

**WHAT WE KNOW AND WHAT WE
DON'T KNOW ABOUT**

Earthquakes

„WHAT WE KNOW AND WHAT WE DON'T KNOW ABOUT Earthquakes”

- **Public debate program**
- **Answers for everyone**
- **Accurate information about seismic events**
- **The programme is sustained by Romanian specialists**
- **Access to documentation about former earthquakes.**
- **Direct feedback from specialists in domain**

Period :

- During all the year (tree, four time a month).

Target:

- Public, families, groups of students from gymnasium,
 - high schools, universities.

Conditions for participation

- Free entrance
- Large groups of students must book in advance

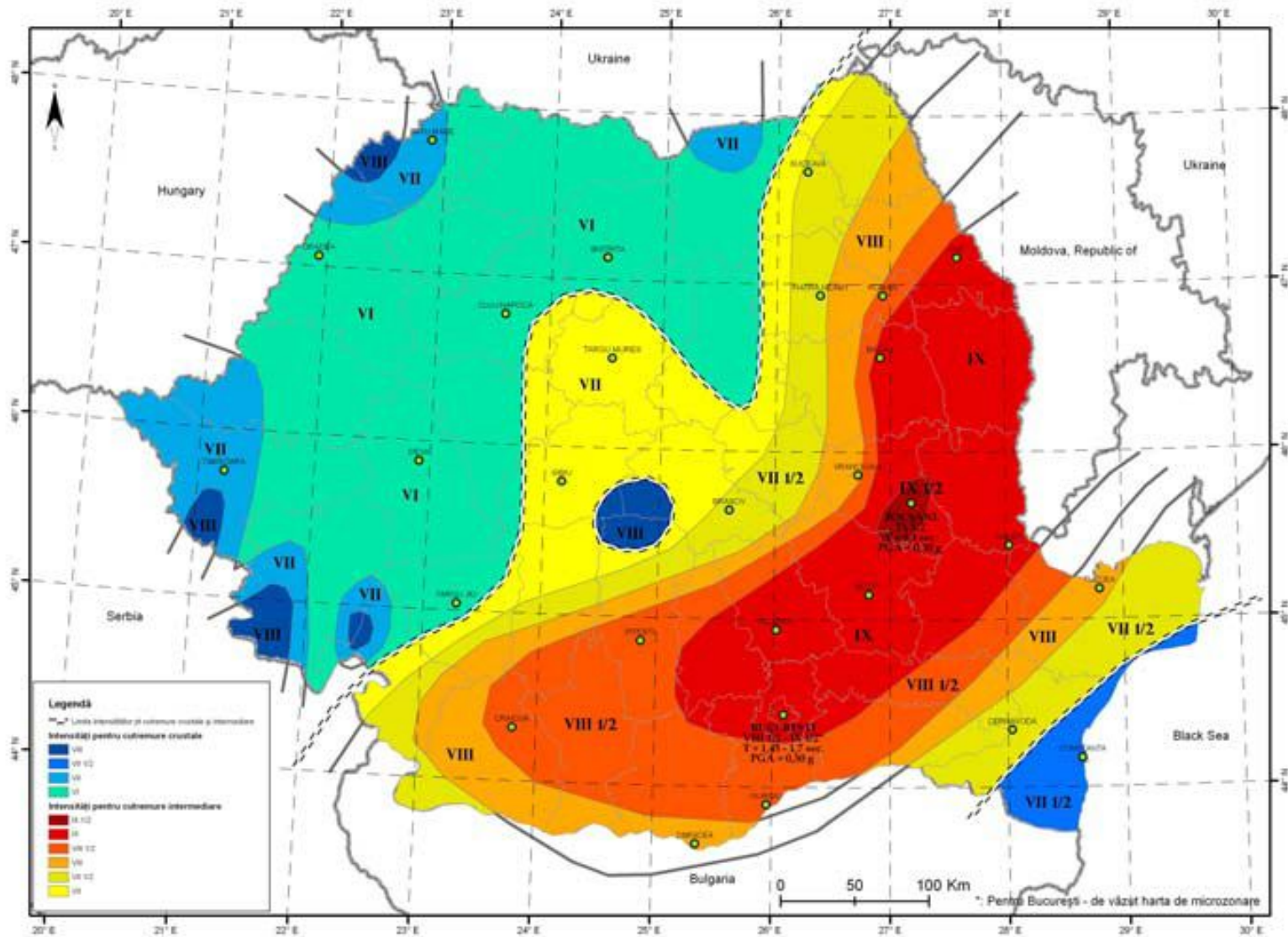
MONTHLY PROGRAMME FOR PUBLIC INFORMATION

