

Minutes of the side meeting on use of KENDA for ensemble forecasting (COTEKINO task 1), Sibiu, 2nd September 2013

Participants:

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Minutes:

The main discussion points were:

- How to evaluate the KENDA performance, especially for providing ICs to a forecasting ensemble
- Which tools for evaluation are available and how to share them
- How to organize the coordination between KENDA and COTEKINO

KENDA evaluation.

A list of what should be looked at has been made:

- Maps of spread at different vertical levels (including the bottom one and one at the top of the PBL), for all the prognostic variables (always include humidity)
- Skill evaluation: should be done against observations at observation locations, for all types of observations. Feed-back files can be used for this evaluation.
- Evaluation of ensemble mean against observations (bias, rmse), in terms of background fields, for all types of observations. (by CNMCA)
- Check the spread/skill relation of the LETKF ensemble at the end of each cycle (e.g. 6h), considering also the observation error. (by CNMCA) This is done stratified by level, over the whole evaluation period.
- Sanity check (to check if the filter is working properly): check obs-ana
- For ensemble forecasting, spread/skill relation should be checked also for the forecasting ensemble
- Compute the difference analysis-first guess as fields, all variables (always humidity)
- Spectra of fields and perturbations

Tools.

- The NEFFprove tool is now ready. It reads feed-back files in input, produced either by KENDA or by COSMO, the set-up is via namelist. The code computes the scores, depending on the variable, for each variable and for each lead time.
- Imstat is part of the KENDA distribution. It computes the feed-back files from the lff files produced by COSMO, without the need of running the model.
- KENDA produces files diag, with all the characteristics of the assimilation (number of observations, adaptive rho, Bmatrix, Rmatrix, ...) on the 3d coarse grid, the one over which KENDA weights are computed. The current output are binary files readable by GRADS. It was asked to have a netCDF output, for homogeneity.
- Spectra computation. A code has been prepared by ARPA-SIMC, and will be made available after having prepared the documentation.

Coordination between KENDA and COTEKINO.

- A new COSMO mailing list will be created (Chiara will ask WG6 coordinator)

- KENDA developers take care of providing version numbers for the new releases, with appropriate release notes. When a new version of the code is ready, the mailing list will be informed (by Christoph?). Taking benefit of a possible meeting in November at DWD on model physics perturbation, half a day of KENDA-COTEKINO meeting could also be held.
- In February there will be a Symposium on convection-permitting scale modeling and one day will be dedicated to ensemble. This could provide a useful meeting occasion as well.

Actions.

- Hendrik will prepare the documentation for the existing diagnostic tool (lmstat)
- Chiara and Tiziana will provide the spectra code, with documentation
- Chiara will ask for the new mailing list
- Daniel will test the NEFFprove tool
- Chiara will inform about possible meeting organization at DWD in November
- Christoph and Roland will put up the list of what should be looked at for KENDA evaluation