ESA Climate Change Initiative

Colocation Meeting, 9-11 September 2020

Online meeting

NEW AGENDA

DAY 1 – Wednesday 9 September 2020 (14:00 CET)	
14:00	**Opening and Welcome** Maurice Borgeaud, H/D-EOP-S
14:10	**Presentation** ESA's role in providing evidence of a changing climate, including CCI's achievements Josef Aschbacher, Director EOP
14.30	News and update on implementation for CCI+ Susanne Mecklenburg
14:40	**Session 1: CCI's contribution to international climate initiatives** ***Organiser: S.Mecklenburg*** ***Moderator: S.Hebden*** **Panel discussion** • Briefings per topics below will be distributed prior to meeting • Brief intervention (2-3 min) by each panel member at start of session • Q&A **Briefings available before meeting on** • WCRP's New Strategy and Implementation: opportunities for a follow-on ESA Climate Change Initiative Detlef Stammer (Michel Rixen), WCRP • CEOS/CGMS WGClimate activities Albrecht von Bargen, DLR, CEOS/CGMS WGClimate • Towards a GEO strategy on EO and climate action Sara Venturini, GEO • IPCC – how can you contribute? Myles Allen, Oxford University • EU's Green Deal, TBC **Seed questions** o How can ESA CCI contribute

	▪ to the new WCRP strategy and its implementation ▪ to the GCOS revised implementation plan ▪ to the CEOS/CGMS WG Climate activities o Should ESA CCI contribute as a programme collectively to IPCC Assessment Reports? o What new data can CCI provide to achieve SDG and climate resilience and adaptation activities?
10 min BREAK 15:40	**Session 2: Cross-ECV – from current to future activities, lessons learned and setting priorities for future activities** ***Organiser: A.Bartsch, D.Ghent*** ***Moderator: C.Albergel, C.Donlon*** **Presentations** New science questions identified by IPCC AR 6 Richard Jones, UK Metoffice Towards cross-ECV activities in the revised GCOS implementation plan - what are the main open questions, Han Dolman, GCOS Earth system science: Future Earth's interdisciplinary research projects and networks, Wendy Broadgate Future Earth
16:40	**Breakout session** **(attendees to sign up in advance to their preferred session)** Interactions on • 2a Land-atmosphere (Facilitators: W.Dorigo, L.Good, C.Albergel) • 2b Ocean-atmosphere (Facilitators: C.Merchant, J.Boutin, P.Cipollini) • 2c Cryosphere-atmosphere (Facilitators: A.Shepherd, T.Lavergne, A.M. Trofaier) • 2d Land-ocean (Facilitators: S.Sathyendranath, • J.F.Cretaux, J.Benveniste) **Seed questions** o How to further combine individual ECVs in a more system focussed approach? o Which cross-ECV do we want to support but need further input, both in terms of existing ECVs' contribution and new ECVs? o How could we in future put ECVs into clusters? o How could projects facilitate benefits for society e.g. provisions around scaling/regionality challenges faced by potential operational users?
17:30	**Feedback from Breakout Session**

