

# DAY-4 POSTERS

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**C1.04 AI4EO applications for Land and Water**

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**C4.01 Innovative UAV applications**

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**D1.01 Satellite EO for Geohazard Risks**

**D1.03 Satellite EO for Disaster Risk Transfer & Insurance**

**D2.12 Cultural and Natural Heritage**

**E1.04 Space Capacity Building in the XXI Century**

**A1.04 Greenhouse Gases**

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
569	65618	Methane emissions in the Eastern Mediterranean and Middle East as seen from space	Xin Lin et al.
570	65713	Methane emissions from the oil, gas and coal sectors as reported in bottom-up inventories and in atmospheric inversions	Zitely Tzompa Sosa et al.
571	64077	The use of TROPOMI for methane source identification in the oil and gas industry: the Permian Basin case study	Raquel Serrano Calvo et al.
572	67338	Review of point-source methane detection and quantification methods using hyperspectral data	Javier Roger et al.
573	64908	Assessing the importance of super-emitters versus diffuse oil/gas methane emissions in Algeria	Stijn Naus et al.
574	64135	METHANE+ : combining SWIR and TIR measurements from space to disentangle sources and sinks of methane	Ilse Aben et al.
575	65601	Detection of locally elevated methane concentrations by analyzing Sentinel-5 Precursor satellite data	Steffen Vanselow et al.
576	63120	Recent Results from GOSAT and GOSAT-2 FOCAL Retrievals	Stefan Noël et al.
577	65320	A new global XCO <sub>2</sub> data set created with the FOCAL v10 retrieval algorithm for the OCO-2 satellite	Maximilian Reuter et al.
578	64436	Methane and carbon dioxide retrievals from airborne and space borne observations in the short-wave infrared	Philipp Hochstaffl et al.
579	63977	A Python software library for "Data-Driven Emission Quantification" (ddeg) of cities and point sources in satellite images	Gerrit Kuhlmann et al.
580	65338	Reducing uncertainties in annual CO <sub>2</sub> point source emission estimates from CO <sub>2</sub> M CO <sub>2</sub> and NO <sub>2</sub> images using computer vision techniques and multi-plume models	Erik Koene et al.
581	66707	Simulations of improved glint observations over snow for CO <sub>2</sub> M	Antti Mikkonen et al.
582	64092	Analyzing local carbon dioxide and nitrogen oxide emissions from space using statistical methods: An application to the synthetic SMARTCARB dataset	Janne Hakkarainen et al.
583	67209	Assessing the aerosol impact on satellite retrievals of CO <sub>2</sub> : a city-level and global perspective	Anu-Maija Sundström et al.
584	67143	Greenhouse gas measurements at Sodankylä, Finland and comparisons with satellite borne observations	Rigel Kivi et al.
585	67260	Volcanic Carbon Dioxide Point Source Retrieval by using PRISMA Hyperspectral Data	Claudia Spinetti et al.
586	67186	Greenhouse gas observations from the Arctic Observing Mission (AOM)	Ray Nassar et al.
587	64133	High-resolution estimation of methane emissions from boreal and arctic wetlands using satellites	Yusef Albuhaishi
588	66030	Global methane retrievals from IASI	Diane Knappett et al.
589	66913	Trends of atmospheric CFCs and substitutes derived from 15 years of IASI measurements	Hélène De Longueville et al.
590	66801	The NERC Field Spectroscopy Facility Spectral Atmospheric Suite (SAS) -- a portable trace gas measurement network for GHG validation studies	Robbie Ramsay et al.
591	67116	CarbonCGI: a road map to observation of faint GHG source's emissions with high resolution observing system	Denis Siméoni et al.

**A1.09 EarthCARE: Preparing for the Scientific Mission Exploitation to Quantify the Impact of Clouds and Aerosols on Radiation**

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
592	67183	Alpha-lidar: Continuous Daytime Raman Depolarization Lidar for ESA Cal/Val	Livio Belegante et al.
593	64414	Introduction to the EarthCARE Payload Data Ground Segment	Christophe Caspar et al.

594	64731	Evaluation of the EarthCARE BBR Unfiltering product (BM-RAD)	Almudena Velazquez Blazquez et al.
595	63449	Progress in preparations towards monitoring and assimilation of EarthCARE observations at ECMWF	Marta Janisková et al.
596	63482	Daytime Polarization Calibration Using Solar Background Signal Scattered from Dense Cirrus Clouds in the Visible and Ultraviolet Wavelength Regime	Zhaoyan Liu et al.
597	63856	Using cloud-resolving model simulations to assess solar and thermal radiative flux estimation for the EarthCARE BBR instrument	Carlos Domenech et al.
598	63920	The Surface Longwave Cloud Radiative Effect derived from Space Lidar Observations	Assia Arouf et al.
599	64325	Analysis of vertical profiles of cloud properties from passive sensor based on the EarthCARE Simulator	Anja Hünerbein et al.
600	64447	An enhanced aerosol typing scheme applicable to ground- and space-borne lidars based on - the EarthCARE classification scheme HETEAC	Athina Avgousta Floutsi et al.
601	64851	EarthCARE-like payload on HALO – Lessons learned and plans for validation	Silke Groß et al.
602	65027	Understanding radar-lidar blind spots to constrain liquid cloud retrievals using solar radiances	Shannon Mason et al.
603	65083	Defining validation protocols for space-borne aerosol and cloud profile products	Eleni Marinou et al.
604	67193	Towards the investigation of radiative effects in long-range-transported Saharan dust layers with EarthCARE	Manuel Gutleben et al.
605	65470	A synergistic product to optimize EarthCARE's joint radar and lidar observations when probing the atmosphere	Abdanour Irbah et al.
606	67414	On the feasibility of a field campaign to assess surface radiative closure based on EarthCARE and a dense network of radiative flux measurements	Hartwig Deneke et al.
607	66746	Evaluation of Solar Flux Estimates over Cloudy Oceans for the EarthCARE BBR Instrument Using a New Semi-Physical Angular Distribution Model	Nils Madenach et al.
608	67002	EarthCARE's MSI aerosol product	Nicole Docter et al.
609	65569	The ATLID-MSI synergy – Extending vertical information from the track to the swath	Moritz Haarig et al.

### A3.06 Biomass monitoring

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
367	66186	Blockchain Applications for Biomass Measurement and Deforestation Mitigation	Lakshya Datta et al.
369	63833	ESA Forest Carbon Monitoring project – How to improve the usability of Earth Observation based approaches for users' evolving requirements in forest biomass	Jukka Miettinen et al.
370	64039	A CNN-based approach for forest parameter regression by fusion of Sentinel-2 and TanDEM-X data	Daniel Carcereri et al.
371	64619	The 1st ESA CCI Biomass Change Workshop – Outcomes of a global virtual event	Carsten Pathe et al.
372	67349	Remote sensing monitoring system to trigger payments for environmental services via CO2 offsetting	Melissande Machefer et al.
373	63326	Multi-sensor mapping of aboveground biomass in the Chaco reveals major underestimations of dry forest carbon stocks in global maps	Matthias Baumann et al.
374	65263	Multitemporal comparisons between GEDI Lidar products and SMOS L-VOD retrieved by the latest version of level 2 algorithm	Cristina Vittucci et al.
375	67372	Fusion of GEDI with satellite interferometric SAR for high resolution monitoring of woody vegetation structure and biomass	John Armston et al.
376	65541	Use of tree cover and tree height datasets to estimate global forest above-ground biomass	Alexandre Bouvet et al.
377	67381	The Birth of a Regenerative Society: An Earth Observation Approach to Agroforestry and Biomass Monitoring	Lauren Connor et al.

378	67247	Remote Sensing of Tropical Forage Quantity and Quality – Assessment of Feature Selection Approaches, Algorithms and Metalearners	Mike Zwick et al.
379	63928	Crop biomass estimate using Sentinel-1 and COSMO-SkyMed data in Italy	SIMONETTA PALOSCIA et al.
380	67220	Exploring capabilities of modelling forage provision using field spectroscopy and UAV imagery in a semi-arid rangeland	Florian Männer et al.
381	62556	Modelling of forest aboveground biomass from satellite optical and radar observations	Barbora Navratilova et al.
382	63598	Mapping surface fuels in temperate forests using multispectral satellite and LiDAR data	Pia Labenski et al.
383	64098	Toward a UK Fire Danger Rating System (FDRS): Understanding fuels, fire behaviour and impacts	Ana Maria Pacheco-Pascagaza et al.
384	62754	the potential of SMOS L-VOD for post-fire monitoring of dense forests	Emma Bousquet et al.
385	65548	An evaluation of the synergy of satellite passive and active microwave observations between 1.4 and 36 GHz, for vegetation characterization over the Tropics	Catherine Prigent et al.
386	63466	Estimating the vertical distribution of above-ground biomass in tropical forests by combining spaceborne lidar and TomoSAR observations	XIAO LIU et al.
387	67360	The outcomes of the ESA MULTI ACTOR FOREST INFORMATION SERVICE (MAFIS) project about the application of L-band SAR, Sentinel-2 and LiDAR data in retrieving	Matteo Picchaini et al.
388	63266	Estimation of Woody Above Ground Biomass of Savanna Vegetation with Terrestrial Laser Scanning and 3D Reconstructions	Tasiyiwa Priscilla Muumbe et al.
389	64358	Hemiboreal forest growing stock estimation by airborne and satellite stereo imagery	Grigorijs Goldbergs
390	64843	Generating satellite-based aquatic vegetation maps for carbon storage estimation using Bayesian statistics	Sakari Väkevä et al.
391	65654	Russian case study: validation and calibration of the global biomass maps	Dmitry Schepaschenko et al.
392	67415	Above ground biomass and above ground carbon fluxes of the tundra permafrost landscape in the Lena River Delta, Siberia (Russia)	Birgit Heim et al.

