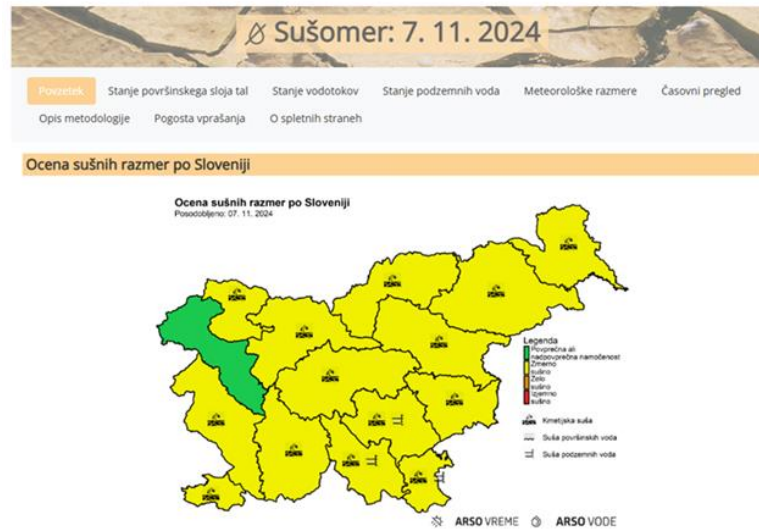




„Drought meter“ online portal

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Meteorological, Hydrological and Oceanographic Office



<https://meteo.arso.gov.si/uploads/probase/www/agromet/bulletin/drought/sl>

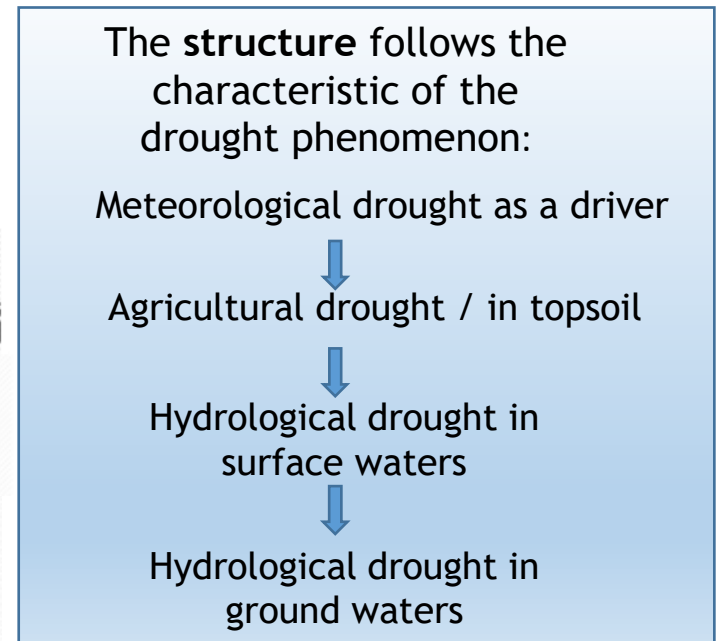
State of drought in **15 regions** of Slovenia.

Updated **every Thursday** afternoon.

Launched in 2021




For each type of **drought/part of the water cycle**:

- Description of the past 7 days
- Drought level of the regions on the base of methodology
- Expected trends in the next 7 days
- Current state displayed in graphs (for chosen stations) and maps



Drought monitoring methodology used in Slovenia (for Drought meter)








- Variables, statistics, indicators in use:

Icon	Type of drought	Variable used for the indicator:	Statistics applied to make an indicator:
	Agricultural drought - state of the top soil layer	<u>Surface water balance</u> (RR minus ETP using Penman-Monteith), calculated for most representative station	<u>Percentile analysis of 30-day accumulations*</u> , reference: 1991-2020
	Hydrological drought in surface waters	<u>River discharge</u> measured at few chosen stations per region	<u>Percentile analysis of 30-day moving average</u> , reference: 1991-2020
	Hydrological drought in groundwater	<u>Groundwater level</u> measured at few chosen stations per region	<u>Percentile analysis of 7-day moving average</u> , reference: 1991-2020

