



Federal Agency for
Cartography and Geodesy



Prospects for an update of the BSCD2000 height transformation grid

Joachim Schwabe

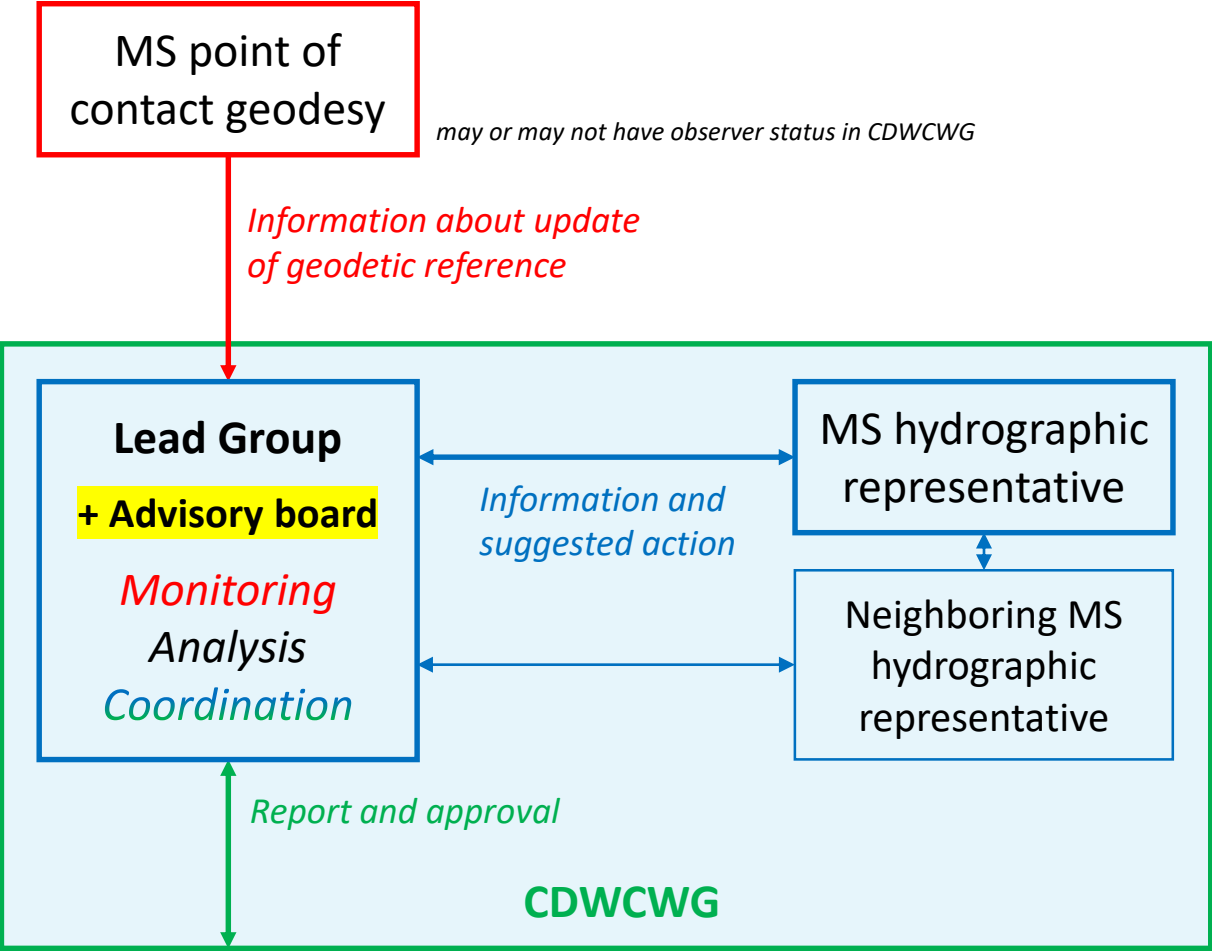
Federal Agency for Cartography and Geodesy (BKG), Leipzig, Germany

