

Water Quality in Moreton Bay, Brisbane, Australia



hydroseek^{Beta} search engine

Keyword:

e.g. Streamflow, Precipitation, Temperature, Nitrogen...

Where & When?

Northbound Latitude:

Westbound Longitude:

Southbound Latitude:

Eastbound Longitude:

Start Date:

End Date:

Or search by watershed

Search Results

- Nutrients
 - Macronutrients
 - Phosphorus
 - Total Phosphorus
 - Instantaneous - 907 Sites
 - Nitrogen
 - Total Nitrogen
 - Instantaneous - 907 Sites

A satellite map of Moreton Bay, Brisbane, Australia. The map shows the coastline and surrounding areas. Numerous blue circles are scattered across the bay, representing sampling sites. Labels on the map include Glass House, Coochin Creek, Bribie Island North, Bribie Island National Park, Toorbul, Welsby, Banksia Beach, Ningi, Bellara, Woorim, Godwin Beach, Scarborough Point, Bongaree, Deception Bay, Beachme, Burpengary, Deception Bay, Scarborough, Kippa, Redcliffe North, Narangba, Rothwell, and Car Ferry. A red circle with the number 1 is located near Burpengary.



Project Overview

- Identify key stakeholders, datasets , user requirements and queries for water resource management in SE Qld;
- Resolve data access agreements
- Develop common model for integrating data sets;
- Design and implement the semantic interoperability layer over the scientific data (SQL) server;
- Develop a Web-based querying, visualisation and presentation interface using HydroSeek and Virtual Earth
- Develop secure Web Portal and *WaterWiki*
- Develop a model registry and workflow tools that enable users to:
 - upload and share models;
 - link them using scientific workflows;
 - execute them over HP/grid computing



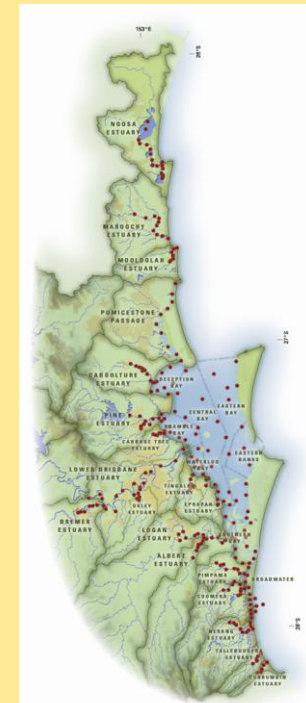
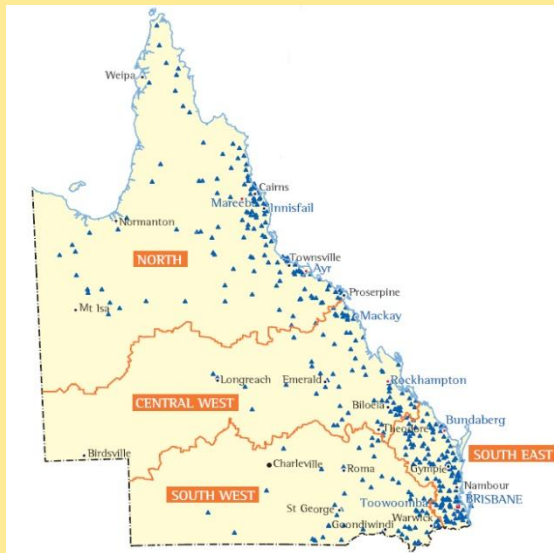
Data Integration Services for Smarter Collaborative Water Management

Jane Hunter¹, Eva Abal², Catharine van Ingen³

1 - University of Queensland; 2 - Healthy Waterways Partnership; 3 - Microsoft Research

Ecosystem Monitoring Datasets

- Ecosystem Health Monitoring Program (EHMP)
 - 120 Freshwater sites sampled biannually
 - 260 Estuarine/Marine sites sampled monthly
- EHMP Monitoring (Ambient and Event)
- Management Action Database (MAD)
- Bureau of Meteorology Climate Data



