



NINTH MEDITERRANEAN CLIMATE OUTLOOK FORUM, Zagreb, November 20-23, 2017

DHMZ

SEASONAL FORECAST APPLICATION IN AGROMETEOROLOGY

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Agrometeorological Department
Meteorological and Hydrological Service



Main tasks in the Agrometeorological Department



- ❖ **Scientific research:** agrometeorological, phenological and wildfire research
- ❖ **Operational tasks:** agrometeorological forecast (agricultural journals, TV and radio), agrometeorological bulletin (website), weather analysis of fire season, reports of actual extreme weather events that caused different damage on agricultural crops, vineyards, orchards, olive orchards...
- ❖ **Popularization of agrometeorology** through Croatian Agrometeorology Society and cooperation with agronomists, foresters and firefighters

Agrometeorological forecast



- ❖ Radio, agricultural journal since 1990
- ❖ TV since 2004
- ❖ SMS to bank clients (2008-2010)



Agrometeorological bulletin



Državni hidrometeorološki zavod



Aktualni podaci

Prognoze

Klima

Kvaliteta zraka

Biometeorologija

Hidrologija

Agrometeorologija



> Naslovnica > Agrometeorologija

Agrometeorološki tjedni bilten

AGROMETEOROLOŠKI TJEDNI BILTEN

SEKTOR ZA METEOROLOŠKA ISTRAŽIVANJA I RAZVOJ
Služba za agrometeorologiju
Grčić 3 - Zagreb

Agrometeorološke informacije
tel: 01/4565 766



UPOZORENJE

STANJE

13.11.2017-20.11.2017

U proteklih sedam dana minimalna vrijednost temperature zraka u kontinentalnoj Hrvatskoj spustila se do -4.7°C , koliko je izmjereno u Gospiću (Zavižan -7.2°C), a uzduž Jadrana do -1.0°C koliko je izmjereno na aerodromu u Puli (Pazin -4.4°C , Knin 0.6°C). Najniža vrijednost na 5 cm od tla izmjerena je u Gospiću i na Zavižanu, a iznosila je -9.0°C . Maksimalna vrijednost temperature zraka na kontinentu izmjerena je u Bjelovaru, a iznosila je 14.1°C , dok je uzduž Jadrana najviša vrijednost izmjerena u Dubrovniku, 21.2°C (Pazin 14.3°C , Knin 14.3°C). U proteklih sedam dana temperature sume su uzduž Jadrana bile ispod, a u unutrašnjosti osjetno ispod višegodišnjeg prosjeka. Kiše je bilo u cijeloj zemlji, a u višem gorju i snijega (Zavižan 81.7 mm, Ogulin 42.2 mm, Gospić 40.7 mm, Komiža 35.9 mm, Dubrovnik 31.8 mm, Lastovo 28.1 mm, Slavonski Brod 27.2 mm).

Analiza napisana 20.11.2017

Sadržaj

Agrometeorološki bilten

Met. podaci u proteklih 7 dana
Karta min. i max. temperatura
Karta ukupne oborine
Karta ukupnog sisanja sunca

Istočna Hrvatska
Sjeverozapadna Hrvatska
Lika i Gorski kotar
Istra i Primorje
Dalmacija

Izgledi

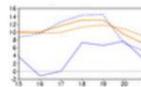
Agro bilten



Temperature tla



7-dnevne temp.



