SOUTH EAST EUROPE
Transnational Cooperation Programme

DMCSEE
Drought Management Centre for Southeastern Europe

Programme co-funded by the EUROPEAN UNION

DMCSEE

Drought Management Centre for SE Europe

Center za upravljanje suše v JV Evropi

Gregor Gregorič

Agencija RS za okolje

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O agenciji RS za okolje…

Poslanstvo: spremljanje, analiziranje in napovedovanje naravnih pojavov in procesov v okolju ter zmanjševanje naravne ogroženosti ljudi in njihovega premoženja.

V sestavi: nacionalne službe za meteorologijo, hidrologijo in seizmologijo.

Poslanstvo agencije je tudi spremljanje onesnaženosti okolja in zagotavljanje kakovostnih javnih okoljskih podatkov (merilna mreža in laboratoriji).

Upravni postopki za plačevanje okoljskih dajatev: vodnih povračil, takse za obremenjevanje voda, takse za obremenjevanje zraka z emisijami ogljikovega dioksida ter takse za obremenjevanje okolja zaradi odlaganja odpadkov.

Izdajanje različnih okoljevarstvenih dovoljenj, vodenje evidence emisij, izvedbeno upravljanje z vodami.

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need for Balkan subregional center

1998

Center initiative – **"top-down" approach**
International Commission on Irrigation and Drainage (ICID) adopted a declaration which expressed the need to establish this centre to alleviate problems caused by drought in the area "Balkan Drought Workshop" in Poiana/Brasov (RO), co-sponsored by the UNCCD

2004

triangle approach: UNCCD focal points, permanent representatives with the WMO + observers from UNCCD and WMO)
Workshop for national experts and representatives of National Meteorological and Hydrological Services where they agreed on DMCSEE within context of UNCCD

2006

decision on DMCSEE host institution (procedure led by WMO)

advocacy, management, steering committee, active institutions in consortium

2007

political commitment of Slovenian government (permanent budget for the governance)

first drought monitoring products, fund raising

Transnational cooperation programme (TCP), cooperation with Eurogeoss project and European Drought Observatory portal

2009

2013

GWP project

DMCSEE – razvoj projektne ideje

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DRAFT PROCESS FOR THE DMCSEE

PHASE OF ELABORATION OF THE PROJECT PROPOSAL

PROJECT ACTING AS BRIDGE TOWARDS PERMANENT DMCSEE

ESTABLISHED PERMANENT DMCSEE

CORE WORKING GROUP (CORE MAILING LIST+UNCCD+WMO)

- Kick-off meeting Ljubljana
- Draft proposal for WMO congress
- TOR for ISC
- TOR for consortium
- Budget and time table estimate
- Fund raising
- Website

FINAL PROJECT PROPOSAL

International Steering Committee (ISC) of the project

Slovenia +WMO as executive agency of the project

Mechanism of evaluation of the project

Consortium of partners of the project

Objective 8 of the project

LAUNCHING PERMANENT DMCSEE

Governance, sustainable funding, human resources, of the permanent center

Legal status and internal rules and procedures of the permanent center

Annual working programme partnership agreements for the center etc.

- 1 | 0 | 3 | Transition period | 5 | YEARS

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Rezultat razvoja ideje DMCSEE:

Uspešna prijava na 1. razpis TCP SEE

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Rezultat razvoja ideje DMCSEE:

Uspešna prijava na 1. razpis TCP SEE

15 partnerjev iz 9 držav

Skupni proračun projekta 2,2 mio.€

(od tega 1,45 mio.€ prispevek ERDF)

Environmental Agency of Slovenia	Slovenia	(lead partner)
Slovenian Institute of Hop Research and Brewing	Slovenia	
Hungarian Meteorological Service	Hungary	
VITUKI Environmental Protection and Water Management Research Institute	Hungary	
Directorate for Environmental Protection and Water Management of Lower Tisza District	Hungary	
Institute of Soil Science “Nikola Poushkarov”	Bulgaria	
National Institute of Meteorology and Hydrology	Bulgaria	
Agricultural university of Athens	Greece	
GEORAMA (non-governmental and non-profit organization)	Greece	
Meteorological and Hydrological Service	Croatia	
Republic Hydrometeorological Service of Serbia	Serbia	
Hydrometeorological Institute of Montenegro	Montenegro	
Hydrometeorological Service	FYROM	
Institute for Energy, Water and Environment	Albania	

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Projekt DMCSEE - vsebina

- **Indikatorji meteorološke in kmetijske suše**
  - **Standardiziran padavinski indeks**
  - **Palfai-ev sušni indeks**
  - **uporaba agronomskih simulacijskih modelov za oceno sušnega stresa - WINISAREG model**
- **Uporaba meteoroloških prognostičnih modelov za analizo razvoja suše**

