

HydroNET

Flood emergency planning and response



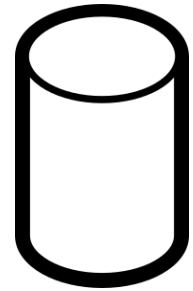
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Water challenges: water stress



Water challenges: floods



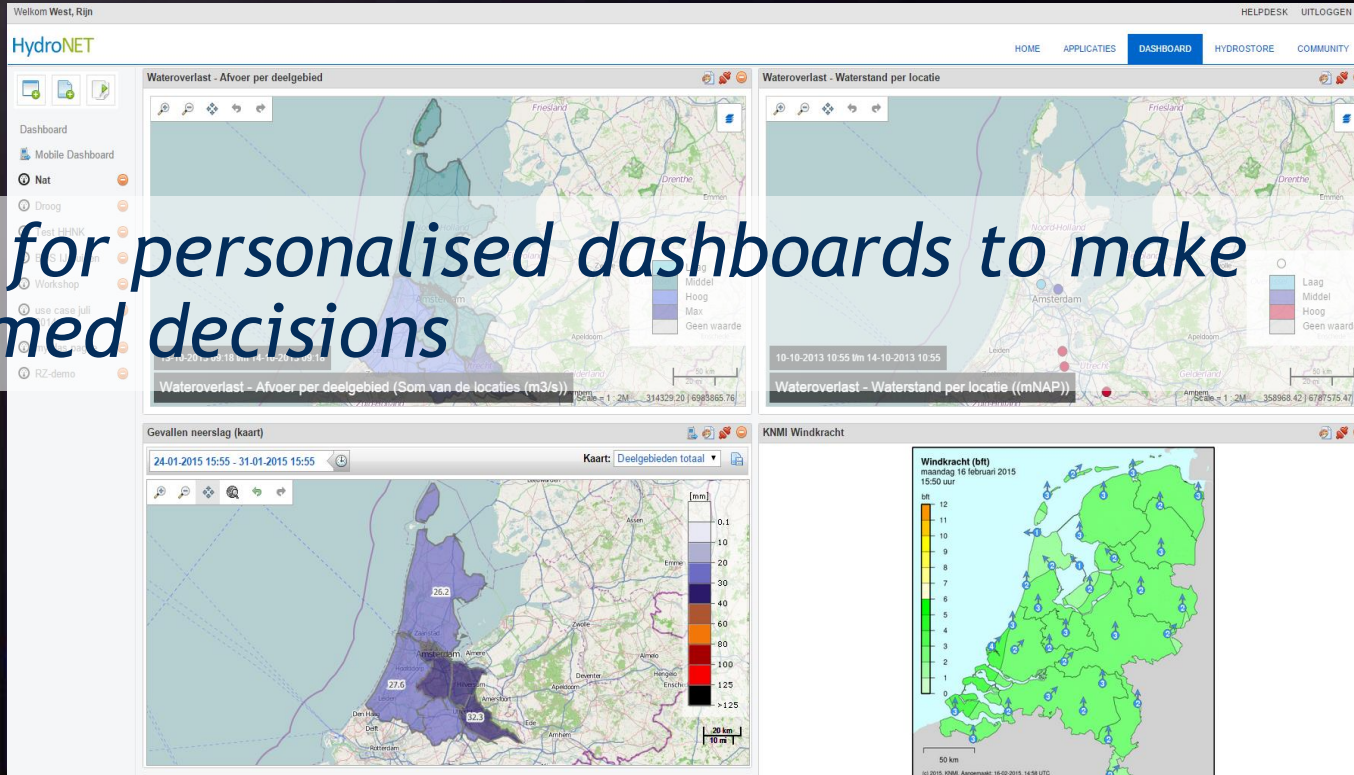
- No data? No information...
 - No information? No knowledge...
 - No knowledge? No good decisions...
- => *Situational Awareness*

*It all starts with data
(for NDRRA funding - the key to recovery \$'s!)*



SAMSUNG

Need for personalised dashboards to make informed decisions



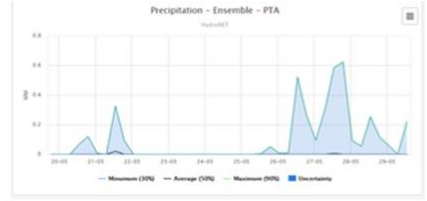
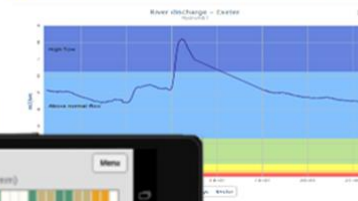
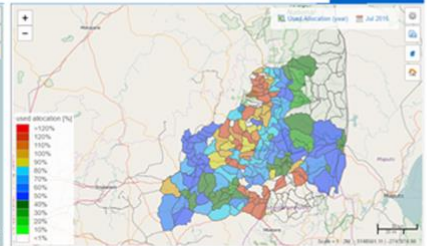
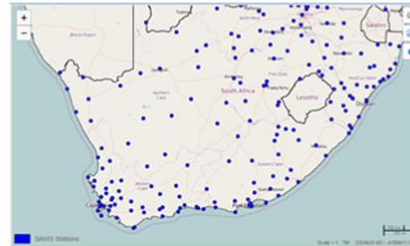
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Your water control room

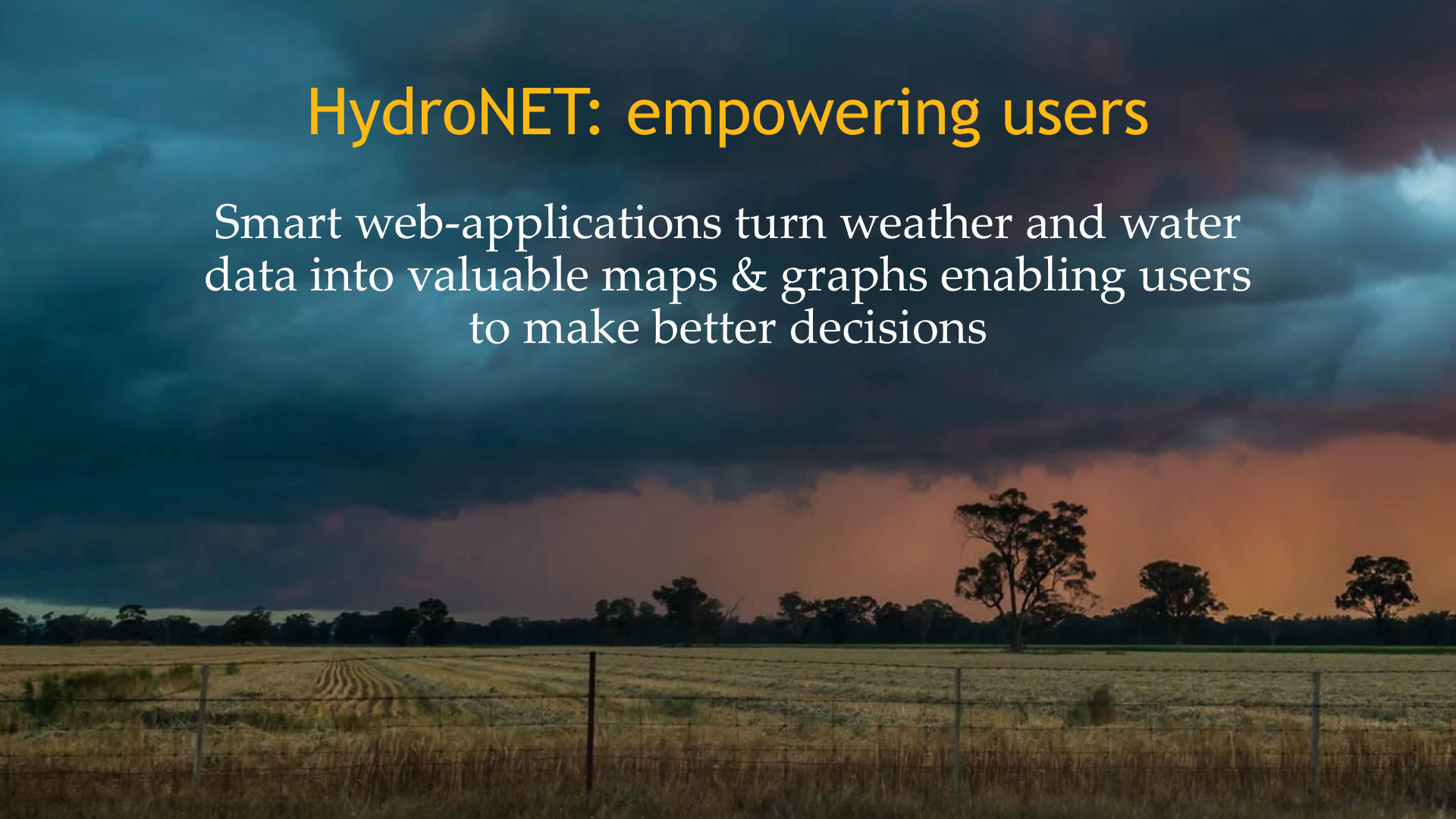
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HOME APPLICATIONS DASHBOARD



HydroNET: empowering users

Smart web-applications turn weather and water data into valuable maps & graphs enabling users to make better decisions



