REPUBLIC HYDROMETEOROLOGICAL SERVICE OF SERBIA

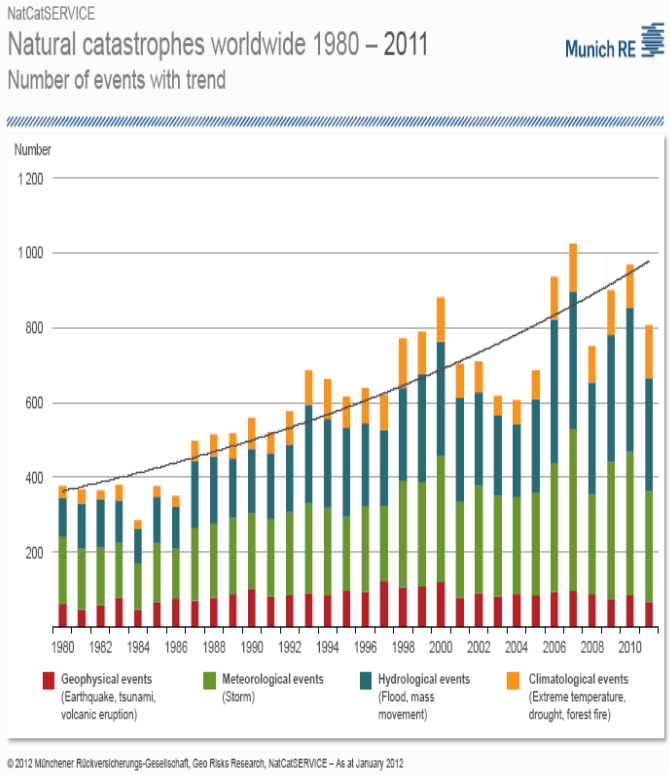
Hydrometeorological services for insurance sector in Serbia

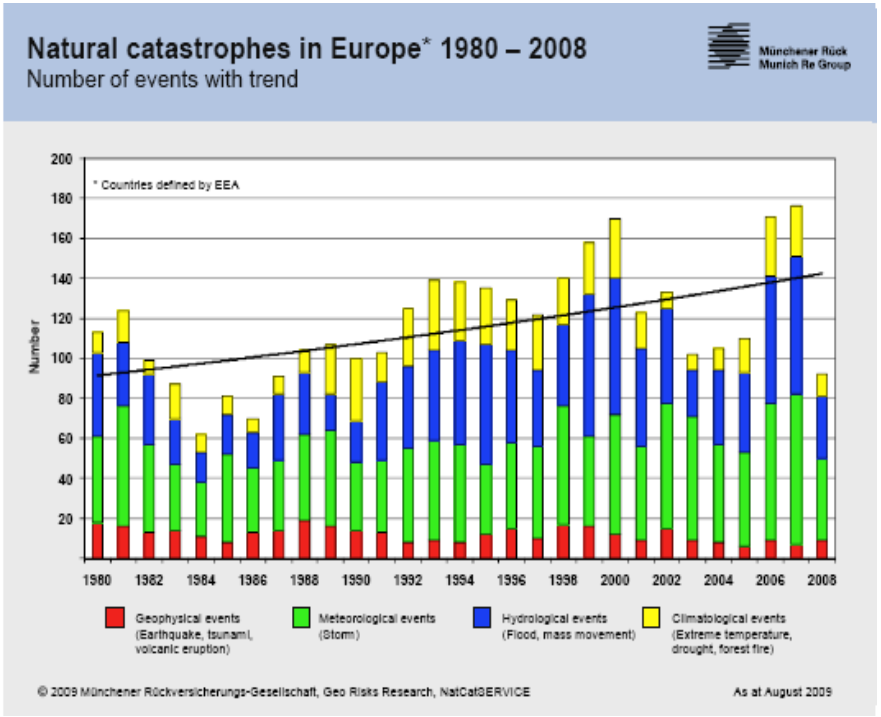
Professor Jugoslav Nikolic, PhD, Meteorologist
Acting Director RHMSS
Permanent Representative of Serbia with WMO

