



GO GREEN AGAINST CLIMATE CHANGE

Natural Disasters

Portugal



Funded by
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The clutter in Lisbon caused by the intensive rain caused the floods:

On March 27 of the present year the streets of Lisbon, in Portugal, were completely flooded, as a result of the Depression Nelson.

This natural disaster was originally determined as one of the problems for the damage of the ducts, which caused congestion during the day.

The Lisbon Fire department received lots of incidents as the floods were getting worse through the day.

Between 7 am and 3 pm, the National Emergency and Civil Protection Authority (ANEPC) recorded 280 incidents due to strong rain and wind, most of which were related to falling trees and structures.



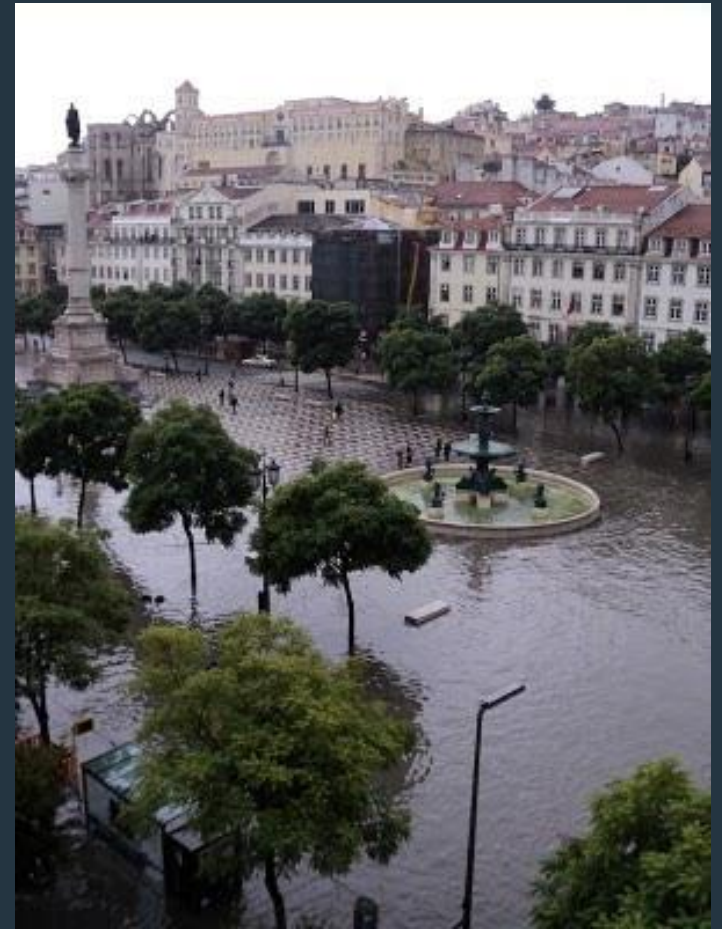
The clutter in Lisbon caused by the intensive rain caused the floods:

The most affected regions in Portugal were Lisbon, Setúbal, Coimbra and Porto.

With the impact from Iceland to Madeira island the Depression Nelson had already affected the weather in Mainland Portugal, with “ persistent rain, sometimes strong and accompanied by storm”.

To prevent the floods in Lisbon or even in another cities in Europe we need to:

- build and creative water detention áreas;
- build rivers dykes;
- floodproofing and relocate people and assets to another regions.



The drought in Algarve “in the worst situation ever”:

The availability of water on the south of Portugal, in Alentejo and Algarve, due to low dam levels.

Although the country nowadays present an 87% of water reservoirs, in periods of long drought these reserves will not be sufficient, even with the usual winter rains.

Also the weather on the Mediterranean region it's known and feature as the large rainfall irregularity, with long periods and excessive precipitation but also for long periods of high temperatures.

The future prevision is that the water will slowly lower, and be insufficient to meet the needs of the population.



The drought in Algarve “in the worst situation ever”:

The climate change as been marked by the global warming as one of the most evident consequence with the rise of temperature, which translates into long periods of high temperatures.