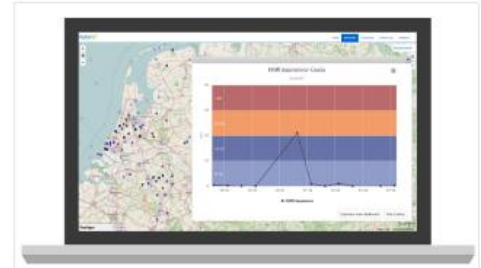
HydroNET Water Control Room applications



CONNECT your data



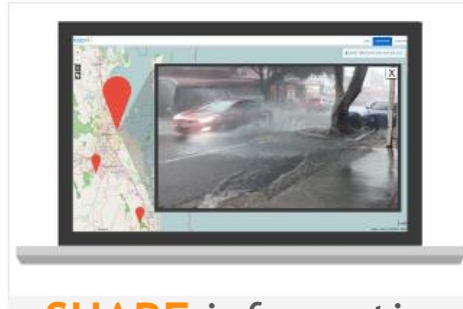
VIEW and combine all available information



WATCH: keep an eye on your water system and weather



ALERT: receive automated alerts



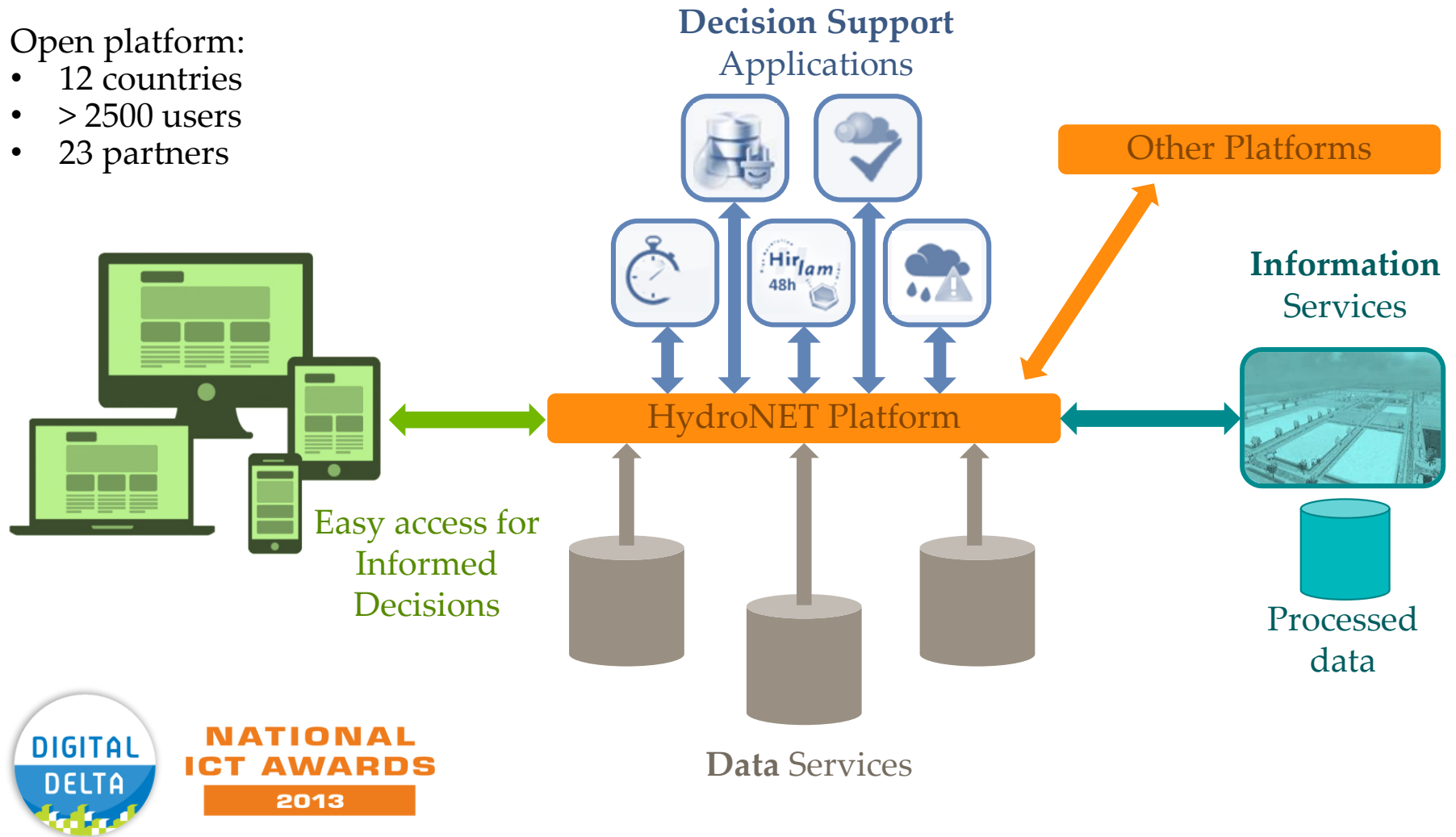
SHARE information with stakeholders



CONTROL and take the right decisions

Open platform:

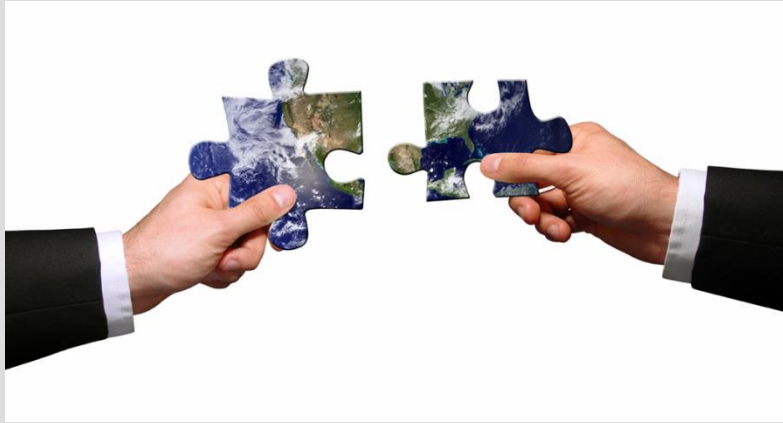
- 12 countries
- > 2500 users
- 23 partners



**NATIONAL
ICT AWARDS
2013**



Cooperation WaterTechnology & HydroLogic



"International standards, local flavours...."

HydroNET Australia

HydroNET and Water Technology sign partnership

[Contact us](#)



HydroNET Australia



USER GROUP GYMPIE 2016

AUGUST 23 - 25 GYMPIE CIVIC CENTRE





Weather Station: access to BoM rain gauges from your desk



Weather Forecast: be prepared for the storm



RainMap: easy access to BoM gridded rainfall information



WaterWatchers: use the crowd to collect valuable flood and rain data



Water Control Room: smart web reports for FEWS and HYDSTRA



FloodReady App: share flood information with the community



FloodIntelligence: easy access to all relevant flood information



Report Generator: generate flood and rain reports in seconds

More information:
www.hydronet.com.au



The need for reliable rainfall information

- Knowledge of (the potential for) rainfall provides maximum response time
- Forecast rainfall
 - Provides maximum lead time,
 - Uncertainty around accuracy,
- Gauge information
 - Real time,
 - Specific locations
- Calibrated radar information
 - Real time,
 - Specific locations

What is RainWatch?

- Easy online access to:
 - BoM weather forecasts
 - BoM weather stations
 - BoM radar data
- Tools to enable water professionals
 - Export to model input files
 - Upload shape files for catchment averages
 - Generate rainfall reports
 - Download long time series
 - Access to data back to 1900



