

LPS25

DATA TERRA AGENDA

JUNE 2025



INTEGRATED DATA TO OBSERVE, UNDERSTAND AND MODEL THE EARTH SYSTEM

Sunday June 22, 2025

15:30

Presentation of the dataset, tutorial with Python notebook, presentation of the ALTICAP dataset and manipulation: how to read files, create simple graphs, perform common geostrophic calculations from the SLA, comparison with tide gauges
ALTICAP = altimetric products for coastal applications (up to 200 km from the coast) from the SNO CTOH with CNES funding, distributed by CDS-AVISO and accessible from the **ODATIS** catalog

Monday June 23, 2025

14:00

C.03.15: 10 Years of Copernicus Sentinel-2- O. Hagolle. Poster, Area X5 **THEIA**

E.01.02 : Earth Observation in Practise: Linking Public and Commercial Data for Earth Action – PART 2 - 3D Innovative downstream services based on EO future missions (CO3D) Jean-Baptiste Henry, Nadia Landachoco, Claude Boniface, Carine Saut, Laurent Lebegue
Presentation, Room 1.34 **FormaTerre**

14:45

A.09.11: Snow in the cryosphere: improving observations and modelling - Spatial and temporal variability of snow cover in the French Alps inferred from Sentinel-1. Clémence Turbé, A. Rabatel, F. Karbou. Poster, Area X5 **THEIA**

17:45

A.01.01: Advances in atmospheric composition- Synergistic Approach for Discriminating Aerosol Chemical Composition Profiles from airborne lidar and polarimeter measurements. Abou Bakr Merdji (Presenter), Professor Juan Cuesta. Poster, Area X5 **AERIS**

A.01.01: Advances in atmospheric composition-CO hotspots detection using IASI/Metop, in preparation for IRS/MTG. Antoine Comiant 1, 2(Presenter), Cathy Clerbaux 1, 2, Maya George. Poster, Area X5 **AERIS**

B.04.03 - Integrating multi-sensor Earth Observation data to improve natural hazard monitoring - Image Correlation Webservices applied to optical and SAR satellite observations usefulness for landslide monitoring, Floriane Provost, David Michéa, Jean-Philippe Malet, Elisabeth Pointal, Nicolas d'Oreye, Dominique Derauw, Claude Boniface. Poster, Area X5 **FormaTerre**

B.04.03 - Integrating multi-sensor Earth Observation data to improve natural hazard monitoring - VOLCPLUME, an interactive web platform for the multiscale monitoring of volcanic emissions and their impacts on the atmosphere. Marie Boichu, Raphael Grandin, Théo Mathurin, Nicolas Pascal, Deroo Christine, Colette Brogniez, Maximilien Patou, Sylvain Neut, Cédric Tétard, Jérôme Riedi, Luc Blarel, Philippe Goloub. Poster, Area X5 **FormaTerre / AERIS**

LPS25

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Tuesday June 24, 2025

8:30

A.02.03: EO for Agriculture Under Pressure - Estimating daily high-resolution leaf area index (LAI) for wheat using Planetscope data, Qiaomin Chen, Rhianna McAneny (Presenter), Marie Weiss, Raul Lopez-Lozano, Jérémy Labrosse, Dan Smith, Mingxia Dong, Scott Chapman, Shouyang Liu, Alexis Comar. Presentation, Hall F2 **THEIA**

9:15

B.04.01: Satellite based terrain motion mapping for better understanding geohazards. - PART 1 - On-demand Sentinel-1 Interferogram Generation Service for Monitoring of Volcano Deformation. Raphael Grandin, Marie Boichu, Théo Mathurin, Nicolas Pascal, Roland Akiki, Jérémy Anger, Carlo de Franchis. Presentation, Hall K2 **FormaTerre**

11:30

A.09.01: The mountain cryosphere in peril - improved monitoring of snow and ice in complex terrain to address societal challenges in the face of climate change - Trends in the annual snow melt-out day over the French Alps and the Pyrenees from 38 years of high resolution satellite data (1986-2023). Zacharie Berrou Dumont, Simon Gascoin. Poster, Area X5 **THEIA**



Demo Lunch
booth U32 - Level 1

Tools and services **THEIA** hub (land surfaces) and **AERIS** hub (atmosphere)

13:00-13:15

TerEcoData. Advanced indicators of ecosystem properties from high resolution Sentinel-2 time series. Jean-Philippe Malet/Anne Puissant

13:20-13:35

ALTIS-NG. Software for generating Time-Series of Water Levels from Radar Altimetry Data. Fabien Blarel

13:40-13:55

IASI PCA. Principal Component Analysis of IASI measurements for the detection of extreme events. Pascal Prunet

14:00

A.02.03: EO for Agriculture under pressure - Are Radiometric Landscapes Mirrors of Agrarian Systems? Sedegnan A, Sossou H, Madec S, AHOYO ADJOVI N, Begue A. Presentation, Hall F2 **THEIA**



Demo Coffee
booth U32 - Level 1

Tools and services **FormaTerre** hub (solid Earth) and **DINAMIS** device.

