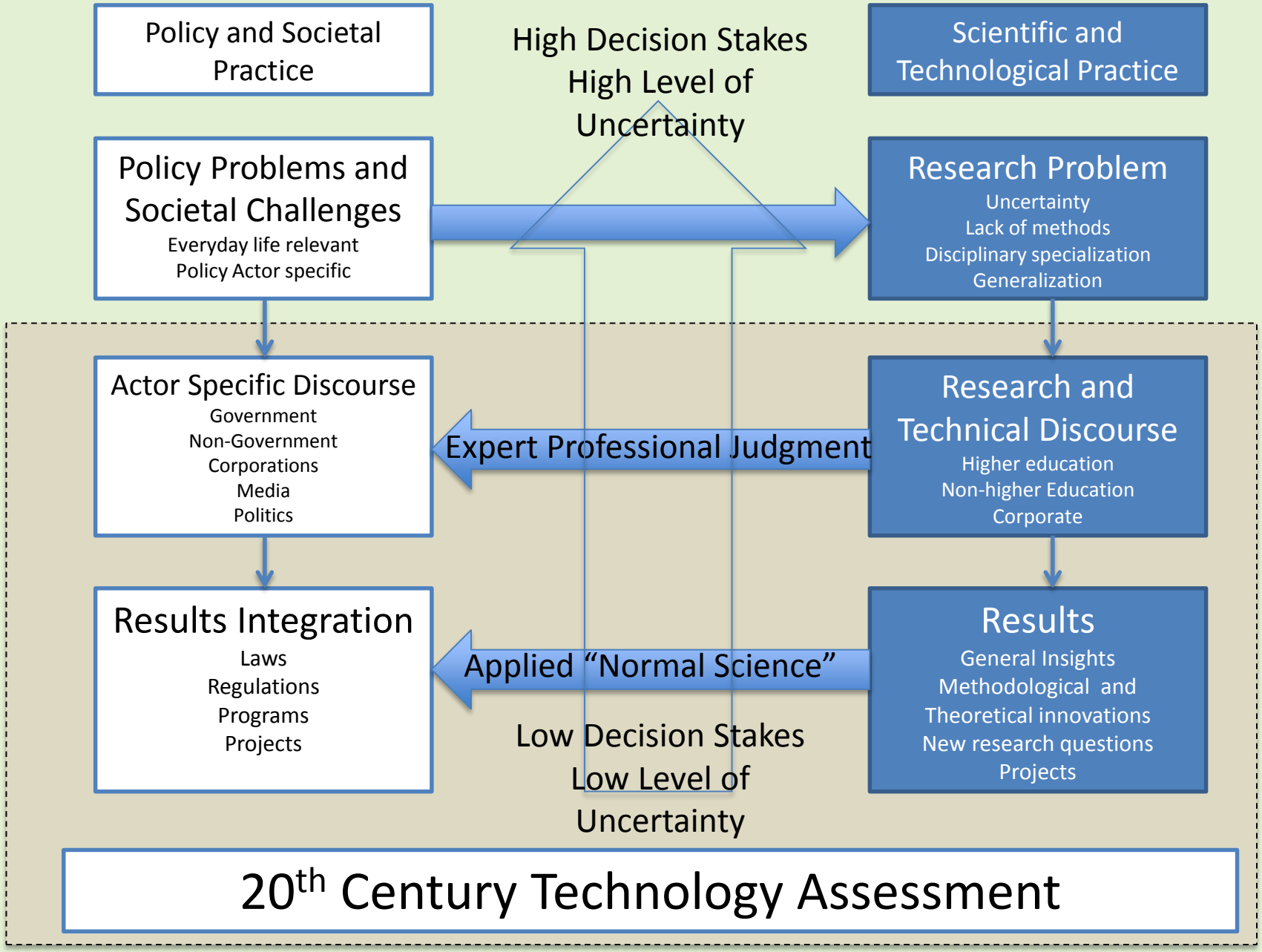
Expert and Citizen Assessment of Science and Technology (ECAST)

