

# Coordinated Action Plan

**12<sup>th</sup> Session**

**Item 1.3**

Recurrent actions CMRS-17, 20, and 21

**Action Plan & Creation of conditions to deliver CDRs**

WGClimate Coordinated Action Plan – V1.1, 17 May 2018

WGClimate Coordinated Action Plan

2018

WGClimate

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Document Reference: WGClimate/ActionPlan/Version 1.1, 17 May 2018

ECV Inventory

Gap Analysis & Recommendations

WGClimate ECV Inventory Gap Analysis Report V1.1 – May 2018

WGClimate ECV-Inventory Gap Analysis Report

2018

WGClimate

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Document Reference: WGClimate/REP/REP/Version 1.1, 17 May 2018

- ECV Inventory fully describes current and planned implementation arrangements (ECV-by-ECV) within the Architecture
- Content fully verified and updated annually with approval from CEOS and CGMS
- Informs space agency planning, improves availability and interoperability of climate data records
- Feeds material for all future responses of the space agencies to the GCOS status report and IP
- Is used by Climate Services to chose CDRs, e.g. Copernicus Climate Change Service
- Users can download the ECV Inventory content for own analysis, find direct access points to CDRs in the Inventory, get access to WGClimate gap analysis results and planned actions.

## WGClimate Coordinated Actions

Actionee	Action #	Description	Action feedback/closing document	Deadline	Status
WGClimate	1	WGClimate to develop a technical document to characterize the differences between CDR and Interim CDR, and to advice on the necessity and feasibility to separate the ECV inventory into CDR and ICDR.	Proposal available for WGClimate#10 Will be closed with the publication of the FCDR, CDR, ICDR definitions	31 Oct 2019	OPEN
WGClimate	2	WGClimate will consider implementation of an update to the ECV Inventory Questionnaire in preparation of the next update of the ECV Inventory. This should allow an easier accommodation of agencies anticipating the generation of CDRs, but where no firm programmatic commitment is currently in place.	Has been implemented for Inventory 3.0	28 Feb 2019	COMPLETED
WGClimate	3	WGClimate will forward the issues detected in the MIM and OSCAR databases during ECV Inventory Cycle 2 to CEOS and WMO (e.g. individual instrument lifetimes are largely missing from both databases).	Has been done and MIM has acted on it. No reaction from OSCAR. Completion is on WGClimate side.	30 Jun 2018	COMPLETED

# Actions II

## WGClimate Coordinated Actions

Actionee	Action #	Description	Action feedback/closing document	Deadline	Status
WGClimate	4	WGClimate will initiate a discussion with the CEOS MIM and WMO OSCAR representatives to assess options for and impacts of harmonizing these databases. This likely would have distinct advantages on maintenance, consistency and information transfer by agencies.	<p>Initial talks were held at CEOS TW2018 with the outcome that a standard language need to be found and agreed.</p> <p>Slow progress as MIM has done another synchronisation with OSCAR, but terminology issues prevails.</p> <p>Could mark it complete as there is no tendency to move on this. Last possible is to propose to all to either use OSCAR terminology or to move to CF conventions for all.</p>	31 Dec 2019	OPEN
WGClimate	5	WGClimate to establish an FCDR Inventory.	<p>Depends on closure of Action #1. Plan is to implement in Inventory 4.0 2020</p> <p>Can only be implemented after acceptance of FCDR definition.</p>	30 Jun 2020	OPEN

# Actions III

## WGClimate Coordinated Actions

Actionee	Action #	Description	Action feedback/closing document	Deadline	Status
WGClimate	6	CEOS and CGMS Agencies with interests in and/or mandates for developing climate data records will distribute the documentation on nomenclature within their agencies and foster usage. If needed WGClimate can assist this action with summarising the nomenclature in one document issued by the WGClimate.	Determine set of nomenclature for distribution. Can only be implemented after acceptance of FCDR, CDR, ICDR definition (Action #1).	31 Dec 2019	OPEN
WGClimate	7	GCOS will in the process of updating its Implementation Plan strive to better link ECV user requirements to climate applications to ensure a more complete understanding of the intended usage, information chain, and potential impacts on decision-making. WGClimate will support GCOS by formulating its needs and participating in related discussions.	Will be executed along the development of the next version of the GCOS IP.  The comments onto the requirements process and the requirements itself are an important step to complete this action.	31 Dec 2022	OPEN

