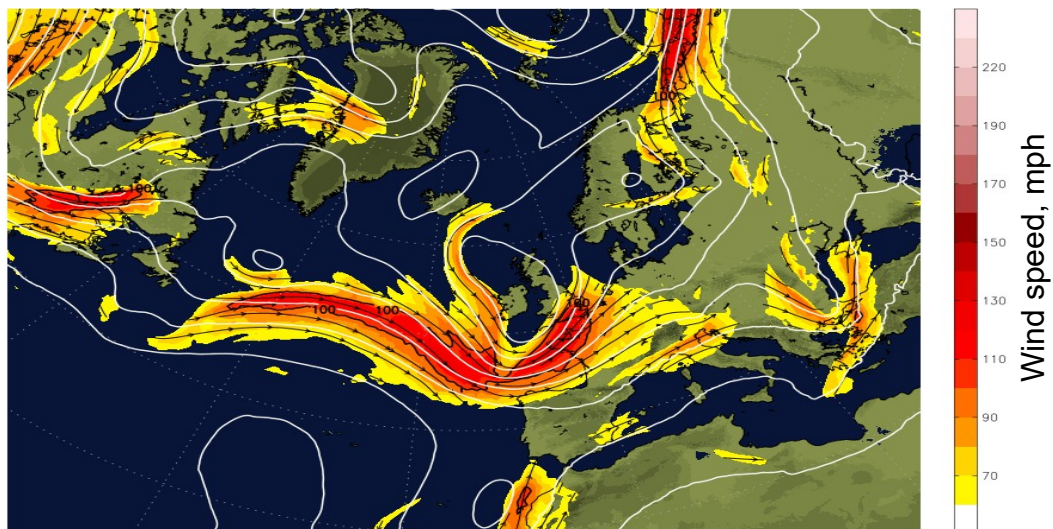




Climate Change, Weather and Food

After one of the most disappointing springs weather-wise, it could be thought that the planet is not warming up as much as predicted. However, one of the consequences of global warming is that the weather in a particular area becomes less predictable and more changeable. In the British Isles, the weather is driven by the jet stream, a high-level blast of air that snakes across the Atlantic. The jet stream over us is caused by the temperature contrast between the tropical regions and the northern polar regions. The warm air in the tropics is more dense and flows northward but is affected by the rotation of the Earth so it forms waves that travel around the northern hemisphere. The areas of low pressure, or depressions, are trapped to the north of the jet stream. In the winter, the jet stream tends to drift south so allowing wet and windy weather over the UK. In the summer, the tilt of the Earth and consequent warming effect of the sun pushes the jet stream northwards, which also pushes the low pressure systems north and allows high pressure to dominate. This leads to warmer, drier weather in the summer. Because of global warming, the air over the poles has warmed and the temperature difference is a little smaller, which causes the jet stream to develop more eddies. So far this spring and summer, the jet stream has tended to stay further south allowing low pressure to dominate our weather. The figure below shows the north polar jet and shows clearly how it skirted the south of the UK, allowing the colder, wetter weather we've been experiencing. Meteorological forecasters predict that this pattern will remain for much of June – by the time you read this, the weather may have improved – we shall see.



North Polar Jet Stream over the UK 14th June 2024 (from www.netweather.tv)

The cold, damp spring and poor start to our summer, has had a significant impact on home food production. In the spring many fields were flooded and crops wiped out or planting couldn't be done. Even when fields had dried up sufficiently, planting was about six weeks later than usual. Everything from potatoes to wheat has been affected. That means that crop yields will be down and the prices of many foods will rise. Even livestock farmers have been adversely affected because grass and fodder crops haven't grown so well. In

contrast, countries that supply us with fruits and vegetables, such as Spain and Italy have been experiencing severe, extended drought. This has led to a shortage of crops such as oranges, cucumbers and tomatoes.

The negative impact of global warming and climate change on food production and food security has been highlighted by the Intergovernmental Panel on Climate Change (IPCC). It says we need to take action to reduce greenhouse gas emissions and adapt to the changes that are happening. In the UK, some farmers are changing the way in which they farm. For example, potato farmers are looking at improving storage conditions for their crops so extending the time they'll keep. Others are helping rivers and streams find their natural course and re-creating water meadows where water is held back, which can reduce flooding of crop land. In drier parts of the world, farmers are starting to improve their use of water. Instead of spraying hundreds of litres of water, they are installing drip feed and sprinkler systems that not only cut water usage but apply it more effectively. In some countries, they are going back to growing native fruits and vegetables that are more suited to the local conditions. We have rather few native crops that we can fall back on. It's possible, but not certain, that peas are native as their relatives the vetches thrive here. However, more palatable varieties have been developed over many years. Cereal crops, oats, rye, wheat and barley thought to be native but again, newer varieties have been bred that out-perform the originals. We also have various hedgerow fruits, such as damsons, sloes, currants, blackberries, elderberries and so on. Not sufficient to feed us, consumer choice would be limited and not all of our crops are adaptable to climate change.

Farmers have to change how they farm in part because their costs are rising fast and they need to reduce expenditure as well as protect crop yields. Whilst they can revert to less intensive methods and grow more local varieties, new technology has a major role to play. Farm robots can feed and weed crops with high accuracy, which cuts down on use of fertilisers and pesticides. Other robots can map the soil conditions, sow seeds and monitor plant growth. As well as satellites, farmers can use drones to scan fields, showing where the crop needs attention and also where not to plant. Similar robots are finding their way into our own gardens as mowers that keep grass nicely trimmed. Such technology not only reduces the use of agrichemicals but it reduces the amount of diesel and petrol fuel used as robots are battery powered and can be charged with 'green' electricity. Mitigation and adaptation go hand-in-hand and if applied successfully will lead to a better life for the whole world.

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Do you have an idea for an activity or project that would help everyone cope with Climate Change or related topics? We can provide support, help develop your ideas, even cover some costs such as poster printing etc. You could use our logo. Get in touch with our chair, Richard Marshall:
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