Some strategies to help us:

- More efficient water consumption;
- Determine penalties for the improper use of public water;
- Use of water resources to capture water.



The fires in Portugal were the biggest in Europe during autumn (2017):

The fires of October 2017 in Portugal were the first of such magnitude to occur in autumn in Europe that year. It was one of the biggest fires in the history of Portugal.

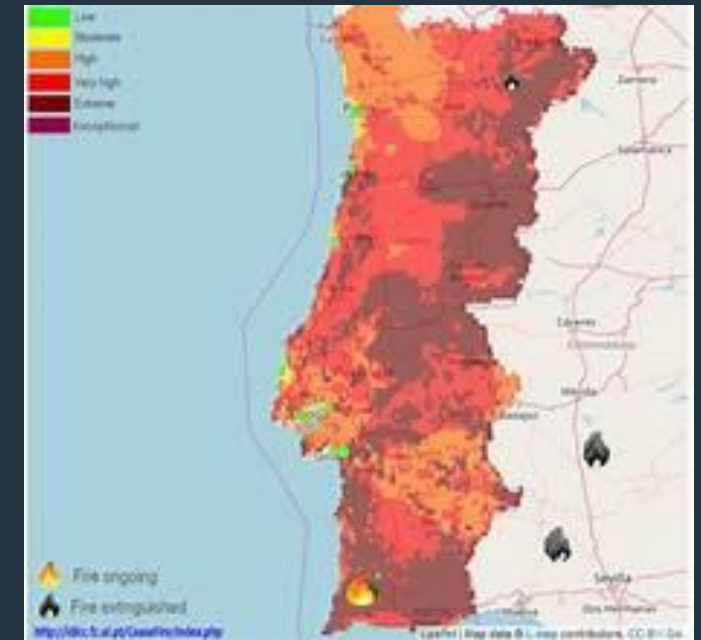
On October 15, 2017, seven fires occurred in the central region, exceeding around 10 thousand hectares each, which started in Vilarinho in Lousa. This incident was of high proportion due to the combination of meteorological factors at the time.



The fires in Portugal were the biggest in Europe during autumn (2017):

The technical committee's independent clarification regarding the sequence of events constitutes “the biggest phenomenon recorded in Europe so far and the biggest in the world in 2017, with an average of 10.000 hectatares burned per hour between 4 pm (October 15) and 5 am on morning (October 16).

Hurricane Ophelia caused the flames to be driven by the wind.



The fires in Portugal were the biggest in Europe during autumn (2017):

The prevention of fires in European cities has been an issue that has been given special attention given the implementation of the Forestry Strategy for 2030, a measure proposed by the European Commission.

Some measures that the EU and the member states can take to mitigate the dangers of forest fires:

- Invest in your environmental literacy;
- Building mosaic landscapes;
- Maintain frequent cleaning of the grounds.



Websites:

<https://www.dn.pt/lusa/incendios-fogos-de-outubro-em-portugal-foram-os-maiores-da-europa-no-outono-9202341.html/>

<https://www.nit.pt/fora-de-casa/na-cidade/caos-em-lisboa-chuva-intensa-provoca-inundacoes-por-toda-cidade>

<https://www.publico.pt/2024/03/22/azul/noticia/seca-algarve-pior-situacao-vicepresidente-apa-2084611>

https://www.rtp.pt/noticias/pais/fogos-de-outubro-de-2017-provocaram-50-mortos-e-deixaram-rasto-de-destruicao_n1439111



