

WDAC-3 Report

Heidelberg, July 1, 2014

WCRP Data Advisory Council (WDAC)

Mission

- act as a single entry point for all WCRP data, information, and observation activities with its sister programmes,
- coordinate their high-level aspects across the WCRP,
- ensure cooperation with main WCRP partners such as GCOS, CEOS, CGMS and other observing programmes

WDAC works with the WCRP Modeling Advisory Council to promote effective use of observations with models and to address issues related to the coordinated development of data assimilation, reanalysis, Observing System Sampling Experiments, fluxes and paleoclimatic data and their assessments (metrics, *etc.*).

WDAC-3 Hosting

- National University of Ireland – Galway, May 6-7, 2014
- Hosted by Peter Browne, President, NUI-G
- Local Host Brian Ward, SOLAS rep to WDAC
- WDAC is very thankful for NUI-G's hospitality – it made for a wonderful setting and great meeting

JSC34 Recommendations [1]

- Need for best practices on process of publishing datasets and their endorsement. Request a white paper from projects, starting from GEWEX. WDAC will coordinate development of a WCRP-wide dataset quality assessment process. WDAC will distribute to other Core Projects for input/comment and make it available for Spring 2014 discussions.
- Need for guidelines for submitting datasets to ESGF. Core Project data sets will be considered as early entrants to ESGF. Core Projects and other entities represented on WDAC should nominate datasets for inclusion in the ESGF (both old and new) by next WDAC meeting

JSC34 Recommendations [2]

- Following the lead of SPARC, WDAC to consider the use of Open access journals citations for data sets via use of DOI across the whole of the WCRP. WDAC will discuss and draft a recommendation to the JSC on using DOIs as a way to document data sets from Core Projects. This topic will be discussed at WDAC-3.
- Evaluate WCRP efforts on surface fluxes relative to plan developed across CLIVAR, GEWEX, WGNE, SOLAS as posted on the WCRP website. Core Projects should nominate representatives to surface flux discussion in early 2014. GEWEX and CLIVAR to consider joint session making scientific progress on surface fluxes at 2014 Pan GEWEX/CLIVAR meetings. WDAC to include a specific agenda item on fluxes at its next session and seek ways to reinvigorate this effort.

WDAC-3 Overview

- Fluxes: observations, modeling, data assimilation, reanalysis, including review of activities within core projects
- Data dissemination, inventories, obs4MIPS, *etc.*
- Quality assessment and best practices
- Publication guidelines
- WDAC Business



WCRP Data Advisory Council 3rd Session

6-7 May 2014

AULA MAXIMA, National University of Ireland, Galway, IRELAND

Draft Agenda as of 23 April 2014

Time	Agenda Item	Docs
Tuesday 6 May 2014		
1. Introduction – Chair O. Brown		
08h30	a. Introduction – WDAC Co-chairs	
08h40	b. Welcome address – J. Browne, President NUI Galway	
08h50	c. Meeting arrangements – B. Ward	
09h00	d. Adoption of agenda	
09h10	e. Review of WDAC2 actions – O. Brown	
09h30	f. WCRP Update, JSC34 – M. Rixen	
2. Flux observations and analysis - Chair O. Brown <i>Briefers are invited to focus their presentation on the observation and analysis of fluxes</i>		
09h50	a. Flux measurements: introduction – C. A. Clayson	
10h10	b. GCOS update – M. Bourassa (remotely), R. Husband and K. Hill	
10h50	c. CEOS – J. Bates (remotely)	
11h10	<i>Coffee break</i>	
11h30	d. CGMS – J. Schulz	
11h50	e. SOLAS – B. Ward	
12h10	f. Discussion	
12h30	<i>Lunch</i>	
3. Flux analysis and modeling - Chair T. Koike		

Briefers are invited to focus their presentation on the analysis and modeling of fluxes

13h30	a. Fluxes and modeling: an introduction – J. Mitchell	
13h50	b. CLIVAR Ocean-atmosphere interactions– P.-P. Mathieu	
14h10	c. GEWEX Land-atmosphere interactions – J. Schulz	
14h30	d. SPARC Stratosphere-troposphere interactions – K. Sato	
14h50	e. CliC Cryosphere interactions – W. Meier (remotely)	
15h10	f. IGBP Biogeosphere interactions– D. Schimel (remotely)	
15h30	<i>Coffee break</i>	
16h00	g. Reanalyses – M. Bosilovich	
16h20	h. Data assimilation, uncertainties – P. Poli obo J.-N. Thépaut	
17h00	i. Discussion and way ahead	
18h00	j. Welcome address – J. Heffernan, Director, Marine Institute (TBC)	
18h30	<i>Icebreaker</i>	
19h30	<i>Dinner</i>	

