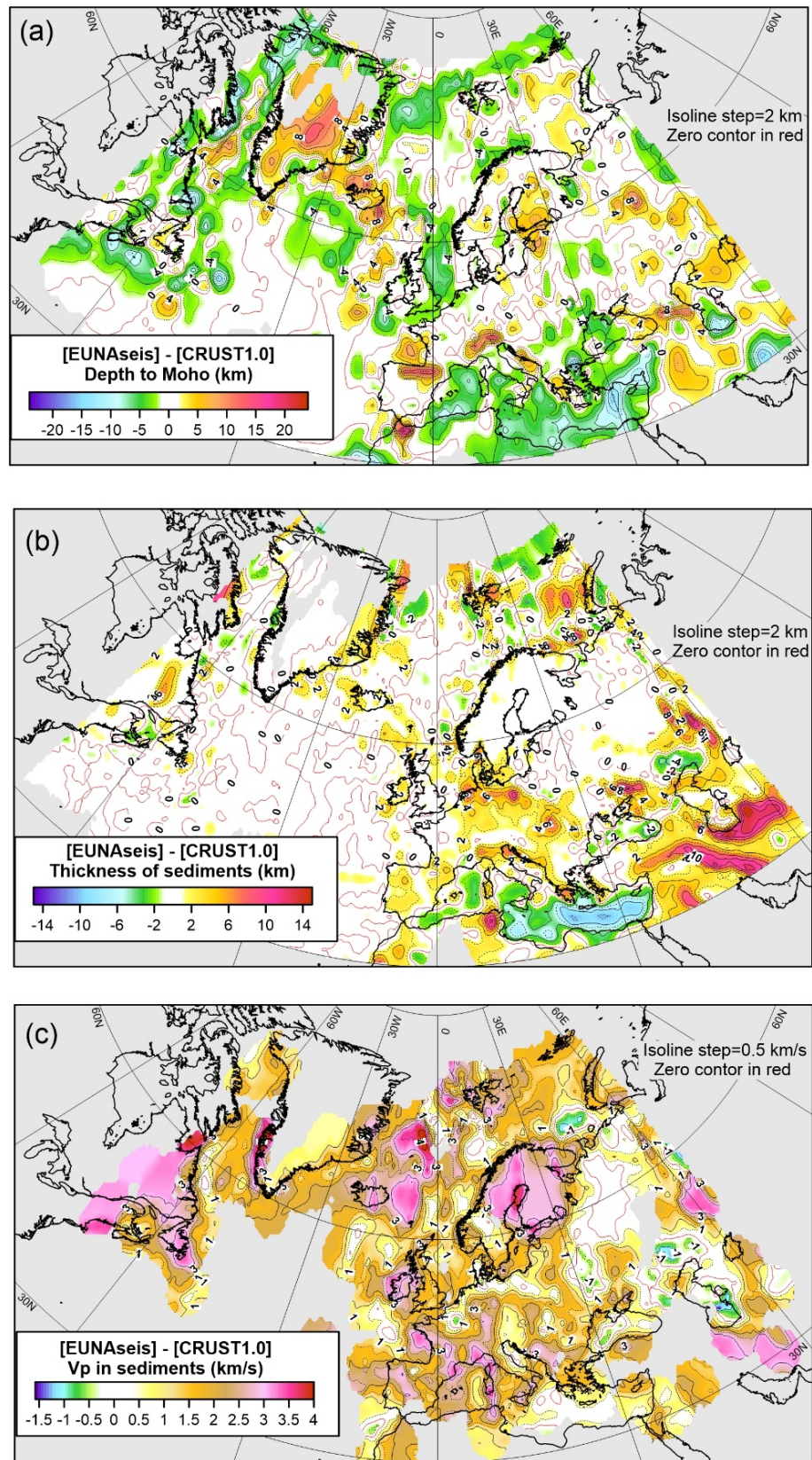
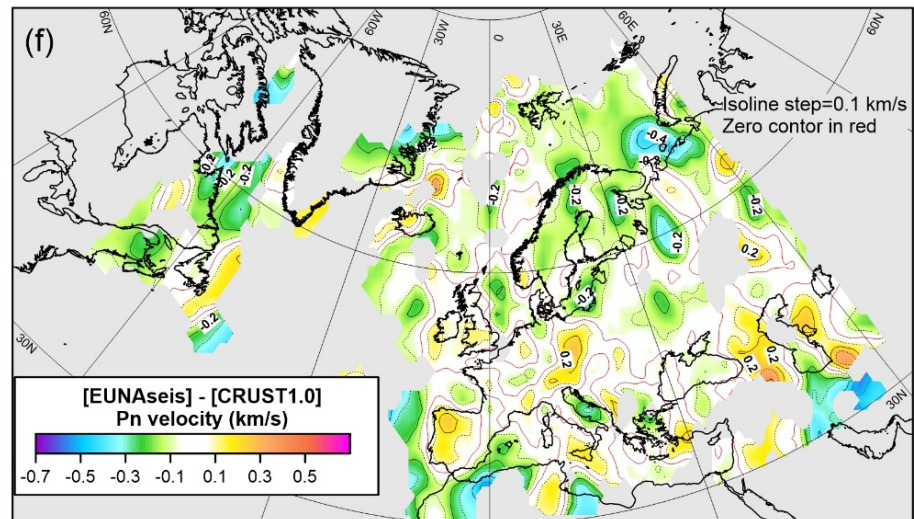