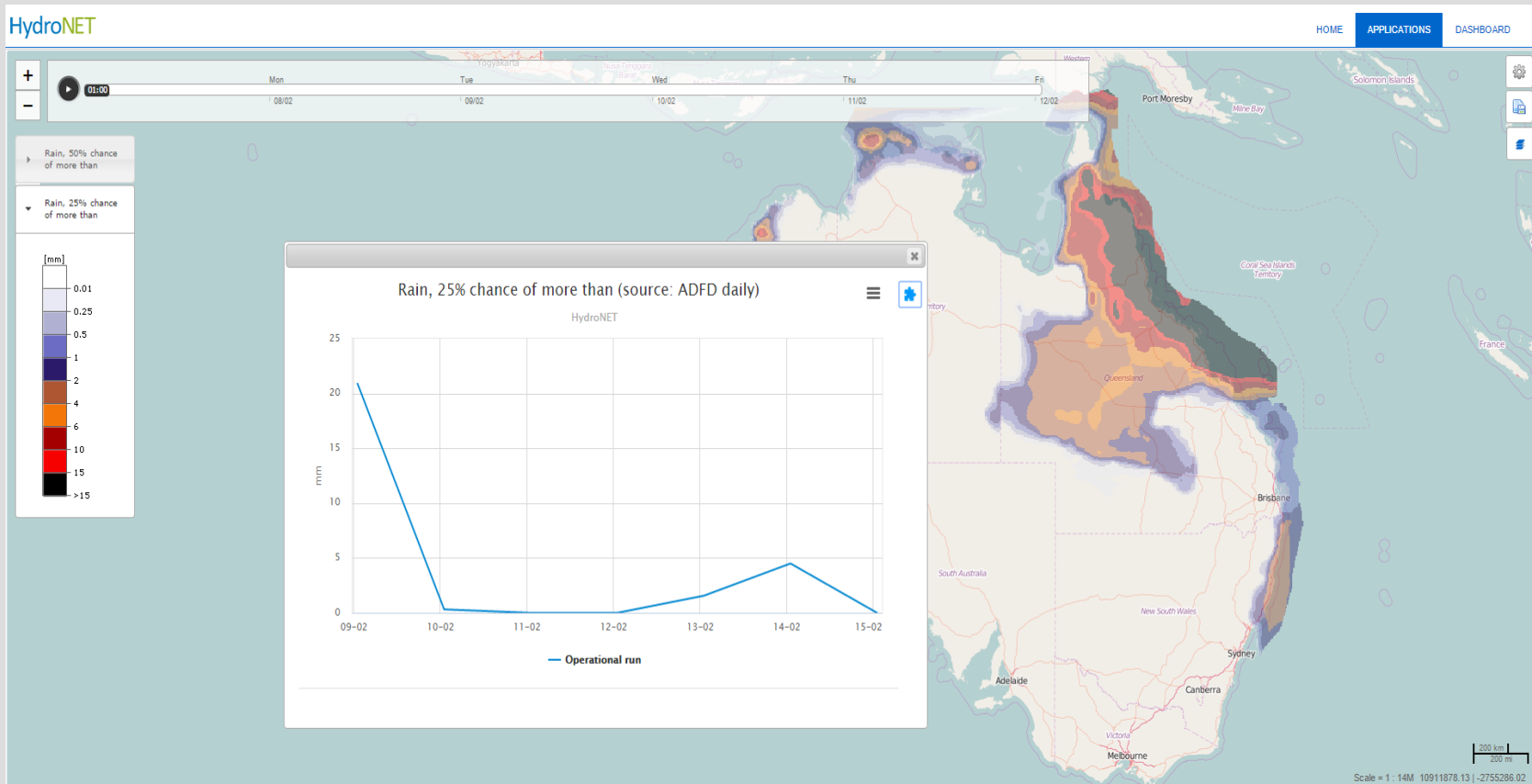
Problem

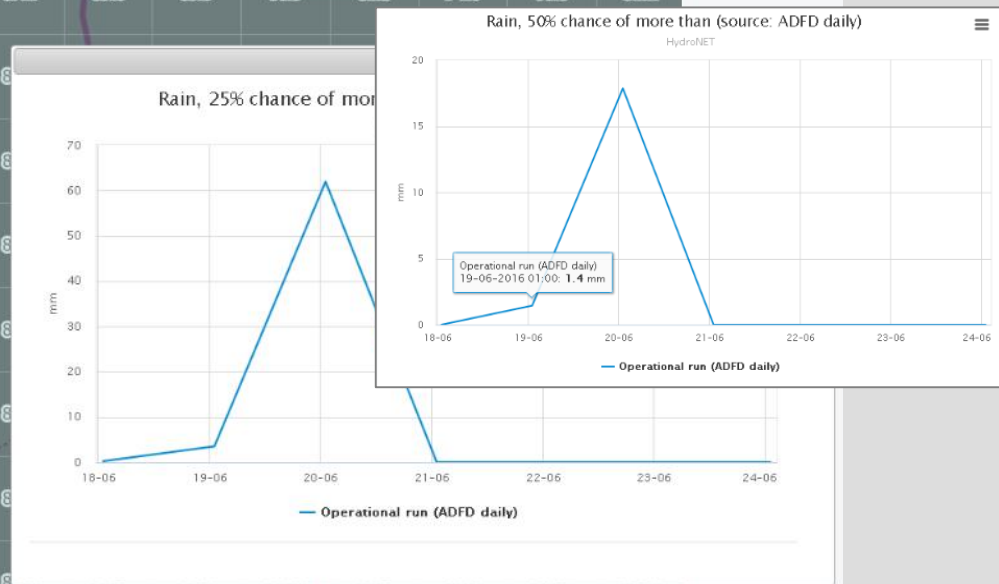
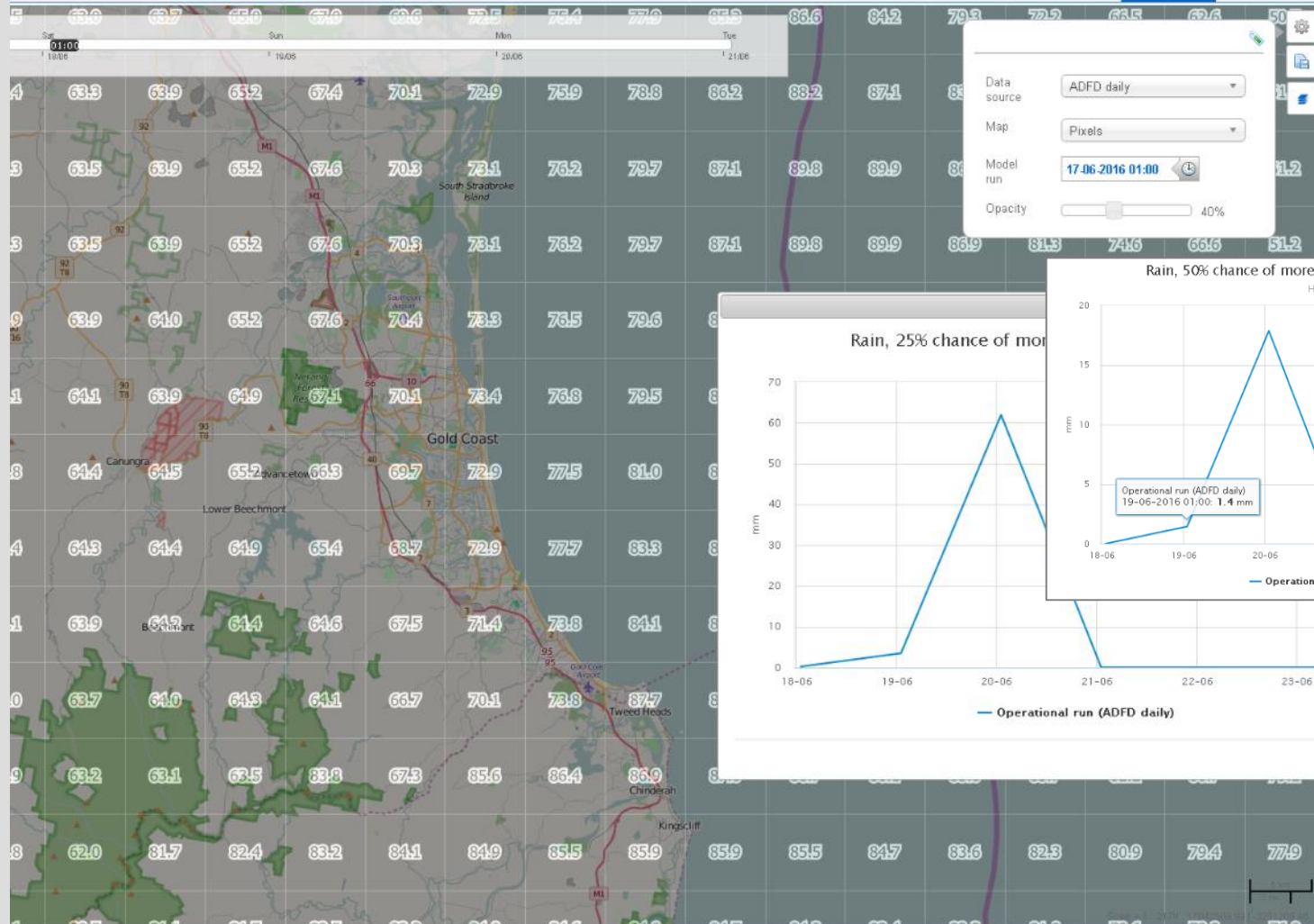
- *We know an event is coming, how large is it going to be and do we need to prepare?*

Solution

- *Use a combination of rainfall forecasts and catchment knowledge to define trigger points*

