

# Climate and Biodiversity

## Promoting Nature-Based Solutions





Great Bird Island, Antigua. © Fauna & Flora International/photo by Jenny Daltry

# About CEPF

The Critical Ecosystem Partnership Fund (CEPF) provides grants to nongovernmental and private sector organizations so they can conserve some of the most biologically diverse yet threatened ecosystems—the world’s biodiversity hotspots. The investments are even more meaningful because these regions are home to millions of people who are impoverished and highly dependent on natural resources.

The fund is a joint program of l’Agence Française de Développement, Conservation International, the European Union, the Global Environment Facility, the Government of Japan, the MacArthur Foundation and the World Bank. Enabling civil society groups to have stronger voices and exert greater influence in the world around them is the hallmark of our approach.

Our grantee partners range from small farming cooperatives and community associations to private sector partners and national and international nongovernmental organizations (NGOs).

## Our grants:

- Target biodiversity hotspots in developing and transitional countries.
- Are guided by regional investment strategies—ecosystem profiles—developed with local stakeholders.
- Go directly to civil society groups to build this vital constituency for conservation alongside governmental partners. Grants are awarded on a competitive basis to implement the conservation strategy developed in each ecosystem profile.
- Help governments meet targets related to the U.N.’s Convention on Biological Diversity, Framework Convention on Climate Change, and Sustainable Development Goals.
- Create working alliances among diverse groups, combining unique capacities and eliminating duplication of efforts.
- Achieve results through an ever-expanding network of partners working together toward shared goals.

For more information, please visit [www.cepf.net](http://www.cepf.net).

