

The South Central and Eastern European Regional Information Network SCERIN

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• BACKGROUND

The South Central and Eastern European Regional Information Network (SCERIN), established in 2012 as a sub-network for NERIN, is an established network of the Global Observation of Forest and Land Cover Dynamics (GOFD-GOLD) project of the Global Terrestrial Observation System (GTOS). The SCERIN network has strong linkages with the Northern Eurasia Earth Science Partnership Initiative (NEESPI), and is well positioned to contribute to the emerging Northern Eurasia's Future Initiative (NEFI) under the auspices of the Future Earth pro-gram.

• GEOGRAPHIC DOMAIN and REGIONAL SPECIFICS

The geographic domain of SCERIN encompasses a large region of South Central and Eastern Europe (SCEE), including the Danube, Dnepr, Dniester, Odra, and Vistula watersheds, and the western and southern Black Sea coast—see Figure 1. The extreme diversity of land forms and environmental conditions typical for the SCERIN region has produced a unique richness and diversity of species that are highly sensitive and vulnerable to climate change. Currently, mainstream research and mitigation policies view the effects of land-use and land-cover changes in parts of the region as low priority and of marginal importance. Most of SCEE has undergone extensive land-use practices, which have rendered many of the natural processes of adaptation un-sustainable. This opens the possibility and the responsibility of applying planned, large scale measures to support and enhance the natural processes.

• SCERIN GOALS

The goals of SCERIN are to improve cooperation in developing methods for monitoring the dynamics, stability, and vulnerability of the major regional ecosystems of SCEE for future effective sustainable management and preservation, not only on the local but also regional and pan-European levels. SCERIN promotes the production and provision of land surface observations for the satellite data user communities in SCEE. In particular, by working with the regional forest and land management agencies, the group aims to ensure continuous high quality observations and facilitate sustainable natural resources management. The SCERIN framework provides a platform for collaboration among remote sensing experts working on different projects in SCEE. This collaboration is particularly important since it facilitates the progress and consistent implementation of remote sensing and LCLUC methodology in the region. SCERIN activities promote the exchange of multidisciplinary regional expertise from the fields of geographic information systems (GIS), remote sensing, ecology, and ecosystem and plant biology, all needed to study ecosystem processes and LCLUC on local, regional, and continental scales.

• NETWORK PARTICIPANTS AND STRUCTURE

Currently, SCERIN includes scientists and professionals from academia, research and operational agencies, and from observational networks throughout SCEE, including representatives from Bulgaria, Czech Republic, Hungary, Moldova, Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia, Turkey, and Ukraine. SCERIN strives to ensure continuity of remote sensing data products through collaboration between the scientists, professionals, and existing remote sensing networks in the region. SCERIN's participants are organized in Focus Groups (FG) as follows:

FG1: forest monitoring, disturbances, health, and biomass;

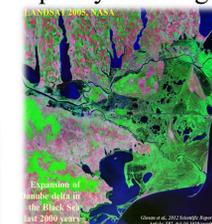
FG2: land-cover changes, agricultural land abandonment, and urban expansion; and

FG3: validation and verification efforts for current and future NASA and ESA missions (e.g., the Hyperspectral Infrared Imager (HyspIRI), Landsat and the Sustainable Land Imaging programs, and the Sentinel and Copernicus programs).

• REGIONAL RESEARCH AND APPLICATIONS

SCERIN's priority objectives include the establishment/formulation of new collaborative research projects, further development of regional applications and capacity building. At the SCERIN meetings were identified the following regional cross-cutting LCLUC research areas and priority remote sensing applications:

- monitoring the effects of drought and other stress factors (e.g., pollution) on vegetation for ecological stability;
- maintaining food, fiber, and agricultural production and security;
- identifying forest change processes and natural, environmental, and social driving forces; and
- assessing the environmental consequences of urbanization.



• SCERIN CAPACITY BUILDING INITIATIVES

SCERIN has conducted three workshops to help address regional issues of common interest: the SCERIN Formulation Workshop in 2012, and SCERIN-1 and -2 Meetings in 2013 and 2014, respectively. The capacity-building activities, currently targeted by SCERIN, include regional level comparison and validation of the standard land-cover classification products at moderate (e.g., Landsat, Sentinel-2) and coarse (e.g., MERIS, MODIS, VIIRS1, and Sentinel-3) resolutions. They also include establishing a regional network of product validation sites and establishing a regional database relating land-cover characterization with spectral and spatial diversity.

Both SCERIN-1 and SCERIN-2 were coordinated with a two-day training on “Advanced Classification Methods in Land-Use/Land-Cover Change” for SCERIN students, post-graduates, and early-career scientists attended the training sessions.

SCERIN Future Activities and DIRECTIONS

SCERIN-3 Capacity Building Workshop (CBW) will be held at Transylvania University of Brasov in Romania, July 13-15, 2015

and hosted by Ioan Abrudan [Transylvania University of Brasov]. It will be the first SCERIN Capacity Building Workshop (CBW) designed to facilitate discussions between the three SCERIN focus groups. Specific research topics of high regional interest to be discussed at the SCERIN CBW include forest dynamics and tree line evolution in pasture lands, based on Landsat archives, and forest insects attacks detection and monitoring, which is of increasing importance in the context of climate change. The SCERIN-3 CBW will include a day of training for graduate students and early-career professionals. The objectives of the SCERIN CBW are to:

- provide a forum for the SCERIN focus groups to resolve specific issues and actions as requested by the community and to enhance capacity building in the region;
- review the requirements and availability of satellite data, products, and approaches for land-cover monitoring in SCEE;
- outline the specific land-cover and land-use change research, applications, and development needs in SCEE; and
- inform participants about ongoing major scientific efforts and projects, with possible contributions and follow-up activities for SCERIN participants.

SCERIN-3 Agenda at a Glance

Day	Sun	Mon	Tue	Wed	Thu	Fri
Date	12-Jul-15	13-Jul-15	14-Jul-15	15-Jul-15	16-Jul-15	17-Jul-15
Event	Arrival	SCERIN-3 CBW			Training	Field Trip



In conclusion, SCERIN and its activities offer a valid, functional platform for developing professional collaborations and advancing regional remote sensing and LCLUC science. With technological advances in global remote sensing, the need for regional networks, such as SCERIN, will not diminish but, on the contrary, will increase, for regional validation of global remote sensing products and providing feedback to the satellite agencies and information providers.

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