Weather Forecast application





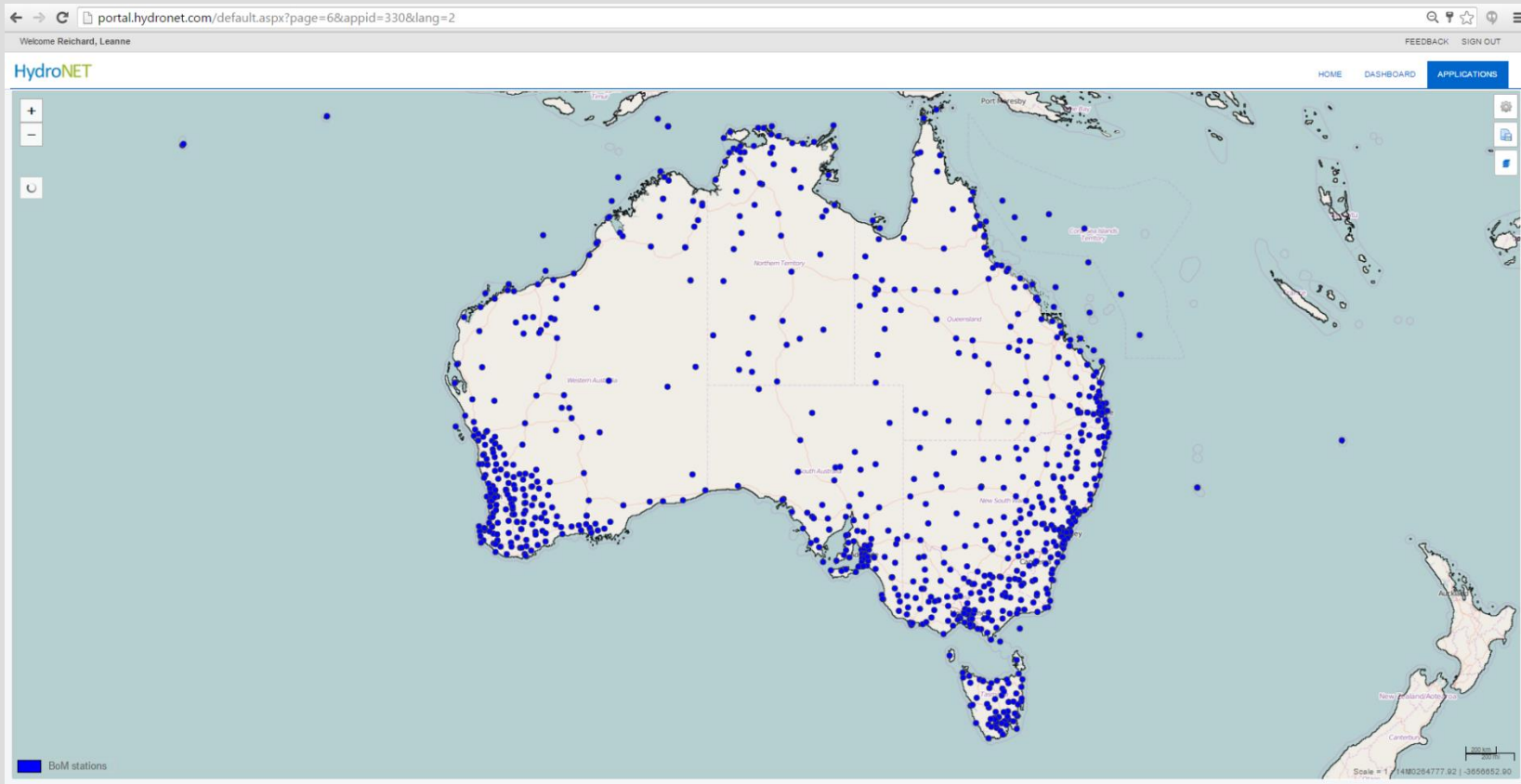
Problem

- *It can be complicated and time consuming to deal with real time gauge information?*

Solution

- *HydroNet Stations App gives instant access to rainfall gauges of interest.*

Stations application



Back

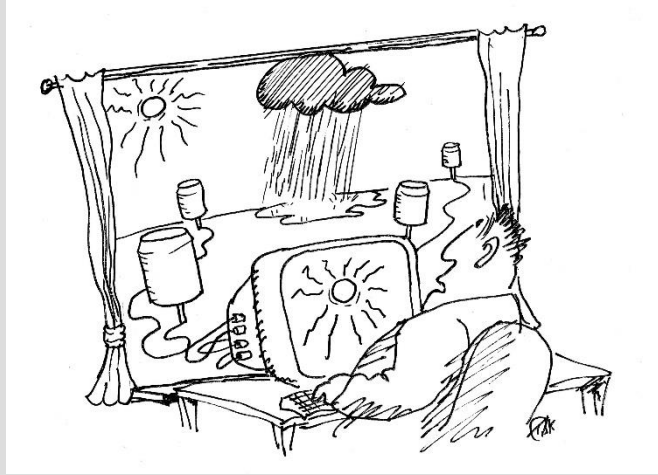
Problem

- *How well is the actual rainfall in the catchment captured by your rain gauges?*

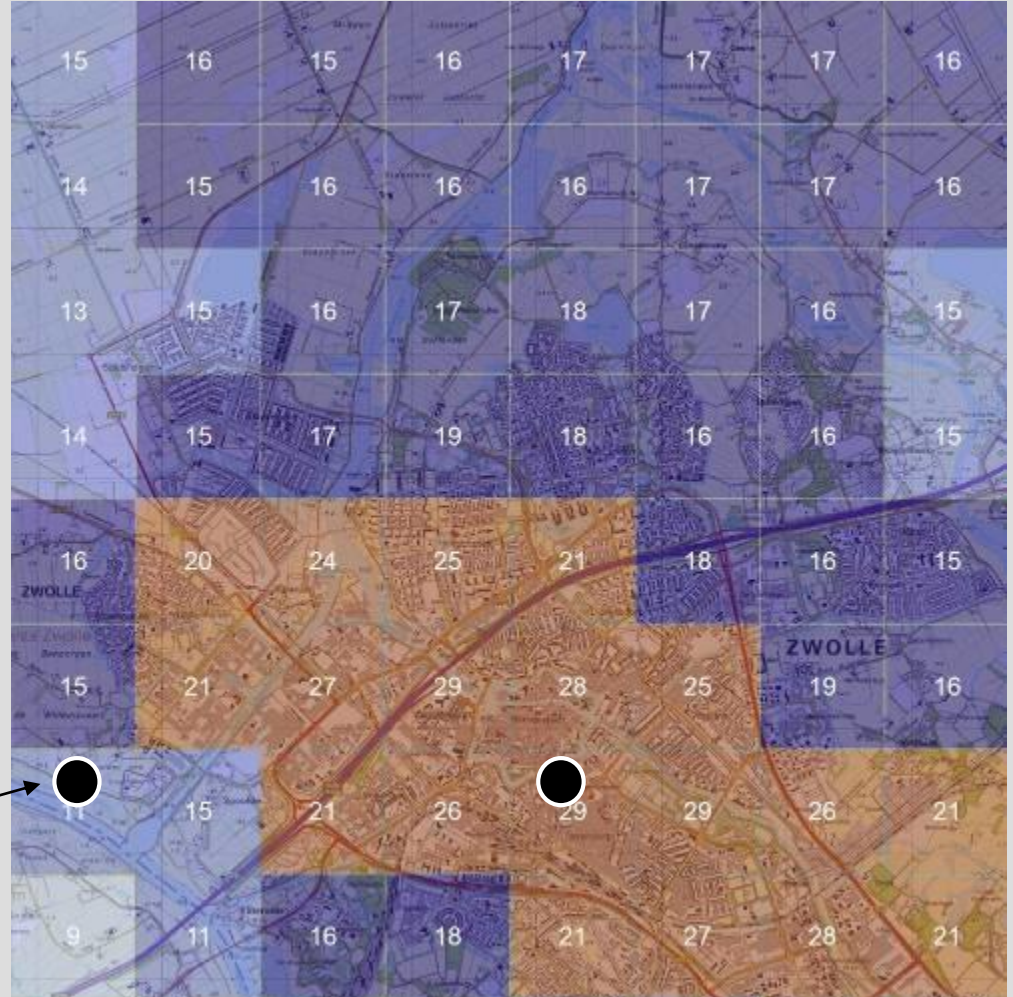
Solution

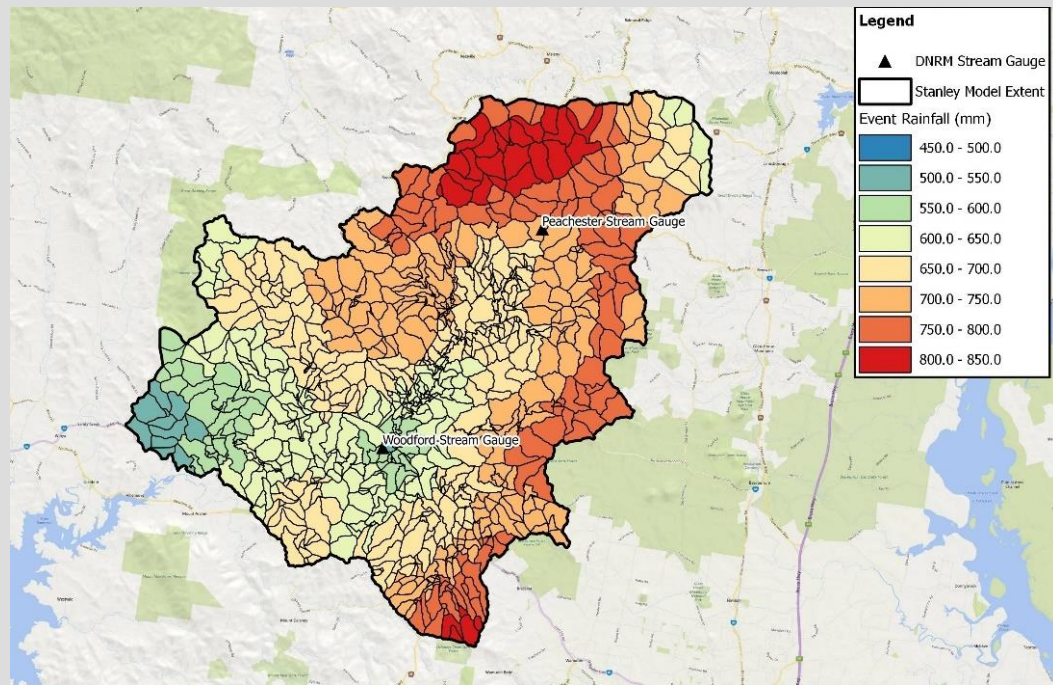
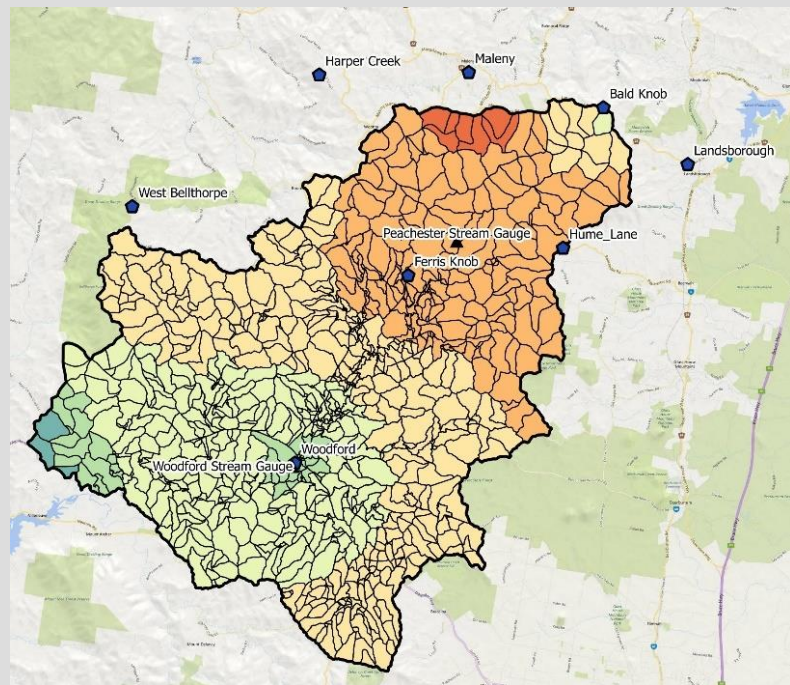
- *Use real time calibrated radar data in addition to your rain gauge feeds.*

