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The GEOSS Science and Technology Stakeholder Network and Service Suite: Linking S&T Communities and GEOSS

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The Global Earth Observation System of Systems (GEOSS) developed by the Group on Earth Observations (GEO) aims to provide practice-relevant knowledge in support of decision making in a wide range of societal benefit areas. Generating this practice-relevant knowledge based on Earth observations, socio-economic data and models often depends on research, and utilization of the societal benefits of EOs requires the involvement of science and research communities. Building a GEOSS responding to the needs of a wide range of users necessitates contributions from many science and technology (S&T) communities. In particular, a strong engagement of science and technology (S&T) communities in both the development and use of GEOSS is necessary to address the complex issues associated with the on-going transition out of the Holocene. S&T support is needed to improve interoperability between global observing, modeling, and information systems; to enable data integration across disciplinary boundaries; to facilitate data sharing, archiving, dissemination, and reanalysis; to optimize the recording of observations, assimilation of data into models, and generation of data products; to enhance the value of observations from individual observing systems through their integration in the SBAs; and to harmonize well-calibrated, highly accurate, stable, sustained in-situ and satellite observations of the same variable recorded by different sensors and different agencies. Consequently, the GEO Work Plan includes several Tasks focusing on outreach to S&T communities, and most of the GEO Community of Practice have a strong S&T component. The GEOSS S&T Stakeholder Network facilitates input from S&T communities to GEO. Infrastructure serving and linking S&T users communities and GEOSS has been developed and is integrated into a GEOSS S&T Service Suite (GSTSS). The GSTSS has several outreach components for the demonstration of GEOSS and its value for S&T communities, and for services supporting S&T communities in their linkage to, and use of GEOSS. At the core of the GSTSS, the GEOSS S&T Portfolio includes examples showing GEOSS at work for S&T communities and provides an avenue for S&T groups to feature their contribution to GEOSS. The assessment of datasets is supported through an extensive feedback system. The User Requirements Registry (URR) allows users to publish what they do, how they do it, and what information and observations they need to do it. The URR is currently transitioned into a Socio-Economic and Environmental Information Needs Knowledge Base (SEE IN KB), which focuses on the linkage between societal goals and benefits on the one side and essential earth observations on the other side. The S&T Meeting Web Portal provides a workspace to coordinate and document GEO and GEOSS participation, side events, and presentations at relevant S&T meetings. The GEOSS S&T Stakeholder Network provides an umbrella for all S&T user and provider communities. The idea of a Stakeholder Network bringing together relevant S&T communities was developed by the EC-funded EGIDA project, and the underlying concept assumes that successful outreach to S&T communities requires demonstration of a benefit for these communities. The mission of the GEOSS S&T Stakeholder Network is twofold: to provide a voice for the needs and guidance of S&T communities to GEO, and to promote the use of GEOSS in these stakeholder communities. Workshops of the GEOSS S&T Stakeholder Network are organized within the GSTSS, among others with the goal to link societal goals, such as the Millennium Development Goals and the Sustainable Development Goals, and associated targets to a metric that then can be tied to essential variables to be provided by GEOSS.