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Projekt DMCSEE - vsebina

- **Ocena ranljivosti in tveganja**
  - **ocena ranljivosti na podlagi geografskih, geo-morfoloških in klimatskih dejavnikov**
  - **historični zapisi pojava suše**
  - **uporaba agronomskih simulacijskih modelov za oceno tveganja**
- **Izobraževanja**
- **Diseminacija**

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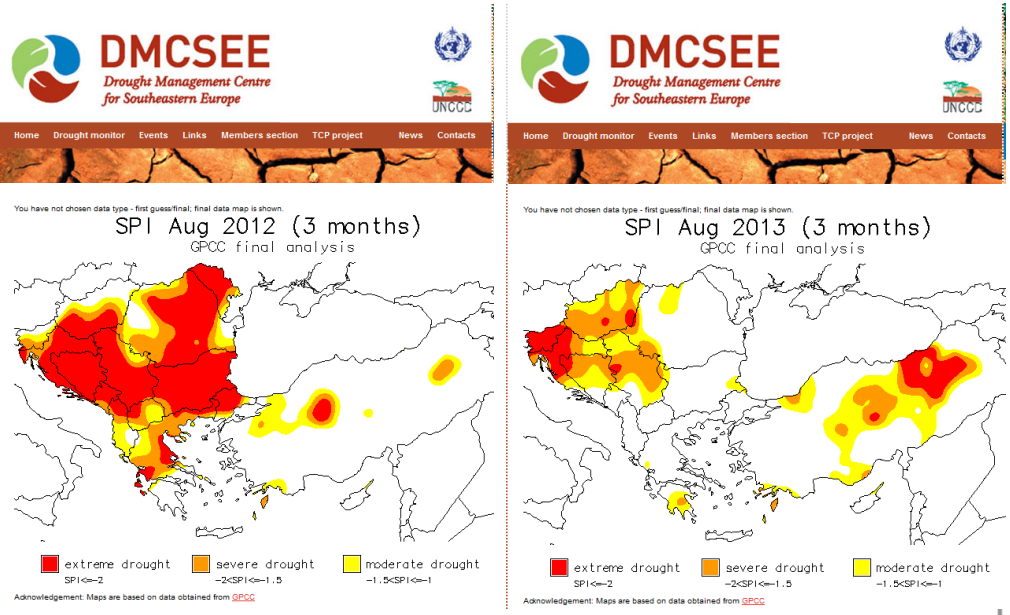
Standardiziran padavinski indeks

Statistična obdelava količine padavin v določenem obdobju (1 – 12 mesecev) glede na dolgoletno povprečje (vsaj 30 let)



World Meteorological Organization
Working together in weather, climate and water

Lincoln declaration on drought indices - 2009-12-30

….

Experts participating in the Inter-Regional Workshop on Indices and Early Warning Systems for Drought, held in Lincoln Dec. 8-11, made a significant step in agreeing that all National Meteorological and Hydrological Services around the world should use the Standardized Precipitation Index to characterize meteorological droughts.

….

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Standardiziran padavinski indeks

Priprava programskega orodja

Priprava in distribucija navodil za uporabo programa in interpretacijo rezultatov

