15th ALADIN Workshop

Present Status of ALADIN Verification Project

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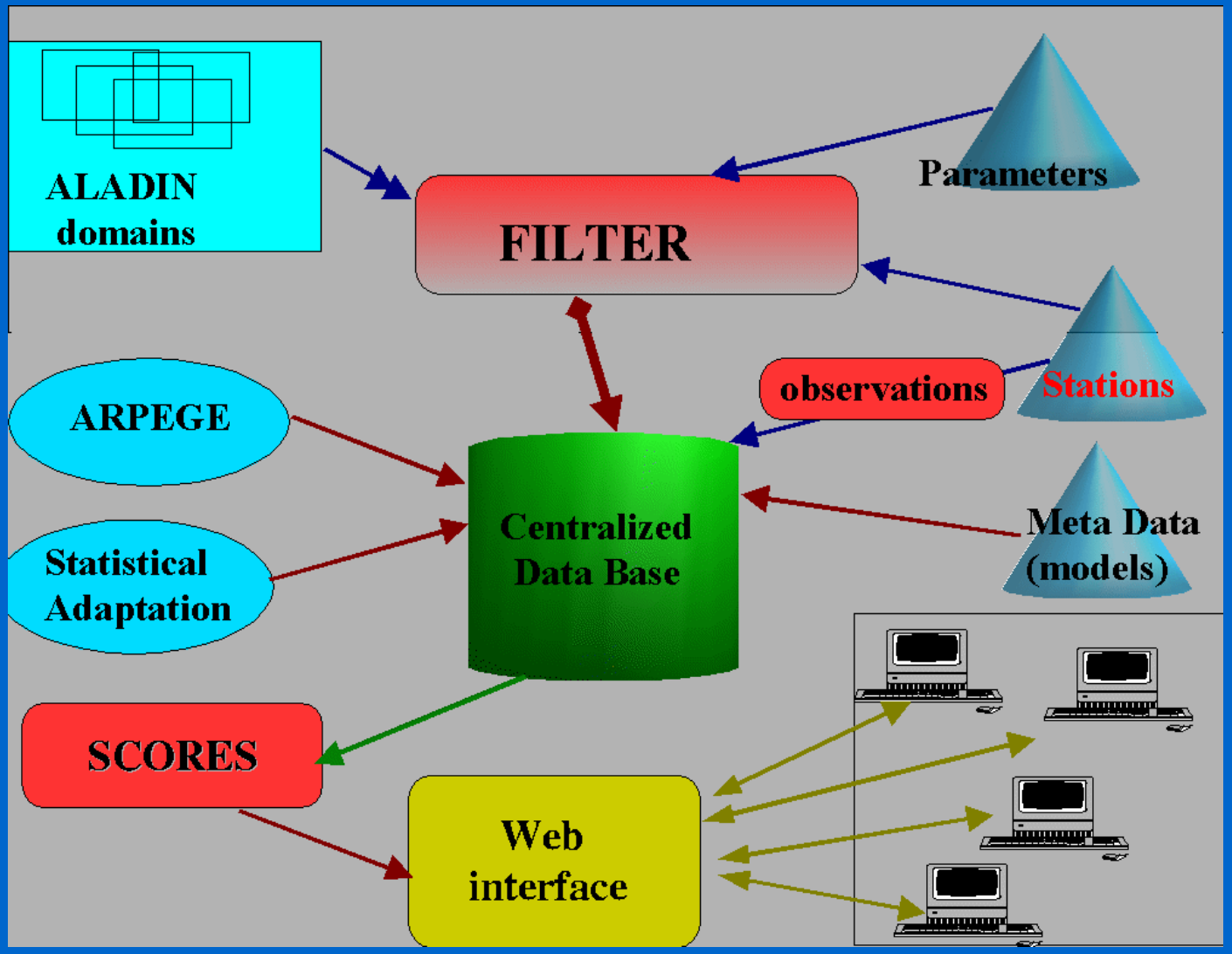
EARS

Outline of presentation

- Overview of ALADIN verification project
- Ongoing work
- Problems
- Conclusions

AVP dataflow



Current status

- **System is running in testing mode**
- **Limited number of models**
  - **Austria, Croatia, Czech Republic, Hungary, Romania, Slovakia, Slovenia, Tunisia**
  - **from operatinal models and parallel suites**
- **user interface**
  - **AVP web site access possible www.arso.gov.si/verification/**
- **suggestions from users are welcome (and expected)**

