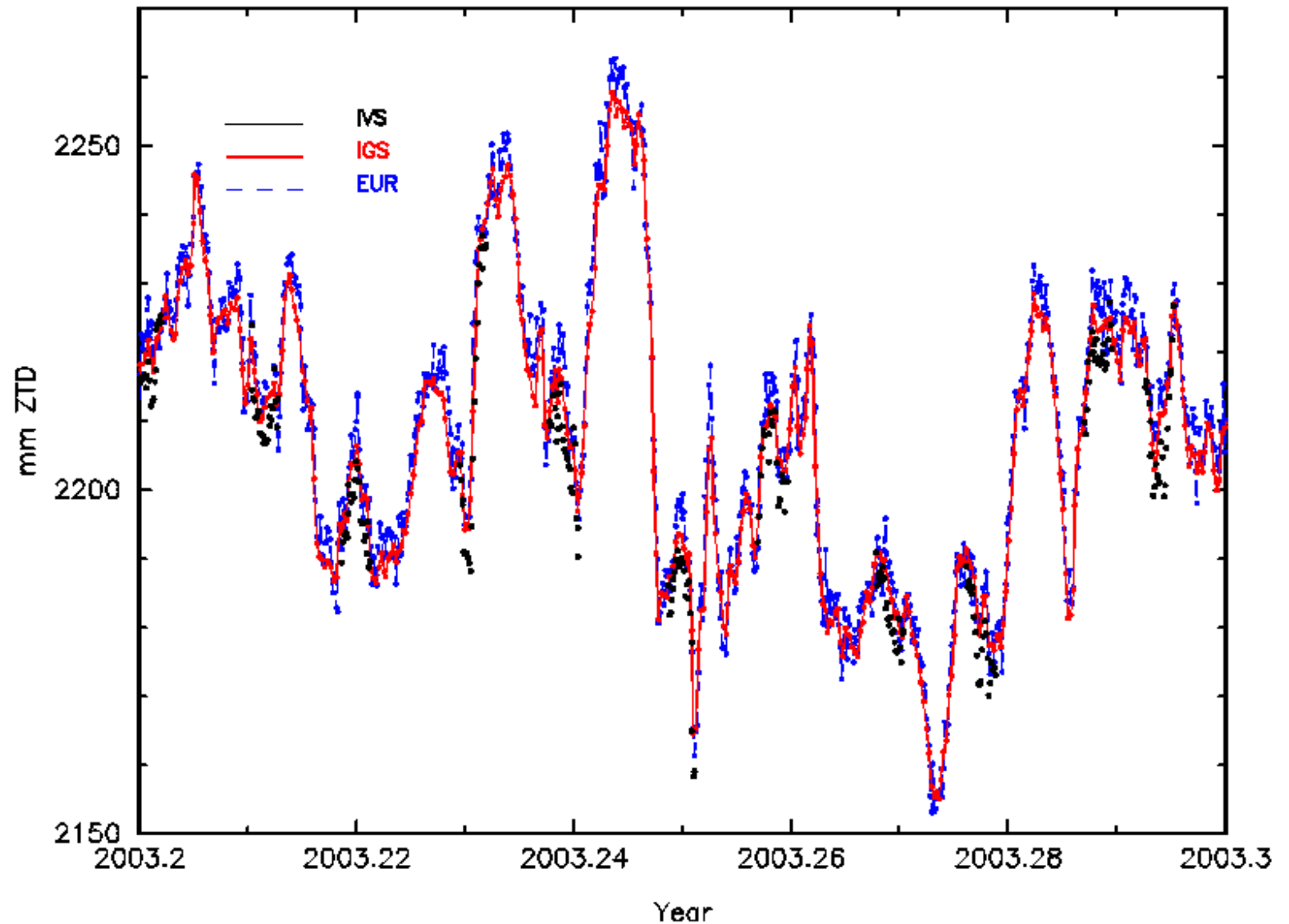


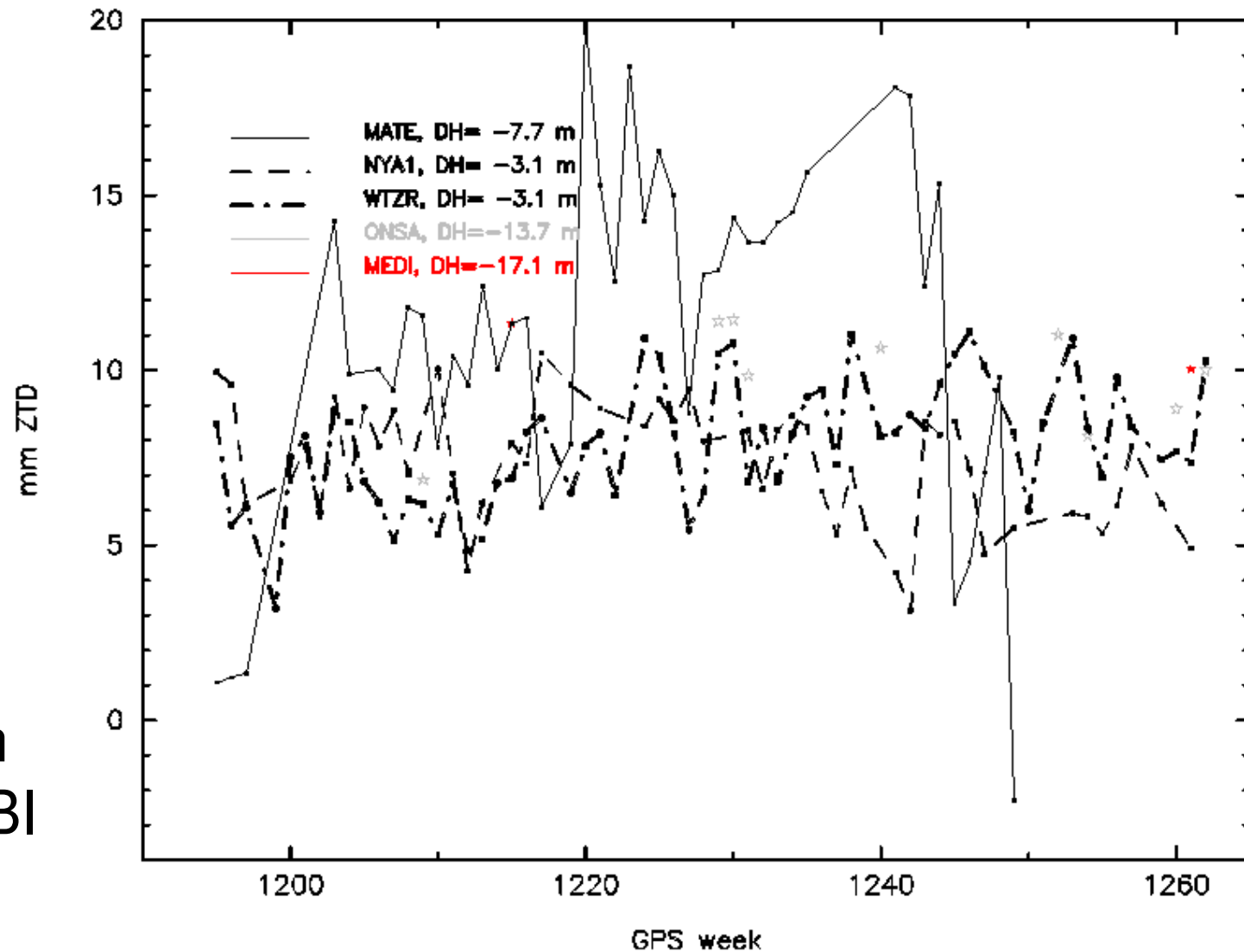
Good  
overall  
Agreement  
of IVS  
Solution  
TU Vienna  
with GPS

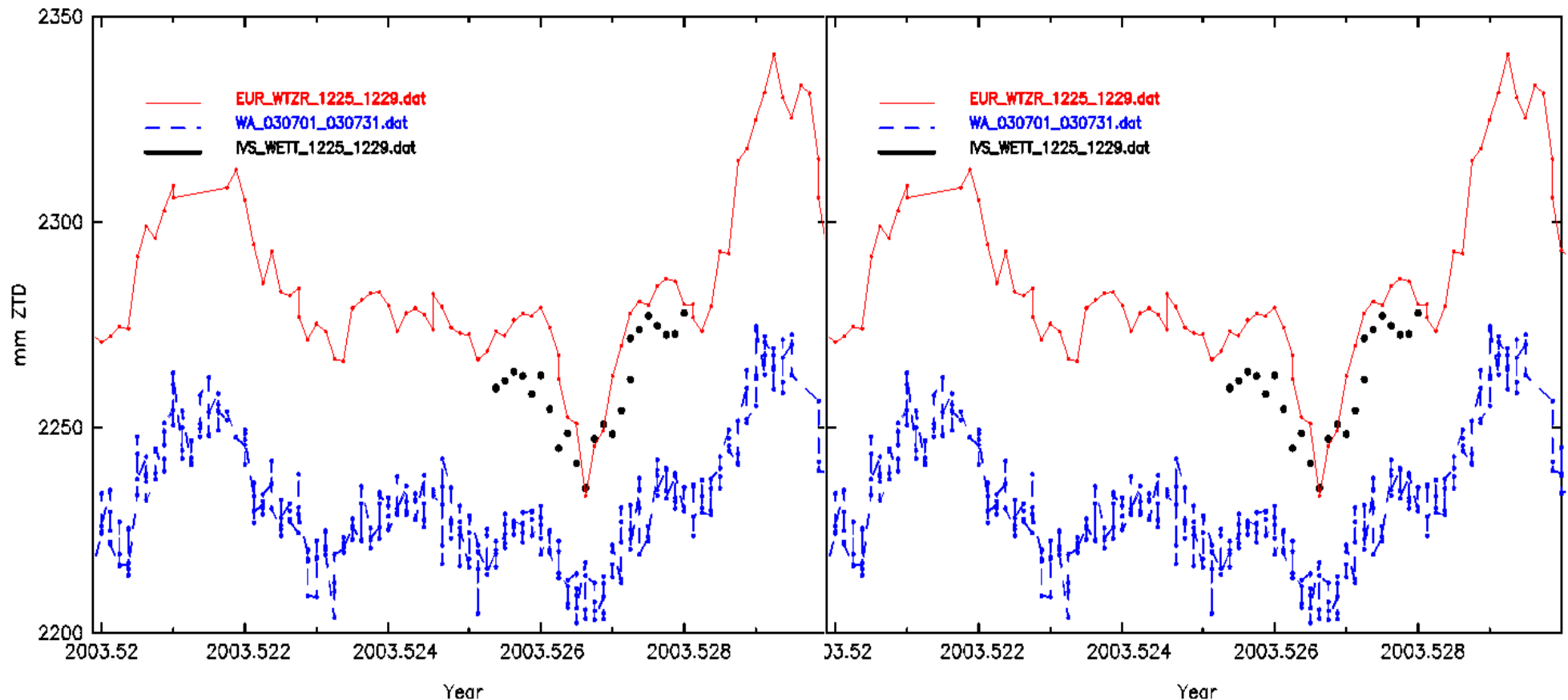


Mean diff.  
for some  
Europ. Sites

Without  
height  
Difference  
corrections!

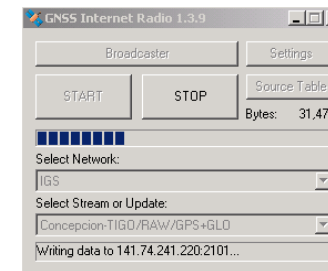
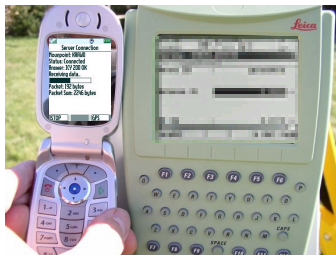
Bias between  
GPS and VLBI





Differences for one month in 2003 between GPS, WVP and VLBI. Remarkable bias between VLBI/GPS and WVR with a high standard deviation of about 15 mm ZTD.

