crc•si Spatially Enabling Australia and New Zealand

Open Spatial Analytics

Focus: Near-real time outputs to reduce latency in decision-making

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Australia

GEOSMART ASIA 2017, MALAYSIA

43•pl

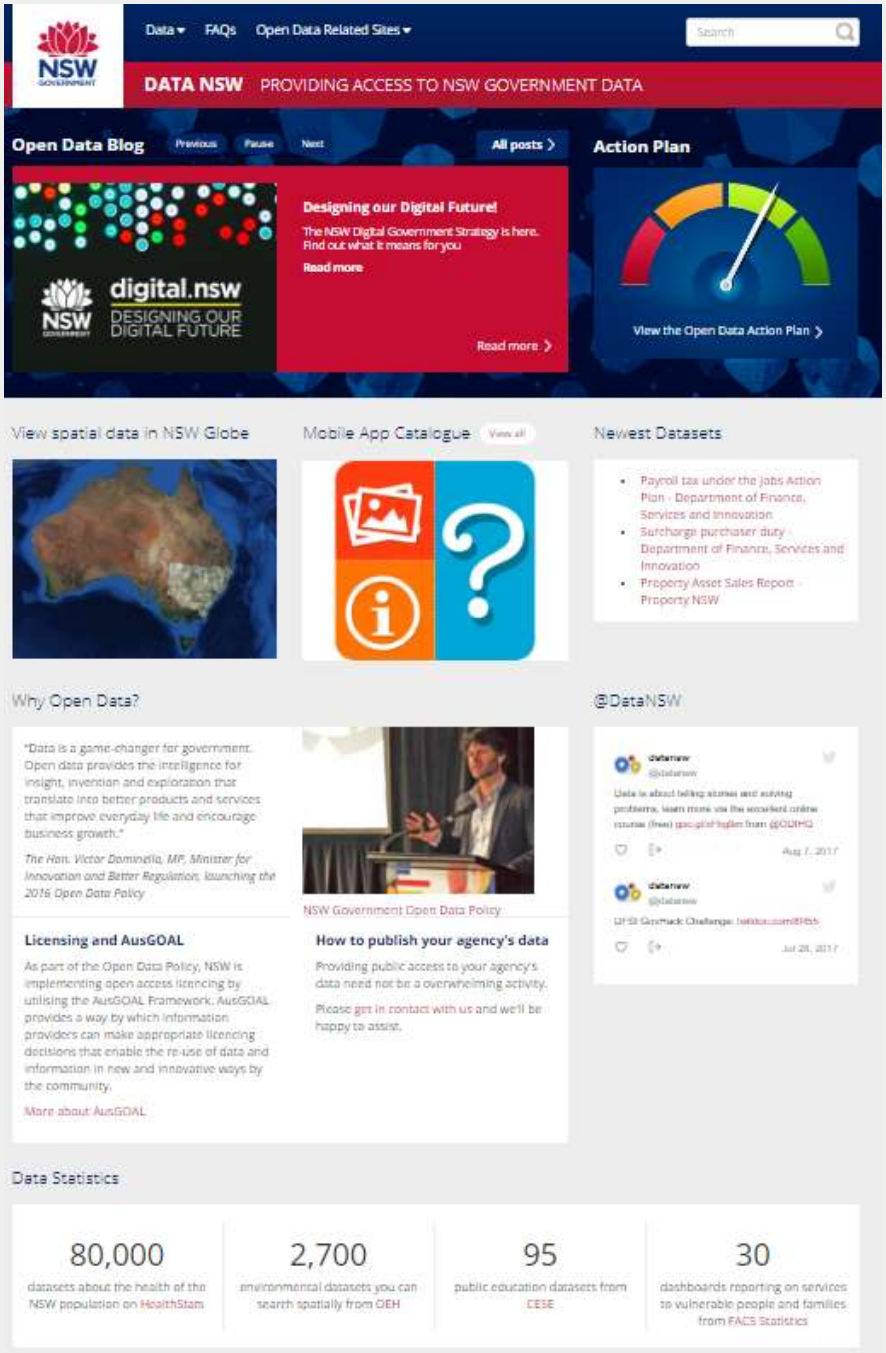
Australian Government
Department of Industry, Innovation and Science

Business Cooperative Research Centres Programme

Need to reproduce information increasing !

- What data was used?
- What processes were carried out?
- What standards were followed?
- Was there a QA/QC carried out?

