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POMORSKI METEOROLOŠKI ODJEL SPLIT
DRŽAVNI HIDROMETEOROLOŠKI ZAVOD HRVATSKE



Motrenje vremena u zaštiti života i imovine 50-ta obljetnica Svjetskog meteorološkog bdijenja

*Svjetski meteorološki dan 2013
Split, 23.03.2013.*

Sektor za motrenje vremena i klime

Služba za obradu i kontrolu podataka i praćenje klime

Odjel za obradu podataka brodskih dnevnika i temperatura mora



- ➔ temperature mora
- ➔ brodska meteorološka služba
- ➔ potvrde, izvješća i elaborati
- ➔ vjetrovne klime
- ➔ suradnja
- ➔ znanstvena djelatnost

Temperature mora

15 postaja:

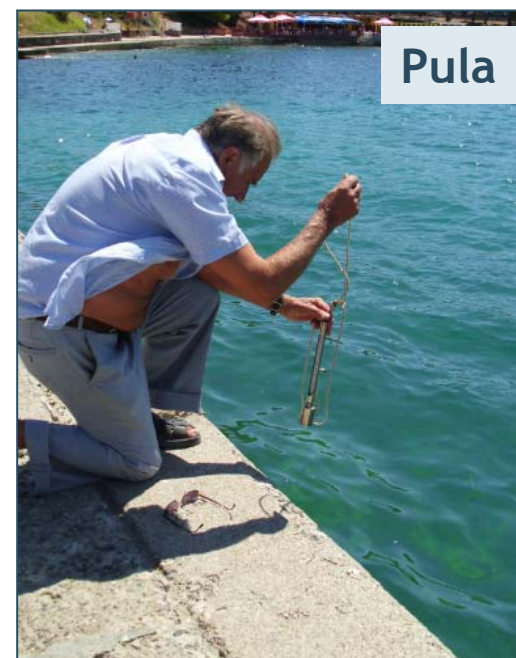
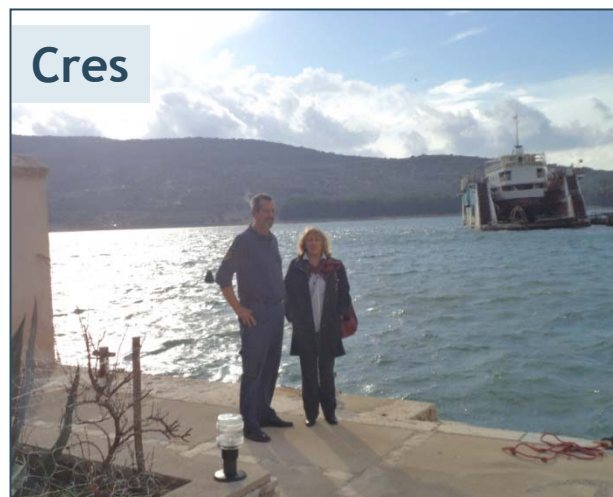
- Opatija
- Senj
- Rab
- Hvar
- Šibenik
- Split
- Komiža
- Sv. Ivan na pučini
- Pula
- Lastovo
- Krk
- Božava
- Rabac
- Cres



Hvar

Temperature mora

2012. i 2013. godina:
5 aktiviranih postaja



Brodska meteorološka služba

<i>Country - CROATIA</i>	
<i>Category</i>	<i>Number of ships Dec 2011</i>
Selected	-
Supplementary	-
Auxiliary	2 + S-AWS BaRos
Total VOS fleet	3



