STATUS OF THE OPERATIONAL

APPLICATION IN BULGARIA

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Our hardware platform is LINUX cluster, containing four nodes, each node has two processors Intel Glovertown E.5310 at clock rate 1.8 GHz, Quad core. Thus, we have eight kernels per node. Each node has 8 G bytes memory and 250 GB local disk storage. There is additional server with four processors and 1.4 TB disk storage. It is hosting several servers running on it - DNS, DHCP,

NFS, http (web), the software managing, RAID controller. The front end machine is virtual one running on two processors of this server. It is hosting also the common file system visible and accessible for the front end machine and the nodes. For MPI exchange the nodes are connected via Infini Band switch, inside nodes shared memory is used, and 1GB switch for NFS. For MPI is used Intel MPI library. Composers are Intel FORTRAN and C composerxe-2011.2.137, 64 bit release. The operating system is 64 bit LINUX 2.6.18-194.32.1.el5xen #1 SMP.

Cycle 32t3 is operational now on domain of 144x108 points with nine kilometers horizontal resolution and 60 levels on vertical and three hours coupling frequency.

We are producing two times daily 72 hours forecast with 06 and 18 UTC starting time.

Dedicated end-users are the wind wave model, forecasting the wind waves and swell for the Black sea region, the system for forecasting of the air quality in the region of Stara Zagora, GRIBS

prepared for SYNERGIE, producing of the files for RODOS system, probability of icing and turbulence for the aircrafts over Bulgaria (for details andrey.bogatchev & valery.spiridonov @meteo.bg).

A dedicated post processing was created for calculating of the indices of instability for estimating possibility of thunderstorm activity over Bulgaria. The combination of indices and threshold values for them was used for determining if thunderstorm activity in four categories – no activity, low, medium and high probability. This scheme was implemented into operations at the beginning of April this year. For details (boryana.tsenova@meteo.bg)

Parallel suite is based on cy37t1 with using of SURFEX on new integration domain with horizontal resolution 7 km and 70 levels on vertical. The domain size is 167x129 points without extension zone. The main post processing domain is LALON with resolution 0.075x0.075 degrees. It is planned the suite to become operational at the end of June – mid of July 2012.

For details – boryana.tsenova & andrey.bogatchev @meteo.bg.

