

The University of Queensland

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Project Overview

Aim: To enable and promote the sharing and collaborative integration and analysis of high quality water data & information in Queensland, nationally and globally.

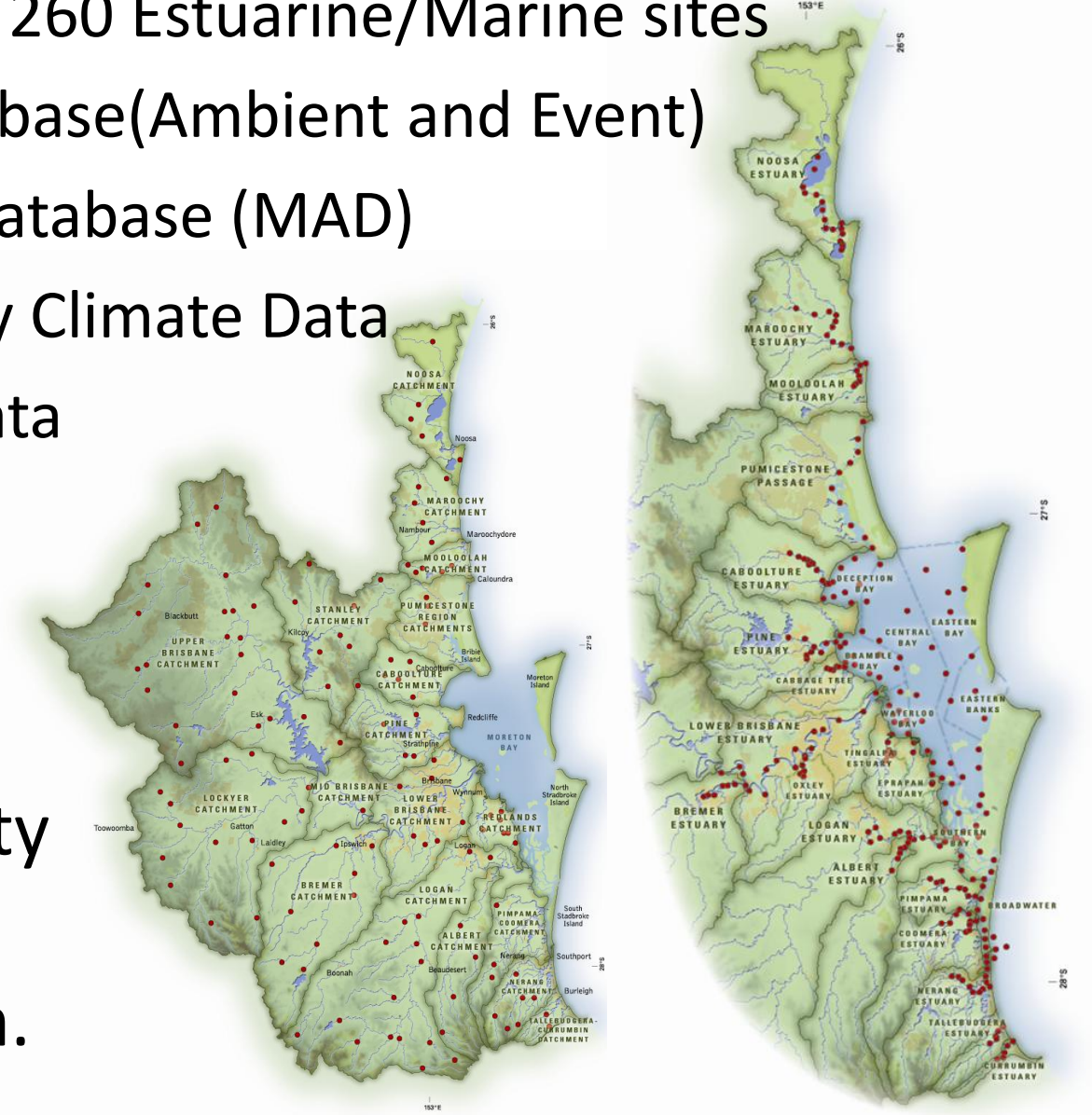
Strategies:

