



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

armasuisse  
Bundesamt für Landestopografie swisstopo

wissen wohin  
savoir où  
sapere dove  
knowing where



# swisstopo Report for EGVAP 2014

E. Brockmann



# Sorry for not being able to join

- Did everything to make Dutch from KLM guys happy ...
- Siebren – you certainly are still happy...

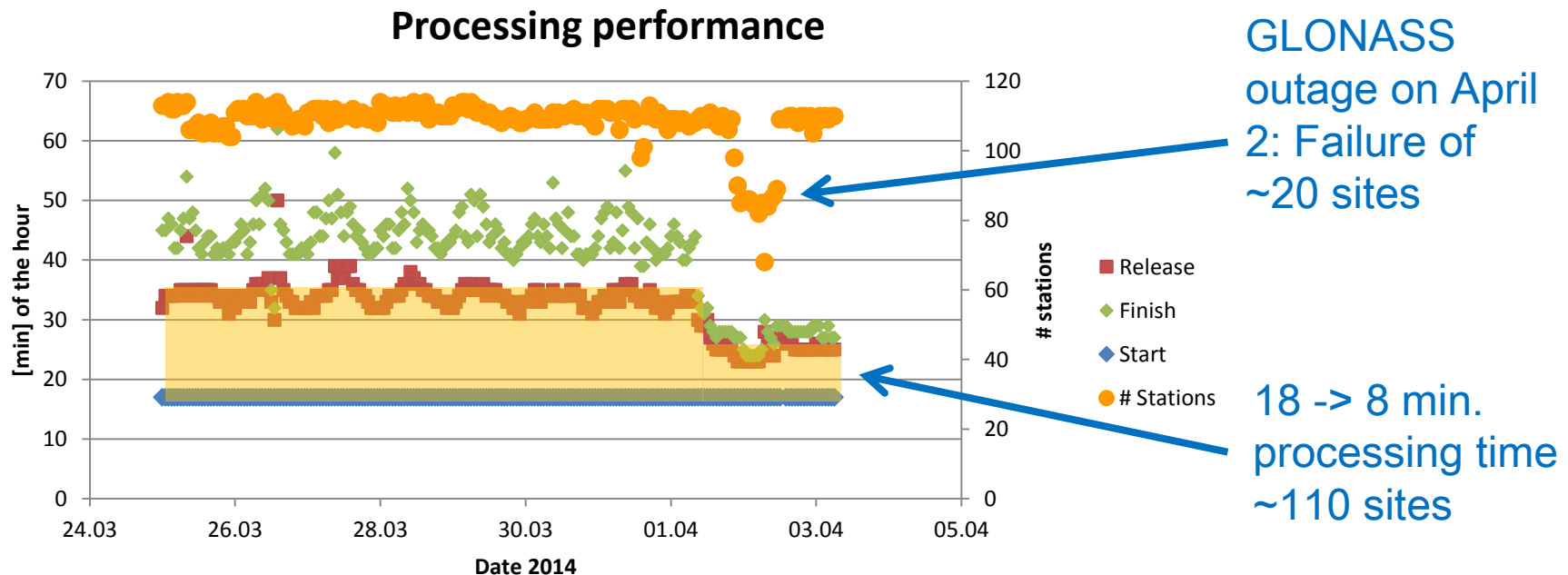




# Operational aspects



- New server: moving from suse to redhat Linux OS + more CPUs (8+24 -> 32+32). Operational switch on April 1, 2014
  - Reprocessing: first successful run -> EUREF repro2, GNSS4SWEC
  - Improved performance for hourly (and daily solutions)