Open Data


Data
FAQs
Open Data Related Sites
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Open Data Blog
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DESIGNING OUR DIGITAL FUTURE
Designing our Digital Future!
The NSW Digital Government Strategy is here. Find out what it means for you
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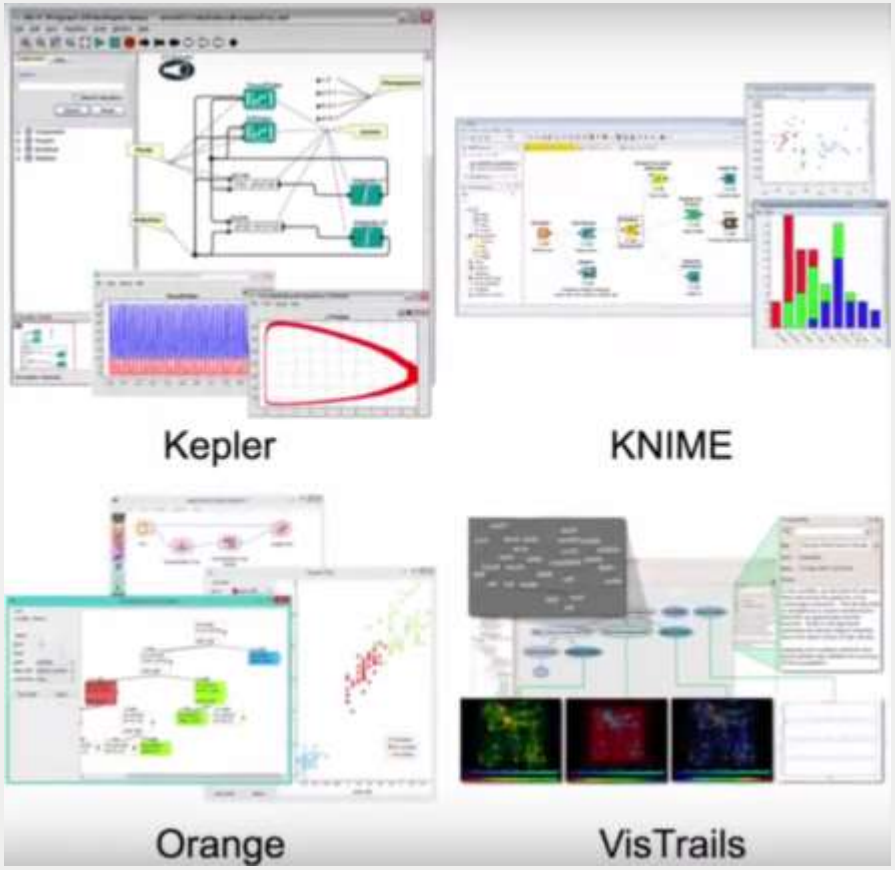
View the Open Data Action Plan
View spatial data in NSW Globe
Mobile App Catalogue
Newest Datasets
Payroll tax under the Jobs Action Plan - Department of Finance, Services and Innovation
Surcharge purchaser duty - Department of Finance, Services and Innovation
Property Asset Sales Report - Property NSW
Why Open Data?
"Data is a game-changer for government. Open data provides the intelligence for insight, invention and exploration that translate into better products and services that improve everyday life and encourage business growth."
The Hon. Victor Dominello, MP, Minister for Innovation and Better Regulation, launching the 2016 Open Data Policy
NSW Government Open Data Policy
@DataNSW
Licensing and AusGOAL
As part of the Open Data Policy, NSW is implementing open access licencing by utilising the AusGOAL Framework. AusGOAL provides a way by which information providers can make appropriate licencing decisions that enable the re-use of data and information in new and innovative ways by the community.
More about AusGOAL
How to publish your agency's data
Providing public access to your agency's data need not be a overwhelming activity.
Please get in contact with us and we'll be happy to assist.
Data Statistics
80,000
datasets about the health of the NSW population on HealthStats
2,700
environmental datasets you can search spatially from OEH
95
public education datasets from CESE
30
dashboards reporting on services to vulnerable people and families from FACS Statistics

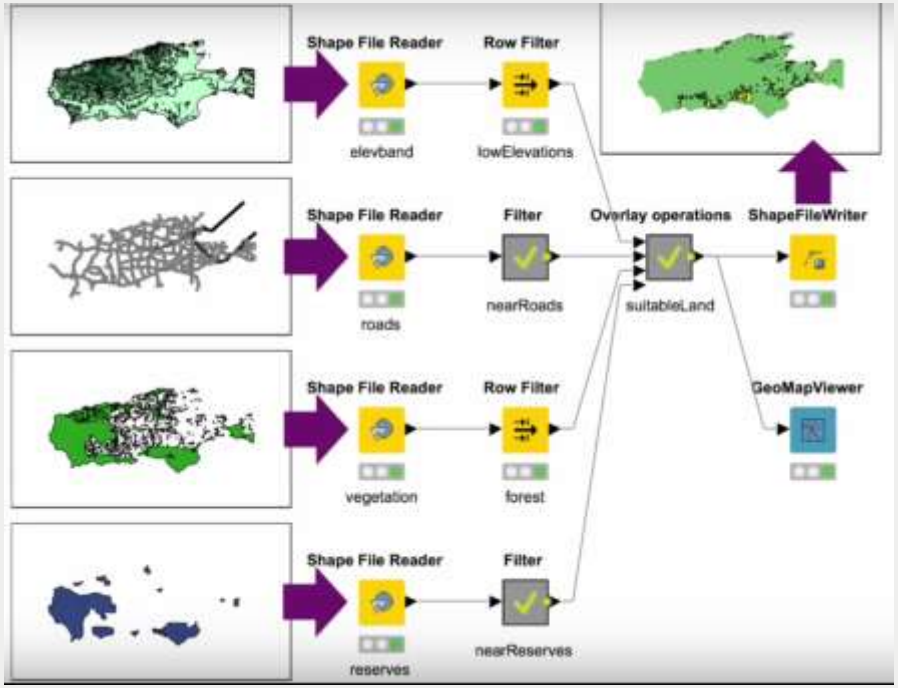
- Open Spatial Analytics helps to integrate – Scientific workflows with data, documentation and expertise in the way it puts science at the centre!

