

Drought Watch

Izidor Pelajić, Ivana Marinović, Ksenija Cindrić Kalin



SWI
 ASCAT Soil Water Index (SWI) anomalies.

1Km daily

[%]

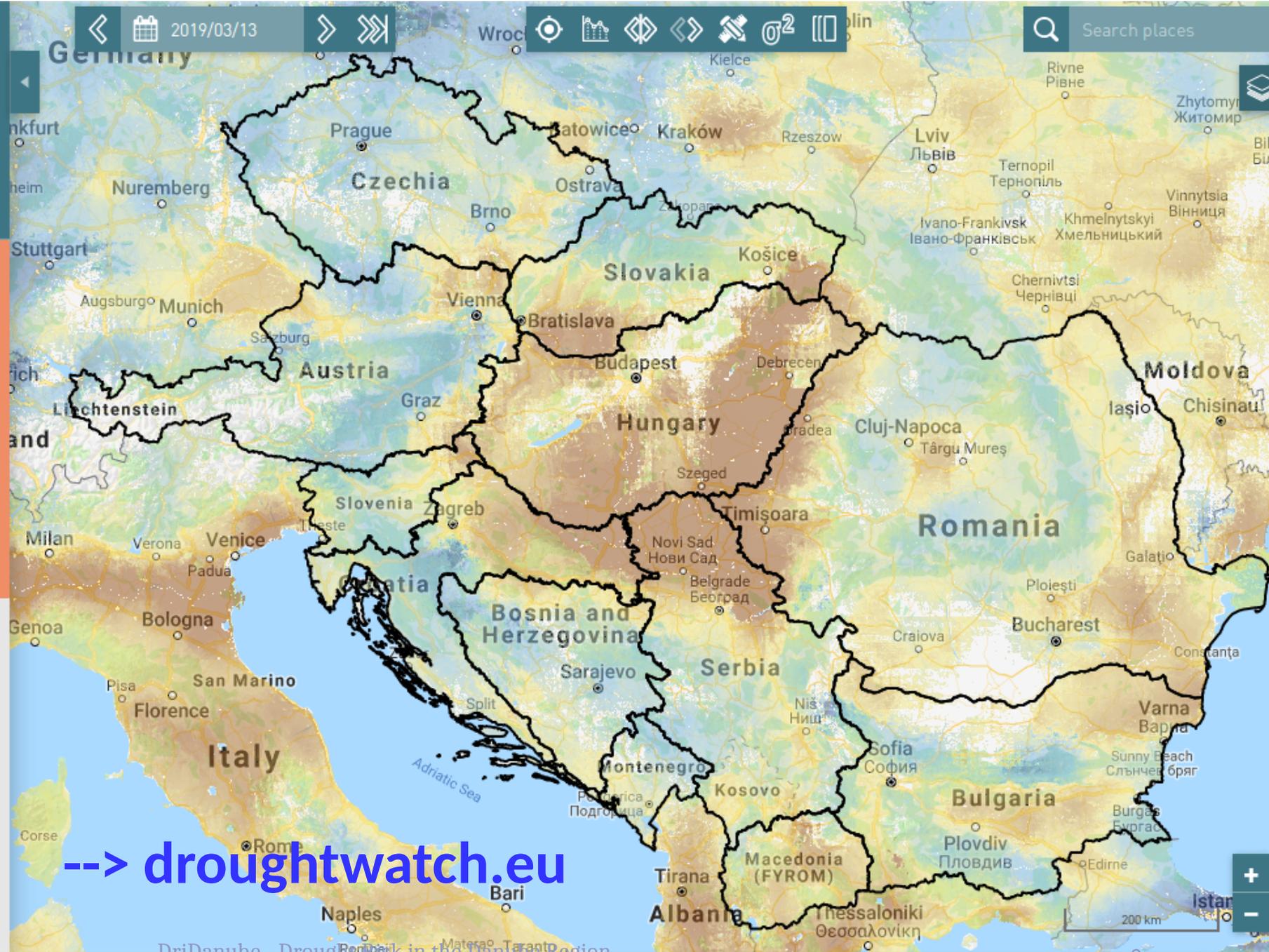
-25 -20 -15 -10 -5 0 5 10 15 20 25

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 Surface water balance assessed with simulation using numerical weather prediction (NWP) model.

NDVI
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Vegetation Condition
 Relative vegetation condition based on MODIS sensor.

Drought impact assessment
 Estimated drought impacts on main crop yield based on national reporting networks.



--> droughtwatch.eu

TIME SERIES STATIC PRODUCTS

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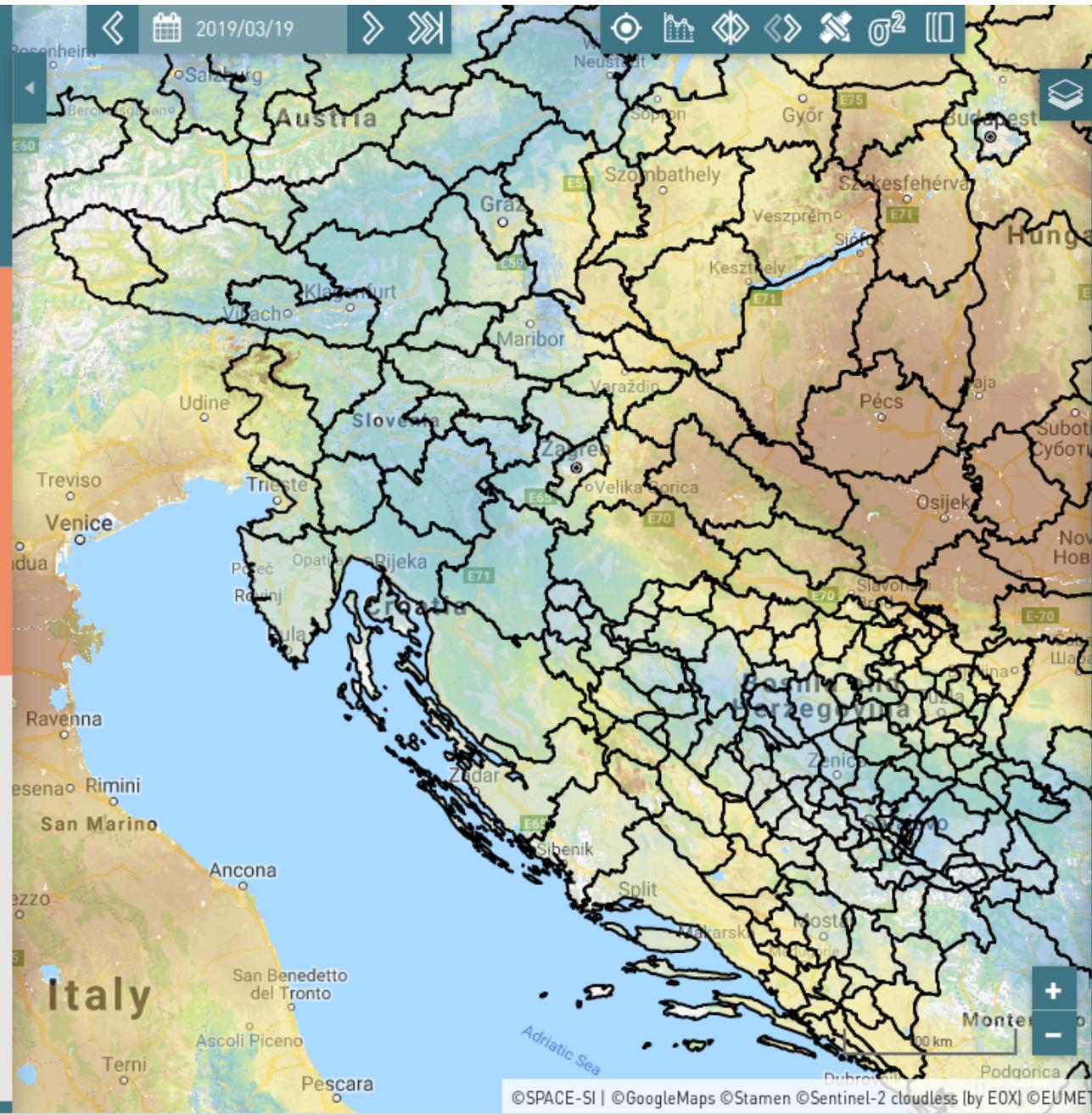
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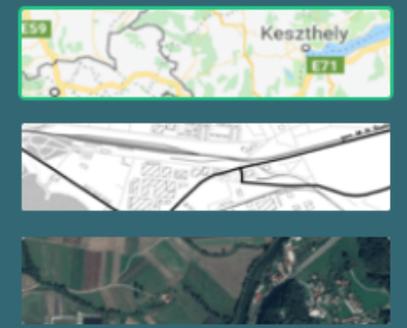
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BASE LAYERS



NUTS LAYERS

- NUTS 0
- NUTS 1
- NUTS 2
- NUTS 3

English

2019/03/19

Search places



TIME SERIES STATIC PRODUCTS



SWI

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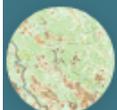
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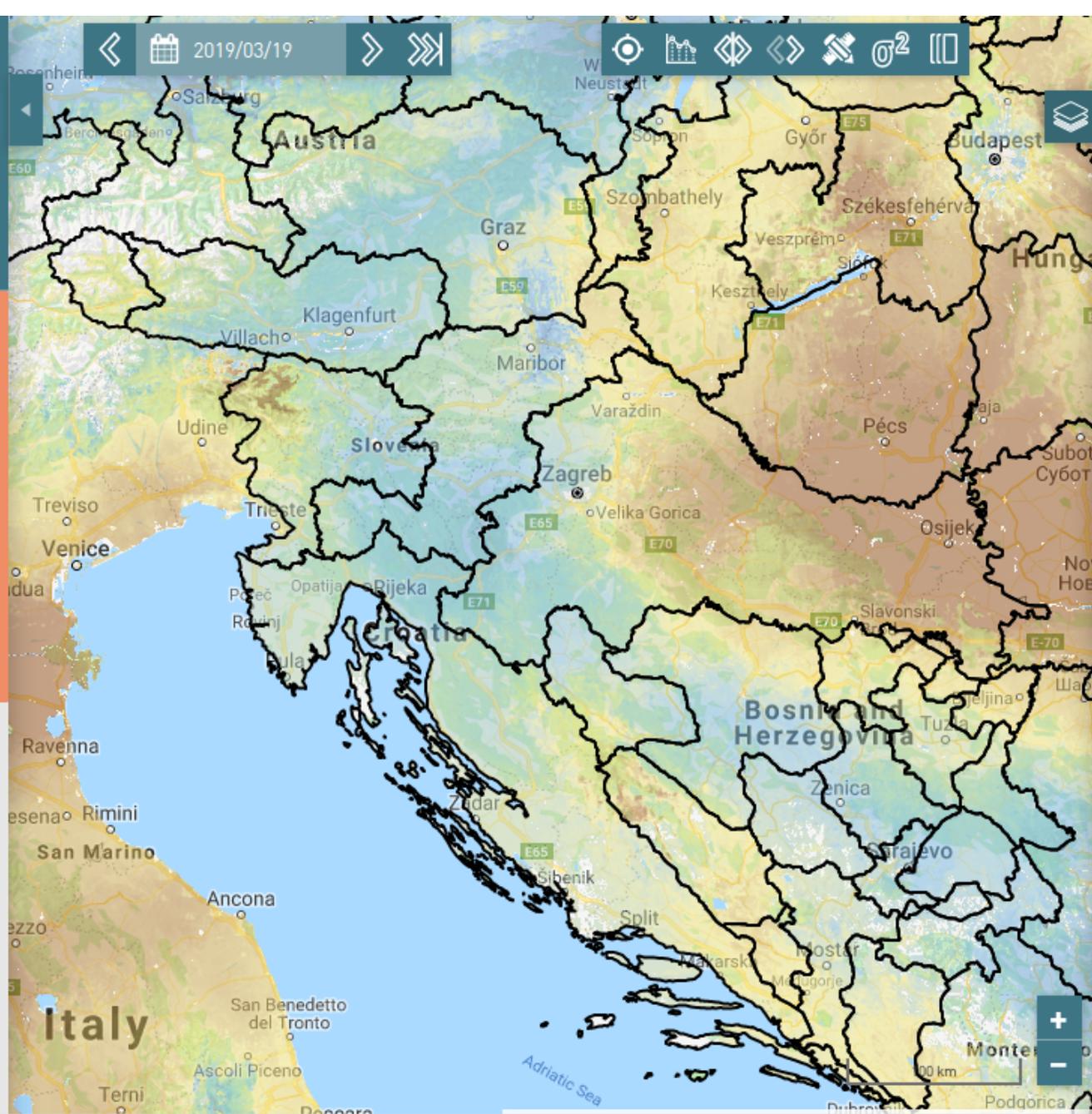
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TIME SERIES STATIC PRODUCTS