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NATURAL DISASTERS

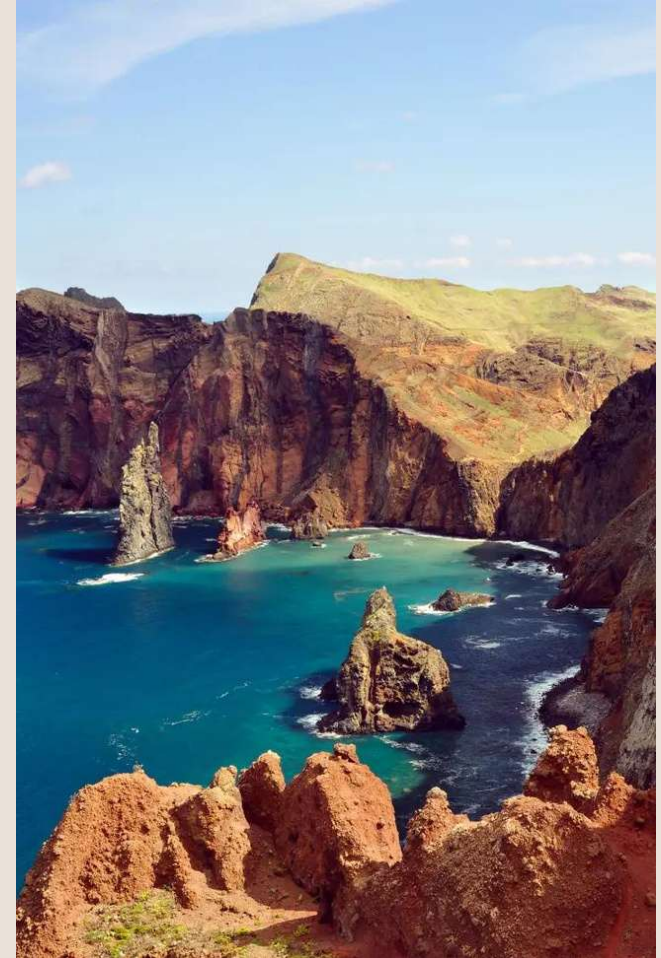
IN MADEIRA ISLAND



Co-funded by
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MADEIRA

- Madeira is a tropical island;
- Composed of 10 parishes and 53 municipalities;
- Madeira is made up of 253 945 inhabitants;
- Funchal is the capital and tourist, cultural and commercial center of the archipelago;
- 105,919 inhabitants live in Funchal and the remaining residents are dispersed around the archipelago;

NATURAL DISASTERS DUE TO CLIMATE CHANGE

- Landslides;
- Appearance of sargassum on the Madeiran Coast;
- Wildfires;





LANDSLIDES

- Landslides are an extremely common problem on Madeira Island due to its mountainous topography;
- Due to climate change, we often have sudden changes in the weather, which causes intense periods of rain or drought on our soil, which contributes to these landslides;
- To avoid this event, the preservation of native vegetation, the conservation of riparian forests, the correct disposal of waste and the non-sedimentation of the soil are important points that minimize landslide events.

APPEARANCE OF SARGASSUM ON THE MADEIRAN COAST

- Since August 2023, conservators at the Funchal Natural History Museum have been recording the atypical presence of large quantities of pelagic sargassum in the waters of the Madeira archipelago;
- Changes in ocean circulation also play an important role, as sargassum grows faster when sea surface temperatures are at or below average;
- To combat sargassum, it was important to create machines whose objective was to collect it from the Madeiran coast;





WILDFIRES

- Due to global warming, Madeira Island is a target that is frequently hit, which often causes large forest fires that quickly spread around the island through its immense vegetation.
- On average, every two years there is a forest fire on the island! In 2016, one of the biggest fires ever recorded occurred!
- To prevent forest fires, it is necessary to carry out technical checks regularly to prevent fires, monitor thermal anomalies, we must consider composting instead of burning and finally, not throwing any type of rubbish on the ground, especially lit cigarettes or any other object that is being burned.



WSJ

TO SUM UP...

The message we want to convey is that climate change is a global challenge that requires collective action. Every little change we make counts. Let's unite for a sustainable future, where harmony with nature is our greatest achievement. We need to help our planet, together we can make the change!

THANK YOU!





Natural Disasters

In the Czech Republic



2023-1-RO01-KA220-
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Drought in the Czech Republic: A 21st Century Challenge

•Introduction:

- Definition of drought: Insufficient rainfall and lack of available water compared to demand.
- Common factors leading to drought: Climate change, deforestation, water pollution, excessive water consumption.

