Nulla dies sine observatione
150 godina Geofizičkog zavoda u Zagrebu (1861.–2011.)

Početak (1. prosinca 1861.)

Meteorologische Beobachtungen.

Jahr 1861.

Monat December

Beobachtungs-Station Agram

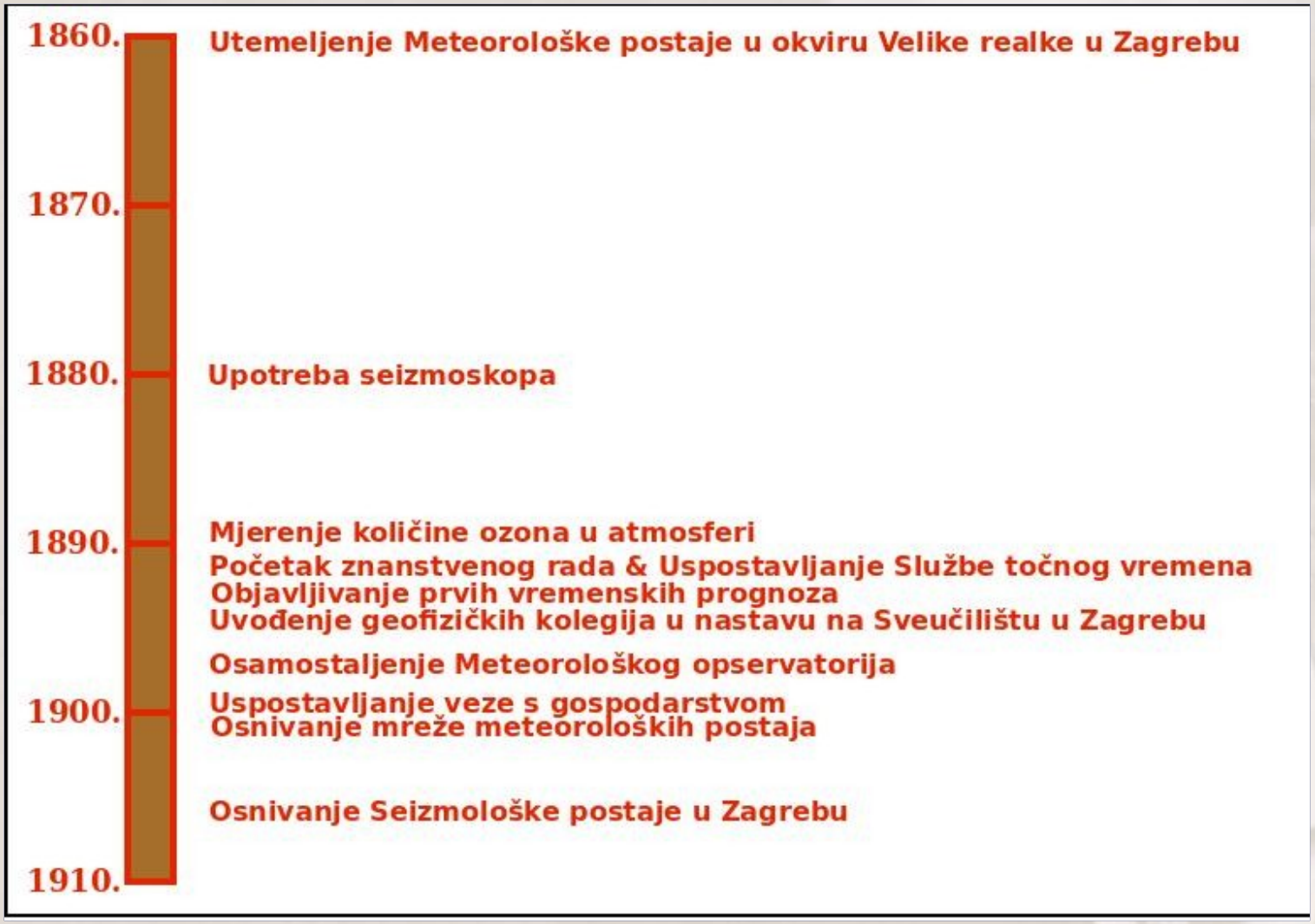
Beobachter Johann Hozi

Beobach

Instrume

	6h		2h		10h		6h	2h	10h	Tages-Mittel	6h	2h	10h	Tages-Mittel	6h	2h	10h	6h	2h	10h	Tages-Mittel	6h	2h	10h	T M
	Thermometer am Baromet.	Barometer	Thermometer am Baromet.	Barometer	Thermometer am Baromet.	Barometer	Luftdruck bei 0° in Par. Lin.				Temperatur des trockenen Thermometers				Temperatur des nassen Thermometers			Dunstdruck				Feuchtigkeit			
	Réaumur	Par. Lin. 300 +	Réaumur	Par. Lin. 300 +	Réaumur	Par. Lin. 300 +	300‴ + (oder 200‴ +)				nach Réaumur				nach Réaumur			Paris. Linien				in Procenten			
1	+6·0	34'60	+6·7	33'85	+5·2	33'70	34'09	33'29	33'25	33'54	+2·9	+2·9	+1·9	+2·6	+2·2	+1·8	+1·4	2'21	2'00	2'11	2'11	85	77	83	
2	+6·4	34'15	+9·2	32'60	+5·6	36'50	33'61	34'88	36'02	34'83	+1·1	+5·6	+1·9	+2·7	+0·9	+4·2	+0·7	2'11	2'65	1'75	2'17	95	85	74	
3	+6·2	35'80	+7·2	34'92	+3·0	34'40	35'28	34'33	34'09	34'57	−7·0	+3·4	+0·6	−0·9	−7·8	+2·1	−0·5	1'73	1'87	1'60	1'40	71	67	76	
4	+3·1	34'33	+3·2	34'23	+4·0	34'20	34'01	33'91	33'83	33'91	+0·6	+1·4	+0·3	+0·6	−1·3	+0·7	−0·1	1'38	1'91	1'87	1'72	68	84	92	
5	+2·0	33'60	+6·1	32'85	+1·0	31'20	32'76	32'22	31'03	32'24	−3·1	−0·1	−3·2	−2·1	−7·9	−1·9	−7·6	1'17	1'49	1'32	1'29	77	60	88	
6	−1·0	31'80	+3·8	31'28	+0·9	31'10	31'77	30'92	30'94	31'21	−4·5	−1·7	−3·8	−3·1	−5·5	−2·7	−4·2	0'78	1'28	1'24	1'10	57	74	89	
7	−2·0	30'78	+2·8	30'42	+0·5	30'54	30'81	30'42	30'37	30'43	−4·8	−1·1	−2·4	−2·8	−5·8	−1·8	−2·9	0'88	1'52	1'29	1'26	69	83	86	
8	−0·5	31'62	+3·2	32'84	+1·1	32'90	31'48	32'48	32'32	32'56	−2·6	−0·1	−0·9	−1·2	−3·2	−0·8	−1·4	1'32	1'67	1'62	1'54	84	84	87	

Kronologija



1910.

Prva geomagnetska mjerenja

1920.

Promjena naziva u Geofizički zavod

Početak izlaženja *Radova Geofizičkog zavoda u Zagrebu*

Osnivanje Zavoda za geofiziku pri Filozofskom fakultetu

1930.

Utemeljenje Mareografske postaje u Bakru

1940.

Odvajanje Uprave hidrometeorološke službe & Utemeljenje dodiplomskog studija geofizike

1950.

Organizirana mjerenja deklinacije duž istočne obale Jadrana

Geofizički zavod postaje dijelom Prirodoslovno-matematičkog fakulteta Sveučilišta u Zagrebu

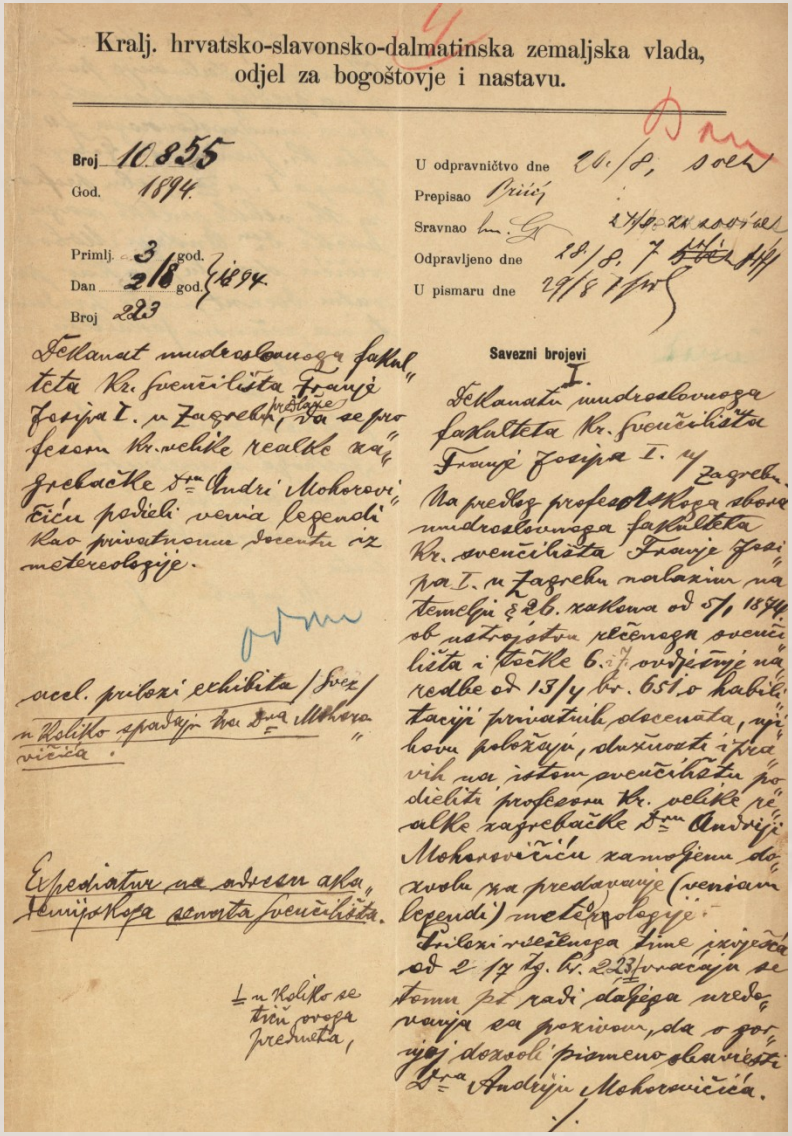
Početak aktinometrijskih istraživanja

1960.