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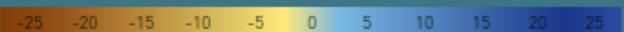
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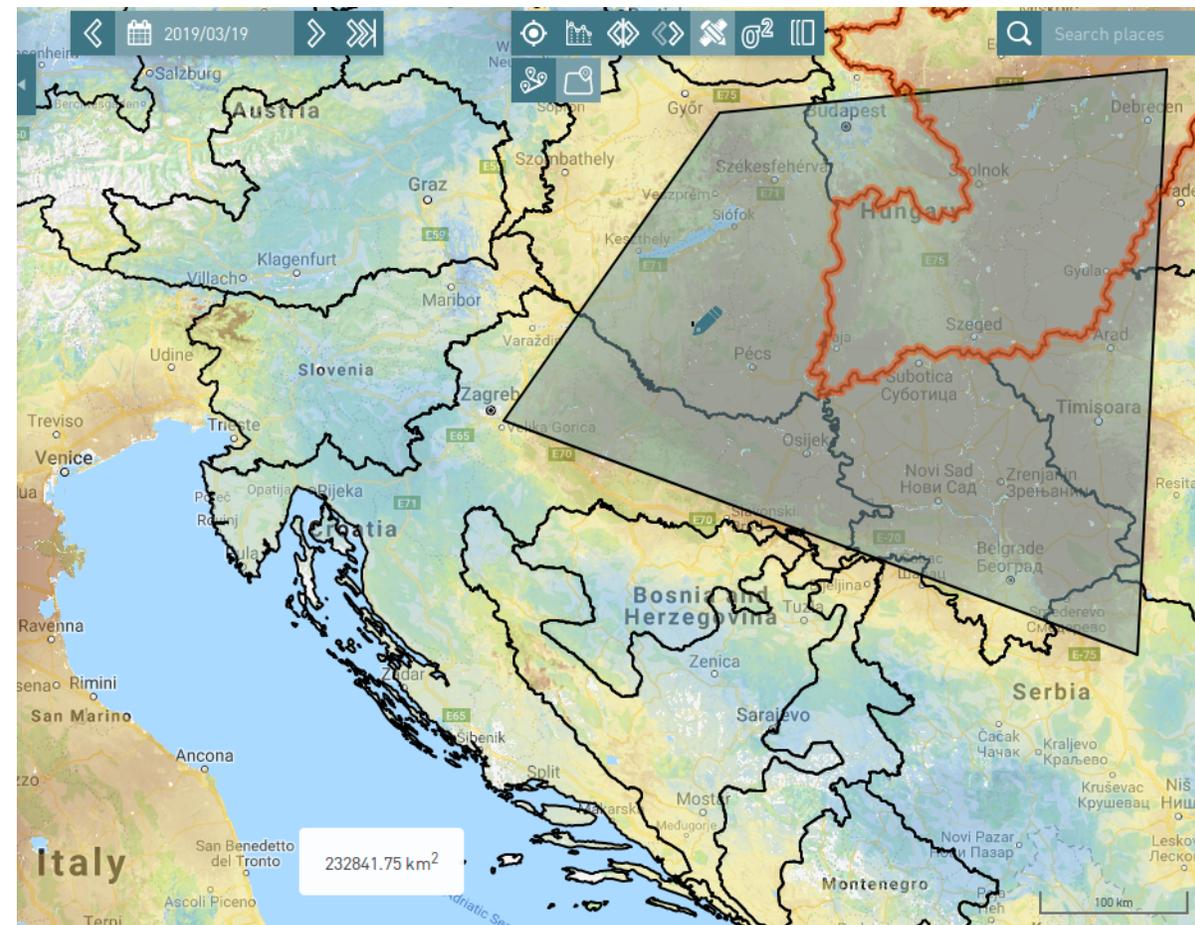
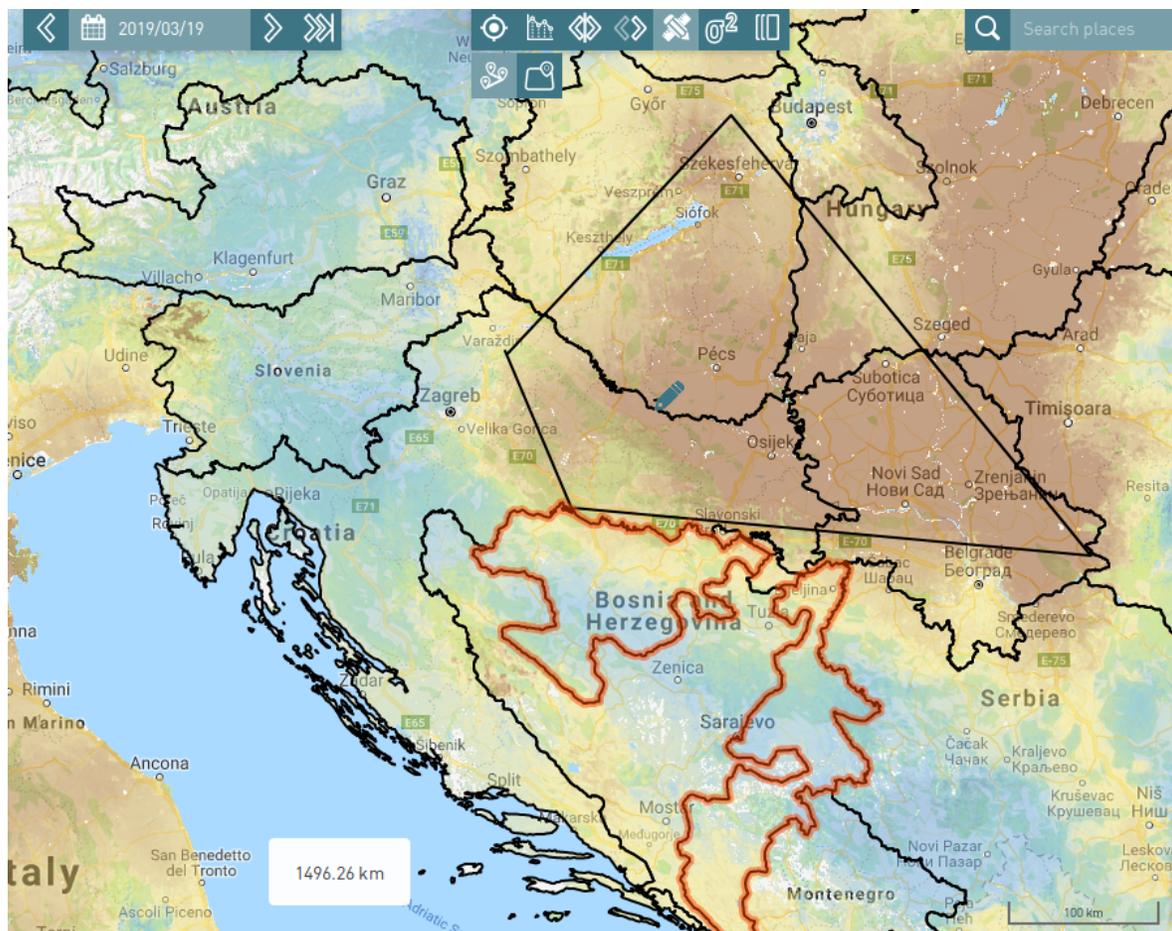