Brodaska meteorološka služba

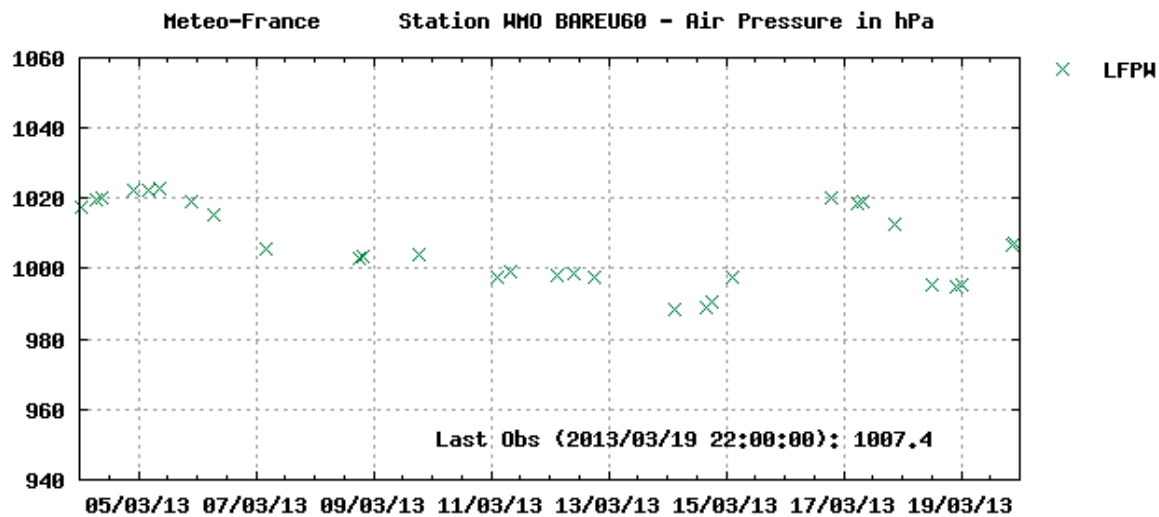
Automatske meteorološke postaje za VOS brodove,
dostupne u sustavu E-SURFMAR

Cost effective systems

Cost effective transmission

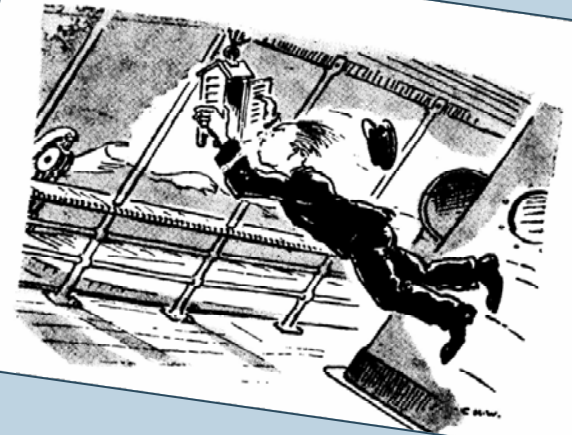
Ispis meteoroloških izvještaja o tlaku zraka u sustavu
E-SURFMAR s trajekta „Dubrovnik“ (prekid u emitiranju
podataka je za vrijeme boravka broda u luci)

System	BaTos	BaRos
S-AWS Type	« integrated »	« autonomous »
Parameters	SLP, Ta, U, dd, ff and SST	SLP only
Visual obs.	Yes	No
Transmission	Inmarsat-C DR	Iridium SBD
Data type	Binary	Binary
Mess. length	32 bytes	15 bytes