List of station

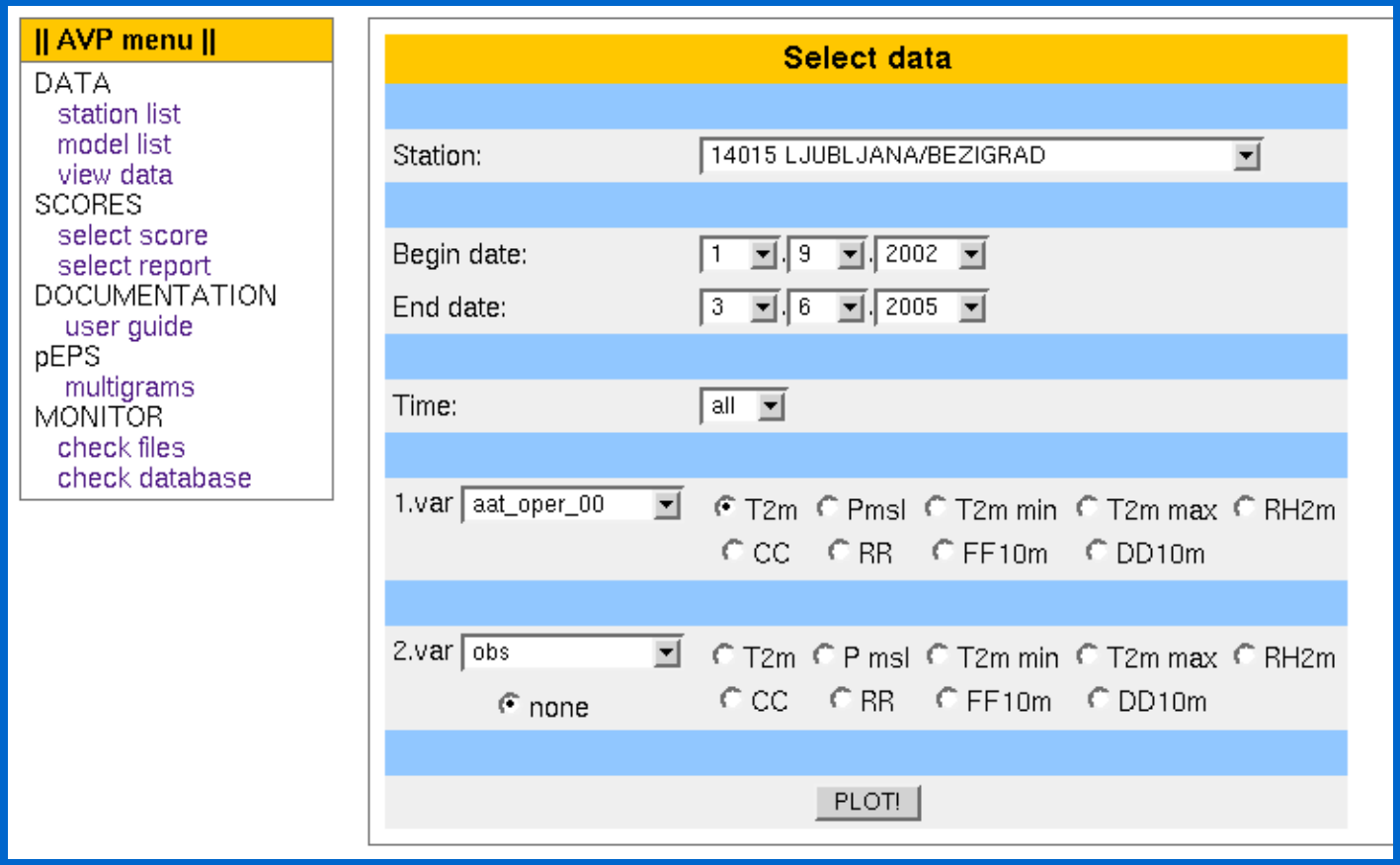
Data transfer

- **Installation of client software at centers needed**
- **Data are sent via emails (online or delayed)**
- **Received data are stored into database (once per day)**

