



BROSNAN CENTER
with UC Davis and Virginia Tech
Symposium and Workshop on balancing disaster science and policies for the natural and built environments to create secure and resilient communities.

Summary of Highlight Topics, Recommendations, and Contributors

(Jan.15th &16th 2013 at NCSE Conference on Disasters and Environment, Washington DC)

(Convener: Dr Deborah Brosnan brosnan@deborahbrosnan.com Research Assistant: Vicki Garcia vgarcia@vt.edu)

There is growing recognition of the link between the impact of disasters on natural resources and the severity of human suffering, economic losses, and ability to rebound in the aftermath of disasters. The symposium focused on the science and policies for establishing natural resources and ecosystem impacts in disaster planning and response.

Symposium: Building a new framework for understanding and mitigating disaster impacts on ecosystems and people

Periodic disturbances, including fires, storms and tsunamis are part of the natural process and they are drivers of productivity and diversity. These processes are fundamental to ecological principles and studies. However, by interfering with the frequency, scale, and impacts of natural events, human activities may be more important in determining how ecosystems experience and recover from extreme events.

With few notable exceptions (e.g., oiled-wildlife care response during oil spills), there is no framework similar to the Disaster Risk Reduction cycle of preparedness and response. The oil spill response is driven by statute. It includes recognition of a responsible party and assessment of natural resources damages (NRDA), which have created a systematic and institutionalized framework for planning and response. There is an Incident Command Structure to unify the response. In the case of natural disasters this framework does not exist.

Strategic and tactical science is needed to incorporate natural resources and ecosystems into disaster planning and response.

Ecosystem Services offers a potential scientific and communication framework for understanding and planning for disaster events.

Evaluate what constitutes a disaster of significance; i.e., one which might shift the system to an alternative state and from which it might not recover, versus a disaster that while notable to humans may not be ecologically significant in terms of response warranted.

The slow-burn or gradual changes may be the real "disaster" by setting the stage for more extreme events. These gradual changes may go unnoticed or not get the attention they deserve and so preventative measures may be missed. In these situations, the effect of an extreme event is analogous to a performance enhancing substance.





Workshop Policies and frameworks for integrating natural resources into disaster planning



Strategic and Tactical Responses are necessary.

Strategic Recommendations

1. Effectively communicate how disasters affect ecosystems and how prevention helps humans and their natural resources.
2. Expand the use of ecosystem based adaptation to protect communities from disaster.
3. Establish strategic multi-disciplinary science teams to tackle 'strategic' questions and frame solutions regarding disasters.
4. Reframe the understanding and identify what is recognized and relevant to all affected using co-construction of knowledge.
5. Remove barriers to legislation at a strategic and tactical level.
6. Proactive legislative, policy and scientific efforts are needed now to implement the vital elements of mitigation, adaptation, and restoration.
7. In strategic program development, leverage the national and international programs and partnerships and to the greater benefit of U.S. national issues.



Tactical Recommendations

1. In the legislative response, Mitigation must be better incorporated and addressed.
2. Reform the budgeting framework to allow it to support needed actions.
3. Adopt and incorporate the framework and language of Incident Command Response and Disaster Risk Reduction to better serve the natural resources and ecosystem issues.
4. Use tactical teams and responses (see ICS and DRR) relevant to disaster response.
5. Make multiple baseline assessments at a tactical and immediate-need level.
6. Make better use of existing expertise and partnerships to support national challenges.





Participants and Contributors Included

Dr Deborah Brosnan (organizer and speaker) (Brosnan Center/University of California, Davis, Professor, Virginia Tech)
 Dr. Alex Moad USFS International (speaker/discussant) (Director US Forest Service International Programs)
 Dr Susan Roberts (speaker/discussant) (National Academy of Sciences, Director Ocean Studies Board)
 Dr Michael Ziccardi (speaker/discussant) (Director, Oiled Wildlife Care Network, U.C. Davis)
 Dr Kristine Ludwig (discussant) (USGS Natural Hazards Program/ AAAS Fellow)
 Dr Geoffrey Plumlee (discussant) (US Geological Survey (USGS) Contaminants Program)
 Dr Elizabeth Strange (discussant) (ICF Specialist on Climate Change)
 Congressman Blumenauer/Ms Janine Benner (speaker, natural disaster advisor)
 Ms Anna-Marie Laura (Sen Whitehouse policy advisor) (discussant)



Additional workshop contributors/discussants
 Dr Louise Vandelac (Professor and Director ISE-UQAM, Montreal, Canada)
 Ms Liz Berger (USFS)
 Ms Lauren Campbell (USFS)
 Ms Erin Beddingfield (SAIC)
 Ms Aimee Delach (Defenders of Wildlife)
 Dr Derrick Golla (Booz Allen/Dept of Defense)
 Mr. Greg Stenger (Conservation Magazine)
 Dr John McShere (Environmental Protection Agency)
 Ms Laurel Hung (University of California, Los Angeles)
 Dr. Lisa Gares (Director Institute for Natural Resources, Oregon State University)

Vicki Garcia (Virginia Tech) Research Assistant for symposium and workshop
 Workshop notetaker: Kristen Barney

Acknowledgments. Our thanks and appreciation to Dr. Peter Saundry, Executive Director, Caley Corsello, and the staff and volunteers at NCSE for their help and for their vision in creating a unique opportunity to discuss and advance this important topic at the NCSE 13th National Conference on Science, Policy, and the Environment: Disasters and Environment. Thanks to U.C. Davis, Virginia Tech, and to the additional attendees at our symposium and workshop who provided insights and opinions which contributed to the success of the symposium and workshop.

