



E N S É

École Nationale  
des Sciences  
Géographiques



# IGN AC activities

*4th Local Analysis Centres Workshop,  
18-19 september 2003 in Graz AUSTRIA*

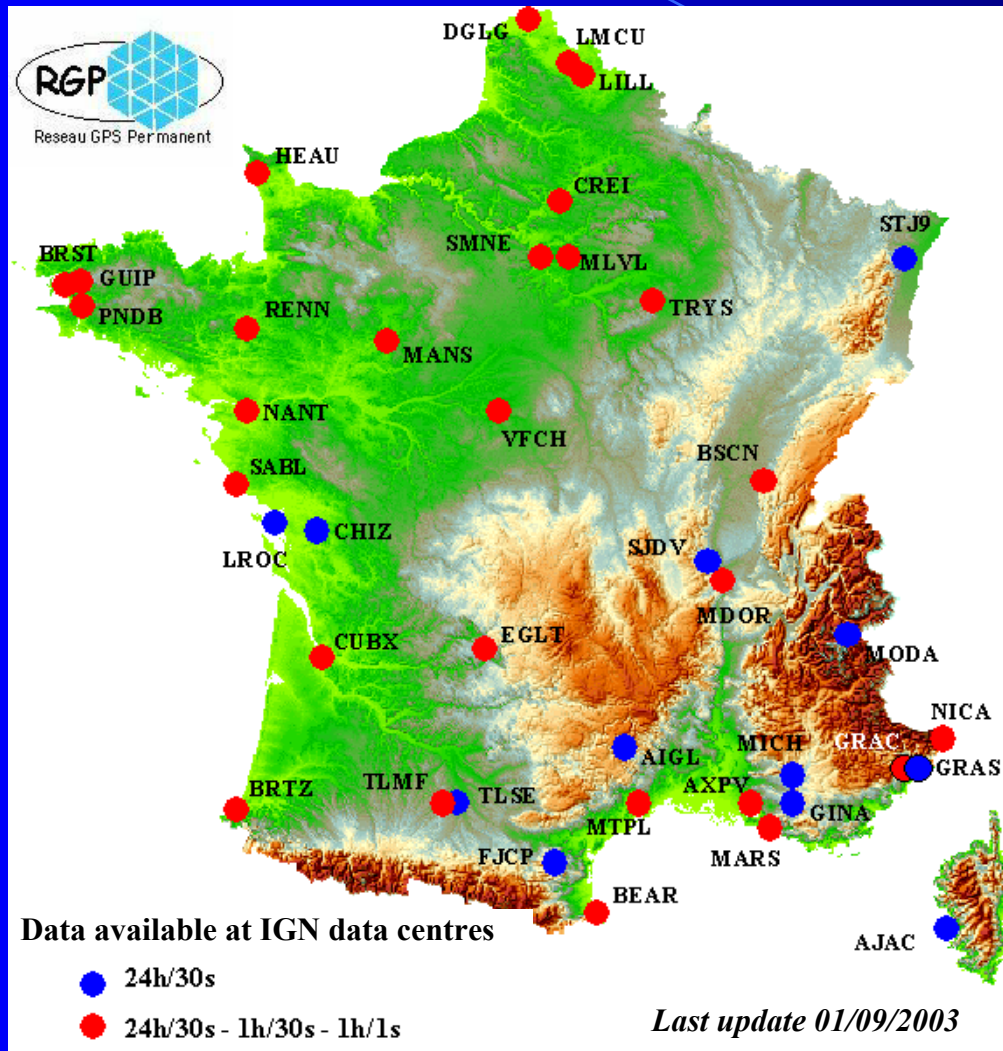
Bruno Garayt

# The French GPS Permanent Network “RGP”

- GPS permanent stations
- Connexions between
  - GPS stations and Operationnal Centres (**Internet (FTP) - Leased Lines - Phone / mode**)
  - Operationnal Centres (Internet - leased line)
- Two Operationnal Data and Analysis Centres :
  - One located in Saint-Mandé is dedicated to daily and hourly data processing, as a data-quality and monitoring process
  - The other one is operating as EUREF analysis centre in Marne-La-Vallée including some non EUREF GPS stations from the RGP to provide weekly positions of the stations.

