What is SWAN?
Sustainable Water Action Network

**GOAL** ➔ **Build Research Links Between the EU and US**
- EU 7th Framework Programme
- Duration 4 years (2012-2016)

**NEW GOAL** ➔ **A Trans-Atlantic Dialogue on Water**
- Trans-Atlantic & Trans-Disciplinary
- Socio-Ecological Ecosystem Security (Humans & Nature)
SWAN-1 Major Goals

① Enhance Scientific Cooperation between USA & Europe

② Promote Multi-Disciplinary and Multi-Regional collaboration regarding “Water” Sustainability

③ Combine Physical & Social Sciences with Governance

④ Develop Foundation for ongoing Collaboration
Origins

Arose out of conversation between **UofA** and **UMI** scientists

⇒ **successes and failures** of the 10-year

“**SAHRA**” Science & Technology Center project funded by NSF
In *SAHRA* ... the “Physical” Scientists drove the Science Agenda

“Believing” they understood the problems that needed solving
SWAN-EU proposal based on Social-Scientists driving the Agenda

&

“HUMAN-CENTERED Approach to Science
Major Theme

Integrating Hydrological and other Sciences into Urban-Plus Decision Making

We use the term “Urban-Plus” or “Urban+” to encompass urban areas and their entire supporting hydrological system.
Transdisciplinary Science

- Characterized by very high ‘stakes’
- High Complexity
- Large Uncertainty
- Multiple Relevant Perspectives
Role of Science in Decision Making

‘Normal Science’
Possible to handle challenges in a rigorous and rational way leading to ‘optimal’ solutions

Problem Structure Largely Understood

‘Transdisciplinary Science’
Non-equivalent perceptions result in legitimate contrasting perspectives and large uncertainty

Problem Structure can be Under Question

Indications given by models and data are always mediated by political negotiation & common sense ...
The issue is how to handle this mediation

Search For Best Action ➔ Foster Social Learning

Funtowicz & Ravetz (1993), Science for the Post-Normal Age, Futures 25
### SWAN-2 Goals

**Trans-Atlantic Dialogue on Water**

#### Trans-Atlantic & Trans-Disciplinary

#### Socio-Ecological “Ecosystem Security” (Humans & Nature)

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**A “Systems” Approach**
SWAN-2 TDW

Important Aspects

Student & Faculty Exchange

Citizen Science

Network of Institutions

Curriculum Development

Social-Env Justice

Dissolve Disciplinary Boundaries

Place-based Case Studies

Open Data & Knowledge Paradigm

Comparative Analysis of Institutional Frameworks
The Challenge

Working Together