



Highlights of the past year

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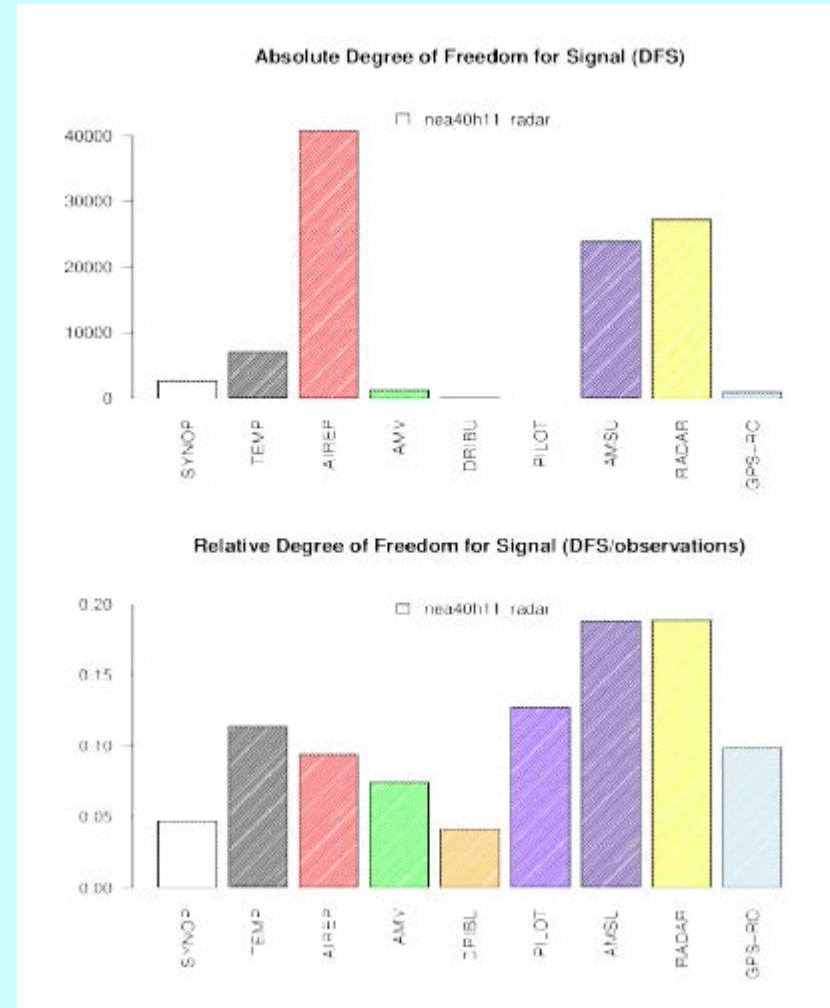
Workshop/ASM 2018, Toulouse

16 - 19 April, 2018

Towards optimal use of high-resolution observations and flow-dependent assimilation, also in nowcasting range

- 4D-Var coupled to full range of “operational” observations
- LTKF and hybrid EnVar research branches merged with trunk
- More attention for simulation setups for nowcasting
- Slant delay impact studies/inclusion
- Several non-NMS data sources looking very promising: NetAtmo, smart phones, ...
- SAPP: modern, easy-to-use tool for observations handling