*Website : <http://lareg.ensg.ign.fr/RGP>*

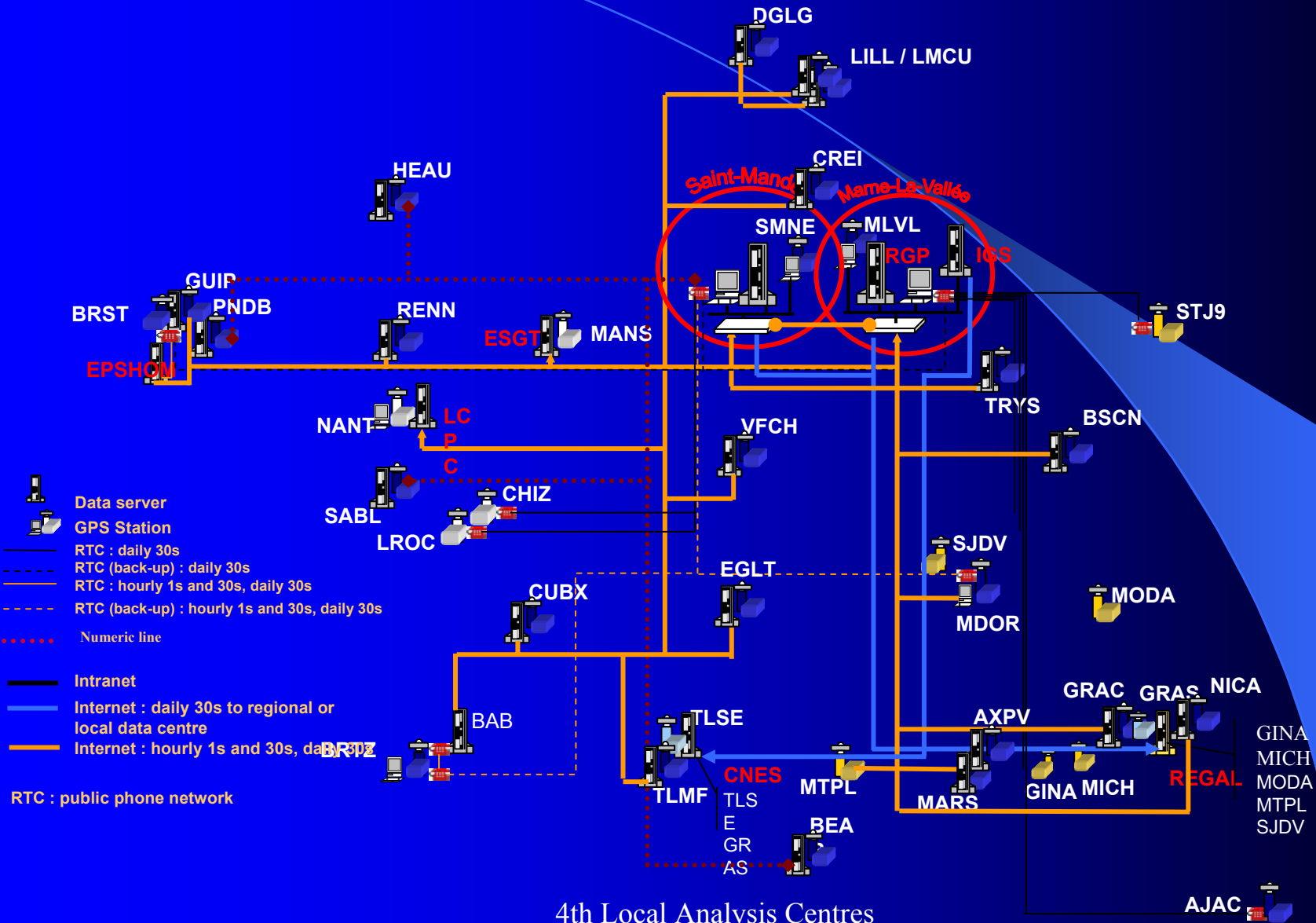
# The network



- 29 stations producing hourly files at 1s/30s rate
- 12 stations producing daily files at 30s rate