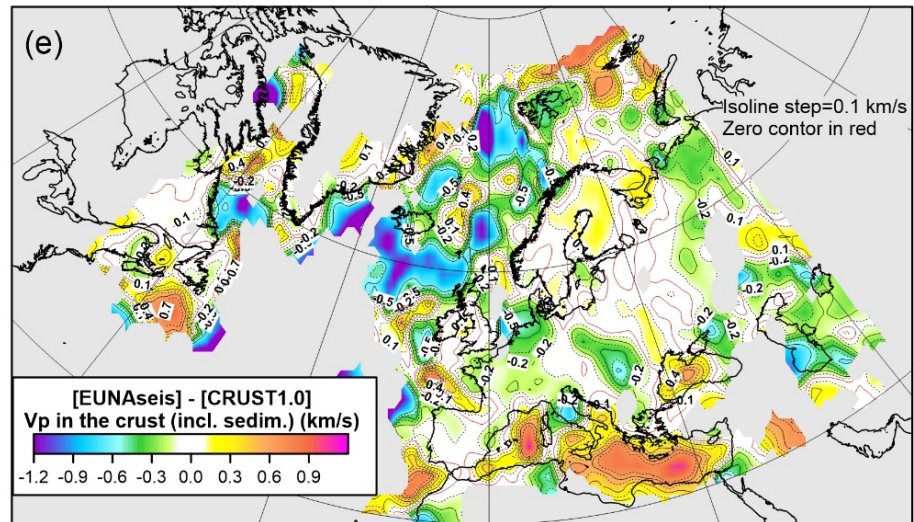
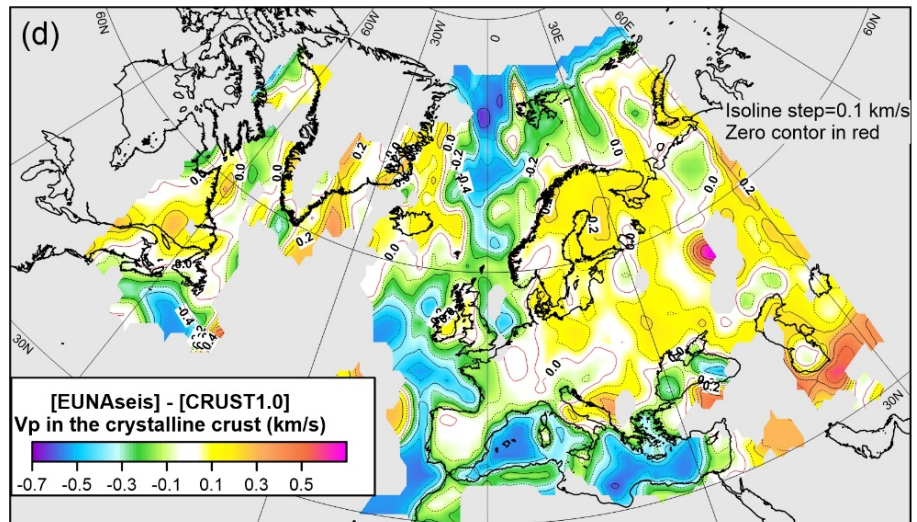


