Status of NWP in Bulgaria

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- Since December, 2016 a new computational server was delivered with the following characteristics:

Barebone Supermicro Superserver 8028B-C0R3FT, Four processors Intel Xeon E7-4850v.3, 2.2 GHz, 35 MB cache, 14 core, w/HT 512 GB memory, 36 TB disk storage under RAID controler, CEntOS 7.2, Intel Fortran and C++ parallel compilers.

- The following E-suites are run experimentally on the new machine:

1. ALADIN BG 7/105: LONC=25.5,LATC=42.75,NDLON=180,NDGLG=144,NDLUX=169,NDGUX=133, NMSMAX=89,NSMAX=71,NFLEV=105, EDELX=7000

2. ALADIN BG 5/105:

LONC=25.5,LATC=42.75,NDLON=256,NDGLG=200,NDLUX=245,NDGUX=189, NMSMAX=127,NSMAX=99,NFLEV=105,EDELX=5000

3. AROME BG 2.5/60:

LONC=25.5,LATC=42.75,NDLON=320,NDGLG=240,NDLUX=309,NDGUX=229, NMSMAX=159,NSMAX=119,NFLEV=50, EDELX=2500

- Our future plans are:

1. ALADIN BG 5/105 to become operational to the First of November 2017 with two runs per day at 06 and 18 UTC

2. AROME BG to become operational to the First of November 2017 with two runs per day at 06 and 18 UTC

3. Switch to 4 runs per day of ALADIN and AROME January 2018

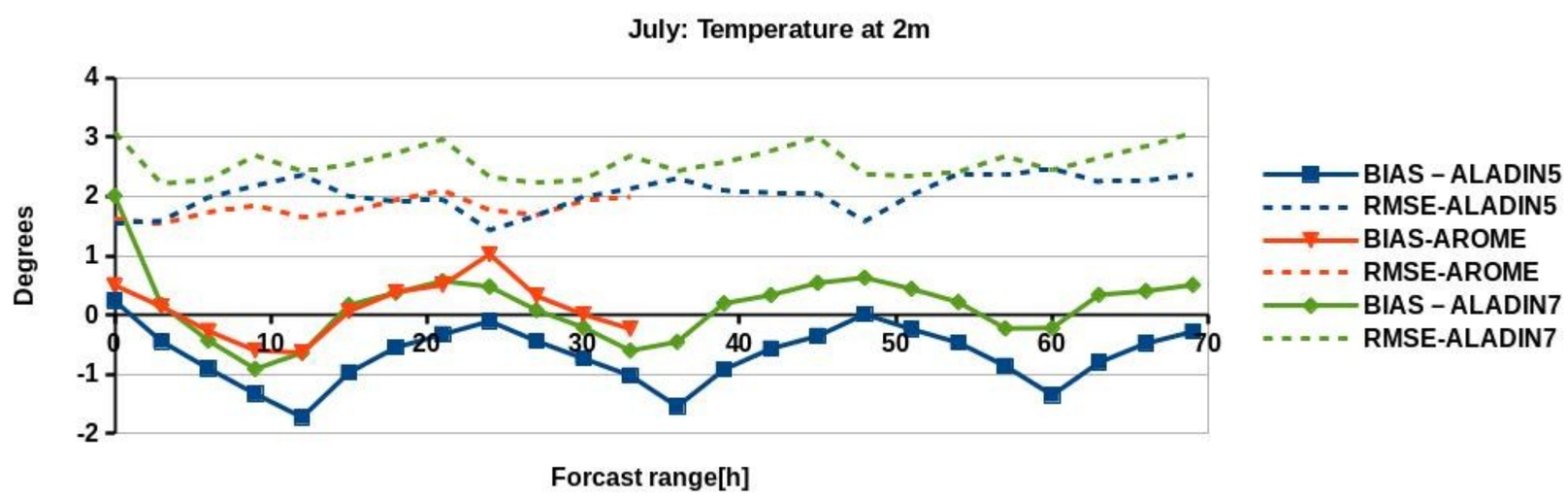

Figure 1. Mean Monthly BIAS and RMSE for Temperature at 2m for all considered synop stations: ALADIN7 model values are forecasted by the actual operational ALADIN BG 7/70 (cy38t1), ALADIN5 – ALADIN BG 5/105, and AROME – AROME BG 2.5/60 (cy41t1)

