



**Slovenská geofyzikálna konferencia**  
**Bratislava, 22. - 23. júna 2011**



# **NOVÉ VÝSLEDKY HLBINNEJ GEOFYZIKÁLNEJ INTERPRETÁCIE KARPATSKO-PANÓNSKEJ LITOSFÉRY**

**Miroslav Bielik**

Vozár J., Alasonati Tašárová Z., Guterch, A., Janik T., Grad M., Zeyen H., Goetze H.,  
Minár J., Kováč M., Csicsay K, Grinč, M.



# Slovenská geofyzikálna konferencia

## Bratislava, 22. - 23. júna 2011



### Obsah

- **VÝSLEDKY INTERPRETÁCIE SEIZMICKÝCH REFRAKČNÝCH MERANÍ CELEBRATION 2000**
- **VÝSLEDKY INTERPRETÁCIE TIAŽOVÉHO POĽA V OBLASTI CELEBRATION 2000**
- **VÝSLEDKY INTEGROVANEJ GEOFYZIKÁLNEJ INTERPRETÁCIE**
- **VÝSLEDKY APLIKOVANÉ PRI GEOGRAFICKEJ A GEOLOGICKEJ INTERPRETÁCII**



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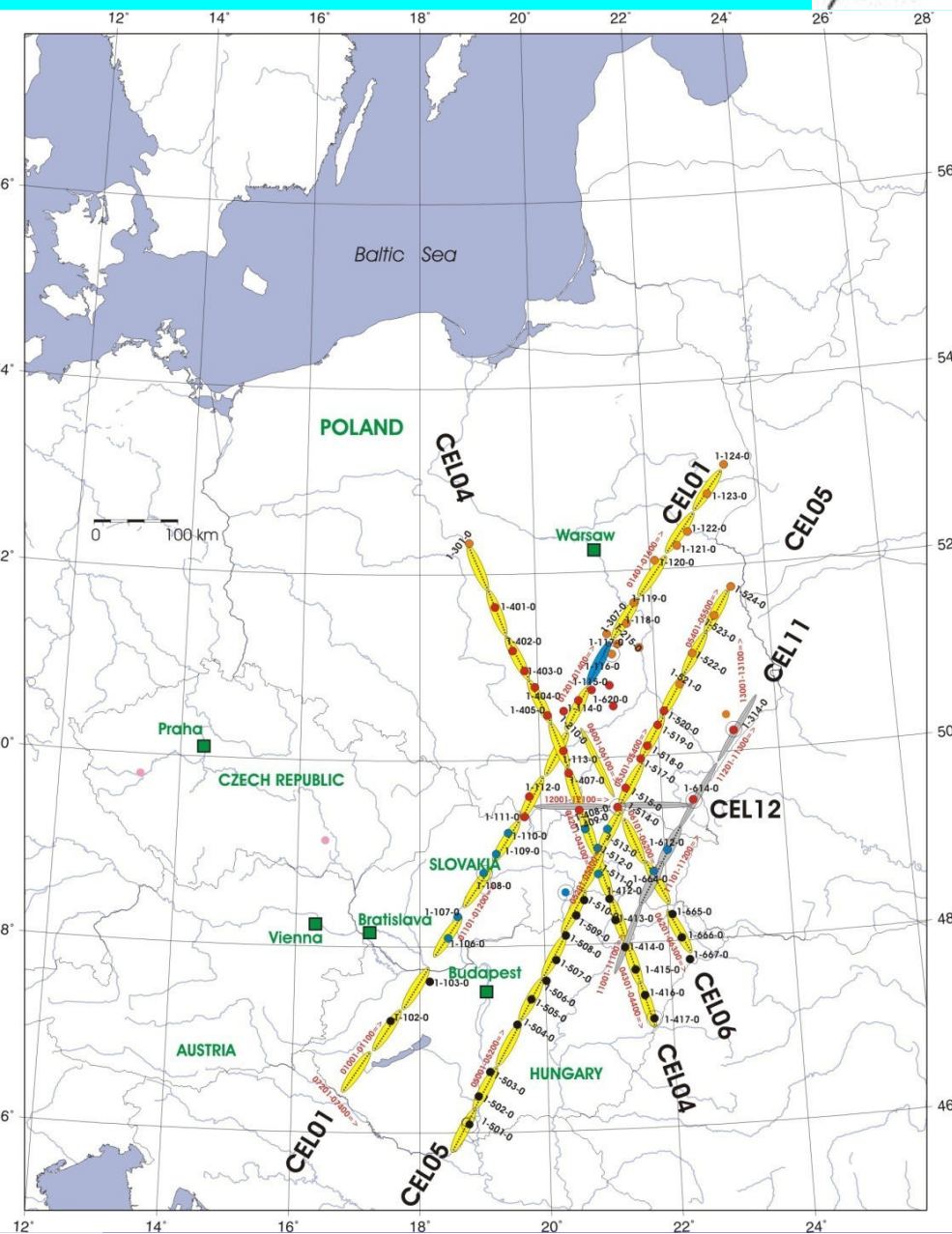
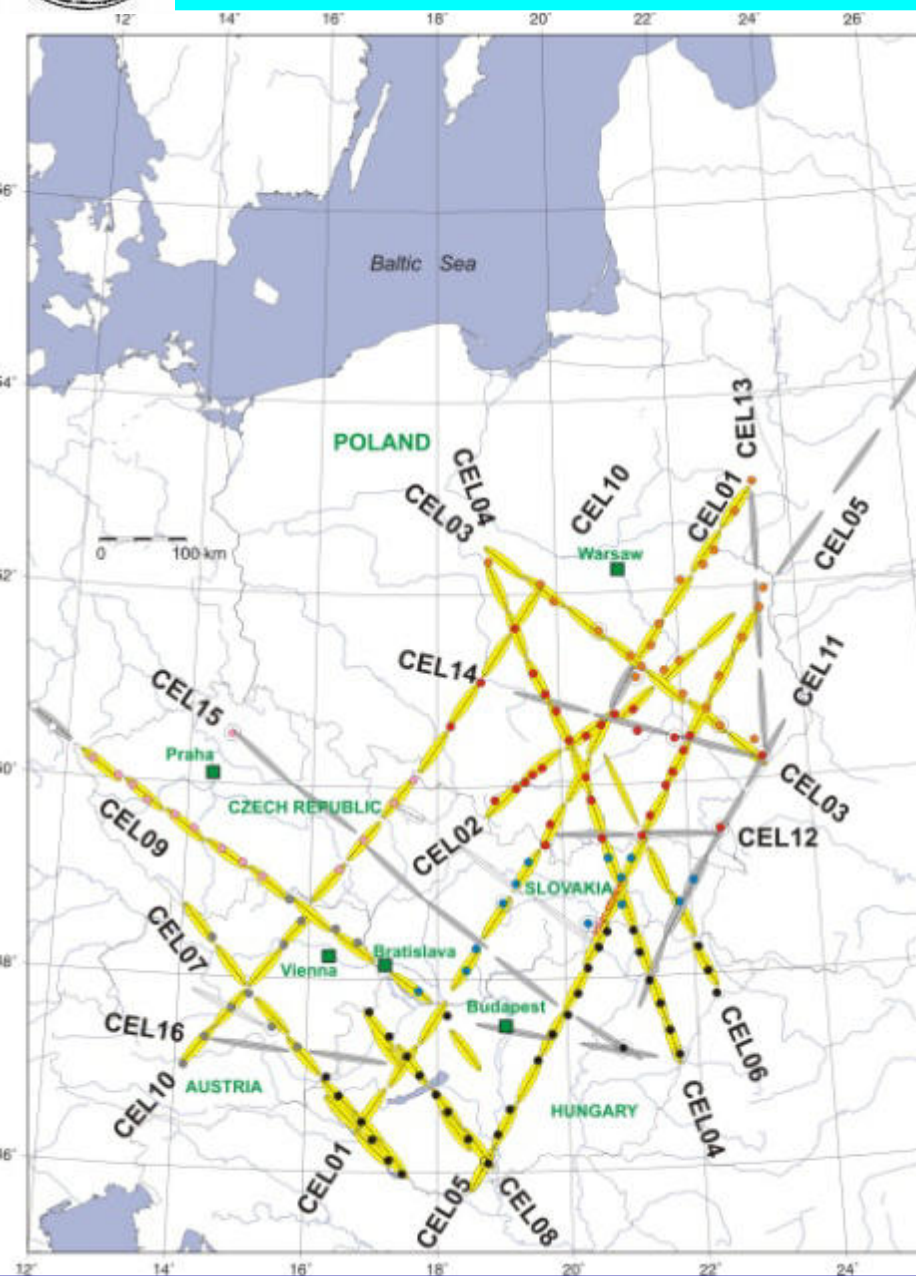


# **VÝSLEDKY INTERPRETÁCIE SEIZMICKÝCH REFRAKČNÝCH MERANÍ CELEBRATION 2000**

**Journal of Geodynamics 52 (2011) 97–113**

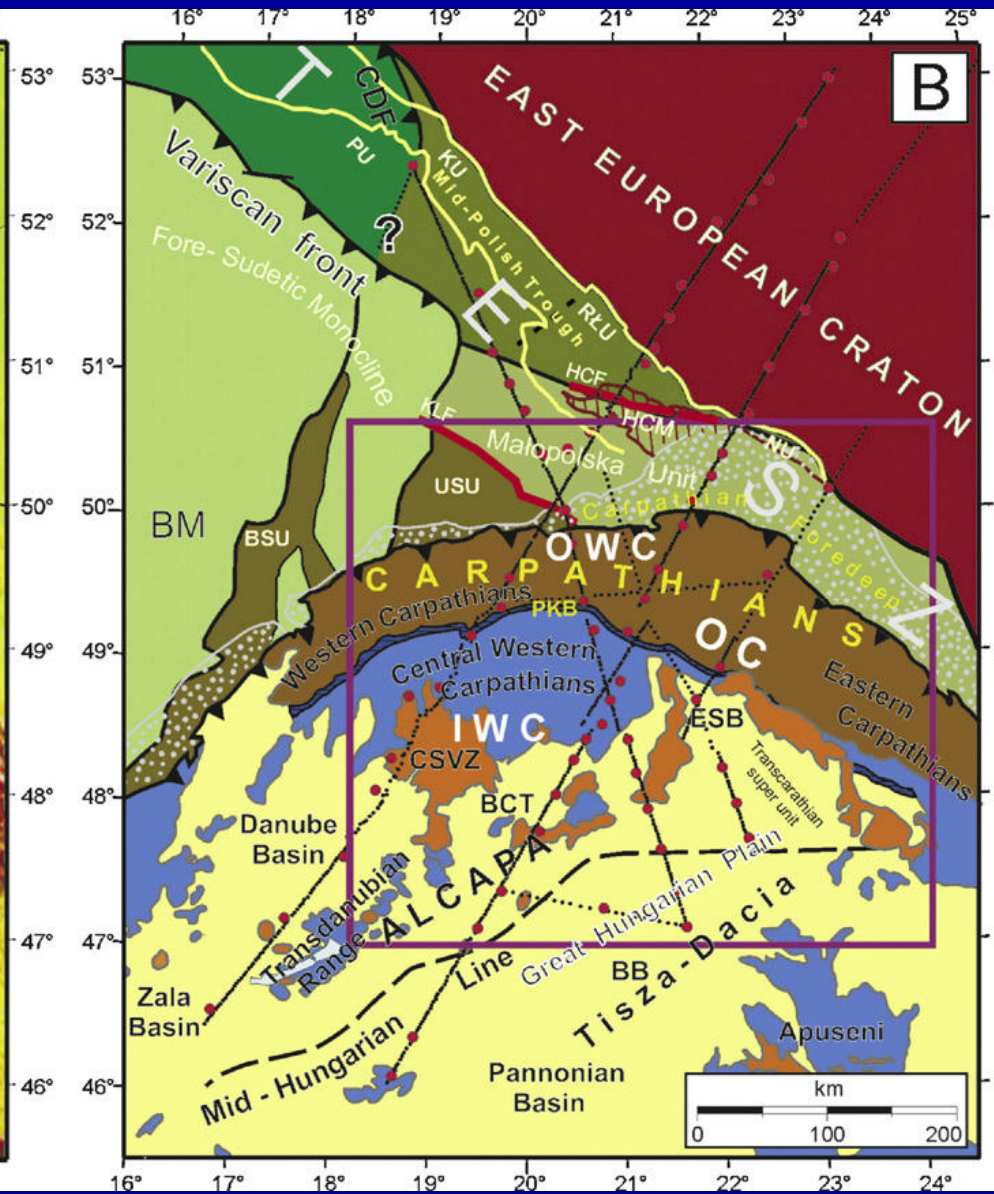
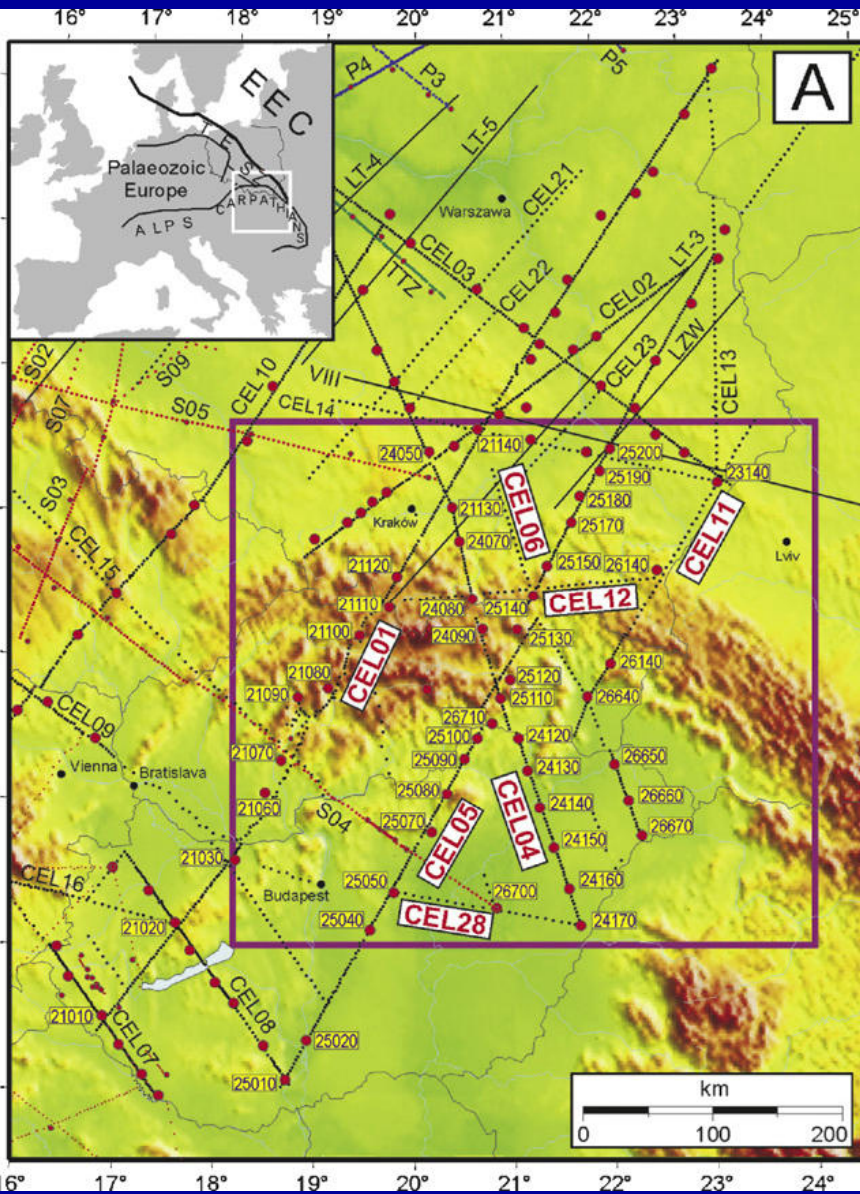


# LOCATION OF CELEBRATION 2000 SEISMIC PROFILES



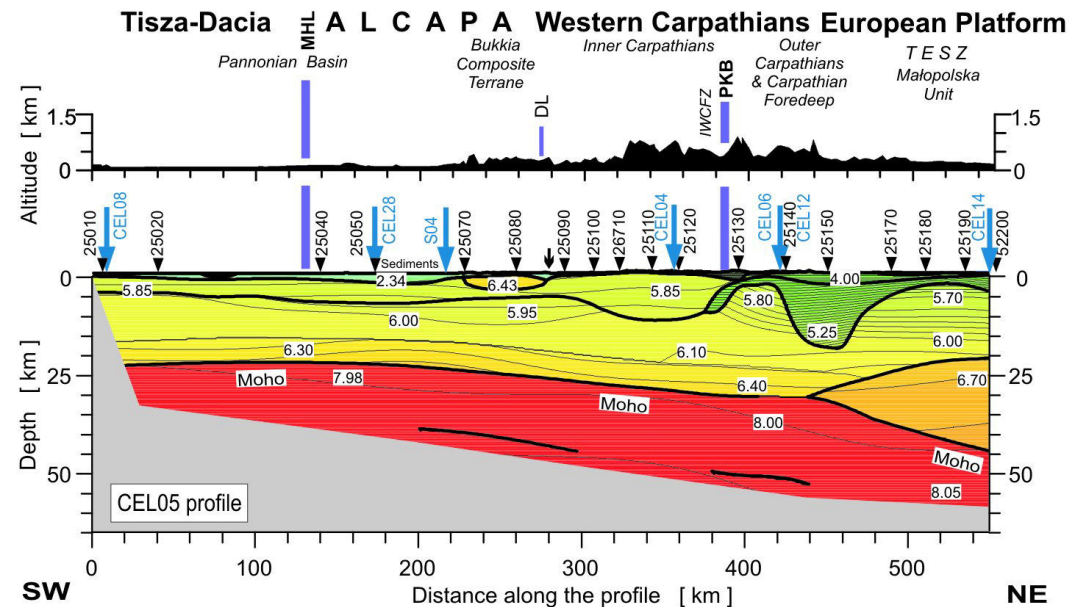
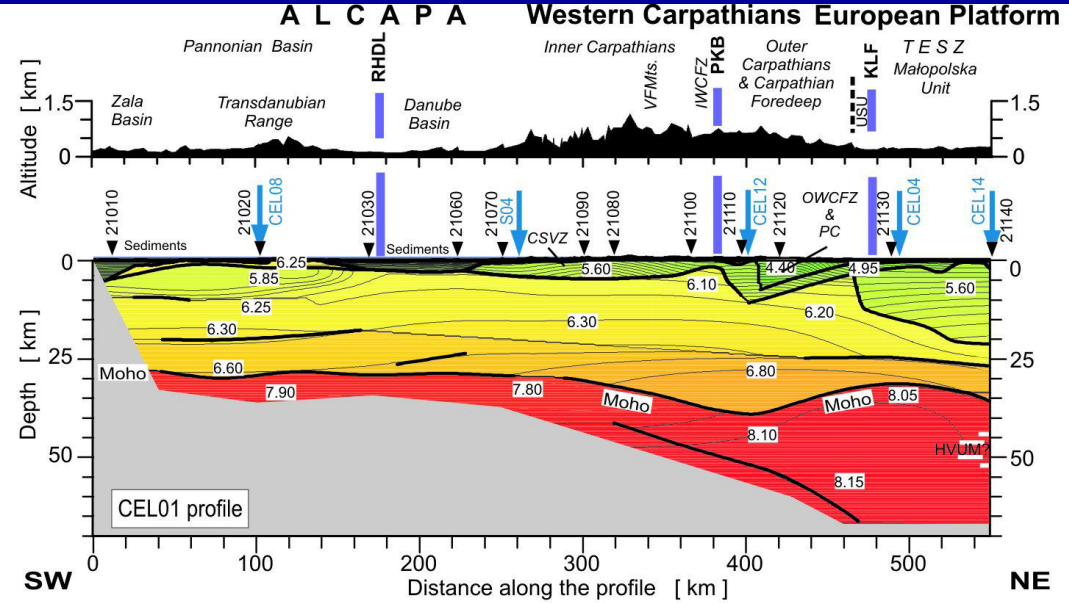
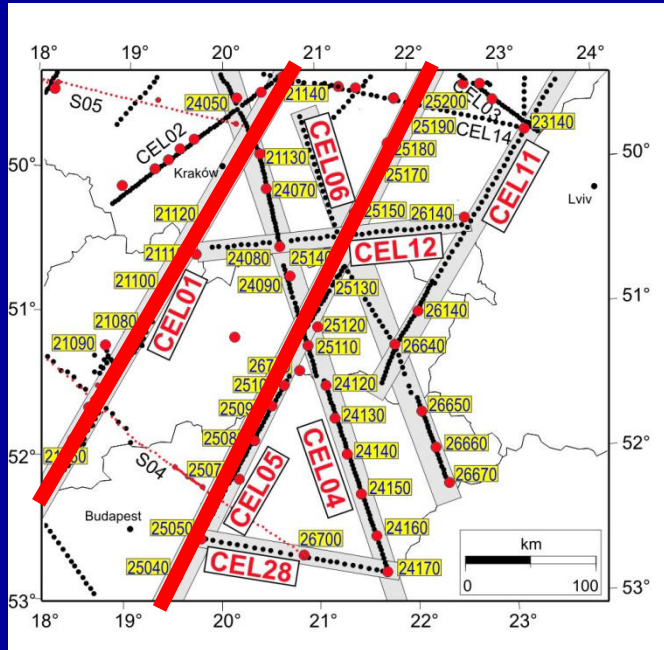


