

**Voluntary Report** – Voluntary - Public Distribution

**Date:** May 22,2020

**Report Number:** EZ2020-0006

**Report Name:** The Czech Republic Experiencing the Worst Drought in 500 Years

**Country:** Czech Republic

**Post:** Prague

**Report Category:** Agricultural Situation, Agriculture in the Economy, National Plan, Policy and Program Announcements, Agriculture in the News, Climate Change/Global Warming/Food Security, Grain and Feed, Oilseeds and Products

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**Report Highlights:**

The drought in the Czech Republic is described as the worst in 500 years. Water deficit in rivers and soil reached high levels very early in the year. Scientists, as well as farmers, and government representatives, describe the situation as critical. The Czech Government has come up with various measures to combat drought. Losses on agricultural crops are estimated between 20 and 40 percent for this year.

The dry spell in the Czech Republic started six years ago but water shortages this year have pushed the Czech Republic to what has been described as the worst drought in 500 years. This year, again, the water deficit (of both groundwater and river water) increased. The main reason is a lack of precipitation and increasing average temperature. Mild winters with lack of snow contribute to the significant water deficit in spring largely. Scientists, as well as farmers, and government representatives are concerned. On May 12, the National Coalition for Combating Drought met, and the Czech Government came up with various plans in order to combat drought in the future. Losses on agricultural crops in 2020 are estimated between 20 and 40 percent.

### **The Scientists - “InterSucho” (“InterDrought”) Project**

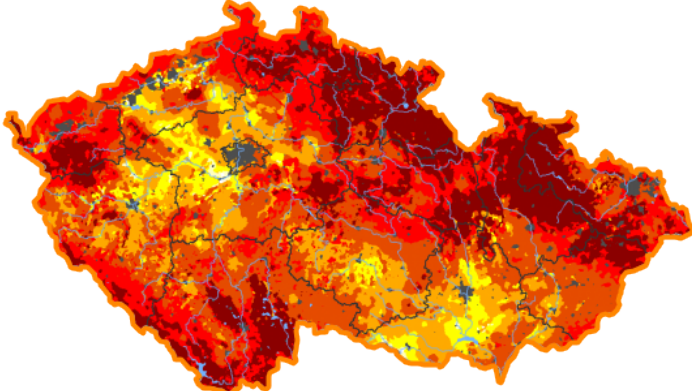
Representatives from the InterSucho project found that this year’s drought in the Czech Republic is the worst in five hundred years. The InterSucho project is dedicated to monitoring, analysis, and forecast of drought. It was founded in 2012 and consists of significant Czech scientists. This inter-disciplinary project with an international scientific cooperation is run by the Czech Academy of Sciences (Czech Globe), Mendel University, and the State Land Office.

In order to describe the water deficit, the team calculates the climatology *water balance*, a difference between the precipitation amount and the evapotranspiration. This allows the InterSucho team to take into account the increased evaporation caused by higher temperatures. When they compare the *amount of precipitation* to a Czech *long-term average* (1961 – 2010), it is evident that in the last five years, the Czech territory is missing approximately 400 mm of annual precipitation. When the *water balance* is compared, the deficit doubles to 800 mm.

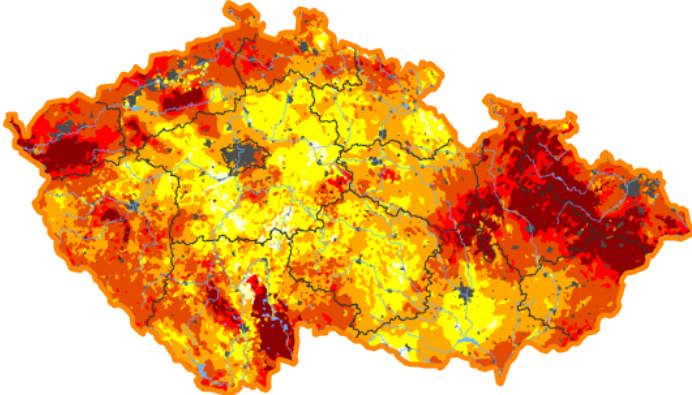
The driest part of the Czech Republic is southern Moravia. This area is missing 1,700 liters of water per square meter, in order to reach even *water balance*. To reach normal (*long-term average*), it is missing 600 liters of water per square meter. Mountainous areas still have positive *water balance*, however, it is significantly lower than it used to be.

