LAM-EPS developments in COSMO

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Outline

- consortium ensemble -> COSMO-LEPS
- development of Convection Permitting ensembles
  - KENDA-derived IC perturbations
  - SPPT
  - stochastic physics
  - soil perturbations
- benefit of the CP ensembles
- spread/skill relation issue

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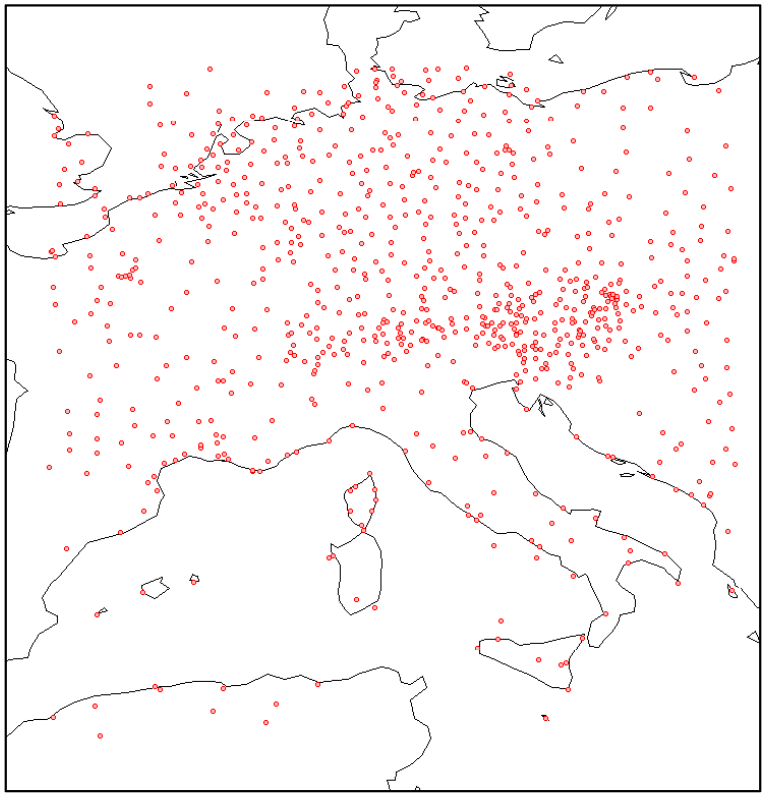
COSMO-LEPS with SPPT: experiment set-up

- **OPER-CLEPS** vs **SPPT-CLEPS**
- same boundary conditions and perturbation types
- **~70 days** of intercomparison (from 22/11/2014 to 31/01/2015), starting at 12UTC
- verification area: 35-55N, 0-20E (~ 1000 synop reports)