Organizacija usposabljanja

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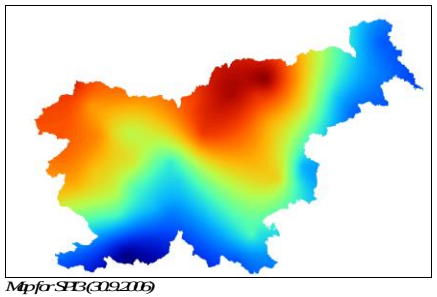
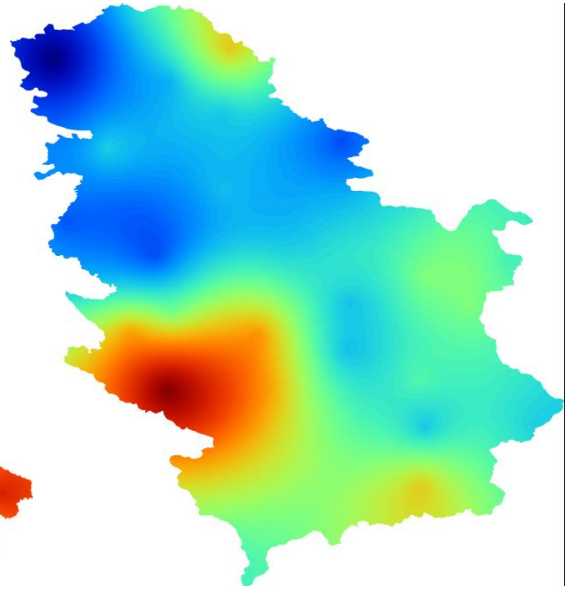
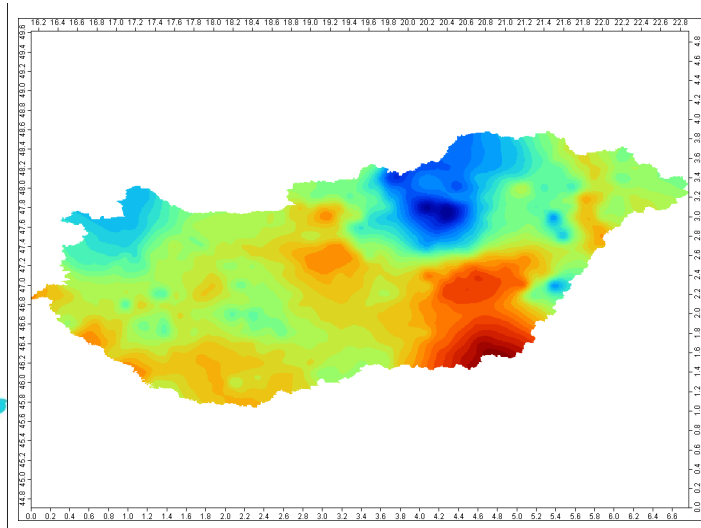
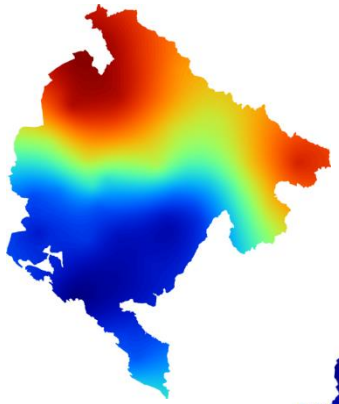
Standardiziran padavinski indeks

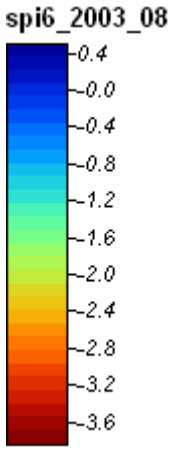


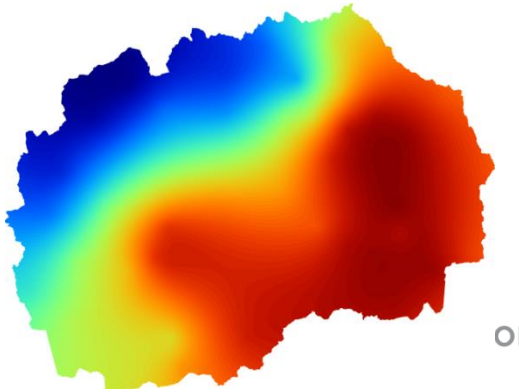
Mapfor SPI3(2002006)

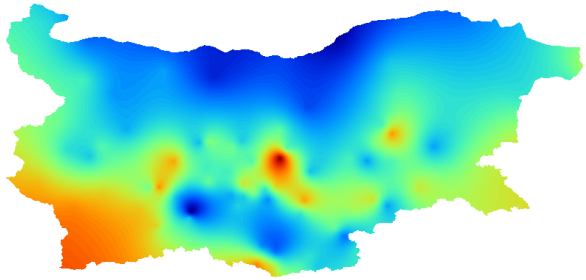












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Arhiv zapisov o pojavu suše

Težave z viri – pretežno agronomski letopisi, v zadnjem času mediji.

- > regionalna baza časovno in prostorsko opredeljenih zapisov o pojavu suše

TIME PERIOD	MAIN AREAS AFFECTED	DETAILED MAIN AREAS AFFECTED DESCRIPTION	SUBJECT OF IMPACT	DROUGHT IMPACTS
2. decade/11.-20.4.			winter crops	mild
2. decade/11.-20.4.	W	Primorska region		soil cultivation hindered
3. decade/21.-30.4.			summer crops (sugar beet)	severe
2. decade/11.-20.5.	NE	NE	winter crops (wheat)	mild
2. decade/11.-20.5.	not specified	not specified	summer crops	mild
2. decade/11.-20.5.	not specified	not specified	dried soil	herbicide application hindered
2. decade/11.-20.6.	W	Primorska region	dried soil	dried soil
2. decade/11.-20.6.	W	Primorska region	vegetable crops, summer crops (maize)	mild
1. decade/1.-10.8.			summer crops	severe
2. decade/11.-20.8.	NE	NE	summer crops (sugar beet)	mild
3. decade/21.-30.8.	NE	NE	summer crops (maize, sugar beet)	maize, sugar beet seriously affected
3. decade/21.-30.8.	NE	NE	summer crops (maize)	severe
3. decade/21.-30.8.	not specified	not specified	summer crops	mild
3. decade/21.-30.8.	not specified	not specified	summer crops (maize)	yield reduced by 50%

