SI experience with ALARO-0 minus 3MT

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Compiling ALARO-0

January
code:LAM-cy29t2_alaro_jan07.IA32_intel90.score
local compiler: Intel 9.0
gmkpack is not used, our compilation is based on a set of Makefiles, prepared with a simple perl script.
compilation errors: only due to syntax (same as O.Spaniel (sk) reported)

```
1.src/local/arp/phys_dmn/suaer15.F90
        fortcom: Error: suaer15.F90, line 71: Syntax error, found ')' when      expecting one of: (        ...
         ),SHAPE=(/5,5/))
        -^

2.src/local/arp/phys_dmn/acdifus.F90
        IF ((NSTEP <= NSTAR2).AND.(YTKE_NL%NREQIN = 0)) THEN
        has to be changed to
        IF ((NSTEP <= NSTAR2).AND.(YTKE_NL%NREQIN == 0)) THEN
```

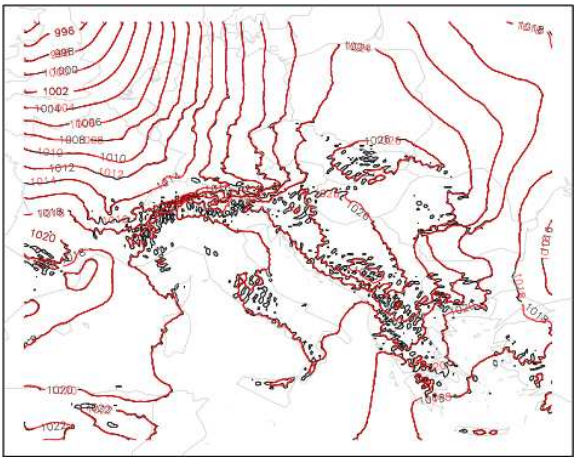
Full-pos

1. Problem with full-pos for new GFL variables:
off-line: new GFLs values are 0
in-line: fields and variables are mixed, variable names are from newGFLs, but values are from other variables defined in namelist but missing in the output
For the off-line fullpos the reason can be "E zone". We noticed, that the bugfix that Luc and Jure indroduce in wrgp2fa routine in arp/utility is not there anymore. This was the fix changing the values of E zone to enable more consistent grib coding into FA file.

2. MSLPRESSURE values are suspicious compared with operational one.

```
 NORMS
alaro: (black line on picture)
MSLPRESSURE     /OPER    : 0.101961002574652E+06 0.994168513016516E+05 0.103326475093442E+06
oper: (red line on picture)
MSLPRESSURE     /OPER    : 0.101960959632640E+06 0.994610704488194E+05 0.103067701966077E+06
```

Norms for other variables on pressure levels are the same or almost (last digits can be different).



Problem solved (Martin): spectral fitting was missing in post-processing.

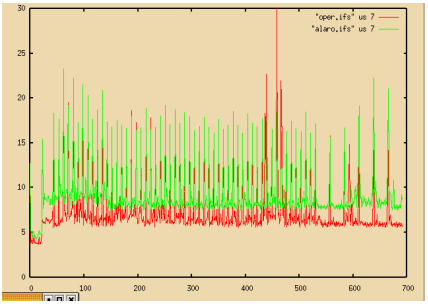
Running ALARO-0 minus 3MT - double suite

started: 15.2.2007
only 00 run DFI+72h
initialization with 0.
offline fullpos (operational al29t2)

Prolongation of around 20%.
Size of ICMSH with 5 new prog.variables (37 levels) is 2.26 times bigger.

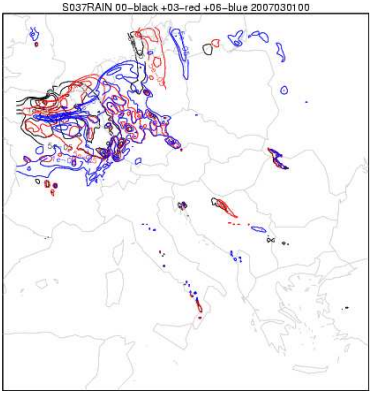
```
Times for more runs:
 Nodes:22, User:98.31[M], Elapsed:101.4[M
 Nodes:22, User:96.90[M], Elapsed:99.91[M
 Nodes:22, User:100.15[M], Elapsed:103.0[M]
 Nodes:22, User:100.01[M], Elapsed:102.8[M]
 Nodes:22, User:99.36[M], Elapsed:102.2[M]
 Nodes:22, User:98.65[M], Elapsed:2.047[H]
 Nodes:22, User:99.08[M], Elapsed:102.7[M]
 Nodes:22, User:96.75[M], Elapsed:100.35[M]
 Nodes:22, User:96.61[M], Elapsed:99.30[M]
 Nodes:22, User:96.91[M], Elapsed:99.73[M]
 Nodes:22, User:98.68[M], Elapsed:101.7[M]
 Nodes:22, User:97.03[M], Elapsed:99.81[M]
 Nodes:22, User:97.56[M], Elapsed:100.48[M]
```

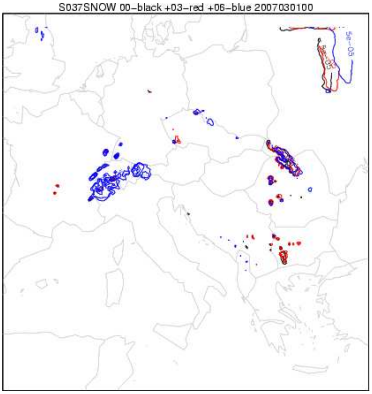
99-103 Minutes



CPU time (sec) for each time step is presented on the graph
(from 1-42are DFI steps, 43 is first real time step),
22 processors are used,
green ALARO-0, red operational run.