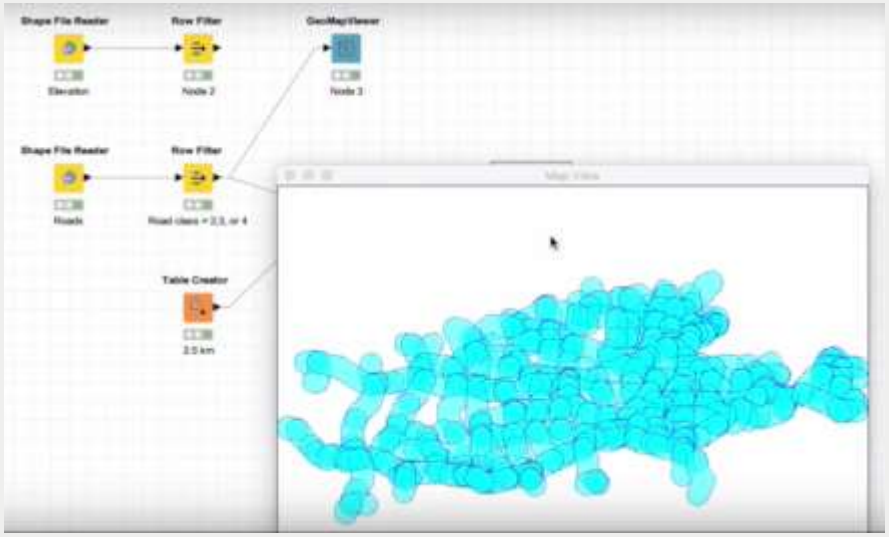


Scientific workflows similar to business workflows: Tools allows us to breakdown our tasks into manageable parts using the metaphor of flowchart.

