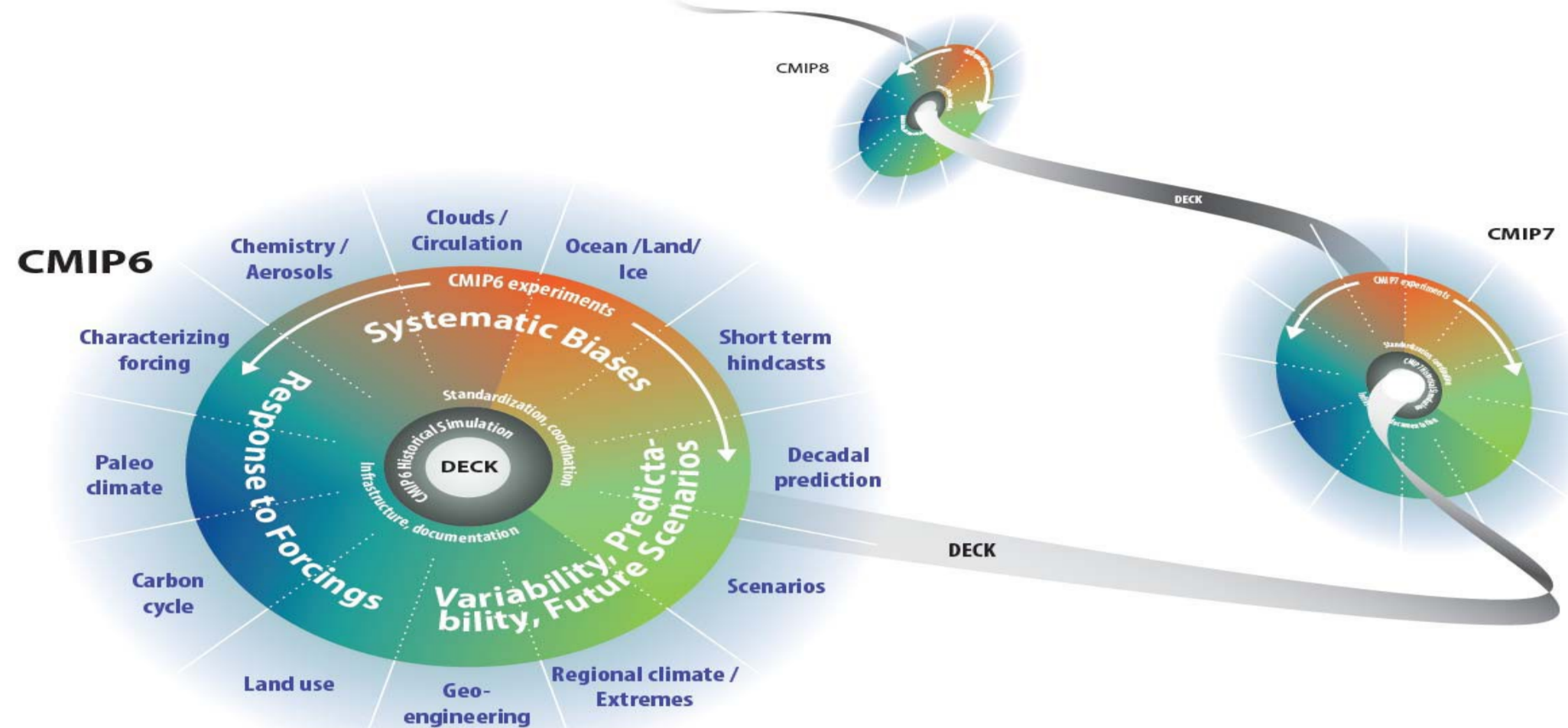


## The CMIP6 Data Request: the next generation climate archive

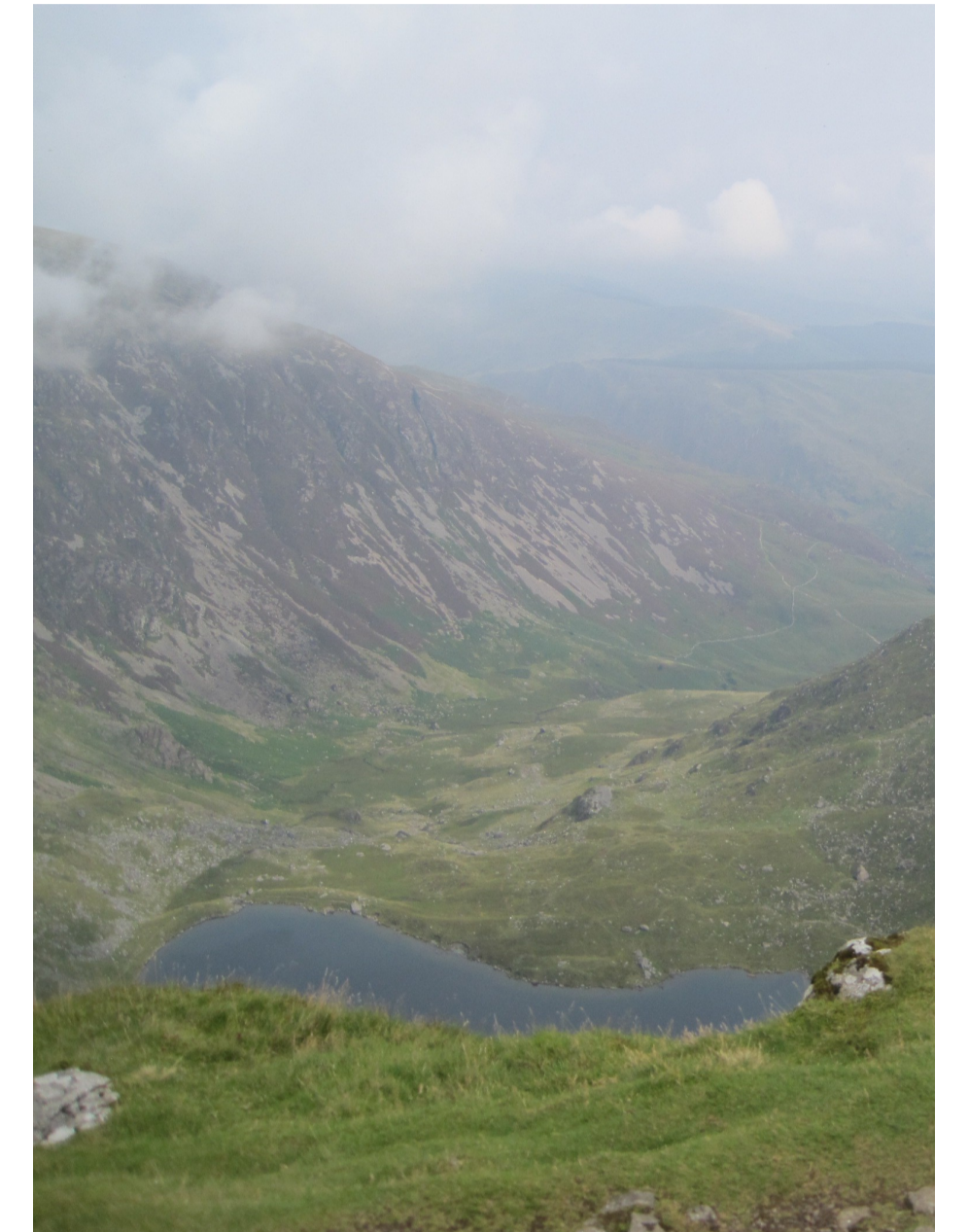
Martin Juckes (1), Veronika Eyring (2), Karl Taylor (3), Venkatramani Balaji (4), and Ron Stouffer (5)

(1) STFC, BADC, Chilton, Didcot, Oxon, United Kingdom (martin.juckes@stfc.ac.uk), (2) Deutsches Zentrum für Luft- und Raumfahrt (DLR), Institut für Physik der Atmosphäre, Oberpfaffenhofen, Germany, (3) PCMDI, (4) GFDL, (5) NOAA

Phase 6 of the World Climate Research Programme (WCRP) Coupled Model Inter-comparison Project (CMIP6) will be organised through a collection of endorsed model inter-comparison projects (MIPs) with focussed scientific objectives.



- Co-ordinating teams submit proposals for experiments and data analysis to the CMIP panel. Final proposals from 23 "Model Inter-comparison Projects" proposing analysis, 19 of them proposing a total of 195 different experiments, in addition to a core set of "DECK" experiments and the CMIP6 Historical Simulation defined by the CMIP panel, have been distributed to modelling groups. Endorsement of proposals will depend on the level of support, in the form of commitments to participate;
- As part of the MIP proposals, data request templates have been filled out by each group; this information will be consolidated and circulated to modelling groups April 15th;
- Modelling groups asked to provide commitments to the CMIP panel by April 22<sup>nd</sup>;
- A clean draft of the CMIP6 Data Request will be published at the end of July 2015;
- Version 1 CMIP6 Data Request approved at WGCM meeting (31 October 2015).



