





DOI North Central CASC & USDA Northern Plains Climate Hub Joint Stakeholder Committee (JSC) Listening Session #2: Future of Grasslands Management Meeting Summary

In this listening session, held on August 26, 2021, the JSC reconnected and shared information about their climate-related priorities regarding grasslands management with the DOI North Central CASC and USDA Northern Plains Climate Hub. Listening to and learning from participants helps the two centers make stakeholder-informed decisions regarding science directions, priorities, and activities.

Participants learned about two new complementary projects being undertaken by the centers: *The Grasslands Synthesis Project*, Dr. Christy Miller Hesed, University of Colorado – Boulder; and *The Vulnerability of Northern Plains Ranching to Climate Variability and Changes*, Dr. Toni Klemm, USDA Agricultural Research Service. Participants were then divided into breakout rooms to share the challenges and concerns they have surrounding climate change and grasslands management. This meeting summary provides a synthesis of the comments and ideas shared by participants.

Summary of Grasslands Management Challenges and Concerns

Q1. What's keeping you up at night regarding grasslands management?

Pressing concerns about climate change and grasslands management were centered on themes of how to promote conservation, the complexity of interactions, competing interests, anticipating future challenges, and impediments. Questions raised included:

- How do we promote conservation of grasslands on landscape- and continental-scales and conservation of grassland pollinators and other species?
- How do we deal with the complexity of interactions and competing interests in the face of climate change impacts, invasive species, human resource uses and needs (e.g., water, agriculture, land-use changes), and evolving management and policies?
- How do we communicate complex interactions (e.g., grassland carbon inputs and outputs)?
- How do we anticipate and accept future challenges as these interactions and interests change over time? What new stressors may be added (e.g., climate migration, increased food needs)?
- What will the future look like? How can we anticipate and prepare for ecological transformation?
- How do we deal with and overcome impediments such as a lack of funding, time, or political will; uncertainty and competing priorities; and a lack of region-wide, strategic land-use planning?

Q2. What is your organization or tribe doing regarding grasslands management?

Participants shared a wide range of activities related to grasslands management in which their organizations/tribes are involved, including the following:

- Collaborative research to support managers and ranchers, to understand climate impacts and futures, to support decision making, and to examine socio-economic questions.
- Creating syntheses of management priorities and climate impacts and decision support tools.
- Conservation through land acquisition (easements and purchases).
- Conducting assessments to monitor grassland health, assess vulnerability, catalogue resources, and evaluate the success of adaptation strategies.
- Reviving critical species, and highlighting the number of listed species that depend on grasslands
- Translating science to managers, especially around prescribed burns, and supporting webinars and knowledge-sharing on scientific topics (e.g., drought impacts to Tribes).

Summary of **<u>Grasslands</u>** Management Challenges and Concerns

Q3. How robust are these plans or actions (from previous question) to future climate change?

In some cases, participant management plans and actions are robust but not large enough in geographic or time scale, in other instances they are not robust, and there are many areas where it's not clear whether they are robust or what robust would even look like.

- Plans and actions perceived as robust: the Private Lands Program and Great Plains Bumblebee Atlas.
- The science and management of prescribed burns was perceived as robust, but capacity is lacking to meet the current geographic need and the frequency needed will increase with climate change.
- Research was generally perceived as robust, but implementation was lacking. There is a disconnect between how quickly research can be completed and when a decision needs to be made. There is also a disconnect when research does not engage with managers/users (more bottom-up vs. top-down).
- Some managers take a "wait-and-see" for more/better science approach, but there are risks, especially when there are competing interests. It is sometimes unclear what actions are feasible or acceptable from a socio-economic perspective.
- Education and outreach could be more robust, as managers perceived that the importance of and climate impacts on grasslands are not well understood or appreciated by the public.
- Current research provides a good understanding of individual aspects of climate vulnerability, but a robust understanding of the complexity and interplay of components is lacking. Additionally, climate adaptation options are evolving, and it is unclear what will be robust under future climates.

Q4. In a more focused future conversation, who would you want to talk to and about what?

Participants overwhelmingly responded with a desire to engage private landowners on a variety of topics, but there was also interest in having conversations with managers and with multiple partners such as Tribes, researchers, managers, policy makers, and other agency personnel.

- Engaging private landowners, as most of the land area of the Great Plains is privately owned. Topics could include ranchers and agriculture; pollinators and the impact of herbicides/pesticides; climate adaptation actions; and data and policies to support maintaining livelihoods and grasslands health.
- Engaging managers to identify what climate adaptation and other management actions they are implementing and discuss what is and isn't working.
- Engaging multiple partners simultaneously to maximize impact and realize mutual benefits. Topics and audiences could include land-use planning; the complexity of socio-ecological systems; private landowners and Tribal resource managers; and policy makers, agricultural producers, and researchers (e.g., related to the farm bill, insurance programs, etc.).

Q5. What do you wish we were thinking about?

Participants highlighted innovative management techniques (e.g., virtual fencing), climate change mitigation (e.g., sequestration in soils/grasses, renewable energy), more stakeholder-driven collaborative work, addressing and reducing fragmentation through cooperative planning, and the opportunity to expand reach and impact by strengthening the partnership between DOI (CASC) and USDA (Climate Hubs).

Northern Plains Climate Hub U.S. Department of Agriculture Dr. Dannele Peck, Director https://www.climatehubs.usda.gov/hubs/northern-plains

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