



24th Session of the GCOS/WCRP Terrestrial Observation Panel for Climate (TOPC-24)

This session will be held during the 3rd GCOS Joint Panels Meeting
ECMWF, Bonn, Germany, 26-30 June 2023

Local Logistics

Day 1: Monday 26 th June 2023 – Introductions					
Time	Item	N.	Presenter	Notes/Outcome	Docs/PPT
14:00-15:30	Opening of the Meeting	1.			
	Welcome, agenda adoption and logistics (10 min)	1.1	Thelma Krug Antonio Bombelli	Agenda adopted	Draft Agenda
	Aims and expectations (20 min)	1.2	Thelma Krug	Ideas are welcomed	
	Roundtable introductions and TOPC membership update (1h)	1.3	All Antonio Bombelli	New members, missing positions, renewal for 2024	
15:30-16:00	Coffee Break				
16:00-18:00	General Information	2			
	Introduction to the new GCOS-IP Actions (1h)	2.1	Antonio Bombelli	IP Actions will be discussed in full details on Wednesday	GCOS-IP
	Organization of the Cross-Panels Groups (CPG) for the following days (1h)	2.2	All	To agree on: coordinated inputs, members distribution, rapporteurs, etc.	
18:00	End of day 1				
Cocktail offered by ECMWF					
Day 2: Tuesday 27 th June 2023 – Updates					
Time	Item	N.	Presenter	Notes/Outcome	Docs/PPT
14:00-15:30	Updates from the Networks, Datacentres and Ex-officio Members	3			

	Update from the GCOS Surface Reference Network: relevance for TOPC (10 min)	3.1	Nigel Tapper (remotely)	Improve the link between GSRN and TOPC	
	GCOS Network Accreditation (10 min)	3.2	Antonio Bombelli	Formalize the link with GTNs and other networks	Network Accreditation Process / Proforma for application
	Updates from Networks (10 min each) <ul style="list-style-type: none"> • GTN-H • GTN-L • Hydrolare • GTN-R • GTN-P • GTN-G • ISMN • WGC • Others 	3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10	Dietrich Cretaux Vuglinsky Looser Schoeneich Gärtner-Roer Dorigo (TBC) Von Bargaen	Measured ECVs and provided datasets; Highlight issues from networks that may benefit from GCOS support; Compliance with GCOS Monitoring Principles; Tiered approach; Way forward	Network PPT template Ex-officio PPT template GCOS-CMP
15:30-16:00	Coffee Break				
16:00-18:00	ECV Updates	4			
	ECV presentations (5 min per ECVs) <ul style="list-style-type: none"> • ECV presentations (5 min per ECVs): • Hydrosphere (River Discharge; Lakes; Soil Moisture; Groundwater; Terrestrial Water Storage) • Cryosphere (Snow; Glaciers; Ice Sheets) 	4.1	ECV Stewards (if you cannot attend please provide few slides to be shared)	Requirements, monitoring systems, data sources, relevant initiatives, gaps, criticalities, way forward, etc.	ECV PPT template

	<ul style="list-style-type: none"> and Ice Shelves; Permafrost) • Biosphere (FAPAR: LAI; Albedo; LST; Evaporation from Land; Above-Ground Biomass; Land Cover; Soil Carbon; Fire) • Anthroposphere (Anthropogenic GHG Fluxes; Anthropogenic Water Use) 				
18:00	End of day 2				
No host dinner TOPC					
Day 3: Wednesday 28 th June 2023 – GCOS-IP & TOPC work plan					
Time	Item	N.	Presenter	Notes/Outcome	Docs/PPT
09:00-10:30	GCOS-IP Actions relevant to TOPC	5			
	Intro on the GCOS-IP Actions relevant to TOPC (10 min)	5.1	Antonio Bombelli	<p>Rather than taking the ownership of actions, each panel should follow their implementations and assess progresses in the next 5 years.</p> <p>Confirm relevance, feasibility, and priority of each Action.</p> <p>Agree on:</p> <ul style="list-style-type: none"> - possible contribution from TOPC - tentative timeline - one TOPC rapporteur per Action 	<p>TOPC Actions Excel sheet</p> <p>TOPC IP-Actions template</p>
	A2: Address gaps in satellite observations likely to occur in the near future (20 min)	5.2	Hiroyuki Enomoto Andreas Guntner		
	B1: Development of reference networks (in situ and satellite Fiducial Reference Measurement – FRM - programs) (20 min)	5.3	Emilio Chuvieco Stephan Dietrich		
	B5: Implementing global hydrological networks (20 min)	5.4	Stephan Dietrich		
	C5: ECV-specific satellite data processing method improvements (20 min)	5.5	Emilio Chuvieco		

