Climate Action

Summary:

Recommendation:

Report by: Fred Constantine Smith, Climate Action Lead (Technical) and Alice Whitehead, Climate Action Coordinator (Graduate)

BOARD MEMBERS REPRESENTED ON THE GROUP
- Ben Dent
- Rosie Pearson
- Martin Brown
- Graham Hopkins
- Isabel Ross
- Rebecca Charley

RECORD OF MEETINGS

Working Group meetings this FY:
- 21 November 2024 – online (Reviewing climate action priorities for the next 18 months)

Activity

Climate Change Risk Assessment and Adaptation Plan

Purpose

National Landscapes have been included in the Government's latest Adaptation Reporting Power (ARP4). This requires CNL to produce a climate adaptation plan by 2027. The Climate Action Team has chosen to move ahead of this mandatory requirement, positioning the development of a climate risk assessment and adaptation plan as a priority for CNL.

This assessment is essential for protecting and enhancing the special qualities of the landscape. Understanding these climate risks at an early stage will enable us to allocate appropriate adaptation strategies and collaborate with relevant stakeholders. Early adaptations should reduce both current and future climate impacts. The aim is to complete the project in time to contribute to the Management Plan, although this work will continue to evolve and improve over time to ensure a resilient landscape for future generations.

Methodology

The risk assessment follows the principles of the National Landscapes Climate Adaptation Framework. This framework includes a risk assessment process and a set of principles for developing a climate adaptation plan. As one of the first landscapes to trial this approach, a flexible method was required.

To assess the climate impacts on CNL, Met Office Climate Projection data (UKCP18) were used. These projections are based on changes in atmospheric greenhouse gas emissions. Two Representative Concentration Pathways (RCPs) were used, focusing on both moderate and high-emission scenarios [See Appendix]. Headline figures from national climate projections, including an expected increase in storminess and gustiness, were also

incorporated. However, the assessment acknowledges uncertainties in national data, particularly regarding the frequency of storms.

Desk-based research was conducted using sources such as the National Trust Hazard Map, Natural England Adaptation Guidance, and the Forest Research Climate Hub. A full list of references is provided in the Appendix. Following this exercise, it was determined that the assessment should be focused on the key asset features of the CNL, listed under the Special Qualities of the landscape. Risks and opportunities for each special quality were scored based on their likelihood, impact, and overall risk over short (2030), medium (2050), and long-term (2080) timeframes. This approach seeks to identify suitable high-level mitigation actions for addressing climate impacts across these time periods.

Initial findings

1. **Increased risk over time.** Climate risks are projected to increase significantly over time. In many cases a tipping point will be reached whereby hazards affecting special qualities become more severe.

2. **High risk areas.** Special qualities associated with the natural environment face the greatest level of risk within CNL. Key areas include:

   a) **Escarpment:** Landslips and landslides are expected to become more frequent due to increased rainfall and the escarpment's steep, unstable nature. Shallow soils are also at high risk of drought.

   b) **Access:** Wetter winters and an increased frequency of extreme weather events may lead to more frequent and extensive erosion of routes, making them more difficult to use, particularly for less physically able visitors.

   c) **Ancient Woodlands:** Hotter, drier summers could shift woodland composition and reduce canopy cover. Increased competition from invasive species is also a significant risk.

3. **Low risk areas.** The lowest level of risk does not devalue the level of risk that is being faced. Archaeological and historical features have been identified as seeing the lowest risk for all periods. Similarly, the risk to distinctive settlements is considered to be low.

Next Steps

This initial assessment identifies the vulnerabilities of the special qualities of the landscape to climate impacts. The next step is to produce a comprehensive climate adaptation plan. This plan will build on the risk assessment by:

- Identifying high-level mitigation actions.
- Engaging relevant stakeholders.
- Evaluating the acceptability of adaptation options.
- Considering interdependencies and potential barriers to delivery.

The adaptation plan will also highlight gaps in existing policy and guidance, as well as barriers to achieving a climate-resilient landscape.

Other Activity

Woodland Opportunity Mapping

In September, an inception meeting was held with LUC to initiate the project. The goal is to produce an opportunity map that reflects the sensitivity of the Cotswolds landscape while providing a practical tool to identify suitable woodland creation sites. This will also produce realistic woodland creation targets for CNL.

The CNL team has worked closely with LUC to refine their methodology for assessing landscape sensitivity. A draft report is expected in February, with the final report and interactive map due by the end of March. Next steps may include developing a position paper on guidance around woodland creation and engaging with the wider team to align efforts with CNL's purposes, PLTOF targets, and climate and nature recovery goals.

Setting Climate Action Priorities

The Climate Team has met with the Working Group to set the priority actions for next 12 months. These include[1]:

- Completing the Climate Adaptation Plan.
- Developing a Land Use Framework.
- Calculating the CNL's own carbon footprint.
- Creating an approach to monitoring our pathway to net zero.
- Reviewing 3Keel's report to identify priorities for CNL and other stakeholders, and then running workshops on key climate action areas.