*IPA Project **"Building resilience to disasters in Western Balkans and Turkey"***
Regional workshop on the role of NMHSs in support of activities in the field of insurance

Ankara, Turkey 13-15 October 2014

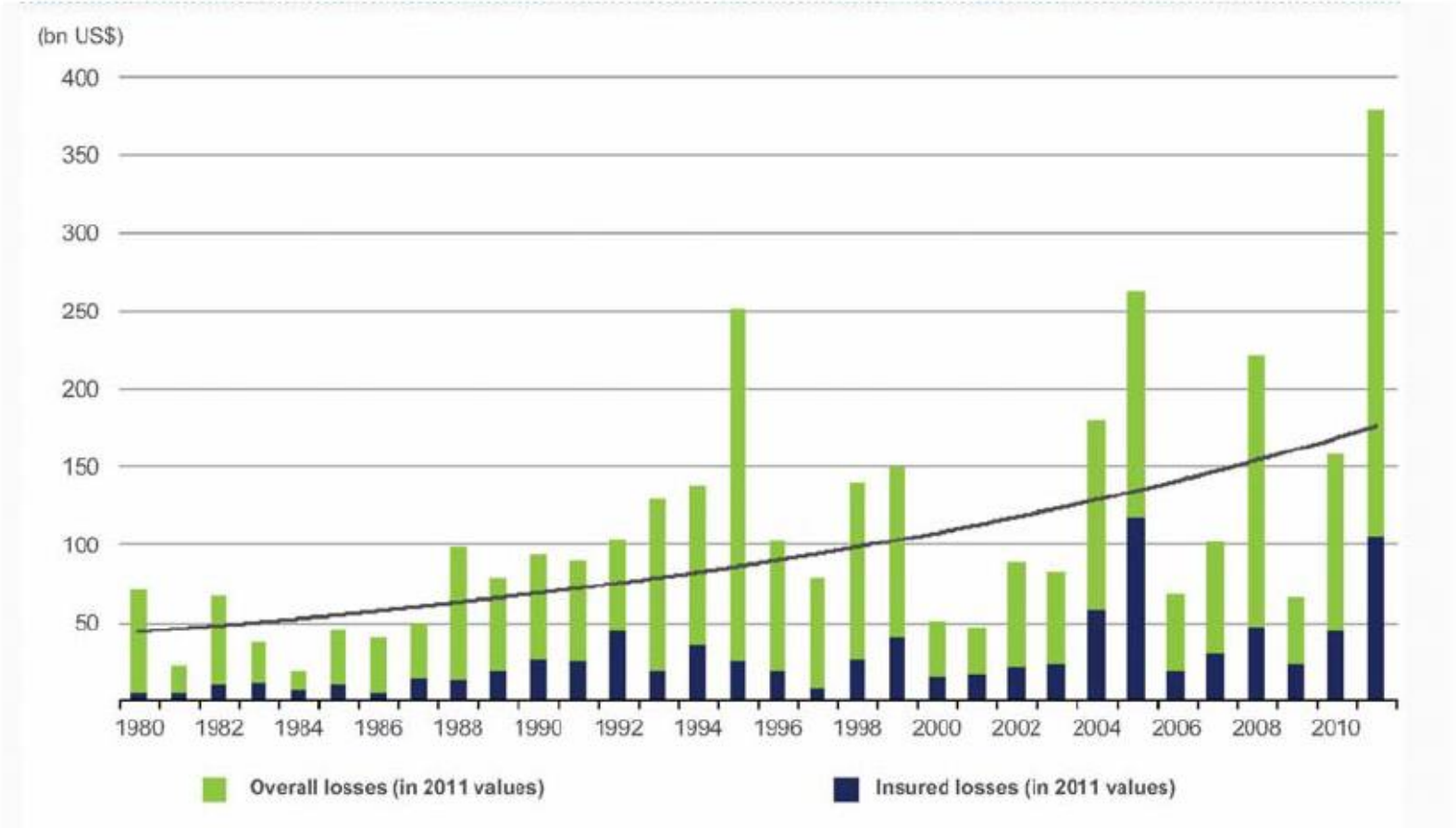
Distribution of disasters caused by natural hazards and their trends (worldwide and in Europe)





Around 90% of natural disasters, 70% of casualties, and 75% of economic losses are related to hydrometeorological and climate-related hazards and conditions.

