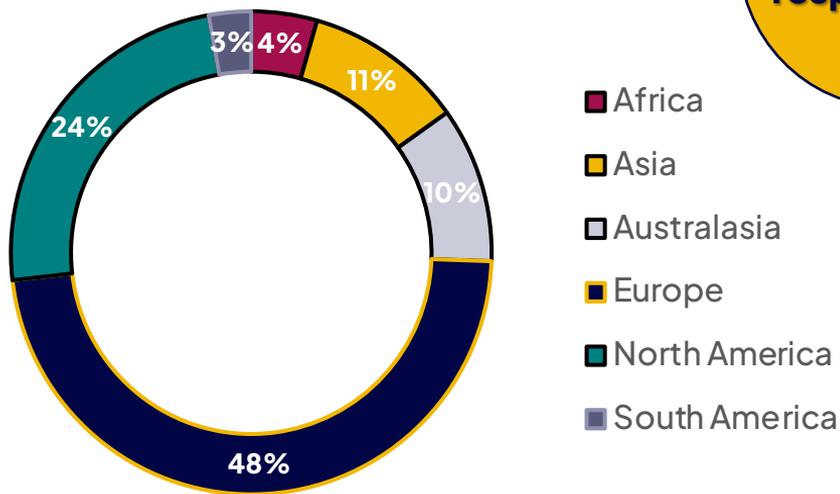


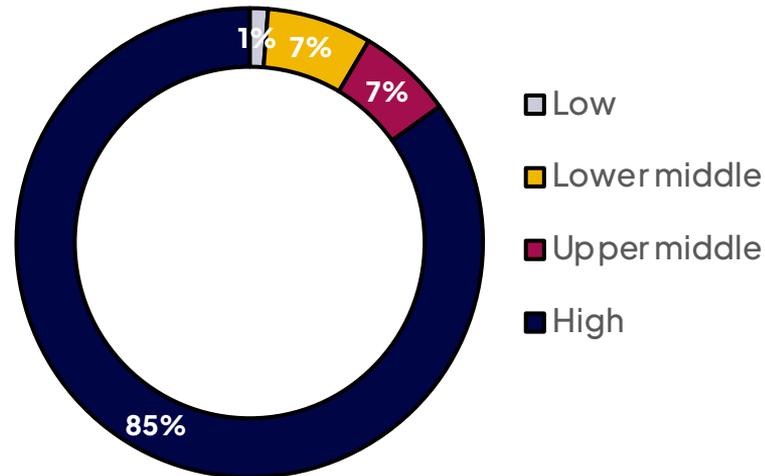
CMIP6 Community Survey Outcomes

Survey respondents

**TOTAL
318
respondents**

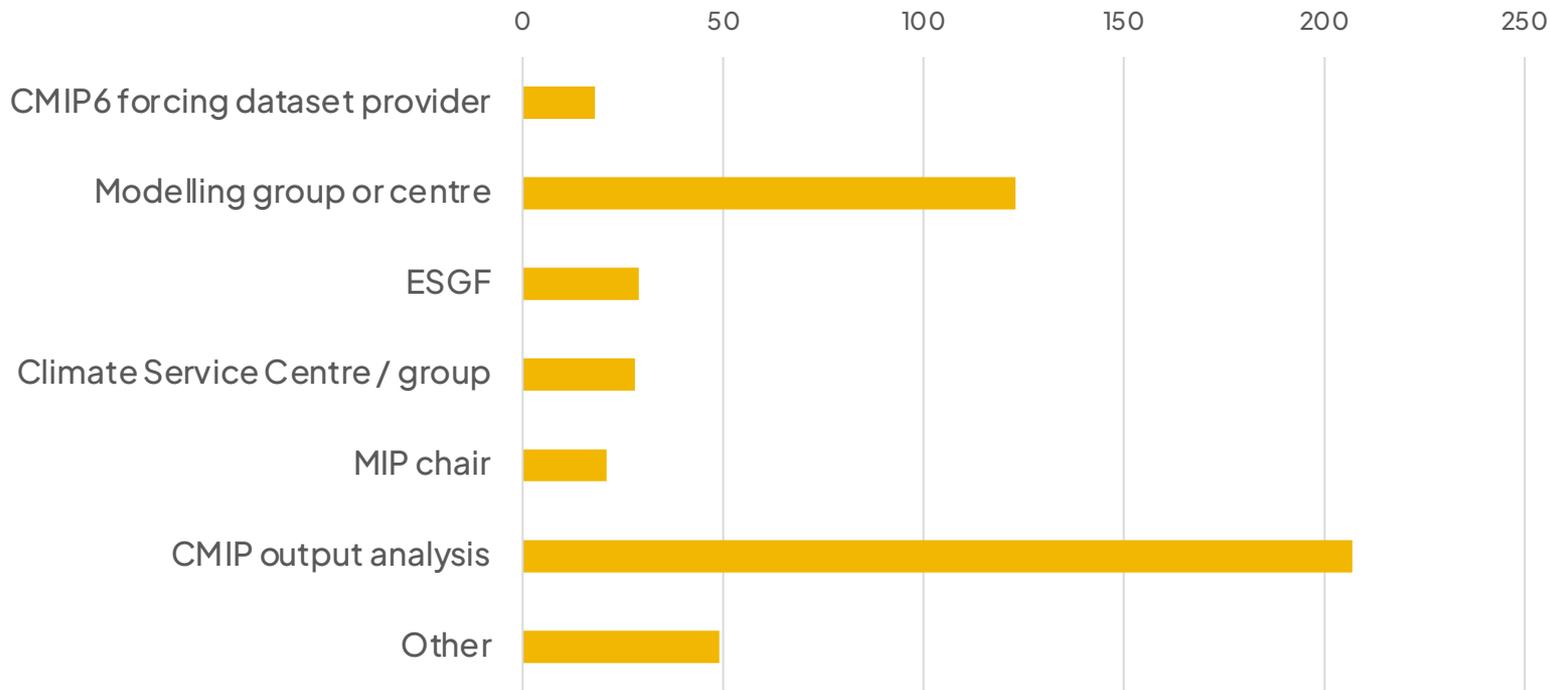


