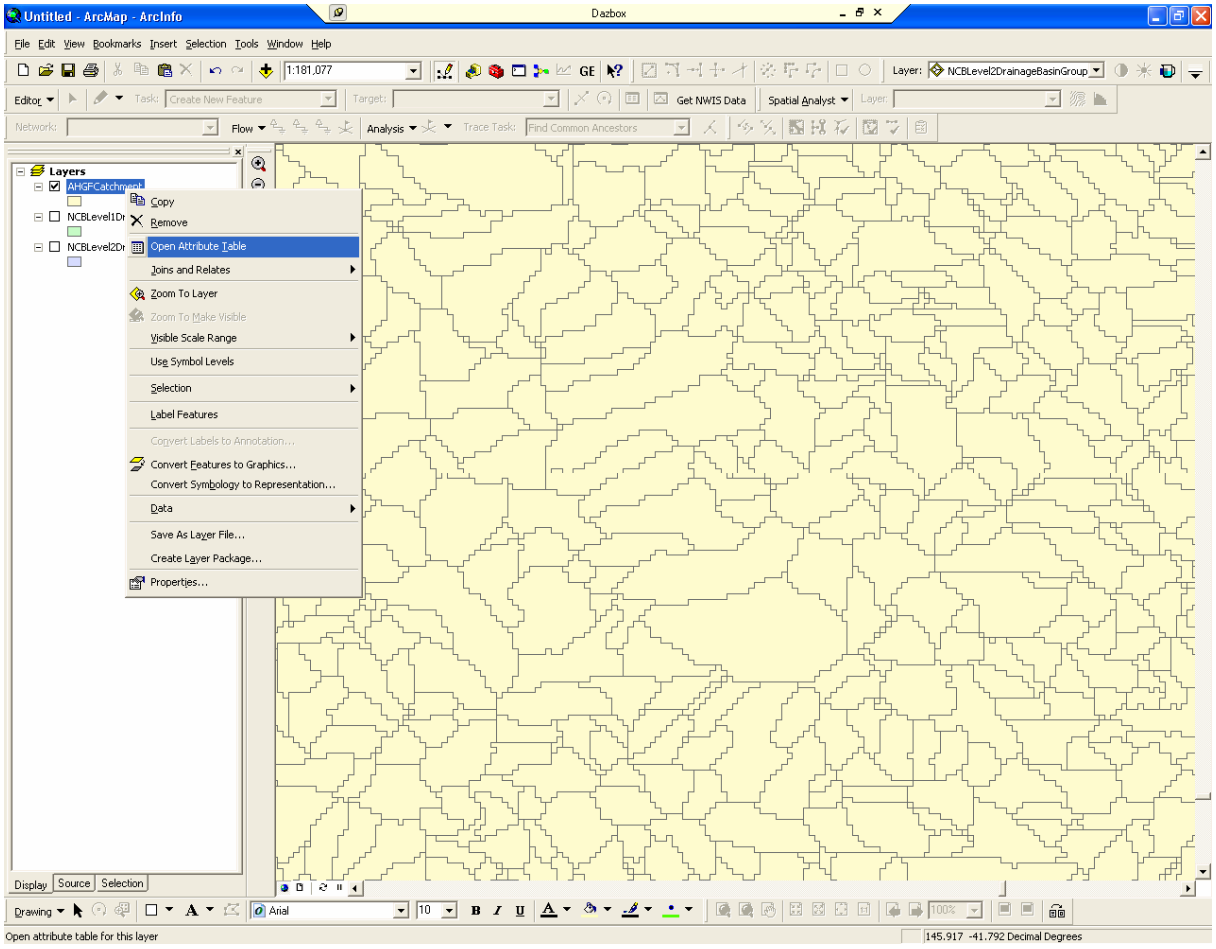


3.2 In the Join Data dialogue box, choose Join attributes from a table for the What do you want to join to this layer? option, then make the following selections and click [OK]:

3.2.1 1. NCB_ID.
3.2.2 2. NCBPfafstetter.
3.2.3 3. NCB_ID.
3.2.4 Join Options: Keep all records.

