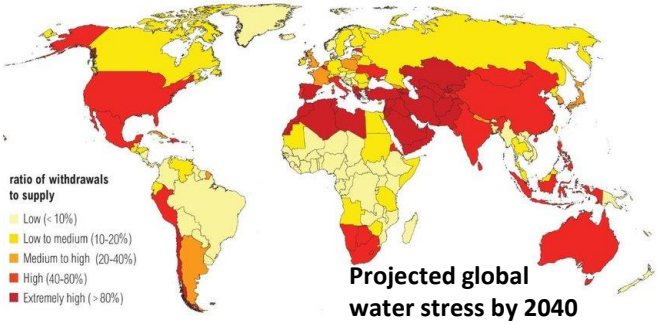
Water

What are the problems?

Climate change is causing significant disruption to Earth's water cycle:

- Changing rainfall patterns mean some regions are experiencing more frequent and intense rainfall events, leading to floods and soil erosion. Conversely, other areas face prolonged droughts, meaning less water for agriculture, drinking water, and energy generation. These changes disrupt the delicate balance of water availability, meaning more and more places don't have enough
- By 2050 the amount of water available in England could be reduced by up to 15%;, some rivers will have up to 80% less water in summer, and we will need around 3.4 billion extra litres of water a day to meet the needs of people, industry and agriculture



Projected global water stress by 2040

- Marginalized and vulnerable populations, such as those living in arid regions or developing countries, are more affected by water scarcity than richer countries
- As water supplies dwindle the threat of conflicts between communities, regions and countries increases
- Glaciers and ice caps are melting at an accelerated pace, causing a rise in sea levels. Low-lying coastal areas are at risk of being submerged, displacing populations and threatening infrastructure. Rising sea levels contribute to saltwater intrusion into freshwater sources, making them unfit for human consumption and agricultural use. This poses a severe threat to regions heavily dependent on freshwater reserves
- Reduced water flows, increased temperatures and changing nutrient levels disrupt the delicate balance of river, lake and wetland ecosystems, leading to declines in fish populations, loss of biodiversity, and degradation of vital habitats. These impacts have cascading effects on the entire food chain, affecting both wildlife and human populations

What can we do to help?

- Help raise awareness by talking about it with friends, family and colleagues
- Implement efficient irrigation methods, fix leaky pipes and promote water-saving habits in households and businesses
- Install rainwater harvesting systems to capture and store water for later use

What else can be done?

First, we must minimise our effect on the climate by ceasing to use coal, oil and gas. Implementing green infrastructure solutions (such as creating green roofs, permeable pavements and urban wetlands) can help manage stormwater and reduce the risk of flooding. They enhance water infiltration, mitigate runoff, and recharge groundwater aquifers, particularly in urban areas.

Encouraging sustainable agricultural practices can help minimize water use in farming. Techniques such as drip irrigation, precision farming, and agroforestry promote efficient water use and reduce runoff and soil erosion. Additionally, adopting drought-resistant and water-efficient crop varieties can help farmers adapt to changing water availability. Local stakeholders, including government agencies, community organisations, and water utilities, should collaborate to develop integrated water management plans. These plans should incorporate climate change considerations, ensuring the sustainable use and equitable distribution of water resources. Implementing wastewater treatment systems allows for the safe reuse of treated water. This approach reduces the burden on freshwater sources by utilizing recycled water for irrigation, industrial processes, and even potable use in some cases.

What do you think?

- Could water scarcity trigger a third world war?
- Could desalination be the answer?

Keywords for further research

Wessex Water; nuclear desalination; water quantity monitoring; amaranth, fonio, cowpeas, taro, kernza; water security; water stress; Environment Agency; water conflict; melting cryosphere; Dorset Coast Forum; green roof, brown roof, blue roof; Dorset green open homes; Waterwise

All information on this leaflet comes from reputable sources. View the online version at https://weymouthclimatehub.com/wch-short-articles/ for references.

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