

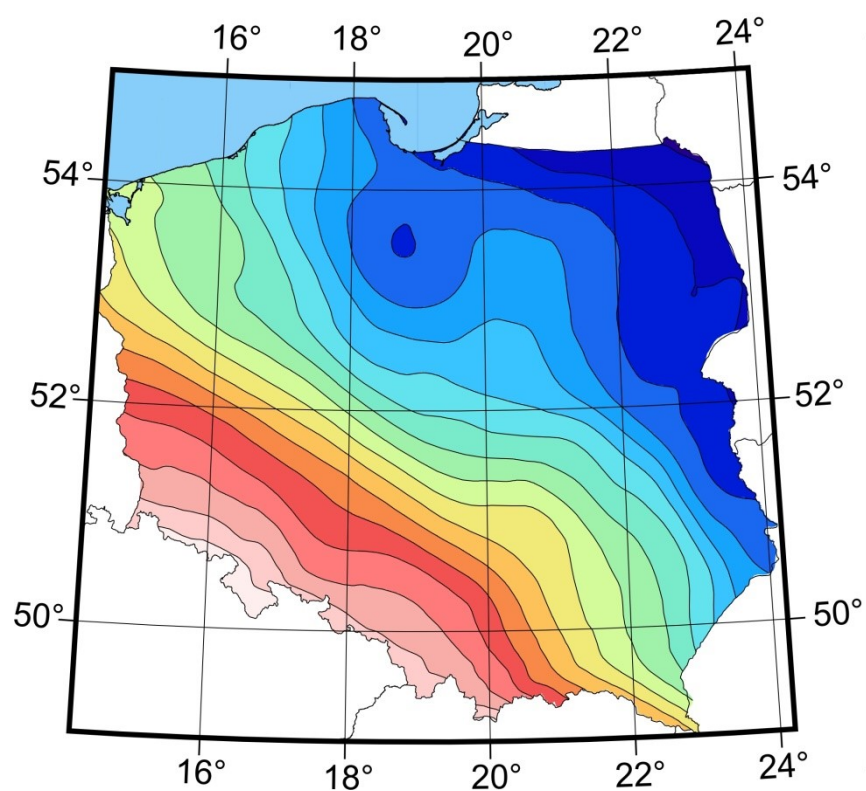
**Fit of quasi-geoid models developed within the FAMOS project
to the IGiK quasi-geoid model and GNSS/levelling data
in Northern Poland**

**Małgorzata Szelachowska
Monika Wilde-Piórko
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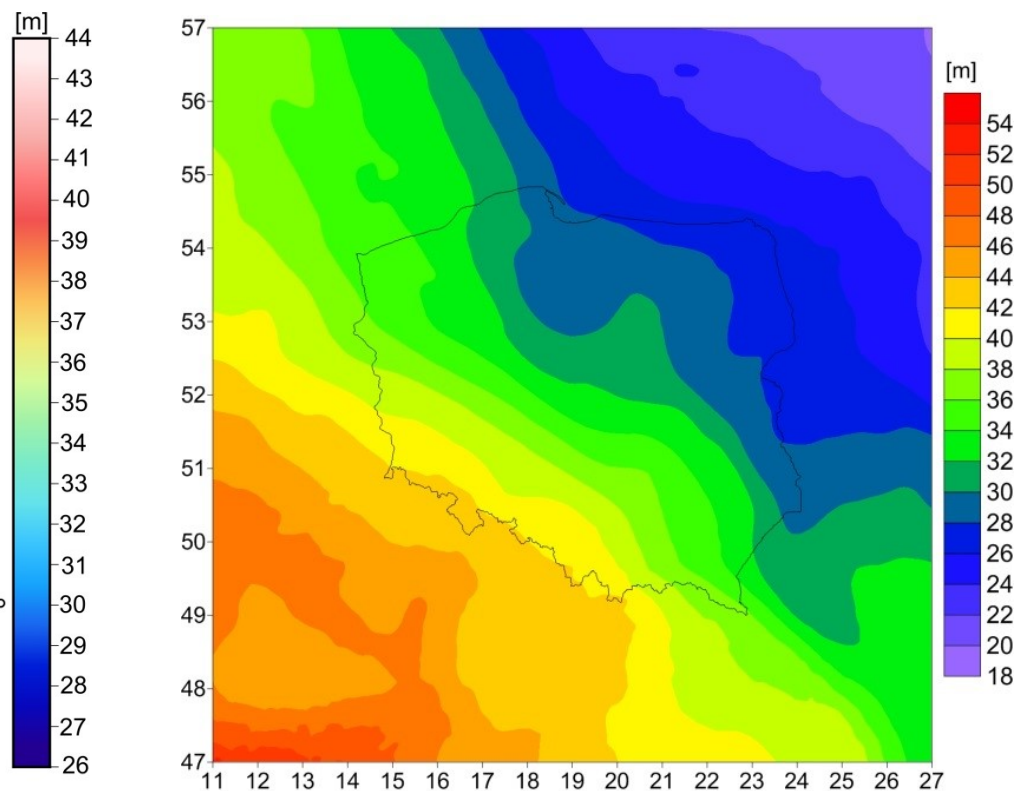




