Notice of Intent, A.45 Earth Science Applications: Socioeconomic Benefits

Project Title: Supporting and Enhancing Access to Earth Observations: SEA-EOS

Or

"Sensible Earth Network" – Enhancing Access to Earth Observations for Societal Benefit through Novel Networking Solutions

Principal Investigators:

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Project Summary

Improved decision making tools derived from Earth Science Applications are needed, and while many methodologies and approaches for assessing the economic and social impacts of global environmental change exist, our previous research with stakeholders indicates that there are systemic and organizational barriers to adequately assessing the social component of change in the Earth system. The major obstacles hindering adequate exchange of NASA Earth Observation (EO) products for societal use are: 1) EO data awareness, 2) access/flow of EO data, and 3) lack of remote sensing/technical expertise among social scientists. We propose to develop a multi-level engagement program that connects NASA program managers and academic data providers with expert practitioners from the social sciences, industry, regional governments, and NGOs to assess each sectors' needs, co-design tools, and co-conduct professional continuing education programs that will more effectively support decision-making throughout the knowledge "supply chain." This strategic and practical approach will enhance socioeconomic impact assessments, sound policy-making, and decision-support. By concentrating on improving the connections between scientists, practitioners, and end users, we will facilitate a fundamental shift in how remote-sensing data products are exchanged in order to address the pressing environmental and sustainability challenges of our day.

The project is centered on creation of a sophisticated networking database to facilitate information and data exchange between Earth science experts and non-academic/non-governmental entities in support of critical conservation or socioeconomic issues. It therefore complies with the Community Outreach element of this funding announcement. The expected outcome of enhanced data access and information to a broad audience will be more effective cross-disciplinary research and improved collaborations between socioeconomic scientists, NGOs, state and federal agencies, and Earth scientists. The project team consists of experts in Earth observing/remote sensing, stakeholder engagement, risk assessment, and social science. Our social science collaborating partner

includes key committees and members of the Land Ocean Interactions in the Coastal Zone (LOICZ), which operates as an international research project and global expert network exploring the drivers and socio-environmental impacts of global change in coastal zones. LOICZ's objectives include developing and testing integrated, multidisciplinary methods to analyze the environmental and social interactions and feedbacks governing coastal system status and changes. Our practitioner collaborator includes The International Association of Impact Assessment (IAIA). Working with these organizations, we will broaden NASA's reach across disciplines to enhance societal benefit from EO products. The central project deliverable will be a database of remote sensing experts and social scientists, sorted by topics (e.g. natural resource use, habitat type, target organism), geographical region, type of EO data product -- to create a valuable search tool that supports long-lived partnerships.

Working with LOICZ and IAIA, we will focus on key issues facing coastal communities in Small Island Developing States to conduct assessments and implement workshops that help define needs for island countries facing substantial impacts from development and climate change. One of our NGO partners, Fondation pour la Protection de la Biodiversite Marine, manages the only marine protected area in Haiti and will serve as a study site to vet tools and co-host educational programs. Societal benefits from this project include: 1) better visibility of EO datasets, 2) increased opportunities for interagency collaboration, and 3) improved capabilities for private foundations and global funding agencies to obtain NASA EO data for conservation, sustainability, and socioeconomic assessment.