# September 2004 EUREF's Ntrip becomes RTCM Standard

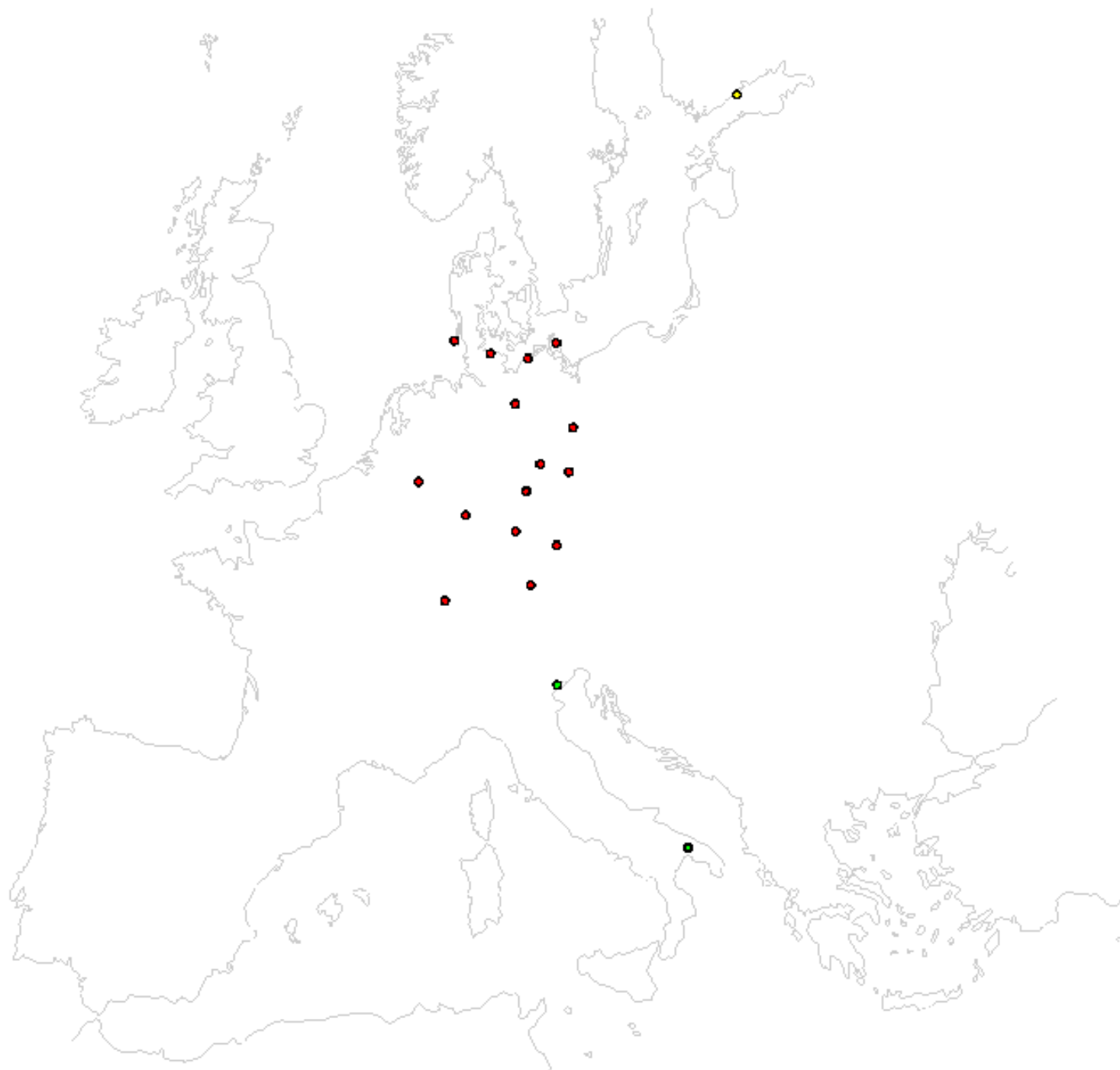


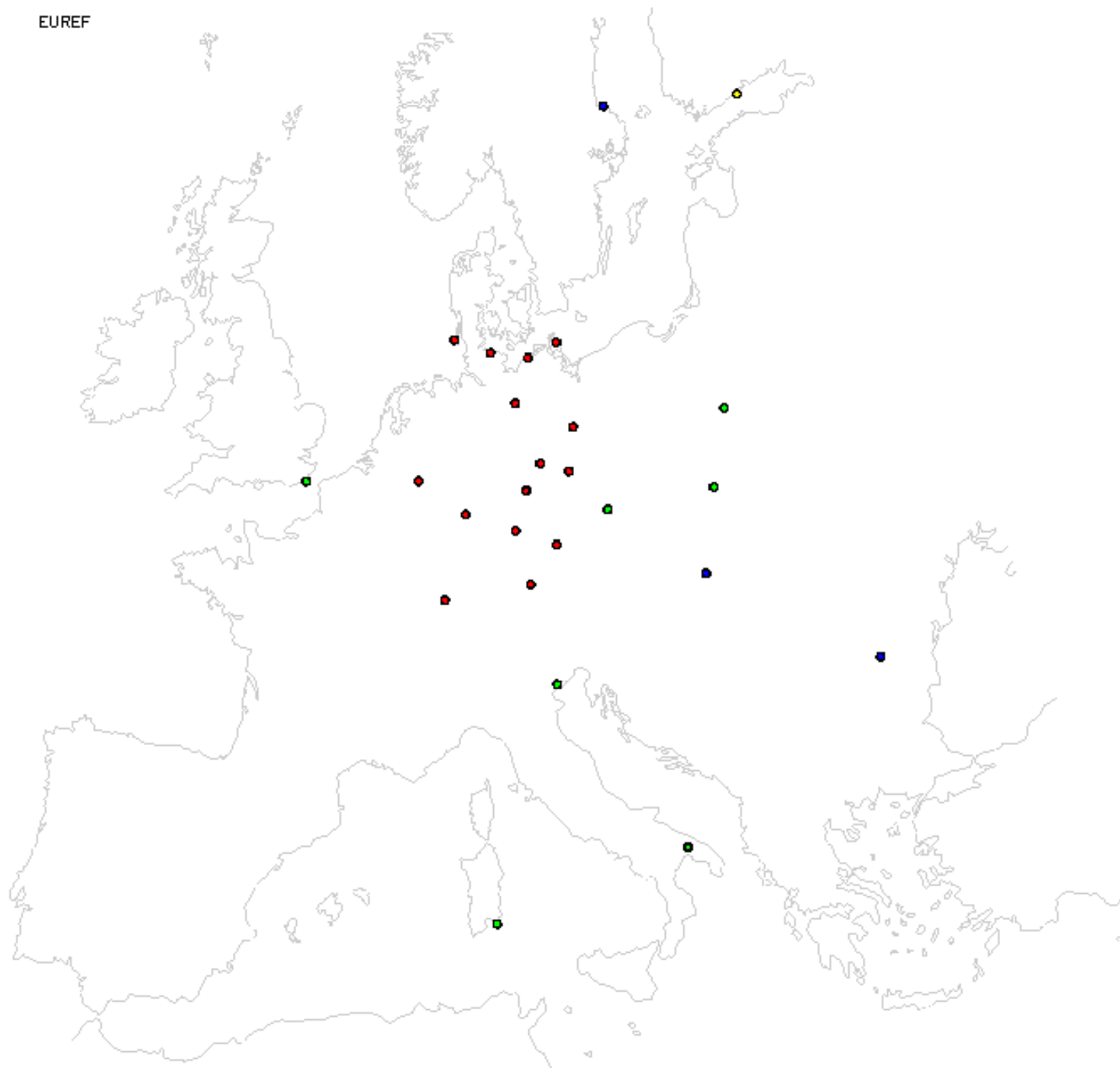
# Status Ntrip

## Real-time GNSS Networks Europe

**Participation**



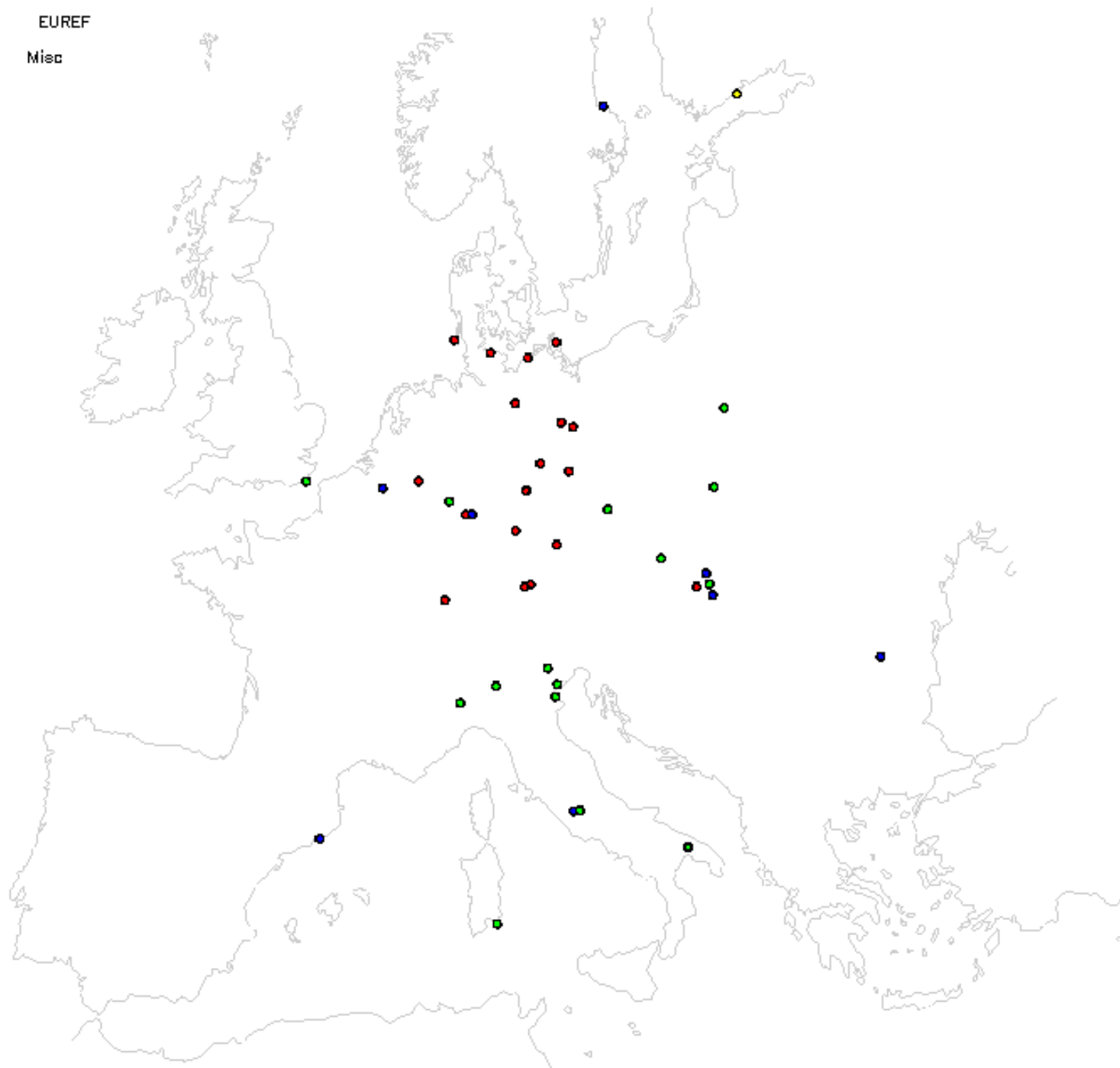




IGS NTRIP Real-Time GNSS Data Availability 041022 13:13 UTC

EUREF

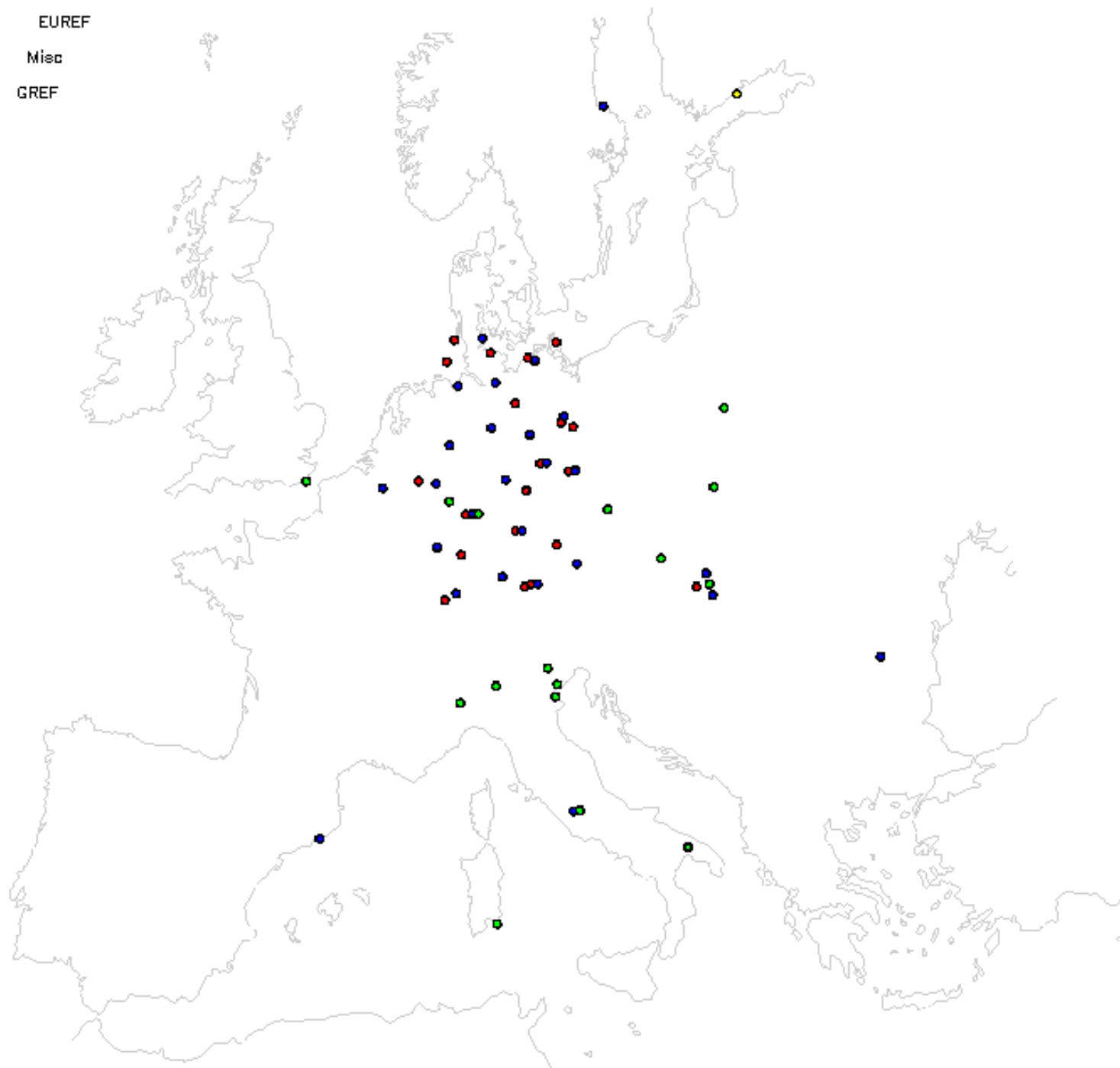
Misc





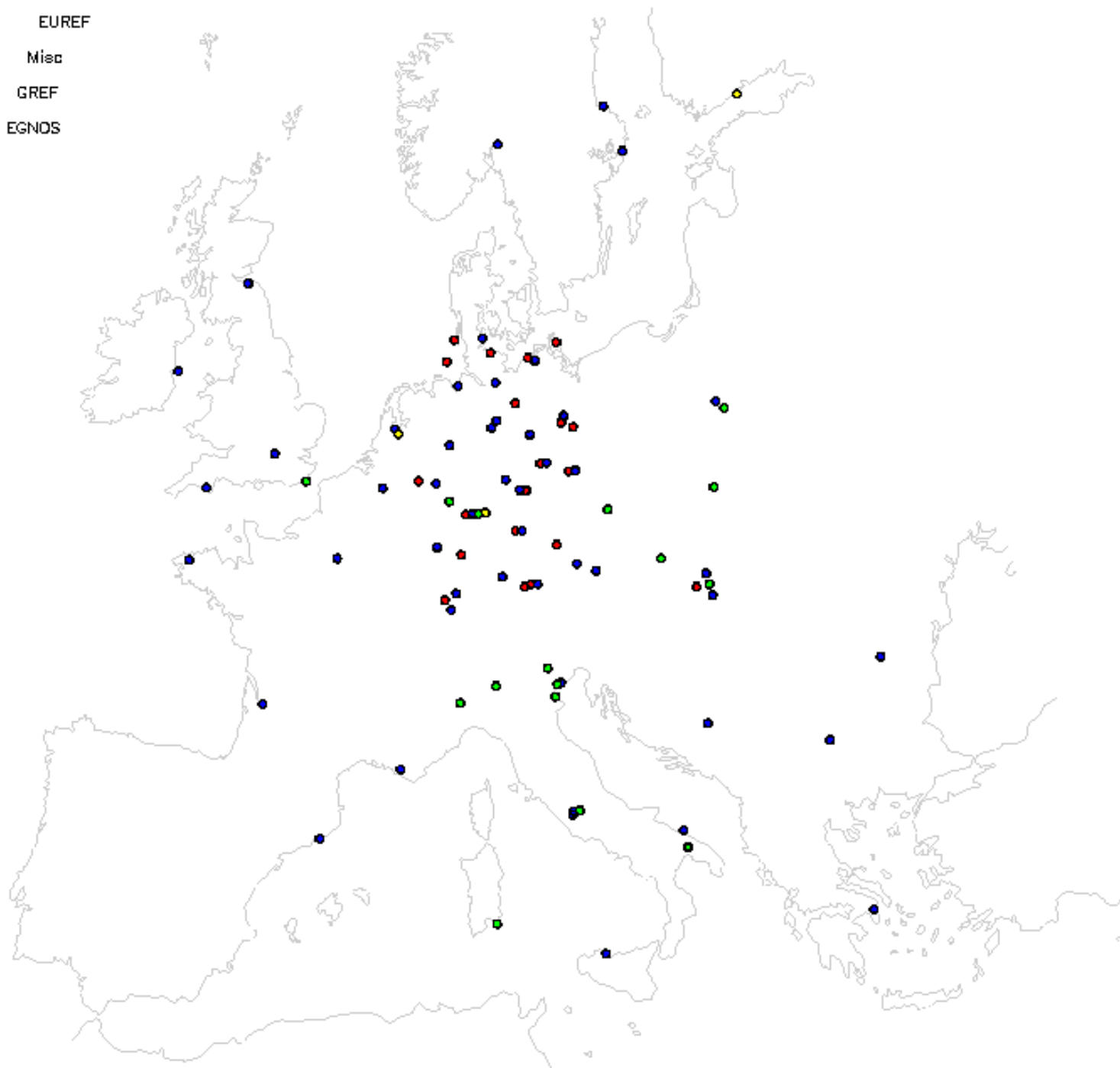
IGS  
EUREF  
Misc  
GREF

NTRIP Real-Time GNSS Data Availability 041022 13:13 UTC



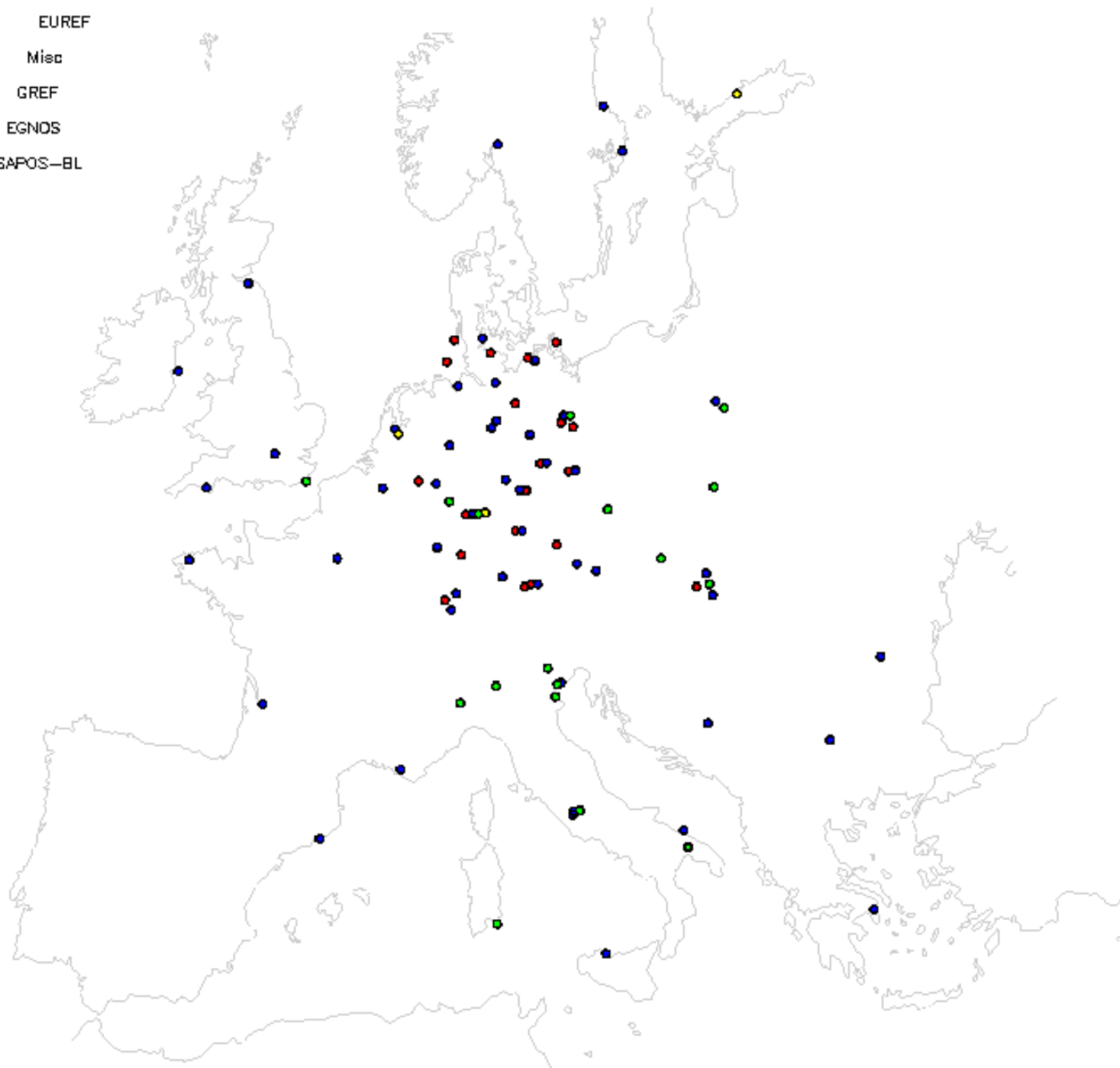
IGS  
EUREF  
Misc  
GREF  