Respondents by world region



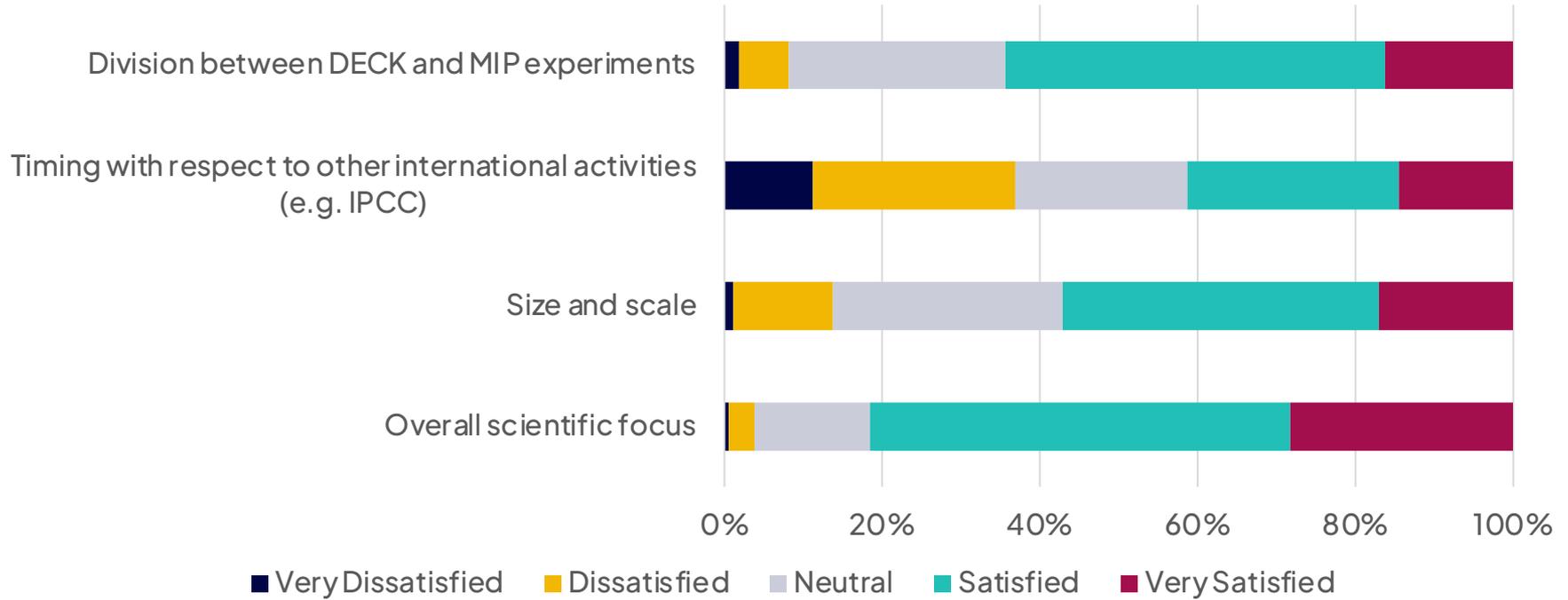
Respondents by income level

Survey respondents

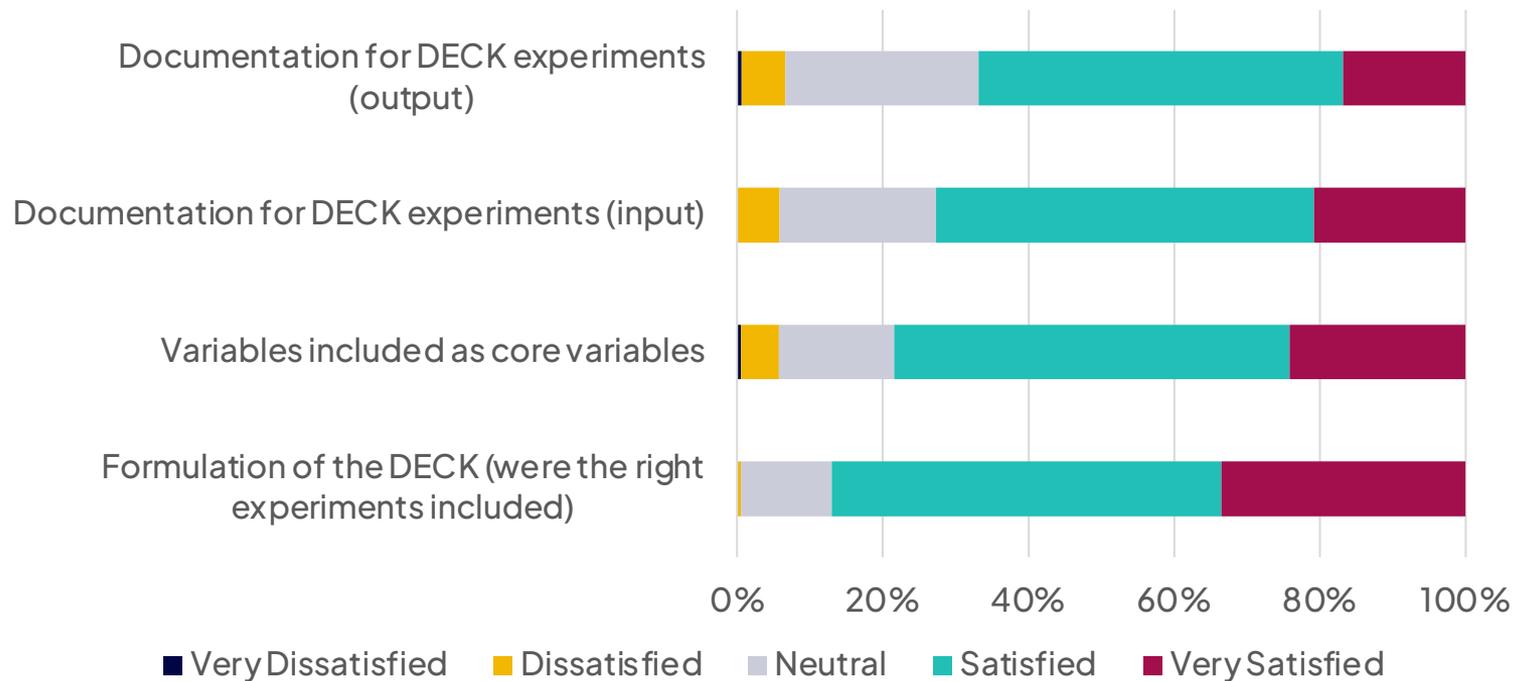


Note: Respondents were asked to select all categories that applied.