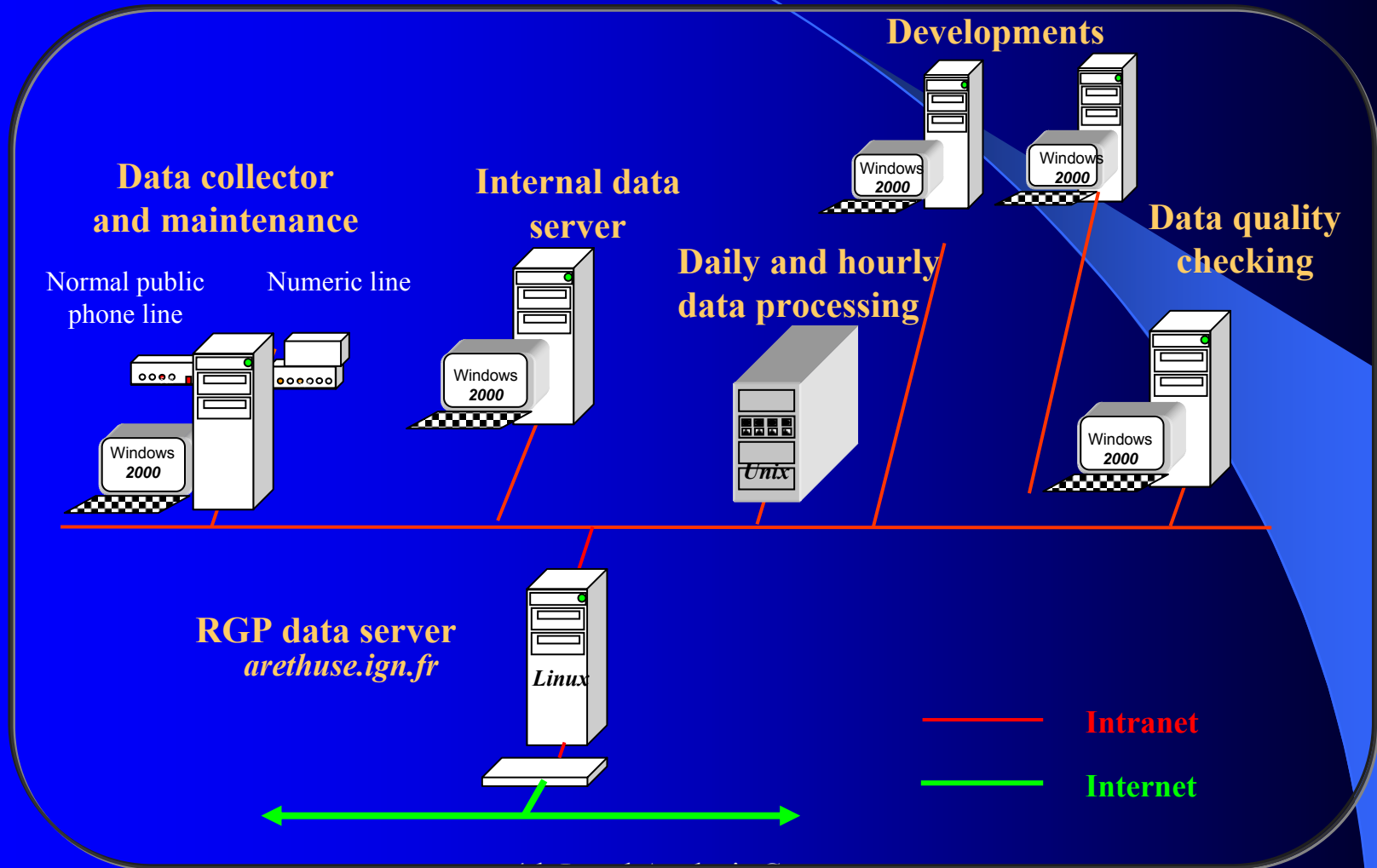
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# Data flow



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# Operationnal data and analysis centre at Saint-Mandé