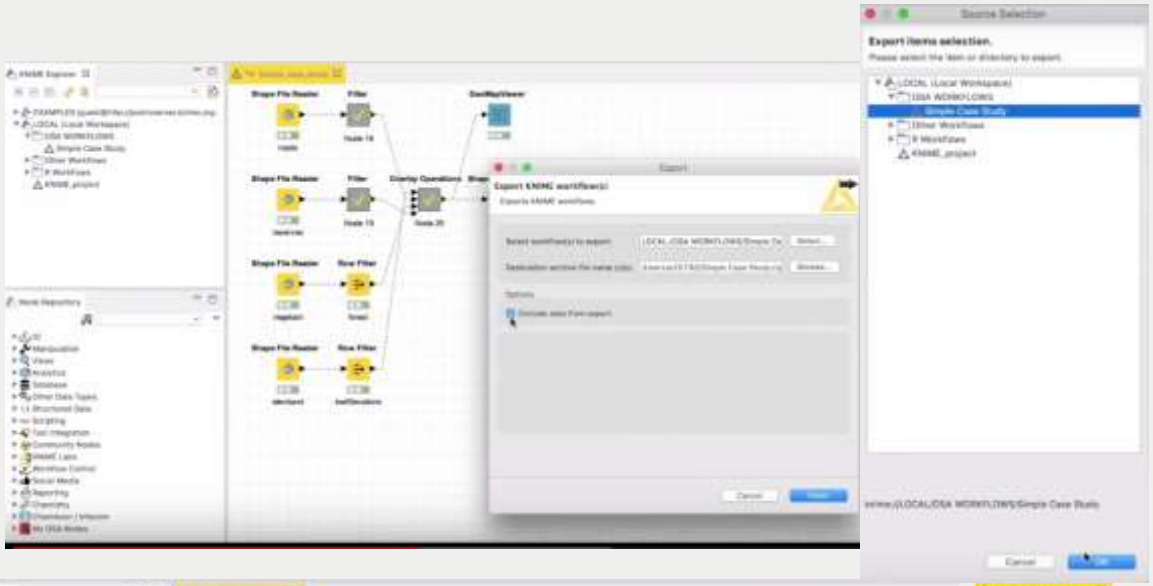
Example of Scientific Workflow

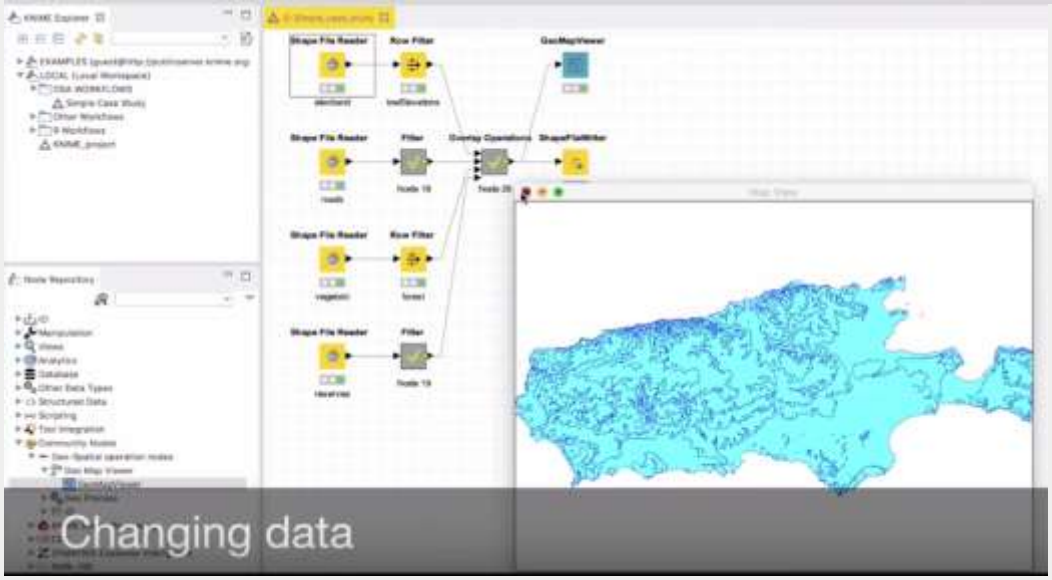
Allows to capture expert knowledge from the user as a Visual Language for self documenting analytics