Wednesday 7 May 2014

4. Data dissemination, inventories, obs4MIPs – Chair O. Brown

08h30	a. osb4MIPs – P. Gleckler	
09h15	b. ana4MIPs – M. Bosilovich	
09h45	c. ECV inventory – C. Lief	
10h15	d. GEO – T. Koike	
10h30	<i>Coffee break</i>	
11h00	e. Discussion - all	
12h30	<i>Lunch</i>	

5. Quality assessment and best practices – Chair T. Koike

14h00	a. Data set assessments, best practices – J. Schulz	
14h30	b. Open access publication guidelines – K. Sato	
15h00	c. Discussion - all	

15h30	<i>Coffee break</i>	
6. WDAC Business – Chair O. Brown		
16h00	a. Memberships	
16h10	b. Next WDAC Meeting – Date/Venue	
16h20	c. AOB	
16h30	d. Review of Draft actions list	
17h00	<i>Meeting ends</i>	

Topic	Outcome
Surface Fluxes:	<p>Establish Surface Flux Task Team</p> <p>Develop a ToR and candidate membership recommendation to address:</p> <ul style="list-style-type: none"> -Flux-ECV cross walk -Gaps in observing systems -Tracking of community activities -Single Point-of-Contact for WCRP surface fluxes
Reanalysis/Fluxes	<p>Circulate CORE-CLIMAX draft report to WDAC</p> <p>Draft concept paper on a “RIP” (S-RIP+CORE-CLIMAX efforts as potential basis)</p> <p>Recommend Reanalysis as the planning focus for WDAC-4</p> <p>Identify support needs for <i>Input Obs for Reanalysis Workshop</i> (6/2015)</p> <p>Initiate planning for <i>5th International Reanalysis Conference</i> (2016)</p> <p>Resolve reanalysis.org hosting support</p>
Dataset Quality Assessment	<p>Accepted GEWEX Draft Report</p> <p>Add obs4MIPs section</p> <p>Initiate Internal WDAC review and approval</p> <p>Circulate to core projects and GCOS panels when updated</p>
GEO	Register ESGF/COG as GEO resource
WDAC Online pages	<p>Insert Link to WG Climate</p> <p>Update ToRs to reflect WG Climate</p>
Open Access Publication and DOI	Endorsed
WDAC-4	Asheville, NC USA – April 2015



Surface Flux Task Team Organizing Committee

Members: Carol Anne Clayson (lead, WHOI), Pierre-Philippe Mathieu (ESA), Brian Ward (NUI-G), Jörg Schultz (EUMETSAT), Peter Gleckler (PCMDI)

Develop a ToR and candidate membership recommendation to address:

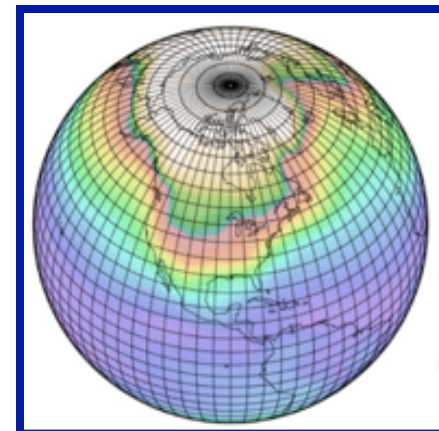
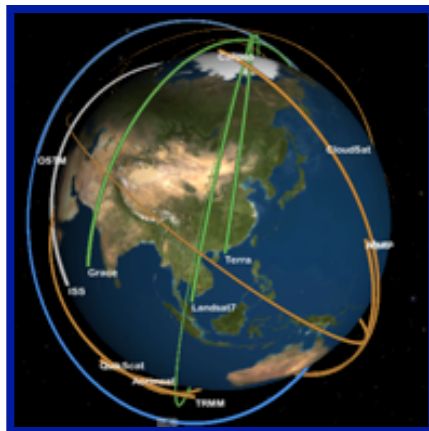
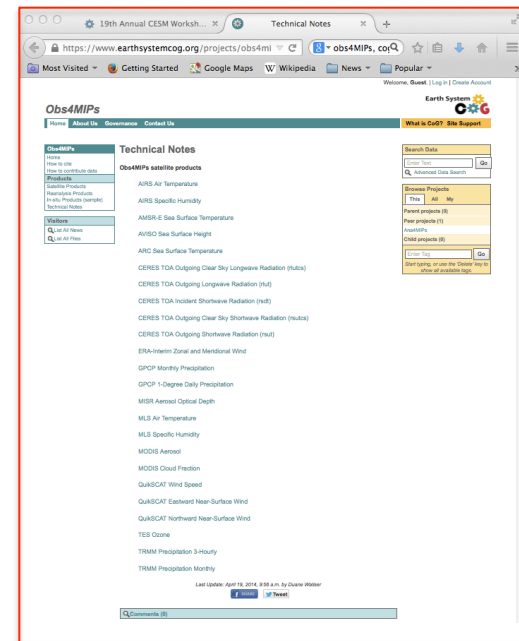
- Near-term flux discussion items
- Flux – ECV cross walk
- Gaps in Observing Systems
- Cross community tracking of surface flux activities, WCRP single point-of-contact, *etc.*