# At A Glance

**Hotspot strategies implemented**

**23**

**Grantees supported**

**2,000**

**Committed grants**

**\$192M**

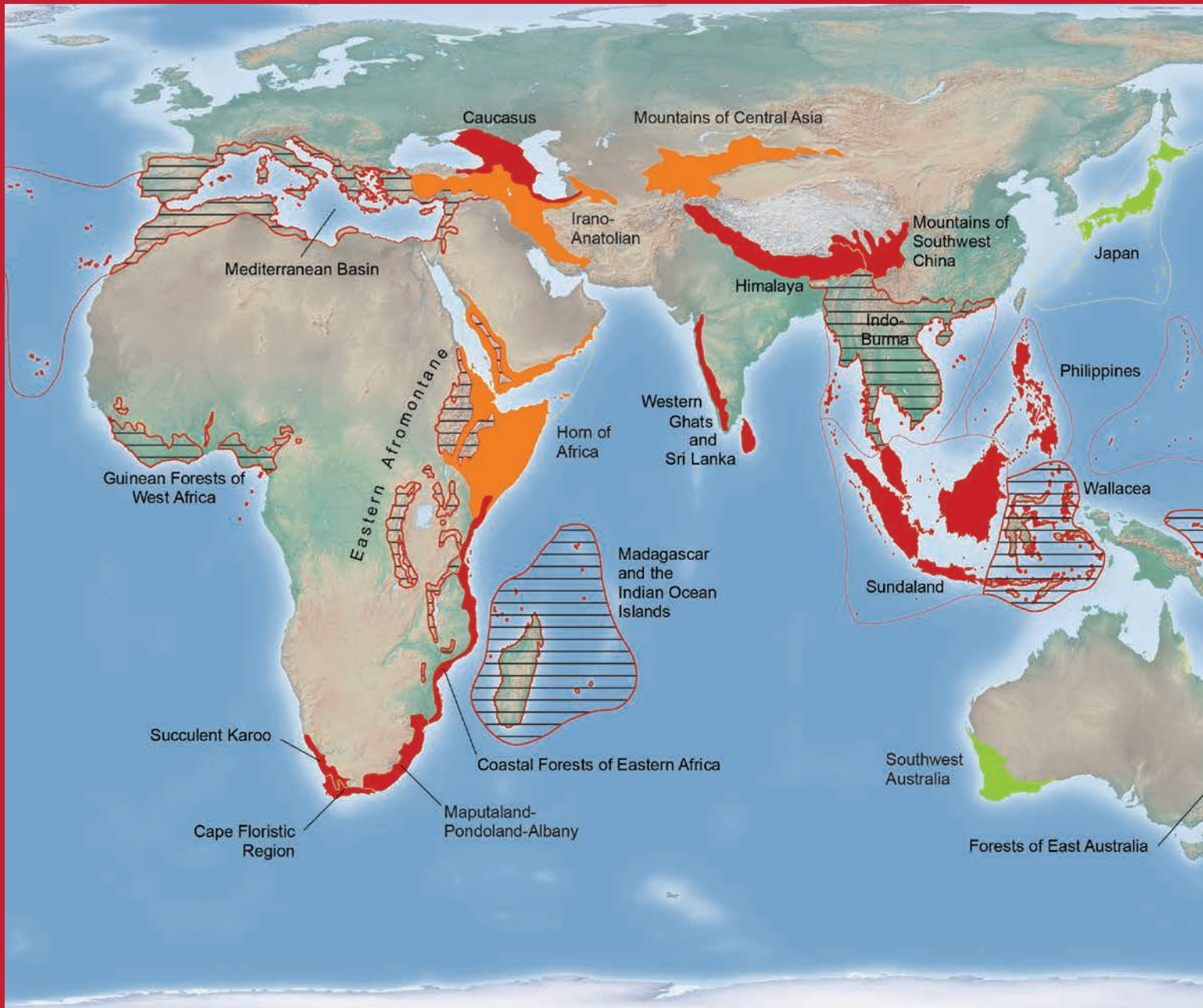
**Amount leveraged by those grants**

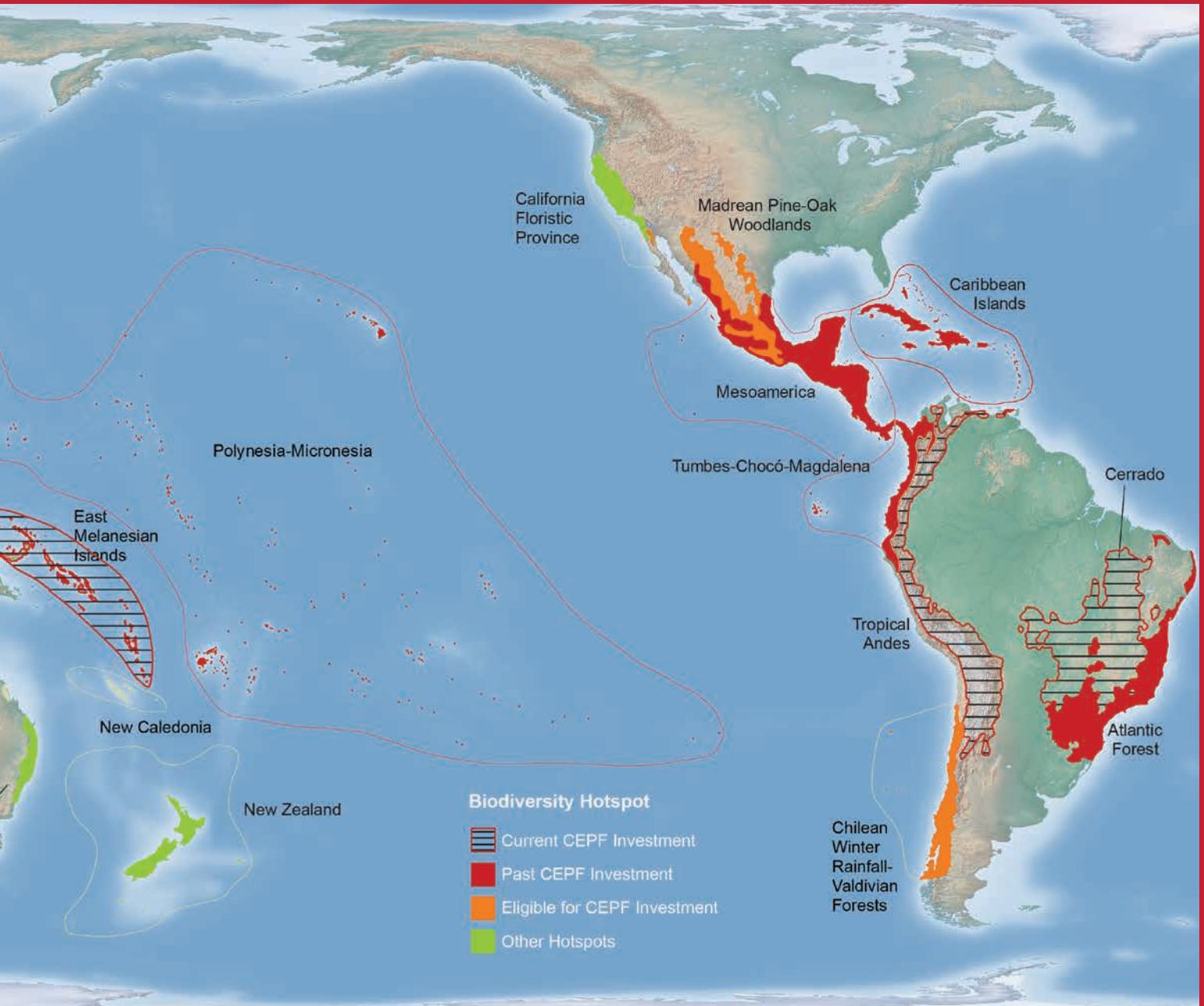
**\$347M**

**Protected areas created (hectares)**

**13M**

# Where CEPF Works





- |                                      |   |                                 |
|--------------------------------------|---|---------------------------------|
| 1. ATLANTIC FOREST                   | 9. GUINEAN FORESTS OF WEST AFRICA       | 17. PHILIPPINES                 |
| 2. CAPE FLORISTIC REGION             | 10. HIMALAYA                            | 18. POLYNESIA-MICRONESIA        |
| 3. CARIBBEAN ISLANDS                 | 11. INDO-BURMA                          | 19. SUCCULENT KAROO             |
| 4. CAUCASUS                          | 12. MADAGASCAR AND INDIAN OCEAN ISLANDS | 20. SUNDALAND                   |
| 5. CERRADO                           | 13. MAPUTALAND-PONDOLAND-ALBANY         | 21. TROPICAL ANDES              |
| 6. COASTAL FORESTS OF EASTERN AFRICA | 14. MEDITERRANEAN BASIN                 | 22. TUMBES-CHOCÓ-MAGDALENA      |
| 7. EAST MELANESIAN ISLANDS           | 15. MESOAMERICA                         | 23. WESTERN GHATS AND SRI LANKA |
| 8. EASTERN AFROMONTANE               | 16. MOUNTAINS OF SOUTHWEST CHINA        | 24. WALLACEA                    |

\* Inception through fiscal year 2016

Note: The Eastern Arc Mountains and Coastal Forests of Tanzania and Kenya Hotspot was divided in 2005; a portion of it is now part of the Eastern Afromontane Hotspot, and the remainder is part of the Coastal Forests of Eastern Africa Hotspot. Before the separation, CEPF had initiated an investment in the original Eastern Arc Hotspot and through that investment awarded grants in portions of the hotspots that are now known as the Eastern Afromontane and the Coastal Forests of Eastern Africa.