Mahmud Farooque, Associate Director, Consortium for Science, Policy and Outcomes, Clinical Associate Professor, School for the Future of Innovation in Society, Arizona State University

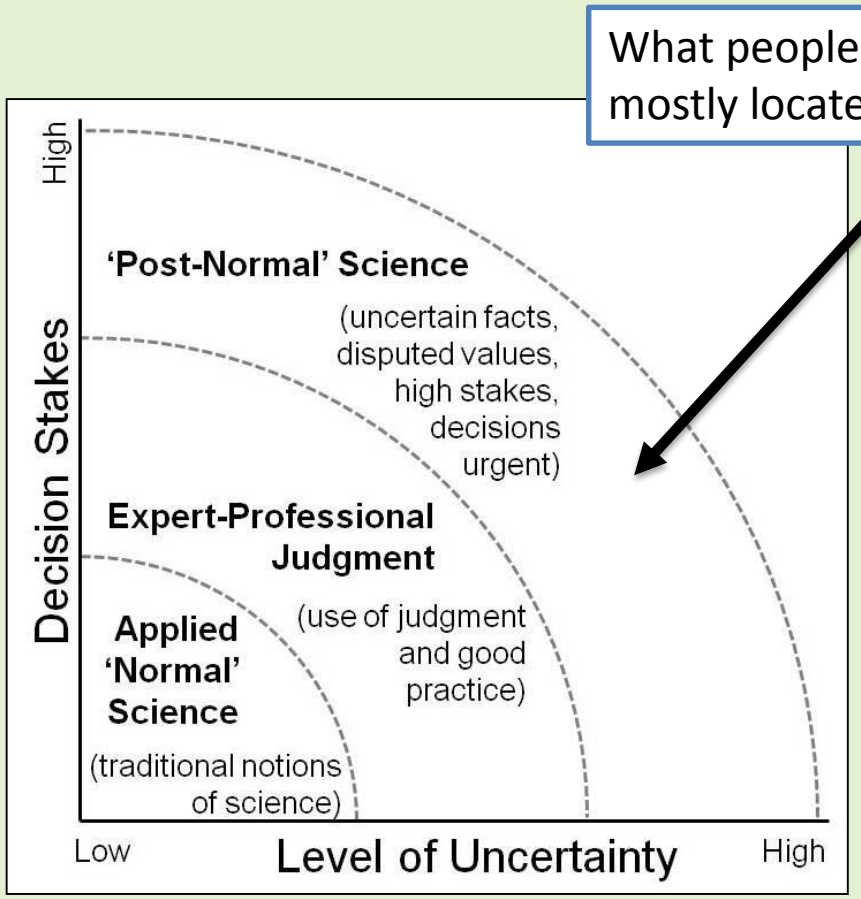


Enhances societal understanding of the broad implications of science and technology, and improves decision-making.

- has the potential to alter and improve societal outcomes

- 1972: U.S. opens Office of Technology Assessment (OTA)
- 1995: U.S. Congress shuts down the OTA
- Meanwhile: 18 TA agencies now operate in Europe
- Since 1995: Repeated attempts to re-open U.S. OTA have failed
- 2008: Congress asks Government Accountability Office (GAO) to establish a permanent TA capability.
- – For now GAO anticipates producing studies at less than 1/10th the OTA's annual rate.