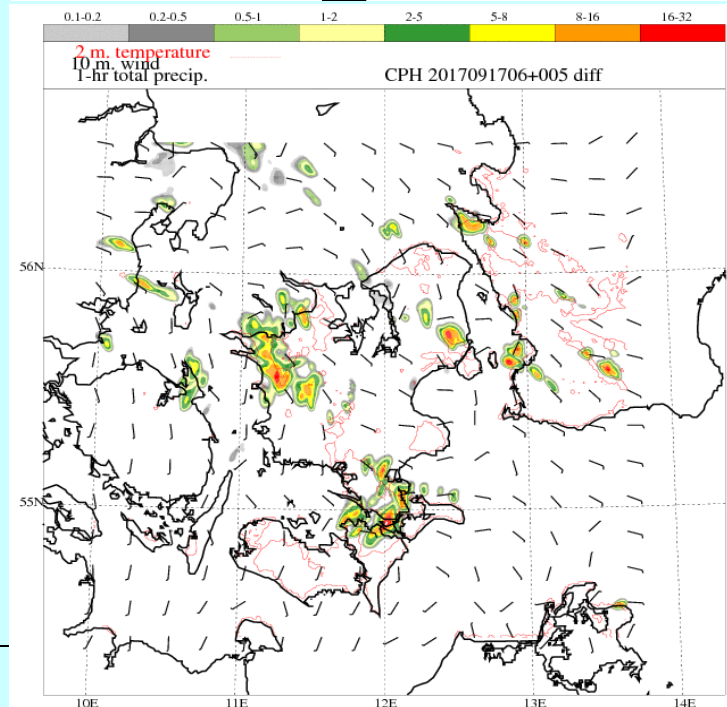
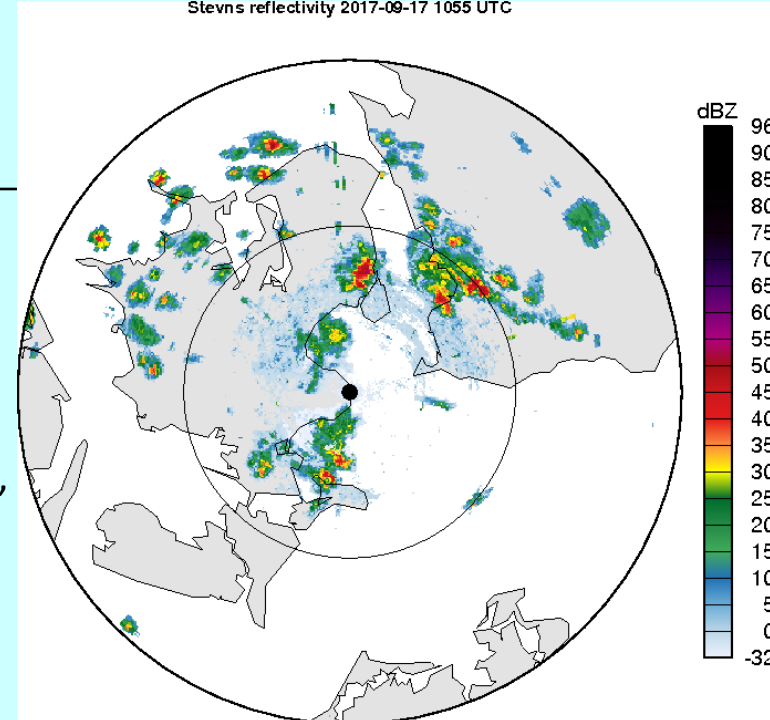
See presentations in DA session



Forecast model

- Convection-related problems
 - Triggering not strong enough, structures too smooth, too much liquid and not enough solid precipitation
 - Studies: Multiple causes
 - Corrective actions focussing on surface aspects, interaction between shallow convection and cloud microphysics
- High resolution modelling workshop Dec 2017
 - Strong interest, also from applications side
 - Many activities already ongoing on local domains
 - Test beds, plan for experimentation

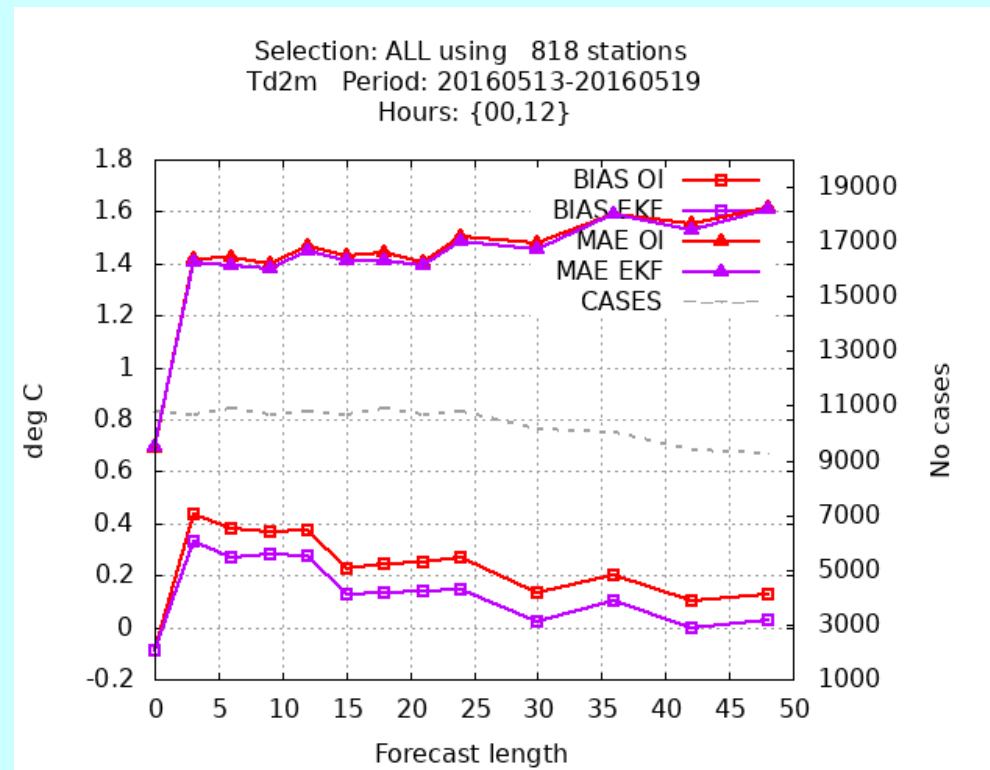
See presentations in PH and VER sessions



