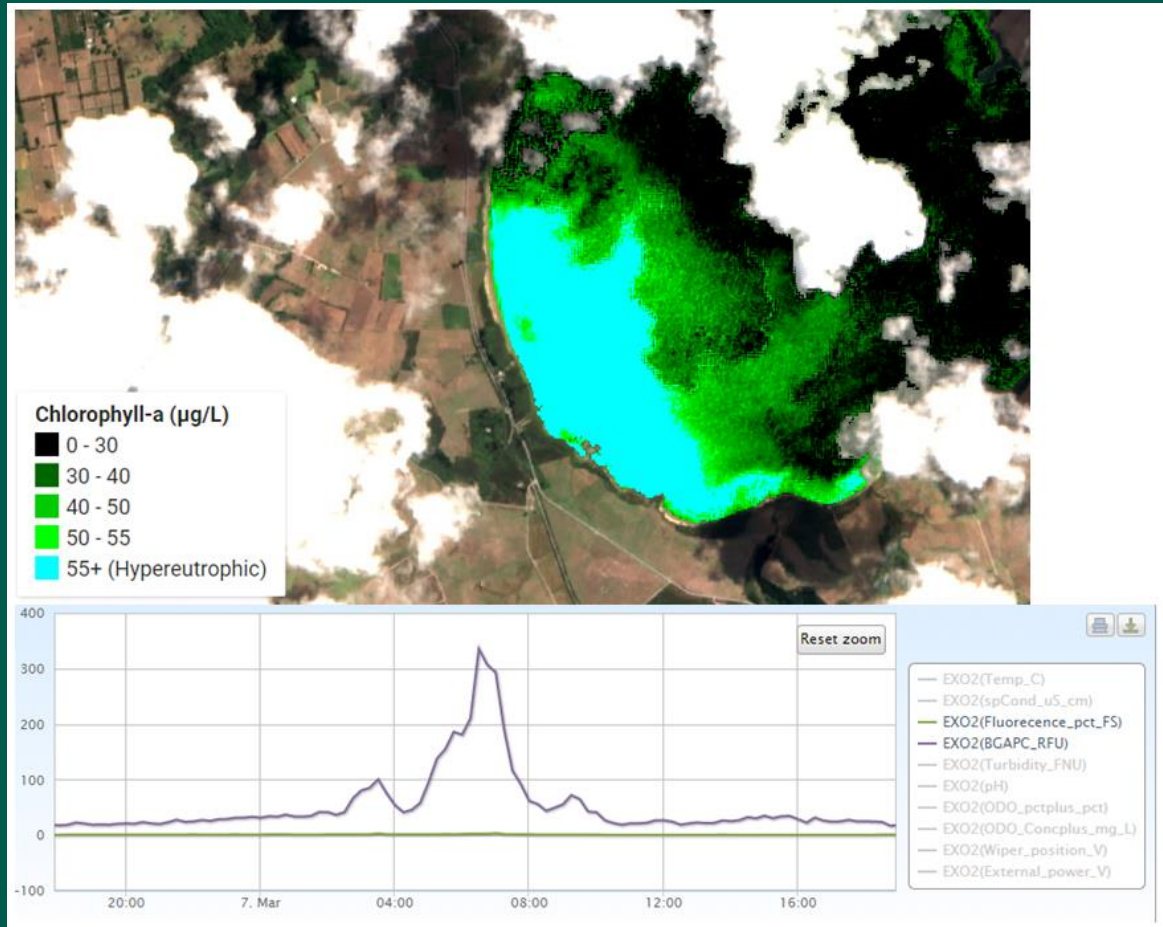


Local Government Environmental Data



Te Mana Raraunga Wananga

22 February 2022

Jason Donaghy

What do we collect

NEMS

[DOCUMENT LIST](#) [SUBSCRIBE](#) [FEEDBACK](#) [ABOUT NEMS](#) [CONTACT](#) [TOOLS AND RESOURCES](#)

Document List

Below are documents currently managed and proposed by the NEMS Steering Group:

NEMS

Open Channel Flow Measurement

Safe Acquisition of Field Data in and Around Fresh Water

- Periphyton
- Macroinvertebrates
- Met Parameters
- Air Quality - PM10
- Air Temperature and Relative Humidity Recording
- Data Processing
- Land Management - Soil Stability/Erosion Monitoring
- PM2.5
- Soil Quality and Trace Element Monitoring
- Wind Recording
- Cyanobacteria
- Data Exchange (FNDS)
- Riparian Characteristics Monitoring
- NZ Site Identification System
- Wetland Monitoring
- Biodiversity
- Biosecurity
- Conductivity (Continuous)
- Contaminated Land
- Continuous Nitrate Monitoring
- Fish Monitoring
- Land Management - Land Fragmentation
- Land Management - Mitigation/Restoration Monitoring
- Land Management - Nutrient Use/loss