EGNOS

NTRIP Real-Time GNSS Data Availability 041022 13:13 UTC



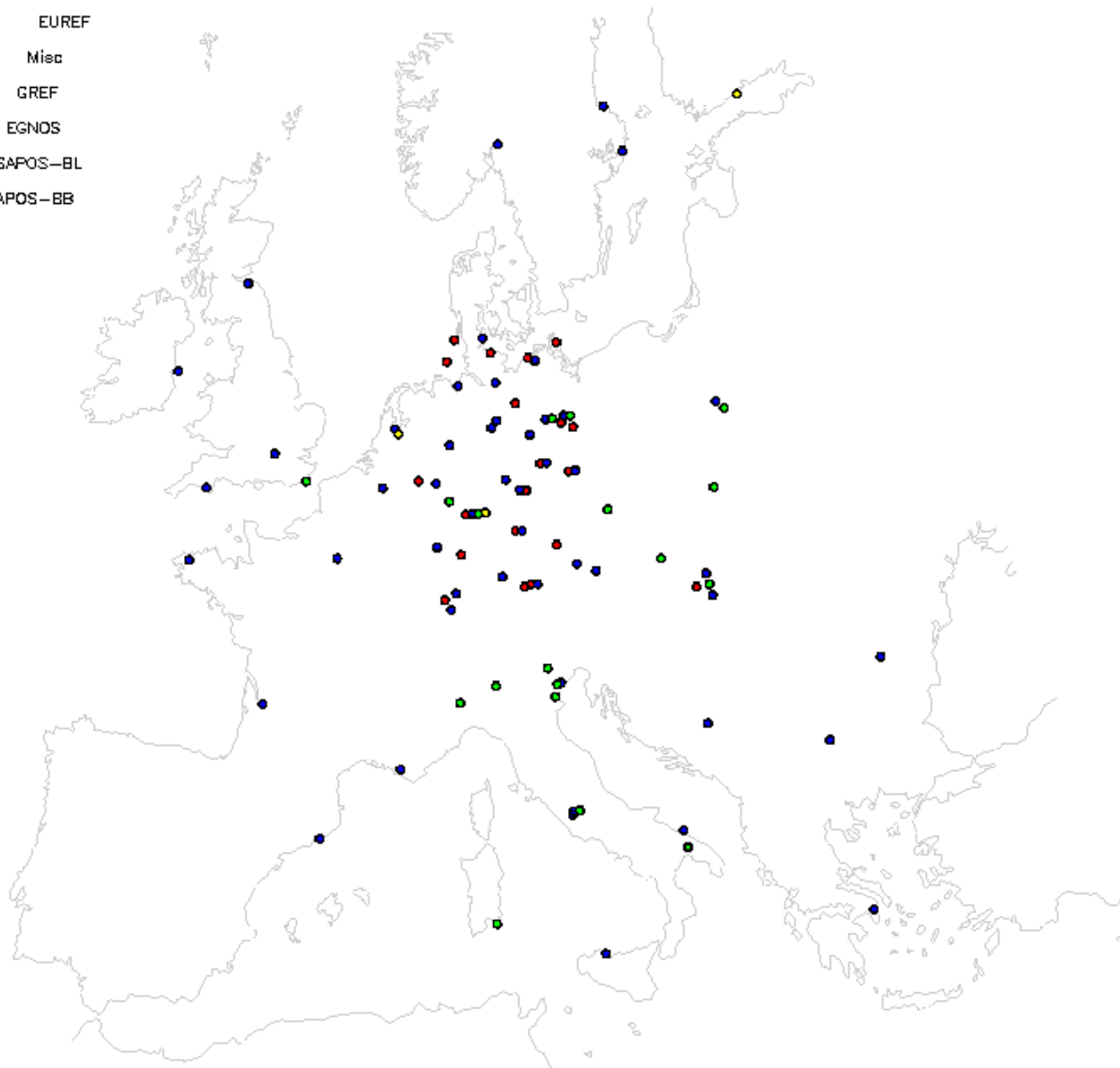
IGS  
EUREF  
Misc  
GREF  
EGNOS  
SAPOS-BL

NTRIP Real-Time GNSS Data Availability 041022 13:13 UTC



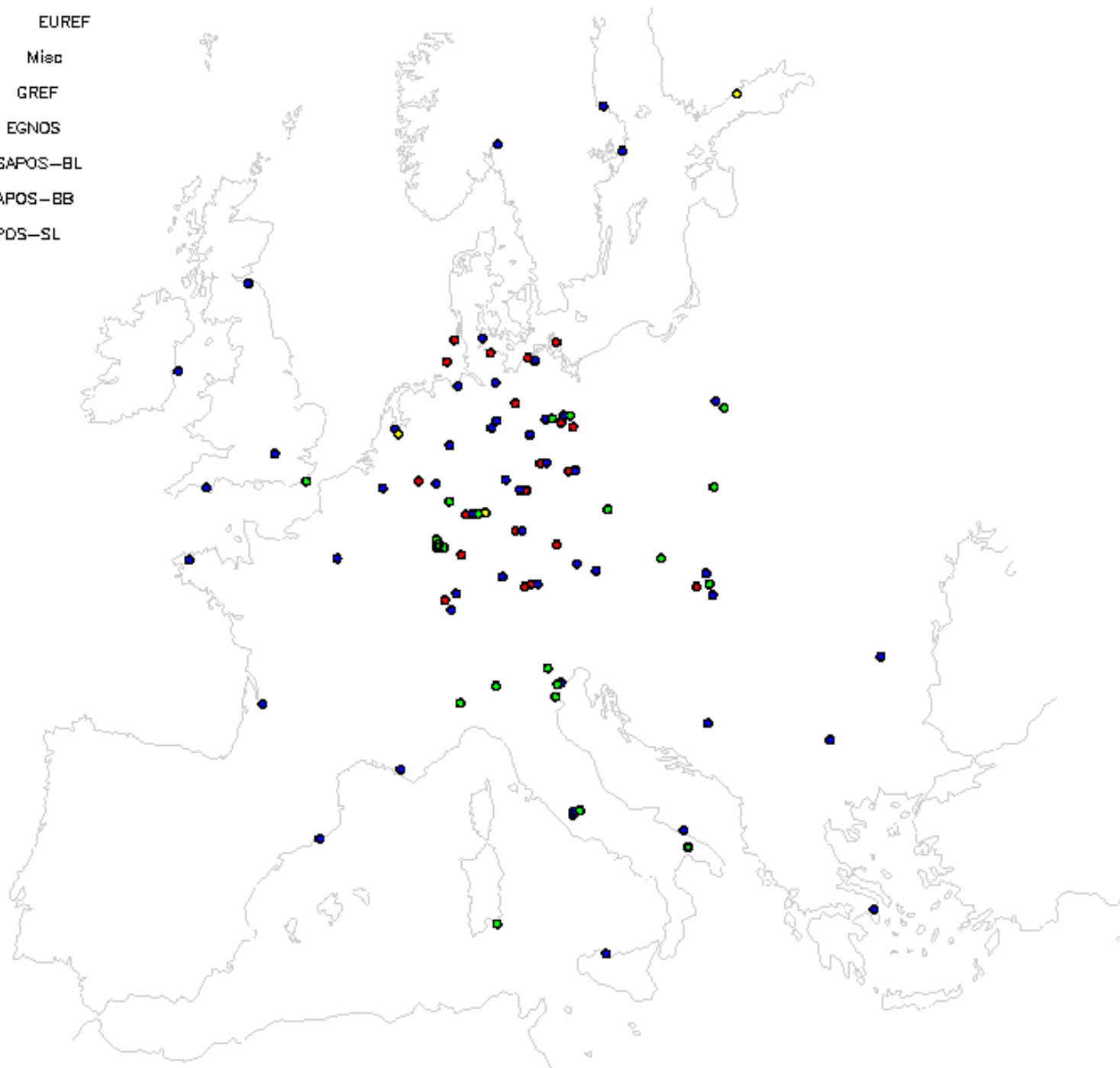
IGS  
EUREF  
Misc  
GREF  
EGNOS  
SAPOS-BL  
SAPOS-BB

NTRIP Real-Time GNSS Data Availability 041022 13:13 UTC



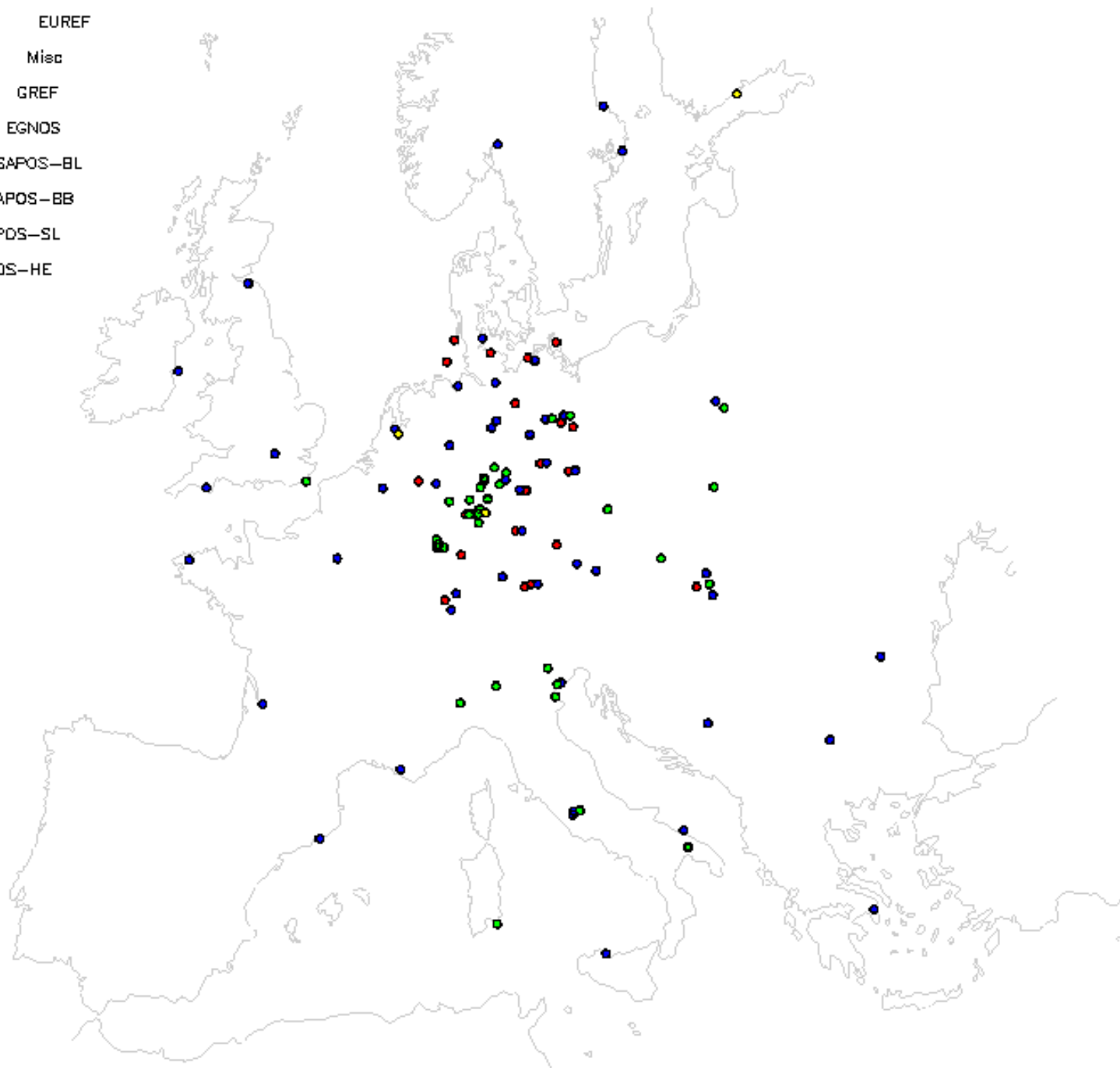
IGS  
EUREF  
Misc  
GREF  
EGNOS  
SAPOS-BL  
SAPOS-BB  
SAPOS-SL

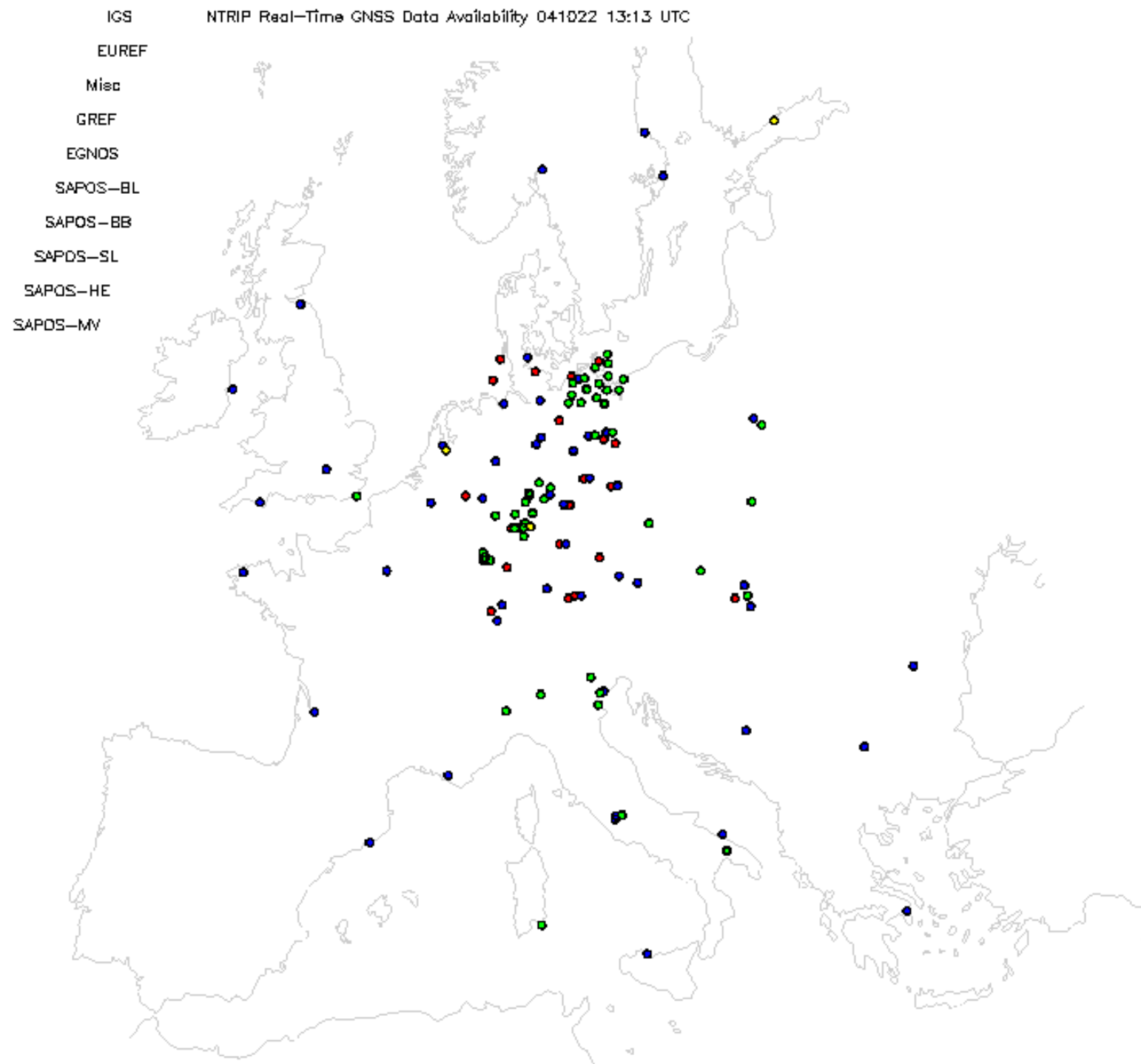
NTRIP Real-Time GNSS Data Availability 041022 13:13 UTC