CDWCWG2, Tallinn, 25/26 March 2025



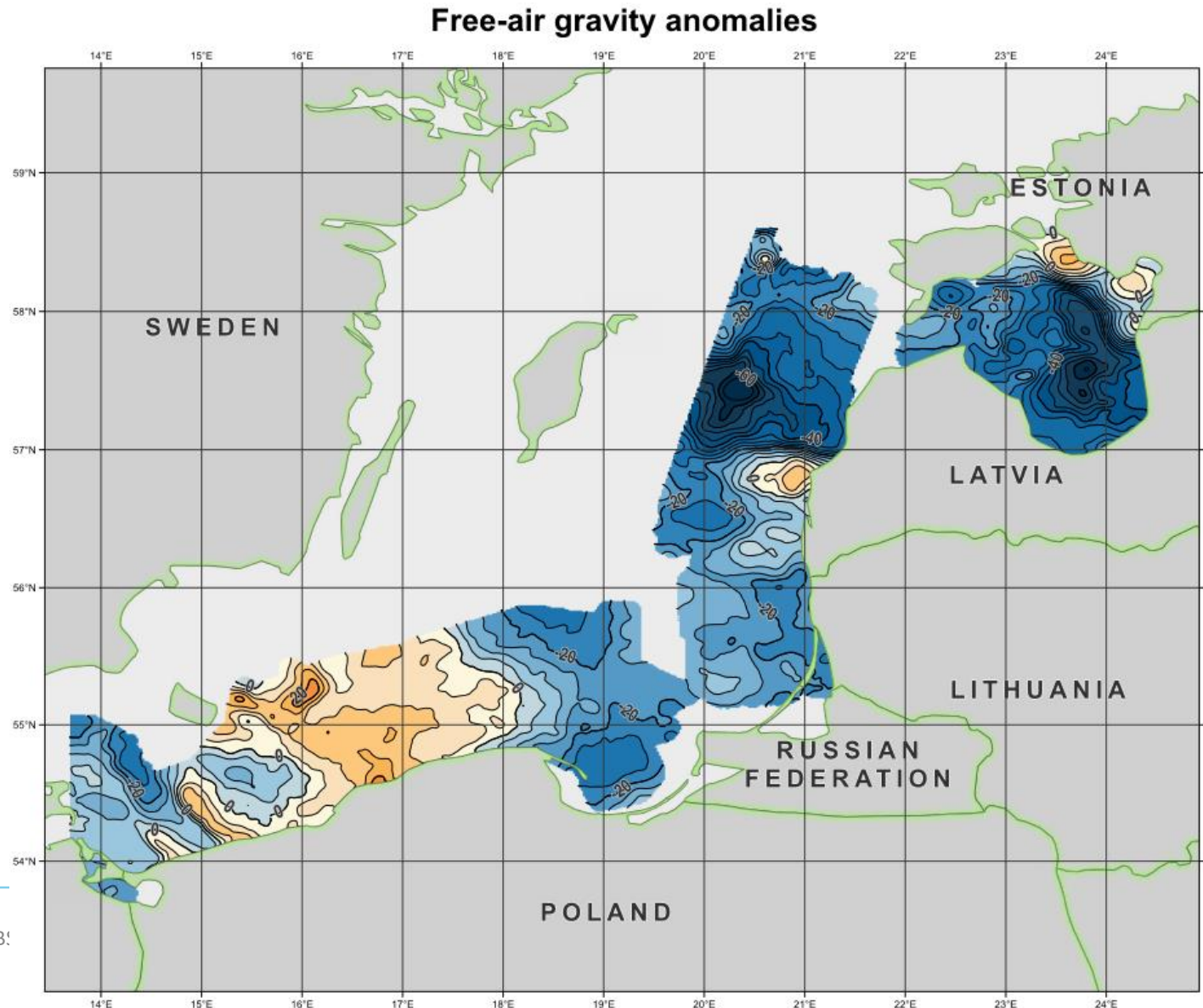
BSCD2000 continuity management scheme

MS	Geodesy	Hydrography
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Estonia	<div></div> <div>Estonian Land Board</div>	N/A (Estonian Transport Administration has declared that regarding the implementation of the geoid they rely on the geodesy experts)
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Latvia	<div></div> <div>Latvian Geospatial Information Agency</div>	Bruno Špēls bruno.spels@lhd.lv Maritime Administration of Latvia
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Norway	<div></div> <div>Kartverket</div>	N/A (BSCD2000 not in use in Norway, Norwegian Hydrographic Service not represented in CDWG)
Poland	<div></div> <div>Head Office of Geodesy and Cartography (GUGIK)</div>	Witold Stasiak w.stasiak@ron.mil.pl Hydrographic Office of the Polish Navy
Sweden	<div></div> <div>Lantmäteriet</div>	Thomas Hammarklint thomas.hammarklint@sjofoartsverket.se Swedish Maritime Administration



BalMarGrav project

- Successfully finalized in September 2024
 - Compilation of gridded free-air anomalies from validated and calibrated historical datasets
 - Validated/modified original sources in „BalMarGrav“ DB at DTU, also included in „NKG“
- New gravity data for marine geoid in the Baltic Sea



- Last NKG geoid in 2015
- Computation of new NKG geoid model envisaged for 2025/2026 (NKG WG Meeting March 2025)
- Would be easiest to use partial solutions as updated gravimetric „FAMOS geoid“ (including a BKG solution computed by me)
→ to be discussed and decided
- Requires clarification on availability of gravity datasets in the DB regarding the original license (NKG, FAMOS, BalMarGrav, ...)
- Ideally synchronized with new national geoid model for Germany (optionally other national models)
- Possible schedule (very optimistic, maybe not realistic!)
 - Summer 2026: NKG and German gravimetric geoid ready (NKG General Assembly September 2026)
 - Q4/2026: Finalization of BSCD2000 grid (synchronization with national geoid models)

Updates of national geodetic reference frames (BSCD2000 Continuation management)

■ Germany

- New GNSS realization ETRS89/DREF91/R2025 effective 1 July 2025
- In principle same datum, coordinate differences small (mostly less than 1 cm)
- Re-computation of BSCD2000 grid with updated GNSS heights would result in only a few mm change close to the German coast
- No interim geoid model in DE, waiting for completely new geoid end of 2026 (→ Slide 3)
- No patch of BSCD2000 grid needed right now

Updates of national geodetic reference frames (BSCD2000 Continuation management)

■ Latvia

- New GNSS realization LKS-2020 based on ETRF2020 at epoch 2020.29
- Plan: effective 1 Oct 2025 (last information from 7 Jan 2025)
- Re-computation of BSCD2000 grid with updated GNSS heights would result in changes
 - 2-3 cm in the Gulf of Riga (max. 5 cm at coast in area Engure – Mērsrags)
 - 1-2 cm in the open Baltic Sea
- New national geoid model LV'20 not yet available (plan to finalize until May 2025)
- Proposal:
 - Wait and update alongside with new BSCD2000 grid 2026 (→ Slide 3)
 - Final assessment and decision to be made after release of LV'20 model



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Thank you for your kind attention!

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