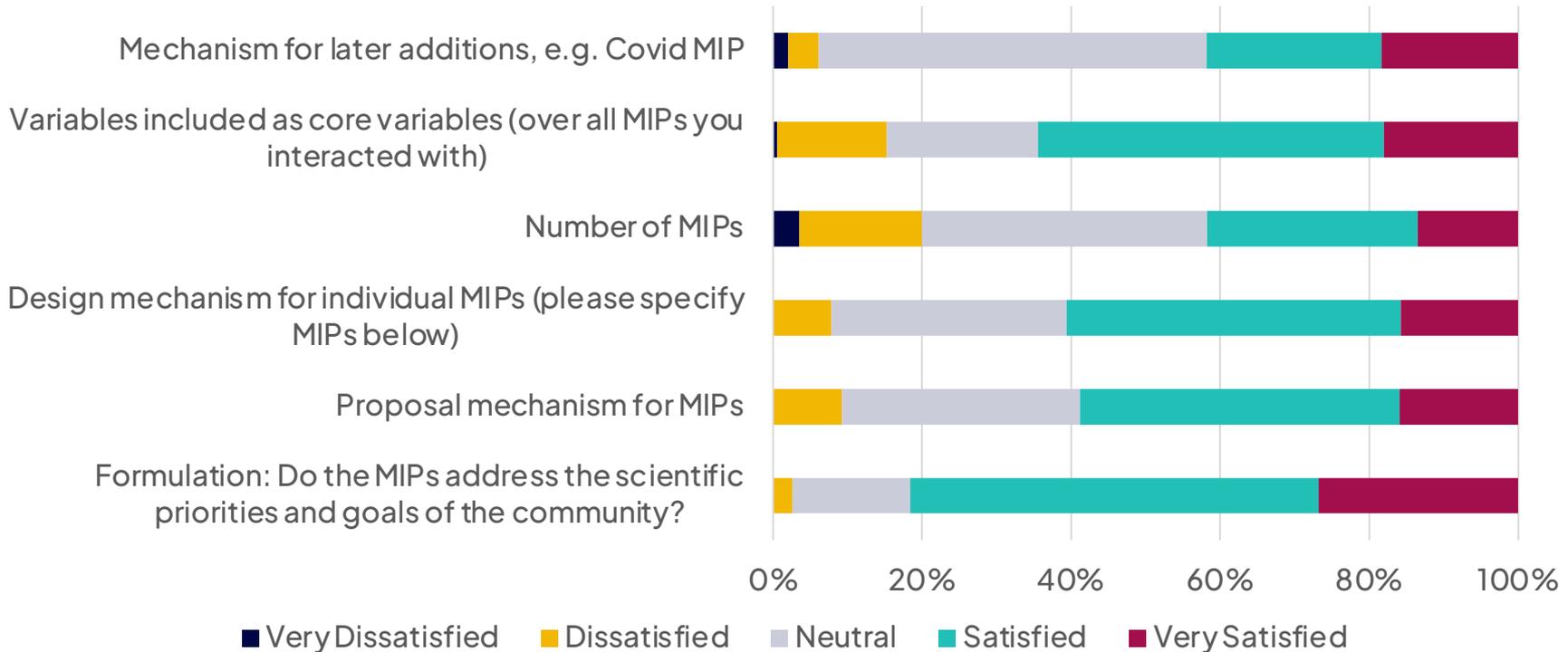
CMIP6: Experimental design (overall structure)



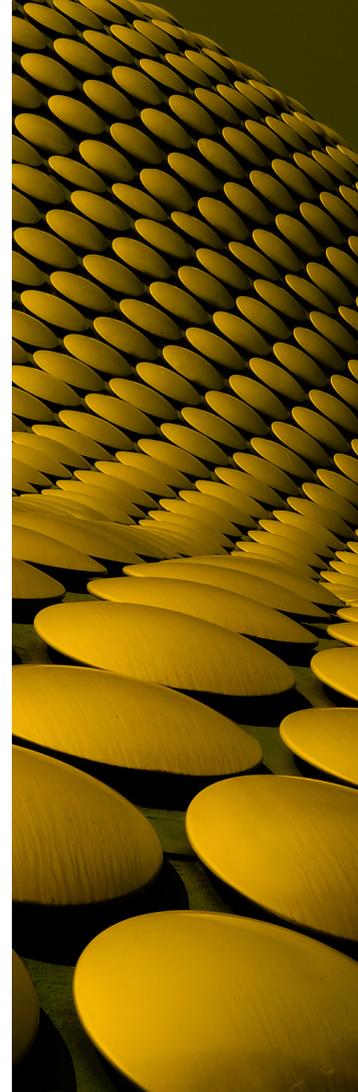
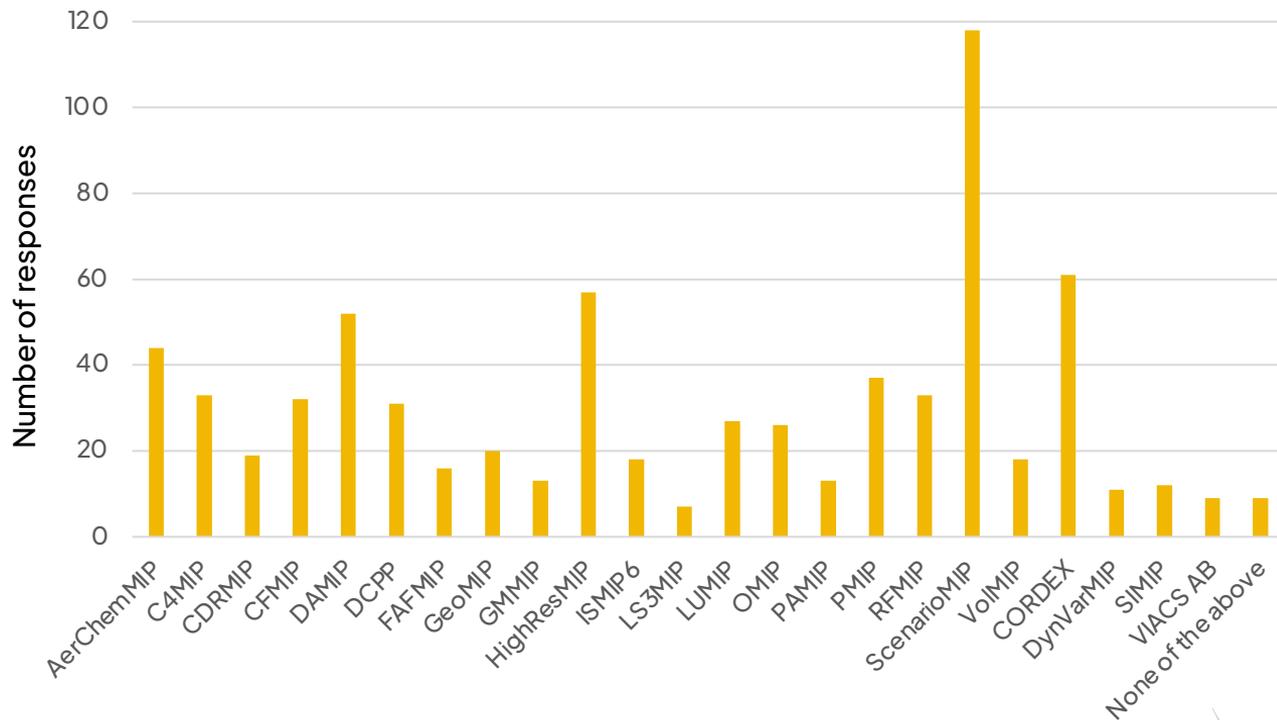
CMIP6: Experiment Design (DECK)



CMIP6: Experiment Design (MIPs)