Surface analysis and modelling

- EKF: as good as or slightly better than OI when used in combination with “old” surface physics and conventional observations
- Experimenting with EKF + satellite surface observations
- Explore alternatives to (parts of) CANARI
- Test proposed combination of Surfex v8.1 schemes in Cy43h
- Work on coupled atmosphere-sea (wave) and coupled surface – hydrology modelling

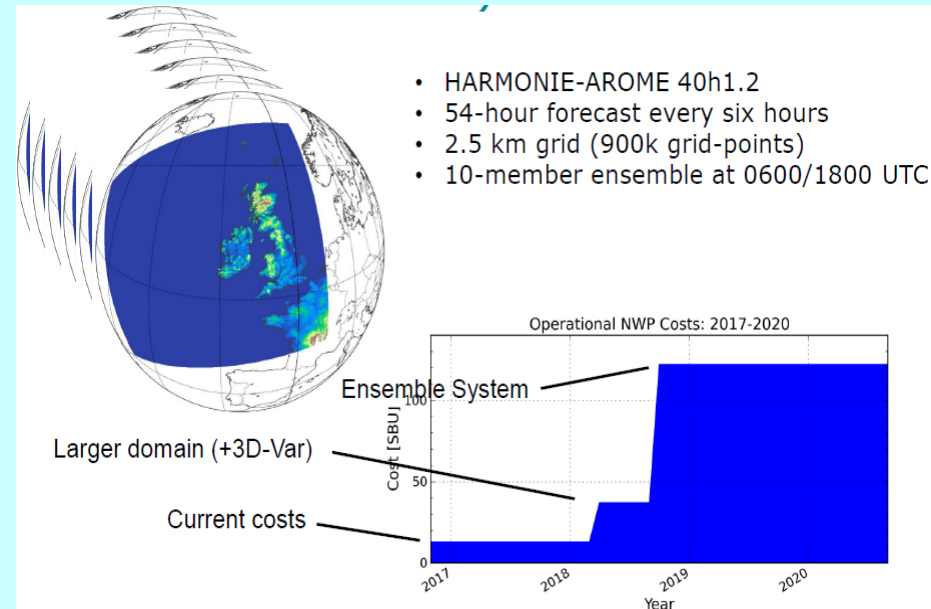
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Probabilistic forecasting

- Implementation/monitoring of operational HarmonEPS suites (new additions: KEPS, IREPS)
- Making ensembles suitable in nowcasting range through e.g. overlapping windows cycling strategy
- Experimenting with SPPT, SPP and considering different pattern generators; introducing EPPES method to select sensitive parameters
- Intercomparison of different LBC perturbations (SLAF, 1h ENS, (adapted) clustering, random field): SLAF and ENS performance comparable