Utemeljenje poslijediplomskog studija geofizike

1960.
1970.
1980.
1990.
2000.
2010.
Prva mjerenja kiselosti oborine
Započeli prvi veliki međunarodni projekti
Dovršenje nove zgrade Geofizičkog zavoda
Utemeljenje časopisa *Geofizika*
Osnivanje Seizmološke služba Republike Hrvatske
Opservatorij Zagreb-Grič predan je Državnom hidrometeorološkom zavodu
Započela mjerenja ultraljubičastog zračenja
Organizirana prva mjerenja atmosferske turbulencije
Organizirana prva mjerenja na otvorenom Jadranu
Obnovljena geomagnetska istraživanja
Organizirana intenzivna mjerenja mikroseizmičkog nemira i gibanja građevina
Studij geofizike usklađen je sa zahtjevima Bolonjskog procesa & Uređene Memorijalne prostorije A. Mohorovičića

Dodiplomska nastava



Kralj. hrvatsko-slavonsko-dalmatinska zemaljska vlada,
odjel za bogoštovje i nastavu.

Broj 10855
God. 1894.

U odpravničtvo dne 20/8. 1894
Prepisao
Sravnao
Odpravljeno dne 28/8. 1894
U pismaru dne 29/8 1894

Primlj. 3 god.
Dan 28 god. 1894.
Broj 223

Savezni brojevi

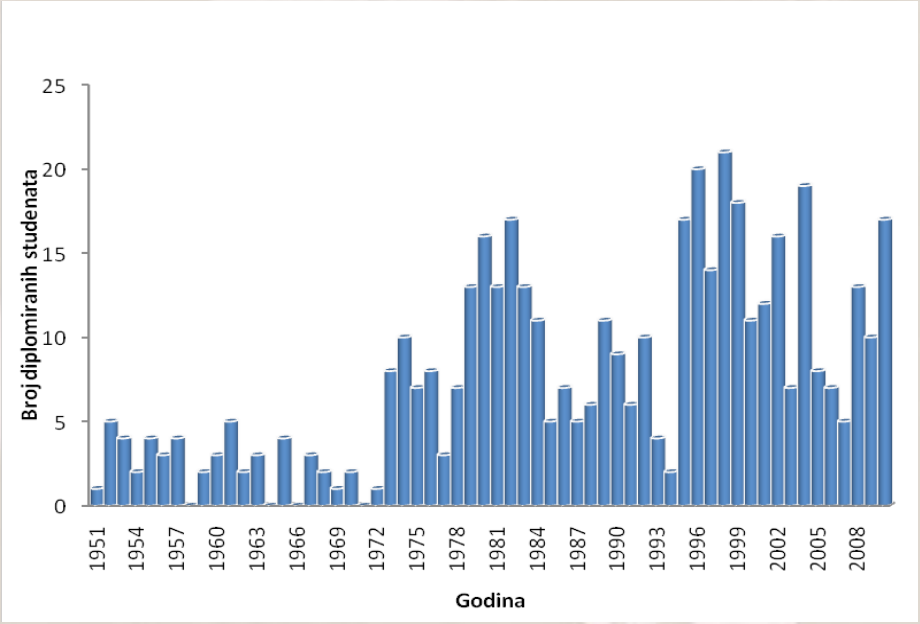
Dekanat mudroslovnoga fakulteta Kr. sveučilišta Franje Josipa I. u Zagrebu, (mjesto) da se prof. Kr. velike realke na Grebačke Dra Andri Mohorovičiću podieli venia legendi kao privatnomu docentu iz meteorologije.

I.
Dekanatu mudroslovnoga fakulteta Kr. sveučilišta Franje Josipa I. u Zagrebu.
Na predlog profesorskoga zbora mudroslovnoga fakulteta Kr. sveučilišta Franje Josipa I. u Zagrebu nalazim na temelju §. 26. zakona od 5/1 1874. ob ustrojstvu ovdješnjega sveučilišta i točke 6. ovršenoga na redbe od 13/4 br. 651. o habilitaciji privatnih docenata, njihovu položaju, službenosti i ostalih na istom sveučilištu podieliti profesoru Kr. velike realke zagrebačke Dru Andriji Mohorovičiću zamoljenu dozvolu za predavanje (venia legendi) meteorologije.
Sulazi ovdješnjega Vime izvješća od 2 17 tg. br. 223/ravnanja se tomu pr radi daljega uredovanja sa prošnjom, da o gornjoj dozvoli pismeno obavieste Dra Andriju Mohorovičića.

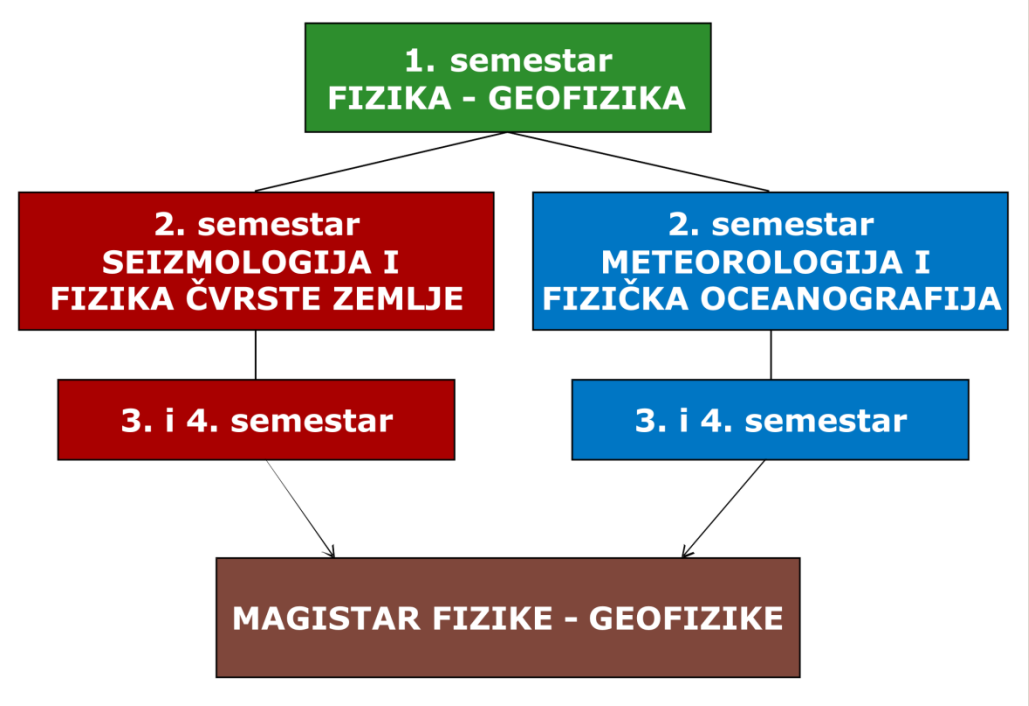
accel. prilozi elchibita / svez / u koliko spadaju na Dra Mohorovičića.

Expediatur na odsjek za bogoštovje i nastavu kr. sveučilišta.