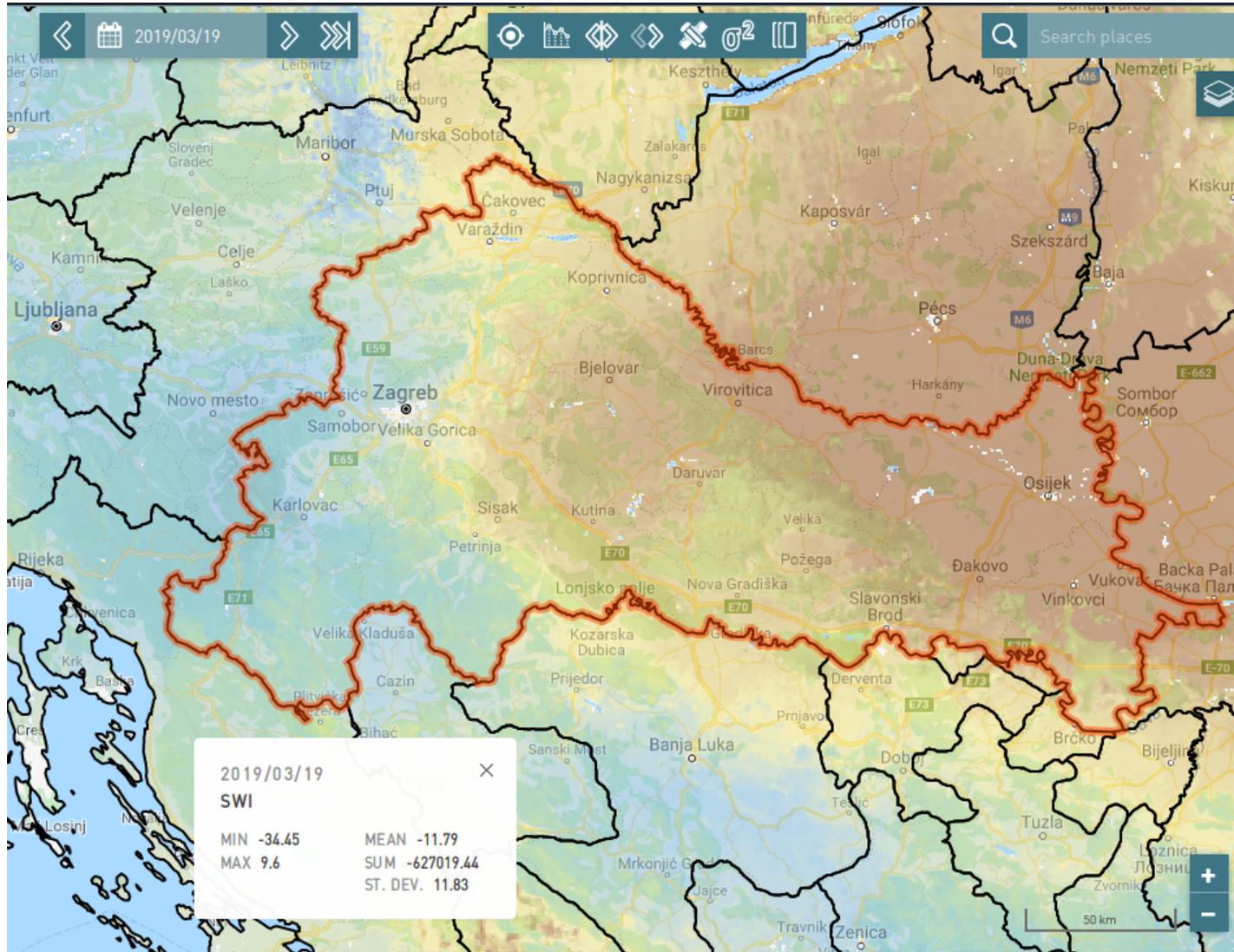
BASE LAYERS

NUTS LAYERS 

- NUTS 0
- NUTS 1
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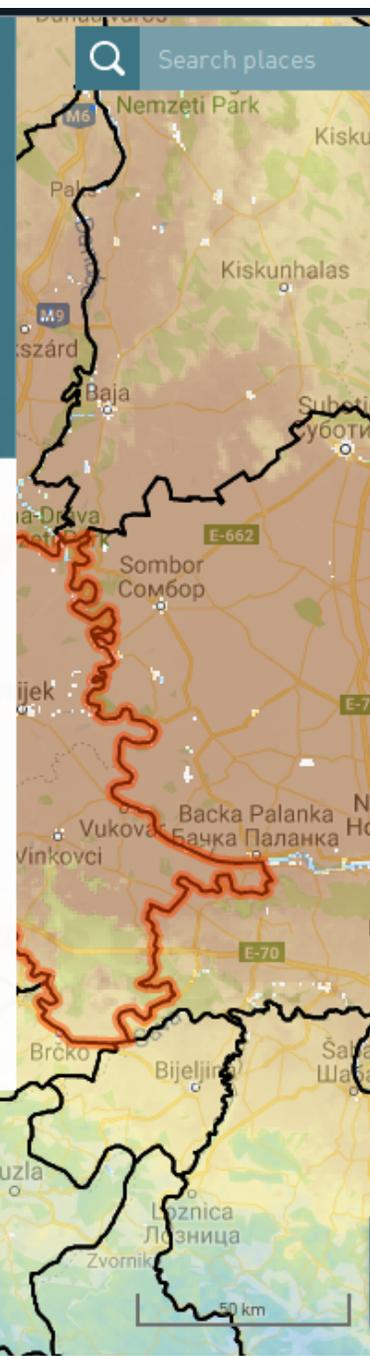
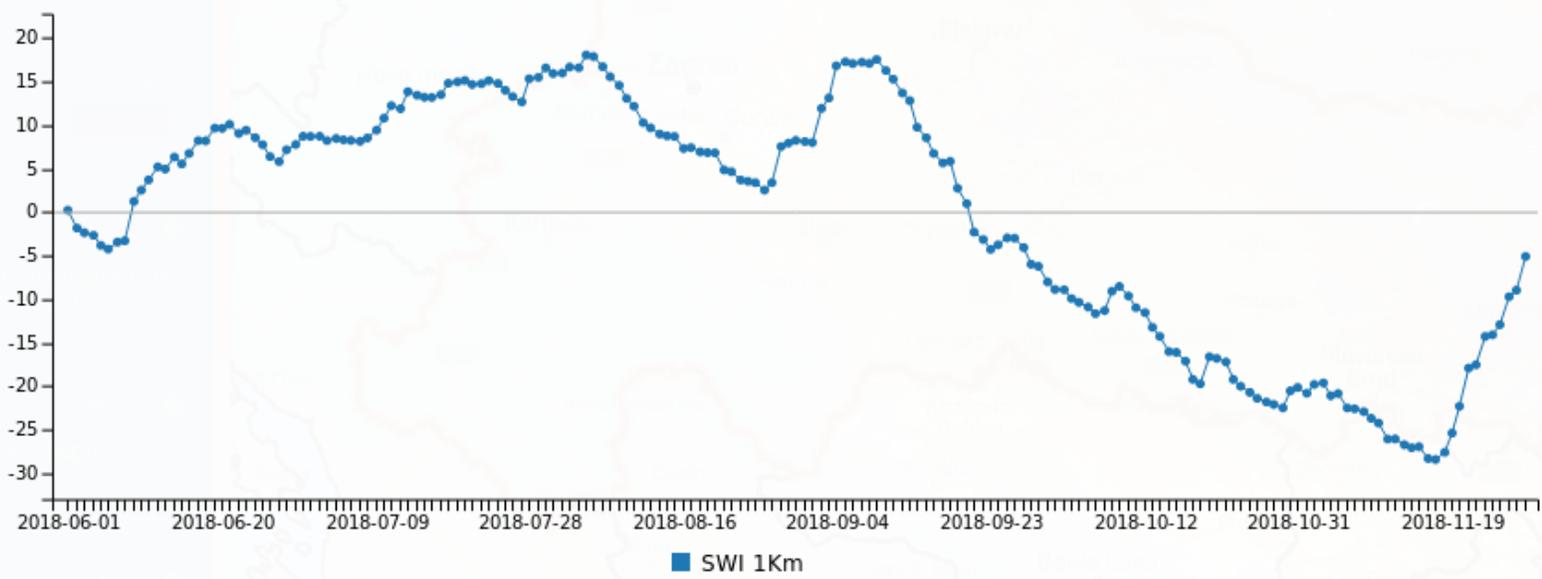




Time series chart

SWI <input checked="" type="checkbox"/> 1Km <input type="checkbox"/> 8km <input type="checkbox"/> 100m	SWB <input type="checkbox"/> 8km	SWD <input type="checkbox"/> 100m	NDVI <input type="checkbox"/> 1km <input type="checkbox"/> 5km	Vegetation Condition <input type="checkbox"/> 5km	60ATP2m <input type="checkbox"/> 8km	Starting date 06 / 01 / 2018	Ending date 11 / 28 / 2018
10ATP2m <input type="checkbox"/> 8km	H0524 <input type="checkbox"/> 5km	X coordiante 18.7399		Y coordiante 45.41			

[SUBMIT QUERY](#) [HIDE CHART](#) [EXPORT CHART](#) [EXPORT DATA](#)



... based on MODIS sensor.

... ment

... on main crop yield based

... rks.

English



Time series render

Select product

SWI

Starting date

09 / 01 / 2018

Ending date

11 / 30 / 2018

SUBMIT QUERY

TIME SERIES STATIC PRODUCTS



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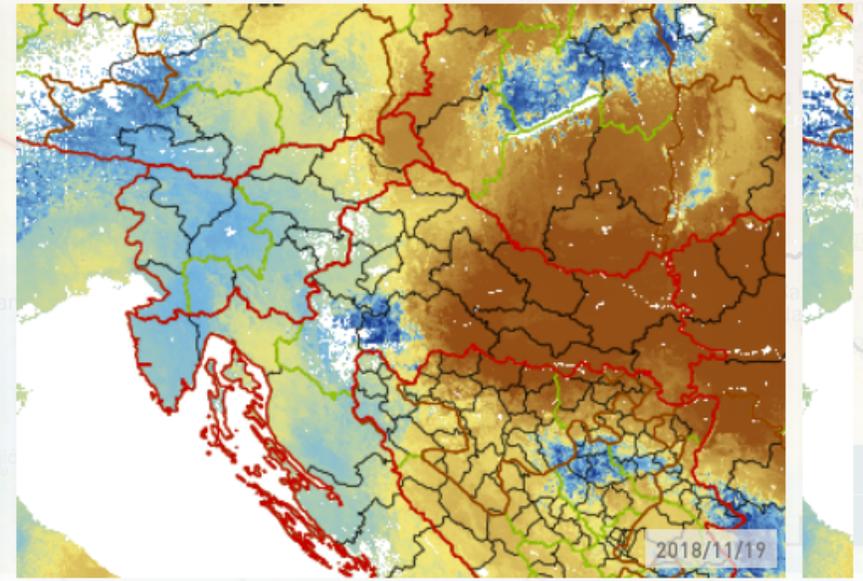
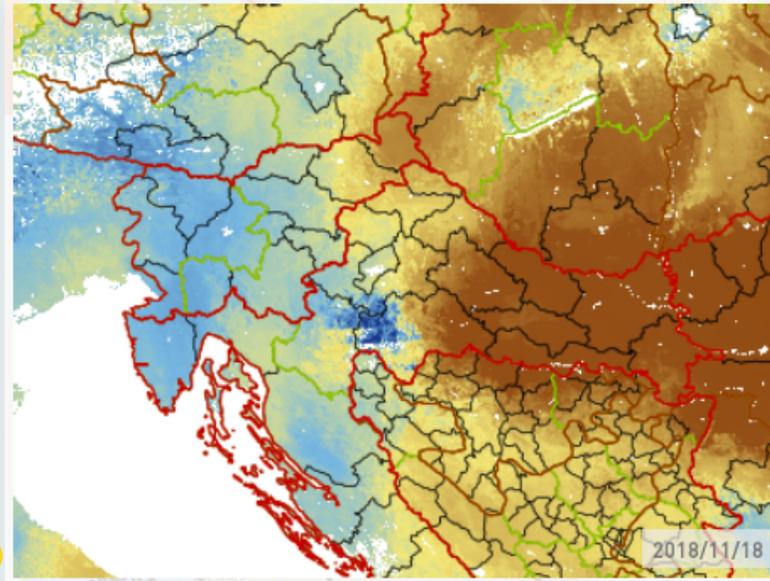
1Km

