

WUCA  
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# What's on the Horizon: Actionable Science and Sustained Assessment

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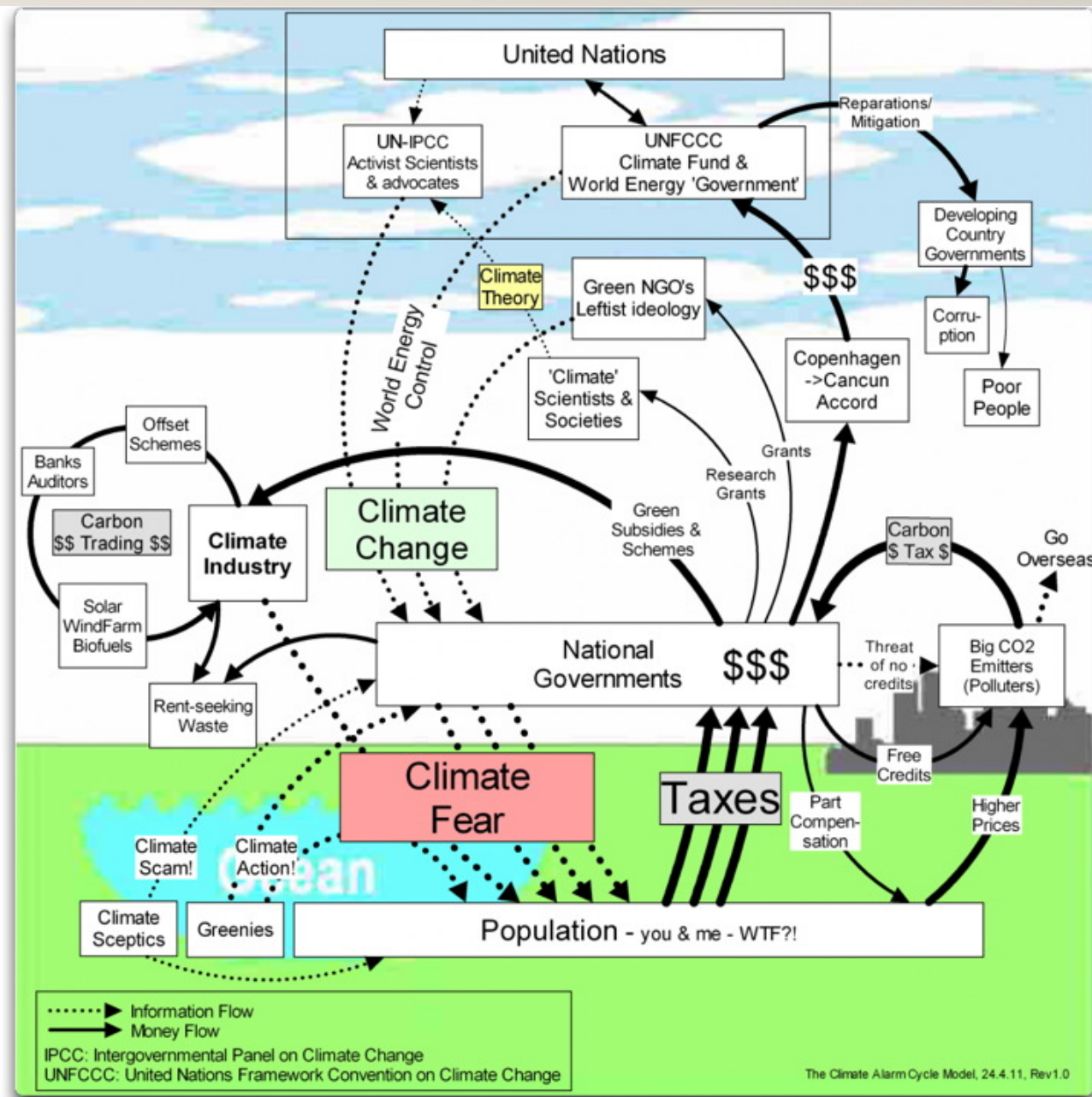
Science and Solutions