# Actions IV

## WGClimate Coordinated Actions

Actionee	Action #	Description	Action feedback/closing document	Deadline	Status
WGClimate WGCV	8	CEOS and CGMS agencies with interest in the development of climate data records will sponsor or co-sponsor one or more workshops (and require a written report) to define the needs for validation of climate data records. This shall include consideration of fiducial reference measurements. The workshops will be conducted in collaboration of CEOS WGClimate with WGCV and relevant CGMS Working Groups.	<p>Discussion with CEOS WGCV lead took place in late 2018. Concrete plans for a workshop have not emerged.</p> <p>One opportunity may arise in 2022 as the EUMETSAT SAF network plans for a workshop on uncertainty characterisation that can be supported by WGClimate and WGCV. Maybe there are other known plans?</p>	31 Dec 2020	OPEN
WGClimate	9	CEOS and CGMS agencies with interest in and/or mandate for the development of climate data records are requested to include FCDR generation into their agency remit to ensure future availability of consistent Level-1 data for climate data records.	<p>Inventorise the agencies that have this remit to push others into the same direction.</p> <p>FCDR Definition needs to be acknowledged before this is done. This we could distribute to agencies to foster generation of FCDR.</p> <p>Evolution in SCOPE-CM and GSICS may also be helpful in this respect.</p> <p>The updated proposal for SCOPE-CM allows to address this with dedicated agency activities.</p>	long term	OPEN

# Actions V

## WGClimate Coordinated Actions

Actionee	Action #	Description	Action feedback/closing document	Deadline	Status
WGClimate	10	WGClimate will recommend appropriate international metadata standards to CEOS and CGMS agencies for consideration. CEOS and CGMS agencies will distribute this documentation within their agencies and foster usage.	Determine set of meta data standards for distribution Postponed to end of 2019. Needs deadline extension, WGClimate #13 could discuss metadata standards and the agreed ones could be moved forward to agencies.	31 Dec 2019	OPEN
WGClimate	11	CEOS and CGMS Agencies with interests in and/or mandates for developing CO <sub>2</sub> climate data records to strive for ensuring consistent, well-calibrated, bias-free time-series that can be continued into the future. They will coordinate their efforts in consultation with the AC-VC, WGClimate and WGCV to ensure appropriate use of data from multiple sensors. Agencies shall register resulting plans for new CO <sub>2</sub> CDRs with the ECV Inventory.	The Action is part of the CEOS Workplan The action becomes part of the roadmap for GHG monitoring and will be executed in three stages related to support to the first two stocktakes for the Paris Agreement and for the assumed date when an operational system should be in place  The first part potentially be finalised with acceptance of the GHG roadmap in autumn 2020. Otherwise	2021 2026 2030	OPEN

# Actions VI

## WGClimate Coordinated Actions

Actionee	Action #	Description	Action feedback/closing document	Deadline	Status
WGClimate	12	WGClimate and GCOS Secretariat to monitor the status of the GCOS Action T71 and to report back to CEOS and CGMS.	Do at next GCOS Status report using ECV Inventory output.  Use Inventory output	2021	OPEN
WGClimate	13	The AC-VC, in collaboration with WGClimate, to develop a plan to address the measurement gap for stratospheric CH <sub>4</sub> profiles in order to provide FCDR/CDR in the future. This plan shall be subject to endorsement by WGClimate.	Action is not part of CEOS Work Plan per se  Could be executed with establishing the roadmap for GHG monitoring	31 Dec 2019	OPEN
WGClimate	14	CEOS and CGMS Agencies with interests in and/or mandates for developing CH <sub>4</sub> climate data records to strive for ensuring consistent, well-calibrated, bias-free time-series continued into the future. They will coordinate their efforts in consultation with the AC-VC, WGClimate and WGCV to ensure appropriate use of data from multiple sensors. Agencies shall register resulting plans for new CO <sub>2</sub> CDRs with the ECV Inventory.	The action becomes part of the roadmap for GHG monitoring and will be executed in three stages related to support to the first two stocktakes for the Paris Agreement and for the assumed date when an operational system should be in place	2021 2026 2030	OPEN

# Actions VII

## WGClimate Coordinated Actions

Actionee	Action #	Description	Action feedback/closing document	Deadline	Status
WGClimate VC-P CGMS-IPWG SCOPE-CM	15	WGClimate will initiate a joint discussion with CEOS P-VC, CGMS-IPWG and WMO SCOPE-CM to develop a plan for providing an optimal set of precipitation CDRs.	<p>CEOS P-VC is acting in Action VC-44, deadline Q4/2019.</p> <p>IPWG has not been involved</p> <p>SCOPE-CM could develop a project in the future.</p> <p>Need to check the CEOS Work Plan 2020-2022 if this action has been followed.</p>	31 Dec 2019	OPEN
VC-SST	16	The CEOS SST-VC to work with GHRSSST on future utilisation of the mentioned data sources and regularly inform WGClimate on the progress which shall become measurable in the ECV Inventory as well.	CEOS SST VC has stated potential usefulness of historical data such as from HIRS for SST data records. Resources are needed to make further analysis.	31 Dec 2019	OPEN
WGClimate	17	CEOS and CGMS Agencies with experience in microwave radiometry to help maximise the lifetime of the AMSR-2 instrument on GCOM-W1.	AMSR-2 is operating and there is no indication that it will be stopped without reason.	SIT-34	COMPLETED