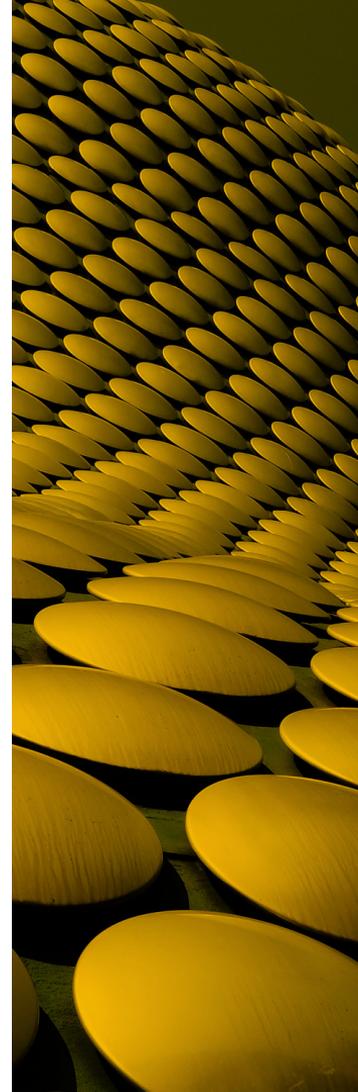
CMIP6: MIP participation



CMIP6: Experimental design

The good

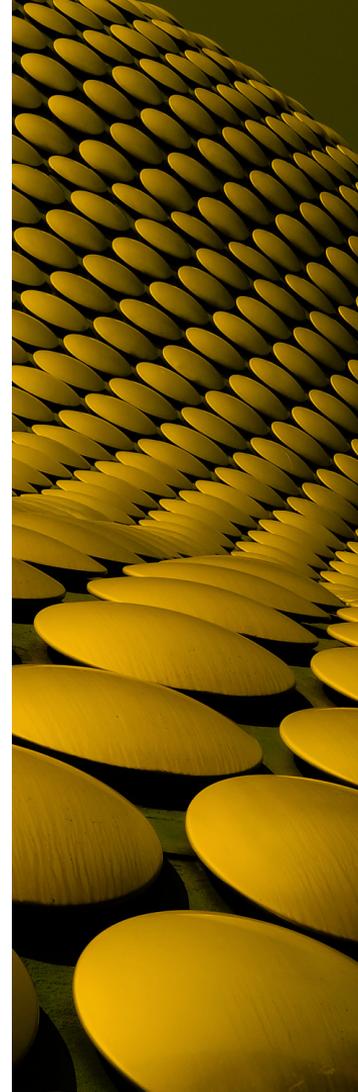
- Strong satisfaction with the scientific focus and support for the CMIP6 DECK plus endorsed MIPs structure continuing.
- 87% satisfied or very satisfied with the formulation of the DECK, and 78% for the variables included as core variables.
- CMIP6 GMD Special Issue was seen to be very helpful although perhaps could be more detailed for those outside community.



CMIP6: Experimental design

Need for improvement

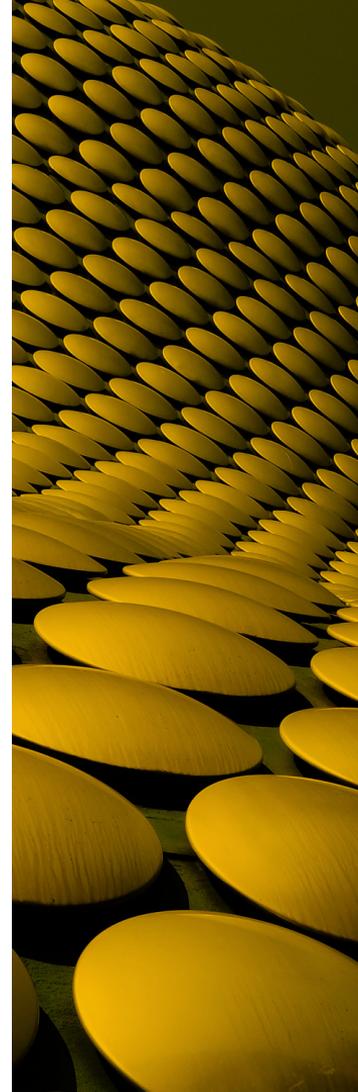
- Focus of dissatisfaction around timing with respect to IPCC and high level of pressure to meet AR6 deadlines.
- Some confusion on inclusion (or not) of historical in the DECK.
- High number of MIPs and experiments placed a burden on modelling centres but also suggestions for new MIPs!
- Some open comments suggesting CMIP had become too large but only 14% expressing being dissatisfied or very dissatisfied.



CMIP6: Experimental design

Looking forwards

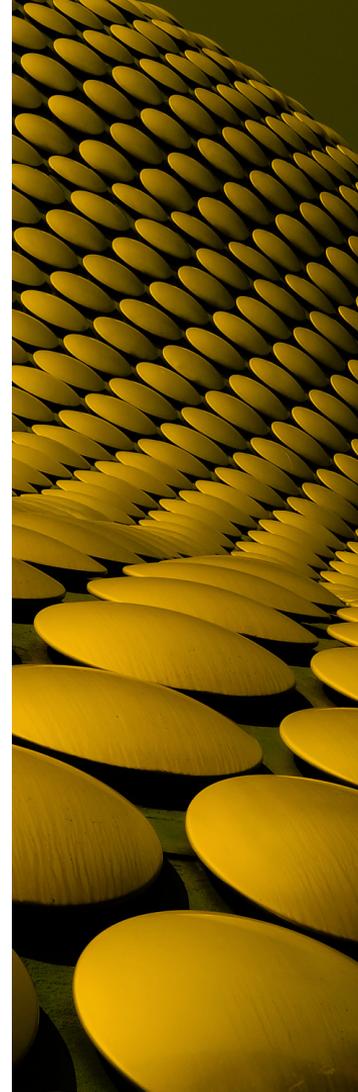
- DECK, historical and ScenarioMIP to be operationalized with appropriate funding and support for critical elements e.g., forcing dataset generation, and remain aligned with IPCC cycle.
- MIPs to support impact modelling and large ensemble simulations to facilitate analysis of extremes together with continued engagement with VIACS AB and wider user involvement.
- Update and revision of scenarios looking towards net zero, extending beyond 2100, leaving behind outdated scenarios and addressing overshoots.