Agro karte

Šumski požar



Agro zanimljivosti

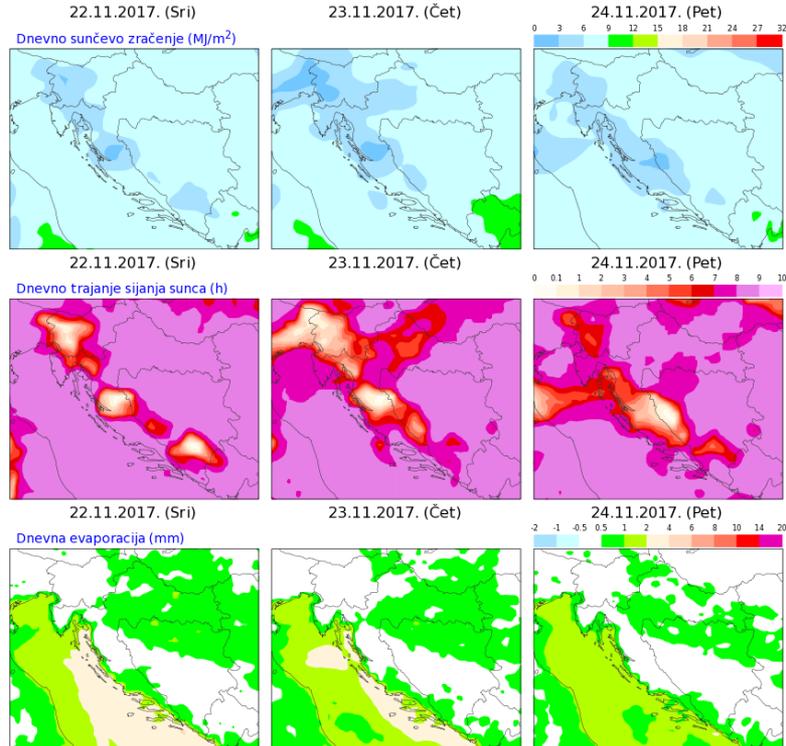
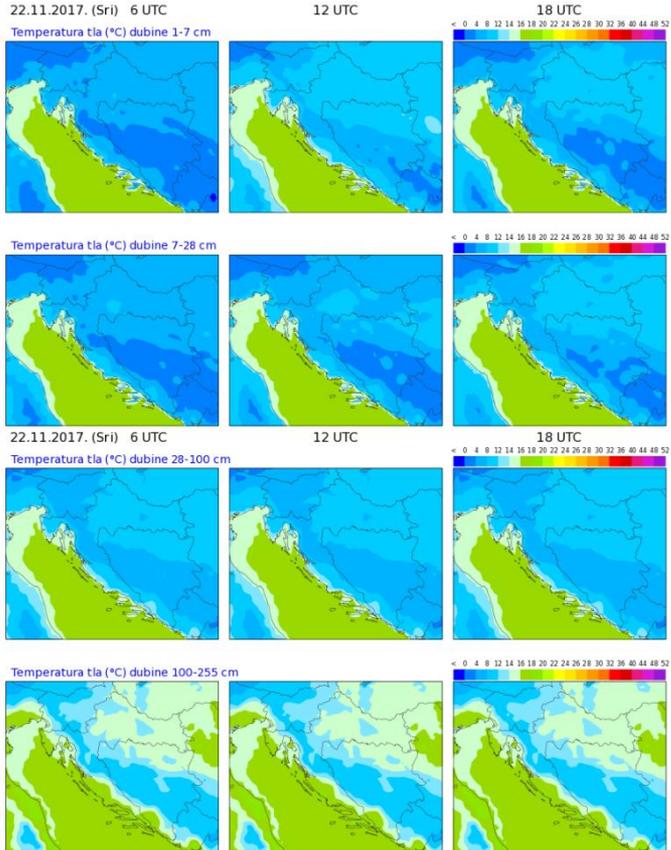


http://klima.hr/agro.php?id=agro_bilten

Agrometeorological prognostic material



Soil temperature



Insolation

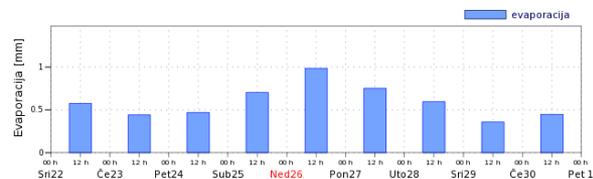
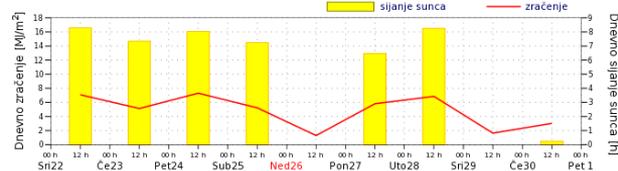
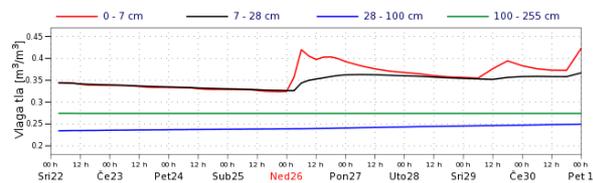
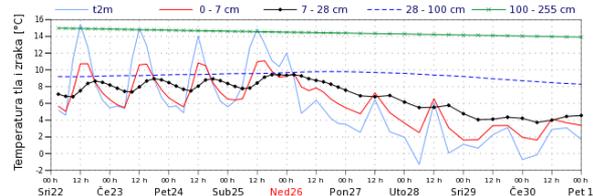
Sunshine duration