- Identify and prioritise the key stakeholders requirements, datasets and queries.
- Develop common data models and ontologies.
- Design and implement a semantic interoperability layer over a scientific data server.
- Develop a Web-based querying, visualisation and presentation interface utilising Virtual Earth technology.
- Streamline online interactive Environmental Report Cards
- Develop secure Web Portal and *WaterWiki*
- Develop a model registry and workflow tools that enable users to upload and share models and workflows and execute them over grid computing

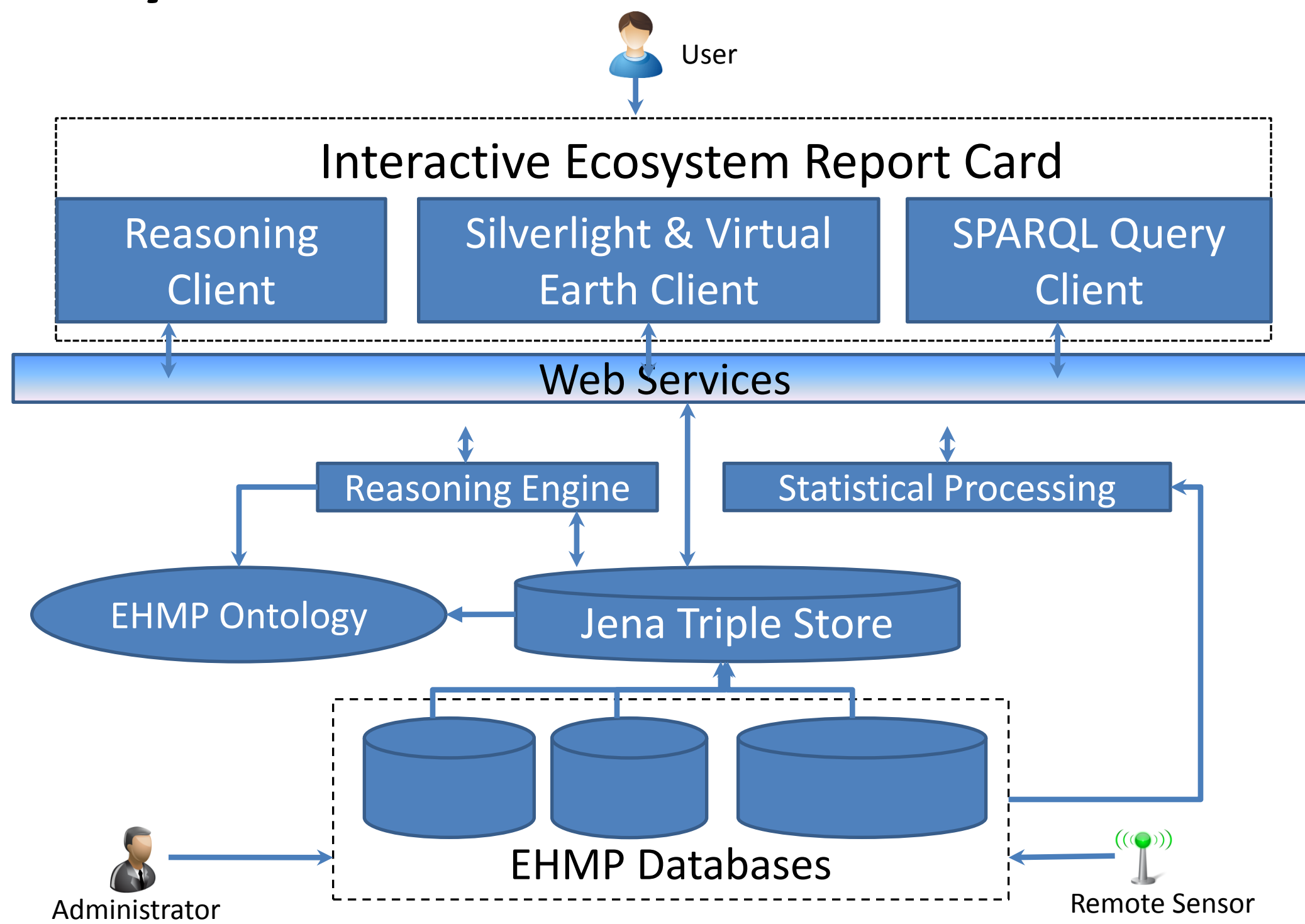
Ecosystem Health Monitoring Datasets

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

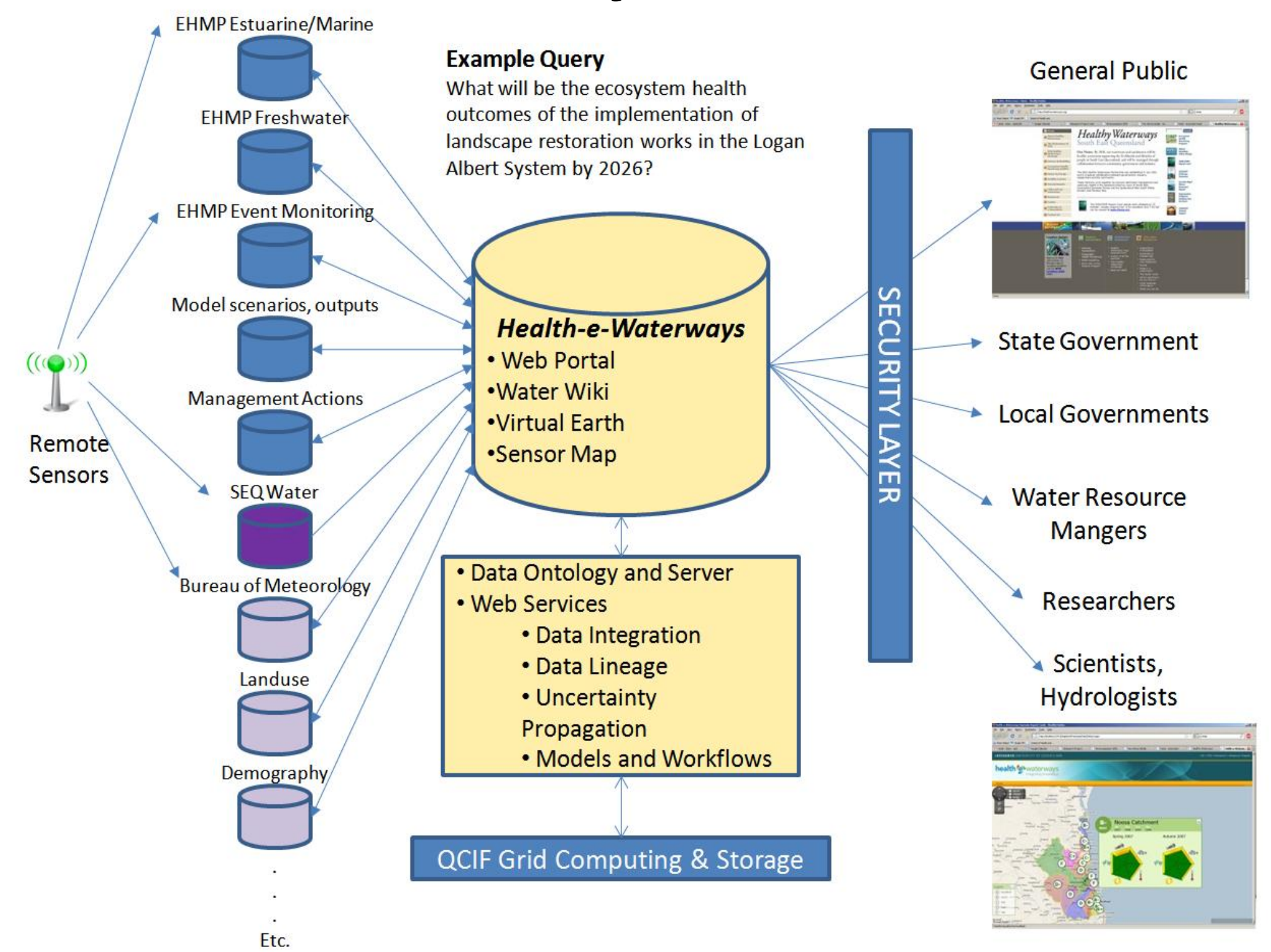
Linking Management Actions to real-time water quality data to enable rapid response and adaptation.



System Architecture & User Interface



Health-e-Waterways Portal



Collaborations

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

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 Data/Report Cards
- Linking hydrological models to integrated datasets
- Uncertainty measures and propagation