**“Reinforcing these storehouses of rich, diverse life and essential resources by working with local conservationists and empowering communities is precisely the sort of approach that, when scaled up, can make a critical difference in the effort to stave off climate-related disaster.”** Thomas E. Lovejoy



Young volunteers at mangrove nursery, Haiti. © Fondation pour la Protection de la Biodiversité Marine/photo by Jean Wiener

# Biodiversity and Nature-Based Climate Solutions



The intersection of climate change and biodiversity is a point of the utmost importance for the future of humanity. Biodiversity is especially sensitive to climate change after 10,000 years of adjusting to a stable climate. The fingerprints of climate change can be seen anywhere one looks in nature.

Beyond the many things that the diversity of life does for us, **nature offers remedies to the negative impacts of climate change:** it can help living things adapt; prevent future emissions by storing carbon; and offset some of the CO<sub>2</sub> concentrations that are already changing our world.

**Natural ecosystems can help people – particularly the poor in rural and urban areas – adapt to changes in our climate.** Sustainably managed rivers, aquifers and floodplains can help ensure water supplies and regulate flooding. Healthy coastal ecosystems such as mangroves and wetlands temper the impact of storms. Thriving grasslands counter drought and flooding. Tropical forests provide wild reserves of food and income during failed harvests. The oceans absorb heat and CO<sub>2</sub> from the atmosphere, helping to stabilize the climate.

Reducing or eliminating deforestation keeps carbon in living forest systems instead of adding to atmospheric greenhouse gas concentrations. At the same time, because a significant portion of the atmospheric greenhouse gas burden comes from the destruction and degradation of modern ecosystems, **restoration of ecosystems at a large scale could pull as much as 0.5 degree Celsius of temperature increase out of the climate change equation.** That is an impressive amount compared to the 0.85 degree Celsius of climate temperature increase already experienced since the industrial revolution. It is also an important offset considering the December 2015 global agreement to keep the global average temperature change this century to “well under 2 degrees Celsius” above pre-industrial levels, and to drive efforts to limit the temperature increase even further to 1.5 degrees Celsius.

The global community should aim to limit temperature increase to 1.5 degrees Celsius to prevent destruction of reefs due to increased water temperature and acidification, and other mass extinctions and ecosystem collapse. That can only be achieved by protecting existing ecosystems and their diversity along with an ambitious restoration program. By funding conservation efforts implemented by civil society in the world’s biodiversity hotspots, the Critical Ecosystem Partnership Fund (CEPF) is already making a major contribution to this goal. For example, CEPF supported 7 percent of the global expansion of terrestrial protected areas during the period 2001-2010. CEPF works with local and international experts, other funders, government officials and communities to develop and implement thoughtful, coordinated conservation strategies via the strengthening of civil society. This approach has proven highly effective.

This promise is chronicled here in examples of CEPF-funded work executed by international, national and local civil society organizations in developing countries and territories located in 23 of the 35 biodiversity hotspots. They clearly demonstrate **effective approaches that, when taken to scale, will help the global community address the climate challenge using nature-based solutions—solutions that also contribute to the achievement of the 2020 biodiversity targets of the Convention on Biological Diversity (also known as the Aichi Targets), and can help build necessary bridges between global climate and biodiversity initiatives. The time is right to engage the CEPF model to its full potential.**

Thomas E. Lovejoy, Ph.D.

Senior fellow at the United Nations Foundation, George Mason University professor and co-editor of “Climate Change and Biodiversity”

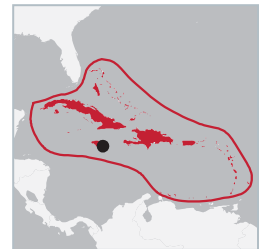


# Land Management to Prevent Carbon Emissions and Increase Absorption

Careful land management protects and restores forests and grasslands, supports sustainable agriculture and balanced use of resources, allowing people to continue enjoying, and even expand, the carbon storage provided by ecosystems. Proper management also promotes fertile soils and prevents erosion, to the benefit of farmers. Keeping these areas intact prevents further carbon emissions and additional warming. Expanding them could absorb emissions already on their way to feeding further temperature increases.

## Caribbean Islands Biodiversity Hotspot

Jamaica's Hellshire Hills and Portland Ridge key biodiversity areas include an important watershed that provides communities with fresh water, serves as habitat for many fish species and the last population of the Critically Endangered Jamaican iguana (*Cyclura collei*), and supports mangrove wetlands. CEPF grantee Caribbean Coastal Area Management Foundation (C-CAM) facilitated a climate change risk assessment for Portland Ridge and Hellshire Hills as part of the preparation of a management plan for the Portland Bight Protected Area. This is the first such plan in Jamaica to factor in climate change. The assessment determined that two of the major expected climate risks are a decrease in freshwater and coastal sedimentation and saline intrusion.