# LOCATION OF CELEBRATION 2000 SEISMIC PROFILES



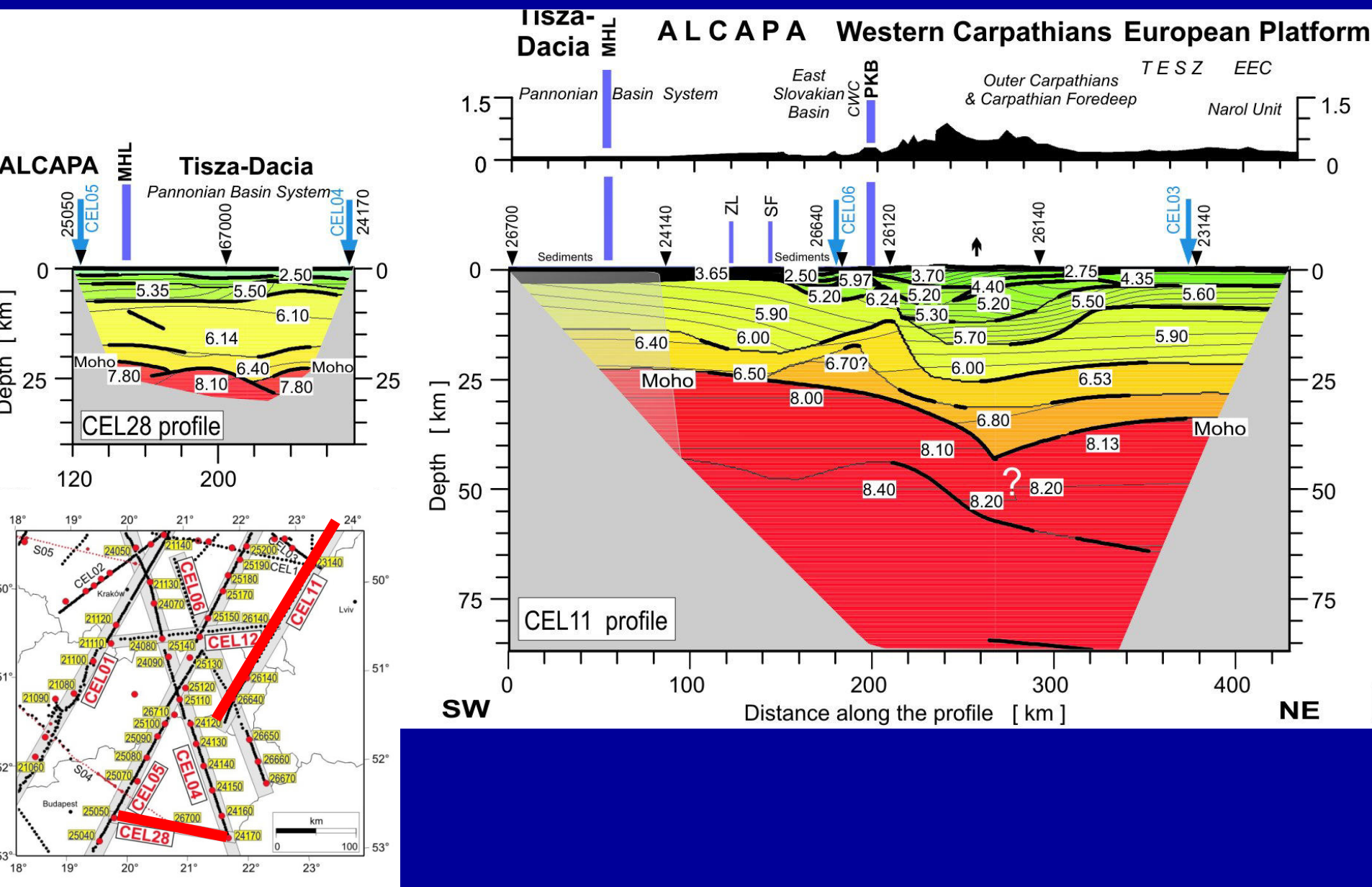


# 2D MODELS OF SEISMIC P-WAVE VELOCITY IN CRUST AND UPPERMOST MANTLE



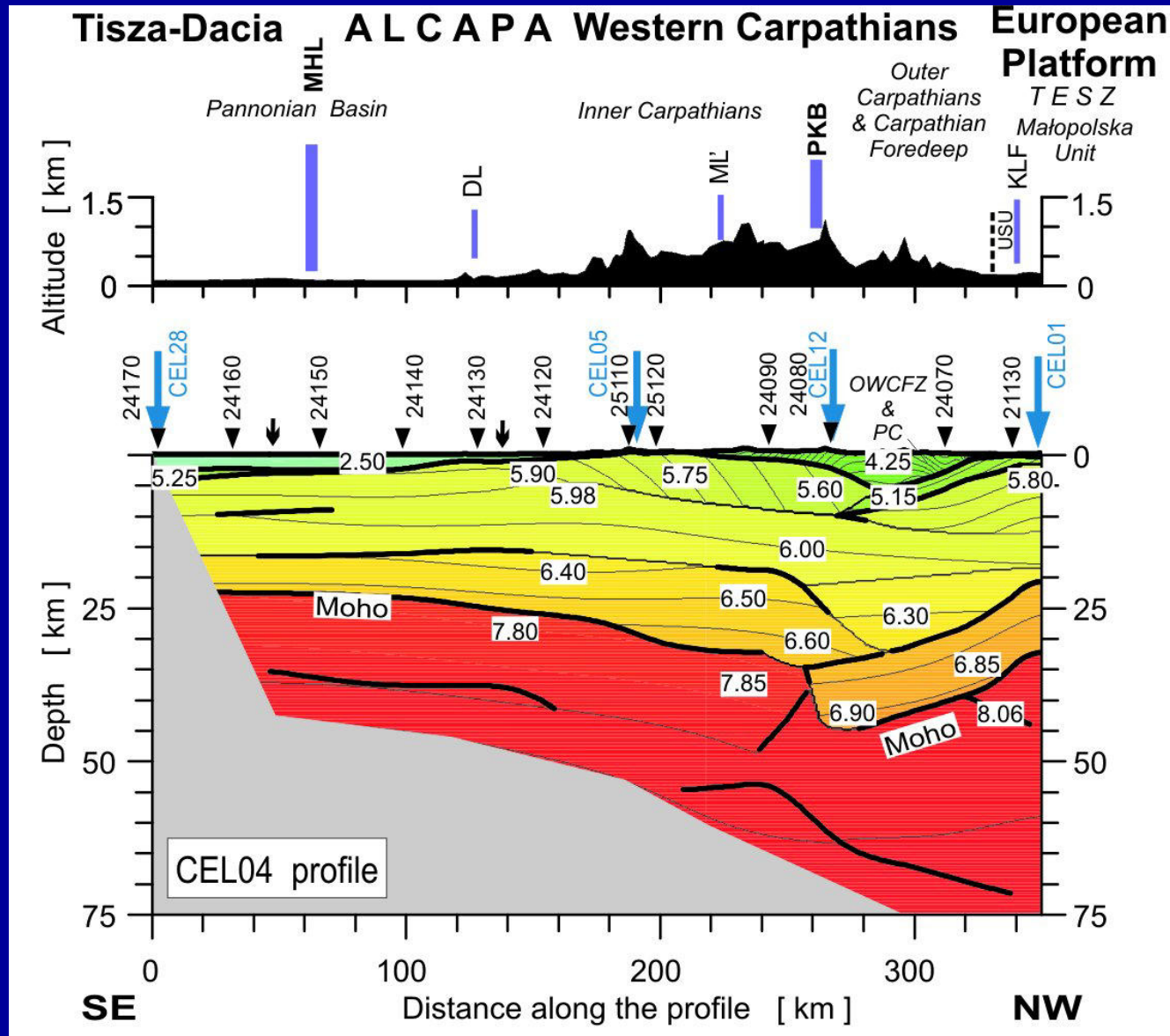
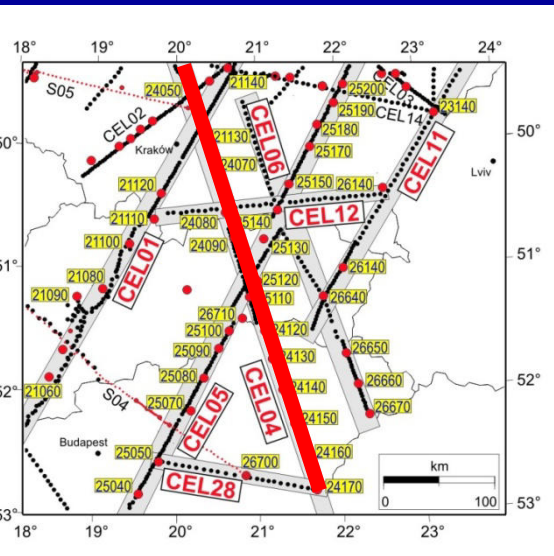


# 2D MODELS OF SEISMIC P-WAVE VELOCITY IN CRUST AND UPPERMOST MANTLE





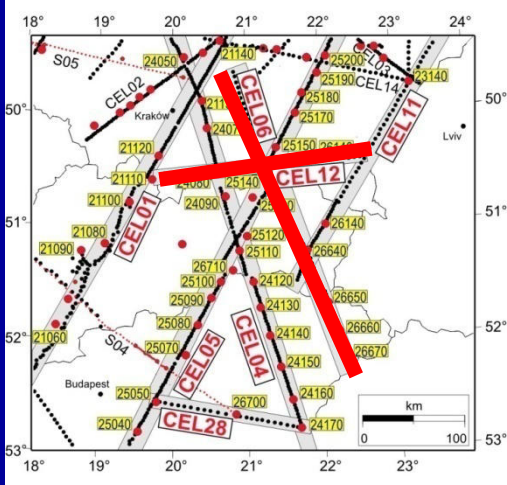
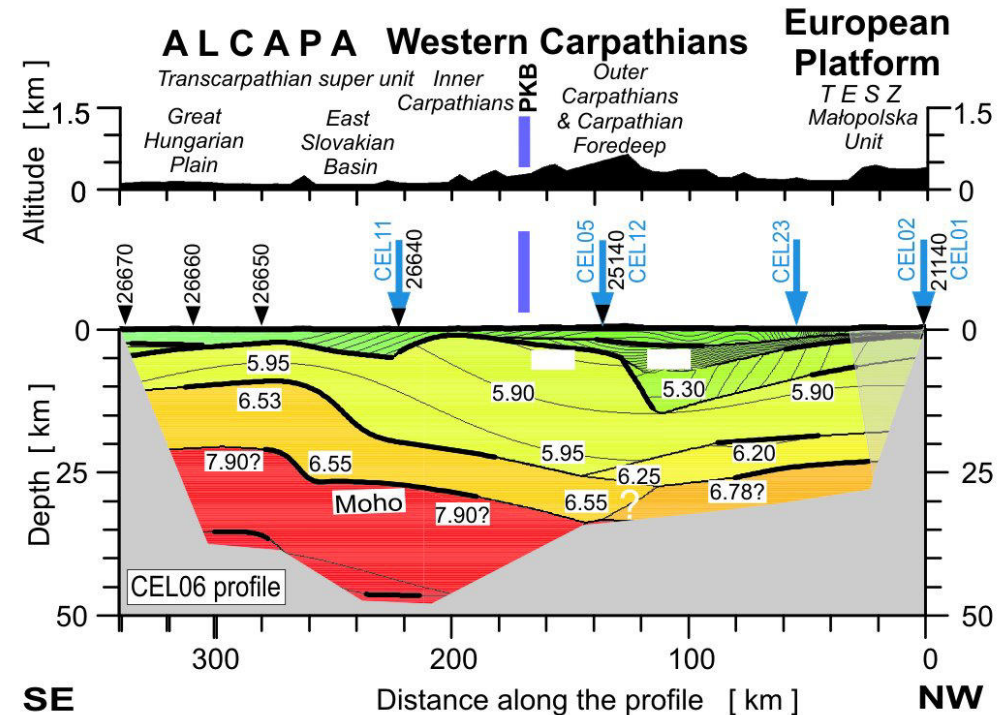
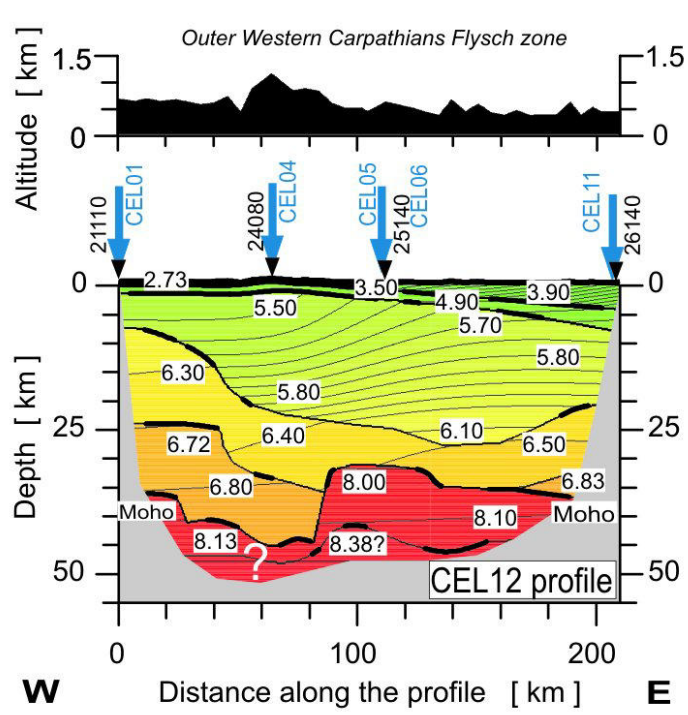
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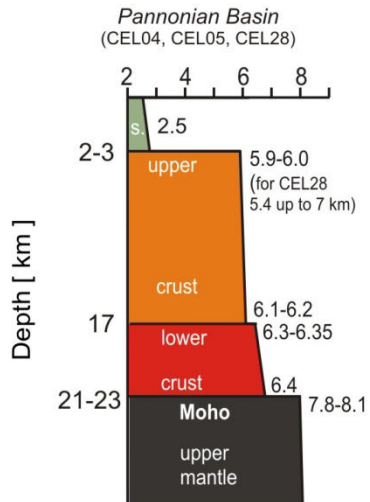




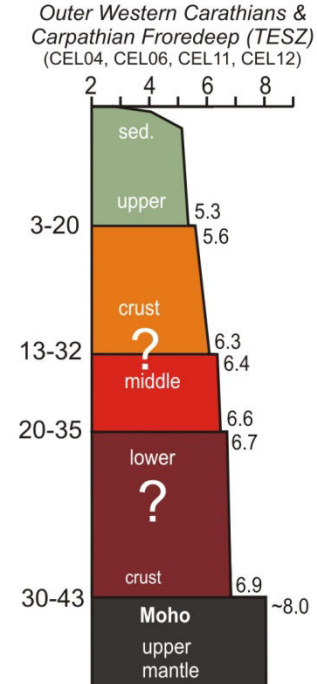
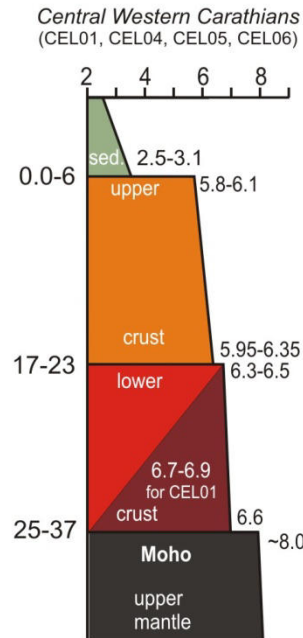
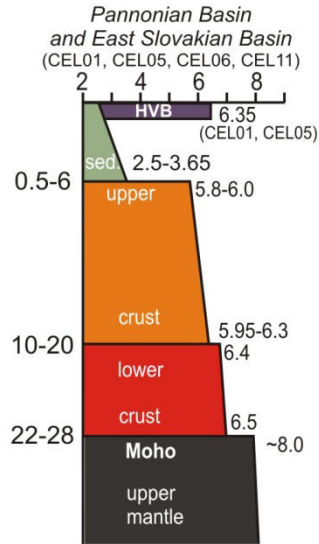
# REPRESENTATIVE CRUSTAL MODELS FOR DIFFERENT TECTONIC UNITS



