



Climate Change & Amphibians and Reptiles

- **Climate change** refers to the **increasing changes in the measures of climate** (e.g., wind patterns, precipitation, temperature, extreme weather, lengths of seasons, etc.) **over long periods of time**. Global warming, the increase in Earth's average temperature, is only one aspect of climate change.
- Reptiles and amphibians are cold-blooded (ectothermic), which means they rely on the temperature of their environment (“ambient temperature”) to maintain physiological processes. Therefore, **changes in temperatures greatly affect how these animals survive and function**.
- Many species exhibit temperature sensitive sex determination of eggs. **Changing temperatures could alter sex ratios**, which in turn could alter reproductive rates and population dynamics.
- Climate change can affect seasonal conditions, which in turn can **affect breeding conditions**. Altering the duration, location, and/or timing of breeding seasons can have a huge impact on population sizes.
- Climate change also **affects population dynamics** of plants and insects, which are **important food sources** for reptiles and amphibians.
- **Coastal species** are not only affected by loss of habitat, but also by **increased intensity of storms**.
- Species that are mostly aquatic may encounter **altered habitats, increased habitat fragmentation, and altered chemical properties of water**, all of which can greatly affect survival rates. Many taxa are already experiencing occasional early drying of their habitats, with mass mortality of eggs, tadpoles, and metamorphosing animals.
- **About 1/3 of all amphibians are already at risk of extinction**. Leading threat factors include habitat loss, disease, invasive species, overexploitation, and chemical pollution.
- Many amphibian and reptile species have narrow tolerances for temperature and moisture requirements, which put them at **heightened risk for extinction**.