

S&E Without Borders From an EPSCoR Perspective

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EPSCoR is

A Complex Program with Lots of Requirements

CYBER PLAN

State Committees
S&T plan

Partnerships

Societal and Economic
Impact

Education/Outreach

Broaden Participation
Diversity

Sustainability

Themed/focused
Research

Strategic Planning

Evaluation

Communications
plan

Key Learning:

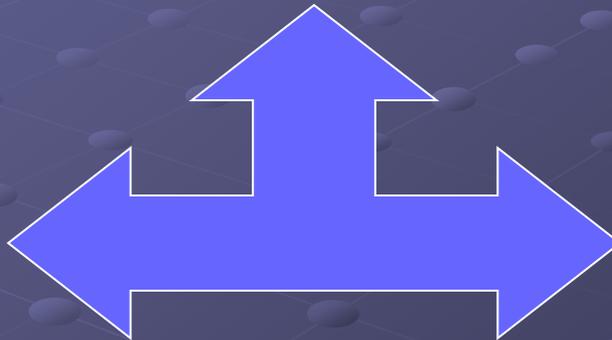
INTEGRATE !

(I³)

Integration

Institutions

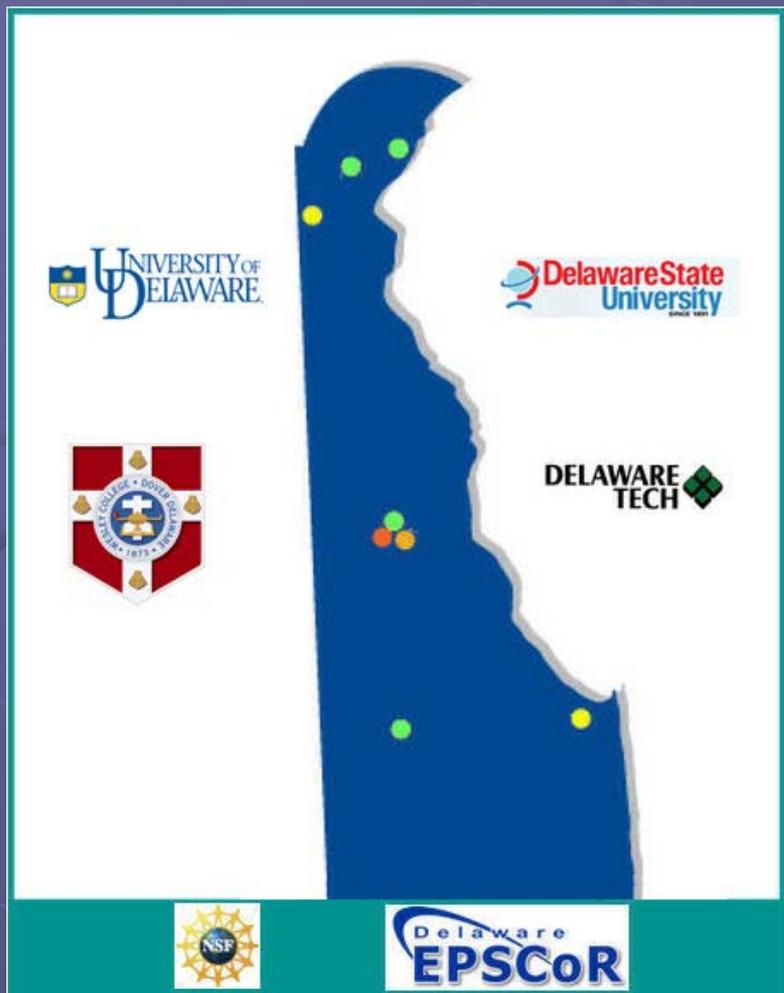
Interdisciplinary



Innovation

I¹ - Institutions

The Delaware Partnership



● University of Delaware

- The State's Research University – founded 1743
- Land Grant, Sea Grant & Space Grant Institution
- 18,000 Undergraduates, 3,000 Graduate Students 9.7% UGs, 6% Grad

● Delaware State University

- HBCU Institution – founded 1890
- 3,300 Undergraduates, 250 Graduate Students
- Minority Enrollment 72% UGs, 42% Grad Students

● Delaware Technical & Community College

- Community College of the Year in '99 – founded 1966
- ~30,000 Students (25% Minorities)

● Wesley College

- Private Liberal Arts College – founded 1873
- 1,800 Undergraduates (30% Minorities)

Programs that Promote Integration

Programs:

- Workshops
- Research seed grants
- Student internships
- Outreach
- Federal grants
 - REU
 - Bridges
 - Observatories

Benefits:

- Greater diversity
 - Ethnicity
 - Thought
- Broader participation
- Leveraged resources
- Stronger sponsor buy-in
 - State level
 - Federal level

Key Questions

What Institutions Are Critical to Achieving Your Mission?