#### A5.02 The role of Earth Observation in climate services

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
401	65497	The CCI Open Data Portal: Recent Developments and Lessons Learnt	Alison Waterfall et al.
402	65607	ESA CCI High Resolution Land Cover Products	Lorenzo Bruzzone et al.
403	65610	Earth observation of burned area to improve emissions estimations: The FireCCI products	Emilio Chuvieco et al.
404	64535	Operalization of ESA CCI Soil Moisture in the Copernicus Climate Change Service	Pietro Stradiotti et al.
405	67070	Copernicus Climate Change Service (C3S): Surface albedo, LAI, faPAR, Land Cover and Fire	Michal Moroz
406	64660	Copernicus Services at ECMWF: A European Operational Response to Environmental Policies and Action	Jean-Noel THEPAUT et al.
407	64896	EUMETSAT's SAF Network and its climate data records	Lothar Schüller
408	65824	Satellite-based Sea Surface Salinity for improving the knowledge of the role of sea ice in the polar regions and global climate system	Estrella Olmedo et al.
409	63790	GravIS Portal: User-friendly Global Mass Variations from GRACE and GRACE-FO	Eva Boergens et al.
410	64299	Multi-sensor ice surface temperature for the Greenland Ice Sheet	Ioanna Karagali et al.
411	63717	Tracking Earth's ice imbalance with satellite observations for climate services	Thomas Slater et al.

412	64247	A new MODIS-based global lake ice cover data record (2000-2020): A contribution to ESA's Lakes_cci project	Yuhao Wu et al.
413	64054	From pixels to trends - How to use Earth observation data for climate change indicators in lakes	Katja Kuhwald et al.
414	65451	Near-real time observations of Lake Surface Water Temperature using Sentinel 3A/3B data for Copernicus Global Land Service (CGLOPS)	Laura Carrea et al.
415	65401	Multivariable global lake dataset for climate applications from the first phase of European Space Agency Climate Change Initiative	Laura Carrea et al.
416	63720	Improvements in satellite rainfall estimation for enhanced long-term rainfall monitoring and early warning over Africa	Ross Maidment et al.
417	64017	The International Soil Moisture Network: an open source in-situ soil moisture database serving the EO climate community for over a decade	Irene Himmelbauer et al.
418	64161	Fitness of satellite and reanalysis products to monitor the snow-albedo feedback	Ruben Urraca et al.
419	64563	Towards a consistent data record of Total Column Water Vapor (TCWV) and Wet Tropospheric Correction (WTC) from 30+ years of multi-satellite Microwave	Ralf Bennartz et al.
420	64232	Monitoring changes in Earth's surface temperature from satellite data over the period 2003-2021	José A. Sobrino et al.
421	62854	Role of rural land cover and temporal dimension on the Surface Urban Heat Island intensity	Alexandra Hurduc et al.
422	64168	Revisiting the Seasonality of Surface Urban Heat Islands	Panagiotis Sismanidis et al.
423	64767	Forest Flux - Cloud service for mapping forest structural variables and carbon assimilation	Tuomas Häme et al.
424	64813	Refining and Validating a Surface Water Flood Forecasting System Using Sentinel 1 SAR data	Emma Dodd et al.
425	64993	Global to local risk assessment for agricultural commodities by integrating different sources of climate, weather and satellite data into an operational web service	Gunther Schorcht et al.
426	65068	Quality assessment of ozone Climate Data Records from ESA's Climate Change Initiative (Ozone_cci+) for the Copernicus Climate Change Service (C3S)	Arno Keppens et al.

#### A5.05 Monitoring Anthropogenic Greenhouse Gas Emissions from Space

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
560	65371	WMO and GCOS – facilitating observations and leveraging data exchange for climate and greenhouse gas monitoring	Kenneth Holmlund et al.
561	63497	OCO-3 Mission Status, Scientific Findings, and Plans for the Final Year	Abhishek Chatterjee et al.
562	65245	A sequential aerosol – CO2 retrieval approach for the CO2M mission	Antonio Di Noia et al.
563	66501	Methane point source detection and quantification from high-resolution satellite observations and deep learning methods	Cristina Ruiz Villena et al.
564	66774	One year of greenhouse gas column concentrations from the London Carbon Emissions Experiment	Neil Humpage et al.
565	67158	Assessments of in situ and remotely sensed CO2 observations in a Carbon Cycle Fossil Fuel Data Assimilation System to estimate fossil fuel emissions	Marko Scholze et al.
566	66794	A new generation of airborne imaging spectrometer systems for accurate mapping of atmospheric CO2 and CH4 concentrations – status and perspectives	Heinrich Bovensmann
567	64543	Global inversion of CH4 emissions using the Integrated Forecasting System	Joe McNorton et al.
568	65149	Quantification of local methane emissions over Middle East with TROPOMI	Mengyao Liu et al.

#### A6.02 Upper/Lower Atmosphere Processes, Coupling and Ion-Neutral Interactions

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
527	66814	Coupling of electromagnetic waves between the magnetosphere and the topside ionosphere: new proposed science targets for the NanoMagSat mission	Ondrej Santolik et al.

529	65515	Terrestrial drivers of rapidly changing plasma structures observed with the International LOFAR Telescope	Alan Wood et al.
530	65482	Interaction between the general circulation of the middle atmosphere and solar forcing in the long-term development of UMLT temperatures over Europe	Carsten Schmidt et al.
531	64222	Minor ions in the high-latitude ionosphere and their impacts ion-neutral coupling	Victoria Foss et al.

#### A7.01 Inland Water Storage and Runoff: Modeling, In Situ Data and Remote Sensing

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
319	63780	Including hydrology in satellite-derived flood mapping	Arjen Haag et al.
320	65294	Observing river plume dynamics from space	Avelon Gerritsma et al.
321	64332	Mapping flood extent and frequency from Sentinel-1 imagery during the extremely warm winter of 2020 in Boreal floodplains and forests	Liis Sipelgas et al.
322	63538	Forecasting of River Runoff and Sediment Deposition with Methods of EO4AI for Fairway Modification Prediction	Mariana Damova et al.
323	63701	Satellite observation of freshwater ice: From physics to people's safety	Elena Zakharova et al.
324	64800	Monitoring of the seasonal snowpack with satellite photogrammetry	César Deschamps-Berger et al.
325	67128	Zero isochion in Czechia derived by using Sentinel-2 data	Ondrej Ledvinka et al.
326	64860	Global satellite-based flood mapping from a Sentinel-1 SAR datacube: The TU Wien Algorithm	Florian Roth et al.
327	64478	Water Level Changes in Small Lakes Using The accumulated Phase Change of Coherent Pixels from DInSAR	Saeid Aminjafari et al.
328	62942	Assimilation of SAR-Derived Flood Extent Maps for Improving Fluvial Flood Forecast	Thanh Huy Nguyen et al.
329	65121	Towards the global HydroSHEDS-X dataset – DEM pre-processing for the derivation of rivers and catchments	Leena Warmedinger et al.
330	63353	Dealing with Training Data Paucity: One-class versus Binary Classifiers for SAR-based Flood Detection	Clara Löbl et al.
331	63894	Exploitation of satellite soil surface moisture data (ESA-CCI) for modelling rainfall-runoff in semi-arid catchment (High Atlas of Morocco).	Myriam Benkirane et al.
332	63907	Hydrological Regime of Sahelian Small Water Bodies from Combined Sentinel2 MSI and Sentinel3 SRAL Data	Mathilde de FLEURY et al.
333	64564	Application of Sentinel-2 and Landsat time series for sub-pixel river morphology monitoring	Liza Stančič et al.
334	65001	Inclusion of animal burrowing activity into remote sensing based numerical models – a study revealing the potential and importance of modelling feedbacks between	Paulina Grigusova et al.
335	63836	Enhancing hydrological model output by joint satellite data assimilation	Kerstin Schulze et al.
336	63960	Spaceborne river discharge from a nonparametric stochastic quantile mapping function	Omid Elmi et al.
337	63988	Assimilation frameworks for merging freely available satellite data with large-scale models	Maike Schumacher et al.
338	64986	Integrating satellite SAR time series and hydrological modelling to inform of soil moisture at the field scale	Belen Marti et al.
339	66885	Evaluating SWAT Model for Streamflow Estimation in the Semi-Arid Okavango-Omatako Catchment, Namibia	Kaleb Gizaw Negussie et al.
340	64167	REMOTE SENSING OF SOIL MOISTURE FOR AGRICULTURAL AREAS USING SPATIAL AND TEMPORAL HIGH-RESOLUTION SENTINEL-1 SAR TIMESERIES IN GOOGLE EARTH	David Mungen et al.
341	67095	Identification of lumped rainfall-runoff models of large drainage basins for satellite data assimilation	Karim Douch et al.