# Actions VIII

## WGClimate Coordinated Actions

Actionee	Action #	Description	Action feedback/closing document	Deadline	Status
WGClimate	18	CEOS and CGMS Agencies to strive to ensure that the needed C-band microwave data are made publicly available and can be used for the generation of climate data records.	Check availability, maybe with WGISS, then point out what is missing. EUMETSAT and NASA explored the availability of SMMR original count data. They may have been found but story is not completed. This would enable recalibration of SMMR C-band data if feasible to allow for historic SST retrieval.	47th CGMS and 33rd CEOS Plenary	OPEN
WGClimate VC-SST	19	CEOS and CGMS Agencies with interests in and/or mandates for developing C-band microwave radiometers to coordinate their efforts to arrive at an operational capability, and coordinate their efforts with WGClimate and the SST-VC.	Realisation of AMSR-3 on Gosat-3 is more likely now. European activity on planning the Copernicus CIMR mission has advanced to MRD. This still requires the next phase of the Copernicus programme with the next EU budget.	long term	OPEN

# Actions IX

## WGClimate Coordinated Actions

Actionee	Action #	Description	Action feedback/closing document	Deadline	Status
WGClimate	20	CEOS and CGMS Agencies with interests in and/or mandates for developing Sea Surface Salinity climate data records to strive to ensure consistent, well-calibrated, bias-free time-series from existing measurements and to coordinate their efforts with the WGClimate to ensure appropriate use of data from multiple sensors. The resulting agency plans shall be registered with the ECV Inventory.	Plan of ESA is available in ECV Inventory. NASA has some plans in the Decadal Survey.	SIT-34	COMPLETED
WGClimate	21	CEOS and CGMS Agencies with interests in and/or mandates for developing L-band microwave radiometers to coordinate their efforts to arrive at an operational capability. Progress on sustaining the SSS CDRs will be reported to the WGClimate through agency representatives.	European activity on planning the Copernicus CIMR mission has advanced to MRD. This still requires the next phase of the Copernicus programme with the next EU budget.	long term	OPEN

# Actions X

## WGClimate Coordinated Actions

Actionee	Action #	Description	Action feedback/closing document	Deadline	Status
VC-LSI	22	LSI-VC to formulate future high resolution missions for Land Surface Temperature climate data records aiming at seamless continuity of CDRs.	Action was discussed with LSI-VC and should appear in CEOS work programme 2020-2022.	31 Dec 2019	OPEN
VC-LSI	23	The LSI-VC to assess the usefulness of available data from multiple sensors for the generation of climate data records. Resulting plans at Agencies to generate climate data records shall be registered with the ECV Inventory.	Action was discussed with LSI-VC and should appear in CEOS work programme 2020-2022.	31 Dec 2019	OPEN
VC-LSI TOPC	24	The LSI-VC and GCOS TOPC to assess the climate user community needs for LAI that are not currently exploited from existing missions to enable planning for further Leaf Area Index data records as appropriate. Resulting plans at Agencies to generate climate data records shall be registered with the ECV Inventory.	Action was discussed with LSI-VC but implementation postponed after situation is described in ECV Inventory#3 related gap analysis.	31 Dec 2019	OPEN