### Results

- Completed Jamaica's first land management plan to include a climate change risk assessment.
- Developed an action plan that provides strategies on climate change adaptation and mitigation, land use and development zoning, and afforestation and reforestation initiatives. Implementation is underway.





## Eastern Afromontane Biodiversity Hotspot

In eastern Democratic Republic of Congo, CEPF is supporting the Wildlife Conservation Society (WCS) to finalize the creation of Itombwe Reserve and Ngamikka National Park with the participation of local communities. These forests are among the most biodiverse in Africa, and are also watersheds that supply fresh water and hydropower to the region.



### Planned Results

- Developing official gazettement documents to complete the formal protection of these areas, as well as zoning and monitoring plans with local communities.
- Conducting feasibility assessments for implementation of Reducing Emissions from Deforestation and Degradation (REDD) projects for Itombwe, Ngamikka and Luama Katanga.

## Mediterranean Basin Biodiversity Hotspot

In the dry Anti-Lebanon Mountains on the Lebanese-Syrian border, the fragile juniper forests recharge underground water resources that are vital to maintaining a habitat that supports livestock grazing as well as a variety of rare and unique species of plants and animals, including migratory birds. Overgrazing, overhunting, logging and forest fires threaten these habitats. In response, CEPF grantee the Society for the Protection of Nature in Lebanon (SPNL) is reviving the traditional practice of Hima, a type of community-based protected area that integrates the grazing needs of local shepherds into a sustainable management plan for the land, and provides new opportunities for income for the local communities.



### Results

- Achieved municipal recognition of the new Hima for the Anti-Lebanon Key Biodiversity Area.
- Zoned areas for sustainable grazing and conservation of important plants.
- Developed a Hima management plan.
- Established an income generation initiative for the community based on the revival of traditional grazing practices, including capacity building for women on carpet weaving; for shepherds on herd health management; and for shepherds and young people in tourist guidance and guesthouse accommodation services.
- Created ecotourism packages.



## Resource Management

**With new climate-induced stresses on vital natural resources, the challenge of preventing unsustainable use increases. But planning and innovative approaches to conserving resources can ensure their long-term availability for people and nature.**

### Maputaland-Pondoland-Albany Biodiversity Hotspot

Running from the Drakensberg Mountains at the border between South Africa and Lesotho to the Wild Coast at Port St. John's, the Mzimvubu River is one of the most important, and one of the last free-flowing rivers in South Africa. The ecosystems that make up the river's catchment zone channel fresh water to the river and make that water available to 1 million human residents and the many other forms of life found here. CEPF funded multiple NGOs in the Eastern Cape Province—one of the most densely populated and poverty-stricken regions in sub-Saharan Africa—to improve the management of the Mzimvubu River catchment and ensure water quality and quantity for people and biodiversity. CEPF funded complementary efforts by Conservation South Africa, Environmental and Rural Solutions, and the Endangered Wildlife Trust (EWT) to

work with communities and local, provincial and national government entities to improve and protect the Mzimvubu catchment and the well-being of the people who depend on its water. The grantees sought to restore and maintain water, grazing and erosion control services through improved farm management.



#### Results

- Established the Mzimvubu Catchment Partnership Program, a network of more than 30 individuals and organizations that coordinates government, traditional authorities, civil society and business to ensure coordination and lesson sharing.
- Established stewardship agreements in seven villages.
- Employed 28 ecorangers to manage catchment rangelands.
- Helped herders vaccinate livestock and organized stock sales.
- Employed residents to clear invasive plants in the Ongeluksnek Nature Reserve.
- Secured nearly 20 million rand for catchment restoration.
- Worked in cooperation with the National Department of Environmental Affairs and the South African Local Government Association to help four local municipalities integrate climate change into their planning to ensure community resilience.



## Mediterranean Basin Biodiversity Hotspot

Jordan has one of the world's lowest levels of resource water availability per capita. The growing population and potential for climate change to decrease rainfall makes the future of water resources even more uncertain. These pressures highlight the importance of protecting one of the country's sources of water, the Mujib Biosphere Reserve, which borders the Dead Sea. It includes "wadis," dry river beds that fill with water during rainy periods. The reserve's complex drainage system is characterized by three large catchments that provide water flow year round in an otherwise arid region. The ecosystem also supports livestock in the area, but the numbers have degraded the rangelands and are putting a strain on resources. Jordan-based United Society for Developing Water Resources and Environment (USDWE) used CEPF funds to pilot one method for easing these pressures—a "green fodder" hydroponic growing system. At the Faqou community located in the reserve, USDWE partnered with the Faqou Agricultural Cooperative Association to introduce the new system, which grows livestock feed with minimal water usage, providing a year-round source of low-cost, high-nutrient feed. The unit generates enough green fodder to feed about 200 to 220 goats using only 100 liters of water per day. The managers of Mujib Reserve and the other reserves in Jordan are planning to secure funds to expand this technology.

### Results

- Reduced overgrazing and pollution.
- Improved local income by allowing increased livestock holdings per family.



