

Making our land more resilient

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SUSTAINABLE DEVELOPMENT

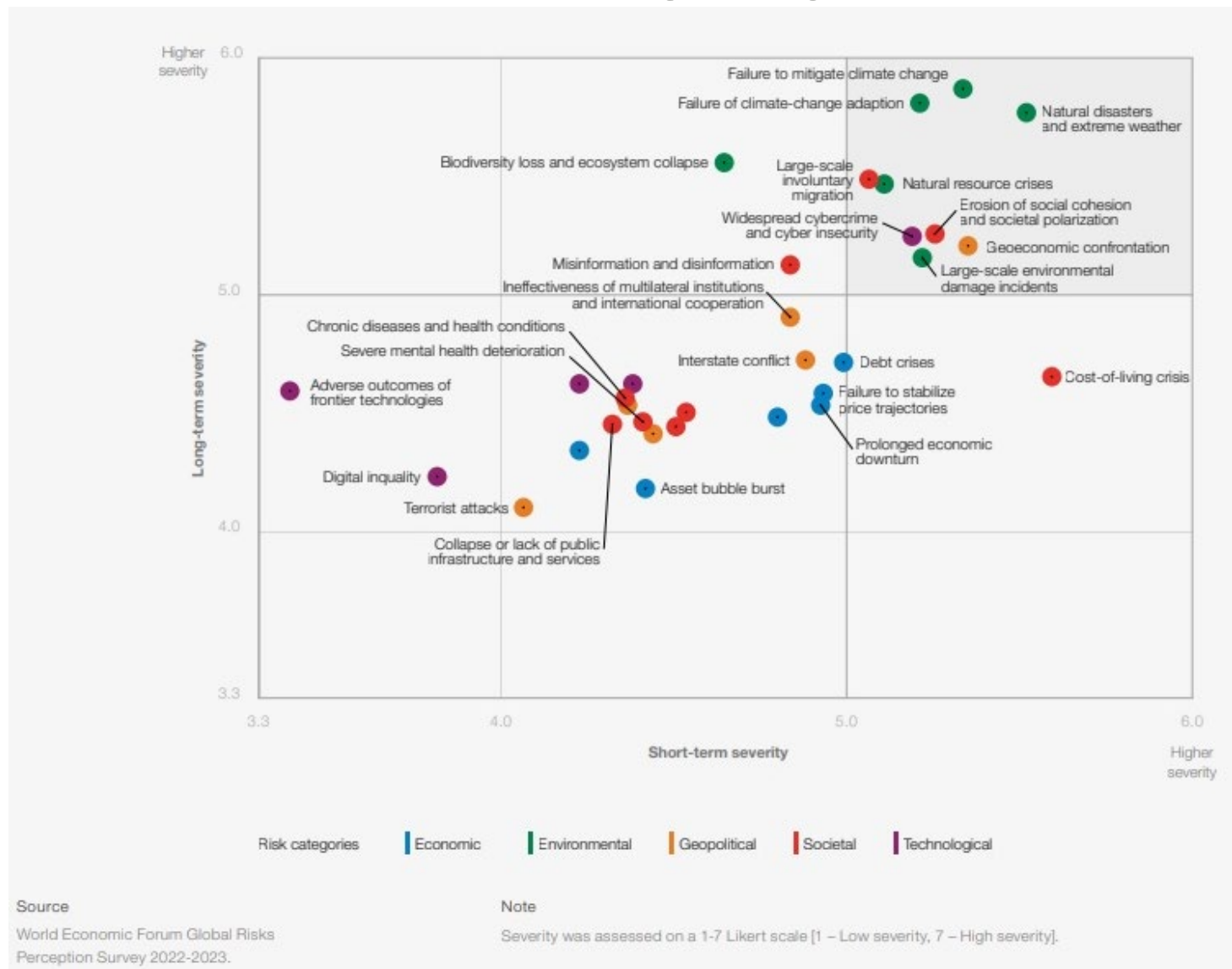
HUMAN WELLBEING & BIODIVERSITY



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World Economic Forum (2023) - Relative severity of risks over a 2 and 10-year period



Scotland – State of Nature - 2023

Headlines



Average 15% decline in species' abundance

For 407 terrestrial and freshwater species, abundance across Scotland has fallen by 15%, on average, since 1994.