Evaporation

Agrometeorological prognostic material

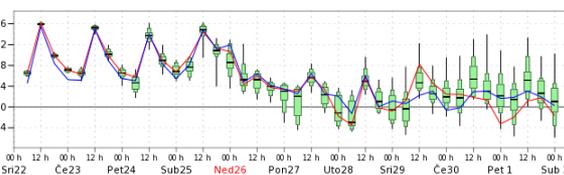
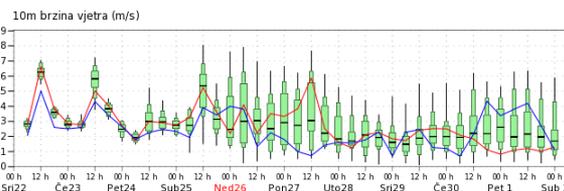
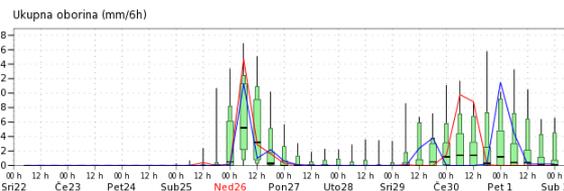
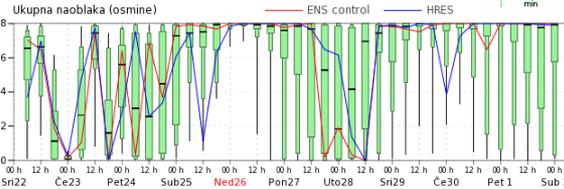
ECMWF Meteogram - Zagreb (45°49' N 16°02' E)

start 22.11.2017. 00UTC



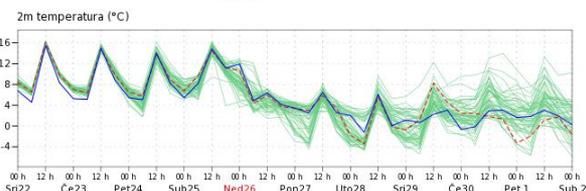
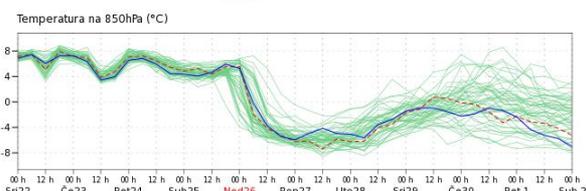
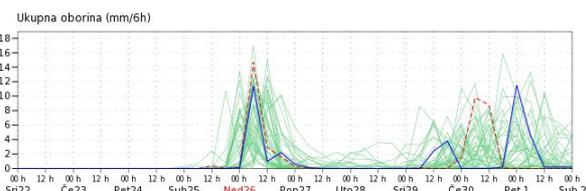
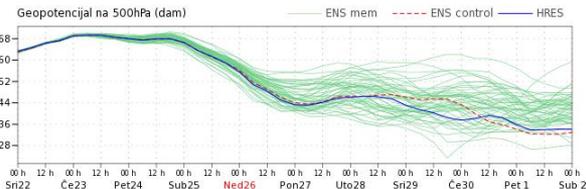
ENS Meteogram - Zagreb 45°49' N 16°02' E 123m

model 45.75°N 16°E
start modela 22.11.2017. 00UTC



ENS Meteogram - Zagreb 45°49' N 16°02' E 123m

model 45.75°N 16°E
start modela 22.11.2017. 00UTC



Soil temperature verification

SREDNJA TEMPERATURA TLA NA 10 CM DUBINE



- GORNJI RED: 13.11.2017. RUN00 NA 0.125° (16 KM)

