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Monitoring of official national ETRF coordinates on EPN web

E. Brockmann and many contributors



Milestones

- Oct. 2008 Frankfurt: Idea was born at LAC workshop
- Nov. 2008 Munich: Proposal TWG to start pilot project with 15 countries
- May 2009 Florence: Presentation pilot project and resolution asking all countries to contribute
- May 2010 Gävle: Presentation beta web pages 22 countries
- August 17, 2010: Publication on EPN-web



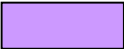




Country reactions final publication on August 17, 2010

- Spain: Discussion about official coordinates
Decision to wait with publishing coordinates on the EPN web if IGN Spain finished coordination work among different Spanish / Catalan / ... organizations
- Greece: no publishing of coordinates on EPN-web preferred



Number of EPN sites with official national ETRF coordinates

-  No information (EPN sites)
-  Ok: (CRD delivered / EPN sites)
-  No EPN sites used / nat. ETRF coordinates not published: (CRD delivered / EPN sites)
-  No publication on web but coordinates delivered: (CRD delivered / EPN sites)
-  Out of geographical scope of ETRS (EPN sites)

Greenland: 4
Israel: 2
Jordan: 1
Morocco: 2
Armenia: 1

Official ETRF coordinates:
26 countries
157 sites

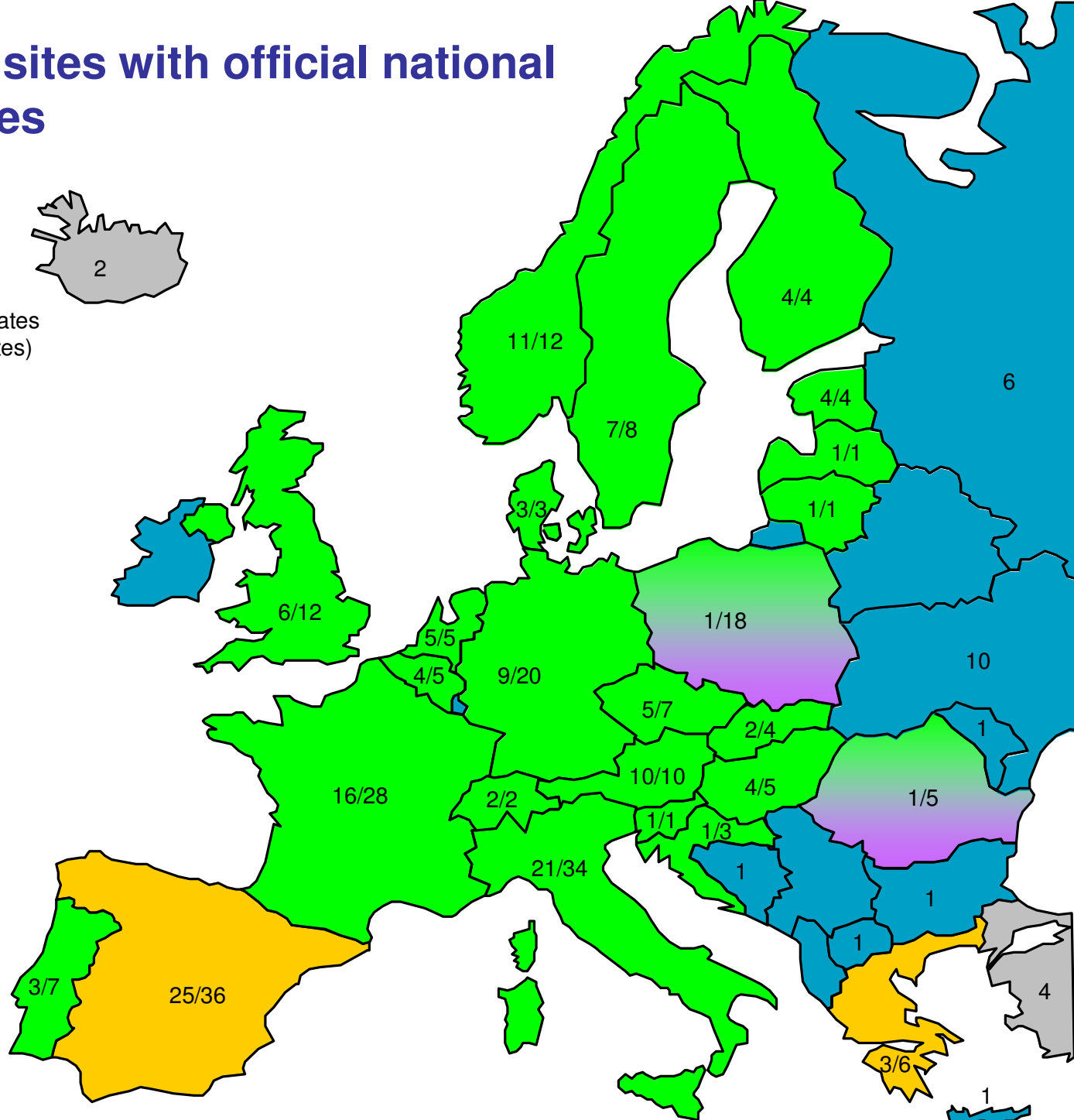
EPN: **39** countries
244 active sites

Status National: 4.11.2010

EPN: 4.11.2010

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Coordinate web page (Example BOR1)

BOR1_12205M002

Site Description

LOCATION	Borowiec, Poland
LOG FILE	bor1_20080310.log (current) <input type="button" value="View"/>