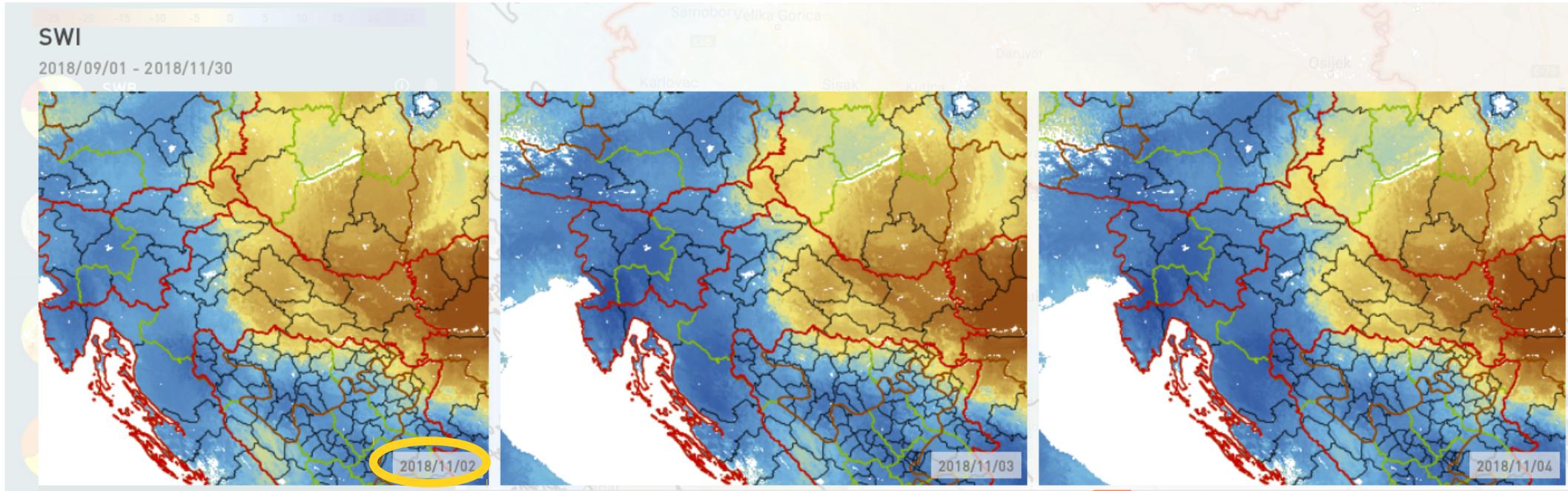
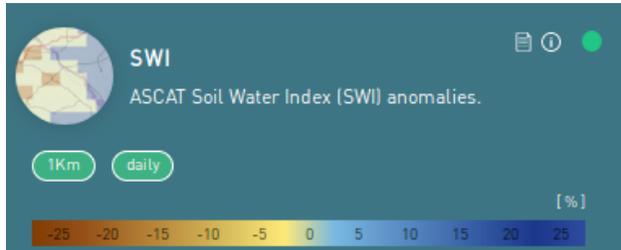
daily

[%]

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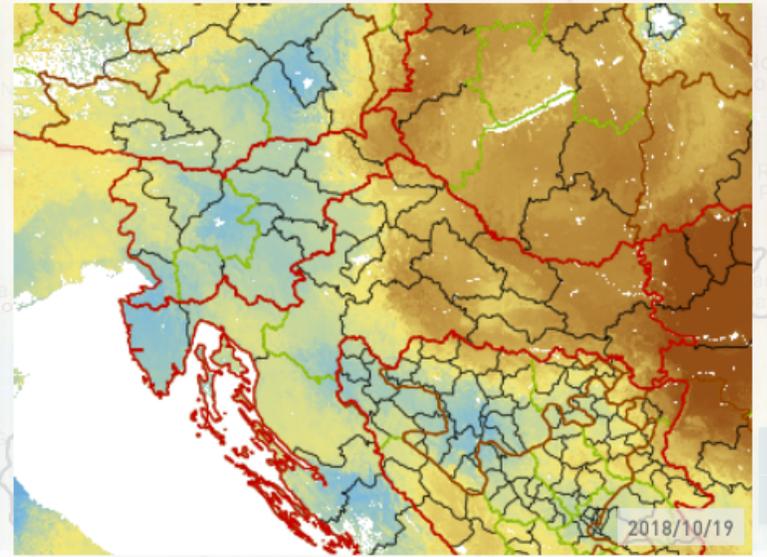
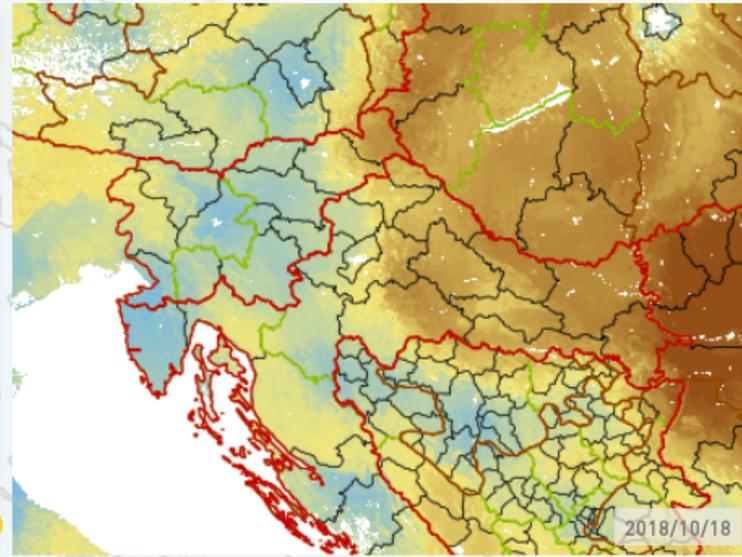
2018/09/01 - 2018/11/30



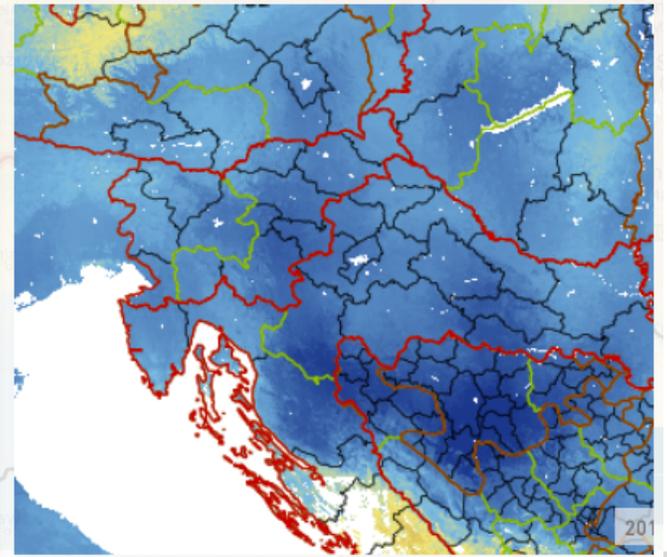
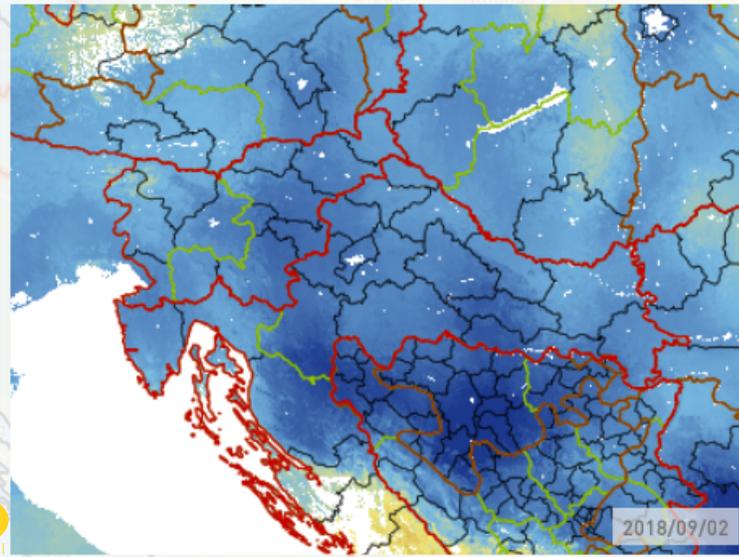
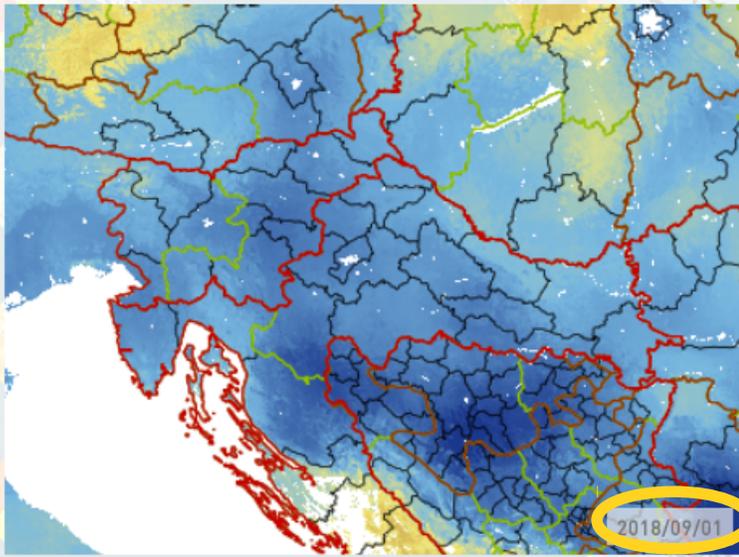


SWI

2018/09/01 - 2018/11/30



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English

Interreg Danube Transnational Programme DriDanube

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TIME SERIES STATIC PRODUCTS

Yield prediction
Yield prediction for most commonly cultivated crops on the level of NUTS3 regions.

60ATP2m
10-day Average Temperature Percentile at 2 m above ground level.

10ATP2m
10-day Average Temperature Percentile at 2 m above ground level.

H0524
H-SAF 05 24-hour accumulated precipitation. © EUMETSAT

SLOVENIAN PRODUCTS

SWD
Soil Water Deficit (SWD) index based on water balance model mGROWA-SI (ARSO, Slovenia).

