

Belmont Forum
Climate, Environment, and Health 2

Annex for United States Department of the Interior

Duration of time:	3-4 years
Country/(ies) supported	DOI is interested in building collaboration with all countries and regions, with a particular emphasis on Latin America and the Caribbean, Southeast Asia, and Sub-Saharan Africa.
Description/qualifications of eligible participants	N/A
Stipulations for the maximum number of researchers in the consortium	None
Type of contribution + amount of contribution (K€)	<p>In-kind</p> <p>The U.S. Department of the Interior (DOI) offers in-kind support for collaborative, transdisciplinary research and capacity-building projects that improve scientific understanding and global response to climate-facilitated spillover of disease from natural habitats and wildlife, and the degradation of ecosystem services critical for human health.</p> <p>DOI can provide in-kind staff expertise (and access, as appropriate, to relevant DOI data) to support selected CEH2 research and capacity-building projects that address DOI priorities in tackling the nexus between climate change, habitats, ecosystems, wildlife, and disease spillover risk. DOI can also assist in identifying potential project partners and developing consortia, including by connecting project partners to U.S. university and Tribal college networks through the Cooperative Ecosystem Studies Units Network and the Cooperative Fish and Wildlife Research Units Network.</p> <p>Through the U.S. Geological Survey, the U.S. Fish and Wildlife Service, the National Park Service, the Bureau of Land Management, and the Bureau of Indian Affairs, DOI's expertise relevant to pathogenic spillover from nature to humans includes:</p> <ul style="list-style-type: none"> ▪ Monitoring and modeling the health of ecosystems, habitats, and biodiversity, including the impacts of climate change, natural disasters and other

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	<p>ecological disturbances that can degrade ecosystem services and increase spillover risks.</p> <ul style="list-style-type: none"> ▪ Surveillance of wildlife health and detection, prevention, and response to risks of human exposure to zoonotic and vector-borne pathogens. ▪ Assessing gaps and needs, and in response, building capacity for improved wildlife health surveillance domestically and abroad. ▪ Developing networks among experts in ecology, wildlife, domestic animals, human health and behavior, and other relevant disciplines and sectors to support the evolution of One Health approaches to predicting and mitigating spillover risks, and to disease detection, prevention and response. ▪ Integrating multiple data tools and sources to improve spillover risk prediction and disease detection and response capabilities, including remote and in situ monitoring and surveillance, as well as modeling and forecasting changes in climate, land use, habitats, biodiversity, and other dynamic processes. ▪ Designing landscape-level conservation strategies, based on common scientific understanding and consensus among diverse stakeholders, that address the linkages between climate change, wild habitats, wildlife movement, agriculture and animal husbandry, natural resource exploitation, and other human activities. ▪ Engaging citizens, including youth, women, and marginalized communities, in research efforts that improve understanding of the nexus between climate change, ecosystems, biodiversity, and human health risks, while promoting evidence-based interventions that lead to behavioral change. ▪ Integrating the knowledge and engagement of indigenous peoples and local communities in ensuring healthy landscapes and ecosystems.
Maximum amount that can be requested per project or by researcher (K€)	N/A
Restrictions for use of funds	DOI's support will be subject to the budgetary and human resource constraints and data-sharing policies of its operating units. External funding will help DOI better leverage its internal expertise as well as that of additional partners.
Specific themes within the call	Research and capacity-building projects that would advance DOI's priorities include:

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	<ol style="list-style-type: none"> 1. Linking ecosystem, wildlife, animal, and human health disciplines to increase global health security. 2. Developing predictive tools to help locate and quantify risks of EID spillover from nature to humans, and how climate change and other drivers influence those risks. 3. Assessing needs and gaps, and building capacity for surveillance to understand those risks, support predictive tools and response measures, and link ecosystem, wildlife, animal and human health disciplines. 4. Engaging citizen scientists to help monitor those risks. 5. Integrating indigenous and local knowledge into scientific best practices to understand, monitor and mitigate these risks. <p>Specific research priorities of DOI include:</p> <ol style="list-style-type: none"> 1. Novel intervention measures to mitigate impacts of climate change on the relationships between wildlife and human hosts, pathogens, and the environment for a variety of diseases including but not limited to coral reef disease, white nose syndrome, novel corona viruses, influenza viruses, tick-borne diseases, rabies, sylvatic plague, and transmissible spongiform encephalopathies. 2. Reducing the negative impacts to human, wildlife and domestic animal health from changes in vector phenology and transmission of vector-borne pathogens in response to a changing climate. 3. Reducing the negative impacts on human, wildlife and domestic animal health from increasing fresh water and marine harmful algal blooms in a changing climate. 4. Studying the impacts and etymology of bat-borne diseases. 5. Building and maintaining a database of wildlife disease cases to support surveillance and response measures and the assessment of climate change impacts.
Capacity Building Activities Supported	DOI encourages project proposals that include a focus on building capacity for monitoring, detection, and response to emerging infectious disease; understanding the role of climate change in influencing EID risk; and for collaboration and building networks across disciplines, sectors, and geographies.
Where to submit proposal	www.bfgo.org

[Additional information]	<p>In its 2020 Workshop Report on Biodiversity and Pandemics, the Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES) noted that “a synergistic effect” between climate change, land-use change, and biodiversity loss has led to important emerging infectious diseases (EIDs). IPBES predicted that climate change “will likely cause substantial future pandemic risk by driving movement of people, wildlife, reservoirs, and vectors, and spread of their pathogens.” The Report recommends closing critical knowledge gaps in understanding the relationship between climate change, extreme weather events, ecosystem degradation and landscape structure, and emerging disease risk. It also emphasizes valuing the engagement and knowledge of indigenous peoples and local communities in these efforts.</p> <p>Effectively reducing spillover risk requires expertise from a wide range of disciplines, including biologists, ecologists, animal and human health experts, disaster risk managers, data scientists, social scientists, and policy makers.</p>
GPC point of contact	<p>National Park Service:</p> <p>Thomas E. Fish, Ph.D. National Coordinator Cooperative Ecosystem Studies Units Network Tom_Fish@nps.gov</p> <p>U.S. Geological Survey:</p> <p>Matthew E. Andersen Senior Scientist for Biology, International Programs mandersen@usgs.gov</p> <p>DOI Office of International Affairs:</p> <p>Lawrence Sperling Senior Adviser Lawrence_Sperling@ios.doi.gov</p>