Post-doctoral Fellows in Nature-based Climate Solutions

Solving the climate crisis requires a suite of strategies, including efforts to increase carbon stocks within natural systems like forests, soil and oceans while reducing net greenhouse gas emissions from these systems. The idea of large potential increases in carbon stocks within the biosphere has led to bold proposals with varying levels of science-based understanding of the realizable scale, efficacy or potential tradeoffs involved. The situation risks under-delivering on the climate benefits possible by drawing attention and investment to efforts with limited or even damaging impacts.

A cohort of 4 Post-Doctoral Fellows will be working on EDF's Nature-based Climate Solutions (NbCS) project. The overall intent of this project is to address two of the largest barriers to effective carbon credit markets: lack of clear scientific understanding and consensus on the realizable carbon storage or removal potential of the vast array of natural carbon sinks, and lack of market confidence in the integrity of carbon credits available for purchase. The NbCS team conducts research and convenes stakeholders to find agreement on the science, policy frameworks, measurement and accounting standards that underpin high-integrity credits. The project focuses on natural climate solutions where we can accelerate carbon storage most quickly because of the scale of the potential storage and the current interest in those credits. These include the management, use and protection of tropical and temperate forests, agricultural soils, and oceans.

Each Fellow will work on a key component of the project over a two-year term. Please select the hyperlinked job title below for detailed information on each Fellowship, including key responsibilities, qualifications, job location, and application instructions.

The **Post-doctoral Fellow, Open Ocean Carbon Storage** will **evaluate** and quantify open ocean biogeochemical cycles and ecological relationships to scope and scale blue carbon sequestration potential in the deep sea. The fellow will help EDF staff and partners build scientific consensus around the processes that make up the biological pump to drive the development of new options for utilizing this blue carbon pathway to facilitate additional carbon dioxide removal. The fellow will identify, convene and collaborate with experts to develop an initial scientific consensus on the status of knowledge, priorities for improved scientific understanding, and preliminary recommendations related to the potential benefits and the risks of possible interventions to accelerate the ocean biological pump. In addition to individual research products and publications, the fellow will work with members of the EDF Oceans Science Team to draft an initial strategy for EDF engagement on oceanic blue carbon and work to build partnerships and constituencies for high-quality ocean carbon storage.

The **Post-doctoral Fellow, Agricultural Soil Carbon Storage** will conduct research and analysis of social and economic constraints on realizing the full biophysical potential of carbon storage in agricultural soils. With this fellow, EDF seeks to refine existing spatial estimates of the magnitude of potential agricultural soil carbon storage by incorporating realistic social and economic constraints and geospatial uncertainty. The research will initially focus on the midwestern U.S. corn/soy landscape, then expanding to cover the contiguous US and potentially 1-2 other countries. The fellow will analyze datasets, identify and convene experts to develop specific questions for spatial analysis, and develop spatial syntheses to

estimate the realistic scale of this nature-based climate solution. Results will be integrated with the spatial estimates of biophysical soil C storage on existing data platforms. The resulting syntheses and conclusions will provide the basis for publications and for sound policy development to enable global net zero emissions by 2050.

The **Post-doctoral Fellow, Carbon Storage Economics and Policy** will conduct research and analysis on different approaches to the creation of high-integrity tropical forest carbon credits, with a particular focus on jurisdictional and nested approaches relative to independent smaller projects. Beginning by synthesizing and refining existing work, this will include analysis of the environmental integrity (e.g., uncertainty, additionality, permanence), costs, administrative feasibility, as well as likely supply and co-benefits under different approaches. The fellow will convene and connect with experts to help assess existing knowledge – identifying points of difference, resolving them where possible and otherwise understanding the implications of these differences in perspective or beliefs. The focus will be on international compliance and voluntary markets, with both countries and companies as potential credit buyers. Our geographic focus will initially be on Brazil and may expand to one other country. The fellow will help to produce a series of briefs and papers that jointly provide comprehensive guidance to effective design and operation of crediting systems. The fellow will gain technical skills and practical knowledge working closely with EDF economists, scientists and other policy, legal and finance experts at the interface of environmental economics research and international climate policy development.

The **Post-doctoral Fellow, Carbon Storage - Temperate Forests** will work collaboratively with other scientists to research the potential for enhanced carbon storage opportunities in temperate forests. The fellow will focus on developing estimates for realistic forest carbon storage opportunities and methods for quantifying the net climate impact of a range of forest landscape conservation and management alternatives. The results will inform policy and markets for high quality forest carbon credits**.** This effort will involve collaborating with a diversity of scientists involved in understanding forest carbon stock changes at varied spatial scales. It will also involve collaborating with a range of civil-society organizations interested in the management of forest resources as a climate mitigation tool as well as a source of sustainable forest products. The resulting insights will provide the basis for publications and for strengthening policies that enable global net zero greenhouse gas emissions by 2050.

For more information each Fellowship and other opportunities, please visit us at our Fellowships and Internships Careers Page. For any questions on these Fellowships, please email us at fellowships@edf.org.

EDF envisions a world in which people from all backgrounds and experiences feel connected to the environmental challenges we face and are engaged in creating durable, equitable solutions. We seek talented candidates who share our Core Values of Respect, Results, Innovation, Optimism, and Integrity, and support our Commitment to Diversity.

Environmental Defense Fund is an equal opportunity employer where an applicant's qualifications are considered without regard to race, color, religion, sex, national origin, age, disability, veteran status, genetic information, sexual orientation, gender identity or expression, or any other basis prohibited by law.

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