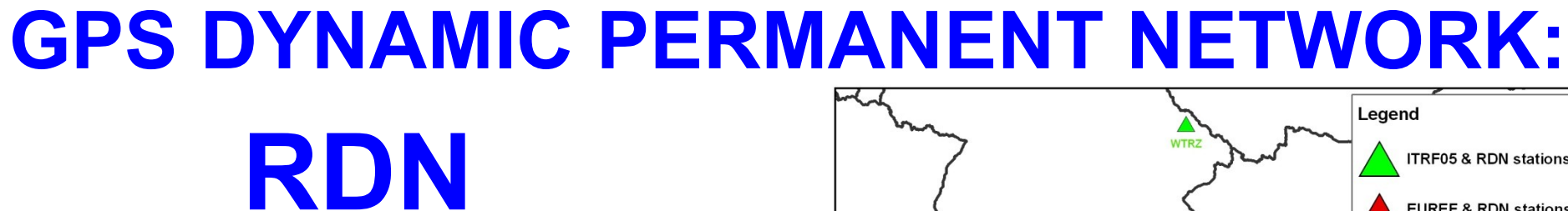


***EUREF 2012 - Paris***

# ***National Report of Italy***

**ISTITUTO GEOGRAFICO MILITARE ITALIANO**  
***Geodetic Service***





-



# GPS DYNAMIC PERMANENT NETWORK:

## RDN

- The Web site containing list, technical features and graphic sketches of all the Stations is working
- Since 2008 the 30s RINEX observation files of almost all the Stations are rationally archived in a database
- A procedure allowing the automatic download of the observations is under realization; at present, data is provided on demand to:

[servizio.geodetico@igmi.191.it](mailto:servizio.geodetico@igmi.191.it)

Rete Dinamica Nazionale IGM - Mozilla Firefox

File Modifica Visualizza Cronologia Segnalibri Strumenti ?

http://212.123.93.250/rdn/

Più visitati Hotmail gratuita Personalizza collegam... Windows Media Windows SIT2COM - RAS Open...

R D N Latitude 39°03'47" (Global Reference System) Longitude 17°24'17" Vai a

RDN Stations

ACOM	12767M001	Malborghetto-Valbruna, UDINE
ALRA	00000M000	Alfedena, L'AQUILA
AMUR	00000M000	—, Puglia
AQUI	12757M001	L'Aquila, L'AQUILA
BIEL	00000M000	—, —
BORM	00000M000	Bormio, SONDRIO
BRBZ	00000M000	—, —
BREA	00000M000	Brescia, BRESCIA
BZRG	12751M001	—, —
CAGL	12725M003	—, —
CAME	12754M001	—, —
CAMP	00000M000	—, —
CAPO	00000M000	—, —
CARI	00000M000	—, —
COMO	12761M001	—, —
COMU	00000M000	Ancona, ANCONA
CUCC	00000M000	—, —
CUNE	00000M000	Cuneo, CUNEO
DEVE	00000M000	Trarego-Viggiona, VERBANIO/CUSIO/OSSOLA
EIIV	00000M000	—, —
ELBA	12721M002	San Piero Campo nell'Elba, LIVORNO
ENAV	00000M000	—, —
ENNA	00000M000	—, —

Completato

[www.igmi.org](http://www.igmi.org)

*Servizio Geodetico – Progetto RDN*



- **The IGM Computing Center processed several networks, which operate in Italy for the transmission of the real-time GPS corrections, aligning them to ETRF2000 through the RDN**

## Private National Networks:



## Toscana:



- **With the Law 10 november 2011 Italy has officially adopted the ETRF2000 as a National Reference**





# GPS STATIC NETWORK: IGM95

- The static network IGM95 is now perfectly aligned to ETRF2000
- Precision: ~ 5 cm in 3D
- Though the importance of the static network is decreasing, yet it is being used by a number of users and its integration with the densification subnetworks produced by the Regions is still going on
- At present, the Region Emilia Romagna is being included





# HIGH PRECISION LEVELING NET

Fundam. net	Densifi- cations	
		Set up 1950-1971
		Measured 1996-2011
		Ongoing 2012
		Planned

- The re-measure and densification of the high precision leveling net is going on
- A geopotential heights computation has been carried out on a particular leveling ring presenting an anomalous closure error (8 cm)
- Its path includes a 2600 m height pass and runs through a zone with a strong gravity anomaly (Ivrea body)





# HIGH PRECISION LEVELING NET

Gravity measured by gravimeter in the seventies (of 1900)

Gravity measured by gravimeter in 2007

Gravity estimated using the ITALGEO2005 geoid model

- Using geopotential heights allowed to close the leveling ring within tolerance: 3 cm
- This study confirmed the feasibility of geoid model for the gravity values estimation necessary to height correction
- At present, a project is being devised to extend the geopotential heights computation to all the leveling lines which have been recently re-measured







# SOFTWARES

## Transformation between Geodetic Datums



- The grid values (to be used together with the Verto software for the transformation between geodetic systems and up to now released in the proprietary format (GK?)), are now being released also in the binary format NTv2
- The format NTv2, being accepted by the most part of the GIS (also open source), allows the users to exploit the official data much more extensively



# Thank you for your attention!



*[servizio.geodetico@igmi.191.it](mailto:servizio.geodetico@igmi.191.it)*