

National Report of PORTUGAL

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EUREF 2009, Firenze – Italia, May 27-29





ReNEP – Portuguese CORS Network



RENEP - Rede Nacional de Estações Permanentes

Descrição

A RENEP é um serviço público de geo-posicionamento prestado pelo IGP que, no âmbito das suas atribuições de manutenção do Referencial Geodésico Nacional, disponibiliza aos utilizadores de equipamentos GPS dados que facultam a determinação de coordenadas geográficas com precisão melhor que 10 cm. É constituída por Estações GPS/GNSS, de observação contínua, que difundem observações no Sistema de Referência ETRS89, para posicionamento em tempo-real, utilizando a técnica RTK, ou para pós-processamento com ficheiros RINEX.

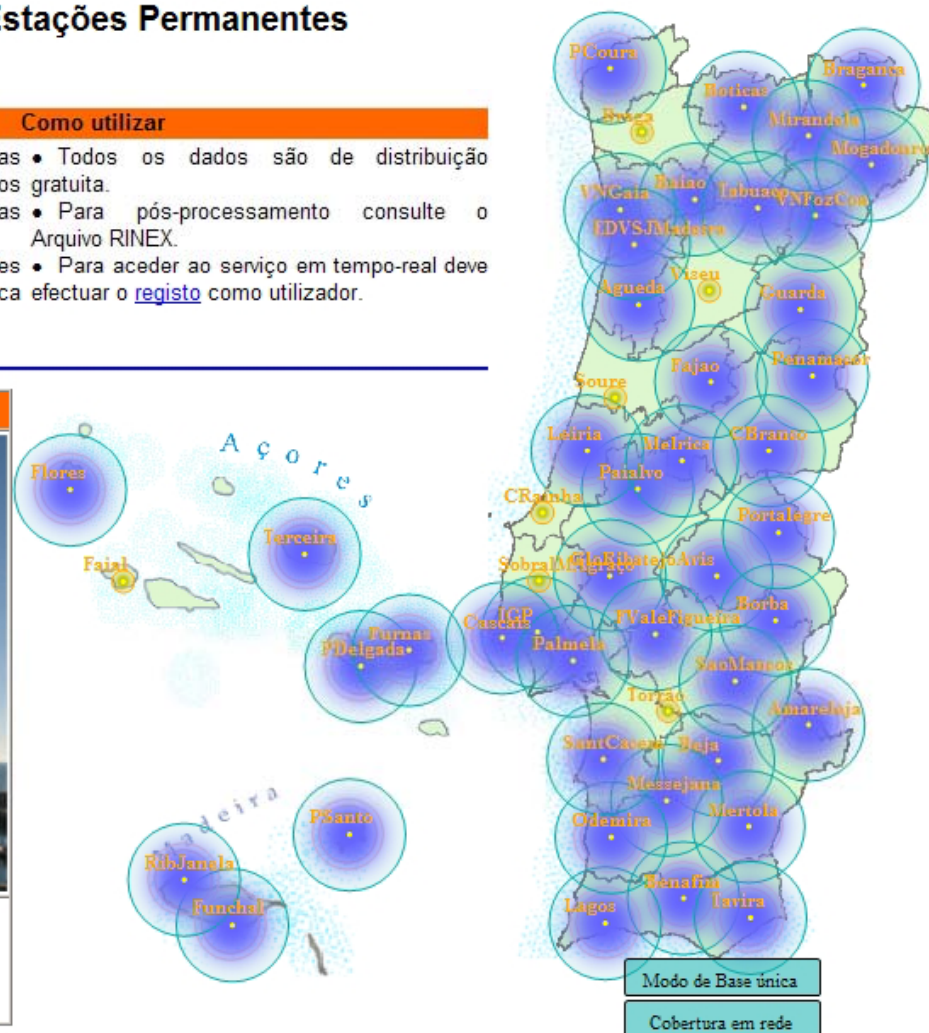
Como utilizar

- Todos os dados são de distribuição gratuita.
- Para pós-processamento consulte o Arquivo RINEX.
- Para aceder ao serviço em tempo-real deve efectuar o [registo](#) como utilizador.

Arquivo RINEX						
IGP						
Maio 2009						
<=>						>=>
Dom	Seg	Ter	Qua	Qui	Sex	Sab
-	-	-	-	-	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	-	-	-	-	-	-

Seleccione a EP e o dia pretendidos. Cada ficheiro respeita ao período de 1 hora com intervalo entre observações de 5 segundos. Para informações adicionais contacte a [Divisão de Geodesia](#)

Detalhes da cobertura
Seleccione no mapa a Estação pretendida.
A RENEP é um sistema cooperativo. Se possui ou vai instalar uma Estação GPS, junte-se a nós .