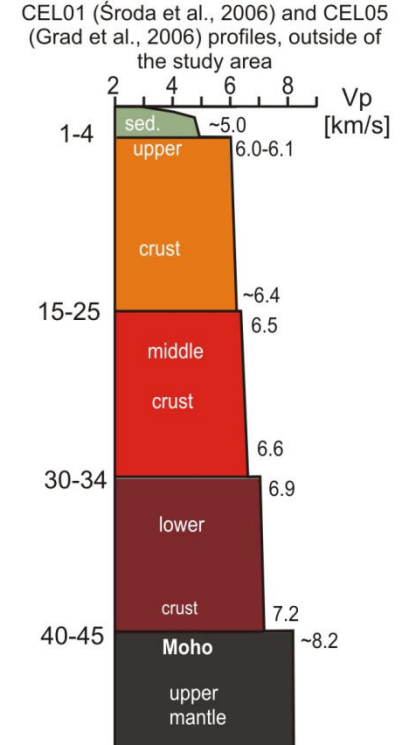
## Tisza-Dacia



## ALCAPA Western Carpathians & TESZ

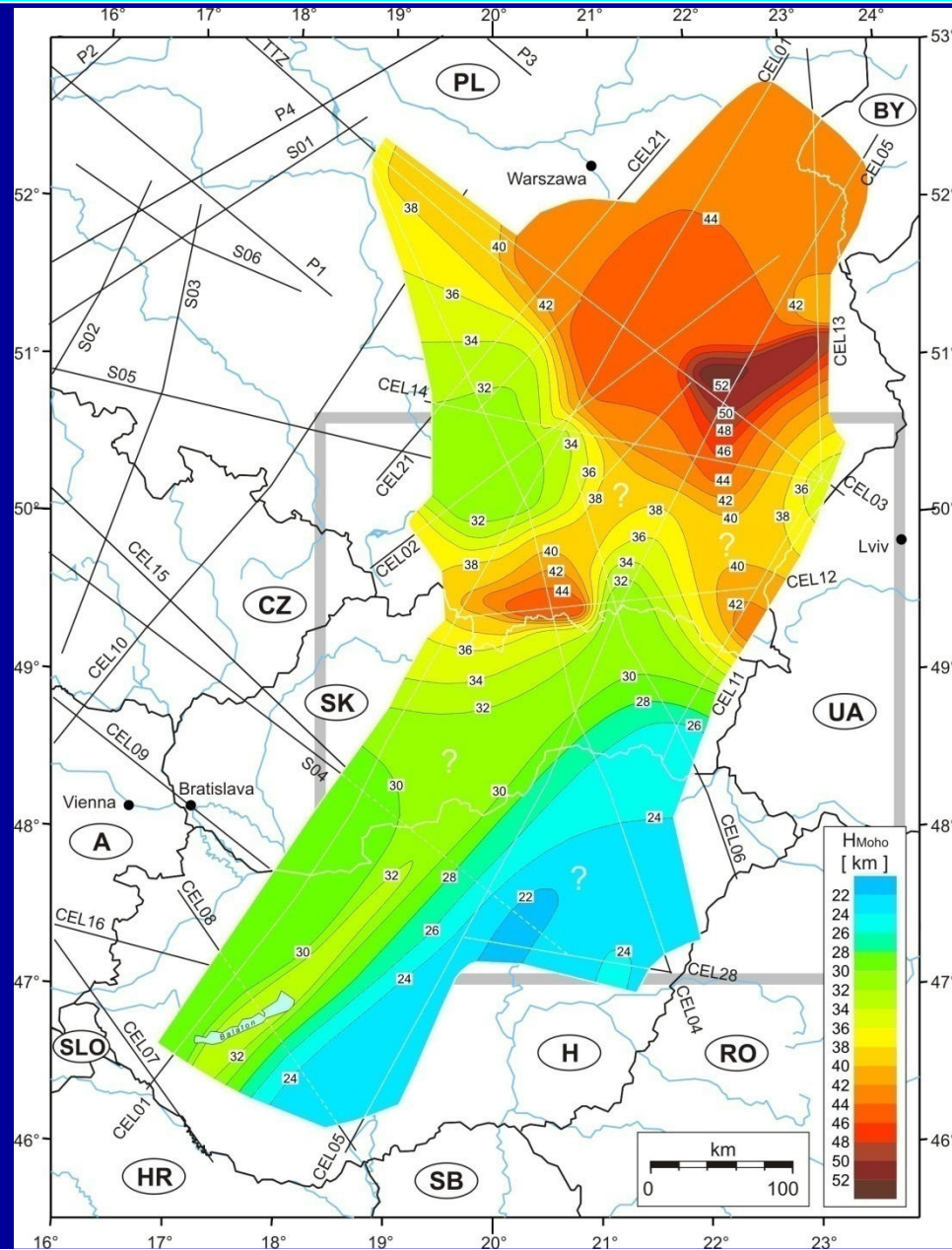


## EAST EUROPEAN CRATON





# MOHO DEPTH (CRUSTAL THICKNES)





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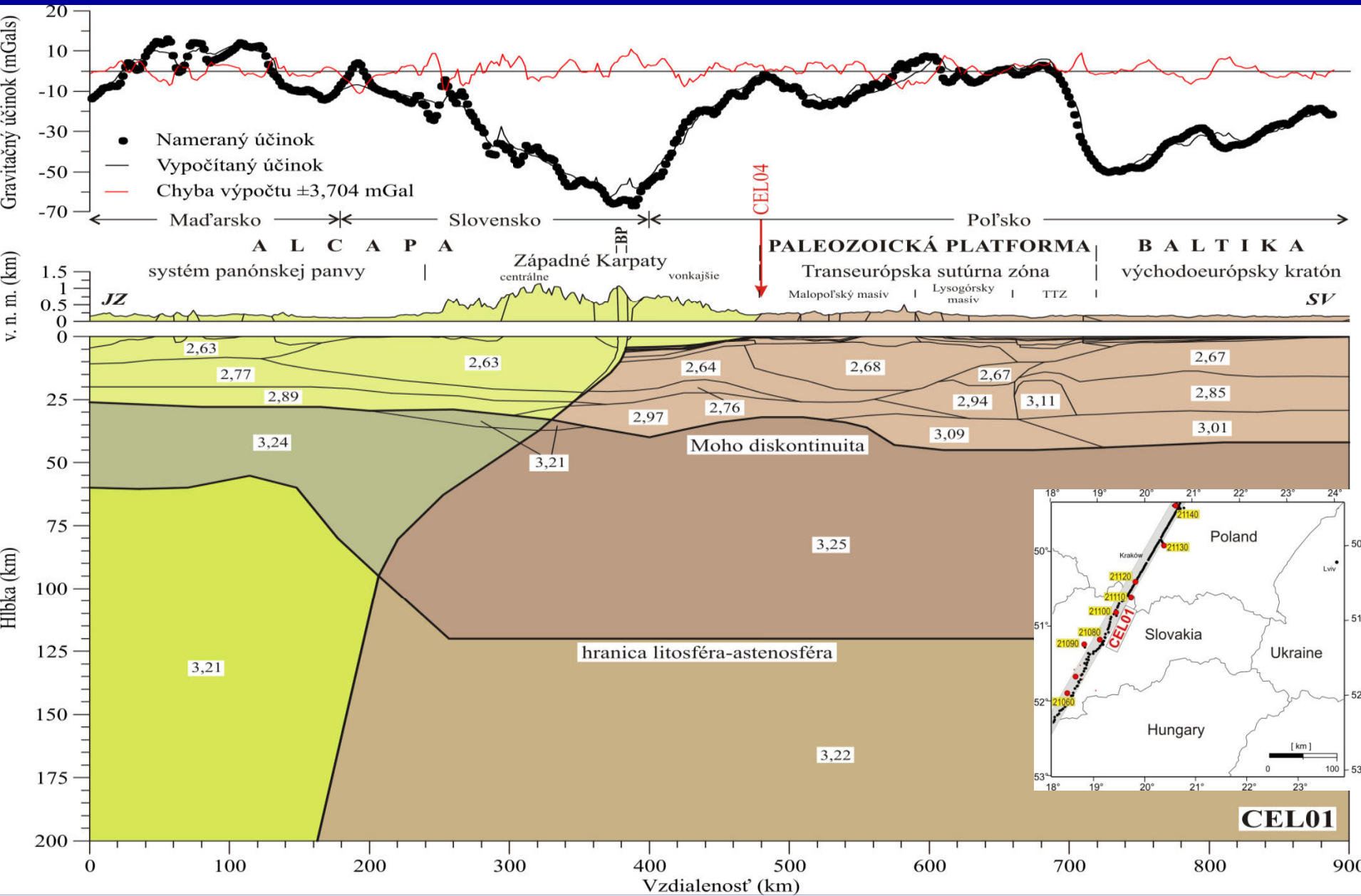


# **VÝSLEDKY INTERPRETÁCIE TIAŽOVÉHO POĽA V OBLASTI CELEBRATION 2000**

**K. Csicsay, dizertačná práca 2011**

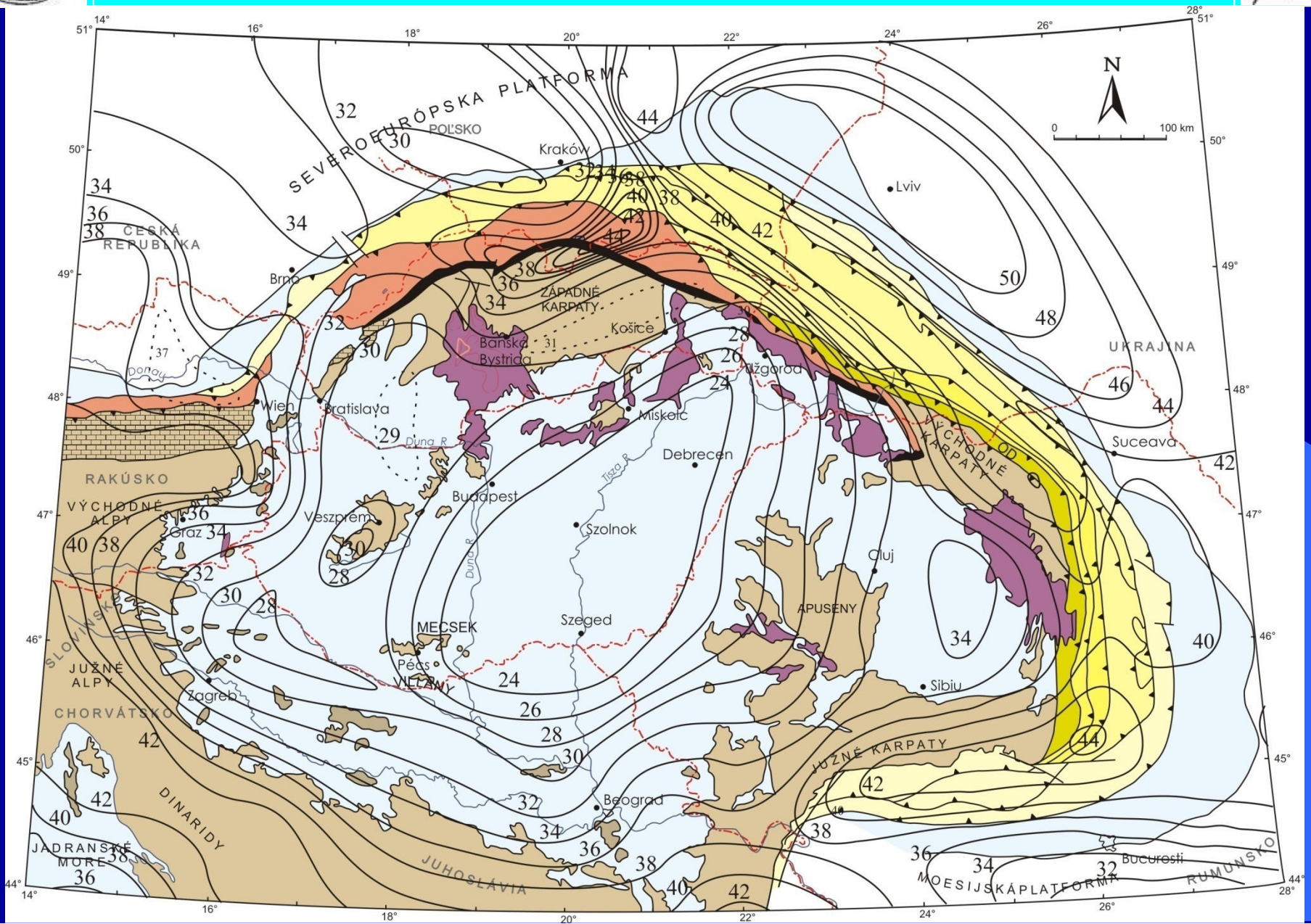


# DENSITY MODEL ALONG PROFILE CEL01





# MOHO DEPTH (CRUSTAL THICKNESS)





**Slovenská geofyzikálna konferencia**

**Bratislava, 22. - 23. júna 2011**

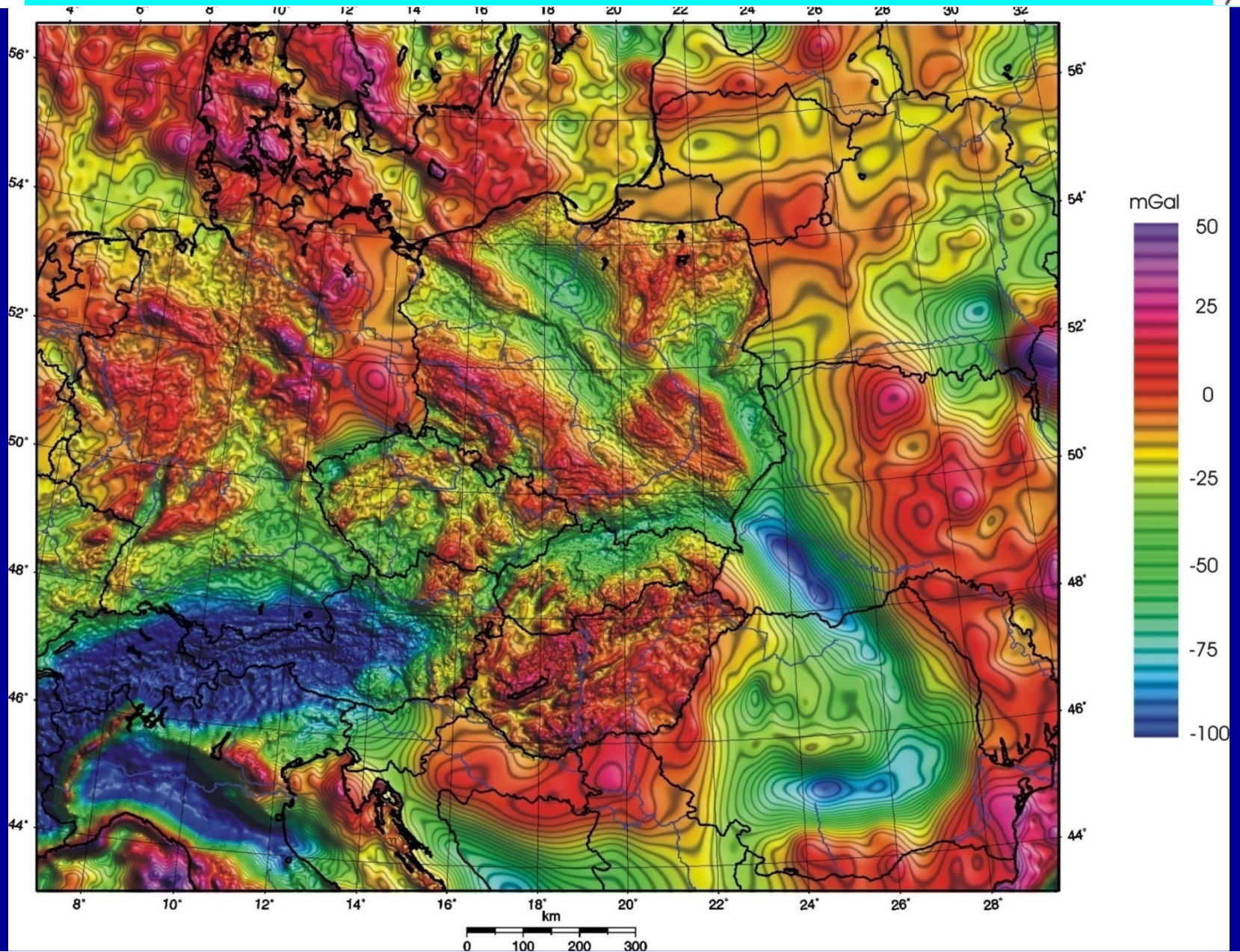


# **VÝSLEDKY INTERPRETÁCIE TIAŽOVÉHO POĽA V OBLASTI CELEBRATION 2000**

**Geologica Carpathica 2008 a Tectonophysics 2009**



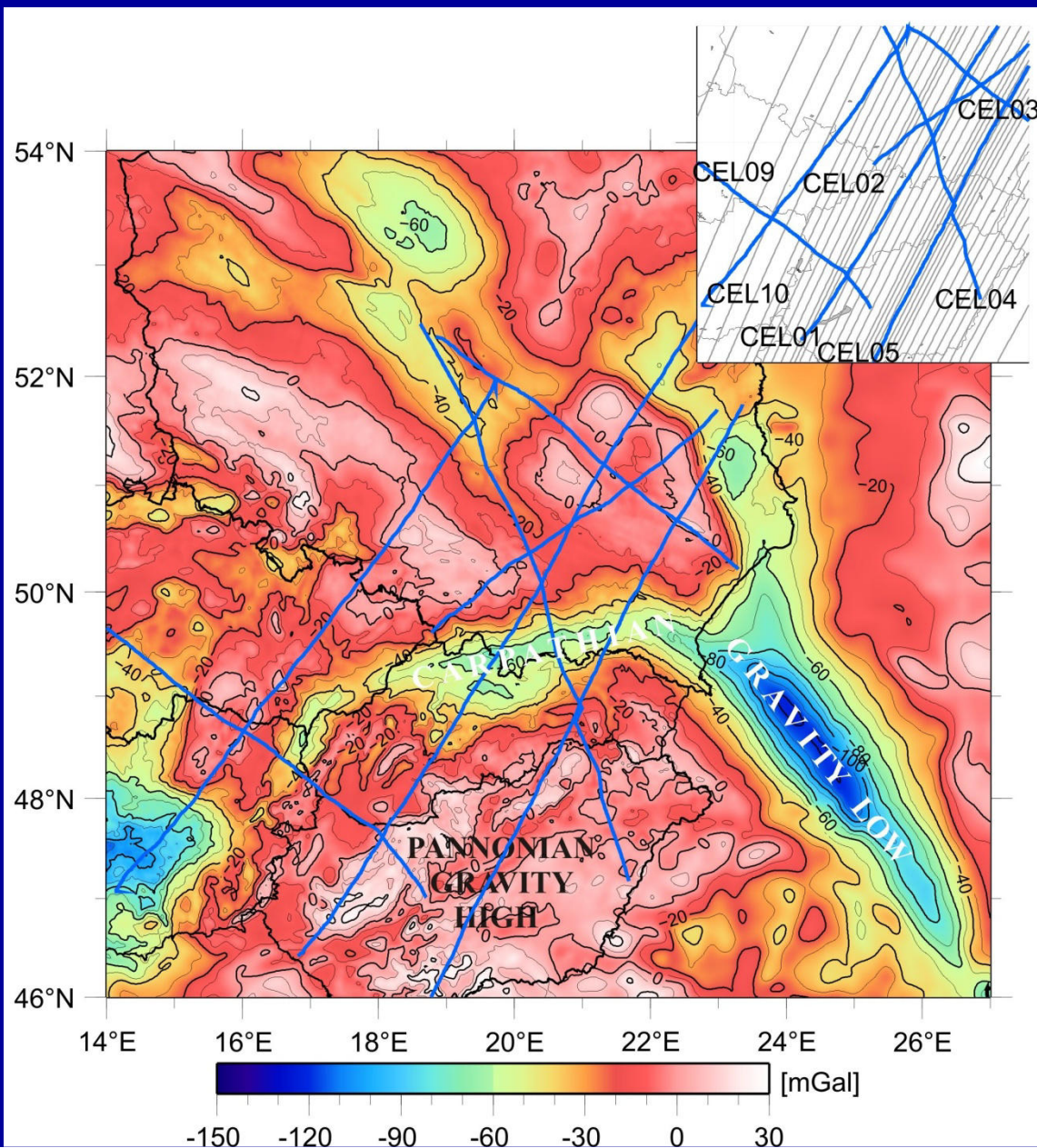
# TOTAL BOUGUER GRAVITY MAP (GRAVITY FIELD)