Comparison of the EUNaseis crustal model (Artemieva and Thybo, 2013) with a just released (15.07.2013) global CRUST1.0 model (Laske et al., 2013)



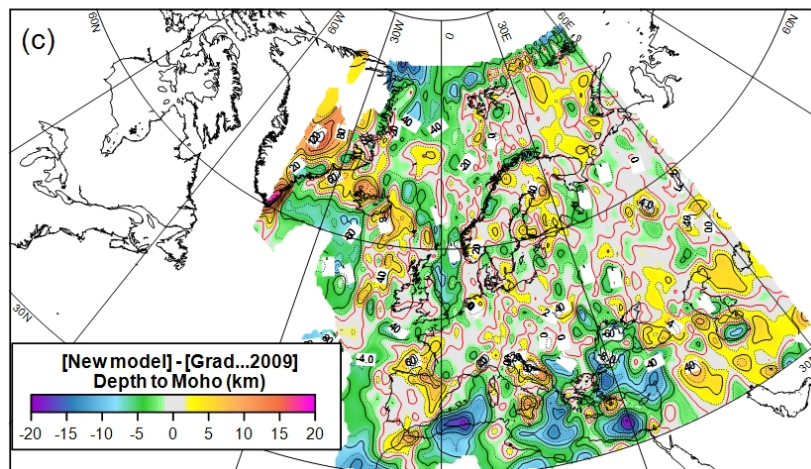
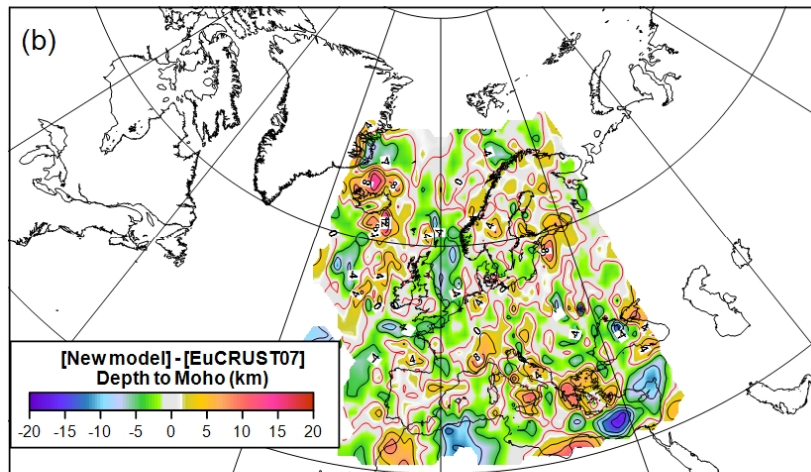
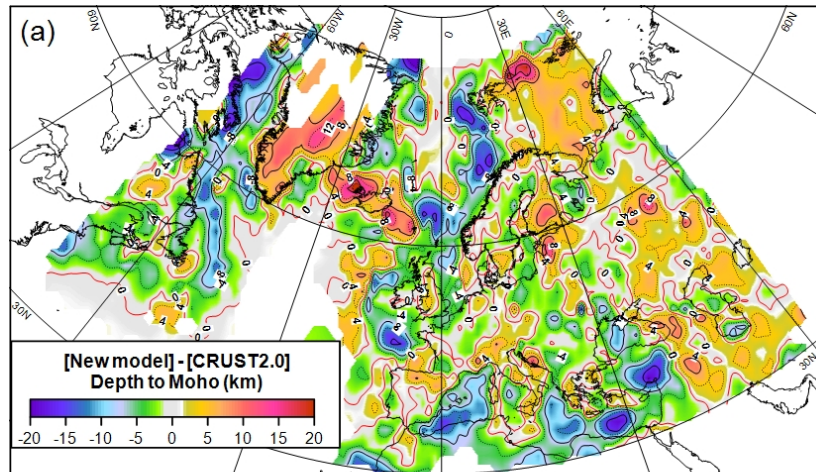
Please refer to caption to Figure 12 for details.



