



THE CONGO BASIN AND CLIMATE CHANGE

The Congo Basin is threatened by many effects of climate change - Photo by Molly Bergen/WCS, WWF, WRI

ABOUT THE CONGO BASIN

The Congo Basin is situated in west-central Africa and sweeps 3.7 million km² across Cameroon (11.8%), the Central African Republic (3.4%), the Democratic Republic of the Congo (54%), the Republic of the Congo (12.4%), Equatorial Guinea (1.3%) and Gabon (17.7%). The region is the second largest tropical rainforest in the world and is covered with rivers, swamps and savannas, all of which are swarming with wildlife. The area supports thousands of bird species, an estimated 700 species of fish, 400 species of mammal and around 10,000 species of tropical plant, 80 per cent of which are native to the region. The Congo Basin stretches almost 2,000 km from the Atlantic Ocean in the west, to the Nile-Congo watershed in the east, and approximately the same distance from the north starting at the Lake Chad watershed and reaching south to Angola's interior plateau. Within this basin winds the Congo River, which is the second largest river on Earth by water volume. The Congo Basin is naturally warm and humid, and experiences only two seasons: the rainy season from March to November and the dry season from December to February.

The Congo Basin is of vital importance on a global and local scale. Approximately 75 million people from almost 150 different ethnic groups live throughout the basin and depend on the forest for food, fresh water and shelter. The ecosystem also has a wealth of natural resources such as diamonds, gold, cobalt, copper, timber, petroleum and uranium. The extraction of these resources, however, is putting immense strain on the Congo Basin and its inhabitants.

Threats due to climate change

The Congo Basin region is expected to be increasingly affected by climate change. In fact, the United Nations' Intergovernmental Panel on Climate Change (IPCC) states that tropical forests are among the most vulnerable ecosystems to climate change on the planet. Like most of the Earth, temperatures are expected to rise in all areas of the Congo Basin. Under high emissions scenarios, average temperatures in the region are expected to increase by 2.5°C by the year 2050 while temperature increases are expected to be between 3-5°C by 2100. Furthermore, regions within the Congo Basin that have a more semi-arid climate are expected to experience much higher average temperature increases compared with those of the tropical climates.

Precipitation quantities and distribution are also expected to change within the Congo Basin. By the year 2100 the region is expected to experience an average increase in precipitation of between 20-30 per cent. The central and western parts of the Basin are where most of the increase is predicted to take place whereas projections in other parts of the region are more uncertain. For example, Central and Northern Chad are expected to experience a reduction in precipitation. The seasonal distribution of precipitation is also projected to change as the dry season becomes drier and the wet season becomes wetter. Furthermore, projections for changes in the volume of river discharge due to climate change are variable across the Congo Basin region, but on average they fall in line with the precipitation projections. Discharge volumes during the wet season are expected to increase while volumes during the dry season are expected to decrease.

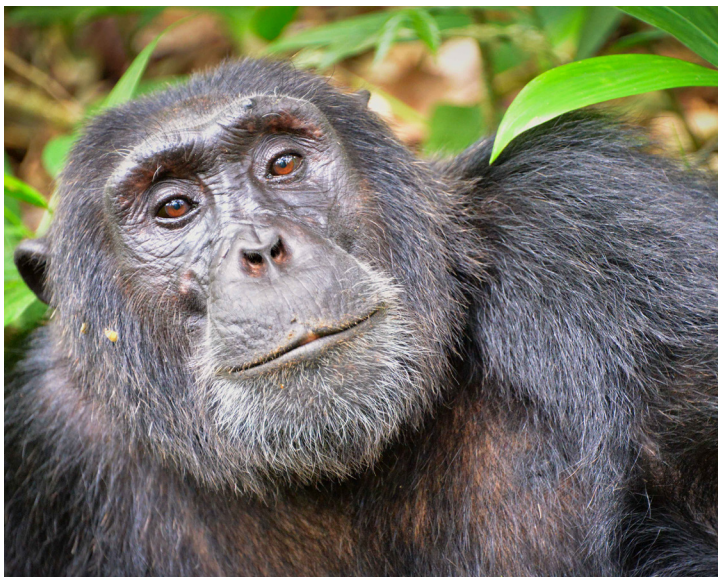
The current and projected changes to both temperature and precipitation will have dramatic effects on the livelihoods of local populations in the Congo Basin. The vast majority of people living in this region depend on natural resources and agricultural cultivation for their sustenance. Erratic and extreme weather events are already challenging the way that these populations have traditionally grown crops. As temperatures rise, many factors involved in crop production will be altered such as reproductive viability and plant disease dynamics. The loss of well-defined seasons will also put farmers at risk of early/late rains and flooding.

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The effects of climate change on vegetation and soil in the Congo Basin is also of concern as the region supports vast amounts of biodiversity. Climate change simulations and models indicate that on average the Congo Basin region will experience an increase in vegetative production as the effects progress through the first half of the 21st century. Conversely, as weather becomes more erratic and temperatures increase, vegetative production is expected to decline. It should be noted that most of this projected increase can be attributed to greater levels of atmospheric carbon dioxide and the carbon dioxide fertilization effect. Soil organic matter is also expected to increase in most areas of the Congo Basin due to the increase in vegetation. Later in the projection period (post 2050), however, increasing temperatures are expected to cause a steep decline in soil organic matter stocks.

The effects of climate change are increasingly presenting challenges for agricultural and foraging populations in the Congo Basin. A decrease in productivity will push these communities to require more land for cultivation, resulting in further deforestation. Additionally, it is projected that advanced stages of the effects of climate change on these forests will result in decreased vegetative productivity. The decline of these critical forests will subsequently put pressure on the habitats of local species such as Bonobos, Chimpanzees, Mountain Gorillas and Forest Elephants. Overcrowding and a decline in resource availability will most certainly be amplified as climate change advances, ultimately threatening the survival of these wild species.



Photos: Formation, Recherche, et Environnement dans la Tshopo (FORETS), Democratic Republic of Congo © CIFOR; Chimp, Kibale © Rodd Waddington Center

About CMS

The Convention on the Conservation of Migratory Species of Wild Animals (CMS), also known as the Bonn Convention, works for the conservation of a wide array of endangered migratory animals worldwide through negotiation and implementation of agreements and species action plans. It has 130 Parties (as of 1 February 2020).

CMS engages all relevant stakeholders in addressing threats to migratory species in concert with all other aspects of wildlife conservation and management.

CMS Instruments

Animals receive protection under CMS through listing on its two Appendices, through global or regional agreements and through action plans.

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