- National Museum of Geology
- Romanian Geological Institute
- INFP
- INCERC
- ISU
- www.cutremure.net
- Ministry of National Education

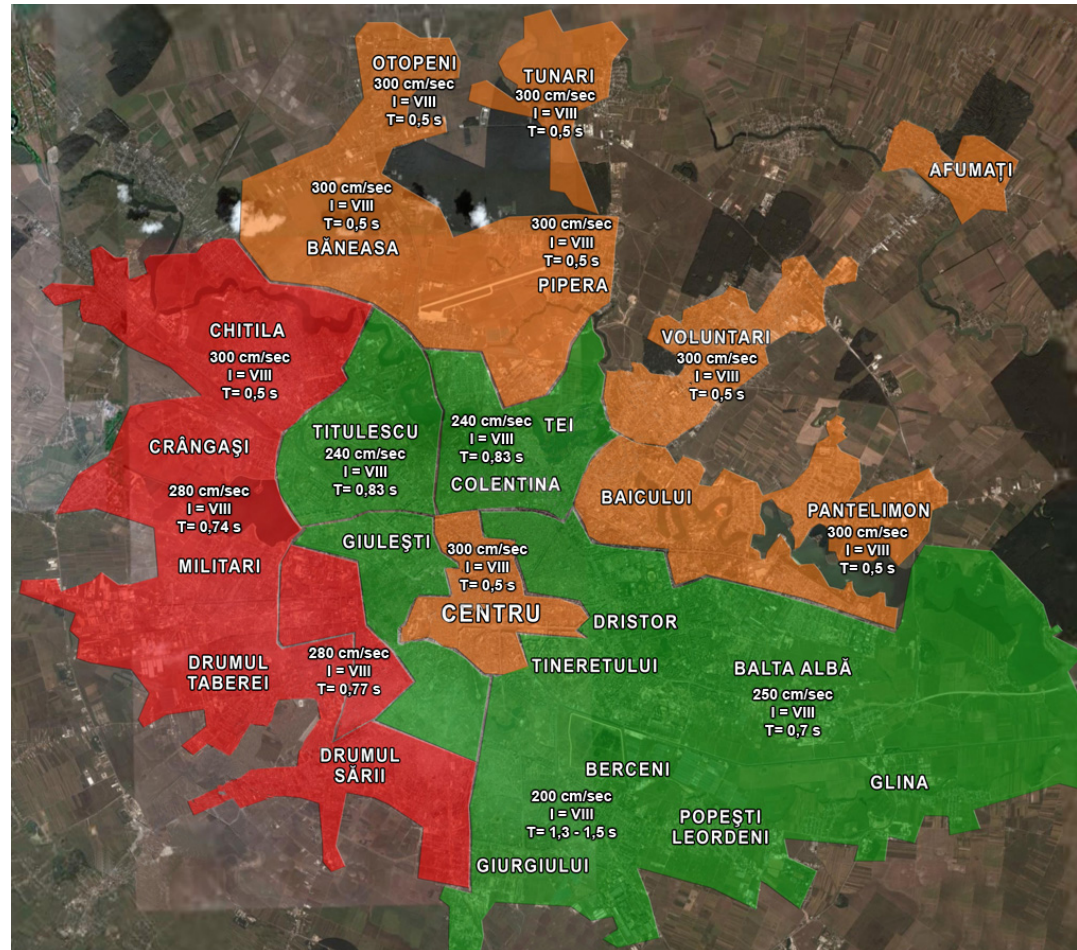
ABOUT EARTHQUAKES IN ROMÂNIA. HISTORY AND OBSERVATIONS