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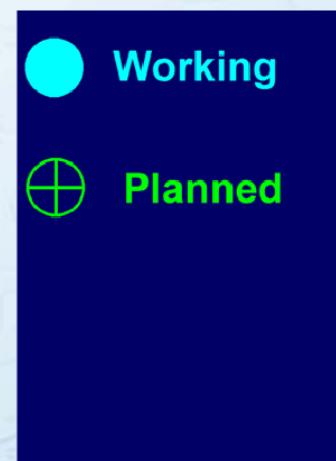
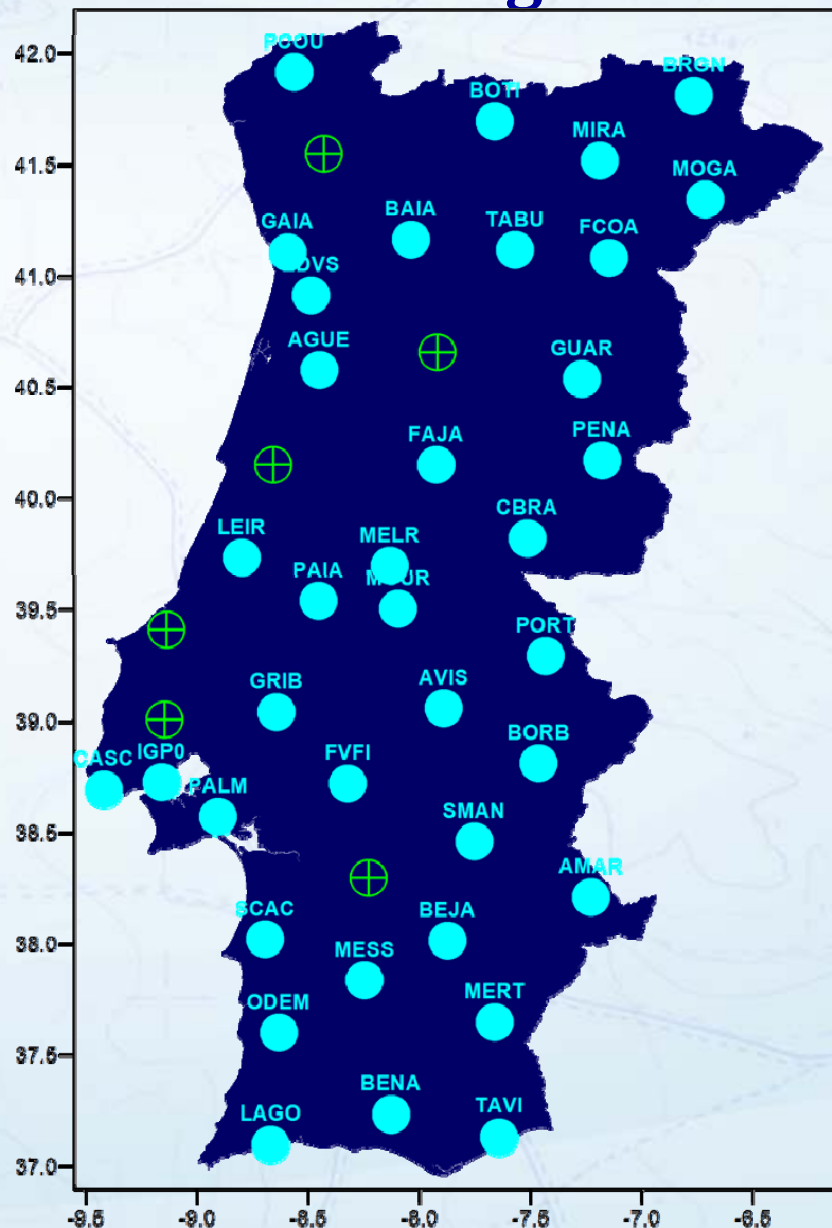
- 44 CORS: 37 Mainland + 4 Azores + 3 Madeira
- 37 IGP + 7 Partners
- 35 GPS&GLONASS



