

THE EARTH INSTITUTE
COLUMBIA UNIVERSITY



Science and Solutions for
Climate and Sustainability

The Earth Institute mobilizes research, education, and practical approaches to achieve a sustainable earth

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Challenge

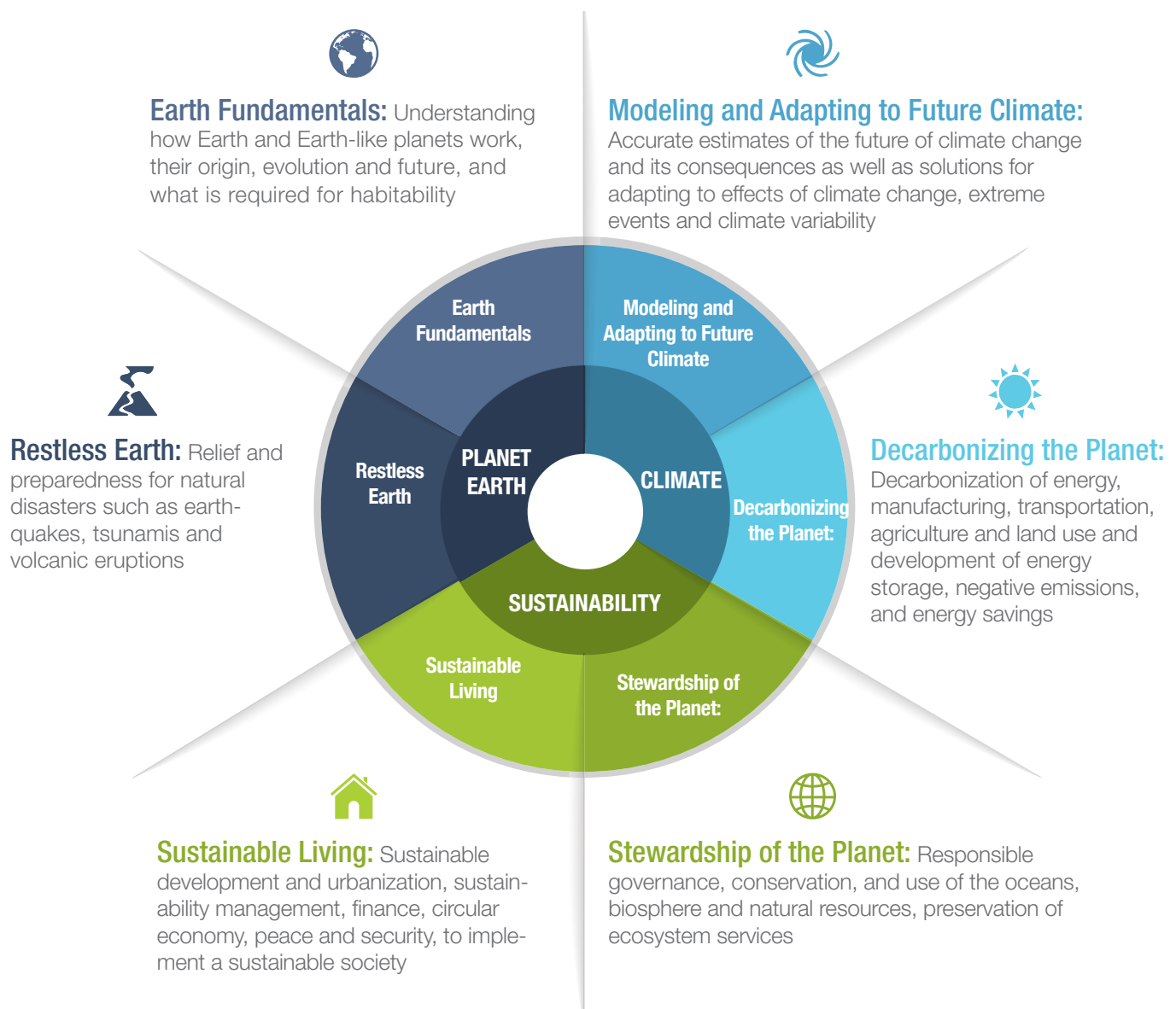
The world's population is expected to increase to nine billion by 2050. Human activity and the desire for economic improvement are straining the planet's resources, threatening the health of our environment and our ability to thrive. Climate change is one of the most critical and immediate threats; communities around the globe are already feeling its impacts, which cut across nearly every aspect of life. Managing these pressures will require the best understanding of the Earth's ecological and environmental systems and an ongoing effort to bring that knowledge to bear on public and private policymaking.