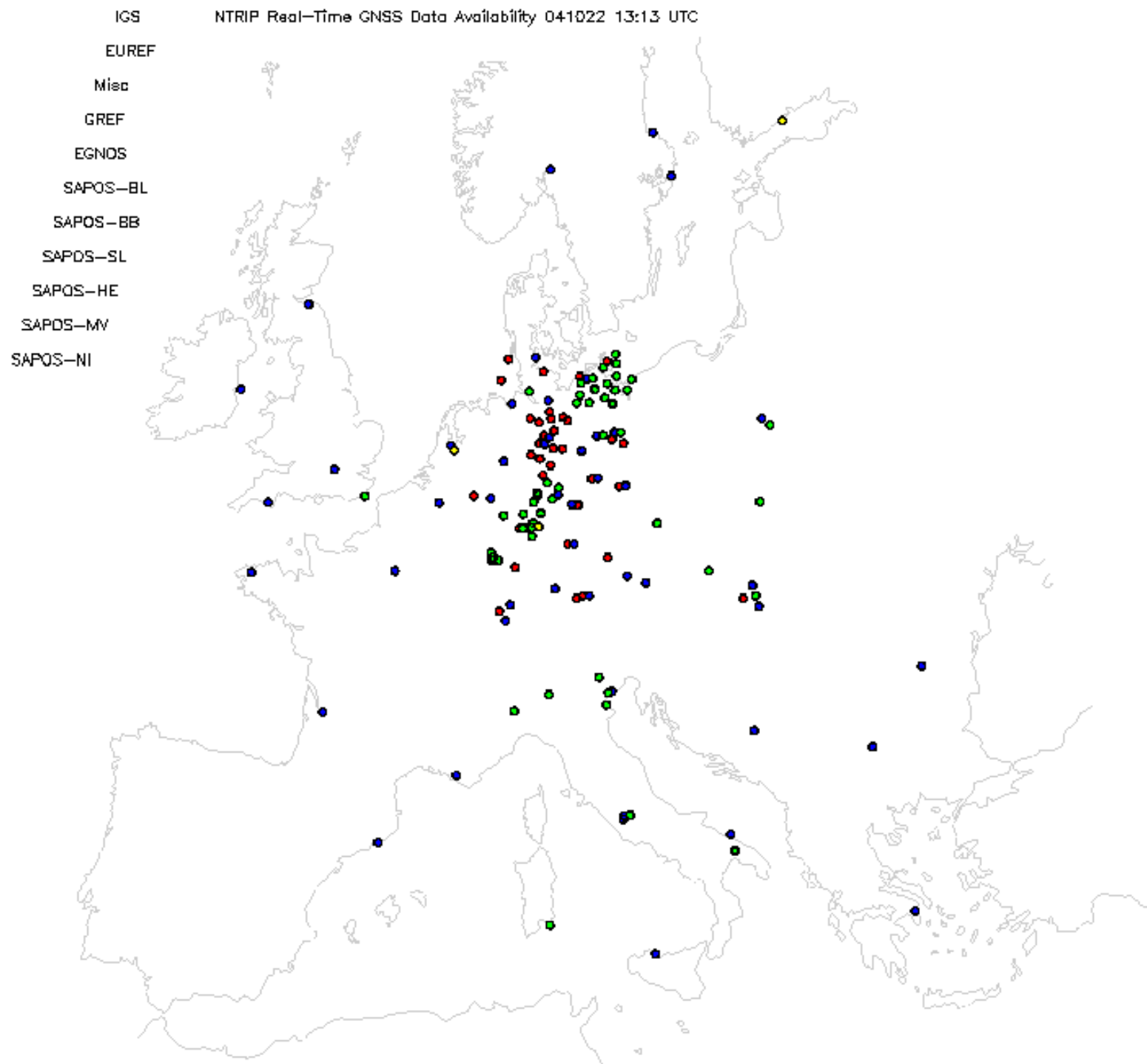


IGS  
EUREF  
Misc  
GREF  
EGNOS  
SAPOS-BL  
SAPOS-BB  
SAPOS-SL  
SAPOS-HE

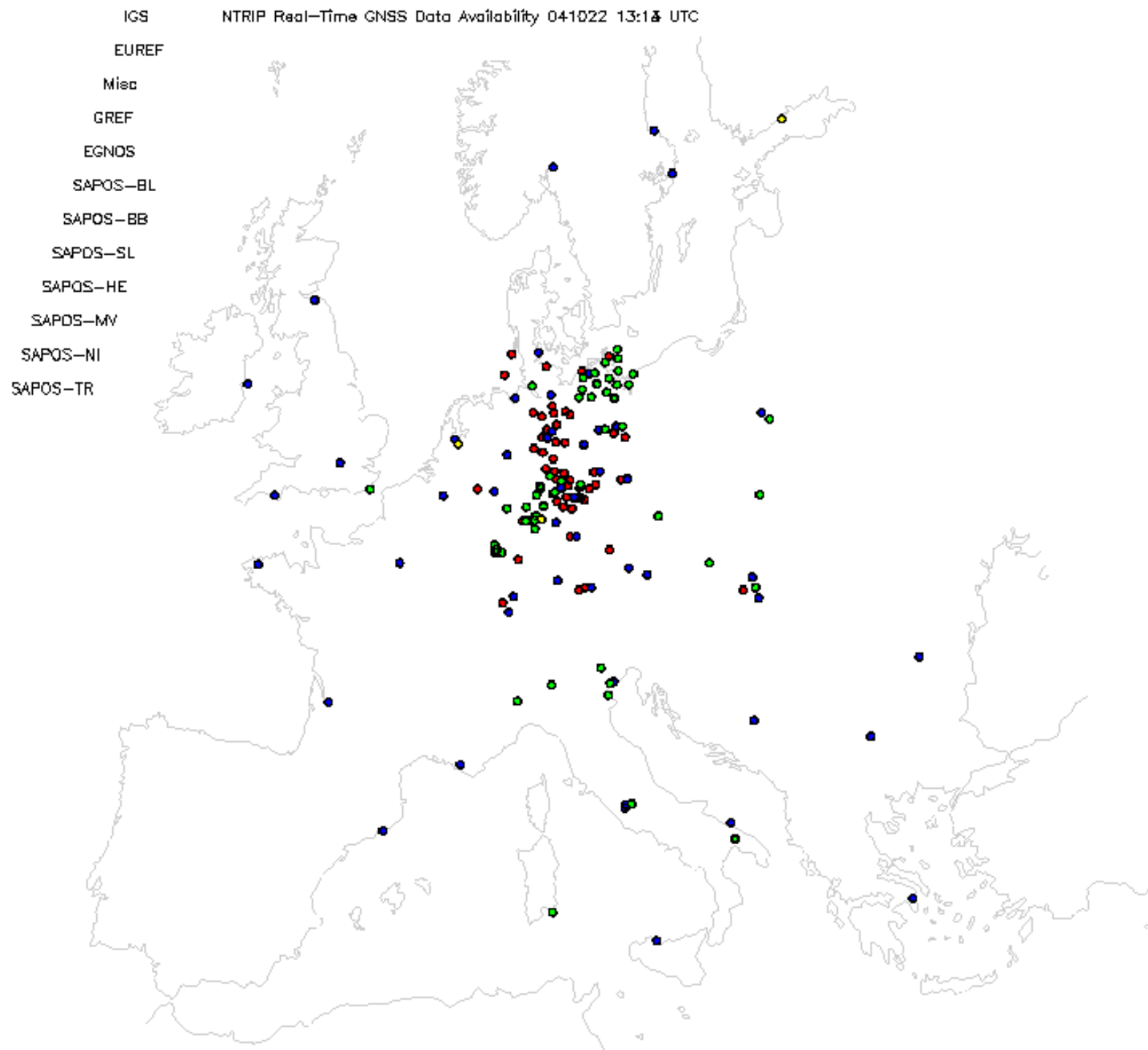
NTRIP Real-Time GNSS Data Availability 041022 13:13 UTC