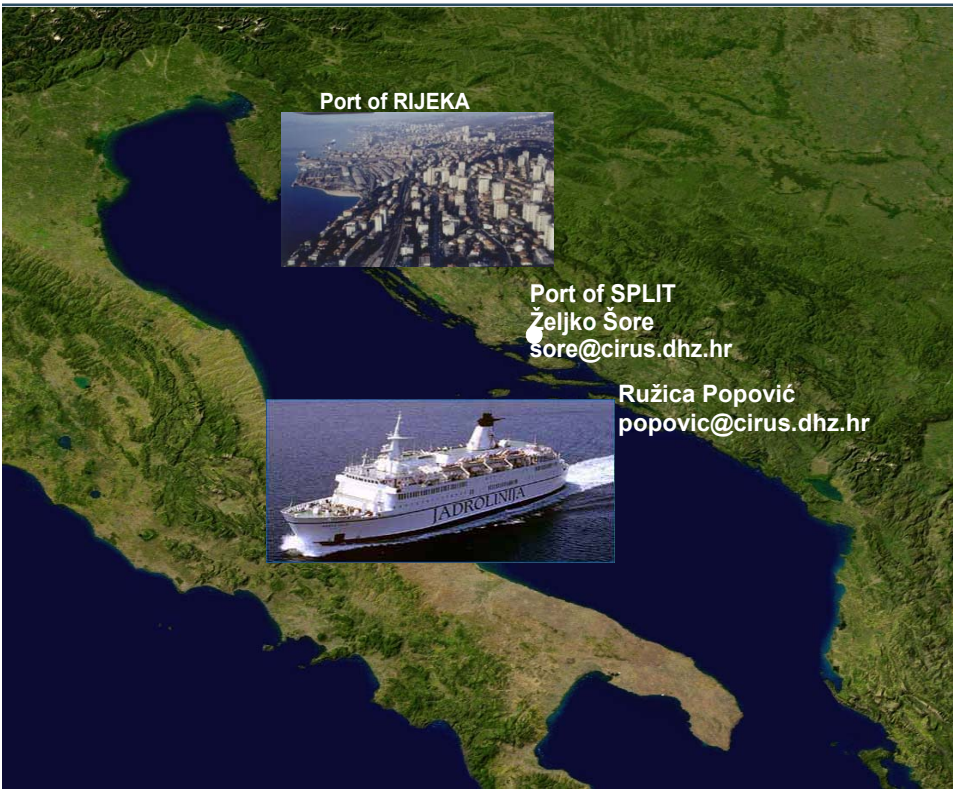


Brodská meteorološka služba

FILE	STATUS	NUMBER OF OBSERVATIONS
CRO1	sent	58.050
CRO2	sent	17.309
CRO3	sent	47.989
CRO4	sent	40.505
CRO5	sent	59.035
CRO6	sent	51.057
CRO7	Ready to send	43.016
	Data are in digital form and ready to control	There are about 150.000 Uncontrolled data
CRO8		



Brodaska meteorološka služba



Inspekcijski nadzor sigurnosti plovidbe

Broj		Datum		Naziv broda		Lokacija		Broj brodskog meteorološkog dnevnika (BMDS)		Mesto plovidbe		Klasifikacija	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36	37	38	39	40	41	42
43	44	45	46	47	48	49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80	81	82	83	84
85	86	87	88	89	90	91	92	93	94	95	96	97	98
99	100	101	102	103	104	105	106	107	108	109	110	111	112
113	114	115	116	117	118	119	120	121	122	123	124	125	126
127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154
155	156	157	158	159	160	161	162	163	164	165	166	167	168
169	170	171	172	173	174	175	176	177	178	179	180	181	182
183	184	185	186	187	188	189	190	191	192	193	194	195	196
197	198	199	200	201	202	203	204	205	206	207	208	209	210

Potvrde, izvješća i elaborati

2012. godina:

➔ 344 zahtjeva

➔ 53% ↑

The image displays three overlapping forms from the **DRŽAVNI HIDROMETEOROLOŠKI ZAVOD** (State Hydrometeorological Service) in Zagreb. The forms are dated **Rb. 08./2013.** and contain the following information:

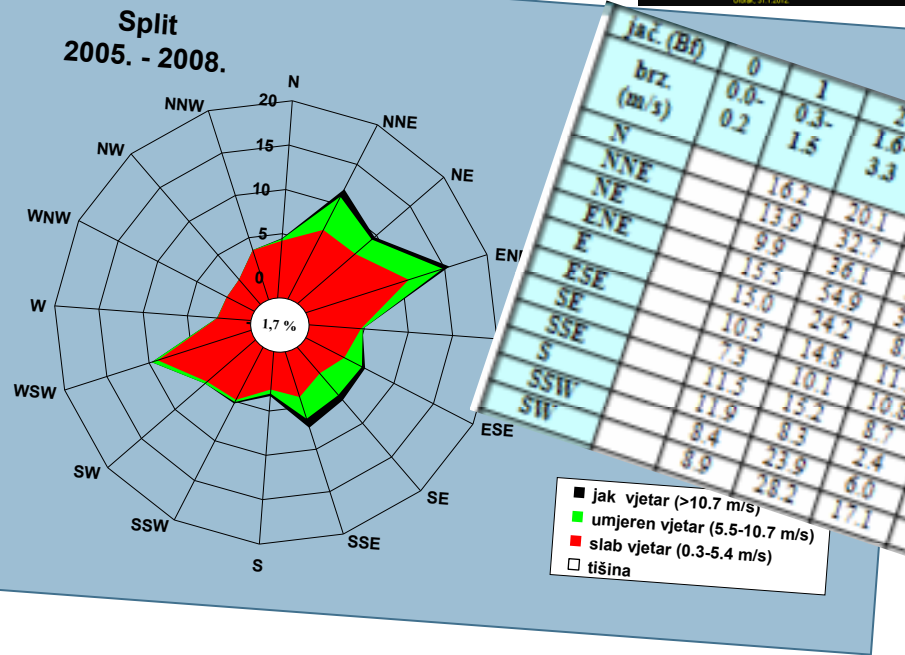
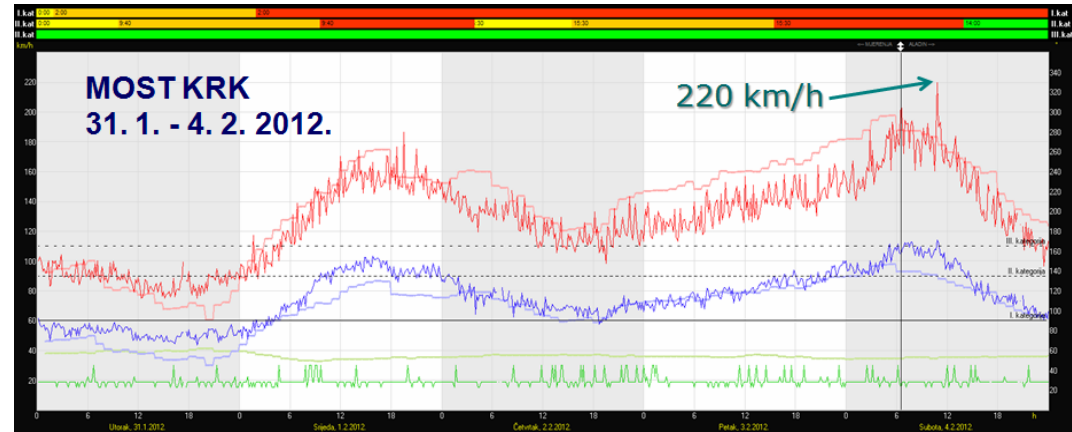
- Prilaznik (Requester):** NARUČITELJ: 24 Ministarstvo pomorstva, promet i infrastruktura, Adresa: Jadrana vepeckanija Dubrovnik, Obala Stjepana Radića 37, 2000 Dubrovnik. Contact: Tel: 020/418-388, Fax: 020/418-387.
- Prilaznik (Receiver):** Prilaznik u Splitu: (A) 08.09.2013.; Prilaznik u Zagrebu: (B) 11.09.2013.; Klasifikacijska oznaka: 920-63/13-01-0205; Uradni broj: 554-01-03/15-13-02.
- Podaci (Data):** Predmet: Izrada izvješća o stanju mora u području 7-5 NM južno od otoka Dugi Otok radi potreba izobnavljanja pomorske uslove 1/6. dokumenta (potomci novog predaja).
- Izrada (Production):**
 - predano u Zagreb: 08.09.2013. (fax, e-mail)
 - vraćeno iz Zagreba: 11.09.2013. (fax, e-mail)
 - primio na izradu: datum: 08.09.2013., ime: Sot.
 - obrada završena: datum: 18.09.2013.
- Oprema u Zagreb (Equipment in Zagreb):**
 - posuda: faxom (2013.), e-mailom (2013.)
 - preduzet: faxom (2013.), e-mailom (2013.)
 - predmet: faxom (2013.), e-mailom (18.09.2013.)
 - račun: faxom (2013.), e-mailom (2013.)