Vegetation Condition
Relative vegetation condition based on MODIS sensor.
5km weekly [%]

65	75	85	95	105	115	125	135
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SWI
ASCAT Soil Water Index (SWI) anomalies.
1Km daily [%]

-25	-20	-15	-10	-5	0	5	10	15	20	25
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Yield prediction
Yield prediction for most commonly cultivated crops on the level of NUTS3 regions.
NUTS3 Barley Corn Potatoes Sugarbeet Wheat [t/ha]

2.49	3.49	3.99	4.49	4.99	5.49	5.5 >	n/a
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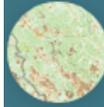
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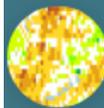
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5km

weekly

[%]

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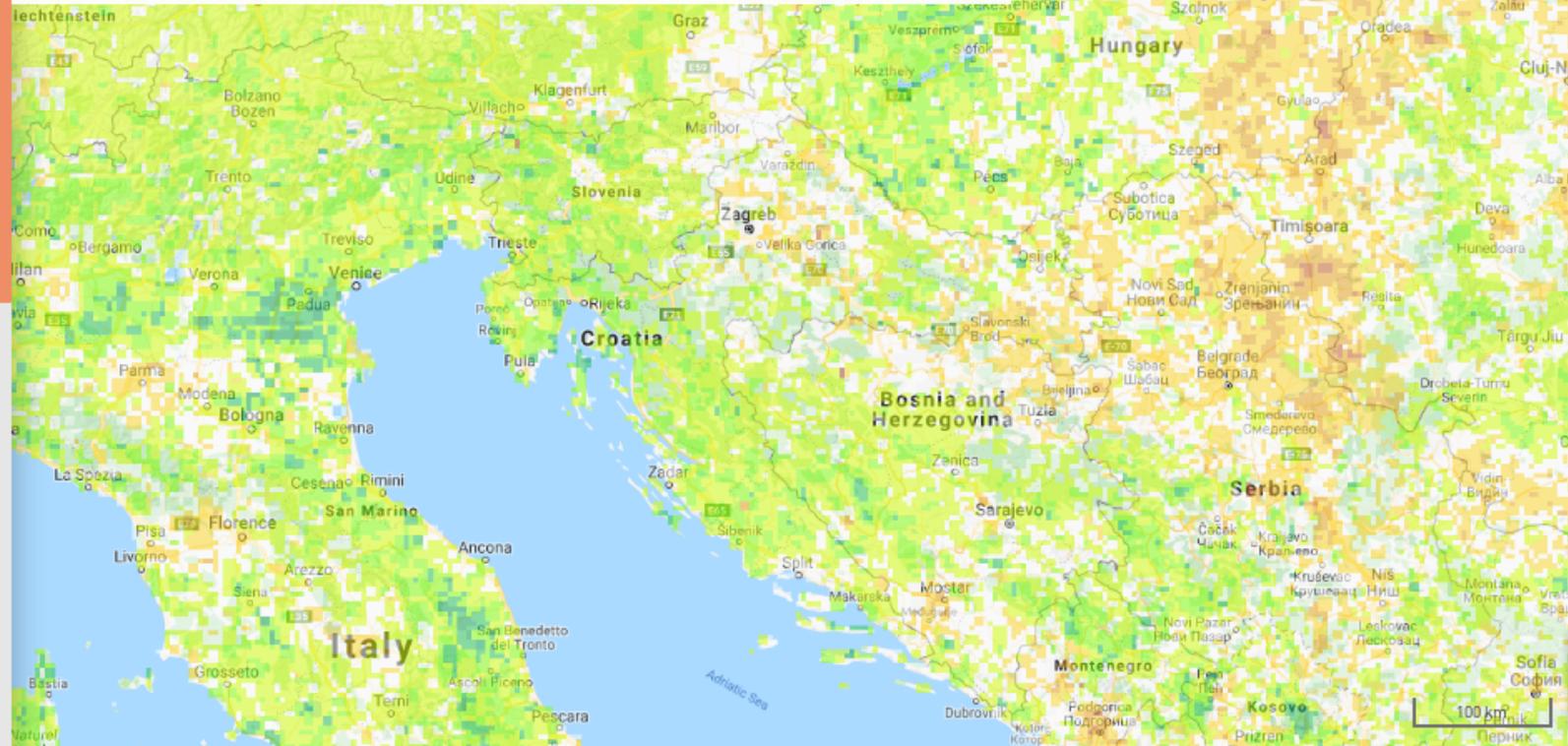
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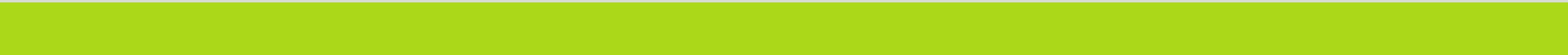
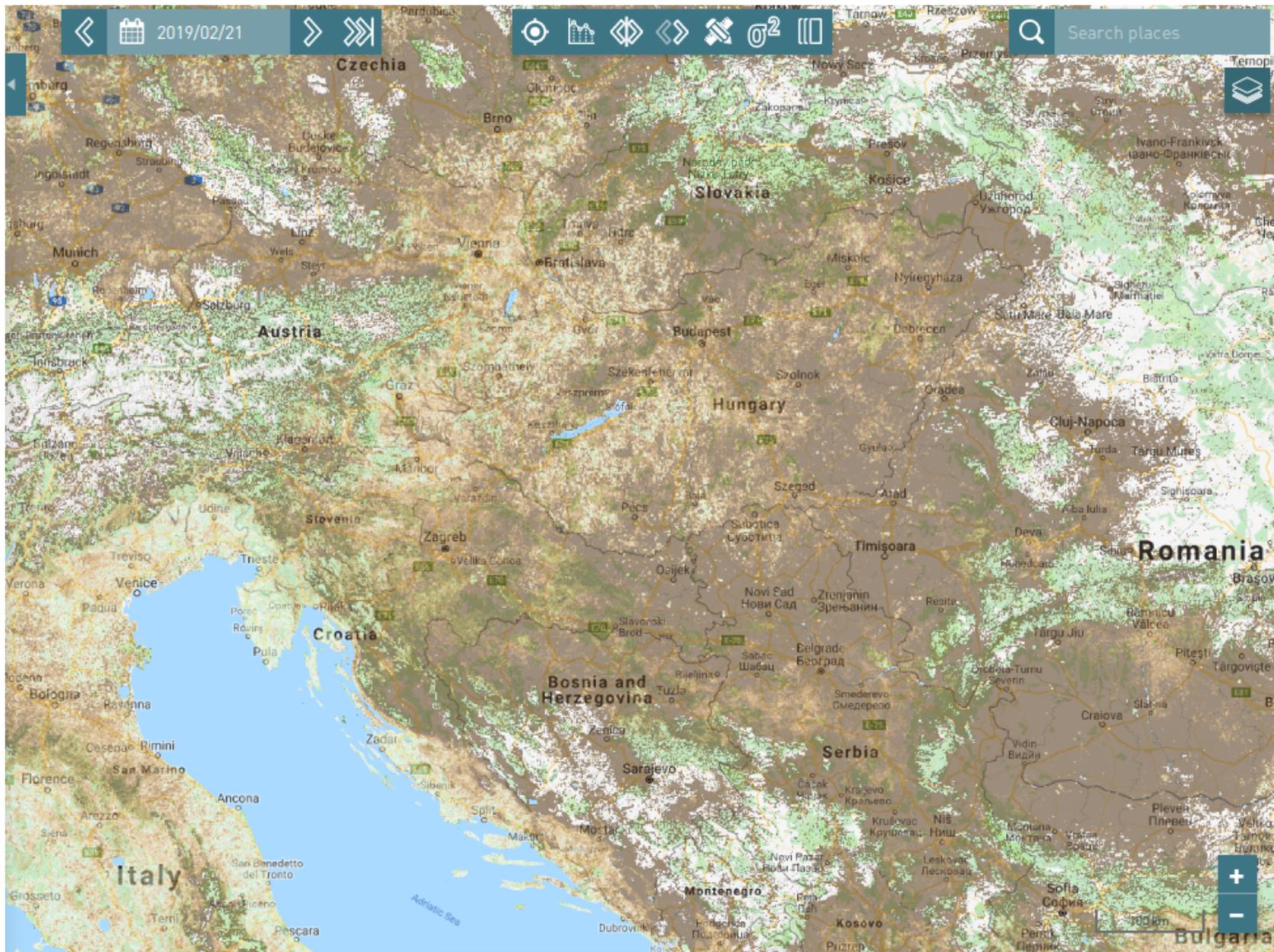
Estimated drought impacts on main crop yield based on national reporting networks.



Information about Vegetation Condition

Relative vegetation condition is a weekly operational product based on remote sensing data from NASA's Moderate Resolution Imaging Spectroradiometer (MODIS) sensor aboard the Terra satellite. To depict drought stress on vegetation the Percent of Average Actual Greenness (PAAG) is calculated weekly as Enhanced Vegetation Index 2 (EVI2) anomaly from its historical mean. The weekly accumulated EVI2 values are calculated after applying temporal smoothing technique to the input signal of EVI2 at 250 m resolution. Consequently, they are aggregated into 5x5 km resolution with regard to the main land use categories and compared to the values of reference period 2000-2016.







TIME SERIES STATIC PRODUCTS



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Yield prediction

Yield prediction for most commonly cultivated crops on the level of NUTS3 regions.

NUTS3

Barley

Corn

Potatoes

Sugarbeet

Wheat

[t/ha]



