

THE GEOSS S&T STAKEHOLDER NETWORK

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 Societal Benefit Areas (SBAs) of Earth Observations; 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 current GEO Work Plan includes several Tasks focusing on outreach to S&T communities, and most of the GEO Communities of Practice have a strong S&T component. The GEOSS S&T Stakeholder Network (GSTSN) facilitates input from S&T communities to GEO. The main forum for this are the GEOSS S&T Stakeholder (GSTS) Workshops (Figure 1). These Workshops aim to align GEOSS to stakeholder needs (Figure 2) and to facilitate the transition of new technologies into GEOSS.

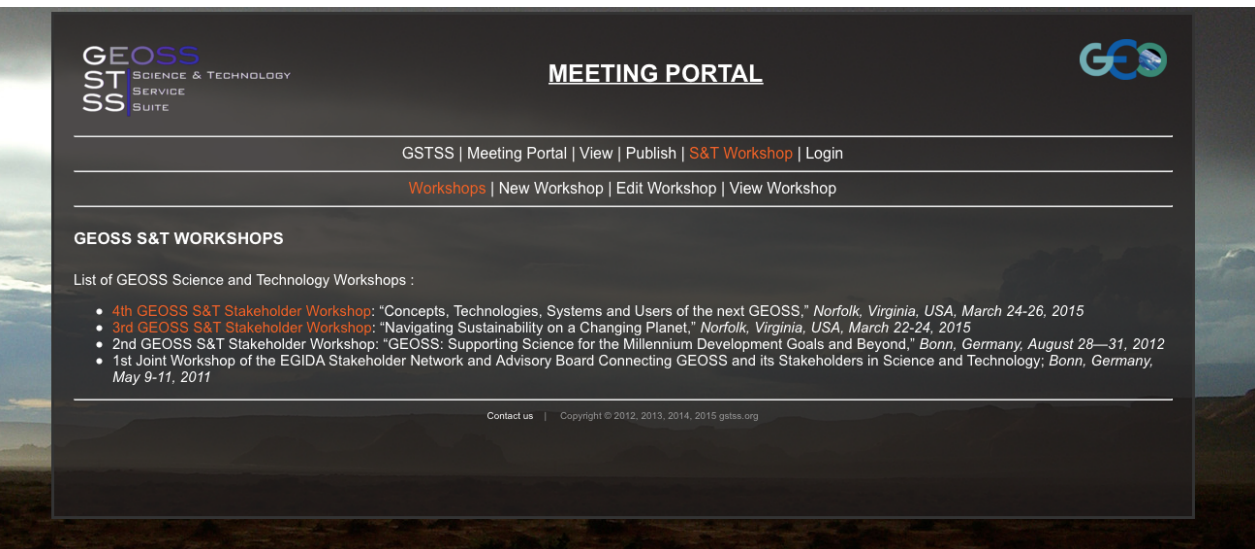


Figure 1: The GSTSN convenes regular GSTS workshops with the goal to link S&T communities to GEO, both as contributors and users of GEOSS.

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

H.-P. Plag^{1,2}, S. Jules-Plag²

- 1 Mitigation and Adaptation Research Institute, Old Dominion University, Norfolk, VA, USA, hpplag@odu.edu.
- 2 Tiwah UG, Rossbach, Germany, julesplag@tiwah.com; hpplag@tiwah.com.