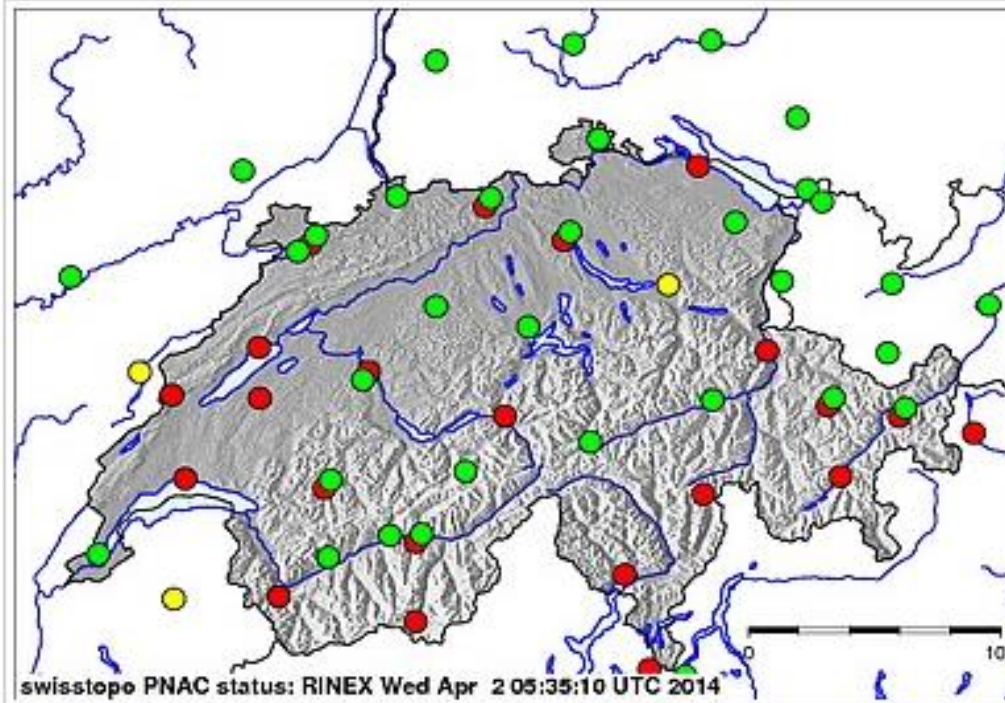




# GLONASS Outage April 2, 2014

RINEX status in Switzerland

02-Apr-2014 07:35:22 (DOY 092)



Select region

[Europe](#)

[Switzerland](#)

PNAC status by subject

[RINEX](#)

[NRT-Meteo](#)

[Coordinate Monitoring](#)

Details

[Processing](#)

[swipos](#)

Legend

- No data
- data o.k.
- 3<5 h miss./last h late
- > 5 h missing

RINEX status by site

<a href="#">AIGE</a>	<a href="#">AND2</a>	<a href="#">ARDE</a>	<a href="#">ARD2</a>	<a href="#">BLFT</a>	<a href="#">BOUR</a>	<a href="#">BOU2</a>	<a href="#">BSCN</a>	<a href="#">COMO</a>	<a href="#">DAVO</a>
<a href="#">DAV2</a>	<a href="#">EPFL</a>	<a href="#">ERDE</a>	<a href="#">ETHZ</a>	<a href="#">ETH2</a>	<a href="#">FALE</a>	<a href="#">FHBB</a>	<a href="#">FLDK</a>	<a href="#">FREI</a>	<a href="#">FRIC</a>
<a href="#">FRI3</a>	<a href="#">HABO</a>	<a href="#">HOHT</a>	<a href="#">HOH2</a>	<a href="#">HUTT</a>	<a href="#">JUJO</a>	<a href="#">KALT</a>	<a href="#">KOPS</a>	<a href="#">KRBG</a>	<a href="#">KREU</a>
<a href="#">LECH</a>	<a href="#">LIND</a>	<a href="#">LOMO</a>	<a href="#">LUZE</a>	<a href="#">MAB2</a>	<a href="#">MARG</a>	<a href="#">MAR2</a>	<a href="#">MTTI</a>	<a href="#">NEUC</a>	<a href="#">PAYE</a>
<a href="#">PFA2</a>	<a href="#">PRNY</a>	<a href="#">SAAN</a>	<a href="#">SAM2</a>	<a href="#">SAME</a>	<a href="#">SAND</a>	<a href="#">SAR2</a>	<a href="#">SCHA</a>	<a href="#">SIGM</a>	<a href="#">STA2</a>
<a href="#">STCX</a>	<a href="#">STGA</a>	<a href="#">VARE</a>	<a href="#">VISW</a>	<a href="#">WEIN</a>	<a href="#">ZERM</a>	<a href="#">ZIMM</a>	<a href="#">ZIM2</a>		





# GLONASS Outage April 2, 2014

Состояние КА ГЛОНАСС с 16:39:00 01.04.14 по 16:39:00 02.04.14 UTC+4



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Blogs | Webinars | System & Business News | Innovation | Opinion

## GLONASS Gone ... Then Back

April 2, 2014 - By Alan Cameron

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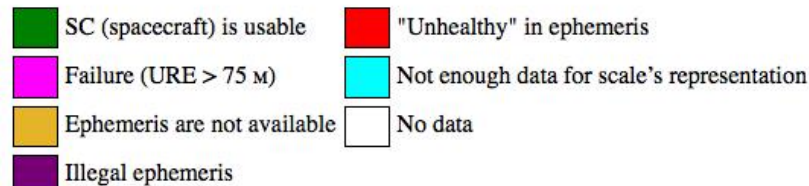
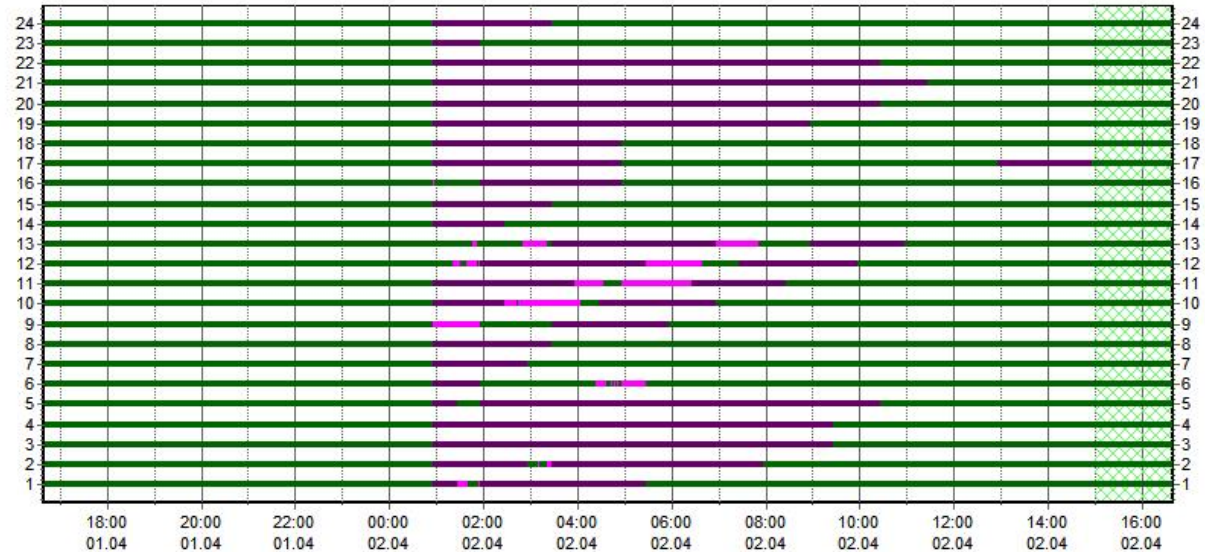