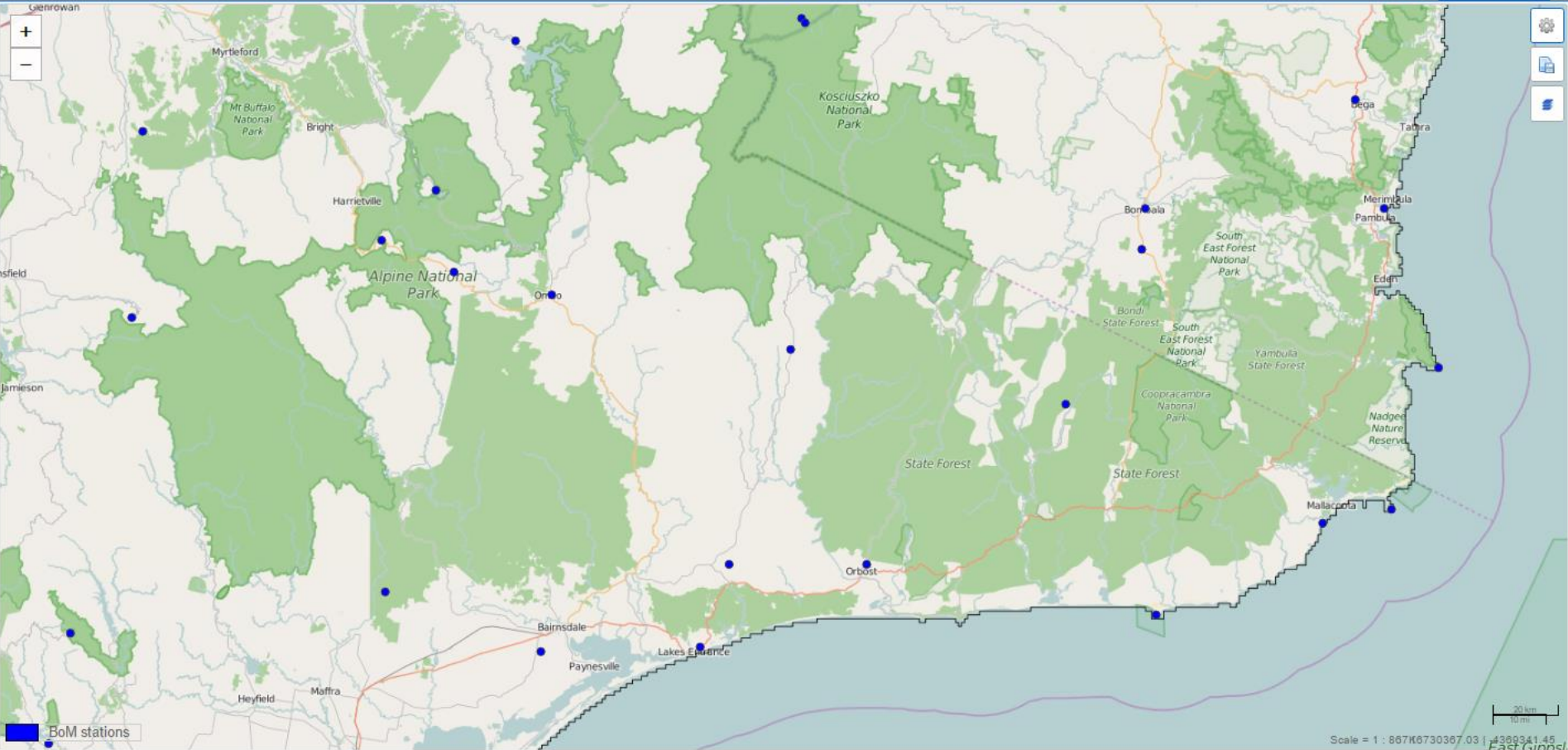
Why radar?

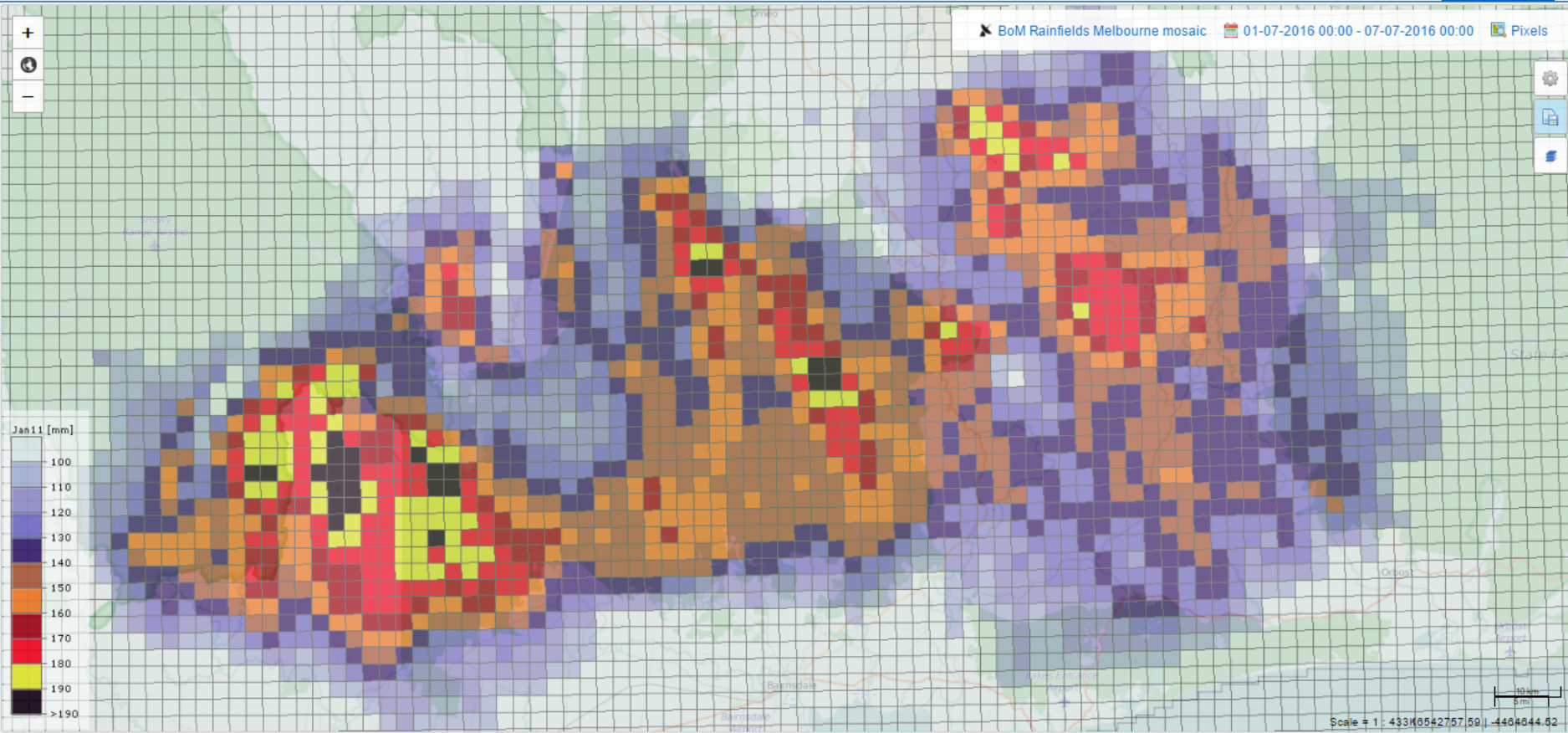


Rain gauge
(10.9 mm)





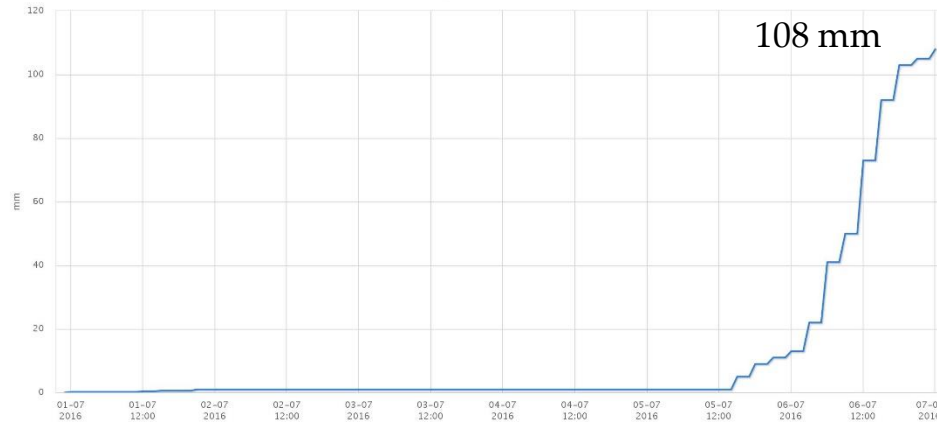




BoM Stations

Precipitation at GELANTIPY – GELA

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Precipitation at ORBOST – ORBT

