SCERIN
Experiences from SCERIN (South, Central and East European RI network)

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presented by SCERIN member Ioannis Manakos³

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Geographic Domain

SCERIN countries

Current:
CZ, SK, PL, HU
UA, BG, RO,
Serbia, North Macedonia,
Slovenia, Croatia, Moldova,
GR, TR
Critical Regional Issues

- Changes in forest composition, age, structure and function
- Changes in ecosystem diversity
- Increasing urbanization
- Inbalanced water regime (floods/droughts)
- Extreme Events increase (floods, droughts and fires)
Goals:

✓ Provide a platform for collaboration among remote sensing experts in SCE, through collaborative activities

✓ Facilitate progress and consistent implementation of remote sensing and LCLUC methodology, in the region

✓ Foster regional collaboration for monitoring the dynamics, stability, and vulnerability of the major ecosystems

✓ Promote effective sustainable management and preservation, on the local, regional and pan-European level

✓ SCERIN contribution to GOFC-GOLD, linkages with regional networks, other GOFC-GOLD networks, like MedRIN
SCERIN: participants

Participants

• Informal network of scientists and other professionals based in the region or with scientific interests in the region.

• SCERIN’s participants work together with the regional forest and land management agencies to ensure continuous, high quality observations and information products for operational and management applications, to facilitate feasible and sustainable natural resources management practices.
Members and observers

- Permanent: BGR, CZE, POL, ROU, SVK, HUN, UKR, GRC, MDA, HRV, SRB, SVN
- new/returning: Bosnia and Herzegovina (BIH), North Macedonia
- to reach: Albania, Montenegro, Belarus
Geographic Domain

Observers (2018):
Armenia, Georgia, Latvia, Kazakhstan, Norway, Netherlands, U.S.
Members and observers

**SCERIN members**
(permanent, new coming)
- CZ, SK, PL, HU
- UA, BG, RO,
- Serbia, North
- Macedonia, Slovenia,
- Croatia, GR, (TR)

**SCERIN observers**
(can change)
- Georgia (2017, 2016)
- Kazachstan, Armenia, Georgia, Latvia,
- etc....
Regional and International Partnership

Partnership:

• EnviroGRIDS
• IGU LCLUC
• EARSeL LULC SIG
• Trans-Atlantic Training Initiative (ESA-NASA)

Additional inputs from CEOS/WGCV/LPV
Activities

• Joint proposal writing
• Data product validation
• Joint papers
• Continuous interactions
• Regular annual workshops
• Updating inventory
  o publications
  o projects
  o funding
• Educational component
  o Trans-Atlantic Training (ESA-NASA sponsored) coupled with the SCERIN workshops
Activities – Focus Groups

Formulation of Work Groups: based on regional interests, dynamic

FG1: Forest biomass production; decline, disturbance and driving forces

FG2: Land Cover Changes: climate change, agricultural land abandonment, urban expansion

FG3: Validation/verification network for support of current and future satellite missions [e.g. NASA’s LDCM and Sustainable Land Imaging (SLI), and ESA’s GMES program]

FG4 – newly established: Watersheds, catchments, dams – LCLUC water management and ENVIRONMENT
Meetings

- Meeting – only a tool for networking
- Network Capacity Building
- Continuous inventory and statistics
- Updating milestones
- Summary of achievements published periodically
SCERIN: Meetings

• 2012: SEERIN (now SCERIN) Formulation Workshop, Sofia, Bulgaria
• 2013: SCERIN-1 Meeting & Trans-Atlantic Training, Prague, Czech Republic
• 2014: SCERIN-2 Meeting and Trans-Atlantic Training, Krakow, Poland
• 2015: SCERIN-3 Meeting and Trans-Atlantic Training, Brasov, Romania
• 2016: SCERIN-4 Meeting and Trans-Atlantic Training, Zvolen, Slovakia
• 2017: SCERIN-5 Meeting and Trans-Atlantic Training, Pecs, Hungary
• 2018: SCERIN-6 Meeting and Trans-Atlantic Training, Zagreb, Croatia
• 2019: SCERIN-7 Meeting and Trans-Atlantic Training, Novi Sad, Serbia
Kickoff

17 April 2012, Sofia

Jana Albrechtova

Petya Campbell

Olga Krankina

Lucie Kupkova

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SCERIN: Meetings

SCERIN-2 MEETING
Sopot/Rybczyn University in Kracow, Poland, Institute of Geospatial and Spatial Management
Theme: Current LCLUC challenges in SCERIN
5-10 June 2014
51 participants from SCEE and observers from Armenia, Georgia, and Hungary

SCERIN-3 Capacity Building Workshop
Transylvania University in Braşov, Romania
40+ participants from 13 countries (SCERIN + observers)
13-17 July 2015
41 participants

SCERIN-4 Capacity Building Workshop
Faculty of Forestry, Technical University in Zvolen, Slovakia
27-29 July 2016

SCERIN-5 Capacity Building Workshop
Institute of Geography, Faculty of Sciences, University of Pécs, Hungary
18-21 July 2017

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Host for coming meeting:

