

# CMIP AR7 Fast Track v1

Drop-in information sessions, Thursday 30<sup>th</sup> November 2023 (05:00 and 17:00 UTC)





# Housekeeping

- Code of conduct – participation should be professional and respectful to all participants.
- This meeting is being recorded – if you do not wish to appear in the video do not turn your video on.
- Data usage – during discussion and when raising a point/question for presenters, we encourage videos to be on but otherwise please feel free to turn your video off.
- Ask a question – please use the raise hand feature and the meeting Chair will invite you to speak or add your question to the [Padlet](#) throughout the session.
- Technical issues – the Webex chat should only be used for raising technical issues.

# Purpose of the session

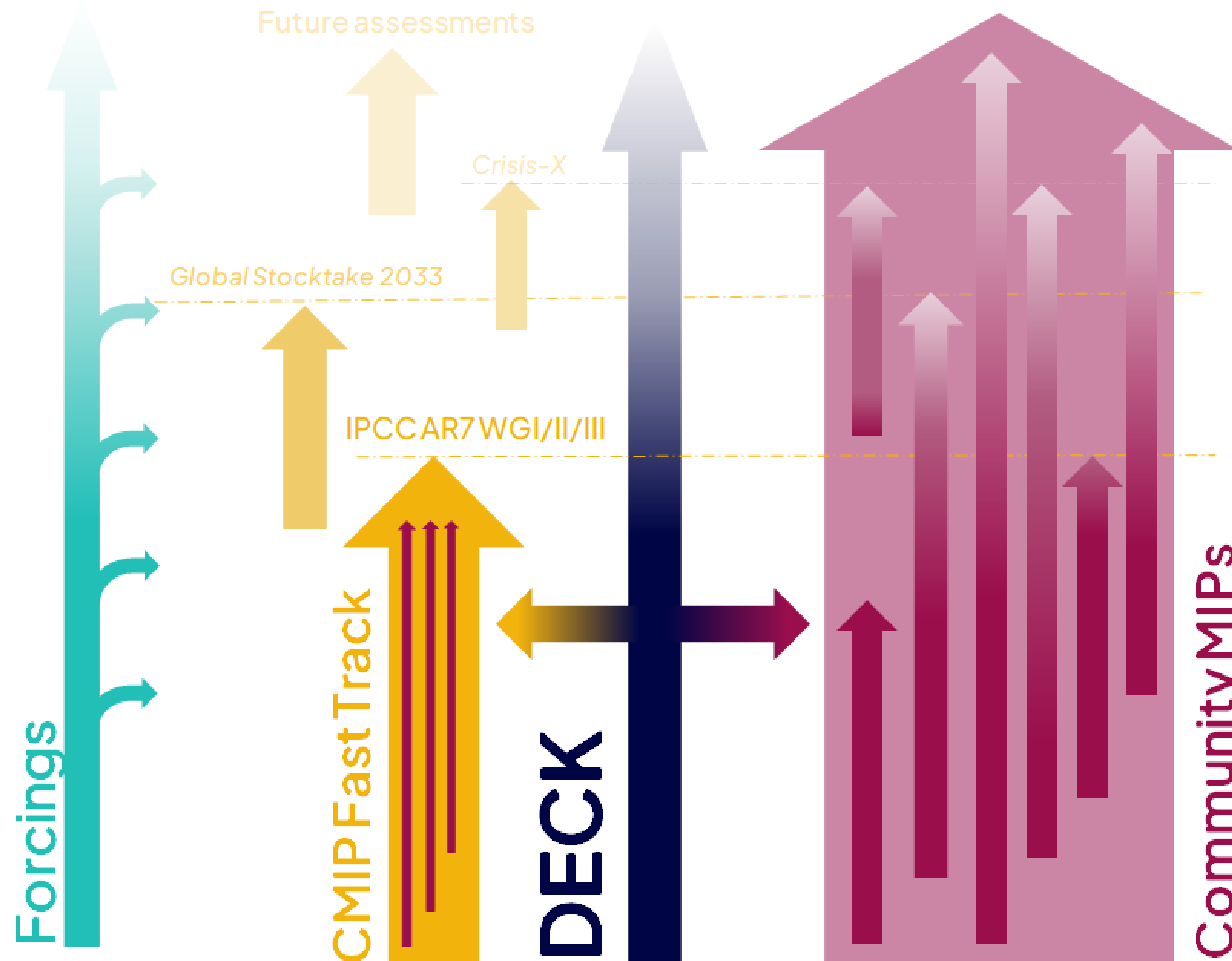
- Provide an overview of the evolving CMIP structure and development of the CMIP AR7 Fast Track.
- Offer the opportunity for you to ask questions.
- Support your response to the current consultation and [survey](#).

