Standing Committee on Earth Observing Systems and Monitoring Networks (SC-ON)

(16 November 2022)

Expert Team on Space Systems and Utilization (ET-SSU)

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&

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WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

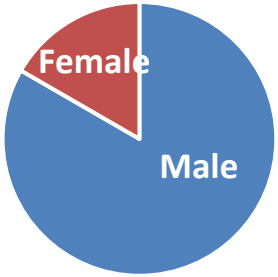
WMO OMM

World Meteorological Organization
Organisation météorologique mondiale

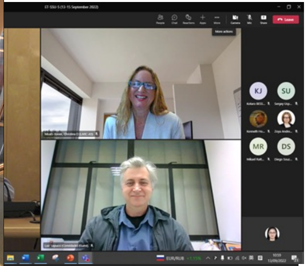
EXPERT TEAM ON SPACE SYSTEMS AND UTILIZATION (ET-SSU)

- Co-Chairs: 2
  - Core Member: 16
  - Invited Experts: 11
  - WMO SEC staff: 3

18 Experts
from 12 Countries



ET-SSU-5 (13-15 September 2022)



29 participants (incl. 8 remote):
- -13 ET members
- -11 invited experts
- -5 WMO SEC staff

WORLD METEOROLOGICAL ORGANIZATION

INFRASTRUCTURE COMMISSION

EXPERT TEAM ON SPACE SYSTEMS AND UTILIZATION

FIFTH SESSION

ET-SSU-5/Doc. 1.0
(20.07.2022)

Original: ENGLISH

PROVISIONAL AGENDA

Meeting documents see
[illegible]

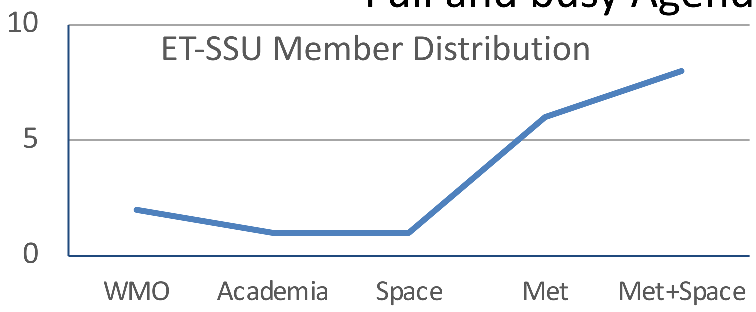
13-15 September 2022

TUESDAY 13 September 2022		**Documents**
Chair DAY 1: Steve English		
09:00	1. OPENING OF THE SESSION	
09:00	1.1. Welcome from ET-SSU Chars and WMO	
09:15	1.2. Organization of the session (*WMO SEC*)	
09:25	1.3. Introduction of participants (*Members*)	
09:55	1.4. Approval of the agenda	1.4
10:00	2. STATUS OF WMO CORE SATELLITE DATA ACTIVITIES	
10:00	WMO Core Satellite Data: Current Status and Discussion (*K. Holmlund, WMO Space Programme*)	
10:45	**Coffee Break**	
11:15	3. DBNET-CG UPDATES	
11:15	DBNet-CG: updates and collaboration with ET-SSU (*M. Rattenborg, WMO Space Programme*)	3
12:00	**Lunch break**	
13:00	4. SATELLITE DATA REQUIREMENTS PAPER FOR NOWCASTING: WAY FORWARD	
13:00	Discussion (*R. Hollmann, DWD & J. Gerth, NOAA*)	
14:00	5. BEST PRACTICES ON ACHIEVING USER READINESS FOR NEW SATELLITES	
14:00	5.1. Best practices on Achieving User Readiness for new Satellites: current status (*M. Rattenborg, WMO Space Programme*)	5.1a 5.1b
14:30	5.2. Discussion	
15:00	**Coffee Break**	
15:30	6. CLIMATE RELATED APPLICATIONS	
15:30	Review of observation strategy/vision for Earth Radiation Budget: way forward (action A4.12) (*R. Hollmann, DWD*)	6
16:00	7. TRAINING AND EDUCATION	

Page 1 of 4

Full and busy Agenda!!-)

15 Institutions	
Bureau of Meteorology	Korea Meteorological Administration (KMA)
China Meteorological Administration (CMA)	Met Office
Instituto Nacional de Pesquisas Espaciais (INPE)	NASA
Deutscher Wetterdienst (DWD)	(NOAA/ NESDIS
ECMWF	SRC "PLANETA"
EUMETSAT	University of New South Wales, Sydney, Australia
Japan Meteorological Agency (JMA)	WMO Secretariat
Kenya Meteorological Department	



