The GLAMEPS project for ensemble predictions for Europe:

status and verification

Alex Deckmyn, Marrakech, 08 May 2012
On behalf of the GLAMEPS team.
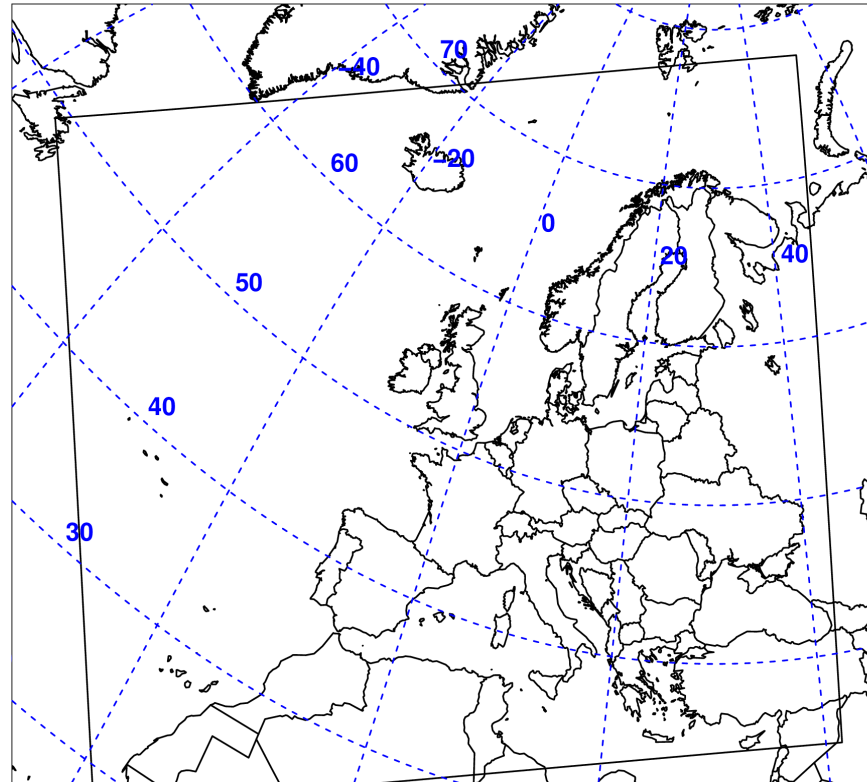
V1