Earthquakes Intensity

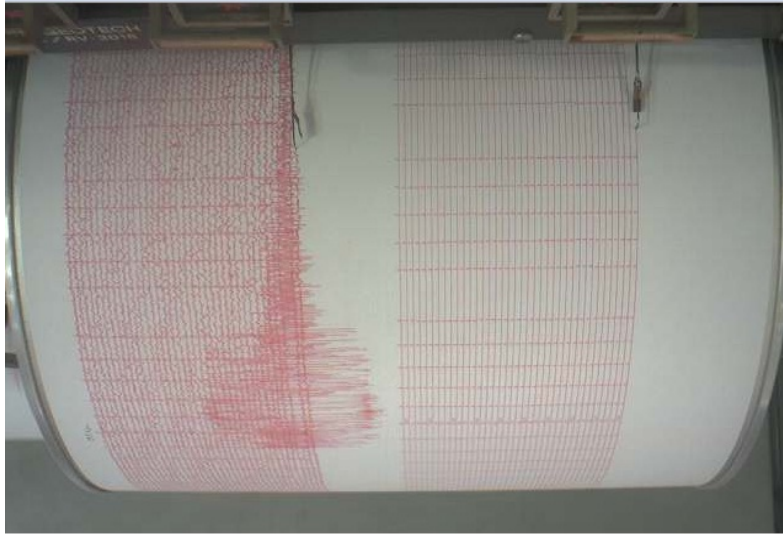
The **Vrancea zone** is the most important Romanian seismic zone