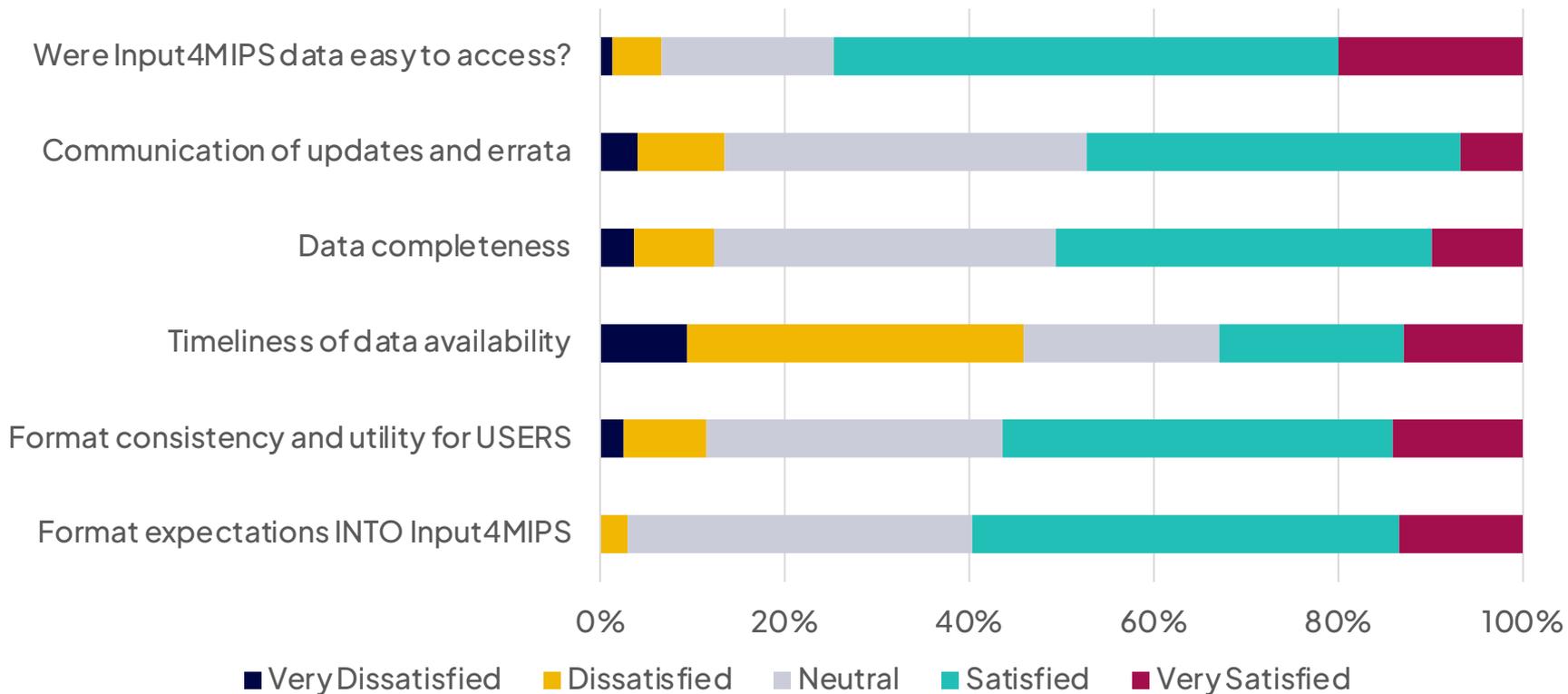
CMIP6: Experimental design

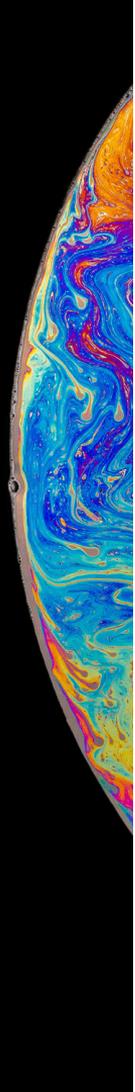
Looking forwards

- Potential 'core' MIPs aligned with IPCC with less centralized coordination of specialist MIPs that could be decoupled from the IPCC timeline.
- Critical review of MIPs in terms of both science and policy outcomes.
- Promotion of cross community and cross MIP collaboration (e.g., data request).



CMIP6: Forcings

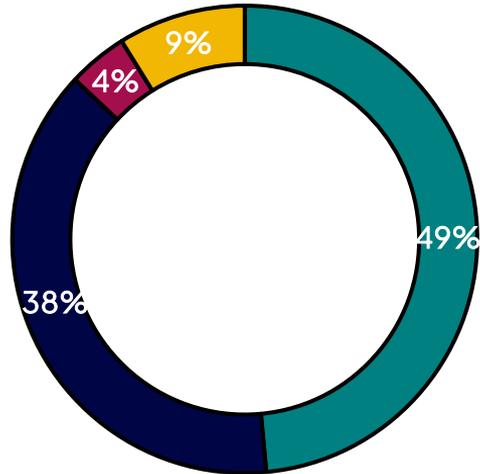




CMIP6 Survey: Forcing

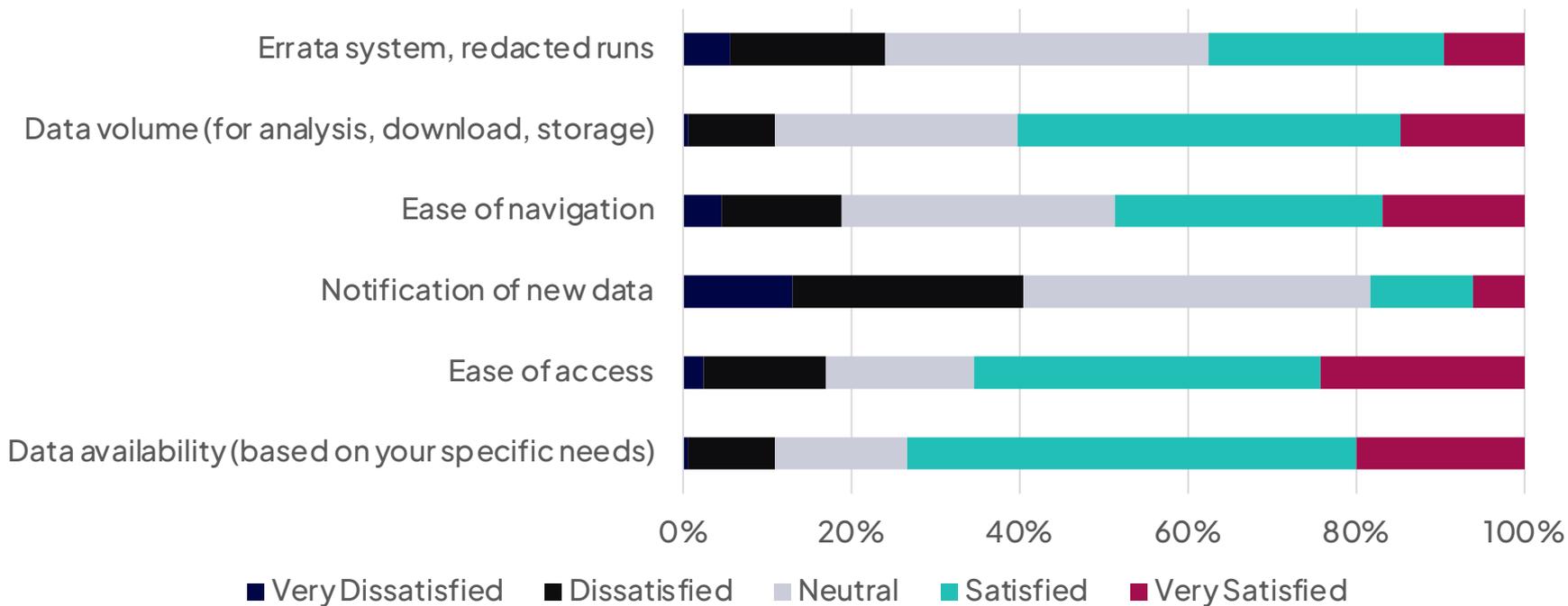
- With 45% of survey respondents expressing being dissatisfied or very dissatisfied, the delay in forcing data provision was the most cited complaint in the survey.
- The ScenarioMIP forcing delays were found to be particularly problematic against the IPCC AR6 deadline.
- Consensus that updated and improved forcing datasets coordinated centrally and appropriately resourced, allowing for quality control, adequate testing and exploration of forcing uncertainty should be supported.
- An estimate of three years has been suggested for forcing dataset generation.