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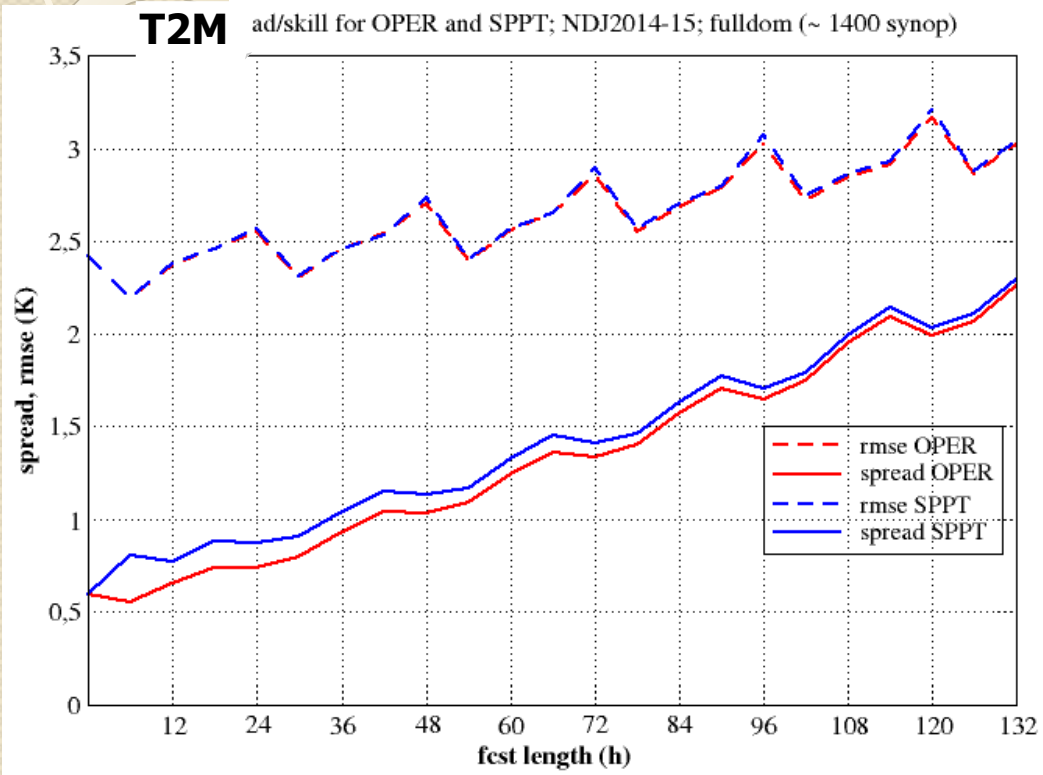
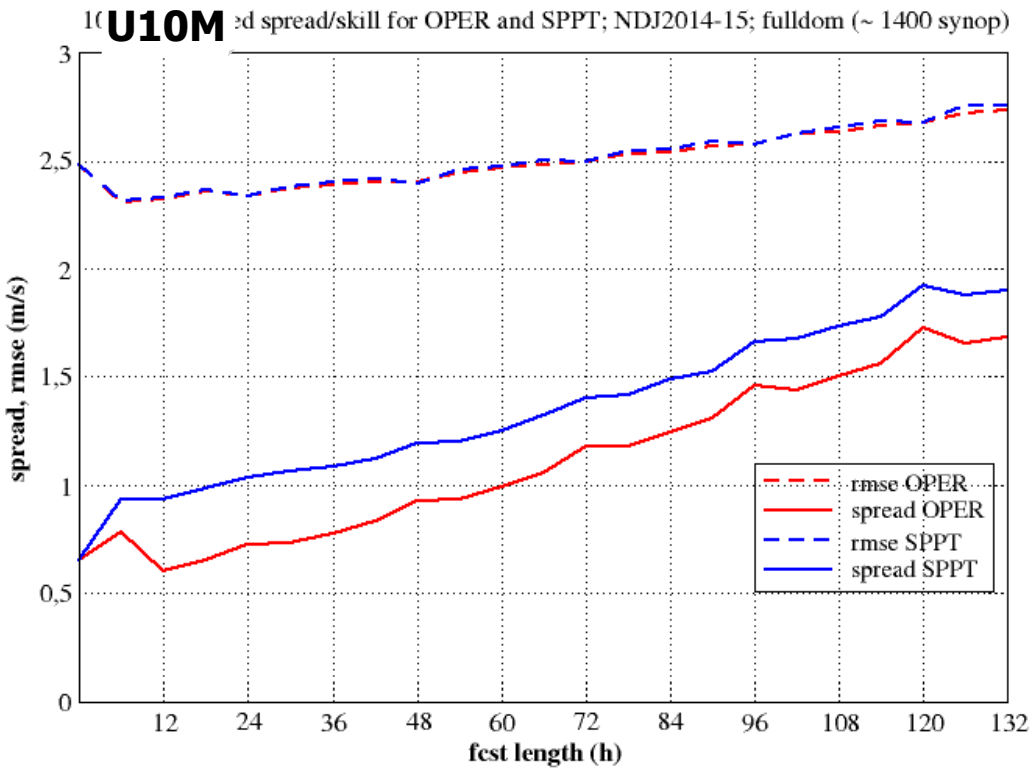
SPPT: spread/skill for T2m and WSPEED10m





- larger spread for COSMO-LEPS **with SPPT**, especially for wind
- lack of spread in the short range
- limited impact (if any) on forecast skill of the ensemble mean