THE EARTH INSTITUTE BRINGS TOGETHER

Earth and environmental sciences, social sciences, engineering, architecture, law, public health, business, public policy and more to help address the critical challenges facing our planet today.

Priorities

AT THE HEART OF THE EARTH INSTITUTE'S PRIORITIES ARE CLIMATE, SUSTAINABILITY AND PLANET EARTH





Approach

RESEARCH

The Earth Institute is the largest research institute at Columbia University. The institute includes 700+ scientists, faculty and staff, and 700+ students examining every aspect of sustainability.

Innovative scientific research anchors all initiatives at the Earth Institute. Researchers produce fundamental science about the planet and how humans are affecting the climate and other natural systems. This knowledge forms the basis for problem-solving to address the planet's greatest challenges.

Earth Institute researchers form a network across the university. The Postdoctoral Scholars program encourages new scholars to engage in multidisciplinary work. The PhD in Sustainable Development (the first of its kind) was created to establish a new generation of researchers trained in multiple disciplines.

EDUCATION

The Earth Institute is dedicated to training a new generation of sustainability professionals equipped with the interdisciplinary problem-solving tools to address critical environmental problems, like the effects of climate change.

Through a comprehensive set of educational programs at the undergraduate, masters and doctoral levels, students learn environmental science and social science along with applied policy and management analysis. Students are provided with opportunities and support for

research assistantships within the institute, internships, travel and field work, and co-curricular programming including speaker series and other practical skill-building activities.

OUTREACH

Through hundreds of events each year, media appearances by our faculty and researchers, content distributed through the State of the Planet blog, and a number of social media channels, the Earth Institute delivers up-to-date information to those interested in sustainability and climate.

The institute aims to bring sustainability education to a global audience. The key is not to focus on science, technology, engineering and math in a vacuum. These fields must be connected to creative arts, communication, law, management, and policy.

New communications initiatives will position the Earth Institute as a leader in creative storytelling solutions, training for effective communication and bridging the gap between science and arts and humanities.

IMPACT

Applying research knowledge to help communities achieve sustainability and climate adaptation goals is a significant part of the Earth Institute's work.

The institute puts science to work solving real-world problems. What distinguishes the

Earth Institute from many other university-based organizations is its willingness to engage directly with local stakeholders in efforts to improve sustainability, help introduce new technologies, policies, and institutional approaches, and evaluate what does or does not work.



The Earth Institute's mission is to develop programs of research, education, outreach and practical application of knowledge to address the challenges of global sustainability and climate change.

Strengths



UNIVERSITY-WIDE REACH

The Earth Institute's scientists seek answers to questions about the fundamentals of the earth's systems and the life they sustain: climate and geology, oceans and atmosphere, food, water, public health, energy, hazards, and ecosystems. The complex nature of these questions requires interdisciplinary research. The institute reaches across the university to forge collaborations among scientists, faculty and experts in a great variety of disciplines.

>700

SCIENTISTS
FACULTY, STAFF

>700

AFFILIATED
STUDENTS

12

FACULTY FROM
12 SCHOOLS

22

AFFILIATED
DEPARTMENTS



UNPARALLELED CAPACITY

The Earth Institute's work spans from fundamental discovery and basic research through applied research, engineering, technology development and policy design, and finally through implementing solutions, working hand-in-hand with industry, government and other key stakeholders to have major impact on society.

At the institute's largest research unit, the renowned Lamont-Doherty Earth Observatory, some of the world's leading scientists work to better understand Earth's systems. The research originates in the laboratory, but it extends to places around the world, where knowledge is applied and where new research questions emerge. By bringing physical scientists together with experts in economics, engineering, public health and policy, the institute creates collaborations that address issues of global sustainability.



IMPACT-ORIENTED

- ADDRESSING REAL-WORLD PROBLEMS
- PRACTICE GROUNDED IN KNOWLEDGE AND RESEARCH
- STRONG STAKEHOLDER ENGAGEMENT

Earth Institute experts apply the lessons from basic and applied research to real world problems, working directly with stakeholders to offer science-based solutions and develop technical tools in dealing with urgent issues.