Document Title	Status	Current Version	Date of Release	Planned Review Date
Glossary	Current	2.0.1	November 2019	
Rating Curves	Current	2.0.0	February 2020	February 2022
Dissolved Oxygen	Current	2.0	July 2016	July 2018
National Quality Code Schema	Current	2.0	July 2016	February 2018
Water Meter Data	Current	2.0	November 2017	November 2019
Water Temperature Recording	Current	2.0	April 2017	April 2019
Soil Water Measurement	Current	1.2	August 2016	August 2018
Turbidity Recording	Current	1.2	July 2017	July 2019
Suspended Sediment	Current	1.0.0	October 2020	October 2021
Water Quality Part 1 - Sampling, Measuring, Processing and Archiving of Discrete Groundwater Quality Data	Current	1.0.0	March 2019	March 2020
Water Quality Part 2 - Sampling, Measuring, Processing and Archiving of Discrete River Water Quality Data	Current	1.0.0	March 2019	March 2020
Water Quality Part 3 - Sampling, Measuring, Processing and Archiving of Discrete Lake Water Quality Data	Current	1.0.0	March 2019	March 2020
Water Quality Part 4 - Sampling, Measuring, Processing and Archiving of Discrete Coastal Water Quality Data	Current	1.0.0	February 2020	February 2021
Hydrological and Meteorological Structures	Current	1.0	July 2016	July 2017
Site Surveys	Current	1.0	October 2016	October 2017
Water Level	Current (under review)	3.0.0	July 2019	July 2021
Rainfall Recording	Current (under review)	2.1	August 2017	August 2019
Open Channel Flow Measurement	Current (under review)	1.1	June 2013	June 2015
	Proposed			
	Proposed			
	Proposed			
	Proposed			
	Proposed			

LAWA & EDMS



- 5000 sites
- 1500 sites real time
- World first in federating environmental data for all of one country
- 890,000 users and over 4,770,000 page-views since LAWA was launched in 2014.



EDMS: Environmental Data Management System

Improving NZ's Environmental data Solution Blueprint

Draft – for discussion and review

	Current state	Target state	Actions to get there
Channels	<ul style="list-style-type: none"> • Uncoordinated, unregulated • Phases convergence of service provider – not customer 	<ul style="list-style-type: none"> • Coordinated, regulated • Supports customer preference 	<ul style="list-style-type: none"> • Define role of regulator • Poll customers for preference
Access/ Security	<ul style="list-style-type: none"> • Ensuring privacy and facilitating personalized service • Inconsistent region 2 region • No personalized service 	<ul style="list-style-type: none"> • Consistent data followed by all regions • Services personalized to customer interests 	<ul style="list-style-type: none"> • Define standards
ED informational services	<ul style="list-style-type: none"> • E.g. What is the air quality in my home town? • Not channel agnostic • Inconsistent service experience • Multiple platforms • No shared glossary or vocab 	<ul style="list-style-type: none"> • Channel independent • Consistent level of service • Traceable and auditable • Shared glossary/ metadata 	<ul style="list-style-type: none"> • Environmental information services • Common information model • Governance
ED storage & archive	<ul style="list-style-type: none"> • The use of prepared data needed to support a service • Different implementations by region • Different CB vendors and data structures 	<ul style="list-style-type: none"> • Single platforms where sensible • Single service providers for particular domains • Single shared structures 	<ul style="list-style-type: none"> • Define service requirements • Agree service provider (RFP) • Agree transition sequence
ED verification & traceability	<ul style="list-style-type: none"> • The job of scrubbing conflicting data and aggregating granular measurements • Science rules per region • Different platform technologies • Different technical standards • No all APIs, models or BPM 	<ul style="list-style-type: none"> • Shared science rules • Full data lifecycle • Data science supportive platform • Consistent unit of measures 	<ul style="list-style-type: none"> • Agree level of consolidation needed • Agree science rules and unit of measures
ED telemetry/ harvesting	<ul style="list-style-type: none"> • The job of collecting data from multiple sensors/ sources • Different in each region/ function • Often dictated by vendor product – not by service SLA 	<ul style="list-style-type: none"> • Service SLA supporting standards shared across NZ 	<ul style="list-style-type: none"> • Agree standards (as directed by Service SLAs)
ED observations & measurements	<ul style="list-style-type: none"> • Inert sensors that generate data about the environment and record sampling in observations • Little regulation of products • Varies across regions • Products not chosen with alignment front of mind 	<ul style="list-style-type: none"> • All products are regulated/ approved as aligned to standards • Continued product variation • Shared sites for sampling 	<ul style="list-style-type: none"> • Set scope for product standards • Establish regulatory role