### Cloud Forcing remains a major source of uncertainty in climate projections.



Ross Salawitch Research Group



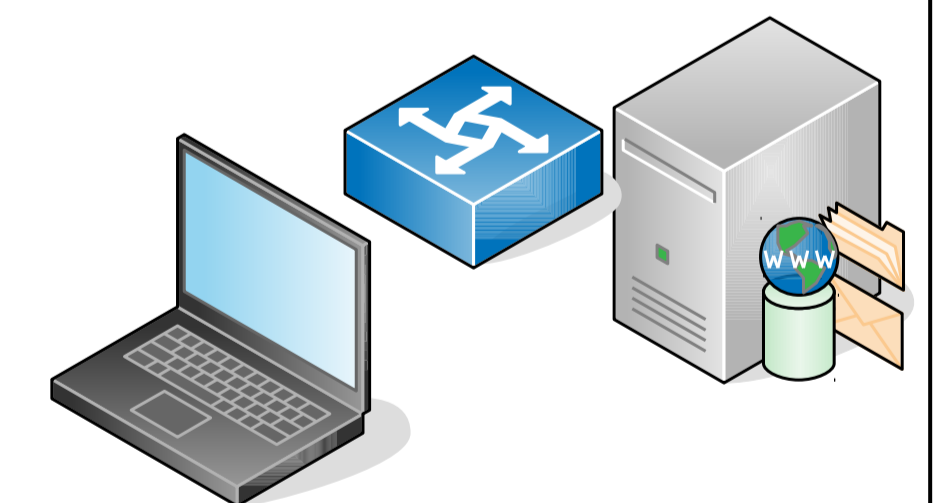
Within the Cloud Forcing MIP, a suite of experiments and extensive set of parameters will be used to analyse cloud forcing. Data will be collected to enable direct comparison with observations from MODIS; Sensitivity experiments will explore "emerging constraints" (potentially robust links between different components of the climate system which can improve our understanding of possible futures); Analyse the differences between solar-forced and greenhouse gas-forced climate change; Look at non-linearity in regional climate response.

The new format of CMIP6, with a collection of endorsed MIPs (current candidates listed below) will engage a broader community of scientists in the planning of experiments and coordination of analysis. It creates some challenges in the preparation of a clear consolidated data request.

Name	Title
AerChemMIP	Aerosols and Chemistry Model Intercomparison Project
C4MIP	Coupled Climate Carbon Cycle Model Intercomparison Project
CFMIP	Cloud Feedback Model Intercomparison Project
DAMIP	Detection and Attribution Model Intercomparison Project
DCPP	Decadal Climate Prediction Project
FAFMIP	Flux-Anomaly-Forced Model Intercomparison Project
GeoMIP	Geoengineering Model Intercomparison Project
GMMIP	Global Monsoons Model Intercomparison Project
HighResMIP	High Resolution Model Intercomparison Project
ISMIP6	Ice Sheet Model Intercomparison Project for CMIP6
LS3MIP	Land Surface
LUMIP	Land-Use Model Intercomparison Project
OMIP	Ocean Model Intercomparison Project
PDRMIP	Precipitation Driver and Response Model Intercomparison Project
PMIP	Palaeoclimate Modelling Intercomparison Project
RFMIP	Radiative Forcing Model Intercomparison Project
ScenarioMIP	Scenario Model Intercomparison Project
SolarMIP	Solar Model Intercomparison Project
VolMIP	Volcanic Forcings Model Intercomparison Project
<b>Diagnostic projects</b>	
CORDEX	Coordinated Regional Climate Downscaling Experiment
DynVar	Dynamics and Variability of the Stratosphere-Troposphere System
SIMIP	Sea-Ice Model Intercomparison Project
VIAAB	VIA Advisory Board for CMIP6

