Under the Commonwealth Water Act 2007, the Bureau of Meteorology is tasked with a range of functions which require it to collect, hold, manage, interpret and disseminate Australia’s water information. The Bureau will use these data sets to assess the groundwater component of regional water balances that inform Water Resource Assessments and the National Water Account.

The properties and location of aquifers provide the necessary context to present and interpret groundwater data and to produce groundwater balances. Existing spatial data for aquifer boundaries and properties (including groundwater salinity) have been collated in a Bureau project that provides a snapshot of current information (the Interim Groundwater Geodatabase for the ‘Australian Hydrological Geospatial Fabric’ (Geofabric) project). These data will be ingested in the Geofabric and related to the surface water features within a model driven architecture and have been trialled in the 2010 National Water Account.

Currently the second phase of this project has started, the intention is to build on this data set through the development of compatible jurisdictional ‘groundwater information systems’. The Bureau in partnership with the National Water Commission is supporting the National Groundwater Information Systems project which is based on a modified version of ArcHydro for Groundwater that would support the development of improved spatial groundwater data, such as 3 dimensional aquifer boundaries. A prototype data model for a Groundwater Information System is being trialled in Australian jurisdictions.

This paper presents some of the issues, limitations and problems encountered in the assessment of regional groundwater balances Australia wide.