Global trend of economic losses caused by natural disasters in 1980-2011 (overall and insured losses)

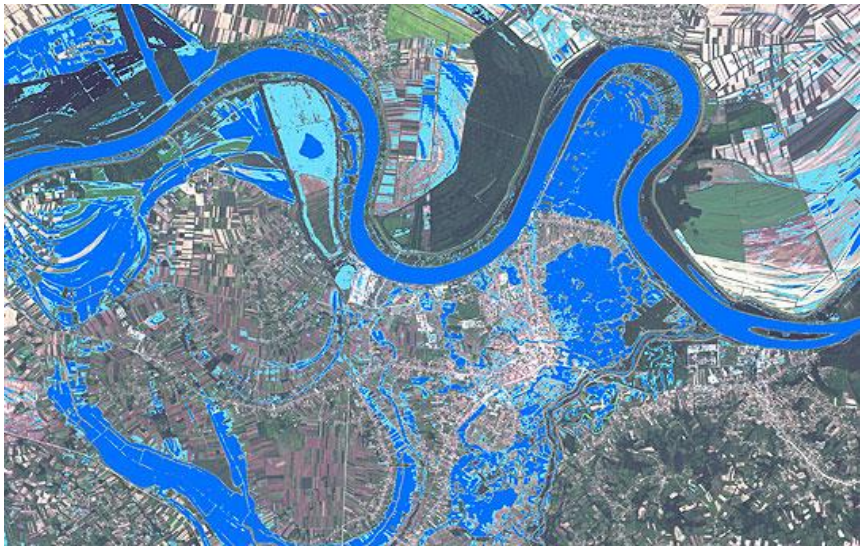


Major hydrometeorological and climate-related hazards in the Republic of Serbia

Greatest economic damages are caused by droughts, floods, hailstorms, land slides, and water erosion. Moreover, in recent years there has also been an increase in the frequency of the occurrence of heat-waves and conditions favorable for occurrence and spreading of forest fires.

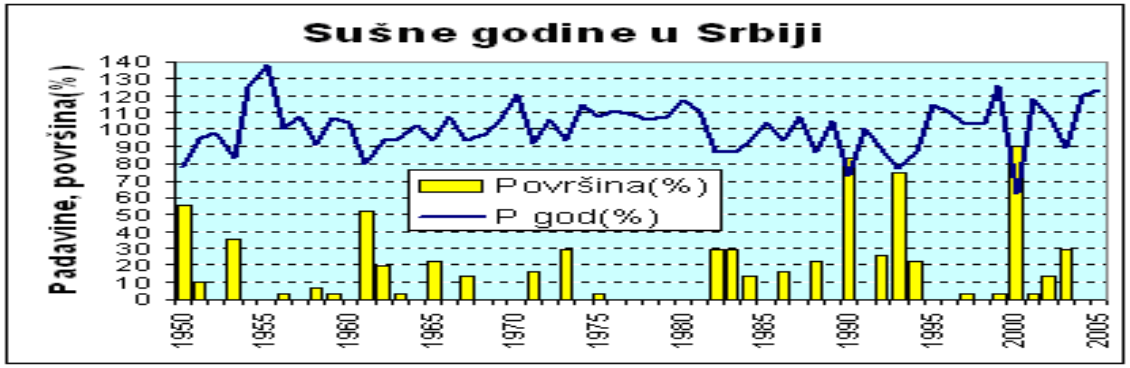
Catastrophic floods in Serbia, May 2014

Exceptionally heavy precipitation was recorded in May 2014 in the territories of Serbia, Bosnia and Herzegovina and Croatia, with consequential losses of life and significant material damage (total damage in Serbia amounted to about EUR 1.7 billion).