Carbon footprint:

Calculating the carbon footprint of CNL's organisational emissions was identified as a priority in the 3Keel report. A CNL carbon footprint will allow CNL to act as a champion for driving action locally and across national landscapes.

The team has developed an approach that breaks down greenhouse gas emissions by scope and activity, using government-set proxies where needed, particularly for transport and homeworking emissions. The next step will be to collect data from volunteers, staff, and board members, and scoping emissions from facilities used by the team.

Carbon Literacy Training:

The Climate team is considering offering a bespoke Carbon Literacy training programme to staff and board members to improve knowledge and understanding of actionable climate solutions. This work could lead to further engagement beyond the organisation and foster greater community engagement with climate issues.

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[1] A full list is available as an appendix.

Appendix A

Met Office Projections:

RCP4.5	2030	2050	2080
summer mean air temperature (^OC)	1.12	1.74	2.99
summer maximum air temperature (^OC)	1.25	1.96	3.39
winter mean air temperature (^OC)	0.77	1.19	1.76
winter maximum air temperature (^OC)	0.78	1.17	1.72
summer precipitation rate (%)	-10.81	-18.58	-28.00
winter precipitation rate (%)	6.68	8.32	14.08

RCP8.5	2030	2050	2080
summer mean air temperature (^OC)	1.32	2.36	4.75
summer maximum air temperature (^OC)	1.48	2.65	5.35
winter mean air temperature (^OC)	0.88	1.55	2.80
winter maximum air temperature (^OC)	0.90	1.53	2.73
summer precipitation rate (%)	-12.32	-22.87	-38.90
winter precipitation rate (%)	7.63	10.89	21.58

CNL Climate Priorities and Land Use Framework

CNL climate priorities:

0-6 months
- Climate risk assessment
- Land use framework
- CNL carbon footprint
- Monitoring progress

0-12 months
- Transport workshop
- Carbon literacy
- Review policy on planning and energy.

Land Use Framework:
- Woodland Opportunity Mapping
  - LUC project underway
  - Produce woodland creation targets under different scenarios.
- Regenerative agriculture
  - Follow Regen Ag Accelerator programme
  - Assess climate impact of regen ag in farm systems common to the Cotswolds
- Nature Recovery
  - Gather data on sequestration potential and adaptation impact of limestone grasslands
- Work towards a diversified pathway to Net Zero.

Supporting Documents for CNL Climate Risk Assessment

General:

https://insight.oxfordshire.gov.uk/cms/system/files/documents/ClimateVulnerabilityAssessmentOxfordshireApril24Final.pdf

https://experience.arcgis.com/experience/0295557a52b5446595fc4ba6a97161bb/page/Page

https://publications.naturalengland.org.uk/publication/5679197848862720

https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA3-Chapter-1-FINAL.pdf

Ancient Broadleaf Woodland

https://cdn.forestresearch.gov.uk/2010/08/fcrn201.pdf

https://www.gov.uk/guidance/find-a-specific-tree-pest-or-disease

Welcome to the Climate Change Hub - Forest Research

Drought - Forest Research

Distinctive Settlements

https://www.into.org/app/uploads/2022/10/10-Buildings-Rainwater-Goods.pdf

https://historicengland.org.uk/images-books/publications/adapting-historic-buildings-energy-carbon-efficiency-advice-note-18/heag321-adapting-historic-buildings-energy-carbon-efficiency/

Access

Climate Change Adaptation Manual - NE751 (Access and Recreation PDF at bottom of page)

Archaeological and historical

https://historicengland.org.uk/whats-new/news/hot-dry-summer-reveals-hidden-archaeological-sites/

Flower rich Grassland

Climate Change Adaptation Manual - NE751

https://publications.naturalengland.org.uk/file/4715999289147392

https://www.northwessexdowns.org.uk/wp-content/uploads/2023/09/NWD-AONB-Nature-Recovery-Plan-Version-1-Sept23.pdf

https://www.cotswolds-nl.org.uk/wp-content/uploads/2022/02/Cotswolds-Nature-Recovery-Plan-Full-Version.pdf

Dry stone walls

https://democracy.peakdistrict.gov.uk/documents/s39721/PDNP%20Climate%20Change%20Vulnerability%20Assessment.pdf

https://www.cotswolds-nl.org.uk/wp-content/uploads/2018/11/4.-The-Built-Environment-ldr-s4-09.pdf

River Valleys

https://www.gloucestershirewildlifetrust.co.uk/climate-change-in-gloucestershire

The High Wolds

Farming and climate change - NE308

The Cotswold Escarpment

https://www.cotswolds-nl.org.uk/our-landscape/geology/#:~:text=The%20Cotswolds%20escarpment%20probably%20has,cutting%20down%20through%20the%20rocks.