PICTURES	
OPERATIONAL CENTRE	Information not yet available
OTHER NETWORKS	IGS, TOS, EGN
EPN INCLUSION	Since 365/1995 (GPSweek No 0834).
INACTIVITY PERIODS	None
COORDINATES	Published positions/velocities in ITRS and ETRS89

http://www.epncb.oma.be/_trackingnetwork/coordinates/stationcoordinates4onestation.php?station=XXXX



Example page BOR1

EPN densif.
solution →

1. POSITIONS/VELOCITIES PUBLISHED BY EUREF

EUREF has classified BOR1 (Borowiec, Poland) as a **class A station** which means that it can be used as fiducial station for EUREF densifications.

Latest release

EPN_A_ETRF2000_C1600.SSC - EPN_A_ITSF2005_C1600.SSC (October 23, 2010)

ETRF2000	epoch t_0	Position (m)			Velocity (m/y)		
		X	Y	Z	V_x	V_y	V_z
309/2006 - 254/2010	001/2005	3738358.774 ± 0.000	1148173.500 ± 0.000	5021815.580 ± 0.000	-0.0001 ± 0.0001	-0.0007 ± 0.0000	-0.0003 ± 0.0001
157/1999 - 308/2006	001/2005	3738358.775 ± 0.000	1148173.501 ± 0.000	5021815.581 ± 0.000	-0.0001 ± 0.0001	-0.0007 ± 0.0000	-0.0003 ± 0.0001
182/1996 - 149/1999	001/2005	3738358.779 ± 0.001	1148173.499 ± 0.000	5021815.585 ± 0.001	-0.0001 ± 0.0001	-0.0007 ± 0.0000	-0.0003 ± 0.0001

2. POSITIONS/VELOCITIES PUBLISHED BY THE IERS

3. POSITION PUBLISHED WEEKLY IN THE EPN COMBINED SOLUTION

4. POSITIONS PUBLISHED BY THE COUNTRY

new →

The official ETRS89 coordinates used in Poland are maintained by **GUGIK**. This agency is fully responsible for the information kindly provided to the EPN:

Valid (from - to)	epoch t_0	Position (m)			Velocity (m/y)		
		X	Y	Z	V_x	V_y	V_z
000/0000 - now	123/2008	3738358.775	1148173.498	5021815.579	NA	NA	NA