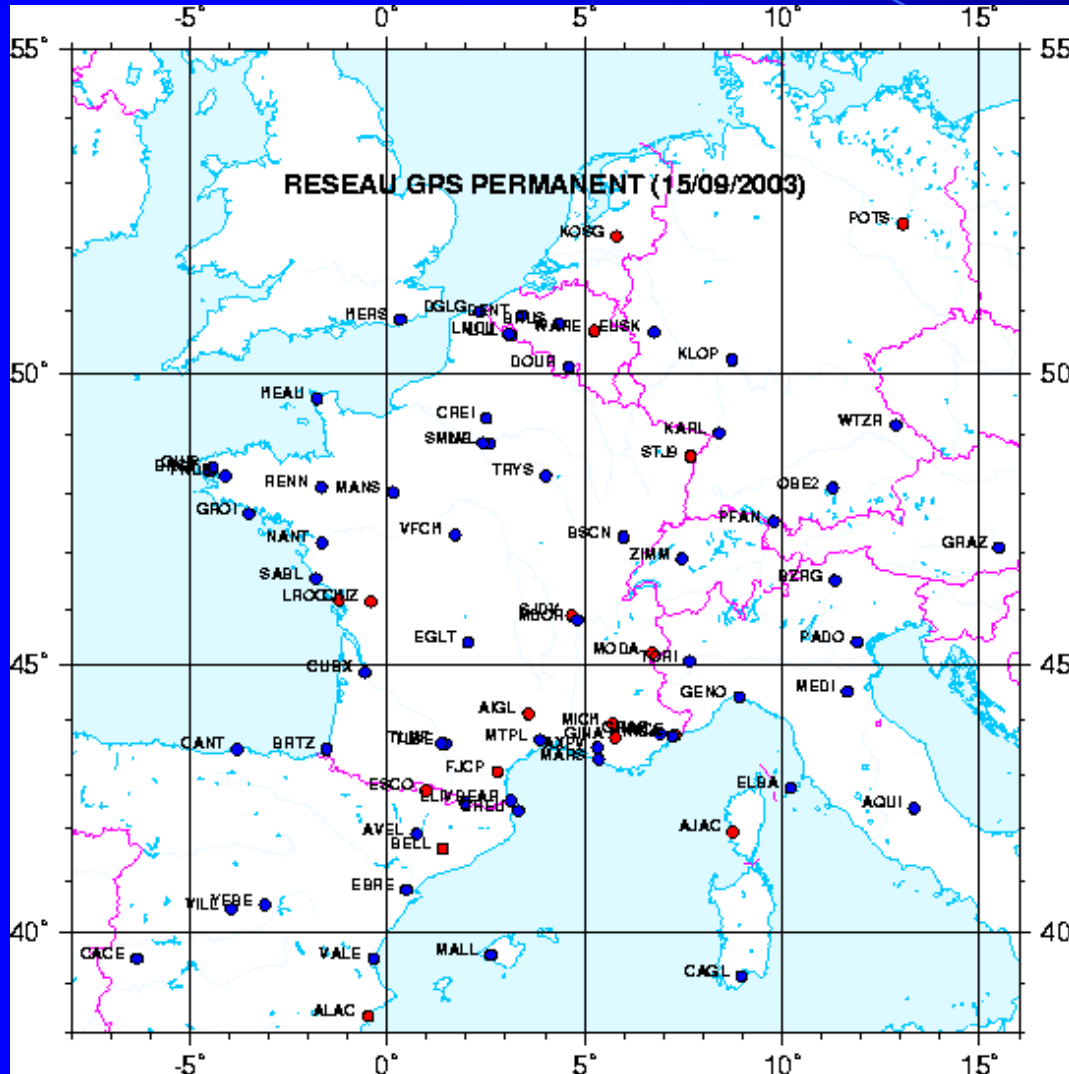


## Data access

Data are freely available for any purposes at the following ftp addresses :

Data availability	Sampling rate	Internet address
Daily	30s	<a href="ftp://lareg.ensg.ign.fr/pub/rgp">ftp://lareg.ensg.ign.fr/pub/rgp</a> <a href="ftp://arehuse.ign.fr/pub/data/yyyy/ddd/data_30">ftp://arehuse.ign.fr/pub/data/yyyy/ddd/data_30</a>
Hourly	30s	<a href="ftp://lareg.ensg.ign.fr/pub/rgp2/nrt/data_30">ftp://lareg.ensg.ign.fr/pub/rgp2/nrt/data_30</a> <a href="ftp://arehuse.ign.fr/pub/data/yyyy/ddd/data_30">ftp://arehuse.ign.fr/pub/data/yyyy/ddd/data_30</a>
	1s	<a href="ftp://lareg.ensg.ign.fr/pub/rgp2/nrt/data_1">ftp://lareg.ensg.ign.fr/pub/rgp2/nrt/data_1</a> <a href="ftp://arehuse.ign.fr/pub/data/yyyy/ddd/data_1">ftp://arehuse.ign.fr/pub/data/yyyy/ddd/data_1</a>