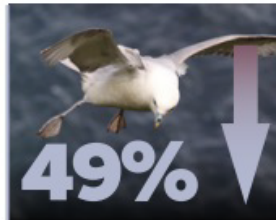
Average 15% increase in the distributions of invertebrate species

Distributions of 2,149 invertebrates increased by 15% on average since 1970. This was driven by climate change and large average increases in the distributions of aquatic insect species that support freshwater nutrient cycling.



Strong decreases in plant and lichen distributions

Since 1970, the distributions of 47% of flowering plants, 62% of bryophytes (mosses and liverworts) and 57% of lichens have decreased, compared to 27, 25 and 34% of flowering plants, bryophytes and lichens respectively, that have increased in distribution.



49% decline in average abundance of Scottish seabirds

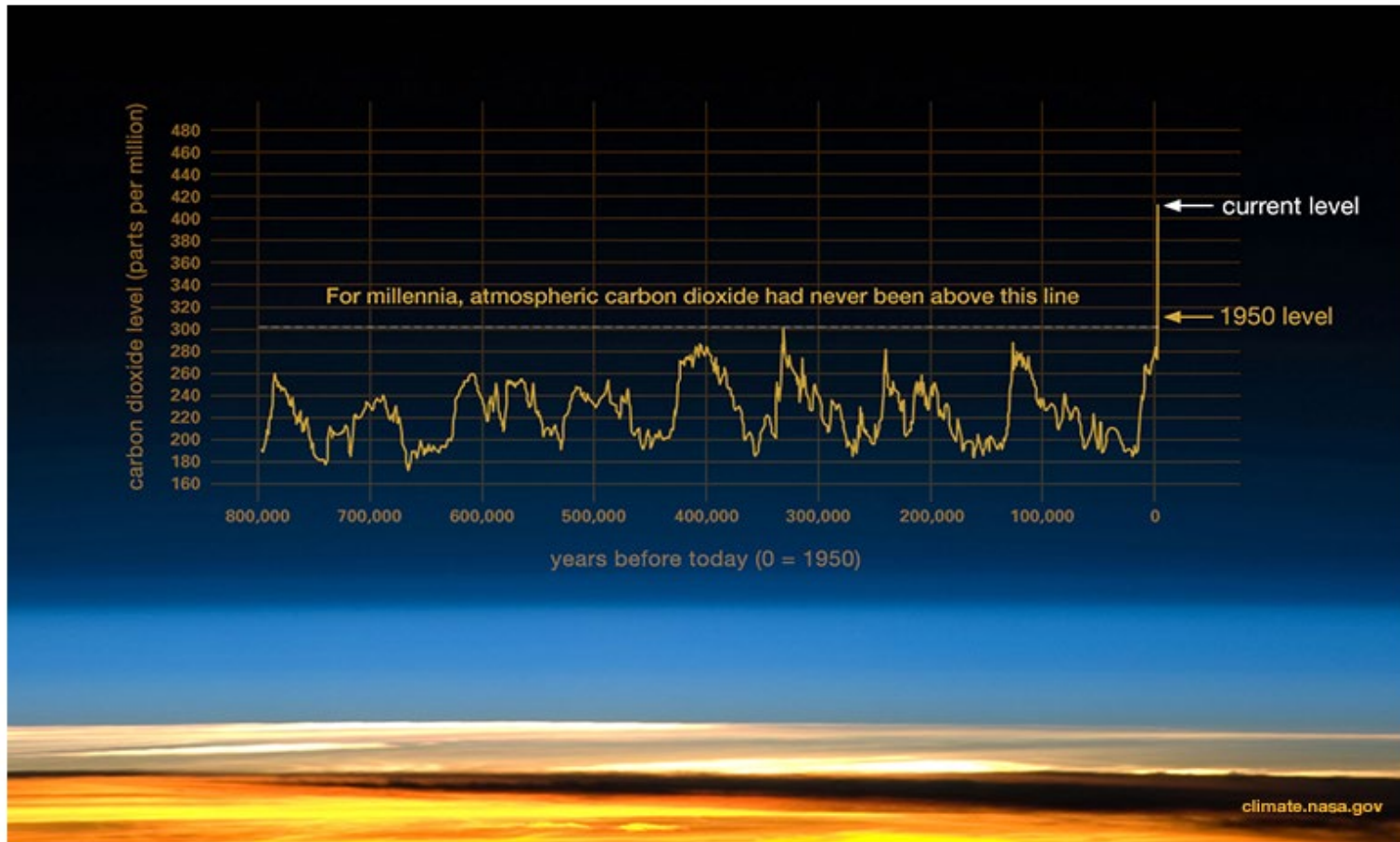
The abundance of 11 seabird species in Scotland has fallen by 49% on average since 1986. These results pre-date the current outbreak of Highly Pathogenic Avian Influenza.