# An evolving CMIP design

A more continuous approach with small targeted “Fast Track” experiment sets. The first will respond to the needs of IPCC AR7.

CMIP infrastructure, standards and tools support ongoing science and assessment activities.

This design reflects extensive feedback from the modelling centres and wider user community.





## The DECK: what has changed?

- Remains as entry card to CMIP (and Fast Track) participation.
- The DECK will include (*in addition to: amip, piControl/esm-piControl, abrupt-4xCO2 and 1pctCO2*):
  - historical
  - *esm-historical (for ESMs only)*
  - piClim-control
  - piClim-anthro
  - piClim-4xCO2
- The Panel considered proposals for an expanded ESM-DECK and reversal but decided that further testing is required and is open to reconsidering such proposals in the future.
- No DECK-lite as instead will work in synergy with HighResMIP2.

## What is the CMIP AR7 Fast Track?

- A compact set of experiments including the DECK and selected experiments from Community MIPs recommended by the CMIP Panel.
- Chosen to support specific needs e.g., scientific assessments such as AR7.
- Do not reflect prioritisation of experiments on any basis apart from timeline.
- The Strategic Ensemble Design TT developed a proposed set of experiments through brainstorming within the TT, with stakeholders, and engagement with MIP chairs.
- Participation in Fast Track or Community MIPs depends on scientific and other interests.



# Community MIPs

- Can run on timeline determined by the needs of the MIP.
- May or may not choose to align with the Fast Track timeline
- Can benefit from CMIP infrastructure and tools.
- If do align will need to adhere to strict deadlines.
- The CMIP Panel will not endorse community MIPs but will provide best practice guidelines in support.
- Requests for Panel feedback and IPO support can be submitted.

# Timeline update

The upcoming fast track depends on the specification of IPCC AR7 needs (to be determined over the course of 2024). Community MIPs do not need to align with that timeline. CMIP currently estimates:

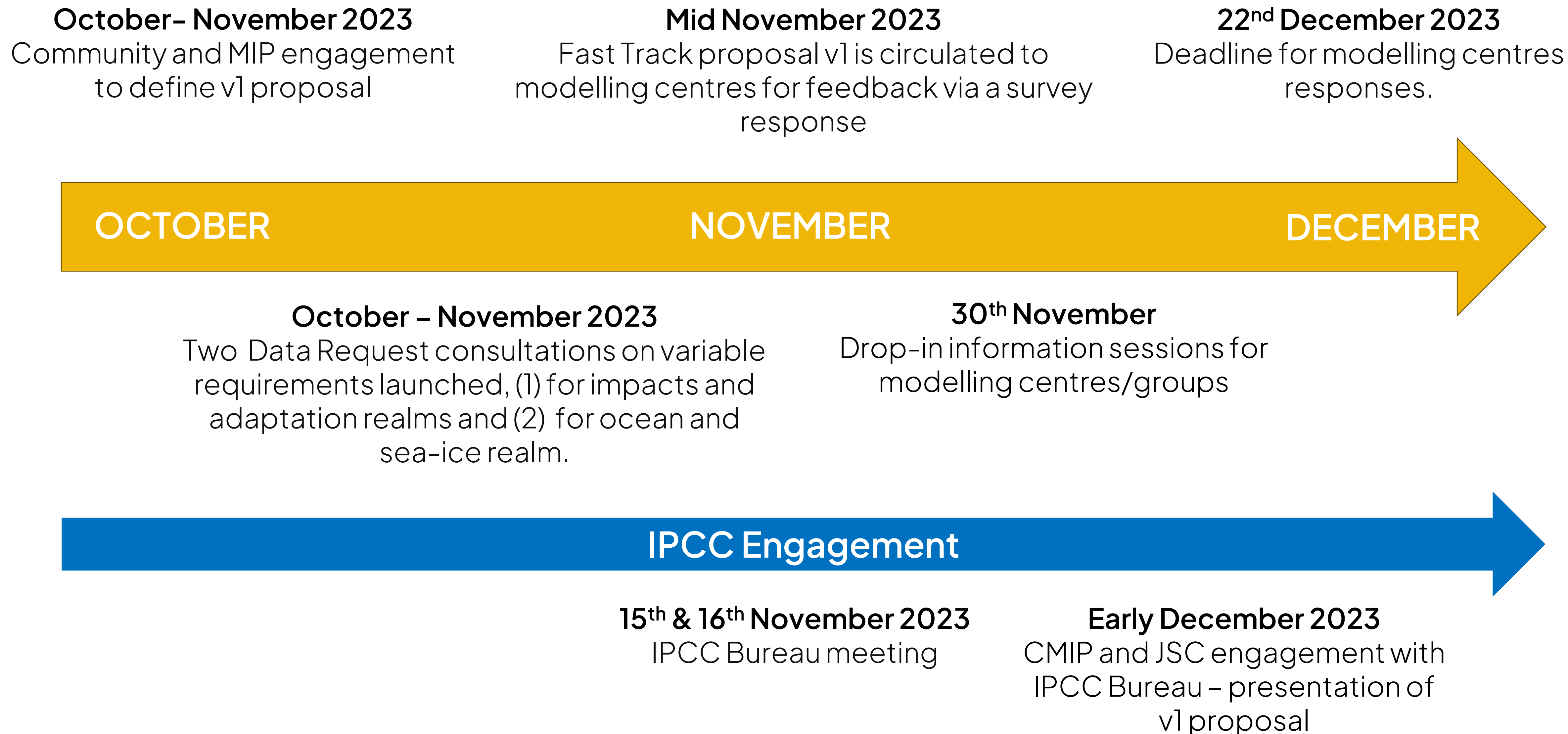
- **CMIP description paper:** Intention for submission in 2024.
- **Historical forcings:** Updates are expected, with data extending until at least December 2021, as pre-release versions for testing in mid-2024 and for wider use by early 2025. The longer-term aim is to move towards quasi-operational annual delivery of forcings. The detailed timeline can be found [here](#).
- **Data request:** Initial production versions expected early to mid-2025, with regular updates thereafter.
- **Scenario forcings:** Unlikely before early 2026 (link to [ScenarioMIP pages](#))

Concurrently we anticipate:

- **Modelling centres:** Consulting on expectations for when new models and associated infrastructure will be ready – most appear to be indicating starting runs between late 2024 and early 2026.
- **Data infrastructure:** Earth System Grid Federation (ESGF) supporting the collation and distribution of data. Ongoing discussions led by the WGCM Infrastructure Panel (WIP) and ESGF community.



# Fast Track consultation and development timeline (2023)



# Fast Track consultation and development timeline (2024)

**Dec–January 2024**

Review of modelling centres  
feedback and development of v2  
Fast Track proposal

**Late February 2024**

Deadline for community review

**18–22 March**

Presented for WGCM approval

**Late January 2024**

Open community review launched of  
v2 proposal via a survey response

**March 2024**

Analysis of community review and final  
Fast Track proposal development

**JANUARY**

**FEBRUARY**

**MARCH**

**January 2024**

Consultations on remaining  
elements of the data request  
launched

**February 2024**

CMIP and JSC meeting with  
IPCC Bureau after IPCC plenary  
– presentation of v2 proposal

**IPCC Engagement**

**16–19 January 2024**

60<sup>th</sup> Session of IPCC

**March 2024**

Structured alignment of Fast  
Track and IPCC timelines



# Computational load

Activity	Coupled	Atmosphere only	Land only	Activity total
DECK	1125	136		1261
DCPP	100			100
ScenarioMIP	695			695
AerChemMIP	1400 (350)	825 (615)		2225 (965)
C4MIP	850			850
CFMIP		231		231
DAMIP	1575 (525)			1573 (525)
GeoMIP	50			50
LMIP			175	175
PMIP	100			100
RFMIP		456		456
<b>Grand Total</b>	<b>5895 (3795)</b>	<b>1648 (1438)</b>	<b>175</b>	<b>7718 (5408)</b>



# Feedback

CMIP AR7 Fast Track v1 experiment selection





## Experiment selection feedback



- Raise your hand to ask a question.
- Add your comments to the [Padlet](#) particularly “Specific proposed experiments”, “Computational load and sustainability” and “Suggestions for different experiments”.