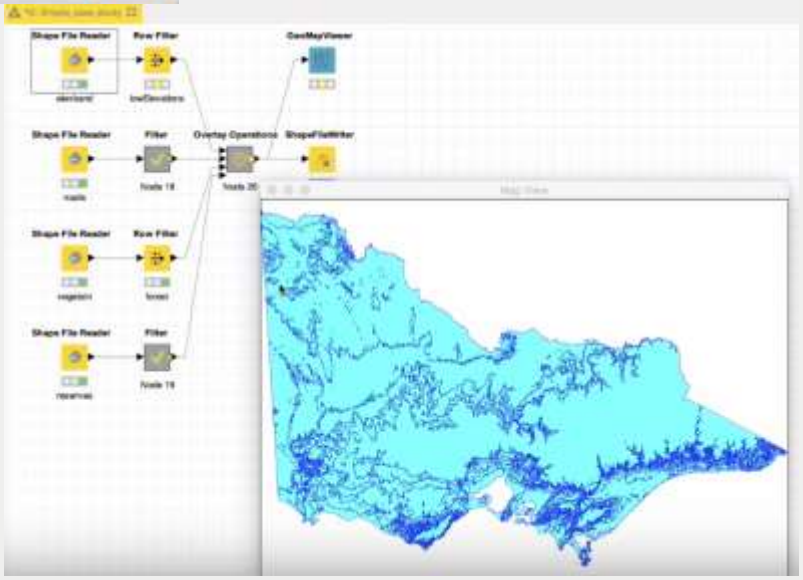




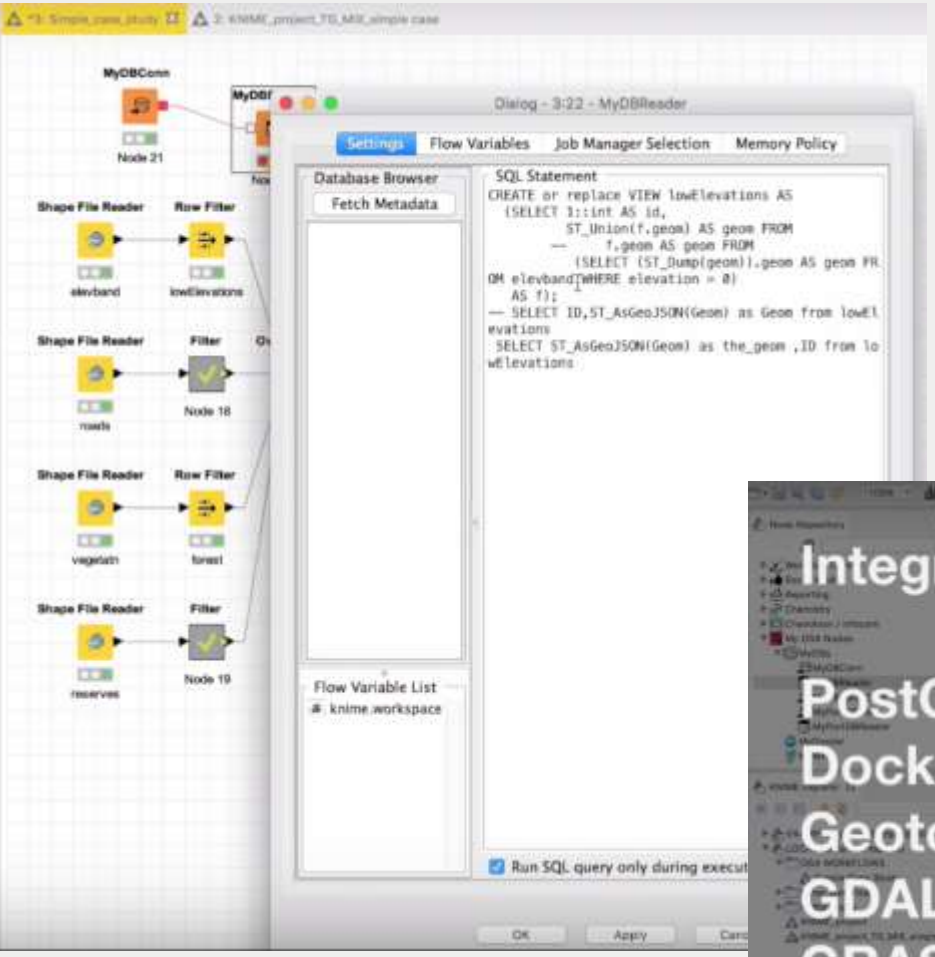
Share Workflows and reuse !