### Tech Corner

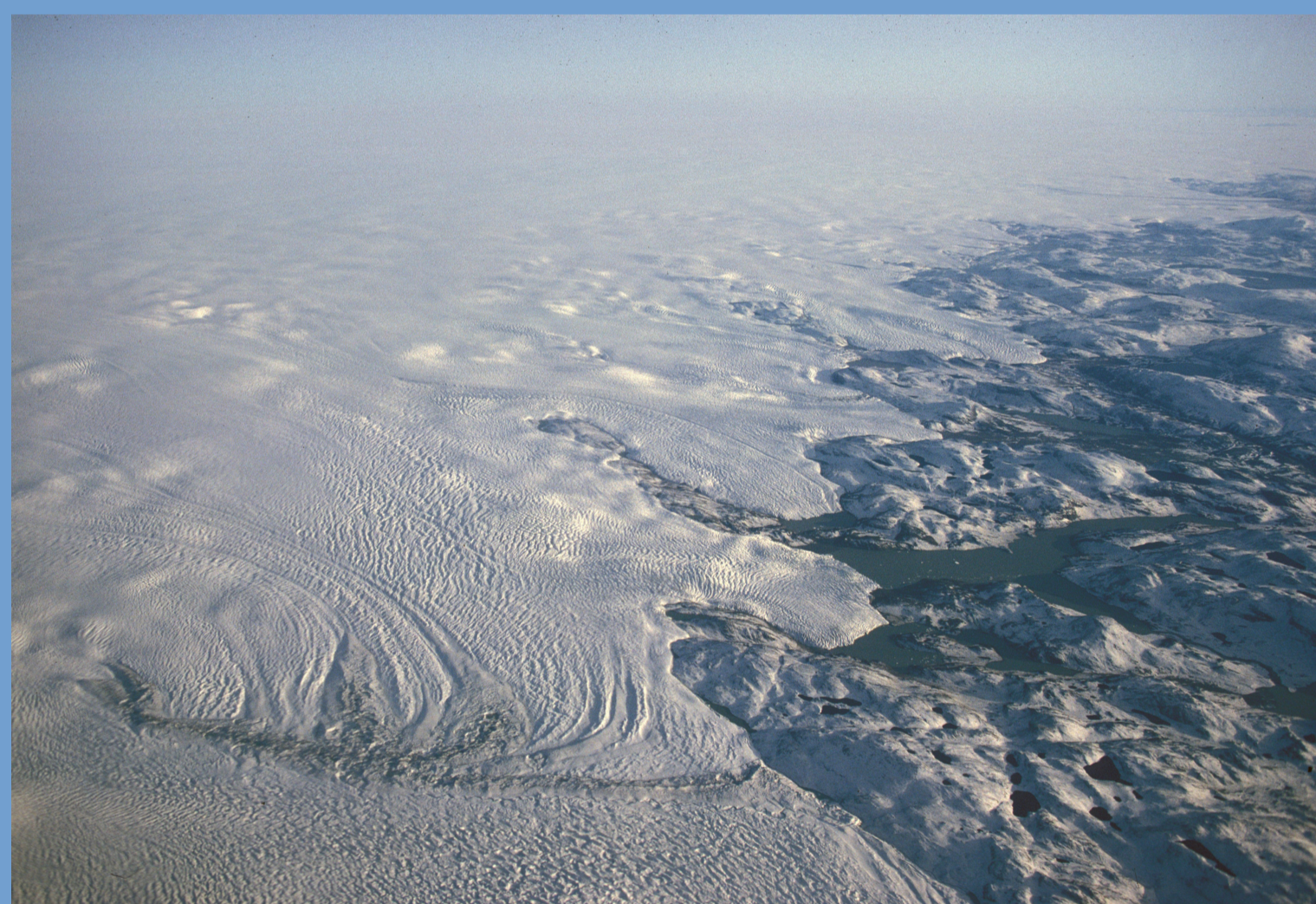
To deal with the expanding range and complexity, with the number of data variables likely to pass 1000, some more formal knowledge organisation is needed.



The CF standard names will continue to be the foundation of the variable definitions ([www.cfconventions.org](http://www.cfconventions.org)). The Simple Knowledge Organisation System (SKOS) will be used to provide a robust structured reference version of the vocabularies.