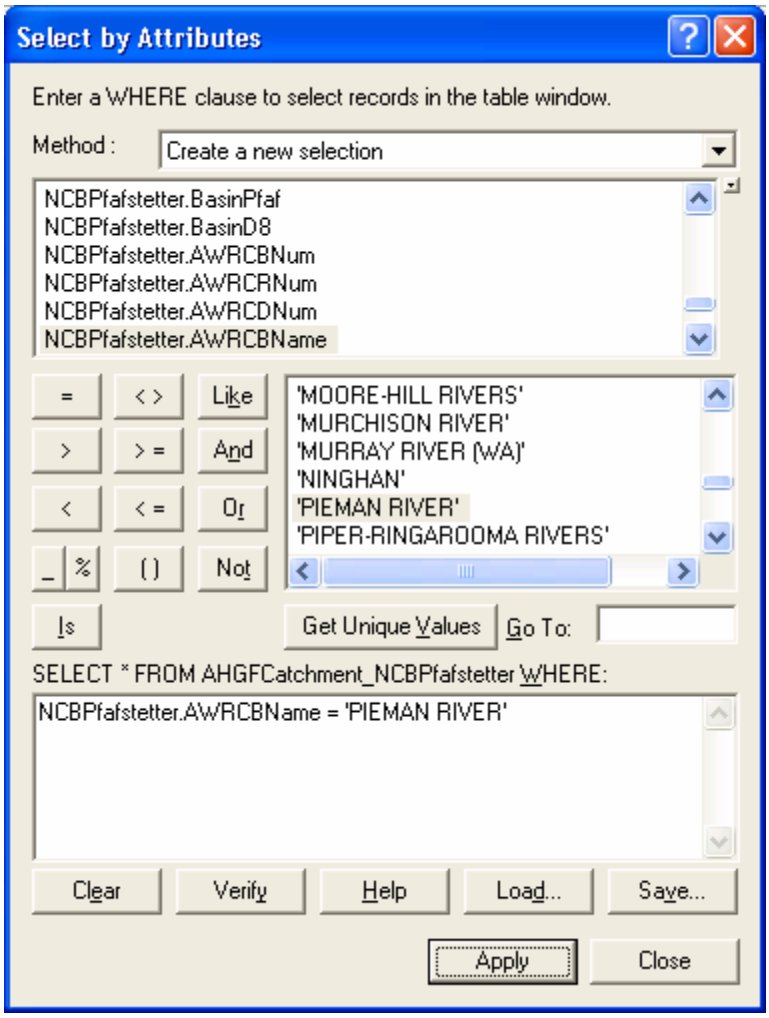


3.3 Right-click on the AHGFCatchment feature class, choose Open Attribute Table, and scroll to the right to see the new attributes that have been joined to the AHGFCatchment attribute table.

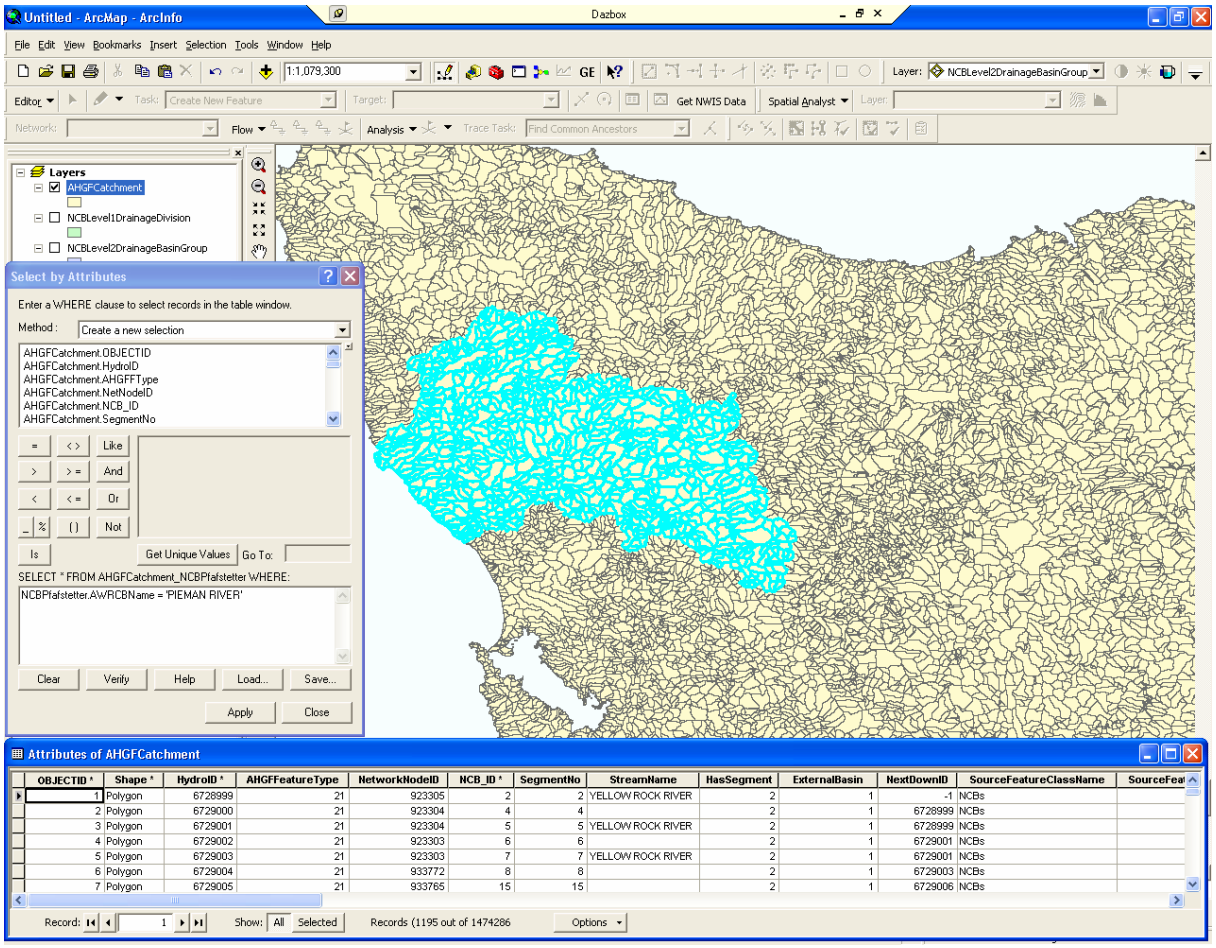


3.4 Use the newly joined attribution to make a selection set of all AHGFCatchment features belonging to a particular Australian Water Resources Council (AWRC) basin: Click [Options] then choose Select By Attributes from the attribute table window.

3.5 Construct a WHERE clause that selects all AHGFCatchment features that are mapped to a given AWRC basin name (e.g. NCBPfafstetter.AWRCBName = 'PIEMAN RIVER').



3.6 Click [Apply] and examine the resulting selection set.



Note: It is important to remember that the sets of AHFGCatchment features (extended with the NCBPfafstetter table) forming AWRC basins are only approximate mappings back to AWRC[3] basins. This mapping is based upon the highest percentage spatial overlap.

[3] Geoscience Australia (1997). *Australia's River Basins: Metadata statement*.

Located at http://www.ga.gov.au/meta/ANZCW0703005427.html

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