•Impacts of Drought in the Czech Republic:

- Agriculture: Decreased crop yields, damage to crops, livestock challenges.
- Ecosystems: Loss of biodiversity, forest damage, threats to river ecosystems.
- Society: Limited access to water for households, economic losses, risks to drinking water supply.

Solutions to Drought in the Czech Republic: A Step Towards Sustainability

- **Improving Water Management:**

- Restoration of wetlands and marshes to enhance water retention.
- Investment in infrastructure for capturing and storing rainwater.
- Promotion of sustainable agricultural practices that conserve water.

- **Preserving Ecosystems:**

- Reforestation and forest conservation to maintain biodiversity and regulate rainfall.
- Support for ecological projects to restore wetlands and underground watercourses.

- **Community-Level Measures:**

- Awareness campaigns on water conservation and sustainable resource management.
- Implementation of measures to reduce water consumption in industry and households.
- Investment in research and technologies for efficient water resource utilization.



Bark Beetle in the Czech Republic: Current Situation and Impacts

• Introduction:

- Who is the bark beetle: Bark beetles are a group of insects that attack and damage forest wood.
- Situation in the Czech Republic: In recent years, there have been massive outbreaks of bark beetle infestations in Czech forests.

• Impacts of Bark Beetle:

- Forestry: Loss of valuable trees, reduction in forest wealth.
- Ecosystems: Increase in dead trees, changes in biodiversity, endangerment of animal species associated with forest environments.
- Economy: Losses in the forestry industry, reduction in the tourist attractiveness of forests.

Solutions to the Bark Beetle Problem in the Czech Republic

- **Prevention and Monitoring:**

- Active monitoring of forests and early detection of bark beetle outbreaks.
- Implementation of preventive measures, such as removal of infected trees and increasing forest resilience.

- **Integration of Biological Methods:**

- Promotion of natural predators of the bark beetle, such as birds and predators.
- Use of pheromone traps and biological agents for bark beetle population regulation.

- **Improvement of Forestry Practices:**

- Diversification of forest stands and promotion of more resilient tree species.
- Measures to strengthen forest health, including irrigation during periods of drought and forest restoration efforts after bark beetle outbreaks.

Lack of Snowfall in the Czech Republic: Current Situation and Impacts

- **Introduction:**

- **Current Situation:** In recent years, there have been more frequent periods with insufficient snowfall or complete absence of snow in some regions of the Czech Republic.
- **Changing Climate Trends:** Climate change has led to decreased snowfall and inadequate replenishment of groundwater, posing challenges to various sectors.

- **Impacts of Snow Absence:**

- **Tourism:** Decreased attractiveness of ski resorts for skiing and other winter sports.
- **Economy:** Loss of revenue for ski resorts, accommodation facilities, and local businesses.
- **Environment:** Impact on mountain ecosystems and reduction in water supply in certain areas.

Possible Solutions to Address the Lack of Snowfall in the Czech Republic

- **Adaptation and Diversification of the Tourism Industry:**

- Promotion of green tourism and marketing of summer recreational activities.
- Efficient Water Usage: Implement water conservation measures in agriculture, industry, and households to reduce demand and preserve water resources.

- **Promotion of Sustainable Energy Sources:**

- Support for the transition to sustainable energy sources, such as solar and wind energy, to reduce dependence on traditional energy sources that may contribute to climate change and decreased snowfall.

- **Environmental Protection:**

- Support for measures to protect mountain ecosystems and preserve biodiversity.
- Diversification of Water Sources: Invest in alternative water sources, such as rainwater harvesting and wastewater recycling, to supplement dwindling snowmelt and groundwater reserves.

A lush green forest scene with tall, slender trees. Sunlight rays are visible filtering through the dense canopy, creating a serene and natural atmosphere. The ground is covered with green undergrowth and fallen leaves.