* Observed window was determined via study analysis on past years (dry, normal, wet)
 → Best match with past reported drought impacts (NRN)



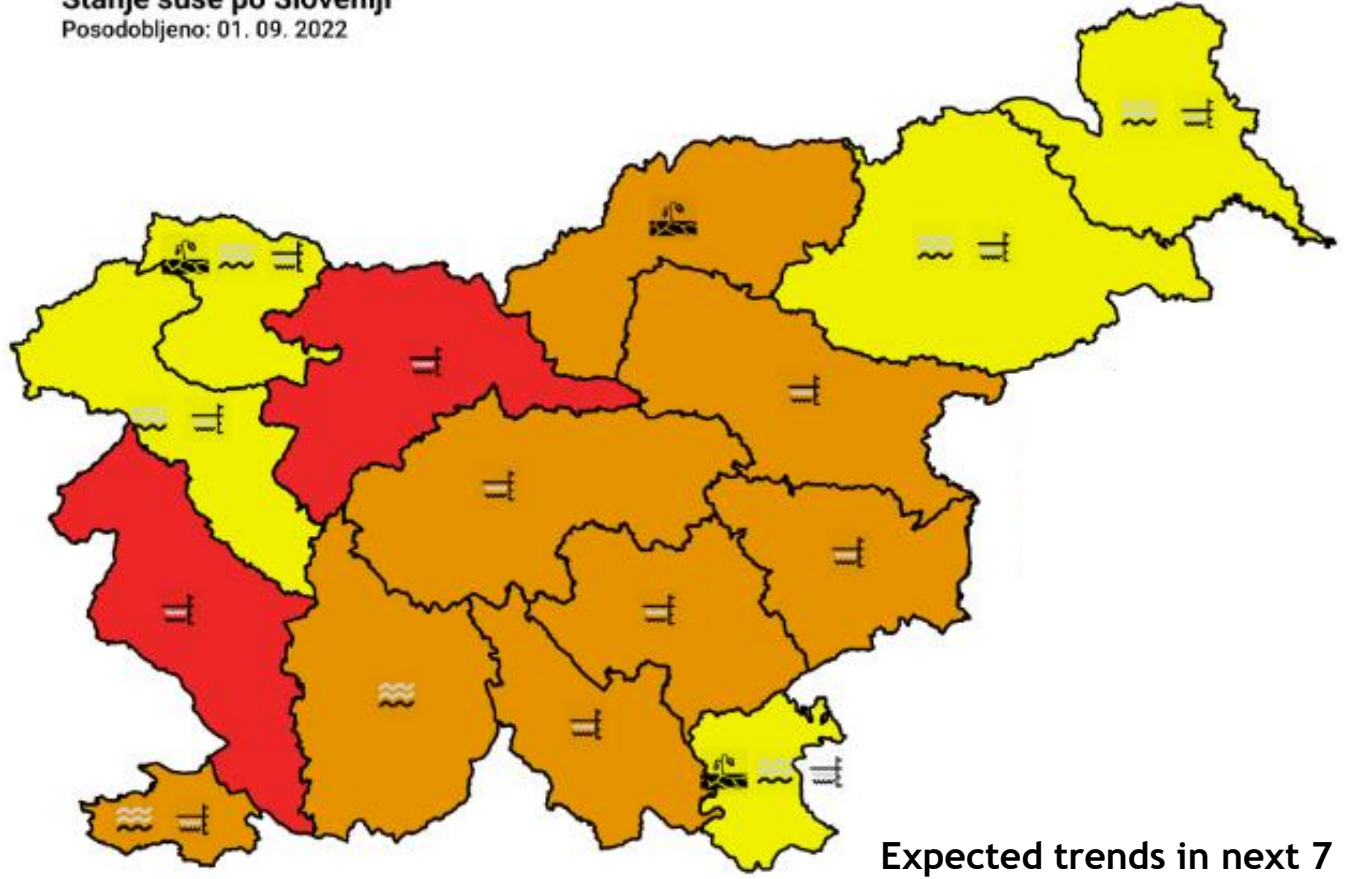
- Indicators into drought alerts

Drought level	Centile analysis - thresholds		
	Agricultural drought 	Hydrological drought in surface waters 	Hydrological drought in groundwater 
 Average or above average wet conditions	< 65*	<75	<75
 Moderate drought	65 – 85*	75 - 95	75 - 95
 Severe drought	85 – 95*	> 95	> 95
 Extreme drought	> 95 + confirmed by the expert	100 + confirmed by the expert	100 + confirmed by the expert

* Thresholds were determined via observations:
→ Best capture of/sensitivity to on-going changes

- Critical judgement applied by the experts (rules agreed together) - topsoil layer examples:
 - Continuity of phenomena has priority over mathematical strictness (69.p ---> green, if also next week is forecast green)
 - Duration of rainless periods within the 30-day window (recent rain vs. distant rain)
 - Extreme alert issued when sectoral impacts are also present (98.p in winter ---> orange, 90.p in summer with impacts ---> red)

Stanje suše po Sloveniji
Posodobljeno: 01. 09. 2022










Section Summary / joint map





- Joint map of drought situation in Slovenia
- Summary texts for each part
- Weather forecast for the next 7 days
- Colour of region = the worst detected drought level (+ corresponding icon)

Expected trends in next 7 days:

Legend:

-  Agricultural drought
-  Hydrological drought - surface waters
-  Hydrological drought - groundwater

-  Substantial improvement (change of 2 levels)
-  Improvement (change of 1 level)
-  No change
-  Deterioration

-  Average or wet conditions
-  Moderate drought
-  Severe drought
-  Extreme drought