342	67130	Estimation of inter-satellite and inter-track biases of satellite altimetry missions over lakes and reservoirs using surface area from satellite imagery	Mohammad J. Tourian et al.
343	61910	Improving SAR Altimeter processing over Inland Water - the ESA HYDROCOASTAL project	David Cotton et al.
344	65052	FDR4ALT Inland Water Thematic Data Record for water level monitoring	Angelica Tarpanelli et al.
345	62364	DREAMing of River Basins	Philippa Berry et al.
346	63249	DAHITI - Next generation of water level time series of inland waters	Christian Schwatke et al.
347	63659	Capacity of on-going satellite altimetry missions for monitoring water resources on country scale. Case study of Republic of Ireland.	Elena Zakharova et al.
348	65898	Nadir altimetry over land: achievements using the Open-Loop Tracking Command (OLTC) and benefits for inland water users	Sophie Le Gac et al.
349	63798	Water Extent Measurements with Sentinel-6 Radar Fully-Focussed SAR Data	Charlie McKeown et al.
350	64034	Swath processing for inland water: a first assessment	Alessandro Di Bella et al.
351	64091	Using GRACE-based assimilation for the revision of modeled water – vegetation dynamics	Helena Gerdener et al.
352	64421	FFSAR replica removal algorithm for closed-burst data	Samira Amraoui et al.
353	64601	Quality Flag and Uncertainties over Inland Waters	Beatriz Calmettes et al.
354	63854	Estimating reservoir bathymetry from DEM with deep learning	Christophe Fatras et al.
355	64923	Correcting GEDI's water surface elevation estimates using Instrumental, atmospheric, and water state variables	Ibrahim Fayad et al.
356	65086	Automatic Multiscale-based Peak Detection Retracker using Physically-based model Fitting (AMPDR-PF): a new approach to improve river level estimation	Jiaming Chen et al.
357	65628	The Aresys FF-SAR Service for Cryosat-2 at ESA's Altimetry Virtual Lab	Michele Scagliola et al.
358	65572	Towards the provision of operational FRM measurements for Sentinel-3 over inland water: procedures, protocols and roadmap	Jean-Christophe Poisson et al.
359	66419	Innovative system for a hydrological large-scale database	Jean-Christophe Poisson et al.
360	66484	Reconstructing river water level time series from multi-mission satellite altimetry – reach based methods	Karina Nielsen et al.
361	66948	High resolution satellite altimetry for river level estimation	Heidi Ranndal et al.
362	63865	Informing regional 1D/2D flood inundation models with Icesat-2: A case study in the Amur river	Monica Coppo Frias et al.
363	66883	Water height change and climate in central Europe	Luciana Fenoglio-Marc et al.
364	67320	Automated processing of altimetry-derived river water levels at global scale - Design & first results from a new L3 processor	Bercher Nicolas et al.

#### A7.05 InSAR for the groundwater management

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
262	63204	Nation-wide characterisation of actively subsiding basins in Iran using 7 years of Sentinel-1 InSAR time series analysis	Jessica Payne et al.
263	63688	The contribution of A-DInSAR Time Series analysis for land subsidence characterization	Laura Pedretti et al.
264	66418	Using SBAS and PS-InSAR techniques to unravel land deformation and characterise the groundwater resources of N'Djamena, Chad	Michelle Rygus et al.

265	64087	Literature trends of subsidence analysis using satellite interferometry	Davide Festa et al.
266	64181	Mapping land subsidence and aquifer system properties of the Willcox Basin, Arizona, from InSAR observations and hydraulic head data	Mimi Peng et al.
267	64418	Ground deformation analysis for a sustainable groundwater abstraction management using InSAR techniques	Fabian Stoffner
268	64820	Determination of aquifer-system parameters in San Luis Potosí Valley (México) from space using PS-InSAR	María Navarro-Hernández et al.
269	65381	Analysis of large-gradient land subsidence in the Alto Guadalentín Basin (Spain) using LiDAR data	Liuru Hu et al.
270	65036	EXPLORING LAND SUBSIDENCE WITH A-DINSAR THEMATIC APPS OF THE GEOHAZARDS PLATFORM	Guadalupe Bru et al.
271	64359	Phasing out long term industrial groundwater pumping in Delft, Netherlands	Jennifer Scoular et al.
272	67429	Detection of land subsidence in the city of Recife/Brazil induced by groundwater withdrawal using SAR interferometry	Wendson de Oliveira Souza et al.

#### A7.06 EO for monitoring water quality and ecological status in inland waters

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
275	66745	Satellite retrieval and validation of bio-optical water quality products in Ramganga river, India	Veloisa Mascarenhas et al.
276	65344	Exploring Sentinel-3 based water monitoring for assessing seasonal and spatio-temporal dynamics of the largest lake in the Caucasus region, Lake Sevan	Azatuhi Hovsepyan et al.
277	65195	Monitoring the Greenness of Lakes from Space: Links between Water Quality and Human Health	Marloes Penning de Vries et al.
278	65261	Spatial variability of water reflectance in Sahelian lakes and reservoirs: perspectives for monitoring water quality at the regional scale by Sentinel2	Manuela Grippa et al.
279	66617	Evaluating Simulated SWAT+ Trends of Sediment Loading with Remote Sensing Lake Turbidity Data for Lake Tana Basin	albert nkwasa et al.
280	65549	Deriving DOC concentrations in tropical black waters from remote sensing data - the case study of Petit-Saut reservoir.	Arthur Coqué et al.
281	65483	Optical classification of inland waters using remote sensing: a synthesis of current research and future opportunities	Emma Tebbs et al.
282	65582	Drone image processing for water quality in the cloud	Liesbeth De Keukelaere et al.
283	66159	MAPAQUALI - Customizable modular platform for continuous remote sensing monitoring of aquatic systems	Claudio Barbosa et al.
284	66649	Quantum yield estimates from in situ spectroradiometer measurements and its implications on remote sensing of sun-induced fluorescence in lakes	Remika Gupana et al.
285	66509	Characterization of colored dissolved organic matter (CDOM) by remote sensing reflectance, excitation–emission matrix fluorescence and parallel factor analysis	Igor Ogashawara et al.
286	67235	Web-based applications to visualize and query time series of lake water quality maps for SIMILE project	Juan Fernando Toro Herrera et al.
287	65662	Introduction to the Copernicus Assisted Lake Water Quality Emergency Monitoring Service - WQeMS	Ioannis Manakos
288	67178	Lakes' geometrical and bio-optical properties determine the feasibility to derive water quality information using Sentinel-2 MSI data	Nikolay Moshenskiy et al.
289	66935	Earth Observation-based cyanobacterial bloom index testing for ecological status assessment in the coastal and transitional waters of the Baltic and Black Seas	Diana Vaičiūtė et al.
290	67361	The thaw lakes and drained thaw lakes in the Yamal peninsula 1961 – 2018, impacts on land cover change and reindeer herding	Timo Kumpula et al.
291	65399	Uncertainty characterization and mitigation of inland water remote sensing reflectance using an autonomous profiler: The case of Lake Geneva	Abolfazl Irani Rahaghi et al.
292	65332	Combining in situ measurements with ground based, space- and airborne reflectance measurements to investigate signal transport along river-connected	Sabine Wollrab et al.



293	65038	Observing intertidal vegetation using complementary data from ESA Sentinel-2 and Unpiloted Aerial Vehicles	Mark Warren et al.
294	65302	Chlorophyll-a concentrations and water quality monitoring of French inland waters using satellite data from MSI Sentinel 2 and OLI Landsat 8. Recent improvements	Guillaume Morin et al.
295	64956	Actionable information on Cyanobacteria in inland waters from a combination of EO data and optical in-situ sensors	Steeff Peters et al.
296	64637	Optical detection of harmful algal blooms in the Belgian coastal zone: A cautionary tale of chlorophyll $c_3$	Alexandre Castagna et al.
297	64717	Validation of Sentinel-3 Chlorophyll-a products in Mediterranean coastal lagoons	Carolina Tenjo et al.
298	62040	IMPACT OF SPECTRAL RESOLUTION ON QUANTIFYING CYANOBACTERIA IN LAKES AND RESERVOIRS: A MACHINE-LEARNING ASSESSMENT	Kiana Zolfaghari et al.
299	63377	Estimation of the biogeochemical properties in European lakes based on remote sensing, meteorological factors and catchment characteristics	Kaire Toming et al.
300	62951	Supporting data-intensive algorithm development approaches through a globally representative hyperspectral in situ dataset from inland and coastal waters: A	Daniela Gurlin et al.
301	63117	Supervised Machine Learning for Optical Water Types Classification in Lakes	Ana Belen Ruescas et al.
302	63143	Addressing the uncertainties associated with remotely sensed chlorophyll-a in oligotrophic and mesotrophic lakes and reservoirs	Mortimer Werther et al.
303	63514	Advanced water quality monitoring of optically variable lake systems using S2/MSI and L8/OLI imagery in an automated high performance computing environment	Leif Olmanson et al.
304	64429	Operational modeling and forecasting of bio-physical properties in alpine lakes	Marina Amadori et al.
305	64158	Monitoring chlorophyll-a dynamics from Sentinel-2 imagery in high-mountain lakes	Joana Maria Llodrà-Llabrés et al.
306	63872	Water quality monitoring and status assessment of Finnish lakes	Jenni Attila et al.
307	64794	Water Quality Emergency Monitoring Services for Lake Pien-Saimaa in Finland	Eeva Bruun et al.
308	63949	Cyanobacterial bloom parameters in large eutrophic Lake Peipsi: a view from Sentinel 3	Kersti Kangro et al.
309	64300	Consistency of six in situ, in vitro and satellite-based methods to derive Chlorophyll a in two optically different lakes	Krista Alikas et al.
310	64118	Multitemporal Monitoring of the impact in water quality of Lake Timsah, Ismailia (Egypt), after the construction of the New Suez Canal with the exploitation of	Marianthi Karantzia et al.
311	64128	ACIX-Aqua: A global assessment of atmospheric correction methods for Landsat-8 and Sentinel-2 over lakes, rivers, and coastal waters	Antoine Mangin et al.
312	64152	On the potential of satellite Earth Observations for detecting regimes shifts in lakes	Elisa Calamita et al.
313	64195	Remote sensing of inland water quality works! But why is it hardly used by managers and authorities?	Karsten Rinke et al.
314	64258	AquaWatch Australia: an aquatic ecosystem continental integrated observing system with global applications	Arnold Dekker et al.
315	64578	Development of Water Quality Indicators for Transitional Waters using Sentinel Data	Ana C. Brito et al.
316	64778	Impact of sediment mineralogy and size distribution on forward modeling and inversion scheme for retrieval of optically active water constituents in moderate to	Tristan Harmel et al.
317	64897	Detection of Oil Spills in an Inland Lake using Multi-Spectral Satellite Images	Damianos Mantsis et al.

#### A8.07 Oceanographic Change of the Arctic Ocean From Space

Board	ID	Title	Author
474	64560	Steric sea level in the Arctic for closing the Arctic Sea Level Budget	Carsten Bjerre Ludwigsen et al.

