

Extending the EarthCube Concept Internationally

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INTRODUCTION

The NSF EarthCube program is an ambitious program with to understand and predict the Earth as an integrated system from the centre of the sun to the centre of the earth. The drivers of the EarthCube program are 1) understanding and forecasting the behavior of complex and evolving Earth systems; 2) reducing vulnerability and sustaining life; and 3) growing the geosciences workforce of the future.

Such an ambitious program will be dependent on the use of computational infrastructure to derive knowledge from the wealth of information about our planet. Over the last decade there has been a technology driven revolution that has enabled scientists, paring with informaticists to develop an ever increasing number of arrays of Cyberinfrastructure solutions. Although these endeavors are achieving great successes, the challenge is to bring these systems into an integrated effort, for without an overarching framework to promote convergence, the diversity of systems currently being developed is rapidly becoming a barrier to the holistic study of earth systems.

EarthCube was initiated in June 2011 (<http://www.nsf.gov/geo/earthcube/>) and has had substantial engagement in the US (see <http://earthcube.ning.com/>). Yet the drivers, goals and vision of the program are international and it will not be possible to achieve the EarthCube Vision without accessing globally distributed data sources and related Cyberinfrastructures.

This BoF is therefore aimed to explore how the EarthCube concept can be extended internationally.

DESCRIPTION

A series of short presentations will be made by invited speakers that are associated with major international/national Cyberinfrastructure initiatives. A general discussion will be held that will focus on firstly on deciding if there are commonalities that can be exploited and harnessed to extend the 'EarthCube Concept' internationally. Secondly, the BoF will explore how social media can be utilised to continue the momentum and link globally distributed infrastructures to maximise scarce resources to create an integrated framework to understand and predict responses of the earth as a system from the space-atmosphere boundary to the core, including influences of humans and ecosystems.

ABOUT THE CONVENORS

Cliff Jacobs is a senior advisor for the Geosciences Directorate at the National Science Foundation. His career spans the private sector and government service and has engaged him in basic and applied research, training and scientific program management. For most of his 25 years he served as the program officer for the National Center for Atmospheric Research where he oversaw research activities and the provision of facilities of the university community, including a broad range of cyber infrastructure activities.

Lesley Wyborn is a granite specialist by training and joined the then BMR in 1972. She has held a variety of positions as the organization changed to AGSO and to Geoscience Australia. She has been involved in eResearch projects since 2000 and with CSIRO was one of the founders of the Solid Earth and Environmental Grid (SEE Grid – <http://www.seegrid.csiro.au>). With Robert Woodcock and other CSIRO staff, she was part of NCRIS/SuperScience projects such as AuScope Grid, SISS and the NeCTAR Virtual Geophysics Laboratory.

Roger Proctor has been the Director of the eMarine Information Infrastructure facility of the Australian Integrated Marine Observing System since 2008. In this role he has responsibility for coordinating the discovery of, and access to, the IMOS datastreams, and in developing the broader Australian Ocean Data Network. In this capacity he is a member of the US-IOOC Data Management and Communications Steering Team, the Board of the Australian Ocean Data Centre Joint Facility, the NeCTAR Board, and the University of Tasmania eResearch Steering Committee.

Ben Evans is the Associate Director of NCI with a portfolio in Research Engagement and Initiatives focused on increased potential of the NCI capability and research outcomes. Ben has been part of a core collaborative team with GA and CSIRO to review data in the geosciences and provide high performance methods and develop and exploit new environments for fast analysis and efficient data management.