



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

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**Research
equipment,
services, data
and analytics
for a resilient &
sustainable
nation**



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:

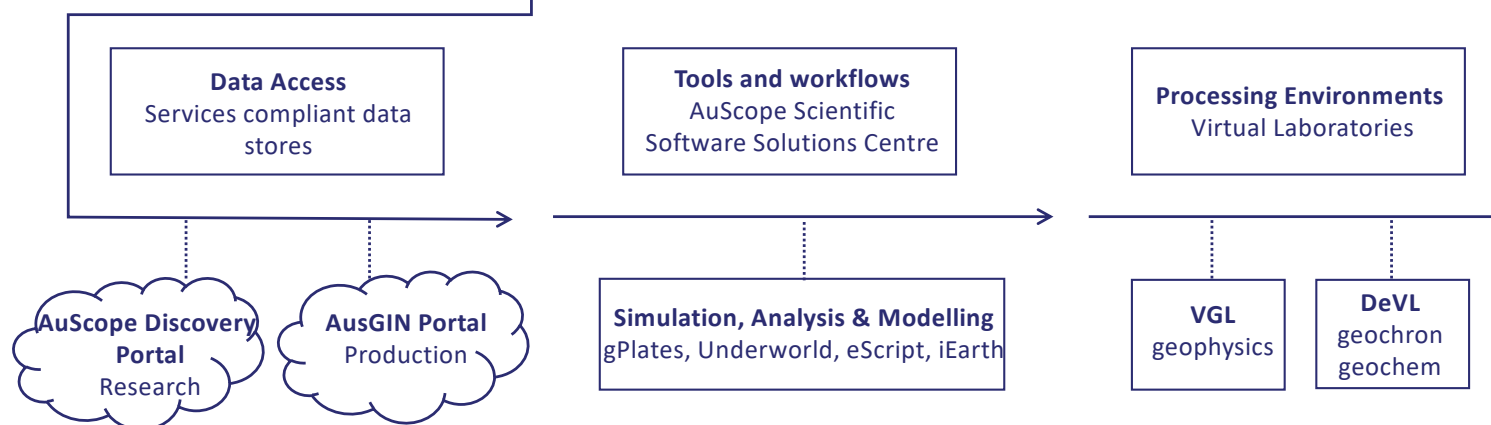
Field- and Laboratory-Based Infrastructure Programs

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Digital infrastructure Programs

AuScope Virtual Research Environment AVRE





New investment in National Research Infrastructure for Geoscience



In a nutshell, for NCRIS + AuScope

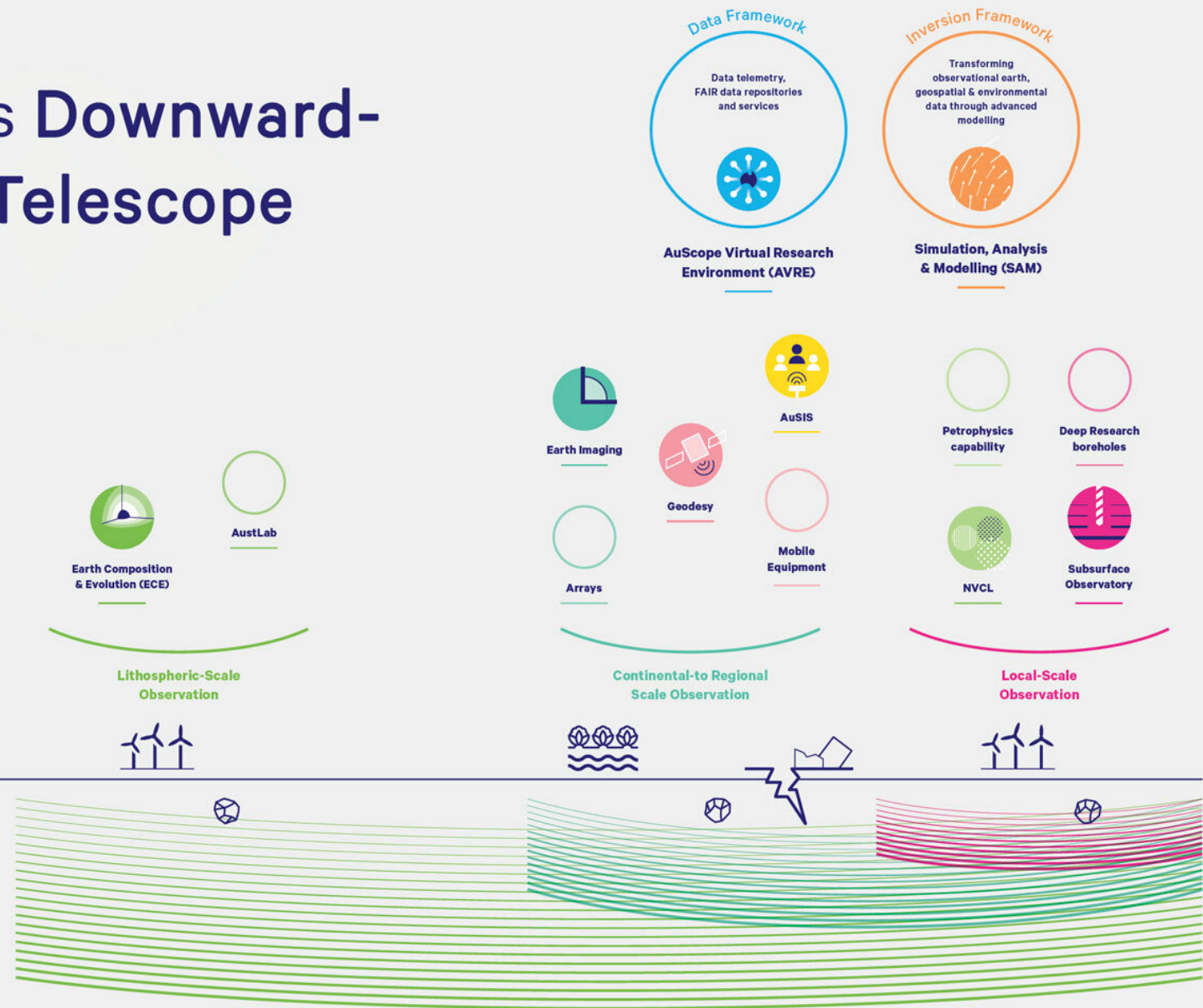
- NISA funding of \$1.5B over 10 x years for & 9 x focus areas across medical, energy & enviro across NCRIS orgs
- Explore establishment of next generation Earth monitoring and potential development of inward looking “telescopes”
- Must build predictive geoscience capacity