Google



LinkedIn 133

In an unprecedented total disruption of a fully operational GNSS constellation, all satellites in the Russian GLONASS broadcast corrupt information for 11 hours, from just past midnight until noon Russian time (UTC+4), on April 2 (or 5 p.m. on April 1 to 4 a.m. April 2, U.S. Eastern time). This rendered the system completely unusable to all worldwide GLONASS receivers. Full and correct service has now been restored.

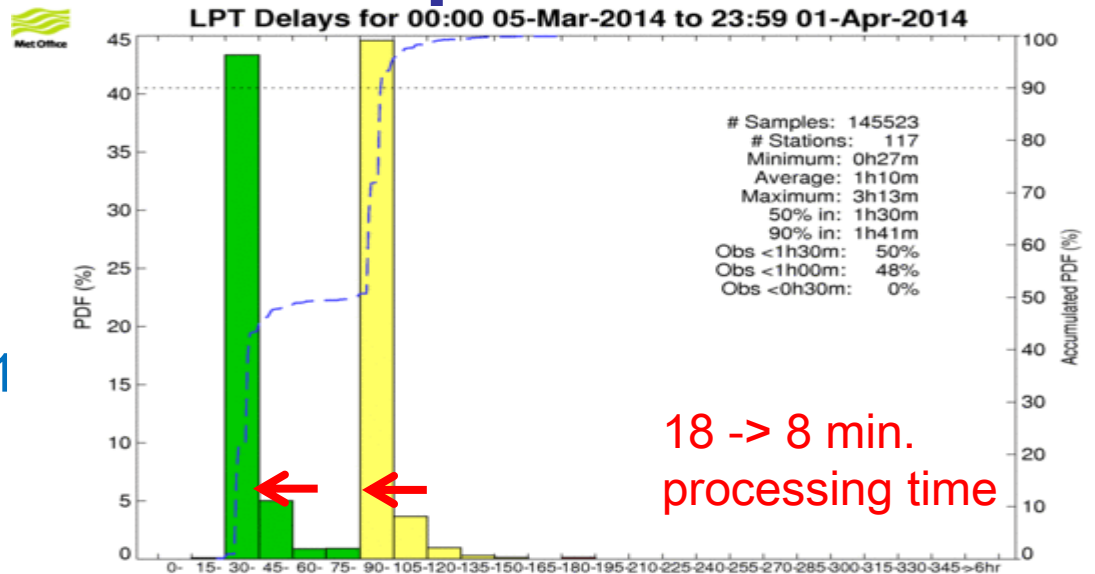




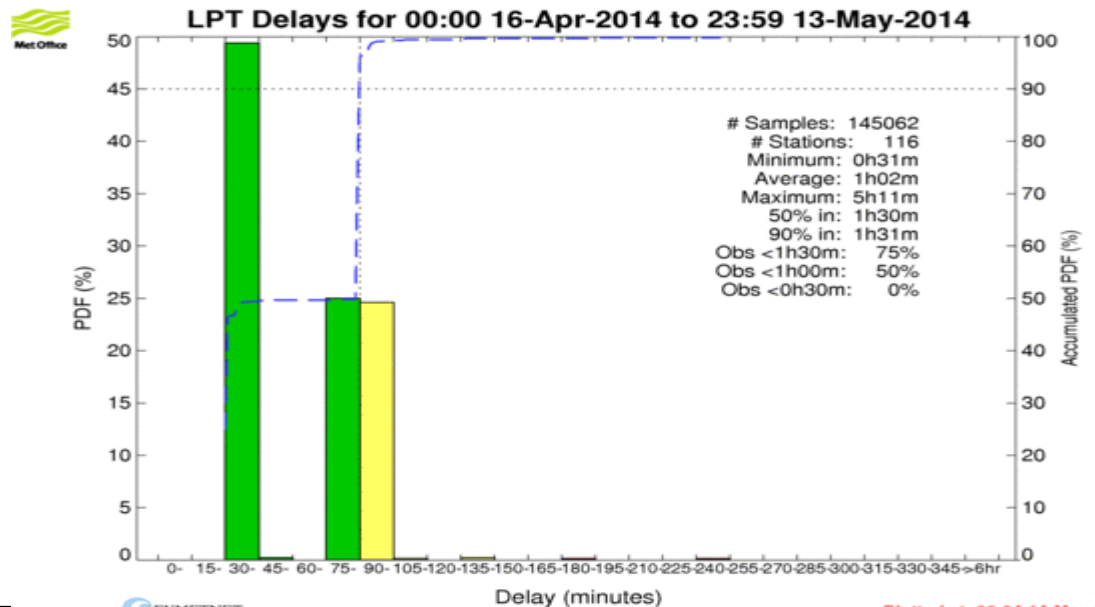
