



Faculty of Science & Mathematics

Dept. of Geophysics

PMF – established in 1946 – one of the largest members of the **Zagreb University**, which comprises 29 faculties, 3 art academies and the Centre for Croatian Studies



The University has its roots in the 17th century, when king Leopold the 1st introduced high-schools studies in Zagreb. The modern University was founded in 1874 by the decree of the Croatian parliament.



Faculty of Science & Math

	Number of		Total workspace surface		
	employees	students	m ²	m ² /empl.	m ² /student
CHEMISTRY	111	600	13,262	120	22
GEOPHYSICS	32	81	1,700	53	21
PHYSICS	101	850	8,200	81	10
MATHEMATICS	98	1,594	8,700	89	5
BIOLOGY	198	1,003	9,450	48	9
GEOLOGY	49	300	1,030	21	3
GEOGRAPHY	36	430	1,150	32	3
DEAN'S OFFICE	34	-	320	9	-
Total	659	4,858	43,812	66	9

On average, 900 students enroll each year

Teachers and scientists:

Total: 408 (230 PhD)

- 79 full professors
- 48 associate professors
- 87 assistant professors
- 194 assistants



- Botanical gardens
- Croatian Seismological Survey



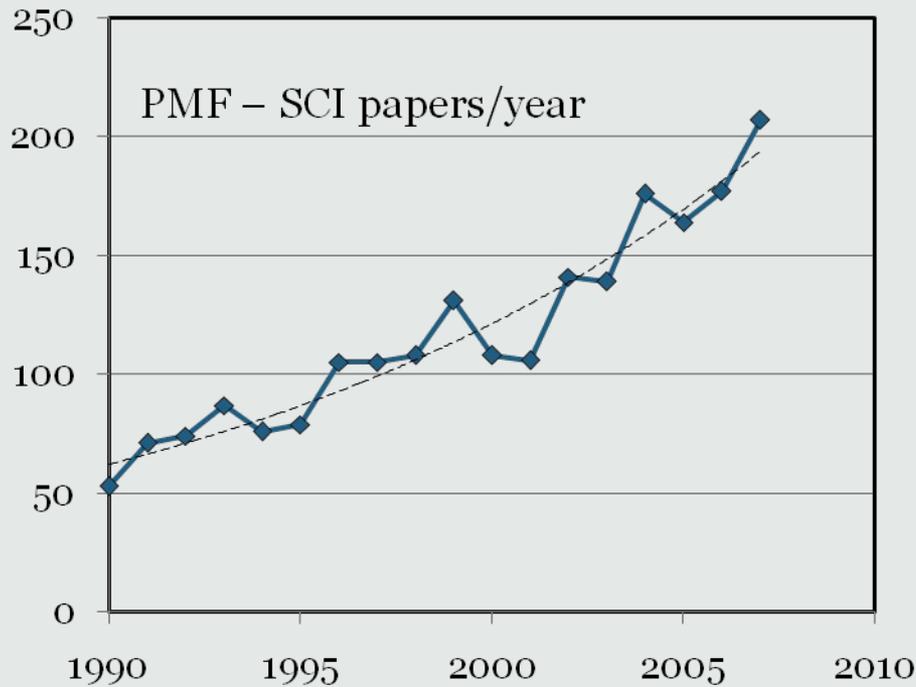
New Study programs

Harmonized with the Bologna declaration (3 + 2 + 3 year-scheme)

- *Undergraduate research programs* (6 semesters, 180 ECTS)
– lead to a professional bachelor degree (*Baccalaureus*)
- *Graduate research programs* (4 semesters, 120 ECTS) &
Integrated graduate research studies (10 semesters, 300 ECTS)
– lead to a professional master's title (*Magister*)
- *Integrated graduate educational studies* (10 semesters, 300 ECTS)
– lead to an educational master's title (*Magister educatio*)
- *Postgraduate (**doctoral**) studies* (6 semesters, 180 ECTS)
– lead to a PhD (or Dr. Sc.)

We also offer interdisciplinary programs
(e.g. **Environmental studies**...)

