

Internship and research opportunities at NCAR



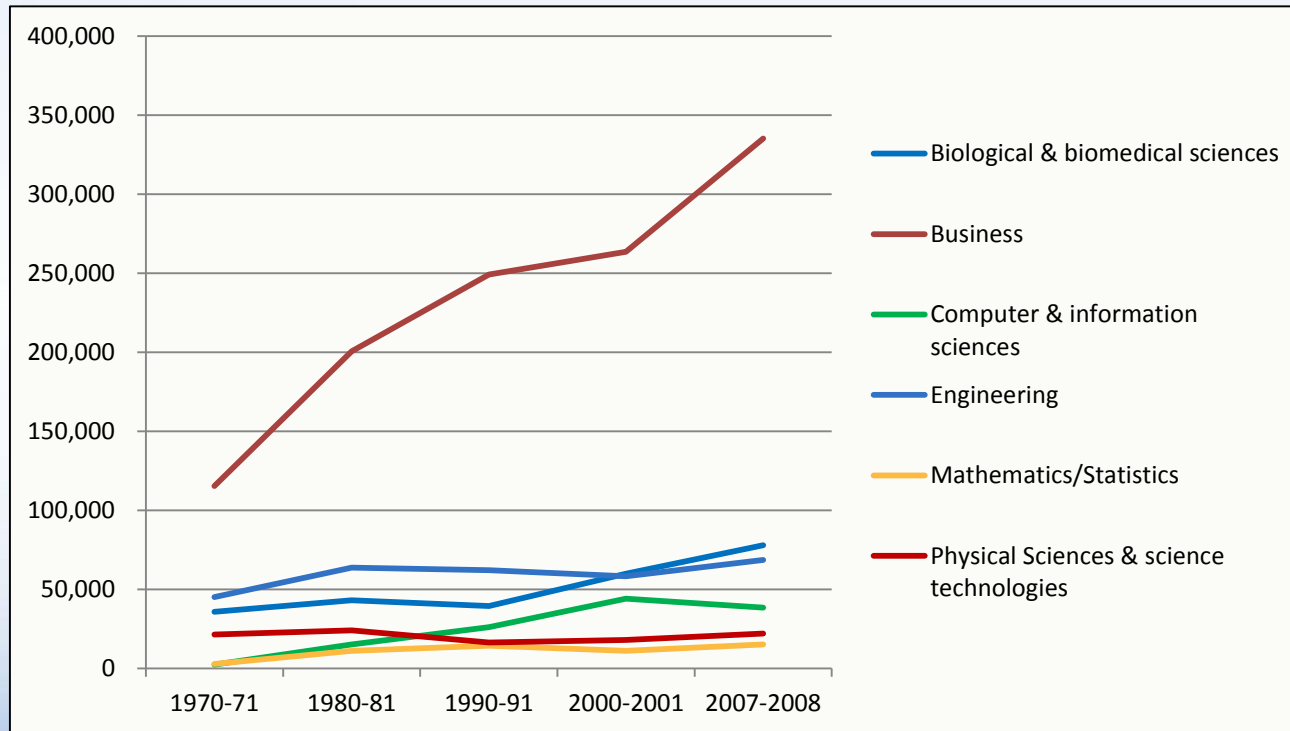
Agriculture in a Changing Climate across Scales:
Broadening Participation in Research and Decision-Making
27 August 2014

Rebecca Haacker, SOARS Director



Preparing the nation's future scientific and engineering workforce

What majors are colleges students choosing?



Source: National Center for Education Statistics

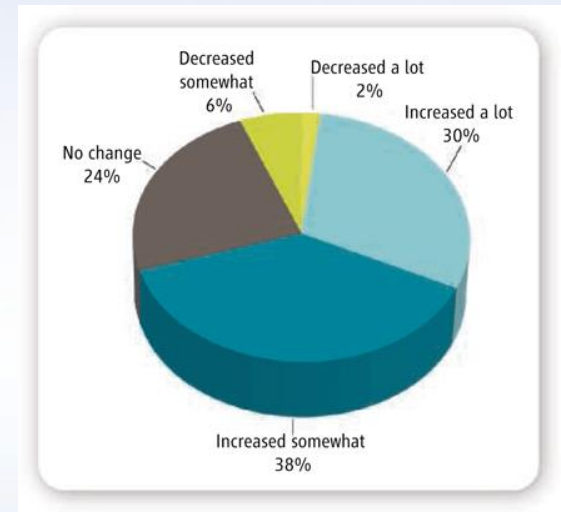
Minority Graduate Enrollment in Atmospheric Sciences



