UC **SANTA BARBARA**
National Center for Ecological Analysis and Synthesis

Environmental Problem-Solving with Impact

Since 1995, NCEAS has been a transformational force in ecology and the environmental sciences. As **pioneers of synthesis research** in these fields, we've ushered in a cultural shift that has enhanced science's capacity to serve society and inform solutions.

Our **working group model**, which brings together diverse experts, has been replicated by over 20 institutions around the world because of the increased productivity and problem-solving capacity it enables.

Our **postdoctoral program**, in which early career researchers uniquely design their own research, has launched the careers of some of today's top environmental scientists.

As leaders in **environmental data science**, we've developed computing infrastructure and trainings that make the discovery process more efficient, transparent, and reproducible, leading to results that are highly useful for decision-making.

Our research doesn't stop at results. The scope of understanding enabled by our approach, in tandem with our innovative partnerships, positions our science to inform **on-the-ground solutions**.

Our working groups have published nearly
3000 academic papers

More than **1/2** **of working group participants represent non-academic sectors**

Over 135 researchers have launched their careers as NCEAS postdoctoral fellows

Nearly **70** countries have been represented in our working groups

Nearly 4,900
individuals have participated in NCEAS working groups

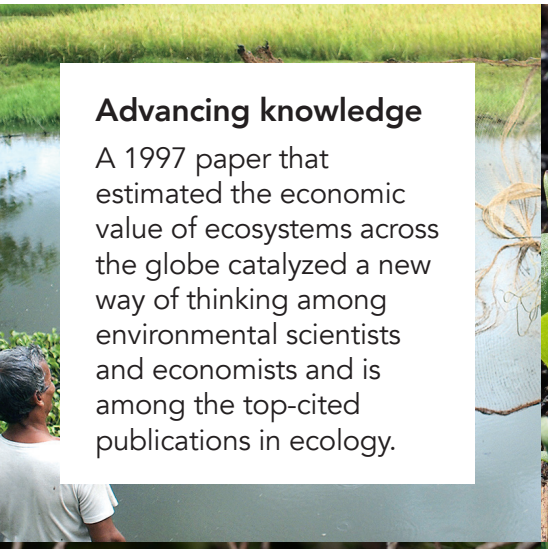
Gender balance has increased steadily, **with women accounting for 45% of working group participation**

"NCEAS has connected me to so many different ideas and people, earlier on as a postdoc and then through the years. I cannot overstate how valuable NCEAS has been to individuals and to the scientific community."

FIORENZA MICHELI · Professor & Co-Director of Stanford University's Center for Ocean Solutions · NCEAS postdoc '96-98

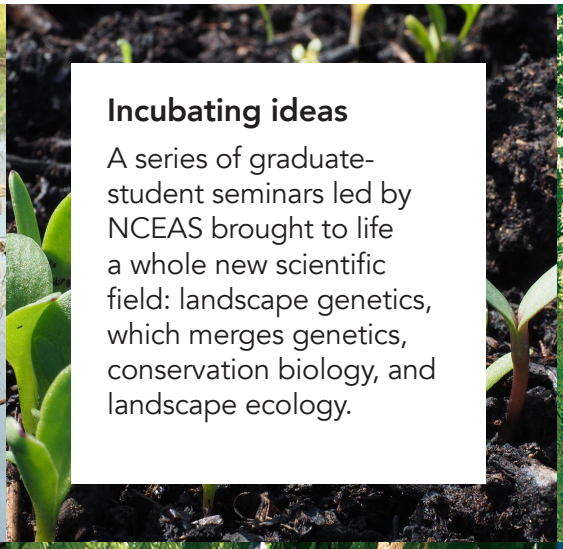
Solutions-Oriented Science Grounded in Big-Picture Thinking

NCEAS has supported nearly 500 innovative working groups to date.
Here is a sampling of their impacts. See more stories at nceas.ucsb.edu



Advancing knowledge

A 1997 paper that estimated the economic value of ecosystems across the globe catalyzed a new way of thinking among environmental scientists and economists and is among the top-cited publications in ecology.



Incubating ideas

A series of graduate-student seminars led by NCEAS brought to life a whole new scientific field: landscape genetics, which merges genetics, conservation biology, and landscape ecology.

Building networks

The Nutrient Network is a productive global research cooperative that emerged from an NCEAS working group to advance understanding around human impacts on grassland health.