475	66689	Exploring machine learning techniques to retrieve sea surface temperatures from passive microwave measurements with a focus on the Arctic	Pia Nielsen-Englyst et al.
476	66755	A combined Sea and Ice Surface Temperature climate data set for the Arctic Ocean	Pia Nielsen-Englyst et al.
477	64007	Investigating temporal variability in Arctic storm surges using SAR altimetry	Inger Bij de Vaate et al.
478	64132	Impact of the sea ice friction on ocean tides in the Arctic Ocean, modelling insights at various time and space scales	Mathilde Cancet et al.
479	65180	Detecting Arctic sea ice openings with Cryosat-2 InSAR observations as a basis for improved ocean surface circulation monitoring	Tadea Veng et al.
480	63995	Exploitation of enhanced altimetry datasets for investigating ocean mesoscale variability in the Nordic Seas	Antonio Bonaduce et al.
481	66817	Improved Arctic sea ice forecasting by combining ensemble Kalman filter with a Lagrangian sea ice model	Sukun Cheng et al.
482	63602	Meltwater lenses in the Chukchi and the Beaufort Seas during summer 2019 : from in-situ to synoptic view.	Alexandre Supply et al.
483	65070	Fresh Water fluxes from Iceberg (	Jean Tournadre
484	64915	MW / IR intercomparison campaign for the establishment of a SST skin-subskin relation	Sotirios Skarpalezos et al.
485	67426	Arctic sea surface temperatures - importance, challenges and solutions	Andrew Harris
486	62867	Modeling of phytoplankton primary production in the Greenland Sea using satellite data	Rustam Manurov
487	62538	Salinity Retrievals near the Sea-Ice Edge using Multi-Spectral Channel Information from SMAP and AMSR2	Thomas Meissner et al.
488	66278	Key drivers of interannual variability in the Laptev Sea from satellite based sea surface salinity	Phoebe Hudson et al.
489	64085	Towards the coupled assimilation of satellite radiances: Assimilating CIMR brightness temperatures in an atmosphere-ocean coupled variational analysis	Andrea Storto et al.

#### A8.10 Ocean Doppler: Challenges and Opportunities for Future Missions of Global Ocean Surface Currents

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
468	63552	Simulation of Doppler shift from sea surface: preparation for the next-generation ocean observation satellite	Huimin Li et al.
469	63714	Results of a Ground-based Coastal Campaign Targeting Sea Surface Doppler Measurements at X/Ku-band Using Signals of Opportunity	Serni Ribó et al.
470	64555	Towards reliable ocean surface current retrievals from the Sentinel-1 Doppler shift in the coastal zone	Artem Moiseev et al.
471	64701	Exploring the opportunities of geostrophic current observations from space in the joint estimation of mean dynamic topography and geoid undulation	Christian Neyers et al.
472	65701	System design and Doppler measurement error analysis of scatterometer onboard OSCOM	Di Zhu et al.
473	62925	Simulation of Ocean Surface Wave from a Space-borne Scatterometer	Xingou Xu et al.

#### A8.13 Remote-sensing of Ocean Winds and Stress

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
438	62914	Improvement of the Ku-band Winds in Rainy Regions by a Support Vector Machine Method	Xingou Xu et al.
439	63220	A calibrated coastal SAR winds dataset in the Australian region	Salman Saeed Khan et al.
440	64043	Retrieving QuikSCAT winds closer to the coast	Giuseppe Grieco et al.
441	63448	Sea surface wind estimation by multi-frequency SAR imagery	Ferdinando Nunziata et al.

442	63727	Analysis of sea surface wind estimated using scatterometer-based GMFs and azimuth cut-off	Ferdinando Nunziata et al.
443	64000	SeaWinds Normalized Radar Cross Section noise characterization for improved coastal processing	Giuseppe Grieco et al.
444	64037	Characterization different scattering mechanisms using SAR Polarimetry for the improvement of SAR wind retrieval processing	Abdalmenem Owda et al.
445	64269	Science and Applications of Measurements From the STP-H8 Satellite Mission	Tong Lee et al.
446	65437	On the impact of SMOS and SMAP wind on the wave forecasting under cyclone conditions	Lotfi Aouf et al.
447	63237	Operational EUMETSAT Satellite Products and Services for Oceanography: Status and Outlook	Estelle Obligis et al.
448	65565	From ASCAT winds to ASCAT surface stress information	Giovanna De Chiara et al.
449	67046	Factors Affecting Altimeter Sigma0	Graham Quartly

#### A8.14 Remote-sensing of Ocean Waves and their Applications

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
450	64165	Spatial assessment of wind-wave coupling in the western Gulf of Mexico	Guillermo Díaz Méndez et al.
451	64248	Satellite observation-based weighting scheme for CMIP-derived ocean wind-wave climate models	Alberto Meucci et al.
452	66926	Up to date ocean surface wave information around Australia	Salman Saeed Khan et al.
453	64453	Extraction of wave characteristics from optical satellite imagery. Application to the production of coastal bathymetry from Sentinel-2 data.	Rana El Arayeh et al.
454	66959	Wave observations with the Earth Explorer 10 candidate Harmony	Marcel Kleinherenbrink et al.
455	63915	On the joint use of wide swath Significant wave height and directional wave spectra for global wave forecasting	Lotfi Aouf et al.
456	62491	IMPLICATIONS OF MOMENTUM TRANSFER ASSOCIATED WITH SYNTHETIC APERTURE RADAR DETECTED NONLINEAR INTERNAL WAVES	Samantha Furtney et al.
457	62970	Multiparametric Sea State from spaceborne Synthetic Aperture Radar and Sentinel-1 Wave Mode Archive Processing in Scope of ESA Climate Change Initiative CCI	Andrey Pleskachevsky et al.
458	63259	Swell detection from fully-focused SAR altimetry data	Ourania Altiparmaki et al.
459	63560	Tracing the decaying swell across Pacific with CFOSAT SWIM data	Xiaoyu Sun et al.
460	64287	Wave modifications around ocean frontal currents: propagative vs dissipative effects	Nicolas Gilles Rasclé et al.
461	64445	CFOSAT-base Swell Forecast System	ALBA RICONDO et al.
462	64621	CryoSat-2 significant wave height in the Arctic Ocean derived using a semi-analytical model of Synthetic Aperture Radar 2011-2021	Harry Heorton et al.
463	66497	Towards high resolution altimetry wave products: what is hidden below 50km? A multimission approach	Annabelle Ollivier et al.
464	65140	Integration of Sentinel-6 wave measurements in WAVE-TAC Copernicus Marine Service	Elodie Charles et al.
465	67493	Exploring SWIM and Sentinel-1 wave spectra measurements complementarities	Romain Husson et al.
466	65760	De-ramping of SLC-IW TOPS data and Ocean Circulation Parameter Estimation	MUHAMMAD AMJAD IQBAL et al.
467	66823	Is anthropogenic climate change detectable in multi-mission sea state altimeter products ?	Antoine Hochet et al.

#### A9.04 Mass Balance of the Cryosphere

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
490	65326	Spatio-temporal patterns in Antarctic firn thickness variations from satellite altimetry and modelling	Maria Theresia Kappelsberger et al.
491	62858	Arctic land ice committed mass loss of from Sentinel-3 optical retrievals and GRACE gravimetry	Jason Box et al.
492	65427	Cryo-TEMPO: Improving Ice Sheet Elevation Measurements for Mass Balance Studies	Alan Muir et al.
493	67447	Sentinel-3 Land STM MPC: Performance of the Sentinel-3 Surface Topography Mission for monitoring ice sheet elevation and mass balance	Malcolm McMillan et al.
494	65552	Monitoring accumulation rates over the Greenland Ice Sheet using satellite radar altimetry.	Jenny Maddalena et al.
495	66869	Investigating the Applications of Singular Spectrum Analysis for Satellite Altimetry Derived Surface Elevation Change Time Series over Ice Sheets	Robert Wassink et al.
496	63481	Mapping the grounding lines of Greenland's floating ice tongues using high-resolution digital elevation models	Laura Melling et al.
497	63848	New approaches to monitoring marine-terminating glaciers with complex terrain using satellite radar altimetry	Qi Huang et al.
498	63031	Antarctic Grounding Zone Distributions and Migrations from ICESat-2 Laser Altimetry	Tian Li et al.
499	65404	Mapping the grounding line of Antarctica in SAR interferograms with machine learning techniques	Sindhu Ramanath Tarekere et al.
500	64198	Glacier changes along the Antarctic Peninsula derived from multimission remote sensing data	Thorsten Seehaus et al.
501	65738	InSAR grounding line mapping with the TSX/TDX/PAZ constellation for fast Antarctic glaciers	Lukas Krieger et al.
502	65754	Considerations on short- and long-term grounding line migration assessment in Antarctica	Dana Floricioiu et al.
503	63233	Detecting ice sheet dynamical imbalance using satellite and meteorological records	Nitin Ravinder et al.
504	64062	Getz on the run: 25 years of mass imbalance in the Getz region West Antarctica	Heather L Selley et al.
505	64176	Observations of Ice Velocity on the East Antarctic Ice Sheet with Sentinel-1	Sally Wilson et al.
506	64177	Ice velocity measurements in the Amundsen Sea Sector of West Antarctica using Sentinel-1, from late 2014 to 2021	Ross Slater et al.
507	61502	Ice Sheet Subsurface Density from Polarimetric and Interferometric SAR	Georg Fischer et al.
508	67167	Can ice velocity changes be detected in interior Greenland? - an assessment of ice velocities derived from satellite data by GPS in the Northeast Greenland Ice Stream	Christine S Hvidberg et al.
509	63535	Advancements in Monitoring of Ice Velocities and Discharge for Polar Ice Sheets and Ice Caps by Sentinel-1	Thomas Nagler et al.
510	63768	Monitoring of Surface Melt Processes in Greenland and Antarctica using Sentinel-1 SAR and Metop ASCAT backscatter time series	Jan Wuite et al.
511	65462	Extent of ice flow changes in the North East Greenland Ice Stream as seen by Sentinel-1 DInSAR time series	Jonas Kvist Andersen et al.
512	65059	The effect of ice mask differences on SMB estimates, resulting input-output mass balance inconsistencies, pinpointed by GRACE over the Antarctic ice sheet	Nicolaj Hansen et al.
513	65226	Impact of different retrieval methodologies and snow depths on altimetry-based estimations of pan-Arctic sea ice thickness, and sea ice outflow and freshwater	Renée Mie Fredensborg Hansen et al.
514	66938	Greenland ice sheet changes from space – two decades of rapid improvements by new satellite missions and processing methods	René Forsberg et al.
515	63224	Mapping Surface and Sub-Surface Ice Sheet Melt Water using Spaceborne Multi-frequency Microwave Radiometry	Andreas Colliander et al.