15:30-15:45

DINAMIS Very high resolution imagery device. Amanda Esparon

15h50-16h05

DSM-OPT. Digital Surface Models from OPTical stereoscopic very high Resolution Imagery. Jean-Philippe Malet

14:00

F.02.01 International Cooperation in EO. Harnessing the Power of Remote Sensing for Research and Development in Africa. Presentation, Room 1.14

16:15

D.01.04: Using Earth Observation to develop Digital Twin Components for the Earth System - Hydrology analyses in mountain basins for a Decision Support System in a Digital Twin of Alps. Matteo Dall'Amico (Presenter), Maxim Lamare, Federico Di Paolo, Stefano Tasin, Nicolò Franceschetti, Luca Brocca, Silvia Barbetta, Sara Modanesi, Bianca Bonaccorsi, Jean-Philippe Malet, Clément Michoud, Thierry Oppikoffer, Philippe Bally. Presentation, Hall K1

17:45

A.01.05: Ozone and its precursors through the Atmosphere : Advances in understanding and methods - Development of a Merged CO Climate Data Record from IASI and MOPITT Observations. Maya GEORGE (Presenter), Cathy Clerbaux. Poster, Area X5 **AERIS**

A.01.08: Planetary Boundary Layer from Space. - Low Tropical Marine Clouds and Their Interactions With Boundary Layer Dynamics Observed From ALADIN/Aeolus and SCAT/HY-2. Zacharie Titus (Presenter), Marine Bonazzola. Poster, Area X5 **AERIS**

B.04.01: Satellite based terrain motion mapping for better understanding geohazards. - Rainfall, anthropogenic activity for the Chamoli flood? What triggered the reactivation of the Joshimath slope (Uttarakhand, India): INsights from multi-sensor satellite observations, Floriane Provost (Presenter), Bryan Raimbault, Pascal Lacroix, Simon Gascoin, Bastien Wirtz, Kristen Cook, Michael Foumelis, Jean-Philippe Malet. Poster, Area X5 **FormaTerre**

D.01.04: Using Earth Observation to develop Digital Twin Components for the Earth System. - Towards a Digital Twin for the Alps to simulate landslide occurrences for hazard adaptation strategies, Jean-Philippe Malet (Presenter), Clément Michoud, Thierry Oppikoffer, Floriane Provost, Maxim Lamare, David Michéa, Aline Déprez, Michael Foumelis, Fabrizio Pacini, Philippe Bally. Poster, Area X5 **FormaTerre**

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Wednesday June 25, 2025

8:30

A.02.06 : Advances in land surface phenology monitoring and applications : TerEcoData: a service to monitor terrestrial ecology changes from Earth Observing systems - Aline Déprez, Jean-Philippe Malet, David Michéa, Anne Puissant. Poster, Area X5 **THEIA**

A.04.03 : Monitoring Greenhouse Gases from Space - Methods and Validation - PART 1 - The MicroCarb CO₂ mission: imminent launch! Denis Jouglet (Presenter), Philippe Landiech. Presentation, Hall F1 **AERIS**

D.02.09 : Enhancement of EO products using advanced multi-instrument and multi-platform synergies -Gap-filled LAI series for crop monitoring at 20 m resolution by fusing optical and SAR data based on CNN., Juan Li et al. Poster, Area X5 **THEIA**

11:30

D.03.03 : Impact through Reproducibility in Earth Observation Science and Applications Overview of the services provided to Earth and environmental data producers by the DATA TERRA Research Infrastructure, with a focus on satellite EO data. Anne Puissant, Frédéric Huynh, Sébastien Payan, Erwan Quimbert, Emmanuel Chaljub, Yvan Lebras. Poster, Area X5 **DATA TERRA**

F.04.02 : Supporting Global Food Security through Earth Observation - PART 2 Forecasting Food Security in African Countries at Sub-National Scale: A Deep Learning Approach Using Heterogeneous Data . Mehtab Syed et al. Presentation, Room 1.61/1.62 **THEIA**

12:00

D.03.24 Open Science & Open Innovation : DEMO - ALTIS-NG software for generating Time-Series of Water Levels from Radar Altimetry Data Fabien Blarel. Demo, EO Arena **THEIA**