AuScope's Downward-Looking Telescope

Decadal Geoscience Challenges

- Current Programs
- Future Programs
- ⚡ Energy
- 🌊 Food & Water
- 🏠 Minerals
- 🚧 Geohazards

Schematic diagram — Not to scale





The DLT's Community Data Framework

Community Data Framework is a community of practise comprising

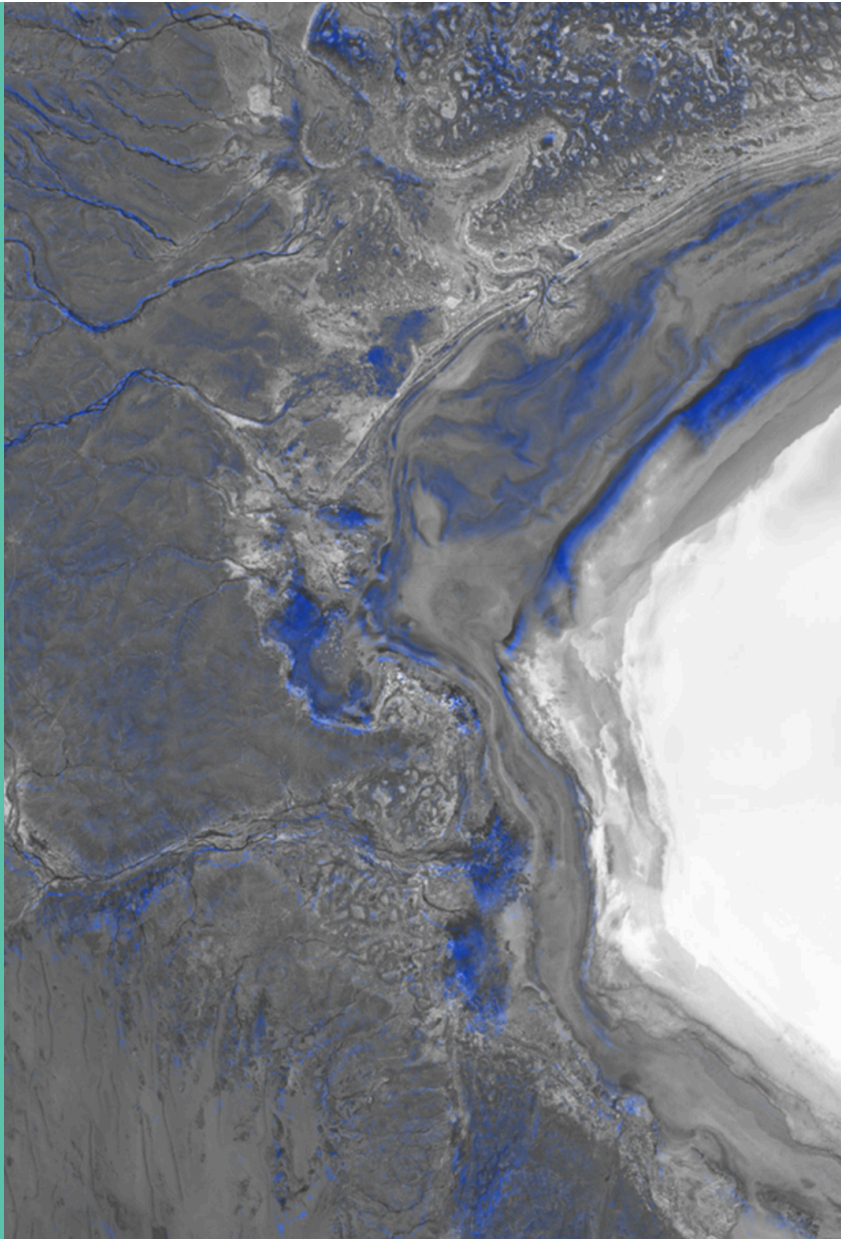
- domain experts;
- socio-technical policies and standards;
- research data management;
- regular workshops, webinars, interactive training events and professional development opportunities;
- a community cloud resource