CMIP6: Approaches for data analysis



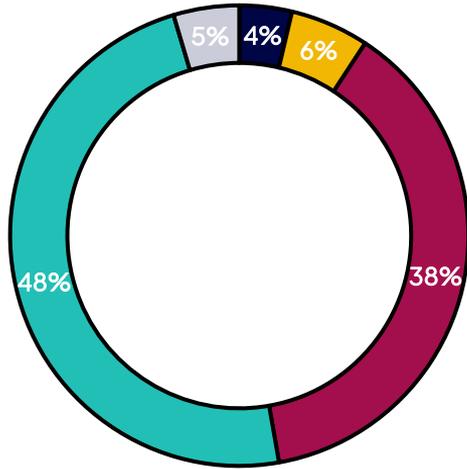
- Download, local analysis
- Use a 'national' or other shared resource supported by institutional funding
- Cloud - based Service or commercial computing provider (e.g. AWS)
- Other or hybrid approach

CMIP6: Satisfaction with chosen platform



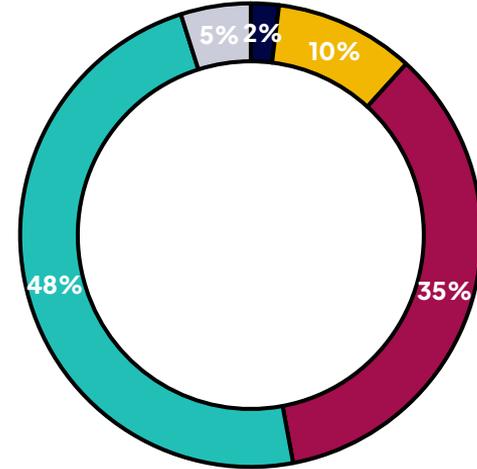
CMIP6: Infrastructure

Were you able to find supporting information?



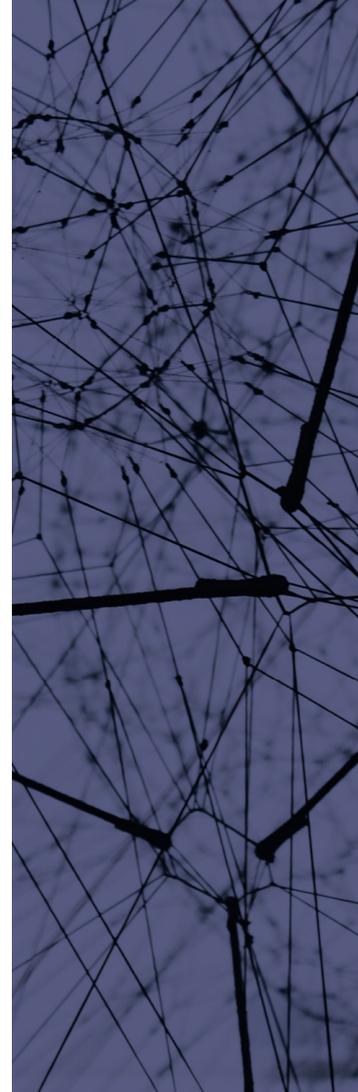
Were your needs met by the documentation?

- Not at all
- Rarely
- Sometimes
- Often
- Always



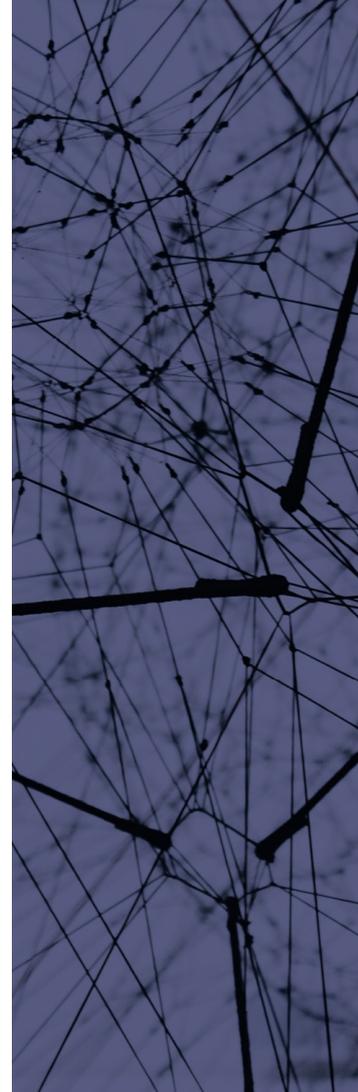
CMIP6: Data management & distribution

- Benefits of standardisation resulted in a considerable burden on modelling centres to post process data, potentially limiting wider participation.
- Need for CMIP community websites to be more user friendly and intuitive especially given the widening range of users.
- Improvement in the communication of updates and data management was widely requested.
- Checking the availability of new ensembles, experiments and variables was also described as time consuming.



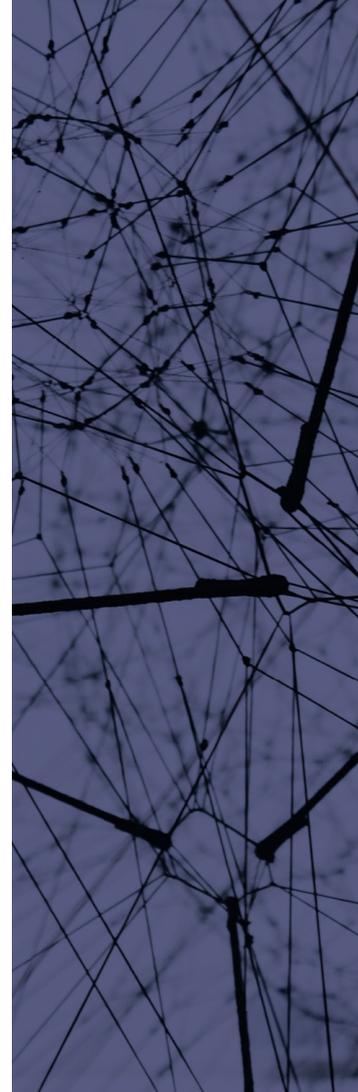
CMIP6: Data request

- Clear appreciation for the effort in coordinating and agreement with principles of the data request.
- Felt to be too complex, lengthy, difficult to interpret, and had too many versions.
- Some felt there were too many core or Tier 1 variables, with associated cost to modelling centres.
- However, CMIP6 was seen as being a big step forward in variables to support understanding of model differences and the IPCC AR6 WGI.



