



NEW FOREST
NATIONAL PARK

CONSERVATION IN THE NEW FOREST NATIONAL PARK

2 Climate Change



Car caught in flood, Sway

Challenges

Society faces two main challenges in response to climate change; adaptation and mitigation.

Adaptation is primarily about the immediate local response to change, taking action to minimise the adverse effects of climate change or to take advantage of any potential benefits. Methods of adaptation may vary considerably depending on the scale and type of organisation involved and may range from central or local government policy, to the personal actions and behaviour of individuals and households.

Mitigation is concerned with addressing the causes of global warming by reducing emissions through seeking to reduce the quantity of greenhouse gases released into the atmosphere.

Introduction

There is now widespread evidence and overwhelming consensus among scientists that human-induced global warming and climate change is taking place due to emissions of greenhouse gases.

Scientific models, based on the best available information, predict that there is a high probability that these unavoidable changes will have fundamental impacts on the climate and environment of the Earth. This fact sheet examines the likely and potential impacts of climate change on the New Forest National Park and its special qualities.

The main human influence on global climate change is the emission of key greenhouse gases i.e. carbon dioxide (CO₂), methane and nitrous oxide which, when accumulated in the atmosphere, strengthens the greenhouse effect.



Lymington River flooding at Balmer Lawn

Currently just over seven billion tonnes of CO₂ are emitted globally each year just through the use of fossil fuels. A further 1.6 billion tonnes are emitted by changes in land use, primarily through deforestation.

Concentrations of greenhouse gases in the atmosphere have now reached an unprecedented level. The Intergovernmental Panel on Climate Change (IPCC) estimates that average global temperatures are likely to rise between 1.1 and 6°C above 1990 levels by the end of this century, depending on our emissions. This is highly likely to result in a further rise in global sea levels of between 20 and 60cm by the end of this century; the continued melting of ice caps, glaciers and sea ice; changes in rainfall patterns and local weather systems; and the intensification of tropical cyclones.

How will climate change affect the south east?

In the UK, climate change is likely to mean hotter, drier summers with more heat waves, milder and wetter winters, higher sea levels and an increased flood risk, particularly in coastal areas.

The most detailed figures available to predict the future impacts of climate change on the UK are the UKCIP02 scenarios produced by the Tyndall centre for Climate Change Research. These show the likely consequences for a range of potential CO₂ emissions, from figures relating to low emissions (assuming large reductions in present emissions) to figures relating to high emissions (representing a 'business as usual' situation).

The main climate changes projected for the South East by the 2050s are:

- increase in winter temperatures of 1.0 - 2.0°C
- increase in summer temperatures of 1.5 - 3.5°C
- increase in winter rain by 0 - 20%
- decrease in summer rain by 10 - 40%



Advantages and disadvantages

These changes will result in winters becoming more reliably warm but also wetter with an increase in rainfall intensity. Summers will become much hotter and longer but with lower rainfall. It is likely that these changes in the South East climate will bring both advantages and disadvantages:

Advantages

- Longer growing seasons
- Less cold-weather disruption to transport
- Increased opportunities for tourism and leisure
- Enhanced crop yields
- New crops being viable

Disadvantages

- Increased flood risk
- More pests
- Increased soil erosion
- Increase in hot weather health problems
- Increase risk of water shortages
- Increased tree stress and loss
- Increased risk of heathland, grassland and woodland fires
- Increased coastal erosion
- Higher wind speeds and more frequent risk of resulting damage
- Increase in extreme rain events
- Sea level rise



Flooding at Hurst Spit



Aeroplane over Hatchet Pond

What will this mean for the New Forest National Park?

Climate change is likely to have significant impacts on the special qualities of the National Park in the years and decades to come. These potential impacts may present both threats and opportunities as shown in the table opposite.