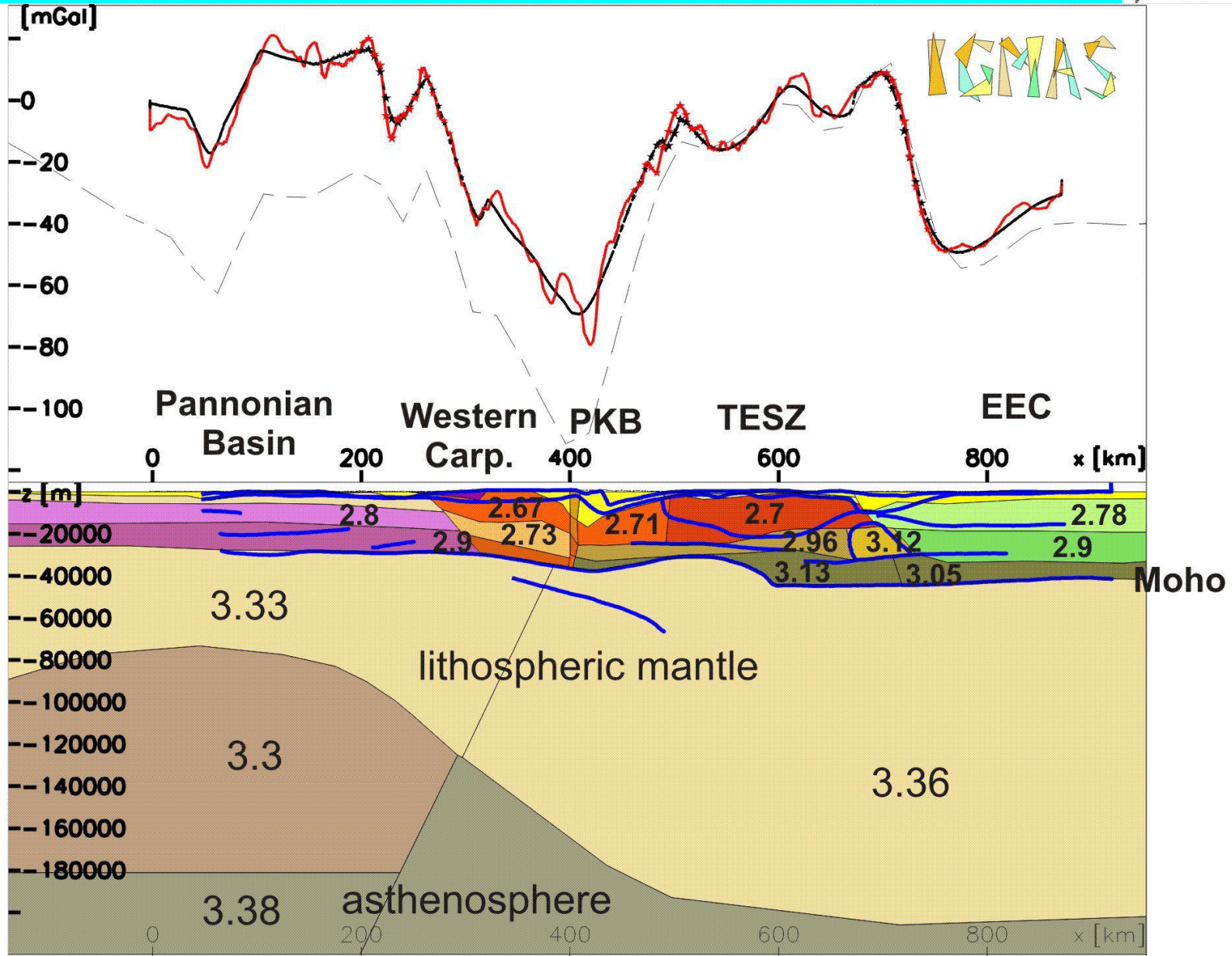


# INTERPRETATION PROFILES



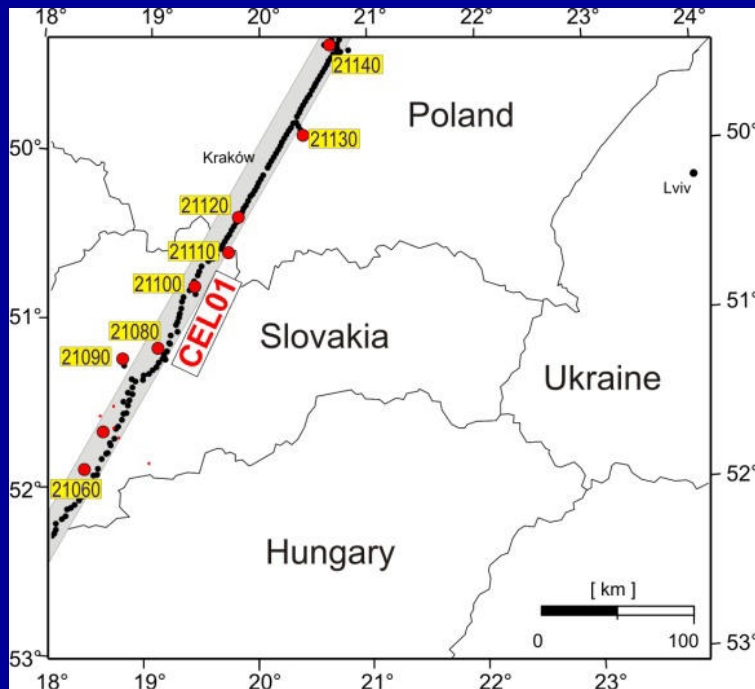


# DENSITY MODEL OF PROFILE CELEBRATION 2000 CEL01

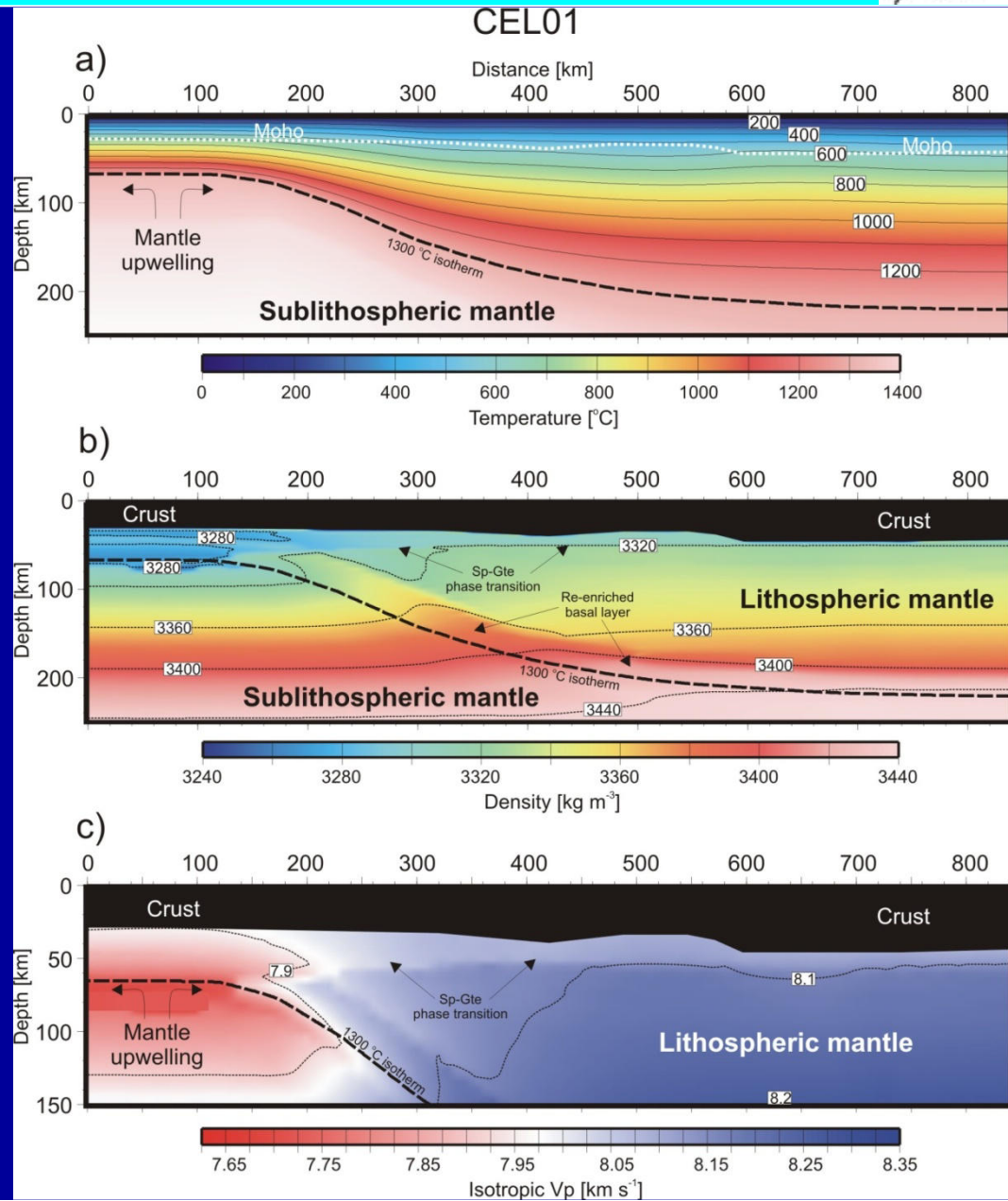




# DETERMINATION OF THE SUBLITHOSPHEREIC DENSITIES

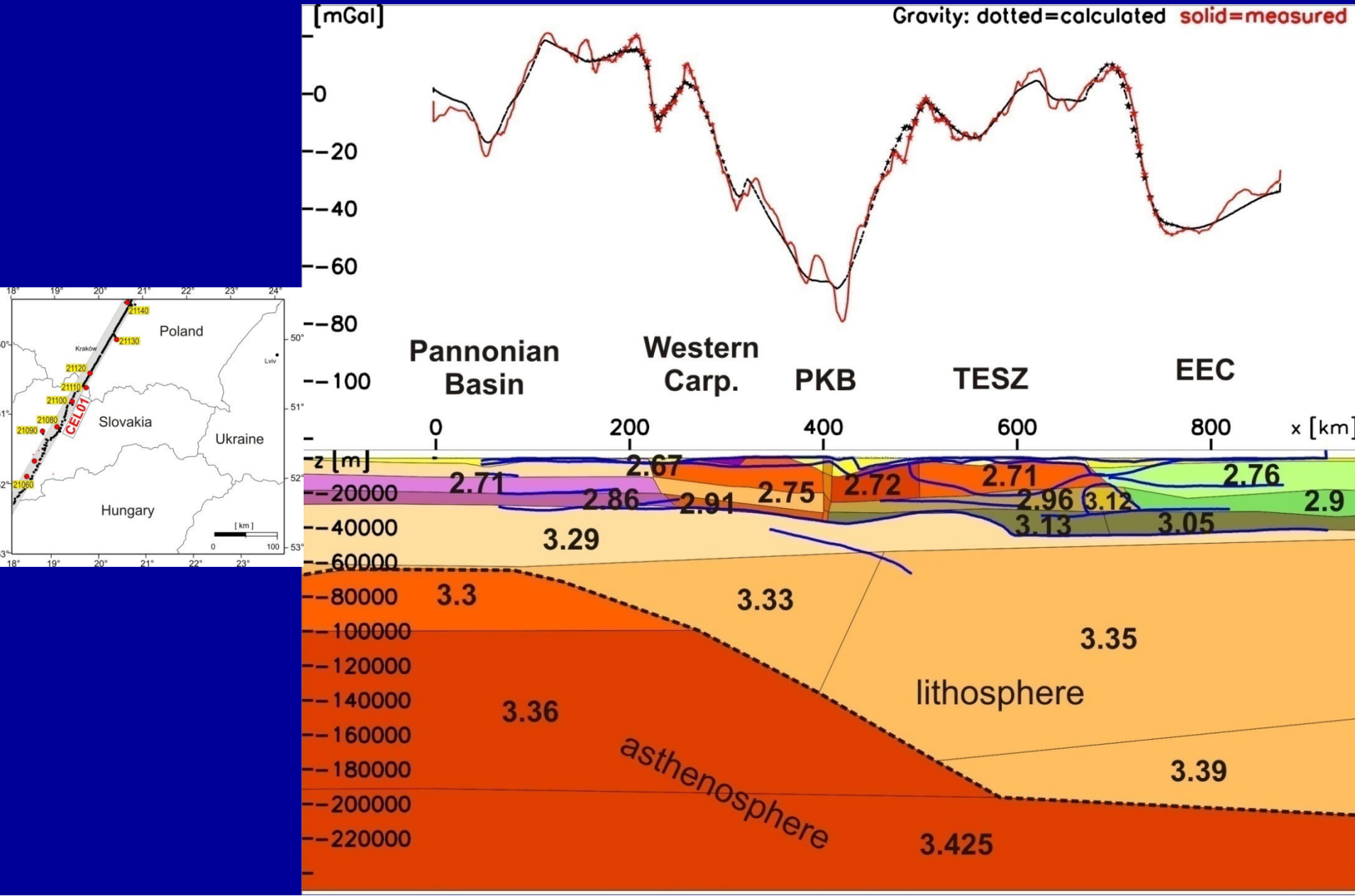


Program LitMod



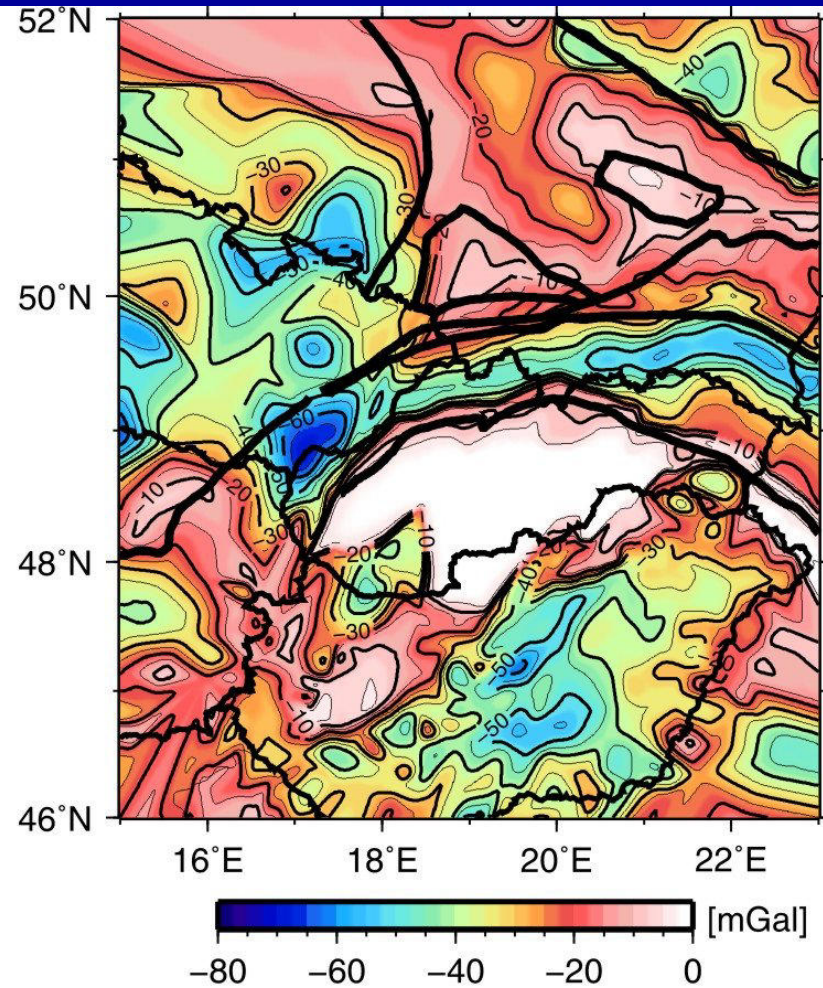
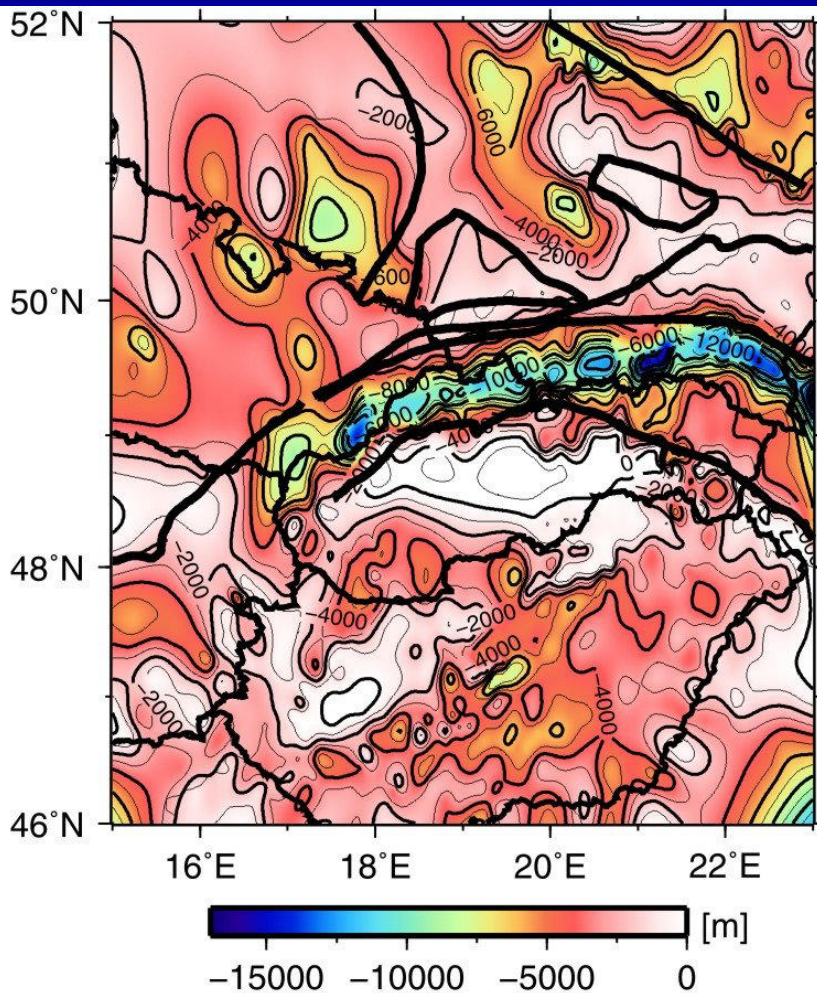