Heavy droughts in Serbia

The increasingly frequent occurrence of heavy, short-lasting droughts, as well as dry years, caused great damage and disturbance in agriculture, water regime and water supply, river navigation, exploitation of water for hydropower and other purposes. The analysis of the dry years trend in Serbia in the period 1950-2005 indicates that during the last decades, frequency of very dry years increased and that droughts covered from 70 to 90 % of the territory of Serbia (the years of 2000, 2003, 2007, 2011, and 2012).



Dry years trend in Serbia

Heavy drought in 2012

Heavy drought in June, July and August 2012, followed by the longest registered wave of extremely high air temperatures, caused huge material damage that was assessed to be around 2 billion USD in the agricultural sector only.

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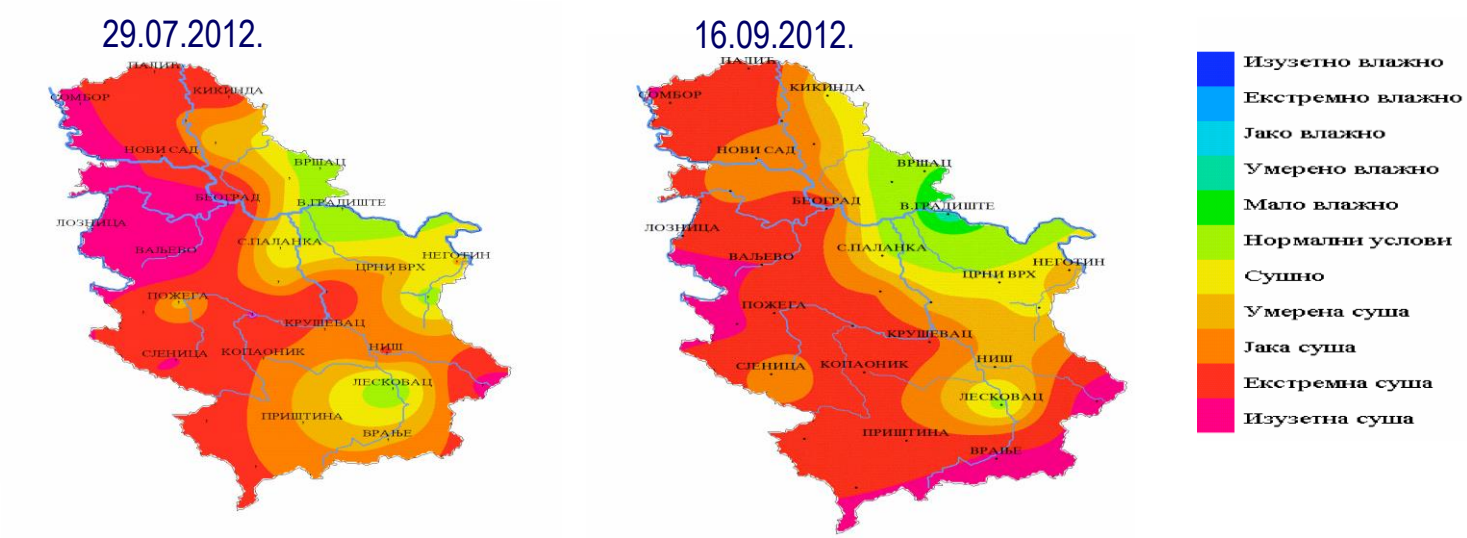


Enhanced capacity of RHMSS to support DRR and Climate Change Adaptation

As the frequency and scale of major natural catastrophes continue to increase as a result of climate change, effort has been made to enhance the capacity of RHMSS to contribute more effectively to the following three components of disaster risk management:

(i) risk identification and assessment;

(ii) risk reduction mechanisms such as sectoral planning, early warning systems, and emergency preparedness programmes;