11% of species are threatened

Of 7,508 species in Scotland that have been assessed using IUCN Red List criteria, 11% have been classified as threatened with extinction from Great Britain.

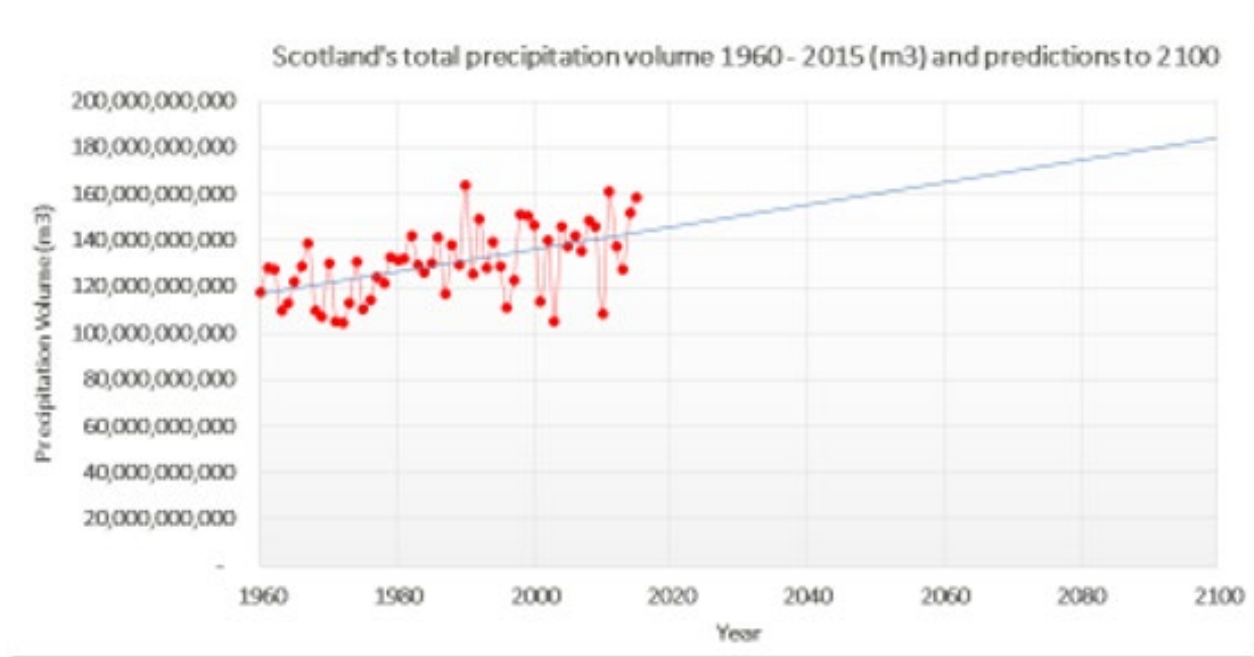
Robust CO2 data from ice cores covering the last 800,000 years