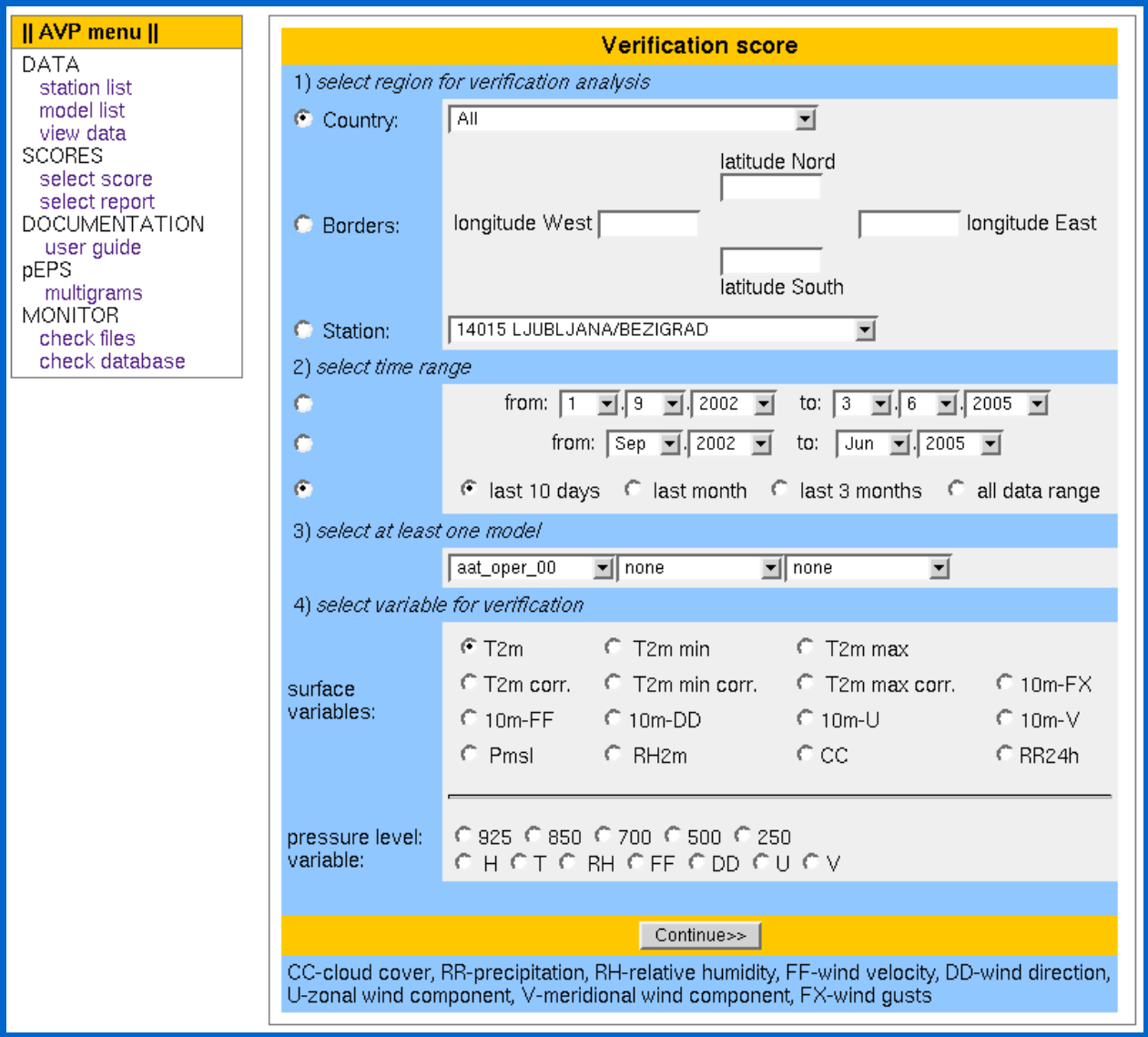
Server side software

- Postgresql with Postgis extension
  - Meta data tables (WMO stations, models, model points)
  - Data (observations, model data)
- Php scripts for calculations
- JPgraph for displaying graphs

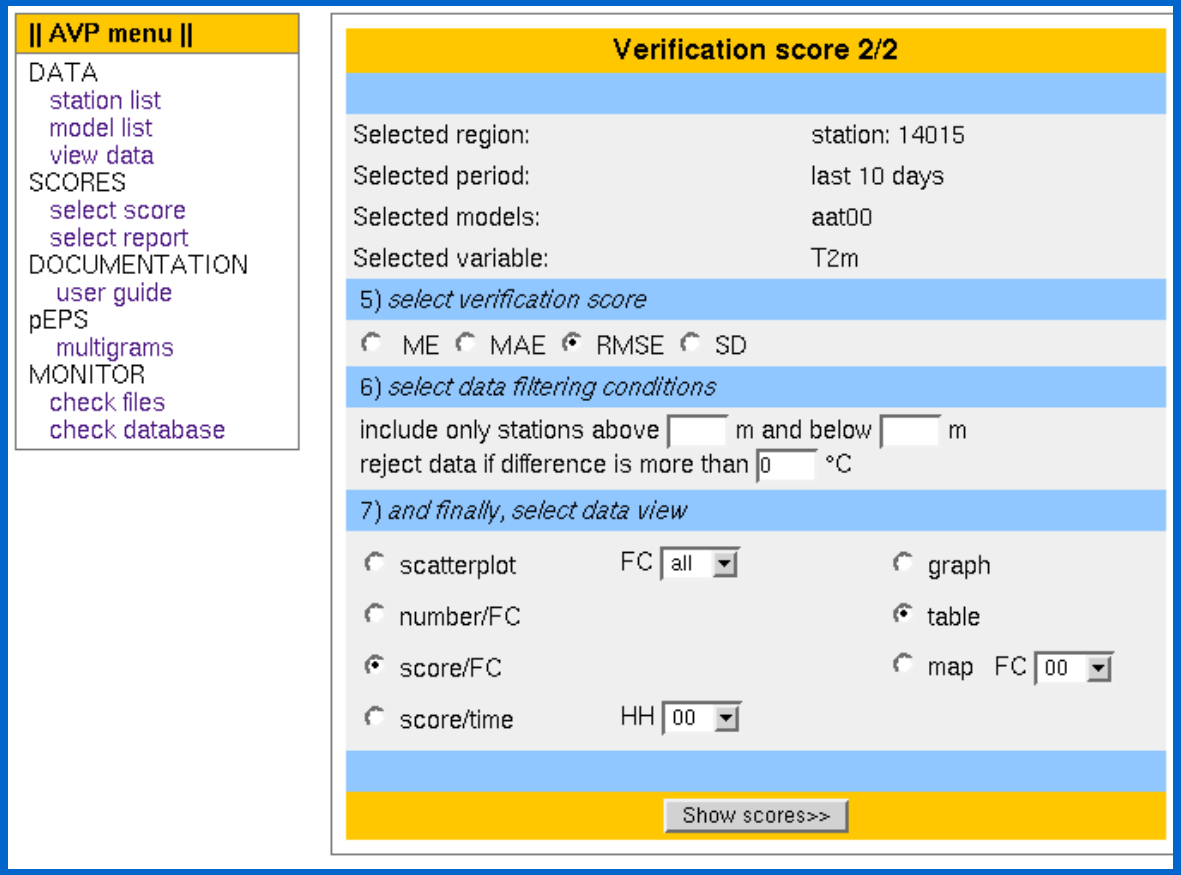
Users interface (1)



Users interface (2)

