



GEO-CRADLE Workshop & Project Meeting

16-17 November 2016, Limassol, Cyprus

Concept Note and Programme Outline

DAY 1: WORKSHOP ON SOIL SPECTRAL DATA & WATER EXTREMES MANAGEMENT, ACCESS TO SOLAR ENERGY AND ADAPTATION TO CLIMATE CHANGE

16 November 2016, 12:00-18:00, Limassol, Cyprus

OBJECTIVES:

The **Session of the Workshop on Soil Spectral Data (SSD) and on Water Extremes Management (WEM)** will establish a common agreement and understanding among the partners on the specific content, methodology and expected outputs of the T4.2 pilot “Improved Food Security - Water Extremes Management” in the context of WP4 “Pilots towards regional challenges”. Food security depends on many aspects such as water abundance and extremes (flooding and drought), vegetation stresses, yield monitoring, soil quality and sustainability. Guaranteeing food security requires:

- the systematic mapping of soils and minerals which are beneficial for agricultural production;
- the monitoring of mining waste sites for the prevention of acid mine drainage impacting the quality and quantity levels of food;
- the systematic assessment of meteorological aspects and climatic forecasts;
- the derivation of knowledge in the Region of Interest (RoI) for specific risks relating to floods and droughts.

Such actions will allow the soil and water resources to be preserved from further degradation, and the agro technical activities to be adapted accordingly to microclimatic conditions, securing the abundance of healthy crops and yield production yearly.

- ✓ The session on WEM will focus on the contribution of the earth observation to the water extremes management (floods and droughts) in order to improve food security. It will include both the water extremes mapping and modelling using earth observation.
- ✓ The session on SSD will serve as an introductory roadmap for the utilization of Soil Spectral Libraries (SSLs) as a tool for management of soil resources in the sector of food security. It will serve to its participants both the technical requirements of the methodology as well as the SSLs potential as a commercialized service for end users.

The **Session of the Workshop on Access to Solar Energy (ASE)** will establish a common agreement and understanding among the partners on the specific content, methodology and expected outputs for T4.4 pilot “Access to Energy” in the context of WP4 “Pilots towards regional challenges”. Solar energy depends on many atmospheric parameters that play the main role on real time solar energy calculation and mapping. Products related with the need of using real time or short term forecast solar energy outputs require:



- the use of high temporal and spatial resolution real time validated atmospheric data that are required for accurate solar energy calculations;
- the synergy of various earth observation satellite products and respective databases in real time;
- a system that provides rapid (real time) calculations of solar energy for large areas (high number of earth pixels).

The specific action will allow producing real time products of various solar energy related products that could help to the optimum use of solar energy for national or private energy regulating grids.

- ✓ The session on ASE will focus on the contribution of the earth observation to the calculation of solar energy related products in order to improve their accuracy and their spatial and temporal information.
- ✓ The session on ASE will serve as an introductory roadmap for the utilization of the produced solar energy products. It will serve to its participants both the technical requirements of the methodology as well as the ASE potential as a commercialized service for end users.

The **Session of the Workshop on Adaptation to Climate Change (ACC)** will discuss the recommendations for the pilot activities of T2.4 User Need Analysis on climate change and establish a common agreement and understanding among the partners on the specific content, methodology and expected outputs of the T4.1 pilot “Adaptation to Climate Change” in the context of WP4 “Pilots towards regional challenges”. The pilot activities aim to support the sustainability of regional EO infrastructures and trigger needed synergies, to contribute to the achievement of GEOSS targets and the uptake of relevant EO based Copernicus services in the RoI and provide the necessary support and coordination to existing infrastructures in order to deliver consolidated information and knowledge for long term strategic planning on adaptation and mitigation to climate change and air quality which are of high importance for the RoI.

The RoI has been recognized by the Intergovernmental Panel on Climate Change (IPCC) as one of the most sensitive and vulnerable to climate change regions on Earth. In this context, continuous atmospheric monitoring from space and ground in the RoI needs to be well distributed and coordinated in order to be utilized in an optimal way for future climate projections and forecasts of atmospheric components and climate driven natural hazards.