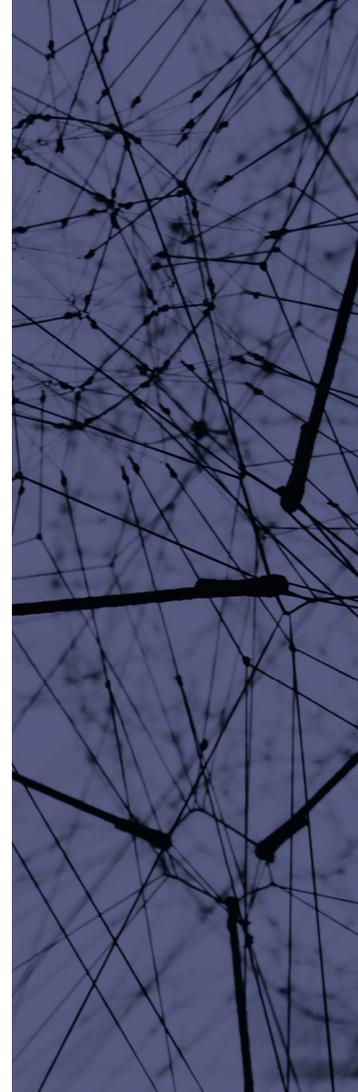
CMIP6: Model documentation

- Model documentation and errata seen to be very important, but was under-resourced and requires comprehensive review.
- Modelling centres found it burdensome and complicated resulting in confusion, limited completion, and low usage by users.
- The limited completion has been highlighted as problematic by downstream users e.g., climate services.
- Better connection between both the errata and data citation services and the ESGF was requested.



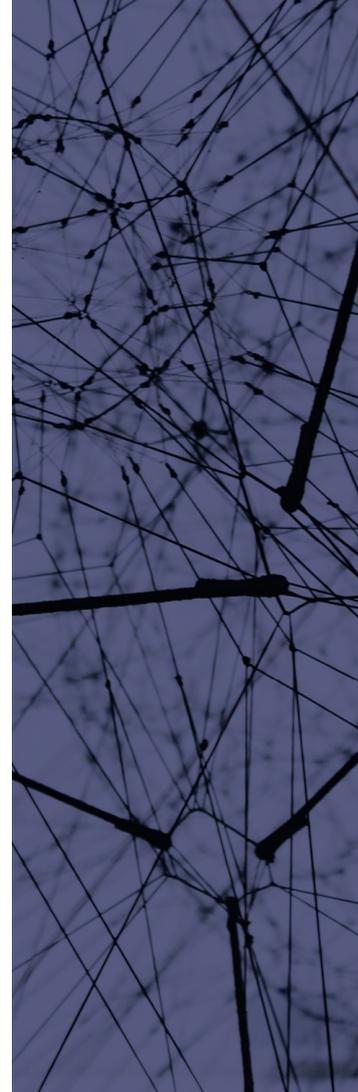
CMIP6: Data Citation

- Some respondents found the data citation information difficult to find.
- The citation service was not always used by self-organised MIPs, generally due to a lack of easy-to-find guidance.
- Better connection between both the errata and data citation services and the ESGF was requested.
- The data citation service was generally praised, though issues with finding the citation information for a dataset were highlighted



CMIP6 Survey: Future infrastructure

- View that CMIP framework has potential to support many other initiatives was widely held by respondents, if appropriately funded.
- Wishlist included:
 - Scaled down and simplified data request with fewer versions and updates.
 - Review and redesign of es-doc and errata service.
 - Improved integration of es-doc, errata and data citation within ESGF.
 - Automated post processing capacity on the ESGF.
 - Greater access to compute and analysis platforms e.g. JASMIN.
 - Take advantage of cloud opportunities.
 - More user-friendly websites with potential single point of entry.
 - Sustainable funding for infrastructure services.