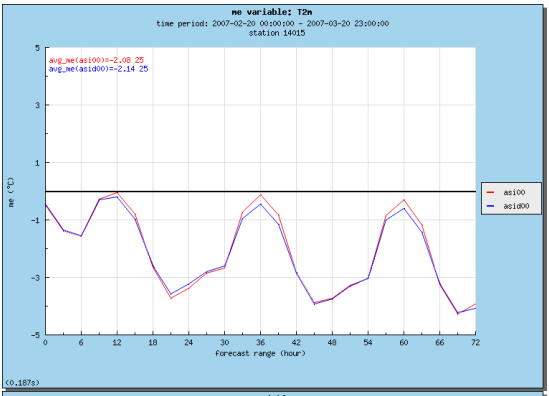
RAIN and SNOW at the lowest model level for 00-black 03-red 06-blue,
(REFIN=0., DFI is used ; values above 0.00005 are ploted).
can be seen how some weather system are moving.

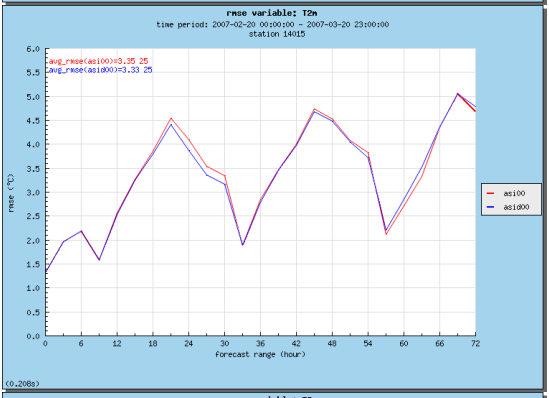


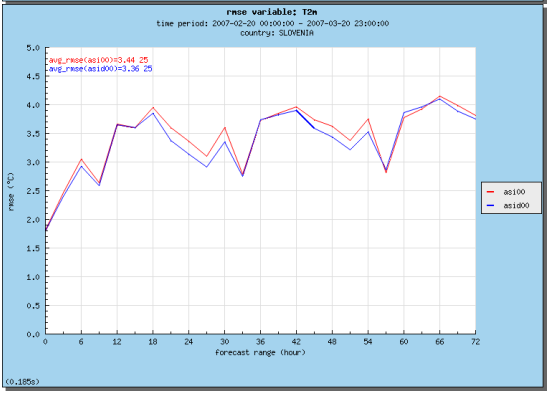


Verification scores for one month

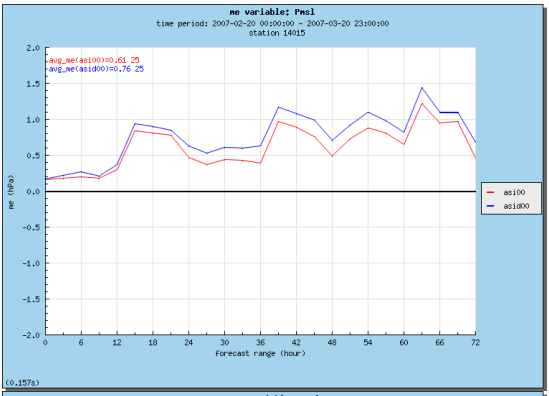
2m Temperature

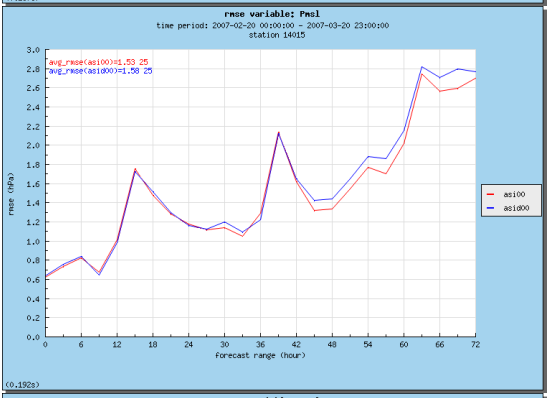


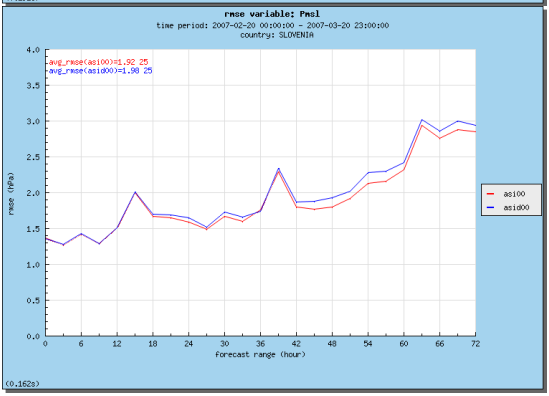




MSL pressure







Orographic precipitation (SW wind 1.3.2007)