

TOPIC	THEME	TITLE
Earth Science	A.1 Atmosphere	A.1.01 Atmospheric Satellite Data Assimilation
		A.1.02 GNSS and SAR troposphere observations for NWP models
		A.1.03 Satellite winds and cloud dynamics
		A.1.04 Atmospheric Research in the Stratosphere and Mesosphere
		A.1.05 Aerosols and Clouds
		A.1.07 Water Vapor
		A.1.08 Tropospheric Composition and Air Quality
		A.1.09 Greenhouse Gases
		A.2 Cryosphere
	A.2.02 Radar measurements of alpine snow	
	A.2.03 The importance of Snow in Earth Climate System	
	A.2.04 Glaciers and ice caps in a warming world: Improved understanding of changes from recent satellite data	
	A.2.05 Ice-sheet-wide remote sensing in Antarctica and Greenland	
	A.2.07 Monitoring Polar Regions by using Microwave Radiometry	
	A.2.08 Altimetry of the cryosphere and polar oceans	
	A.2.09 Retrievals of sea ice properties and processes	
	A.2.10 Multi-sensor monitoring of the Arctic and Southern Oceans	
	A.3 Biosphere	
		A.3.02 EO for Terrestrial Biodiversity
		A.3.03 Ground & space sensors for monitoring resilience of forest canopy structure & forest functioning
		A.3.04 Concerted Actions for Global Forest Biomass Monitoring
		A.3.05 Near real-time forest monitoring
		A.3.06 Integrated Earth Observation for Carbon Cycle Science
		A.3.07 Land Surface Global Monitoring from PROBA-V to Sentinel-3
		A.3.08 Land Cover Regional to Global
		A.3.09 Next generation land cover monitoring services: Towards a flexible, user-oriented approach
		A.3.10 Large area land change assessments for sustainability
		A.3.11 Remote sensing of fluorescence
	A.3.13 Mapping, Monitoring & Modelling of Savannah Vegetation Characteristics	
	A.3.14 Monitoring grassland dynamics with Sentinel data	
A.3.15 Advances in monitoring land surface phenology		
A.3.16 Sentinel Applications for Understanding Impacts on South African Ecosystems and Societies		
A.3.17 From Agriculture Mapping to Monitoring		

 <p>Earth Science</p>	<p>A.4 Hydrosphere</p>	A.4.01 Current and potential multisensor approaches to marine litter detection
		A.4.02 Uncovering upper ocean dynamics: ocean surface currents and rapidly evolving processes using Multi-Mission EO synergy
		A.4.03 Detecting targets at sea with Sentinel-1
		A.4.04 Monitoring the coastal zone from space: from land/sea/air interactions to trends and extremes
		A.4.05 Marine Wind and Wave
		A.4.06 Space-based Sea Surface Salinity
		A.4.07 Colour and Light in the Ocean from Earth Observation
		A.4.08 Remote Sensing of the Ocean Surface and Lower Atmosphere - a SOLAS Session
		A.4.09 Wetlands Inventory, assessment and monitoring
		A.4.10 Mapping and monitoring of inland water bodies
		A.4.11 Water Level, Storage, River Discharge and Floods from Remote Sensing and Assimilation in Hydrodynamic Models
		A.4.12 High Resolution Soil Moisture and Perspective Applications
		A.4.13 Satellite soil moisture and precipitation for predicting extreme hydrological events
		A.4.14 Ocean General Circulation and Climate
<p>A.5 Geosphere</p>	A.5.01 Geodetic satellite missions and their applications	
	A.5.02 Our solid Earth: from core to surface	
	A.5.03 Sentinels for geology and geomorphology	
	A.5.04 Design and monitoring of transport, energy and utility infrastructure with Copernicus data	
	A.5.05 Earth Observation for Soils	
<p>A.6 Climate</p>	A.6.01 Advances in remote sensing of energy budget in the changing climate and environment	
	A.6.02 Earth's Radiation Budget and Temperature: Critical Variables for Monitoring Climate Change	
	A.6.03 Land-climate interactions	
	A.6.04 Observations for supporting the UNFCCC Paris Agreement	
<p>A.7 Geospace</p>	A.7.01 Geospace system science: thermosphere, ionosphere, magnetosphere and their coupling	
	A.7.03 Space weather	
 <p>EO Missions</p>	<p>B.1 Earth Explorers</p>	B.1.01 10 years of SMOS in orbit - from technology demonstrator to operational applications*
		B.1.02 CryoSat Mission: highlights on status and future outlook
		B.1.03 Earth Explorer 8 FLEX*
		B.1.04 The Biomass mission - status of implementation*
		B.1.05 The Earth Explorer 9 FORUM and SKIM missions*
		B.1.06 Earth Explorer 10 Mission Candidates*
		B.1.07 ESA's Earth Explorer Aeolus - First Results
		B.1.08 EarthCARE*
		B.1.09 Swarm - ESA's extremely versatile magnetic field and geospace explorer