[WMO Space Programme (WSP) | World Meteorological Organization](#)

Select Expert Teams – ET-SSU

ET-SSU 5 highlight (1/2)

- Fiona Smith has taken over from Stephen English and joins Jack Kaye as chair of ET-SSU
- We held the fifth meeting, and first in-person, in September. All participants expressed that the face-to-face meeting was very successful, leading to significant discussion and more concrete actions than previous meetings.
- The Team discussed whether the new format of one Satellite expert team, as opposed to the old set-up of ET-SAT and IPET-SUP, was worth pursuing, and after discussion agreed that we should retain the single team.
- The ET welcomed members of the Regional Associations to report on satellite-related activities in their areas. We look forward to working closely with these groups to ensure readiness for future satellite programs, and to understand what users need from WMO and satellite operators to support their use of remote sensing observations.

ET-SSU 5 highlight (2/2)

- Following the successful position paper on Essential Observations for Global NWP, a task team will now produce a position paper on Nowcasting.
- We had fruitful discussions on how commercial satellite data fits into the core principals of data policy.
- ET-SSU plans to support ET-RFC in their work to ensure the future of passive and active satellite-based observing systems.
- ET-SSU members are strong supporters of OSCAR/Space and will assist with the planning of a workshop to develop the future direction of the platform.
- The ET is working on updating WMO-CGMS Guidelines on Best Practices for Achieving User Readiness for New Meteorological (WMO-No. 1187). The proposed revision of the Best Practices reflects lessons learned from the satellite systems that have become operational over the last 5-10 years, as well as evolutions in the user needs.
- The team is looking forward to increasing our engagement over oceanography, land surface and cryosphere in the future.

VLab Strategy (2024-2027)

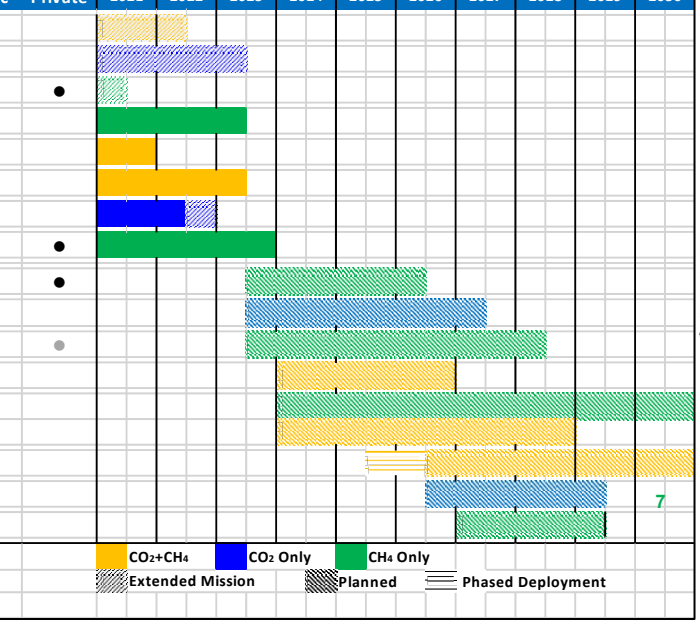
- INFCOM-2 approved the VLab Strategy for 2024–2027, which will replace the VLab Strategy 2020–2024, aligning the cycle of the VLab Strategy with the four-year WMO financial period
- The new strategy takes into account new areas and challenges:
  - the goal declared by the UN Secretary-General : "Within the next five years, everyone on Earth should be protected by early warning systems against increasingly extreme weather and climate change"
  - the need to address societal challenges and global development agendas put forth under the 2030 Agenda for Sustainable Development, the Sendai Framework for Disaster Risk Reduction 2015-2030, and the Paris Climate Agreement
- Following the direction from the CGMS-50 Plenary, the new strategy:
  - places high emphasis on building capacity among WMO Members for understanding and exploiting data from the new-generation satellites, instruments, data and product dissemination systems, and processing hardware and software
- Following the direction from WMO, the new strategy:
  - strives to follow a more integrated “Earth system” approach, establishing interdisciplinary connections to ensure data interoperability and knowledge sharing for satellite-based application areas linking meteorology, climatology, hydrology, agrometeorology, oceanography, atmospheric composition, geology, and many other fields

The VLab Strategy has been discussed by ET-SSU and the Coordination Group for Meteorological Satellites (CGMS) and is anticipated to be endorsed by WMO Cg in May 2023 and by CGMS-51 Plenary in June 2023.

