

Submission

2016 National Research Infrastructure Roadmap

Capability Issues Paper

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Environment and Natural Resource Management

Question 18: Are the identified emerging directions and research infrastructure capabilities for Environment and Natural Resource Management right? Are there any missing or additional needed?

Focusing on “integration” is essential and accurately identified as not only data collection and management by synthesized and assimilated. Observation networks on the ground and in space are providing more data than ever about the Earth system and capitalizing on all of these is essential to establish baselines of the current status, constrain understanding of processes and feedbacks, reduce uncertainties and improve predictions.

Focusing on “climate and water resources” is appropriate focus for Australia, however it should be noted that in coastal zones biodiversity and ecosystem conservation (e.g., of Great Barrier Reef) is of global concern and specific to Australia.

Question 19: Are there any international research infrastructure collaborations or emerging projects that Australia should engage in over the next ten years and beyond?

Australia has a fantastic coordinated ground observation network that is of particular interest to remote sensing communities developing, testing and providing remote Earth observations from airborne and satellite platforms. The Australia coordinated network has paved the way for the next era of ground observations that provide consistent collection and processing, statistically representative, comprehensive metadata and automated dissemination processes. For example, TERN is providing a fantastic example for the US National Earth Observation Network (NEON). Having these data (e.g., TERN) is crucial to near-real time satellite data product calibration/training and validation that provide spatially contiguous coverage at regular temporal intervals.

Question 20: Is there anything else that needs to be included or considered in the 2016 Roadmap for the Environment and Natural Resource Management capability area?

These are all very reasonable goals for the next 5 years, but it should be noted that in building international networks, programmatic agreements may need to be forged in order to encourage bidirectional collaborations and use of data.