

Alignment and collaboration efforts in the NSW Modelling and Monitoring Hub (MaMH)

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The NSW Modelling and Monitoring Hub (MaMH) A NSW Government initiative

Needs

- Populations along ambulatory shores
- Significant spatial & temporal variability
- Reliance on trustworthy, accessible & cost effective information (data/models) that is evidence-based & scientifically defensible
- Growing demand and volumes of information
 Data Explosion

Collaboration across government

Sharing knowledge, capabilities & lessons
 state-wide benefits beyond indiv. agencies

NSW MaMH commenced June 2018

To develop, capture & disseminate specialist water modelling and monitoring information between state agencies and SOCs

Official opening in Sep 2018



Who is the MaMH?

2018-19 members

- 1. NSW Department of Industry, Lands and Water*
- 2. Manly Hydraulics Laboratory*- holds Chair and Secretariat roles
- 3. Office of Environment and Heritage*
- 4. Office of Local Government*
- 5. Sydney Water
- 6. WaterNSW
- * From 1 July 2019 Department of Planning, Industry and Environment

Future membership expected to include Commonwealth & local government, other water utilities, universities, industry and other "non-interested" parties (decision makers)

Already strong collaboration with many, including QWMN



- 1. NSW water monitoring information inventory
 - Snapshot
 - Collaboration opportunities & hurdles
 - Collaboration tool assessment framework

50/150 surveyed organisation:

- 2. An overview of water modelling in NSW
 - Snapshot
 - Models types, applications & capabilities
 - Collaboration systems and metadata
- \rightarrow 98% of data with 9 key organisations, 2.2M location (88%, 24,000 excluding water meters)
- \rightarrow 2,400 water model applications concentrated in Sydney metro





 → 7 broad model types → 50% updated < 5yrs BUT → only 30% shareable - with metadata → low discoverability / no single source 						
700	■Total No. of Models Identified					
600	■ Models Updated in Approx. Last 5 years ■ Models with Metadata Avaliable to Share					
<u>ہ</u> 500						
400						
300						
200						
100						
0						
	Hydrology, Water Quality Groundwater Coastal Urban Water Water Other Flood & & Ecological Balance Estuaries					
	Water Modelling Type					

00/ E 0/ Stormwater Management Water Supply Systems **Drinking Water** Flood Risk Management Lakes and Estuaries Management **Receiving Water Management Basin Planning Reservoir Management** Water Allocation Source Water Management Groundwater Resource Management Wastewater Management **Basin Operations Coastal Management** Soil Erosion Management Agriculture & Irrigation Other purposes

Odour & Corrosion Control

Percentage Breakdown of Key Purposes of Water Modelling in NSW Government

0%	 5%		10%
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Think big, start small, act fast

 \rightarrow Diverse model nurnoses

- \rightarrow 80% recognised value in improved collaboration
- \rightarrow BUT 65% unaware of existing collaboration platforms
- → Resources/funding & lacking metadata standards/model management systems ← BiGgest Obstacles

perceived...



- → Strong modelling Capabilities, Experience & Skills identified, mostly in (often isolated) state government organisations
- \rightarrow Major gaps in LG areas
- \rightarrow Many diverse, unconnected systems
- \rightarrow Amongst increasing volumes and demand for information





Existing collaboration tools were evaluated by:

- recognising open, shared and private information
- > x7 objectives



→ Recommended federated system, central/discoverable metadata with data pool for small organisations

Existing platforms (SEED, Spatial Collaboration Portal & NSW Flood Data Portal) are operating and VIABLE

BUT Collaboration happens with people

Using Patrick Lencioni's (2002) model for high performing teams
→ Where Results = maximising public value





using Patrick Lencioni's 5 dysfunctions of a team

MaMH Collaboration Mechanisms To build:

Working Group – ¼ly meet, share activities/collaboration opportunities & rank Special Projects / resources

ToR – shared purpose & values (WoG perspective, cooperation/teamwork, open communications; & transparency, fairness & integrity)

MDA – joint understanding: Open, Shared & Private information → safe/collaborative environment

Funding – initially annual subscription for Special Projects, Secretariat & info sharing Annual Forum

Special projects & ranking – public benefits, inter-agency benefits, existing & developed capability, risk management & deliverability (scope)

Information sharing – WG meetings, Forum, web, Reports, presentations, intra/inter-state collaborations, Results integrated SP delivery teams, cohabitation, MDA/Values

Think big, start small, act fast

Trust & Commitment Accountability Trust

Conflict Resolution

Commitment

Accountability Trust Results



Launching the Spatial Collaboration Portal / NSW Digital Twin

NSW Gov Spatial Services & Data61 (CSIRO) developed the Digital Twin.

4D spatial foundation layer (information ROOT) Supplies open & shared data as determined by data custodian

Role based access (user authentication)

Discoverable data is now recognised as a most valuable asset in NSW

Knowledge → information network = \$\$\$



Digital Collaboration

Search, share and manage Spatial Data Custodians manage access permissions to their data

NSW

Enable open data discovery and access or share data with specific users or groups

Access map viewers for data visualisation and analysis Analytics available on data consumption and use

Spatial Collaboration Portal

The NSW Government portal for data sharing. Upload and share your data with other Government agencies.



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Hosted Feature Layers

- Ability to collate multiple data layers
- Sensitive data can remain restricted
- Make open data layers available for use
- Allows improved agency data collaboration

RESTRICTIVE DATASET

RESTRICTIVE DATASET

NSW ADMINISTRATIVE BOUNDARIES THEME LOCAL GOVERNMENT AREA

NSW TRANSPORT THEME ROAD SEGMENT

NSW FEATURE OF INTEREST CATEGORY *PLACE POINT*

Finishing up

- Gov direction/community expectations... Open Data
- Existing platforms capable (open/shared)

HENCE, we need state/national standards on metadata
→ discoverability is the 2nd ROOT

Footnote – we need to become more involved in key drivers for decision making... ask why? – it is not all technically based



www.mamh.nsw.gov.au

Thinking BIG, starting small and acting *fast*

Check our web page