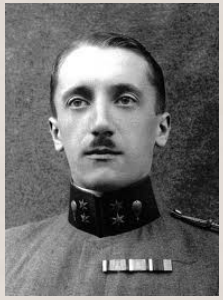
u koliko se tiču ovoga predmeta,



Struktura preddiplomskog i diplomskog studija

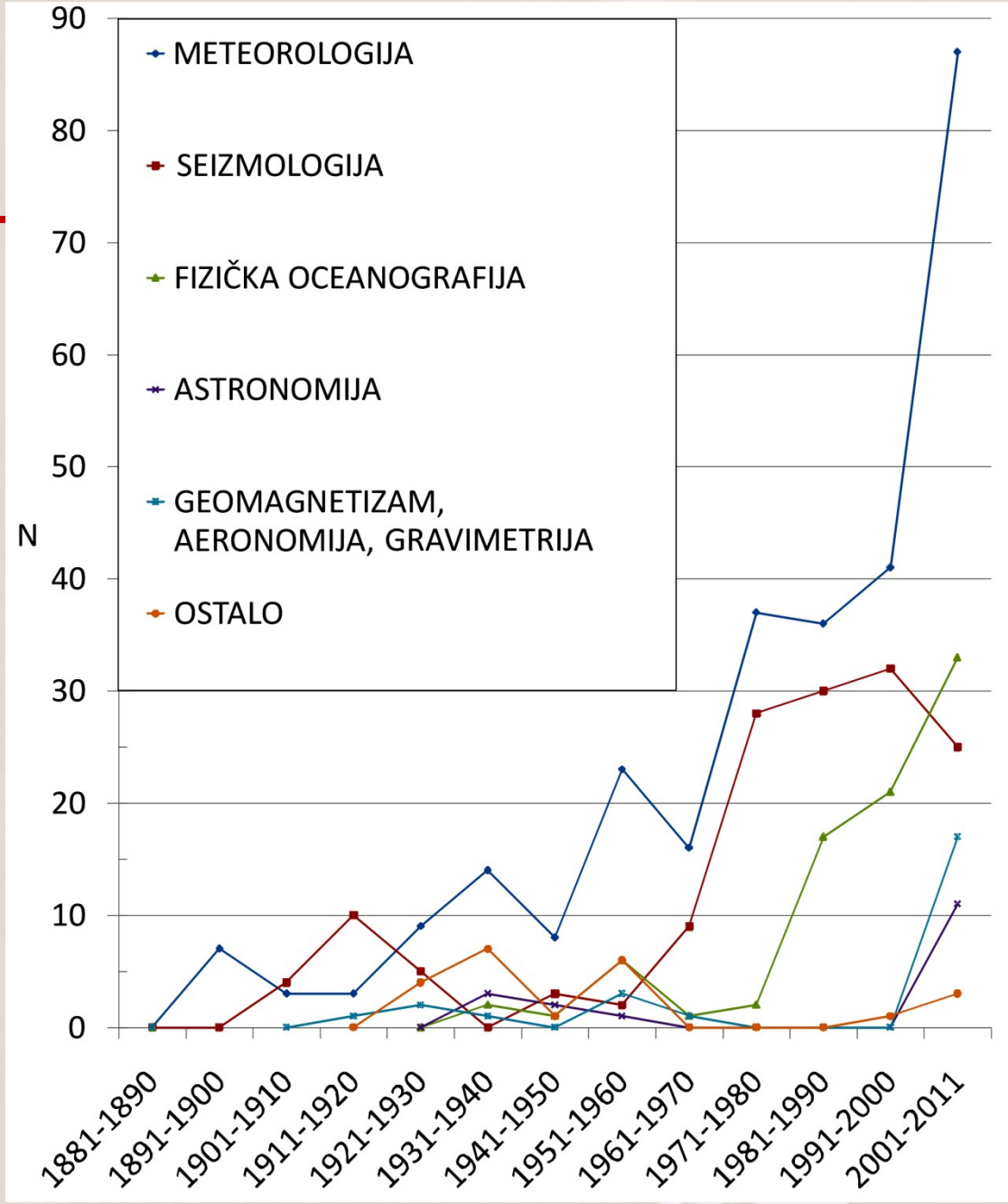


Doktorske disertacije



Ime i prezime	Naslov	Godina	Mentor
Andrija Mohorovičić	Rezultati opažanja oblaka u Bakru	1893.	
Stjepan Škreb	Utjecaj zemaljske rotacije na gibanja atmosfere	1909.	
Stjepan Mohorovičić	Aerologijske studije iz Kotorskoga zaljeva uz neke općene primjedbe	1918.	
Branimir Marković	Mikroseizmički nemir u Zagrebu	1944.	S. Škreb
Josip Mokrović	Zagrebačke hodohrone prostornih seizmičkih valova za potrese normalnih dubina	1951.	J. Goldberg
Branko Maksić	Atmosferska vlaga u specijalnim uvjetima i njeno mjerenje	1952.	J. Goldberg
Marijan Kasumović	Utjecaj atmosfere na kolebanje razine Jadranskog mora	1957.	J. Goldberg
Berislav Makjanić	Obalni sistem cirkulacije u dnevnom periodu. Prilog matematičkoj teoriji i analiza pojava u primorju Jugoslavije	1958.	J. Goldberg
Dražen Poje	Glavni tipovi vremena u Jugoslaviji i njihova zavisnost o visinskim strujanjima	1965.	B. Maksić
Branka Penzar	Mehanizam opće cirkulacije atmosfere ljeti nad Jugoslavijom	1969.	B. Makjanić
Dragutin Skoko	Prilog određivanju magnitude potresa	1969.	J. Mokrović

Znanstvena istraživanja



Ukupno:
oko 600 znanstvenih
i preglednih radova

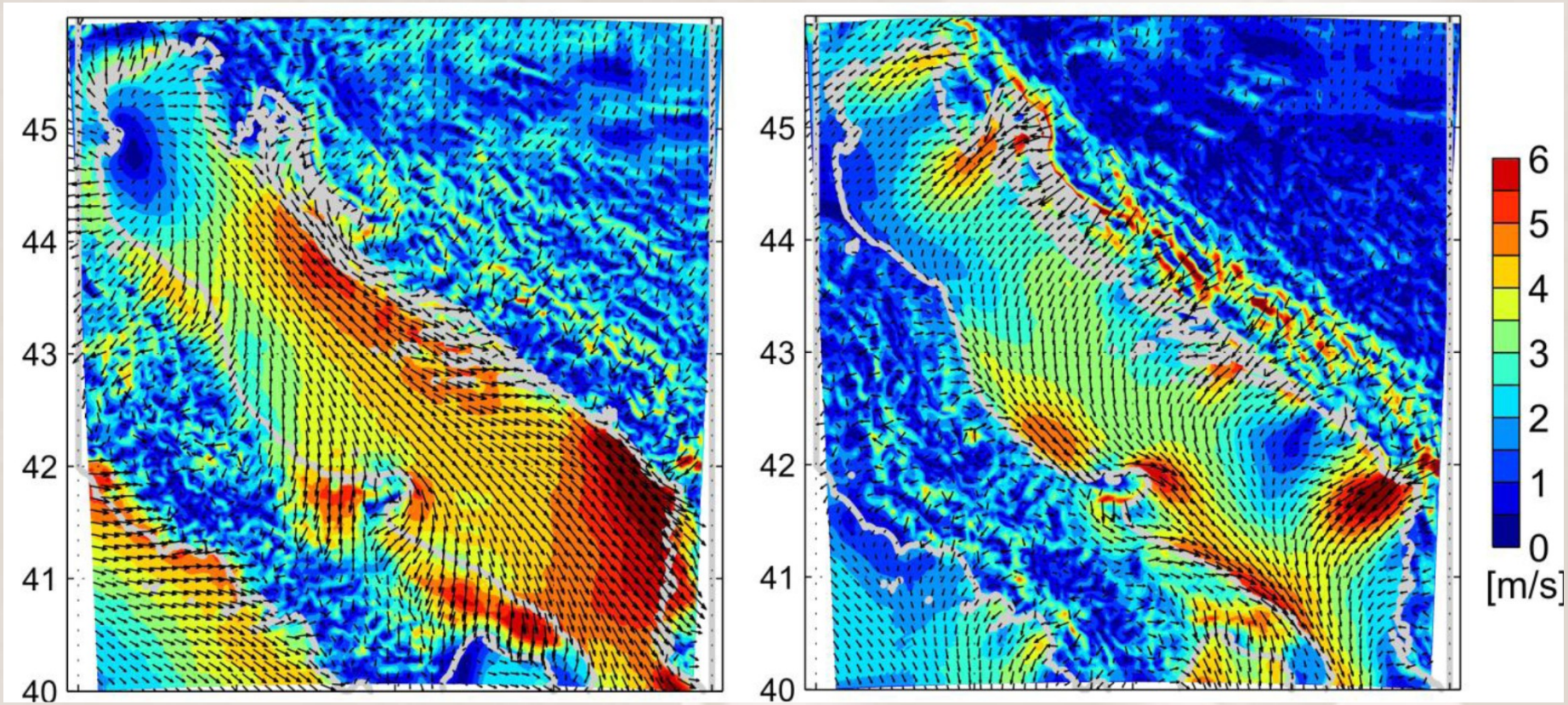
Meteorologija s klimatologijom

1893.

Novska, 1892.

1942.

Cfw"bx"
Cfwbx"
Cfwbx"
i Cfwax"
Cfwbx" i Dfwbx"
Cfsax"
Cfsbx"
Cfwbx"
Cs"a(x)
Cs"b(x)
Csax"
Csa



2009.