In the Atlas Mountains of Morocco, CEPF grantee Global Diversity Foundation is working with the agricultural communes of Imegdale and Ait M'hamed to improve water and soil management in two river sub-basins. Collaborating with the communities, local governments and foundations, Global Diversity Foundation has designed local water resource development plans that include provisions for maintaining the flows of water for natural areas.

### Results

- Supported improved management of at least 1,000 hectares of agricultural land and protection of 100 hectares of natural area rich in plant diversity.
- Strengthened linkages between agro-ecology, biodiversity and hydrology by working with partners Resing and High Atlas Foundation.
- Trained and engaged community researchers to apply in-country expertise and indigenous knowledge and practice in assessing water and plant resources.
- Established plant nurseries in both communes, with tens of thousands of fruit and nut trees as well as medicinal and aromatic plants to support food security and livelihoods.
- Planned monitoring of how the project supports implementation of Morocco's National Water Plan and the Global Strategy for Plant Conservation goals as incorporated in the National Biodiversity Strategy and Action Plan.



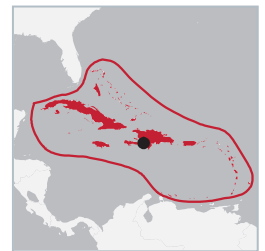


## Species-Focused Conservation

Climate change is expected to increasingly drive biodiversity loss. Already species are moving to new habitats and altering life cycles to adapt to changes in their environments. Meanwhile, the loss of biodiversity and destruction or degradation of natural areas undermine the health of ecosystems that are vital for climate change mitigation and adaptation. Studying the variety and status of native species and taking action to ensure their long-term survival helps maintain healthy ecosystems that serve as carbon storehouses and provide vital resources.

### Caribbean Islands Biodiversity Hotspot

In Haiti, NGO Arche aux Plantes is striving to save one of Earth's rarest trees, *Juniperus eckmanii*, a victim of its use as lumber and fuel. With support from CEPF, Conservatoire Botanique National de Brest in



France is working to propagate new trees from one known specimen, and Arche aux Plantes will eventually plant the trees in their natural habitat in Haiti's Forêt des Pins. More broadly, Arche aux Plantes is conducting studies to identify other rare and threatened plant species in La Forêt des Pins and take action to promote their long-term survival, which will be integrated into the forest's management plan. The organization also is working with communities to create two nurseries for native species, and community members have been trained to monitor plant species.

#### Results

- Inventoried rare plants and integrated their conservation needs into the management plan of Forêt des Pins (5,500 hectares).
- Created "Endemic Garden" featuring plants found only in the hotspot.
- Trained 10 members of a local association to recognize local endangered plants.
- Used in-vitro techniques to cultivate new *Juniperus eckmanii* trees for reintroduction in the wild.



## Eastern Afromontane Biodiversity Hotspot

CEPF is supporting Ethiopia's Gullele Botanic Garden to conduct in-situ conservation of indigenous plant species and engage local communities in conservation in key biodiversity areas Sheka Forest, Bonga Forest and Konso-Segen.



### Planned Results

- Training people in three communities to better manage and restore 50 indigenous plant species in their natural habitats, while also collecting genetic material for an additional 250 species to study and preserve at the garden headquarters in Addis Ababa.
- Restoring three degraded natural areas to healthy ecological status.
- Strengthening conservation capacity.
- Documenting and sharing data collected on plant species.
- Establishing three nurseries for indigenous plants.

CEPF is supporting Addis Ababa University (AAU) to conserve the *Labeobarbus* species of fish in Lake Tana and the Abay Basin in northern Ethiopia. AAU is working with the Fisheries and Aquaculture Center of a smaller, local university, Bahir Dar University.

### Planned Results

- Enhancing fish stock and developing catch protocols.
- Raising awareness about the threatened status of the fishery and lake.
- Incorporating better lake management into local planning.

## Mediterranean Basin Biodiversity Hotspot

The mixed cedar and oak forests of Ifrane National Park in the Middle Atlas Mountains of Morocco harbor the last large population of the Endangered Barbary macaque (*Macaca sylvanus*). Over-exploitation and overgrazing has rendered the park a mosaic of forest patches, isolating macaque populations. The CEPF grantee the Moroccan Primate Conservation Foundation worked with the University of Rennes in cooperation with the Moroccan High Commissary of Water and Forests, and with help and input from the School for Forestry, to research reconnecting the most important habitat via forest corridors.



### Results

- Collaborated with local communities to identify sites of habitat fragmentation and study the impacts of livestock grazing on these areas.
- Mapped habitat fragmentation.
- Developed a plan for restoring priority forest corridors—all the more urgent as climate change will decrease the range of cedar trees.



## Market-Based Mechanisms

**Mechanisms that provide financial incentives for grassroots conservation implementers as well as greenhouse-gas emitters and other investors are promising tools for driving conservation and sustainable development while mitigating and preventing emissions.**

### Western Ghats and Sri Lanka Biodiversity Hotspot

In the Western Ghats Mountains of India, CEPF grantee Applied Environmental Research Foundation (AERF) is working with communities in the Sahyadri-Konkan Region to develop sustainable commercial enterprises with conservation at their core. The fruit of *Terminalia chebula* and *T. bellirica* are ingredients of triphala, an important traditional Indian medicine, while the trees that produce them are keystone species in the ecology of Sacred Groves, relic forests traditionally protected in reverence of a deity.

