

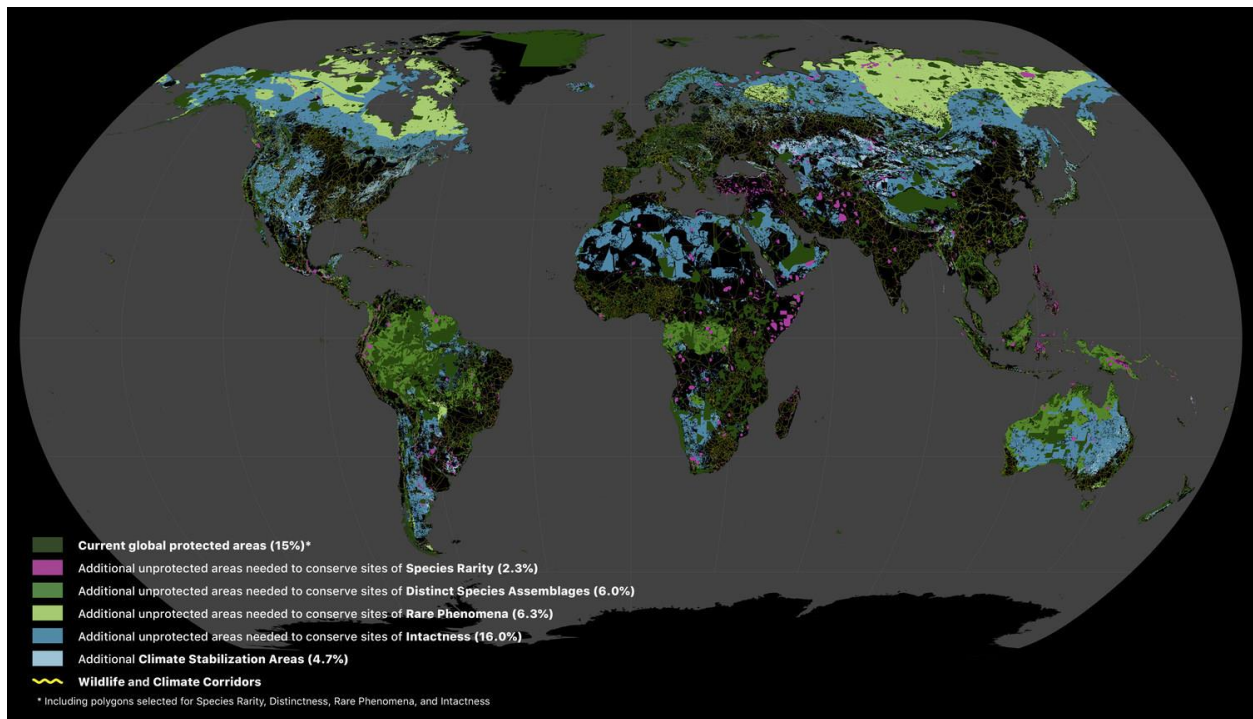
## PRESS RELEASE

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**SCIENTISTS RELEASE ‘BLUEPRINT’ TO SAVE CRITICAL ECOSYSTEMS AND STABILIZE THE EARTH’S CLIMATE**

*Research effort shows how natural lands can be protected and linked together to support a global recovery that benefits both biodiversity and human welfare.*

WASHINGTON, D.C. – A group of scientists and experts produced the first comprehensive global-scale analysis of terrestrial areas essential for biodiversity and climate resilience, totaling 50.4% of the Earth's land. The report was published today in *Science Advances* entitled “A ‘Global Safety Net’ to reverse biodiversity loss and stabilize the Earth’s climate,” and highlights the importance of protecting and restoring the natural world to address three converging crises -- climate change, the loss of biodiversity, and the emergence of novel viruses such as COVID-19.



*Using global biodiversity and carbon spatial data, the Global Safety Net identifies terrestrial areas where expanding protection to approximately half the Earth can reverse biodiversity loss and stabilize the climate. Shown here is a visualization of the Global Safety Net.*

The research team was led by the research organization RESOLVE in collaboration with the University of Minnesota, Arizona State University, Globaia, and others with support from One Earth. The data compiled for the Global Safety Net (GSN1) is available through an interactive web application developed by One Earth in partnership with Google Earth Engine. Users can click on a country, state, or ecoregion to see configurations of biologically important land for each region.

The two-year research effort builds upon multiple global-scale data sets to identify areas that require conservation beyond the 15.1% of land area currently protected. These are compiled into five main layers at a 1 km resolution: Species Rarity Sites, High Biodiversity Areas, Large Mammal Landscapes, Intact Wilderness, and Climate Stabilization Areas.

The report concludes that an additional 35.3% of land is needed to conserve sites of particular importance for biodiversity and ecosystem services. Fifty ecoregions and twenty countries contribute disproportionately to the total. One immediate priority identified is the protection of 2.3% of land area, which provides critical habitat for the world's most endangered species.