Improving planning

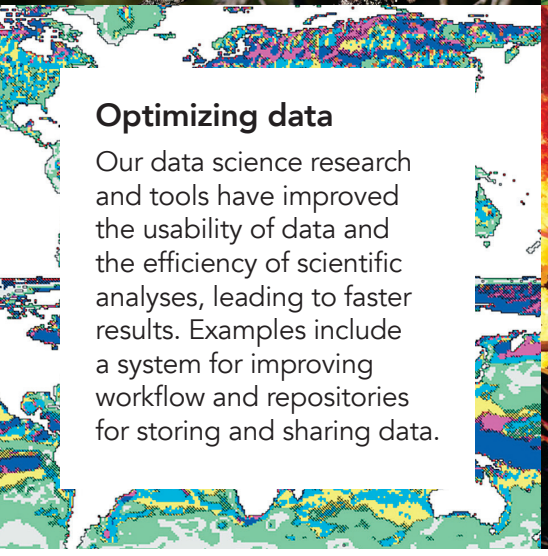
The widely used decision-support tools for conservation planning CircuitScape and Marxan are products of working groups and are helping managers better protect biodiversity.

Guiding practices

One working group has developed a toolkit for designing climate-smart forestry practices that has "gone viral." Countries such as Mexico and Indonesia are using it to meet carbon-reduction commitments under the Paris Climate Agreement.

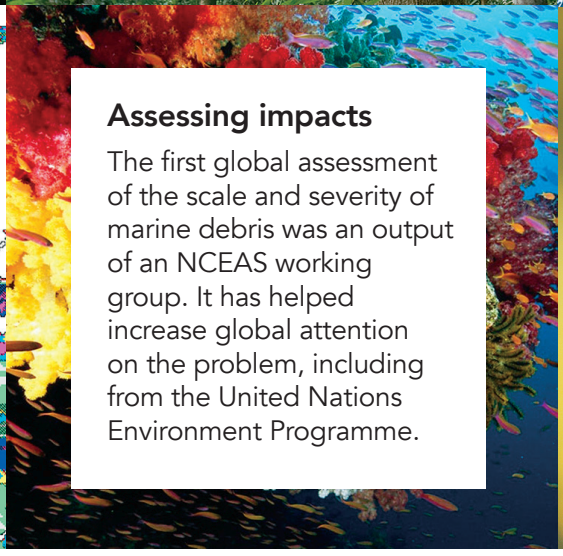
Protecting communities

In partnership with insurance leaders, a working group assessed how much property loss coastal habitats can prevent in the face of natural disasters. Their work has spurred better accounting for these natural assets by the global insurance sector.



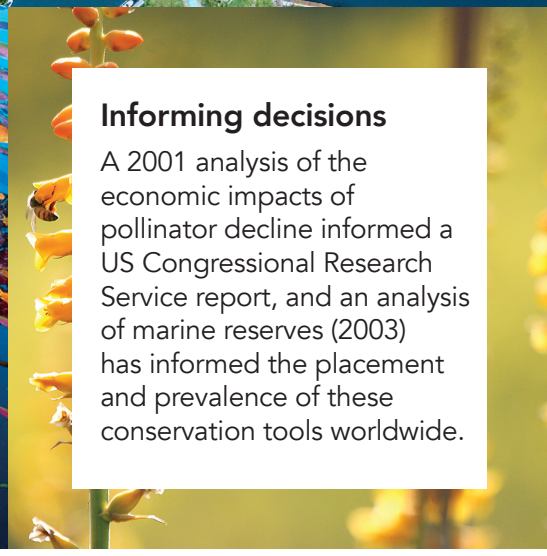
Optimizing data

Our data science research and tools have improved the usability of data and the efficiency of scientific analyses, leading to faster results. Examples include a system for improving workflow and repositories for storing and sharing data.



Assessing impacts

The first global assessment of the scale and severity of marine debris was an output of an NCEAS working group. It has helped increase global attention on the problem, including from the United Nations Environment Programme.



Informing decisions

A 2001 analysis of the economic impacts of pollinator decline informed a US Congressional Research Service report, and an analysis of marine reserves (2003) has informed the placement and prevalence of these conservation tools worldwide.

NCEAS

Transforming environmental science. Accelerating discovery. Generating solutions.