



# Australian Hydrological Geospatial Fabric (Geofabric)



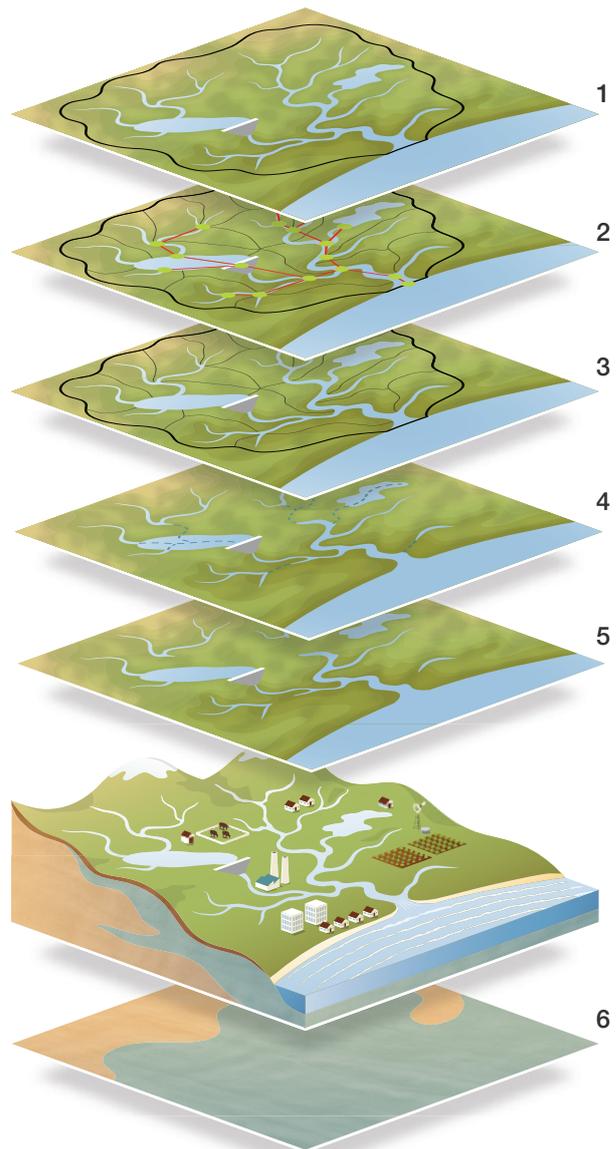
Australia's rivers, lakes, water storages and catchments are all connected—and understanding these connections is vital for effective management of water resources. The Australian Hydrological Geospatial Fabric (Geofabric) provides a national framework for discovering, reporting and modelling water information.

## What is the Geofabric?

The Geofabric is a digital database of surface and groundwater features that registers the spatial relationships between important hydrologic features.

It comprises six product datasets:

1. **Hydrology Reporting Regions** defines drainage divisions and river regions across Australia, for consistent reporting by governments and other organisations.
2. **Hydrology Reporting Catchments** are the building blocks of reporting regions, providing increased detail for smaller rivers along with a simplified stream network.
3. **Surface Catchments** define the base level of catchments for stream segments, sinks and coastal draining areas. Universities, governments and consultants use these to identify contributing catchment areas.
4. **Surface Network** provides a detailed fully connected and directed stream network. You can trace stream flow paths and link them to Surface Catchments.
5. **Surface Cartography** lets you visualise surface water features such as dams, canals and bridges. This context is useful for water managers and emergency services, e.g. to anticipate how downstream communities may be affected by floods.
6. **Groundwater Cartography** shows groundwater resources and their features—such as aquifer boundaries, salinity and the rocks and sediments at different levels below the surface.





Geofabric products are supported by tutorials and tools to perform common hydrological tasks.

### What are the benefits of the Geofabric?

The Geofabric is like a digital street directory of Australia's important water features. The layers of data depict maps of how our national water system is connected at various levels of detail. Users can discover, visualise and model hydrological features anywhere in Australia at the appropriate scale depending on their requirements, within a single product suite.

The Geofabric is suitable for a wide range of water information applications. Streams can be traced upstream or downstream to identify drainage networks, catchment areas, and other features of interest such as monitoring points and water storages.

These features are used by natural resource managers and the Bureau for water accounting, assessment, modelling and forecasting.

The Geofabric provides a standardised authoritative information source that works seamlessly across Australia. It enables efficient and repeatable spatial hydrological capability for streamflow analysis and creation of contributing catchment areas. Using the Geofabric also removes the need to process digital elevation model data.

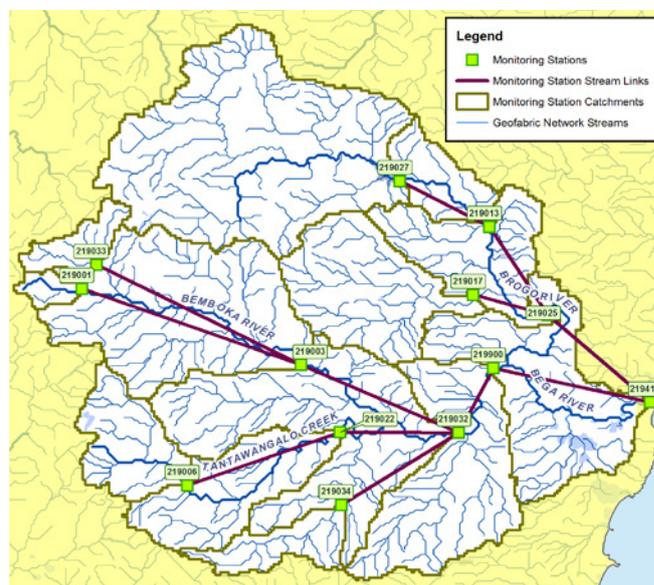
The Geofabric will continue to evolve as data, technology and modelling capabilities improve.

### What is the Bureau's role?

The Bureau's Improving Water Information Programme is building a comprehensive and reliable picture of Australia's water resources to support policy and planning. It collates, manages and publishes water information as part of its water information role and responsibilities under the Water Act 2007.

The Geofabric project is led by the Bureau in partnership with Geoscience Australia (GA), the Australian National University Fenner School of Environment and Society (ANU) and CSIRO Land and Water.

The Bureau also sponsors the Australian and New Zealand Land Information Council Foundation Spatial Data Framework Water theme, which will provide an enduring evolving framework for spatial water information.



Example output from the Geofabric Sample toolset V1.6.0 for Bega River monitoring stations

Top image: Alison Pouliot

FIND OUT MORE

For more information about the Geofabric visit [www.bom.gov.au/water/geofabric](http://www.bom.gov.au/water/geofabric) or contact [ahgf@bom.gov.au](mailto:ahgf@bom.gov.au)

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