Department of Soil, Water and Environmental Science



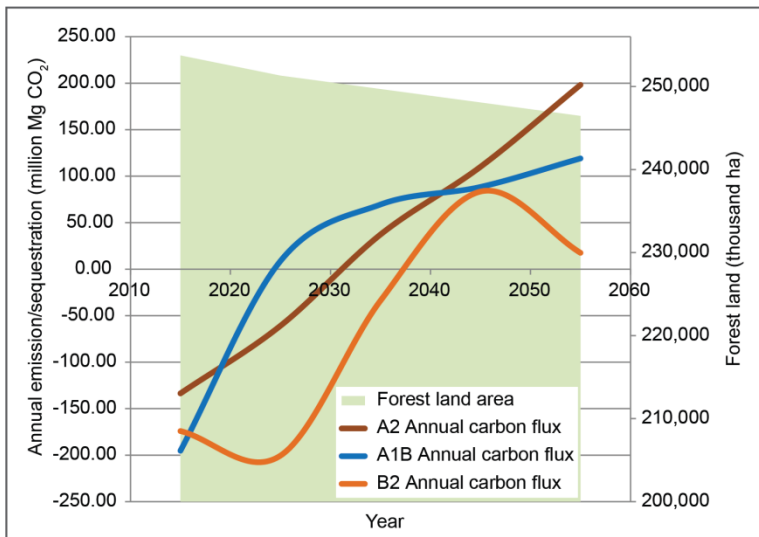
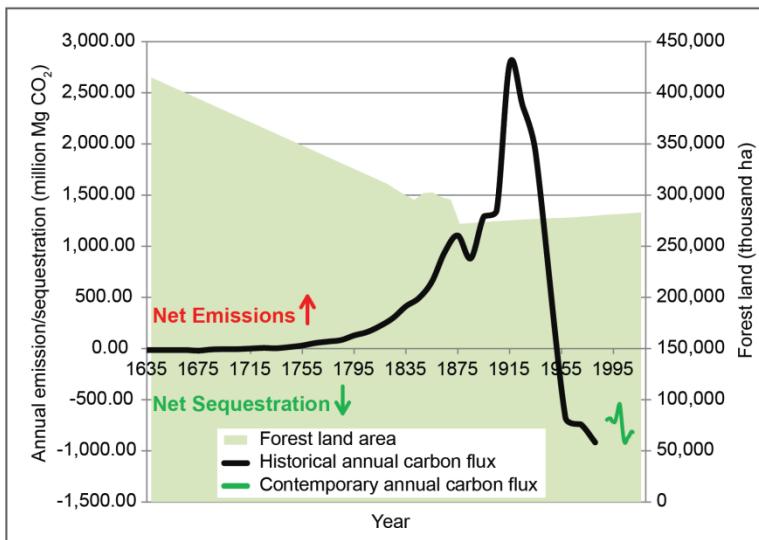
COLLEGE OF AGRICULTURE  
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Assessments are a critical foundation for climate services and for adaptation efforts

# Assessments and Adaptation



Proactive adaptation means anticipating and preparing for future conditions...

It requires rigorous observations of changes as they occur and monitoring and evaluation of a range of conditions over time. It also requires projections of future conditions.

# Goals for the NCA3

- A **sustained process** for informing an integrated research program
- A scientific foundation for decision support, including **scenarios and other tools at multiple scales**
- **Evaluation** of the implications of alternative **adaptation and mitigation options**
- **Community building** within regions and sectors that support adaptation and resilience



# Desired Outcomes of the NCA3

- Ongoing, relevant, highly credible **analysis** of scientific understanding of climate change impacts, risk, and vulnerability
- Enhanced timely **access to Assessment-related data** from multiple sources useful for decision making
- A **National System of Indicators** of change and the capacity to respond...
- A **Sustained Assessment Process?**



