

# MtnClim Workshop for Natural Resource Managers

## Agenda

**1300: Introductions**

**1315: Science presentations on Water, Vegetation, and Adaptation**

**1415: Talking circle – What do you need or want to tell this group from your perspective to collectively take government and your climate change ideas to the next level of productivity and success?**

**1500: Break**

**1515: Small group breakouts – stretch goals/projects**

**1530: 1<sup>st</sup> round**

**1550: 2<sup>nd</sup> round**

**1610: 3<sup>rd</sup> round**

**1630: Summary of breakouts**

**1700: Adjourn**

# Workshop for Natural Resource Managers – Talking Circle

**Timeframe: 1415 - 1500**

**Topic: What do you need or want to tell this group from your perspective to collectively take government and your climate change ideas to the next level of productivity and success?**

## **Ground Rules:**

**State your name before speaking**

**Stay on topic vs getting into conversation**

**Only one talks at a time**

**Be aware of time**

**Be yourself, be authentic**

**Be ok with silence**

# Workshop for Natural Resource Managers – Small Group Breakouts

## **Format:**

**3- 4 hosts to volunteer topics**

**A stretch goal or taking a project/program to a new level**

## **Timeframe: 1515 – 1700**

**1530: 1<sup>st</sup> round**

**1550: 2<sup>nd</sup> round**

**1610: 3<sup>rd</sup> round**

**1630: Summary of breakouts**

**1700: Adjourn**

## **Ground Rules:**

**If not a table host, please rotate tables**

**Generate ideas to help table host be most successful**

**Host – plan on summarizing at the end**

# Workshop Notes

## MtnClim Workshop for Resource Managers

September 18, 2014, Midway, Utah

Moderators/Hosts: Dave Peterson, Natalie Little, Steve Jackson

Notes by: Holly Hadley

### **Science Presentations on Water, Vegetation and Adaptation:**

#### **Water Resource and Climate Change: Trends and Projections Charles Luce**

Summary:

- Snow will not last as long;
- April snowpack will mostly decline;
- Could be better or much worse in interior;
- Less Water in Summer – Lower Lows;
- Earlier center of timing;
- Annual flows uncertain;
- More flood occurrence in winter;
- Flood magnitude uncertain.

#### **Climate Change Effects on Vegetation and Disturbance: Dave Peterson**

Summary:

- Studies of Historical and Projected Temperature show that max temperatures have a trend to go up in the future and where so vegetation might see greater changes.
- Altered disturbance regimes will overwhelm gradual changes in ecosystem structure and function.
- Disturbance drives ecosystem change – Fire resets succession.
- Extremes Matter.
- Climate Change affects insects.

- If temps continue to crank up Pinyon and Juniper might get bark beetles from Mexico, we can identify hot spots and see migration patterns of beetles.
- Climate Change affects wild fire, fire frequency has not increased since the early 20<sup>th</sup> century, fire severity may have increased in the southwest (but caused by fuel accumulation?), area burned has responded to climatic variation.
- If the future is warm we will have more fires.
- It's not just climate change – its many things together that will have impacts: fungal pathogens, invasive species, riparian systems, effects of disturbance on carbon, interactions of disturbance and non-vegetation resources (water, fisheries, wildlife, recreation).
- There are many resources available to help you and make science useful to management.
- We can't keep waiting to verify uncertainty before we take action!

### **Some Thoughts about Adaptation – Jill Baron USGS**

#### Summary:

- There are wonderful experts that think about processes and science. We need to utilize science / management partnerships!!!!!!!!!!
- When it comes to adaptation – we need to ACT!
- Global Change in the West: Already seeing big changes, land use – intensification and extensification, high rates of Nitrogen deposition from urban and agricultural locations, earlier snow melt, altered hydrology, more extreme weather, large forest pest outbreaks, increased fire frequency / size.
- Philosophy for adaptation, the onset and continuance of climate change over the next century requires natural resource managers to think differently about management than before. Preparing for and adapting to climate change is as much a cultural and intellectual challenge as it is a scientific one.
- We need the information from the scientists to be put in simple terms, warmer, more uncertainties, more extremes. This will help land managers think about what you need to do.
- No action in the face of climate change is a decision that may carry the greatest risk!!!!!!!!!!!!!!
- It's a mandate in land agencies to do something!
- Failure to success continuum - Maladaptation, inadequate response, stabilization of a degrading situation, repair and recover, building something better. We are all sitting in Maladaptation – we are not doing things that need to be done now! We are all on this

continuum but not moving fast enough!!!!!!!!!!!!!! We need to get to building something better!

- Climate Change effects occur in addition to contemporary resource problems. We already have stressors - Climate change alters our ability to manage – altered disturbance regimes, habitat fragmentation/loss, invasive species, pollution.
- Scenario Planning, Vulnerability Assessments, Adaptive management, optimal control, hedging, consider what may happen, what the risks are-...
- Summary: Work together, build trust - Across political and disciplinary boundaries; partnerships reduce current stresses!! Experiment using adaptive management; Invite help from scientists\ put experimental plots on your land / invite scientists in and try things; Implement short-term measures, plan for and implement/ monitor long term measures.
- We need to move into the future in terms of management / using science and action.
- Think differently about what we need to do on the landscape and take action!

#### **Steve Jackson Southwest DOI Climate Science Center:**

Summary:

- Addresses challenges to land managers, we need to be mobilizing in many fronts in as many ways as we can.
- Part of 8 centers in the West.
- Southwest Climate Science Center - University of Arizona - USE THESE RESOURCES!!!!
- We are not doing an adequate job with what we already know – There are needs for new research all the time, there will never be enough of that – but we need to develop it in a way land managers can use!
- We need to bridge the chasm between science and management - The CSC is trying to bridge that gap by researcher/ manger partnership/ collaboration.
- How can we best match the science to the needs of the managers now?