What Creates the Win/Win??

Community Colleges as an Asset

Nationally:

- **1,195 institutions**
- **~11.5 Million students**
 - 6.5M credit/5M noncredit
 - Average age~29
- **~35% Minorities**
 - 13% Black;15% Hispanic
- **~39% first Generation**

Delaware:

- **4 Campuses Statewide**
- **~30,000 students**
 - ~50% credit/noncredit
- **~27% Minorities**
 - 22% Black;5% Hispanic
- **~61% STEM related**
- **~39% to continue education**

Two Year College Statistics

Students Enrolled in Higher Education

(US Census Bureau's 2007 Current Population Survey)

	All	2 Yr Colleges
Total	17,956,000	4,811,000 (27%)
Full time	12,656,000	2,986,000 (24%)
Part time	5,300,000	1,825,000 (34%)

**Our Two Year Colleges are a Key Ingredient
in Educating our 21st Century Workforce**

Community College Features

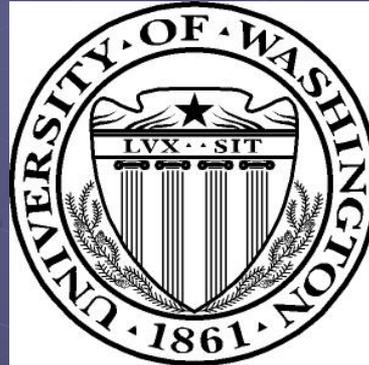
- Bridge Programs to Four Year Institutions
 - A growing trend
- Strong Direct Connections to K-12
- Experts in Rapid Delivery of Training
 - A key new for emerging “green” technologies

Research Experiences for Undergraduates (REU)

- ❑ A great DE RII related inter-institutional partnership
- ❑ Led by DSU, participation From WC and DTCC
- ❑ Catalyzed Research Symposium (over 70 student participants)