Coverage of 85% of the
Mainland Territory

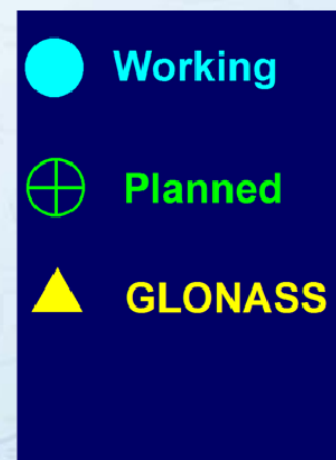
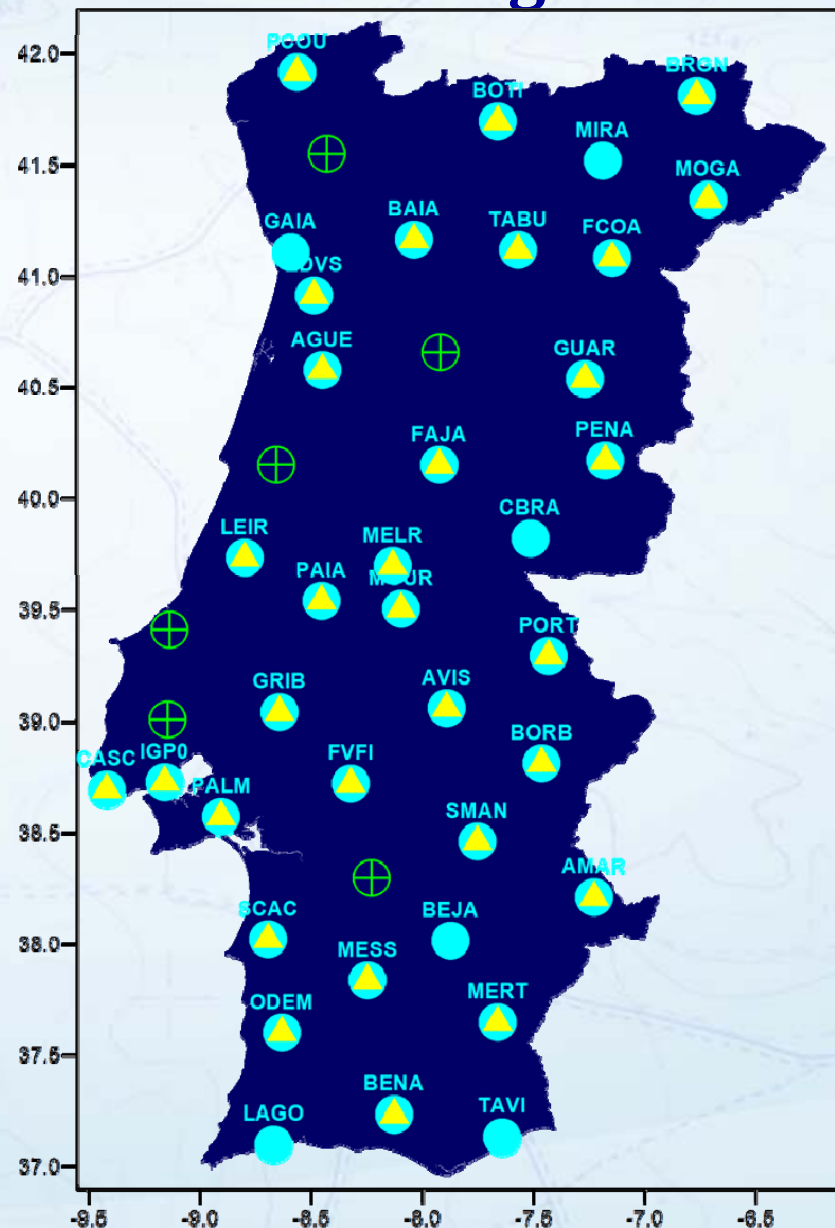