Since end of December 2011

Overview

- Basic structure and setup of v1

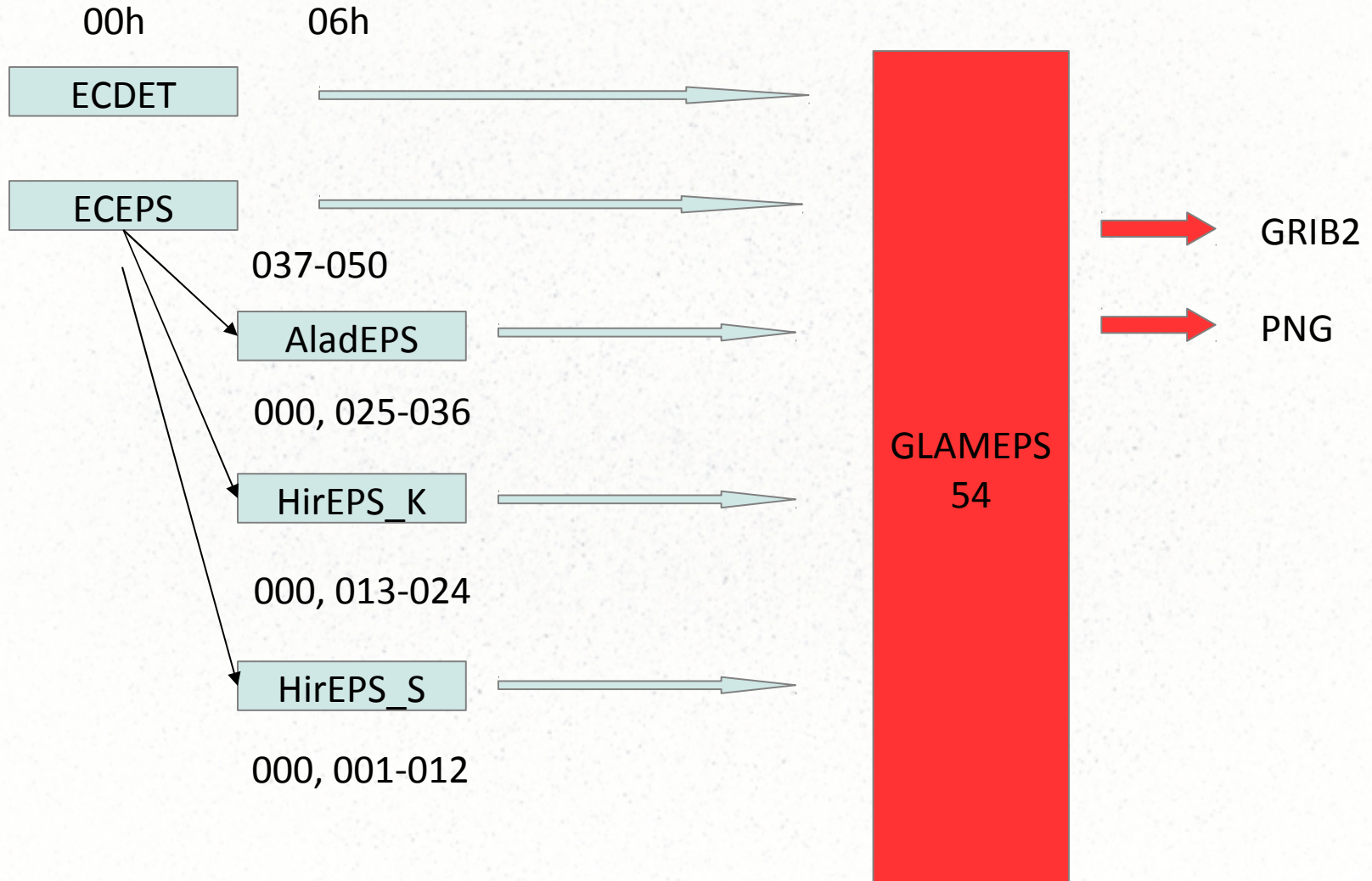- Some examples of results

- Verification

- Conclusions

GLAMEPS v1 - v0

GLAMEPS: v0 versus v1

- Slightly larger domain, higher resolution.

- All members of EC-EPS are either used as LBC or directly.

- Aladin members have Surface data assimilation cycles. No longer use Arpége surface analysis.

- Daily runs at 06 and 18 (using IC and LBC from 6h before), 54h runs.

GLAMEPS members:

00h   06h

ECDET

ECEPS

037-050

AladEPS

000, 025-036

HirEPS_K

000, 013-024

HirEPS_S

000, 001-012

GLAMEPS
54

GRIB2

PNG

ALADIN component

00h   12h

| EC-EPS 3d | | EC-EPS 3d |

- 6h CANARI cycle (conventional data only).

- 3d fields updated at 00h and 12h from EPS.

- all ALADIN members separately.

HIRLAM (_S and _K)

