Multi-domain off-line LATLON fullpos for Turkey and Czech Rep was implemented and optimized, An automatic download of VOBs files from ECMWF to SHMU was established for HARP verification. New post-processed fields in A-LAEF Lambert multi-GRIBs (snow line, 0-isotherm height, and T, U, –) (www.shmu.sk). Acceptance interval to (Tmin - n*(Tmax-Tmin)/2, automatic QC of these data sources prior the resolution analysis requires quick and effective Utilisation of AWS and crowdsourced data (e.g. Local QC based on A-LAEF A-LAEF operational data dissemination: CSC operational BLENDING, P001: BLENDVAR). A robust operational suite reached T2C status on 20/07/2020. A-LAEF on-line tests were implemented and optimized, with possible extension for other domains. New Mediterranean Sea domain (MSEA) was set up and tested, to provide coupling files for the ocean models NEMO and SHYFEM (soon to become operational). Post-processed fields are defined for each of the LATLON domains separately, via new selection namelists. New tasks for the conversion of LATLON FA Files to multi-GRIBs and their dissemination to Turkey and Czech Republic were added. New post-processed fields in A-LAEF Lambert multi-GRIBs (snow line, 0-isotherm height, and T, U, V, RH) at 100 m level were activated. A parallel ecflow suite for testing A-LAEF upgrades & modifications was installed under kmux user. An automatic download of VOBs files from ECMWF to SHMU was established for HARP verification. A-LAEF operational data dissemination: via ECPDS: Slovenia, Slovakia, Romania, Czech Republic, Turkey via SHMU Poland (because they are not ECMWF members); local usage of A-LAEF data at ECMWF servers: Croatia.

Common RC LACE operational ensemble A-LAEF martin.bellus@shmu.sk

A-LAEF operational suite reached T2C status on 23/07/2020. New A-LAEF activities comprise:

- Multi-domain off-line LATLON fullpos for Turkey and Czech Rep was implemented and optimized, with possible extension for other domains. New Mediterranean Sea domain (MSEA) was set up and tested, to provide coupling files for the ocean models NEMO and SHYFEM (soon to become operational). Post-processed fields are defined for each of the LATLON domains separately, via new selection namelists.
- New tasks for the conversion of LATLON FA Files to multi-GRIBs and their dissemination to Turkey and Czech Republic were added.
- New post-processed fields in A-LAEF Lambert multi-GRIBs (snow line, 0-isotherm height, and T, U, V, RH) at 100 m level were activated. A parallel ecflow suite for testing A-LAEF upgrades & modifications was installed under kmux user. An automatic download of VOBs files from ECMWF to SHMU was established for HARP verification.

A-LAEF operational data dissemination: via ECPDS: Slovenia, Slovakia, Romania, Czech Republic, Turkey via SHMU Poland (because they are not ECMWF members); local usage of A-LAEF data at ECMWF servers: Croatia.

The BLENDVAR setup has been introduced into the operational scripting system and technical e-suite is running using SYNOP, TEMP, AMDAR and HRWWW observations. Its validation and tuning is in progress. Example of 1 month verification of wind speed vertical profile is shown on top left figure below (SHMU operational BLENDING, P001: BLENDVAR). RC LACE observations monitoring system has been implemented at SHMU. A distribution of assimilated SYNOP data is shown on bottom left figure. Implementation of GMAS ZTD with variational bias correction is ongoing. The status of assimilated ZTD is shown in the middle figure, the BIAS and STD of assimilated ZTD OMG and OMA departures are plotted on the right figure.

Example of verification of T 2m using different algorithms. Operational wind speed & wind direction forecast 04/02/2020 12 UTC +03 h (top), and dynamic adaptation 04/02/2020 15 UTC +13 min. (bottom). Full domain (left) and zoom over the Tatras mountains (right).

Comparison of verification tools

Harmonic and Harmonie verification tools and different observation sources were used to compare verification for operational ALADIN/SHMU forecasts for 1 month period D1-27/03/2021; Harmonie: default monitor, vobs/vfldext data; Harp: harp setup, grid a1in/SQL data, 96 stations; Mar tabs: vobs/vfldext data interpolated and verified using HARP, observation stations selected to match vfldext stations list (25 stations).

Offline SURFEX experiments viktor.tarjani@shmu.sk

SURFEX offline is being tested for a case study for 11/02/2021 with cold arctic air mass entering Slovakia followed by subsequent 2m temperature drop well below -30 °C on several low-altitude stations. Operational ALADIN/SHMU T2m forecast was underestimated by over 12 °C. This could possibly be due to snowpack being not well represented in ALARO/ISBA CSC having only single layer snow scheme which may be not enough to correctly represent temperature gradient within a snowpack as well as radiative exchange. SURFEX offers alternative multilayer snow schemes that were investigated: default single layer D9S and the explicit snow 3:4 snow schemes using 3:1 FR soil scheme; and Crocus with DIF soil scheme (14L). General SURFEX setup: horizontal spatial domain is identical with INCA-5K system (501x301, 6x1km) and SMRT_250 orography was used. SURFEX was spin-up from operation ALARO on 10 day period and it was forced with the same ALARO model (30m level above ALARO surface) with turning on altitude correction in SURFEX. Preliminary results show improvement of screen level temperature forecast. Detailed validation and verification is ongoing.