# AMET performance improvement

Monthly delays  
monitored by UK MetO

Before April 1



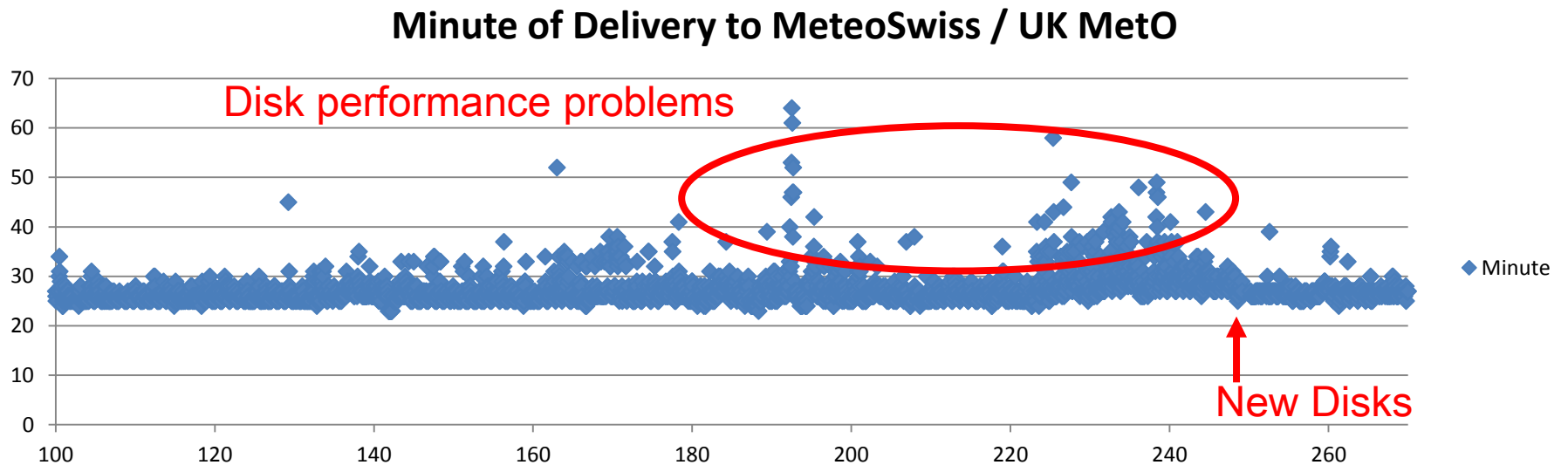
After April 1





# Operational aspects (3)

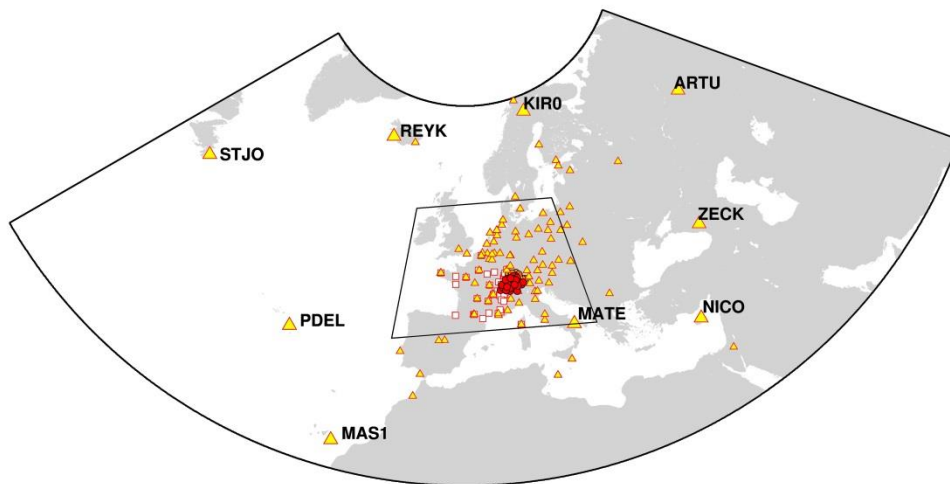
- September 5 – use better performant data disks





# Operational aspects (4)

- October 2 (275L)
  - Increased number of stations (125 -> 180) – mainly stations with good long-term performance
  - new clustering (6 instead 3 clusters)
  - Other optimizations (fast SNGDIF observation count) to keep same delivery performance



