



U.S. DEPARTMENT
OF THE INTERIOR
**INTERNATIONAL TECHNICAL
ASSISTANCE PROGRAM**

Global Climate Change
DOI Expertise Available to the
Global Climate Change Initiative

Specific DOI capabilities in each subject area are detailed below. While the experience described is largely based in the U.S., the expertise can and has been applied internationally.

Adaptation	Sustainable Landscapes	Clean Energy
Effective Governance for Climate Resilience Implementation of Climate Solutions Science and Analysis for Decision-Making	Development and Implementation of Policy Frameworks Biological Carbon Sequestration	Developing Renewable Energy Geologic Carbon Sequestration

Adaptation | Helping communities and countries build resilience to climate change impacts

Effective Governance for Climate Resilience

- Twenty-two **Landscape Conservation Cooperatives (LCCs)** that constitute a national network of land, water, wildlife, and cultural resource managers, scientists, and interested public and private entities organized for landscape-level management.
- **Adaptive management** training modules and an **Applications Guide on the Use of Adaptive Management in Natural Resource Decision-Making** and an **Adaptive Management Technical Guide**.

Climate Change Solutions

- **Incident Command Support** for natural disaster response.
- Assessing and responding to **extreme precipitation, flood and drought events**, including **early warning systems and emergency actions to protect critical infrastructure**.
- **Wildland Fire Management**, including fire suppression as well as risk reduction.
- Cooperative management of noxious and invasive species on public and private lands.
- Conservation of the most **climate-vulnerable species** by identifying priority water needs, addressing habitat fragmentation, managing genetic resources, and reducing non-climate stressors.
- **Education of visitors about climate impacts and solutions**.
- **Mapping, valuing, and creating payment systems for ecological services**.

Science and Analysis for Decision-Making

- Regional **Climate Science Centers** synthesize existing climate change impact data and management strategies for application by resource managers, and engage the public through education initiatives.
- Lead on the **Fifth IPCC Assessment of Climate Change Impacts, Adaptation and Vulnerability**.
- Famine Early Warning System Network, which combines remote and in situ monitoring and scenario analysis to predict and monitor drought and impacts on agriculture and food security.
- "Forecast Mekong", a climate data portal for the Lower Mekong River countries, provides downscaled climate model data for 17 climate variables to help the Lower Mekong nations adapt to climate change impacts on water resources, fisheries and agriculture.
- Inventory and monitoring programs collect, organize, and synthesize critical data on the impacts of climate change on biological and other natural resources.
- Study of the **impacts of climate change in the National Park System** provides critical documentation of trends such as upslope species migration, decreasing snowpack, tree mortality, sea-level rise, and vulnerability of ecosystems to biome shifts.

- Developing a **User's Guide to Climate Model Downscaling** and a **Management Model of the Effects of Future Climate Change on Species**.
- Developing screening facilities for retrofits for pumped **water storage**, optimizing **hydropower generation** scheduling to maximize renewable energy, and forecasting **water demand** as agricultural growing seasons lengthen and urban heating and cooling needs increase.
- **Rapid Eco-regional Assessments** improve understanding of how large, cross-border connected areas spanning similar environmental characteristics and may be altered by global climate change.
- **Guide to Climate Change Vulnerability Assessment** and **Coastal Environment Vulnerability Assessments** for sea- and lake-level changes.
- **Climate Risk Assessments and Basin Studies** assess impacts to water supply and demand on a reconnaissance level and include a baseline risk and impact assessment.
- Co-chair of the joint working group of the CITES (Convention on the International Trade of Endangered Species) Animals and Plants Committees, charged with identifying climate change impacts on endangered species, and recommending action.
- Bolstering existing satellite land cover datasets with training, analysis, and shared resources to monitor effects of climate change on land.

Sustainable Landscapes | Conserving forests and reducing deforestation to reduce emissions (REDD+)

National Policy Frameworks and Implementation

- **Land use planning** at the national and local levels; including design and application of **land tenure systems**. **Cadastral surveys** are the foundation of DOI's national land tenure system creating, reestablishing, marking, and defining land boundaries.
- Best practices for analysis of the **social impacts of land use** decisions.

Biological Carbon Sequestration

- The **LandCarbon** program is working to quantify the nation's carbon storage and carbon sequestration capacities across all major terrestrial and aquatic ecosystems.
- Building capacity to understand, apply, utilize and share **biological carbon sequestration** science.

Clean Energy | Supporting low-emission economic growth

Developing Renewable Energy

- Developed 1,000 square miles for **solar** energy to generate 100,000 megawatts of power for 29 million homes.
- Developed major **wind** projects that could generate more than 800 megawatts, enough to power 240,000 homes.
- Managing 111 million acres of public land open for **geothermal** leasing.
- Major supplier of water and hydroelectric power, responsible for hundreds of dams, powerplants and canals, including Hoover Dam on the Colorado River.
- Increasing the use of small-diameter material from forestry, fuels and rangeland treatments for **biomass** energy.
- Responsible for oversight of **offshore** wind, wave, current and solar energy. Renewable Energy Framework governs leases, easements and rights of way for environmentally responsible renewable energy projects on the outer continental shelf.
- **"Smart from the Start"** approach to permitting renewable energy projects on public lands and offshore seeks to ensure early coordination, careful review of proposed renewable energy projects, and the prioritization of projects with the greatest likelihood of success.
- Ensures transparency and broad public participation in siting decision-making for renewable energy and grid modernization projects.

- Assists industry to **minimize impacts to protected migratory and endangered species** from renewable energy development, and works to develop **streamlined permitting processes** for renewable projects on both federal and non-federal lands.
- Works with Native American and Alaska Native tribes to develop renewable energy projects.
- Climate Friendly Parks initiative **implements sustainable practices in operations** to reduce greenhouse gas emissions.

Carbon Sequestration

- Methodology to assess **carbon sequestration potential in geologic formations**.
- **Processes required for carbon capture and storage**, including leasing, permitting, right-of-way administration, and environmental impact assessment for CO₂ pipelines and injection operations.