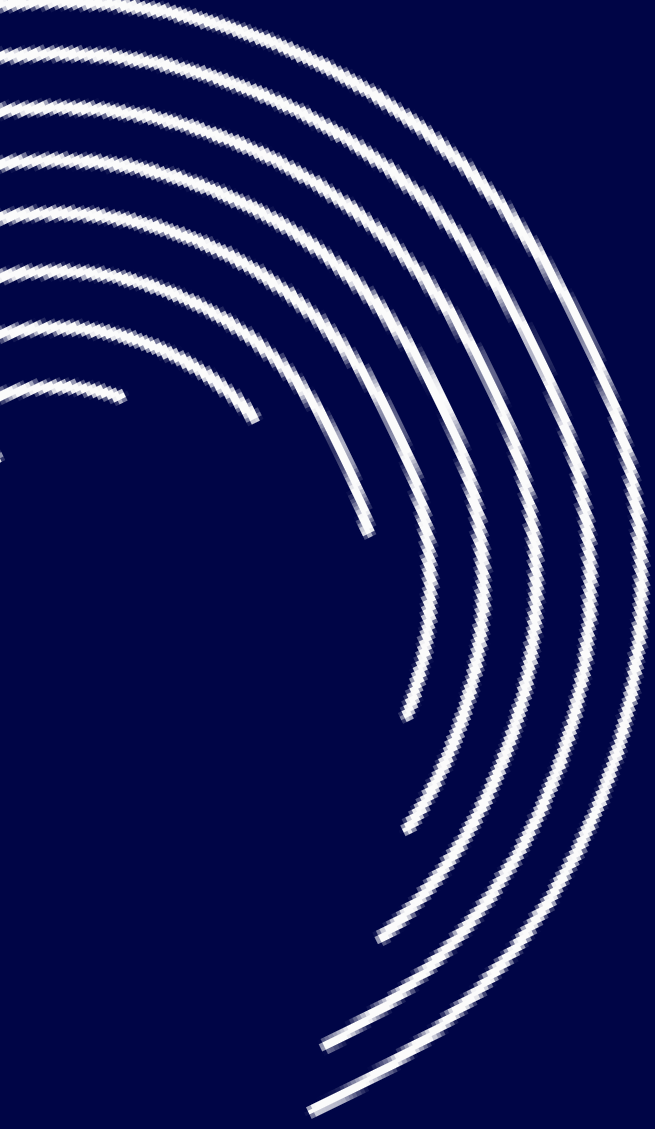
## Data production workload

- A baseline list of 140 variables has been developed and will be requested for all experiments.
- Additional variables will be added to the request through a community consultation process that is developing thematic variable lists and mapping them onto objectives.
- Active participation of modelling centres in the consultation is being sought to ensure that the resulting data production workload is appropriate given the restraints on time and resources.



## Model documentation requirements

- Model documentation requirements in CMIP6 were too time consuming.
- However, for users this information is important particularly for downstream users who would not be able to contact modelling centres directly.
- The Model Documentation TT is proposing a mandatory Minimum Viable Documentation with a goal of a maximum time requirement of 4 hours per modelling centre/group.
- The intention is to link issues with individual data sets or simulations to the ESGF indexes and allow user submitted issues to be included, with modelling groups given a limited window to respond before these are made public.



# Feedback

Data production and model documentation requirements





# Data production and model documentation requirements



- Raise your hand to ask a question.
- Add your comments to the [Padlet](#) particularly “Data request” and “Model documentation”.

# Thank You



@wcrpcmip



wcrp-cmip



cmip-ipo@esa.int

Please complete the survey at  
<https://bit.ly/CMIP-Fast-Track-v1>  
by 22<sup>nd</sup> December 2023

**One survey submission per centre/group**  
*Provide model configuration detail in  
experiment comment boxes or final comments*