2019

SCERIN-7 Meeting and Trans-Atlantic Training,
Novi Sad, Serbia
Achievements

• Manuscripts in preparation: 3 + 3 new
• Joint presentations/efforts
• Research projects:
  • Joint projects and regional projects
• Publicity: Web page, FB

http://csebr.cz/scerin/
Achievements

Manuscript published: joint research!

https://www.mdpi.com/2072-4292/10/12/1967

Comparison of Global and Continental Land Cover Products for Selected Study Areas in South Central and Eastern European Region

Ioannis Manakos 1,*, Monika Tomaszewska 2,3, Ioannis Gkinis 4, Olga Brovkina 5, Lachezar Filchev 6, Levent Genc 7, Ioannis Z. Gitas 8, Andrej Halabuk 9, Melis Inalpulat 7, Anisoara Irimescu 10, Georgi Jelev 8, Konstantinos Karantzalos 4, Thomas Katagis 9, Lucie Kupková 11, Mykola Lavreniuk 12,13, Minučer Mesevec 14, Denisa Mihalescu 10, Mihai Nita 15, Tomas Rusnak 16, Premysl Stych 11, František Zemek 5,17, Jana Albrechtová 51 and Petya Campbell 18
Achievements

Poster Presentation of the aforementioned paper:
World Cover 2017, ESA, Frascati, March 2017
US-IALE, Baltimore, Maryland, April 9-13

Jana Albrechtová¹, Ioannis Manakos², Petya Campbell³, Mihai Nita⁴, Lucie Kupková¹, Konstantinos Karantzalos⁵ and Garik Gutman⁶

Global Land Cover Products Validation and Inter-Comparison in South Central and Eastern Europe (SCERIN)

Prototype Objectives:
• To develop prototypes of the validation products, and provide preliminary findings using case studies from Greece and Czechia.
• To assess the specifics of land cover in study areas in terms of land cover classification and its validation.
• The effort is an initiative of the SCERIN.

Validated Maps:
Global LC maps (GLC) : 1) the Copernicus CORINE Land Cover 2012 (CLC) - ETRS89 / ETRS-LAEA CRS; and 2) the GlobeLand30 (GL_30) 2010 raster files (30m) - WGS 84 / TMzn34-35N

Conclusions:
Very similar, rather good, accuracies were reached for both study areas and for both CORINE 2012 and GLOBALAND30 products. Slightly better accuracy (4%) for CORINE in Greece and almost the same accuracies for both products in Czechia.
Achievements

Manuscripts in preparation: P2-P4 joint research papers in progress

P2: SCERIN inventory of land use and land cover changes and their driving forces (Gregory Taff and Premek Stych)

P3: Trends of forest vegetation activity in SCERIN associated with climatic changes, as observed by 30 years of AVHRR (Ivan Pilas)

P4: Review of high resolution spectral data (satellite, airborne, field) collected for forest ecosystems in SCERIN, and their use for vegetation monitoring (Jana Albrechtova, Petya Campbell and Lucie Kupkova)

And others..... *(inundation mapping, phenology metrics, 2-D canopy height extraction)*
Collaborative projects

Joint Project Proposal 2013

COST Action
as a platform for future SCERIN Network activities

PI: Jana Albrechtova

Attempt.....
New ones discussed.....

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SCERIN: lessons learned

How to build a functional network?

1) Achieve a **consensus**: the regional network is **needed**
   - Regional experts discuss the recent research accomplishments in the LCLUC, GOFC-GOLD and GEOSS research areas
   - Define the regional/national research and application issues

2) Identify **coordination**, **support**, **collaboration**

3) Identify **common** goals, participants, activities
   - Formulate the specific regional/national research & application objectives

4) Outline **next steps** (pilot projects and capacity building initiatives to be conducted by the network)

5) Formulate a new **capacity building initiatives**
SCERIN: lessons learned

RIN Capacity building initiatives

• Collaboration with other regional networks:
  o SCERIN example: IGU LCCLU (Lucie Kupkova and Ivan Bičík), EARSeL (2015: meeting in Prague)
  o Regional forest service and universities

• Support and sponsorship of RIN Meetings
  o Sponsorship by GOFC-GOLD/START and NASA/LCLUC
  o Proposal to EU, or other regional agencies
  o Host sponsorships for the RIN Meetings

• Capacity Building effort aimed to young scientists – in case of SCERIN the Trans Atlantic Training (NASA/ESA)

• Plan of future activities: establish new collaborations
SCERIN: lessons learned

Visibility is wanted

- Through AGU, EGU, EARSeL, etc.
- Through joint papers
- Think about inviting reps not only from funding agencies but also from big private companies – Google appearance was good!
SCERIN: lessons learned

Potential Future Support

Proposals for joint research projects and networking

✓ Joint Project Proposals in 2017 and 2018 (3)
✓ Joint Project Proposal EU COST Action as a platform for GOFC-GOLD + MEDRIN activities (to consider)

Smaller proposals and collaborative work by collaborating groups within SCERIN

✓ Visiting Scholars (Fulbright, other)
✓ Graduate studies
✓ Research grants

NEW! Opportunity for leveraging/collaboration among the GOFC-GOLD networks for exchange of tools for product validation; flood, fire and snow prediction and mapping in SCERIN.
Thank you

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