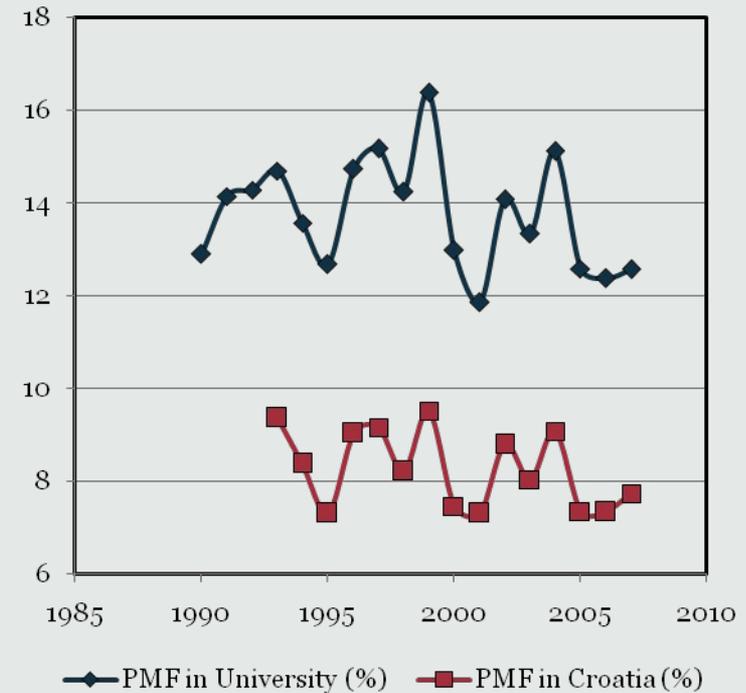




- 84 scientific projects financed by the Ministry
- Several tens of international projects (bilateral, FP6, FP7, NSF, NATO, INTERREG, CARDS, SEERANet, COST, EMEP...)

$$t = \frac{3}{(k+1)c_0 T^k} \left[\sqrt{1 - T^{2(k+1)} \frac{2}{c_0} - T^{2k+2} c_0} \right]$$

$$f = \frac{c_0}{k+1} - \frac{1}{k+1} \arccos \left[\left(\frac{c_0}{5} \right)^{k+1} \frac{1}{c_0} \right]$$





Dept. of Geophysics is the only place in Croatia to get univ. education in **SEISMOLOGY, METEOROLOGY, OCEANOGRAPHY, GEOMAGNETISM & AERONOMY** as undergrad., graduate & postgraduate

The Faculty is one of the largest at the Zagreb University
~ **700** employees (~**200** professors, ~**250** assistants)
~ **4500** enrolled students

– **Dept. of Geophysics: 34** employees (only 5 without university education)

The smallest of 7 Dept's of the Faculty of Science, Univ. of Zagreb (Biology, Chemistry, Geography, Geology, **Geophysics**, Mathematics, Physics).

The Andrija Mohorovičić Geophys. Inst. is a part of the Dept. taking care of education & scientific research (3+2+3 years ⇔ B. Sc. + M. Sc. + PhD)

– 8 professors, 9 assistants (total 13 PhD); **13 people in meteorol. & ocean.**

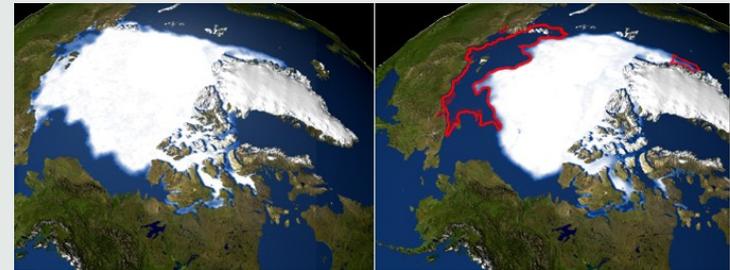


Geophys. Dept

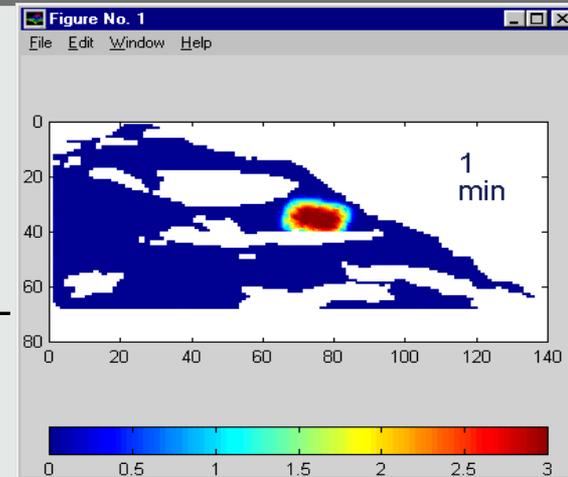


Main research topics:

- *Meteorology*: Climatic change, numerical modelling, turbulence, orographic circulation, pollution...



- *Oceanography* - Atmosphere-sea interaction, physical processes in the sea, tsunamis...