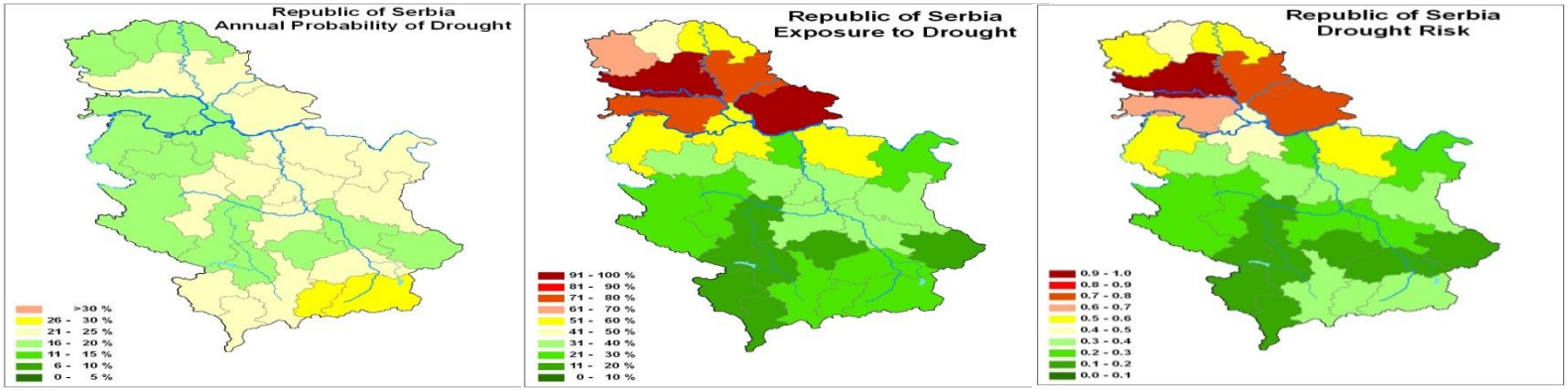
(iii) financial risk transfer mechanisms such as catastrophe insurance and weather index insurance.

Enhanced capacity of RHMSS to supportDRR and Climate Change Adaptation – Cont.

1. Improved legal and institutional framework of the RHMSS
2. Modernized observing networks
3. Strengthened national Hydrometeorological early warning system and Established of the operational national Climate Watch System as part of MHEWS
4. Strengthened hazard analysis and hydrometeorological risk assessment capacities
5. Strengthened RHMSS services to support activities in the field of insurance through cooperation and partnership with insurance/reinsurance company
6. Enhanced infrastructure and capacity of the RHMSS to support WMO RA VI RCC Network-EEVCCC operations and research functions;
7. Enhanced Regional and International Cooperation and Partnership.
8. Established a nd fully implemented ISO 9001:2008 QMS

Risk transfer mechanisms based on Weather Index Insurance

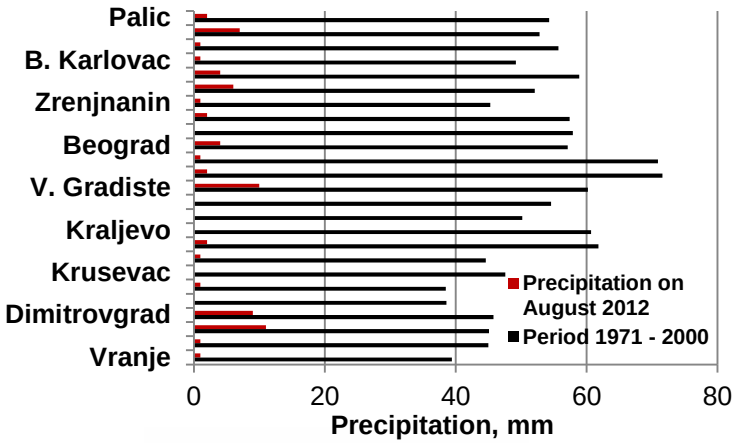
Agricultural production is increasingly influenced by climate change. Serbia and other countries from South East Europe have been faced with severe droughts in the last ten years, with inestimable consequences to crops and fruits. Drought is one of the largest agricultural risks that has the potential to reduce yields for over 50%.

