

# A Global Approach to Environmental Leadership



The Leonard and Jayne Abess  
CENTER FOR  
Ecosystem Science and Policy

UNIVERSITY OF MIAMI



## urgent issues . . .

Global warming and toxic pollution. Deforestation and dwindling resources. Species loss and potential pandemics. As the new millennium gets under way, we must address these and many other urgent challenges to protect the earth's natural environment and to safeguard human health and well-being.

## extraordinary complexities . . .

Even as science sheds new light on the intricacies of earth's ecosystems, policy must proceed apace. The crucial decisions that face us in an array of intertwined issues—from energy conservation to economic development, housing design to community health, water resources to wildlife protection—must reflect the wisest possible use of the very latest data.



## an ambitious vision.

The mission of the Leonard and Jayne Abess Center for Ecosystem Science and Policy is to create innovative initiatives that link scientific inquiry and environmental policy. By forging productive new partnerships between these disciplines, the center seeks to educate the next generation of environmental leaders and to foster effective interdisciplinary approaches to environmental management and decision-making.



## Education a unique environment for learning

The Leonard and Jayne Abess Center for Ecosystem Science and Policy is the nexus for an extraordinary undergraduate program known as Ecosystem Science and Policy. The center draws on the University's internationally recognized programs in marine science, ecology, architecture, engineering, environmental law and policy, and other related disciplines to provide students with in-depth, problem-oriented learning experiences.

Extraordinary opportunities for field experience are a key component of the program. Students pursue independent and collaborative research projects across the nation and around the globe. They serve as interns in environmental agencies where scientists and decision-makers interact regularly. In the process, students gain the theoretical background and technical skills to pursue responsible, rewarding careers as environmental scientists, policy-makers, managers, and planners.

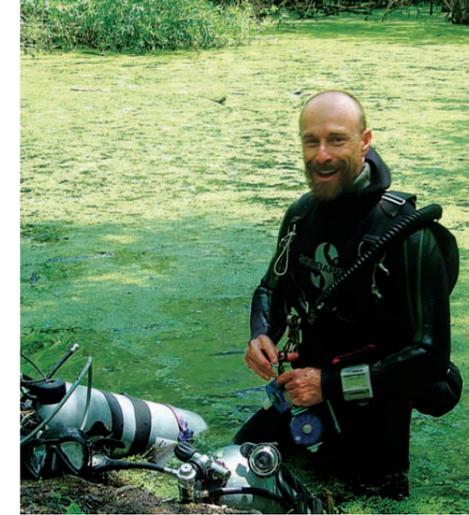
### Degrees of Flexibility our academic program

In today's world, almost every industry has to consider environmental implications and impacts. Our double major program is designed to provide students with the comprehensive background to be competitive in the career of their choice.

Students earning a B.S. in Ecosystem Science and Policy must also complete a second major from one of the following disciplines: biology, biochemistry, chemistry, computer science, geological sciences, math, microbiology, or physics. Students earning a B.A. must also complete a second major in a non-science area such as political science.

**Dr. Kenneth Broad**, an internationally renowned environmental anthropologist and underwater cave explorer in the Rosenstiel School of Marine and Atmospheric Sciences Division of Marine Affairs and Policy, was selected for the 2006 National Geographic Emerging Explorer Award. His current research and teaching activities focus on human-environment interactions in natural resource management around the globe.

"While it's important to recognize the level of uncertainty inherent in scientific information, I don't believe in limiting expectations. You never know what you're going to discover until you get there."



**Kenneth Broad, Ph.D.**  
Assistant Professor  
Abess Center



## Faculty and Research engaging the world

The Abess Center has formed partnerships with schools and departments throughout the University—as well as local, national, and international organizations—to create an unprecedented team of policy and environmental specialists who are educating the world's next generation of scientists and policy-makers.

Center faculty pursue an interdisciplinary, impressively varied set of intellectual interests and teaching specialties, leading research and mentoring students in global locales that range from the Caribbean and South America to Southeast Asia.

In addition to sponsoring faculty-generated research, colloquia, lectures, and conferences, the Abess Center awards fellowships and competitive faculty seed grants to support interdisciplinary environmental research on issues such as:

- National parks and preserves in tropical countries
- Invasive and exotic species
- Impact of development on air and water quality
- Protection of coral reefs across international barriers
- Interaction of urban boundaries and natural systems
- Green building and urban development initiatives
- Links between human health and climate

### A Global Reach sample research projects

**Sustainable Tropical Forestry:** Partly funded by the Global Environmental Facility, this project is developing forest production systems in Malaysia that contribute to biodiversity conservation.

**Exploratory Centers for Interdisciplinary Research:** This National Institutes of Health project seeks to control mosquito-borne disease by studying urban pathogen transmission in five developing countries.

**Environmental Decision-Making Under Uncertainty:** This National Science Foundation-funded project utilizes a variety of theories and methods to study environmental decision-making around the globe.



**Lara Polansky**  
Ecosystem Science and  
Policy/Biology Major

**Lara Polansky**, a committed recycling advocate, served as president of the University chapter of Earth Alert. As a National Oceanic and Atmospheric Administration Ernest F. Hollings Scholar, she investigated pharmaceutical disposal impacts and worked on rural environmental awareness campaigns. After earning a master's degree in the field, Lara plans to pursue a career promoting environmental decision-making by working collaboratively among the scientific, policy, and corporate sectors.

"All of the graduate programs I've applied to are amazed that I'm comfortable with both the science and the business/law sides of environmental topics. I understand that no issue can be resolved by speaking one language."



**Matthew D. Potts, Ph.D.**  
Assistant Professor  
Abess Center

**Dr. Matthew Potts** is an applied mathematician in the Department of Biology with a broad interdisciplinary background in ecology and economics. His extensive collaborative field research throughout Southeast Asia and Latin America combines theoretical models and field-based studies to examine sustainable management of tropical rainforests and the control of vector-borne diseases in urban environments.

"Maintaining biodiversity means that we must make decisions that integrate environmental, economic, and social factors. As we begin to understand the many processes that structure tropical forests, we'll gain the tools to determine how to protect them."



**Dan Mannina**  
Ecosystem Science and  
Policy/Biology Major

**Dan Mannina** co-developed an educational program at the Animal Kingdom, utilizing the park's environments as a virtual classroom for students. Across the Atlantic, he evaluated the effects of increased human development on wildlife corridors near Mount Kilimanjaro. After earning an M.F.A. in motion picture production at the University, Dan plans to produce documentary films that focus on intercultural responses to global environmental challenges.

"The program directors and other faculty provide such a positive environment for academic and personal exploration. They encourage us to pursue every available opportunity to gain real-world experience that will complement our studies and support our goals."