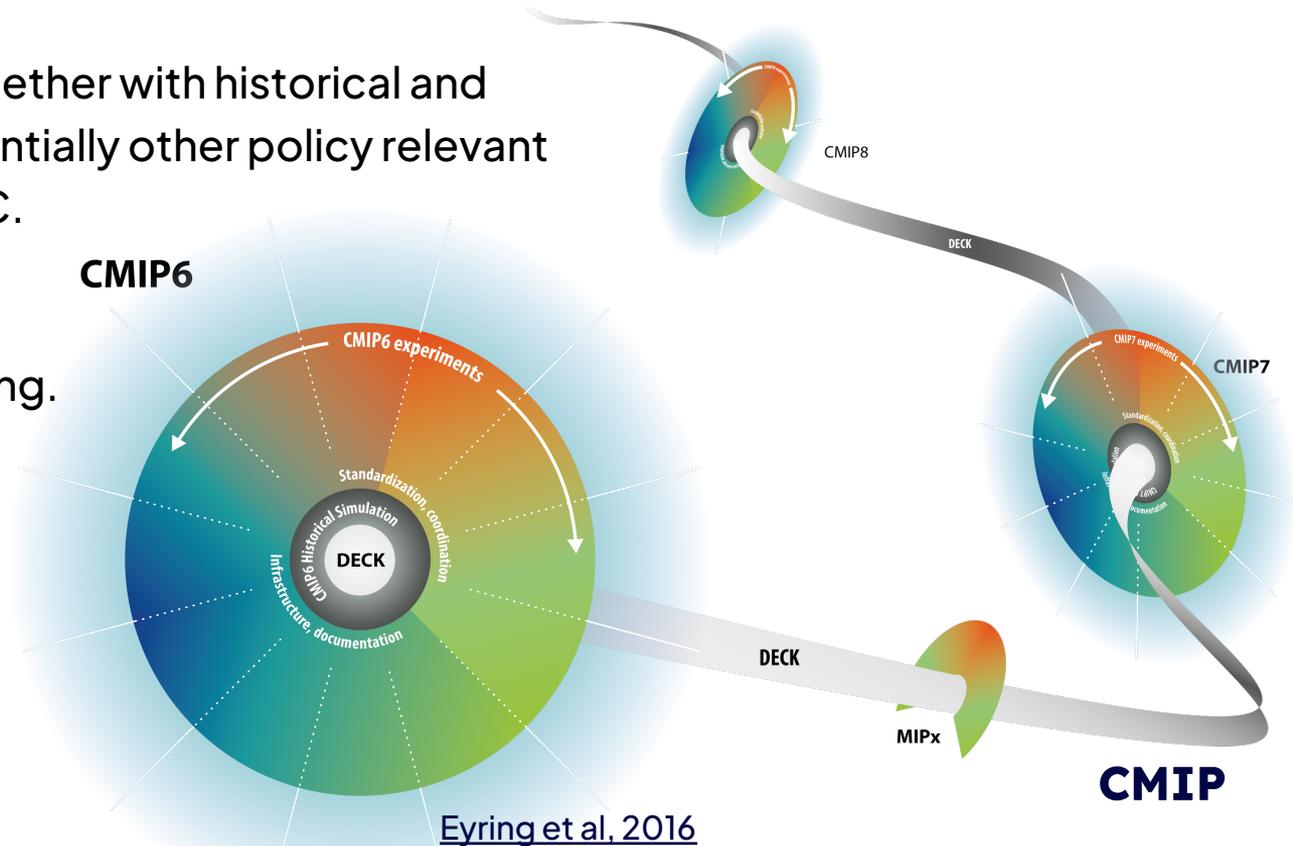


Looking forward to CMIP7

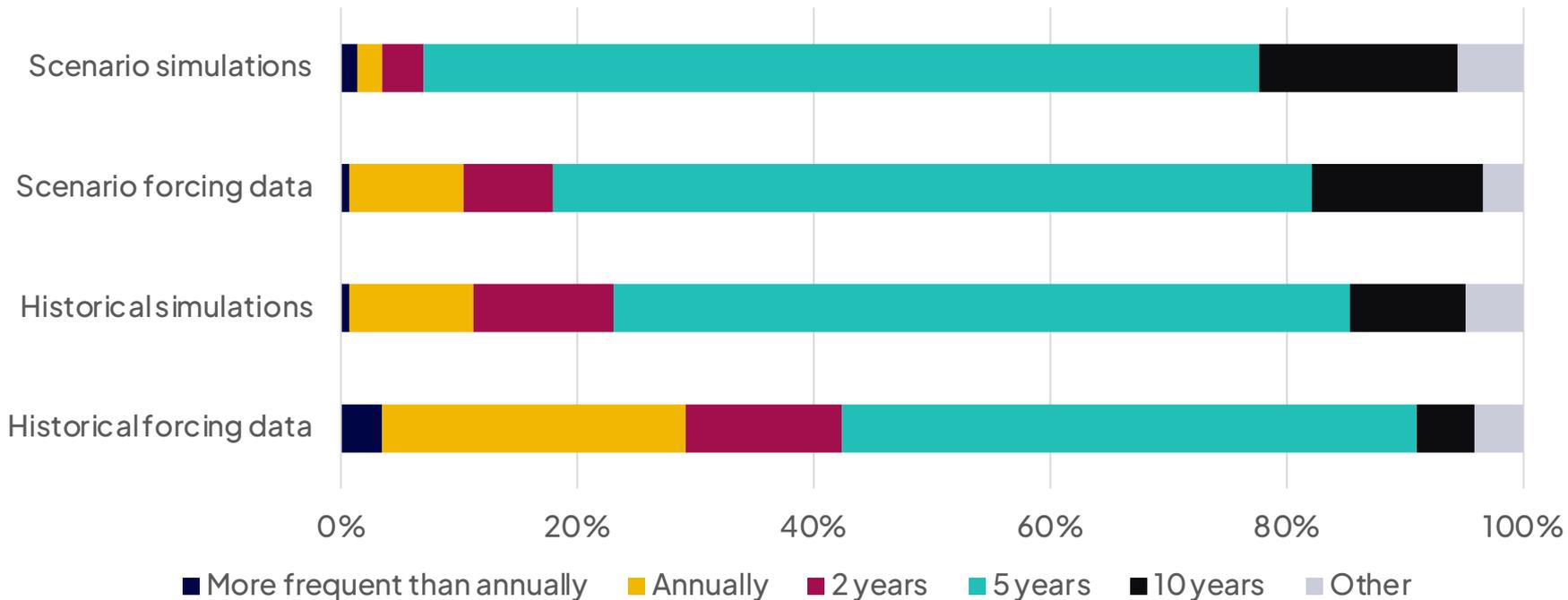
- No big structural change from CMIP6 but evolution.
- Retain alignment to IPCC in some form.
- Reduce burden on modelling centres.
- Need for greater focus on climate impacts and adaptation relevant experiments (including updated scenarios).
- Need for operationalisation of critical elements (e.g. forcing).
- Build on substantial CMIP6 data infrastructure progress to support improved, and more user friendly, data access.
- Continue and enhance active community input to the experimental design process.
- Nurture the future CMIP community and promote young and global South scientists.

Looking forward to CMIP7

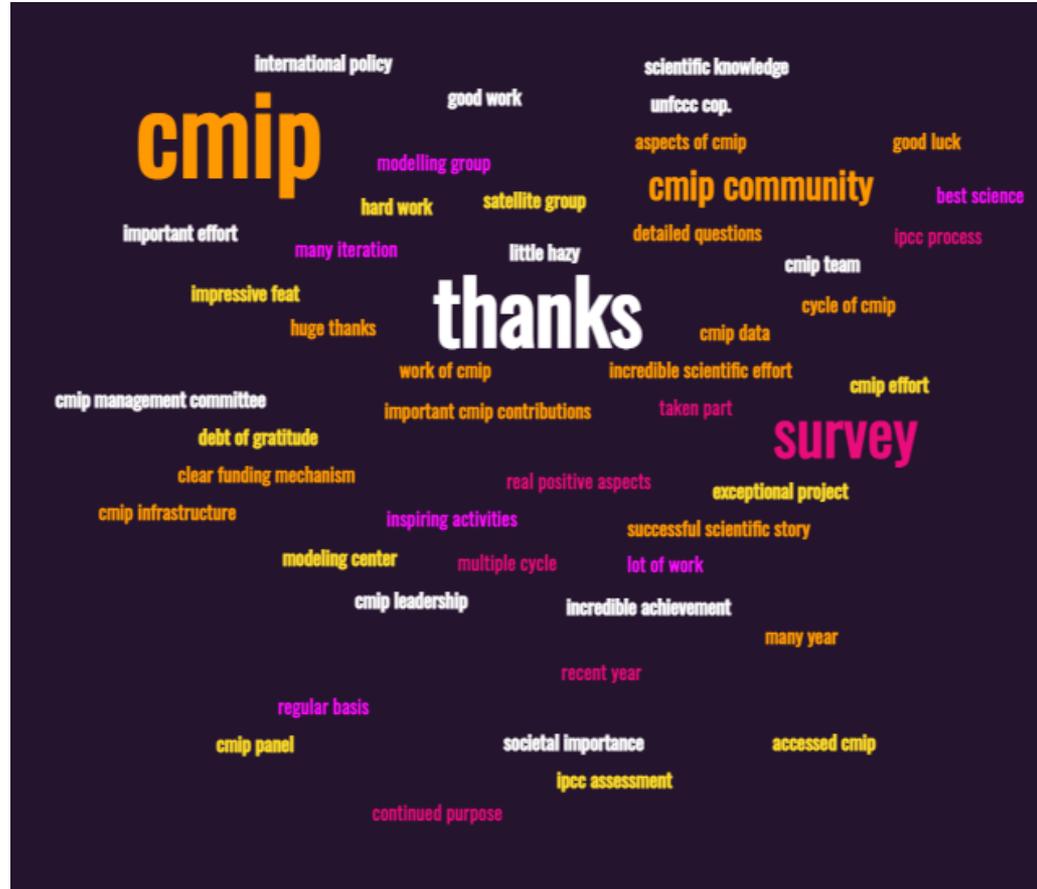
- A core of the DECK together with historical and ScenarioMIP (and potentially other policy relevant MIPs) to align with IPCC.
- Fewer experiments!
- Timely delivery of forcing.
- Sustainable funding.
- Broaden participation.



How frequently should CMIP request to update



Final word....





Thank you.

Please contact cmip-ipo@esa.int with questions or feedback