Through the project, AERF secured certification for a community-based business harvesting and selling these fruits through a standard called FairWild, developed by the FairWild Foundation and certified by the Institute of Marketecology, Switzerland. FairWild promotes sustainable harvesting of wild medicinal and aromatic plants and ensures a fair price for all participants along the supply. Central to the project is involvement of the indigenous community, the Mahadeo Koli people from Bhimashankar Wildlife Sanctuary.



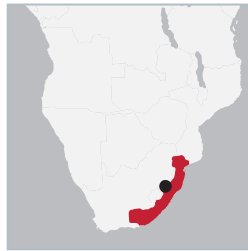
### Results

- Established a successful business based on the sustainable use of two medicinally important tree species, for which the communities are getting a premium price.
- Achieved India's first FairWild certification.
- Engaged an international buyer based in the United Kingdom for certified products in a long-term agreement.
- Registered community members as owners for as many as 2,000 trees on official land records.
- Contributed to the conservation of 700 giant specimens of *T. bellirica* in addition to preserving nesting sites of iconic bird species, such as the great Indian hornbill (*Buceros bicornis*).



## Maputaland-Pondoland-Albany Biodiversity Hotspot

WWF South Africa is expanding the established Water Neutral Program to the Upper uMngeni Valley, the major source of fresh water for the cities of Pietermaritzburg and Durban. Leveraging the contributions of corporations seeking to offset their use of water, the combined funds of CEPF and the private sector supported clearing and maintenance of land currently overgrown with invasive and alien plants.



## Additional Results

- Established biodiversity stewardship agreements with local landowners, enabling sustainable land-use management, with landowners responsible for maintaining areas cleared of alien invasive plants, and ensuring land-use management practices that prevent or minimize the risk of further invasion.
- Engaged multiple stakeholders to ensure very low levels of invasive alien plants, and optimum water flows from the Upper uMngeni River catchment.
- Cleared more than 40 hectares of invasive plants.
- Supported several landowners' participation in the stewardship process to formally protect parcels of their land.

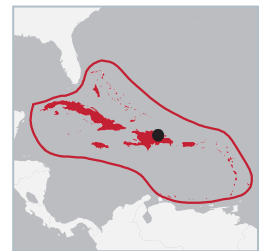


## CO<sub>2</sub> Offsets

Whether maintaining forests and selling credits to carbon emitters for avoided deforestation, or offsetting emissions by planting more trees, CEPF grantees have taken action to offset the amount of carbon dioxide in our atmosphere.

### Caribbean Islands Biodiversity Hotspot

A CEPF-funded project led by local organizations Consorcio Ambiental Dominicano (CAD), Fundación Loma Quita Espuela (FLQE) and the Sociedad para el Desarrollo Integral del Nordeste (SODIN) initiated the sale of the Dominican Republic's first forest carbon credits under its carbon offset strategy. The proceeds from the sale go to the long-term financing of the country's first private protected area, which was established by the grantees in 2012.



#### Additional Results

- Planted more than 32,000 native species with eight landowners.
- Achieved Plan Vivo carbon verification, linking cacao farmers to chocolate companies in the procurement chain who are willing to invest in restoration activities.
- Built local capacity for forest carbon technical work.
- Leveraged more than \$650,000 in private capital.





## Tropical Andes Biodiversity Hotspot

Peruvian NGO Asociación para la Investigación y Desarrollo Integral implemented a project in the Madre de Dios Region of Peru to promote REDD+ as a mechanism for sustainable conservation financing. (REDD+ is Reduced Emissions from Deforestation and Forest Degradation, plus the role of conservation, sustainable management of forests, and the enhancement of forest carbon stocks.)

The project was designed to increase understanding and technical capacity of local and regional governments, grassroots conservation groups, agricultural producers, indigenous communities and protected areas management committees.



## Results

- Developed a consensus-based deforestation map to serve as a baseline.
- Created a stakeholder-informed REDD+ strategy for the region that supports more than 700,000 hectares of forest in the Vilcambamba-Amboró Conservation Corridor.
- Strengthened ability of local NGOs, a company and a government agency to analyze deforestation and implement REDD+ projects.

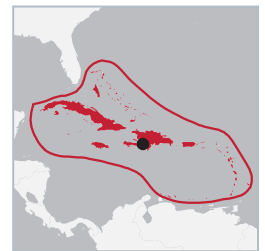


## Resilience to Extreme Weather

As the global climate continues to change, scientists expect longer and hotter heat waves, heavier rains, more frequent flooding, and more severe and widespread incidences of drought and fire. Healthy, biodiverse ecosystems can mitigate the impact of such extremes by absorbing and storing precipitation, buffering storm surge, and easing drought conditions.

### Caribbean Islands Biodiversity Hotspot

In Haiti, the impacts of climate change already damaged agriculture in the Southeast Department community of Michineau, which is part of the Massif de la Selle Key Biodiversity Area. Increased temperatures and change in rainfall patterns combined with extreme weather events and deforestation to cause erosion, loss of arable soil and mudslides. With support from CEPF, NGO Agronomes et Vétérinaires sans Frontières and local partner Coordination Régionale des Organisations du Sud- Est (CROSE) built on work with local farmers that they began in 2007.