Thank you for listening

Resources:

- chromextension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.avcr.cz/export/sites/avcr.cz/cs/veda-a-vyzkum/avex/files/2019-03-AVEX.pdf
- <https://cs.wikipedia.org/wiki/Sucho>
- <https://pixabay.com/cs/>
- https://cs.wikipedia.org/wiki/K%C5%AFrovcov%C3%A1_kalamita_v%C4%8Cesku
- <https://english.radio.cz/expert-significantly-less-snow-hard-truth-czechias-future-8808283>
- <https://climate.peopleinneed.net/czech-republic>



Natural disasters in the Czech Republic

Made by Kostelec nad Orlicí

2023-1-RO01-KA220-SCH-0001612832023-1-RO0



Floods

- It's a temporary significant increase in the level of watercourses or other surface waters, during which the water already floods the area outside the watercourse bed
- It's the most common natural disaster in Czech Republic
- In since 2002 to 2013 there were 6 huge floods



Floods - prevention

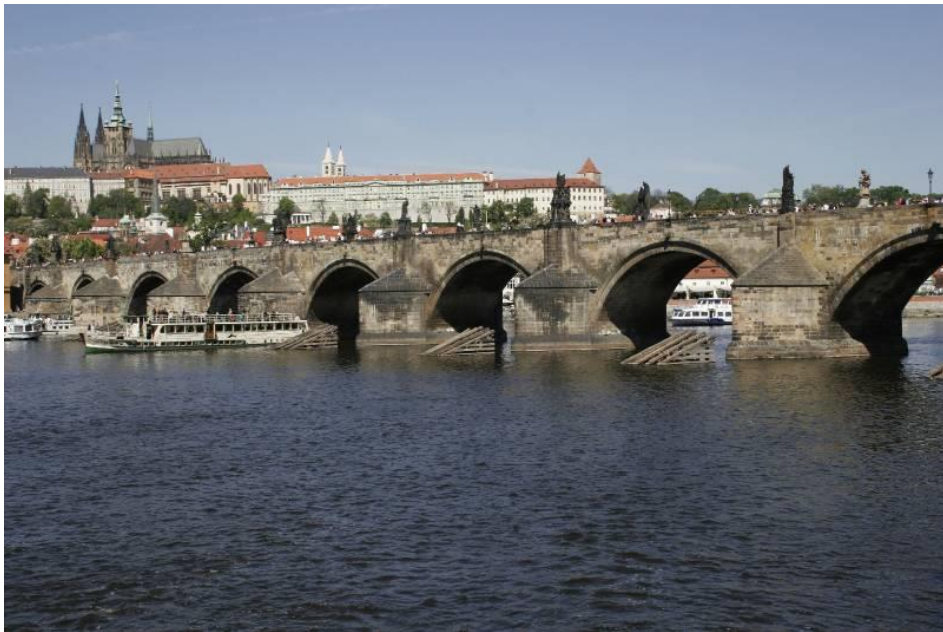
- Floods are a natural disasters that cannot be prevented
- The only things that we can do is plant trees so the water would got stuck between roots
- Of course it wont stop it completely but it can slow it down a little bit



Flood in Czech Republic

- The biggest one was in 2002 and it was one of the biggest events of its kind in the Czech history
- It lasted 7 days and everything was under water
- 17 people have died