Demo Lunch
booth U32 - Level 1

DATA TERRA and CNES collaboration to power Earth Observation platforms

13:00-13:15

Atmosphere space missions. Adrien Deschamps. **AERIS**

13:20-13:35

Cloud platform and services to optimize SWOT ocean data use. Cyril Germineaud. **ODATIS**

13:40-13:55

Hydroweb.next: the water thematic hub for spatial hydrological data. Delphine Leroux. **THEIA**



Demo Coffe
booth U32 - Level 1

Innovation and International Cooperation

15:30-15:45

DATA TERRA. Partnership and innovation. Jean-Philippe Malet, François Danhiez, Jean-François Faure

15h50-16h05

NFDI4EARTH. Claus Weiland

16:30

A.08.17 : Ocean including Marine Biodiversity - CNES cloud platform and services to optimize SWOT ocean data. Demo, EO Arena **ODATIS**

17:45

A.04.01 : Estimating and observing local-scale GHG emissions- The MicroCarb PayLoad Ground Segment: description of a ground segment for new CO₂ data. Poster, Area X5 **AERIS**

C.02.05 MAGIC – Preparing for the ESA-NASA satellite gravity constellation - Monitoring Terrestrial Mass Changes : The CNES's Level-2 and Level-3 Gravimetry Products, Hugo Lecomte, Alejandro Blazquez, Benoit Meyssignac, Lionel Zawadzki, Jean-Michel Lemoine, Claude Boniface, Poster, Area X5 **FormaTerre**

D.02.04 : Machine Learning for Earth System Observation and Prediction - Recent Advances in iotaz: Enhancing Large-Scale Land Use Mapping with Cutting-Edge Tools and Techniques, A. Vincent , E. Planteur, O. Hagolle, M. Fauvel. Poster, Area X5 **THEIA**

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Thursday June 26, 2025

8:30

A.01.04 : Advancing Air Quality Monitoring from Space - PART 1 : The ESA World Emission Project: Demonstrating the Capabilities and Relevance of a Service for the Regular Provision of Global to Local Scale Estimates of Atmospheric Pollutant Emissions Based on Satellite Observations. *Grégoire Broquet (Presenter), Dr. Philippe Ciais. Presentation, Hall K2* **AERIS**

11:30

D.02.06 : Foundation Models for Earth Observation: Current solutions with less labelled data to improve environment monitoring and future perspectives to revolutionize geospatial data discovery and utilization - *SenCLIP: Enhancing zero-shot land-use mapping for Sentinel-2 with ground-level text prompting. Pallavi Jain et al. Presentation, Hall G1* **THEIA**



Demo Lunch
booth U32 - Level 1

Transverse services and opportunities

13:00-13:15

Volcplume/GEOVIEW. *Raphael Grandin / Marina Ripon* **FormaTerre/AERIS**

13:20-13:35

GDM-OPT Ground Deformation Monitoring with OPTical image time series. *Floriane Provost* **FormaTerre**

13:40-13:55

WG Africa - Copernicus products and services formation. *Linda Tomasini and Jean-François Faure*

14:00

A.08.10 : Coastal Ocean and Land-sea interaction Supporting Global Food Security through Earth Observation - *Towards Reliable Satellite-Based Water Quality Monitoring of Shallow Coastal Lagoons Samuel Martin, David Doxaran, Philippe Bryère, Pierre Gernez. Poster, Area X5* **ODATIS**

B.02.09 : The Role of Spaceborne Imaging Spectroscopy and Drone-based Data for Integrated Freshwater and Coastal Monitoring - *Biogeochemical and hyper-spectral optical properties of European coastal and open ocean waters: an unprecedented dataset for the calibration and validation of multi-sensor ocean color satellite products. David Doxaran. Presentation, Hall G2* **ODATIS**



Demo Coffe
booth U32 - Level 1

ODATIS Ocean product near the shore

15:30-15:45

ALTICAP. ALTImetry Innovative Coastal Approach Product. *Fabien Leger* **ODATIS**

15h50-16h05

ODATIS Ocean color medium resolution. *David Doxaran*

17:45

A.05.02 : Earth observation for Climate Service - *The High Resolution monitoring of Water, Snow and Ice over Europe by the Copernicus Land Monitoring Service (CLMS HR-WSI). Florence Marti, Zacharie Barrou-Dumont, Robin Buratti, Manuel Da Costa Cantante, Matthieu Denisselle, Anne-Sophie Dusart, Michaël Ablain, Joël Dorandeu, Simon Gascoin, Olivier Hagolle, Markus Hetzenecker, Gabriele Schwaizer, Andrea Scolamiero, Thomas Nagler, Cemal Melih Tanış, Golda Prakasam, Kari Luojus, Tanja Gasber, Christian Gruber, Adam Pasik, Joanna Przystawska, Lorenzo Solari, Guillaume Eynard Bontemps, Thérèse Barroso. Poster, Area X5* **THEIA**

