

How do We Add Value to Earth System Science?

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Global change organizations usually have a two-fold mandate: to facilitate new cutting-edge science and to add value to it via networking, capacity enhancement and communication. Research results usually get good exposure at conferences and in publications, but the efforts of adding long-lasting value often go unnoticed.

A session set up by the International Geosphere-Biosphere Programme (IGBP) at the Planet under Pressure conference in London, in March 2012, was designed specifically to focus on this aspect. Between 100 and 200 people attended the session and participated in extraordinarily lively discussions, underscoring the diverse interests of those who attended this conference.



The session addressed four “Grand Challenges”: (1) raising the next generation of Earth system scientists, (2) developing a truly global science community, (3) promoting science across disciplinary boundaries, and (4) facilitating better communication with stakeholders. Discussions took place in two panels moderated by Jean Ometto (Brazil) and Alan Mix (USA), and were then opened up to the floor.

Introducing the first panel, Ricardo Villalba (Argentina) demonstrated how the Inter-American Institute for Global Change Research (IAI) and the PAGES project helped to build a multi-disciplinary research network. Initially, it motivated international collaboration among South American scientists, then increasingly involved western colleagues, and is now shouldered by the young generation that grew up in the network. The ingredients for success were

continuous international support over more than a decade in combination with support from local institutions.

Panellist Linda Stevenson, APN Executive Science Officer, discussed APN’s approach to increasing capacity in developing countries and among early-career researchers. Under the guidance of senior APN scientists, international groups of researchers develop APN proposals at dedicated workshops, hence acquiring important scientific skills and building research collaborations. Pamela Collins, a doctoral student in Switzerland, underscored how useful the PAGES Young Scientists Meeting was in helping her get acquainted with the world of international and multi-disciplinary science in an informal and friendly environment. Along similar lines, Nobuko Saigusa from Japan stressed that successful capacity building requires

cultural sensitivity. For example, in Japan smaller groups help facilitate interaction within the context of existing hierarchies and also encourage relatively shy individuals to participate.

Jean Palutikof from Australia introduced the second panel and raised important issues surrounding transdisciplinary science and communication and science-policy links. She called for greater clarity while using the prefixes “inter”, “trans”, “cross” and “multi” while speaking about the links between disciplines, and alerted the audience to various pitfalls when talking about science with non-scientists. Panellist Heike Langenberg (Nature Geoscience, UK) emphasized that in-depth specialist expertise must remain the foundation on which collaboration across disciplines can build, and received support from Ray Bradley (USA) and Ninad Bondre.





Image: NASA

The concluding discussion on communication clearly engaged the audience the most. Bradley left no doubt that scientists must reach out to the public effectively in order to prevent less-informed people filling the information vacuum. He encouraged every scientist to be active, for example by engaging with local politicians or by writing for the local newspaper. Ninad Bondre agreed with the need for communication, highlighting the role played by publications such as IGBP's Global Change magazine. However, he pointed out that the mere reiteration of facts and better communication was not sufficient. We need accompanying efforts to understand the socio-political context of, for example, climate scepticism and denialism, and to address the root causes. Audience participants called for a two-way communication mode (talk and listen); harnessing powerful illustrations; acknowledging outreach efforts

in academic promotion schemes; and setting up institutional communication infrastructures such as press offices while also making better use of the already existing infrastructures.

Constraints of time meant that the discussion had to end eventually, despite outstanding questions and unexpressed comments. But it is our understanding that the session went a long way in demonstrating that the global change community is motivated to add value in ways that go beyond research and to wrestle with a broad range of issues.



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