Newsletter #1

Past Meetings

Workshop on Workflows, **23-25 April 2018**, Palma de Majorca, Spain

Kick off Meeting, **9-11 October 2018**, Rome, Italy

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Gantt Charts

The logical time flow of Geoessential WP and tasks is described in the Gantt chart by trimesters

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Upcoming Events

GEO Work Plan Symposium, **11-12 June 2018**, Geneva, Switzerland

LIPHE4 Summer School – 2018 Edition, **2-6 July 2018,** Geneva, Switzerland

4th GEO BON All Hands meeting, **9-12 July 2018,** Beijing, China

EuroGEOSS workshop, **12-14 September 2018**, Geneva, Switzerland

The ESA Earth Observation – Φ-week, **22-26 October 2018**, Rome, Italy

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GEOEssential Project Coordinator

The temptation is great, when defining SDGs or other integrated environmental indicators, to reinvent the wheel instead of

Young Scientists in GEOEssential

Researcher on “Remote Sensing and Monitoring of Compliance to Environmental Legislation”. READ MORE

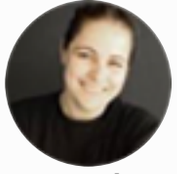
using existing initiatives and data available for instance through the Global Earth Observation System of Systems (GEOSS) or Copernicus services. From an Information, Communication and Technology perspective, data interoperability and standardization is critical to improve data access and exchange.

Efforts are being made to monitor the state of the environment with Essential Variables (EVs), for instance in the area of biodiversity, water, and climate. EVs are defined by ConnectinGEO as *"a minimal set of variables that determine the system's state and developments, are crucial for predicting system evolution, and allow to define metrics that measure the trajector oy of the system"*.

GEOEssential is addressing the need for trusted sources of data and information to monitor the progresses made on environmental conditions towards policy targets. The project will demonstrate the generality of the Essential Variables concept across GEO Societal Benefit Areas. It will create cross-thematic workflows to evaluate, predict and monitor natural resources to inform via Earth Observations environmental policies such as the Sustainable Development Goals.

Existing structures and platforms will be analysed in order to identify substantial gaps and synergies for addressing the needs of environmental policy in agriculture, soil, water, biodiversity, energy, light and raw materials.

The methodology of GEOEssential is based on and is going beyond



Maria Tassopoulou
PhD Candidate, AUTH, Greece

Researcher on "Mapping of Essential Variables using open source Remote Sensing data and cloud computing". **READ MORE**

Natalia Verde
PhD Candidate, AUTH, Greece

Currently working on "Mapping of ecosystems using satellite imagery and object-oriented classification under the framework of Agenda 2030". **READ MORE**

Eleni Photiadou
Dipl. Eng. in Surveying Engineering, AUTH, Greece

Recently join the project and working at the Quantitative Biogeography working group.

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Marta Gómez-Giménez
Post-Doc Researcher, Biodiversity and Climate Research Centre, SENCKENBERG, Germany

She is working on linking essential variables to indicators for Green Infrastructure pillars and related Aichi and SDG targets at European scale. **READ MORE**

Erica Honeck
PhD Student, Institute for Environmental Sciences – University of Geneva, Switzerland

Working on PhD research on "Models and deep learning methods for geospatial analysis

the outputs of the ConnectinGEO project that identified key gaps in the definition of GEO Essential Variables. The GEOEssential project is addressing Strand 2 of the ERA-Planet project (Resource efficiency and environmental management), but it is also clearly connected to the three other Strands through their common data infrastructure.
The project objective is to build concrete demonstration workflows that will be using Essential Variables served by the GEO infrastructure to derive policy relevant indicators. This goal-driven methodology is split in several work packages that are closely interlinked.

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Anthony Lehmann and the GEOEssential consortium

tasks". READ MORE

Mykola Lavreniuk
PhD Researcher, Space Research Institute NAS and SSA, Ukraine

Research Scientist at the Space Research Institute NAS and SSA Ukraine. READ MORE

Bohdan Yailymov
Researcher, Space Research Institute NAS and SSA, Ukraine

Working on second scientific degree devoted to SDG monitoring for the territory of Ukraine. READ MORE

Andrii Kolotii
Researcher, Space Research Institute NAS and SSA, Ukraine

WEB STATISTICS **JANUARY - MAY 2018**

1.3K	754	3746	62
Sessions	Users	Page Views	Views per day

RECENT **SOCIAL MEDIA** @GEO_ESSENTIAL

Gregory Giuliani (@greggiuliani)

Joan Masó Pau (@joanma747)

The virtual laboratory is a technology developed by CNR in @ECOPOTENTIALprj

GEOEssential project meeting in Palma. 3 days workshop to develop workflows using#EO& Essential Variables to support #SDGs #geoss @GEOSEC2025 @GEO_Essential @unige_ise @GRIDgva

23 April 2018

that will be reused in @GEO_Essential to run workflows that creates #SDG indicators from EO data. It is based on github and docker.

