



Pathway to regular and sustained delivery of climate forcing datasets workshop: 28-31 October 2024, ECMWF Reading

Plenary 3: Can we address the challenges?

Addressing the challenges

Breakout 1: How to address user needs/requirements (40 mins + 20 mins feedback)

Breakout 2: How to build a sustained mode delivery programme (40 mins + 20 mins feedback)

Addressing the challenges

Breakout 1: How to address user needs/requirements

(40 mins + 20 mins feedback)

- Who is in the room? Where do they use forcing data? How might that change with sustained mode
- Requirements - what do we need to consider? across user groups, per variable, etc
- What Frameworks might be useful to characterise data and build on what we have longer term

Breakout 2: How to build a sustained mode delivery programme

(40 mins + 20 mins feedback)

- At a group level - what decisions need to be made?
- Where do we need to coordinate with external bodies? Opportunities if we organise?
- Practically speaking.....

Breakout 1 How to address user needs/requirements

What requirements are important?

- Extension vs update.
- Latency requirements? Trade off vs mature input data
- Documentation! Update summaries?
- Observing system changes?
- Variability characteristics
- Resolution-xyzt – per use case? Per CMIP phase? for DTEs?
- Consistency between forcing datasets?
- Information for implementation?
- 4 • Included processes? (QBO etc)

How do we categorise and refine the issues?

- What are the user requirements that we need to consider?
- Which users? Can we identify groups/types of use case?
- Are there tensions or synergies between groups?
- What changes with a sustained (annual update?) mode relative to the status quo – new users/cases?
- Easy wins?
- Unlimited funds?

Breakout 1 How to address user needs/requirements

- What Frameworks might be useful to characterise data and build on what we have longer term?
 - Sampling uncertainty/variability characteristics – particularly at the advent of the satellite era
 - Forcing uncertainty is as large as internal variability (see Tom A's slides)
 - Natural vs anthropogenic forcings? Double counting? Consistency between datasets?
 - Relative uncertainty– in RF space rather than native variable space?
 - Diagnostics?
 - Information for implementation?

5 Bonus question: What bells and whistles would you add given unlimited resources?

Report Back

5 minutes to report back

- Summary / 3 Key points.
- Any interesting or surprising case studies or nuance
- To record
 - What are the bare minimum user requirements?
 - What's the amazing unlimited money and resource case?
 - Any tensions between use cases?
 - Framework discussions

People

Breakout group	Chair	Organising committee support	Where
1 (in person) Yellow stickers	Tim Stockdale	Claire MacIntosh	Council chamber
2 (in person) Blue Stickers	Jane Mulcahy	Chris Goddard	Large committee room
3 (online)	Anca Brookshaw	Briony Turner	Webex
4 (online)	Steve Smith	Eleanor O'Rourke	Webex

Breakout 2 How to build a sustained mode delivery programme

- At a group level – what decisions need to be made?
- Where do we need to coordinate with external bodies?
- Practically speaking.....

Breakout 2 How to build a sustained mode delivery programme

GROUP LEVEL

- How do we decide which dataset is used for each variable? How often do we revise this?. Who is the appropriate group to decide this?
- How do we decide to include new datasets (eg volcanic emissions?)
- How do we ensure we're gathering user requirements efficiently?
- Who from? Where is the boundary of 'users'?

EXTERNAL BODIES

- Upstream data provision communities -Advocate for input datasets that are identified as at risk
- Other data users – can we join forces?
- Across the “WCRP Modelling Multiverse”
- Can we leverage the very wide user base and reach of these datasets? How to organise? deal with different user reqs?

SYSTEM PRACTICALITIES

- How do we ensure continuity of expertise? What's needed as a minimum
- Interface between research and operations mode – how could this be managed?
- Elements that should be common (data format) vs those that are specific (scientific). In the middle? (uncertainty approach?)
- Archive? Long term storage?
- Equity of access considerations
- “Unlimited funding” functionality

Reporting Back – S2

- 5 minutes to report back
 - Summary / 3 Key points.
 - Any interesting or surprising case studies or nuance

People

Breakout group	Chair	Organising committee support	Where
1 (in person) Blue Stickers	Helene Hewitt	Claire MacIntosh	Council chamber
2 (in person) Yellow Stickers	Carlo Buontempo	Chris Goddard	Large committee room
3 (online)	Gavin Schmidt	Briony Turner	Webex
4 (online)	Rachel Hoesly	Eleanor O'Rourke	Webex

Thank You

Breakout 2 How to build a sustained mode delivery programme

- At a group level – what decisions need to be made? Who by?
 - How do we decide which dataset is used for each variable? How often do we revise this?. Who is the appropriate group to decide this?
 - How do we decide to include new datasets (eg volcanic emissions?)
 - How do we ensure we're gathering user requirements efficiently?
 - Who from? Where is the boundary of 'users'?
 - Thinking beyond CMIP – can we leverage other communities with related requirements? (ESMO)
- Where do we need to coordinate with external bodies?
 - Upstream data provision communities -Advocate for input datasets that are identified as at risk
 - Other data users – can we join forces?
 - Across the “WCRP Modelling Multiverse”
 - Can we leverage the very wide user base and reach of these datasets? How to organise? deal with different user reqs?
- System practicalities
 - How do we ensure continuity of expertise? What's needed as a minimum
 - Interface between research and operations mode – how could this be managed?
 - Elements that should be common (data format) vs those that are specific (scientific). In the middle? (uncertainty approach?)