Vjetrovne klime

2013. godina:

➔ 3 odrađene

➔ 6 naručenih



jač. (Bf)	0	1	2	3	4	5	6	7	8	9	10	11	12	zbroj
brz. (m/s)	0.0-0.2	0.3-1.5	1.6-3.3	3.4-5.4	5.5-7.9	8.0-10.7	10.8-13.8	13.9-17.1	17.2-20.7	20.8-24.4	24.5-28.4	28.5-32.6	32.7-36.9	
N		162	201	58	16	14	0.5	2.0						45.6
NNE		139	32.7	20.6	22.0	8.5	7.1	2.0						122.8
NE		9.9	36.1	19.7	10.7	23.8	0.5	17.1						88.1
ENE		15.5	54.9	37.7	1.6	1.4	0.5	17.1						161.8
E		15.0	24.2	37.7	10.7	23.8	0.5	20.7						51.2
ESE		10.3	24.2	8.5	2.5	8.5	7.1	2.0						65.3
SE		7.3	14.8	8.5	2.5	21.1	2.5	0.7						69.7
SSE		11.5	10.1	11.5	2.5	11	6.5	0.7	0.5	0.09	0.09			74.0
S		11.9	15.2	10.8	12.8	11.9	3.3	1.6	0.2	0.2				28.3
SSW		8.4	8.3	8.7	13.5	17.5	7.5	0.8						42.6
SW		8.9	23.9	2.4	10.3	16.0	0.8	0.5	0.09					
SSW			28.2	6.0	2.0	16.0	7.5	0.8						
SW			17.1	1.9	2.1	9.0	2.6	0.5						
SSW				3.4	1.3	1.2	3.0	0.3						
SW				0.5	0.6	0.5	0.3	0.09						
SSW					0.4	0.4	0.09							

$$x = x_0 + \alpha \frac{1 - \{\ln[T / (T - 1)]\}^k}{k}$$

Suradnja

- Ministarstvo pomorstva, prometa i infrastrukture
- Ministarstvo zaštite okoliša
- Lučke kapetanije
- Hrvatski hidrografski institut
- Oceanografski institut
- Brodarska poduzeća
- Luke, marine i lučice (nautički turizam)
- Plovput
- Hidrograđevne institucije
- Građevinski fakulteti
- Osiguravajuće kuće
- Pravne institucije
- Policijske uprave
- Fakulteti
- Škole