IGiK GDQM-PL13/GDQM-PL19 gravimetric quasigeoid models for Poland



GDQM-PL13 model



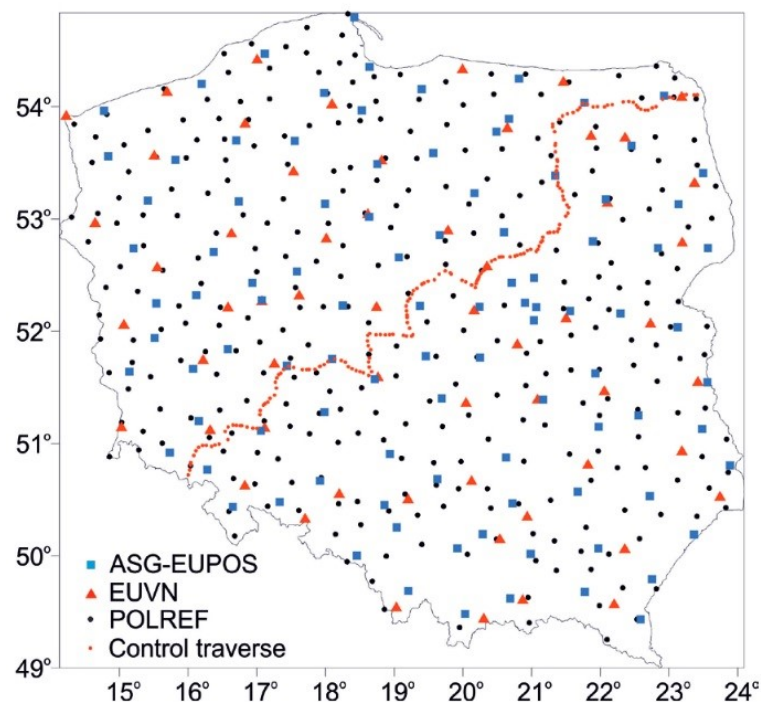
GDQM-PL19 model

Szelachowska M., Krynski J., (2014): *GDQM-PL13 – the new gravimetric quasigeoid model for Poland*, Geoinformation Issues, Vol. 6, No 1, Warsaw, pp. 5-19.



GDQM-PL13/ GDQM-PL19 gravimetric quasigeoid model for Poland

Distribution of sites of the POLREF, EUVN, ASG-EUPOS networks and the GNSS/levelling control traverse