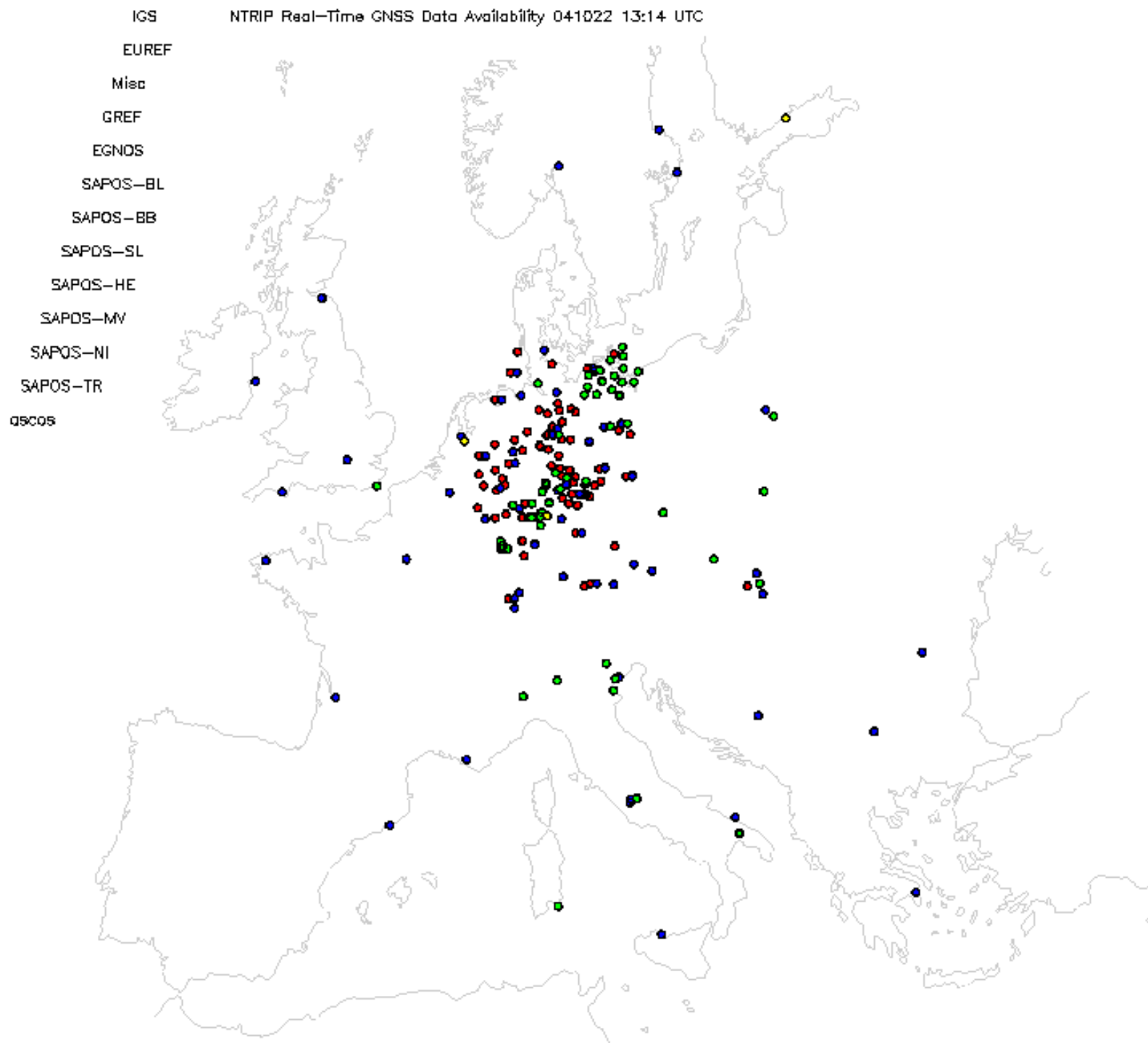


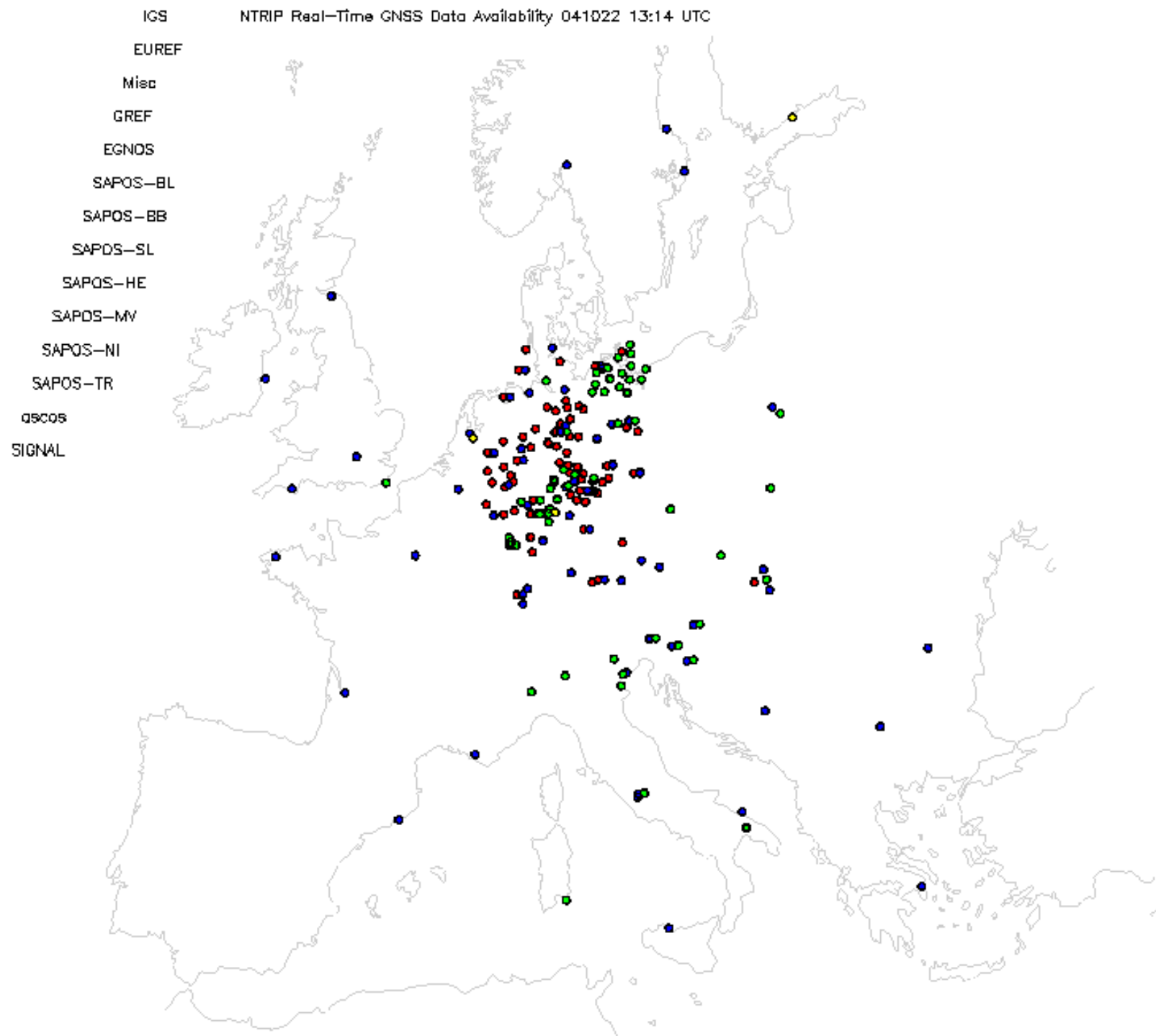


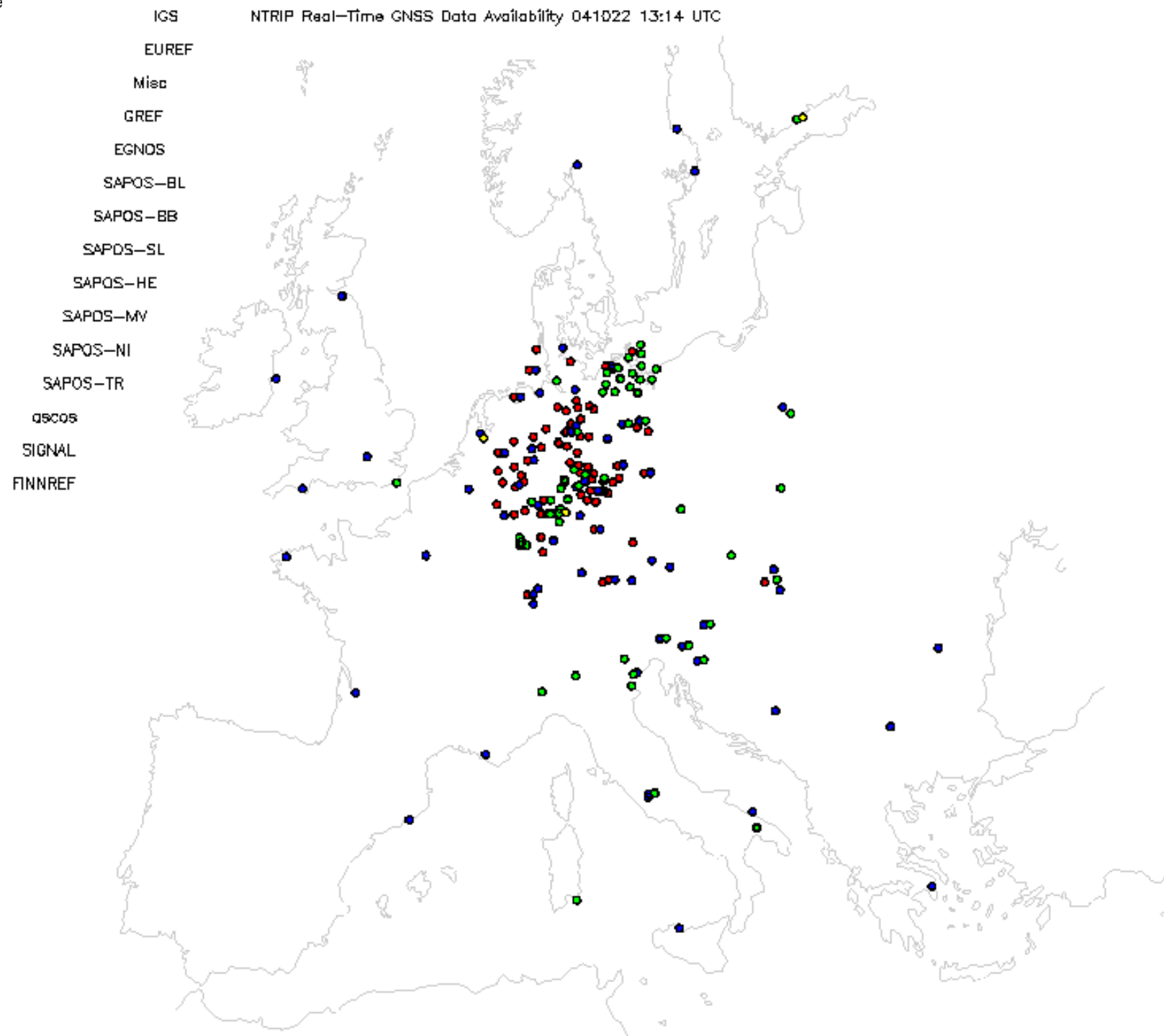


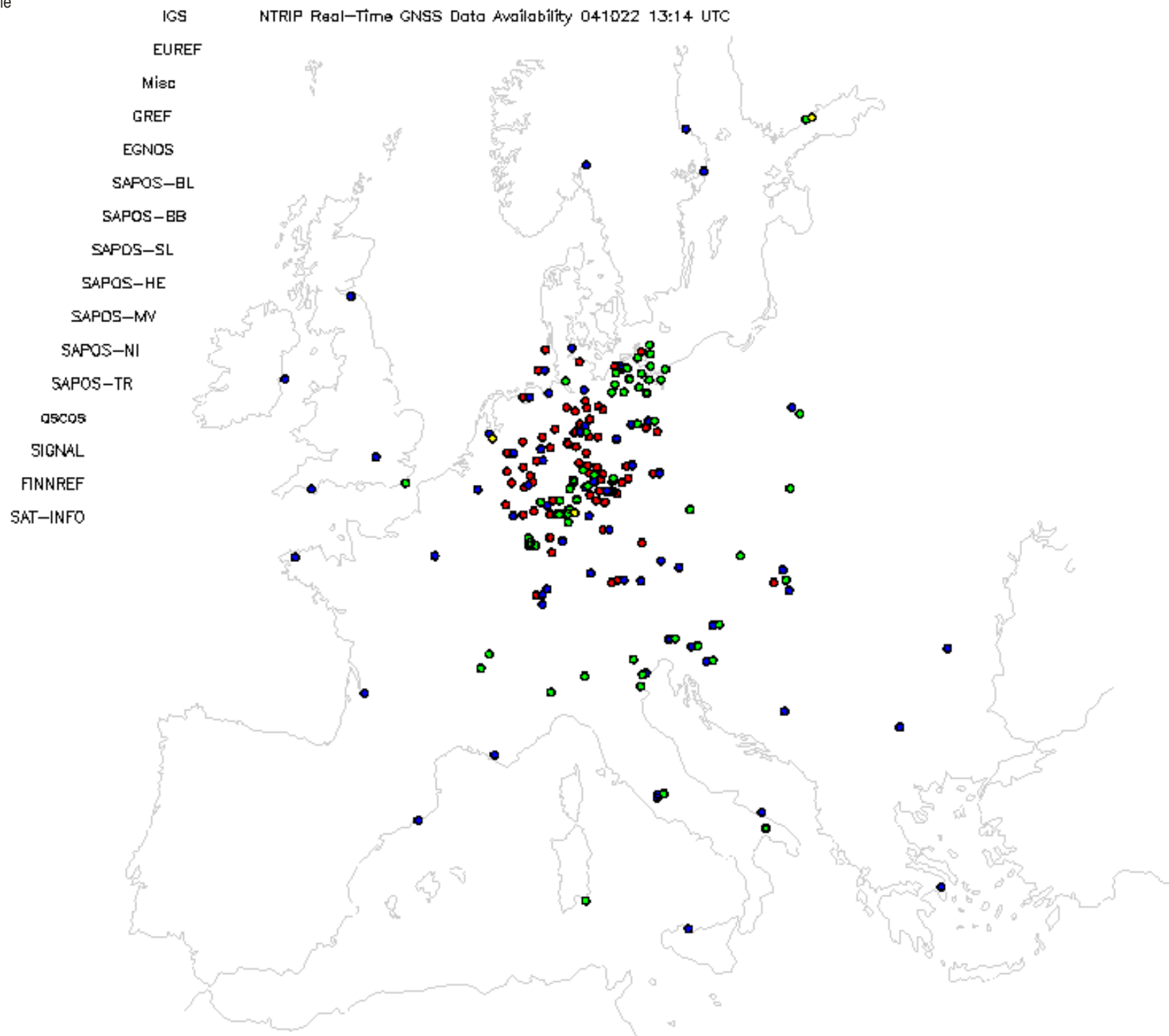


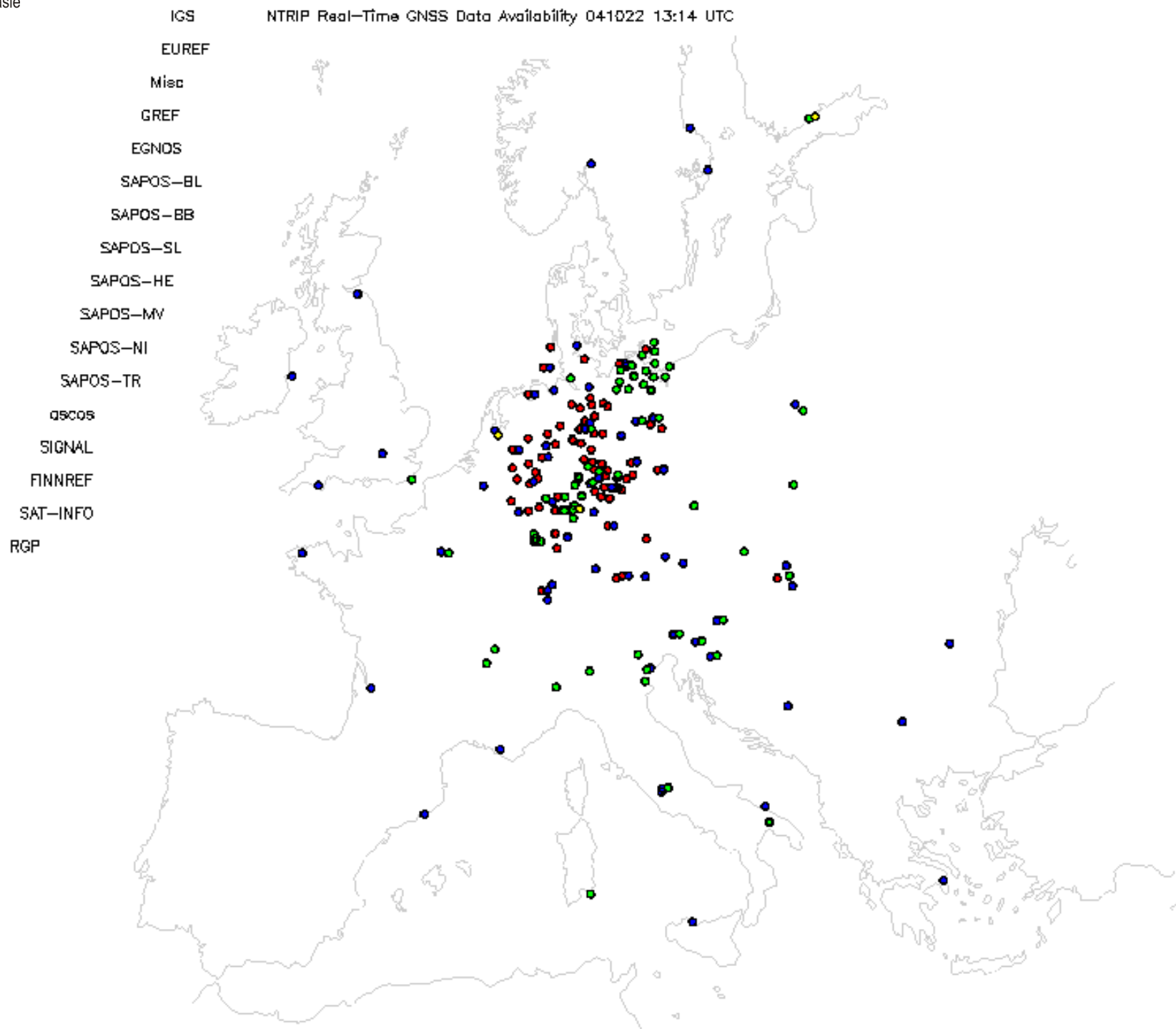


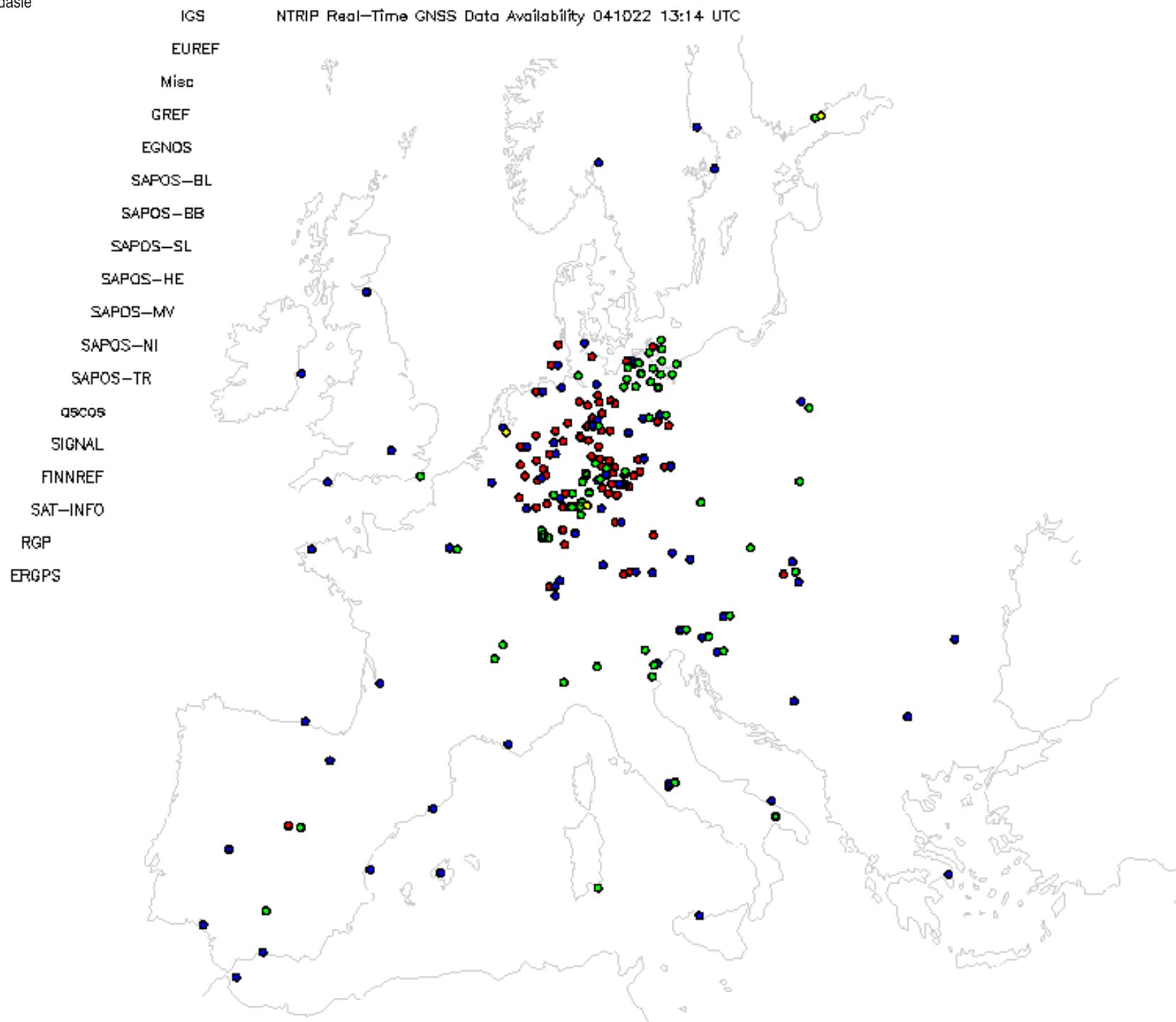


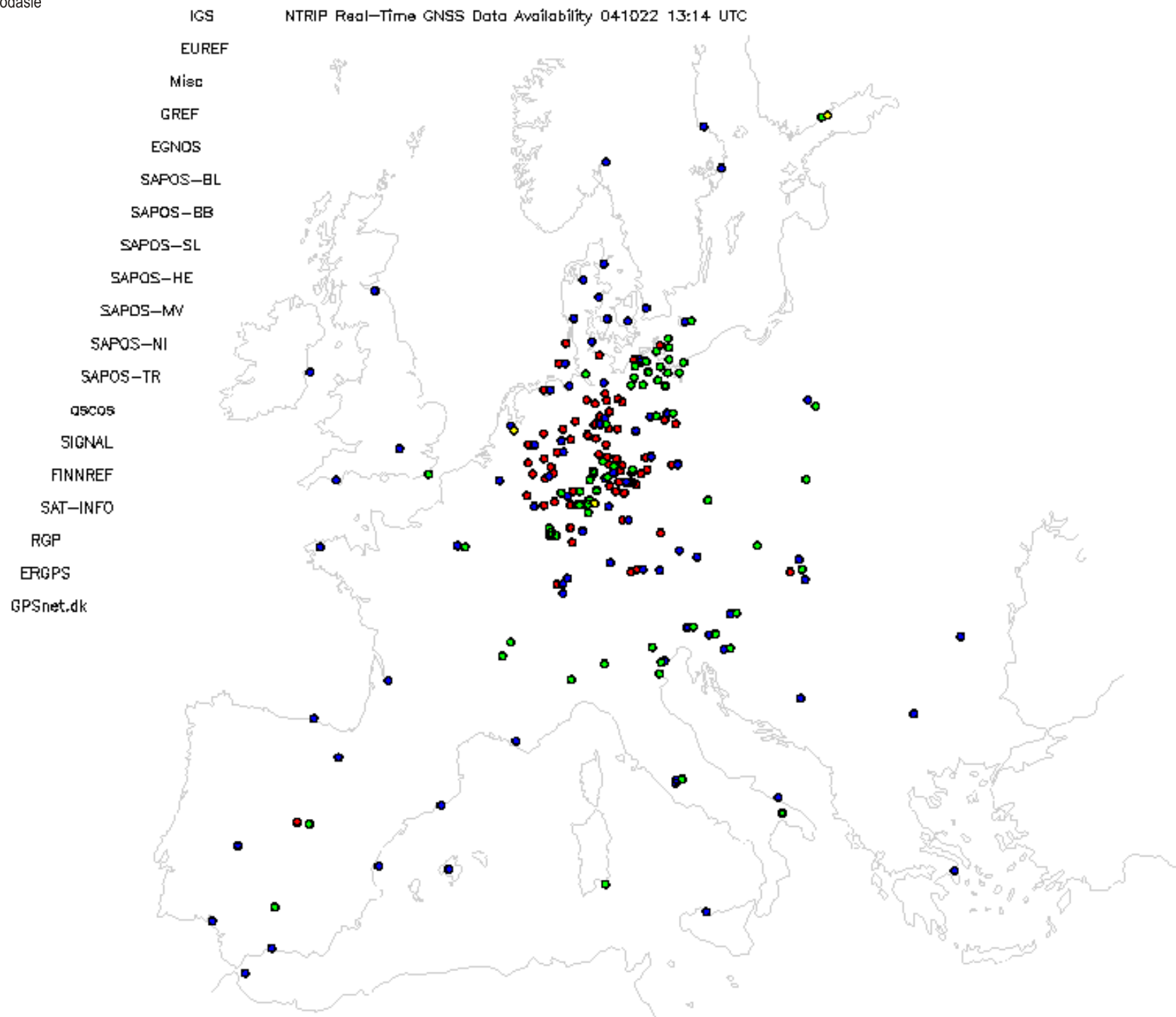




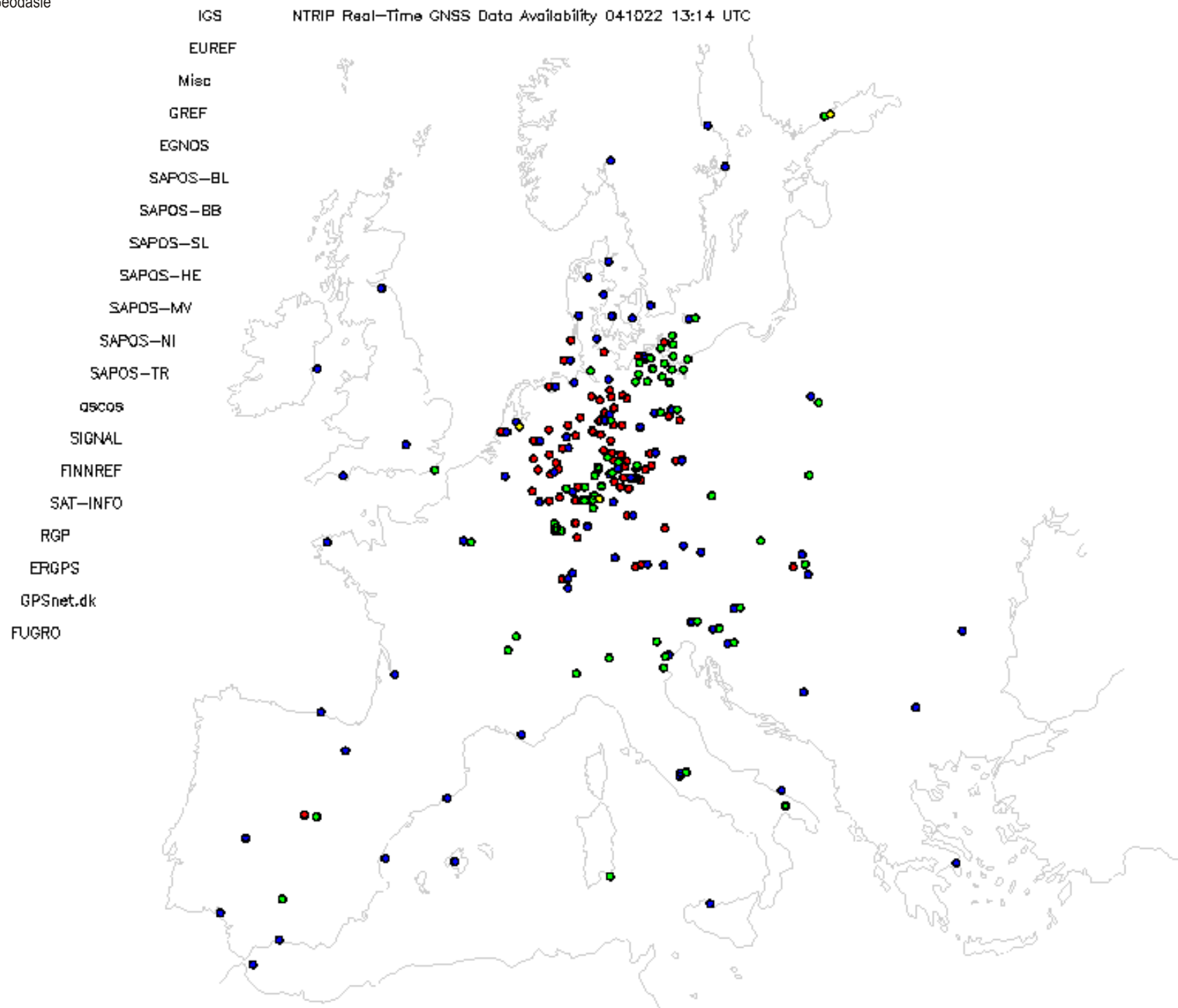


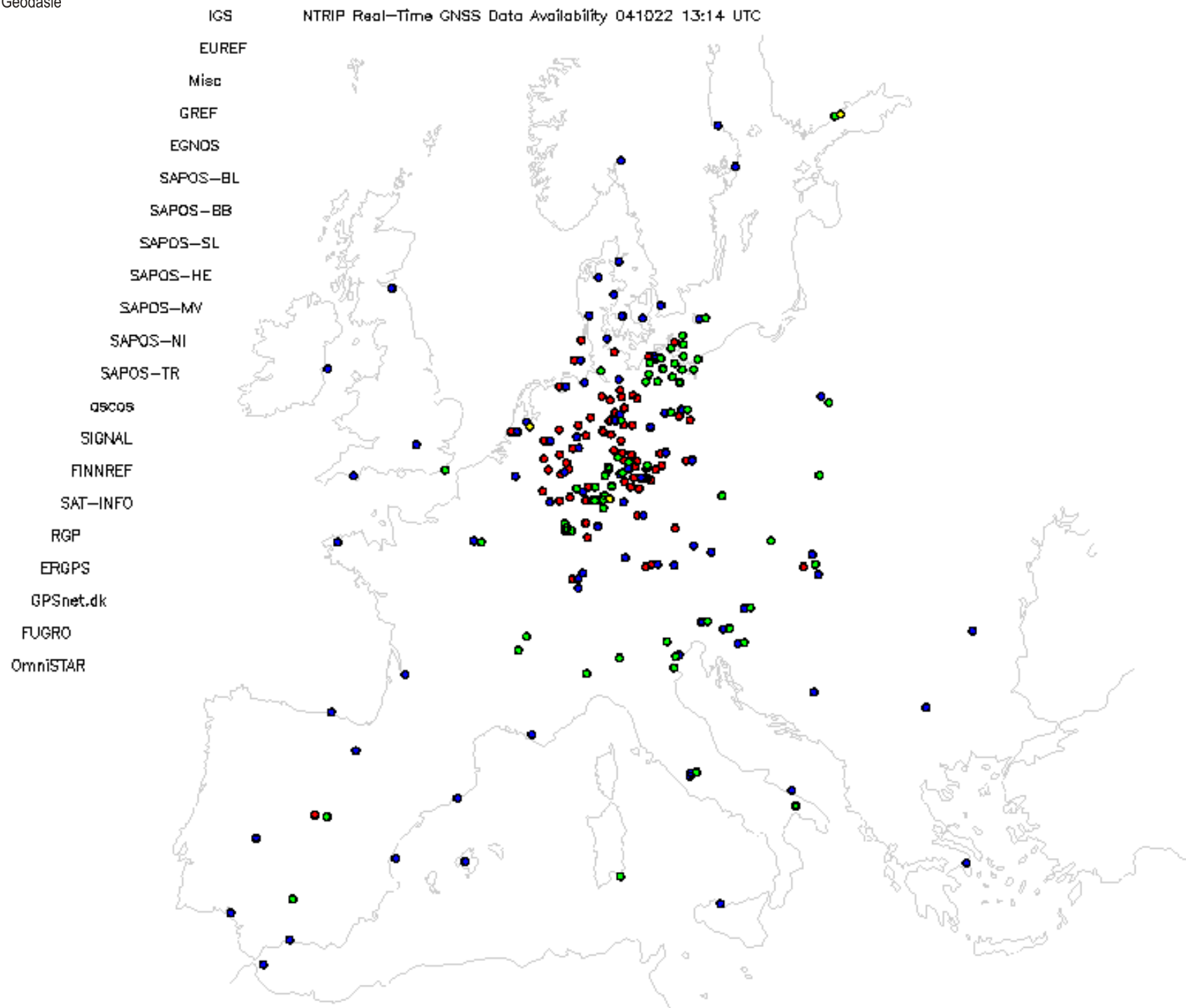


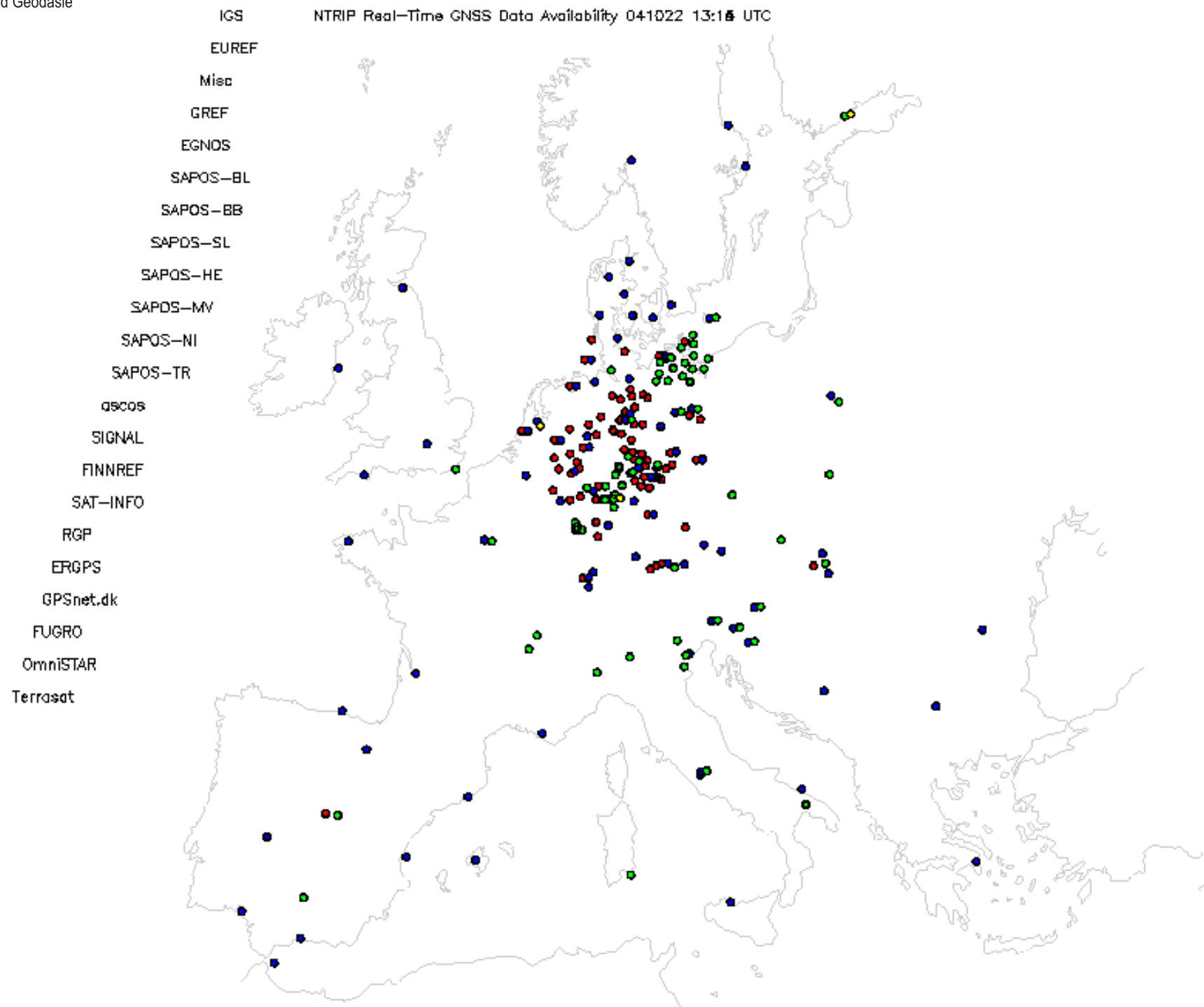


