Mission statement
To support and strengthen nature conservation in a changing climate.

Projected impact for the 2017-2020 quadrennium
By 2020, the Climate Change Specialist Group (CCSG) aims to have made a significant contribution to strengthening nature conservation in a changing climate. By fostering collaboration between climate change and biodiversity experts working at the interface between science, policy and practice, we hope to: (1) provide the IUCN Species Survival Commission with strategic guidance, support and information on climate change related risks to biodiversity and conservation responses; (2) promote coordinated responses to climate change within and among the IUCN Species Survival Commission, IUCN programmes and IUCN partner organisations; and (3) catalyse and support sound science, effective policy and evidence-based conservation practice informed by a deeper understanding of climate change, its impacts on biodiversity and the responses required. Through the activities our group carries out, we will advance: (a) understanding of climate change impacts, (b) assessment of vulnerability, (c) development of adaptation responses, and (d) climate change policy.

Assess
Research activities: (1) document, attribute and monitor climatic change impacts; (2) assess vulnerability of species arising from climatic change and publish a paper on understanding and use of climate change vulnerability assessment; (3) develop and recommend climate change adaptation measures and monitor their effectiveness.

Plan
Planning: develop and recommend climate change adaptation measures and monitor their effectiveness by publishing guidelines update (species conservation planning).
Policy: inform IUCN policy and outreach on climatic change issues.

Network
Synergy: support the SSC.

Communicate
Communication: assess vulnerability of species arising from climatic change and generate updated guidelines.

Activities and results 2019
Assess
Research activities
1. An IUCN report, Reforesting for the Climate of Tomorrow, was published in January 2019 in both English and Indonesian. The report presented the results of a climate change vulnerability assessment of approximately 250 plant species native to Kutai National Park, Indonesia. The researchers used a trait-based analysis to measure species’ susceptibility to fire and drought, conditions expected to escalate under climate change. Native species
found to be climate resilient were identified and recommended for reforestation efforts to expand crucial habitat for threatened species such as the Northeast Bornean Orangutan (*Pongo pygmaeus morio*). The publication was covered by press outlets around the world, from the US and Nigeria to Italy and Indonesia. (KSR #28, 38, 39)

ii. An extensive literature review has been completed on human responses to climate change and their impacts on biodiversity. The results have been compiled in a database and are currently undergoing analysis and write-up for publication. Once completed, the results will be integrated into existing protocols to strengthen vulnerability assessments. (KSR #28, 38, 39)

iii. Editors of Wiley’s *WIREs Climate Change* journal solicited a review paper from the CCSG on the rapidly emerging field of climate change vulnerability assessments (CCVAs). The resulting paper, “Climate change vulnerability assessment of species” (DOI: 10.1002/wcc.551), was co-authored by 18 CCSG members. It provides clarity on the key concepts, steps, terminology, and aspects to consider when performing and interpreting CCVAs and will improve the integration of climate change threats into Red List assessments. The paper was first available online in October 2018, but formally published in the January/February 2019 edition of *WIREs Climate Change*. The guidance presented in the paper builds on the consensus forged during the production of the *IUCN SSC Guidelines for Assessing Species’ Vulnerability to Climate Change* and lays the groundwork for version 2 of the guidelines. The results were also presented during a climate change workshop at the SSC Leaders’ Meeting in Abu Dhabi to provide key guidance and facilitate discussion with other specialist groups. (KSR #4, 32, 38)
Climate change is expected to have severe and irreversible effects on Southeast Asian amphibians and reptiles, such as this panther Flying Frog, *Rhacophorus pardalis*. Being completely dependent on free-standing water for reproduction, changes in patterns of when and how much rain comes can severely affect these amphibians.

Photo: David Bickford
Policy

i. The CCSG supports the broader IUCN network by providing a crucial conduit between policy, science, and practice in the realm of climate change and biodiversity. CCSG Chair Wendy Foden served as SSC liaison on the IUCN Council Climate Change Task Force, providing key guidance and feedback to its members. Deputy Chair Bruce Young served on the IUCN Post-2020 Agenda Task Force, providing a climate perspective on IUCN input into the agenda of the Convention on Biological Diversity (CBD) after the conclusion of the current Strategic Plan for Biodiversity 2011–2020. The CCSG also collaborated with many groups to develop and comment on climate change resolutions for the IUCN World Conservation Congress. (KSR #40)

Network

Synergy

i. The CCSG provides ongoing support to the SSC in the form of input, feedback, modelling support, and advice to other SSC Specialist Groups and Task Forces. Our members provide key linkages to other SSC groups including: the Red List Committee, Standards and Petitions Committee, Green List Task Force, Hornbill Specialist Group, Pinniped Specialist Group, Small Mammal Specialist Group, and others. We communicated with the broader SSC community across multiple platforms (including our website, newsletter, Facebook and Twitter accounts), the SSC Species Bulletin, the Leaders’ Meeting in Abu Dhabi, and various workshops and conferences. In 2019, the CCSG collaborated with the Invasive Species Specialist Group to draft a policy brief on invasive species and climate change. We are also in the process of developing a Red List training module as part of a broader strategy to increase our support to the SSC. (KSR #29)

Communicate

Communication

i. Planning for an updated version of the IUCN SSC Guidelines for Assessing Species’ Vulnerability to Climate Change is underway. The paper ‘Climate change vulnerability assessment of species’ (Foden et al. 2019, DOI: 10.1002/wcc.551) laid the groundwork for this important update. The CCSG is currently evaluating new strategies to make the updated version more accessible and user friendly in an effort to better meet the needs of SSC Specialist Groups. (KSR #28)

Acknowledgements

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Summary of activities 2019

Components of Species Conservation Cycle: 4/5

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Main KSRs addressed: 4, 28, 29, 32, 38, 39, 40

KSR: Key Species Result

iv. The CCSG’s Climate Extremes team published a global assessment of primate vulnerability to extreme climatic events. Following the IUCN SSC Guidelines for Assessing Species’ Vulnerability to Climate Change, the study analysed primates’ sensitivities and adaptive capacities associated with their intrinsic biological traits, while considering their exposure to cyclones and droughts over the past 45 years. The findings, published in Nature Climate Change, call for increased efforts to investigate the context-specific mechanisms underpinning vulnerability to extreme climatic events. (KSR #4, 32, 38)

v. The CCSG is working with the US Geological Survey (USGS) to assess species’ innate capacity to cope with climate change. The resulting paper is currently in review, supporting the ultimate goal of producing a decision framework that can be used to assess and facilitate species’ natural adaptive capacity. (KSR #32, 38)

vi. An extensive literature review has been completed to evaluate the efficacy of climate change adaptation interventions based on existing evidence. The results have been prepared for publication and will soon be submitted to a journal. (KSR #32, 38)

vii. The CCSG has added a new activity focused on defining and measuring climate adaptation success in the conservation sector. (KSR #32, 38)

Plan

Planning

i. The CCSG had ongoing discussions with the Conservation Planning Specialist Group about developing a training module; however, this activity was put on hold for the remainder of the year due to personal circumstances of a key member. (KSR #38, 39)

The metabolic rate of Komodo Dragons, Varanus komodoensis, is directly dependent on temperature, and as the climate warms, they will need more food to grow, stay healthy, and to reproduce. Over time, this will most likely result in a population of smaller individuals or a population decline as competition for food increases and more calories are needed.

Photo: David Bickford