Federating groundwater data for Victoria - the challenge of interoperability

Interoperability in action

“The ability to exchange and use information”

Data sources

Big Data?
- 350,000 Bores
- 3,600,000 Monitoring records
- 350,000 Borehole intervals ( lithology)
- 450,000 Chemical analysis records
- 10,000 Attachments and links
- 100 Numerical surfaces

Depth of data

Bore monitoring - dynamic hydrographs

Groundwater chemistry

Attachments

Consultants reports

Digested historical record - 1982

Visualisations

www.vvg.org.au

Bore monitoring - dynamic hydrographs

Depth to water table

Groundwater salinity

Historical maps

Historical map of bore construction from 1950

Historical geological map, current and historical geology

Research collaborators and investors include

Data provisioning - best available

While the federation of interoperable services implementing standards like GroundwaterML is the ideal way to overcome these issues, its implementation presents many challenges, particularly for data providers.

In the case of the University of Ballarat’s Visualising Victoria’s Groundwater project (vvg.org.au), a “best available” methodology has been adopted whereby data is provisioned using a range of techniques, from traditional web services like SOAP or REST through to scheduled updates using cloud-based services like Dropbox.

More information

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