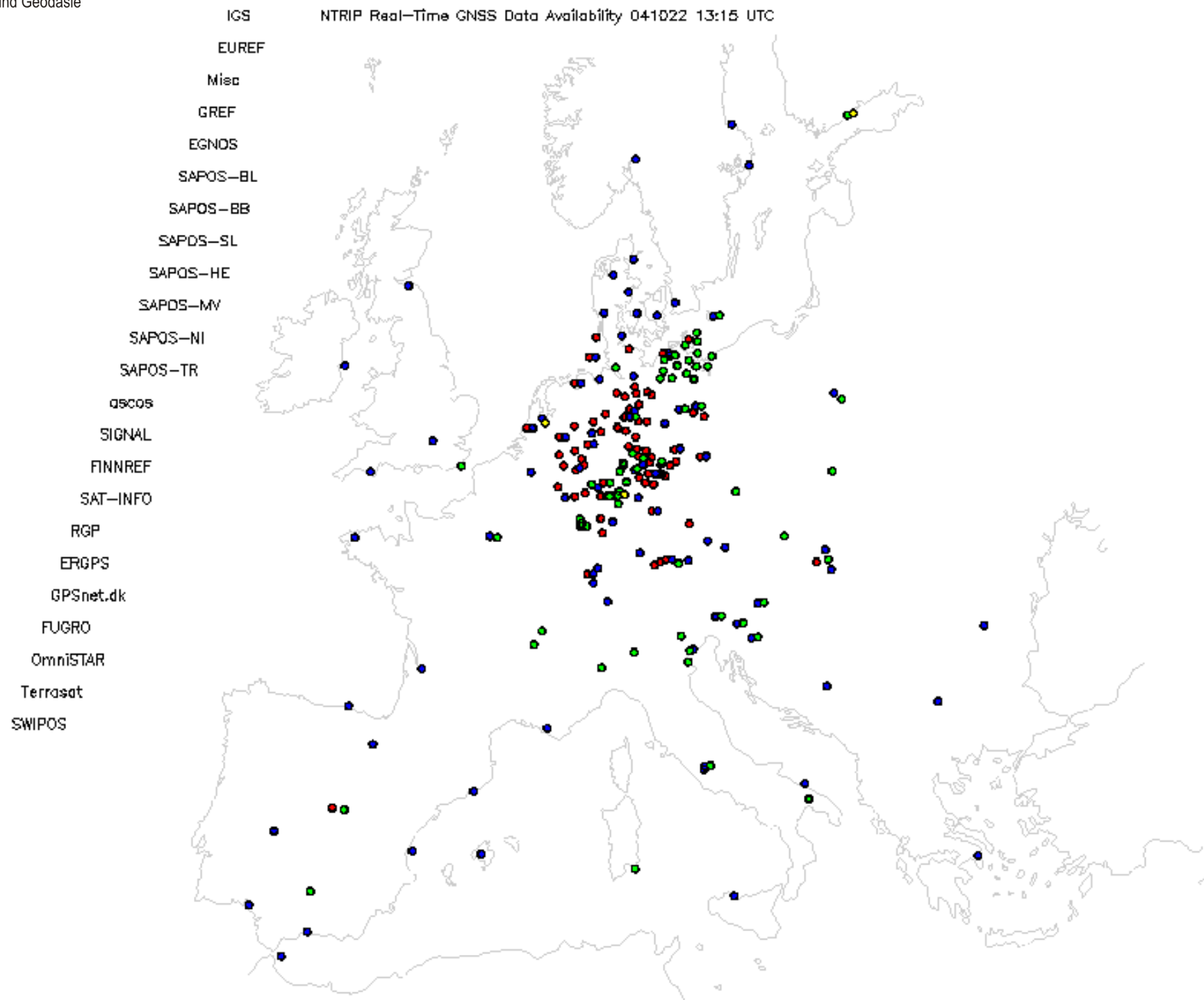


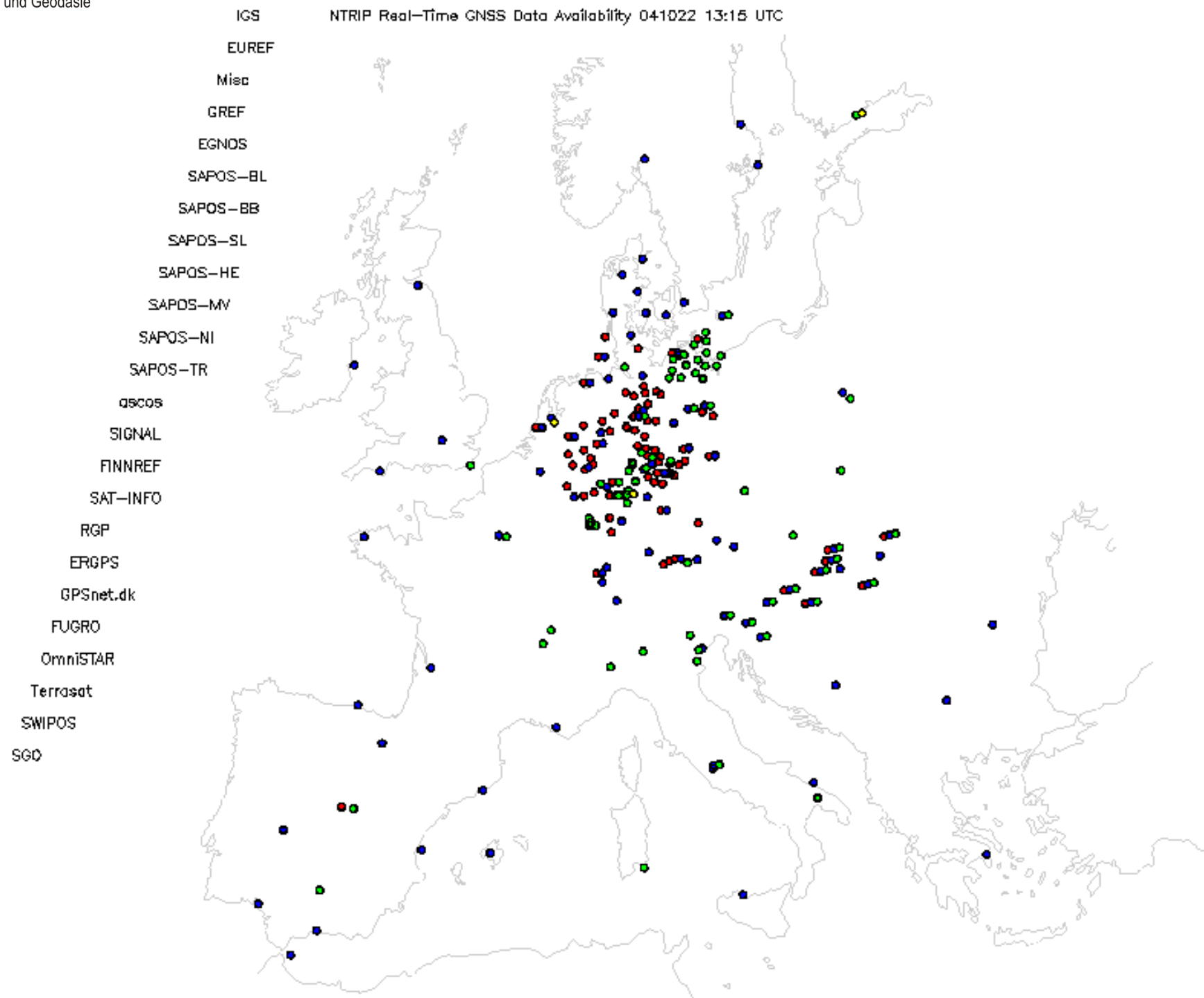


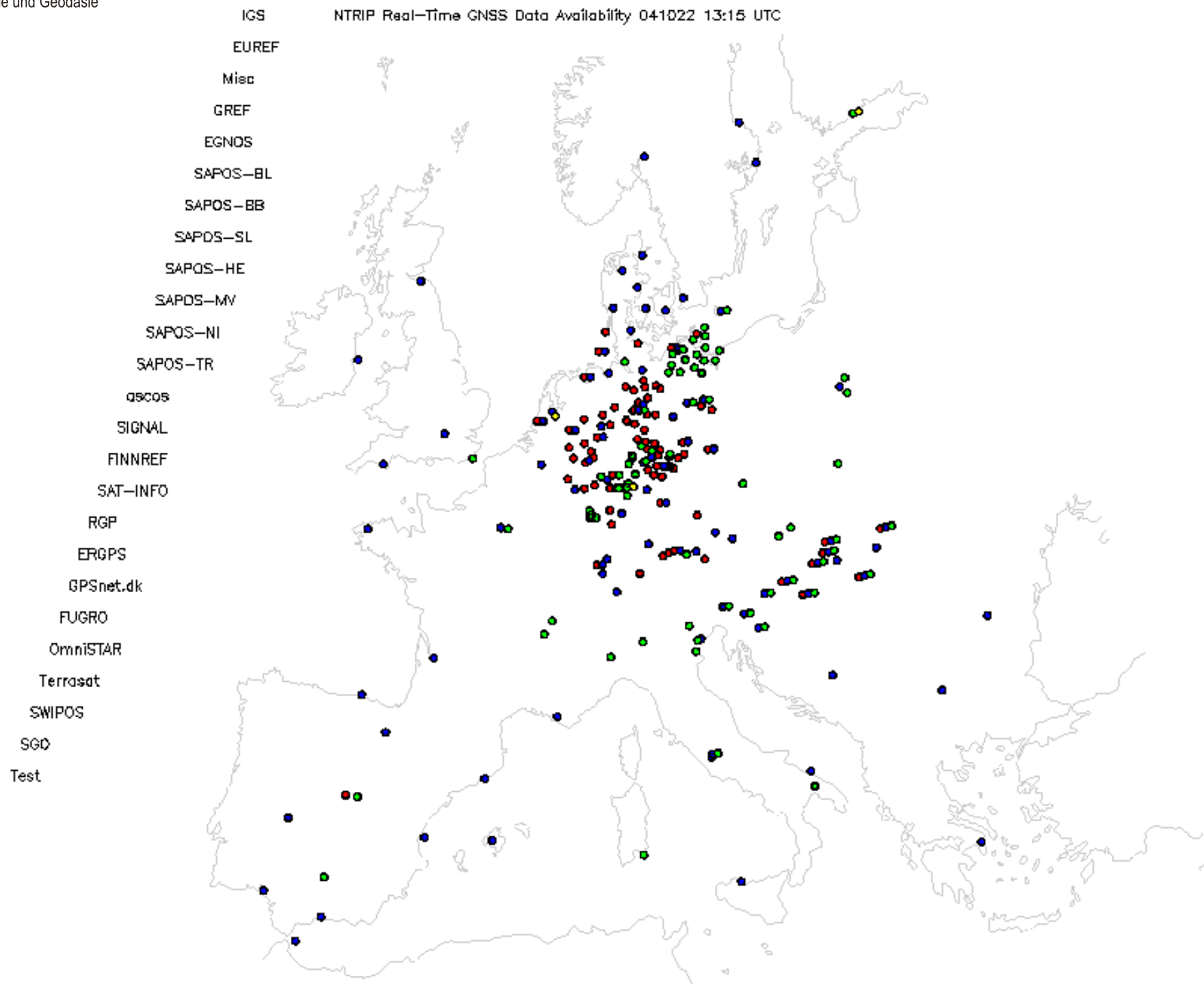








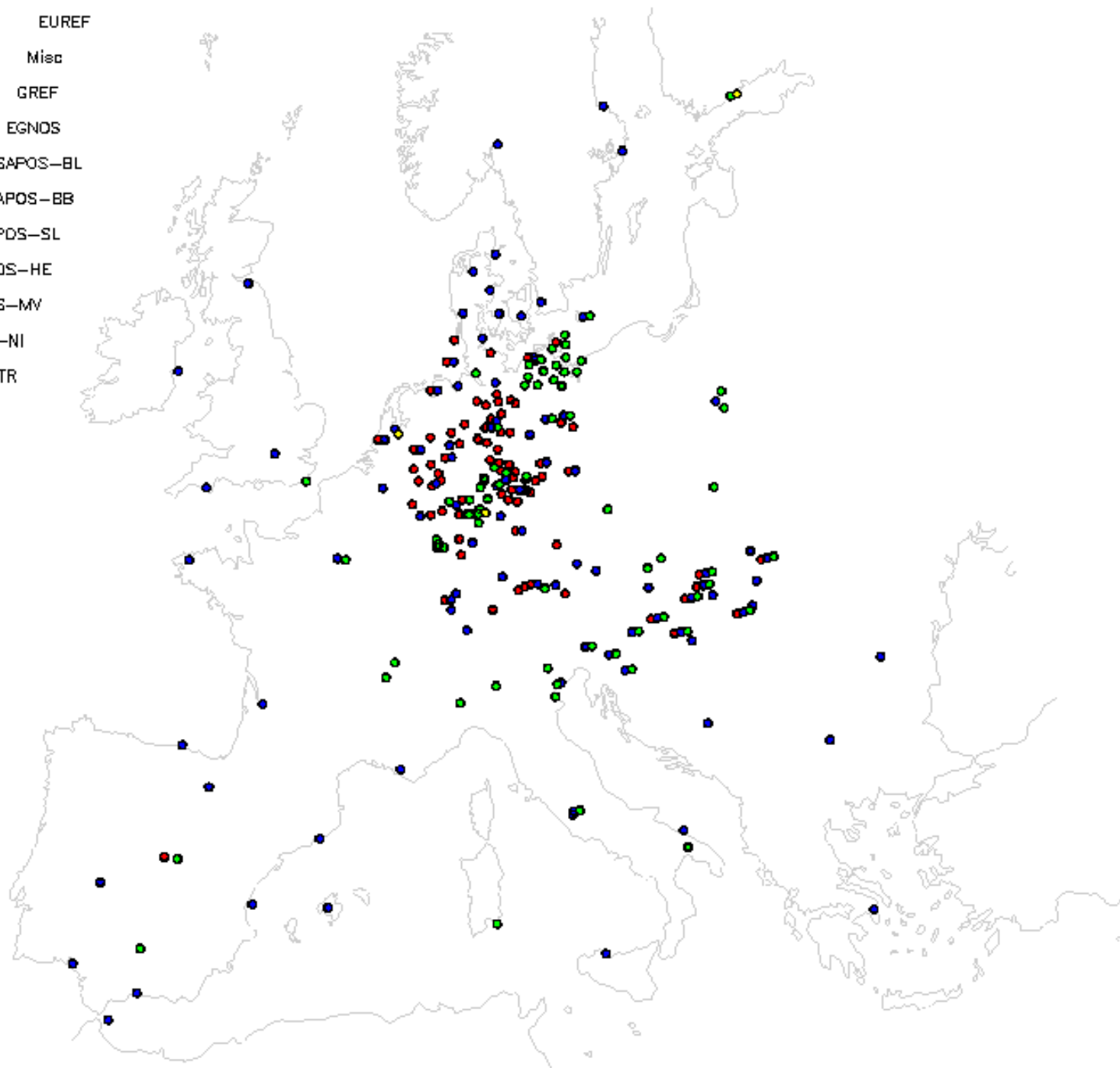


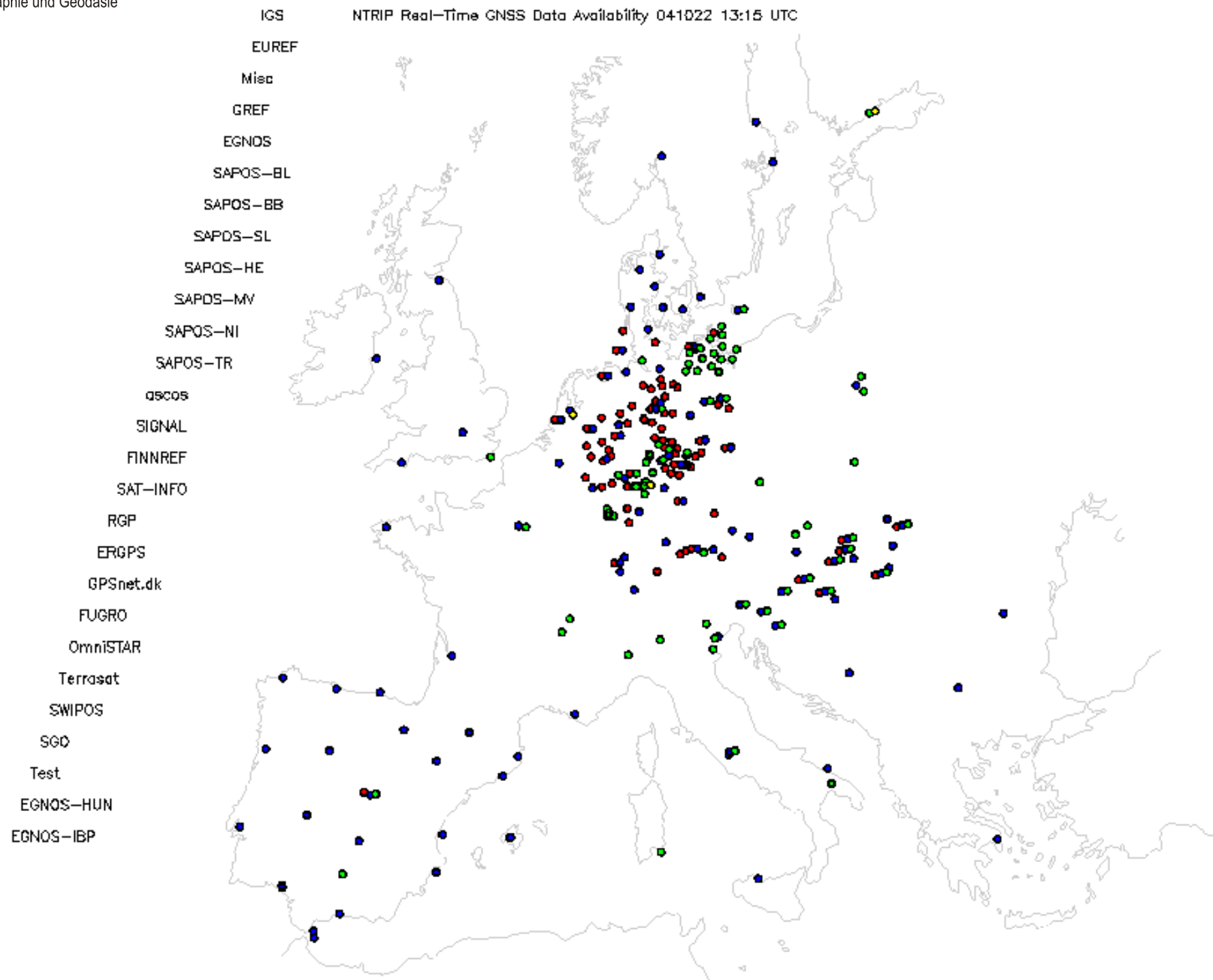




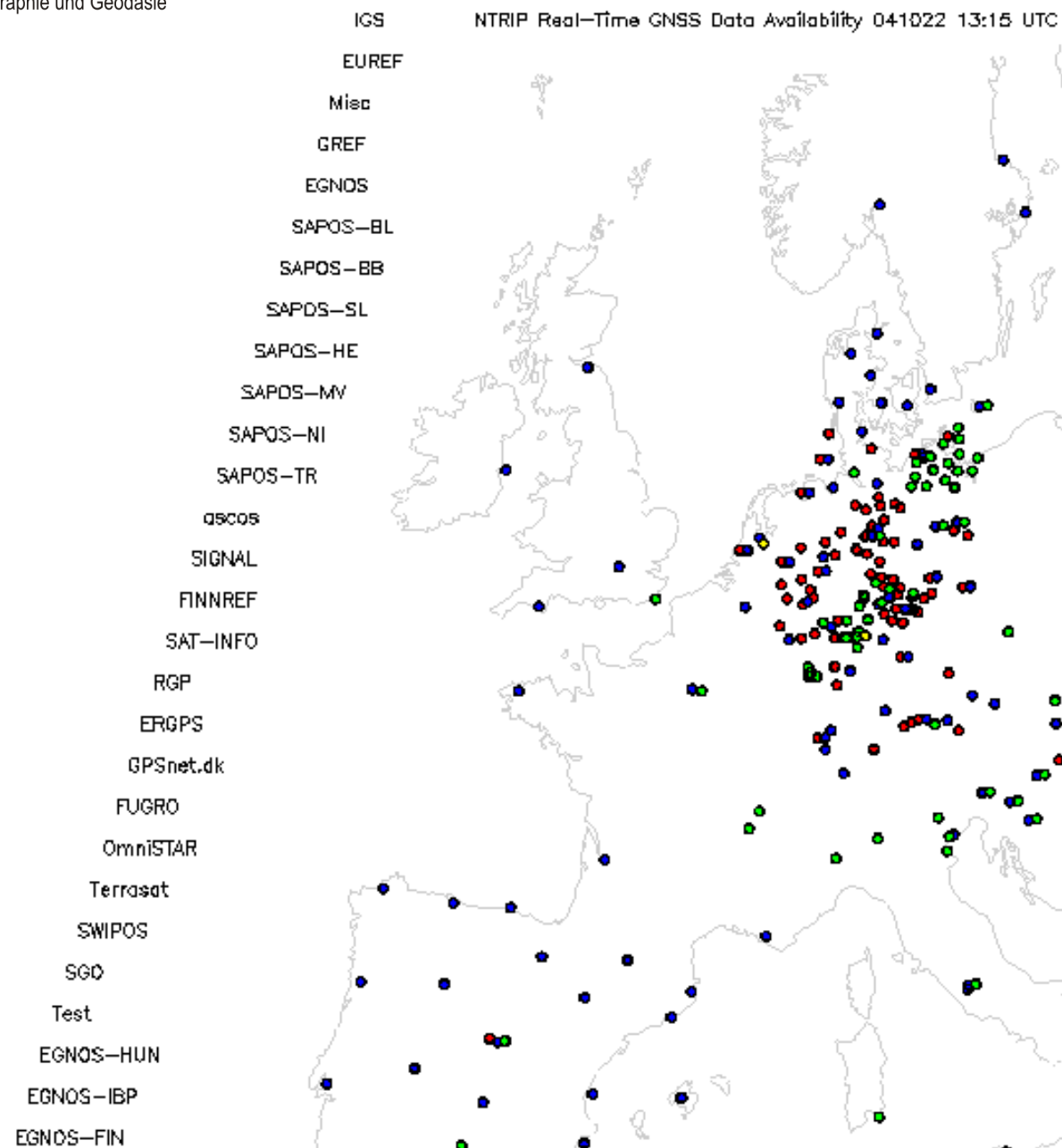
IGS  
EUREF  
Misc  
GREF  
EGNOS  
SAPOS-BL  
SAPOS-BB  
SAPOS-SL  
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SAPOS-MV  
SAPOS-NI  
SAPOS-TR  
ASCOS  
SIGNAL  
FINNREF  
SAT-INFO  