- Control members have 3d-Var

- Other members only surface
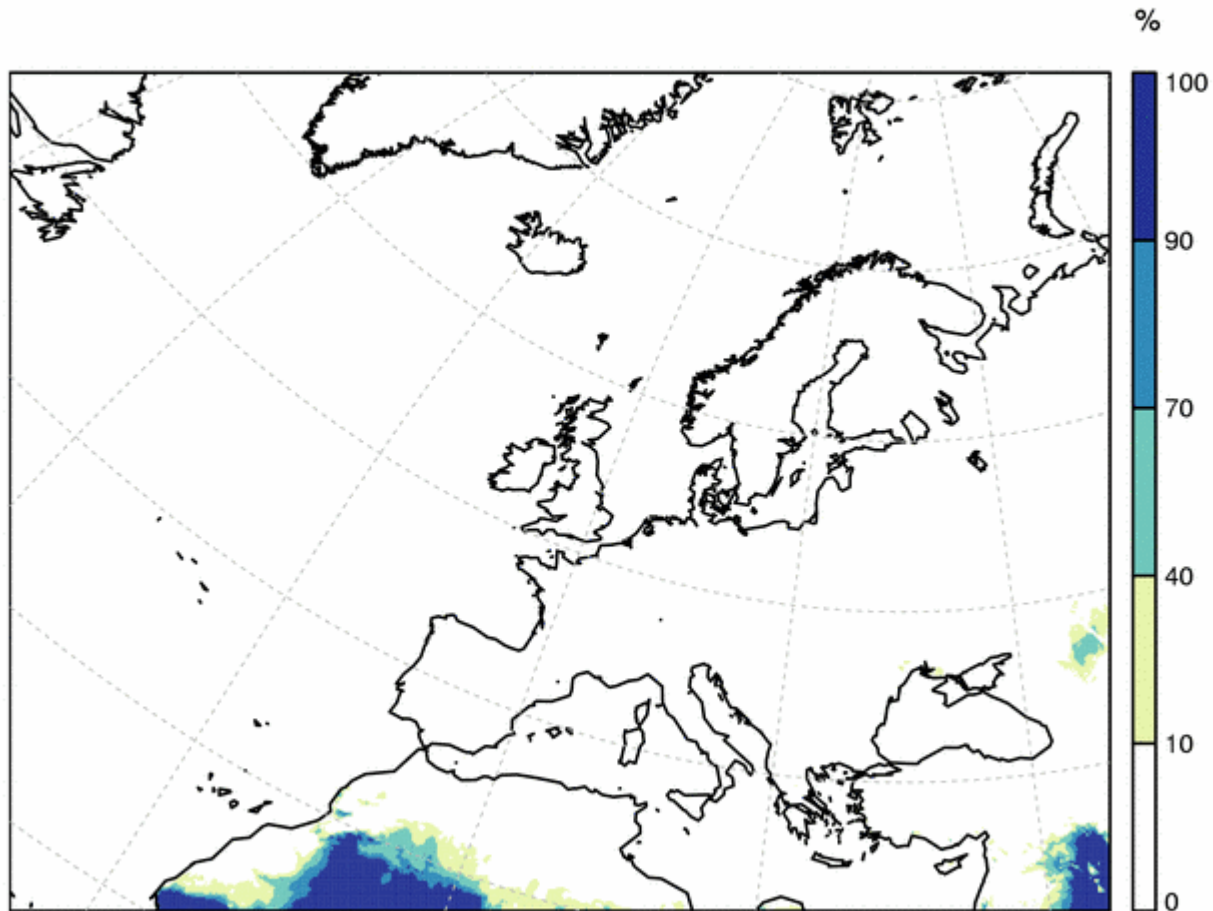 assimilation cycle.

- Stochastic physics

Technical implementation

- SMS suite developped and maintained by Kai Sattler (DMI)
- Running at ECMWF.
- Time Critical status in the pipeline
- Main output products: probability forecasts. Output in GRIB2 and as .png graphs
- Website: glameps.org