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"Klimatološke" simulacije izgube pridelka zaradi suše -> pomoč pri interpretaciji sušnih indikatorjev

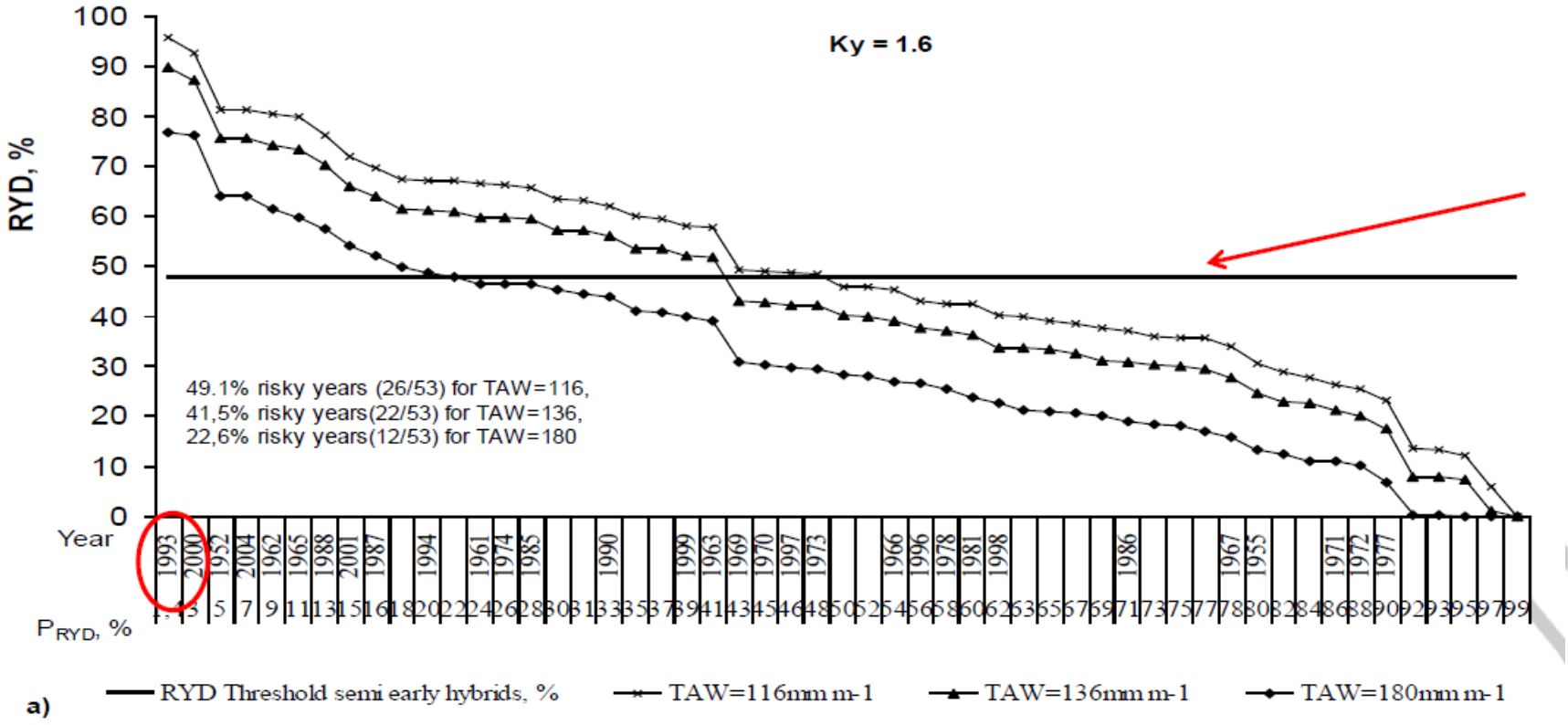

Fig.7. Probability exceedance curves of RYD under rainfed maize on the soil of small, medium and large water holding capacity TAW (116, 136, 180 mm m-1), Ky=1.6, at: (a) Sofia for a semi earlymaize hybrid 1951-2004.