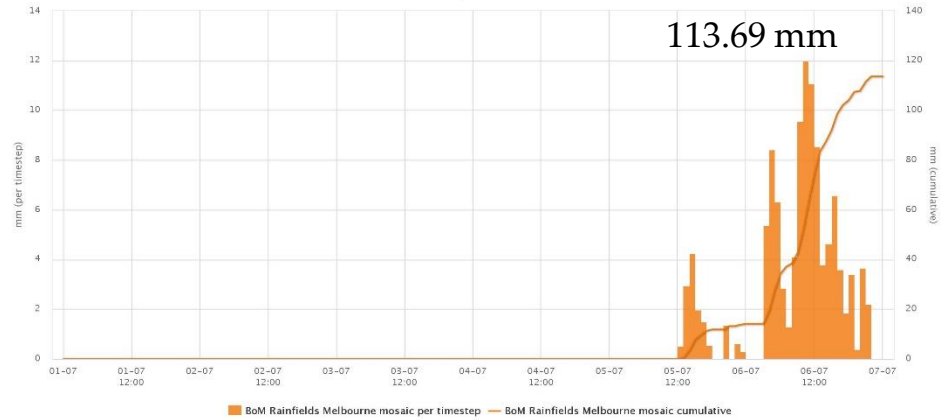
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Radar Rainfall

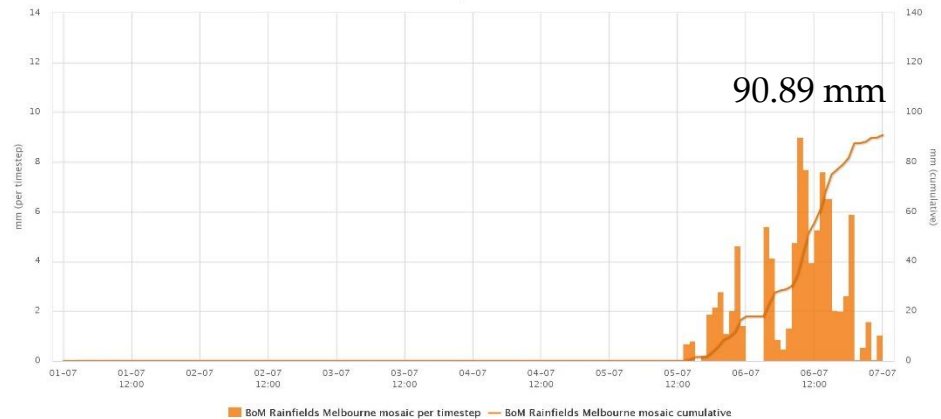
Precipitation – (226, 141)

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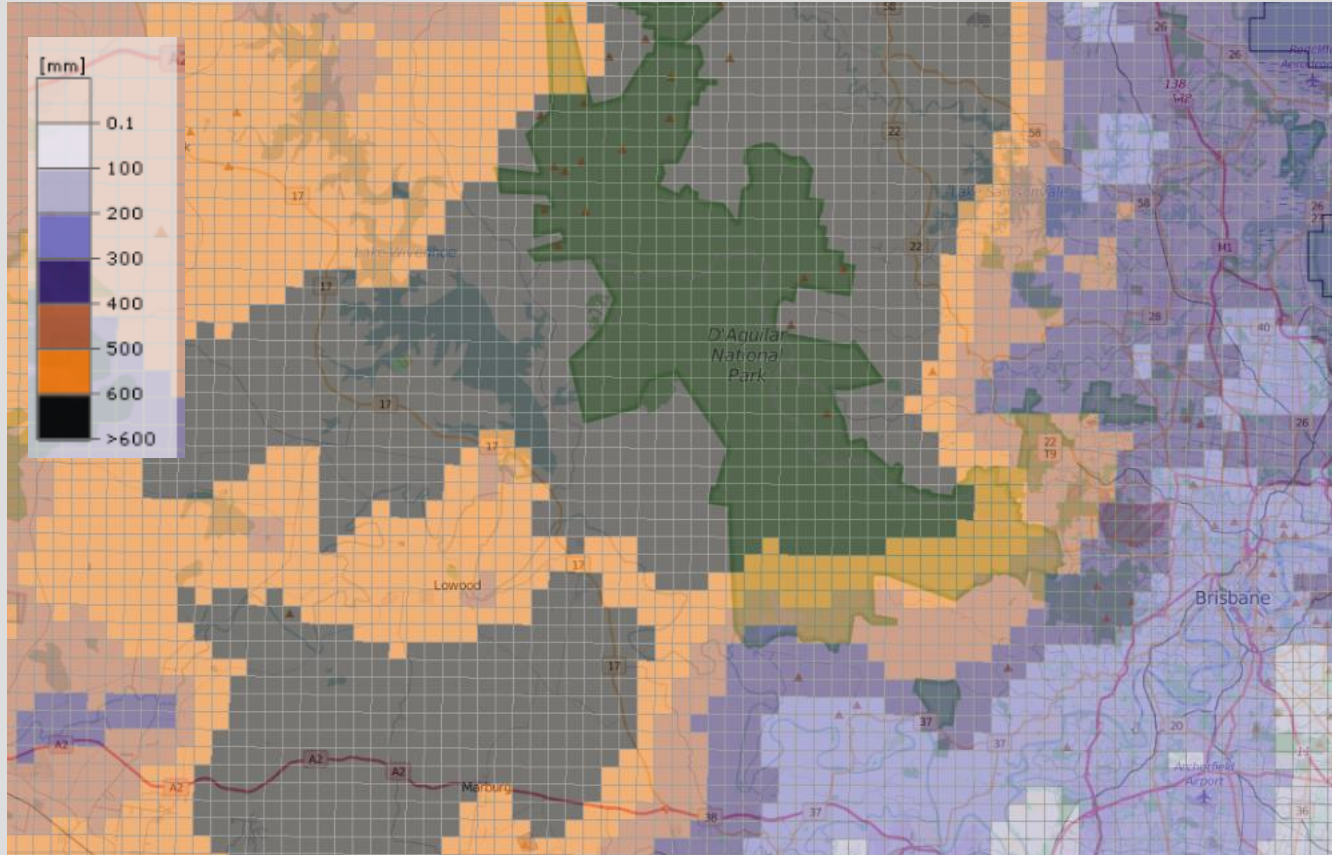


Precipitation – (235, 168)

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Brisbane River - Jan 2011





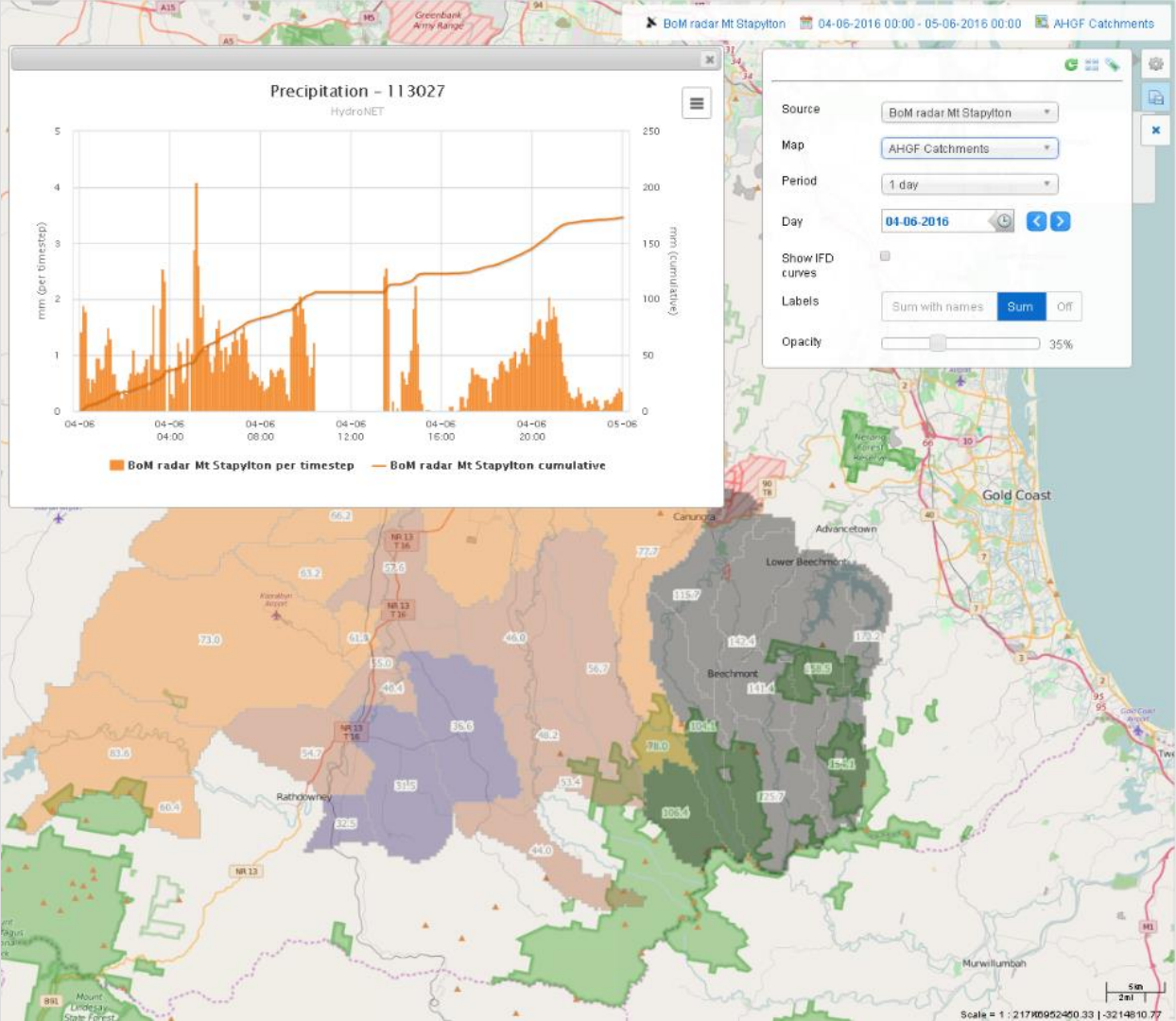
Problem

- *Individual observations are useful, but what's happening at a catchment level?*