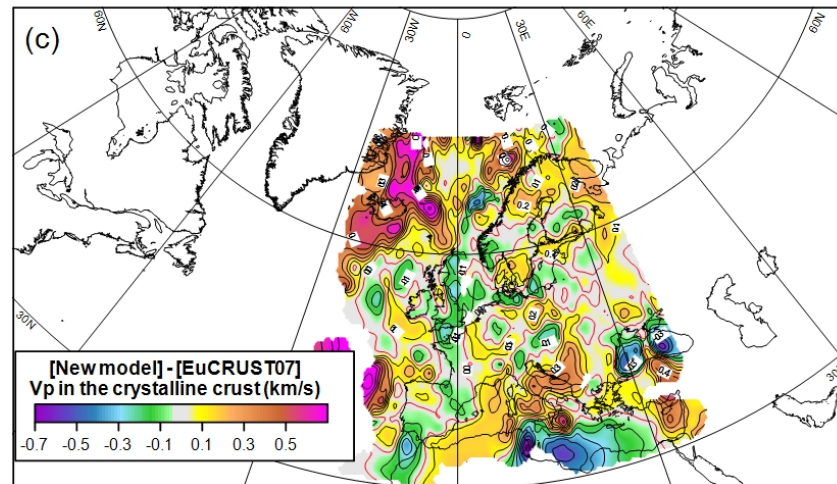
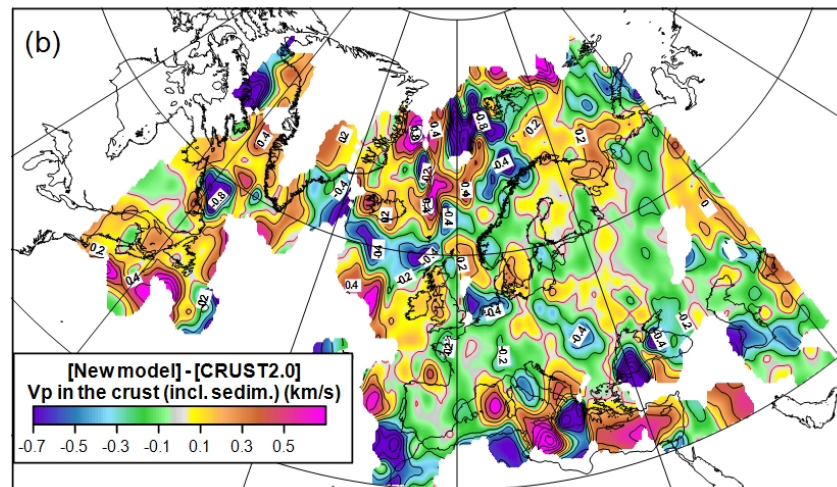
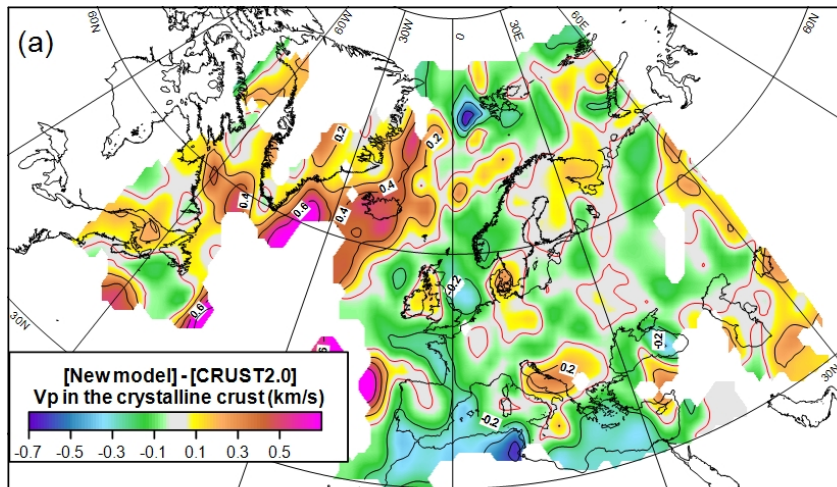
Please refer to captions to Figures 18 and 19c for details.

**Comparison of the EUNaseis crustal model (Artemieva and Thybo, 2013)
with other regional and global crustal models:
CRUST2.0 (Bassin et al., 2000), EuCRUST-07 (Tesauro et al., 2008),
European Moho (Grad et al., 2009)**

Depth to Moho (Fig. 12abc)



Average Vp in the crust (Fig. 18abc)



Pn Velocity at the top mantle (Fig. 19a)