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In past decades the drought-related damages have had large impact on the economy and welfare. The vulnerability to drought impacts in **South East Europe** (SEE) is higher in comparison to neighboring regions. **Trans-national integrated approach** is therefore necessary for successful tracking of drought, comparing its impacts using common methodology and assessing vulnerability of various sectors on drought occurrence. The main aim of this project and DMCSEE is to improve **drought preparedness** (risk assessment and early warning system) and to **reduce drought impacts**.

The duration of DMCSEE TCP Project was 36 months **from April 2009 to March 2012**. The partnership of the project consisted of **9 ERDF** (European Regional Development Fund) Partners, **5 IPA partners** (Innovations for Poverty Actions) and **one 10% partner**.

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- OBJECTIVES
- PROJECT WORK PACKAGES AND REPORTS
  - WP1: Transnational project management and coordination
  - WP2: Communication and dissemination
  - WP3: Climatological monitoring and mapping system
  - WP4: Drought risk assessment
  - WP5: Capacity building trainings
  - WP6: The start-up of the DMCSEE

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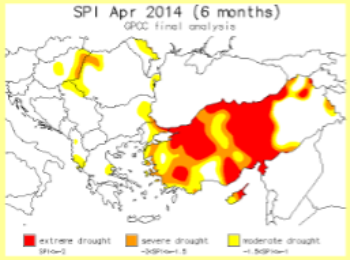
DROUGHT MONITORING BULLETIN

24th November 2014

Hot Spot



Standardized Precipitation Index for time period from November 2013 to April 2014 was, due to the lack of precipitation for months, in major part of Turkey classified as extreme drought conditions. Such conditions had impact on dropping water levels in reservoirs and also on agriculture production.

Air Temperatures and Water Balance

Winter season was denoted with very dry conditions in Turkey, which had lasted for several months. The highest rain shortages with high air temperatures prevailed in Western and Central Anatolia. **January** was wet in the eastern part of the Balkan Peninsula, along the coastline of Adriatic Sea and at the northwest. Very wet conditions continued at the northwest also in **February**, while in the major part of the rest of the Balkan Peninsula precipitation were below the long-term average (LTA) (1981-2010). January and February were warm in majority part of the Peninsula, with exception of Romania in both months and Slovenia in February. Turkey was divided in two parts, warmer than normal western part and eastern with normal to below average air temperatures.

At the beginning of the year 2014, mainly in February, water deficits predominated in whole region . Water deficits were up to 50 mm, locally also higher. Water suficit was in February only in the northwestern countries (Slovenia, Croatia and Hungary) and in **March** in Bulgaria.

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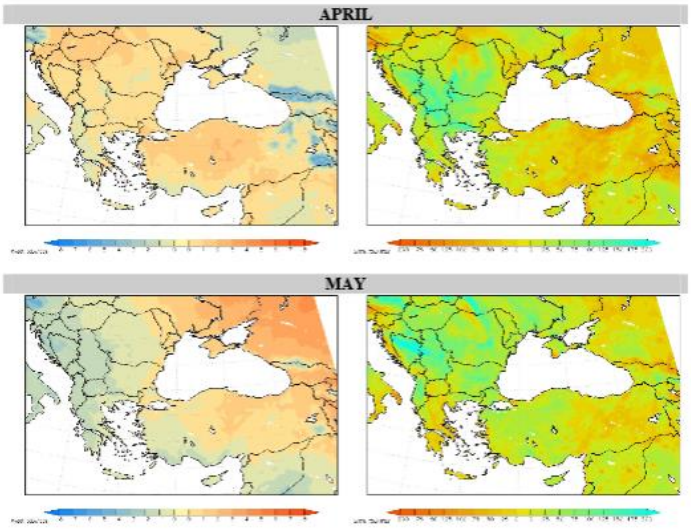
Air Temperature anomaly **Water Balance anomaly**



April was wetter than normal in whole Balkan. Central part of Balkan was extremely wet, with water balance surpluses also up to 150 mm. Even higher surpluses, more than 200 mm, was in **May** in parts of Bosnia and Herzegovina, Croatia, Serbia and also in minor part of Romania, where peak of abundant precipitation caused devastating floods. Meanwhile central and eastern part of Turkey was still dry, with water deficit up to 75 mm in April and up to 50 mm in May. Air temperatures in May were below LTA for around 2 °C in the whole western part of Balkan. Along the whole Adriatic coastline air temperatures were classified in 33 % of the coldest years in the record.