GLAMEPS PROD (Gl.PROD.m54 54/54 members)
Prob 3h Accumulated Rainfall over 0.1mm (Legend)
Analysis: 2012/05/06 06UTC T+054 VT: 2012/05/08 12UTC
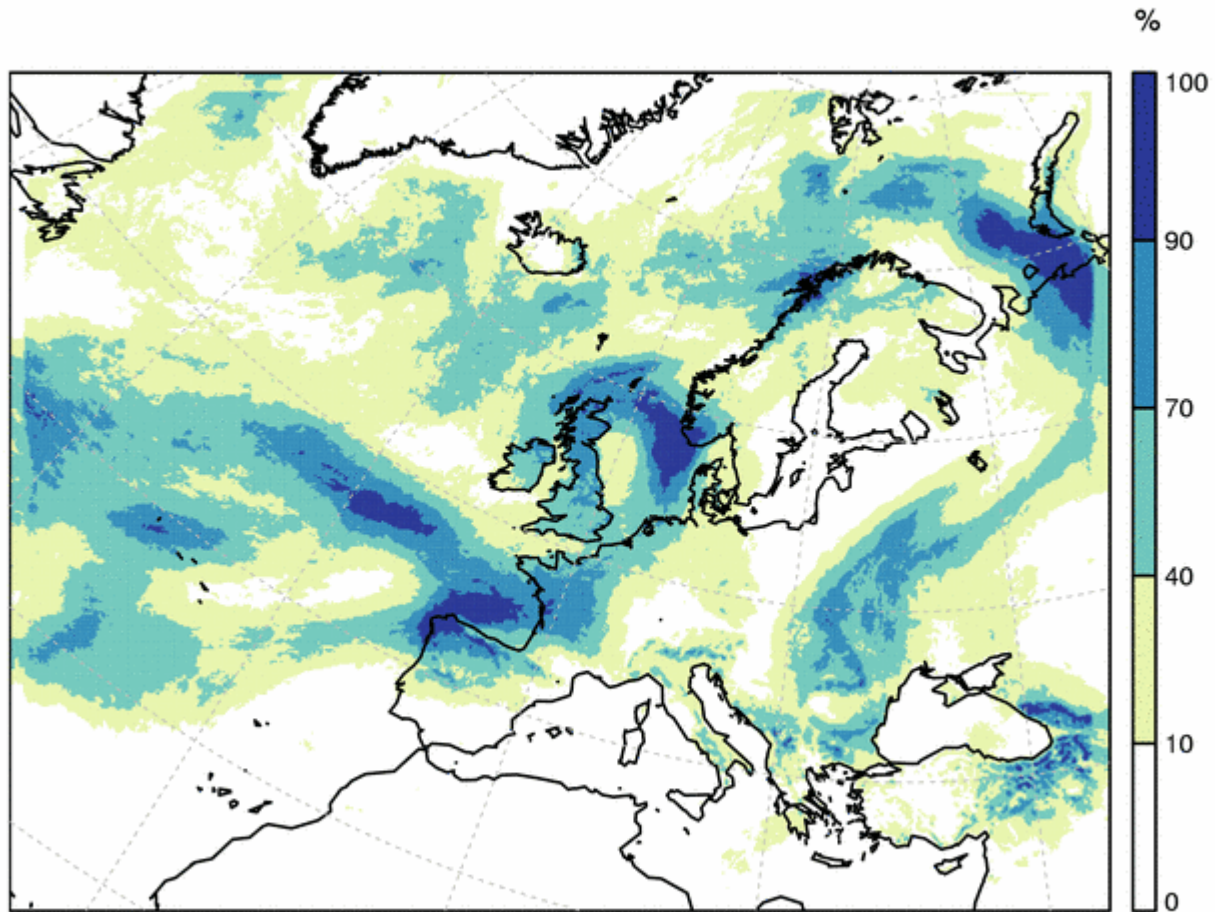
GLAMEPS PROD (GI.PROD.m54 54/54 members)
Prob 2m Surface Temperature over 30°C (Legend)
Analysis: 2012/05/06 06UTC T+054 VT: 2012/05/08 12UTC

GLAMEPS-o-GRAM

Marrakech
Forecast date: Sunday 06 May 2012, 06h UTC

2m Temperature

10m Wind

10m Wind Gusts

3h Precipitation

Cold start

- The CANARI surface assimilation in ALADIN has a long spin-up. Cold starts must be avoided.

- If GLAMEPS is down, a single DA cycle will be continued (if at all possible).

Verification

- V1 verification had to be re-written from scratch.

- Decision was made to use R, which is already used for the production of output products.

- 3 stage system:

  - Save a table output data for a fixed list of co-ordinates during main suite. ARCHIVE! (for verification & calibration)

  - Combine with observations & Produce verification statistics.

  - Make graphs.

- Very early results: not fully analysed yet...