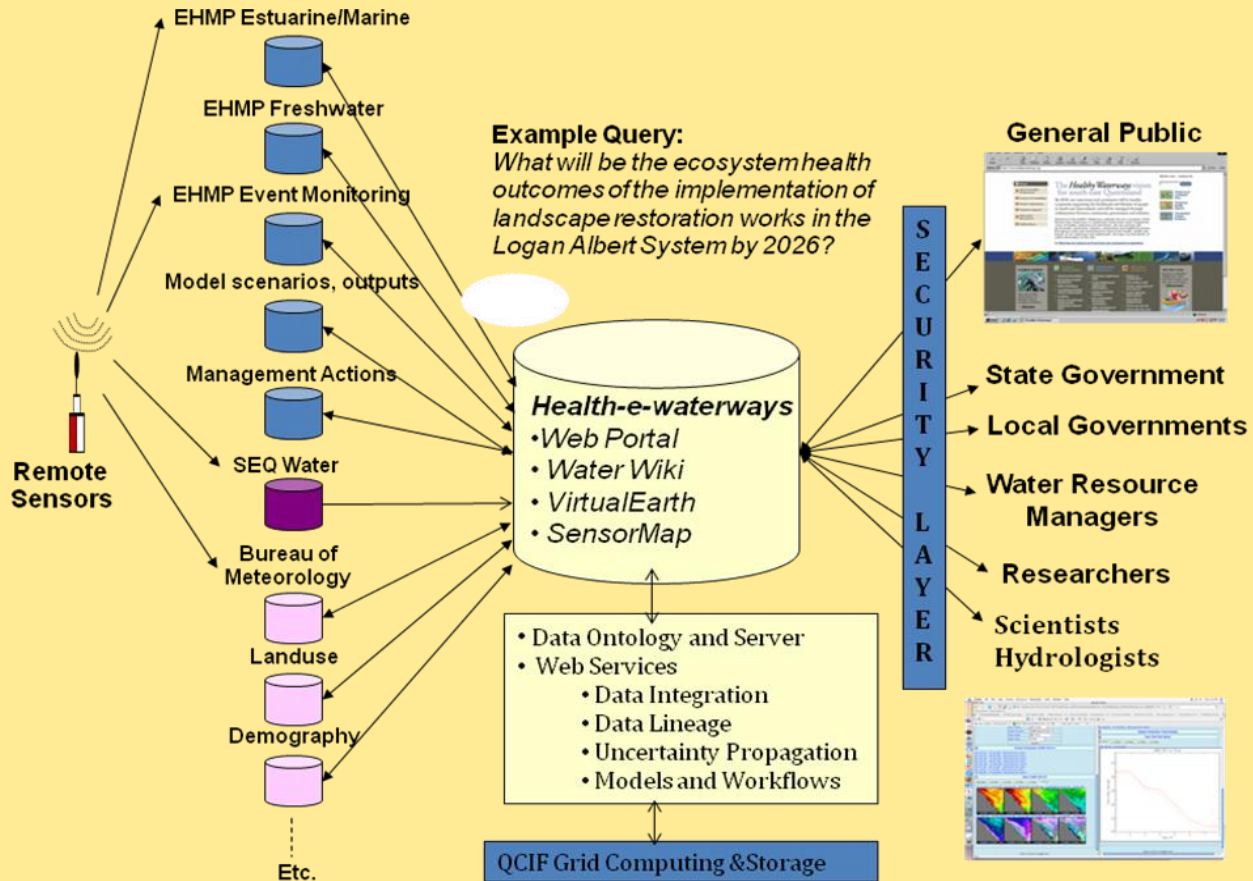


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Secure Data Portal



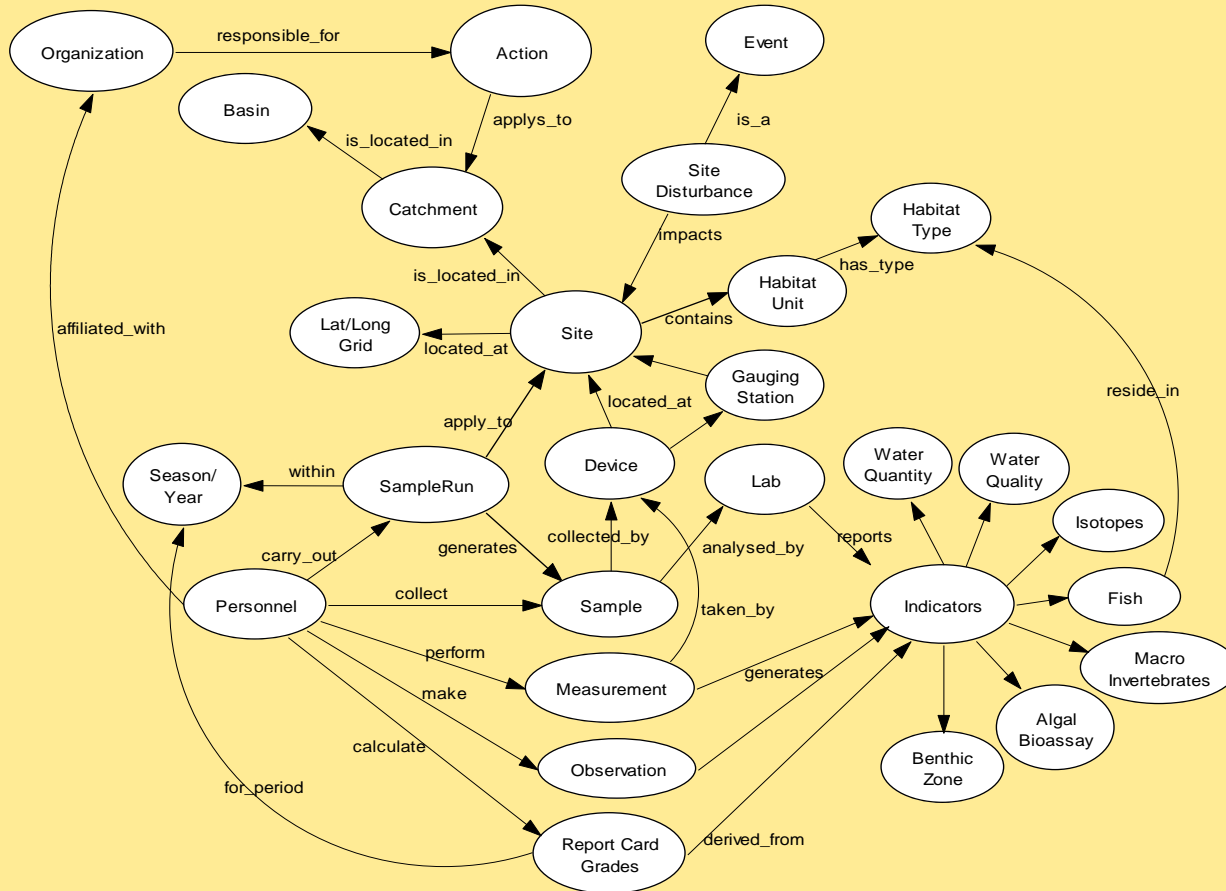


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Common Ontology





Collaborations/Related Work

- South-East Queensland Healthy Waterways Partnership
- AWDIP Australian Water Data Infrastructure Program
- Bureau of Meteorology
- Microsoft Research (San Francisco)
- CUAHSI : HIS, ODM, HydroSeek
- WATERS Network
- Berkeley Water Centre – Digital Watersheds

Future Work

- Integration of Ground Water data
- Incorporation of MODIS satellite data and flux air emissions
- Support for real-time sensor data
- Extension to Marine/Great Barrier Reef
- Linking hydrological models to integrated datasets
- Uncertainty measures and propagation