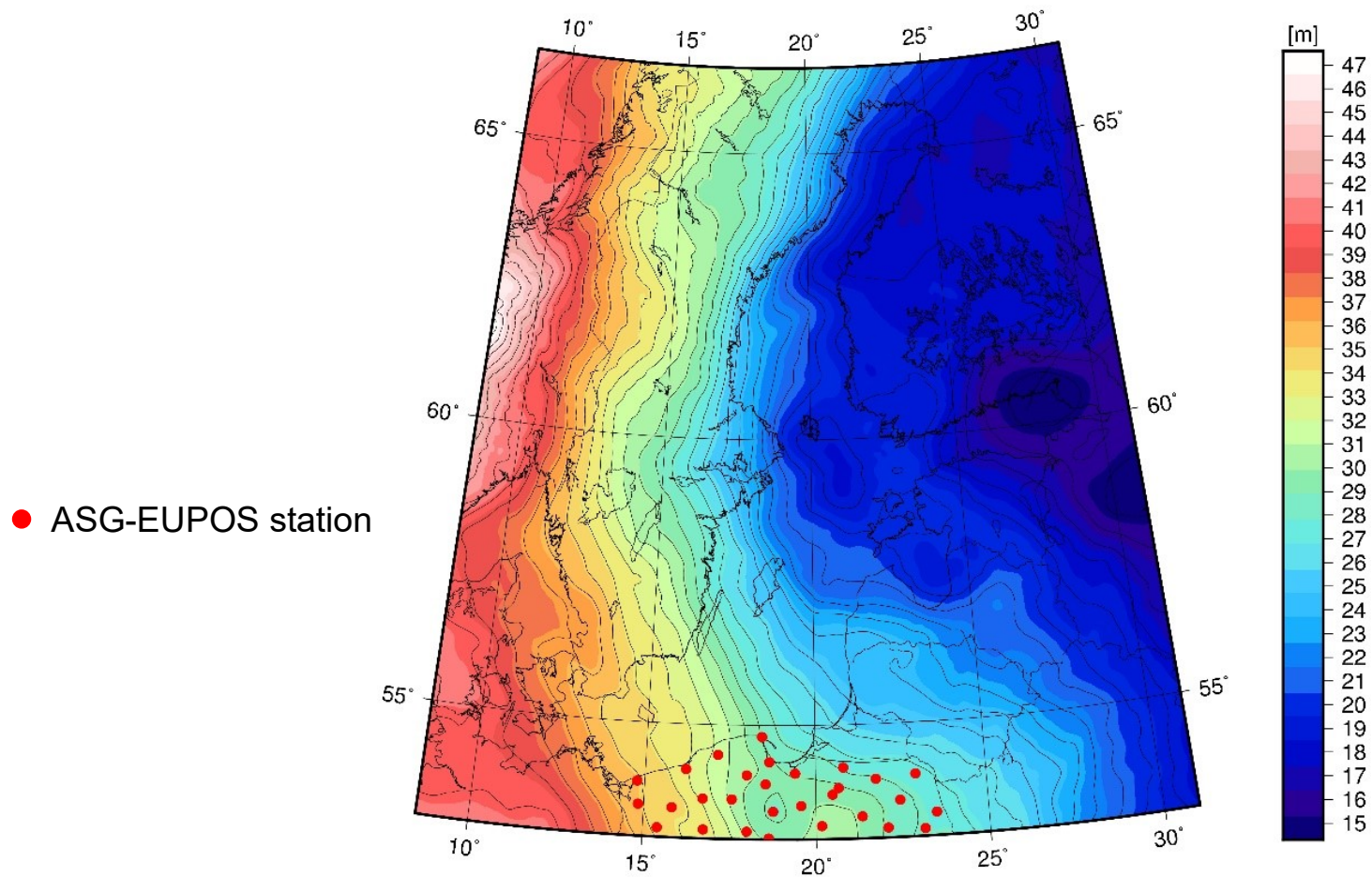
PL-EVRF2007-NH

Statistics of differences between height anomalies from GNSS/levelling measurements and from the GDQM-PL13 model [m]

GNSS/level. sites	Number of Pt.	Min	Max	Mean	Std. dev.
Contr. trav. 1 st order	44	0.064	0.124	0.097	0.014
Contr. trav. 2 nd order	140	0.040	0.127	0.083	0.016
EUVN	58	0.060	0.145	0.097	0.018
ASG-EUPOS	98	0.041	0.133	0.074	0.018
POLREF	315	0.032	0.169	0.105	0.022
ASG-EUPOS	98	0.047	0.134	0.094	0.015
ASG-EUPOS _{Sec. 114}	114	0.049	0.142	0.095	0.016