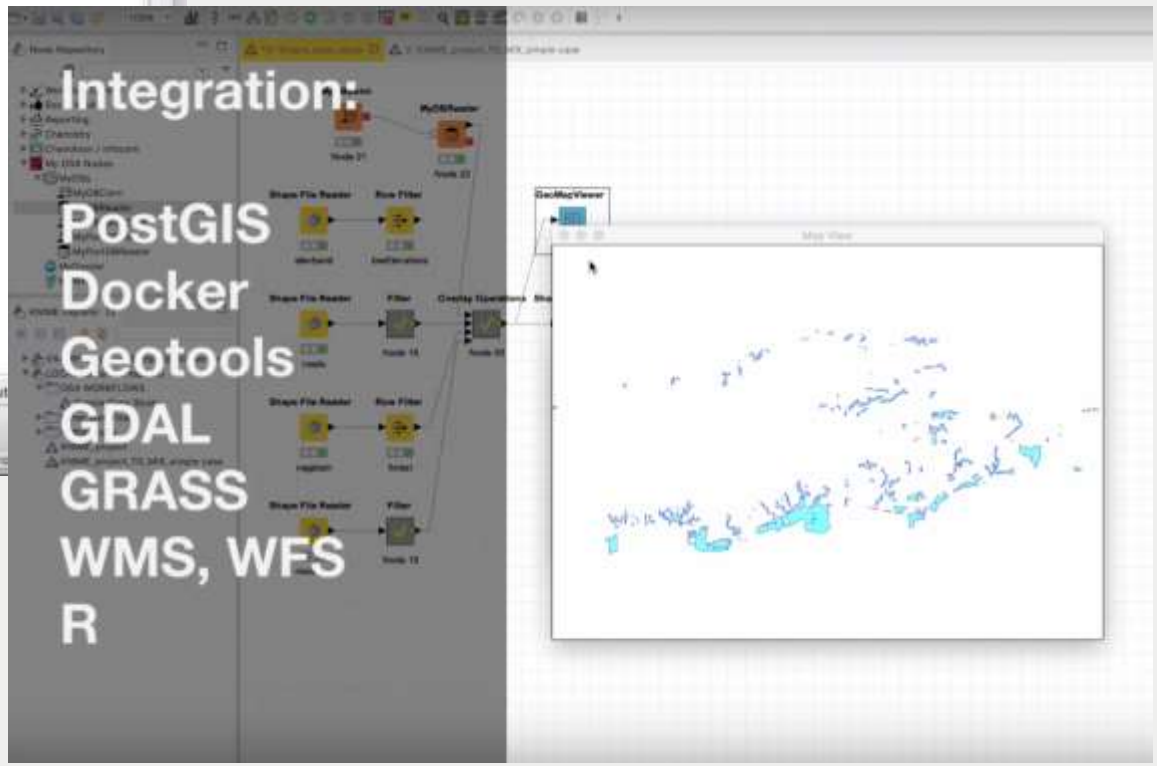






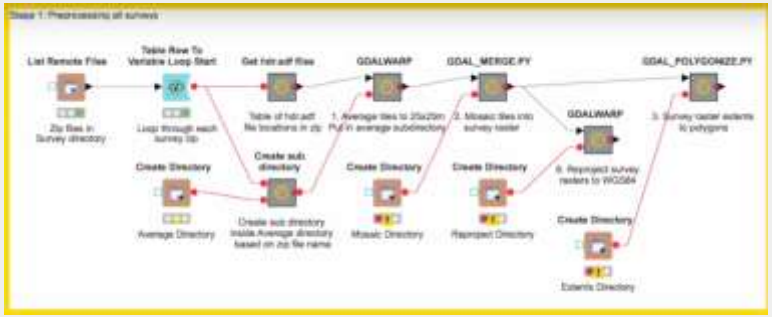
Modify Workflows as per your use

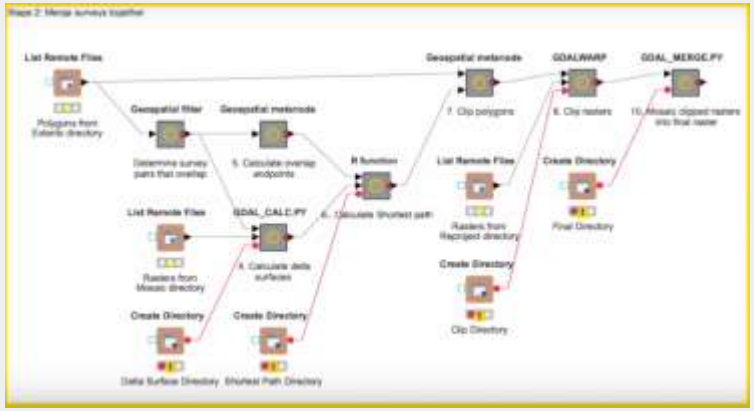


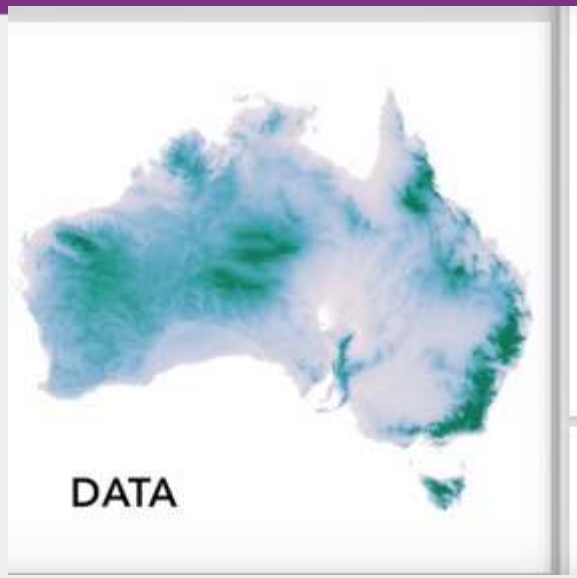


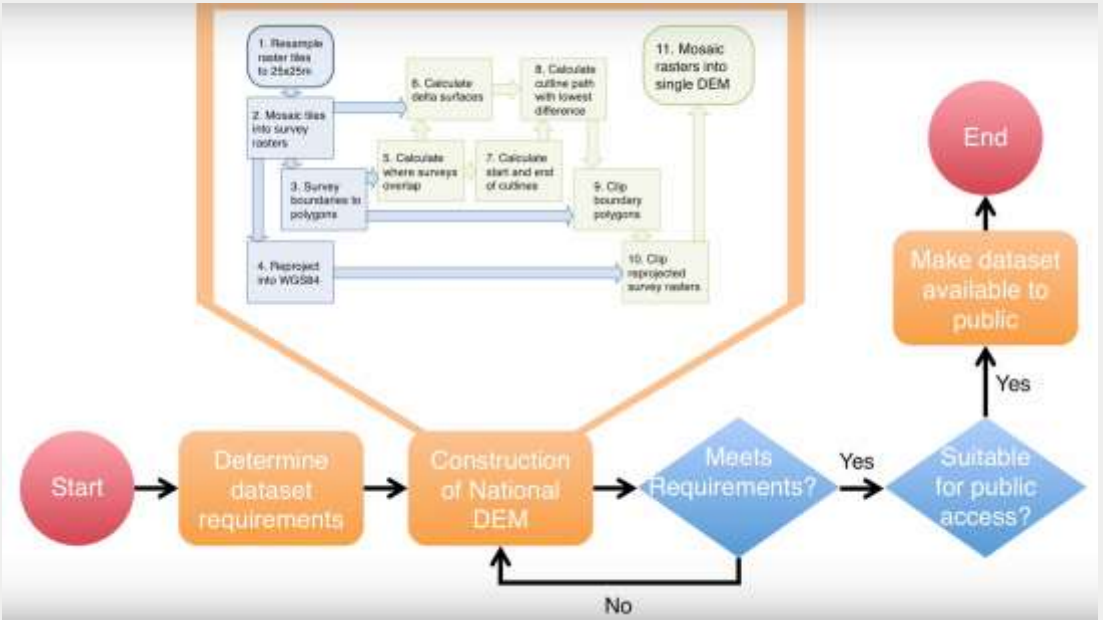
Replicating Geoscience Australia's procedure for creating National DEM by blending 100 TB of LiDAR Data over 60 different surface into a coherent