# NCADAC Sustained Assessment Special Report Recommendations

- Establish a coordination office with strong leadership

Goal 1: Establish enduring collaborative partnerships with civil society

Goal 2: Build the scientific foundation for managing the risks of climate change

Goal 3: Provide infrastructure to support the sustained assessment

Goal 4: Diversify the resource base and set priorities

[Preparing the Nation for Change:  
Building A Sustained National Climate Assessment  
http://tinyurl.com/SASR-final](http://tinyurl.com/SASR-final)

# NCAnet: 180+ Partners

AGI, AGU, AMS, APA, APHA, APHL, ASCE, ASA, ANREP, ASTHO, CSTE, CSSA, ESA, GSA, NACCHO, NAE, SSA

Greater Wash'n Interfaith Power & Light

Faith

Professional Societies

AMWA, AWWA, WUCA

IAPMO

Blue Frontier Campaign, Citizens Climate Lobby, Will Steger Foundation

Climate Central, Climate Communication, Climate Nexus, Habitat Seven, Internews EJV, Island Press, Resource Media

ACCO, ASAP, CCAP, C2ES, Keystone Ctr, Next Generation

BCC Planning, Drawing Conclusions LLC, Kleinschmidt Associates

Issue-Based NGOs (Enviro, Health, etc.)

Defenders of Wildlife, NRDC, NWF, Sierra Club, UCS, WWF, WRI

BlueGreen Alliance, Labor Network for Sust

Ducks Unlimited

Business & Industry

EcoAmerica

ACUPCC, Second Nature

Adaptation Int'l, CalOST, CBI, COL, EcoAdapt, ICLEI USA

Dan River Basin Assn, MA Climate Action Net, Sust NW, Sust Rangelands Roundtable

EPRI

ASU Ctr for Integrated Solutions, USC Ctr for Sust Cities, CICS-NC, GUND Inst Ecol Econ, ECU Inst Coast Sci & Pol, UCAR, USCar ESP

Academia & Education

RISAs (CISA, CLIMAS, GLISA, PacRISA, SECC), East-West Ctr, FCI, SeaGrant (MS-AL, TX), North Central CSC

Broward County (FL), NYC DEP, Portland (OR) Water Bureau

Manzanita Tribe

AZA, CLiPSE, CLEO Inst., Collab for Adapt to Climate Chg, MADE CLEAR, NCSE (x2!), Running Start Inst

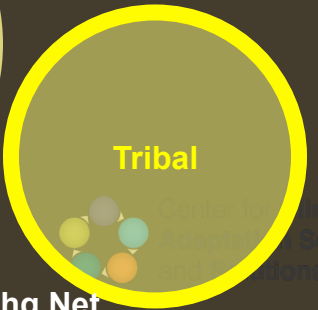
State & Local Government

Tribal

Adapt Sci IWG, GSA, Health IWG

AOOS, ESIP Federation, IOOS Assn, NEON Inc, USCLIVAR, USA NPN

PNW Tribal Clim Chg Net



Climate Science Solutions

# The path forward: Assessing adaptation outcomes

- Costs and benefits of action vs inaction (who are the winners and losers?)
- Potential for adverse consequences of decisions, including unanticipated consequences at the interface of adaptation and mitigation
- Monitoring for effectiveness – what are the metrics? What is the baseline?
- Deciding when to move from low regrets options to more significant/higher investment options
- Environmental justice and equity issues





# Actionable Science Challenges

- Uncertainties in estimating the nature, timing and magnitude of climate impacts
- Long term, multi-generational issue: short term costs vs long term benefits?
- Attribution issues, cost of action vs. inaction
- Lack of data regarding costs and benefits of alternative adaptation options at multiple scales
- Need for better coordination of regional and national efforts in support of adaptation
- Lack of science translation capacity
- Understanding the decision context

# Ingredients of a Climate Service

- Vision
  - Resources
  - Incentives
  - Relationships
  - Actionable Science = understanding what is at risk; what we know and what we don't; what questions to ask and answer; how to use what we know; how to characterize uncertainty.
- Regional Knowledge Networks, building from existing capacity, with better articulation and stronger linkages