We Need a 21st Century Model



Adapted from: Funtowicz and Ravetz, 1993

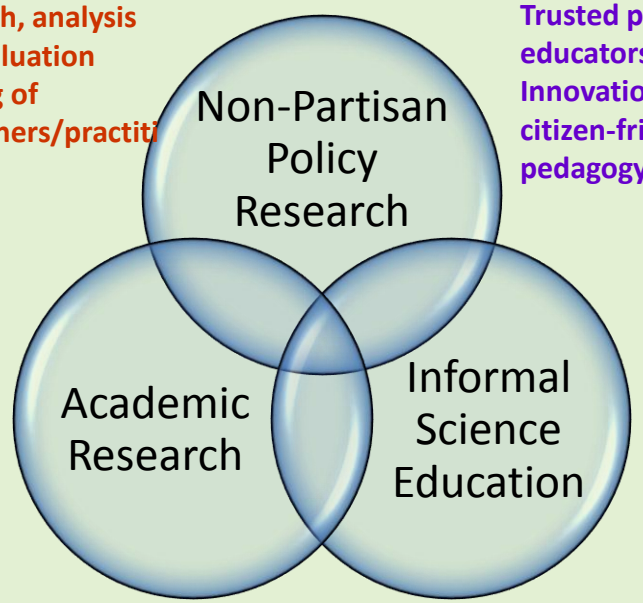
- Participation + Expertise
- 21st Century Structure: distributed, agile, collaborative
- Institutionally non-partisan while inviting and integrating diverse value perspectives
- Continuously innovative in concepts and practices
- Integrated into government policy-making, into wider societal deliberation, and into technological R&D, dissemination & management

Distributed Institutional Capacity

Policy relevance
Interface with policy-makers
Broad dissemination

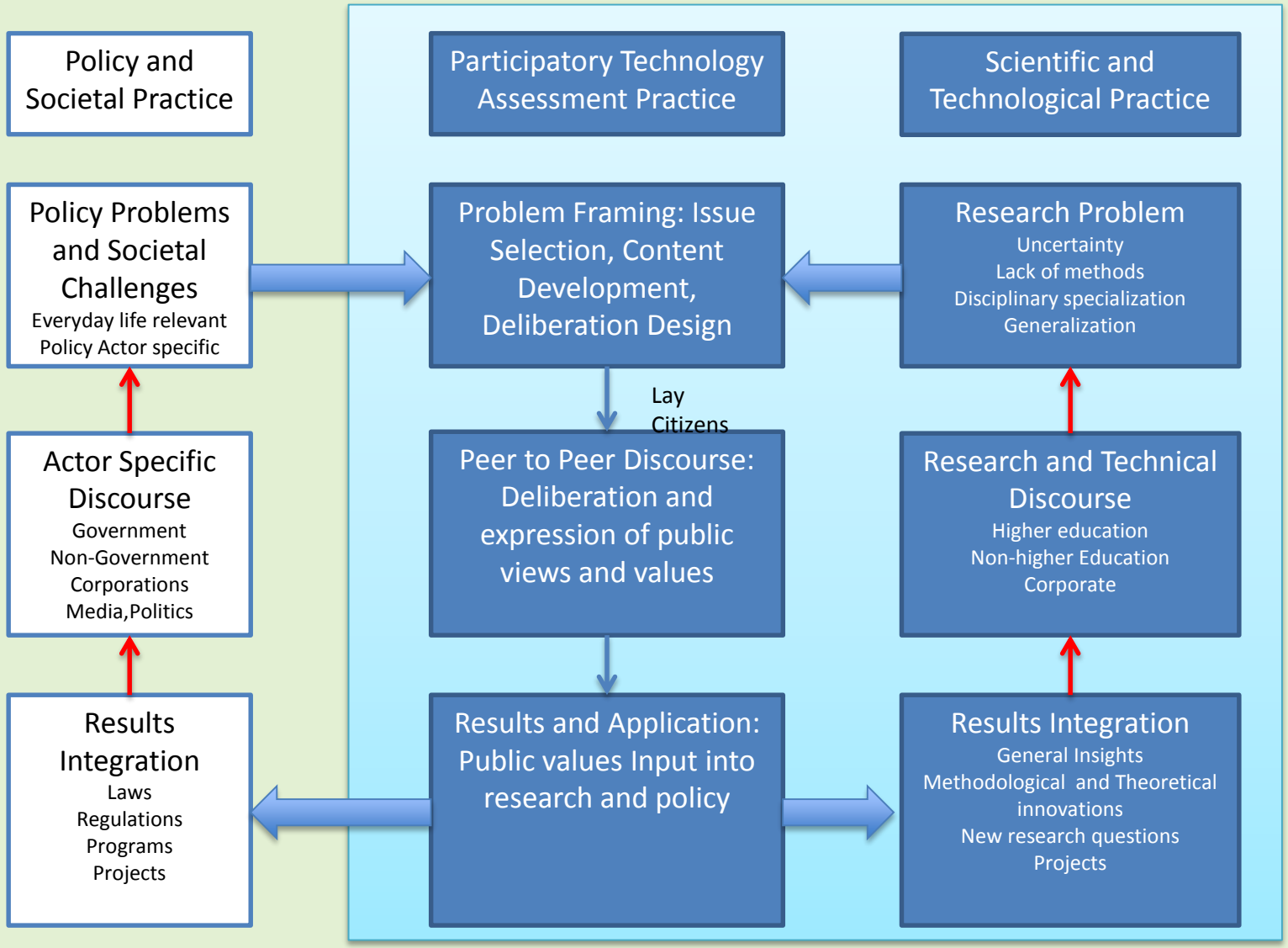
Innovation in TA concepts/methods
Research, analysis and evaluation
Training of researchers/practitioners