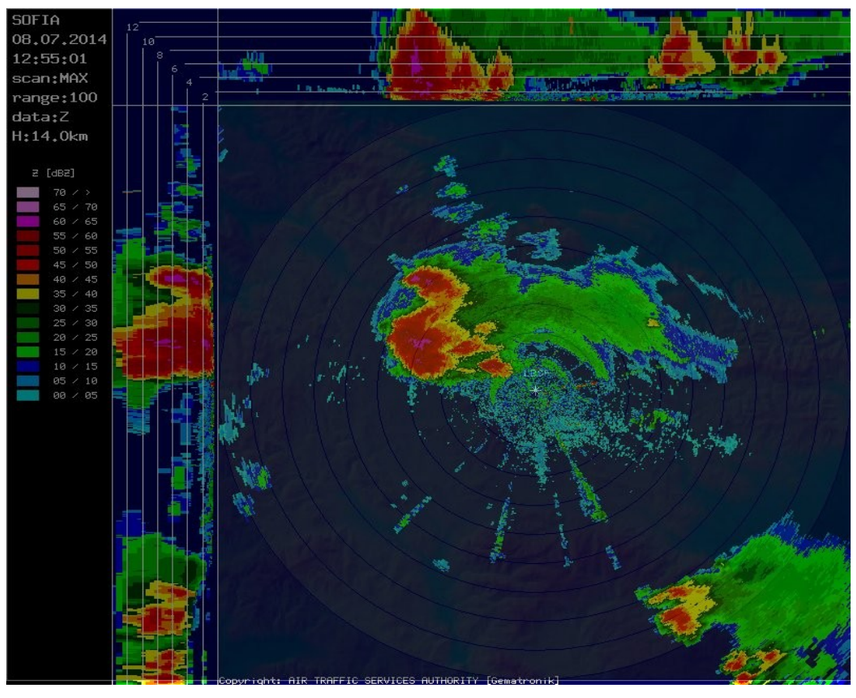

Figure 2. Radar image of three supercellular thunderstorm formed over the region of Bulgaria on 08/07/2014 (BULATSA)

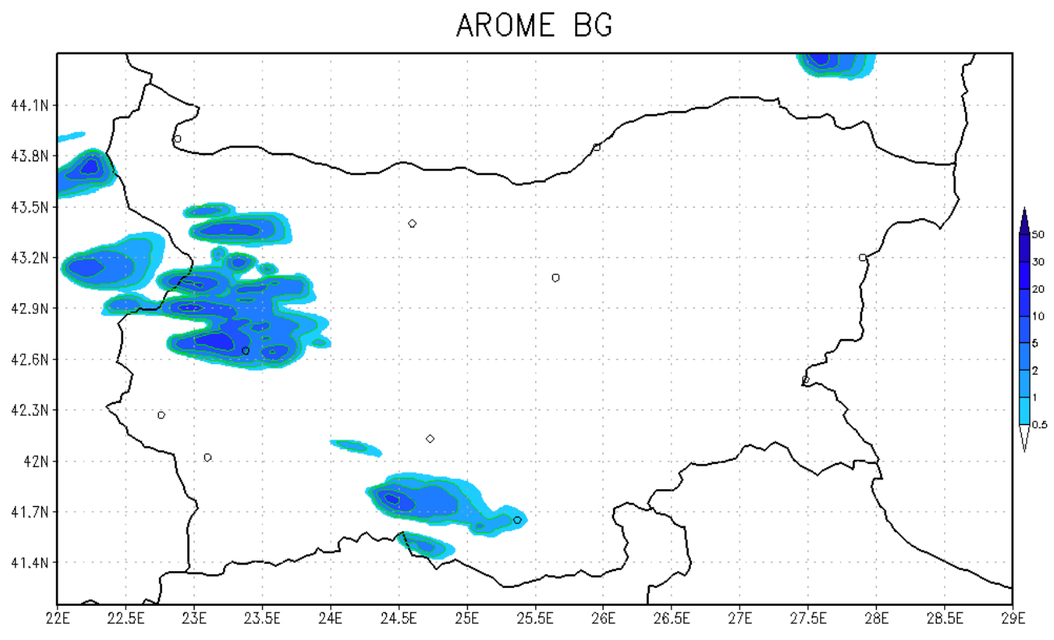

Figure 3. Hail diagnostic at 15 UTC from the test run for 08/07/2014 with AROME coupled with ALADIN5