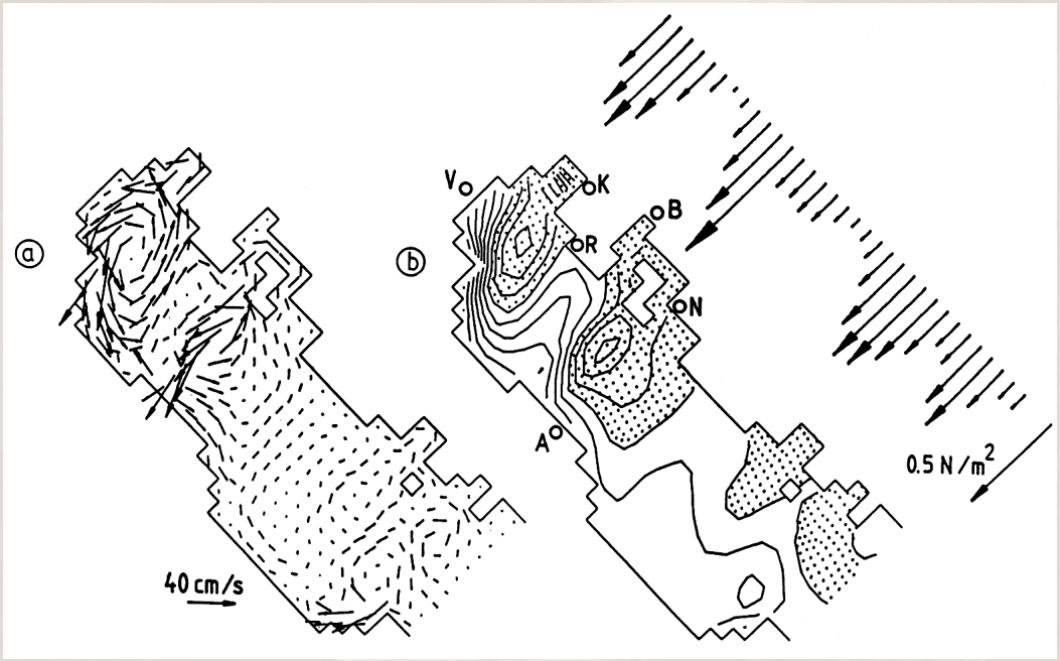
Fizička oceanografija

1938.

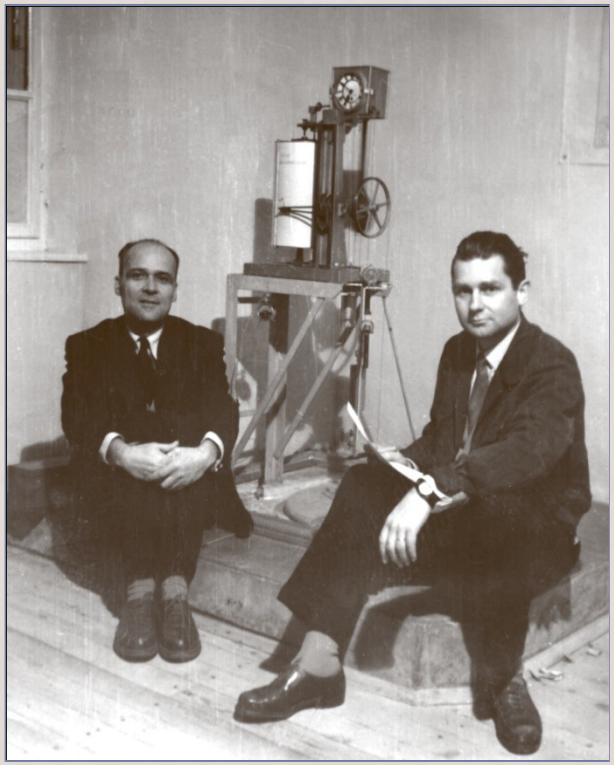
Vrijednost perioda		Fizikalno značenje oscilacije	
po motrenju	po teoriji		
$6{,}0^h \pm 0{,}1^h$	$5{,}85^h - 6{,}68^h$	Osnovni seš	Kvarnerskog Zavalja
$2{,}1^h \pm 0{,}1^h$	$2{,}07^h$; $2{,}03^h$	Prvi parcijalni seš	Kvarnerskog Zavalja
$24{,}0^m$	$23{,}6^m - 25{,}0^m$	Osnovni seš sa čvornom linijom Lipica - Molnarić	Cijelog Bakarskog Zaljeva
22^m; $22{,}0^m$	—	Superpozicija seša s periodima $24{,}0^m$ i $20{,}0^m$	Cijelog Bakarskog Zaljeva
$20{,}0^m$	$19{,}7^m - 21{,}2^m$	Osnovni seš sa čvornom linijom Rt Oštro — Rt Srščica	Cijelog Bakarskog Zaljeva
$8{,}5^m$	$> 8{,}2^m$; $< 9{,}5^m$	Prvi parcijalni seš uz osnovni 22^m	Cijelog Bakarskog Zaljeva
$8{,}0^m$	$8{,}2^m$	Prvi parcijalni seš uz osnovni $20{,}0^m$	Cijelog Bakarskog Zaljeva
	7.75^m; $8\ 25^m$	Osnovni, 1-nodalni seš	Unutrašnjeg korita
$,01^m$	$4{,}36^m$; $4{,}45^m$	2-nodalni seš	Unutrašnjeg korita
$,04^m$	$2{,}00^m$; $2{,}1^m$	5-nodalni seš	Unutrašnjeg korita
$,01^m$	$1{,}69^m$	6-nodalni seš	Unutrašnjeg korita
$,0^m$	$1{,}29^m$	8-nodalni seš	Unutrašnjeg korita
$,03^m$	$1{,}16^m$	9-nodalni seš	Unutrašnjeg korita
$,07^m$	$0{,}88^m - 0{,}97^m$	Lateralna oscilacija u Bakru između presjeka 1 i 2	
	—	13-nodalni seš	Unutrašnjeg korita
	—	14-nodalni seš	Unutrašnjeg korita
$,02^m$	—	21-nodalni seš	Unutrašnjeg korita

Bakarski zaljev, 1936.

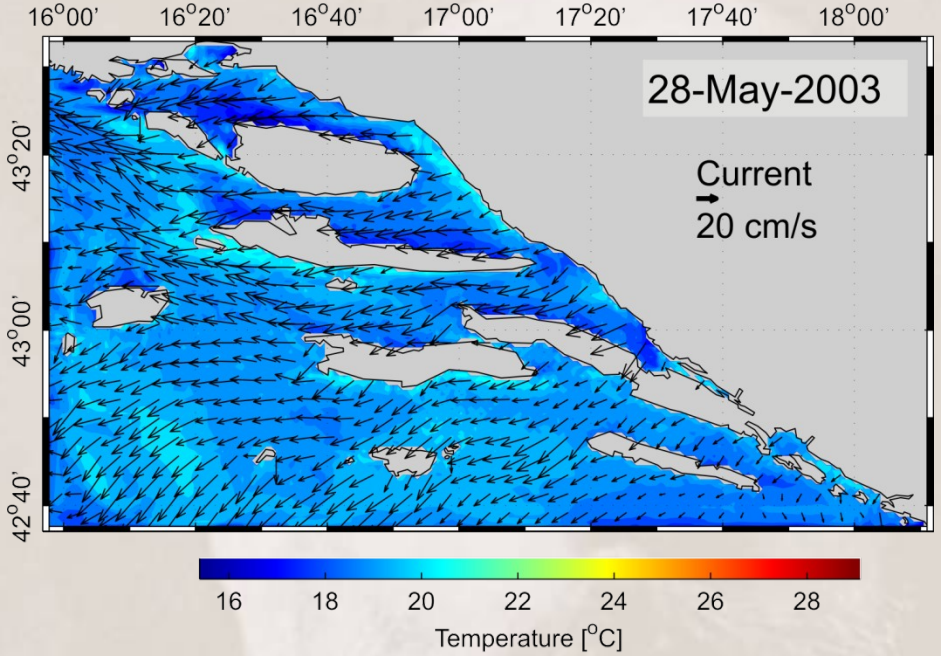
1994.