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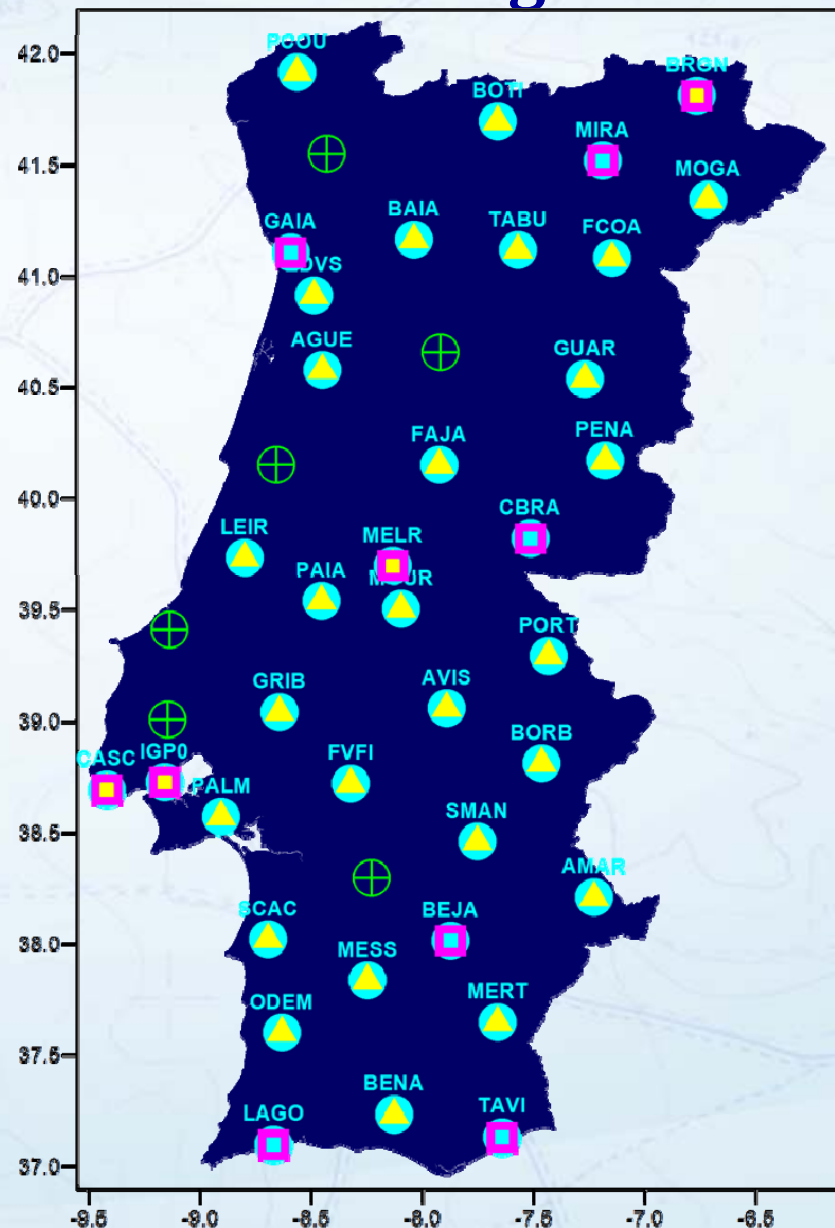


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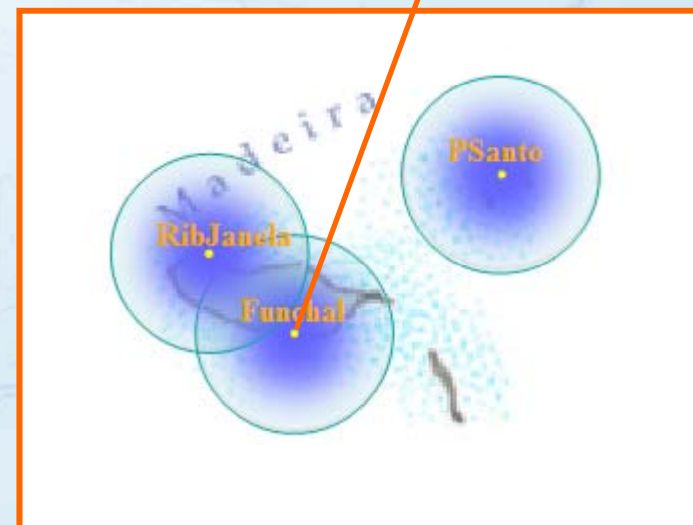
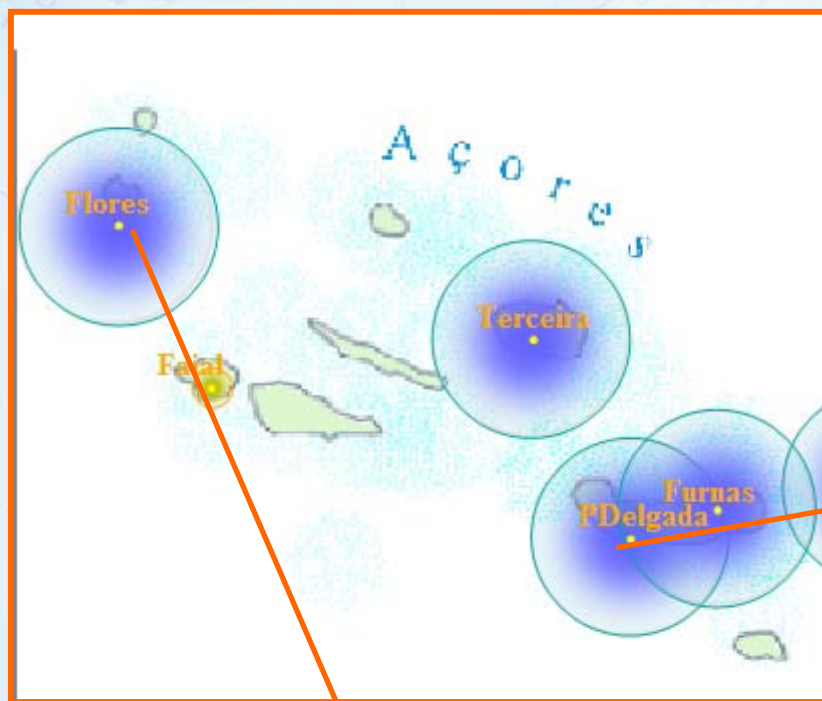