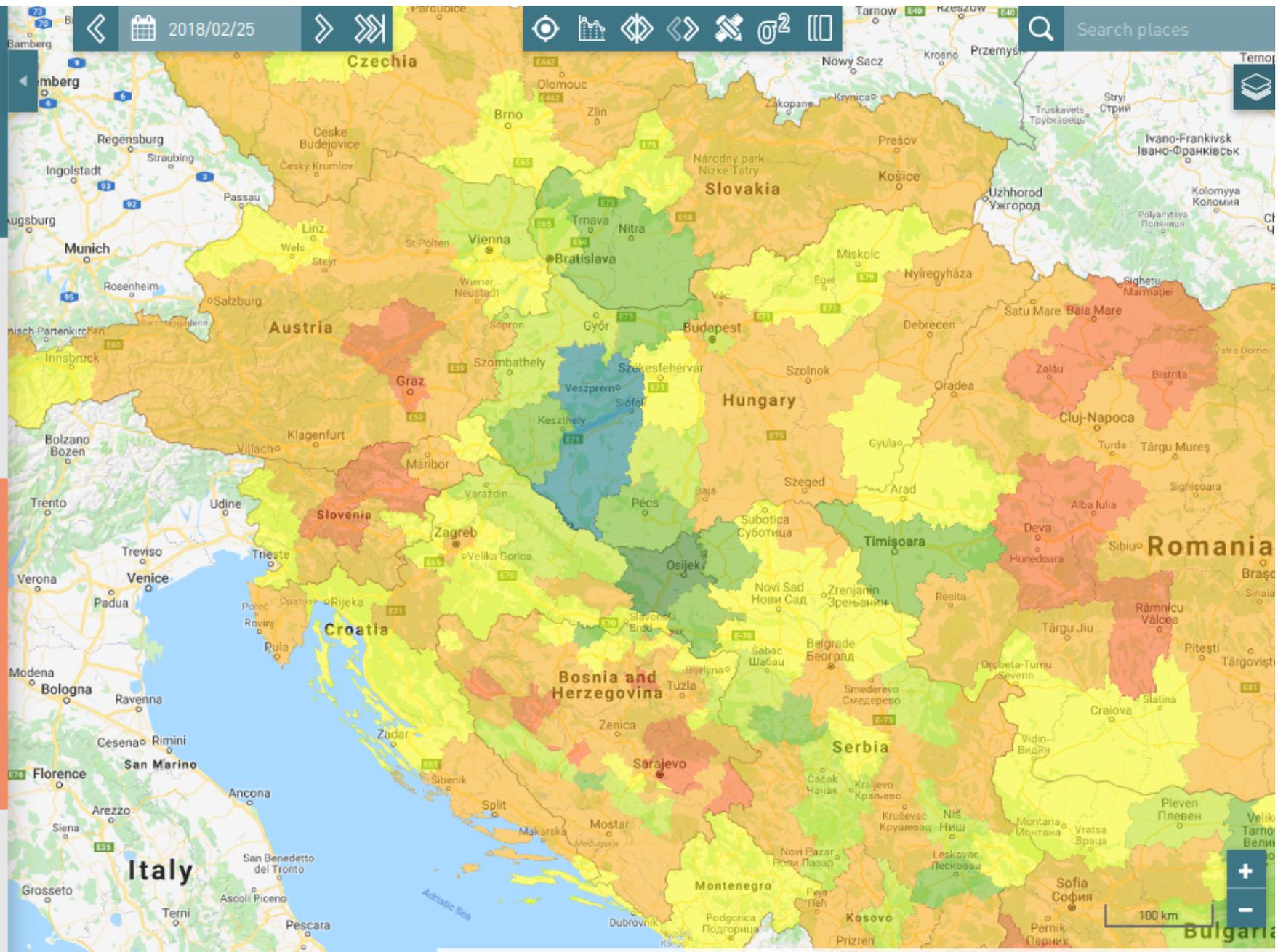
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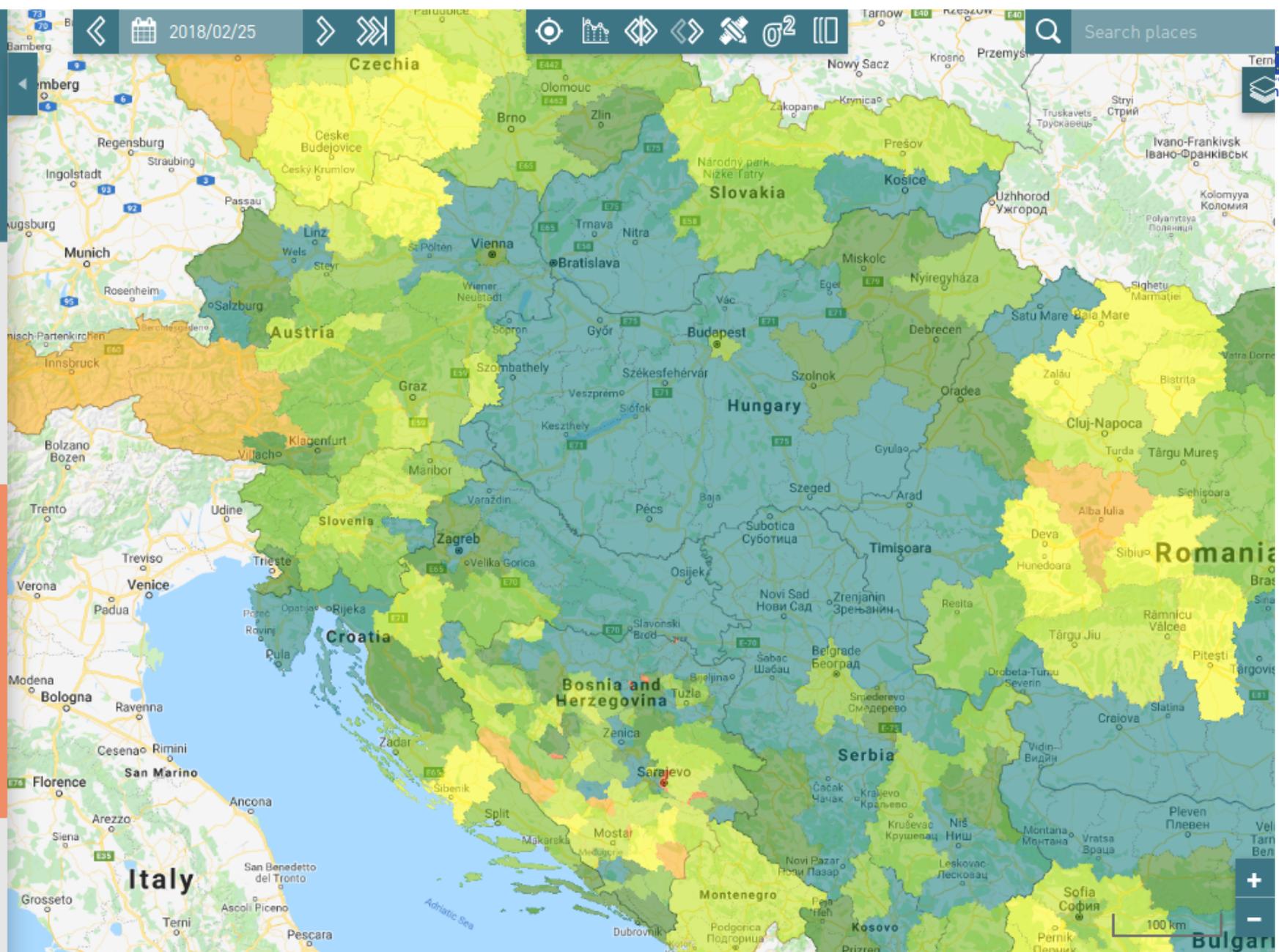
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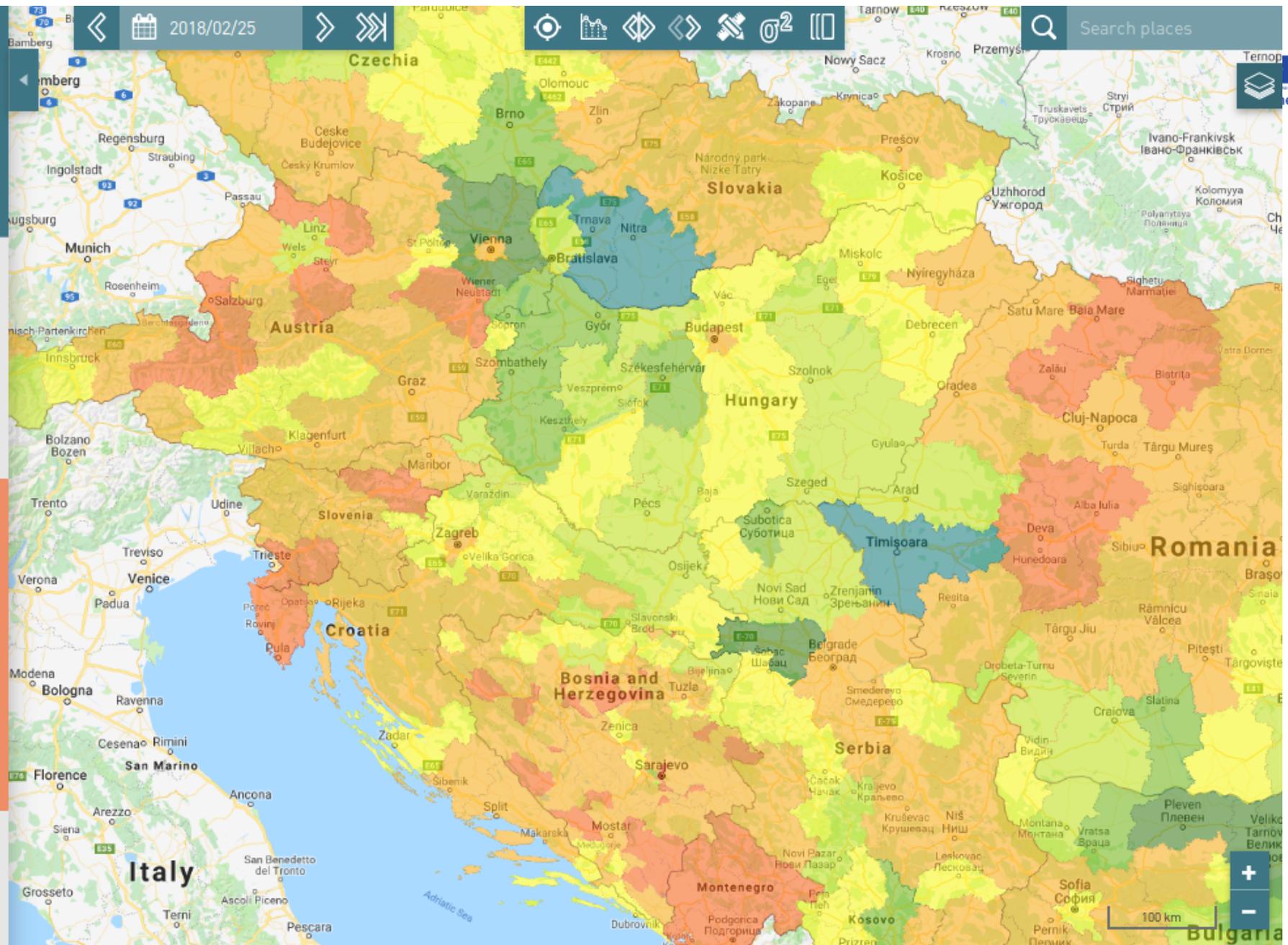
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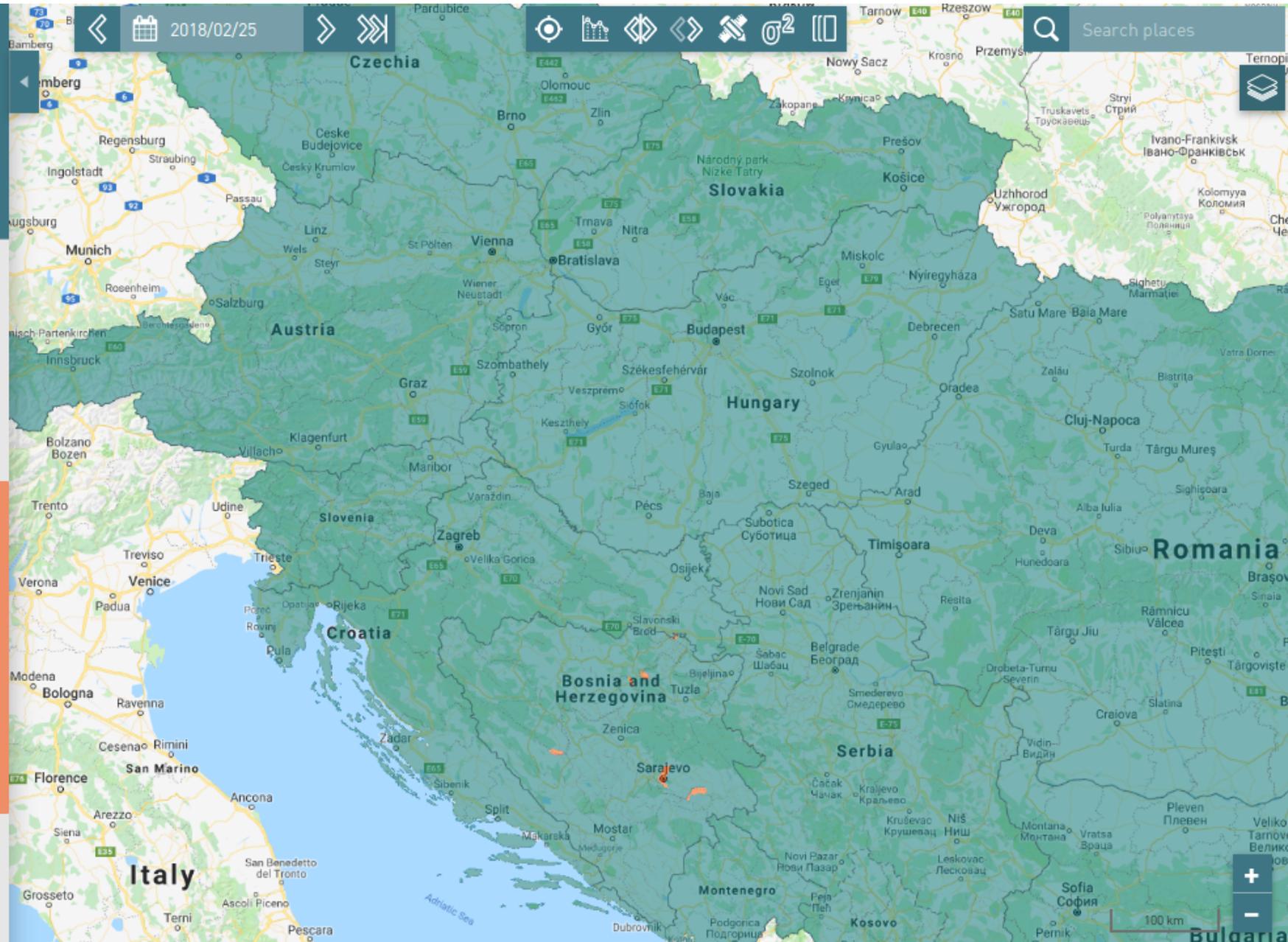
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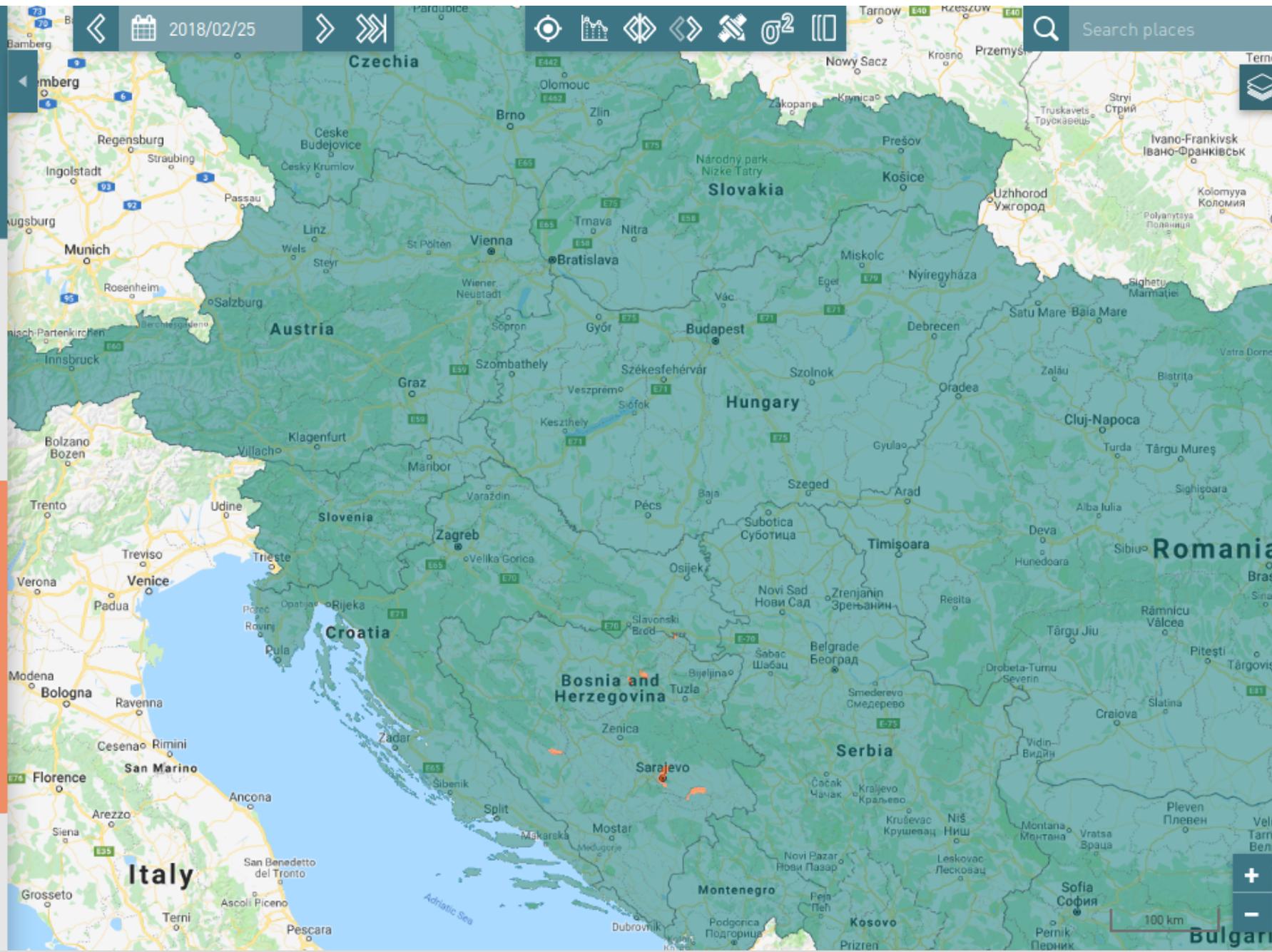
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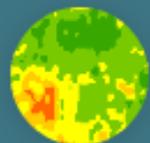
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Rainless Period Duration