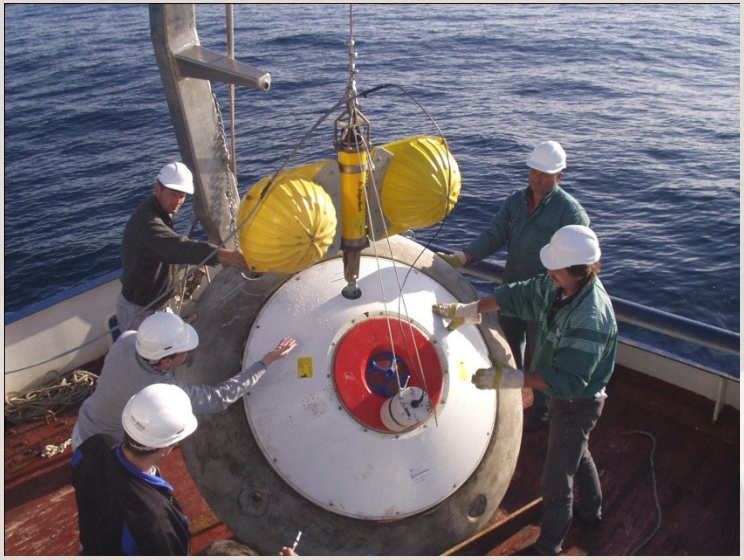
Bakar, 1960-ih godina

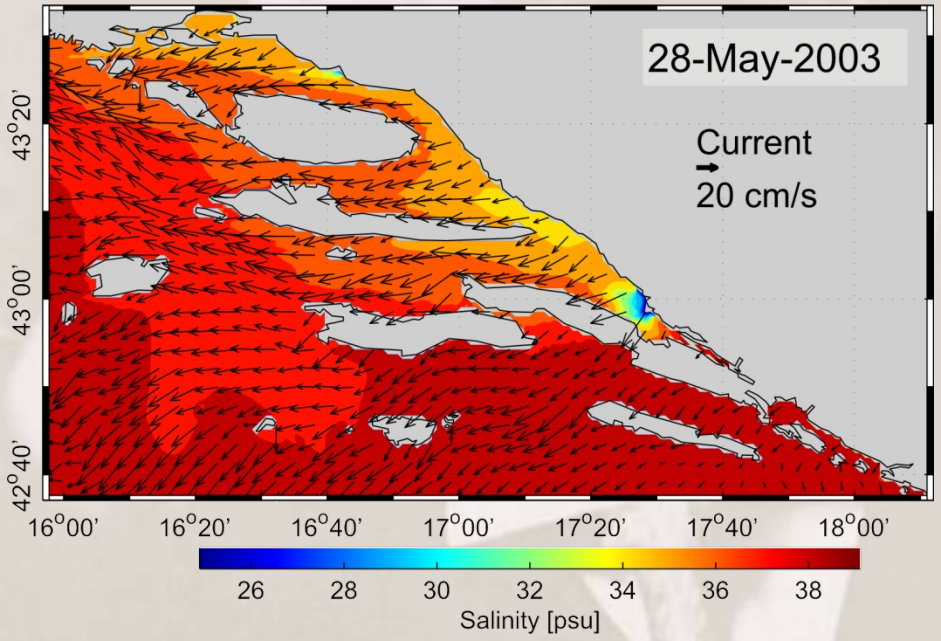


2006.

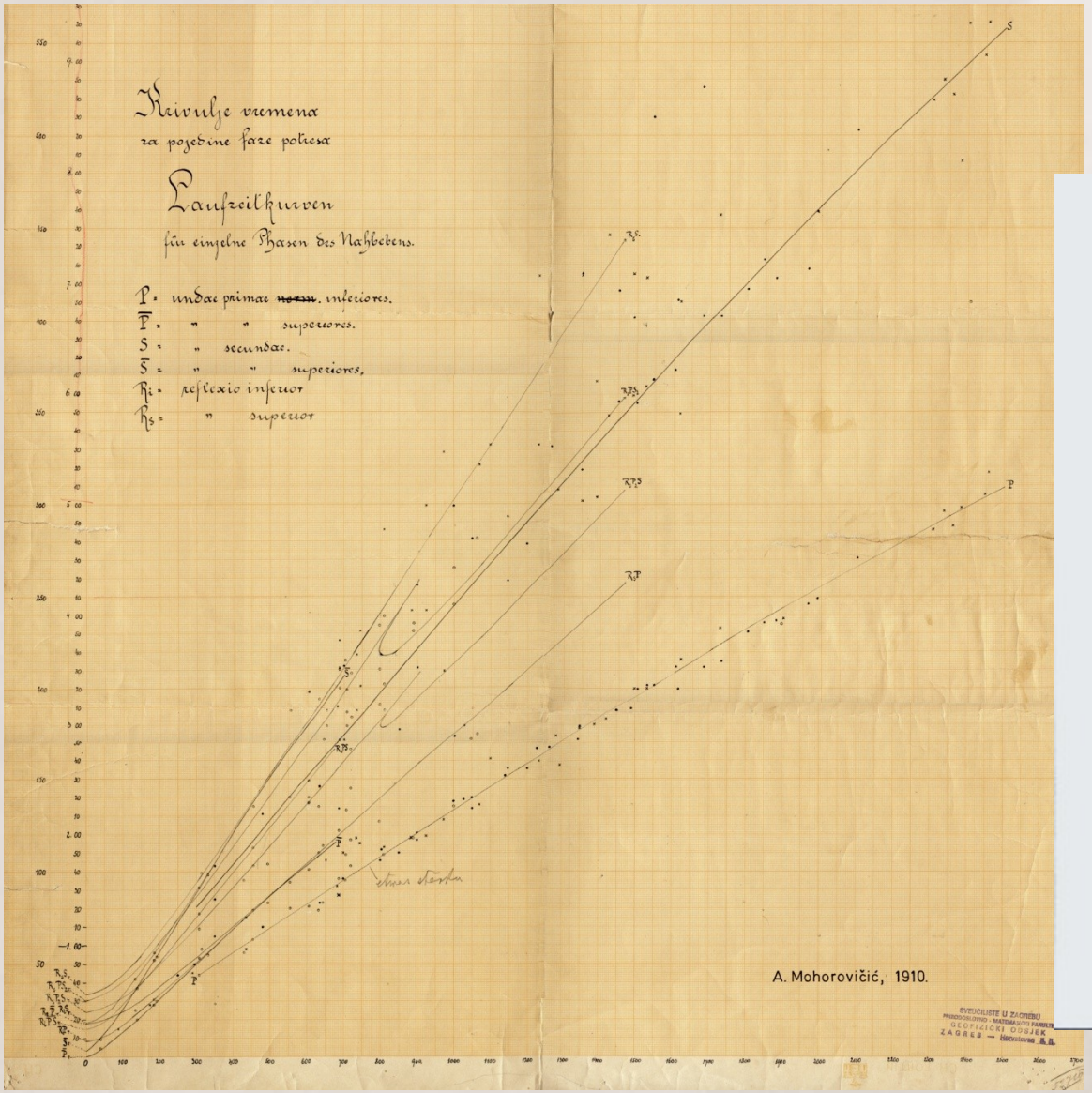


Otvoreni Jadran, 2002.





Seizmologija i fizika unutrašnjosti Zemlje



1910.

GODIŠNJE IZVJEŠĆE

ZAGREBAČKOG METEOROLOŠKOG OPSERVATORIJA

ZA GODINU 1909.

GODINA IX.

DIO IV. — POLOVINA 1.

POTRES OD 8. X. 1909.

NAPISAO

Dr. A. MOHOROVIČIĆ.

JAHRBUCH

DES

METEOROLOGISCHEN OBSERVATORIUMS

IN

ZAGREB (AGRAM)

FÜR DAS JAHR 1909.

JAHRGANG IX.

IV. TEIL — ABSCHNITT 1.

DAS BEBEN VOM 8. X. 1909.

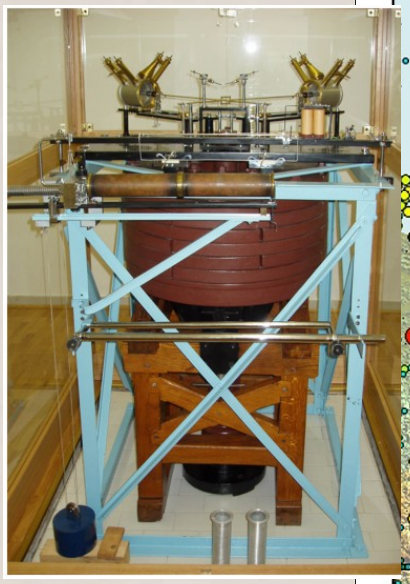
VON

Dr. A. MOHOROVIČIĆ.

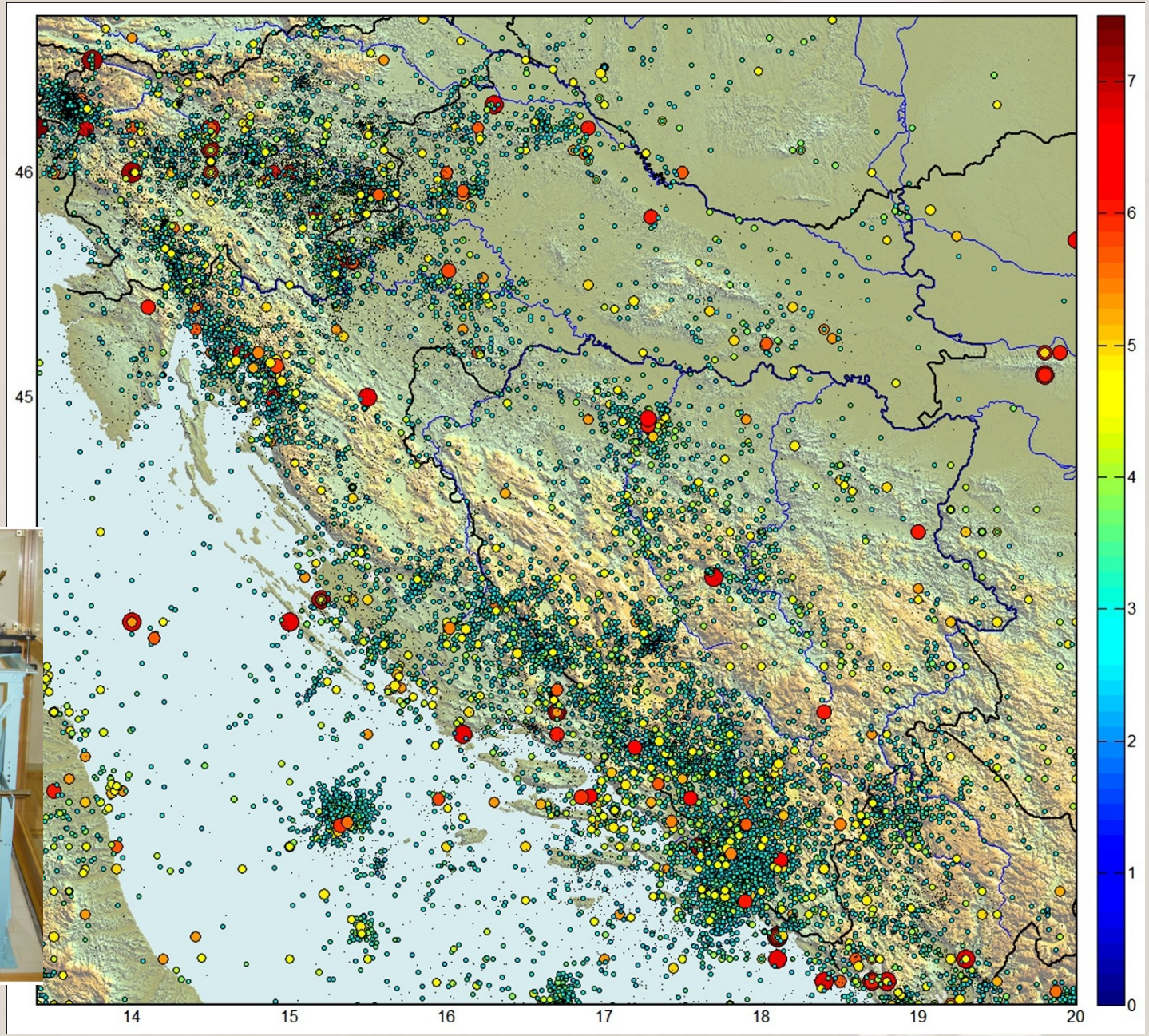
ZAGREB 1910.