Rank histograms
T2m, March
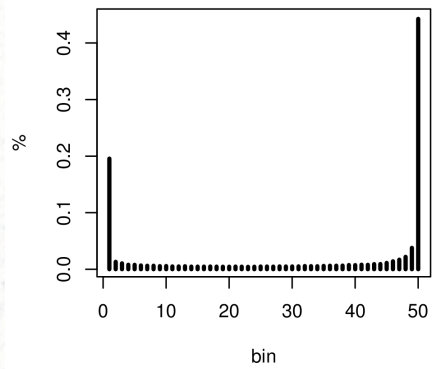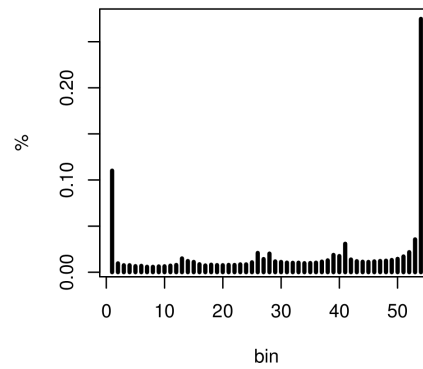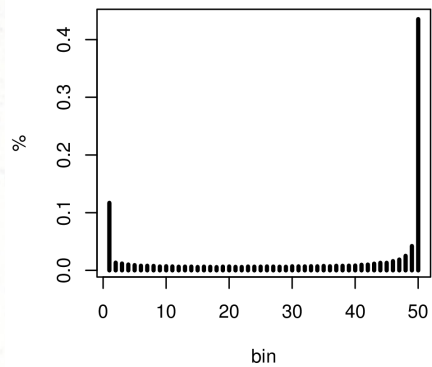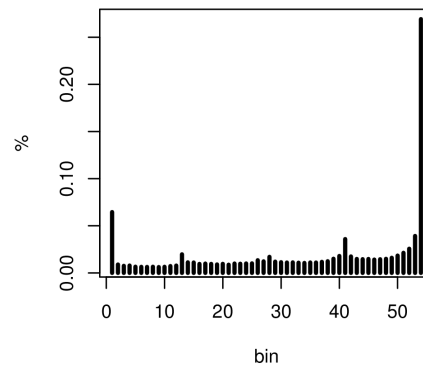
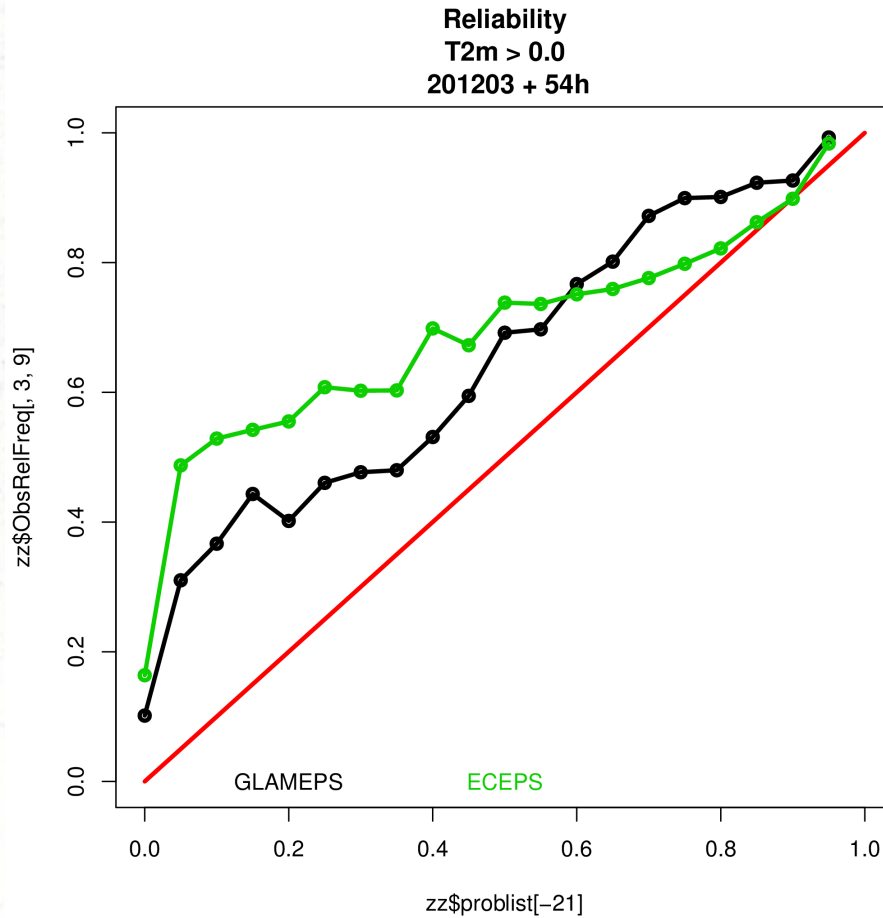# *Rank histogram T2m, April*