Direct public interface
Trusted public educators
Innovation in citizen-friendly pedagogy



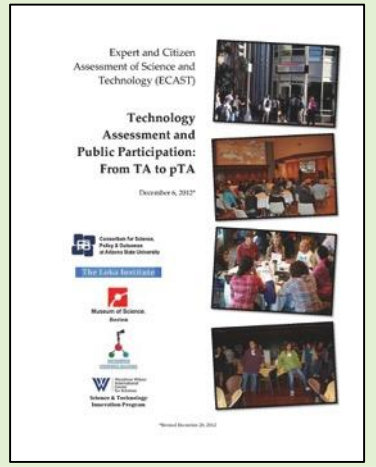
"Competent social scientists should work hand-in-hand with natural scientists, so that problems may be solved as they arise, and so that many of them may not arise in the first instance." - *Detlev Bronk*

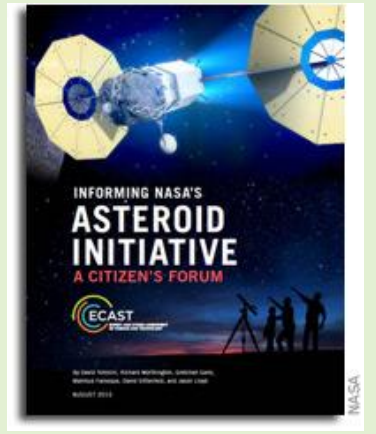
Iterative, Integrated, Trans-disciplinary Knowledge Co-production



