USC Dornsife Environmental Programs
A Multidisciplinary Approach
Academic Planning:

Enhancing Our Core Missions of Scholarship, Teaching, and Service

- Curiosity at Work
- Developing New Methods
- Advancing the Art and Science of Human Well-being
- Safeguarding the Planet for Future Generations
- Exploring Identity and Culture in a Changing World
- Fixing a Broken Political System
- Anticipating the Impact of Innovation
- Confronting Global Challenges
Safeguarding the Planet for Future Generations

- Measuring Stresses and Predicting Responses of the Environment
- Resilience and Feedback
- Implementing Solutions
- Environmental Aesthetics
- Humans and Global Environments
- Urbanism and Sustainability
- Politics of the Environment in the U.S.
- Addressing Global Environmental Problems and Resource Conflicts
Environmental Programs Span the Natural Sciences. Social Sciences. Humanities
Examples: Social Sciences

Spatial Sciences

- New mapping tools to track global environmental issues such as wildfires, drought conditions, hurricanes, greenhouse gases
- Software to predict redistribution of soil mass and soil organic carbon under human disturbance

Program for Environmental and Regional Equity

- Produces Environmental Equity Assessment of California’s greenhouse gas cap-and-trade program
- Created/upgrades Environmental Justice Screen Method used by the CA Office of Environmental Health Hazard Assessment
Examples: Humanities

History
Rapid growth of Southern California
Environmental impact of shopping malls

Huntington-USC Institute on Calif. and the West
Water and sustainability
Climate change scholarship
Intersections of environmental issues/equity
Examples: Natural Sciences

**Loker Hydrocarbon Research Institute**
- New, clean methods for hydrogen storage
- Methanol Economy
- Methane capture and conversion into biodegradable plastics
- Grid scale battery technology

**The USC Wrigley Institute for Environmental Studies**
- Building 100% sustainable operation on Catalina Island
- Developing process to eliminate food waste
- Developing kelp as biofuel
Examples: Natural Sciences

**Biological Sciences**
Exploring potential of “electric bacteria” to generate clean energy and power sustainable wastewater treatment

**Chemistry** (>50% of faculty working on sustainability issues)
- Energy Conservation – new residential and industrial lighting based on OLEDs
- Photovoltaics – quantum dot and organics

**Brain and Creativity Center**
Studying the neural basis for why the brain is more resistant to political arguments
~150 Dornsife faculty

NSM

2 Biophysics
32 Earth Sciences
8 Schools, 16 Depts
20 faculty, ~200 majors

Biological Sciences
Chemistry (Loker)

ENS

Spatial Sciences
27

HUM

Nature & Culture
8 Huntington ICW

25

SS

PERE

Enviro Economics
3

Prediction Science

Institute for Environmental Solutions

Sustainability & Public Engagement