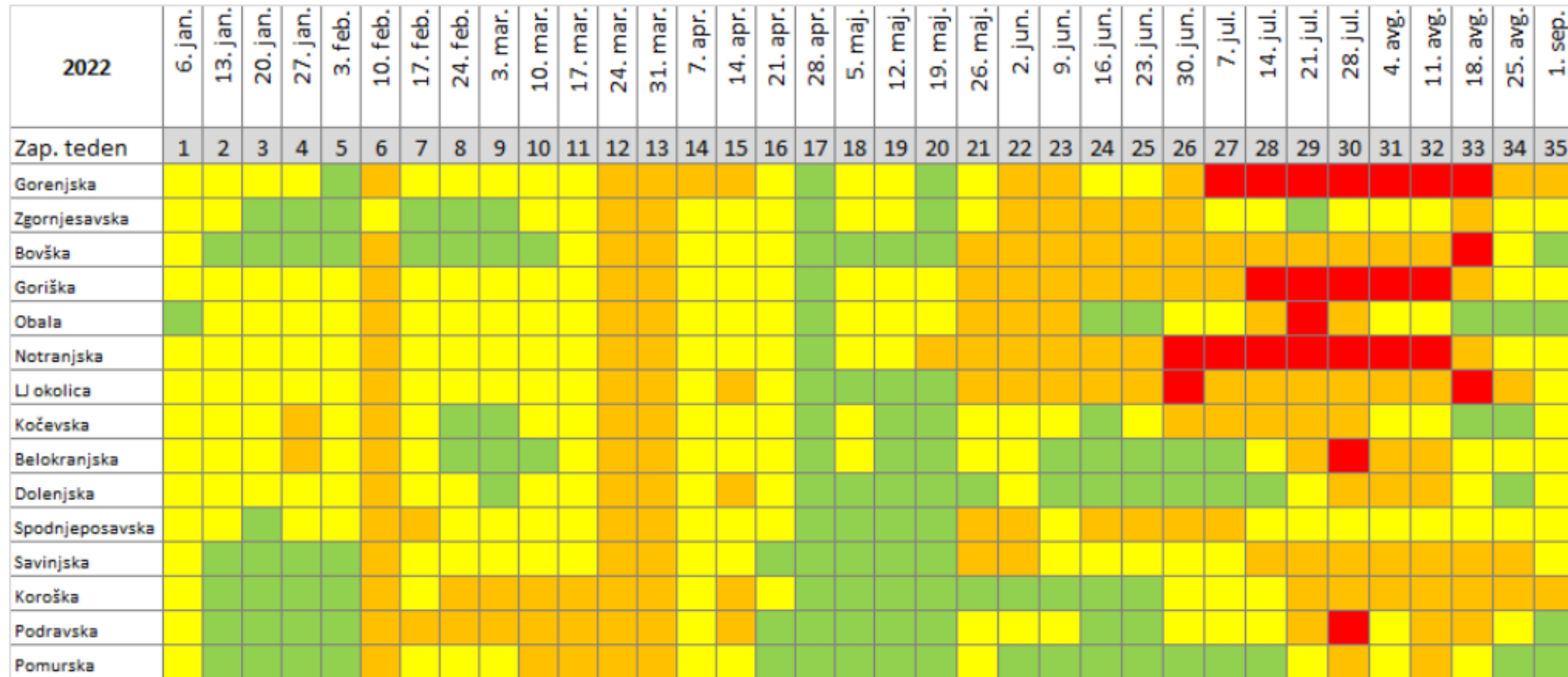


Section History of agriculture drought development in 2022

Time overview of drought levels per region for all 3 type of droughts

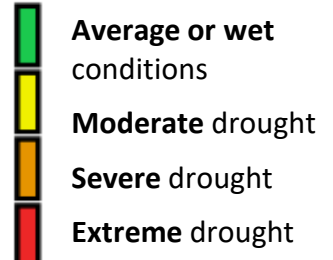
Stanje površinskega sloja tal

---> Agricultural drought



Št. regij po stopnjah sušnosti:

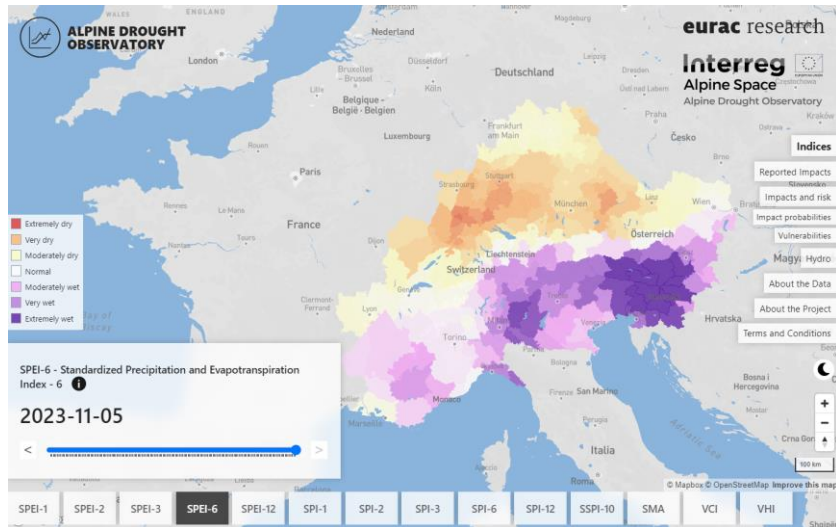
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
Običajno	1	5	7	6	7		2	4	5	2						3	15	8	10	12	2	2	4	7	6	3	3	2	1					2	4	4
Zmerno	14	10	8	7	8	1	11	9	8	10	12			14	10	12		7	5	2	6	4	4	2	3	4	5	5	3	2	6	4	4	7	9	
Zelo			2		14	2	2	2	3	3	15	15	1	5					1	7	9	7	6	6	6	6	5	5	7	8	6	8	6	4	2	
Izjemno																										2	2	3	4	5	3	3	3			