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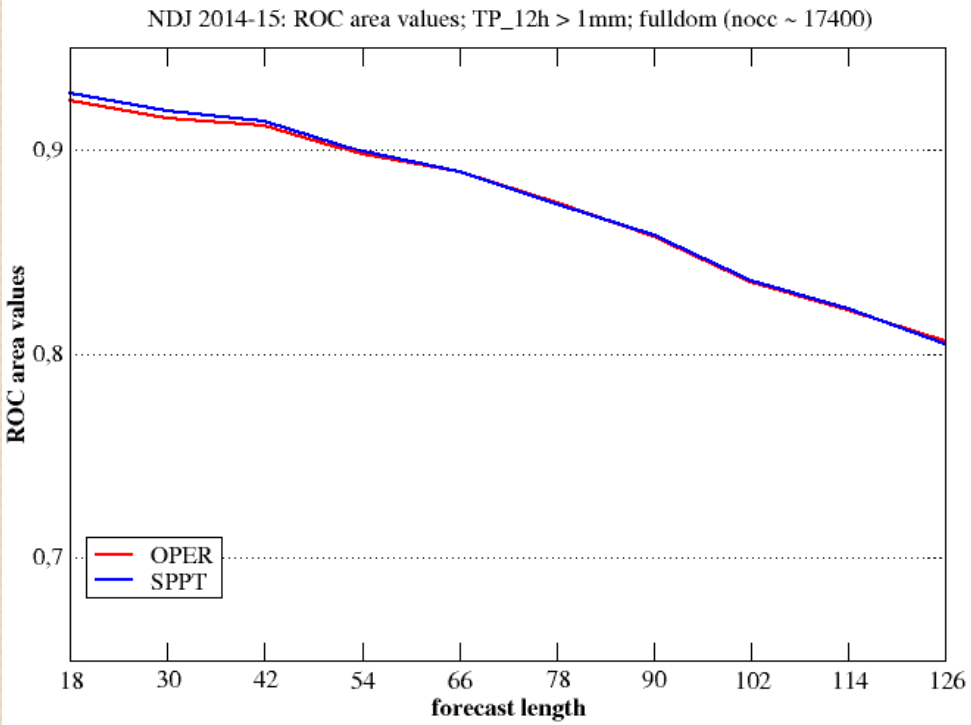
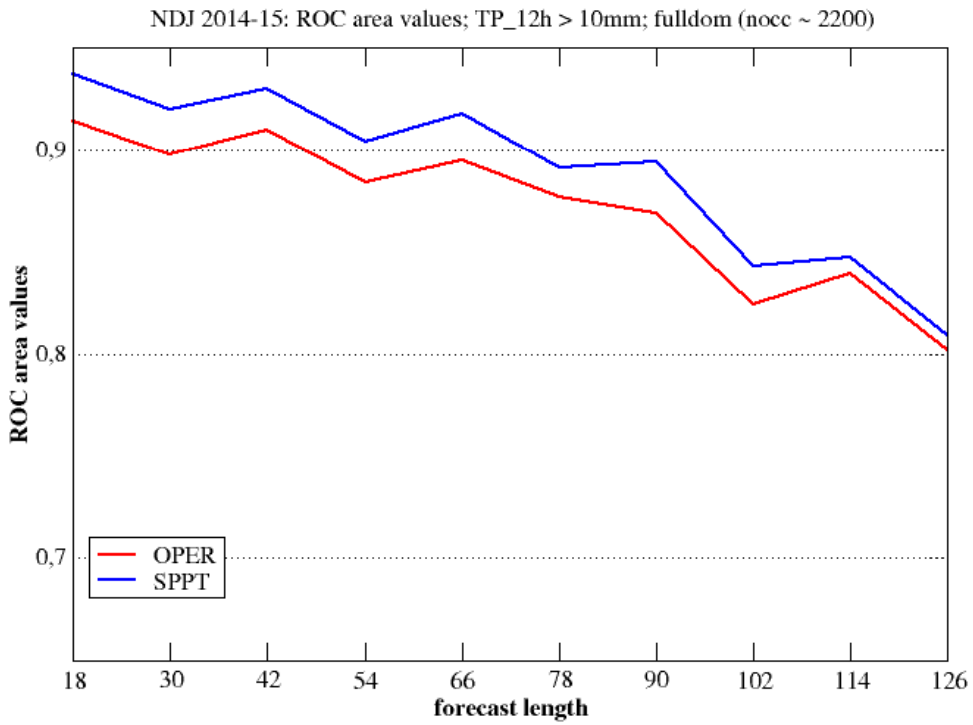
SPPT: total precipitation, ROC