- DONJI RED: 13.11.2017. RUN00 NA 0.1° (9-10 KM)

		IZMJERENO	ECMWF				PROGNOZIRANO	OSTVARENO
		<i>NED</i>	PON	UTO	<i>SRI</i>	<i>CET</i>		
ISTOČNA HRVATSKA	OSIJEK	10	8	7	7	8	6 = 9	7-9
			8	7	7	8		6-9
	<u>GRADISTE</u>	10	9	8	6	7		7-8
			9	7	6	7		7-8
	<u>SL_BROD</u>	9	7	6	6	7		
			7	6	6	7		
	<u>DARUVAR</u>	10	6	7	6	6		6 = 9
		6	6	5	6			
SREDIŠNJA I SJEVEROZAPADNA HRVATSKA	<u>ZAGREB_M</u>	9	7	7	6	6	6 = 8	6-8
			6	7	6	6		5-7
	<u>VARAZDIN</u>	10	6	6	6	6		5-7
			6	6	6	6		6-7
	<u>KRIZEVCI</u>	9	6	7	6	6		7-8
			6	7	6	6		
	<u>KRAPINA</u>	10	6	6	6	6		
			6	7	6	6		6 = 8
	<u>KARLOVAC</u>	10	7	7	6	6		
		7	7	6	7			