An update on obs4MIPs

www.earthsystemcog.org/projects/obs4mips

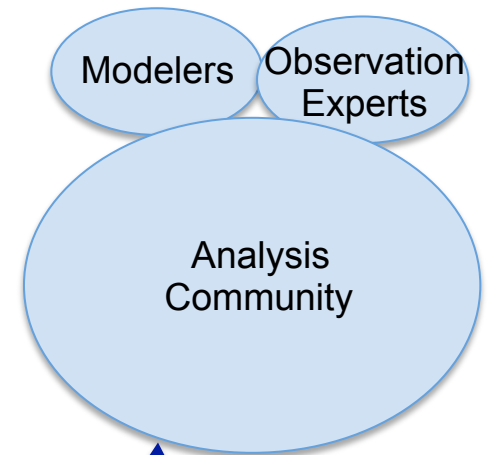
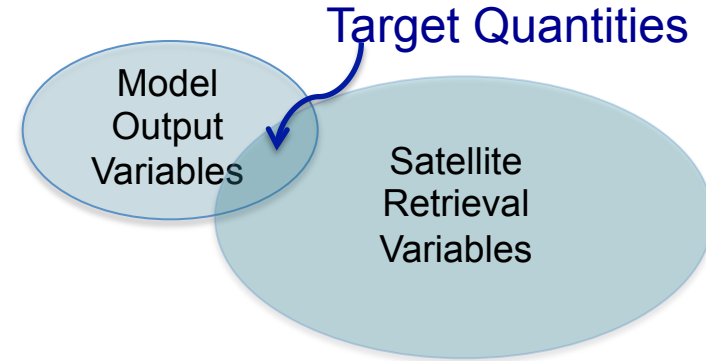
Members: P. Gleckler (co-chair; PCMDI), D. Waliser (co-chair; JPL), S. Bony (IPSL), M. Boslovich (GSFC), H. Chepfer (IPSL), V. Eyring (DLR), R. Ferraro (JPL/NASA), R. Saunders (MOHC), J. Schultz (EUMETSAT), K. Taylor (PCMDI), J.-N. Thepaut, (ECMWF)

- Progress with obs4MIPs since JSC-34
- Challenges and critical infrastructure
- obs4MIPs-CMIP6 meeting
- A WDAC task team and next steps . . .



obs4MIPs: Initial 4 Commandments

1. Use the [CMIP5 simulation protocol](#) (Taylor *et al.* 2009) as guideline for [selecting observations](#). Matching variable required ([This will adapt to CMIP6](#))
2. Observations to be [technically aligned with CMIP Model output](#) (e.g. NetCDF files with CF Convention)
3. Include a [Technical Note for each variable](#) describing observation and use for model evaluation (at graduate student level).
4. Hosted side by side [on the ESGF](#) with CMIP model output.



Initial Target Community

obs4MIPs: Current Set of Observations

AIRS (≥ 300 hPa)	Temperature profile
	Specific humidity profile
MLS (< 300 hPa)	Temperature profile
	Specific humidity profile
QuikSCAT	Ocean surface winds
TES	Ozone profile
AMSR-E	SST
ATSR (ARC/CMUG)	SST
TOPEX/JASON	SSH
CERES	TOA & Surface radiation fluxes
TRMM	Precipitation
GPCP	Precipitation
MISR	Aerosol Optical Depth
MODIS	Cloud fraction
	Aerosol Optical Depth
NSIDC	Sea Ice (in progress)