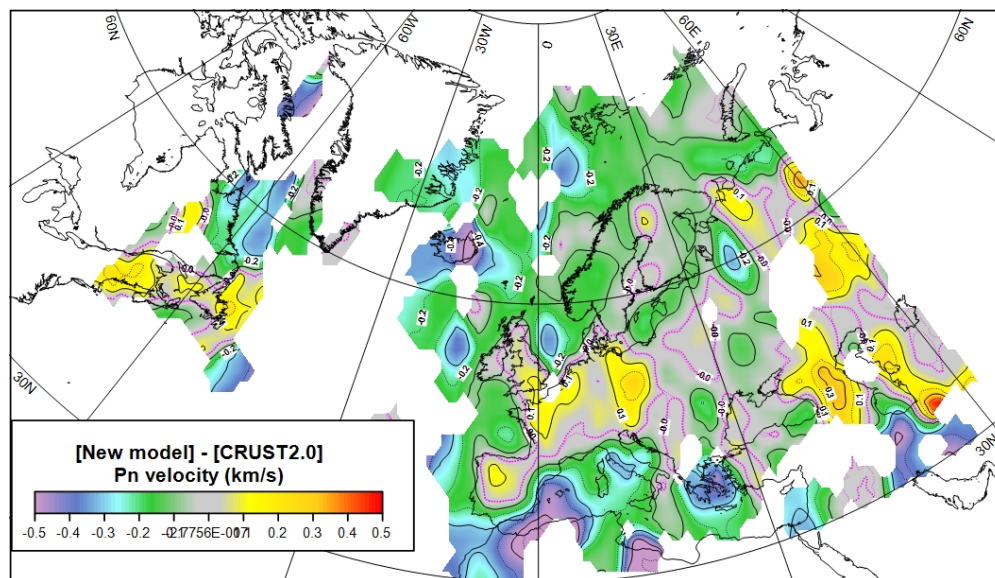


Table 1
Summary of continent-scale crustal models for Europe.

Continent-scale crustal models	Ziegler and Dezes (2006)	Tesauro et al. (2008) (EuCRUST-07)	Grad et al. (2009)	Molinari and Morelli (2011) (EPcrust)	Present model (EUNASEIS)
Area	34°N–61°N, 20°W–25°E	35°N–71°N, 25°W–35°E	28°N–88°N, 40°W–70°E	20°N–90°N, 40°W–70°E	30°N–84°N, 70°W–62°E
<i>Methodology</i>					
Seismic models	No specific information	Compilation based on ca. 15 previous regional compilations for various crustal parameters, complemented by 134 papers on the crustal structure and 44 papers on Moho depth	Compilation based on 39 previous regional compilations, complemented by 112 papers on Moho depth (in total more than 250 datasets from individual seismic profiles)	Compilation based on 8 previous global and regional compilations, complemented by RF models and 4 global and regional compilations for Moho depth	Compilation “from scratch” based on ca. 650 papers on the seismic crustal structure and additionally ca. 200 RF models for Moho depth
Discretization of seismic model	No information	No information on compilation strategy, compilation includes digitized contour maps	No information, compilation includes digitized contour maps	Weighted merging and averaging of all datasets (weight depends on the number of crustal parameters in incorporated models)	Along seismic profiles digitized with less than 50 km spacing
Potential field data	No information, might be included	Included through use of previous regional compilations	Explicitly included	Included through use of previous regional compilations	Excluded
Geological data	No information, might be included	Included, no specific information on the details	Included through use of previous regional compilations	Included through use of previous compilations (e.g. CRUST2.0)	Bathymetry used to assign only Moho depth on deep-water side along parts of the shelf–ocean transition without seismic data
<i>Model parameterization</i>					
Moho depth	Yes	Yes	Yes	Yes	Yes
Sedimentary cover	n/a	Thickness; depth to the basement	n/a	Thickness based on weighted averaging of compiled models; average Vp in layer is determined from regional dependence on sediment thickness; Vs and density are derived from Vp using a Nafe–Drake regression	Thickness, depth to the basement, average Vp in the sedimentary layer extracted from seismic models without other assumptions
Crustal layers within the crystalline crust	n/a	2 layers (upper crust and lower crust)	n/a	2 layers (upper crust and lower crust)	4 layers (upper, middle, lower, and high-Vp lower) crust
Parameters for crustal layers	n/a	Thickness; Vp	n/a	Thickness; average Vp in layer (Both thickness and Vp are based on weighted averaging of compiled models); Vs and density derived from Vp using a Nafe–Drake regression	Thickness; Vp (Both parameters derived from seismic models)
Average crustal Vp in crystalline crust	n/a	Vp calculated as weighted average	n/a	n/a	Vp calculated as weighted average and through travel times
Average crustal Vp (incl. sediments)	n/a	n/a	n/a	n/a	Vp calculated as weighted average and through travel times
Upper mantle Pn velocity	n/a	n/a	n/a	Yes	Yes
Availability in digital form	n/a	Yes [T]	Yes [C]	Yes [M]	Yes [A]

Web-sites with electronic versions of databases:

- [T] GR1 web-site and <http://onlinelibrary.wiley.com/doi/10.1029/2007GL032244/supinfo>
 [C] <http://www.seismo.helsinki.fi/mohomap/>
 [M] http://www.bo.ingv.it/~molinari/EPcrust_solar/download.html
 [A] www.lithosphere.info.