

# WDAC

**Geneva, April 10, 2015**

# 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 Current Activities

- **Reanalysis**
- **Surface Fluxes**
- **obs4MIPs Datasets**
- **Dataset Quality Assessment**
- **ECV Inventory (with WG-Climate)**

## Reanalysis Activities

- Copernicus Climate Change Service / ECMWF hosting a workshop on “Climate Observation Requirements”, 29 Jun – 1 Jul 2015, with WDAC4
- WCRP Task Team for Intercomparison of Reanalyses – *White Paper* (Michael Bosilovich) – Discussion at WDAC4
  - Expecting to endorse formation of new Task Team at WDAC4
- Earth System Reanalysis initiative:
  - a major outcome of WCRP-IPCC Bern meeting, Sept 2014
  - March meeting in Paris to define scope for discussion at JSC36
  - (see also JSC36 discussions on Planet Data Initiative)
- 5<sup>th</sup> *International Reanalysis Conference* planning for 2016-2017 (Jean-Noël Thépaut, Michael Bosilovich and Michel Rixen)

# Surface Flux Task Team

Organizing Committee Members:

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

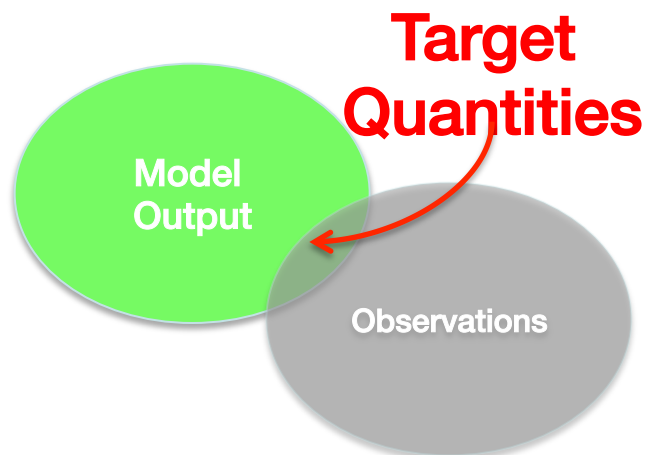
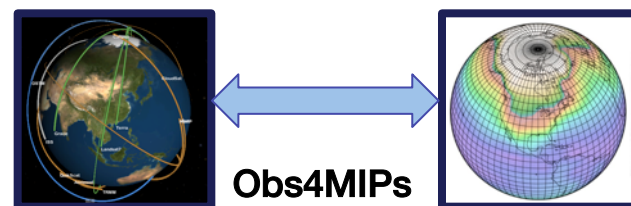
Develop a ToR and candidate membership recommendations to address:

- 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.*

# obs4MIPs Task Team

[<https://www.earthsystemcog.org/projects/obs4mips/>]

- WDAC Task Team oversight of a project for identifying, documenting and disseminating observations for climate model evaluation
- CMIP data is disseminated via the Earth System Grid Federation (ESGF) to the climate analysis community (NetCDF, CF convention)
- Obs/reanalysis data sets accessible on the ESGF alongside the CMIP model output, adhering to the same data conventions, greatly facilitating research
- Over 50 documented data sets (including Tech note), with new contributions in progress
- May 2014 *obs4MIPs for CMIP6 workshop* (Meeting Summary, Ferraro *et al.*, *BAMS*, 2015)
- New dataset call expected in 2015



# obs4MIPs Task Team [3]

## current satellite datasets\*

### Air Temperature

Ambient Aerosol Optical Thickness at 550 nm

CALIPSO 3D Clear fraction

CALIPSO 3D Undefined fraction

CALIPSO Clear Cloud Fraction

CALIPSO Cloud Fraction

CALIPSO High Level Cloud Fraction

CALIPSO Low Level Cloud Fraction

CALIPSO Mid Level Cloud Fraction

CALIPSO Scattering Ratio

CALIPSO Total Cloud Fraction

Cloud Fraction retrieved by MISR

CloudSat 94GHz radar Total Cloud Fraction

CloudSat Radar Reflectivity CFAD

Fraction of Absorbed Photosynthetically Active Radiation

ISCCP Cloud Area Fraction (Joint histogram of optical thickness and CTP)

ISCCP Mean Cloud Albedo (Cloud-fraction weighted & daytime)