München
Wien
Budapest
Zagreb
Beograd
Roma
Tirane
Sofi
55
45
35
25
30
40
10

1987.

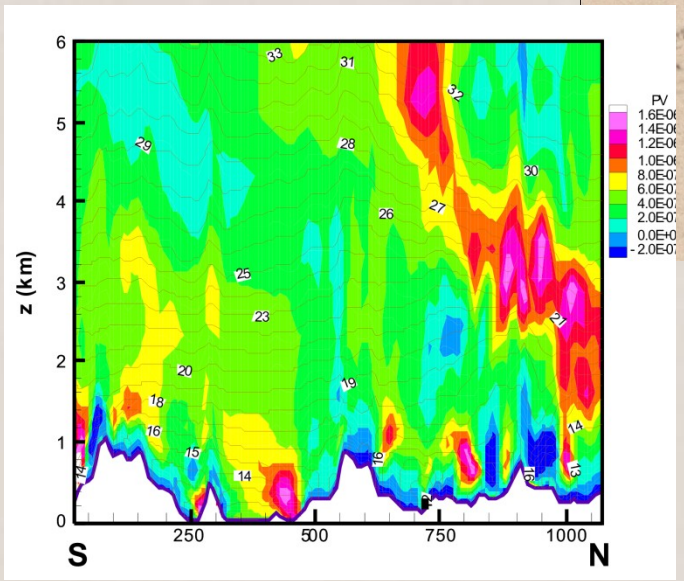


1996.



Geomagnetizam i aeronomija

2003.

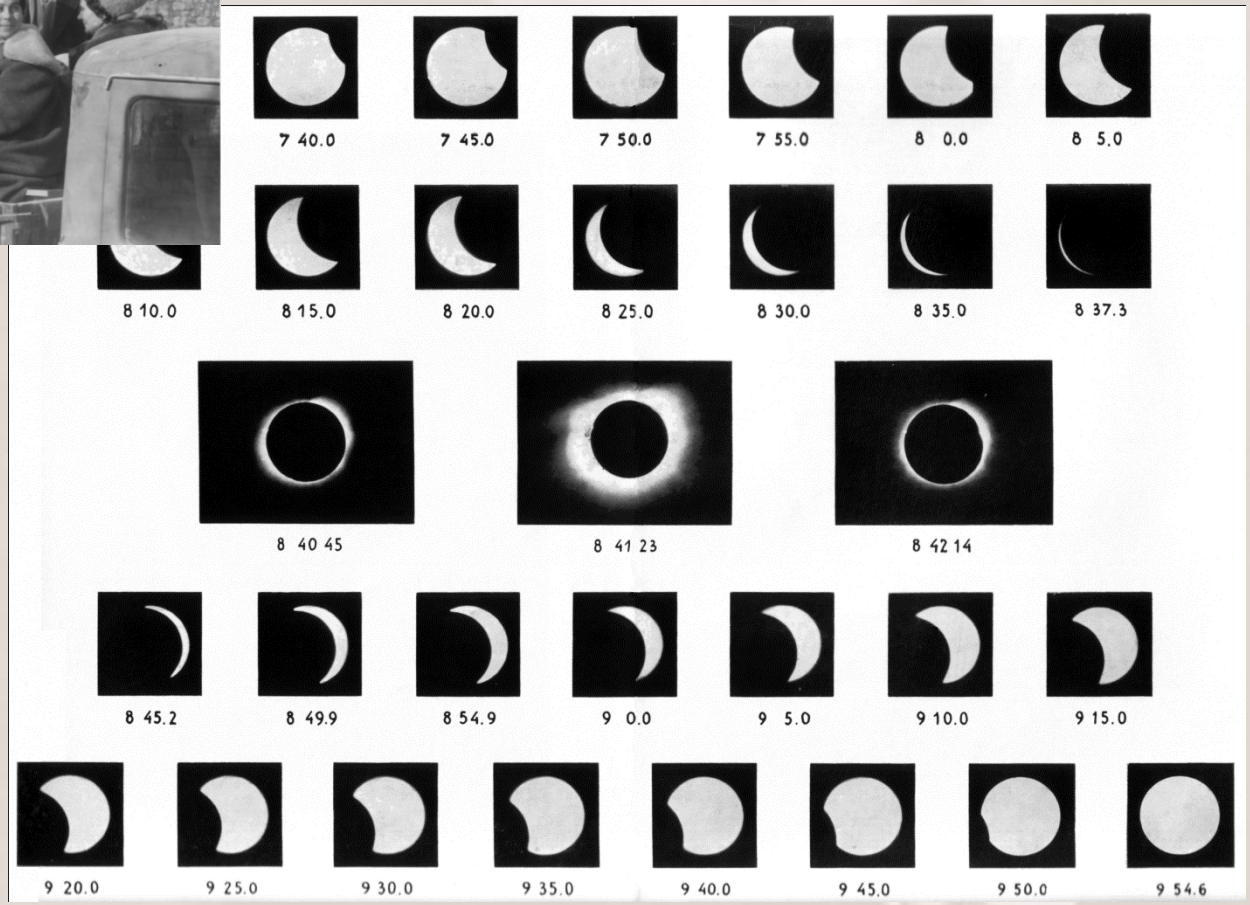


Jabuka, 1949.

Astronomija

Hvar, 1961.

1967.



Poznati hrvatski znanstvenici

The New Encyclopædia Britannica

Prelog, Vladimir (b. July 23, 1906, Sarajevo, Bosnia, Austria-Hungary [now in Bosnia and Herzegovina]), Swiss chemist who shared the 1975 Nobel Prize for Chemistry with John W. Cornforth for studies in the stereochemistry of organic molecules and reactions. This work proved to be of fundamental importance to an understanding of biological processes.

Prelog was educated at the Institute Technical School of Chemistry in Prague, receiving his doctorate in 1929. After several years in a commercial laboratory, he began teaching at the University of Zagreb in 1935, first as a lecturer and later as professor of organic chemistry. In 1942 he joined the faculty of the Federal Institute of Technology in Zürich, where he served as head of the laboratory of organic chemistry from 1957 to 1965; he retired from teaching in 1976.

Prelog's research extended to the stereochemistry of alkaloids, antibiotics, enzymes, and other natural compounds. In particular he contributed to the understanding of stereoisomerism; with R.S. Cahn and C.K. Ingold, he developed a generally used system for specifying the chirality of molecules.

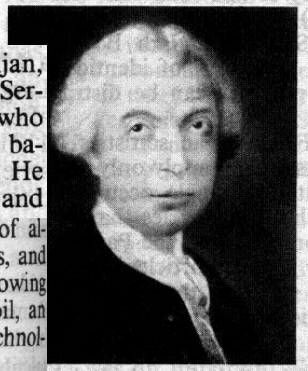
Ružička, Leopold (Stephen) (b. Sept. 13, 1887, Vukovar, Croatia, Austria-Hungary [now in Croatia]—d. Sept. 26, 1976, Zürich, Switz.), Swiss chemist and joint recipient, with Adolf Butenandt of Germany, of the 1939 Nobel Prize for Chemistry for his work on
nolecules and on the terpenes, a class
carbons found in the essential oils of
ants.
istant to the German chemist Her-
taudinger, Ružička investigated the
tion of the insecticides in pyrethrum
6). Accompanying Staudinger to the
Institute of Technology in Zürich, he
a Swiss citizen and lectured at the
. In 1926 he became professor of or-
emistry at the University of Utrecht
Netherlands, and three years later he
to Switzerland to become professor
istry at the Federal Institute of Tech-

a's investigations of natural odorifer-
pounds, begun in 1916, culminated in
overy that the molecules of muskone
tone, important to the perfume indus-
ain rings of 15 and 17 carbon atoms,
vely. Before this discovery, rings with
n eight atoms had been unknown and
ad been believed to be too unstable
Ružička's discovery greatly expanded
on these compounds. In the mid-
discovered the molecular structure
of several male sex hormones, notably testosterone, and subsequently synthesized them.

