



#### **EVRS Workshop** April 5-7, 2004 BKG, Frankfurt/Main

Organized jointly by EuroGeographics and the Joint Research Center of the European Commission



**EVRS Workshop report** 

EUREF Symposium 2004, Bratislava, June 2-4





## Background

- INSPIRE initiative of the European Commission aims at *inter-operability* of environment-related GIS data
- big standardization effort
- one aspect: geodetic reference
- European system + transformation formulas from national system
- 3-D positions (GIS "horizontal"): 1999 Valle-de-la-Marnée workshop recommended ETRS89
- this workshop was about the vertical







## Workshop participants

- geodesists working with heights
- GIS community







## GIS community view on heights

- up to the geodesists
- GIS people do not care about the details and "do not want to know"
- first version: 1 m accuracy sufficient (EVRF2000 is better than 0.5 m)
- GIS people are open for revision
- next version EVRF2006 better than 0.1 m, fine







#### **INSPIRE** timetable

Communication Package INSPIRE Spatial Data Interest Group to be created

**.INSPIRE First Draft Proposal** 

**INSPIRE First Proposal** 

**INSPIRE Final Proposal** 

June 2004

December 2004

December 2005

December 2006

December 2007

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#### **Geodesists' view on heights: Revision of EVRS/EVRF conventions**

- Background
  - EVRS2000 is defined as a World Height System: reference level is the potential of the Mean Earth Ellipsoid ( $\Rightarrow$  geoidal potential  $W_0$ )
  - EVRF2000 realizes this through the conventional NAP (Normaal Amsterdams Peil) datum W<sub>NAP</sub>
  - however, at present observation accuracy it is already known that  $W_0$  and  $W_{NAP}$  differ,
  - best estimate now  $(W_0 W_{NAP})/\gamma = -11 \pm 8$  cm
  - error going down very fast with GRACE and then GOCE
  - either EVRS2000 or EVRF2000 or both must be revised







#### Workshop view on heights: Revision of EVRS/EVRF conventions

- Revision of EVRS/EVRF conventions
  - NAP
    - in practical point of view, the tendency is not to change height values if not necessary.
    - So far, the ws is in favour to implicitely tie the height values to the NAP
  - geopotential numbers
    - The system is based on geopotential numbers
    - Kind of metric height, orthometric vs. normal.
    - No unanimous conclusion but ; majority was in favour of normal heights
  - Considering the connection of GPS/GALILEO and physical heights the European geoid has to be integrated in the EVRF
  - further discussion during the revision (deadline:september)







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#### **Time Table**

•New/revised data in UELN	2004
Communication Package	Jun 04
INSPIRE Spatial Data Interest Group to be	
created	Dec. 2004
•UELN 05 first version	2005
INSPIRE 1st draft Proposal	Dez 05 ALLLU, UNE
·UELN 05 final version	2006
•European geoid EGG07	2005 first version
INSPIRE First Proposal	Dez 06
•European geoid EGG07	2007 final version
·EVRF2006	2007
INSPIRE Final Proposal	Dez 07
·GOCE data available	2008(?)
Integrated network (ECGN)	2009





# On going development

- Determination of transformation parameters between EVRS and nat. height reference systems
- **TWG EUREF and ExGG of EuroGeographics is asked to contribute to the further developments**
- Maintenance the EVRS by combined monitoring of several observation techniques e.g. ECGN
- Extension of the CRS meta data basis by the EVRS in to stages
  - The present version of EVRF2000 till September 2004
  - A revised version on the revised EVRS/EVRF conventions in form of a <u>registry</u>.
- GALILEO funding possibilities to be investigated
  - GEODESY Call (May 2004)
- INSPIRE development, JRC Pilots, GMES Data Harmonisation, other EC funded opportunities ...