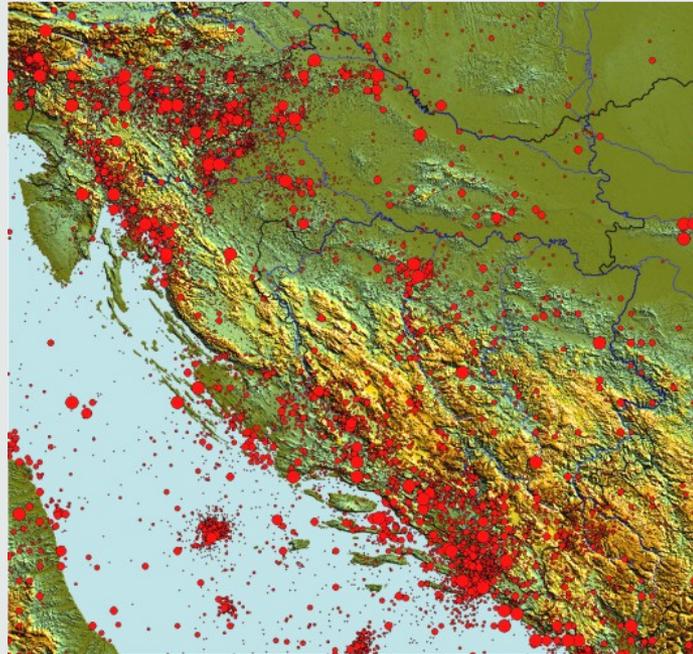
TSUNAMI MODELING
(Central Adriatic
archipelago)



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*Croatian
Seismological
Survey:*
Maintains the basic
Croatian
seismological



Main research topics:

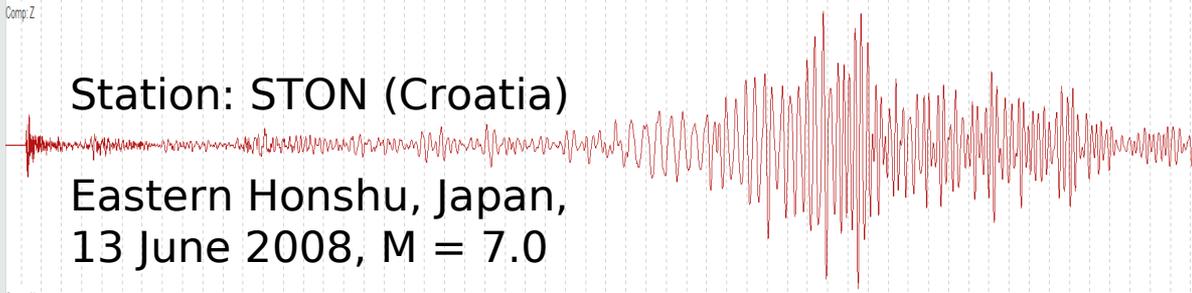
- *Seismology*: Cro. seismicity, seismic hazard, constitution of the Earth's interior...
- *Geomagnetism* ...



Comp. 2

Station: STON (Croatia)

Eastern Honshu, Japan,
13 June 2008, M = 7.0



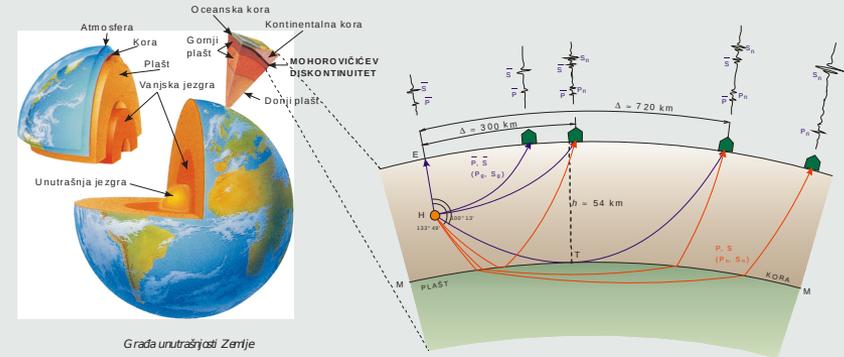
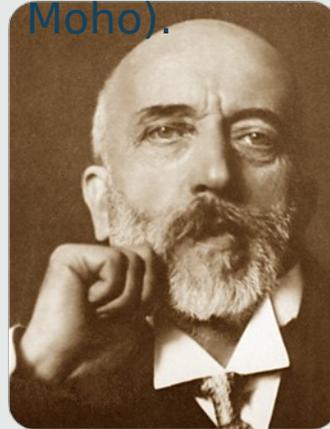
Current state of the network (June 2008)



Geophys. Dept



Andrija Mohorovičić - the greatest Cro. scientist of all times discovered the Earth's crust-mantle boundary (the **Moho**).