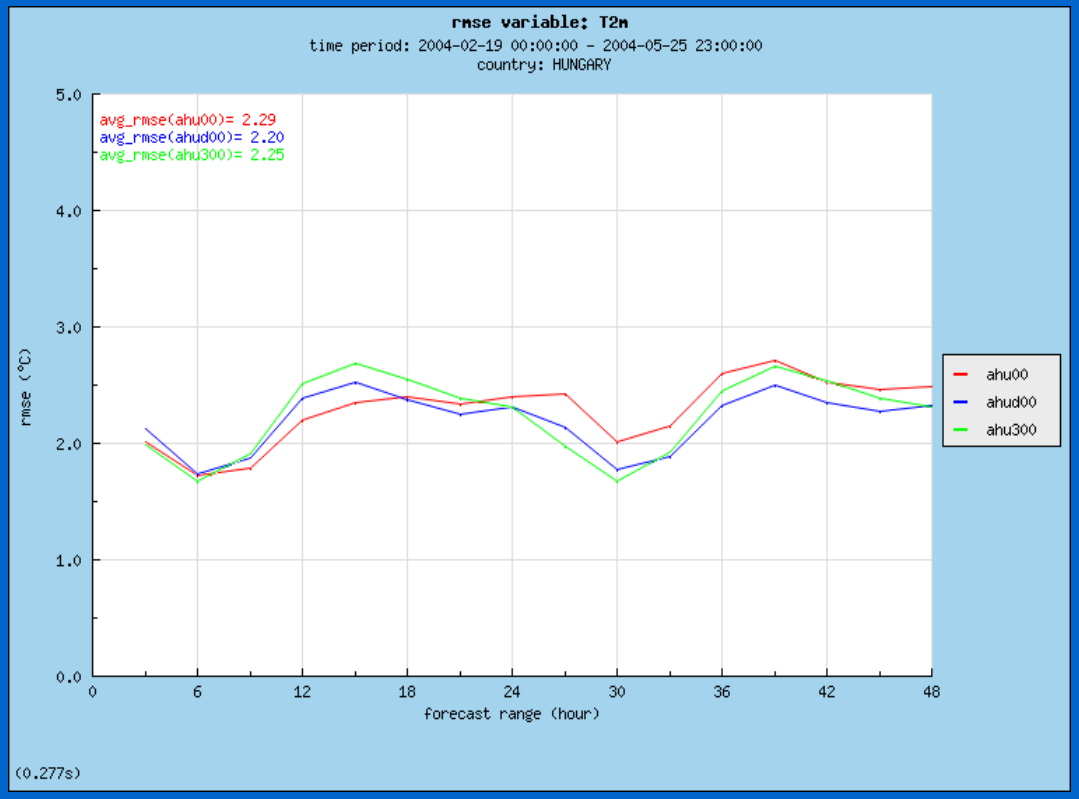


Users interface (3)



Example of verification scores

T2m



24h precipitation

Contingency table for parameter *rrc* on using model(s) ahu00, ahud00, ahu300 and FC=30

mod\obs	0<=rrc<0.1	0.1<=rrc<2	2<=rrc<10	10<=rrc	sum fc
0<=rrc<0.1	292 270 267	25 20 15	8 3 3	0 0 0	325 293 285
0.1<=rrc<2	146 165 168	67 75 74	57 48 49	4 2 3	274 290 294
2<=rrc<10	9 11 11	34 31 37	63 81 81	18 20 20	124 143 149
10<=rrc	0 1 1	1 1 1	16 12 11	24 24 23	41 38 36
sum obs	447	127	144	46	sum

num_evnts:764

PC(ahu00)= 0.584
HSS(ahu00)= 0.367

PC(ahud00)= 0.589
HSS(ahud00)= 0.390

PC(ahu300)= 0.582
HSS(ahu300)= 0.384

class\score	BIAS	POD	FAR
0<=rrc<0.1	0.727 0.655 0.638	0.653 0.604 0.597	0.102 0.078 0.063
0.1<=rrc<2	2.157 2.283 2.315	0.528 0.591 0.583	0.755 0.741 0.748
2<=rrc<10	0.861 0.993 1.035	0.438 0.563 0.563	0.492 0.434 0.456
10<=rrc	0.891 0.826 0.783	0.522 0.522 0.500	0.415 0.368 0.361