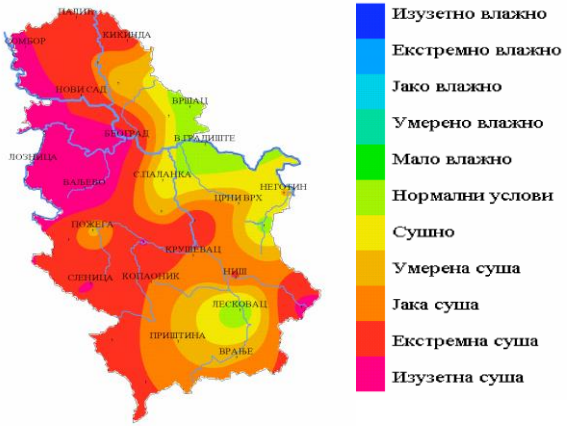


RHMSS climate extremes risk assessment – drought risk assessment for agricultural sector in Serbia / preliminary results

Risk transfer mechanisms based on Weather Index Insurance – cont.

Drought implies reduction of rainfall in relation to the authoritative multi-annual amount of precipitation in the period in which crops need water the most (corn and sugar beet – during May, June, July and August, soybeans – during June, July and August) and which results in crop yield reduction.

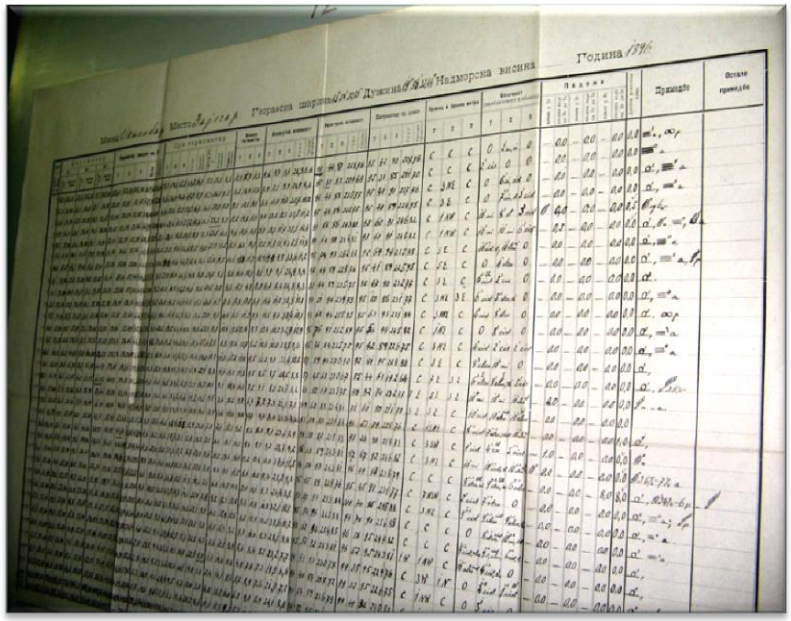




Risk transfer mechanisms based on Weather Index Insurance – cont.

Weather index insurance insures against a specific extreme weather event, measured in a specified manner, occurring at a specific place during a specific time.

Defining drought conditions in the field of insurance is based on multiannual meteorological reports of the Republic Hydrometeorological Service. In insurance, drought is defined as a reduction of yield based on the deficit of rainfall during a reference period, compared to the multiannual average.



RHMSS cooperation with insurance companies

In 2010 the Delta Generali insurance company made a decision to offer to farmers in Serbia a new package of insurance from damage caused
by drought.

There was a need for relevant information on 10-day precipitation, which was one of the conditions requested by the reinsurance company Swiss Re.

The contract between the Generali insurance company/Swiss Re and RHMSS was signed on the basis of data exchange.

In line with the terms of the contract, RHMSS provides data on 10-day accumulated precipitation from 28 meteorological stations.

Generali Insurance provides data on damages caused by droughts for 29 districts in Serbia.

RHMSS cooperation with insurance companies

RHMSS provides data on 10-day accumulated precipitation from 28 meteorological stations during May, June, July and August.

