



The ESA Scientific Exploitation of Operational Missions element, first results

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SEOM is a program element within the fourth period (2013-2017) of ESA's Earth Observation Envelope Programme (<http://seom.esa.int/>). The prime objective is to federate, support and expand the international research community that the ERS, ENVISAT and the Envelope programmes have built up over the last 25 years. It aims to further strengthen the leadership of the European Earth Observation research community by enabling them to extensively exploit future European operational EO missions. SEOM will enable the science community to address new scientific research that are opened by free and open access to data from operational EO missions.

Based on community-wide recommendations for actions on key research issues, gathered through a series of international thematic workshops and scientific user consultation meetings, a work plan is established and is approved every year by ESA Members States.

During 2015 SEOM, Science users consultation workshops have been organized for Sentinel1/3/5P (Fringe, S3 Symposium and Atmospheric science respectively), new R&D studies for scientific exploitation of the Sentinels have been launched (S3 for Science SAR Altimetry and Ocean Color, S2 for Science), open-source multi-mission scientific toolboxes have been launched (in particular the SNAP/S1-2-3 Toolbox). In addition two advanced international training courses have been organized in Europe to exploit the new S1-A and S2-A data for Land and Ocean remote sensing (over 120 participants from 25 countries) as well as activities for promoting the first scientific results (e.g. Chili Earthquake).

In addition the First EO Open Science 2.0 was organised at ESA in October 2015 with 225 participants from 31 countries bringing together young EO scientists and data scientists. During the conference precursor activities in EO Open Science and Innovation were presented, while developing a Roadmap preparing for future ESA scientific exploitation activities. Within the conference, the first EO Hackathon event took place bringing together volunteered programmers with the developers of SNAP. An interactive "Jam" session was also held that discussed and scoped challenging scientific and societal issues (e.g. climate change, quality of life and air quality).

The status and first results from these SEOM projects will be presented and an outlook for upcoming SEOM studies and events in 2016 will be given.