At the picture one can see successful forecast of thunderstorm activity from 14 of April 2012 and the correspondent pattern for spherics.
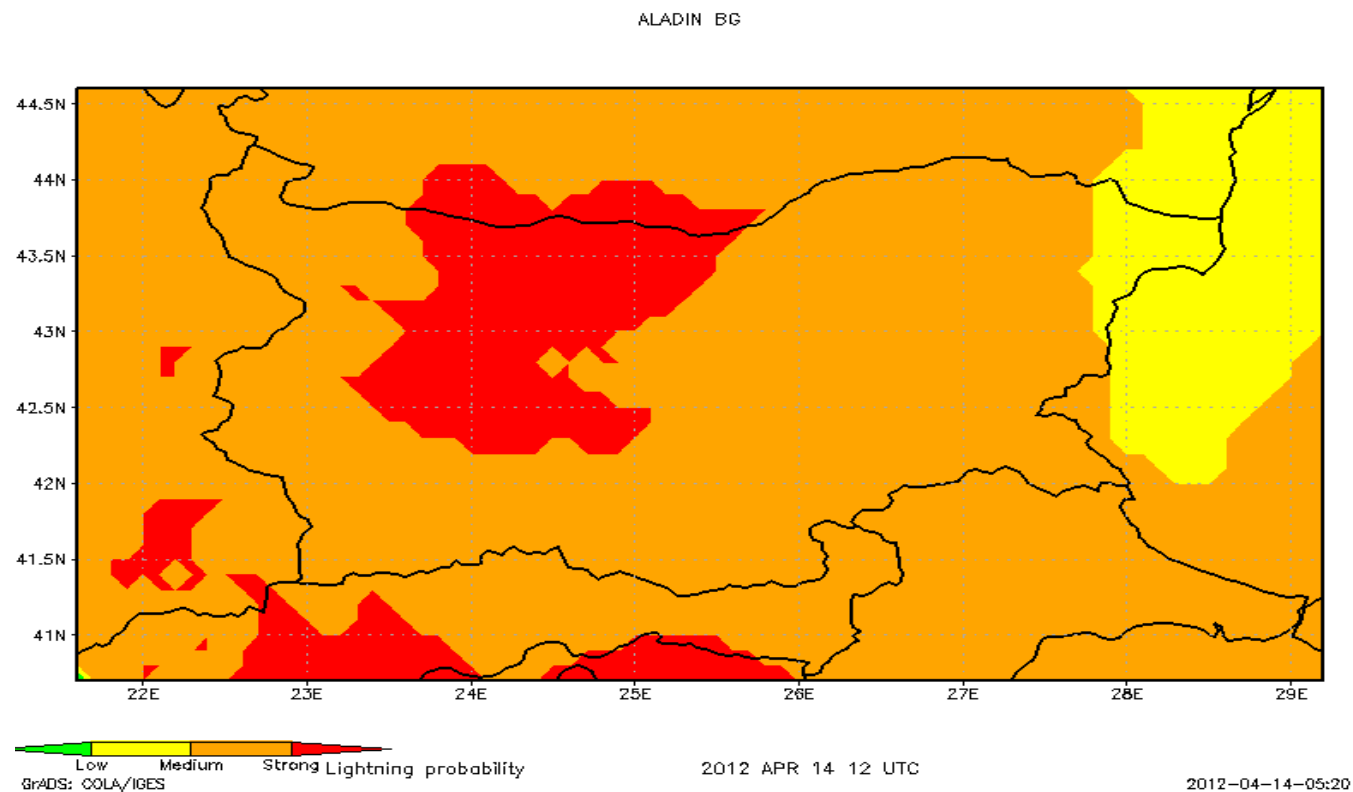
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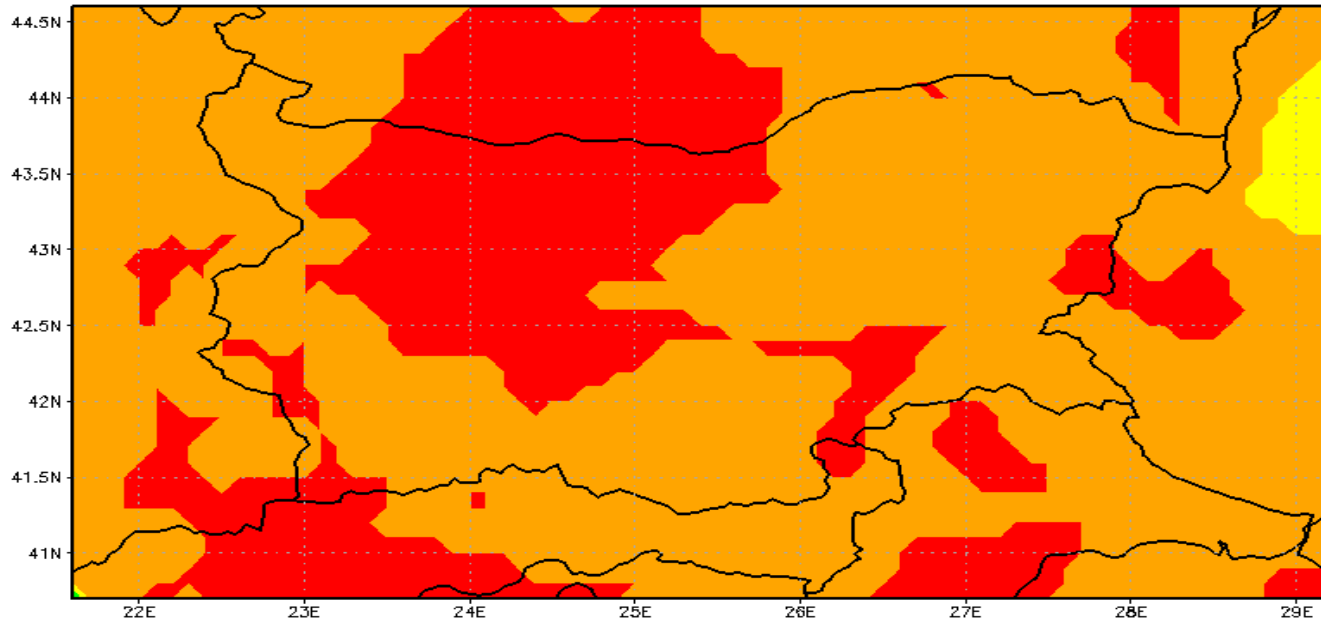
Low   Medium   Strong Lightning probability   2012 APR 14 15 UTC

GrADS: COLA/IGES   2012-04-14-05:20

[12h:15h]

GrADS: COLA/IGES   2012-05-03-20:50