Tesla, Nikola (b. July 9/10, 1856, Smiljan, Croatia—d. Jan. 7, 1943, New York City), Serbian-American inventor and researcher who discovered the rotating magnetic field, the basis of most alternating-current machinery. He emigrated to the United States in 1884 and sold the patent rights to his system of alternating-current dynamos, transformers, and motors to George Westinghouse the following year. In 1891 he invented the Tesla coil, an
il widely used in radio technol-

from a family of Serbian ori-
her was an Orthodox priest; his
unschooled but highly intelligent.
vith a poetic touch, as he matured
to these earlier qualities those of
e and a desire for precision.
or an engineering career, he at-
echnical University at Graz, Aus-
University of Prague. At Graz he
Gramme dynamo, which operated
tor and, when reversed, became
notor, and he conceived a way to
ng current to advantage. Later, at
e visualized the principle of the
gnetic field and developed plans
ction motor that would become
toward the successful utilization
g current. In 1882 Tesla went
Paris for the Continental Edison
nd, while on assignment to Strass-
3, he constructed, in after-work
rst induction motor. Tesla sailed
in 1884, arriving in New York
nts in his pocket, a few of his own
calculations for a flying machine
nd employment with Thomas Edi-
e two inventors were far apart in
and methods, and their separa-
evitable.

Boscovich, **Ruggero Giuseppe,** Serbo-Croatian RUDJER JOSIP BOŠKOVIĆ (b. May 18, 1711, Ragusa, Dalmatia, Venetian territory [now Dubrovnik, Croatia]—d. Feb. 13, 1787, Milan [Italy]), astronomer and mathematician who gave the first geometric procedure for determining the equator of a rotating planet



ovich, detail of a portrait by an own artist; in Dubrovnik Cloister, tia
fur Kunst und Geschichte, Berlin

three observations of a surface feature for computing the orbit of a planet from e observations of its position.
scovich's father was a Serb (converted Eastern Orthodoxy to Roman Catholi-), and his mother was Italian. He entered Society of Jesus (Jesuits) in 1726 and studmathematics and physics at the Collegium nanum, Rome, where he was appointed essor of mathematics in 1740. One of the scientists of continental Europe to accept Newton's gravitational theory, he pubd nearly 70 papers on optics, astronomy, itation, meteorology, and trigonometry.
pioneer in geodesy, the science concerned the size and shape of the Earth, he sured a meridian arc between Rome and ini, Italy, in 1750 in order to test his ry of the shape of the Earth. He accepted chair of mathematics at the University of a in 1764 and also served as director of Brera Observatory in Milan. In 1769 he invited to lead an expedition to California bserve a transit of Venus but the offer was nded because of Spanish bias against the its. When the Jesuits were suppressed in in 1773, Boscovich accepted an invitafrom King Louis XV of France to settle in Paris as director of optics for the navy. He returned to Italy in 1783.

Andrija Mohorovičić

The New Encyclopædia Britannica

Volume 1

MICROPÆDIA

Ready Reference

FOUNDED 1768
15 TH EDITION

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Mohorovičić, Andrija (b. Jan. 23, 1857, Volosko, Croatia, Austrian Empire [now in Croatia]—d. Dec. 18, 1936, Zagreb, Yugos.), Croatian meteorologist and geophysicist who discovered the boundary between the Earth's crust and mantle—a boundary subsequently named the Mohorovičić discontinuity.

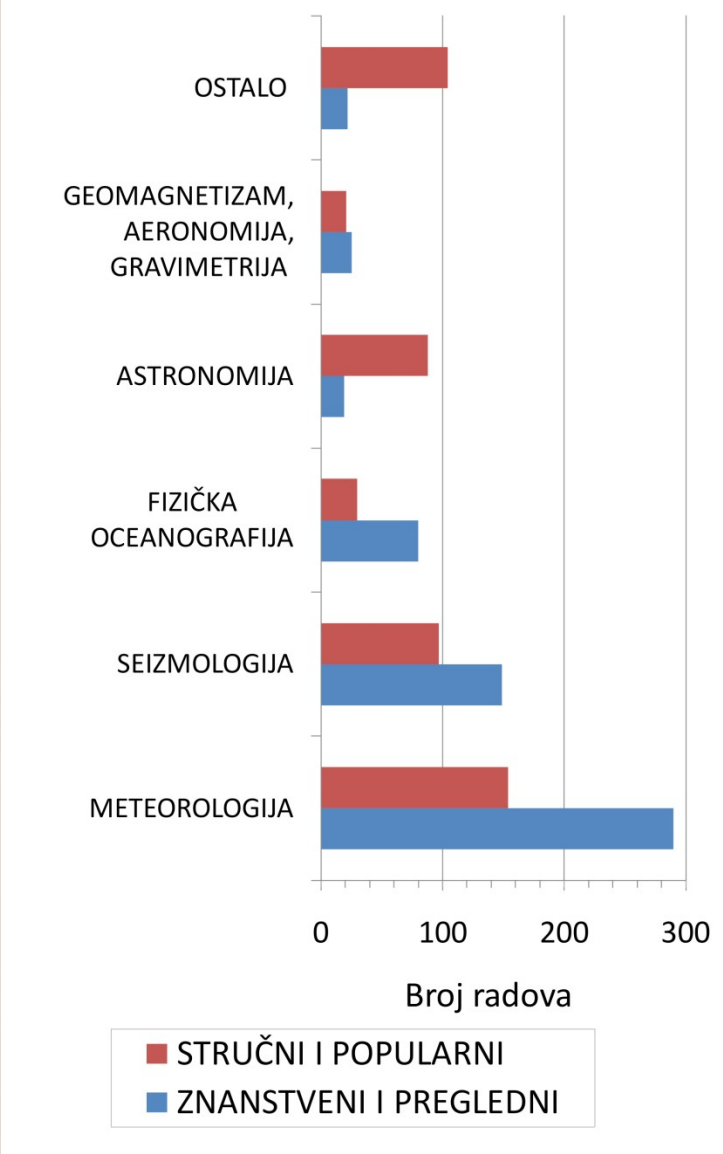
The son of a shipyard carpenter, he was a precocious youth and by the age of 15 spoke not only Croatian but English, French, and Italian, to which he later added Latin and Greek as well as Czech and German. He studied under the physicist and philosopher Ernst Mach at the University of Pr was graduated in mathematics an (1875). After teaching in a seconda for seven years, he received an app to the Royal Nautical School at Ba Rijeka. He taught meteorology and raphy, and he established a mete station there in 1887. In 1891 he professor at the Main Technical Sch greb, where he continued his studie named director of the meteorologica tory there in 1892, and he received from the University of Zagreb in 18

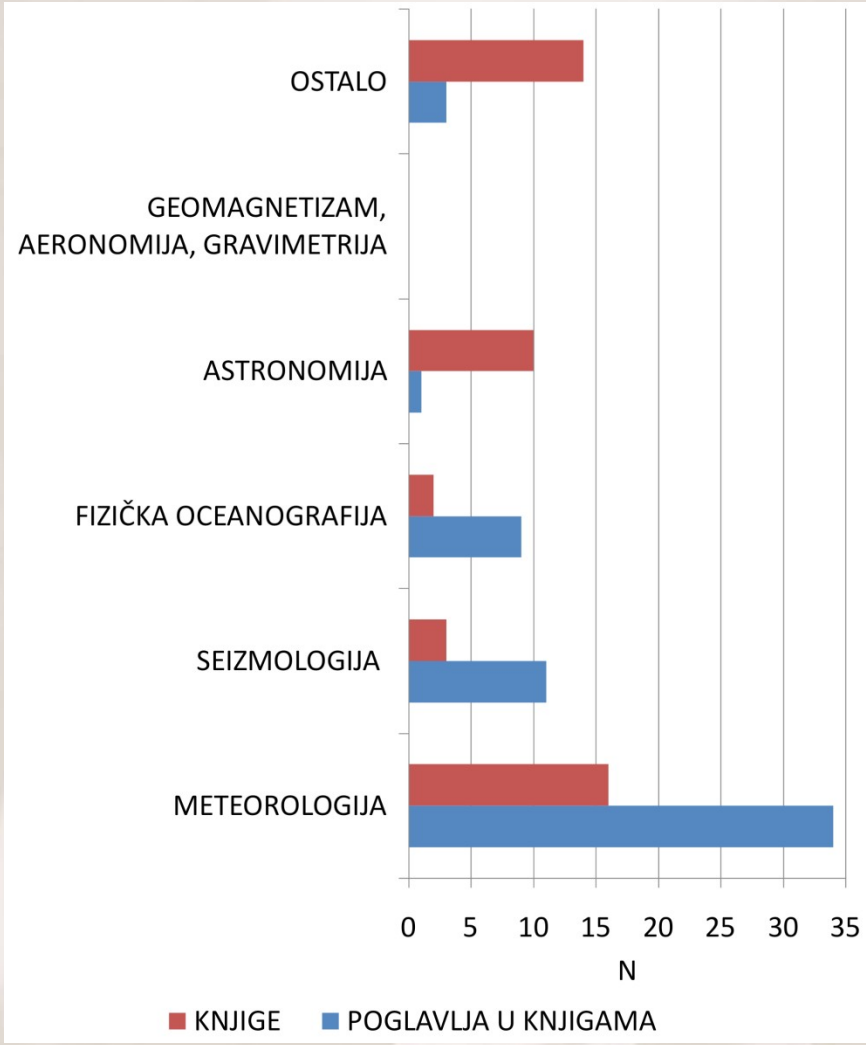
As early as 1908 Mohorovičić had in acquiring new and improved seis

Prag, 2011.