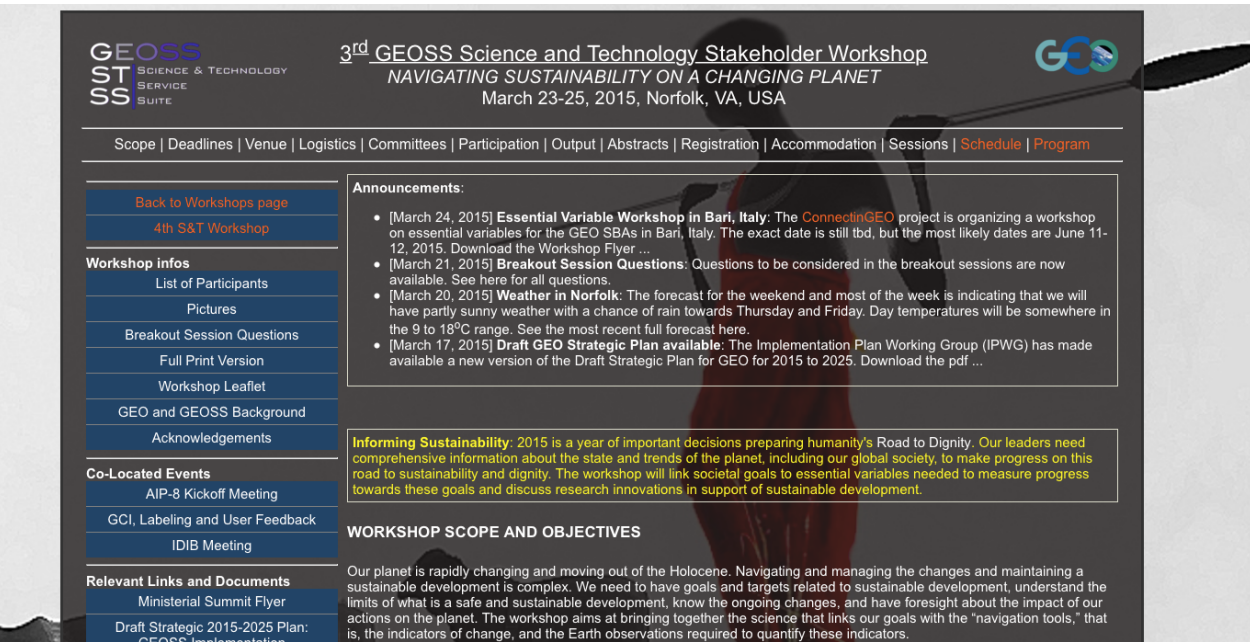


Figure 2: The 3rd GSTS Workshop focused on the essential variables required to quantify the indicators for the Sustainable Development Goals currently discussed by the United Nations.

GEOSS S&T SERVICE SUITE

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 (Figure 3) 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 (Figure 4). Building a user-driven GEOSS requires knowledge of user needs (Figure 5a) The GEOSS 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 variables on the other side (Figure 5b). 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 (Figure 6).



Figure 4: User feedback on data and service usability and applicability is crucial to improve the value of GEOSS for users. The GSTSS includes a comprehensive feedback utility with graphical representation of the user feedback.

LINKING S&T USERS AND GEOSS

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 GSTSN 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 GSTSN 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. In the Horizon 2020 project “ConnectinGEO”, the GSTSS is used to organize meetings, collect user knowledge needs, link societal goals to essential variables, carry out a gap analysis (Figure 7). In this project, the GSTSN supports the development of a “European Network of Earth Observation Networks” (ENEON).