23 April 2018

Dissemination Activities

- Regional workshop on UNCCD reporting, 12-15 March 2018, Antalya, Turkey
- Cooperation Agreement signed by Ministry of Ecology and Natural Resources, h Institute NAS Ukraine and SSA Ukraine, 5 March 2018, Ukraine

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Progress

The GEOEssential workshop organized in 23 – 25 April, 2018, in Palma de Mallorca, was focused on practically defining and executing these cross-thematic workflows, using the Virtual Laboratory (VLab).

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Deliverables

Based on the Nexus approach, essential and cross-thematic variables will be evaluated and identified for EO data usability for corresponding services.

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Publications

- Spatially enabling the Global Framework for Climate Services: Reviewing geospatial solutions to efficiently share and integrate climate data & information.
- Is light pollution getting better or worse?
- Changes in outdoor lighting in Germany from 2012-2016

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WORK **PACKAGES**

WP1 : KNOWLEDGE MANAGEMENT SERVICES

Author: Paolo Mazzetti

WP 1 is dedicated to the design and development of Knowledge Management services aiming at facilitating information and knowledge generation from Earth Observation data.

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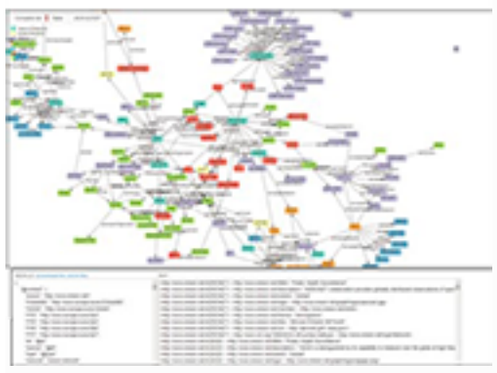
WP2 : STAKEHOLDER ENGAGEMENT AND GAPS IN ESSENTIAL VARIABLES

Author: Ivette Serral

This WP is focused on defining gaps in terms of products, standards, services and data access



through GEOSS and Copernicus. These gaps are analysed against the existing EVs defined for each GEOEssential Workflow and coming from a defined unified list of EVs, mainly coming from the results of the previous ConnectinGEO H2020 project.

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WP3: GEOSS AND COPERNICUS EVS SERVICES

Author: Daniel Spengler

The work package builds on the results of the EV gap analysis of the previous tasks. Existing EV services will be analysed against defined targets and needs with specific focus on cross-domain functionalities of EVs.

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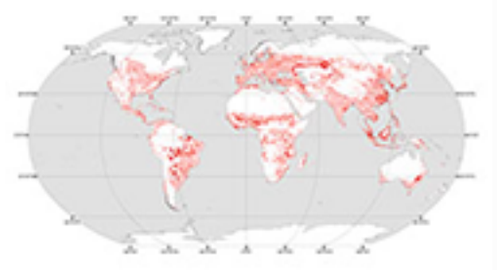

WP4: BIODIVERSITY AND ECOSYSTEM WORKFLOWS

Author: Aidin Niamir

The main objective of the workpackage 4 is to deliver workflows that utilize the Copernicus products so that Essential Variables (EVs) and Essential Biodiversity Variables (EBVs) can be evaluated from global to local spatial scales over time.

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WP5: EXTRACTIVE INDUSTRY & LIGHT MONITORING WORKFLOWS

Author: Pierre Lacroix

Description and objectives of WP5 With regards to the vast amount of territories impacted by mines and artificial lights, the aim of work package 5 of GEOEssential (WP5) is to demonstrate the use of Earth Observation products methods, tools, information and services in the domains of extractives and artificial light.

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WP6: THE FOOD, WATER AND ENERGY NEXUS

Author: Ian McCallum

In the context of the food, water and energy (FWE) nexus, WP6 will contribute to the GEOEssential knowledge base infrastructure with the determination of the required FWE EVs considering the related European policies, SDGs and modelling requirements.

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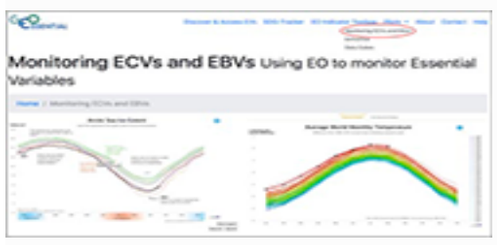

WP7: GEOESSENTIAL DASHBOARD: FROM EVS TO POLICY GOALS (SDGS)

Author: Greogory Giuliani

The aim of this work package is to develop a portal to present the workflow outputs of the thematic work packages (WP4,5,6) and to automate the

transformation of Earth Observations data into indicators using Essential Variables.

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WP8: DISSEMINATION, EXPLOITATION AND IMPACTS

Author: Petros Patias

This WP will develop specific actions to capitalize on the project results for societal impacts, to ease the transferability to user communities, to establish feedback loops, to foster the use of open access portals and platforms for dissemination of data and knowledge, and to ensure linkage to the GEO 2015-2025 Work Plan and the ERA-PLANET Dissemination work package.

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GEOESSENTIAL **NEWSLETTER**

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