ReNEP – Portuguese CORS Network





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➤ **Post-processing:**

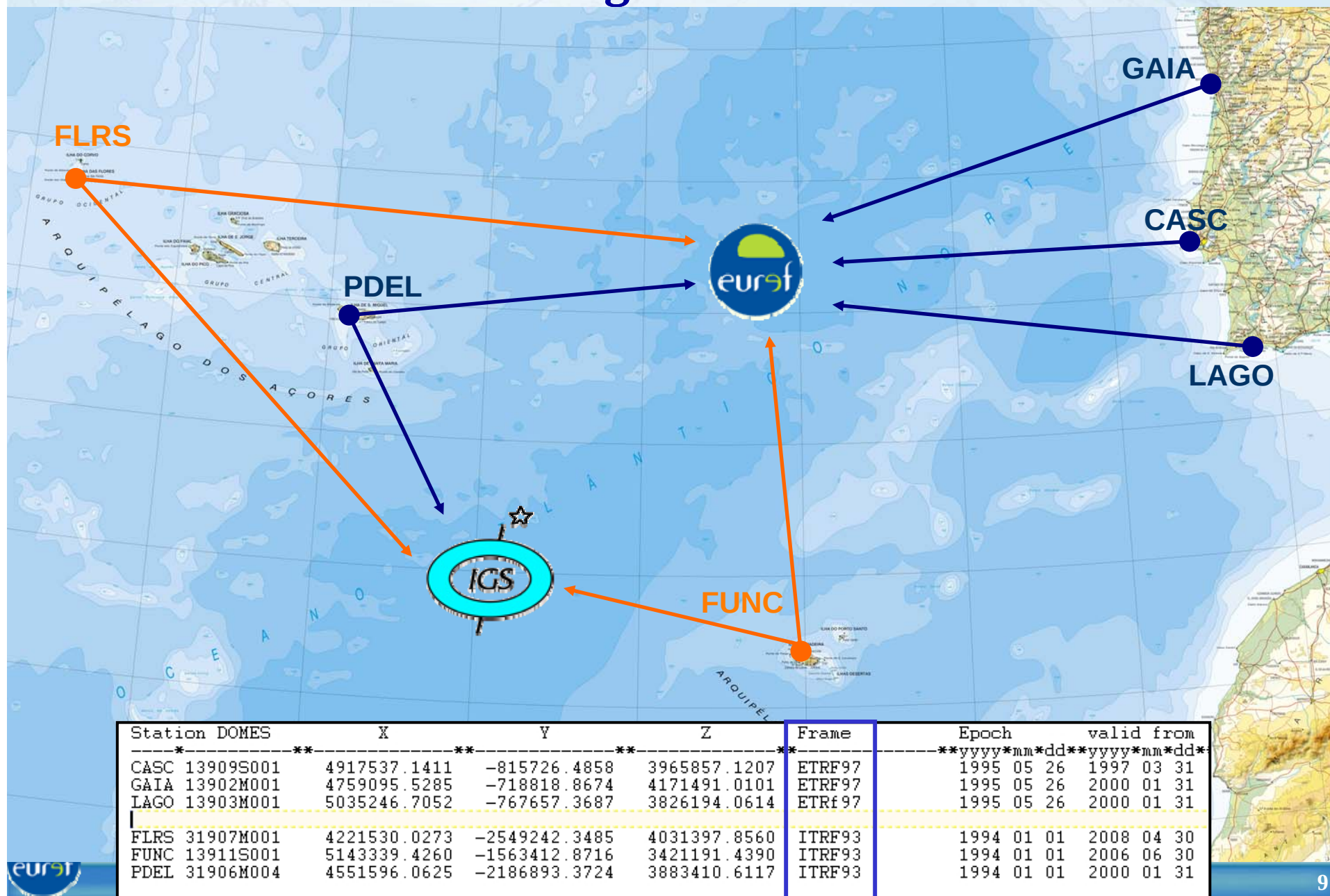
- **Hourly files at 5s**
- **RINEX format**
- **EPN Stations: hourly and daily files at 30s**