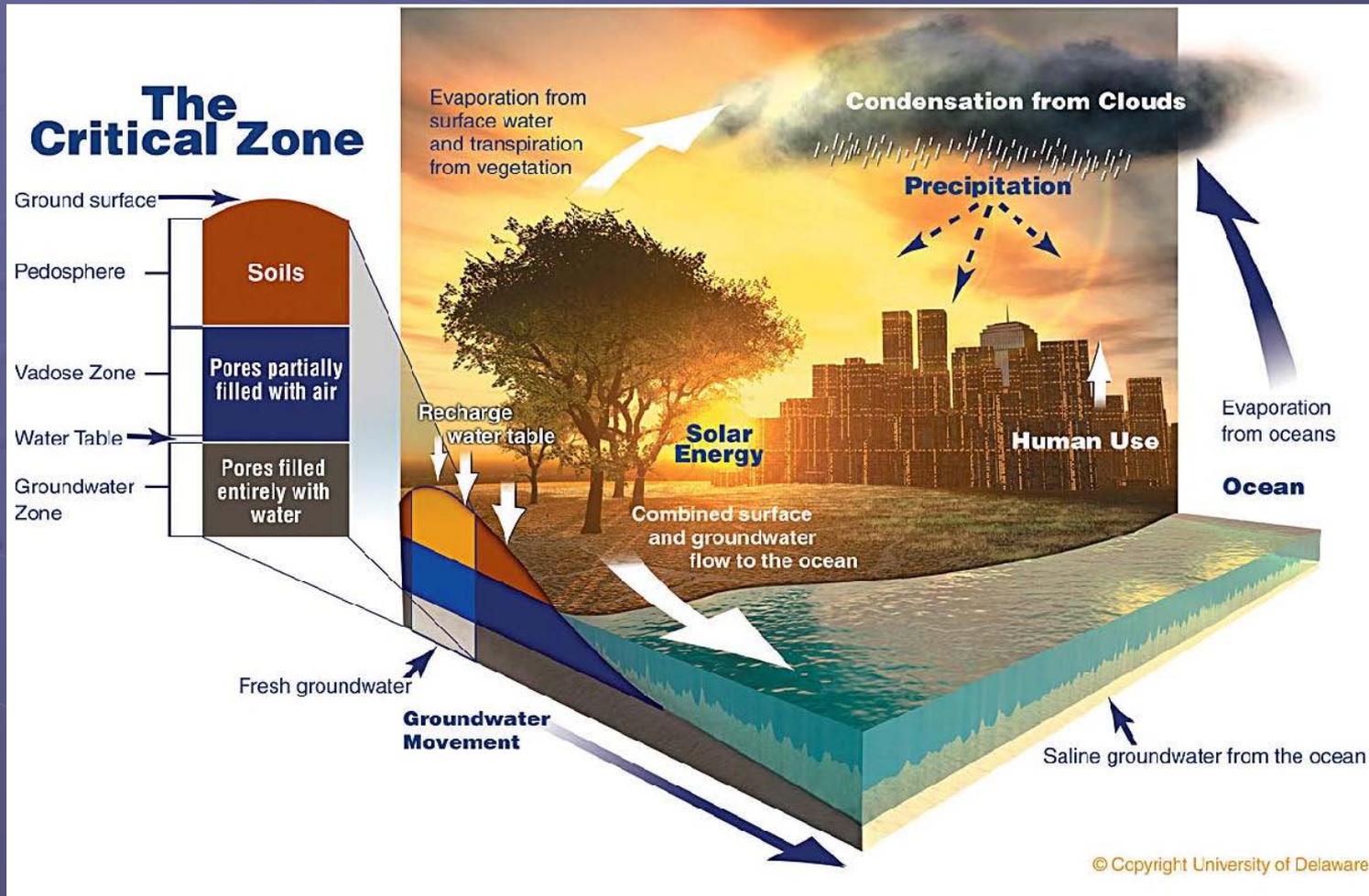


Critical Zone Observatory Grant Partners



I² – Interdisciplinary Research and Education

DE Focused on the Biogeochemical Processes of the Critical Zone



Beyond just the Science

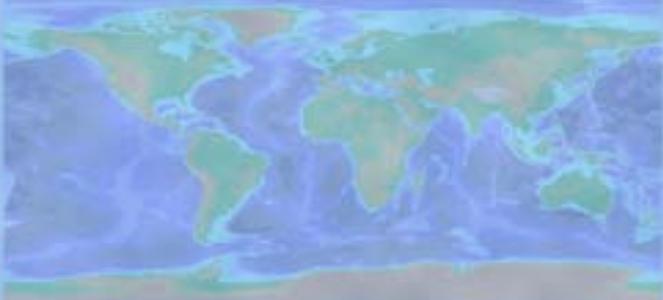
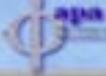
Global Climate Change:

Sea Level Rise in DE



We Do Certain Pieces Well !

THE ETHICS OF CLIMATE CHANGE
INTERGENERATIONAL JUSTICE
AND THE GLOBAL CHALLENGE



OCTOBER 30-31, 2009
CLAYTON HALL
UNIVERSITY OF DELAWARE

CONTACT:
CLIMATEJUSTICE@DEI.UDEL.EDU

Deadline for submissions: June 15, 2009
Featured Speakers:
John Broome, Oxford University
Kristin Shrader-Frechette, Notre Dame University
Robert L. Nadeau, Professor of English, George Mason University

SPONSORS:
AMERICAN PHILOSOPHICAL ASSOCIATION, SCIENCE, ETHICS & PUBLIC POLICY PROGRAM, CLASS OF 1955 ETHICS ENDOWMENT,
DEPARTMENT OF PHILOSOPHY, COLLEGE OF ARTS AND SCIENCES, AND NSF-EPSCoR

Puzzle has Many Pieces

Science (e.g.)

- sensing/ monitoring
- ecosystem health
- hydrodynamics
- etc.....

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**Social Dynamics,
Ethics,
Human Health,
Economics,**



**A Holistic Framework
for Decision Making
(many organizations involved)**

Catalytic Opportunities

Dear Colleague Letter:

**Environment, Society and the Economy (ESE)
(NSF 10-03)**

□ A partnership among the Directorate for Social, Behavioral and Economic Sciences (SBE) and Directorate for Geosciences (GEO)

I³ - Innovation

The Challenge:

Bridging the Gap



Discovery
Research

New
Opportunities
& Solutions

Integrate:

- Science
- Policy
- Ethics
- Economics
- Regulatory Implications

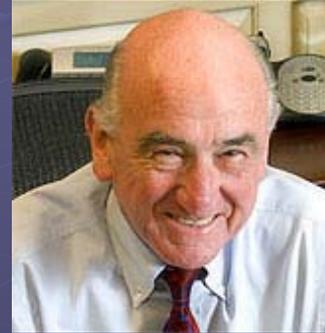
Communicate
with Key
Stakeholders:

- DNREC
- Industry
- Non Profits
- Academia
- Public

Assisting Faculty in Business Development



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Patents, Business Development Plans, New Businesses

Facilitate Translational Research

Basic Research



Translational Research

Existing Organizations

- ✓ Agriculture
- ✓ Medical
- ✓ Quasi-Gov't Agencies

New Capabilities

- ✓ components of New Centers/ Institutes

New Business Opportunities

Knowledge Application



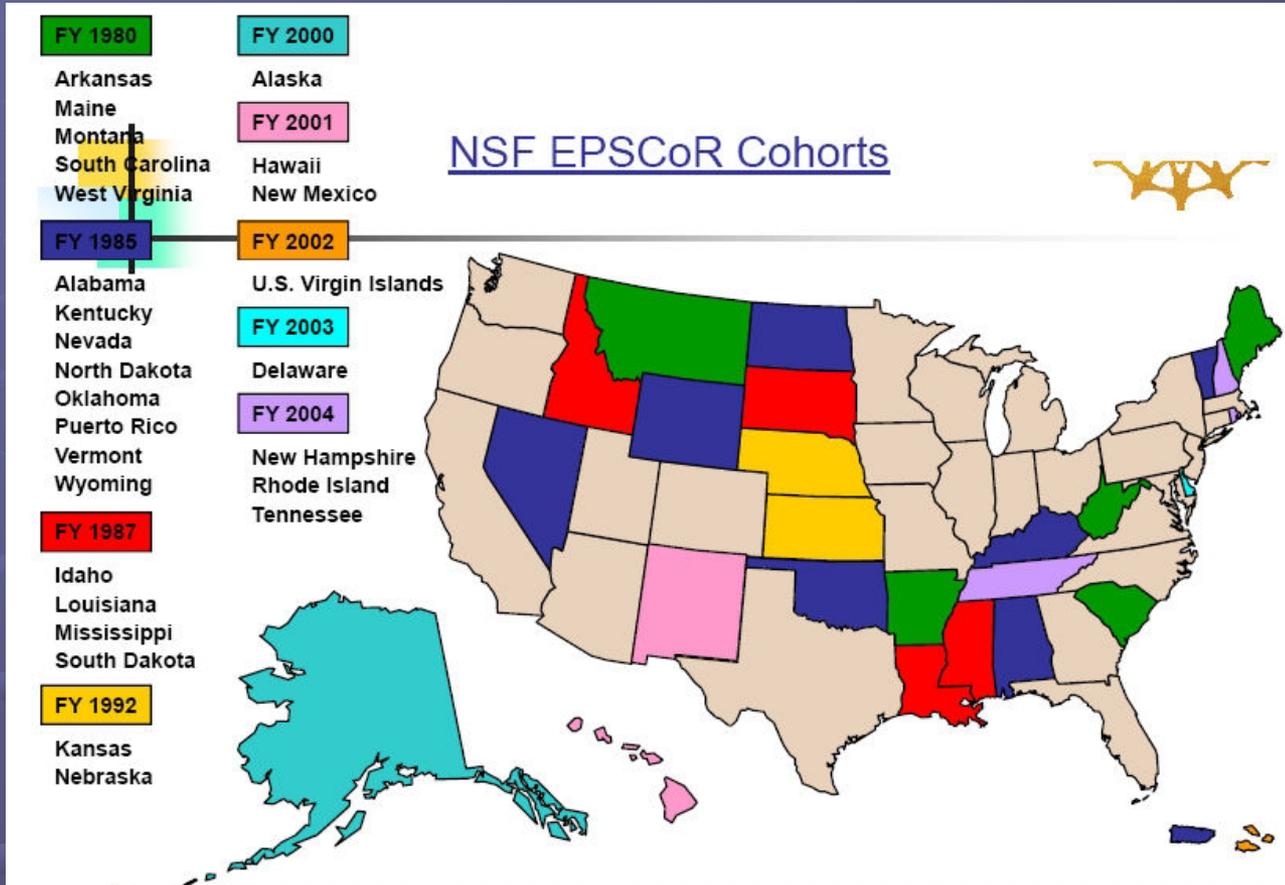
Sustainability

- **S&E without Borders requires a “Community”!!**
- **EPSCoR Provides the Catalyst**
- **Institutional Infrastructure Essential for Success**



Official Launch 10/23/2009

Each jurisdiction has successes and challenges!!



What are yours???