Basic documentation is avaliable

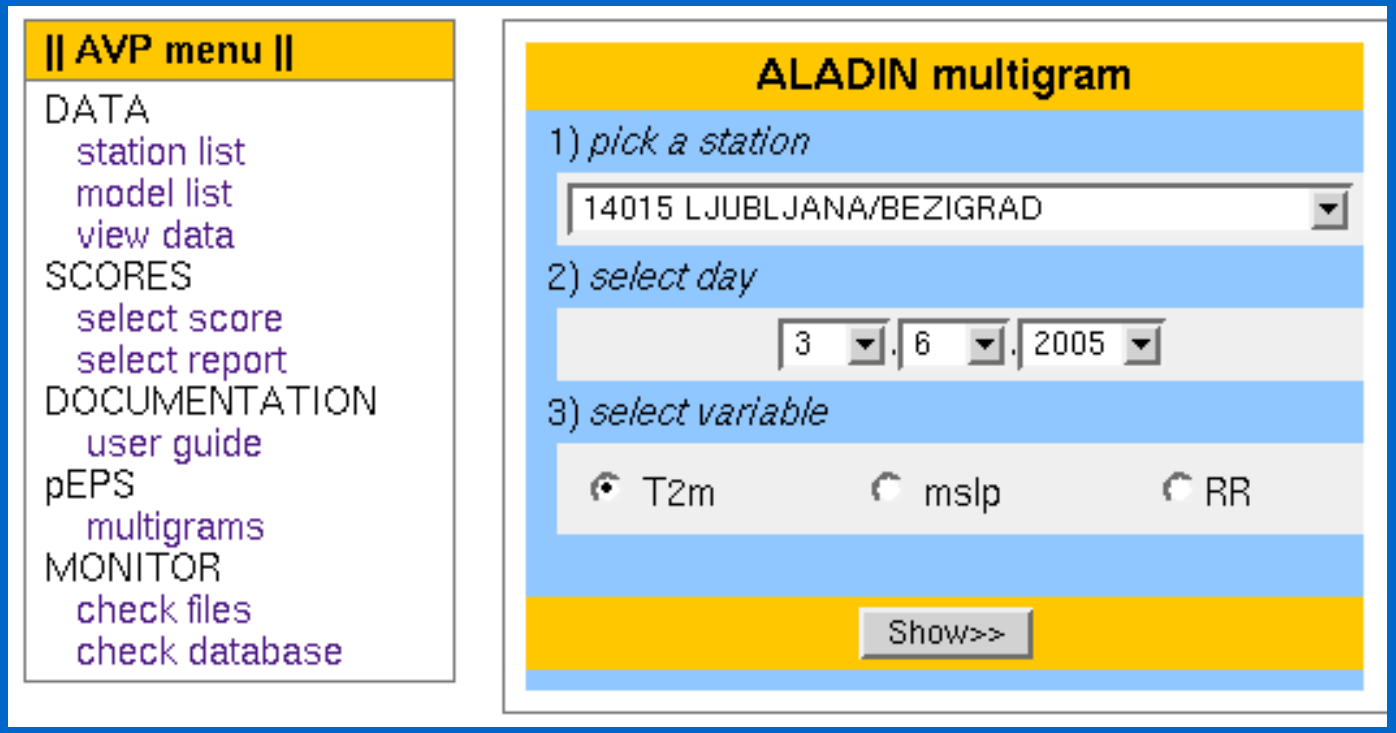
Table of Contents

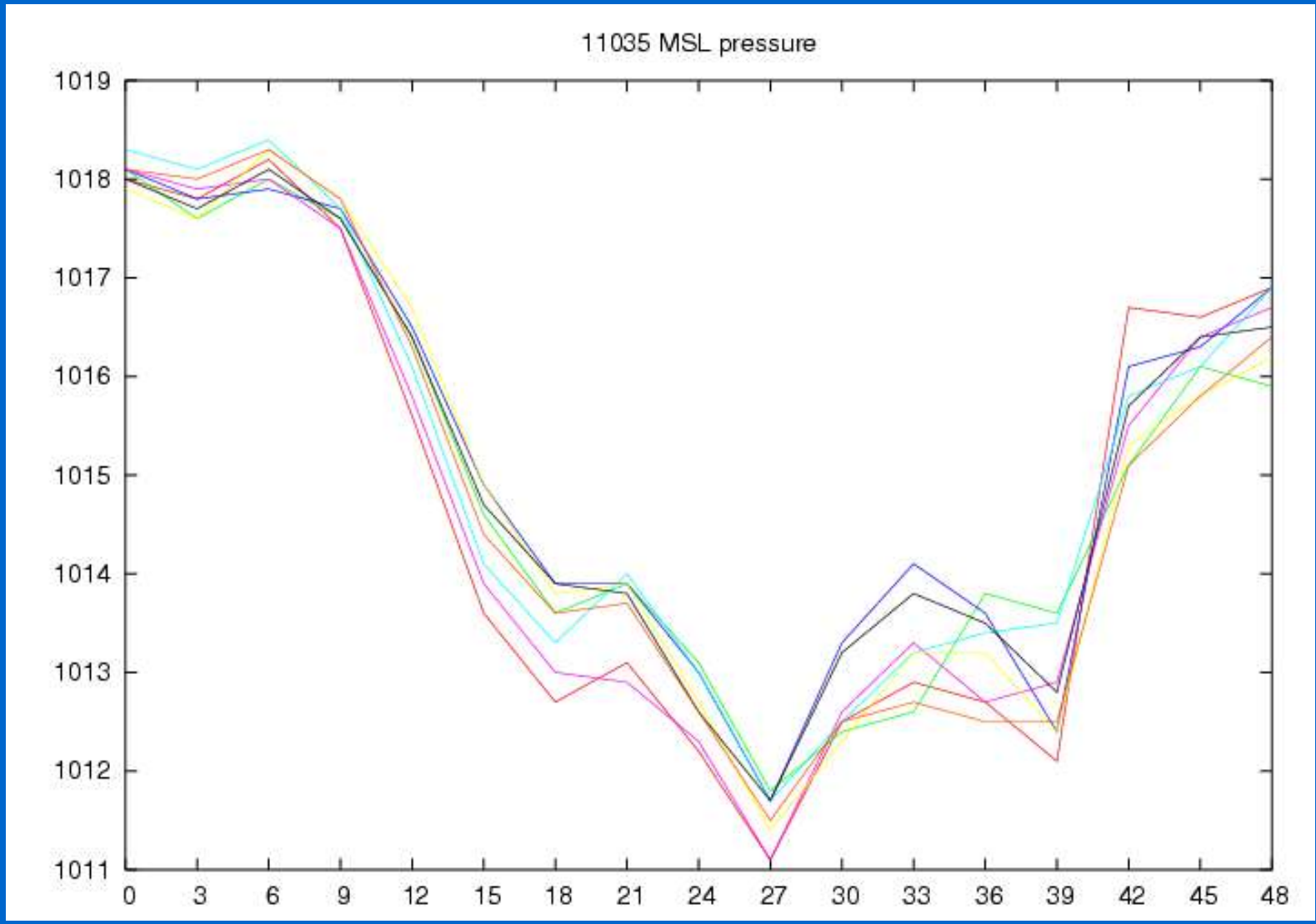
Performance problem

- **Interactively select one model and table and then combine yourselve**
- **Predefined products automaticaly produced once per month**
- **Developments tested**
  - **Additonal tables in data base for each model and with differences against observations**