Ministarstvo pomorstva, prometa i infrastrukture

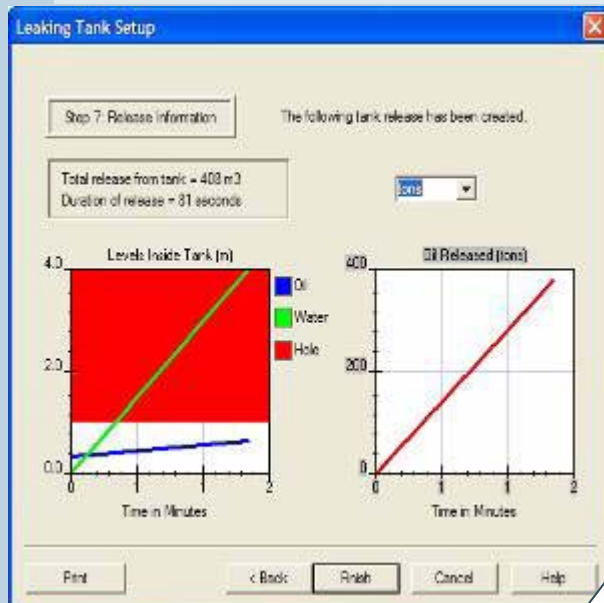


Nasukanja broda "Marko Polo" na otočić Sit na dan 24.10.2009. godine

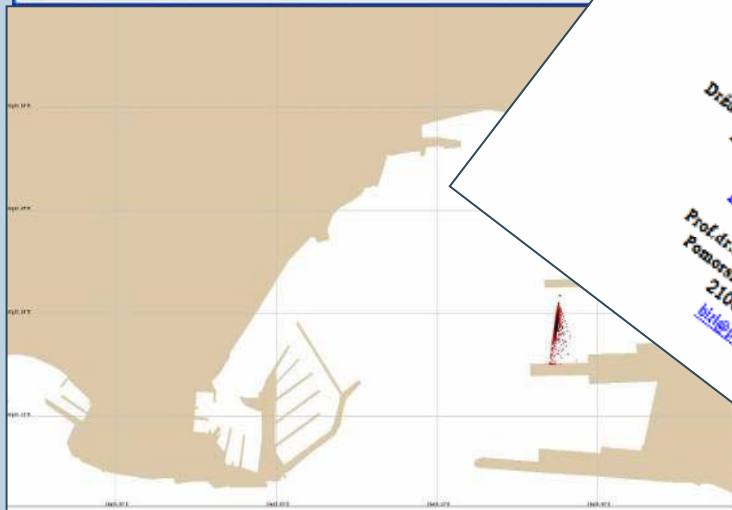
Potonuće broda "Nautika 64" 2001. godine



Ministarstvo pomorstva, prometa i infrastrukture Ministarstvo zaštite okoliša



Brod "Tin Ujević" na gatu
Sv. Petar u Splitu, 2010.



**USPOREDBA SIMULACIJSKOG MODELA I STVARNOG
DOGAĐAJA IZLJEVANJA ULJA SA M/T "TIN UJEVIĆ"
U GRADSKOJ LUCI SPLIT 22. OŽUJKA 2010.**

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Znanstvena djelatnost

- Popović Ružica, Golub Ivana: METEOROLOŠKA SLUŽBA NA POMORSKIM BRODOVIMA, 2. Međunarodna konferencija o pomorskoj znanosti, Split, 2009.
- Ružica Popović: POMORSKA METEOROLOGIJA U SLUŽBI LUKA ISTOČNE OBALE JADRANA, I. Savjetovanje s međunarodnim učešćem, Vlašić, maj 2010.
- Popović Ružica, Kulović Mirsad: SIGURNOST SAOBRAĆAJA NA PUTEVIMA S OBZIROM NA METEOROLOŠKE ELEMENTE I POJAVE, X Međunarodni simpozijum „Prevenција saobraćajnih nezgoda na putevima 2010“, Novi Sad, oktobar 2010.
- Popović Ružica: MARITIME METEOROLOGY AS A FACTOR OF MARITIME TRANSPORTATION SAFETY, XVII Međunarodni znanstveni simpozij „Prometni sustavi“, Opatija, april 2011.
- Popović Ružica: MODEL STUDIJE VJETROVNE KLIME ZA POMORSKE GRADNJE, The 3rd International Marine Science Conference -IMSC 2011., Split, maj 2011.

Znanstvena djelatnost

- Ružica Popović: METEOROLOGICAL SAFETY OF NAVIGATION, ICTS 2012 15th International Conference on Transport Science, Portorož, 28. may 2012.
- Danijel Pušić, Ružica Popović, Zlatimir Bićanić: USPOREDBA SIMULACIJSKOG MODELA I STVARNOG DOGAĐAJA IZLJEVANJA ULJA SA m/t „TIN UJEVIĆ“ U GRADSKOJ LUCI SPLIT 22. OŽUJKA 2010. , II Savjetovanje s međunarodnim učešćem, Vlašić, maj 2011.
- Ružica Popović, Mirsad Kulović: SIGURNOST PROMETA NA CESTAMA U UVJETIMA SMANJENE I LOŠE VIDLJIVOSTI UZROKOVANE MAGLONOM, IX Međunarodni simpozijum „Prevenција saobraćajnih nezgoda na putevima 2012“, Novi Sad, Srbija, 11. I 12. Oktobar 2012.
- Ružica Popović, Željko Šore: METEOROLOGICAL WARNINGS IN THE SAFETY OF NAVIGATION SYSTEM, 4th IMSC - International Maritime Science Conference 16th - 17th June 2012, Split, Croatia