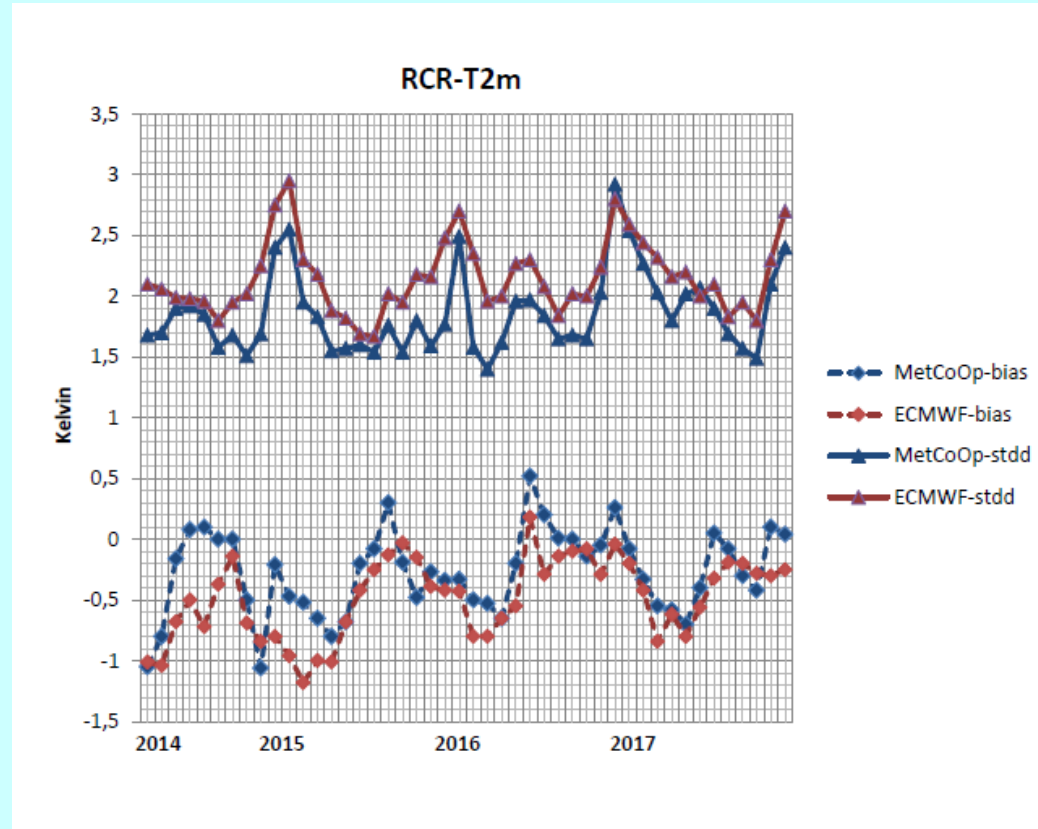
See presentations in EPS session



Verification and monitoring

- HARP-v2 release => spatial verification
- starting with HARP-v3 development: integration of in-situ and conditional verification, more user-friendly interface
- Longer-term monitoring
- User meeting in Nov. 2018

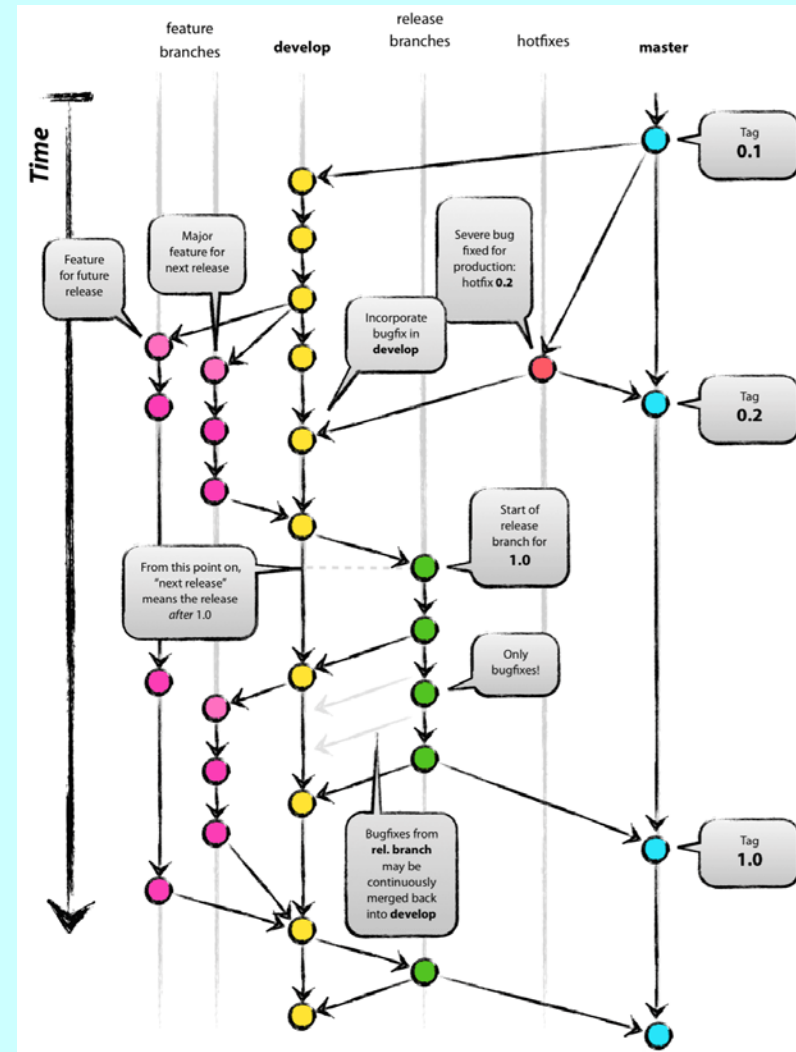
See presentations in Verification session