  - **Statistical packet R for calculation and displaying results (less problems)**

Example of possible usage

- **ALADIN PEPS meteogram**
  - **For slected station**
  - **For selected variables (precipitation,…)**




11035 MSL pressure
1019
1018
1017
1016
1015
1014
1013
1012
1011
0
3
6
9
12
15
18
21
24
27
30
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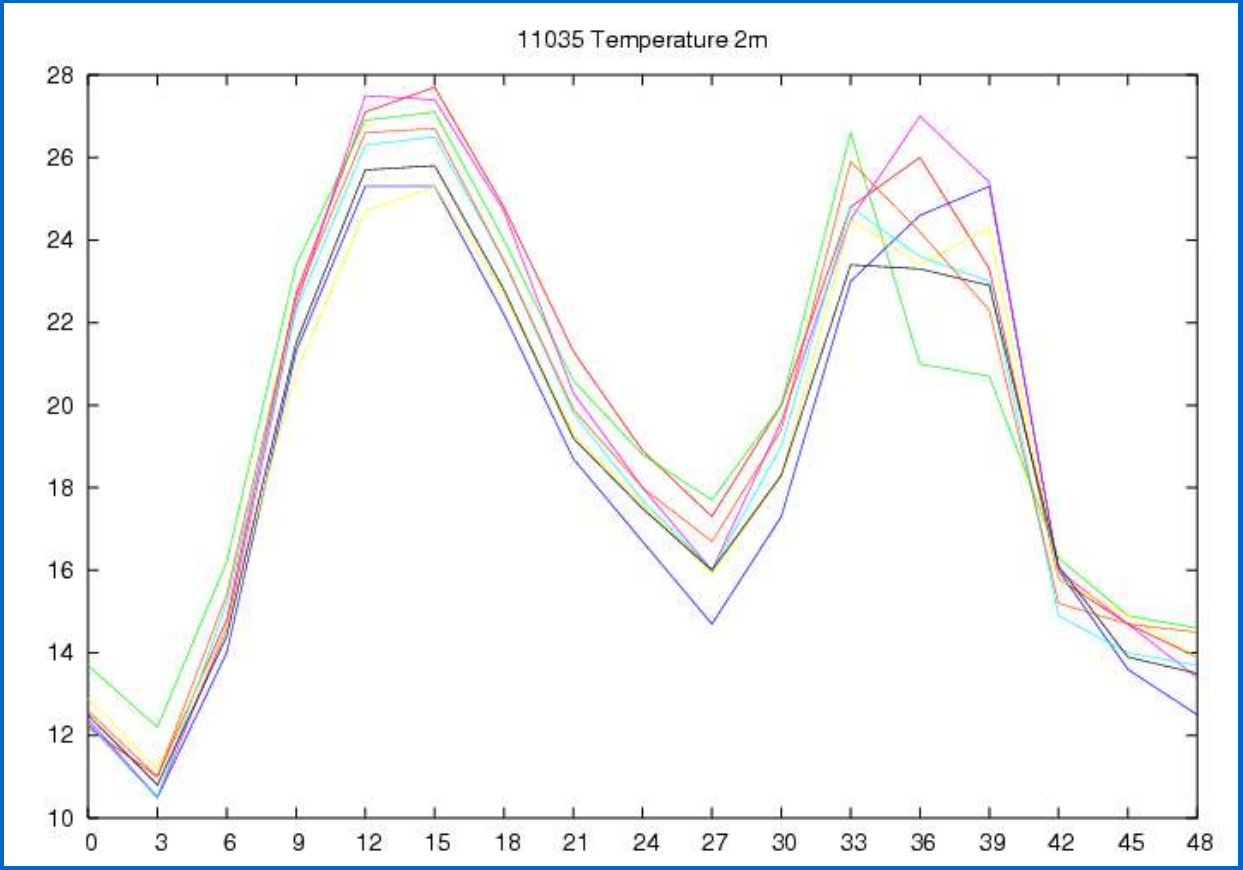
36
39
42
45
48