Minority graduate enrollment in
Atmospheric science 2000-2011.
Data : National Science Foundation

Internships influence career choices

- Internship experience increased interest in a STEM career by 68%
- Being immersed in the “culture of science” is a deciding factor
- Research, mentoring, attending conferences had biggest impact



Research internships often increase a student's interest in STEM careers
Source: SRI International

From intern to faculty member

Dr. Chris Castro

Assistant Professor

Atmospheric Sciences, University of Arizona

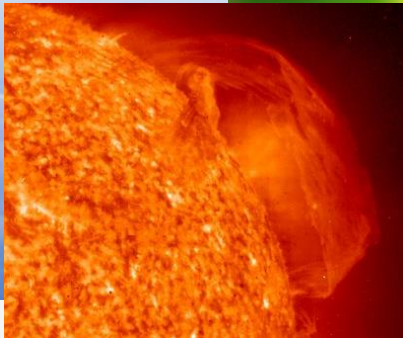
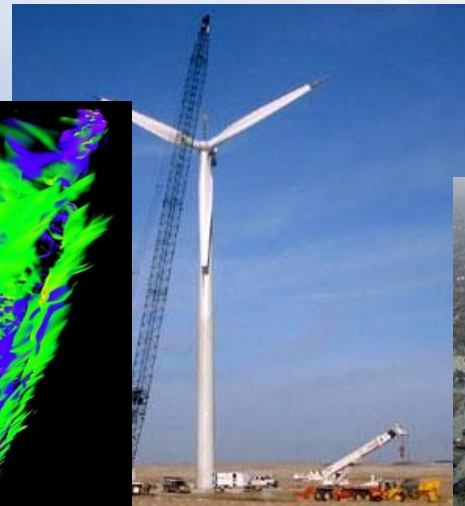
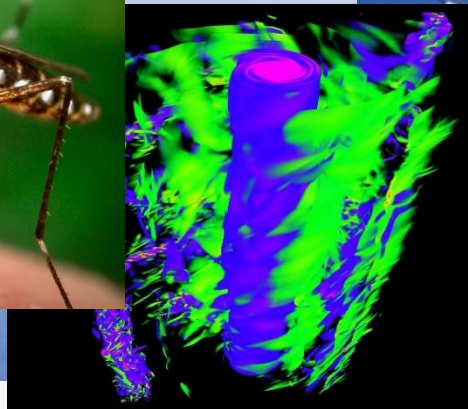
UCAR/ SOARS intern 1996, 1997

“We have to start working to build up an educated and professional class of Hispanics in the physical sciences.”



Access to NCAR Facilities & Science

- Opportunities in unique fields like high-performance scientific computing and instrument development
- Expose students to unique breadth of research portfolio



Impact on Science

NCAR scientists reported that mentoring:

- Increased collaboration within existing network of colleagues.
- Expanded their network
- Allowed them to do something "edgier" or more exploratory



Fresh ideas lead to better science



- Dereka Carroll-Smith
- Graduate Student at Purdue University
- NSF Graduate Fellowship

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Research Briefs

Home > AtmosNews > Research Briefs > Mapping hurricane vulnerability

MAPPING HURRICANE VULNERABILITY

INLAND FLOODING AND WINDS FACTOR INTO A NEW DATABASE FOR EMERGENCY RESPONDERS

August 17, 2012 | When a hurricane hits, the first concern of emergency responders is often coastal communities. Yet a 2000 [study](#) found that 63% of hurricane-related deaths occur in inland counties, often as the result of intense rain, flooding, mudslides, and tornadoes.

To help emergency managers better protect inland communities, NCAR scientists are pinpointing vulnerable populations by studying the reach of tropical storm winds and combining census data with flood maps.

Mapped on a county-by-county basis, the Social Vulnerability Index shows where inland hurricane effects and socioeconomic factors combine to produce the greatest threat to people. Lighter colors correspond to greater vulnerability. [Click here for high resolution](#). (Image courtesy James Done, NCAR.)