➤ **Real Time:**

- **RTCM over NTRIP**
- **More than 600 registered users**
- **Free of charge**

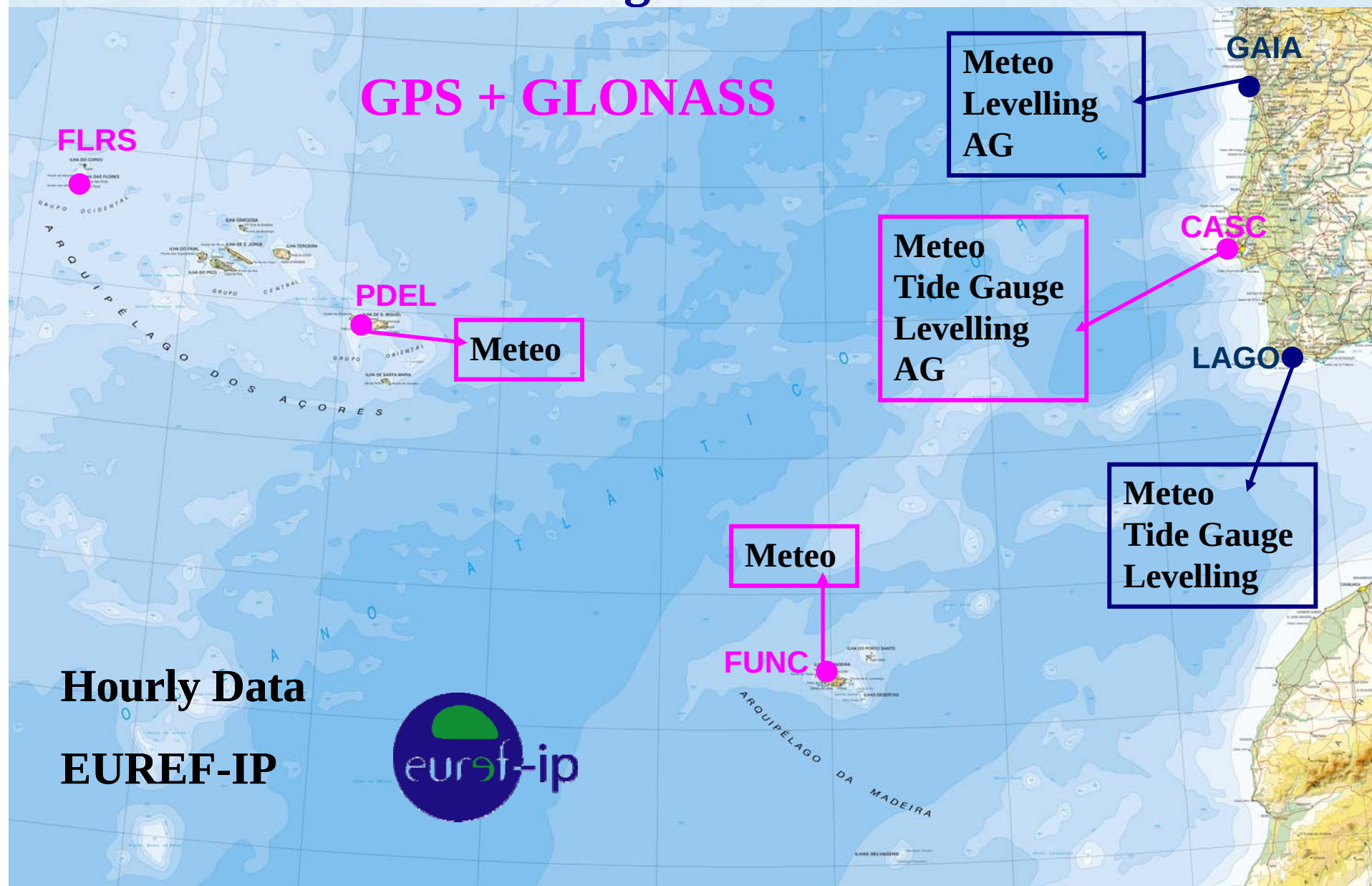


ReNEP – Portuguese CORS Network





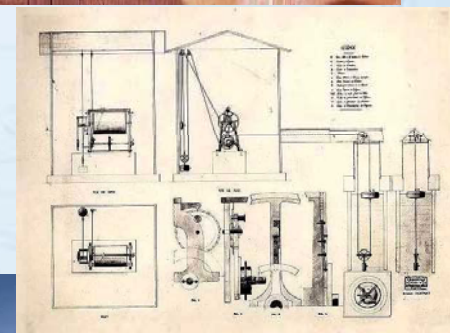
ReNEP – Portuguese CORS Network





Tide Gauges

1882



Cascais

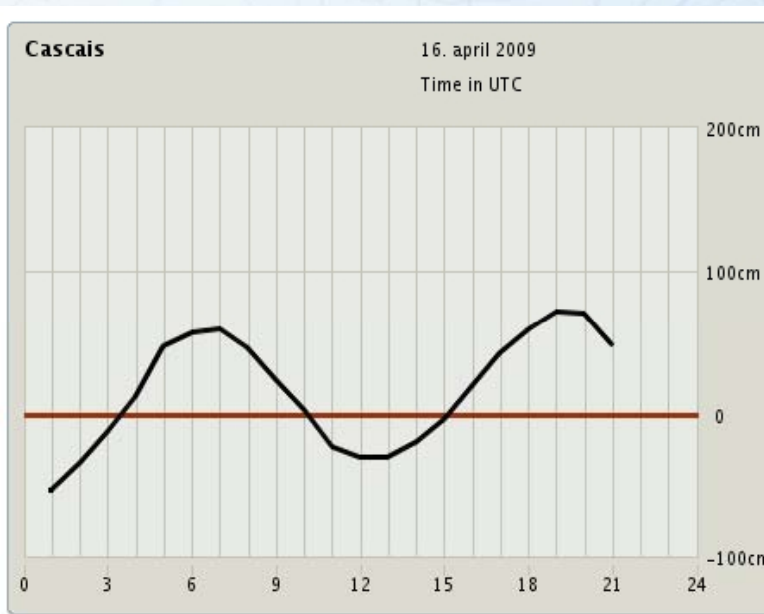
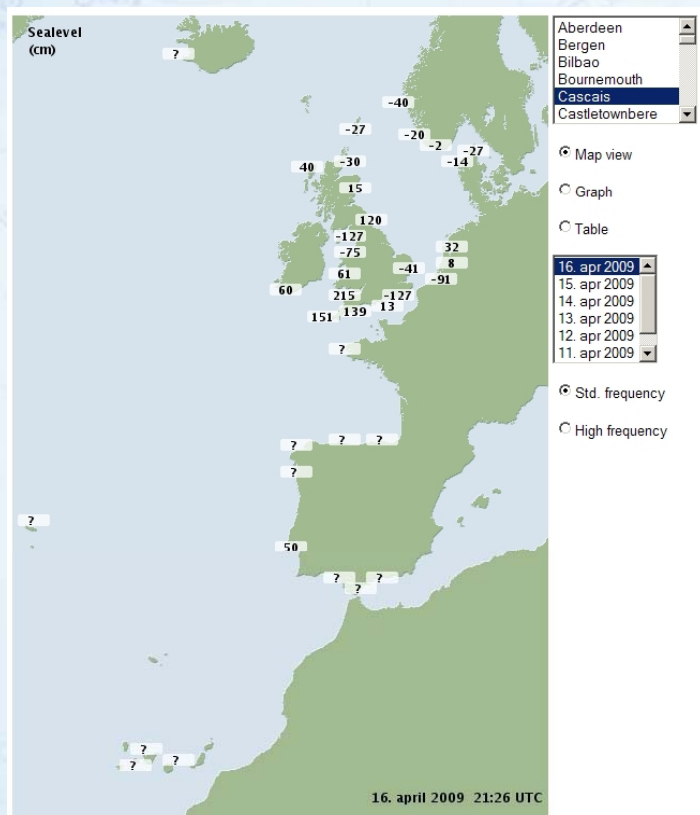
Lagos



1908



Tide Gauges



<http://www.sleac.org/>

- Hourly files
- Real time data
- NEAREST - Integrated observations from NEAR shore sourceS of Tsunamis



EUREF Web Page

<http://www.euref.eu>

- Overview of EUREF
- Technical Working Group
- ETRS 89 (European Terrestrial Reference System)
- EPN (EUREF Permanent Network)
- GPS Campaigns
- EVRS (European Vertical Reference System)
- ECRS (European Coordinate Reference Systems)
- Symposia
- Documentation
- EUREF Electronic Mail
- Links
- @ E-mail to the secretary

TWG Meeting in Budapest, February 2009

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Reference Frame Sub Commission for Europe

IAG Commission I



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EUREF Web Page



Technical Working Group Meetings and Documentation

List of TWG meetings

[Photo Gallery](#)

The minutes of the last meetings can be downloaded (see below)

49.	Budapest, 26-27.02.2009	Download PDF files
48.	Munich, 03-04.11.2008	Download PDF files
47.	Brussels, 17-06.2008	Download PDF files



Technical Working Group Meetings and Documentation

Documents presented at the Budapest TWG Meeting

26-27 February 2009

[Agenda and Participants](#)