normal

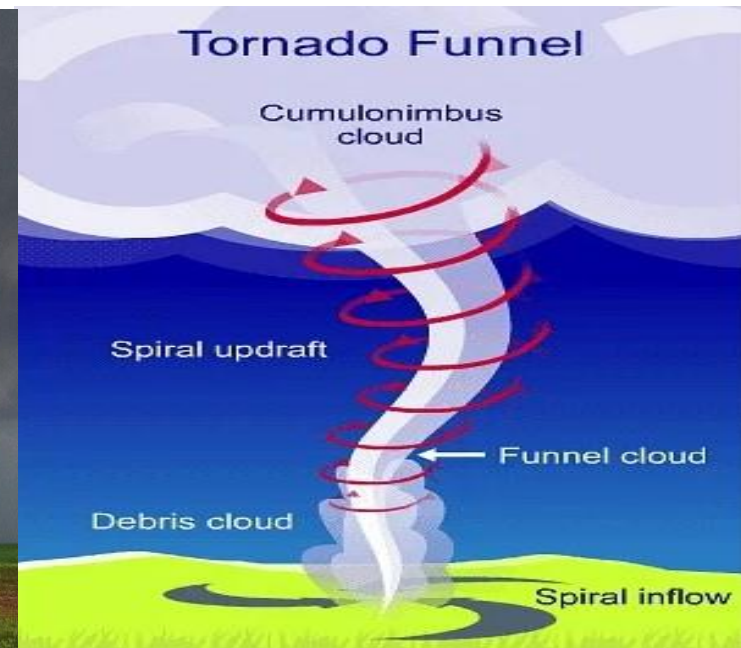
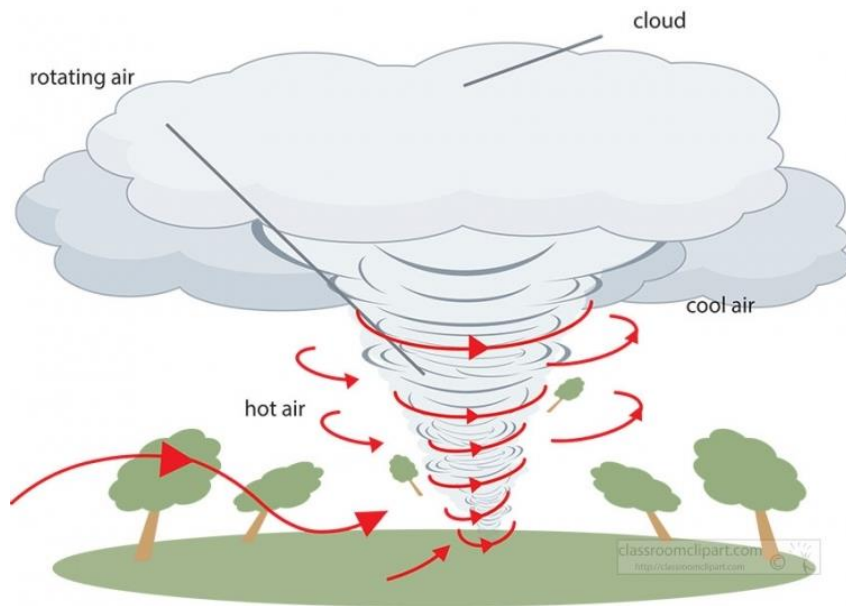