CHORVATSKÝ GEOFYZIK,
KTERÝ ROKU 1910 OBJEVIL
ROZHRANÍ MEZI ZEMSKOU
KŮROU A SVRCHNÍM
PLÁŠTĚM, STUDOVAL ZDE
V KLEMENTINU
NA UNIVERZITĚ KARLOVĚ
V PRAZE V LETECH
1875 AŽ 1878.
ANDRIJA MOHOROVIČIĆ
(1857-1936)

Šira publicistička djelatnost

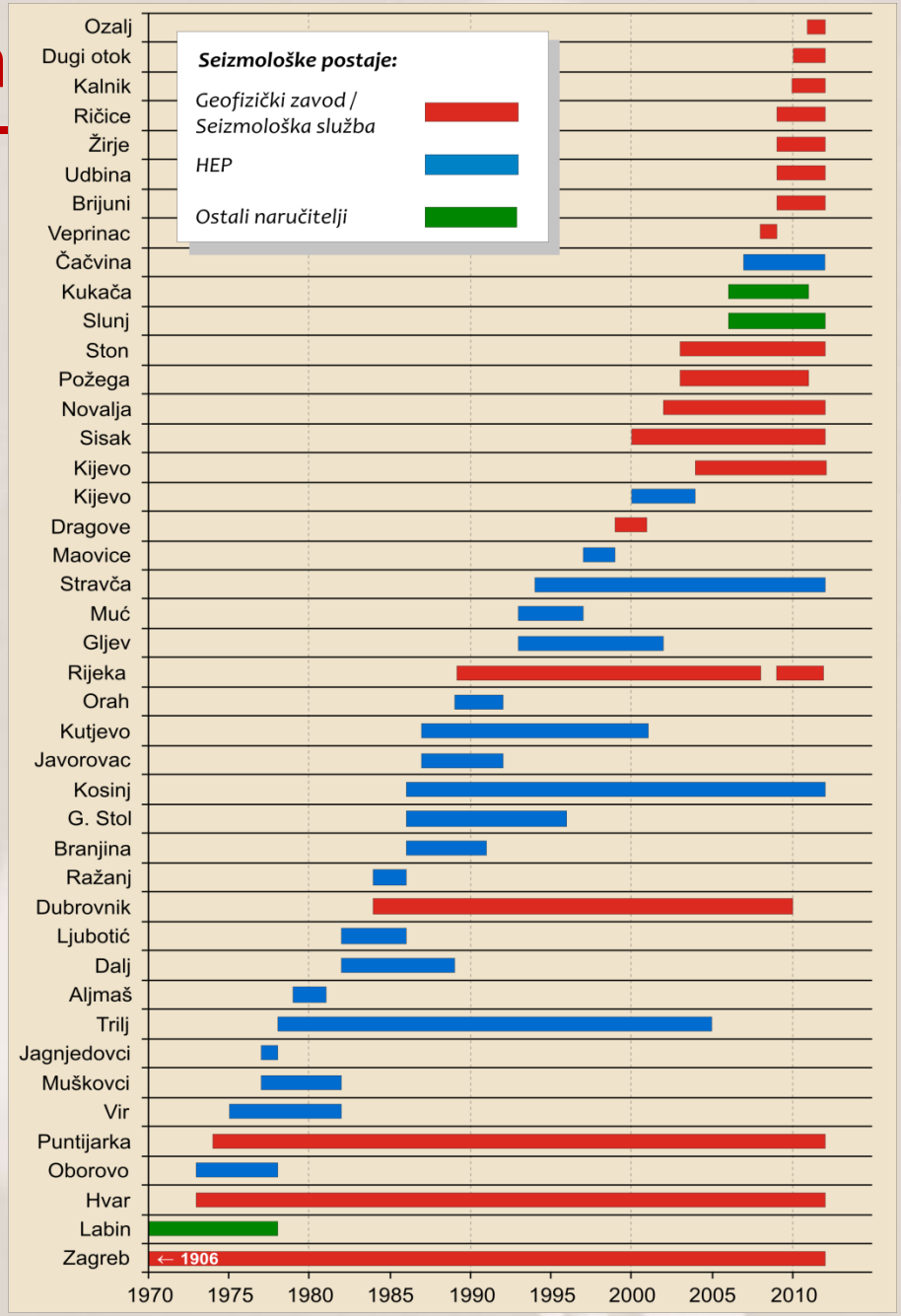
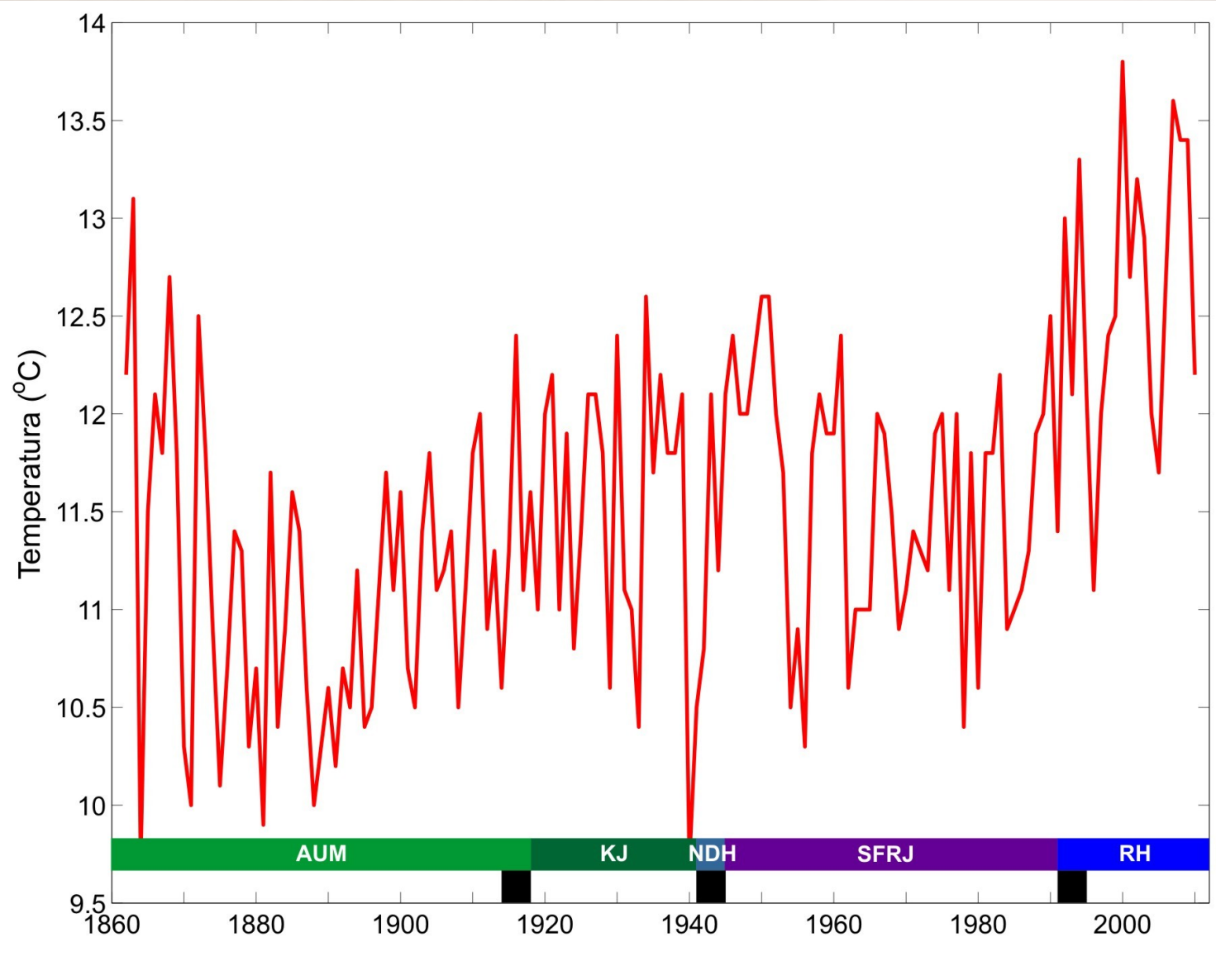




Priroda (136 radova), *Geofizika* (35 radova), *Matematičko-fizički list* (32 rada)...

Suradnja s gospodarstvom

Jastrebarsko, 1899.



Dugotrajnost i kontinuitet u turbulentnim prilikama