RGP  
ERGPS  
GPSnet.dk  
FUGRO  
Omnistar  
Terrasat  
SWIPOS  
SGO  
Test  
EGNOS-HUN

NTRIP Real-Time GNSS Data Availability 041022 13:15 UTC





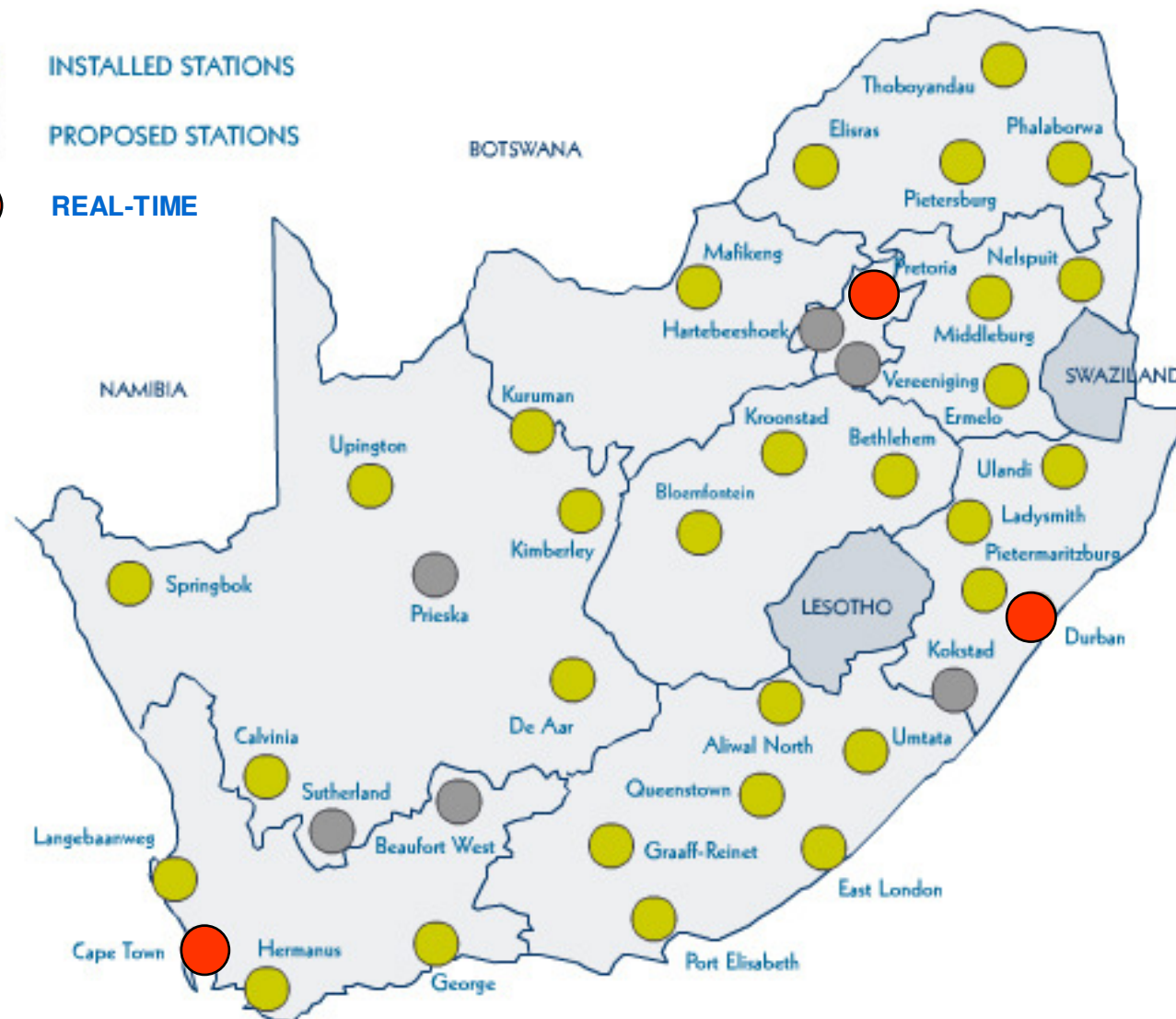




# AFREF: TrigNet - South Africa

## TRIGNET STATIONS

-  INSTALLED STATIONS
-  PROPOSED STATIONS
-  REAL-TIME

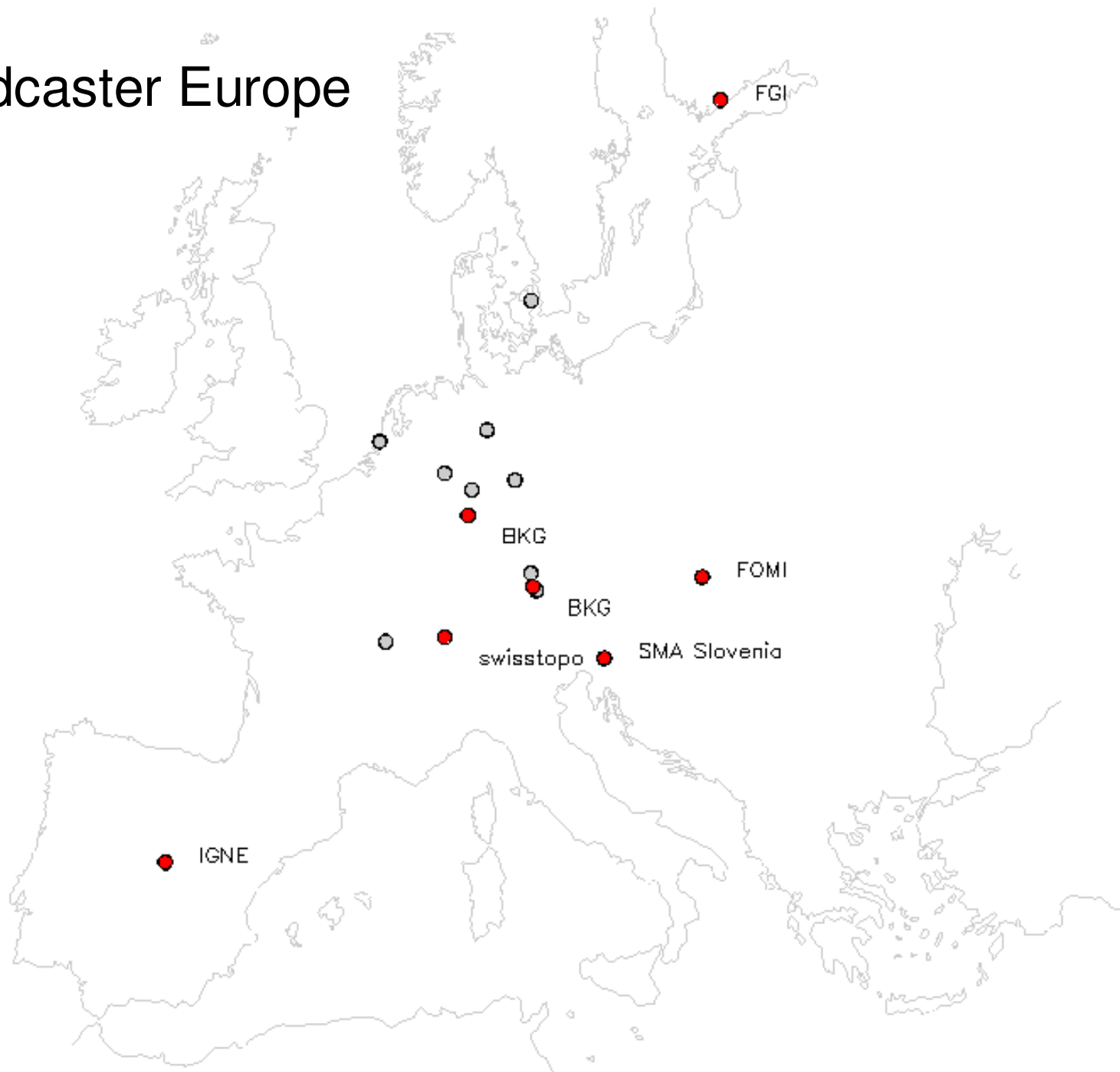


# Ntrip Broadcaster Europe

● EUREF-IP

● Other

[www.euref-ip.net](http://www.euref-ip.net)