# DENSITY MODEL OF PROFILE CELEBRATION 2000 CEL01



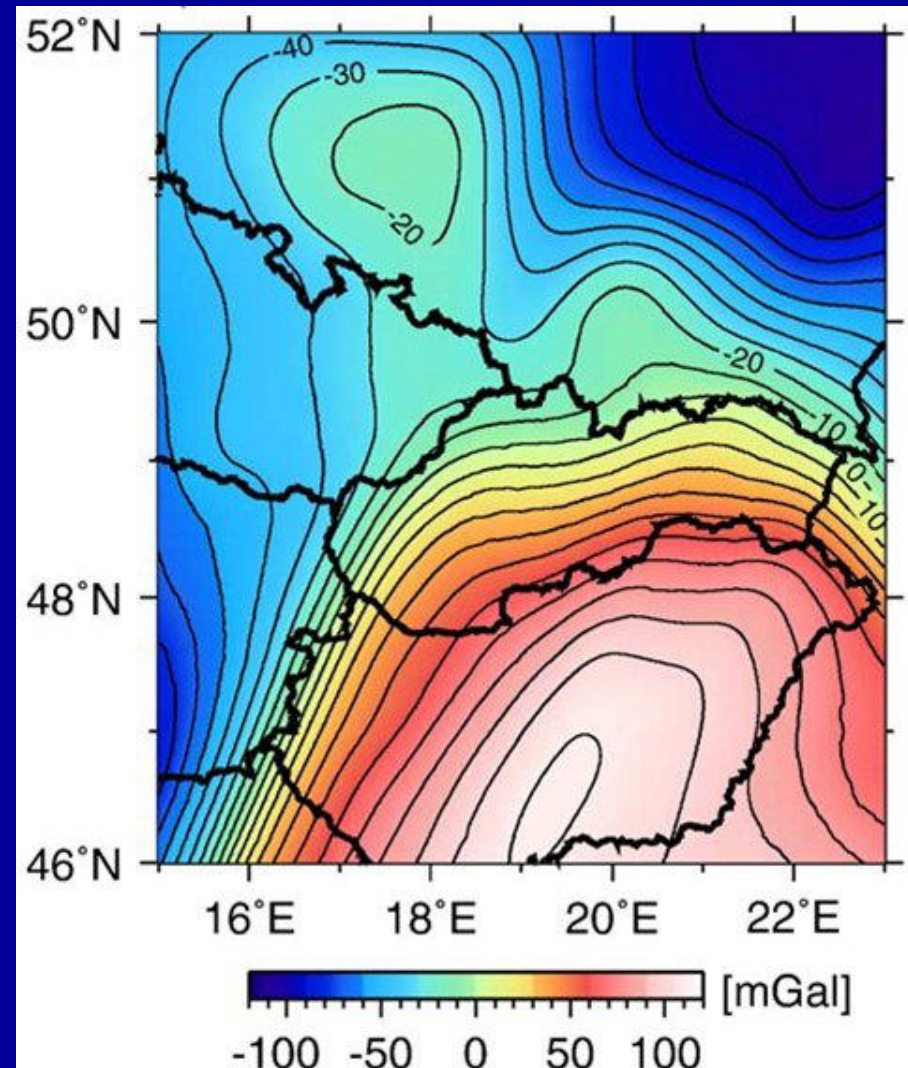
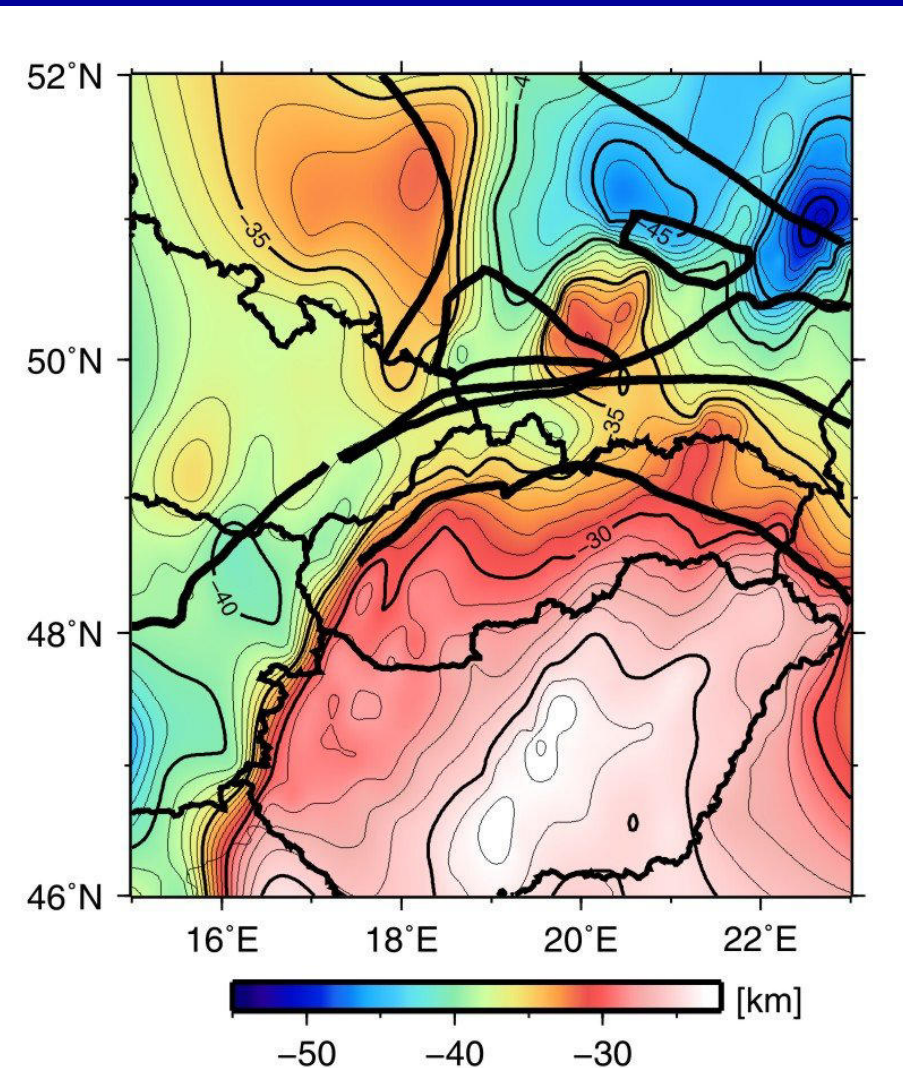


# THICKNES OF SEDIMENTS AND ITS GRAVITY EFFECT



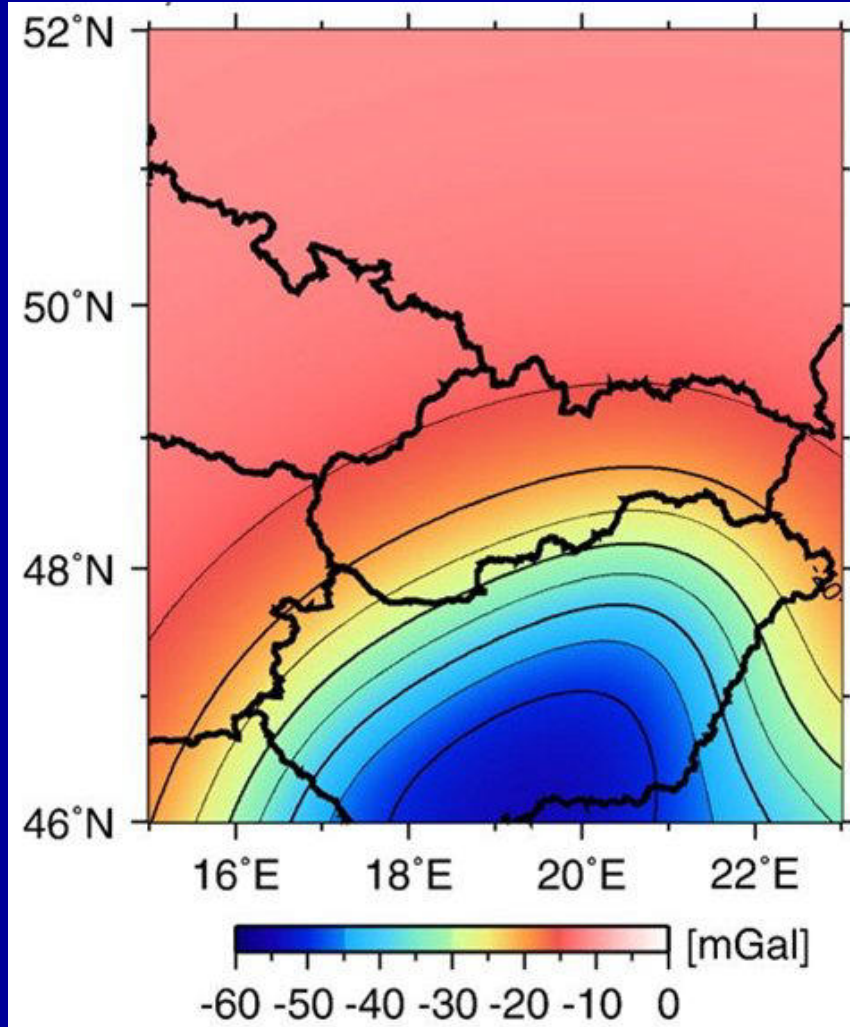
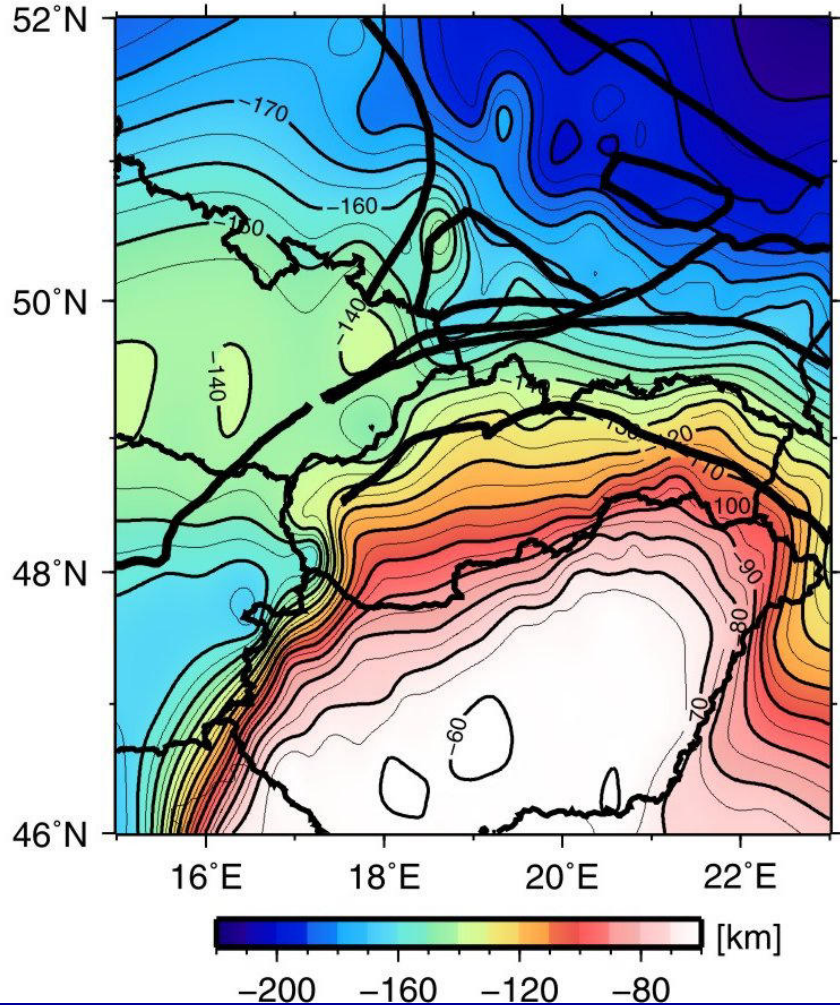


# THICKNES OF CRUST (MOHO DEPTH) AND ITS GRAVITY EFFECT



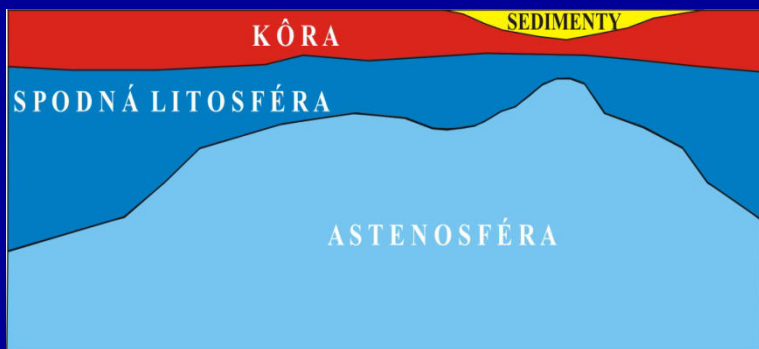


# THICKNES OF LITHOSPHERE AND ITS GRAVITY EFFECT

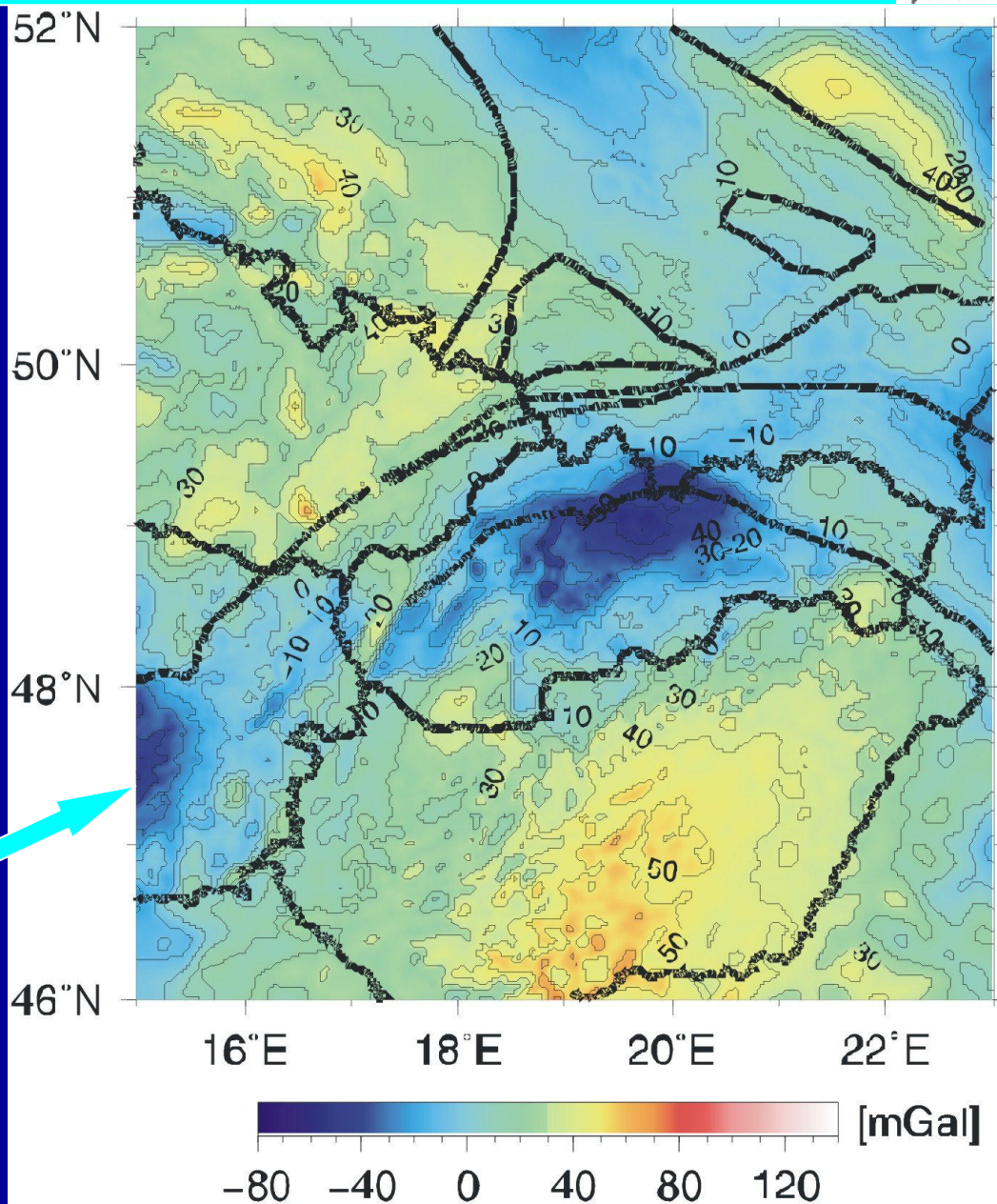
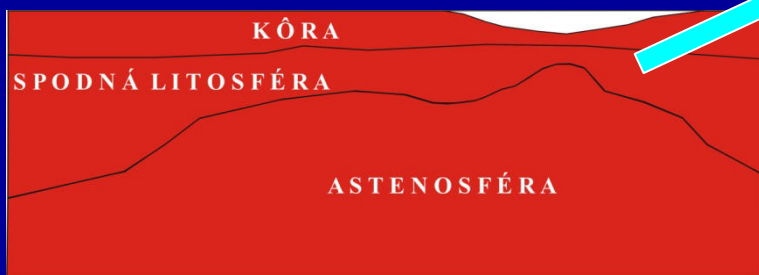




# SEDIMENTARY STRIPPED GRAVITY



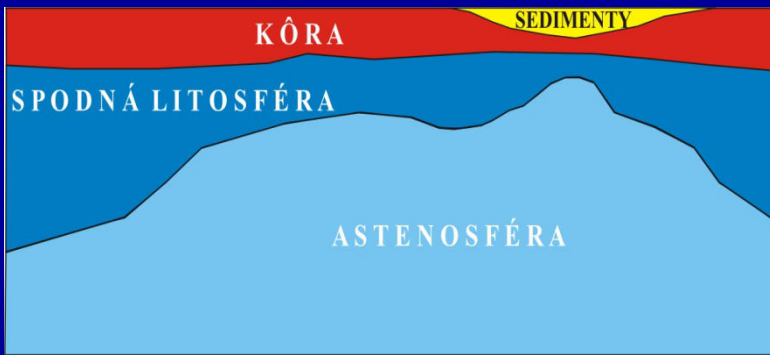
**Odkrytá tiažová mapa**  
(odkrytá o 3D gravitačný účinok sedimentov)





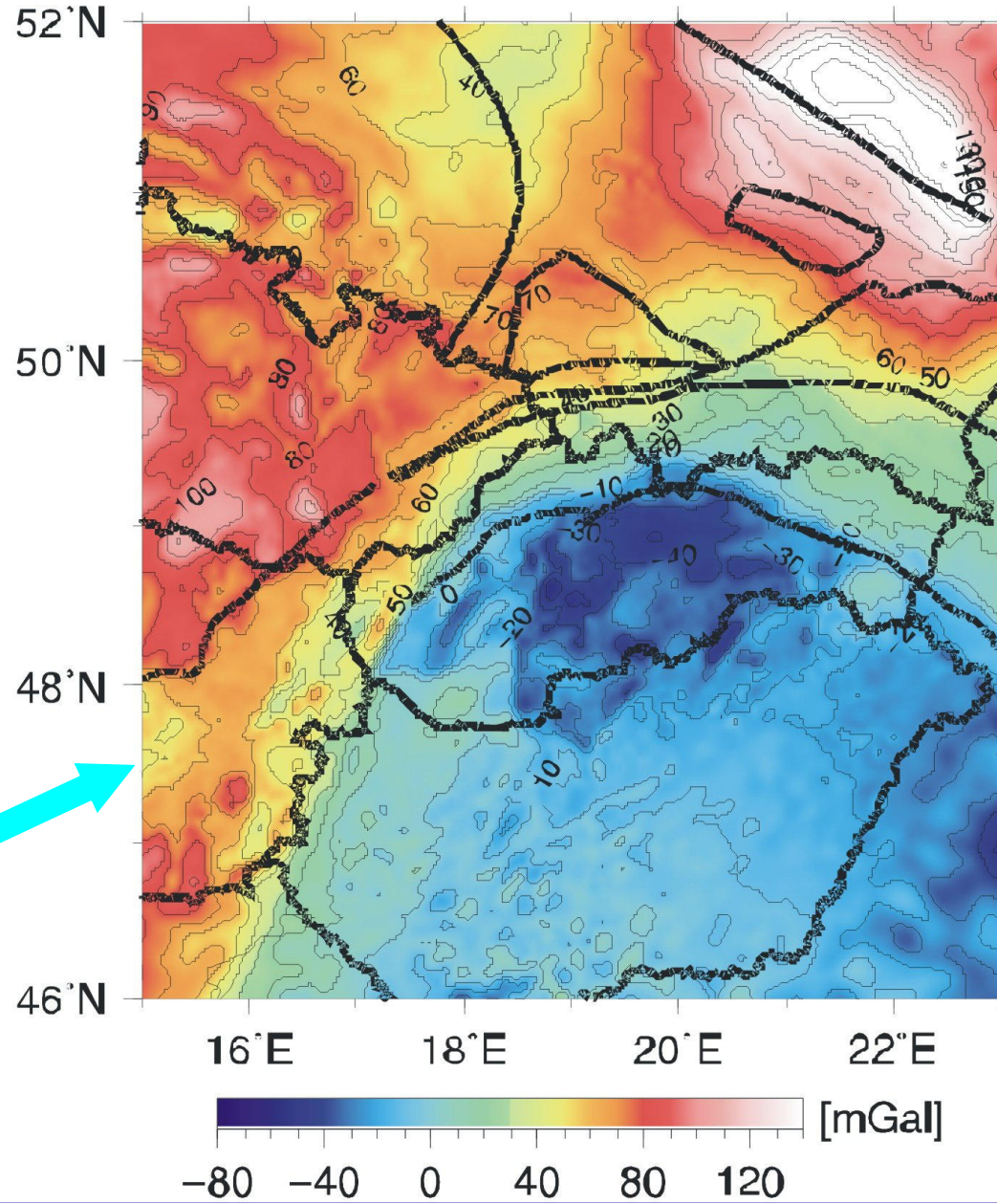
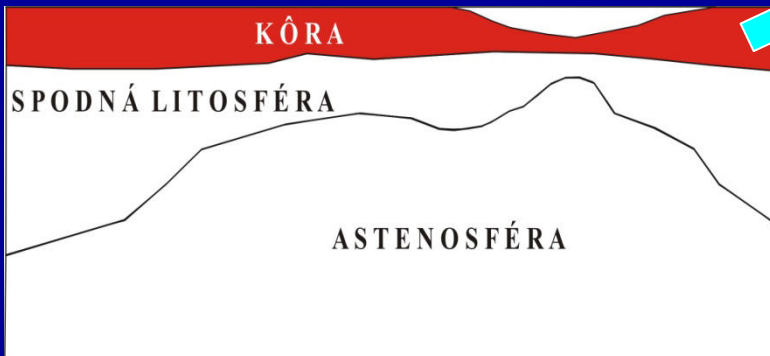