10:30-11:00	Coffee Break				
11:00-12:00	GCOS-IP Actions relevant to TOPC (continued)	5			
	F2: Improved ECV satellite observations in polar regions (20 min)	5.6	Hiroyuki Enomoto	As above	
	F4: Improve climate monitoring in urban areas (20 min)	5.7	Nigel Tapper (remotely)		
	F5: Develop an Integrated Operational Global GHG Monitoring System (20 min)	5.8	Greet Maenhout (remotely)		
12:00-13:00	GCOS-IP Actions of 2 nd Priority for TOPC	5			
	B2: Development and implementation of the Global Basic Observing Network (GBON)	5.9	<u>Jean-François Cretaux</u> / Stephan Dietrich	Review of GCOS-IP actions that are less urgent and/or less relevant for TOPC and agree on a way forward.	
	B3: New Earth observing satellite missions to fill gaps in the observing systems		TBD		
	C3: General improvements to in situ data products for all ECVs		TBD		
	C4: New and improved reanalysis products		TBD		
	D3: Improving discovery and access to data and metadata in Global Climate Data Centres		Stephan Dietrich		
	D4. Create a facility to access co-located in situ cal/val observations and satellite data for quality assurance of satellite products		Nadine Gobron		
			Stephan Dietrich		

	D5: Undertake additional in situ data rescue activities				
13:00-14:00	Lunch Break				
14:00-15:30	GCOS-IP actions & tables to be filled in	5			
	Presentation, review and approval of table A1.1, from Action A1: Ensure necessary levels of long-term funding support for in situ networks, from observations to data delivery (20 min)	5.10	Antonio and Panel Members	<p>A1.1: Undertake an assessment of current levels of funding support for global in situ networks delivering relevant in situ ECV data, including cal/val measurements, and identify those in situ networks with immediate or short-term problems around adequacy and sustainability of funding.</p> <p>GCOS Sec will provide a table to start assessment of in-situ networks.</p> <p>All panel members: review and filling in the table. Approved Table for A1.1</p>	Table for A1.1
	Presentation, review and approval of table C1.1, from Action C1: Develop monitoring standards, guidance and best practices for each ECV (20min)	5.11	Antonio and Panel Members	<p>Review existing monitoring standards, guidance, and best practices for each ECV, ensuring these reflect current state-of-the-art. Maintain a repository of this guidance for ECVs.</p> <p>GCOS Sec will prepare an example of the review of existing monitoring standards, guidance, and best practice for 1 ECV as an example.</p> <p>All panel members: review and filling in the table. Approved Table for A1.1</p>	Table for C1.1
	Presentation, review and approval of table D2.1, from Action D2: Ensure Global Climate Data Centres exist for	5.12	Antonio and Panel Members	D2.1: Identify ECVs for which adequate global centres do not exist or are insufficiently supported and facilitate and support the creation or	Table for D2.1

	all in situ observations of ECVs (20 min)			improvement of global data centres for these ECVs. Important for GTNs and other TOPC related data centres: review the list of datacentres directly or indirectly linked to TOPC. Link with Copernicus. GCOS Sec will provide a table to be used for the identification of ECVs in 1. All panel members: review and filling in the table. Approved Table for D2.1	
	Filling table exercise and way forward (30 min)	5.13	All	ECV stewards divided in 3 groups. Tables A1.1, C1.1 and D2.1 partially filled	
15:30-16:00	Coffee Break				
16:00-18:00	GCOS-IP & Inputs to Cross-Panel Groups (CPGs)	6			
	Action B9 Reporting and Discussion (20 min)	6.1	TOPC Rapporteur (TBD, Item 2.2)	B9: Improve estimates of latent and sensible heat fluxes and wind stress. Input for CPG "Air-sea & Air-land Fluxes"	
	Action B10 Reporting and discussion (20 min)	6.2	TOPC Rapporteur (TBD, Item 2.2)	B10: Identify gaps in the climate observing system to monitor the global energy, water and carbon cycles. Input for CPG "Earth Cycles"	
	Action D1 Reporting and discussion (20 min)	6.3	TOPC Rapporteur (TBD, Item 2.2)	D1: Define governance and requirements for Global Climate Data Centres. Input for CPG "Climate Data Centres"	
	Action F1 Reporting and discussion (20 min)	6.4	TOPC Rapporteur (TBD, Item 2.2)	F1: Responding to user needs for higher resolution, near real time data. F1.1: Identify the higher resolution	