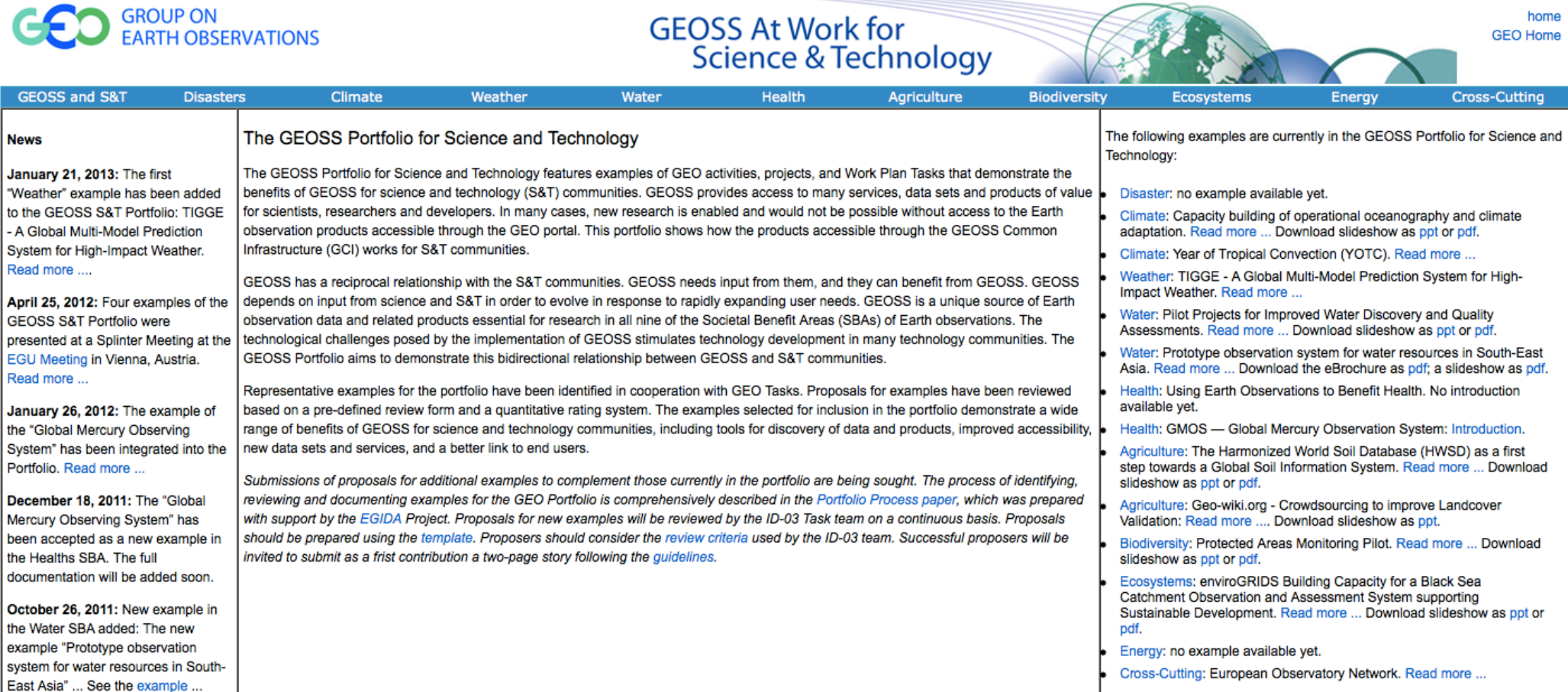


Figure 3: The GEOSS S&T Portfolio features examples that illustrate how GEOSS works for S&T communities.

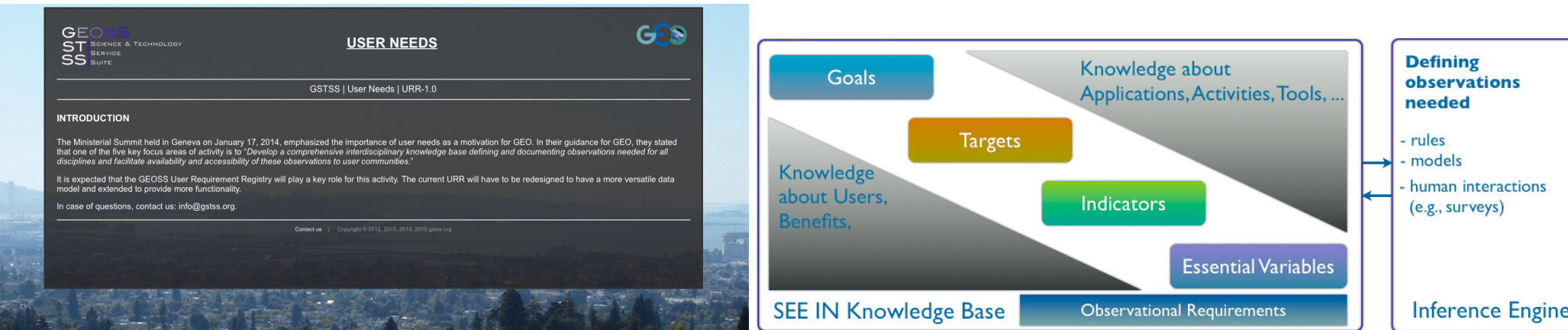


Figure 5: a) User needs were captured in the URR. b) The URR is currently transitioned into the SEE IN KB, which will include blue prints for the connection between societal goals and essential variables.