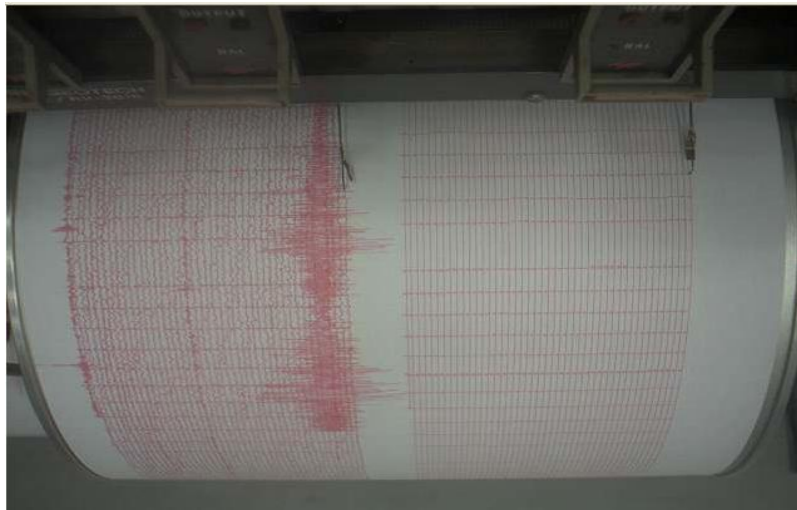
Bucharest city – shake map



EXEMPLES OF SEISMOGRAMS

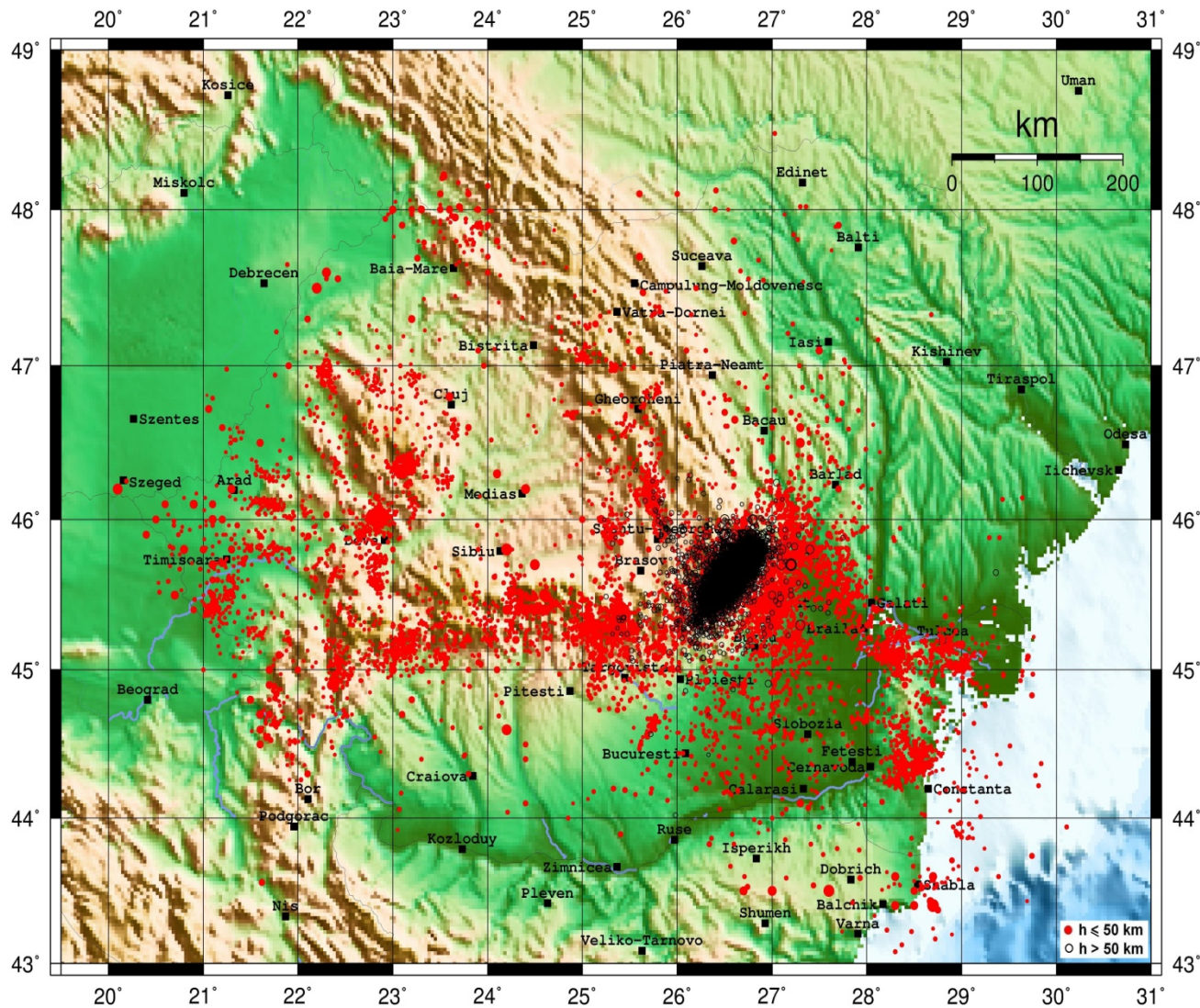


4.10.2013
Magnitudine: 3,8



5.10.2013
Magnitudine: 3,3 si
2,9

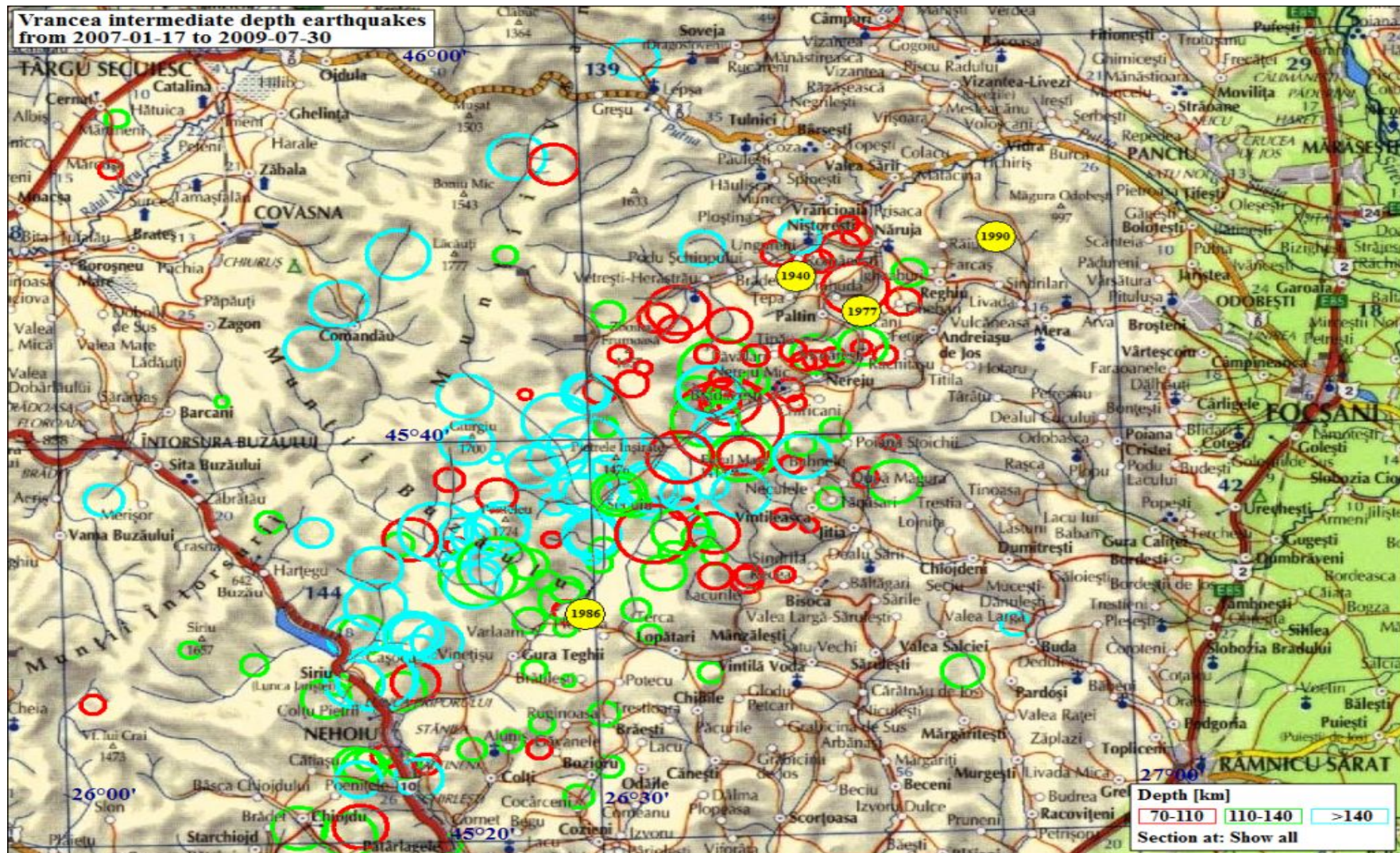
EARTHQUAKES IN ROMÂNIA



www.infp.ro/

[Seismicity in