11035 Temperature 2m
28
26
24
22
20
18
16
14
12
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0
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18
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45
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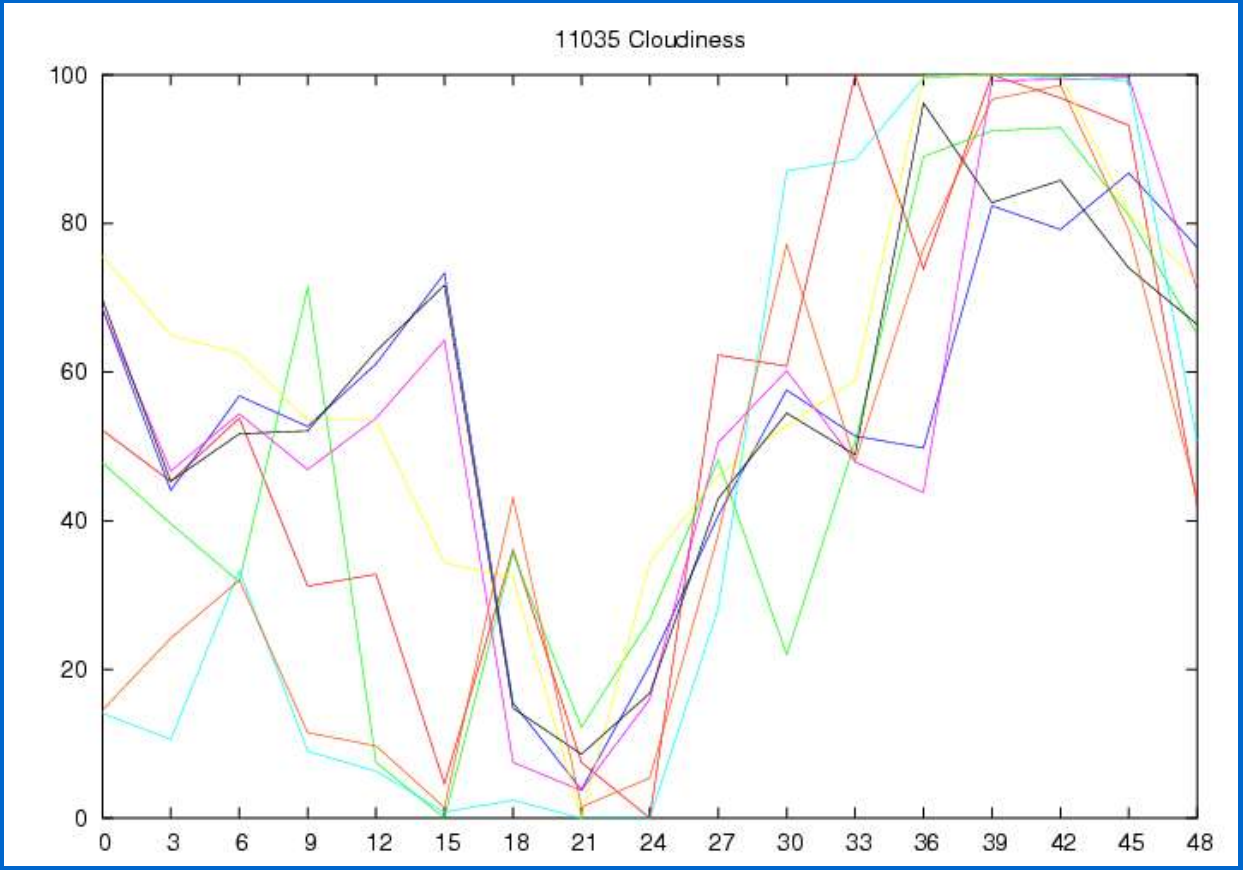
11035 Cloudiness
100
80
60
40
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12
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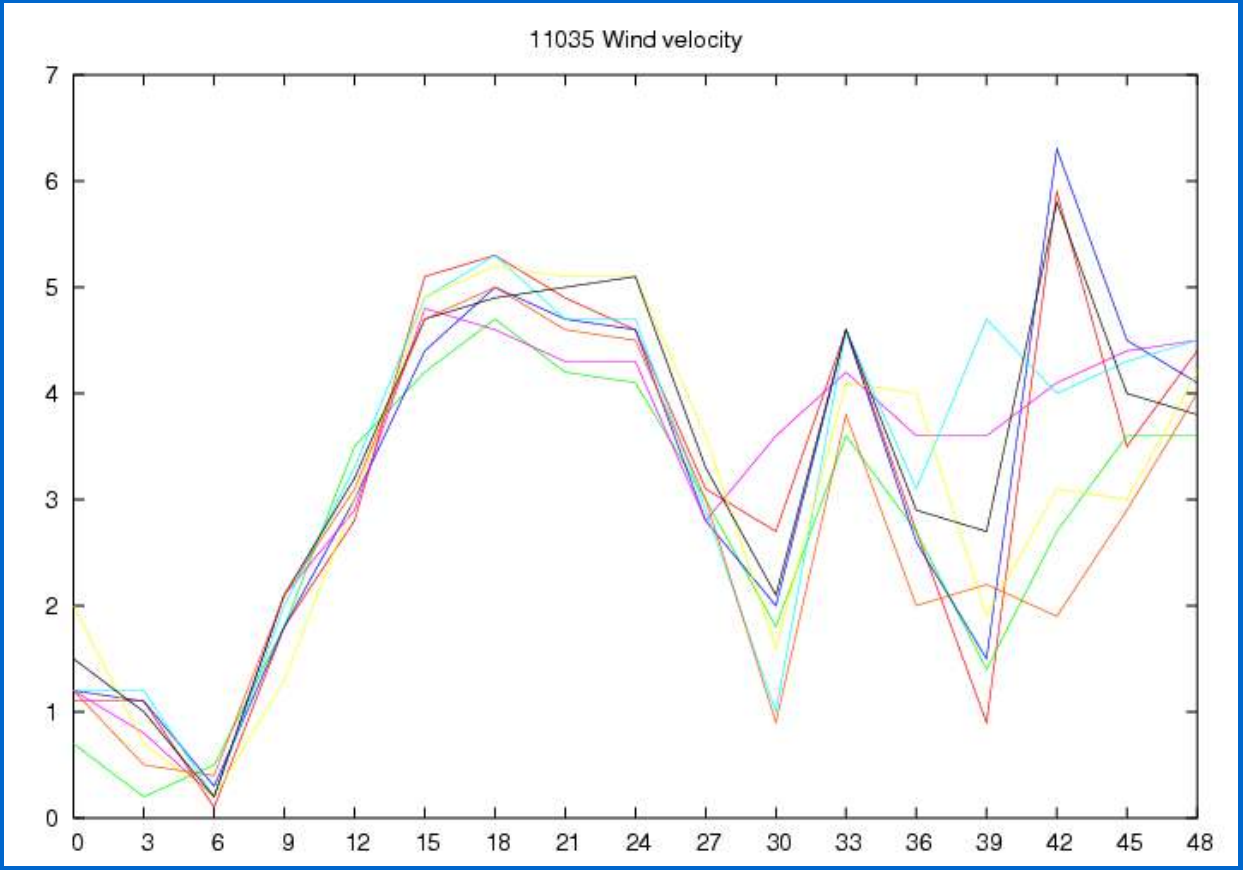
27
30
33
36
39
42
45
48


