Part 8
Glossary

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Adaptation – a change in natural or human systems in response to the impacts of climate change. These changes moderate harm or exploit beneficial opportunities and can be in response to actual or expected impacts.

Adaptive capacity – the ability of a system to adjust to climate change (including climate variability and extremes), to moderate potential damages, take advantage of opportunities, or cope with the consequences. Adaptive capacity can be an inherent property of the system, i.e. it can be a spontaneous or autonomous response. Alternatively, adaptive capacity may depend upon policy, planning and design decisions carried out in response to, or in anticipation of, changes in climatic conditions.

Biodiversity Action Plan (BAP) – The UK Biodiversity Action Plan (UK BAP) is the UK Government's response to the 1992 Convention on Biological Diversity (CBD) and sets out action plans to aid recovery of the most threatened species and habitats.

Climate – the climate can be described simply as the 'average weather', typically looked at over a period of 30 years. It can include temperature, rainfall, snow cover, or any other weather characteristic.

Climate Change – this refers to a change in the state of the climate, which can be identified by changes in average climate characteristics which persist for an extended period, typically decades or longer.

Climate change scenario – a plausible description of the change in climate by a certain time in the future. These scenarios are developed using models of the Earth's climate, which are based upon scientific understanding of the way that the land, ocean and atmosphere interact and their responses to factors that can influence climate in the future, such as greenhouse gas emissions.

Climate envelope modelling – a technique for defining a species' tolerance to a changing climate, using statistical correlations between existing species' distributions and environmental variables.

Climate space – the geographical area which is suitable for a particular species, based on the climate parameters within which the species can survive and reproduce. Climate space does not take into account other factors, such as topography, food or water availability that might impact upon the species actual geographical range. As the climate changes, climate space will move, and species will need to track these movements to survive. This results in changes to species' local and regional distributions.

Climatic variables – these are surface variables such as temperature, precipitation, and wind.

Community composition – a group of species that coexist in space, interacting directly or indirectly.

Confidence – in a scientific context, confidence describes the extent to which the findings of an assessment are considered valid, based on the type, amount, quality, and consistency of evidence.

Connectivity – in an ecological context, connectivity is broadly the degree to which the landscape facilitates or impedes the movement of organisms between patches of habitat. The degree to which a landscape is connected influences the potential for organisms to move in response to climate change.

Ecological network – a suite of sites which collectively contain the diversity and area of habitat that are needed to support species and which have ecological connections between them.

Ecosystem – A dynamic complex of plant, animal, and microorganism communities and their non-living environment, interacting as a functional unit.

Ecosystem Services – the benefits to society from resources and processes provided by ecosystems. These can include pollination and disease control, food and fuel, regulating the flow of water through land to both prevent flooding and filter clean drinking water, and the aesthetic and amenity value of the landscape.

Eutrophication – a process whereby water bodies receive excess nutrients that can stimulate excessive plant growth, oxygen depletion and algal blooms.

Extreme weather – unusual, severe or unseasonal weather, or weather at the extremes of the range of weather seen in the past.

Greenhouse gases – a number of gases whose presence in the atmosphere traps energy radiated by the Earth, known as the greenhouse effect. These gases can be produced through natural or human processes. Carbon dioxide is the most important greenhouse gas. Other gases are methane, fluorinated gases, ozone and nitrous oxide.

Heterogeneity – the variety, relative abundance, and spatial configuration of geological, geochemical, physical and biological parameters found within an environment.

Impact – in the context of climate change, an effect of climate change on the environment. This may be detrimental or beneficial, and may be either as a direct consequence of climate change, or as a result of a human response to climate change.

Isostatic change – refers to the gradual rebound of land masses which had been forced down into the Earth's mantle by the weight of ice sheets during the last Ice Age.

Landscape scale conservation – a term commonly used to refer to conservation action that covers a large spatial scale, usually addressing a range of ecosystem processes, conservation objectives and land uses.

Low regret adaptation options – options for which the implementation costs are low while, bearing in mind the uncertainties with future climate change projections, the benefits under future climate change may potentially be large.