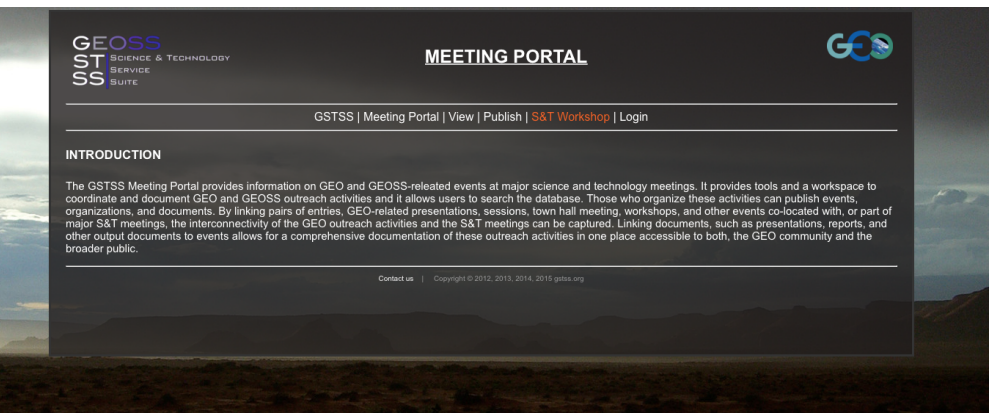


Figure 6: The meeting portal provides information on relevant meetings and supports the documentation of GEO and GEOSS related event.

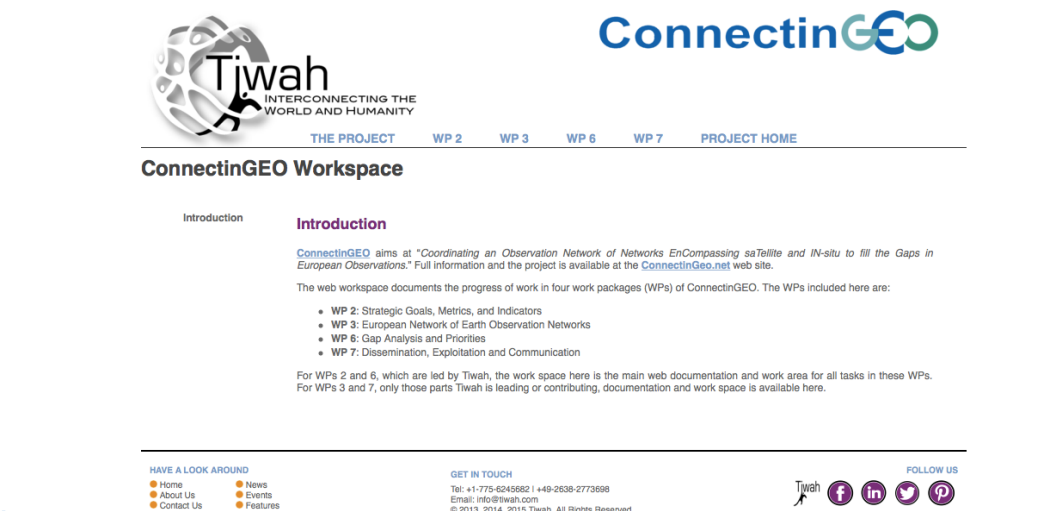


Figure 7: The GSTSS is used in ConnectGEO and the GSTSN supports the establishment of the ENEON.