Romania](#)

VRANCEA SEISMIC REGION



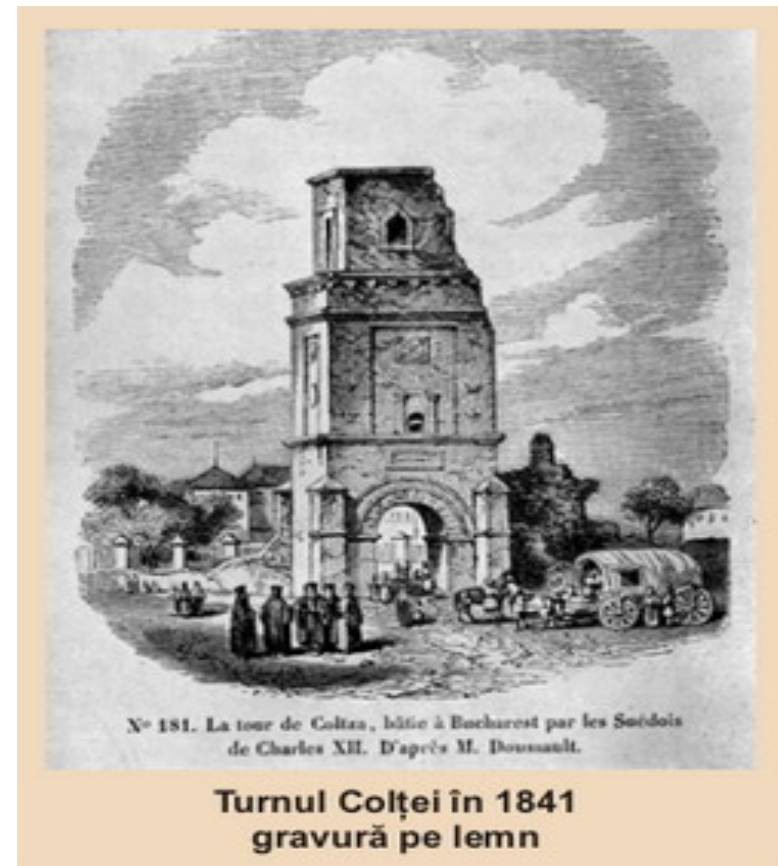
OTHER SEISMIC REGIONS

- **FĂGĂRAȘ-CÂMPULUNG**
- **BANAT**
- **CRIȘANA-MARAMUREȘ**
- **DOBROGEA DE NORD**
- **ZONA LITORALĂ A MĂRII NEGRE,
SHABLA-BULGARIA**
- **CÂMPIA ROMÂNĂ, OLTENIA**
- **TRANSILVANIA etc.**

