

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

Plenary 4: Realising the vision

Chairs: Carlo Buontempo

Facts finding: landscape

- Diverse community of providers with unique challenges and constraints;
- Incomplete understanding of the diverse landscape of users, surprises;
- Limited visibility (outside of this community) of the importance/impact of the work done
- Two principal objectives/timelines: CMIP7/fast-track and sustained mode
 - Risk/opportunity: postponing a paradigm shift because of the contingent need / are there synergies?

Terminology

- Operationalisation → sustained mode (easier to pronounce) but isn't there a risk of hiding the part of the service component which is not NRT update? (e.g. documentation, predictable timescales, evaluation, quality control)
- Update, extend, (reprocess) → Is there something we can learn from ECVs ? E.g., CDR vs ICDR, documentation, EQC...
- Can the concept of interim/temporary/preliminary forcing be adopted more widely?

Fire burned area from 2001 to present derived from satellite observations

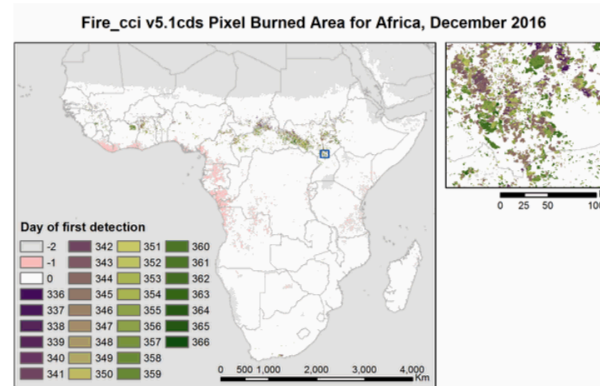
Overview

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Quality

Documentation

The Burned Area products provide global information of total burned area (BA) at pixel and grid scale. The BA is identified with the date of first detection of the burned signal in the case of the pixel product, and with the total BA per grid cell in the case of the grid product. The products were obtained through the analysis of reflectance changes from medium resolution sensors (Terra MODIS, Sentinel-3 OLCI), supported by the use of MODIS thermal information. The burned area products also include information related to the land cover that has been burned, which has been extracted from the Copernicus Climate Change Service (C3S) land cover dataset, thus assuring consistency between the datasets.



Quality Assurance

[Data Management](#)

[Data records](#)

[Metadata](#)

[Documentation](#)

References

[Citation and attribution](#)

DOI: [10.24381/cds.f333cf85](https://doi.org/10.24381/cds.f333cf85)



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The algorithms for BA retrieval were developed by the University of Alcala (Spain), and processed by the Earth and its atmosphere. In the measured signal, molecular absorption signatures from

Common challenges

- The dicotomy historical vs scenario in a continuous calls for a way dealing with a moving present-day (moving harmonisation? Data assimilation? Bayesian framework?)
- The inhomogeneity in the observational capacity means the the characteristics of the forcing dataset in recent year can be quantitatively different from the historical (and the future one).
- Impossibility of characterising all drivers → sensitivity study / what if scenarios.

Paradigm shift

- Funding structure: research mode, operation mode, development/innovation fund
- Mentality: is the community prepared to embark in a “sustained mode” ? This may include letting some of the activities go to someone else (and so free time to do research) or having additional responsibilities which may come with new fundings but less papers.
- What are the implications in terms of visibility/traceability of the results?

Synergies

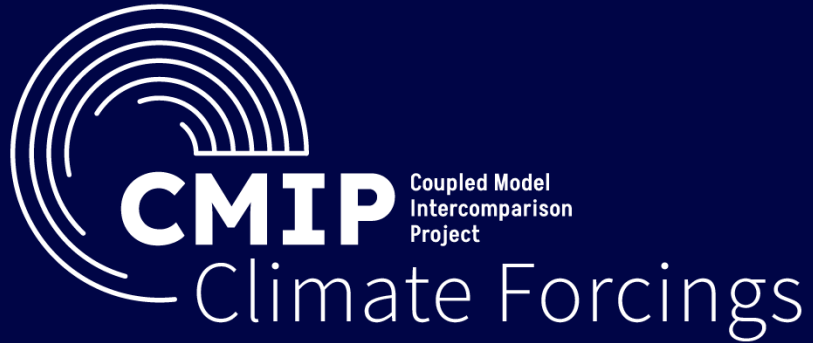
- The evolution of the forcing community is somehow intertwined with the evolution of CMIP and the IPCC (e.g. sustained mode). This may, in turn, partly depends on what will happen with initiatives such as EVE or DestinationEarth..
- Climate services (GFCS): state of the climate report, attribution studies, on-demand simulations (e.g., Gavin, Sebastian, ..). These imposes a much faster reaction time than the typical CMIP cycle.



Commission for unsolved issues



- Self-selecting community of providers; how do we consider additional submissions?
- Geographical bias; how can the community be more inclusive?
- What could be the role of WMO in developing a global coordination/governance for forcing? How shall this community go about it?



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Plenary 5: Next steps

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Timelines

- Immediate
 - (AR7 fast-track and CMIP7): not much appetite to do anything different on these timescales; heads-down and hard work.
 - Make the effort and its importance more visible (perspective paper, Oped, NYT)
 - Consolidation of information (Survey?) among non-CMIP users on the most vital inputs required and the appetite for preliminary data.
 - Survey among providers to gain information on appetite for sustained mode and on the estimates for the resources required (if any).
- 1-3 years
 - Coordination of funding agencies to develop a common framework for supporting both continuous mode, enhanced research, as well as development/innovation funds.
 - Pioneer the provision of preliminary data for the most suitable forcing in sustained mode.
- ~5 years
 - Mobilisation of innovation funds to extend the number of forcing for which a continuous mode of preliminary data could be developed.