



The UK Climate Projections 2009

The effects of climate change on agriculture

Climate change will directly affect the agriculture sector.

Potential Impacts on agriculture

Negative Impacts	Positive Impacts
Higher CO ₂ will damage some crops	Higher CO ₂ might help some crops
Greater incidence of weeds, pests & diseases	New crops – soya, sunflower, navy beans, sweetcorn, grapes, energy crops
Increased drought risk	Increase demand for salad crops
Increased need for summer crop irrigation and livestock water demand	Longer growing season
Shorter periods for cultivation operations	Extended range for some crops (e.g. vineyards)
Increased risk of soil damage and soil erosion	Reduced heating costs for protected cropping (e.g. glasshouses)
Loss of competitive advantage in SW for early season crops	Less frost damage
Increased heat stress for livestock	Expansion of productive agriculture to higher altitudes
Increased need for in-house livestock feeding during wetter winters	Appropriate incentives to change
Increased risk of coastal/tidal, fluvial and pluvial flooding	New livestock - ostrich
Increased risk of direct crop damage due to heavy intense rainfall, very windy conditions and soil waterlogging	Opportunities for generating energy (e.g. renewables, anaerobic digestion, biofuel).





Climate change on biodiversity

The impacts of climate change on biodiversity

A number of direct key impacts of climate change upon biodiversity have been identified from observational data and models of future trends. They include:

- changes to the seasons affecting food supplies, pollination and breeding
- individual species less suited to new climate conditions leading to change in abundance and geographic range
- changes in habitats and their distribution
- changes to the composition of plant and animal communities
- changes to the ecosystems, such as altered water regimes, increased rates of decomposition in bogs and higher growth rates in forests.

In response to these potential impacts six guiding principles have been established;

Conserving biodiversity in a changing climate: guidance on building capacity to adapt (2007)

www.defra.gov.uk/publications/files/pb13168-ebs-ccap-081203.pdf

These summarise how to reduce the impacts of climate change on biodiversity and how to adapt existing plans and projects in the light of climate change.

1. Conserve existing biodiversity

The richness of future biodiversity, in a changing world, will depend upon the diversity we conserve today.

2. Reduce sources of harm not linked to climate

Climate change is one of many threats to biodiversity and by reducing other sources of harm we will help natural systems maintain their biodiversity in the face of climate change.

3. Develop ecologically resilient and varied landscapes

By ensuring landscapes remain varied, and allowing space for physical processes to take place, we will increase their ability to retain biodiversity.

4. Establish ecological networks through habitat protection, restoration and creation

Some species will need to move some distance from their current locality if they are to survive climate change; creating new habitat, restoring degraded habitat, or reducing the intensity of management of some areas between existing habitat, will encourage this.

5. Make sound decisions based on analysis

Adopt an evidence-based approach which recognises that biodiversity is constantly changing.

6. Integrate adaptation and mitigation measures into conservation management, planning and practice

When reviewing conservation management plans consider the impacts of climate change – for example more frequent summer fires and floods – and make changes as appropriate. Where they can be identified, reduce release of greenhouse gases to the atmosphere.

In Somerset the threats to biodiversity include unavoidable climate change, habitat loss and fragmentation, intensification of farming systems, changes in agricultural support grants and land ownership patterns, unsympathetic development, issues of water quantity and quality and aerial nitrogen pollution. Further information can be found in

Somerset Biodiversity Strategy (2008-2018) – Somerset Biodiversity Partnership (2008)

http://www.somerset.gov.uk/irj/go/km/docs/CouncilDocuments/SCC/Documents/Environment/Countryside%20and%20Coast/Somerset_biodiversity_strategy_final%20version.pdf