ISCCP Mean Cloud Top Pressure (Cloud-fraction weighted & daytime)

ISCCP Mean Cloud Top Temperature (Cloud-fraction weighted & daytime)

ISCCP Total Cloud Fraction (daytime only)

Leaf Area Index

Mole Fraction of O3

Near-Surface Wind Speed

PARASOL Reflectance

### Precipitation

Sea Surface Height Above Geoid

Sea Surface Temperature

Specific Humidity

Surface Downwelling Clear-Sky Longwave Radiation

Surface Downwelling Clear-Sky Shortwave Radiation

Surface Downwelling Longwave Radiation

Surface Downwelling Shortwave Radiation

Surface Upwelling Clear-Sky Shortwave Radiation

Surface Upwelling Longwave Radiation

Surface Upwelling Shortwave Radiation

TOA Incident Shortwave Radiation

TOA Outgoing Clear-Sky Longwave Radiation

TOA Outgoing Clear-Sky Shortwave Radiation

TOA Outgoing Longwave Radiation

TOA Outgoing Shortwave Radiation

Total Cloud Fraction

Water Vapor Path

\*Sorted by CF Variable *Long Name*

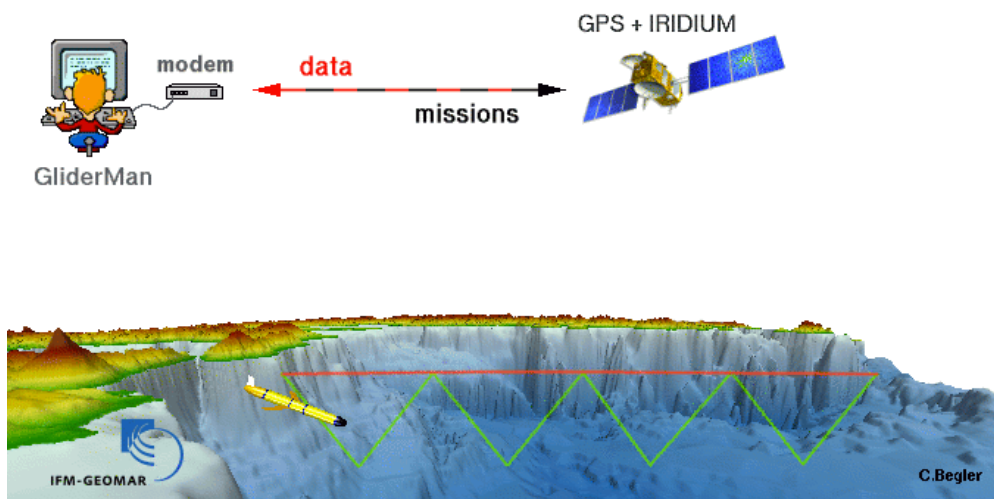
## WDAC4 2-3 July 2015

- *obs4MIPs* – review of current status and new dataset inclusion
- *ana4MIPs* – limit to quantities used for model evaluation
- WCRP Core Projects Dataset publication/exchange on ESGF
- *S-RIP* – SPARC Reanalysis IP, coordinate with *ana4MIPs* / CREATE-IP – discuss formation of task team based on White Paper
- Surface Flux Task Team Formation – ToR, members, *etc.* discussion
- Dataset quality assessment best practices/guidelines – GEWEX draft report review and discussion
- *ECV Inventory* – Status update(s)
  - <http://ecv-inventory.com>
  - Initially satellite, then *in situ* being implemented
  - WG-Climate, WMO and GCOS are partners in this effort
  - Also linking with EC and GEO efforts in this area
- Review outcomes of Copernicus workshop held same week



# WCRP – Polar Challenge

Be the first to complete a 2000 km continuous mission with an autonomous underwater vehicle (AUV) under the sea ice



<http://www.wcrp-climate.org/polarchallenge>

## WDAC – GCOS

- Coordination currently is through *ex officio* members on WDAC
- WDAC will rely on GCOS panels for quality assurance of the ECV inventory
- WDAC will need GCOS action to broaden current ECVs to include surface fluxes, among other parameters
- See recommendation

# JSC Action Recommendations

- WDAC – GCOS Relationship – WDAC requests WCRP and GCOS review GCOS relationship with the WDAC and discuss options
- WDAC Membership – One member is recommended for a two-year reappointment by the JSC

**Thank you**