

Summary from session 1

DA and use of observations

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- Pre-processing and input of observations
 - There exist many different solutions for the pre-processing and input of observations to the data assimilation. This may confuse the implementation of data assimilation in many member countries.
 - Ideally there may only be two processing steps: GTS-2-BUFR and BUFR-2-ODB
 - Norway and Sweden have taken an initiative for a joint GTS-BUFR_{ECMWF} package
 - Pre-processing will be coordinated in LACE

- **VarBC** will be the only possibility for bias correction in IFS. HIRLAM supports.
- Two methods to handle **moisture heterogeneities** were presented: A modified Holm variable transform method and an ensemble method. Both methods should be further pursued.
- **ETKF** is being developed by (at least) three institutes in HIRLAM/ALADIN. Coordination to avoid too much duplicate work is needed?
- Finalization of the implementation of the **wavelet-based background constraint** is urgent
- A clear **seasonal dependency** of the background error statistics was demonstrated. This may probably be worth considering in HIRLAM too

- One needs to make sure that the **4D-Var development** is staffed enough on both sides for the coming year (Basic Harmonie 4D-Var). This is important in order to enhance the collaboration
- **Tuning of screening and QC** needs more efforts
- **Script** system
 - HIRLAM is building a complete HARMONIE data assimilation and forecasting system, including scripts. Hirlam hopes these actions to be beneficial for initiation of data assimilation work in the future
 - Contribution from ALADIN partners appreciated

Simplified physics for 4D-Var (Monday evening meeting)

- **Pragmatic approach in the short/medium term:** ECMWF simplified physics in 1D-Var observation operators will be evaluated; ARPEGE simplified physics will be applied also in HARMONIE 4D-Var possibly supplemented with some form of microphysics scheme (e.g. “Lopez”).
- **Long term: Still on the brainstorming level!**