The paper presents for the first time a "common but differentiated" approach for area-based targets under the United Nations Convention on Biological Diversity, which will be held next year in Kunming, China. Each of the world's 846 ecoregions has a unique combination of layers, offering recommended area-based conservation targets for each country.

The analysis includes estimates of carbon storage by layer, making the same map relevant for government commitments under the Paris Climate Agreement (UNFCCC). It also highlights the vital role of indigenous lands in protecting biodiversity and reversing climate change, which cover 37% of the Global Safety Net area.

A complementary global-scale connectivity analysis was performed by the research organization Globaia, demonstrating that a relatively modest land area – approximately 350 million hectares – could connect isolated fragments of nature together, increasing the resilience of ecosystems and our biosphere as a whole.

**Author quotes:**

Eric Dinerstein, PhD (Resolve)

*This is the first digital map of its kind to create a 'blueprint' for saving life on Earth. It builds upon the current network of protected areas but weaves in currently unprotected parcels that conserve the biological wealth of Earth. By connecting these parcels with wildlife corridors, these vital strands create a true safety net, one that can inoculate us from further biodiversity loss and future pandemics by conserving habitats where zoonotic diseases are likely to cross over to human populations.*

Carly Vynne-Baker, PhD

*The Global Safety Net shows a way forward to conserve wild places and ensure that nature isn't something left in a few remote, far off places. All of humanity deserve access to nature and the myriad of benefits it provides to our mental, physical, and spiritual health.*

Anup Joshi, PhD (UMN)

*Forest plays a major role in carbon sequestration, which is crucial for achieving the global warming targets set by the Paris Climate Agreement. The Global Safety Net finds that 1/4 of Earth's land area is forested (32.8 M km<sup>2</sup>), only 28% of which is protected. Protecting the remainder of these forests, which contain more than 1.3 trillion tonnes of carbon, are vital to maintaining the balance of our global climate system.*

Greg Asner, PhD (ASU)

*The Global Safety Net is a powerful global roadmap to mitigate climate change and avert the collapse of our natural biological infrastructure. The GSN is actionable at all scales, from local to national, but it is imperative that national governments act quickly to develop detailed action plans to achieve these goals.*

Manno França (Globovia )

*Biological corridors are the synaptic connections of habitats. Without them, ecosystems would eventually fade out and cease to exist. In a rapidly changing world, the connectivity between protected areas and indigenous lands is vital to the survival of ecosystems and the genetic flow of species.*

Tanya Birch (Google Earth Engine)

*We now have a detailed global map to help guide policy in restoring humanity's relationship with nature. At a time when we need to understand the Earth as a system more than ever before, Google has spent over a decade developing technologies for analyzing the planet at unprecedented scales. By leveraging advanced computer technologies, the Global Safety Net offers an actionable and dynamic roadmap for saving our planet. Technology enables science at scale... and the science is clear, the time to act is now.*

Karl Burkart (One Earth)

*If we surpass 1.5°C in global average temperature rise, it will be difficult if not impossible to achieve the goals of the UN Convention on Biodiversity. And if we fail to protect lands for ecosystem services and carbon sequestration, we will not be able to achieve the Paris Climate Agreement. The two conventions are intertwined. There is a very finite amount of natural land that could be converted to human uses before we lose the 1.5°C window. Therefore, we need to protect all remaining natural lands by 2030 – approximately 50% of the Earth – in order to save biodiversity and stabilize our global climate system.*

## **ABOUT RESOLVE**

RESOLVE is a Washington, DC-based non-profit research organization that forges sustainable solutions to critical environmental, social, and health challenges by creating innovative partnerships where they are most needed. The Biodiversity and Wildlife Solutions Program

tackles the most pressing conservation problems of our time – the extinction of endangered wildlife and threats to habitats – through technological innovation, ambitious global agreements, and targeted land conservation.

#### **ABOUT ONE EARTH**

One Earth is a philanthropic organization working to accelerate collective action to stay below 1.5°C through three pillars of action – renewable energy transition, nature conservation, and regenerative agriculture. One Earth’s mission is to inspire greater ambition and collaboration in the philanthropic sector, and to drive urgently needed resources where they’re needed most – to frontline leaders and organizations working to build a just, vibrant future for all.

#### **ABOUT GLOBAIA**

Globaia is a non-profit organization dedicated to the promotion of planetary stewardship through the advancement of science-based, transdisciplinary approaches to understanding the major socioecological issues of our time. Merging art and science, Globaia produces cutting-edge research and media to help visualize our interconnected world and the ever-evolving relationship between human societies, living environments, and planet Earth.

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#### **LINKS**

(1) The paper in Science Advances: <https://advances.sciencemag.org/content/6/36/eabb2824>

(2) Interactive web application: <https://globalsafetynet.app>

(3) Country rankings: <https://www.globalsafetynet.app/rankings/>

(4) The Global Safety Net Video: <https://vimeo.com/455320291>