EFFECTUS Limited ReCoGo

Challenges: Data sovereignty

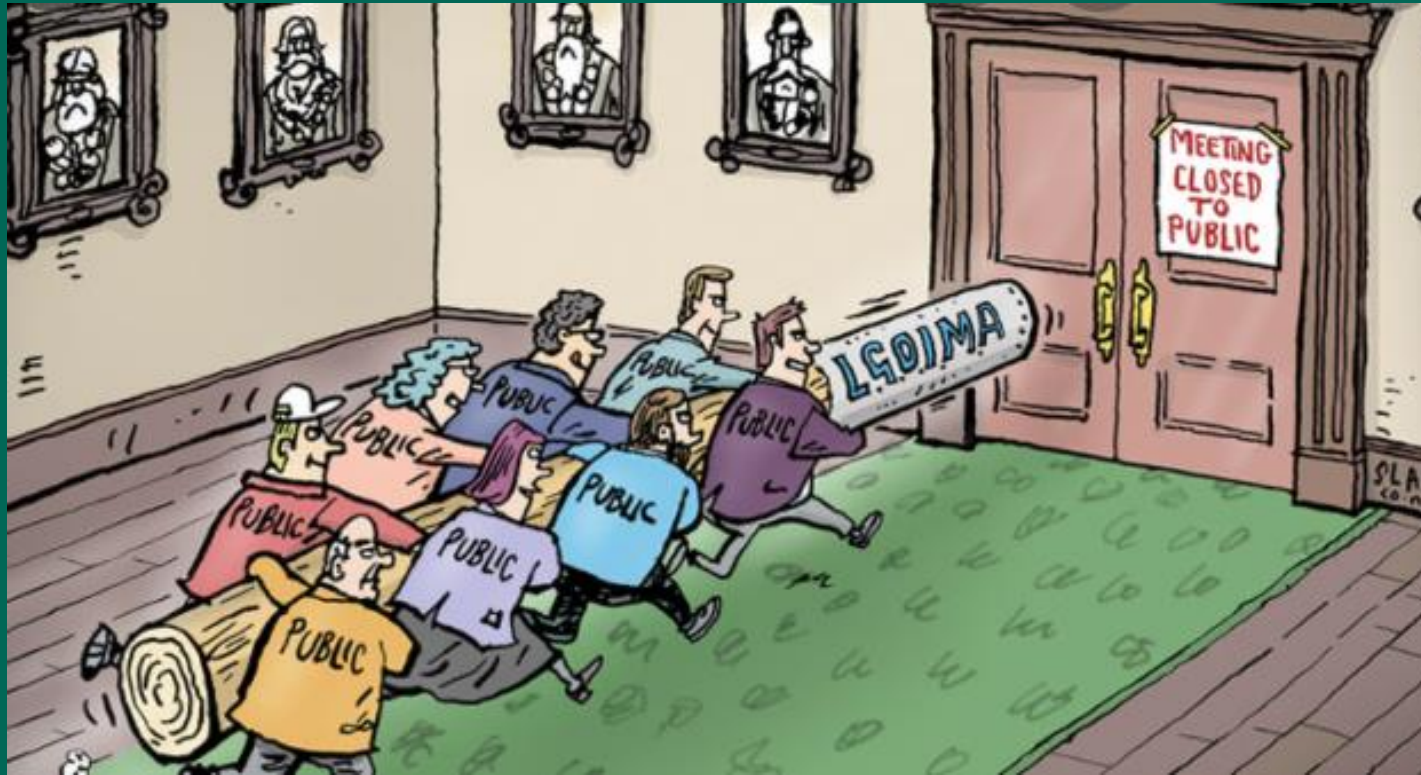


Remote sensing



Point data

Challenges: Legal Framework



to avoid serious offence to tikanga Maori, or to avoid the disclosure of the location of waahi tapu; or

would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information; or

He pātai - Questions