PROGRAMME OUTLINE:

I) PARALLEL SESSION ON WATER EXTREMES MANAGEMENT (in parallel with Session II)

12:00-13:15 Water extremes mapping and modelling using earth observation

- 20’ Water extremes mapping with EO: the FloodHub service of the BEYOND Center of Excellence
Speaker: Alexia Tsouni, National Observatory of Athens (NOA), Greece
- 20’ Water extremes modelling with EO: risk forecasting, monitoring and prevention by DEWETRA platform
Speaker: Giorgio Boni, CIMA Research Foundation, Italy
- 20’ Disaster Management in Albania with the web-based platform DEWETRA
Speaker: Lilljana Lata, Institute of Geosciences, Energy, Water and Environment (IGewe) / Tirana Polytechnic University (UPT), Albania.
- 15’ Q&A



II) PARALLEL SESSION ON ACCESS TO SOLAR ENERGY (in parallel with Session I)

12:00-13:15 Support and improvement of the regional EO infrastructures through the Solar Energy Nowcasting SystEm (SENSE)

- 15' Energy application for GEO-CRADLE, overview of the pilot activity
Speaker: **Stelios Kazadzis**, [Physical Meteorological Observatory Davos / World Radiation Center \(PMOD/WRC\)](#), Switzerland
- 15' Update on the use of EO and Copernicus related products for the energy pilot
Speaker: **Panagiotis Kosmopoulos**, [National Observatory of Athens \(NOA\)](#), Greece
- 15' Pilot applications for Greece and Egypt related end-users
Speakers:
Panagiotis Kosmopoulos, [National Observatory of Athens \(NOA\)](#), Greece
Hesham El-Askary, [Centre for Environment and Development for the Arab Region and Europe \(CEDARE\)](#), Egypt
- 15' Discussion on the pilot areas to be used for GEO-CRADLE
- 15' Q&A

13:15-13:45 Snacks Break

III) PARALLEL SESSION ON ADAPTATION TO CLIMATE CHANGE (in parallel with Session IV)

13:45-15:00 Part 1: Strengthening the interplay between the EO and modelling activities for weather, air quality and climate - Establishment of relevant regional pilot studies on ACC

- 30' Overview and current status of T4.1 ACC activities
Speaker: **Vassilis Amiridis & Evangelos Gerasopoulos**, [National Observatory of Athens \(NOA\)](#), Greece
- 15' Strengthening the interplay between EO and modeling activities
Speaker: **Slobodan Nickovic**, [Institute of Physics Belgrade \(IPB\)](#), Serbia
- 15' ACC-relevant modelling studies
Speaker: **Vladimir Djurdjevic**, [Institute of Physics Belgrade \(IPB\)](#), Serbia
- 15' Q&A

15:00-15:15 Coffee Break

15:15-16:30 Part 2: Strengthening the interplay between the EO and modelling activities for weather, air quality and climate - Establishment of relevant regional pilot studies on ACC

- 20' Establishing a pilot regional climate change web application tool for end-users
Speaker: **Prodromos Zanis**, [Aristotle University of Thessaloniki \(AUTH\)](#), Greece
- 20' ACC user needs in North Africa and Middle East
Speaker: **Hesham Al Askary**, [Centre for Environment and Development for the Arab Region and Europe \(CEDARE\)](#), Egypt
- 20' CAMS activities for air quality monitoring and forecasting in Mediterranean
Speaker: **Ioannis Kapsomenakis**, [Academy of Athens \(AOA\)](#), Greece
- 15' Q&A - Round table discussion



IV) PARALLEL SESSION ON SOIL SPECTRAL DATA (in parallel with Session III)

13:45-14:45 Part 1: Technical Requirements of Building SSLs: Tools & Methodology

- 25' The role of soil spectroscopy for food security & tools to create a SSL
Speaker: **Eyal Ben Dor**, [Tel Aviv University \(TAU\)](#), Israel
- 25' The role of soil spectral information for precision agriculture & practices and procedures to build SSLs at national level
Speaker: **Yaron Ogen**, [Tel Aviv University \(TAU\)](#), Israel
- 10' Q&A