# Real-time GNSS Reference Networks

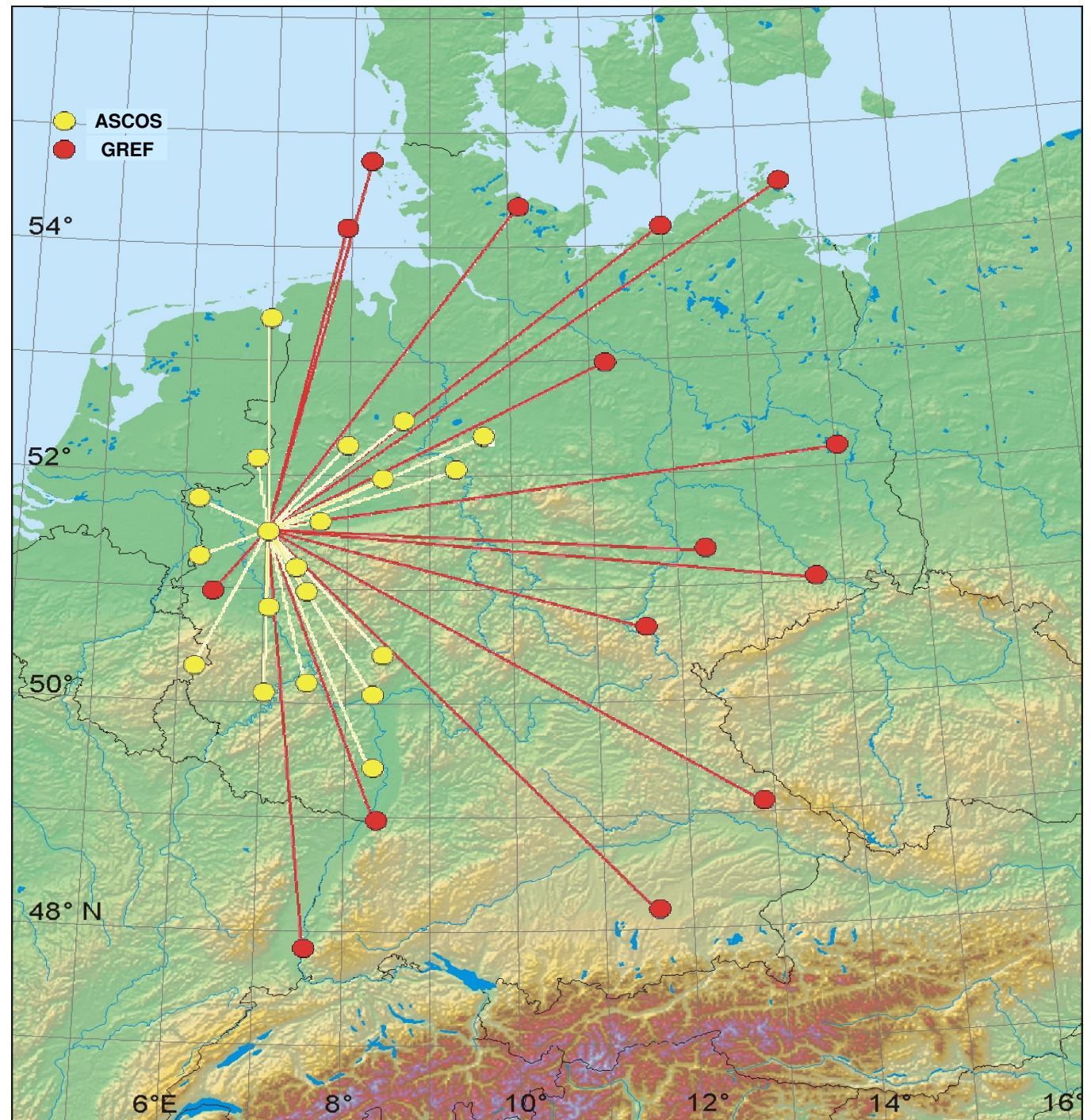
Purpose?





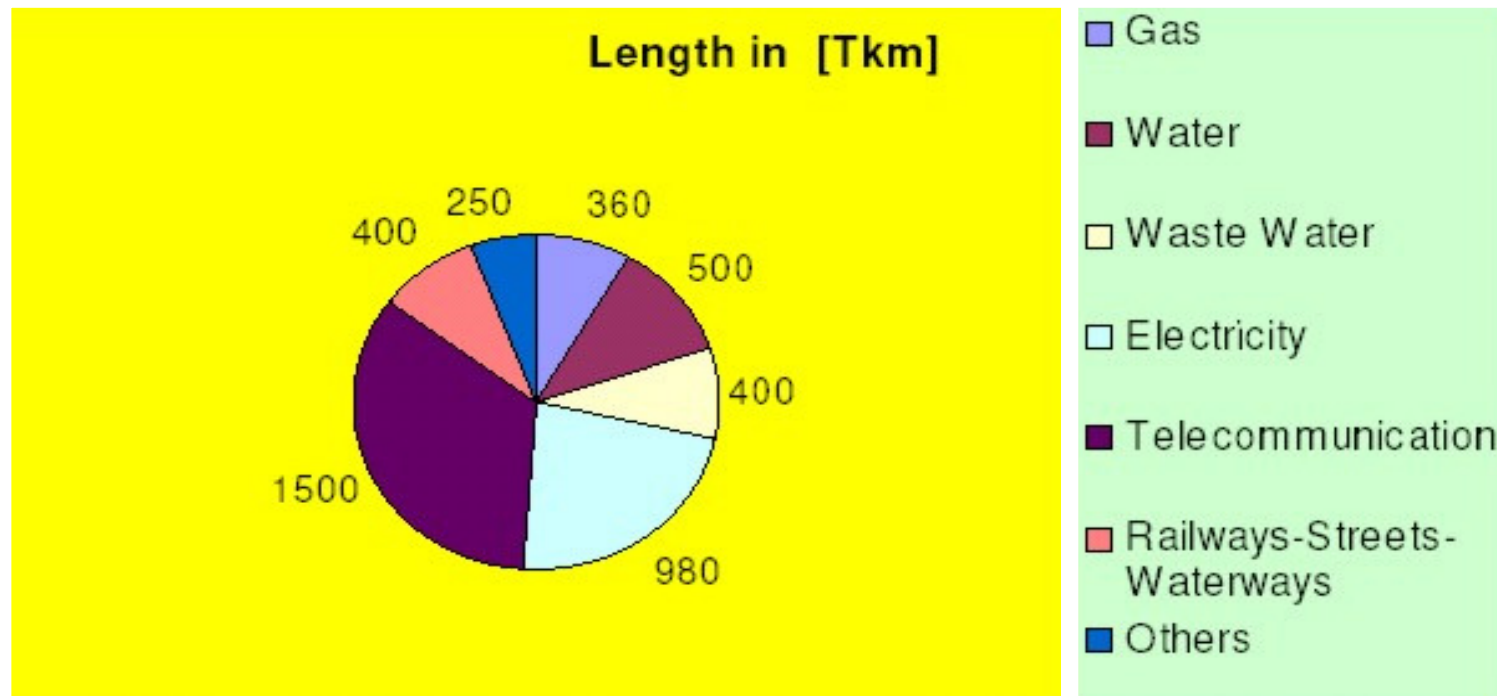
ETRS89

Post-Processing  
and  
Real-time

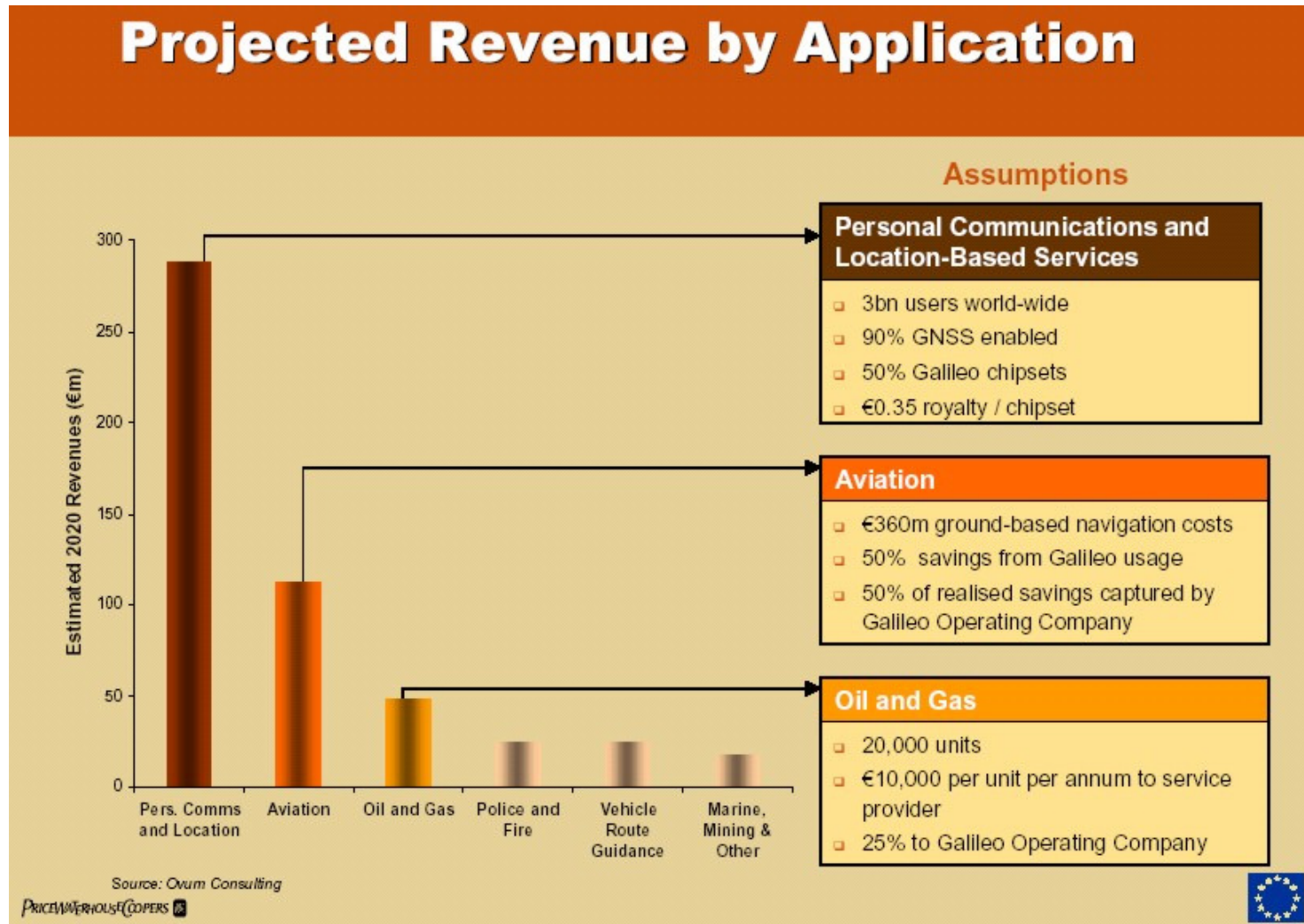


# Real-time GNSS Geo-Referencing

## Pipeline/Cable Cadaster in Europa

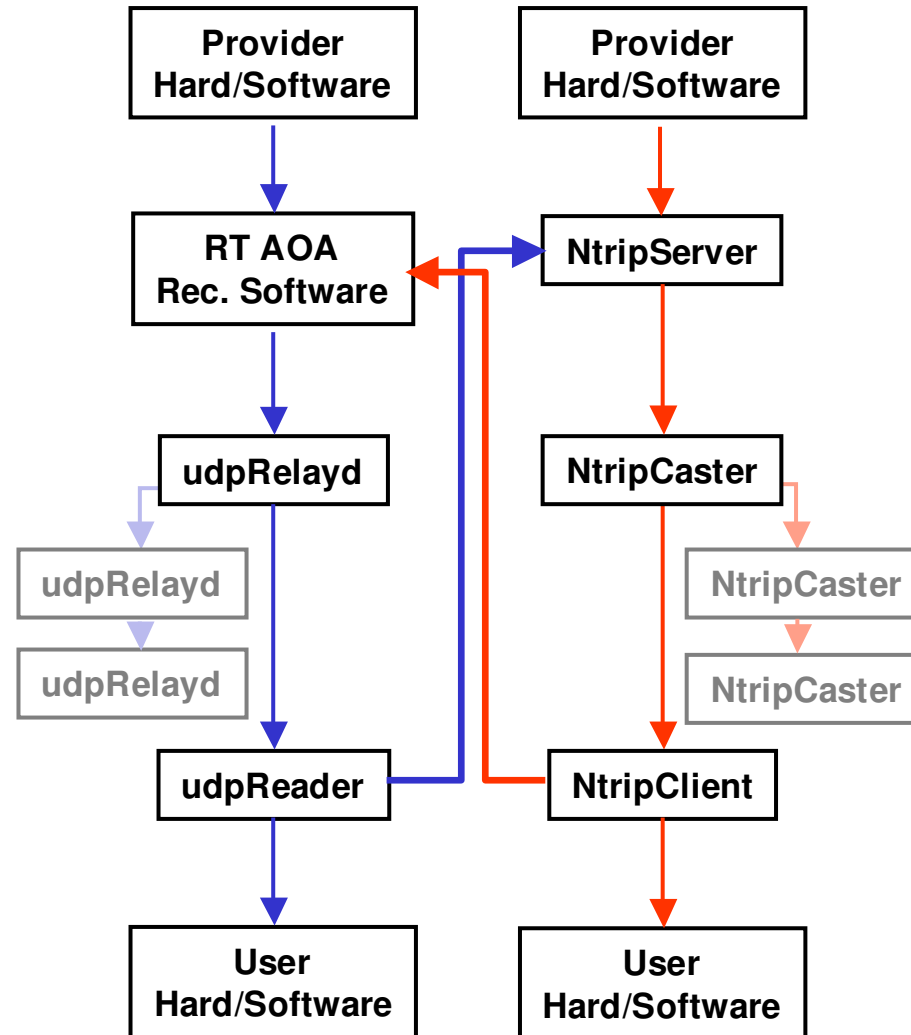


# GALILEO





# Ntrip-udpRelay – EUREF/IGS Integration Concept





# IGS & EUREF

RTIGS „You can state that NTRIP and RTIGS are moving forward towards implementing a model for the exchange of data between the IGS RT model and the NTRIP caster model. You can mention our recent discussion in Long Beach and that although things move slowly progress is being made.

I have been experimenting with the NTRIP linux client ....“

# **Real-Time GNSS Ntrip Workshop / Symposium 2 Days - March 05 – Frankfurt am Main**

Sessions:

Technique  
Applications  
Standard

# EUREF-IP in Need for Support

Monitoring	– Outages, Alarm System
Administration	– Guidelines, Web
Densification	– Raw data, new EPN stations?
Data Flow	– Cascading Broadcasters
Help Desk	– Technical Support
s/w Develop.	– None Commercial?
Liaison	– IGS, IAG, RTCM
Outreach	– Workshop / Symposium
Application	– Real-Time GIS Example

# EUREF-IP Status

Current  
Future

Pilot Project  
Service with PoC's for

- Administration
- Monitoring
- Broadcaster
- Applications
- Help Desk
- ....

Ready to educate / train PoC's on-the-Job