D.02.03. Approaches, accuracies, applications: next generation large-area land change monitoring - *Leveraging geospatial metadata to enhance large scale land cover mapping: A case study using European LUCAS. Data. Babak Ghassemi, Cassio Dantas (Presenter), Raffaele Gaetano, Emma Izquierdo-Verdiguier, Omid Ghorbanzadeh, Francesco Vuolo, Dino Ienco. Poster, Area X5* **THEIA**

D.02.03 : Approaches, accuracies, applications: next generation large-area land change monitoring - *Transfer Land Cover Maps Across Years: A Time Series-based Semantic Segmentation Approach. Dino Ienco, Christopher Jabea (Presenter), Cássio Fraga Dantas, Roberto Interdonato, Flavie Cernesson, Eric Barbe, Nadia Guiffant, Christian Weber. Poster, Area X5* **THEIA**

C.03.02 : Advances in the theory and methodology SAR interferometry and SAR polarimetry - *Advanced InSAR Long-Term Time Series with Flatsim service for Large-Scale Geosphere Applications. Philippe Durand, Claude Boniface, Sébastien Gaugain, Clément Schaettel, Eric Maesen, Marie-Pierre Doin, Erwan Pathier, Franck Thollard, Bertrand Lavery, Oliver Henriot, Cécile Lasserre, Raphaël Grandin, Emilie Deschamps-Ostanciaux, Elisabeth Pointal. Poster, Area X5* **FormaTerre**

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Friday June 27, 2025

11:30

C.06.02 : Advances in Calibration and Product Validation for Optical Sensors - ICOS offers great potential as in-situ network for Land Product Validation, B. Gielen et al. Presentation, Hall L3 **THEIA**

A.02.04 : Advances in Monitoring and Management of Forest Ecosystems - Assessing post-disturbance recovery in European forests using remote sensing data Monitoring of post-disturbance forest recovery dynamics in Europe with remote sensing data. Eatidal Amin, Dinolenco, Cássio Fraga Dantas, Samuel Alleaume, Sandra Luque. Poster, Area X5 **THEIA**

c.02.02 : Heritage Missions and Long Time Data Series - Domain adaptation from current to historical aerial images with constrained generative model for past tree cover semantic segmentation. Thierry GAUBERT, Valentine BELLET, Yousra HAMROUNI, Thierry FEUILLET, Deborah BIRRE, David SHEEREN. Poster, Area X5 **THEIA**

A.02.01. Land Surface Temperature and Emissivity Data for Research and Applications - Ensemble Learning for Land Surface Temperature Downscaling in Urban Areas to Prepare Future Missions TRISHNA, SBG, and LSTM. Raphaël Delair, Aurélie Michel. Poster, Area X5 **THEIA**

A.01.06. Aerosol, clouds, their interactions and the radiation budget : The Connection Between the TOA LW Cloud Radiative Effect and Cloud Properties, Using ATLID and BBR Instruments on board EarthCare. Aiten Alava-Baldazo (Presenter), Olivier Chomette. Poster, Area X5 **AERIS**

A.01.06. Aerosol, clouds, their interactions and the radiation budget : - Comparison of ATLID/EarthCare and IceSat-2 ATLAS Clouds Measurements. Marius Dahuron (Presenter). Poster, Area X5 **AERIS**

A.01.06. Aerosol, clouds, their interactions and the radiation budget : Enhancing COSP for Aeolus and EarthCARE: Toward Long-Term Simulations of Cloud Lidar Observations. Marie-Laure Roussel (Presenter), Zacharie Titus. Poster, Area X5 **AERIS**

A.02.01. Land Surface Temperature and Emissivity Data for Research and Applications : TRISHNA : innovative concepts for a first global delivery of Earth Observation thermal infra-red data, Jean-louis Raynaud (Presenter), Philippe Gamet, Corinne Salcedo, Emmanuelle Sarrazin, Loïc Lyard, Carole Amiot, Cécile Picard, Jean-Louis Roujean, Bimal Bhattacharya. Poster, Area X5 **THEIA**

A.07.01. Soil moisture : Combined use of ground-based GNSS-R and Sentinel-2 imagery for soil moisture estimation in irrigated grassland Marcel M. El Hajj (Presenter), Susan Steele-Dunne, Kasper Johansen, Samer K. Almashharawi, Oliver M. Lopez, Omar A. López Camargo, Adria Amezcaga-Sarries, Andreu Mas-Viñolas, Dominique Courault, Claude Doussan, Matthew F. McCabe. Poster, Area X5 **THEIA**

13:00