

Climatic change  
and  
biodiversity conservation

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# Background

*“Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased” (IPCC, 2013)*

# Background

*“It is **virtually certain** that internal variability alone cannot account for the observed global warming since 1951.” “More than half of the observed increase in global mean surface temperature (GMST) from 1951 to 2010 is **very likely** due to the observed anthropogenic increase in greenhouse gas (GHG) concentrations.” (Bindoff et al. 2013)*

*“Total radiative forcing is positive, and has led to an uptake of energy by the climate system. The largest contribution to total radiative forcing is caused by the increase in the atmospheric concentration of CO<sub>2</sub> since 1750.” (IPCC, 2013)*

# Background

*“there are few observational studies of rapid evolution and difficulties in detection and attribution, so there is only **medium confidence** that some species have responded to recent changes in climate through genetic adaptations, and insufficient evidence to determine if this is a widespread phenomenon (thus **low confidence** for detection and attribution across all species)” (Settele et al., 2014)*

# Background

*“Species exhibit a variety of responses to climatic changes, the magnitude and rate of change determining which response type predominates ... geographical distribution changes are species’ predominant response to relatively rapid, large-magnitude climatic changes, such as are projected for this century” (Huntley et al., 2010)*

*“**high confidence** that several well-studied species groups, such as insects and birds, have shifted their ranges over significant distances (tens of kilometers or more) over the last several decades, and that these range shifts can be attributed to changes in climate” (Settele et al., 2014)*

# Background

*“A large fraction of terrestrial and freshwater species face increased extinction risk under projected climate change during and beyond the 21st century, especially as climate change interacts with other pressures, such as habitat modification, overexploitation, pollution, and invasive species”* (IPCC, 2014; **high confidence**)

# Draft Workplan

# Promote the implementation of agreed recommendations

- Focus upon implementing Standing Committee Recommendation No. 159
- Actions necessary to enable species' to achieve range shifts are of particular importance
- Sharing by the Parties of procedures, tools and best practice relating to successful actions



# Assess species' vulnerability

- Urgently complete assessments of species' vulnerability to climatic change
  - Take into account species' overall range and population
- Prioritise
  - Seasonally migrant species
  - Rare, endemic, range-restricted and biome-restricted species, species listed in relation to the Bern Convention
  - Species otherwise threatened
  - All remaining species

# Establish and manage protected areas appropriately

- Ensure adaptive management strategies are implemented
  - and that management plans include appropriate responses to the consequences of climatic change
- Work with the Group of Experts on Protected Areas and Ecological Networks
  - Provide expertise
  - Review the adequacy of the Emerald Network in relation to the challenges of climatic change
  - Ensure an holistic view is taken
  - Ensure climatic change is among factors considered when awarding the EDPA

# Monitor using common approaches

- Promote adoption of common approaches to monitoring
  - Impacts of climatic change
  - Effectiveness of conservation measures
    - Promote uptake of established schemes for some taxa
    - Promote development of schemes for other taxonomic groups
    - Develop common approaches to monitor
      - Climatic change impacts
      - Effectiveness of species' conservation measures
      - Effectiveness of protected area management
- Promote adoption of best practice with respect to all of the above

# **Assess the role of biodiversity in maintaining ecosystem function**

- Assess the importance of biodiversity to the capacity of European ecosystems to adapt to climatic change whilst maintaining their capacity to deliver ecosystem services

# Promote research required to advance the work of the Group

- Promote research to underpin development of permeable landscapes
  - Commission, or undertake, a review of relevant published research
  - Analyse impacts of adaptation and mitigation measures on biodiversity and assess the scope for ‘win–win’ solutions

# **Promote appropriate actions to conserve European Arctic species and ecosystems**

- **Given that:**
  - Some Parties territories extend into the Arctic
  - These areas support important Arctic species
  - Climatic change is especially rapid in the Arctic
- **Support the work of the Arctic Council and its CAFF Working Group**
  - Transpose necessary recommendations to the Parties under the framework of the Convention
- **Evaluate European Arctic species and, where relevant, propose their inclusion in the Appendices of the Convention**

# Prepare and communicate guidance and toolkits

- Prepare and disseminate guidance and ‘tool kits’
- Priority targets include:
  - Supporting the effective development and implementation of national policies
    - Incorporating Standing Committee Recommendations on biodiversity conservation and climatic change
    - Promoting the opportunities and benefits of participation in the Emerald Network

# Co-operate with other institutions

- Promote convergence of recommendations relating to biodiversity conservation and climatic change and their implementation
- Explore the possibility of forming a joint working group for biodiversity and climatic change to encourage such co-operation
  - Relevant institutions include:
    - CMS, CBD, Ramsar Convention, Arctic Council (especially CAFF and AMAP working groups), EU



# The 'bottom line'

- Actions are what is needed now!  
(not more words, written or spoken)
- Limiting the increase in global mean surface temperature to 2°C may achieve the goal of avoiding “*dangerous anthropogenic interference with the climate system*”, but even such an increase will pose severe challenges for many species
- Measures to address the impacts of climatic change on biodiversity will thus still urgently be needed even if international agreement is reached at COP21 in Paris on measures to limit mean global warming to 2°C
- Our Draft Work Plan aims to address this need