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.



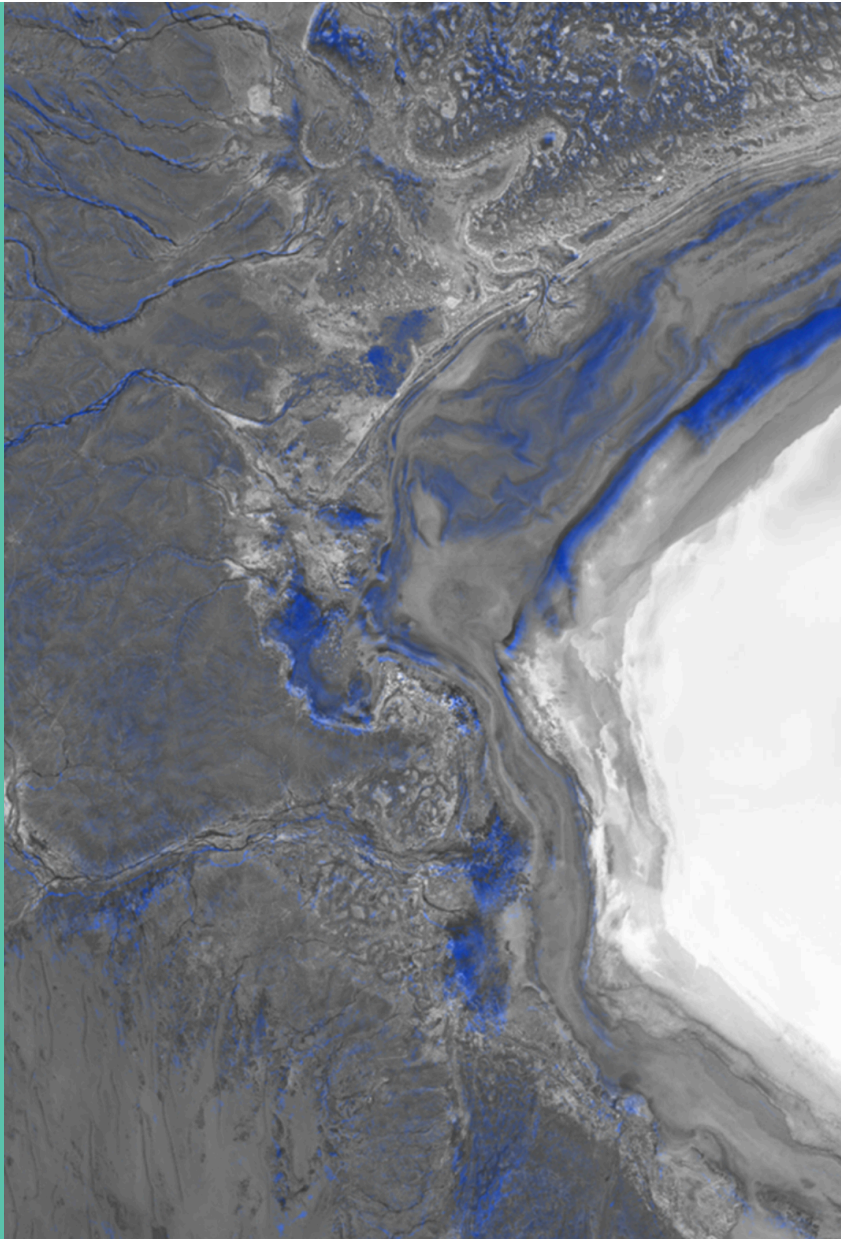
3 / Conclusions



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!

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