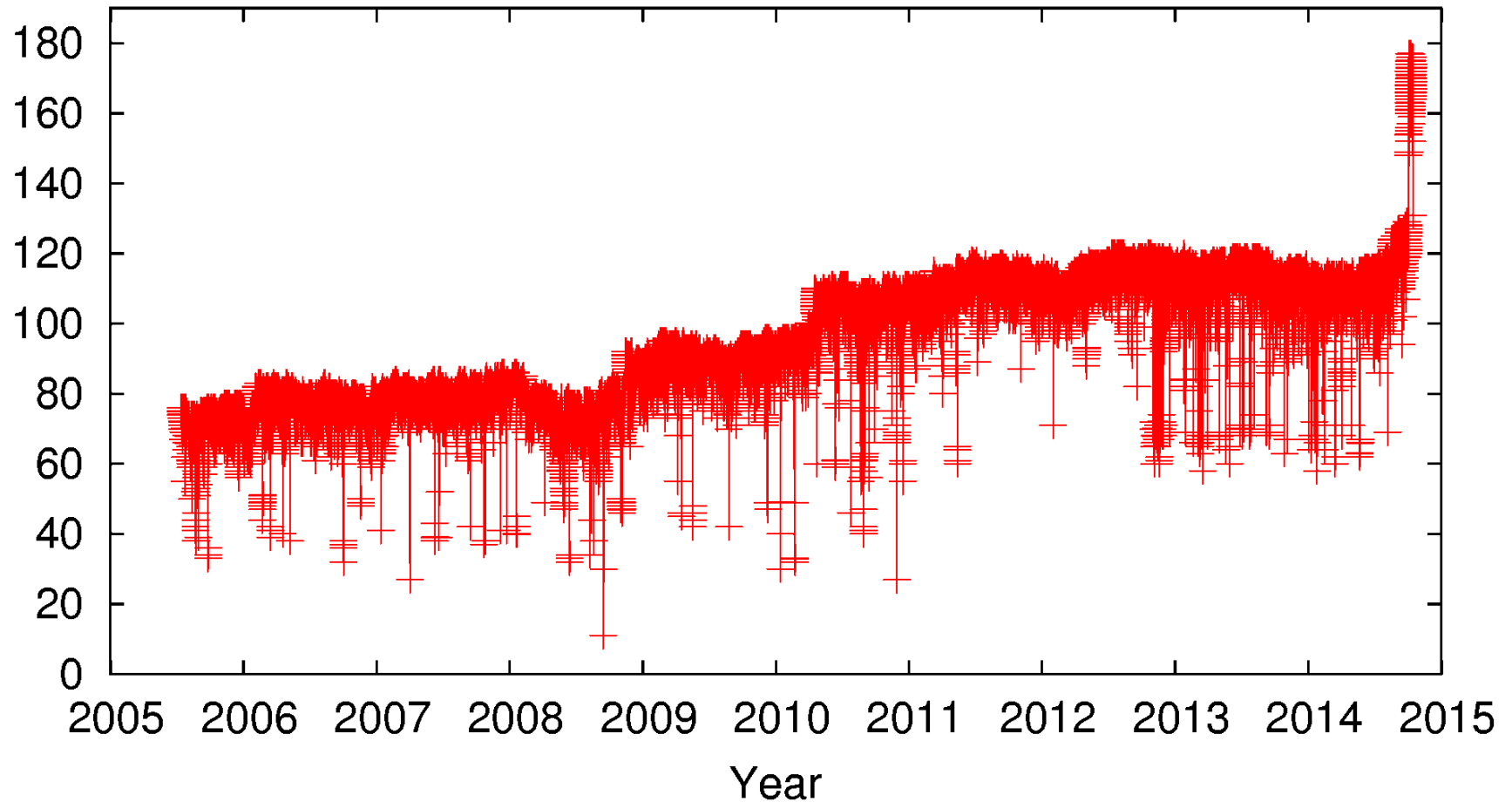
BADH BORJ BUDP BYDG CASC CBRY DELF  
DENT EIJS FJCP GWWL HELG HERT HOB  
HOE2 HOFN JOZ2 JOZE LAMA LODZ MICH  
NOT1 POTS PTBB PUYA RABT REDU REDZ  
SFER SOFI SUR4 SWKI TERS TSLE TOR2  
TRO1 UNTR USDL VAAS VILL WROC WSRT  
ZOUF