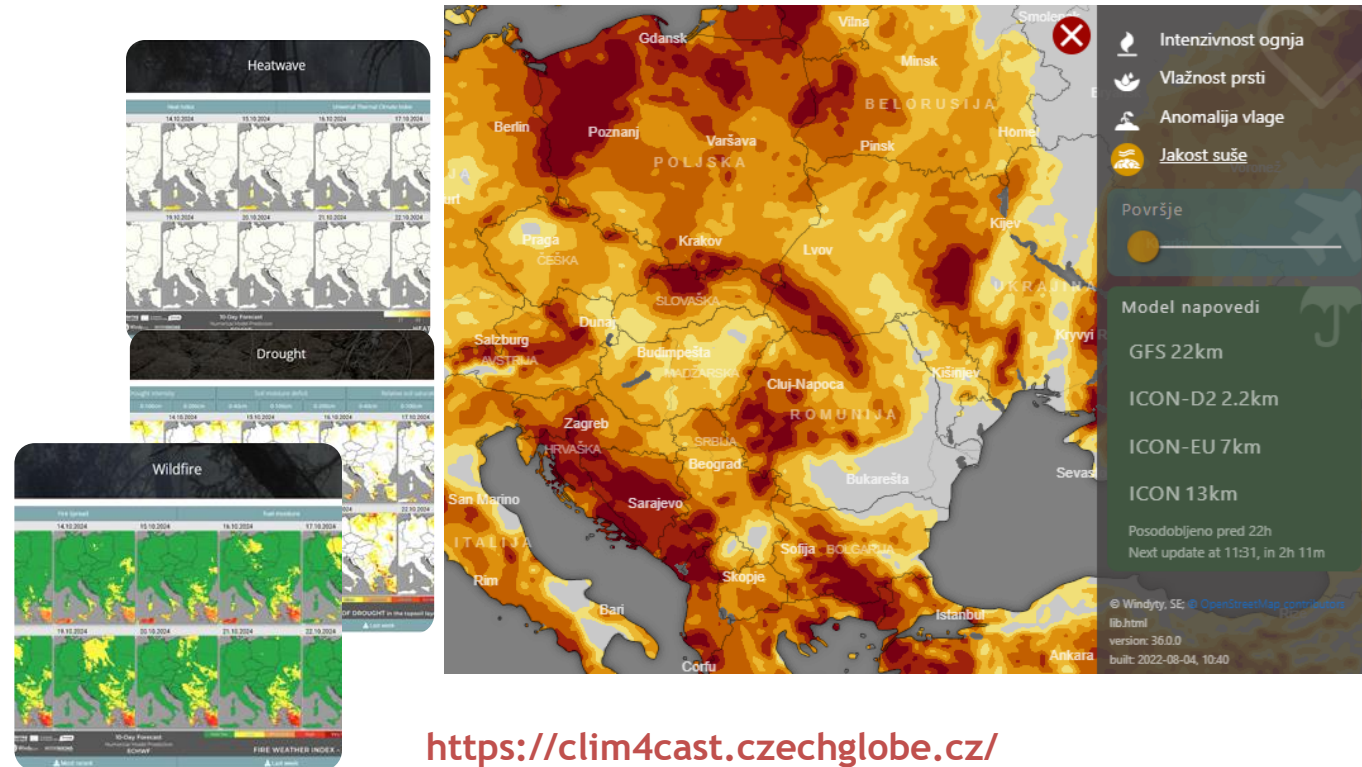
Future vision of the national drought monitoring

The Alpine region: Alpine Drought Observatory

<https://ado.eurac.edu/>



Central Europe region: Clim4Cast - Multi-temporal DHF forecasting application



<https://clim4cast.czechglobe.cz/>

- Beter spatial and temporal accuracy
- New data inclusion (RS, more ground stations, projects input)
- Impact-based forecasting
- Common alerting system in the wider region (CAP-Meteoalarm, WMO/MHWS)
- Strengthen the interaction with stakeholders