Geoid models for the Baltic Sea obtained within FAMOS project



Fitted geoid model determined by BKG – geoid_BKG_fitted



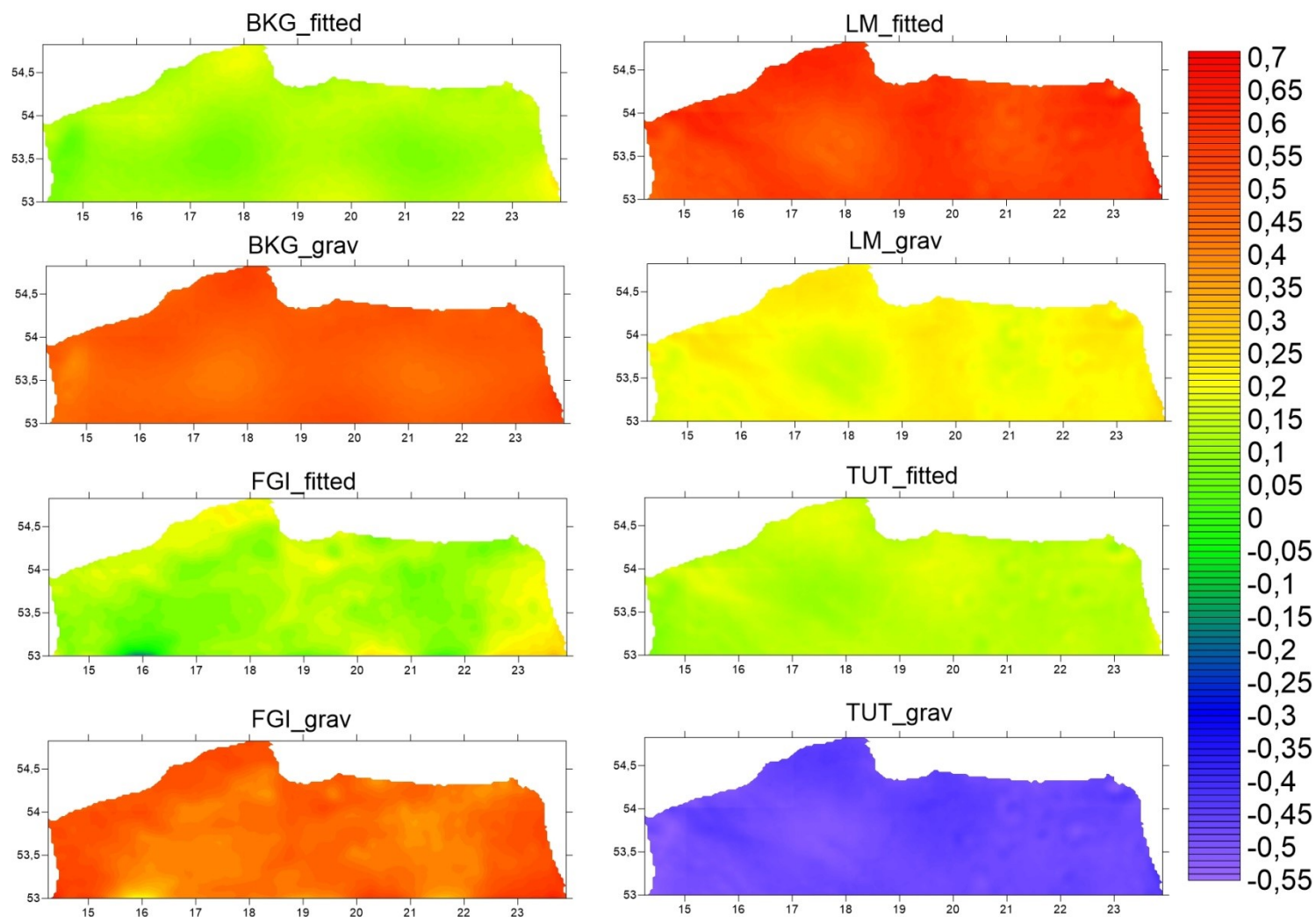
Geoid models for the Baltic Sea obtained within FAMOS project

Statistics of differences between height anomalies from GNSS/levelling data and geoid heights from Baltic geoid models [m]

GNSS/level. sites	Geoid model	Min	Max	Mean	Std. dev.
ASG- EUPOS stations	geoid BKG fitted	-0.050	0.052	0.011	0.025
	geoid BKG grav	0.298	0.402	0.361	0.025
	geoid_FGI_fitted	-0.040	0.102	0.025	0.036
	geoid_FGI_grav	0.289	0.413	0.345	0.034
	geoid_LM_fitted	-0.018	0.083	0.027	0.024
	geoid_LM_grav	0.046	0.148	0.092	0.023
	geoid_TUT_fitted	-0.006	0.064	0.029	0.018
	geoid TUT grav	-0.600	-0.534	-0.570	0.018
Eccentric points of ASG- EUPOS stations	geoid BKG fitted	-0.055	0.050	0.009	0.025
	geoid BKG grav	0.293	0.401	0.358	0.025
	geoid_FGI_fitted	-0.044	0.098	0.023	0.035
	geoid_FGI_grav	0.292	0.409	0.343	0.033
	geoid_LM_fitted	-0.020	0.084	0.026	0.026
	geoid_LM_grav	0.044	0.149	0.091	0.025
	geoid_TUT_fitted	-0.010	0.062	0.028	0.020
	geoid TUT grav	-0.604	-0.536	-0.570	0.020