- similar performance for low precipitation thresholds
- positive impact of using **SPPT** for higher thresholds

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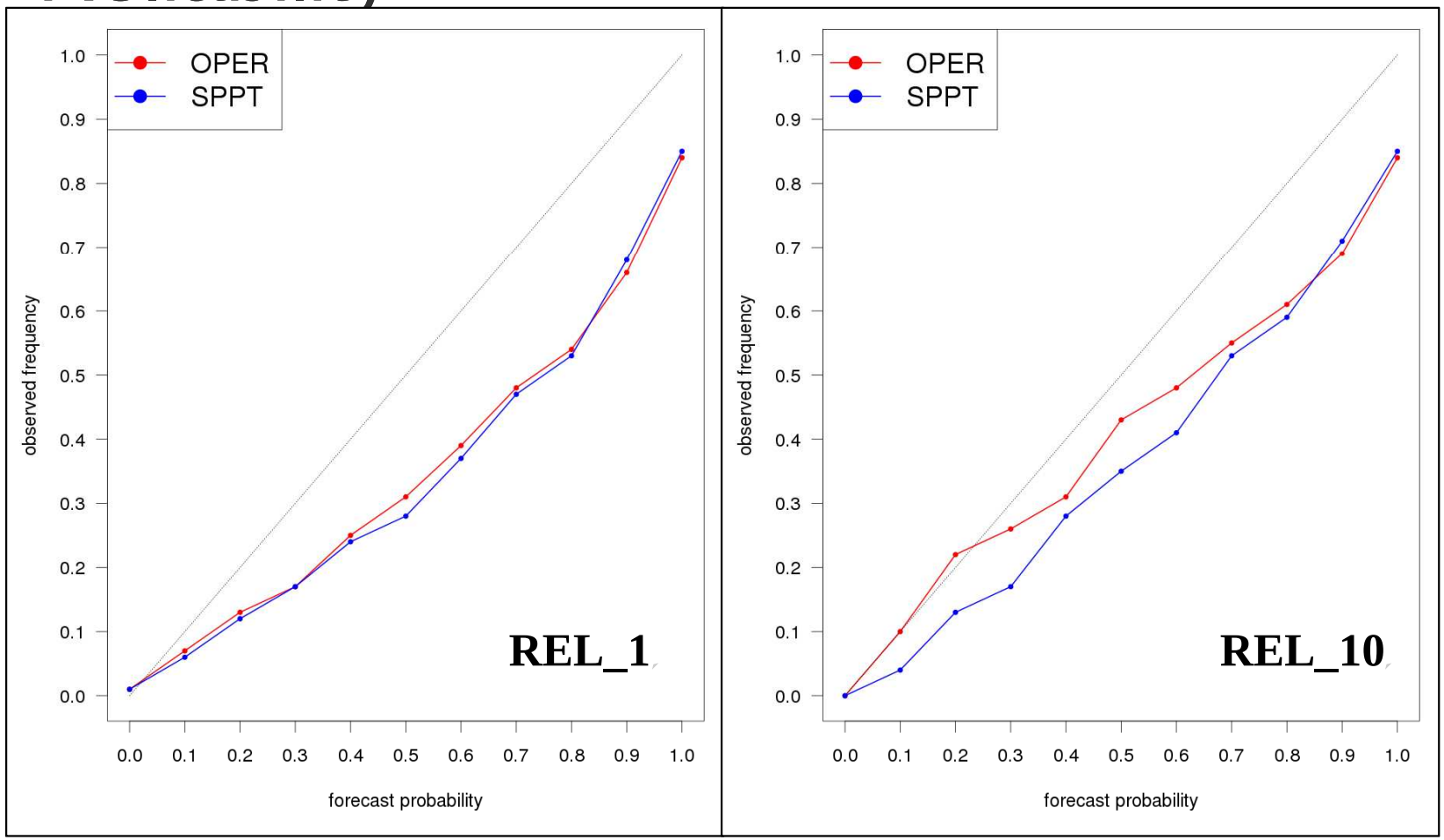
SPPT: total precipitation, Reliability



- COSMO-LEPS overconfident in both cases
- better performance of the **operational** COSMO-LEPS (also for other forecast ranges)

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