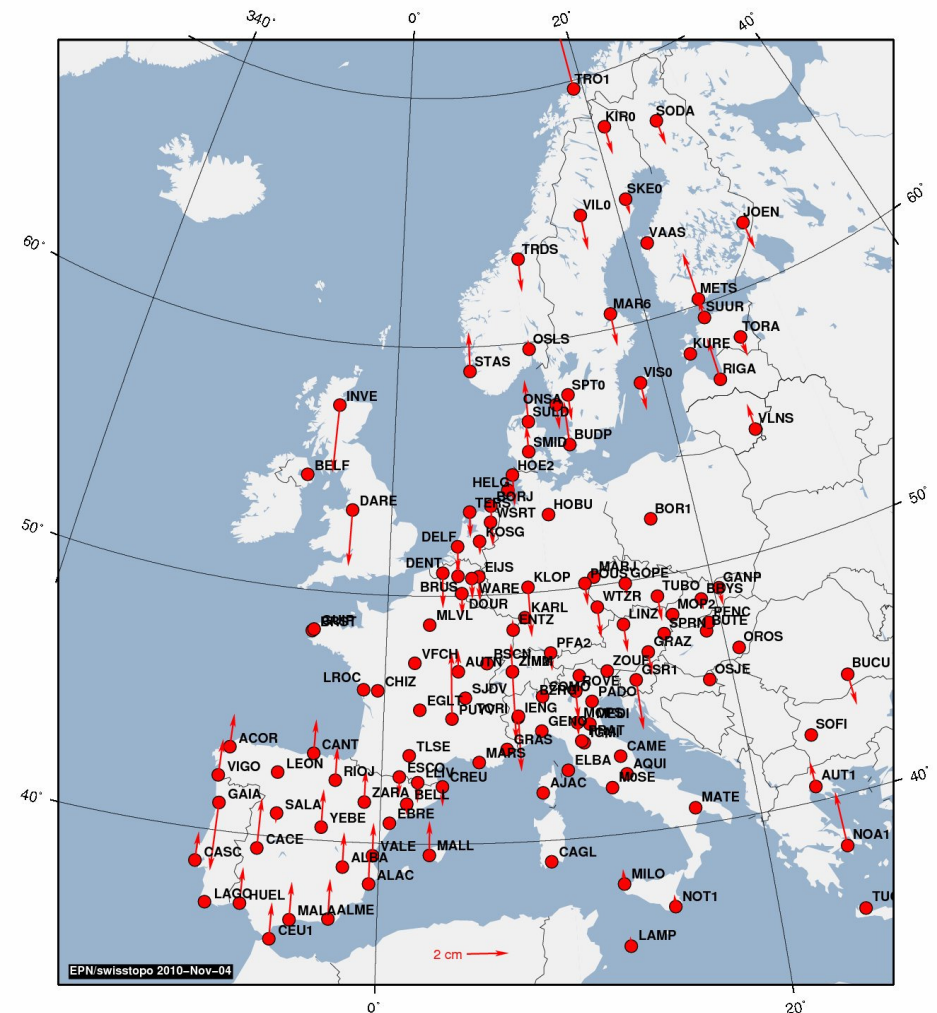
Following a recent initiative of the EUREF Technical Working Group ([Monitoring of official national ETRF coordinates on EPN web](#)), the differences between the national coordinates and the latest cumulative EPN solutions (section 1) are regularly monitored. They are given in two maps: [\[horizontal differences\]](#) and [\[vertical differences\]](#).



26 countries

vertically

**at country
specified epoch**





Results

- Different ETRF realizations very homogeneous realized (1-2 cm horizontally, 1-4 cm vertically)
- Countries with movements w.r.t stable part of Europe: reference epoch is important (e.g. Scandinavian postglacial rebound; Italy; Greece; ...)



Planned activities

- Countries responsible for correctness of information!
 - Please send information, if you change national ETRF coordinates!
- Development of an update mechanism of coordinate changes (e.g. as established with station log). National ETRF coordinates do not change frequently (1 site last year). Update at the moment manually.