1. Opening (Bruyninx)
2. [Minutes of the 48th TWG meeting in Munich](#) (all)
3. EUREF Permanent Network
 - a. [EPN CB status report](#) (Bruyninx)
 - b. [EPN real-time Special Project](#) (Söhne)
 - c. [EPN analysis](#) (Habrich)
 - d. EPN reprocessing activities (Völksen) [\(1\)](#) [\(2\)](#)
 - e. [EPN/ETRS89 maintenance](#) (Kenyeres)
4. [Coordinates of EPN stations in national ETRS89 realizations](#) (Brockmann)
5. [Preliminary results of the Italian Rete Dinamica Nazionale \(RDN\) of Istituto Geografico Militare Italiano and its alignment to ETRF2000 \(R05\)](#) (Maseroli, Caporali)
6. EVRS2007 distribution of data and recommendations for the EC (Ihde)
7. [ECGN continuation](#) (Poutanen, Ihde)
8. EUVN_DA final report (Kenyeres)
9. [INSPIRE](#) (Torres)
10. ETRS89 Working Group (Lidberg, all)
 - a. Discussion of the draft charter [\(1\)](#) [\(2\)](#)
 - b. Role of ETRS89 velocities in national densifications
 - c. Use of ETRS89 by scientific community
11. Organization of EUREF2009 (Maseroli, all)
12. EUREF home page (Homik, Ihde, Vasconcelos)
13. Proceedings EUREF2007 and EUREF2008 (Homik, Ihde, Bruyninx)



Symposia

[Resolutions](#)[Next Symposium](#)[Photo Gallery](#)

The EUREF Symposium is the forum where the EUREF activities are discussed and resolutions are taken. It has been organized every year since 1990, with an exception in 1991, when it was replaced by the 'Common Meeting of the IAG-Sub-commissions EUREF, UELN, CRCM-WVE (Commission on Recent Crustal Movements, Sub-commission Western Europe) and the CERCO-Working Group VIII'.

Place	Date	Publication
Brussels	18-21.06.2008	Contributions available

Session 1

Activities of the Technical Working Group (TWG)

Chairperson: Johannes Ihde

- | | |
|---|--|
| 1.1 - Overview of the Activities of the EUREF Technical Working Group & Presentation of the Nominees for the EUREF TWG
C. Bruyninx | |
| 1.2 - ETRS89 Realization: Current Status, ETRF2005 and Future Developments
Z. Altamimi | |
| 1.3 - Realization of ETRS89: Alternatives, Future Concepts, Conclusions from the Definition
W. Gurtner, J. Ihde, J. Luthardt | |
| 1.4 - EVRF07 as Realization of the European Vertical Reference System
M. Sacher, J. Ihde, G. Liebsch, J. Mäkinen | |
| 1.5 - The Contribution of EUREF to INSPIRE
J. Torres, A. Caporali, H. Habrich | |

Session 2

Permanent GNSS Networks: New Developments

Chairpersons: Werner Gurtner, Günter Stangl

- | | |
|--|--|
| 2.1 - Status and Performance of the EUREF Permanent Tracking Network
C. Bruyninx, J. Legrand, F. Roosbeek | |
| 2.2 - Prospects of Real-time Satellite Positioning Using EPN Resources
W. Söhne, A. Stürze, G. Weber, L. Mervart | |
| 2.3 - EPN Analysis - Products and Report
H. Habrich | |
| 2.4 - The ALPS-GPSQUAKENET project - A permanent GPS network in the Alps
C. Völksen, A. Walpersdorf, R. Barzaghi, A. Borghi, L. Cannizzaro | |
| 2.5 - Surface Kinematics in the Alpine-Carpathian-Dinaric and Balkan Region inferred from a new multi-network GPS combination solutions
A. Caporali, C. Aichhorn, M. Barlik, M. Becker, I. Fejes, L. Gerhatova, D. Ghitau, G. Greneczy, J. Hetty, S. Krauss, D. Medak, G. Milev, M. Mojzes, M. Mulic, A. Nardo, P. Pesec, T. Rus, J. Simek, J. Sledzinski, M. Solaric, G. Stangl, B. Stopar, F. Vespe, G. Virag, F. Vodopivec, F. Zablotzky | |
| 2.6 - A multi purpose continuous GPS network for Turkey
B. Aktug | |
| 2.7 - Global Multi-GNSS Processing at CODE
R. Dach, S. Schaer, M. Meindl, H. Bock, A. Jaeggi, L. Ostini, S. Lutz, L. Prange, A. Steinbach, D. Thaller, P. Walser, G. Beutler | |
| 2.8 - Processing Combined GPS/GLONASS Data at Swisstopo's Local Analysis Center
D. Ineichen, E. Brockmann, S. Schaer | |



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