The longest expected rainless period duration for the given return period in days.



Drought risk

Information about the spatial distribution of those areas where meteorological drought occurred often as a hazard and there were significant impacts on crop yield

- Barley 5
- Maize 10
- Oilseed rape 20
- Wheat 30



Information about Drought risk

The drought risk maps provide information about spatial distribution of that areas where meteorological drought occurred often as hazard and there were significant impacts on crop yield in the Danube region. Drought risk maps are available for maize, wheat, barley and rape on different probability levels (5, 10, 20, 30%). The drought risk assessment method is a quantitative approach and the algorithm with the RED risk calculation software was newly developed in the frame of DriDanube project. It can be used to recognize which crops are sensitive for deficit of rain in the region and on which areas expects significant drought hazard and/or considerable crop losses based on the analysis of long term period (1961-2010) in the past. The drought event identification is based on crop yield values and SPI indexes. A regression model was applied for the estimation of negative impacts on crop yield due to drought. We used a detailed yield database (2001-2016) of the Farm Accountancy Data Network (FADN) of Hungary to recognize regression of the relative crop yield on the meteorological variables (monthly precipitation and temperature). The drought risk calculations were carried out on CARPATCLIM, DANUBECLIM dataset which provide homogenized (MASH v3.03) and gridded (MISH v1.03) climate data series for the main part of DriDanube region between 1961 and 2010. For other part of the project area E-OBS gridded data series were used. The spatial resolution of risk maps 0,036°.



English

2019/03/11

Search places



TIME SERIES **STATIC PRODUCTS**



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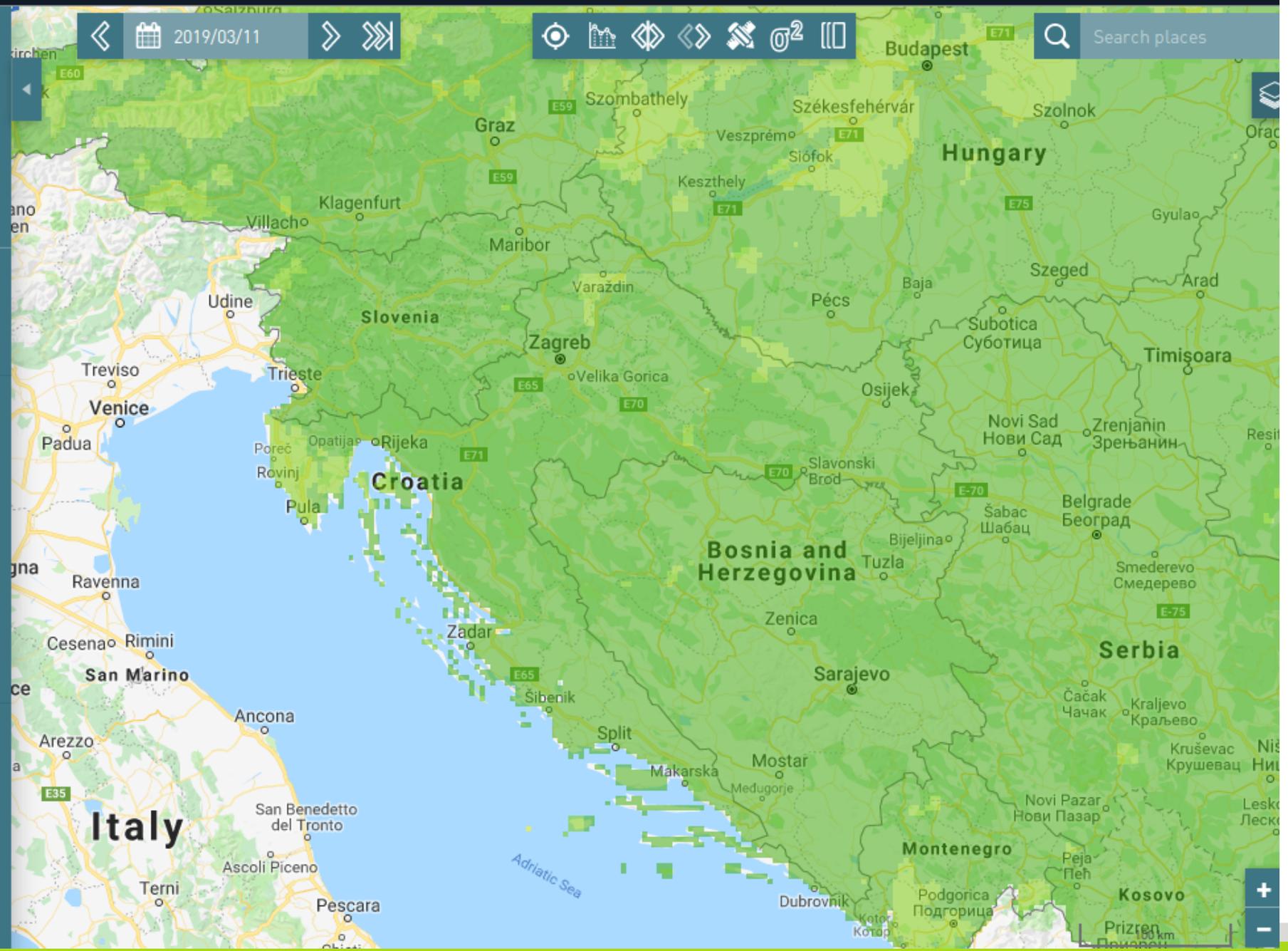
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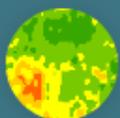