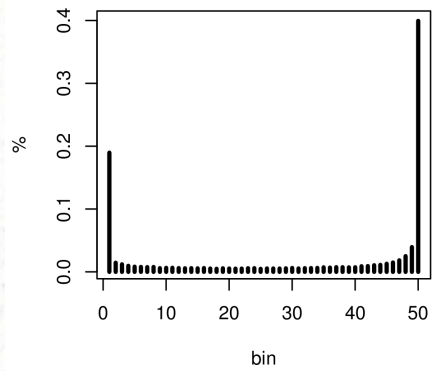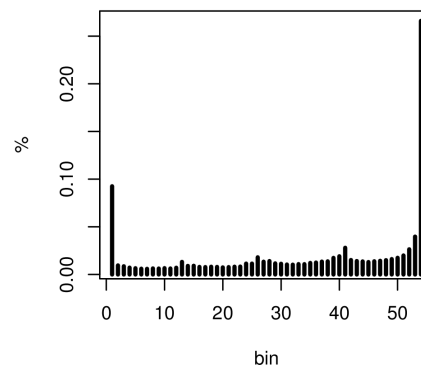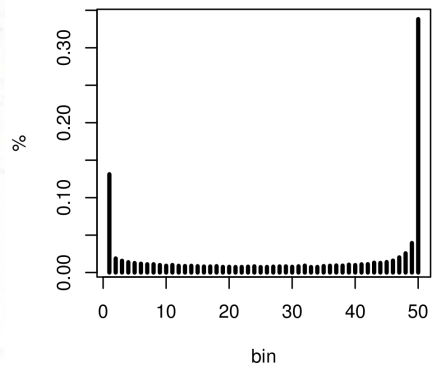
Reliability
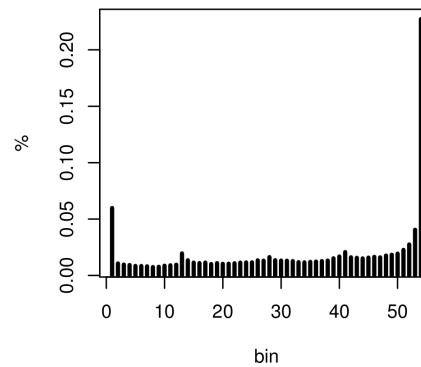
Reliability
T2m > 0.0