516	65177	Advanced melt indicators from passive microwave satellite observations in Antarctica	Marion Leduc-Leballeur et al.
517	63853	Examining extreme precipitation events from satellite altimetry	Sebastian Bjerregaard Simonsen et al.
518	64489	Satellite and Tower-based SAR Observations of Freezing Canopy and Soil – Improving Freeze/Thaw Detection in Boreal Forests	Juval Cohen et al.
519	65135	Operational SMOS freeze and thaw service	Kimmo Rautiainen et al.
520	62697	Surface lake depths on an Antarctic Ice Shelf: comparing in-situ measurements with ground and satellite multispectral methods	Ian Willis et al.
521	63376	Antarctic ice-shelf advance driven by anomalous atmospheric and sea-ice circulation	Frazer Christie et al.
522	63401	Seasonal land ice-flow variability across the Antarctic Peninsula	Karla Boxall et al.
523	66739	Ice-Ocean-Atmosphere Interactions in the Arctic: Svalbard Case Study	Morag Fotheringham et al.
524	66851	From glacier to icebergs	Till Andreas Soya Rasmussen et al.
525	67147	Monitoring ice-calving at the Astrolabe glacier (Antarctica) with seismological and Sentinel-2 satellite data	Floriane Provost et al.

#### B1.01 SI-Traceable Satellites - a Gold Standard for Climate and Intercalibration

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
427	63198	Scene Generator Module for the TRUTHS Climate Mission	Daria Larcher et al.
428	65436	A Metrological Approach to Uncertainty Analysis for the TRUTHS Satellite Mission	Jacob Fahy et al.
429	67156	Metrology for Earth Observation: the European Metrology Network for Climate and Ocean Observation	Emma Woolliams et al.
430	64918	How SI-Traceable Satellites may support the net zero agenda	Anna Pustogvar et al.
431	67171	Optimising the design of SITSats for on-orbit reference calibration of Earth-viewing sensors	Madeline Stedman et al.
432	65304	Application of SI-Traceable Satellite (SITSat) Reflected Solar-band Spectrometers to the Global Space-based Inter-Calibration System (GSICS)	Tim Hewison et al.
433	64975	Establishing an end-to-end uncertainty budget for surface reflectance pre-processing in CCI ECVs	Ralf Quast et al.
434	65821	The CEOS Cal/Val Portal: Calibration and Validation activities around space-borne sensors	Paolo Castracane et al.
435	64656	IASI radiometric error budget assessment and exploring inter-comparisons between IASI sounders using acquisitions of the Moon	Laura LE BARBIER et al.
436	62908	Towards FRM Standards with the CDN1 altimetry Cal/Val transponder in Crete	Stelios Mertikas et al.

#### B2.05 Swarm - ESA's Extremely Versatile Magnetic Field and Geospace Explorer

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
532	65132	Swarm Electric Field Instruments, processors and data quality: current status, future evolutions, scientific highlights	Roberta Forte et al.
533	65319	Swarm Magnetic Instruments: Data quality status and future evolutions	Nicola Comparetti et al.
534	64205	Quality Assessment and Features of the CASSIOPE/ePOP MGF product	Martin Rother et al.
535	64041	Swarm space weather related data products provided by GFZ within the Swarm DISC framework	Guram Kervalishvili et al.

536	67197	VirES & VRE for (not only) Swarm	Martin Pačes et al.
537	67455	Building tools and services supporting science with Swarm	Ashley Smith
538	63141	OPERATIONAL INNOVATIONS AND LESSONS LEARNED FROM SWARM REPROCESSING	Prabu Shanmugam et al.
539	63493	Coordination of ground based and in orbit multipoint measurements: comparison of magnetospheric and ground currents	Malcolm Dunlop et al.
540	62947	The Swarm “counter-rotating orbits” – Orbital dance in 2021	Giuseppe Albini et al.
541	62440	Precise orbits and thermospheric densities for the Swarm satellite mission	Jose van den IJssel et al.
542	62953	Improved radiation pressure modelling for the Swarm satellites	Natalia Anna Hładczuk et al.
543	65660	Self-calibrated absolute vector data produced by the ASM absolute magnetometers on board the Swarm satellites: results, availability and prospect	Gauthier Hulot et al.
544	64351	Machine Learning Techniques for Automated ULF Wave Recognition in Swarm Time Series	Georgios Balasis et al.
545	63601	Bayesian inversion of magnetic data: A sensitivity study of Australia	Yixiati Dilixiati et al.
546	64285	Extended Climatological Model of Non-Polar Geomagnetic Daily Variations	Arnaud Chulliat et al.
547	64519	Swarm accelerometers data processing and anomaly analysis	Sergiy Svitlov et al.
548	65348	Signatures of the global ocean circulation in geomagnetic secular variation and acceleration	Christopher Finlay et al.
549	65113	Recent progress in mapping ocean tidal magnetic signals with satellite data	Alexander Grayver et al.
550	64830	Geomagnetic Virtual Observatories for investigating sub-annual core field variation	William Brown et al.
551	67104	Irregular magnetic field fluctuations in the ionosphere; Analysis of the long-term high-frequency magnetic field record of the Swarm mission	Peter Kovacs et al.
552	65100	Swarm satellite mission for detection of pre-earthquake ionospheric anomalies	Angelo De Santis et al.

#### B6.01 National EO satellite missions

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
4	67731	Landsat 9, Continuing the 50-Year Landsat Program Legacy	Steven Labahn et al.
5	64727	ESA Third Party Mission Processing Campaigns for ALOS Optical, Landsat 5 TM and Landsat 7 ETM+	Fay Done et al.
6	66866	SMOS-HR (High Resolution): A proposal for a SMOS follow-on mission allowing spatial resolution improvement and RFI mitigation	Cécile Cheymol et al.
7	67438	Earth Observation Service Continuity	Patrick Plourde et al.
8	66534	Using VEN $\mu$ S SuperSpectral Camera (VSSC) for moving vehicle detection	Manuel Salvoldi et al.
9	66693	Polarimetric and interferometric signatures for change detection in agriculture using SAOCOM-1A Synthetic Aperture Radar images	Anne Orban et al.
10	63168	Precise Orbit Determination of the Spire Satellite Constellation for Geodetic, Geophysical, and Ionospheric Applications - Project Overview and First Orbit	Adrian Jäggi et al.
11	66698	LibGEO, Space imagery Geometry Library for Operational Missions and Expert Studies	Céline L'Helguen et al.
12	64273	Access to the SAOCOM mission over the ASI Zone of Exclusivity: features, approaches, results	Ettore Lopinto et al.

13	63987	Algorithms development and integration of multi-frequency SAR data from national and Copernicus missions towards scientific downstream applications	Deodato Tapete et al.
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#### B7.02 European New Space and CCM Activity

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
15	65234	The NovaSAR-1 satellite and the journey towards NovaSAR ARD	Electra Panagoulia et al.
16	64636	AIX space-edge services and app store	Cristoforo Abbattista et al.
17	65175	Paradigm shift of the CCM activity in the new space era: The EO operational challenges of moving from data provider towards downstream service and value-	Marco Mazzolena et al.
18	67216	Earthimages for Enterprises: a procurement and operations platform for multi-source imagery	Kim Partington

#### B7.03 New Space missions with small and nanosatellites

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
51	66843	GRASP-AirPhoton Multi-Angle Polarimeters (GAPMAP): Calibrated high information content measurements for atmospheric and surface products from a commercial	David Fuertes et al.
52	62819	The synthesis of PRETTY and GRAS	Heinrich Fragner et al.
53	63797	The multi-needle Langmuir probe on board NanoMagSat	Lasse B.N. Clausen et al.
54	66285	THEIA - Miniaturised Multispectral Imager with On-board Calibration	Hendrik Ehrpais et al.
55	65614	PHI-Sat-2: Onboard AI Apps for innovative Earth Observation techniques	Alessandro Marin et al.
56	65171	SATLANTIS' satellite missions roadmap to boost downstream applications for environmental sustainability	AINOA ZIARSOLO et al.
57	65293	MANTIS: A nano EO satellite for monitoring oil & gas energy supply chains	Nick Kellerman
58	65312	BlackSky: the new VHR EO mission with high revisit	Axel Oddone et al.
59	67064	Hot data from space - how Satellite Vu's high resolution thermal infrared satellite imagery will provide a new source of climate & environmental intelligence	Alex Gow
60	65363	Observation of O2 atmospheric A-band emission for temperature derivation in the mesosphere and lower thermosphere	Konstantin Ntokas et al.
61	64476	Triton-X - a state-of-the-art platform for low cost missions	Jeroen Buursink et al.
62	64204	Networks of CubeSats and their potential for gravity field retrieval in the frame of the CubeGrav Project	Nikolas Pfaffenzeller et al.
63	64328	EarthDaily Constellation - Delivering Daily Global Enterprise Grade Change Detection	Chris Rampersad et al.
64	65169	Open Constellation	Carlos Fernández de la Peña

#### C1.04 AI4EO applications for Land and Water

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
147	67311	Big Earth Observation Data Analysis using Satellite Image Time Series	Gilberto Camara et al.
148	66647	How Sentinel-2 acquisitions help in the fight of illegal gold mining	Béatrice Berthelot et al.
149	63161	Validation of Sentinel-2 Atmospheric Correction Using Radiative Transfer Models Emulators	Daria MALIK et al.
152	63374	Monitoring Ice Sheets using Satellite Altimetry and Deep Learning	Joe Phillips et al.