Solution

- *Load your catchments of interest to key locations within RainMap to get catchment averaged rainfall in real time.*
- *Use calibrated radar for spatial distribution rather than interpolation between gauges*

RainMap Application



Problem

- *What happens if I don't have budget for sophisticated, real time forecasting systems, or*
- *I have a sophisticated real time forecasting system, but I want "dashboard" outputs?*

Solution

- *Use HydroNet's Water Control Room to manage:*
 - *real time catchment rainfalls from RainMap, combined with*
 - *Local knowledge of key infrastructure to provide,*
 - *Key trigger or alert levels at points of interest.*

HydroView application DSITI

Welcome DSITI_HL, DSITI_HL

[FEEDBACK](#) [SIGN OUT](#)

HydroNET

[HOME](#) [DASHBOARD](#) [APPLICATIONS](#) [HYDROSTORE](#)

Workspace

Period

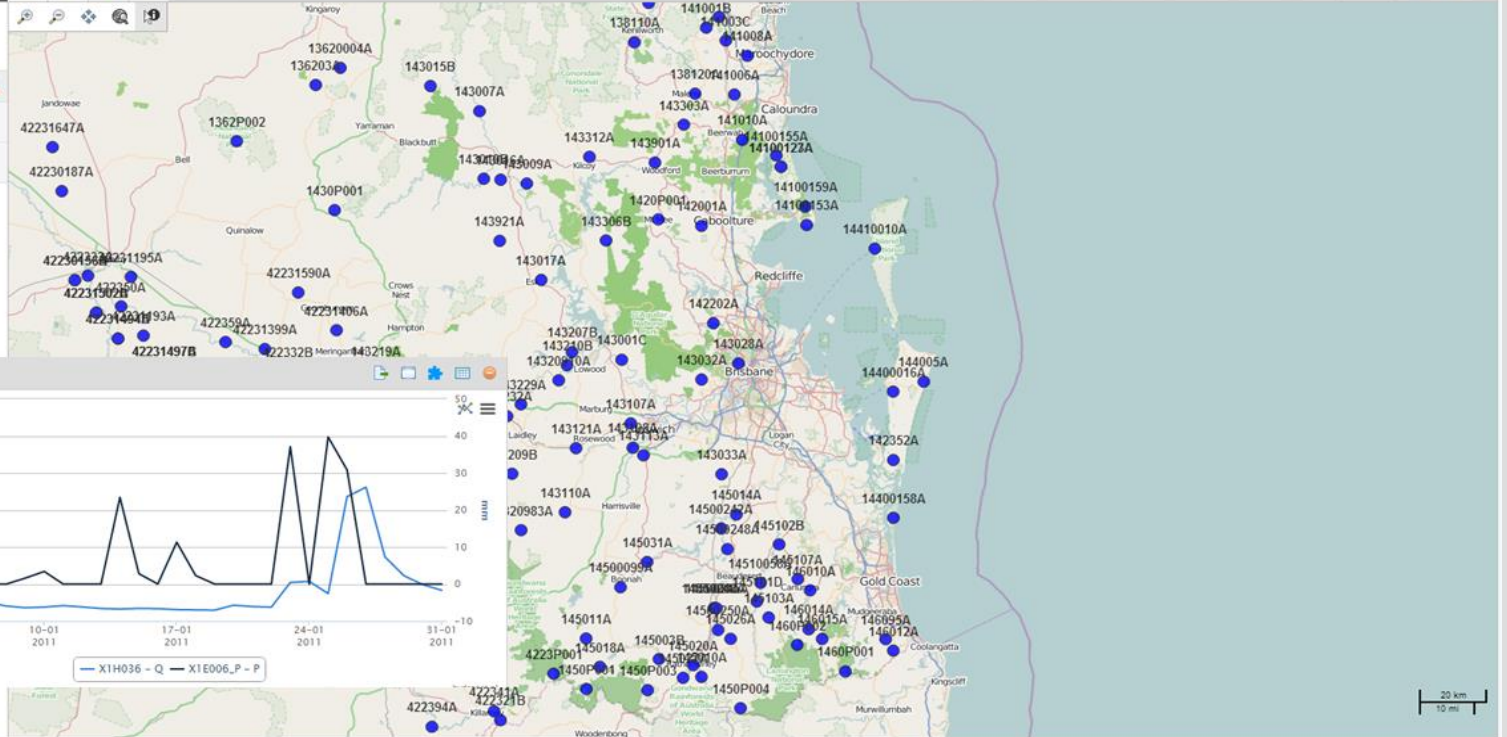
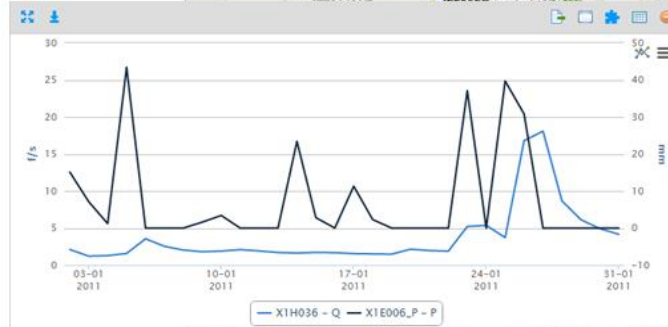
01-07-2014 21:45 - 01-08-2014 20:45