Scientific Workflows



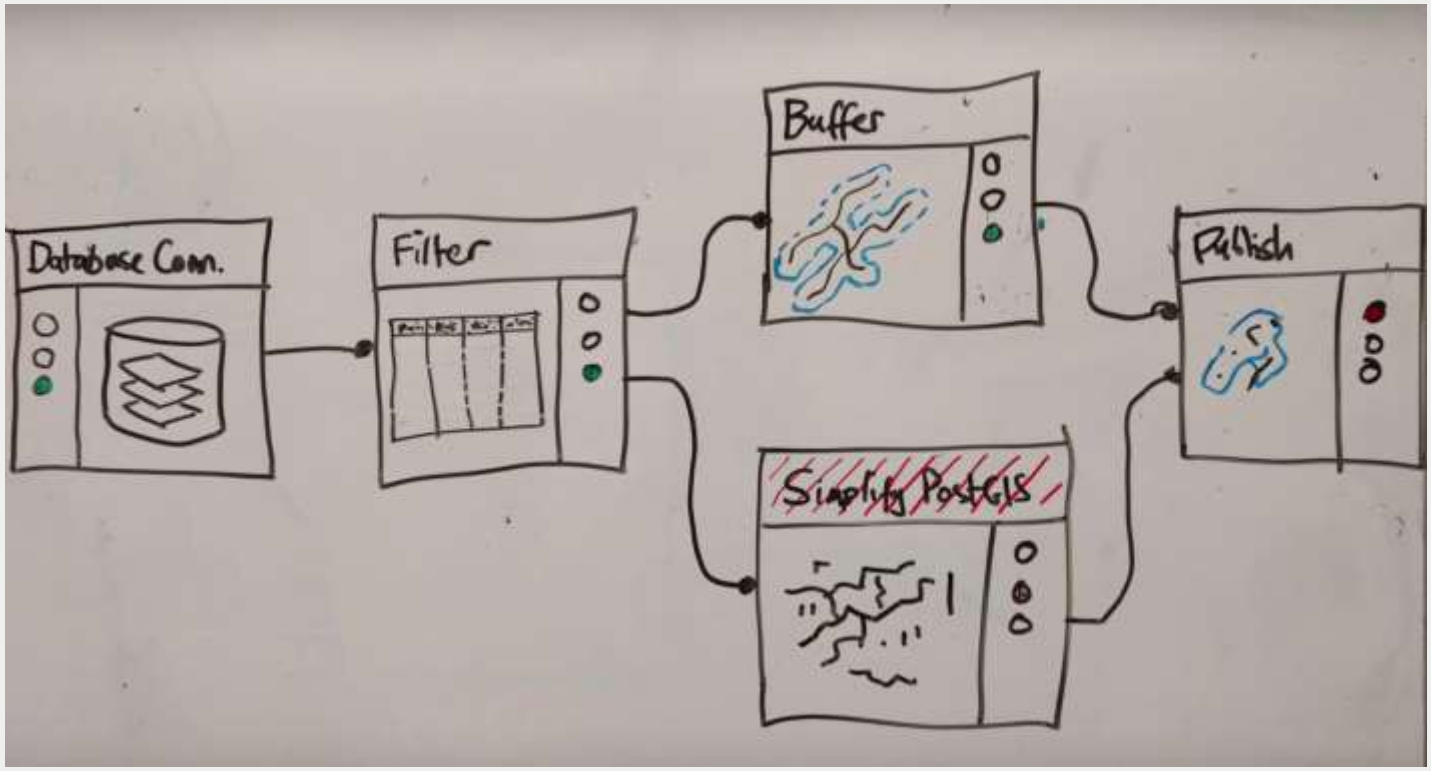






Published on 14 Nov 2016

Alan Both, Geoscience Australia, CRCSI Annual Conference 2016



RESEARCH: TEAM

RMIT University

Geoscience Australia

San Diego Supercomputer Centre

Rapid Analytics Interactive Scenario Explorer (RAISE)