#### Results

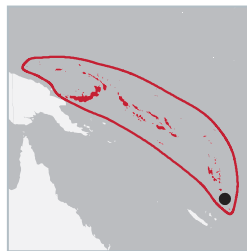
- Reforested land and installed anti-erosion devices such as stone walls and grass strips.
- Evaluated local biodiversity.
- Developed a management plan.
- Established long-term protection of 5 hectares of forest and reforestation of 20 hectares. Since 2007, the area has seen a 17.2 percent increase in forested land.



## East Melanesian Islands Biodiversity Hotspot

On the island nation of Vanuatu, in Tafea Province, the New York Botanical Garden is working with local communities to conserve forests and develop water supply systems from them. Destruction and fragmentation of natural habitats such as forests, as well as expansion of invasive species and the change from subsistence farming to consumer-style cash economies are combining to make Vanuatu more vulnerable to the impacts of climate change and associated extreme weather.

The project seeks to conduct baseline surveys of plant species to document biodiversity and traditional knowledge related to it, and to build local capacity for related research among key government, scientific, cultural and community-based institutions.



## Results

- Worked with customary landowners in eight villages to identify forest-based sources of clean water.
- Established systems to restrict damage to seedlings by non-native herbivores.
- Identified areas for rehabilitation as agro-forests.
- Planned conservation areas to improve water catchment from these forested areas, including by installing new water supply systems where these have been badly damaged or destroyed by Cyclone Pam.



## Sustainable Livelihoods

**CEPF grantees in the biodiversity hotspots work with communities to develop sustainable livelihoods that provide incentives for maintaining natural habitats and serve as alternatives to activities that overuse ecosystem resources, including forests and other natural habitats that serve as carbon storehouses and buffers to severe weather.**

### Indo-Burma Biodiversity Hotspot

Two CEPF grantees are implementing complementary projects focused on Cambodia's Stung Treng Ramsar wetland complex and the people who make their livelihoods from the site.



The 40-kilometer stretch of the Mekong River is characterized by largely undisturbed channel islands providing refuge for highly endangered species such as the Irrawaddy dolphin (*Orcaella brevirostris*), and giant and white-shouldered ibises (*Thaumatibis gigantea* and *Pseudibis davisoni*, respectively), as well as ecosystems of prime importance. The wetlands help

regulate quality and flow of fresh water, and mitigate the impact of extreme weather such as flooding, giving the wetlands a vital role in mitigating potential impacts of climate change. They also provide food and support livelihoods for local fishermen and farming communities. In 2014 CEPF began providing funds to WorldFish Center to reconcile conservation of critical habitats and species with sustainability of local livelihoods through ecosystem-based fisheries co-management between local communities and government.

#### Planned Results

- Establish fish conservation zones and a learning network among community fisheries.
- Engage local communities in long-term management planning and implementation for the Ramsar site.
- Strengthen and scale up the fish conservation zone approach within the Ramsar site.

Meanwhile, grantee Cambodian Rural Development Team is complementing the WorldFish Center project by working to change local perceptions related to biodiversity conservation.

#### Planned Results

- Reduce threats to natural resources by improving cooperation for conservation between local communities and the relevant authorities.
- Increase local appreciation of the values of the Ramsar site.
- Develop and disseminate a user-friendly version of the management plan.
- Empower communities to make decisions with natural resource management and conservation in mind.



## Eastern Afromontane Biodiversity Hotspot

The Sheka Forest Biosphere Reserve consists of 238,750 hectares of mixed use landscape that is home to 300 plant species, 50 species of mammals, 200 species of birds and 20 species of amphibians. The forest stores carbon and protects freshwater resources while also providing food, shelter, spices and medicinal plants to local communities. Through a CEPF-supported project, Ethiopian organization Movement for Ecological Learning and Community Action (MELCA) helped form and train local cooperatives in sustainable livelihoods such as beekeeping and wild spice collection and propagation as part of an effort to help local communities and biodiversity thrive, even under the added strain of climate change.



## Results

- Developed a stakeholder-informed management plan that has been endorsed by the Sheka Zone House of People's Representatives, and is published in Amharic and English.
- Helped make a multi-stakeholder management structure become functional, having placed 92 signposts around the core zones, trained 40 community rangers and trained four focal people as community ombudsmen.
- Provided training for cooperatives established around non-timber forest livelihoods, such as beekeeping and wild spice collection and propagation.
- Raised community awareness about the biosphere reserve and core zones among 300 students and 3,000 community members, and managed forums with the community and local industry.

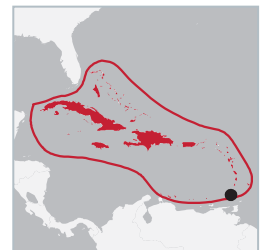


## Policy

**Civil society organizations play an important role in providing the scientific and conservation expertise regional and national governments need to establish policies that will help their citizens and natural resources avoid and/or adapt to the impacts of climate change.**

### Caribbean Islands Biodiversity Hotspot

In Grenada, CEPF is supporting a partnership between the Grenada Dove Conservation Program, the Grenada Forestry and National Parks Department, and the University of Chester in the United Kingdom to model climate change impacts on Grenada's dry forest and develop a framework for managing this important ecosystem. "We're seeing changes in the seasons, in the duration of the seasons, and the amount of rain or lack thereof, including a couple of significant droughts island-wide," said Bonnie Rusk, director of the Grenada Dove Conservation Program, of evidence of climate change on the island. Grenada's remaining dry forests are disappearing as developers target the forests' prime coastal location.