Grada unutrašnjosti Zenije

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JOURNAL OF GEOGRAPHY

東京地学協会
 TOKYO GEOGRAPHICAL SOCIETY
 Founded in 1879

REPUBLICA HRVATSKA

Andrija Mohorovičić
 1857.-1936.

500

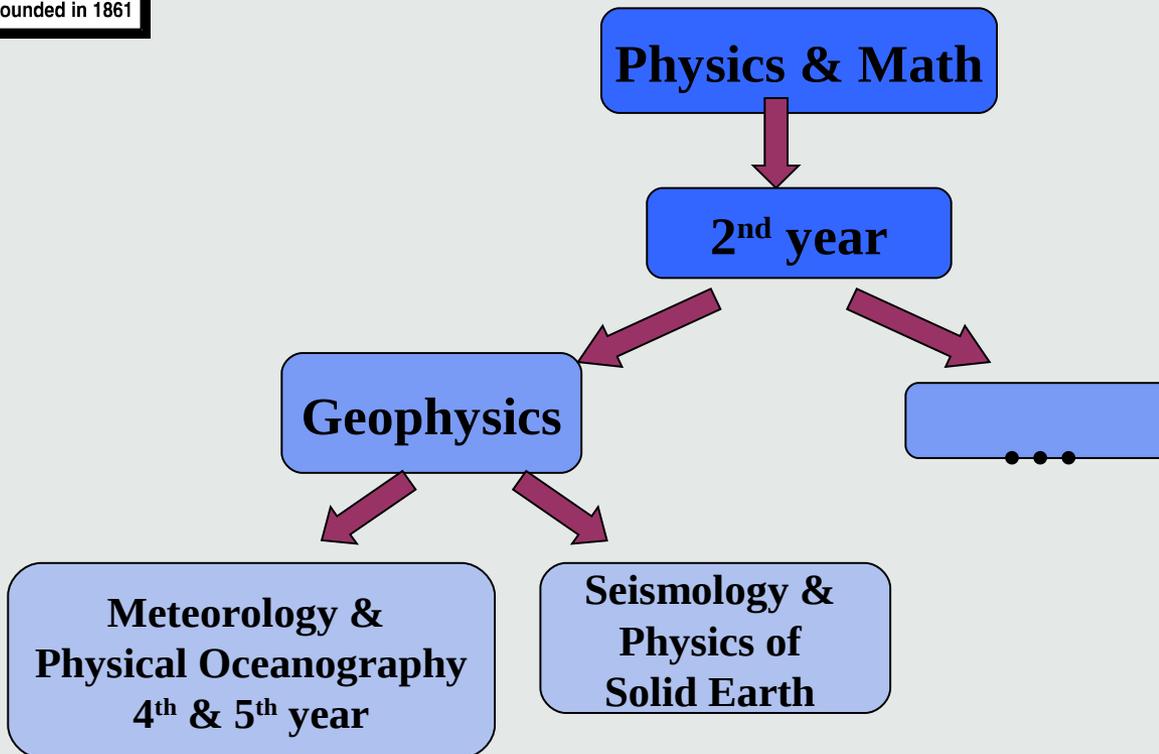
2008
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郵番号：地殻からマントルへーモホ (画) とは何か？
 Special Issue on "From the Crust to the Mantle: What is the Moho?"





Study of Geophysics



Schematic illustration of the undergrad. & graduate programs in Geophysics at the Univ. of Zagreb
Met. & Phys.Ocean.: 2 Full, 1 Assoc. 3 Assist. Prof's, 1 Lectur., 2 Res. Assoc., 4 PhD students



Research & Education

- **Main:** Coastal & mountain meteorol. & ocean., air-poll. & transport
- Almost each year an intl. conf. or workshop (>25 people) organized
- peer-rev. spec. issues ~ each year produced (*Met.Z.*, *JGR*, *BLM*)
- **35** peer-rev. papers over the last **1.5** years \Leftrightarrow **1.8**/sci.pap./yr./pers.
- Several ongoing (i)ntl. sci. projects; PhD students & Assist. Profs. are the main man-power
- **Missing:** stronger hydrology, remote sensing, dynamical climatology, experimental meteorology; allowed more teachers, etc.