# Data processing at Saint-Mandé



**Stations included in the processings**

- Hourly / daily
- Daily only

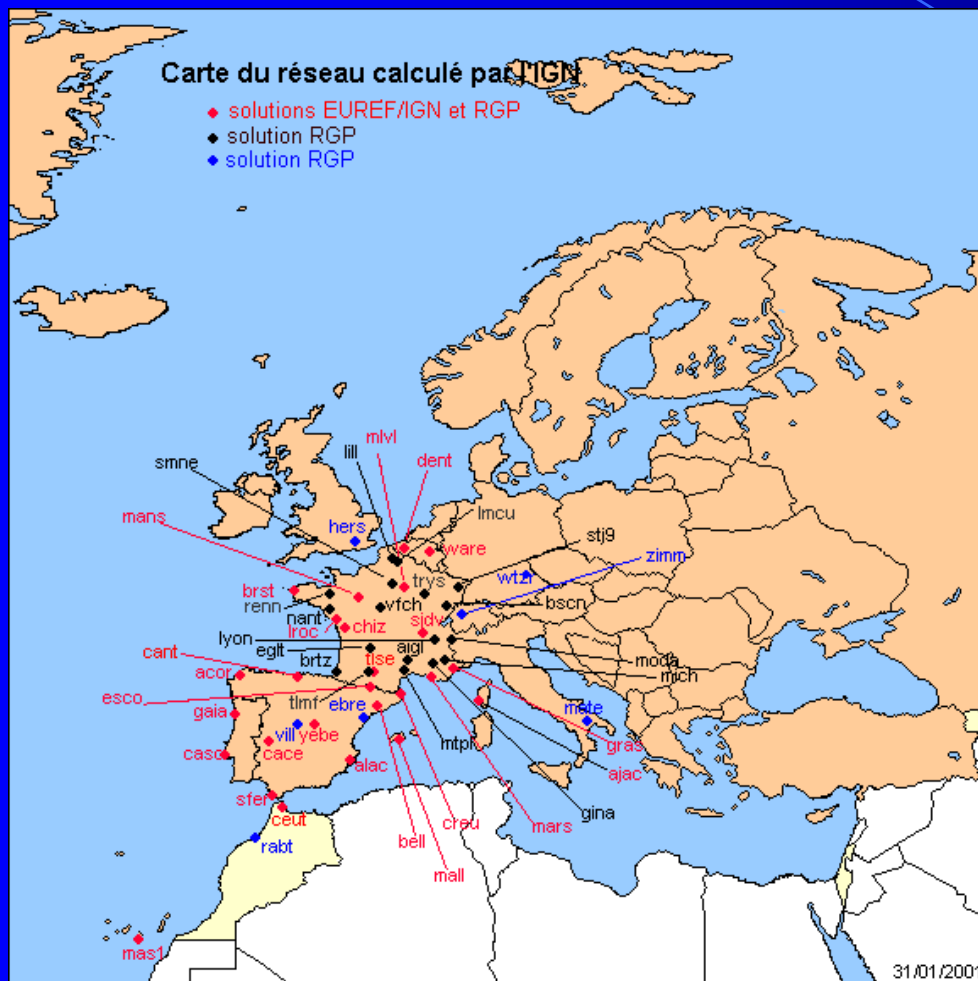
**Hourly processing strategy (main features)**

- last 3 hours data
- use of Ultra rapid ephemeris (IGS product)
- ambiguity resolution QIF
- no troposphere a priori model ; Dry\_Niell mapping function ;
- fixed coordinates for the production of troposphere parameters



# The EUREF Analysis Centre

## Data processed



● The EUREF subnetwork : 24 stations

◆ Other european stations : 6 stations

● French non EUREF stations : 14 stations

The data processed are those listed in the « IGN.LAC » file



# The EUREF Analysis Centre Processing strategy

- Bernese software, 4.2 version

-The processing strategy adopted is those described in the  
« IGN.LAC » file, with the following main features

Troposphere :

up to week 1200 : Saastamoinen a priori model, estimating zenith delays in 1 hour interval for each station, mapping function :  $1/\cos(\text{zenith angle})$ .

**since week 1200 : No a priori model estimating zenith delays in 1 hour interval for each station mapping function: Dry Niell.**

Elevation angle cutoff : 10 degrees

Elevation dependant weighting is applied

# Future developments

- **New equipments for data servers of the 2 Operational Centres, and for the EUREF local analysis centre computations.**
- **new website, more « real-time » information**
- **time series processing in the frame of a new french ETRS89 realization based on the RGP stations enlarged with EUREF stations. This activity will be maintained and contribute to the RGP stations monitoring system.**

# Contacts

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