# Operational aspects (4.1)

Number of Stations

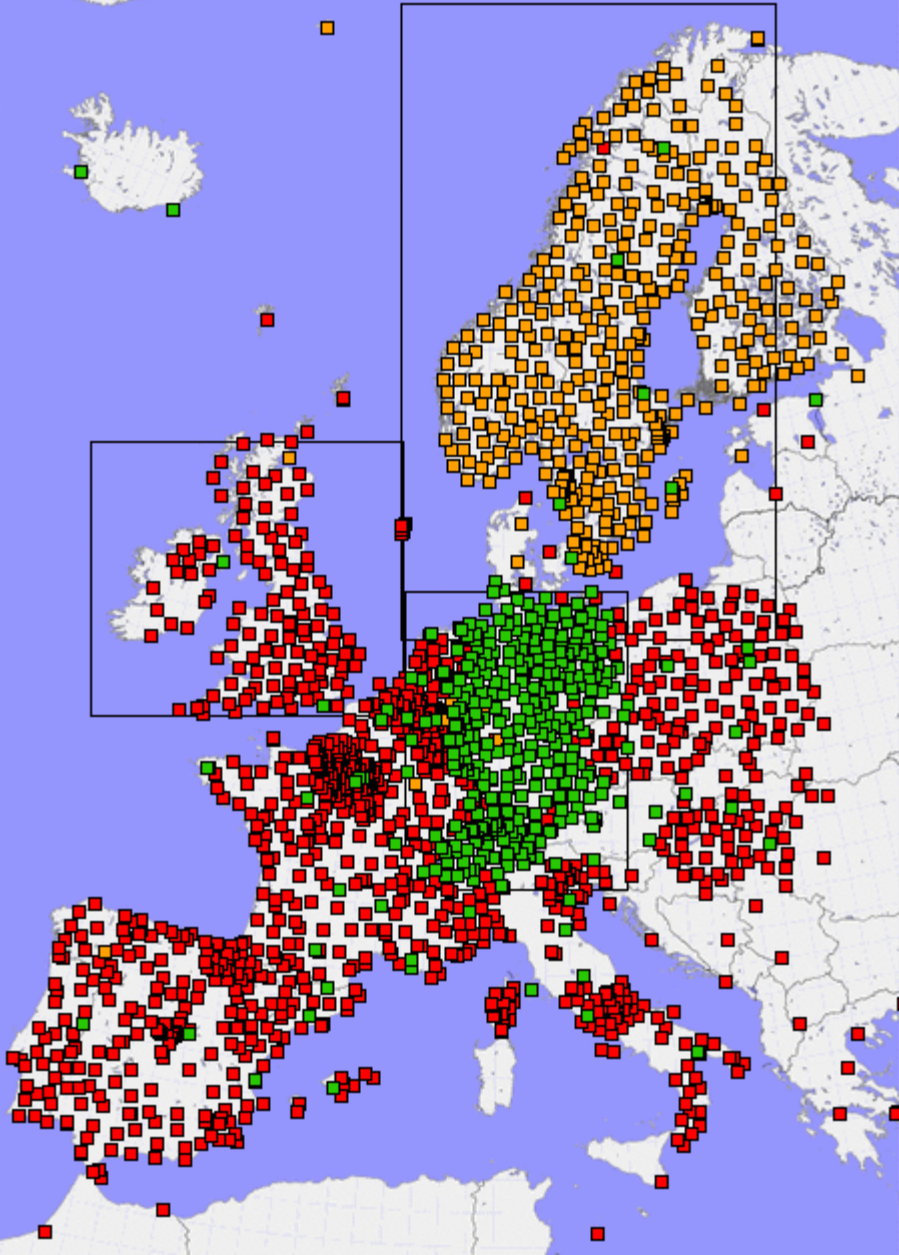


15/10/14 08:29



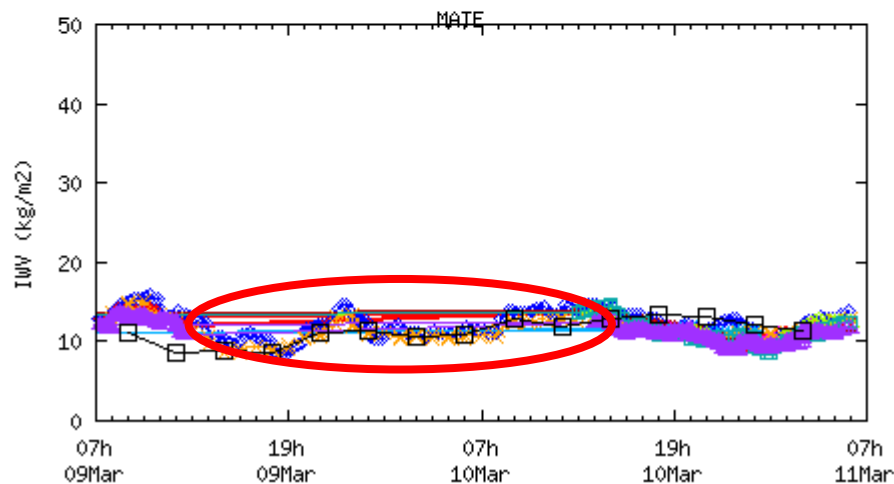
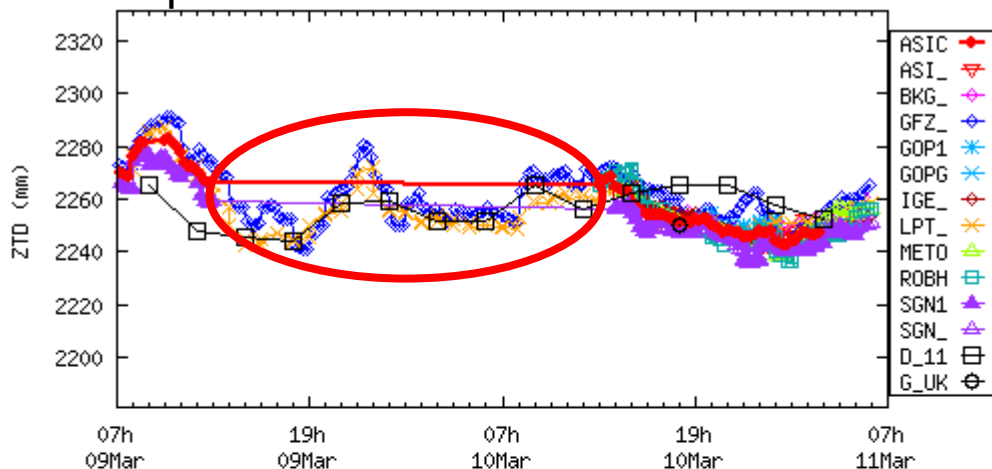
# Aspect 5: IGU orbits missing (March 9-10)