From Biodiversity to Space to Climate to Energy

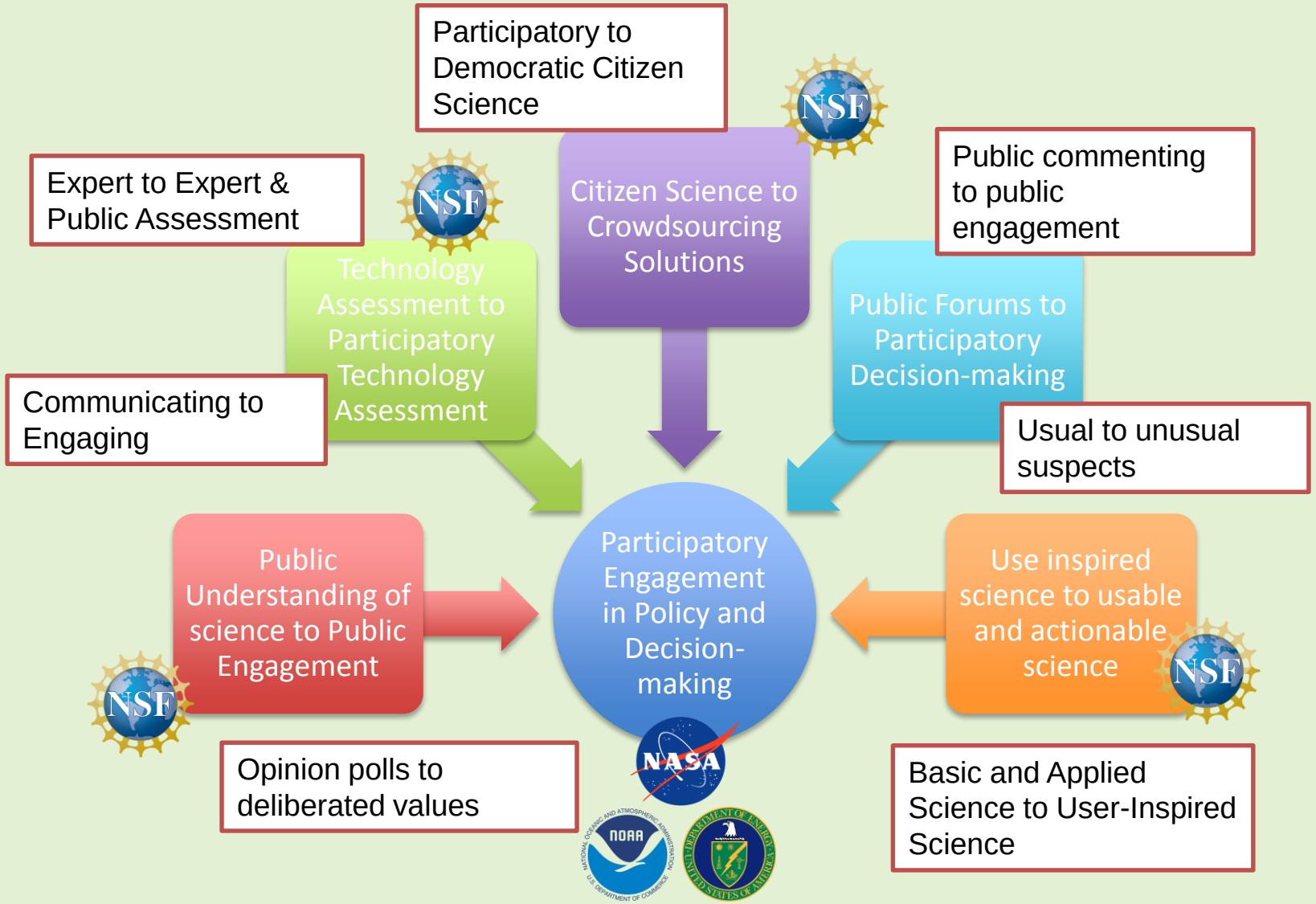
- **2010: Wilson Center Report: Reinventing Technology Assessment – A 21st Century Model**
- **2012: Wide Views on Biodiversity (WWViews) in four U.S. cities (Boston, Washington, Denver and Phoenix) for input to the UN Convention on Biological Diversity (CBD).**
- **2014: Participatory Technology Assessment of NASA's Asteroid Initiative in Boston, Phoenix and on-line.**
- **2015: World Wide Views on Climate and Energy in four U.S. sites (Boston, St. Paul, Ft. Collins and Phoenix) for the Paris Climate Meeting (COP 21).**
- **2015-2018: NOAA Community Engagement for Environmental Literacy, Improved Resilience, and Decision-Making in six U.S. sites (Boston, Phoenix, Minneapolis, Oakland, Raleigh and 3 others).**
- **2016-2017: DOE Participatory Engagement for Energy Policy and Planning in five U.S. sites**





A broad-based capacity extended through society that can act on a variety of inputs to manage emerging knowledge-based technologies while such management is still possible

Epistemological Convergence



Anticipatory Governance

1. **Foresight**
   All governance requires a disposition toward future
2. **Engagement**
   Crucial normatively, strategically, pragmatically
3. **Integration**
   Scientists know things we don't, and vice versa
4. **Ensemble-ization**
   None of these works in isolation

Public Engagement

- Center for the Advancement of Informal Science Education (CAISE)
- Nanoscale Informal Science Education Network (NISENet)
- Association of Science-Technology Centers (ASTC) PES Community of Practice