153	63765	Predicting Short and Long-term Sea Level Changes Using Deep Learning	Mads Ehrhorn et al.
154	63562	The benefits of EO super-resolution techniques in land applications: Monitoring cultural heritage sites with enhanced Sentinel-2 data	Mihaela-Violeta Gheorghe et al.
155	63683	Towards a circumpolar coastline characterisation based on Sentinel-1/2 and machine learning	Aleksandra Efimova et al.
156	64151	Monitoring three decades of center-pivot field dynamics in Saudi Arabia using a hybrid machine learning framework	Ting Li et al.
157	63181	Object-based Land Cover Mapping of Satellite Image Time Series via Attention-Based CNN	Dino Ienco et al.
158	63509	Land Use and Land Cover Classification using CNN Deep Learning Architectures	Luigi Selmi
159	63476	Studies on the validation of machine learning classification results from multitemporal, multispectral Sentinel-2 data using the example of agricultural crop	Hauke Hoppe et al.
160	66824	SYNERGETIC USE OF SENTINEL-1 AND SENTINEL-2 DATA FOR LARGE-SCALE LAND USE/LAND COVER MAPPING	Maximilian Hell et al.
161	65442	Distance to trees estimation on landscape photos using semantic segmentation and skyline variations	Laura Martinez-Sanchez et al.
162	67250	Benchmarking deep learning models for land cover classification with Sentinel-2 imagery	Ioannis Papoutsis et al.
163	64096	Large-scale machine learning techniques for vegetation traits estimation: opportunities for the CHIME mission	Ana Belen Pascual-Venteo et al.
164	63700	Understanding Neural Networks for Crop Yield Estimation	Anna Mateo-Sanchis et al.
165	67180	Updating the Walloon land cover map by operational application of supervised deep learning segmentation model	Damien Draime et al.
166	62401	AMAZON RAINFOREST MONITORING WITH TANDEM-X AND DEEP LEARNING STRATEGIES	José-Luis Bueso-Bello et al.
167	63901	Automatic machine learning for efficient forest classification service: from modelling to operational service	Helena Łoś Duarte et al.
168	65500	FieldFinder: instance segmentation of agricultural fields in high resolution optical satellite imagery	Liam Harris et al.
169	65682	Plant Vigor Assessment by Transfer Learning from Drone to Sentinel-2 Imagery for AI4Agriculture	Chandrabali Karmakar et al.
170	65236	In season fields delineation from Sentinel-1 time series using Convolutional Neural Network for object-based crop monitoring system	Quentin Deffense et al.
171	66931	Positive Unlabelled Learning for mapping Cereal and Forest land cover classes from Satellite Images Time Series	Johann Desloires et al.
172	63654	Tropical Dry Forest Change Detection Using Sentinel Images and Deep Learning	Adugna G. Mullisa et al.
173	63352	Semi-supervised Sentinel-2 tree species detection	Daniele Fantin et al.
174	65147	Towards operational annual forest mapping at continental scale using raw Sentinel-2 time series	Martin Ickerott et al.
175	67155	Towards tree species mapping with deep learning using lidar and hyperspectral satellite data	Delphine NOBILEAU et al.
176	67201	ForestAI: Towards the next generation of forest monitoring services with Artificial Intelligence	Benjamin Bischke et al.
177	67367	Large scale mapping of linear disturbances in forest areas using deep learning and Sentinel-2 data across boreal caribou herd ranges in Alberta, Canada	Ignacio San Miguel et al.
178	63274	Improved deadwood mapping with UAVs and deep learning	Janne Mäyrä et al.
179	65503	Global Active Fire Detection – Towards a SAR-enabled Multi-Sensor Global Monitoring System	Deniz Gaye Denizoglu et al.
180	67237	Urban Change Detection from Multi-Temporal Sentinel-1 and Sentinel-2 Data using a Pretrained CNN and Post-Processing	Sebastian Hafner et al.



181	67423	Object detection methods for dark vessel detection and classification using SAR imagery	Dávid Kerekes et al.
182	67460	EO-AI4GlobalChange: Earth Observation Big Data and AI for Global Environmental Change Monitoring	Yifang Ban et al.
183	64386	Towards a long-term and medium resolution soil moisture dataset over Europe by downscaling the ESA CCI Soil Moisture	Luca Zappa et al.
184	67084	Deep Learning model for automatic detection and mapping of sandy shoreline	Soumia Bengoufa et al.
185	66797	AI based method for studying the physical changes in the coastal area from Sentinel-2 imagery. Case study: Swedish coast.	Selima Ben Mustapha et al.
186	64752	Application of Earth Observation and Artificial Intelligence for Mapping Spatial Distribution and Biomass of Estuarine and Coastal Macroalgal Blooms	Sita Karki et al.

#### C1.07 ML4Earth: Machine Learning for Earth Sciences

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
112	63976	SAR-based probabilistic water segmentation with adapted Bayesian convolutional neural networks	Victor Hertel et al.
113	67306	A CLOUD-BASED APPROACH ON REMOTE SENSING BASED UNCERTAINTY MAPS IN MARINE HABITAT MAPPING	Spyridon Christofilakos et al.
114	63607	mSTAR: Multicriteria Spatio Temporal Altimetry Retracking	Lutz Oettershagen et al.
115	63757	Filling gaps of black-sky surface albedo of the Arctic sea ice using gradient boosting and brightness temperature data	Emmihenna Jääskeläinen et al.
116	66778	Data Driven Analysis of Permafrost Region Disturbances - Spatio-temporal patterns, impacts and and key drivers	Ingmar Nitze et al.
117	64038	Automated extraction of high resolution damage data over the Antarctic ice sheet	Trystan Surawy-Stepney et al.
118	65240	Identifying relevant large-scale predictors for sub-seasonal precipitation forecast using explainable neural networks	Niclas Rieger et al.
119	67477	Stochastic downscaling of meteorological fields with deep neural networks	Michael Langguth et al.
120	62749	Estimating the area of applicability of machine learning models in EO applications	Hanna Meyer et al.
121	62671	Towards globally applicable Spatial Prediction Models	Marvin Ludwig et al.
122	64572	Spatiotemporal data Cube at 1-km resolution 1982-2020 to enable dynamic system modeling	Chris van Diemen et al.
123	63041	Rule-Based, Noisy Labels for Overhead Imagery Segmentation	Conrad Albrecht et al.
124	64305	Interpretable mapping of high-altitude forest in the Swiss Alps	Thiên-Anh Nguyen et al.
125	63075	Biomass Estimation from Tree Heights on Individual-Level with Gaussian Process Regressor	Qian Song et al.
126	63338	Integrating process-based information into ANN for root zone soil moisture prediction	Roiya Souissi et al.
127	64230	Exploiting Spatial and Temporal Information with ConvLSTM Networks for Cloud Detection over Landmarks	Dan López-Puigdollers et al.
128	64716	Emulation of synthetic hyperspectral Sentinel-2-like images using Neural Networks	Miguel Morata Dolz et al.
129	66766	Explaining Deep Learning Models for Earth Surface Forecasting	Miguel-Ángel Fernández-Torres et al.
130	65726	AI-Cube: Combining Datacube Scalability with AI Intelligence	Peter Baumann et al.
131	65183	HIECTOR: Hierarchical object detector using multi-scale satellite imagery	Devis Peressutti et al.

132	66816	A deep learning approach for methane plume detection from hyperspectral satellites	Peter Joyce et al.
133	65104	Artificial Intelligence models in solving ill-posed Inverse problems of Remote Sensing GHG emission	Sergiy Sylantyev et al.
134	65387	Near-Real Time Artificial Intelligence Approach for Volcanic Eruptions Monitoring using SEVIRI Earth Observation Data	Federica Torrisi et al.
135	64581	Uncertainty estimation via Neural Networks : A Quantile Regression Neural Network for the retrieval of greenhouse effect gases and its associated uncertainty	Nuria Duran-Gomez et al.
136	62480	From spectroscopy to ecosystem functioning: Multi-ecosystem assessment of biophysical properties with Deep Learning	Eya Cherif et al.
137	64783	Effects of sample size on machine learning regression models for biophysical parameter retrieval from spectral data	Hannes Feilhauer
138	65392	Large-scale Individual Tree Counting, Top Crown Segmentation and Height Estimation via Deep Learning	Sizhuo Li et al.
139	66704	Forest species mapping in India using semi-supervised learning of hyperspectral images	Debmata Bandyopadhyay et al.
140	66407	Sentinel-2 potential for Gross Primary Production estimation in forests by considering memory effects	David Montero Loaiza et al.
141	67470	DeepExtremes - Deploying Artificial Experiments on High-Resolution Data Cubes for explaining extreme event impacts	Miguel Mahecha et al.
142	66430	Relevance Extraction from Sentinel-2 Multispectral Images using Deep Support Vector Data Description	Omid Ghozatlou et al.
143	66727	A Physics-based ML approach for soil moisture estimation with simulated SAR data	Lorenzo Giuliano Papale et al.
144	66844	Critical Components of Strong Supervised Baselines for Building Damage Assessment in Satellite Imagery and their Limitations	Sebastian Gerard et al.
145	67410	Outliers Detection in InSAR Displacement Time Series Using Machine Learning Methods: A Case Study from Geohazard Monitoring in Slovakia	Lukas Kubica et al.