Earthquakes in Vrancea and the cities affected

- **29 august 1471: Suceava, Transilvania-Braşov, sudul și centrul Moldovei**
- **24 noiembrie 1516: Moldova, Braşov**
- **8 noiembrie 1620: Moldova, Braşov**
- **19 august 1681: Iași, București, Braşov**
- **12 iunie 1701: Iași, Focșani, Braşov**
- **11 iunie 1738: Putna, Braşov, Iași, Sighișoara, București**
- **6 aprilie 1790: Transilvania, Iași, Craiova**

- **26 octombrie 1802: “BIG EARTHQUAKE”(7.9)**



Other “big” Vrancea earthquakes

- **26 noiembrie 1829: Iași, Brăila, București**
- **23 ianuarie 1838: 600 dead people**
- **1868, 1880, 1893, 1894, 1908**
- **10 noiembrie 1940: M=7.7**



- **4 March 1977: București-most damages**



More “recent” Vrancea earthquakes

- **31 august 1986: Chişinău, Iaşi, Focşani**
- **30,31 mai 1990: Focşani, Bucureşti**
- **27 octombrie 2004, Bucuresti**
- **6 octombrie 2013, Bucuresti**
- **29 march 2014, Bucuresti**

ADVICES FOR PROTECTION

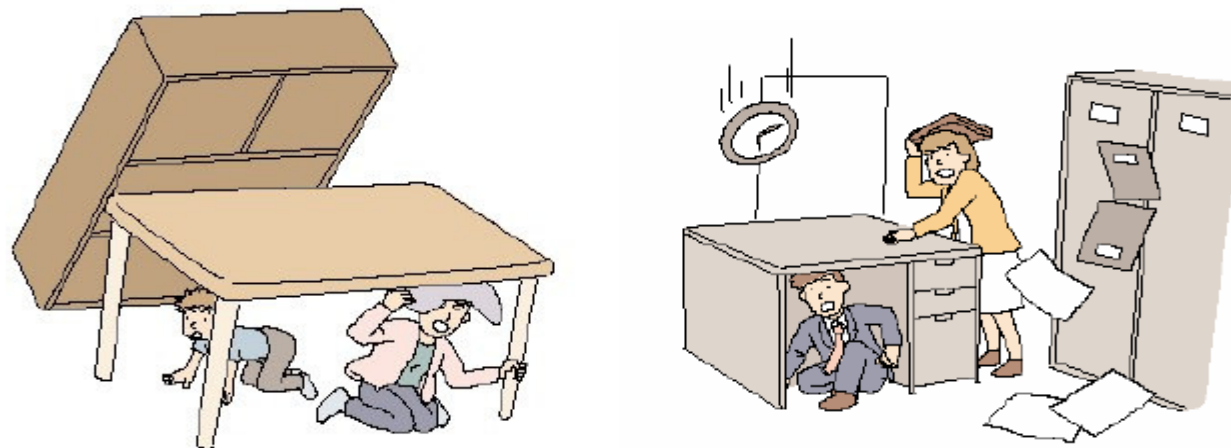
- **“ MANAGEMENTUL RISCULUI SEISMIC: SPECIFIC, PERCEPȚIE ȘI COMUNICARE” .**
- **(Management of the seismic risk: specific, perception and communication)**
- **Author: dr. Ing. Emil-Sever Georgescu, scientific director URBAN-INCERC**

[http://www.igsu.ro/documente/
informare_preventiva/
masuri_protectie_cutremur.pdf](http://www.igsu.ro/documente/informare_preventiva/masuri_protectie_cutremur.pdf)

ADVICES FOR PROTECTION



Desenul standard cu recomandarea : „drop, cover and hold” din SUA (FEMA)



*Exemplificarea procedurii de protecție la seism sub masă sau birou
(Earthquake Survival Manual, Tokyo Metropolitan Government)*

“WHAT WE KNOW AND WHAT WE DON’T KNOW ABOUT” program



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11 mai 2014 FOTO: Sorin Soviany

EARTHQUAKE SIMULATION



INFORMING INSTITUTIONS

- **INCDFP** <http://www.infp.ro>
- **INCERC** <http://inforisx.incerc2004.ro>,
<http://www.incerc2004.ro>
- **IGSU** <http://www.igsu.ro/>
- **Centrul Seismologic Euro-Mediterranean:**
<http://www.emsc-csem.org>
- **USGS** <http://www.usgs.gov/>
- **Cutremur.net portal and discussions forum** <http://www.cutremur.net>

Thank you very much!

- Elisabeta Niculescu
- Elena Nedelea
- Luisa Vais

Bucuresti , Romania