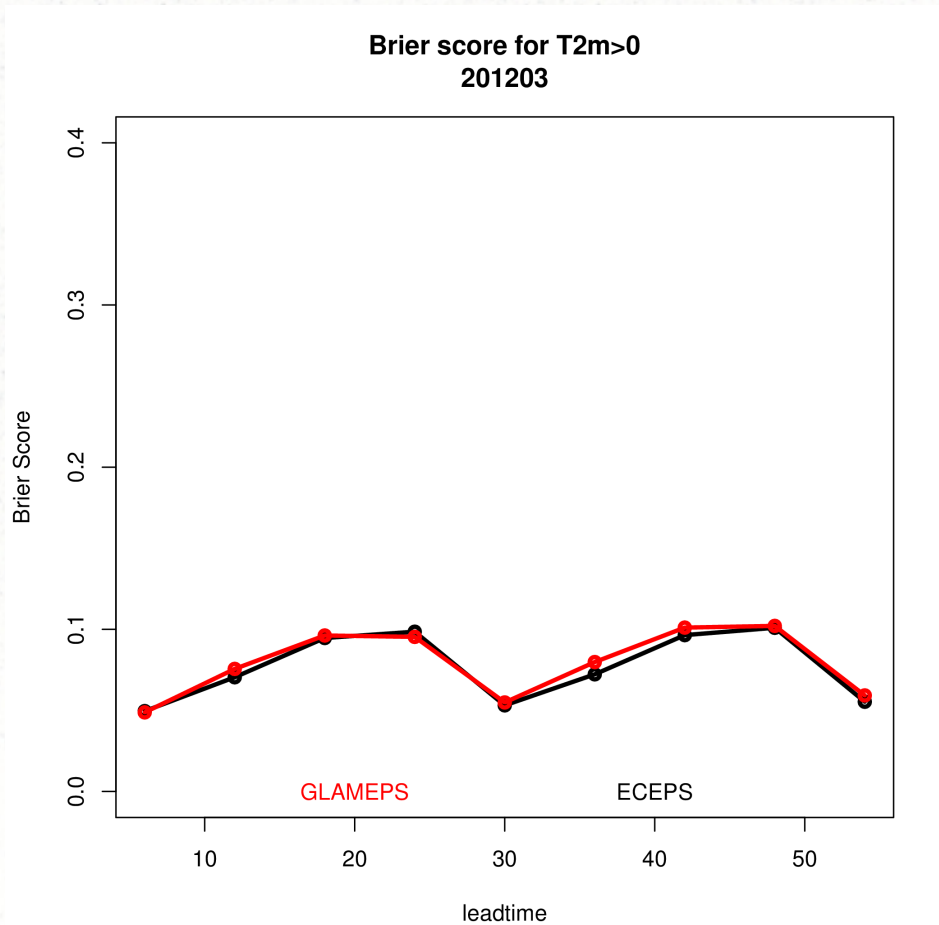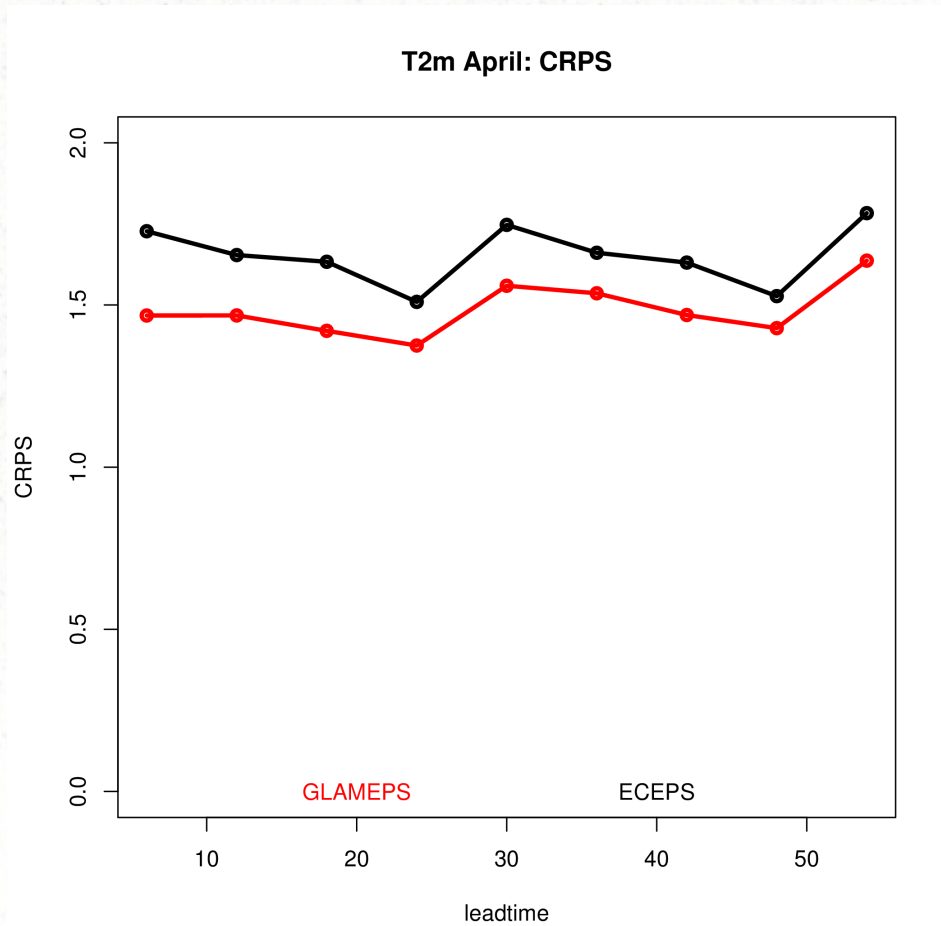201203 + 54h

Brier score

CRPS

Conclusions

– v1 is in operation since beginning of 2012.

– First verification results (T2m) look promising, but further work is necessary.

Thank you!