18:00	**End of DAY 1**
DAY 2 – Thursday 10 September 2020 (10:00 CET)	
10:00 **10 min BREAK** 10:55	**Session 3: Earth Observation for UNFCCC Paris Agreement** ***Organiser: M. Hegglin, M. Buchwitz*** ***Moderator: S. Pinnock, F.M.Seifert*** **Presentations** Global Stocktake – how does it work? Florin Vladu, UNFCCC What can EO do for the UNFCCC Paris Agreement? Michaela Hegglin, University of Reading CO_2 Human Emissions project Gianpaolo Balsamo, ECMWF -- **Breakout Session** Identify case studies demonstrating how EO can support the implementation of the Paris Agreement. • 3a Group #1: Carbon cycle science in support of monitoring, reporting and verification on GHG emissions on a national level (Facilitator: P. Ciais, E.Webster, BEIS) • 3b Group #2: Verifying NDCs and setting new targets for land-use change (Facilitator: Martin Herold, P. Defourny) • 3c Group #3: CDRs to help monitor the health and tipping points of oceans and polar regions (Facilitator: F.Ardhuin, R.Forsberg) • 3d Group #4: CDRs to monitor local scale and regional terrestrial tipping points, and support mitigation and adaptation (glaciers, urban heat, drought, lakes, frozen land) (Facilitator: S. Simis, D. Ghent) • 3e Group #5: Thinktank on other areas of potential tipping points or climate mitigation and adaptation (Facilitator: M. van Roozendael, M.Hegglin) **Seed questions** o What are the main indicators of climate processes and the climate system to be considered in the Global Stocktake? o Which ECVs are key in characterising these indicators? o What observational requirements are necessary to yield useful constraints? o What is the role of models (GCMs, ESMs, and data assimilation systems) in adding value to EO?

11:55 12:55 **10 min BREAK** 13:05 14:00 15:00	**Feedback from Breakout Session** **End of Session 3** --- **Briefings on** • Knowledge Exchange, Ed Pechorro, Paul Fisher, Sophie Hebden • How to use the DIAS service for CCI, Albrecht Schmidt, ESA • Heritage Space – availability of data for CCI, Mirko Albani, ESA **Poster session:** **Highlights from individual ECV projects in preparation for the Mid Term Review meeting** **End of DAY 2**
DAY 3 – Friday 11 September 2020 (10:00 CET)	
10:00 10:10 10:25 10:40 10:55	**Session 4: AI Contribution to Climate Data and Modelling** ***Organiser: U. Willen, C. Brockmann, A. Waterfall, ~~R. Hollmann~~*** ***Moderator: E. Pechorro, M. Engdahl*** AI for Climate Modelling Peter Düben, ECMWF AI activities relevant for Climate in ESA's Phi-Lab Giuseppe Borghi, ESA CCI & AI Carsten Brockmann, Brockmann Consult **Breakout session (4 x parallel groups)** **Attendees to sign up in advance to their preferred group.** Identified science challenges & feasibility of potential AI solutions - • Group #1 (Facilitator: Carsten Brockmann) # Explainable AI on CCI ECVs # Intelligent Gap Filling for CCI ECVs • Group #2 (Facilitator: Ulrika Willén) # Teleconnections Applying CCI ECV Parameter(s) # Attributing Extreme Weather Events to Climate Change via CCI ECVs • Group #3 (Facilitator: TBC) # Connecting Atmospheric CCI ECVs to Ground Phenomena # Cloud Masking for CCI ECVs • Group #4 (Facilitator: Alison Waterfall) # Predicting Changes in Water Cycle Via CCI ECVs # Inferring Precipitation via CCI ECVs

11:40 **10 min BREAK**	**Feedback from Breakout Session**
12:30 13:00 14:00	**Session 5: Collaboration between CCI and C3S** ***Organiser: T.Popp, F.Paul*** ***Moderator: A.M.Trofaier, O.Arino, J.Munoz*** **Presentations** Collaboration between CCI and C3S • On common R&D interests, Carlo Buontempo, ECMWF, Susanne Mecklenburg, ESA • On data standard and interoperability, Ed Pechorro, ESA, Andre Obregon (ECMWF) **Seed questions** • What R&D activities are needed to support C3S operational CDR production? • Which ECVs should CCI prepare for future use by C3S? • How can we improve interoperability and efficiency in the CCI-C3S collaboration? **End of Session 5**
LUNCH BREAK	
15:00 16:15 16:30	**Session 6: Evolution of CCI into phase 2 and beyond to a new ESA Climate programme - the views of the Science Leaders** ***Organiser: D.Ghent*** ***Moderator: Science Leads (TBC)*** Summary and closing remarks Susanne Mecklenburg **End of Meeting**