Znanstvena djelatnost

METEOROLOGICAL WARNINGS IN THE SAFETY OF NAVIGATION SYSTEM

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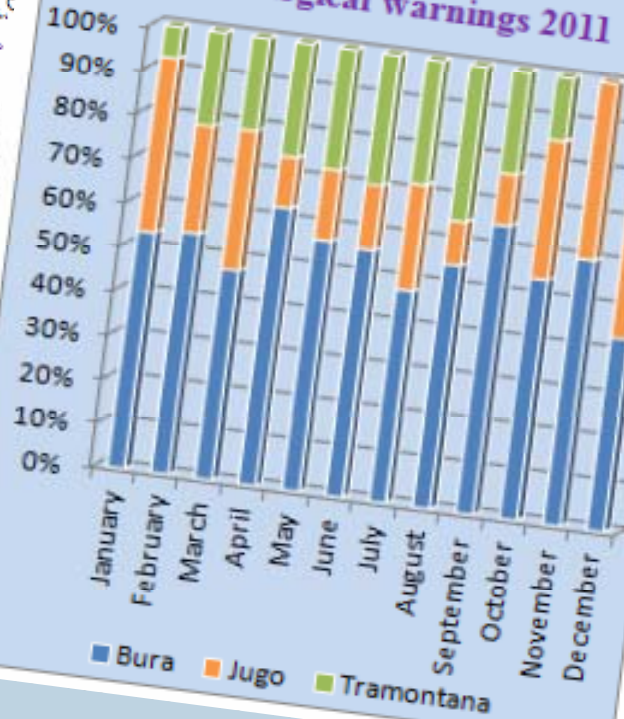
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ABSTRACT

Maritime meteorological service on Adriatic is a part of in Maritime meteorological center in Split since 1947 meteorological warnings for seamen based on (Voluntary Observing System) and received from WMO criteria (World Meteorological Org Warnings refer to meteorological reports Radio Issuing of meteorological war convention. In this paper importance of near The need and recommendation sent to CRS (Coastal Radio S

- Split.

Meteorological warnings 2011



temperature gradient above warmer surface, as for example is sea in certain parts of the year. Such clouds on Adriatic occur within the cyclones and flow of the colder air from north and east quadrant to warmer Adriatic. Regular meteorological warnings are issued in regular newsletters of Maritime meteorological service at 6, 12 i 18 o'clock. Emergency meteorological warnings are issued in accordance with the appearance of extraordinary meteorological conditions on sea, and which were not covered in regular warnings at certain periods of newsletter issuing.

(fog warning, thunderstorm warning) Frequency of meteorological warnings in regular weather reports for seamen is significant. Statistical representation of frequency of meteorological warnings, which are delivered from Maritime meteorological center Split to local radio stations in the year 2011, gives insight in relatively large number of days with potential dangerous marine meteorological conditions.



Criteria for broadcasting weather warnings:
 1. Wind strength: 35-50 kn or >50 kn
 2. Sea state: 200-1000 m or <200 m
 3. Visibility: 5 or >5

Table 3. Meteorological warnings in the year 2011, issued by PMC Split⁴

2011	Meteorological warnings							total
	none	bura	jugo	tramontana	sea state	thunder	fog	
I	3	15	11	7	7	14	15	67
II	3	18	8	7	7	8	9	60
III	5	18	12	8	14	18	4	78
IV	4	25	4	9	2	10	6	60
V	5	19	5	10	1	17	2	61
VI	11	12	6	7	1	24	5	67
VII	13	11	2	7	1	23	0	60
VIII	9	17	3	7	0	16	7	59
IX	7	19	3	6	2	15	1	53
X	1	15	11	5	14	17	4	59
XI	4	20	16	10	11	19	5	84
sum	72	211	89	63	73	200	71	805

⁴occurrence of pojava one element in any of 3 daily newsletters
⁵without time and space component

⁴Source: Meteorological newsletter of PMC issued in the year 2011.