Dead tree, Denny Wood

Threats and Opportunities for the New Forest National Park

	Threats	Opportunities
Biodiversity	Loss of species (local extinction) due to changes in habitats leading to adverse conditions such as unsuitable breeding sites and lack of food sources.	The distribution of some flora and fauna may become more widespread and the range of some habitats may expand.
	Increased incidence of fire in hot dry summers.	
	Loss of vulnerable habitats, particularly wet heath and mires.	
Coast	Threats	Opportunities
	Rising sea levels and possible increased storminess will increase coastal erosion and damage coastal infrastructure.	Increased tourism on the coast may boost local economy.
	Loss of coastal natural assets such as beaches, wetlands, mudflats, salt marshes and dunes, and their associated flora and fauna.	Increased marine activity but this could also result in increased pressures on the coastal fringe.
	Replacement of existing sea defences unlikely to be affordable.	
Historic environment	Threats	Opportunities
	Potential increase in storm damage, light-degradation, rain damage, fungal and beetle damage to historic buildings and features.	Some new sites will be revealed by erosion.
	Archaeological sites could deteriorate as they dry out in summer and suffer greater erosion in extreme events.	Increased revenue for historic buildings may result from increased tourism in warmer climate.
	Sites in coastal locations may be lost as sea levels rise.	
Agriculture and Commoning	Threats	Opportunities
	Potential increase in pests and diseases, including new species new to the area.	Potential to introduce new crops.
	Increased need for irrigation and on-farm water storage.	Changes to food and drink consumption patterns due to weather changes.
	Increased damage to soil and crops from intensified rainfall, extreme weather incidents.	Longer and earlier growing season leading to increased growth rates and yields.
Tourism	Threats	Opportunities
	Increased traffic and worsened congestion if tourism increases with warmer summers.	Longer and more reliable summer season leading to increased visitor numbers and visitor spend.
	Storm and flood damage to caravan sites and other tourist infrastructure.	
	Increased visitor and climate related pressures on the natural environment attractions, services, transport and utilities.	Warmer winters leading to more year-round tourist season.
Landscapes	Threats	Opportunities
	Increasingly arid landscape that may change in character. Typical New Forest landscapes may be degraded in some aspects.	New landscapes may evolve in the New Forest of equal beauty.
	Flow rates in streams and rivers will reduce in summer and increase in winter with major temperature, erosion and ecological issues.	
Forestry	Threats	Opportunities
	Changes to natural structure and species composition of woodlands.	Higher CO ₂ concentrations could increase growth rates and productivity.
	Plantations and woodlands may be affected by soil moisture deficits, increased fungal diseases etc.	

How can the New Forest National Park Authority help?

Mitigation	Adaptation
Reduce our own emissions through a range of measures including sustainable purchasing policies and green travel plans.	Plan to help species and the environment through a strategic approach to management across the National Park.
Influence the emissions of others through planning and development control.	Influence other organisations and individuals and encourage them to plan and adapt in a sustainable way.

In addition the New Forest National Park Authority will work to support sustainable land management through the restoration of habitats to favourable conditions and planning for the future.

Other areas of work which will influence the National Park's response include the National Park Management Plan, the Local Development Framework, the Shoreline Management Plan and Planning Policies as well as the Sustainable Development Fund. More information about these policies can be found on the Authority's website: www.newforestnpa.gov.uk.

Any actions that are taken will be done according to the following three principles:

- Understanding the likely impacts
- Planning for uncertainty
- Taking action now



Roots of a fallen tree

Further reading/ useful information

Other New Forest National Park Authority fact files

Intergovernmental Panel on Climate Change : <http://www.ipcc.ch>

Defra : <http://www.defra.gov.uk/environment/climatechange/index.htm>

UK Climate Impacts Programme: www.ukcip.org.uk

South East Climate Change Partnership : www.climatesoutheast.org.uk

Stern Report : http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm

www.newforestnpa.gov.uk Factsheet available on CD, in large-print, or Braille on request

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