Overview
Methods for evaluation

Deborah Niermann, Michael Borsche, Andrea K. Kaiser-Weiss

UERRA evaluation workshop 01.12.2017, Tarragona, Spain

Workshop Agenda

08:30 Overview – Methods for evaluation (Deborah Niermann)

08:40 What can we learn from DA output and what not (Richard Renshaw)

09:00 Comparison of wind speeds against station observations (Deborah Niermann)

09:20 Comparison of drought indices (NMA-RO)

09:40 Comparison of indices based on temperature and precipitation (Else van den Besselaar)

10:00 – 10:20 Coffee

10:20 Evaluation of reanalyses for precipitation in complex terrain: the Alps and the Fennoscandia (Cristian Lussana and Francesco Isotta)

11:00 Comparison against satellite data (Michael Borsche)

11:20 Discussion and draft for user guide (Andrea Kaiser-Weiss)

12:00 Remaining challenges and Conclusions

Method A – Feedback statistics

- Includes background (b), analysis (a) and observations (o)
- Focus on lower troposphere
- Assessing and filtering observations
- Measure for temporal stability
- + produced automatically during RA production, no additional effort
- - system dependent, comparison of various RA's difficult

Method B – Station observations

- ➔ Comparison against
  - ➔ Independent data (tall wind masts)
  - ➔ Dependent data (observational network)
- ➔ + Large user interest
- ➔ - Representativity issues

Method C – Gridded station observations

- Gridded data products: E-OBS, APGD, NGCD
- Consider underlying station observations
- Precipitation, Tmin, Tmax
- + data products carefully prepared
- + cover desired region
- + ready to use
- - Inhomogeneity of station density

Method D – Satellite products

- Data products by CM-SAF and MeteoSwiss
- Parameters:
  - global radiation, snow water equivalent
  - Precipitation, total cloud cover
- + Comparison against independent and homogeneous data
- - data quality is not equal, throughout surface dependence

Method E- Ensemble based comparison

- Ensembles measure most likely state of atmosphere plus uncertainty of the prediction
- Ensemble spread
- Apply methods A to D on:
  - Ensemble mean
  - Each ensemble member
- Apply ensemble based skill scores