Republic of Serbia
Republic Hydrometeorological Service

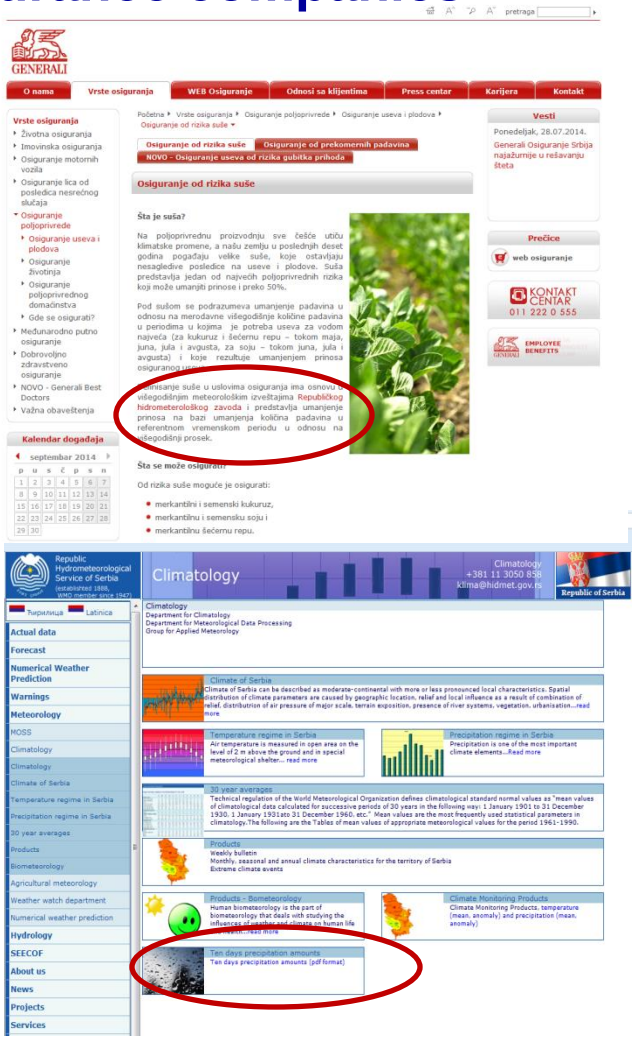
Ten days precipitation amounts, mm

Station	May			June			July			August		
	1 - 10	11 - 20	21 - 31	1 - 10	11 - 20	21 - 30	1 - 10	11 - 20	21 - 31	1 - 10	11 - 20	21 - 31
Palić	42.9	61.2	2.6	8.8	4.3	37.1	20.6	53.0	36.1	54.5	6.0	18.2
Sombor	62.3	53.0	29.7	5.1	15.3	46.8	22.8	43.4	17.7	22.1	5.0	21.5
Kikinda	40.1	80.3	5.3	1.8	4.8	18.7	25.4	37.7	40.1	30.4	2.8	19.1
Bečej												
Novi Sad	47.8	147.6	6.7	3.0	8.5	26.7	36.2	36.6	51.9	65.2	0.6	14.0
S. Mitrovica	59.5	124.3	3.2	0.3	11.7	25.2	19.6	24.0	28.2	37.9	0.7	17.1
Surčin	60.6	170.6	2.2	10.7	36.5	38.4	22.1	39.8	110.5	31.3	3.2	20.7
Zrenjanin	49.8	101.7	8.4	0.3	8.4	26.5	29.8	35.2	76.8	55.0	6.0	10.0
Vršac	33.7	63.5	22.9	2.0	37.2	31.3	33.7	46.9	181.4	93.9	0.0	19.0
B. Karlovac	56.9	94.5	13.0	0.6	22.0	21.7	36.8	39.1	147.0	42.7	0.0	19.0
V. Gradište	55.4	95.1	3.0	0.8	27.2	47.3	27.0	28.6	87.1	101.0	0.0	37.0
S. Palanka	46.3	164.7	27.2	3.7	27.5	34.0	6.7	33.0	108.6	81.0	6.0	9.7
Valjevo	57.7	205.7	60.3	5.5	67.6	51.0	15.1	48.3	82.4	106.4	4.9	22.2
Loznica	71.7	226.9	22.6	2.4	23.0	24.3	16.3	26.4	40.1	128.5	7.2	20.0
Negotin	29.1	91.0	32.9	11.0	87.7	17.9	13.2	18.0	39.2	84.1	0.0	4.8
C. Vrh	32.7	96.2	30.1	23.4	40.2	40.0	13.7	9.7	87.8	106.7	1.0	3.3
Ćuprija	56.2	112.1	16.9	17.9	31.4	36.1	3.6	87.9	33.5	45.1	0.5	9.7
Kragujevac	61.0	103.5	62.5	6.5	23.5	36.9	22.3	69.8	47.8	65.4	0.5	10.3
Kraljevo	41.5	111.1	32.6	6.1	110.1	40.5	2.2	50.1	55.4	73.9	2.0	20.0
Požega	28.3	110.8	49.6	4.2	69.3	36.0	5.1	64.0	11.5	70.0	10.3	18.5
Zlatibor	52.9	118.3	24.8	19.5	91.9	35.2	16.4	112.3	59.0	118.3	19.1	25.1
Kruševac	47.7	56.4	22.5	15.7	61.1	38.5	2.1	42.7	48.4	19.9	0.3	19.4
Zaječar	21.2	87.2	23.9	43.0	73.5	32.2	4.1	20.6	30.6	107.6	0.0	4.2
Sjenica	32.6	76.3	34.7	15.5	61.8	27.4	13.2	23.4	27.0	66.3	10.4	24.2
Kopaonik	50.7	115.5	17.4	15.1	59.6	32.5	10.0	47.5	82.3	41.7	6.0	25.0
Niš (Airport)	29.9	75.0	11.0	12.5	31.0	41.8	4.2	20.2	83.4	31.2	0.1	32.3
Dimitrovgrad	34.3	46.2	41.2	11.5	57.1	27.8	18.0	33.5	43.5	65.5	0.1	20.4