## C2.01 Towards a Digital Twin of the Earth - advances and challenges ahead

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
66	62724	IrrideSk: An automatic irrigation DSS which integrates crop modelling with sensing and remote sensing data	Joaquim Bellvert et al.
67	67339	Sextans, Telescopes, Satellites & Python: foregrounding political-technical trade-offs to develop 'trust-worthy' Digital Twins of Earth's ecosystems for effective	Fionagh Thomson et al.
68	67283	Orbiter: Earth Visualization App	Tyler Rayner
69	67481	Cryosphere Virtual Laboratory (CVL)	Eirik Malnes et al.
70	64811	Automated mapping of ice sheet supraglacial hydrology using Machine Learning	Diarmuid Corr et al.
71	63811	Breaking up is hard to do – Simulating extreme sea-ice breakup events in the Arctic	Jonathan Rheinländer et al.
72	64642	Evaluation of the Effects of Ice Velocity Errors on an Inverse Model of the Filchner-Ronne Sector of Antarctica	Michael Wolovick et al.
73	64976	Digital Twin Antarctica - hands on demonstrator	Martin Ewart et al.
74	66684	Met-ocean and oil spill pilots for the ILIAD Digital Twin of the Ocean	Maria Luisa Quarta et al.
75	66845	Digital Twin of the Ocean - Overview of the ILIAD Project	Bente Lilja Bye et al.
76	63906	Reconstructing forest scene using a 'tree library': testing the impact of reconstruction ratio on radiative transfer simulations	Chang Liu et al.
77	65573	A forest digital twin underpinning the validation of Sentinel-2 fAPAR	Niall Origo et al.

78	64111	Combining LiDAR data, 360 imagery and game engines to advance forest monitoring	Raphael Zuercher et al.
79	64834	Intelligently Gap-filling Earth Observations for Data Fusion	Verena Bessenbacher et al.
80	61533	Digital Twin: 3D Modelling and Simulation for Cities	Morgane Bonneau et al.
81	66669	UrbAIIn – Developing Digital Twin Solutions Linking EO and Sensors to Improve Urban Living	Conrad Bielski et al.
82	67434	Digital Twins for sustainable and Smart Cities – an ESA Φ-lab pilot study	Mattia Marconcini et al.
83	65505	AI4EO: from physics guided paradigms to quantum machine learning	Mihai Datcu
84	66562	Advancing of Earth Observation Methodologies by using a Quantum Computer	Soronzonbold Otgonbaatar et al.

#### C4.01 Innovative UAV applications

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
23	66607	Open Drone Portal – cataloguing, sharing and distributing UAV-Data	Konrad Bauer et al.
24	62840	Decision support tools for landfill management based on UAVs data	Benjamin Beaumont et al.
25	64506	Investigating the potential of terrestrial laser scanning and unmanned aerial vehicle (UAV) photogrammetric point cloud data for digital terrain model (DTM) extraction	Kuhle Ndyamboti et al.
26	64293	Characterisation of soil properties with drone-borne Hyperspectral Imaging and laboratory spectral data	Richard Mommertz et al.
27	64226	Convolutional Neural Network and LSTM Applied to Abnormal Behaviour Detection from Highway Footage	Rafael Marinho et al.
28	65262	Mapping informal settlements using UAS in support of local climate models	Dimitris Poursanidis et al.
29	63723	Chinstrap penguin colonies monitoring at Deception Island (Antarctica) with high-resolution UAV imagery and moderate-resolution satellite imagery.	Alejandro Roman et al.
30	64423	Using Unmanned Aerial Systems to unveil the impacts of woody encroachment in subarctic tundra wetlands.	Miguel Villoslada et al.
31	67263	UndercoverEisAgenten - Bird's Eye View of Permafrost Thawing	Marlin Markus Mueller et al.
32	65469	UAV Survey Methods for Geohazard Investigation, Modelling, and Monitoring	Sean Elliott Salazar et al.
33	67276	Optical flow compared to phase correlation of UAS images used to analyse displacements of a high-alpine, fast landslide	Doris Hermle et al.
34	63169	SunRazor: a solar powered electric USV/UAV hybrid unit to assess the Sea Spray Aerosol environment	Andrea Fois et al.
35	66060	UASea: a toolbox for acquiring accurate marine data using UAS	Michaela Doukari et al.
36	67411	Simulation of Factors Influencing Temperature Measurements from Miniaturized Thermal Infrared (TIR) Cameras: a Laboratory-based Approach	Quanxing Wan et al.
37	64795	Evaluation of multi-scale multispectral sensors and machine-learning algorithms for mangrove mapping and LAI estimation	Javier Blanco Sacristán et al.
38	65313	Monitoring Coastal Water Flows from High-Frequency UAV Imagery	Kasper Johansen et al.
39	63332	Beach and shallow sea wrack spatial distribution detection using unmanned aerial vehicles	Edvinas Tiškus et al.
40	63934	Topographic analysis of intertidal polychaete reefs ( <i>Sabellaria alveolata</i> ) using very high resolution UAV remote sensing	Guillaume Brunier et al.
41	65697	Multi-sensor UAS-based approach for European Aspen detection in boreal forest	Anton Kuzmin et al.

42	64823	UAV-based identification of stubble in forestry plantations	Maria luz Guillen Climent et al.
43	64838	Suitability of thermal UAV data to detect stones and artificial objects in agriculture	Florian Thürkow et al.
44	64670	Towards informing precision agriculture by autonomous UAS	Carsten Montzka et al.
45	66600	Scaling preharvest phenotypic prediction of durum wheat grain quality and yield with UAV multispectral imaging for precision agriculture applications	Shawn Carlisle Kefauver et al.
46	65540	Measuring Apparent Agricultural Field Heterogeneity – a comparison between UAV and satellite	Quirina Merz et al.
47	66633	Upscaling multitemporal UAV data to Sentinel-2 time series enables grassland biomass monitoring	Katja Kowalski et al.
48	66822	Agricultural spraying drone based on centrifugal nozzles for precision farming applications	Manuel Vázquez-Arellano et al.
49	67161	Leveraging Deep-Learning and Computer Vision to Provide Automated and Scalable Insight for Fresh Produce Crops	Gerald Moore et al.

#### C4.02 HAPS – High-Altitude Pseudo Satellites

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
21	63675	Safety Assesment for the Concept of Operations of Pseudo Satellite Constellations	Armando Sanchez et al.
22	65486	SCC4HAPS - Integrated Satellite and HAPS Control Center	Daniel Gugeanu et al.

#### C5.03 Open Source, data science and toolboxes in EO: Current status & evolution

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
87	67245	InSARviz, an open source interactive visualization tool for satellite SAR interferometry	Franck Thollard et al.
88	63973	Software package for generating synthetic SAR interferograms as training datasets for machine learning algorithms	István Bozsó et al.
89	62736	First Global Sentinel-1 Interferometric Coherence and Backscatter Metrics in the Cloud empowered by Jupyter-based Visualization and Analytics Tools	Josef KelIndorfer et al.
90	66754	Plug-In of CSL InSAR Suite Functionalities into the SentiNel Application Platform Software – Demonstration	Quentin Glaude et al.
91	65273	Offline! Visualization and labeling of multi-sensor time series in the field: the EO Time Series Viewer	Benjamin Jakimow et al.
92	64496	Data Management, Operating-on-Demand and Beyond - The Alpine Environmental Data Analysis Centre (AlpEnDAC)	Johannes Munke et al.
93	62475	The French Land Data and Services Center: Theia	Nicolas Baghdadi
94	63286	Sentinel-1 and Sentinel-2 time-series automatic analysis within a Copernicus Collaboration Ground Segment platform, Terrascope	Sophie Petit et al.
95	63663	The Earth Console platform as an infrastructure solution for interoperability within IDEAS-QA4EO Earth Observation data validation activities	Erminia De Grandis et al.
96	63791	Sen2Cor Version 3.0 Processor Applied to Landsat-8 Data: Implementation and Preliminary Results	Francesco Cristiano Pignatale et al.
97	63792	Sen2Cor version 2.10: Last evolutions and Focus on the update of Cloud Screening and Scene Classification algorithm	Jerome Louis et al.
98	63839	SLSTR pre-processor to co-locate reflectance and infrared observations	Claire Bulgin et al.
99	64264	Digital Earth Australia's Notebooks and Tools repository: an open-source repository showcasing reproducible Earth observation data science	Claire Krause et al.
100	64617	Sentinel-5P products in Terrascope	Jeroen van Gent et al.

101	64943	The CoMet toolkit – Uncertainties made easy	Pieter De Vis et al.
102	64946	Growing toolset for the forestry domain on the Forestry TEP	Renne Tergujeff et al.
103	67312	Local incidence angle correction of Sentinel-1 data for time-series analysis of forest ecosystems in Google Earth Engine	Daniel Paluba et al.
104	65259	pyjeo, an open source Python library for processing geospatial data	Pieter Kempeneers et al.
105	65411	On-demand services for Sentinel-2 and Pléiades processing: application to ground motion analyses	Floriane Provost et al.
106	65454	A Migration Story: Bringing Spaceborne Altimetry Data and Tools into the Cloud	Siri Jodha Khalsa et al.
107	66274	GLANCE: A Multi-sensor Geolocation and Co-registration Verification Toolbox	Marcos Bento et al.
108	66614	AI4GEO ENGINE: a Jupyter-based platform for Earth observation data processing.	Michael Darques et al.
109	66788	The Copernicus Marine Data Stream in the big data era: new EUMETSAT services for viewing, accessing and customising ocean products.	Ben Loveday et al.
110	66827	Pangeo, an Open source driven community for for Big Data geoscience	Anne Fouilloux et al.