Dereka Carroll, a protégé in NCAR's [SOARS](#) research program, is working with NCAR scientists James Done and Dave Ahijevych to attack this problem. Her first step was assessing how far inland hurricanes and tropical storms can produce strong winds as they weaken. Hurricane Floyd in 1999, for example, produced intense winds 1,300 miles (2,100 kilometers) inland while weaker tropical storms have generated damaging winds as far inland as 600 miles (980 kilometers).

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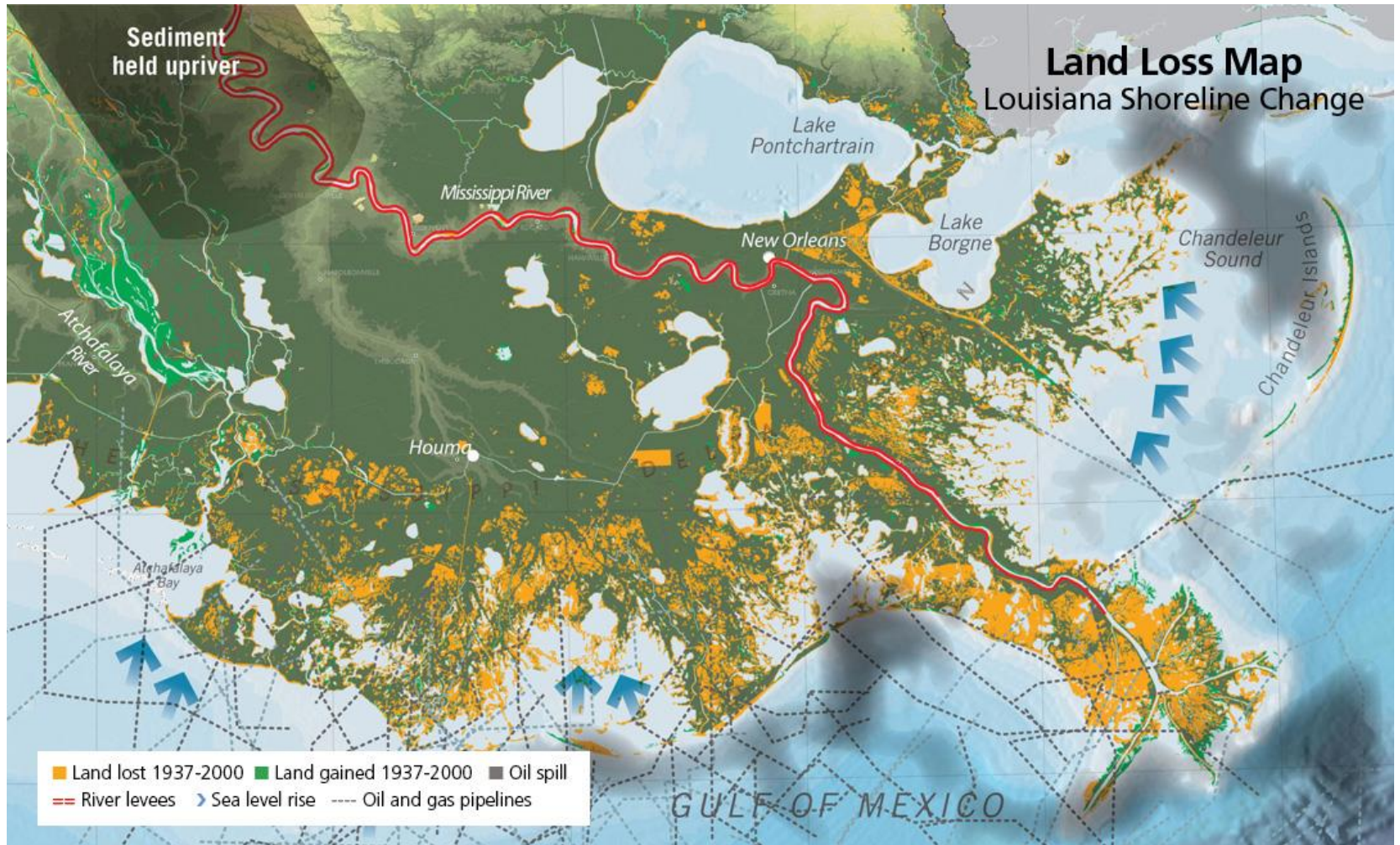
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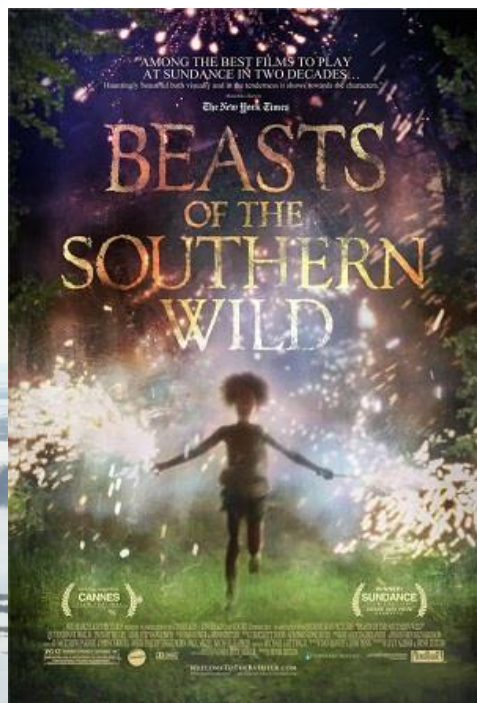
Mapping hurricane vulnerability
Studies show 63% of hurricane-related deaths occur inland. To help emergency managers prepare, NCAR scientists are pinpointing vulnerable populations using tropical storm winds, census data, and flood maps.