Key features

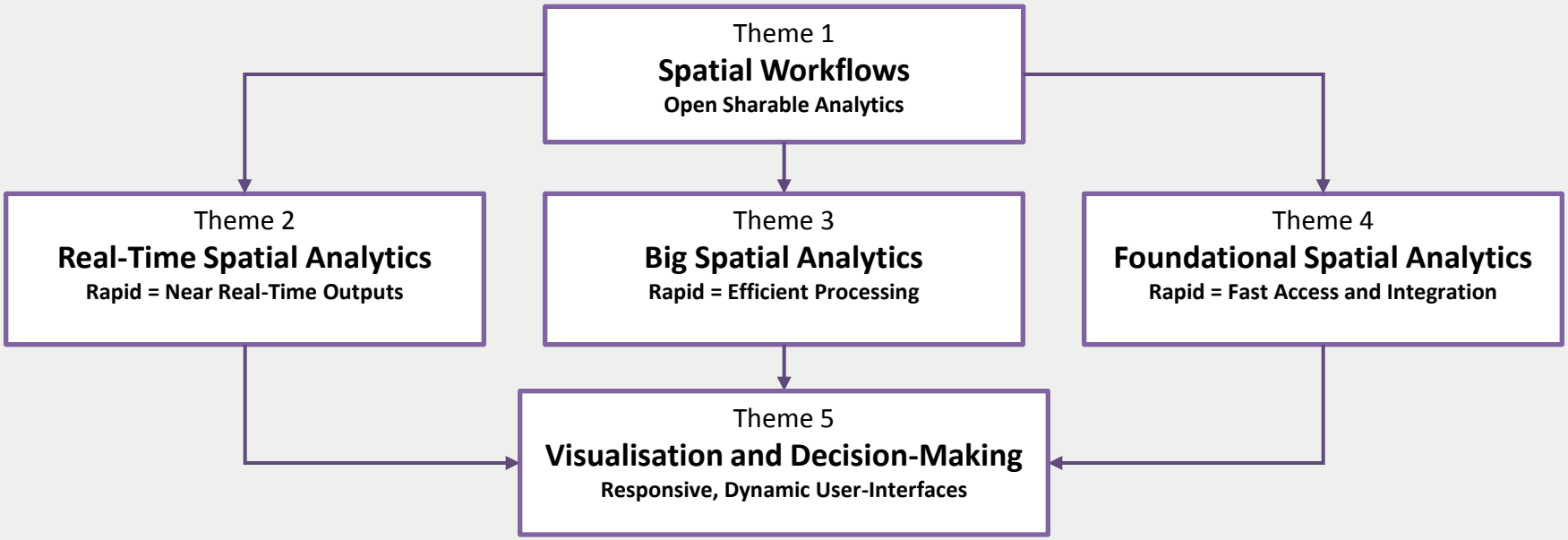
- **Value uplift modelling:** Users can investigate potential value from hypothetical addition of infrastructure.
- **Interactive scenario exploration:** The tool's dashboard interface will allow easy comparison between different development scenarios and their projected value uplift.
- **Collaborative planning:** Rapid and interactive visualisation of property values, potential value uplift, and other relevant data layers can facilitate communication and collaborative planning with different user groups. Development of 3D visualisation for the toolkit is currently being explored.
- **Cloud-based architecture:** RAISE's back end is built on open , cloud-based architecture that enables the toolkit to link diverse property and geospatial data to models and visualisations.

Value uplift comparison between two hypothetical train stations

Toolkit development and research are collaboratively undertaken by **UNSW's City Futures Research Centre** and **QUT's Creative Industries Design Lab**. The project team is working with industry partners **Australian Property Monitors** and **Omnilink**, and government partners **NSW Land & property Information** and **Parramatta City Council.**

Rapid Spatial Analytics Themes

OBJECTIVE: To conduct research that improves the ability and efficiency of government and industry to rapidly create, and add value to, spatial information products



Our Research

Learn from the Past

Automated State of the Environment Reporting

Query and Explore Data Archives

Monitor Now

Patterns of People Movement in Real-Time

Where Are People Going?

Work Together

Open, Cloud-Based Spatial Analytics

Collaborate and Share Processes

Explore the Future

Automated Property Valuations

Interactive Scenario Explorer

Real-Time People Movement

- Building real-time movement analytics
- Real-time user triggered responses on specific patterns of movement, crowding or dispersal
- Providing real-time monitoring and responses

Urban Planning Analytics

- Working on a commercialisation plan for RAISE Looking at land value uplift, scenario exploring and land valuation
- Benefits for councils, state planning and land valuation offices

QA4 – End User Workflow Management

- QA4 Suite – QA4LiDAR, QA4MOBiLE and QA4UAV
- Building standards and improving data quality
- Working on commercialisation model once QA4UAV is approved

Summary: Open Spatial Analytics

- Buildings sharable workflows
- Increasing collaboration & sharing
- Increasing transparency
- Providing fit-for-purpose assurance to users
- Enhancing scalability
- Reducing duplication
- Integrating diverse software operations

Thank You!

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