Geoscience data interoperability through a new lens: how designing a telescope that looks down changed our view of data.

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AuScope’s purpose is to:

Create wide and open access to earth and geospatial science research infrastructure that drives world-leading Australian scientific research, which in turn, helps to solve national challenges and build a resilient and sustainable nation.
Programs:

Field- and Laboratory-Based Infrastructure Programs
- Geodesy & Geodynamics Program
- Earth Imaging Program
- Geophysical Observatory Program
- Earth Composition Program
- Subsurface Observatory Program
- National Virtual Core Library (NVCL) Program

Digital infrastructure Programs
- Data Access
  - Services compliant data stores

AuScope Virtual Research Environment AVRE
- Tools and workflows
  - AuScope Scientific Software Solutions Centre
- Processing Environments
  - Virtual Laboratories

Existing AuScope Model

Simulation, Analysis & Modelling
- gPlates, Underworld, eScript, iEarth

VGL
- geophysics

DeVL
- geochron
- geochem
New investment in National Research Infrastructure for Geoscience
In a nutshell, for NCRIS + AuScope

— NISA funding of $1.5B over 10 x years for & 9 x focus areas across medical, energy & enviro across NCRIS orgs

— Explore establishment of next generation Earth monitoring and potential development of inward looking “telescopes”

— Must build predictive geoscience capacity
AuScope’s Downward-Looking Telescope
The DLT’s Community Data Framework

Community Data Framework is a community of practise comprising
— domain experts;
— socio-technical policies and standards;
— research data management;
— regular workshops, webinars, interactive training events and professional development opportunities;
— a community cloud resource

Holistic view of research data management is encouraged with repositories, pipelines and portals codesigned by stakeholders across the full life cycle of research data
— creation, processing, analysis, storage, access, preservation, etc.
Building the ‘downward-looking telescope’ – Australian Earth Observatory

— The AuScope strategy is to link field and laboratory infrastructure across Australia to form a sensor array focusing on the Solid Earth

— “The AEO will be our communities SQA — a distributed telescope that looks into the earth rather than away from it”
AuScope will build the ‘downward-looking telescope’

— Providing unprecedented imaging fidelity of our crust to fundamental and applied researchers in the earth, environmental and geospatial sciences

— Focused by integrated data repositories, analytics and data delivery infrastructures built around a community of practice

— Collaboration with existing and new partners, including GA, UNCOVER Australia and MinEx CRC

— Supporting recommendations of the AAC Decadal Plan and UN/COVER Roadmap
Thank you!