System and scalability aspects

- Cy40h1.1.1 technical release: several large data assimilation, surface developments entering the Harmonie trunk
- Preparing Cy43h1-alpha and the move to GIT
- Modernizing/optimizing code/scripts within limited resources:
 - * Start overhaul of parts of scripting system
 - * Optimization of microphysics/EDMF code
 - * Next: single vs double precision (Cy43)

See presentations in System session



Towards a single consortium

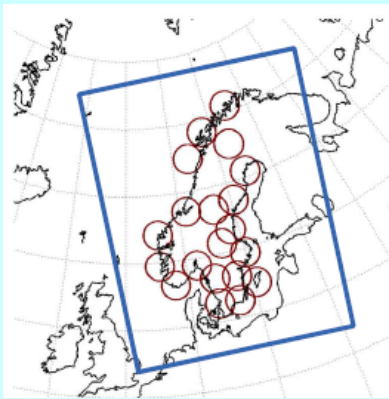


Convergence actions:

- 2017: Introduced new setup/process for rolling work plan process, linking R&D activities to consequences for common code
- 2018: start joint monitoring of actual activities
- 2018: Definition of mission and scope of joint consortium

Increasing operational cooperation in the HIRLAM world

Expanding operational cooperation:



MetCoop



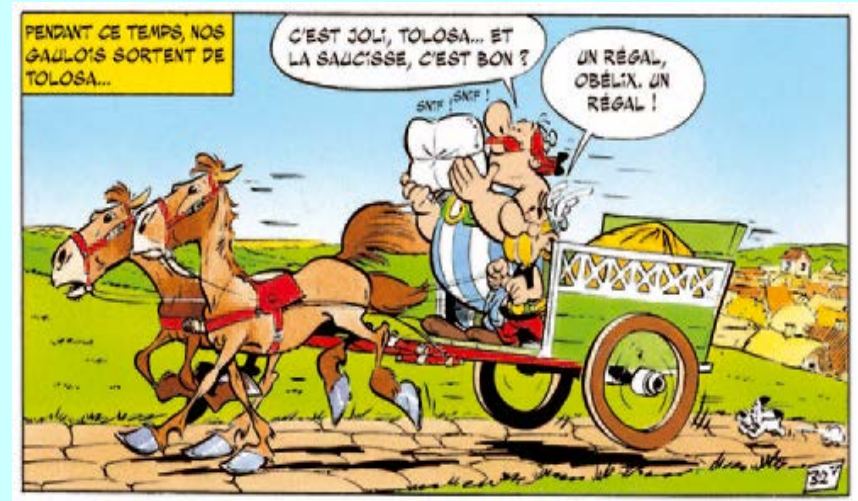
NordNWP (orig)



**NordNWP East
(MetCoop +Baltic)
and West
(Dk, Ic, Ir, NI)**

So, both on the scientific and organizational side...

Plenty of things to work on together and to look forward to!



Have a good meeting and enjoy Toulouse!