Layers

☒ AT - Daily

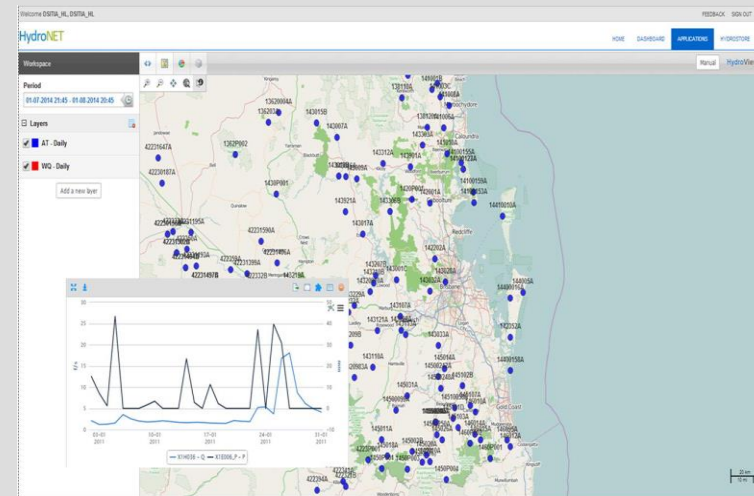
☒ WQ - Daily

Add a new layer

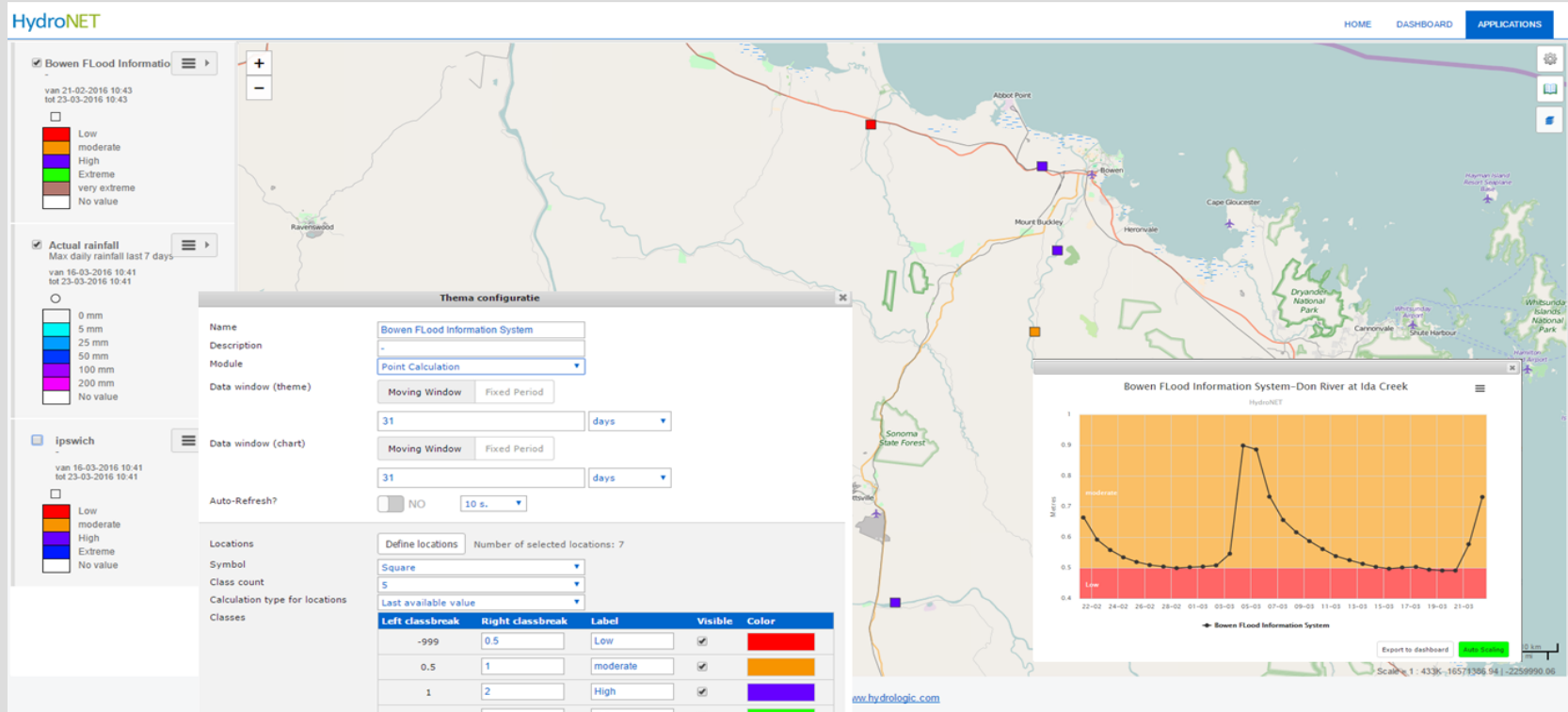


Water Control Room

- A lot of data available to organisations
- What HydroNET offers:
 - add value to data
 - easy access to data via web and mobile
 - combine data from different data sources
 - sharing information internally and externally
 - personalised dashboards



HydroWatch application DSITI



Problem

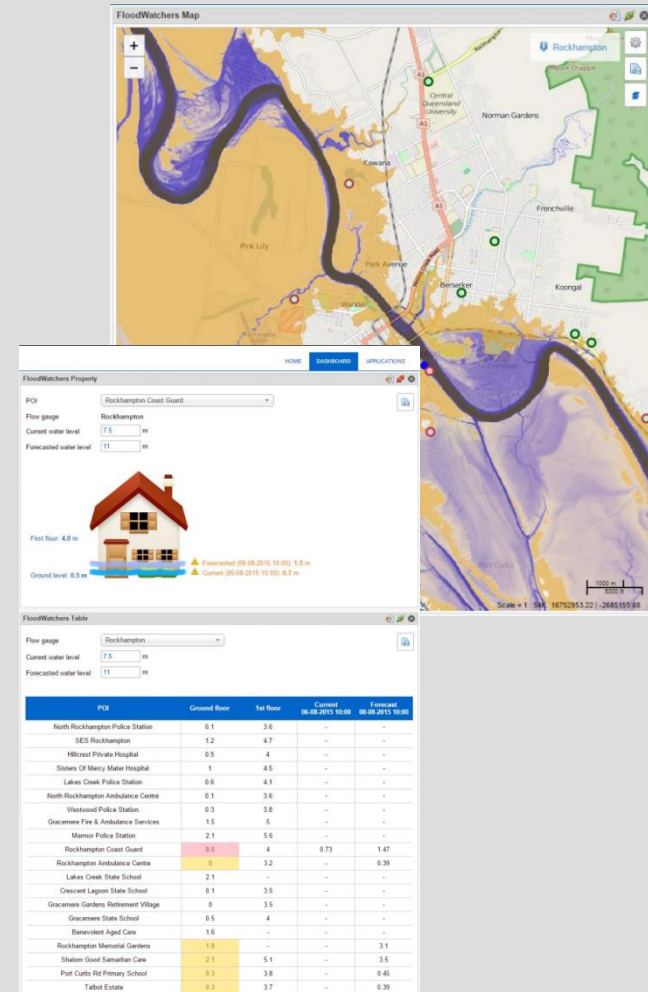
- *BoM forecast is 11m at the gauge – what does that mean?*

Solution

- *Make all offline “flood intelligence” information easily accessible to emergency managers in real time*

Flood Intelligence

- Personalised dashboards empower emergency management
- Access to current and projected flood impacts to population and critical infrastructure
- Generates standardised Flood Reports in seconds
- Real-time link between flow gauges and flood maps
- Available via Guardian and HydroNET



Flood Intelligence

[HydroNet Portal](#)

Problem

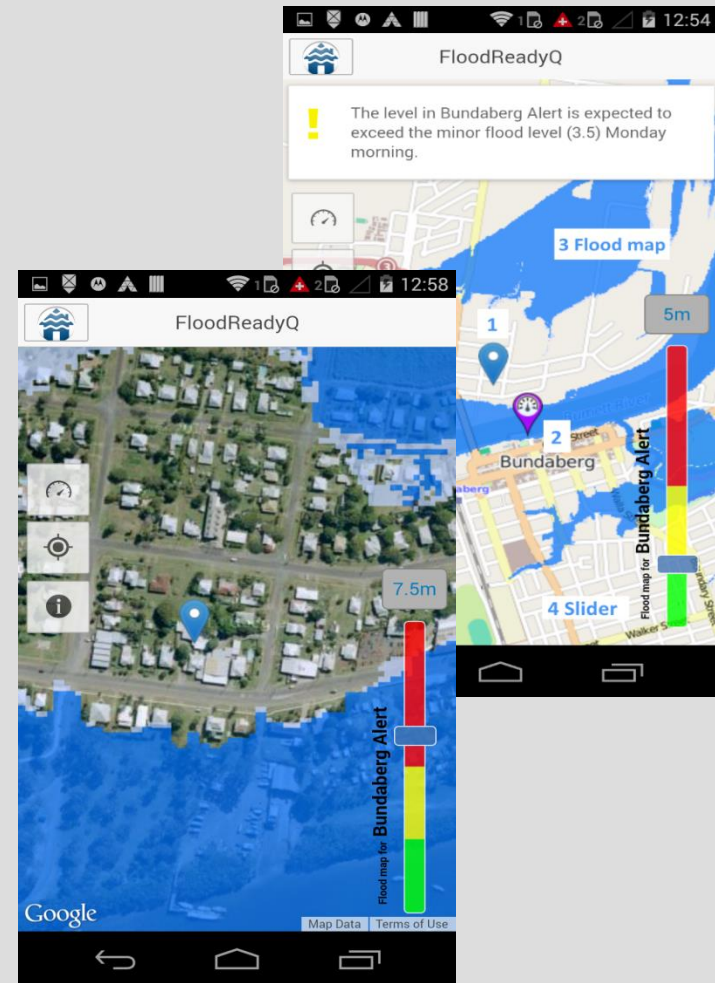
- *How do we make Flood Intelligence information available to the public?*

Solution

- *Use FloodReady Smartphone App*

FloodReady Smartphone app

- Disseminates fluvial flood warning information to the community
- Before and during an event
- Potential benefits:
 - Increased flood warning lead time
 - Greater consistency of flood warning message
 - Increased effectiveness of community response to warnings
 - Improved business and community resilience
 - Reduced flood damages and loss of life
 - Improved community mental and physical health



Problem

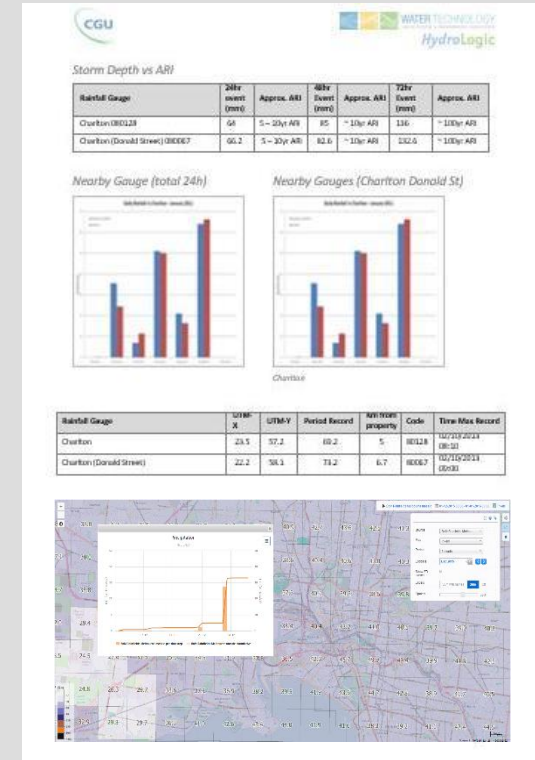
- *There is so much information it's difficult and time consuming to provide concise reports, both during the event and afterwards.*

Solution

- *Flood and Rainfall Report generator for provision of standardized reports*

Flood and rain report generator

- Enables a user to design their own report templates
- Can generate reports in seconds
- Automated reports available from RainWatch, FloodIntelligence and WaterWatchers applications
- Developed during European Space Agency (ESA) project in cooperation with 15 Australian CMA's and local councils



More information:
www.hydronet.com.au
www.watertech.com.au