Leskovac	46.5	66.8	9.4	9.7	41.0	13.6	21.3	21.4	36.8	38.8	0.0	8.2
Vranje	28.3	60.8	36.2	8.7	74.8	7.9	5.0	45.1	24.2	22.2	0.0	0.0
Kuršumlija	35.0	43.6	14.2	9.9	59.0	16.6	2.9	61.2	31.3	12.6	2.0	19.1

Note: Final verification of data shown in this table is due to 15th day of a month for the previous month
Updated 1 September 2014

RHMSS cooperation with insurance companies

Both partners have agreed to establish the links on their web sites for the data on 10-day accumulated precipitation in order to make the relevant information available to farmers.



RHMSS cooperation with Europa Re

Europa Re was created with the financial and technical support from the World Bank under the Southeast Europe and Caucasus Catastrophe Risk Insurance Facility (SEEC CRIF) project, the Global Environment Facility (GEF), the Swiss Secretariat for Economic Affairs (SECO), and UNISDR.

The Europa RE Second Regional Insurance Conference titled “New Generation of Insurance Solutions” was held in Belgrade, Serbia, 1-2 October 2014, supported by the UNISDR/WMO IPA project “Building Resilience to Disasters in Western Balkans and Turkey”.

The Conference presented the main components of the Europa Re programme which is currently being implemented in its Shareholder Member Countries, and emphasized the impact of natural hazards in the region, the importance of addressing natural hazards and various perspectives on boosting the demand for catastrophe insurance.

Recommendations on Climate Services for DRM/Insurance

1. Increased investments in observations, data rescue programmes and statistical analyses of hazards;

2. Further development/application of climate forecasting technologies (seasonal, multiannual, decadal) to improve sectoral planning for DRR, including insurance sector;

3. Research and development of climate related information and decision tools for DRR/risk transfer mechanisms.

THANK YOU FOR YOUR ATTENTION!

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