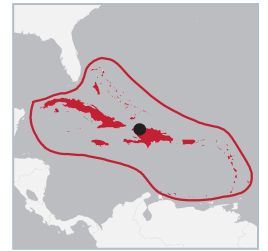
But the forests play an important role in providing fresh water, preventing erosion, and protecting mangrove and offshore habitats. The forests also are the preferred habitat of the Critically Endangered Grenada dove (*Leptotila wellsi*), and are home to many other species. Some of the most important fish nurseries in Grenada are in the area.



## Results

- Completed modeling of climate change projections for dry forests. Results of the modeling will be used to inform government policies and guide specific adaptation and management actions.
- Held a workshop with more than 20 attendees from governmental, NGO and community sectors to develop adaptation action plans.
- Planned integration of stakeholder selected priorities for adaptation actions into national policy and budget.

Haitian organization Fondation pour la Protection de la Biodiversité Marine (FoProBiM) received funding from CEPF to coordinate stakeholder networking for biodiversity conservation and to develop the Caracol Coastal and Marine Management Initiative. FoProBiM worked with government agencies to protect more than 800 hectares of mangroves and more than 10 miles of sea turtle nesting beaches within the Massif-Plaine du Nord Conservation Corridor. Mangroves play a vital role in moderating climate change impacts such as sea level rise and intense storms.



## Additional Results

- Encouraged the Haitian Ministry of Environment to adopt a resolution to protect Haiti's mangroves, an action the ministry took in 2013. The ministerial decree also banned people from cutting, selling or otherwise making use of mangrove trees.
- Initiated development of environmentally friendly, sustainable income-generating activities by training teams to monitor sea turtles, helping communities develop beekeeping as a livelihood, and development of mangrove nurseries.
- Engaged more than 400 children and adults in environmental education activities.



## CEPF and Small Island Developing States

The world's small island developing states (SIDS) are among the areas that are most vulnerable to climate change. The already delicate balance of nature and people on islands is threatened by sea level rise and increasingly extreme weather that risks lives, vital natural resources and fragile economies. They are also among the parties least responsible for climate change.

Since its inception in 2000, CEPF has supported projects that have benefited 31 SIDS. It has supported 277 projects in SIDS, valued at more than \$27 million. CEPF's funding has targeted the strengthening of key biodiversity areas and unique ecosystems that help sustain local residents and serve as a buffer to increasingly severe storms.

Currently investing in multiple-island biodiversity hotspots such as the East Melanesian Islands (Vanuatu and the Solomon Islands, and the islands region of Papua New Guinea), Wallacea (Timor-Leste), and Madagascar and the Indian Ocean Islands (Seychelles, the Comoros and Mauritius), and supporting other areas that include islands, CEPF seeks to help build local conservation leadership and the resilience of island biodiversity, ecosystems and communities to ensure a promising future.







## New Biodiversity Conservation Investments

As part of CEPF's mission to support biodiversity conservation where it is most urgently needed, CEPF is launching investments in 2016 in:

- Tropical Andes biodiversity hotspot, including the Andes Mountains of Venezuela, Colombia, Ecuador, Peru, Bolivia and the northern tropical portions within Argentina and Chile.
- Cerrado biodiversity hotspot, which covers more than 2 million square kilometers in central Brazil, an area about the size of Mexico, and extends marginally into Bolivia and Paraguay.
- Guinean Forests of West Africa biodiversity hotspot, which covers two subregions. The first subregion, the Upper Guinean Forests, stretches from Guinea in the west, through Sierra Leone, Liberia, Côte d'Ivoire, Ghana, Togo, and, marginally, into Benin. The second subregion, the Lower Guinean Forests, covers much of southern Nigeria, extends into southwestern Cameroon and also includes São Tomé and Príncipe, and the offshore islands of Equatorial Guinea.

CEPF also has emerging portfolios in:

- Madagascar and the Indian Ocean Islands biodiversity hotspot, which includes the island nations of Seychelles, Comoros and Mauritius.
- Wallacea biodiversity hotspot, located in Timor-Leste and Central Indonesia.

All of these regions and their biodiversity are being altered by climate change, and helping species and communities be resilient in the face of this change is part of CEPF's strategy. These hotspots also present opportunities to take action to prevent further carbon emissions and offset those already taking place, opportunities CEPF will act on.



**“The negative dimension of this relationship, namely that climate change will strongly accentuate the erosion of biodiversity, is frequently mentioned. The sixth wave of extinction is already well underway, and will intensify under the impact of global change, it is a fact! Scientists predict the disappearance of about 25 percent of living species by 2050. But the positive relationship between climate and biodiversity is rarely highlighted. Biodiversity is our best ally yet to mitigate the consequences of climate change. Oceans and forests, as natural carbon sinks, absorb the most CO<sub>2</sub>. Mangroves and coral reefs offer protection from storms and sea level rise, while wetlands limit the devastating floods.”**

Arnaud Greth, founding president of Noé, a CEPF grantee





*Dactylorhiza cordigera*, Jablanica Mountain, Macedonia. © Thomais Vlachogianni



Orangequit (*Euneornis campestris*), found only in Jamaica. © Olivier Langrand

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