SMHI operational HIRLAM

EWGLAM 2005   3 - 5 October , Ljubljana

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Operational HIRLAM

- 4 forecasts every day.
  HIRLAM22 and HIRLAM11
  00z, 06z, 12z, 18z
- HIRLAM22 analysis + 48 hour
  2 hours cutoff
- HIRLAM 11 analysis + 48 hour
  1 hour 15 min cutoff
- ECMWF preprocessing
  SYNOP, TEMP, PILOT,
  BUOY, AIREP, AMDAR
- BUFR AMDAR
- ATOVS AMSU-A radiances –
  EARS (over sea)
- VAD-winds passive

- HIRLAM05 in TEST
  analysis + 24 hour

SMHI HIRLAM area C22 (22 km) E11 (11 km) F05 (5 km)

HIRLAM22
- 40 levels, $0,2^O$ (22km)
  horizontal resolution
- 306x306 gridpoints
- ECMWF boundaries every 3h - BC
- SL time step 10 min

HIRLAM11
- 60 levels, $0,1^O$ (11km)
  horizontal resolution
- 246x268 gridpoints
- ECMWF boundaries every 3 h - BC
- SL time step 5 min

HIRLAM05
- 0.05^o hor. res. (5km)
- 60 levels
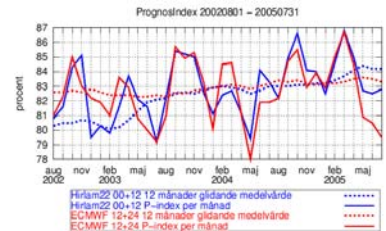- 294x241 gridpoints
- HIRLAM11 boundaries
- SL time step 2.5 min

Hirlam system

HIRLAM version 6.3.5

- 3D-VAR analysis
- DFI initialisation
- ISBA (surface scheme)
- CBR (turbulence)
- Kain-Fritsch (convection)
- Rasch-Kristjansson (large scale)
- MPI parallel

PLANS

- 4D-VAR on limited area
- new surface scheme
  (based on ISBA)
- new observations
  VAD wind profiles
  GPS humidity
  AMSU-B humidity
  (over sea)
- test of non hydrostatic
  model

Prognosindex 20020801 – 20050731

Hirlam22 00+12 12 månader glidande medelvärde
Hirlam22 00+12 P–index per månad
ECMWF 12+24 12 månader glidande medelvärde
ECMWF 12+24 P–index per månad.

Forecast Index

Computer system

at the **National Supercomputing Centre** at Linköping University

www.nsc.liu.se

NSC

Operational :
BLIXT

- Linux
- 60 nodes
- dual Intel Xeon
  3.2 Ghz, 2 GB memory
- Infiniband interconnect
- Scali MPI Connect
- PCI Express bus
- Intel compilers
- 5.6 TB disc
- peak performance 768 Gflops
- 6 x BRIS

SMHI clusters

BLIXT
BRIS
MATCH operational
dispersion models
DUNDER reasearch
TORNADO ROSSBY climate
research

SMHI

Backup :
BRIS

- PC-cluster **HOME-MADE**
- Linux
- 16 nodes
- dual Intel Xeon
  2.2 GHz, 1GB memory
- Scali interconnect
- ScaMPI, MPICH,LAM mpi-lib
- Intel compilers
- Intel MKL – Math Kernal Library
- Open PBS batch system