# Actions XI

## WGClimate Coordinated Actions

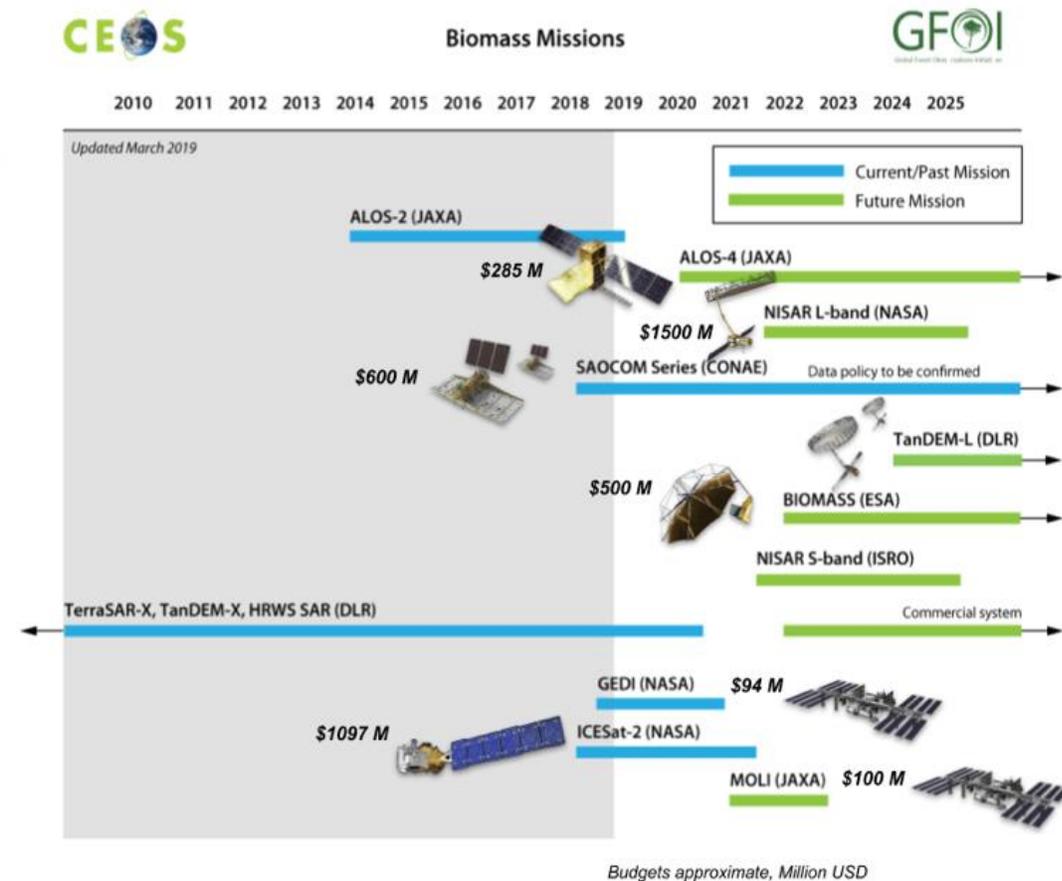
Actionee	Action #	Description	Action feedback/closing document	Deadline	Status
CEOS MIM Team WMO OSCAR	25	CEOS and WMO to update the MIM and OSCAR databases with respect to Above-ground Biomass, based on information from the gap analysis report provided by WGClimate. This action shall be performed together with Actions #3 and #4.	<p>OSCAR and MIM does contain biomass with some links to sensors. However, information does not seem to be up to date.</p> <p>MIM has done another synchronisation with OSCAR as reported in joint meeting with LSI-VC at WGClimate #11.</p> <p>Action might be closed if biomass information is correct.</p>	33rd CEOS Plenary	OPEN
WGClimate	26	CEOS and CGMS Agencies to strive to ensure that the needed C-band and L-band SAR data are publicly available and can be used for the generation of climate data records.	Check availability, maybe with WGISS, then point out what is missing. May strive for CEOS Plenary action.	33rd CEOS Plenary	OPEN

# Actions XI

## WGClimate Coordinated Actions

Actionee	Action #	Description	Action feedback/closing document	Deadline	Status
WGClimate	27	CEOS and CGMS Agencies, with interests in and/or mandates for developing instruments dedicated to the derivation of Above Ground Biomass, to coordinate their efforts to reach continuous measurement availability. They will coordinate their efforts with WGClimate to ensure future provision of adequate CDRs.	CEOS has made Above ground biomass a central activity during the Australian SIT lead.	long term	OPEN
WGClimate	28	CEOS and CGMS Agencies, with interests in and/or mandates for developing instruments dedicated to the derivation of Above Ground Biomass, to coordinate their efforts to develop high resolution SAR/LIDAR measurements. They will coordinate their efforts with WGClimate to ensure future provision of adequate CDRs.	Propose to merge this action with Action 27. Several future missions are planned by various space agencies. May delegate task to LSI-VC subgroup on Forest&Biomass	long term	OPEN

- Part of current SIT Chair Priority
- Substantial investment (\$4Bn+) in biomass- related mission launches 2018-2024;
- Strong interest in biomass from sectors related to carbon emissions, forest monitoring, etc.
- Action might be delegated to LSI-VC Forest&Biomass subgroup and integrated into next CEOS work plan or retired depending on how the commitment for these missions is.



# Issues and new actions

- An apparent issue is the implementation of distributed actions in CEOS, as it costs a lot of energy to implement this into the CEOS Work Plan – we need to continue to be proactive. Reactions from VCs are positive but they are careful to not commit if in doubt;
- On WGClimate side the next topic on definitions and standards is very important as it impacts several of the coordinated actions to provide guidance to agencies for delivering CDRs;
- It is too early for stating new actions related to ECV Inventory #3 but I will try to be very slim in my proposals.