Znanstvena djelatnost

Naslov: call for paper for Journal of Earth Science and Engineering
Šalje: "earth@davidpublishing.org" <earth@davidpublishing.org>
Datum: Sri, siječanj 16, 2013 4:25 am
Prima: "popovic" <popovic@cirus.dhz.hr>
Prioritet: običan
Postavke: [Pregled cijelog zaglavlja](#) | [Prikaži verziju za tisak](#) | [Spusti kao datoteku](#) | [Add to Address Book](#)

Current

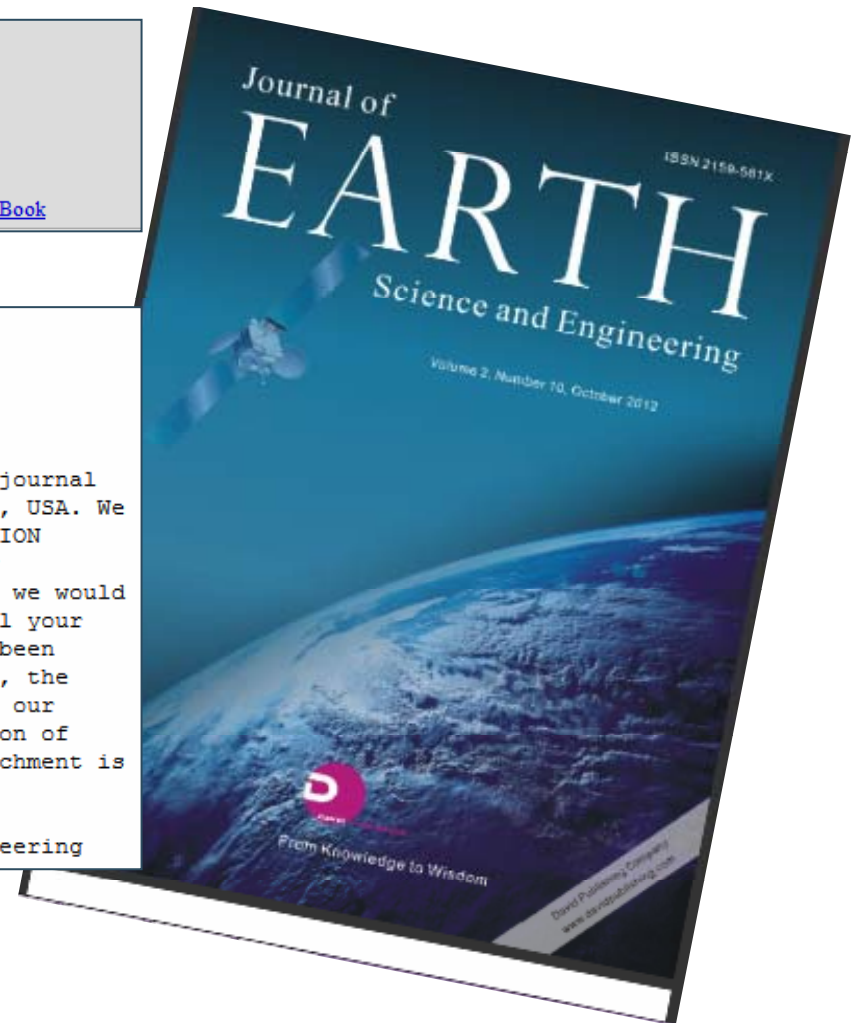
V:

10/2012

Dear Dr. Ruzica Popovic,

This is Earth Science and Engineering (ISSN 2159-581X), a new professional journal published across the United States by David Publishing Company, Chicago, IL, USA. We have learned your paper "METEOROLOGICAL WARNINGS IN THE SAFETY OF NAVIGATION SYSTEM" in the 4th International Maritime Science Conference. We are very interested in your paper. If the paper has not published in other journal, we would like to publish your paper in our journal Earth Science and Engineering. All your original and unpublished paper are welcome (although the paper has already been published in the conference, if there is no ISSN or ISBN for the conference, the paper can also be published in our journal). If you have the idea of making our journal a vehicle for your research interests, please send electronic version of your papers or books to us through email attachment in MS word format. Attachment is the sample of the journal.

Now please let me introduce our journal: Journal of Earth Science and Engineering



Hvala!