The main reason behind the drought is, according to the scientists, the climate change that alters circulation in the atmosphere. Typically, those dry spells end after three or four years, which is not the case now.

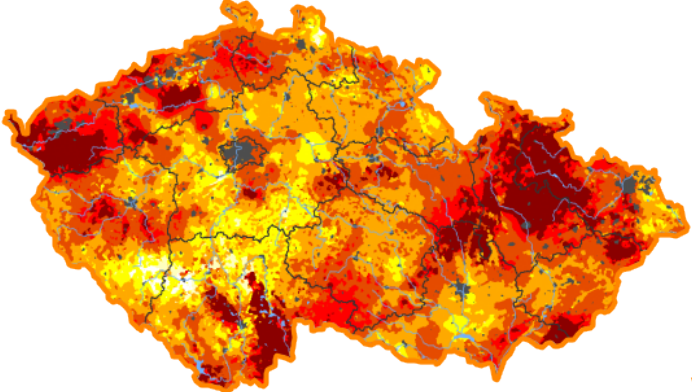
InterSucho website shows the following development of soil saturation deviation from an average condition in 1961-2010.



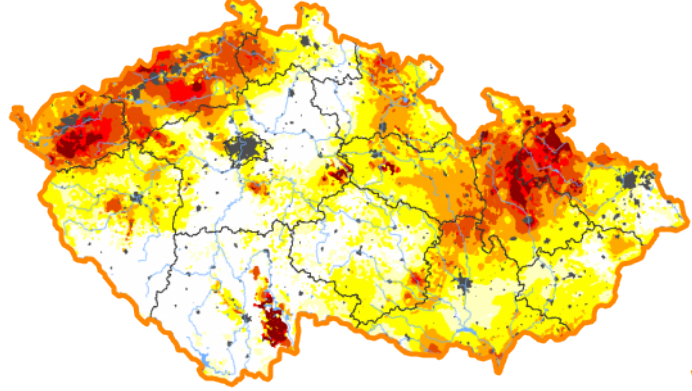
Week 17 of 2020



Week 18 of 2020

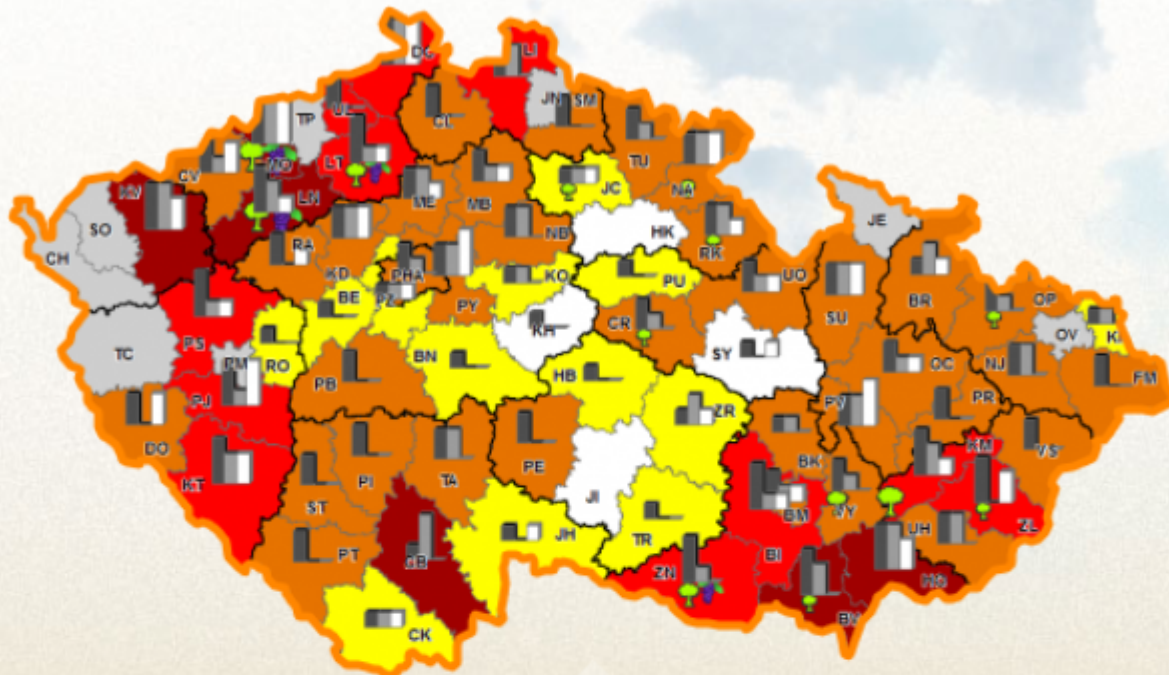


Week 19 of 2020



Week 20 of 2020

## Estimated drought impacts on yield



- nejsou data
  - no drought impact
  - sucho ovlivnilo porosty, ztráta výnosů do 10 %
  - střední poškození suchem, ztráta výnosů 10 - 30 %
  - těžké poškození suchem, ztráta výnosů 30 - 40 %
  - extrémní poškození suchem, ztráta výnosů nad 40%
- 
- |                                            |                        |
|--------------------------------------------|------------------------|
| ▬ no drought impact                        | ● barley, wheat, rape  |
| □ drought with no impact on yield          | ● sugar beet, potatoes |
| ▭ drought with impact on yield             | ○ maize                |
| ▭ drought with fundamental impact on yield | ● fruit orchard        |
|                                            | ● grape vine           |

Source: <https://www.intersucho.cz/>, May 18, 2020

## **The Ministry of Environment**

The Ministry of Environment has been combating drought for the last six years through various projects. According to the Minister of Environment, the Ministry was able to implement more than 15,000 of such projects during this time period.

In 2019, the Ministry supported over 4,600 projects in the value of more than 2 billion CZK (nearly \$80 million). These included building of 359 km of new water pipelines, strengthening the sources of drinking water and newly connecting 281,000 people to them. Last year, 3,164 m<sup>2</sup> of green roofs were installed, 54,000 new trees were planted, and a hundred new ponds and wetlands were created. Another 814 projects were implemented to renew the natural landscape functions that help to adopt landscape to drought and increase biodiversity.

This year the Ministry of Environment plans to do even more and asked the Ministry of Finance for an increase of the current 2.5 billion CZK (\$100 million) budget by additional 3.5 billion (\$140 million). The projects, for which the budget will be topped up include collection of rainwater, deepening of water wells, landscape water retention, and planting of trees.

