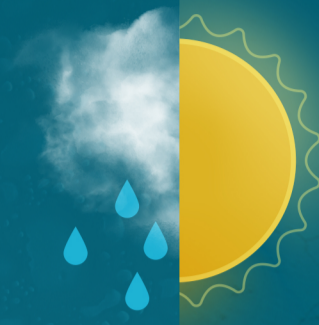


Water and climate change in Scotland

In the future

Winters will be warmer and wetter



Summers will be warmer and drier

Impacts

Damage to houses and communities
Debris on roads, disruption to travel and risk of accidents



Problems for borehole-dependent communities
Higher cost of water treatment/supply

Flooding of crops and loss of revenue
Soil erosion



More irrigation required for crops
Soil is dry, making it harder to manage

Chemical fertilisers and manure pollute waterways



Aquatic ecosystems struggle with low stream levels

The economy struggles as businesses suffer



Higher cost of food production

Keeping Scotland resilient to flooding and drought

Water penetrates deeper into the soil compared to bare/agricultural land. More water gets stored and flooding is reduced

Tree roots



Soil retains water which slowly releases in dry periods

Water is retained during high flows

Peatland restoration



Water is retained to help feed streams and support rich biodiverse habitats

Slow down the flow and reduce high flow levels

River meanders



Slow down the flow and allow more water retention into floodplains

Hold back river water flow, helping to reduce high flow

Tree trunks



Hold back river water flow, allowing more water retention in floodplains

Allow more water to be stored and avoid flooding

Wetlands



Store water and slowly release it to feed streams and maintain wetland dependant habitats

Urban solutions which may become more common in Scotland in the future

Allow infiltrated water to permeate and help prevent overland flow, ponding and soil erosion

Rain gardens



Allow longer term water storage in the subsurface soil

Stores water for later use instead of allowing the water to run off

Rainwater harvesting



Allows additional water storage in dry periods (for drinking, growing food, etc.)

Help control storm water runoff and retention, slowing and reducing the stormwater going to sewers

Green roofs



Create a green space and provide natural habitats within urban areas

Store excess water and help prevent excessive overland flow

Ponds



Provide habitats for animals and plants, and help create biodiversity hotspots

Allow excess water to run away and avoid soil erosion and localised flooding

Swales



Remove pollutants from urban areas

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