11035 Wind velocity
7
6
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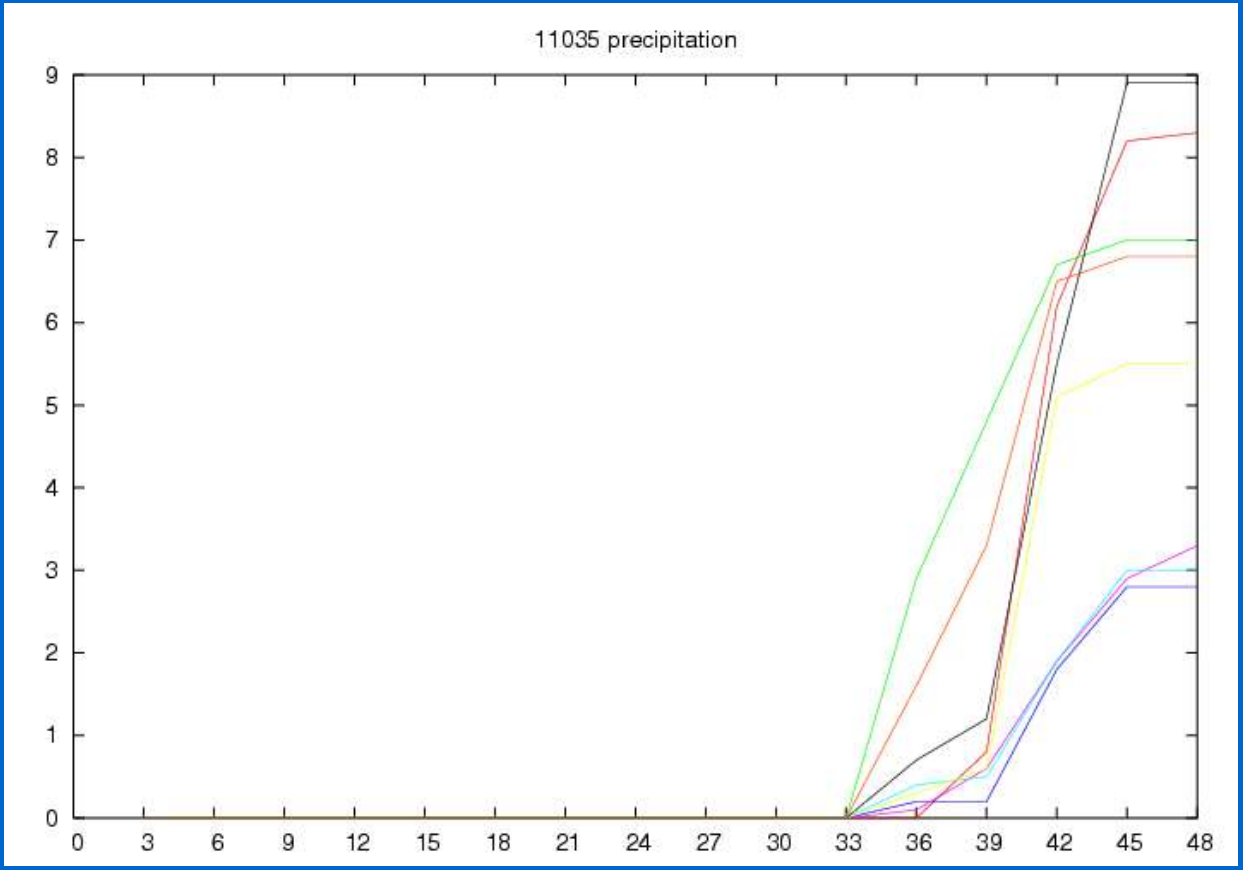
11035 precipitation
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8
7
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4
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0
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3
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9
12
15
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21
24
27
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33
36
39
42
45
48

Future plans

- Resolve performance issues (detailed study of database performance)
- Automated report production
- Add new scores from ECMWF Technical Memorandum on verification
- Invite other centers to join
- Lack of manpower (looking for contributors).
- Transfer of application to dedicated server

Conclusions

- Conceptual infrastucture is ready
- Performance issues (but there are workarounds)