

CORDEX-FPS: Convective Phenomena over Europe and the Mediterranean

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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. Common modeling groups are taking advantage of the opportunity to coordinate their efforts to investigate perturbed physics, internal variability, etc.

At the kick-off in Trieste, Italy November 3-4 there were over 30 participants and decisions were made regarding mandatory model domain, experiment design and scientific questions. A summary of the key points is below along with a figure of the mandatory, extended Alpine domain. Two optional domains (over Northwest continental Europe and southeast Mediterranean) are being investigated in parallel by smaller sub-ensembles.

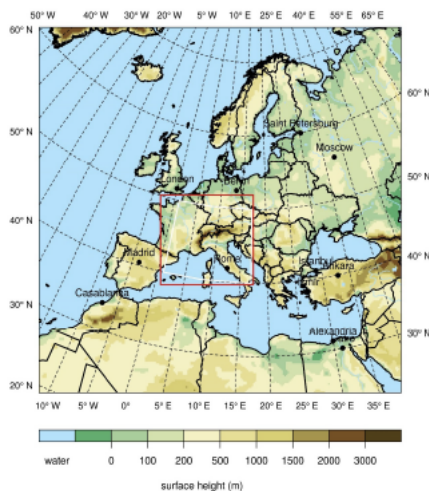


Figure: Illustration of location of FPS convection mandatory domain (red box). The actual region (1E - 17E; 40N - 50N) for final analyses is shown by the white box.

simulation time slices: HIST (1996-2005); RCP85 (2041-2050); RCP85 (2090-2099).

The next meeting was informally at the Euro-CORDEX annual meeting where feedback on the kickoff was provided and a preliminary agenda set for the EGU side-event. In particular, test cases were requested to provide a first step evaluation of the gross performance (e.g. timing, intensity, location, life-cycle) of the ensemble in climate mode for some well-studied events.

Major outcomes of EGU side event:

- The motivation for test cases was hotly debated but eventually consensus formed that this was an inherently useful activity. After some further discussion three test cases were chosen:
 - 1- IOP 16 23-28 OCTOBER 2012
 - 2- Austria 22-25 June 2009
 - 3- Foehn November 4-5, 2014
- The main variable list was discussed and the set of variable chosen. It differs in some important ways from the CORDEX variable. Though final output frequencies are t.b.d. it was agreed that a major sub-set should be at hourly resolution. All variables with the exception of CAPE and CIN are cmor/cf compliant.

Near future activities and goals:

- Showcase some of the test-case and first year ensemble results at Med-CORDEX/Hymex meeting in Barcelona in July
- Continue work on test-cases and first year of evaluation run through summer;
- Draft a manuscript detailing the project, its goals and presenting some first (preliminary) results which showcase the project (not an evaluation!) in the Climate Dynamics special issues (end of Sept.)