Climate and ecological emergency: A profession’s response
Climate emergency

“a situation in which urgent action is required to reduce or halt climate change and avoid potentially irreversible environmental damage resulting from it”

Oxford English Dictionary

Source: the Oxford Corpus
Climate emergency?

\[ R \times U = p \times D \times \frac{\tau}{T} \]

- \( R \) = risk
- \( U \) = urgency
- Risk (\( R \)) is probability (\( p \)) x damage (\( D \))
- Urgency (\( U \)) is time taken to react to an issue (\( \tau \)) / intervention time left to avoid it (\( T \)).
- If reaction time is longer than intervention time you’ve lost control!
- For 2°C reaction time = 20 years, intervention time = 30 years
- For 1.5°C?
Climate Emergency?

“a sudden, urgent, usually unexpected occurrence or occasion requiring immediate action.”

Oxford English Dictionary
Climate Emergency - context

$\text{CO}_2$ during ice ages and warm periods for the past 800,000 years

- **warm period** (interglacial)
- **ice age** (glacial)
- Highest previous concentration (300 ppm)
- 2018 average (407.4 ppm)

[Graph showing CO2 levels over the past 800,000 years with labels and data points]

NOAA Climate.gov
Data: NCEI

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Climate Emergency - context

Impacts and risks for selected natural, managed and human systems
Climate emergency – UK context

UK Climate Projections (UKCP)

• Hotter summers: 2018 characteristics 50% of the time by mid-century (high emissions)
• ‘Hot days’ 3.7 - 6.8°C hotter by 2070 (high emissions)
• Drier summers but more intense summer downpours
• Extension of convective season into autumn
• Warmer, wetter winters
• Sea level rise (London) 0.29m – 0.70m (low emissions) to 0.53m - 1.15m (high emissions)
# Climate emergency – UK context

**Figure 1:** Top six areas of inter-related climate change risks for the United Kingdom

<table>
<thead>
<tr>
<th>Risk</th>
<th>Risk Magnitude</th>
<th>Future</th>
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<tbody>
<tr>
<td>Flooding and coastal change risks to communities, businesses and infrastructure (Ch3, Ch4 Ch5, Ch6)</td>
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<td></td>
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<tr>
<td>Risks to health, well-being and productivity from high temperatures (Ch5, Ch6)</td>
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<td>Risk of shortages in the public water supply, and for agriculture, energy generation and industry (Ch3, Ch4, Ch5, Ch6)</td>
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<td>Risks to natural capital, including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity (Ch3)</td>
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<tr>
<td>Risks to domestic and international food production and trade (Ch3, Ch6, Ch7)</td>
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<tr>
<td>New and emerging pests and diseases, and invasive non-native species, affecting people, plants and animals (Ch3, Ch5, Ch7)</td>
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</tbody>
</table>

**More Action Needed**

**Research Priority**

**NOW ----> RISK MAGNITUDE ----> FUTURE LOW MEDIUM HIGH**

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Ecological emergency

• Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services – IPBES 2019 Global Assessment

• 1,000,000 species at risk of extinction

• Rate of decline unprecedented and increasing

• “Transformative change” required –

“a fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals and values.”
Ecological emergency
Ecological emergency – UK context

• 13% average decline in species abundance
• 5% decline in species distribution
• 41% species declined, 26% increased
• 53% of these saw rapid change
• 15% species threatened with extinction from Great Britain

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Policy context – international climate action
Policy context – UK climate action

Preparing for Climate Change

- England is not prepared for the impacts of a 2°C increase in global and UK temperature, let alone a 4°C temperature increase.

Tackling Climate Change

- Current policies and plans are insufficient to meet the fourth or fifth carbon budgets (covering 2023-2027 and 2028-2032).

Despite well-intentioned ambition the UK has fallen behind in progress to tackle and prepare for climate change.

Only a handful of sectors have plans that consider a minimum of 2°C – water supply, road and rail, flood defences and flood risk planning for infrastructure.

12 of 33 sectors have no plans for long-term climate change at all, including aspects of agriculture, the natural environment, health, infrastructure and business.

None of the 33 priority areas score well in reducing vulnerability and exposure to climate risk.

The government has delivered just 1 policy action out of 25 recommended by the Committee in 2018.

Of 24 indicators showing underlying progress, just 7 were on track in 2018.

The required annual rate of emissions reduction for Net Zero is 50% higher than under the UK’s previous 2050 target and 30% higher than has been achieved on average since 1990.

From CCC 2019 progress report
Policy context – UK environmental action

• “the first generation to leave the environment in a better state than we found it”

• Nature recovery and action on:
  - Air
  - Waste
  - Water
  - Chemicals
  - Climate adaptation
  - Biosecurity

• Post-Brexit, underpinned by an independent “Office for Environmental Protection”
Policy context – newfound prominence

- 2018 – IPCC 1.5°C report
- Spring 2019 – the ‘Thunberg Effect’
- Messages:
  - Humanity facing an existential crisis
  - Adult generation(s) are responsible
  - Climate change will have a disproportionate impact on the young
  - Too little is being done
- Widespread declarations of climate and ecological emergency
Climate and ecological emergency

As an Institution, we therefore commit to:

1. Creating climate and ecological champions of our members, stakeholders and the public, inspiring urgent action to tackle this shared crisis.

2. Advocating strongly for ambitious levels of commitment to action on climate and ecology by decision makers at all levels, alongside appropriate allocation of resources to enable concerted action at all levels of society.

3. Reviewing our areas of operation to ensure that they are entirely consistent with delivering as effectively as possible for professionals and the public against the challenges of a climate and ecological emergency. Aiming as an organisation to achieve a net zero emissions target by 2030.

4. Developing practical programmes which contribute to ecological recovery and carbon sequestration.

5. Leading our profession to deliver resilience and adaptation measures extensively in response to climate risks.

6. Empowering our members to work with their own employers, stakeholders and supply chains to deliver zero carbon, resilient and adaptive programmes and projects which deliver biodiversity and wider environmental net gain.

7. Working with other organisations to collectively drive and share best practice, reflecting the latest scientific evidence and innovation.
CIWEM Climate and ecological action plan 2020

3 main thrusts for 2020:

1. Fully carbon footprint our activities, identify main areas for rapid decarbonization, formulate science-based decarbonization targets (declaration pledge 3).

2. Advocate strongly for greater emphasis on, and scrutiny of, progress on climate change adaptation and resilience (declaration pledges 2 and 5).

3. Identify / champion opportunities to deliver decarbonisation AND nature recovery (pledges 2 and 7).
From where I stand, these are the three most significant issues that the professions must consider to address the climate and environmental emergencies.

1. Lead by example
2. Speak truth to power
3. Do different
Thanks for listening!

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