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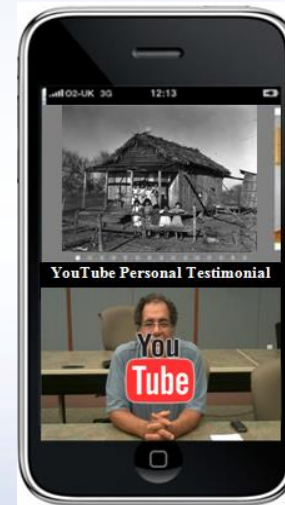


Frances Roberts-Greogry
Ethnobotanical Conversations Along the Bayou



Sandra Maina

Protecting South Terrebonne Parish, Louisiana through the development of *Vanishing Points*



An iPhone application motivating community and national involvement in coastal restoration



Many paths lead to NCAR....

Research experience for undergraduates



Summer internships in many disciplines!

- Climate, weather, related environmental and social science
- Computer science and applied mathematics
- Engineering & technology for observing systems
- The Sun-Earth connection



www2.ucar.edu/opportunities/undergrad

SOARS – Significant Opportunities in Atmospheric Research and Science

- Research experience
- Multidimensional mentoring
- A supportive community
- Professional development
 - leadership and communication
- Extensive financial support
- Multi-year experience



www.soars.ucar.edu

Undergraduate Leadership Workshop



“a high-impact, immersive leadership training experience”

- Demonstrates exciting career paths accomplished by higher education
- Cohorts of 20 students/year since 2000
- One week in June



Opportunities for graduate students

ASP Graduate Student Visitor Program

NCAR Advanced Study Program

- Funding for graduate students to spend 3-12 months at NCAR conducting research for their thesis
- Funding available for 1-2 visits by faculty advisor
- Paula Fisher: 303-497-1328, paulad@ucar.edu



Opportunities for Postdocs

ASP Postdoctoral Fellowships

NCAR Advanced Study Program

- Two-year fellowships at NCAR
- Academic freedom with mentorship

Project-specific postdoctoral employment in science and technology

UCAR Human Resources

- Seeking postdocs for specific projects at NCAR & UCAR

Postdocs Applying Climate Expertise (PACE) Postdoctoral Fellowships

UCAR Visiting Scientist Programs

- Explore the interface between climate science and its applications

NOAA Climate and Global Change (C&GC) Postdoctoral Fellowships

UCAR Visiting Scientist Programs

- Strengthen understanding of climate variability and change

<http://www2.ucar.edu/opportunities/postdocs>



Opportunities for faculty

- Visits of several weeks to several months
- Partial or full support for travel and living expenses may be available.
- Visitors must be sponsored by a NCAR staff member

Faculty Fellowship Program

- Funding for faculty and their student(s) to spend 3-12 months at NCAR. Emphasis on member universities
 - Funding for NCAR scientific staff to spend 3-12 months at a U.S. University
- Many NCAR labs have visitor programs for faculty, find a summary at <http://www2.ucar.edu/opportunities/professionals>





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