

Climate forecast information for decision making (I4D)

Co-Leads: Ángel G. Muñoz and Lauriane Batté

Additional participants: Emily Becker, Caio A. Coelho, Paul Dirmeyer, Francisco Doblas-Reyes, Debbie Hudson, Rodrigo Manzananas, Simon Mason, Bill Merryfield, Kathy Pegion, Andrew W. Robertson, Ramiro Saurral, Yuhei Takaya, Verónica Torralba

This WGSIP project on climate forecast information for decision making offers to tackle several research-to-operations issues faced by the climate prediction community:

- 1) Assessment and improvement of calibration and ensemble techniques: how can imperfect model forecasts be translated into useful, reliable and comprehensive products? (*CEIP: Calibration and Ensemble Intercomparison Project*)
- 2) Combination of forecasts across time scales: how can subseasonal and seasonal predictions be efficiently combined to better predict events?
- 3) Capacity building and guidance to the operational community

In doing so, the project is aligned with the WCRP Strategic Plan objective 4.2 “Engaging with society”.



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Expected outcomes

1. assessment of calibration methods and impacts on both deterministic and probabilistic skill metrics
2. assessment of cross-timescale forecast combination methodologies
3. development or enhancement of standardized community tools for components (1) and (2), e.g., PyCPT (<https://github.com/agmunozs/PyCPT/>) for calibration procedures
4. journal publications and meeting presentations communicating improved knowledge on this topic; could be one or two synthesis papers on recommendations on components (1) and (2)
5. At least one training school on these topics



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Synergies

- IPET-OPSLs: Caio
- S2S ensemble sub-project: Yuhei
- S2S R2O: Ángel, Andy Robertson and Caio
- Copernicus/seasonal models/data services: Carlo Buontempo and Anca
- NMME, SubX: Emily Becker, Kathy Pegion
- S2S Real Time Pilot and potentially SERA: Joanne Robbins? (TBC)
- S2S and land surface processes: Paul Dirmeyer
- H2020 EUCP: Antje Weisheimer (annual-to-decadal)
- Data services: Ramiro Saurral and Andy Robertson



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Component 1 - Calibration and Ensemble Inter-comparison Project (CEIP)

- CEIP website at IRI (and mirror/link @ WCRP site?)
- Code repositories (list of Bitbucket and Github repositories)
- Benchmarking different calibration and ensemble methods. Output in IRIDL? (if so, it requires funding for disks and curation).
- [Review paper](#).
Co-authors (TBC): Ángel G. Muñoz, Lauriane Batté, Emily Becker, Caio A. Coelho, Paul Dirmeyer, Francisco Doblas-Reyes, Verónica Torralba, Rodrigo Manzanas, Simon Mason, Bill Merryfield

Next Steps:

1. Website at the IRI, linked to WCRP's site
2. Index of code repositories for the site.
3. Review paper.
4. Funding for the benchmarking.



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Component 2 - Integrating Forecasts Across Time Scales (§ FAXTS)

- § FAXTS website at IRI (and mirror/link @ WCRP site?)
- Code repositories (list of Bitbucket and Github repositories)
- Benchmarking different timescale integration methods. Output in IRIDL? (if so, it requires funding for disks and curation).

- Methods and recommendation paper?

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Next Steps:

1. Website at the IRI, linked to WCRP's site
2. Index of code repositories for the site.
3. Funding for benchmarking.



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Component 3 - Capacity building and guidance to the operational community

- Ecuador workshop (2019): Ramiro and Ángel
- NextGen in Central American COF (CACOF), and other countries
- Mediterranean COF (MedCOF)
- At least one international training (ICTP - Adrian Tompkins?)
- Regional trainings (TBD): e.g., LAC, Europe, Africa, Asia
- Link to WCRP Academy?
- Guidance document
Co-authors: TBD

Next Steps:

1. Waiting for progress on Component 1 and 2 (and for COVID to end)



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