14:45-15:00 Coffee Break

15:00-16:30 Part 2: Commercialization of SSLs: Services & Products

- 20' Soil Spectral information in the era of commercial hyperspectral sensor in orbit: PRISMA project
Speaker: **Stefano Pignatti**, [CNR IMAA](#), Italy
- 15' The role of precision agriculture in vineyard monitoring
Speaker: **Noa Maoz**, [Golan Heights Winery](#), Israel
- 20' New imaging sensors for field, drone and airborne applications for soil mapping
Speaker: **Timo Hyvärinen**, [Spectral Imaging Ltd \(SPECIM\)](#), Finland
- 20' The application of spectral information for operational soil monitoring in Europe and in the world
Speaker: **Luca Montanarella**, [Intergovernmental Technical Panel on Soils \(ITPS\) / Food and Agriculture Organization \(FAO\)](#), Italy
- 15' Q&A

V) PARALLEL WORKING GROUPS ON PILOTS' REFINEMENT (T4.1, T4.2, T4.4)

16:30-18:00 Collection and elaboration on the feedback from the sessions in order to draft a proposal about the refinement of the pilots

Moderators: Pilot Leaders.

- **Vassilis Amiridis**, [National Observatory of Athens \(NOA\)](#), for T4.1 pilot "Adaptation to Climate Change"
- **Nikos Tsakiridis & Elli Kalopesa**, [inter-Balkan Environment Center \(i-BEC\)](#), for T4.2 pilot "Improved Food Security - Water Extremes Management"
- **Stelios Kazadzis**, [Physical Meteorological Observatory Davos / World Radiation Center \(PMOD/WRC\)](#), for T4.4 pilot "Access to Energy"

Working Groups: Pilot team members/partners.

This session will conclude on the following items which will be discussed in the Project Meeting the following day:

- the specific content, concrete objectives and expected outcome of each pilot following the fusion of the feedback received during the previous sessions;
- the input data sets (space/airborne/in-situ), and the relevant satellite missions and sensors to be used which are available currently and in the future (e.g. future Copernicus missions);
- the definition of the specific pilot sites where the pilots will be implemented in the three regions (North Africa, Middle East and Balkans); the pilot sites will be representative in terms of societal importance and the variety of climatic, soil, and weather conditions existing in the Rol.



GEO-CRADLE Workshop & Project Meeting 16-17 November 2016, Limassol, Cyprus Concept Note and Programme Outline

DAY 2: PROJECT CONSORTIUM WORKING SESSION ON THE ROADMAP AND ACTION PLAN FOR WP4 IN LIGHT OF WP3 OUTCOMES

17 November 2016, 09:30-15:30, Limassol, Cyprus

Speakers: All, with key inputs from WP3+WP4 Task Leaders

Moderator: **Haris Kontoes**, Project Coordinator, NOA

OBJECTIVES:

The project consortium will discuss the way forward for WP4 (pilot activities) on the basis of the inventory of capacities and user needs analysis from WP2 and the gap analysis from WP3. A concrete roadmap and a specific action plan will be agreed.

PROGRAMME OUTLINE:

09:00-09:30 Welcome coffee

09:30-10:20 Project Progress Meeting

- 30' Project coordination team presents project progress, setting out the goals of the day and the expected outcome from the meeting

Speaker: **Haris Kontoes & Lefteris Mamais & Eleni Christia**, NOA

- 20' Discussion on what has worked well or with difficulties during the past months

10:20-12:00 Outcomes & Results of WP3

- 60' Round table discussion – Presentations by each WP3 Task Leader

Speakers:

- 1) 30' T3.1 Gap Analysis: **Igor Milosavljevic**, INS
- 2) 30' T3.2 Maturity Indicators: **Monica Miguel-Lago**, EARSC

- 40' Q&A

12:00-13:15 Lunch Break

13:15-14:35 Launching of WP4

- 80' Roadmap for the 4 thematic pilots – Presentations by each WP4 Task Leader

Speakers:

- 1) 20' T4.1 Adaptation to Climate Change: **Vassilis Amiridis**, NOA
- 2) 20' T4.2 Improved Food Security - Water Extremes Management: **Nikos Tziolas & Eyal Ben Dor & Giorgio Boni**, i-BEC & TAU & CIMA
- 3) 20' T4.3 Access to Raw Materials: **Marek Graniczny & Maria Przyłucka**, PGI/EGS
- 4) 20' T4.4 Access to Energy: **Stelios Kazadzis**, PMOD/WRC

14:35-14:50 Coffee Break

14:50-15:30 Launching of WP4 (continuing)

- 20' Q&A
- 20' Action plan and session wrap-up

Speaker: **Haris Kontoes**, NOA