Network Status@non Mar 10 09:18:28 GMT 2014



MATE: 2 instead 13 contribs

swisstopo: use of CODE Ultra, GFZ also independent



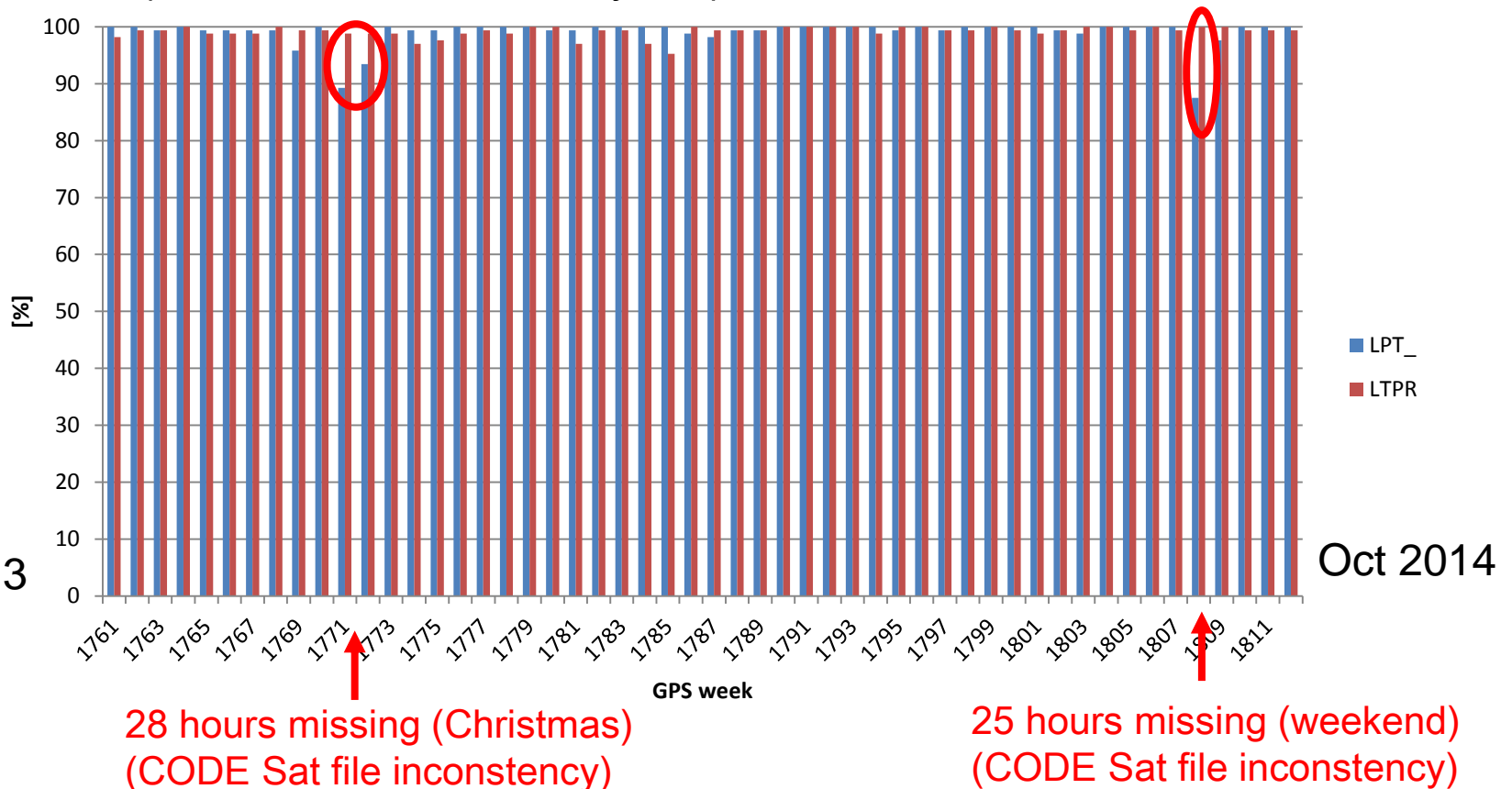
21.10.2014

(c)KNMI/EGVAP  
10



## Aspect 6: Availability

- Last 52 weeks: Availability: LPT: 99.06 % LPTR: 99.21 %  
(1 % better than last year)

