Federal Agency for Cartography and Geodesy

7. EVRF Developments

EUREF TWG Meeting
Padua, Oct. 13, 2009

Johannes Ihde, Martina Sacher
Federal Agency for Cartography and Geodesy

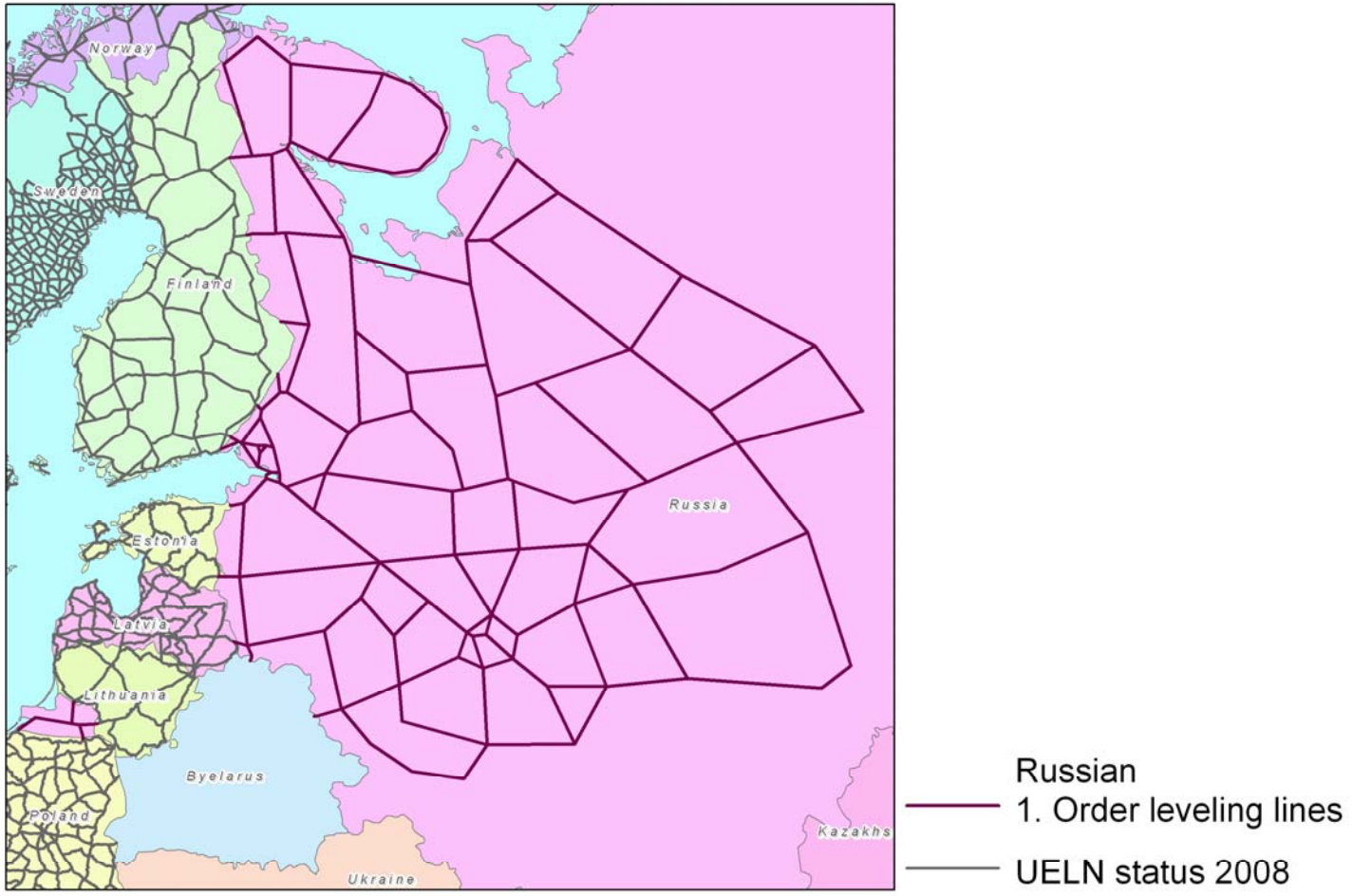
UELN-new data

- Russia
  - delivering of whole 1.order leveling network of the European part of Russia to UELN data and computation center
  - border connections have to be found by the UELN data center
- Belarus

  colleagues of TsNIIGAiK reported, that
  - they contacted Belarus and organized the participation of Belarus in the UELN project
  - data preparation of Belarus is in progress (computation of geopotential differences)

- Ukraine
  - decided to participate in UELN project
  - data preparation is in progress (computation of geopotential differences)
  - asked UELN data and computation center to find border connections to neighboring countries
  - some connections were already found in the UELN data base
  - neighboring countries were contacted and agreed to provide the missing data
- Spain
  - new network was observed between 2001 and 2008
  - up to now only point information (136 nodal points) available at UELN data center, measurements are still missing

European part of the Russian 1.Order Leveling Network



1.Order Leveling Network of Russia

- Parameter of the network
  - 109 nodal points
  - 155 observations
  - a-posteriori-s_0 (1 km): 2.03 mm
  - Problem: no uniform epoch (measurements from1967 – 2006)
- Border connections mainly from the 70th to
  - Estonia (2, 1 already useable, 1 under preparation in Estonia)
  - Latvia (1, useable)
  - Belarus (2 under preparation)
  - Lithuania (2 to Kaliningrad Region, useable)
  - Poland (2 to Kaliningrad Region, useable)
  - possibly some connections can be updated by measurements from new epochs (Poland, Lithuania)

Closing the “Baltic Ring”

- Border connections to Finland
  - 8 connections have been observed between1989 and 2006
  - 3 connections already useable
  - Finland was asked to provide data to close the remaining connections
- Previously adjustment of the “Baltic Ring”
  - 13 datum points as in EVRF2007
  - zero tide, uplift model NKG2000LU
  - a-posteriori s0 = 1.15 kgal·mm
  - s0 (RU) = 2.23 kgal·mm
- Height of point Kronstadt
  - Russian system: H=0.000 m
  - EVRF2007: 0.231 m (0.197 m in mean tidal system)