

Predicting Future Change: A Climate Change Vulnerability Index

www.natureserve.org

Our Mission

To provide the scientific basis for effective conservation action.

Learn More

Read about our overall strategy to confront climate change:
www.natureserve.org/climatechange

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Although everyone knows that the Earth is heating up and biodiversity will suffer as a consequence, we currently have few tools to help us determine which species likely will decline and which probably will not. To meet this need, NatureServe is developing a Climate Change Vulnerability Index to identify those species that are most at risk due to changes associated with warming climates.

THE CLIMATE CHANGE VULNERABILITY INDEX

The Climate Change Vulnerability Index is designed to:

- Complement, not duplicate standard conservation assessment tools such as the NatureServe ranking system.
- Be applicable to both common and rare plant and animal species, and those that may decrease or increase due to climate change.
- Use readily available information about species' natural history, distribution, and management circumstances.
- Incorporate inherent uncertainty about how species might respond to climate change in their ecological contexts.

INDEX MAKEUP

Vulnerability to climate change is associated with the magnitude of climate change within the range of a species and its sensitivity to these changes.

The Index uses a scoring system to combine these components:

- *Exposure to local climate change*, using downscaled climate predictions from The Climate Wizard (www.climatewiz.org)
- *Indirect exposure to climate change*, such as sea level rise and natural and anthropogenic barriers to dispersal
- *Species-specific sensitivity*, such as dispersal ability, reliance on mutualisms, and genetic variation
- *Documented response to climate change* in the published scientific literature.

USES OF THE INDEX

Resource managers, planners and conservationists can use the Index to:

- Assess the relative risk of a regional set of species to climate change, including species listed in State Wildlife Action Plans
- Identify the critical factors that are most responsible for causing a group of species to be vulnerable to climate change
- Complement conservation status assessments to set priorities for conservation action in a state or region
- Identify geographical areas that contain unusual concentrations of species that are threatened by climate change
- Publicize the vulnerability of a particular fauna or flora.