# GRAVITY EFFECT OF CRUST



## Odkrytá tiažová mapa

(odkrytá o 3D gravitačný účinok sedimentov, spodnej litosféry a astenosféry)





# VÝSLEDKY INTEGROVANEJ GEOFYZIKÁLNEJ INTERPRETÁCIE



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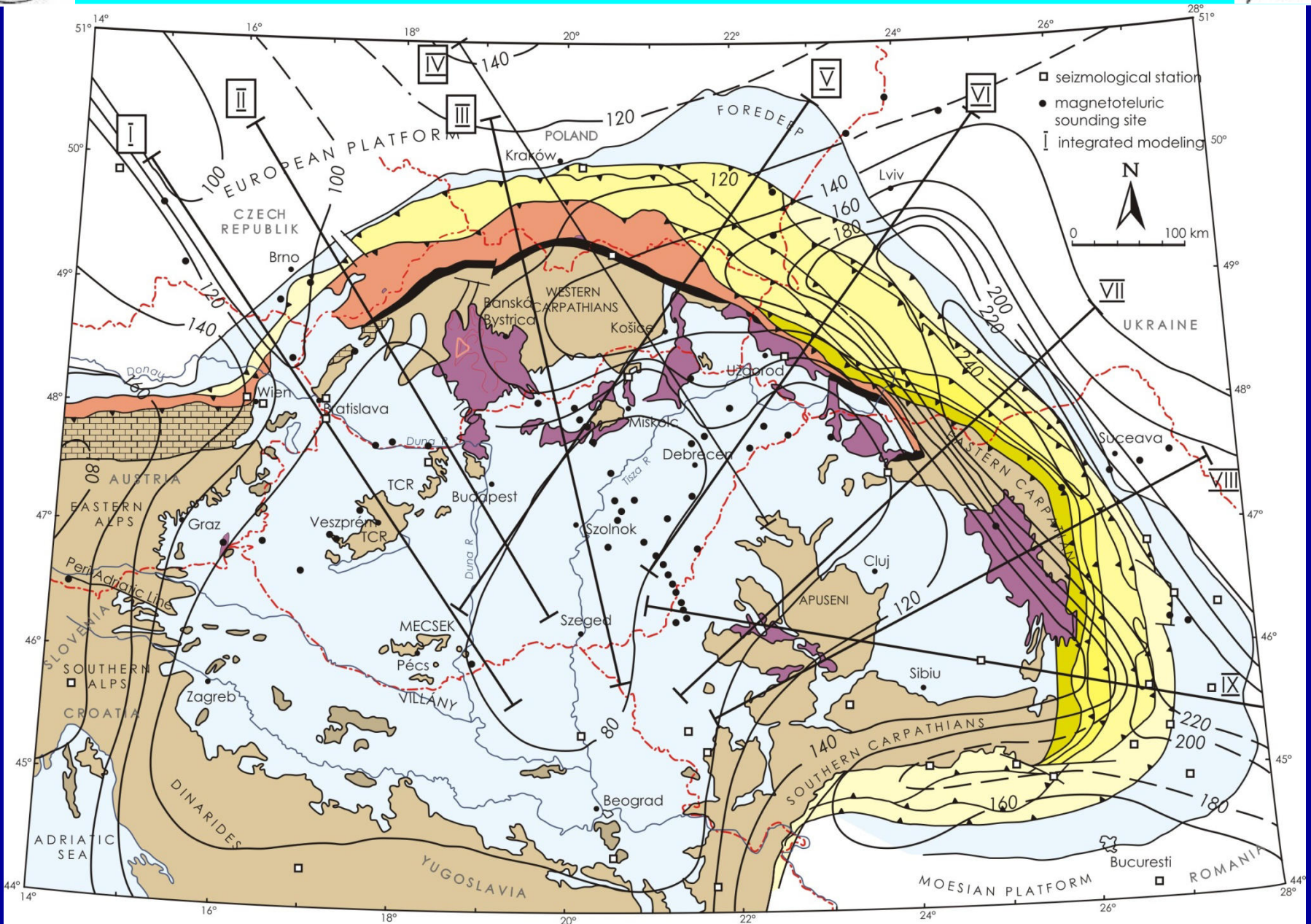


# **VÝSLEDKY INTERPRETÁCIE TIAŽOVÉHO POĽA V OBLASTI CELEBRATION 2000**

**M. Grinč, International convention for the joint supervision of thesis  
(Cotutelle) medzi University of Paris-Sud XI a Komenského  
Univerzitou**

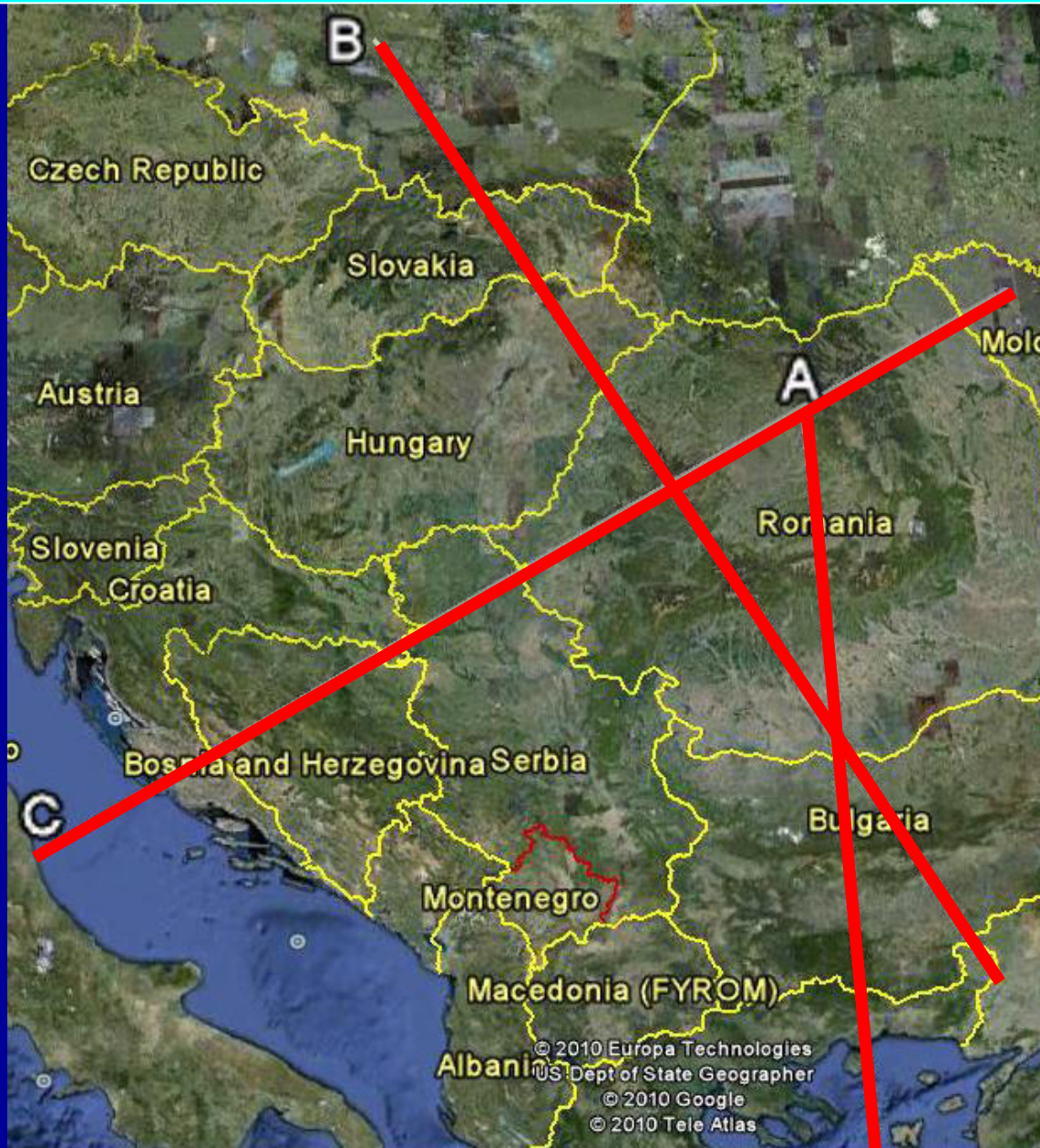


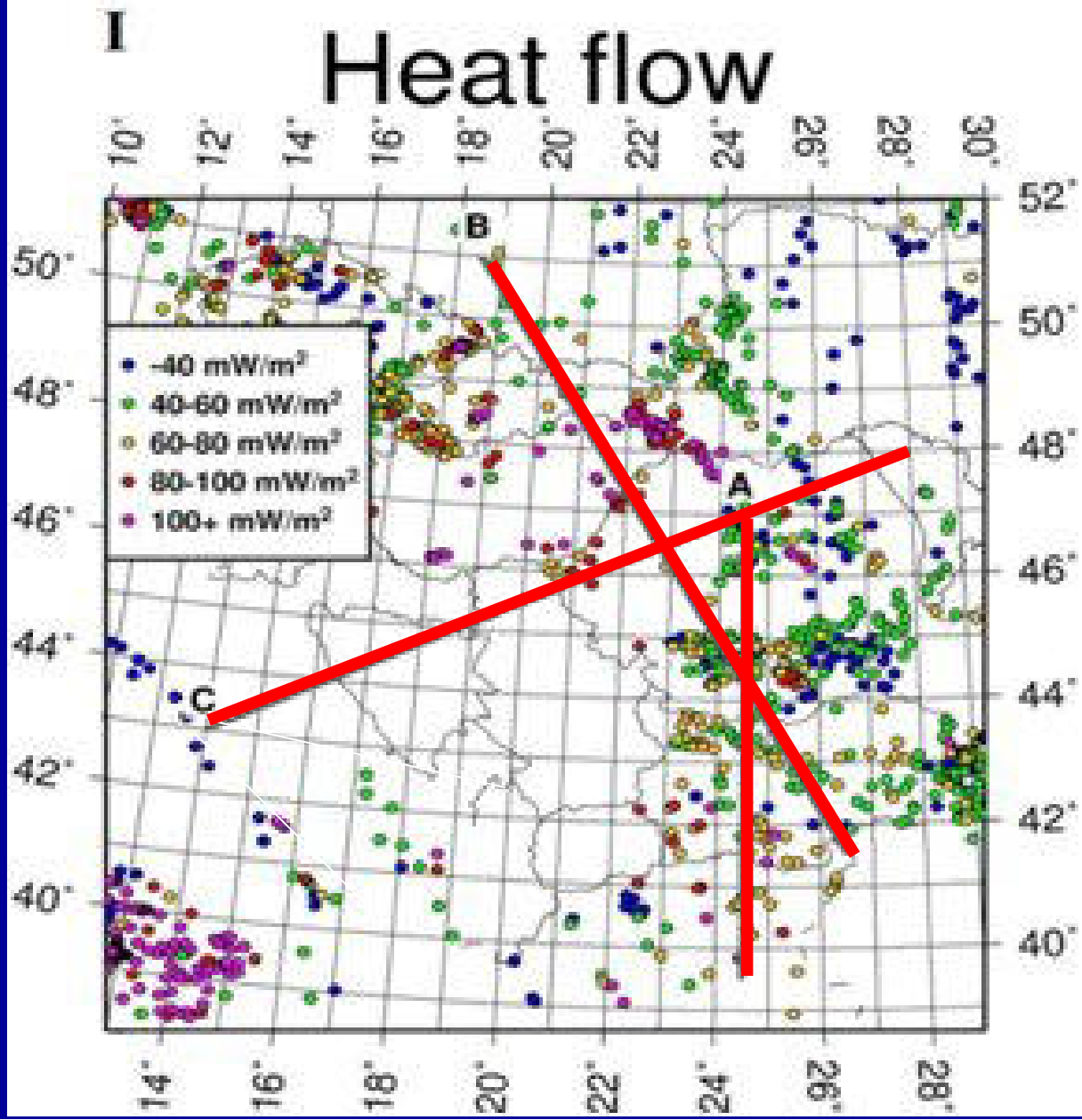
# LITHOSPHERIC THICKNESS





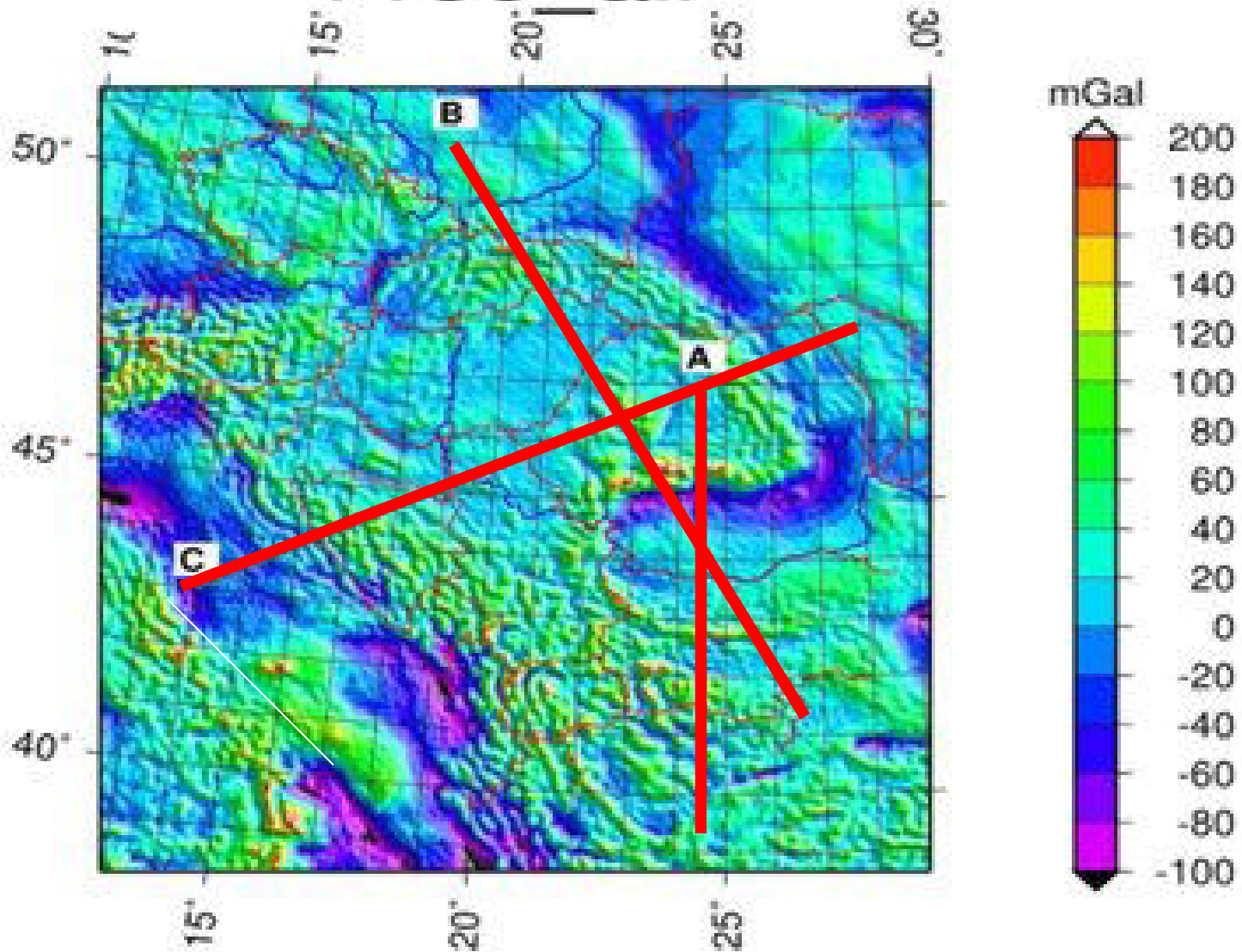
# LOCATION OF OTHER INTERPRETATION PROFILES



