The CORDEX-FPS on Convective Phenomena over Europe and the Mediterranean aims to produce and investigate a first-of-its-kind ensemble of convection permitting simulations. There are over 67 individual participants representing 16 modeling groups and 5 non-hydrostatic regional climate models. The fourth annual meeting was held November 26-27, 2019 in conjunction with the annual Med-CORDEX and FPS-aerosols and FPS- meetings. Our host was Samuel Somot and the meeting was held at Meteo France in Toulouse.

2019 witnessed a truly impressive effort as over 22 evaluation time slices and 12 scenario simulations (present and future) were completed in time for the first manuscripts on the climate ensemble to be submitted prior to the IPCC deadline of 31.12.2019. In addition to this activity participants continued to analyze the output from their simulations and deliver new insights, well beyond the canonical precipitation analyses. For example, see the figure at left which shows the strong shift towards higher convective precipitation intensities in the future, especially in summer (red curve, Sobolowski et al., in-prep). The consortium was active as usual at EGU and EMS. In addition, the project was presented at ICRC in Beijing, China in October along with many other contributions from the FPS. See references for details.

During the 2019 annual meeting an entire day was set aside for scientific presentations and discussions. There were a total of 16 talks on a wide range of topics from statistical emulators to big data analytics to scenario assessments. Yet again, most impressive was how the investigations have moved beyond analyses of the canonical surface fields to other aspects of the climate system.

Documentation of the models metadata and status of simulations is currently freely available to all via google spreadsheets. The
aim is to make model configuration as transparent as possible. Likewise the status of the runs should also be readily available.

Simulations:  
https://drive.google.com/open?id=1d8_bR7pc_2LjVFB9fRbs95tl09sip6k-1wz-FThM5Wc

Metadata:  
https://drive.google.com/open?id=1q5SnLtetg6UvNhQRR1_iJEldKk4D3NDaP4tWWyH92qc

Discussions have continued on how eventually deliver the FPS simulations on the ESGF. A file/directory naming convention has been agreed to in principle and is available on the wiki. However, there is a need for fine tuning along with the other FPSs and, most importantly ESGF representatives. There is currently a task group working on this issue.

Plans for 2020

- Groups continue to perform simulations for historical and future time slices with aim for full ensemble to be finished by end of 2020 (excluding re-runs).
- Finalize, in collaboration with CORDEX-SAT (Grigory Nikulin) and other FPSs, naming conventions and new Data Reference Syntax required for making simulations available via the ESGF. This process is ongoing with representatives from ESGF community at DKRZ (Martina Stockhouse). Goal is to have a final set of guidelines and recommendations by end of 2020.
- Continue to perform analyses, write and submit community papers. A number are ongoing (precipitation characteristics, hazards, added value, etc.) and will be submitted this year.
- All other groups aim to finish the evaluation runs and scenario runs by year’s end

Selected References