EO Missions	B.2 Copernicus Sentinels	B.2.01 Copernicus Programme Present and Future*
		B.2.02 Expanding Copernicus: High Priority Candidate Missions to address Copernicus user needs*
		B.2.03 The Copernicus Sentinel-6/Jason-CS Mission*
		B.2.04 The Sentinel-3A and Sentinel-3B Tandem Phase: first results*
	B.3 Meteorological	B.3.01 Meteorological Satellites: Current and Future Satellites and instruments
	B.4 International Cooperation	B.4.01 International Cooperation in Earth Observation*
		B.4.02 International Coordination for future SAR missions*
		B.4.03 ESA-NASA cooperation in Earth Observation
		B.4.04 PRISMA – The Hyperspectral Italian Mission*
		B.4.05 National Missions*
		B.4.06 Missions and data quality
	B.5 Heritage	B.5.01 The Heritage of the Advanced Very High Resolution Radiometer (AVHRR): Celebrating the 40-year legacy of land observations*
		B.5.02 Heritage Missions and Long Time Data Series*
	B.6 Calibration, validation and data quality	B.6.01 Precise Orbit Determination of Earth Observation Satellites - Progress, Validation, and Challenges
		B.6.02 Satellite Operations for EO missions
		B.6.03 Analysis Ready Data: moving from concept to practice
B.6.04 Present and future of Calibration & Validation for Optical Imaging Sensor Products		
B.6.05 Radiative Transfer Modeling in the Optical Domain		
B.6.07 Sensing our Earth from the air: a new perspective on ESA campaigns		
B.6.08 Sentinel-5 Precursor Mission Status and Cal/Val activities		
Space 4.0 & EO		C.1 AI and Data Analytics
	C.1.02 Challenges and opportunities for deep learning in remote sensing: understanding the world through Earth Observation	
	C.2 Emerging Technologies	C.2.01 Advances in Earth Observation with GNSS Reflectometry from space
		C.2.02 Advances on Hyperspectral Imaging and Processing
		C.2.04 New Atmospheric Radar Concepts and Application
		C.2.05 Multi-Source Data for Next Generation Land Monitoring
		C.2.06 Multi-frequency SAR exploitation synergy
		C.2.07 SAR Tomography of natural media: current state-of-the art and perspectives for future applications
		C.2.08 Monitoring water quality in coastal and inland waters
		C.2.09 Exploiting current capability to improve Land Surface Temperature science
		C.3 Security
	C.4 Cloud Platforms	C.4.01 Big EO Data Analytics: Platforms and applications
C.4.02 Open and standard-based approaches to Big EO data architecture		

Space 4.0 & EO	C.5 Small Satellites & Constellations	C.5.01 Opportunities brought by constellations of small satellites to help understand process on the Earth's surface or to explore new services C.5.02 Building Trains and Tandem missions
	C.6 HAPs/UAVs	C.6.01 Advances in environmental monitoring thanks to unmanned aircraft C.6.02 HAPS and Space 4.0
	C.7 Open Science	C.7.01 EO Education
		C.7.02 Open Science: Collaboration for open research C.7.03 Combining satellite and citizen observations to improve environmental monitoring C.7.05 EO end-user Toolboxes and Apps
	C.8 Commercial EO	C.8.01 Embedding Open and Commercial EO into Operational Working Practices C.8.04 Globalisation and commercialisation of Earth Observation Services - Current Capabilities and Future Potential

Benefits for a Resilient Society	D.1 Managing Risks	D.1.01 Monitoring impacts of climate change and assessing adaptation with Copernicus Sentinel data D.1.02 Using Earth observations to deliver on international risk reduction efforts D.1.03 Disaster Risk Reduction for Developing Countries D.1.04 Natural Hazard
	D.2 Sustainable Development	D.2.02 EO for the Sustainable Development Goals D.2.04 EO for Resilient Cities D.2.05 Sentinels and Copernicus contributing missions for Cultural & Natural Heritage D.2.08 Novel in-situ collection approaches for agricultural EO applications D.2.09 GEOGLAM - from R&D to operational agricultural monitoring D.2.10 REDD+

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* Special contributed session (solicited presentations)

Regular contributed session (open to all)