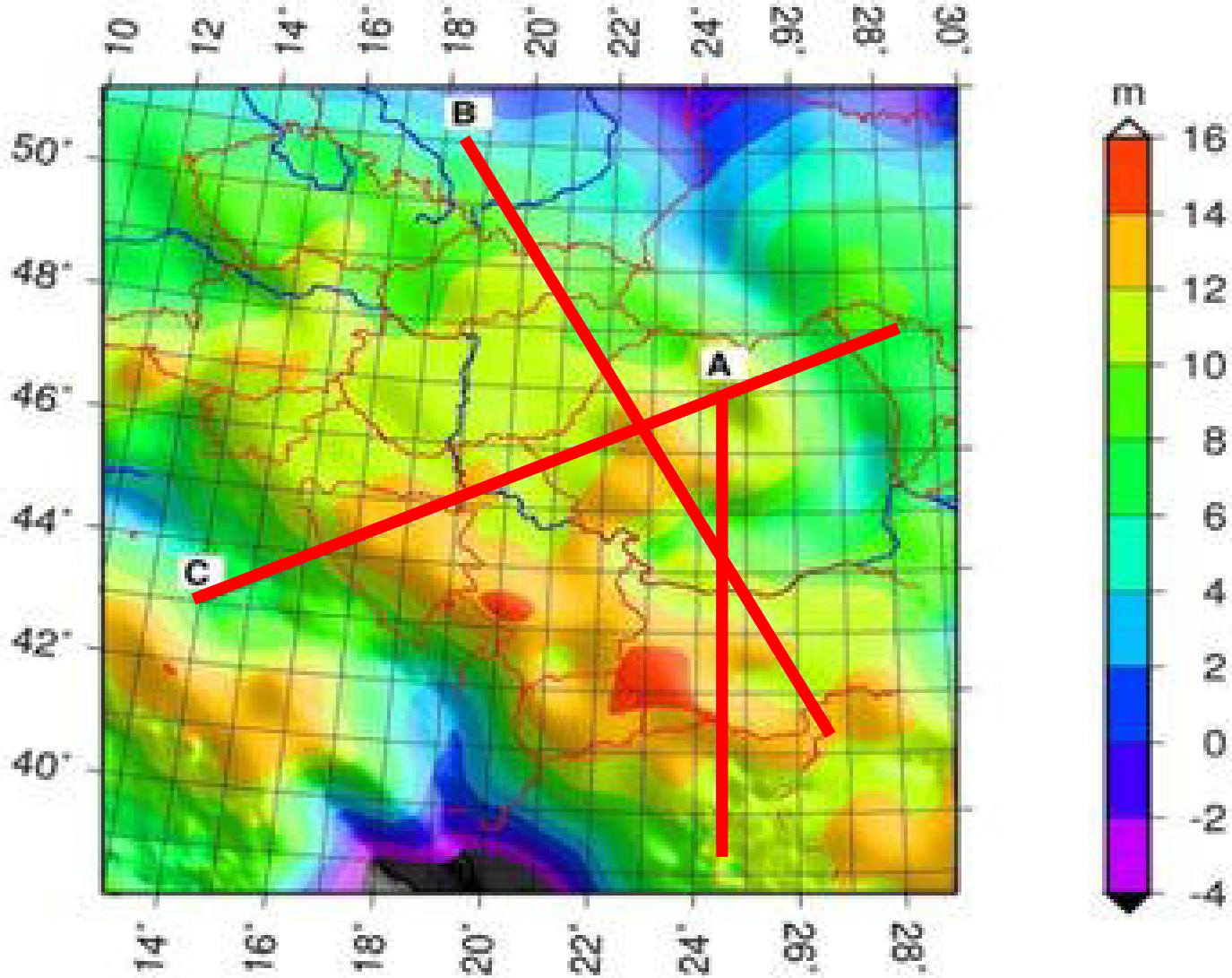


## II

# Free air

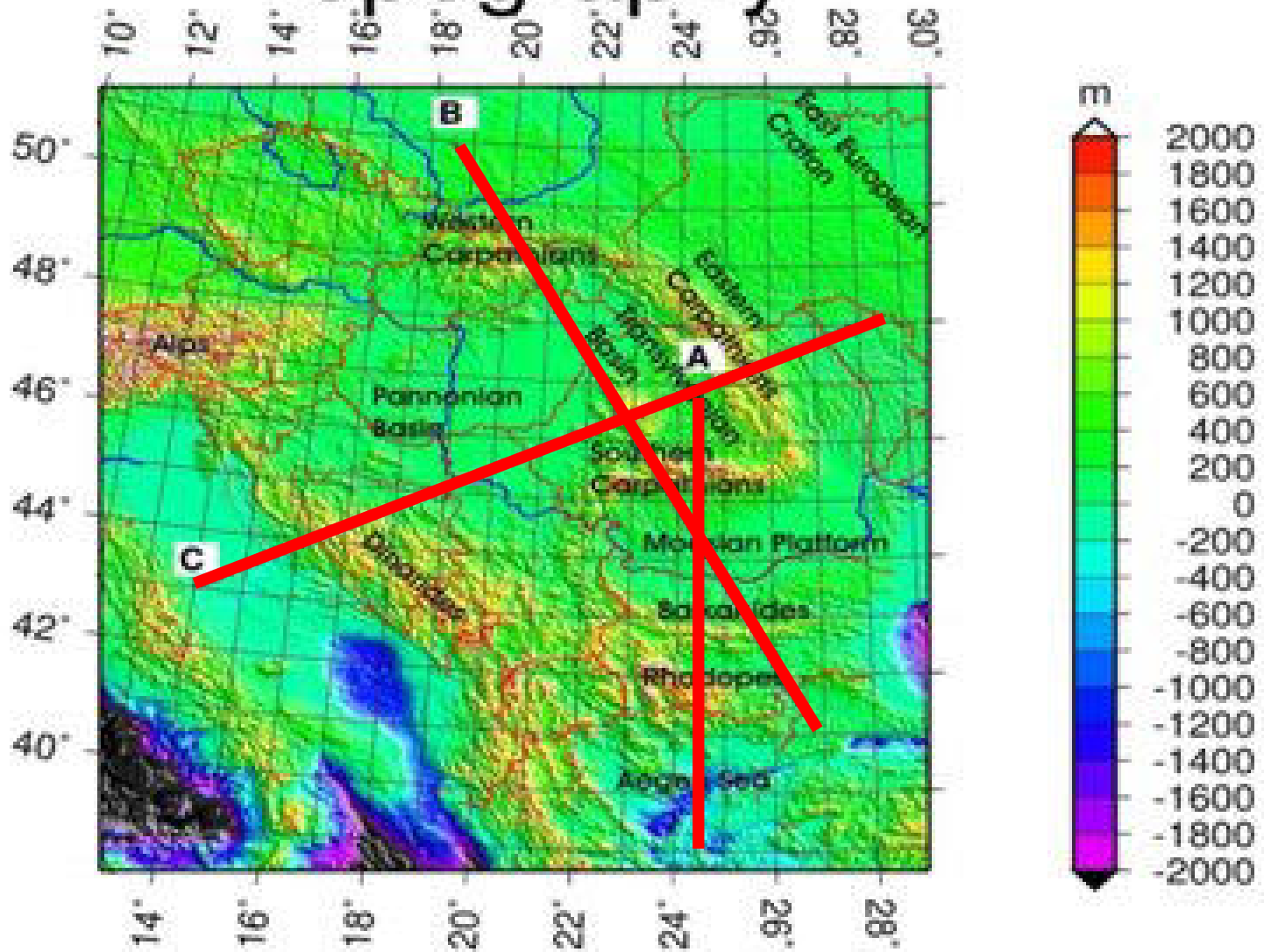


# III Geoid





# IV Topography

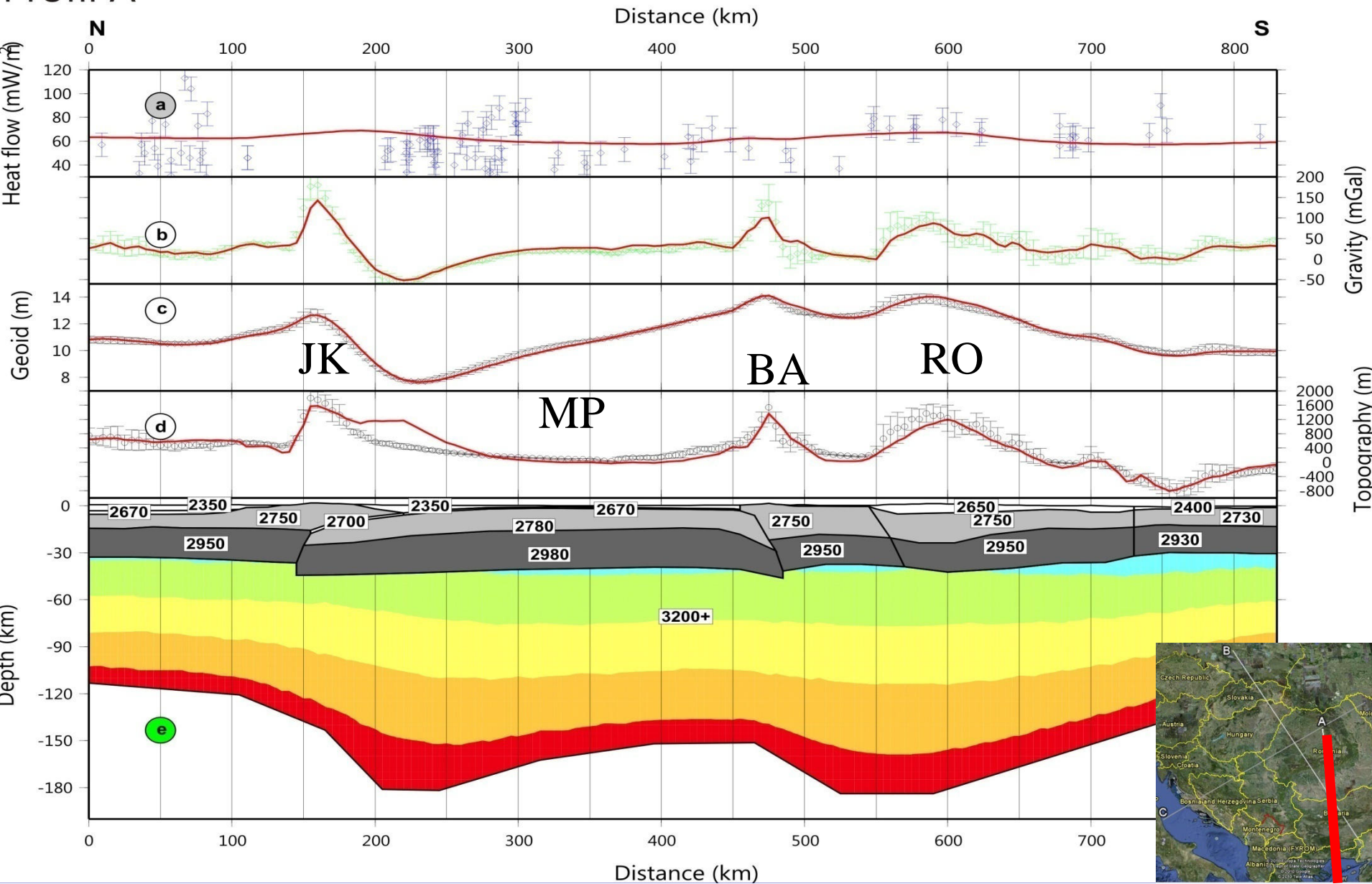




# PROFILE A

Profil A

Profile Romania-Aegean N-S (24.5/47 - 24.5/39.5)

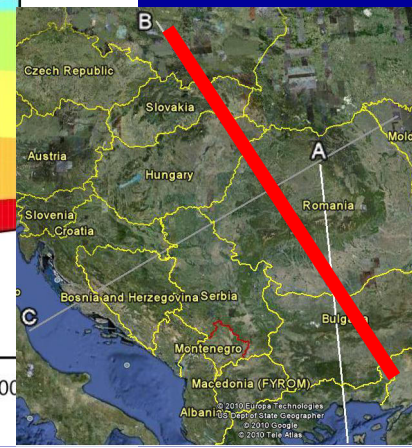
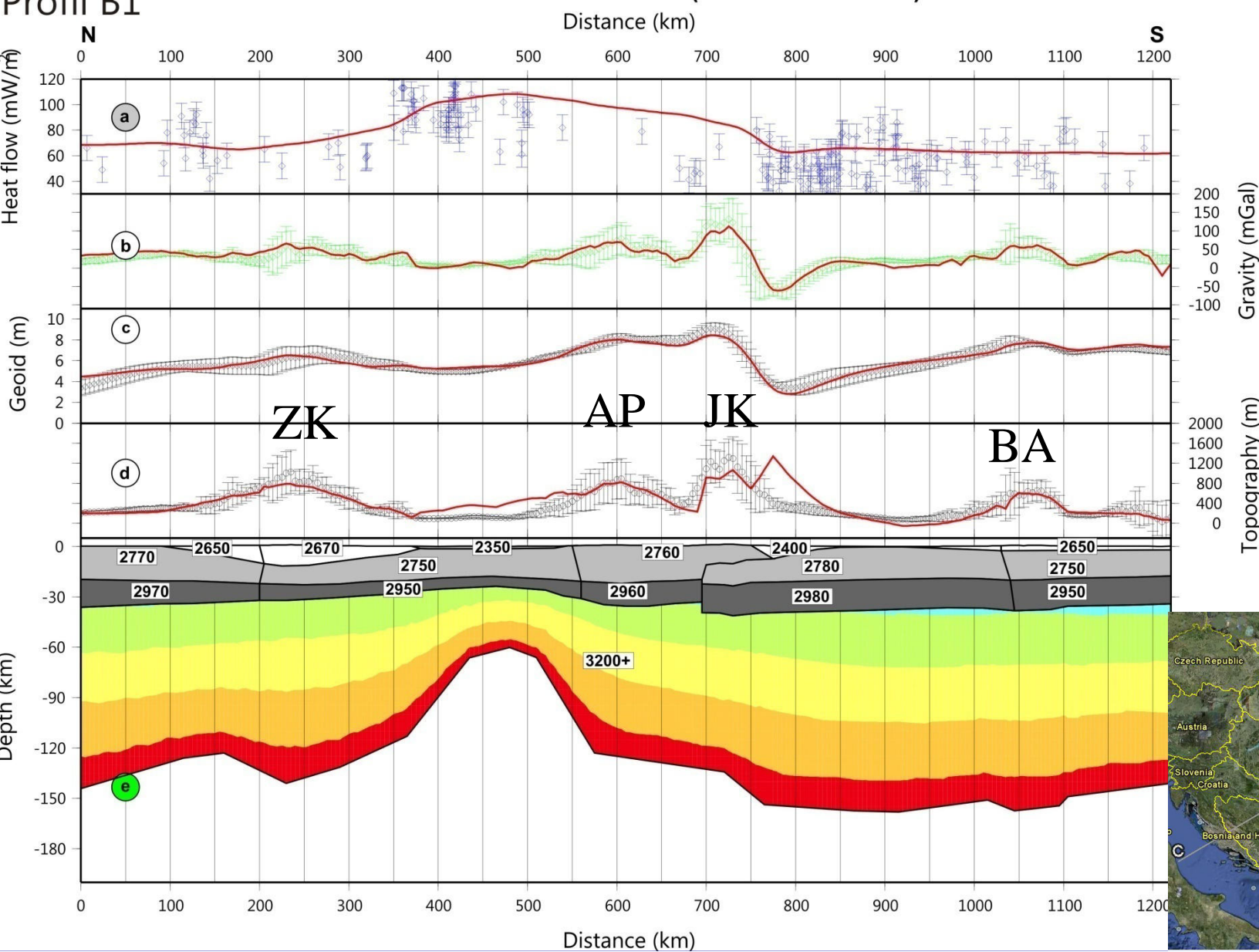




# PROFILE B

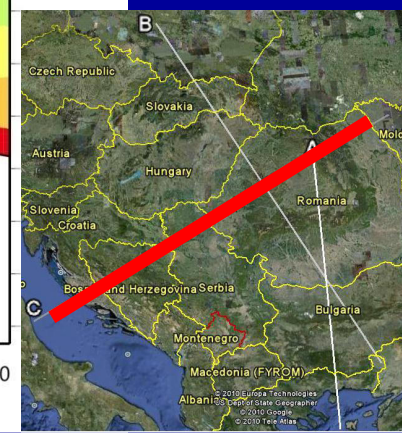
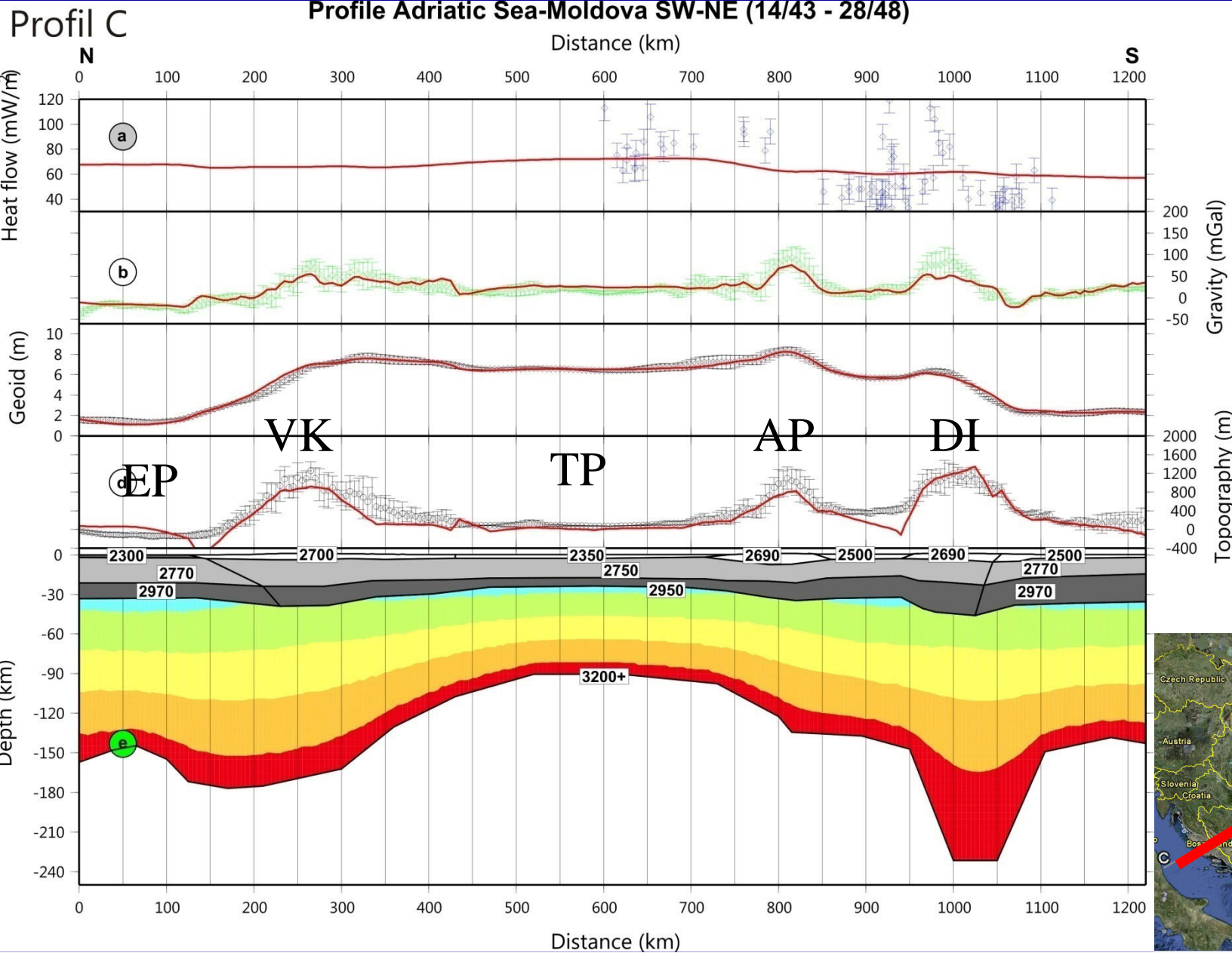
Profil B1

Profile Poland-Greece NW-SE (18.5/51 - 26.5/41.5)





# PROFILE C





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# **VÝSLEDKY APLIKOVANÉ PRI GEOGRAFICKEJ A GEOLOGICKEJ INTERPRETÁCII**

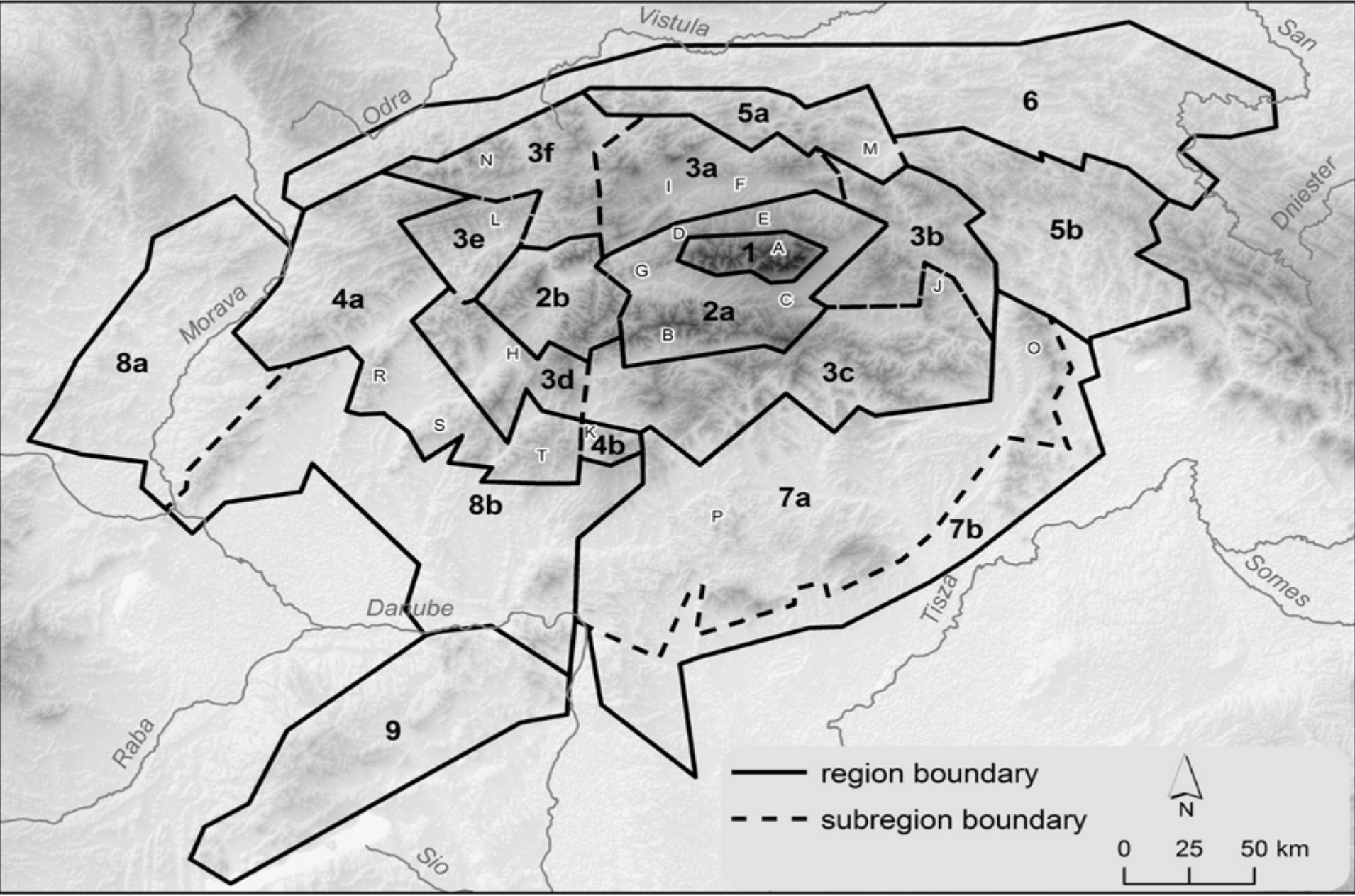
**Journal of Geodynamics 52 (2011) 97–113**