#### D1.01 Satellite EO for Geohazard Risks

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
197	63914	Subsidence in Hanoi, Vietnam; is it all due to groundwater abstraction?	Luke Bateson et al.
198	64788	Assessment of ground subsidence patterns in the Manila NCR and lower Pampanga river basin using persistent scatterers interferometry	Jan Kolomazník et al.
199	66953	Rapid identification of surface deformation processes in El Salvador using satellite Interferometric Synthetic-Aperture Radar	Juan J. Portela Fernández et al.
200	66574	Exploring the capabilities of cloud-based InSAR services for land subsidence monitoring of the Nile Delta	Michael Foumelis et al.
201	67466	Translating Earth Observation Data into Smart EOMaps for User Enhanced Interpretation and Decision Making	Stefanos Sykiotis et al.
202	66610	Terrain Motion Mapping and Multispectral Data Usage for Mining Risk Mitigation	Pooja Ramakrishnan et al.
203	63124	Using Sentinel-1 and MODIS data for mapping and monitoring approaches in the aftermath of the tailings dam failure in Brumadinho, Brazil	Torben Dedring et al.
204	64172	Dual-polarimetric Sentinel-1 ascending-descending measurements to quantify damage levels due to the 2016 Central Italy earthquake	Emanuele Ferrentino et al.
205	62562	Harnessing Sentinel-1 co-seismic DInSAR products and Geospatial Intelligence as an operational tool on Earthquake Impact Assessment: The case of the Arkalochori	Triantafyllos Falaras et al.
206	65128	European Ground Motion Service (EGMS): General Description, Product Quality, and Examples	Mario Costantini et al.
207	63967	Regional scale monitoring results of surface deformation in the GeoSES Project focusing to the Transcarpathian Region	Bálint Magyar et al.
208	67252	Identification of geological risks in the province of Jaén (Spain) through Sentinel-1 and MT-InSAR techniques	Antonio Miguel Ruiz-Armenteros et al.
209	67345	RIPPL: second-generation open-source interferometric software	Gert Mulder et al.
210	62473	A model-backfeed scheme to optimize InSAR deformation time series estimation	Bin Zhang et al.
211	65073	Assessing risk of forcibly displaced persons: Creation of a digital elevation model of the island of Bhasan Char from Sentinel-1 Stripmap products	Andreas Braun
212	63786	What Controls Wildfires: Atmospheric, Hydrologic or Vegetation Conditions?	Yuquan Qu et al.

213	65026	Towards avalanche activity monitoring using Sentinel-1 data	Anna Karas et al.
214	66773	Avalanche detection and mapping by satellite remote sensing	Regula Frauenfelder
215	63617	Geohazard Assessment by PhotoMonitoring: IRIS a new powerful tool for analysis	Antonio Cosentino et al.
216	64366	PS-toolbox: the post-processing of InSAR data for the characterization of surface displacement patterns	Marta Zocchi et al.
217	64410	Rheticus Safeland: a satellite EO-based service for hydrogeological hazard mapping	Angelo Amodio et al.
218	65779	Insight into the April 2019 Hoseynabad-e Kalpush landslide disaster in Iran: Results from multi-sensor satellite and in-situ measurements	Magdalena Vassileva et al.
219	65532	Geomatics and EO for landslides: from mapping and monitoring to teaching	Vasil Yordanov et al.
220	65335	Land motion monitoring service over Switzerland through interferometric multi-temporal analyses of Sentinel-1 SAR data	Giulia Tessari et al.
221	66970	Rapid Mapping of Event Landslides Using an Active Learning Workflow	Nikhil Prakash et al.
222	63652	Development of a methodology for the interpolatiON of InSAR Time series for the dEtection of ground deforMatiOn eVEnts (ONtheMOVE)	Laura Pedretti et al.
223	62851	Assessing the suitability of DEMs derived from Sentinel-1 data for landslide volume estimation	Zahra Dabiri et al.
224	64329	ALADIM – A change detection on-line service for landslide detection from EO imagery	Aline Déprez et al.
225	63583	Expert interpretation of SAR amplitude derived products: an application to event landslide mapping	Michele Santangelo et al.
226	63994	Monitoring landslides in critical infrastructures through Sentinel-1 DInSAR: the case of the Rules Reservoir (Southern Spain)	Cristina Reyes-Carmona et al.
227	63321	Operational use of Sentinel 1 data and interferometric methods to detect precursors for volcanic hazard warning system: the case of La Palma volcanic	Ignacio Castro-Melgar et al.
228	62943	Combining VHR PlanetScope imagery, HR short-wave infrared data and digital elevation models for mapping of lava flow deposits	Moritz Rösch et al.
229	63336	MONITORING VOLCANIC ERUPTIONS WITH SENTINEL-1 GRD DATA - THE 2014/2015 FOGO VOLCANO CASE-STUDY (FOGO ISLAND, CABO VERDE)	Rafaela Tiengo et al.
230	67031	Integration of the Geohazards Exploitation Platform services in the Corinth Rift Near Fault Observatory for routine monitoring and education	Panagiotis Elias et al.
231	65334	Advanced multi-temporal InSAR technique reveals potential precursory ground deformation prior to the 2021 La Palma eruption	Roberto Montalti et al.
232	63342	A multi-sensor Synthetic Aperture Radar Analysis of volcanic activity at Sinabung, Indonesia	Eva Zand et al.
233	67218	Sentinel-1 measurements of long term co-eruptive uplift at Sangay Volcano, Ecuador	Pedro Alejandro Espín Bedón et al.
234	66535	Improving urban seismic risk estimates for the major cities of Bishkek (Kyrgyzstan) & Almaty (Kazakhstan) using EO data	John Elliott et al.
235	67099	Satellite-based rapid response landslide products generated during the 14 August 2021, Mw 7.2 Haiti earthquake.	Pukar Amatya et al.
236	67475	Flood Depth Estimation and Validation using the SAR derived Water Mask and the HAND Model	MinJeong Jo et al.
237	63896	Satellite monitoring of Kīlauea (Hawai'i) lava lake, during December 2020-February 2021, through Sentinel-2 MSI and Landsat-8 OLI data	Simon Plank et al.
238	63070	A global permanent and seasonal reference water product for improved flood mapping: First results of a Sentinel-1/2 based methodology	Sandro Martinis et al.
239	62717	Proxy data of surface water floods in rural areas: application to the evaluation of the IRIP intense runoff mapping method based on satellite remote sensing and	Arnaud Cerbelaud et al.

### D1.03 Satellite EO for Disaster Risk Transfer & Insurance

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
187	65531	DEM-guided Flood Segmentation in Sentinel-2 Images	Ben Gaffinet et al.
189	66611	A new Approach to Hazard Analysis of Heavy Rainfall Events based on the Catchment Area of the Ahr River	Thomas Krauß et al.
190	63658	Space-derived climate data for a sustainable future	Josh Gilbert et al.
191	65279	FLOMPY: Floodwater mapping and extraction of flood-affected agricultural fields	Olympia Gounari et al.
192	66867	Risk and damage assessment platform for the agricultural sector based on EO data	Dimitrios Sykas et al.
193	66543	Skytek REACT Tool: Risk Aggregation for Moving and Static Assets	Rita Malosti et al.
194	63782	Satellite interferometry, from Active Deformation Areas detection to potential damage maps: case study in the province of Granada.	Anna Barra et al.
195	66333	Harnessing spatial data for insurance	Forbes McKenzie

#### D2.12 Cultural and Natural Heritage

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
242	64620	Monitoring of damages to cultural heritage across Europe using satellite earth observation: assessment of indexed and grey literature	Branka Cuca et al.
243	64154	COSMO-SkyMed for archaeological applications: achievements and new perspectives for site detection, regional mapping and multi-sensor condition	Deodato Tapete et al.
249	64393	On Monitoring the Impact of Floods and Extreme Weather Events in Protected Cultural Heritage Areas: The Venice Lagoon Case Study	Pietro Mastro et al.
244	64562	Multidisciplinary approach for the safeguard of cultural landscapes and UNESCO World Heritage sites	Jolanda Patruno et al.
245	64622	PLACE – Protecting Landscapes through ACTIONS for hEritage	Jolanda Patruno et al.
246	63575	Innovative Services for Cultural Heritage Monitoring and Risk Prevention	Iulia Dana Negula et al.
247	62818	Detection of archaeological sites hidden by a forest canopy using Sentinel-1 time-series	Florent Michenot et al.
248	65957	Non-invasive InSAR techniques for the assessment of the vulnerability of cultural heritage sites – The SCIENCE Project	Issaak Parcharidis et al.
249	63963	Northern Homes 21	Vegard Nergård et al.
250	64040	Living territories: remote sensing approaches to supporting sustainable community heritage in NW Argentina	Ioana Adina Oltean et al.
251	64210	Use of satellite multi- and hyperspectral data for environmental and urban monitoring in the High City of Antananarivo (Madagascar)	Giacomo Lazzeri et al.
252	63360	Declassified satellite imagery as new baseline data products for archaeology and cultural heritage management: the U.S. CORONA missions	Benjamin Ducke et al.
253	64450	Innovative UAV application of LIDAR for Cultural and Natural Heritage in Guatemala	Carolina Collaro
254	64591	Sensing the invisible: the potential of Sentinel-2 and Sentinel-5P in monitoring the effect of climate change on cultural heritage	Luka Mamić et al.
255	65666	Space4Culture – The importance of stimulating a multi-stakeholder dialogue to enhance the use of satellite applications to monitor, safeguard and value cultural	Marco Tomassetti et al.
256	66546	Satellite Rapid Damage Assessment service for flooded and burned areas delineation	Edoardo Arnaudo et al.
257	67280	Earth observation and climate models to enforce climate risk assessment of cultural heritage	Alessandro Sardella et al.

258	70818	Deep Learning for Archaeological Object Detection on EO data: automating the process of buried sites' identification	Arianna Traviglia et al.
259	63148	Assessing desertification in southern Morocco using a Google Earth Engine-enabled Python approach	Louise Rayne et al.

#### **E1.04 Space Capacity Building in the XXI Century**

<i>Board</i>	<i>ID</i>	<i>Title</i>	<i>Author</i>
394	67365	EO4GEO – Towards a multi-vocabulary environment to describe the EO*GI knowledge base	Danny Vandenbroucke et al.
395	65418	Cost-Benefit Analysis of using Commercial data to complement Copernicus in meeting the EU's Green Deal Objectives	Marco Bolchi et al.
396	66582	Advancing EO adoption through partnerships and differentiated pricing	Eldrige de Melo
397	67296	SSpace technology and citizen science for building resilience and implementing mitigation measures in a vulnerable tropical coastal region	Grinson George et al.