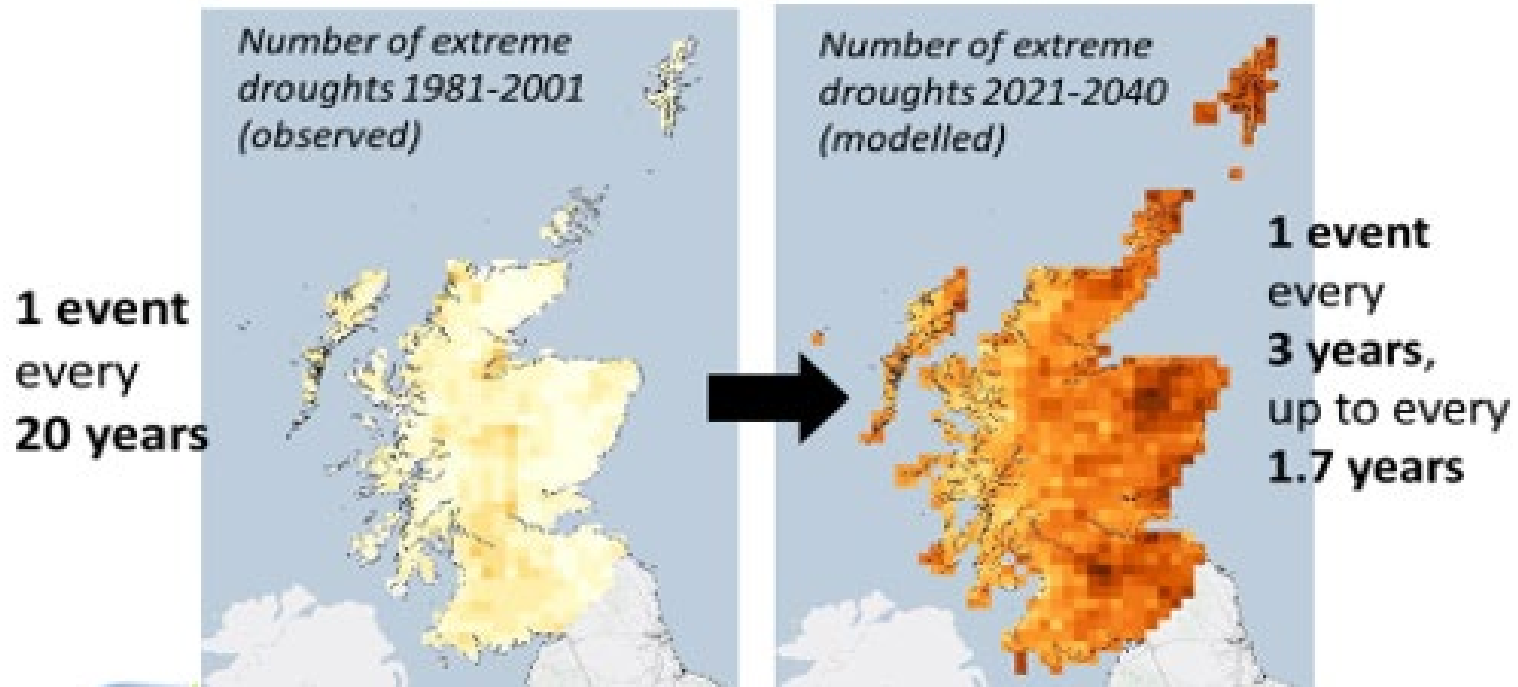
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Rainfall



Drought





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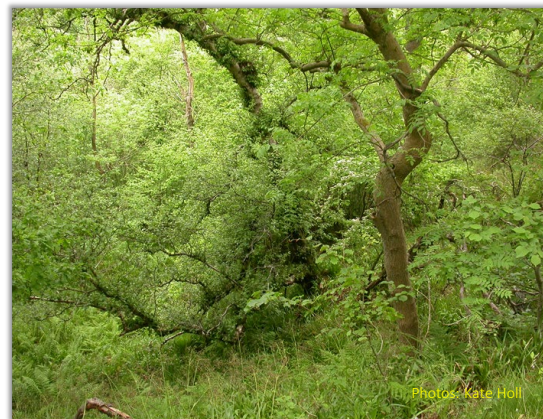


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Woodland

- Overgrazed
- Simple structure
- Lacks diversity
- Weak sink for greenhouse gases



Woodland

- Ungrazed
- Complex structure
- Rich diversity
- Strong sink for greenhouse gases

Hedge

- Simple structure
- Lacks diversity
- Weak sink for greenhouse gases



Hedge

- Complex structure
- Rich diversity
- Strong sink for greenhouse gases



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People's Trust for Endangered Species

Easterhouse, Glasgow: before and after...

- Unused playing fields
- Culverted burn (contributing to 65 cm lake on M8 in a 1:200 year event)
- Daily use of greenspace
- New Local Nature Reserve
- Burn uncovered – wider SuDS
- Reduced flood risk to M8
- improvement in life expectancy



Challenges and choices

Bio energy

How much land for bio energy crops and how do we grown them?

Food security

What do we mean by food security?

Housing and workers

How do we attract workers and house them?

Finance

How do we increase the flow of nature finance?



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