not normal



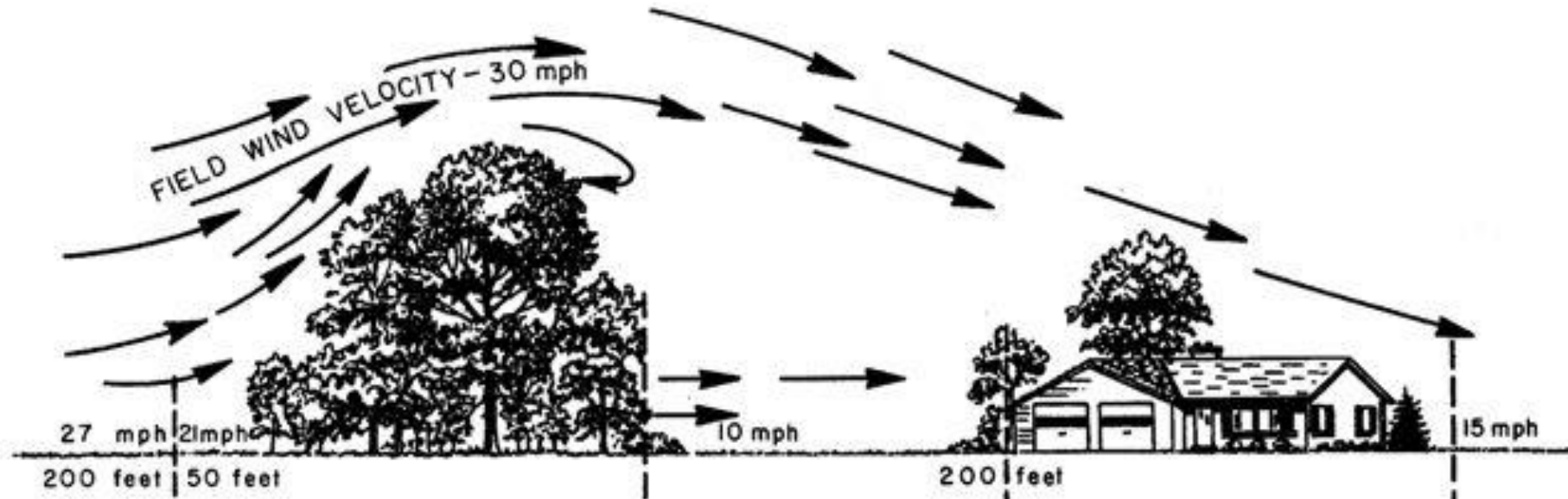
Tornado

- A violently rotating column of air touching the ground, usually attached to the base of a thunderstorm
- It's made by cold and warm air



Tornado - prevention

- In Czech Republic tornados are made on fields without greenery
- We could build windbreaks (narrow strips of forest) but if the tornado is big then even the windbreaks wont stop it
- For that (windbreaks) we need areas on which to build it and it wont work without permission from the state (it cost a few milion)



Tornado in Czech Republic

- First recorded tornado here was in 2000 and it wasn't only one but five
- It wasn't that big and destructive as the one that happened in 21. June 2021
- 6 people have died, a lot of injured and hundreds of destroyed houses

<https://www.youtube.com/watch?v=YKdNAuF9vUo>



Wildfire

- It's an unplanned, unwanted fire burning in a natural area, such as a forest grassland
- It can happen due to lightning
- <https://www.youtube.com/watch?v=lnRpzJ0mqNA>



Wildfire - prevention

- educate people about how to behave in nature, especially where not to make a fire
- Plant trees that naturally trap water in the landscape
- It can be done by restoring the natural beds of waterways, meanders and river networks or raising sunken troughs to the surface



Wildfire in Czech Republic

- 31. July 2022 our national park was on fire
- It happend because fast speed of wind, low humidity of air and soil vegetation, high temprerature
- It was burning 20 days



Resources

- [https://cs.wikipedia.org/wiki/Povode%C5%88_v_%C4%8Cesku_\(2002\)](https://cs.wikipedia.org/wiki/Povode%C5%88_v_%C4%8Cesku_(2002))
- https://www.denik.cz/z_domova/povodne-1997-2002-vyroci-den-po-dni-zaplavy-14-srpen.html
- <https://www.clovekvtisni.cz/jak-pomahame-lidem-tornado-na-morave-7876gp>
- <https://www.tornada-cz.cz/>
- <https://www.tornada.cz/tornada-v-cr/>
- https://cs.wikipedia.org/wiki/Lesn%C3%AD_po%C5%BE%C3%A1r_v_%C4%8Ceskosask%C3%A9m_%C5%A0v%C3%BDcarsku
- <https://www.ceskenoviny.cz/zpravy/2313065>
- <https://www.policie.cz/clanek/spolecna-akce-zamerena-na-prevenci-lesnich-pozaru-v-narodnim-parku-ceskosaskem-svycarsku.aspx>
- https://www.mzp.cz/cz/news_20220106-Vedci-zmapovali-pozar-v-Ceskem-Svycarsku-Majitele-lesu-se-z-nej-musi-ponaucit-Pro-prirodu-ale-znamena-probihajici-obnova-velkou-sanci
- <https://www.youtube.com/watch?v=YKdNAuF9vUo&t=1s>
- <https://www.youtube.com/watch?v=lnRpzJ0mqNA>