CFMIP-OBS Provided

Cloudsat	Clouds
Calipso	Clouds & Aerosols
ISCCP	Clouds
Parasol	Clouds & Aerosols

Several products from ESA now being prepared/evaluated for obs4MIPs

ana4MIPs Provided Reanalysis

ECMWF	Zonal Winds
	Meridional Winds
<i>Expected to expand to other fields and sources of reanalysis</i>	

Initial in-situ Example

ARMBE/DOE	Clouds, Radiation, Meteorology, Land Surface, etc
<i>A decision has not been made yet as to whether obs4MIPs should strive to include in-situ data</i>	

obs4MIPs-CMIP6 Meeting & WDAC Task Team Meeting

(NASA HQ, April 30-May1, 2014)

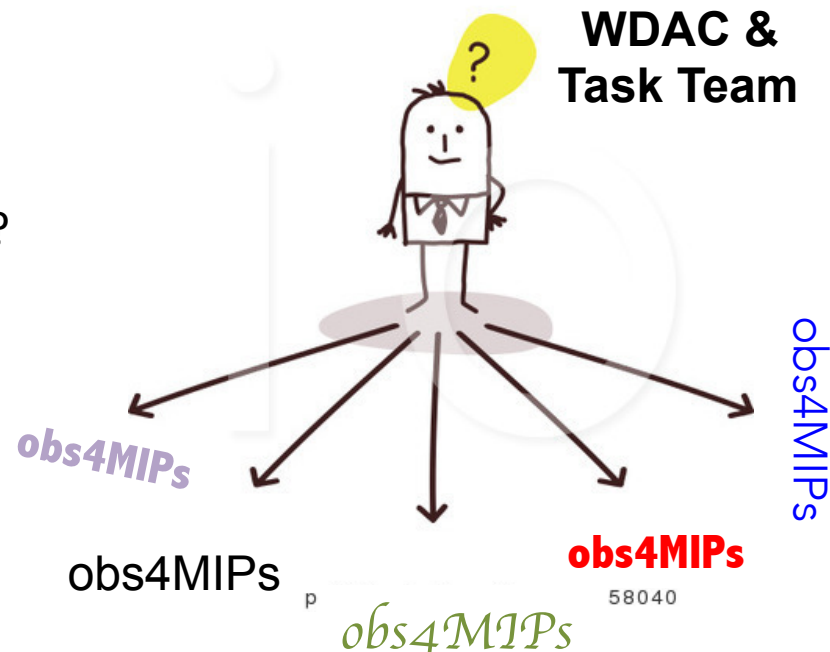
Meeting objective: Ensure relevant satellite data sets currently (or potentially) available can be fully utilized for CMIP6 research

***Meeting Report Under Preparation
With Summary to BAMS***

Great discussions!

Examples:

- More data sets – which ones, priority?
- Higher frequency (strong interest in this)
- Process & Model Development focus – how to?
- Relaxing the “model-equivalent” criteria – how far?
- Better characterization of obs uncertainty needed
- Optimizing connections to ana4MIPs/reanalysis
- Satellite Simulator/Observation Proxy priorities?
- Use of averaging kernels – how far?
- Geostationary priorities/guidance
- Gridded In-Situ data sets?
- In-Situ – where to start, how far to go?



Invite only; ~60 attendees

Mix of observational experts, modelers, managers

Many Questions and Potential Priorities for WDAC Task Team

Implementation Challenges And Immediate Needs

Items to be addressed by WDAC Task Team and Possibly WIP

obs4MIPs leverages existing CMIP infrastructure, but additional work is still needed to better accommodate observations and reanalysis datasets

- A streamlined “recipe” is needed for preparation/ hosting obs4MIPs datasets
- Guidelines/requirements for the submission and “acceptance” process
- Measures of “data quality” or a “data maturity matrix” are likely needed
- Is there a means for quality control of submitted data sets?
- Is there a means to provide feedback and a “blog” of sorts for each data set where users can ask questions and seek answers?
- Do we need to ensure stewardship of each data set?
- If a proposer isn’t connected to an ESGF node, where/who should it go to?
- *etc*

Standardization requires:

- Conventions and controlled vocabularies
- Tools enforcing or facilitating conformance

Standardization enables:

- ESG federated data archive
- Uniform methods search and access data, potential to coordinate across WCRP projects

Efforts are underway to address these needs but a number of these issues require some technical work which at the moment is largely being done on a volunteer basis

Recommended JSC Actions

- Endorse formation of a WCRP-wide “Surface Flux Task Team”
- Endorse the use of open access publications and DOIs within WCRP, so that data sets can be easily cited and the efforts of data producers can be more widely recognized.

Thank you