The Ministry of Environment proposed to amend the Water Law and make building of retention tanks/ponds for rainwater mandatory for all new buildings. They also plan to lower the fees for rainwater drainage for commercial and city buildings, if they install green roofs. The Ministry plans to support the use of rainwater in cities, towns, and regions on their property, for watering of the green public spaces and cooling down the streets in summer heat. The Ministry of Environment's plans include installation of green roofs and removing impermeable surfaces in public spaces (for instance parking lots) and installing surfaces that better absorb water. These legislative amendments are planned to come in to force as of January 1, 2021.

The ministry has 300 billion CZK (\$12 billion) available from the European funds for such projects as returning water into the landscape in the form of new ponds and wetlands. These European funds come from the [Operational Program Environment \(OPE\)](#), Priority Axis 4 - Protection and care for nature and landscape.

## **The Ministry of Agriculture**

In order to combat drought, the Ministry of Agriculture focuses its activities in three major areas. The first one is water retention in the landscape, the second is water management measures related to securing drinking water for the population, and the third one is forest management.

This year, a maximum acreage limit for one crop was newly established. A farmer can grow one crop on an area of 30 hectares and less, on the soil erosion-prone farmland. Next year the same limit will start to apply to any farmland in the Czech Republic.

Land management is shifting focus from water retention to water accumulation in the landscape and its more efficient use. During the last two years, the ministry invested 3.9 billion CZK (\$156 million) in

the land consolidation and land modification projects. For this year, the ministry has so far prepared 1.3 billion CZK (\$52 million).

Water management projects support building of irrigation, renewal and building of ponds, interconnecting of water systems, and erection of new water dams. Because of those projects, since 2017, 17,000 hectares of agricultural land can be now irrigated, for instance. For 2017 – 2022, the Ministry of agriculture allocated 1.1 billion CZK (\$44 million). In 2019, 1.25 billion CZK (\$50 million) was spent on the renewal or building of 387 ponds. From the beginning of 2019 until now, the Ministry supported 171 projects improving water and sewerage infrastructure with 2.1 billion CZK (\$84 million).

The Ministry introduced new locations for erecting water dams. They identified and negotiated 31 locations in the Czech Republic, where new water dams could be built. The list is publicly available at the Ministry website. Currently the Czech Republic has 165 water dams out of which 47 are for drinking water and the rest is multipurpose. Total capacity of all water dams is 3,360 million m<sup>3</sup>.

**Attachments:**

No Attachments.