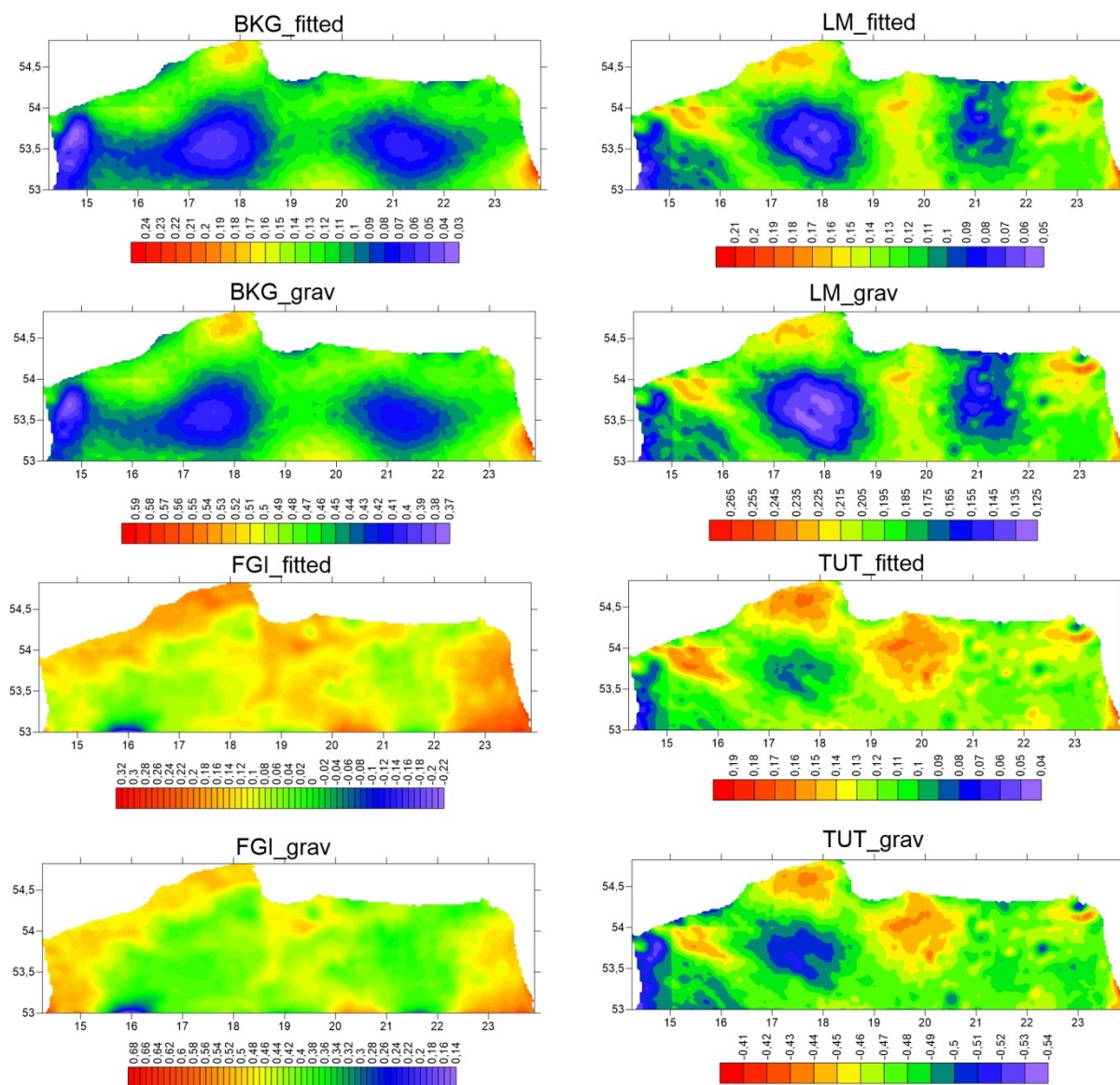
GDQM-PL13 vs. FAMOS geoid models for Northern Poland



Differences between height anomalies from GDQM-PL13 and geoid heights from Baltic geoid models [m]



GDQM-PL13 vs. FAMOS geoid models for Northern Poland



Differences between height anomalies from GDQM-PL13 and geoid heights from Baltic geoid models [m]



GDQM-PL13 vs. FAMOS geoid models for Northern Poland

Statistics of differences between height anomalies from GDQM-PL13
and geoid heights from Baltic geoid models [m]

Geoid model	Min	Max	Mean	Std. dev.
geoid_BKG_fitted	0.033	0.233	0.108	0.027
geoid_BKG_grav	0.378	0.583	0.458	0.027
geoid_FGI_fitted	-0.205	0.318	0.115	0.046
geoid_FGI_grav	0.144	0.671	0.437	0.047
geoid_LM_fitted	0.050	0.203	0.123	0.023
geoid_LM_grav	0.128	0.267	0.188	0.022
geoid_TUT_fitted	0.045	0.185	0.123	0.017
geoid_TUT_grav	-0.539	-0.412	-0.475	0.017



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