Microclimate – the distinctive climate of a local area, whose weather variables, such as temperature, rainfall, wind or humidity, may be subtly different to the conditions prevailing over the area as a whole and from those that might be reasonably expected under certain types of pressure or cloud cover. Micro-climate will be influenced by environmental variables such as vegetation cover, aspect and proximity to water.

Mitigation – in the context of climate change, mitigation refers to efforts to reduce the extent of climate change by taking action to reduce greenhouse gas emissions and developing carbon sinks (stores of carbon that do not decompose to produce carbon dioxide).

Model – in its broadest sense, a model is a representation of how a system works and can be used to understand how the system will respond to inputs and other changes.

National Vegetation Classification (NVC) – a system of classifying natural habitat types in Great Britain according to the vegetation they contain. The NVC provides a systematic and comprehensive account of the vegetation types of the country, covering all natural, semi-natural and major artificial habitats in Great Britain.

No regret adaptation options – activities which would provide immediate economic and environmental benefits and continue to be worthwhile regardless of future climate. They would be justified under all plausible future scenarios, including without climate change.

Non-native species – a species living outside its native distribution range, which has arrived there by human activity, either deliberate or accidental. Non-native species can have a variety of effects on the local ecosystem. Where that effect is negative they are known as invasive.

Phenology – the study of periodic plant and animal life cycle events and how these are influenced by seasonal and inter-annual variations in climate. Examples include the date of emergence of leaves and flowers, the first flight of butterflies, the first appearance of migratory birds, the date of leaf fall in deciduous trees, and the dates of egg-laying of birds.

Projection – a plausible description of the future and the pathway that leads to it. Projections are not predictions. Projections include assumptions, for example, on future socio-economic and technological developments, which might or might not happen. They therefore come with some uncertainties.

Refugia – areas where micro-climatic or other local environmental conditions may enable a species or a community of species to survive after climate change has caused extinction in surrounding areas.

Resilience – describes the ability of a social or ecological system to absorb disturbances while retaining the same basic ways of functioning, and a capacity to adapt to stress and change.

Sensitivity – the degree to which a system is affected, either adversely or beneficially, by climate variability or change.

Sites of Special Scientific Interest (SSSI) – Nationally important sites designated by Natural England under the Wildlife and Countryside Act 1981 for being 'of special interest by reason of any of its flora, fauna, or geological or physiographical features'. Legislation and policy provides a high level of protection for these sites.

Special Areas of Conservation (SACs) – Protected sites designated under the Conservation (Natural Habitats, &c.) Regulations 1994 in transposition of the EU Habitats Directive. The Directive requires the establishment of a European network of high-quality conservation sites that will make a significant contribution to conserving the habitats and species identified in Annexes I and II of the Directive. Along with SPAs, these form the 'Natura 2000' series of sites. All terrestrial SACs are also designated as SSSIs.

Special Protection Areas (SPAs) – Protected sites designated under the Conservation (Natural Habitats, &c.) Regulations 1994 in transposition of the EU Birds Directive. The Directive requires the identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex I of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance. Together with SACs, these form the 'Natura 2000' series of sites. All terrestrial SPAs are also designated as SSSIs.

Threshold – the magnitude or intensity that must be exceeded for a certain reaction, phenomenon, result, or condition to occur or be manifested.

Translocation – the deliberate movement of species' populations that are unable to move in response to climate change and would otherwise be 'stranded', to areas expected to be more suitable for their survival.

UKCP18 – The UK Climate Projections (UKCP18) are the most authoritative future projections of climate change for the UK, covering different time periods and a range of possible scenarios of greenhouse gas emissions.

Vulnerability – in this context, the degree to which an individual, environmental feature or a system is susceptible to the adverse effects of climate change. Vulnerability is influenced by the system's sensitivity and its adaptive capacity, as well as the magnitude of the change.

Weather – refers to the state of the atmosphere, across space and time, and includes temperature, cloudiness, rainfall, wind, and other meteorological conditions.

Front cover image:
Managed realignment at the RSPB's Titchwell reserve on the North Norfolk coast protects internationally important freshwater habitat, allows coastal habitats space to evolve and has also improved visitor facilities.
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