

New Mexico Forestry and Climate Change Workshop
Approach for Working Groups
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Organizing Contacts:

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www.forestguild.org/nmfccworkshop.html (launched by April 25, 2008)

Thank you for volunteering to participate in one of the working groups for the New Mexico Forestry and Climate Change Workshop (NMFCCW), to be held in November 2008 (most likely November 20) in Albuquerque, NM. Registration for the one-day event will cost approximately \$35-\$40 per person and feature a luncheon with a guest speaker(s).

Workshop Goal

The goal of the workshop is to provide foresters and other natural resource professionals working in New Mexico's forested ecosystems with information about climate change and its projected impacts on New Mexico's forests to incorporate into their forest management decision making. The workshop will be advertised to managers, researchers, landowners, students, activists, and the general public.

Working Groups

We've organized four working groups, each comprised of researchers and forest managers focusing on one of New Mexico's dominant forest types (bosque, piñon-juniper, ponderosa pine, and mixed conifer/aspen). Each working group will develop a presentation about the projected impacts of climate change on their assigned forest type, including practical on-the-ground knowledge and management considerations for use by resource managers.

Each working group will prepare a 45-50 minute presentation, leaving approximately 25-30 minutes for questions and answers. We will need your PowerPoint presentation completed one week before the workshop so it can be photocopied and a hardcopy can be given to all workshop participants. The presentations will occur sequentially, so all workshop attendees can participate in all sessions. The leaders of each working group will be part of the Workshop Steering Committee, ensuring communication between the working groups.

The suggested approach for each group to follow is defined below (see **Recommended Working Group Approach** below).

New Mexico Climate Change Scenario

Dr. Dave Gutzler, professor and climatologist with the University of New Mexico's Earth and Planetary Sciences Department, is developing a New Mexico climate change scenario for the working groups to use based on outputs from the major peer-reviewed climate change models and input from the Workshop Steering Committee. This way, each working group will base their work on the same scenario. This information will be distributed to the working group participants by the end of April.

Managing in the Face of Uncertainty

The workshop is being organized around a recently published framework for managing forests in the face of climate change (Millar et al. 2007)¹, which offers options for management including adaptation strategies (actions that help forested ecosystems accommodate change), mitigation strategies (actions that reduce the causes of stress, such as sequestering carbon and reducing greenhouse gas emissions), and priority-setting approaches (e.g., triage).

Paraphrasing from the paper, Millar et al. make the following points regarding a new forest management framework to use in the face of uncertainty:

- Rapid environmental changes will result in environmental conditions without precedent in the past; thus using historical forest conditions as a target for how healthy forests should be managed may be less relevant in the future and will need to be augmented by consideration of future conditions under climate change.
- While we can use models to estimate a range of environmental changes and forest responses, models can rarely predict the future with the level of accuracy and precision needed by resource managers, especially at local and regional scales. But models can help us organize our thinking, game different scenarios, and gain qualitative insight on possible future changes.
- Managing in the face of uncertainty will require a portfolio of approaches, including short-term and long-term strategies, that focus on enhancing ecosystem resistance and resilience as well as assisting forested ecosystems to adapt to the inevitable changes as climates and environments continue to shift.

Recommended Working Group Approach

As stated above, each working group will develop a 45-50 minute presentation about the projected impacts of climate change on their assigned forest type, including practical on-the-ground knowledge and management considerations for use by resource managers.

Each working group member should read Millar et al. (2007; available at the website mentioned below) and address the following in your workshop presentation as it is relevant for the forested

¹ Miller, C.I., N.L. Stephenson, and S.L. Stephens. 2007. Climate Change and Forests of the Future: Managing in the Face of Uncertainty. *Ecological Applications*. 17(8), pp. 2145-2151.

ecosystem your working group is focused on. In addition to the framework presented in Millar et al., please include the distillation of any other relevant research and projections you feel are relevant to your working group.

- **Adaptation strategies**
 - **Resistance options** – manage forests so that they are better able to resist the influence of climate change or to forestall undesired effects of change.
 - **Resilience options** – Resilient forests not only accommodate gradual changes but tend to return toward a prior condition after disturbance.
 - **Response options** – Enable or facilitate forest ecosystems to respond adaptively to, rather than resist, change.

- **Mitigation strategies** – reduce greenhouse gas emissions
 - Sequester carbon – remove CO₂ and store carbon
 - Reduce emissions – minimize net carbon release

- **Priority setting approaches**
 - Triage approach used when time is short, need are great, and the capacity to respond is limited
 - Categorize needs; reassess and re-prioritize frequently under rapidly changing conditions.
 - High urgency – treat immediately.
 - Mid-urgency – treat later.
 - Highly urgent but untreatable given current capacity – no action taken.

Some other concepts for the working groups to consider for the benefit of workshop participants:

- What management parameters are likely to be affected by climate change and how would the effects be manifested? How would these be distinguished from historic conditions?
- What are the thresholds of ecosystem change that these parameters have that may be crossed under climate change? What sort of monitoring can be used to gauge climate change impacts on these parameters?
- What are current management goals for this forest type? How would the objectives for these goals be affected or exacerbated by climate change? Are there certain management objectives that need to be abandoned or changed (e.g., removing the focus on a particular species at one boundary of its range)?
- In response to changing management goals and objectives, what management practices can be employed today?
- Given the climate scenario provided, what do we want from our forests and what can we expect our forests to be like in the future? How do we manage toward that future?

- We don't intend to come up with specific management prescriptions; rather, we would like to help managers think more conceptually about how climate change will affect their ecosystems, how their decision-making should respond to this, and what strategies and tools might be of assistance.

In addition, share with the working group any work you've been doing, insights and concerns you have, and any observations you've made regarding the impacts of climate change in your group's forest type that are relevant for managers to consider.

Each working group already has a leader or co-leaders that will organize working group meetings. Each group will also need a volunteer to take and distribute notes for each meeting.

Management Timeframe Considerations

The Workshop Steering Committee contemplated the management timeframes that the working groups should consider and decided on two timeframes to use: **short-term (5-10 years)** and **long-term (50-100 years)**. This will provide managers with information to incorporate climate change into the short-term challenges and constraints they are facing as well as give them the freedom to think about long-term options outside of their short-term constraints.

Resources Provided on Forest Guild Website

The Forest Guild is hosting a web home page for this workshop (to be launched by April 25, 2008): www.forestguild.org/nmfccworkshop.html. Think of this website as a depository for useful resources you come up with in your working group process and as resource for the workshop participants to reference leading up to and after the workshop.

The following resources will be available there:

- Millar et al. (2007) downloadable pdf
- Link to October 2007 Nature Conservancy workshop on climate change ecology and adaptation –www.nmconservation.org/NM_ClimateChange.htm
- New Mexico climate change projection information by Dave Gutzler
- List of NMFCC workshop working group participants
- Information about workshop location and registration
- Other useful links

If you have downloadable files or links to useful information that you feel we should post on this website, please email them to Howard Gross (howard@forestguild.org).