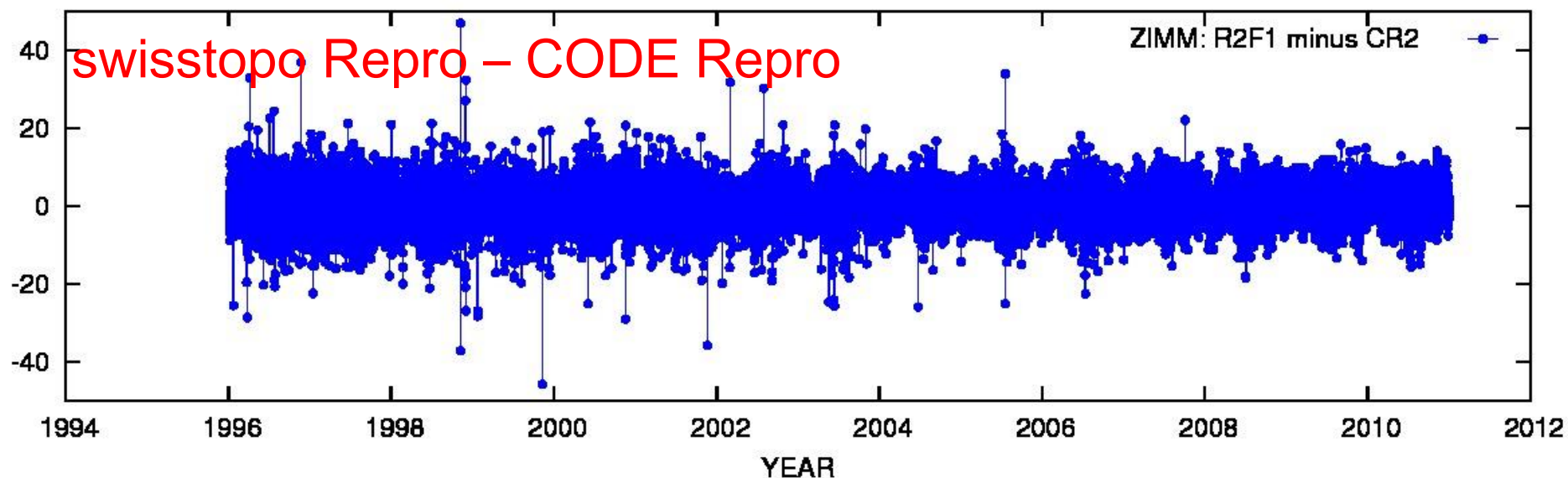
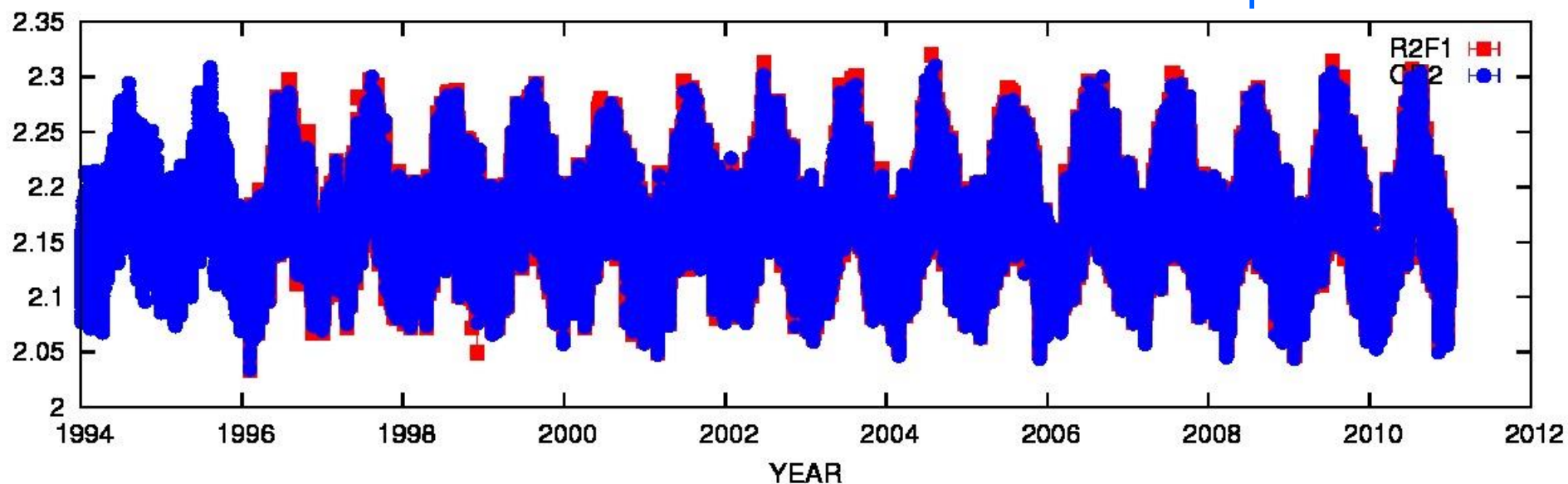


# GNSS4SWEC: Repro

Zenith Total Delays and Differences for station ZIMM in [m/mm]

Repro swisstopo

Repro CODE





# Troposphere differences: FCLZ

- Offsets due to model changes (in operational daily as well as NRT)