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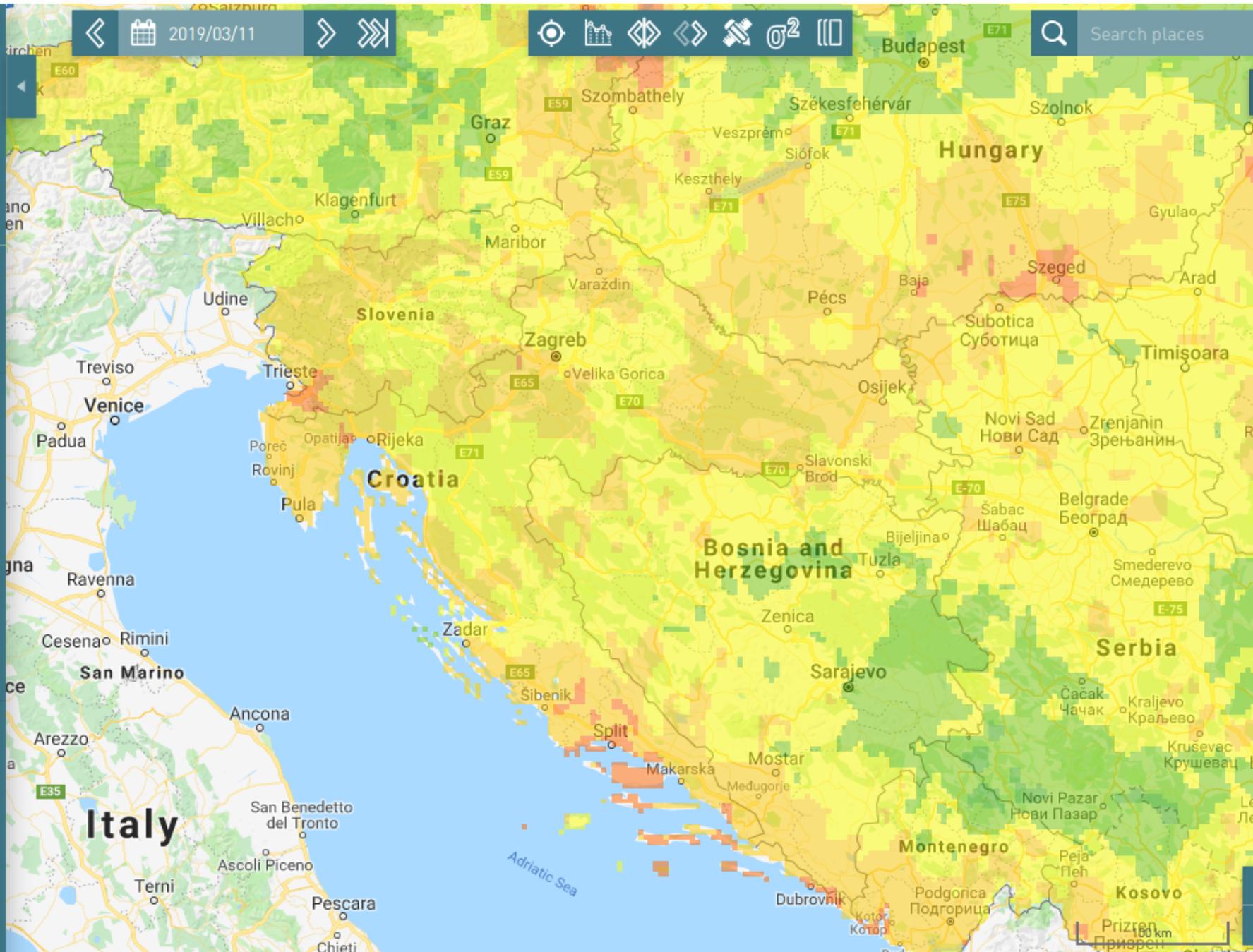


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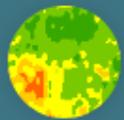
[%]





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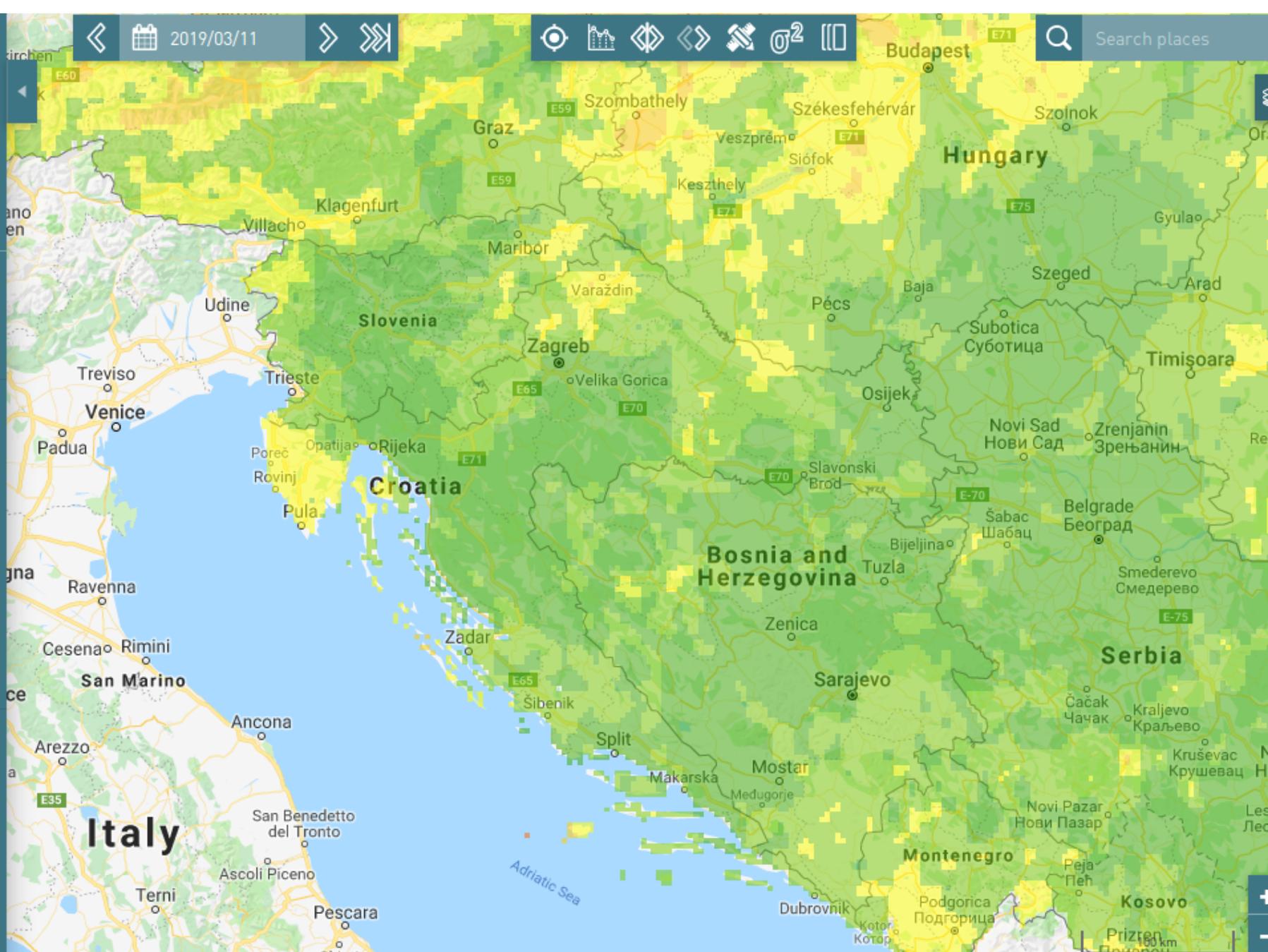


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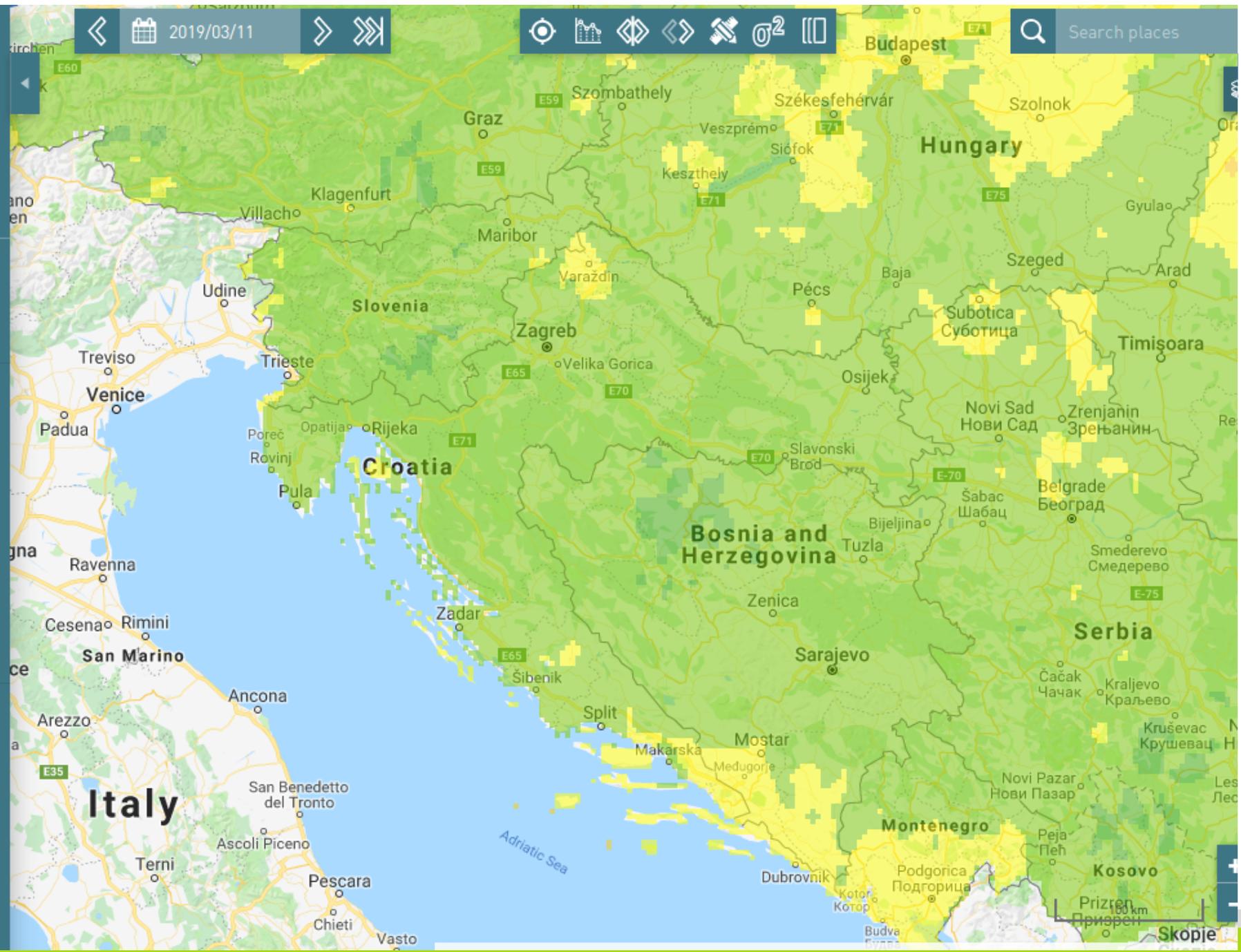
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Hvala na pozornosti!