The Case for a Coordinated Global Greenhouse Gas Monitoring Infrastructure

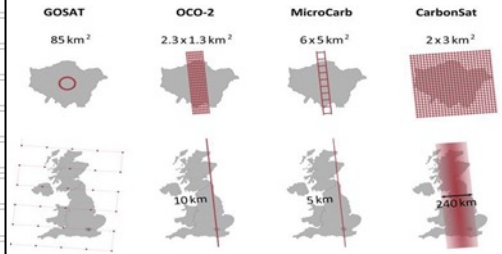
The Growing Space-based Fleet

Satellite, Instrument	Agency/Origin	CO_2	CH_4	Public	Private
GOSAT TANSO-FTS	JAXA-NIES-MOE/Japan	●	●	●	
OCO-2	NASA/USA	●		●	
GHGSat-D - Claire	GHGSat/Canada		●		●
Sentinel 5P TROPOMI	ESA/Europe		●	●	
GaoFen-5 GMI	CHEOS/China	●	●	●	
GOSAT-2 TANSO-FTS-2	JAXA-NIES-MOE/Japan	●	●	●	
OCO-3	NASA/USA	●			
GHGSat C1/C2 - Iris, Hugo	GHGSat/Canada		●		●
MethaneSAT	EDF/USA	●	●		●
MicroCarb	CNES/France	●		●	
Carbon Mapper[1]	Carbon Mapper LLC/USA	●	●	●	●
GeoCarb	NASA/USA	●	●	●	
MetOp Sentinel-5 series	EC Copernicus/Europe		●	●	
GOSAT-GW	JAXA-NIES-MOE/Japan	●	●	●	
CO2M	EC Copernicus/Europe	●	●	●	
CO2Image	DLR/Germany	●		●	
MERLIN	DLR/Germany-CNES/France		●	●	



[1]Carbon Mapper is a public/private partnership between California and Carbon Mapper LLC.

Challenge:
How can ET-SSU support?



Courtesy David Crisp

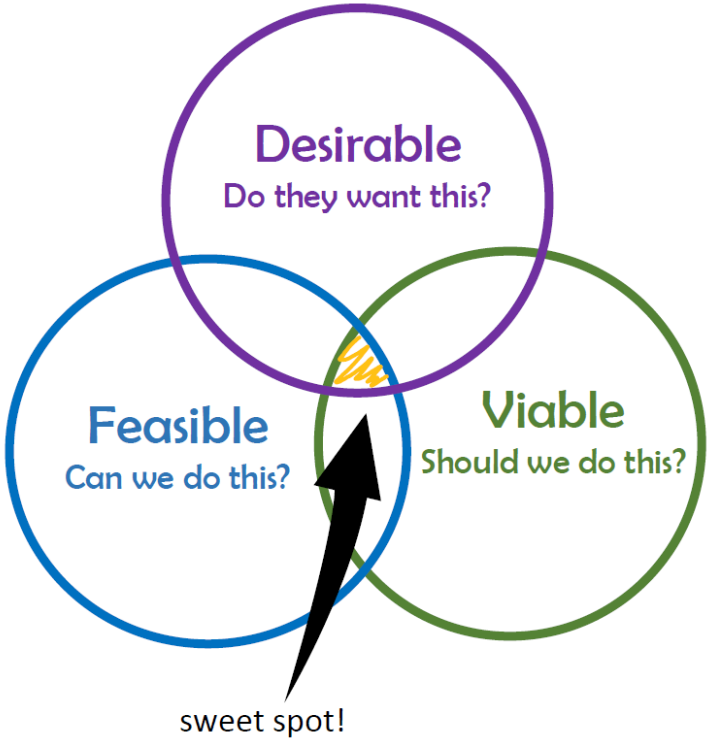
OSCAR/Space Workshop – 7-8 Feb 2023 (online)

- For the key user groups:
  - OSCAR/Space Support Team (Space Agency focal points)
  - CGMS WGs
  - GSICS
  - ET-SSU, ET-SWX, ET-RFC reps.
  - WMO development team
  - etc

- To present background and current functionality of OSCAR/Space

- Review status of current database content updating process

- Organize brainstorming for design thinking to collect user requirements for the future platform development



WMO Information Day for Commercial Satellite Data Providers – 17th Jan 2023 (hybrid event)

- There are nowadays many private companies operating fleets of satellites (Cubesats) providing Earth observation data
- WMO Space Programme plans to organize an industry day for these companies to encage with WMO and HMEI
- Most importantly, we want to introduce WMO Unified Data Policy and how it relates also to private sector data
- Also, presentations on WMO Information System, WMO Integrated Global Observing System etc.

- ET-SSU acknowledges the potential importance of commercial satellite data
- ET-SSU intends to develop best practices (basic/key principles) to support the engagement with the private sector

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Thank you
Merci

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