**Talking Circle:** What do you need or want to tell this group from your perspective to collectively take government and your climate change ideas to the next level of productivity and success?

- Groups like this really help, collaboration helps.
- We need to all speak the same language, language can be a big issue.
- Land managers need simplified science.
- We need to be able to access the information / make it available.
- Less is sometimes better but there is a sweet spot between too much and too little information.

- What is useful? Scientists want to be asked specifics.
- Scientists like to talk and share they don't like to listen – they need to understand your needs at their level.
- Scientists should layer the big picture/ conclusion – They need to get to the issues managers are dealing with and use practical elements. Thoroughness/practicality.
- Communication is very important in Climate Science. Scientists should be able to say the same thing at different levels.
- Climate Services/ translation are a craft, not a science.
- Land Managers struggle with communicating Climate Change to their superiors. Many people don't value science.
- The challenge in the agencies are decision makers up the chain may not be committed to evidence or science based decisions.
- Much ground already has been broken by ecosystem management, adaptive management and restoration.
- Climate adaptation should be more straight forward.
- The rising generation does value the science and can hopefully make a change in upper management.
- Resource managers do all the adaptation / not the scientists.
- Scientists could illicit information and improve chances of success.
- Superiors make decisions based on politics.
- How do we educate line officer decisions?
- Decision makers lack time to think deeply and are constrained by politics and law.
- A big challenge is how to influence line officers, there is a need for cultural shift in management.
- It is hard to get the attention of line officers.
- Agencies aren't ready to do things at the scale that's needed and the public is not ready to push them.
- Agencies need a paradigm shift to do more about climate change.
- Time and money are being wasted.
- The forest service communication layers: you can't make a massive change on the forest, but you can start small where you are at. Come up with a sales pitch, prepare a presentation for your leadership team, use their language, sell the short term before the long term, and invest in middle ground.
- Climate used to not be political. "Climate Change" has become political and many people focus on the here and now. We need to build trust.
- The old culture in forestry is long term – 'stay the course'.

- There is sometimes opportunity in catastrophe – it's a good time to have conversations about climate issues.
- An ounce of observation is worth a pound of forecast.
- People trust observation.
- Weather forecasts are good, climate forecasts are iffy because it is the first time it's been done.
- One way to get people on board is to combine GIS with Citizen Science – Use tools like google earth.
- Pictures paint a thousand words – compare pictures from 15 years ago to now.
- The National Park Service is a great example of Sustainability – They are great at setting rules and leading the way through example.
- We need to Act Now!
- Science needs to provide us with more conclusions and more statistics.
- Management needs to support Climate Science.
- Strategy to change agencies – be engaged in forest plan!
- An important path would be to get engaged in drafting the forest plans under new planning rules.
- JWM requires “Management Implications” in each article – most of these are irrelevant to or in-actionable by agencies, we need to pay attention to language in relevant planning document in relevant agencies.
- Scientists need to comment on planning documents during the comment period.

### **Notes from Small Group Topics**

1. From a research point of view, what is the most relevant topics to study and who do scientists talk to at the agencies.
  - a. There are many difference perspectives in the Forest Service. Do you start at the bottom and work up or go from the top down? Building relationships with individuals is very important. And follow up.
  - b. Research community engaging with planners is important, it's also important to understand each other's language.
  - c. Park Service – Range of attention depending on jobs/ individual relationships.
  - d. Relationships are common theme in connecting research/ management.
  - e. Scientist researchers – as ecologist be less leery of predictions, rethink that and do a better job at prediction that is what people want.
2. Feedback on vulnerability adaptation monitoring assessments:
  - a. Do more than just an environmental assessment: include social and economic as well.

- b. What does this assessment mean for the life of the community?
  - c. Engage other land agencies/ counties/ look at whole Colorado Plateau.
  - d. Assessment needs to be non-decisional.
  - e. People make decisions from emotions more than intellect so include visuals.
3. Idea of imbedding climate specialist in another to agency to cross train/learn
- a. There is a general sympathy for the idea – it may be viable.
  - b. There is a good rapport with the National Park Service – Director of NPS John Jarvis was a big advocate of Climate Change – He may be a good contact to start this.
  - c. FS may take a different approach.
  - d. Have to have an element of Climate.
  - e. Funding to do this is a challenge.
  - f. NOAA may be an option/ Climate Office.
  - g. Further the career of the person doing it? Job/ Publications.
  - h. Logistics.
4. Refugia
- a. Communication Strategy;
  - b. Neutral Briefing Papers that are scientifically based;
  - c. Focus Purpose and Intent and articulate values;
  - d. Biodiversity Hub and source;
  - e. Simple enough scientists agree and managers understand;
  - f. Present both simple and complex especially if possible;
  - g. Use examples such as: Audubon.. Boreal birds “Boom” Cold water refugia in rivers for fish;
  - h. Describe how the “gestalt” word refugia is a transition strategy for what projected time horizon and per a resilience and resistance adaptation.

#### **Dave Closing thoughts**

- Complexity grows.
- You are pioneers to do this / make things happen with Climate Change.
- When your kids say your generation let everything go to hell / you can say you didn't!
- On the table are regional and sub-regional assessments.
- We are like a secret society of management/ (put topics in for next time).

**Roster/ Attendee List:**

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