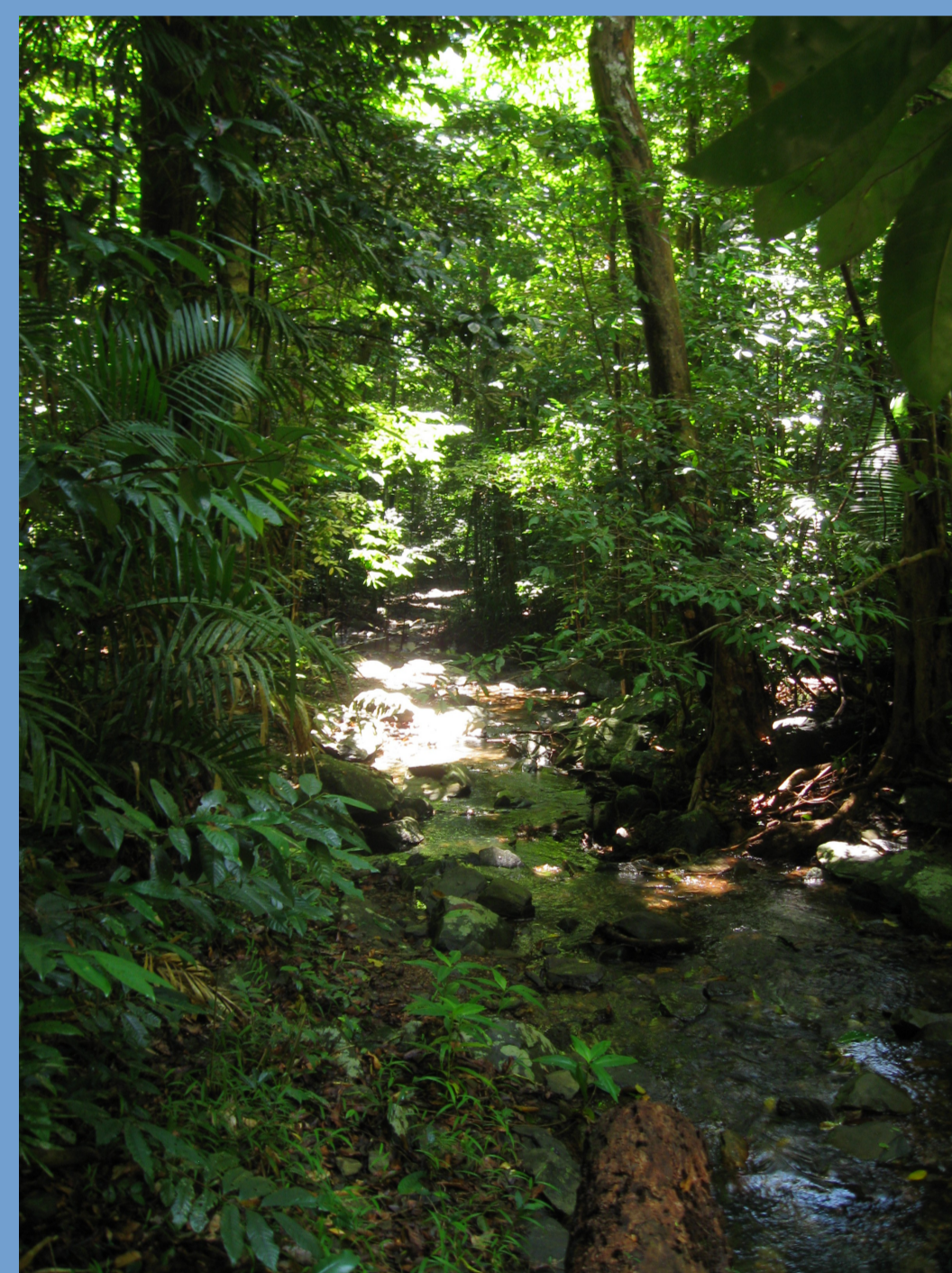
The CMIP Panel is a sub-committee of the World Climate Research Programme (WCRP) Working Group in Coupled Models (WGCM) which oversees the CMIP process. Further information and updates on CMIP6 can be found at [www.wcrp-climate.org/wgcm-cmip/wgcm-cmip6](http://www.wcrp-climate.org/wgcm-cmip/wgcm-cmip6).

A new WGCM Infrastructure Panel (WIP) has been created to oversee infrastructure issues associated with the CMIP data archive ([www.earthsystemcog.org/projects/wip](http://www.earthsystemcog.org/projects/wip)).



Greenland-ice sheet by Hannes Grobe 20:10, 16 December 2007 (UTC)

The CMIP6 models will feature improved models of ice in many forms. Models with explicit ice sheet dynamics will take part in CMIP for the first time, and these will be supplemented by off-line calculations.



Daintree Rainforest, Queensland, Australia, Wikipedia

Improved models of vegetation and associated modulations of atmospheric composition will feature strongly. A number of experiments and diagnostics have been proposed to explore the consequences of deforestation.

Improved representations of land use and land use change will support more detailed analysis of interactions between climate and the managed biosphere.