**a**

**Tectonophysics 502 (2011) 158–174**



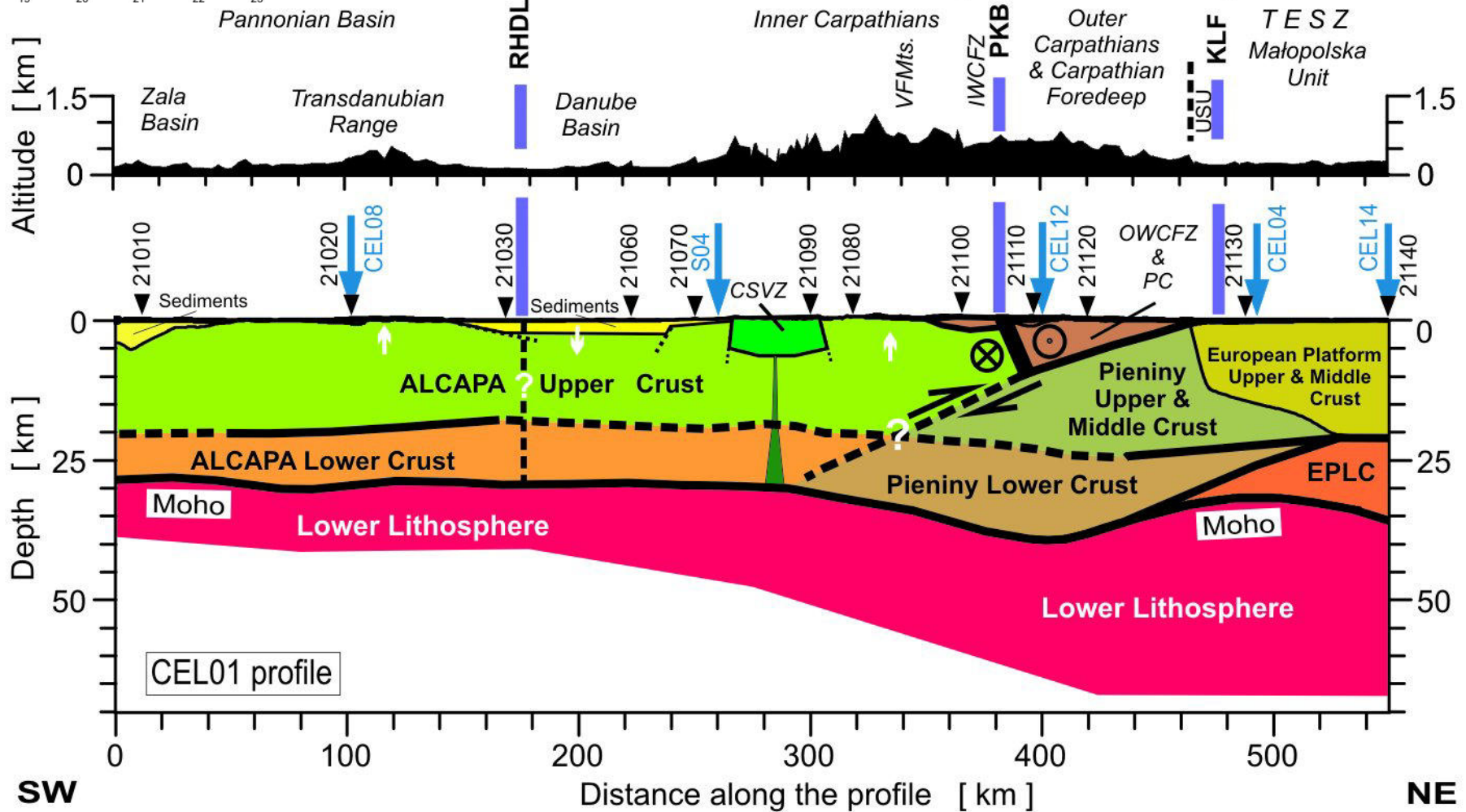
# MORPHOSTRUCTURAL SUBDIVISION OF THE WESTERN AND GEOMORPHOLOGICAL UNITS



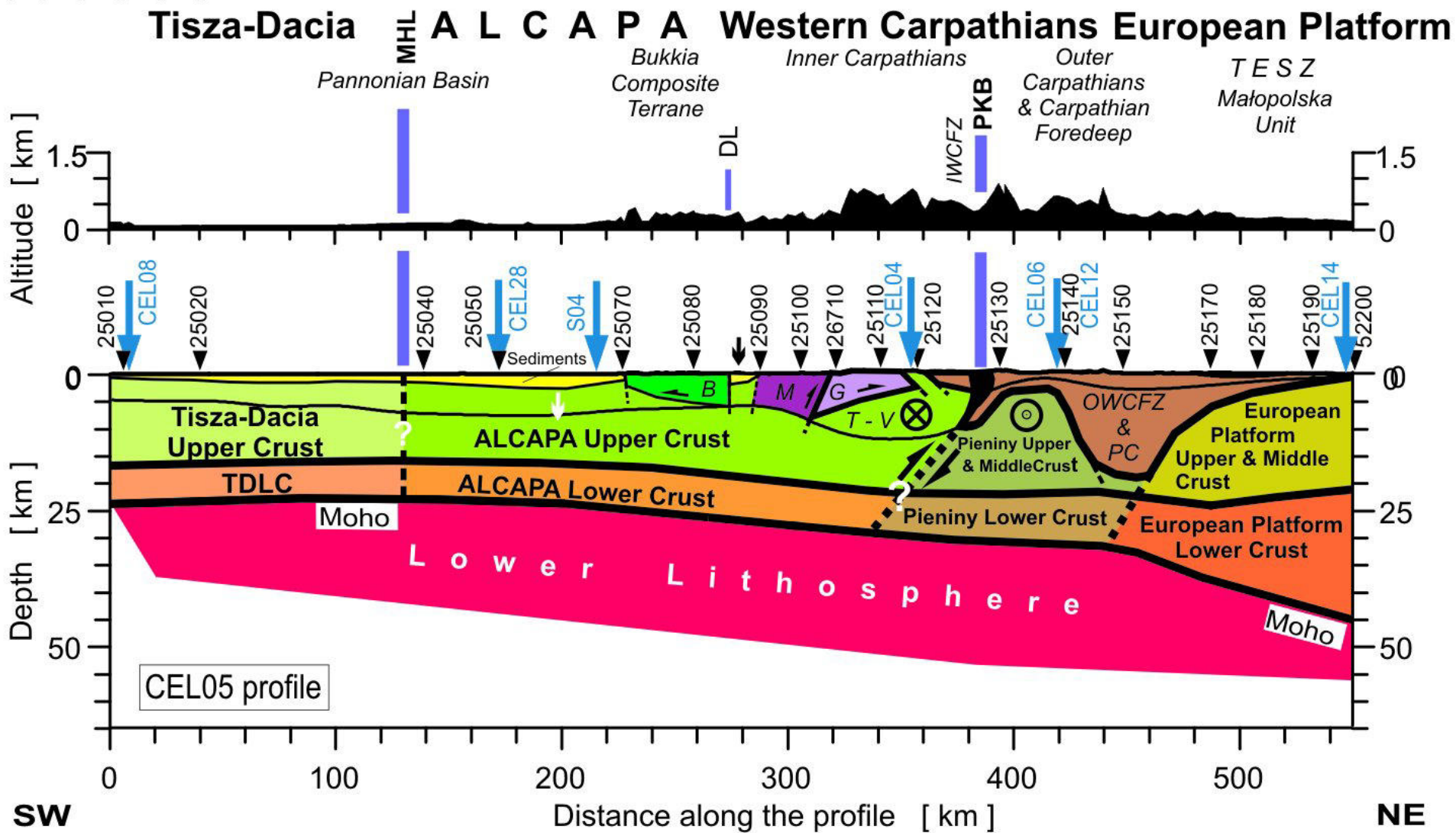
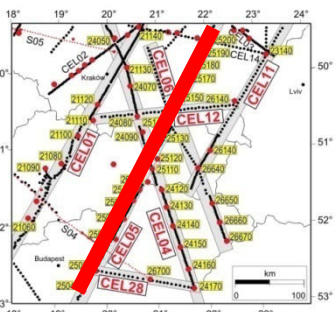
# GEOLOGICAL MODEL ALONG PROFILE CEL01



## ALCAPA Western Carpathians European Platform



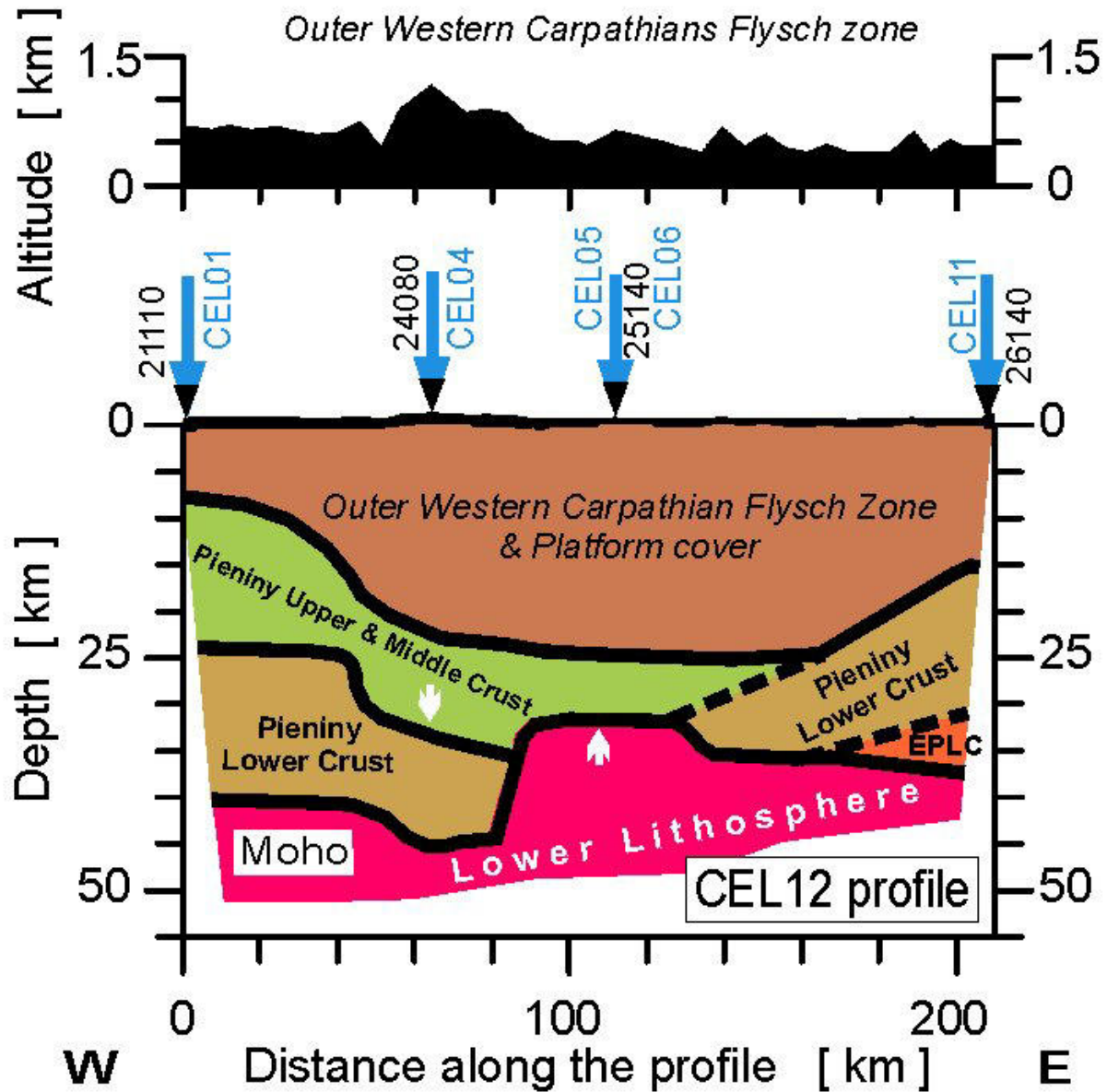
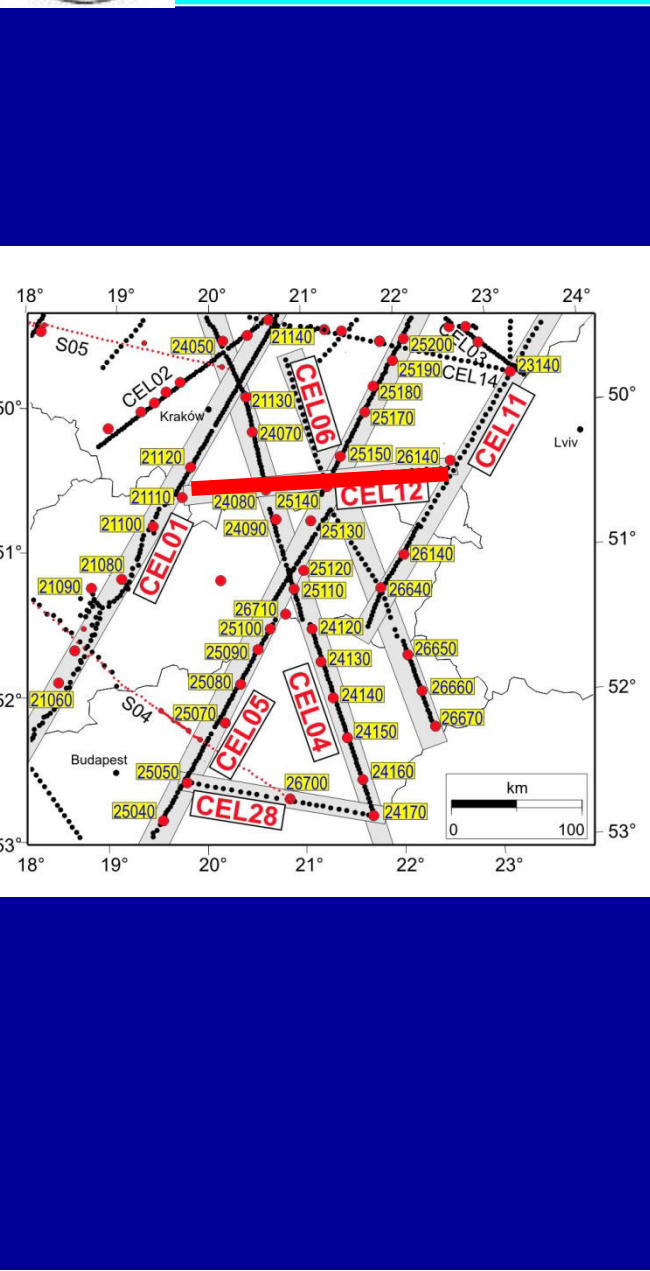
# GEOLOGICAL MODEL ALONG PROFILE CEL05







# GEOLOGICAL MODEL ALONG PROFILE CEL12





# GEOLOGICAL BLOCK MODEL

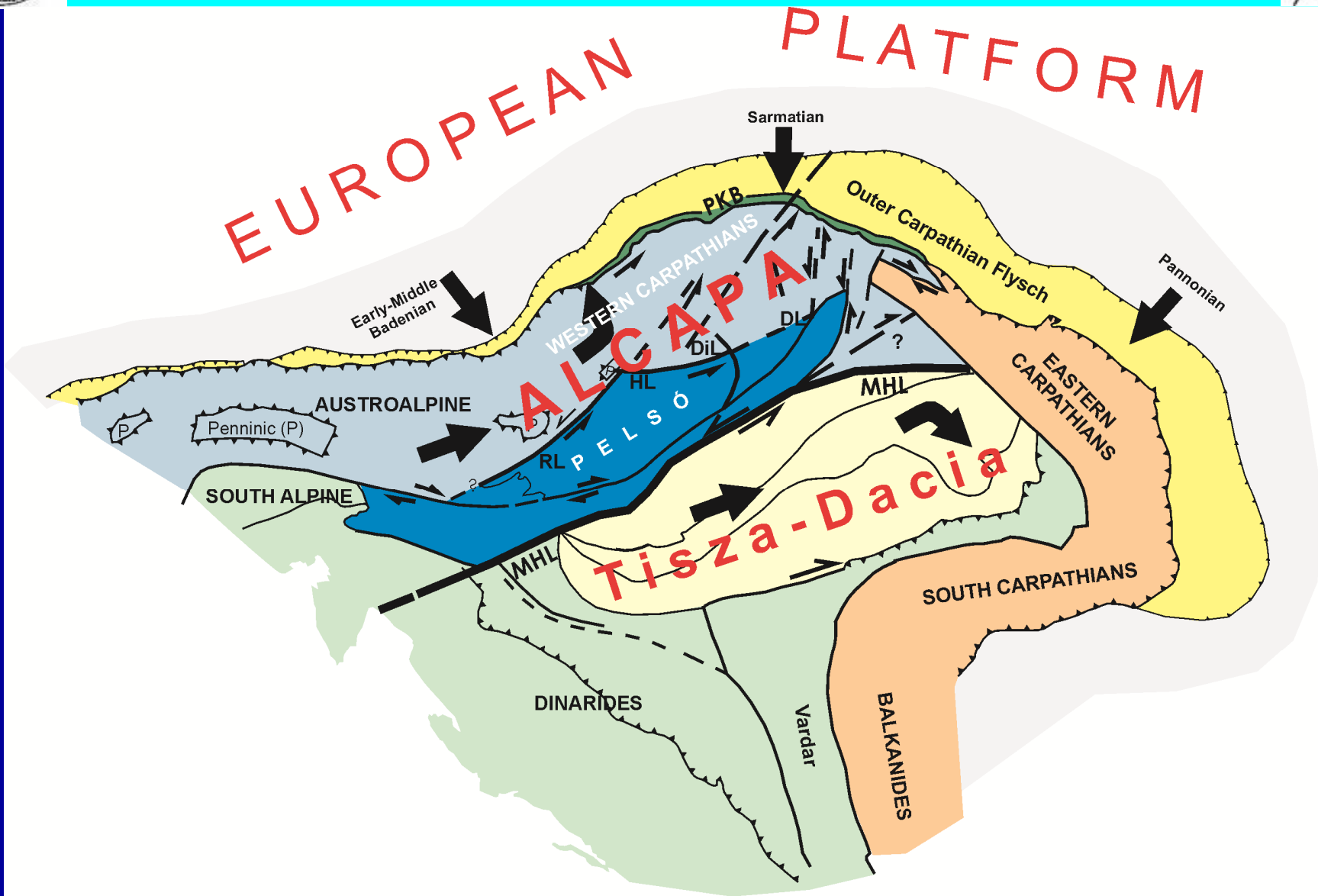


Fig. 15



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**Ďakujem za Vašu pozornosť**