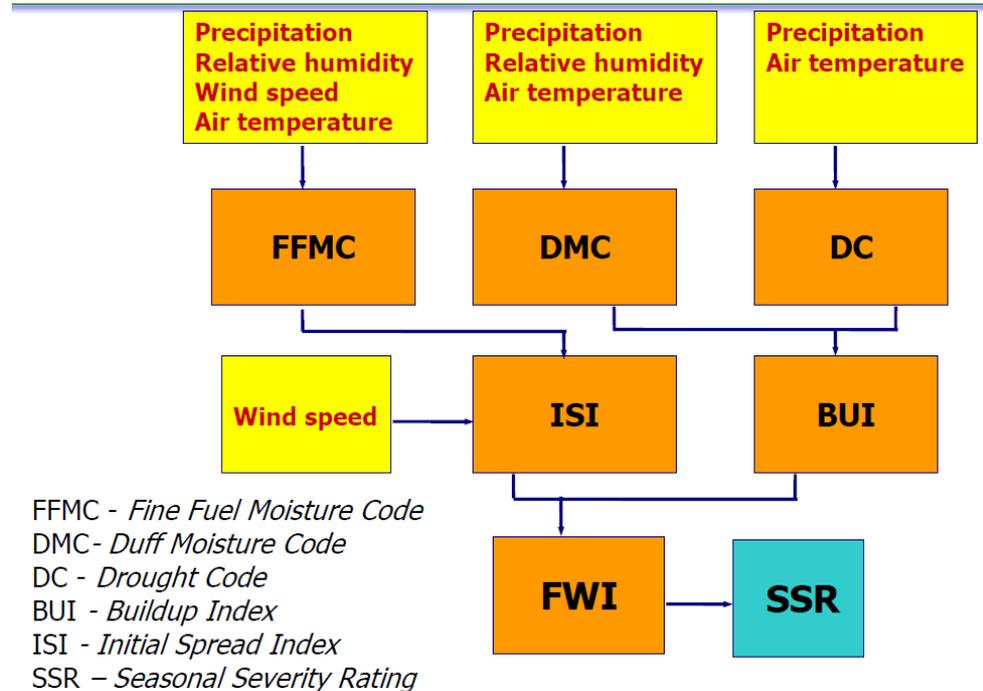
Scientific research



- ❖ Crop weather modeling
 - ❖ before: DSSAT model
 - ❖ now: AQUACROP model



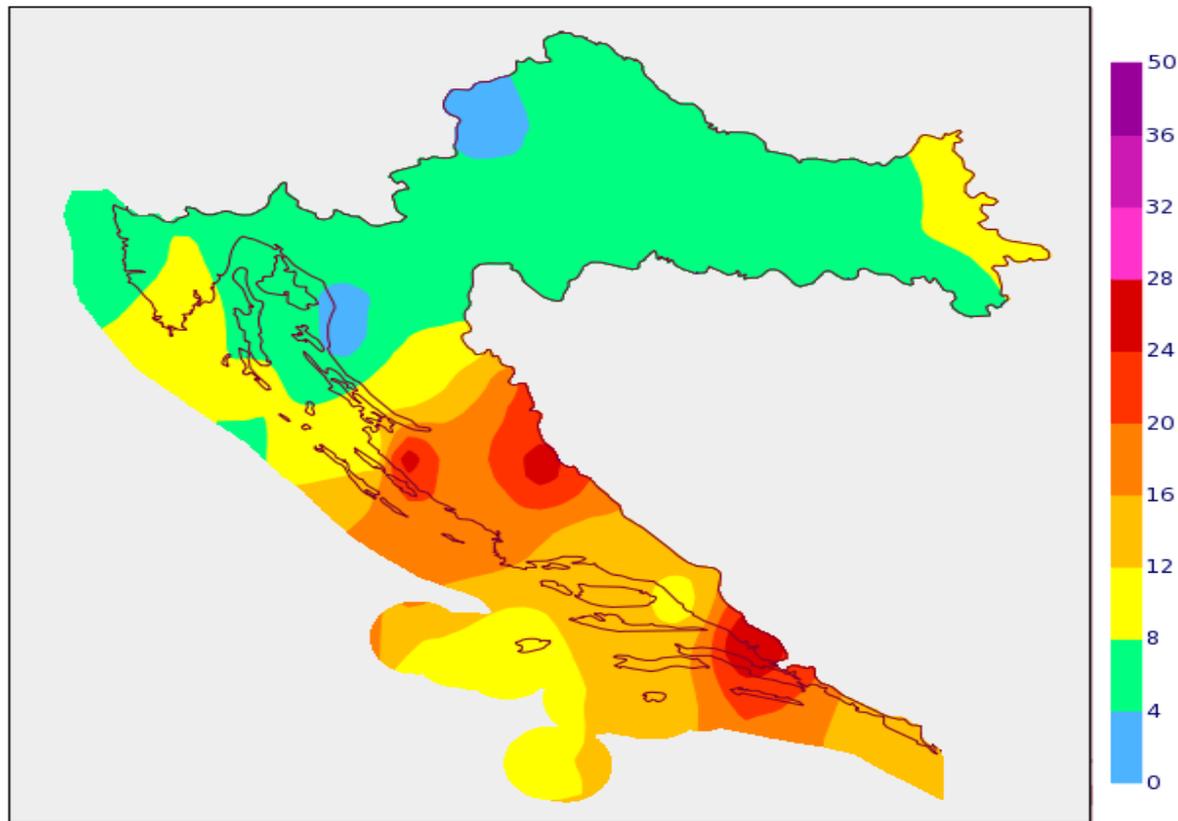
- ❖ Wildfire research with Canadian FWI model



Seasonal severity rating (SSR)



SSR 2017.



Source: DHMZ

Plans

- ❖ using AQUACROP model for maize and cereals:
 - ❖ prediction of irrigation, agricultural water stress, phenological phases, biomass and yield using monthly and seasonal forecasts
 - ❖ Input data: maximum and minimum air temperature, precipitation, solar radiation, relative humidity and wind speed

- ❖ using FWI model
 - ❖ prediction of potential meteorological risk of wildfires using monthly and seasonal forecast
 - ❖ Input data: maximum air temperature, precipitation, relative humidity and wind speed

Main menu

Environment and Crop

Climate

Climate: (None) Specify climatic data when Running AquaCrop

Crop

Crop: DEFAULT.CRO a generic crop
Growing cycle: Day 1 after sowing: 22 March - Maturity: 24 July
Calendar mode

Management

Irrigation: (None) Rainfed cropping

Field: (None) No specific field management

Soil

Soil profile: DEFAULT.SOL deep loamy soil profile

Groundwater: (None) no shallow groundwater table

Simulation

Simulation period: Simulation period: From: 22 March - To: 24 July

Initial conditions: (None) Soil water profile at Field Capacity

Off-season: Simulation period linked to cropping period

Project: (None) No specific project

Field data: (None) No field observations

Run <<<

[Exit Program](#)



**Thank you
for your
attention!**

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