				observations of ECVs to support the Climatic Impact-Drivers (CIDs). Input for CPG "ECVs and CIDs"	
	Decision GCOS SC-30/3 on ECVs Rationalization Reporting and discussion (20 min)	6.5	TOPC Rapporteur (TBD, Item 2.2)	Do we need "rationalization" for terrestrial ECVs? Input for CPG "ECVs Rationalization"	Decision GCOS SC-30/3
	Decision GCOS SC-30/4 on Climate Indicators Reporting and discussion (20 min)	6.6	TOPC Rapporteur (TBD, Item 2.2)	Climate indicators in the Biosphere. Input for CPG "Climate Indicators"	Decision GCOS SC-30/4
18:00	End of day 3				
No host dinner for JPM (all panels)					
Day 4: Thursday 29 th June 2023 – TOPC positioning					
Time	Item	N.	Presenter	Notes/Outcome	Docs/PPT
14:00-15:30	TOPC links with WMO, other GCOS sponsors and relevant entities	7			
	<ul style="list-style-type: none"> WMO relevant Task Teams WMO Rolling Review of Requirements UNESCO, UNEP, ISC FAO UNFCCC, IPCC GCW Other 	7.1 7.2 7.3	Antonio Bombelli Matieu Henry Colleen Mortimer	Highlight the TOPC members involvement in WMO relevant programmes, initiatives, working groups, etc. (e.g. WCRP, Hydrology, Cryosphere, etc.). Thoughts on more effective interactions with GCOS Sponsors. The outcome is to reinforce and, where possible, formalize, the mutual relationships.	RRR website Ex-officio PPT template
15:30-16:00	Coffee Break				
16:00-17:00	TOPC additional activities	8			

	<p>Updates from relevant “land-related activities and events” (30 min):</p> <ul style="list-style-type: none"> • Biomass ECV • GFOI – Global Forest Observation Initiative; GEOTREES; CEOS AFOLU roadmap; Land & Carbon Lab's - 2023 Summit. • WMO G3W (Global Greenhouse Gas Watch) • Others 	8.1	Martin Herold	Set the scene of relevant activities and events to drive the following open discussion about the TOPC role.	
		8.2	Antonio Bombelli		
	TCOP and Adaption (30 min)	8.3	Thelma Krug Antonio Bombelli All	Discuss the possible TOCP contribution to Adaptation, particularly in the frame of the Paris Agreement. Building on the outcomes of the GATT Fire Case Study discuss a way forward. Synergies with FAO Forest Based Adaptation. Link with the CPG on CIDs.	GATT Report GCOS SC Decision on Adaptation WildFire Case Study
17:00-18:00	CPG Follow-up	9			
	Follow-up (from the land perspective) of the morning CPG sessions (10 min per CPG)	9.1	TOPC rapporteurs for each CPG	To share the CPG discussion with the other TOPC members, highlight issues relevant for the terrestrial domain and practical implications for the TOPC panel (e.g. actions): work plan to address the CPG topics.	Follow-up (from the land perspective) of the morning CPG sessions (20 min per CPG)
18:00	End of day 4				
Excursion (optional)					
Day 5: Friday 30 th June 2023 – Way forward					
Time	Item	N.	Presenter	Notes/Outcome	Docs/PPT

11:00-13:00	Next Steps	10			
	TOPC role and strategy – open brainstorming discussion (1h)	10.1	Thelma Krug, All	How to better collocate TOPC in the current complex global terrestrial observations landscape? Write a TOPC position paper	Paper outline
	Upcoming meetings (10 min)	10.2	Antonio Bombelli	Relevant events where the TOPC presence is considered important	List of events
	TOPC way to work / interaction mechanism (20 min)	10.3	Martin Herold		
	TOPC Actions with assigned roles (30 min)	10.4	Antonio Bombelli	Including the outcomes of the CPG, GCOS-IP Actions, Tables, etc.	List of Actions
13:00-14:00	Lunch Break				
14:00-15:00	Closure	11			
	AOB and final discussion (1h)	11.1	All		
	Next TOPC meeting - tentative date (5 min)	11.2	Antonio Bombelli		
	Wrap up and Meeting Closure (25 min)	11.3	Thelma Krug and Martin Herold		
15:00	End of day 5				