Northern Plains Climate Hub U.S. DEPARTMENT OF AGRICULTURE

Extension

www.climatehubs.oce.usda.gov/ hubs/northern-plains



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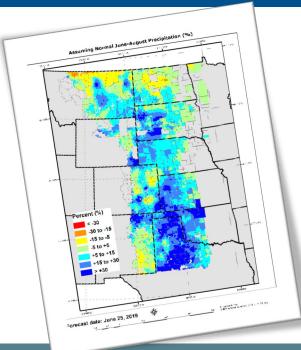


Justin Derner Research Leader Rangeland Science

5-Year Accomplishments

Mission: Northern Plains Climate Hub (NPCH) strives to reduce climate-related risks in agriculture, forestry, and rural communities by collaborating with USDA agencies and other partners to develop and deliver science-driven strategies & tools that land managers can use to make climate-informed decisions.

Tool Development & Technology Transfer

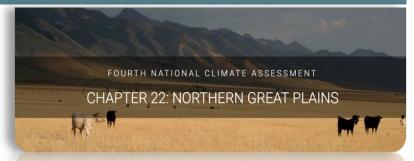


Grass-Cast: NPCH has been instrumental in developing and conducting public outreach for this popular new grassland productivity forecast. It serves ranchers & rangeland managers across the Great Plains and is being expanded to other regions.

- ✓ **Organized** workshops and webinars across 10 states to enable stakeholders to co-design and iteratively improve Grass-Cast.
- ✓ Trained ~100 NRCS and Extension rangeland professionals to use Grass-Cast to help inform their clients' grazing decisions.
- ✓ Led the development and on-going content management of Grass-Cast's website: www.grasscast.agsci.colostate.edu.
 - Accessed by 529 users during May & June 2019 alone.
- ✓ **Secured** funds to help support Grass-Cast research & outreach.
- ✓ Partnered with ARS, USFS, NRCS, Colorado State University, University of Arizona, National Drought Mitigation Center.

Science Syntheses & Assessments

- Co-authored 4th National Climate Assessment, ch22
- Co-authored Climatic Change special issue articles
- Co-edited a special issue in **Rangelands** on drought
- Authored a N. Plains Vulnerability Assessment
- Helped state climatologists develop a template for monthly Drought Impacts & Outlook Summaries



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Outreach & Education



Extension & Outreach Team: The first action NPCH took after being formed was to convene a 6-state Extension & Outreach Team. Extension leadership from six 1862 land-grant universities joined, and selected outreach professionals from each institution to become team members. This 20-member E&O Team met regularly and:

- ✓ **Enabled** new *boundary-spanning* collaborations between N. Central & Western Extension regions.
- ✓ Expanded Extension's agroclimate knowledge, capacity, and outreach activities across 6 states.
- ✓ **Leveraged** resources and professional expertise to complete a dozen *multi-state projects* that actively engaged and assisted our stakeholders.

<u>Contributing to USDA</u>: NPCH lends its unique expertise in the *social sciences* and *stakeholder engagement* to several broader USDA efforts.

- CARM—Collaborative Adaptive Rangeland Management. NPCH helps manage and facilitate this stakeholder-driven, ARS-led project that involves USFS, NRCS, state agencies, University Extension & researchers, cattle producers, and environmental NGOs.
- LTAR—Long Term Agroecological Research network. NPCH actively engages in the ARS LTAR Human Dimensions Working Group.



CARM Stakeholder Field Day. (Photo credit: S. Greenler)

NPCH Builds Bridges in Climate & Agriculture:

- ✓ Connecting climate scientists with ag producers
- ✓ **Translating** weather & climate info for agriculture
- ✓ Facilitating peer-to-peer learning w/in agriculture

Key Outcomes

- ✓ Building Trust & Mutual Learning between Agriculture & Climate
- ✓ Increasing AgroClimate Capacity & Confidence in the Region



- Connecting Partners
- **Expanding** Networks
- **Supporting** Innovation
- Making Science More Usable
- Amplifying Positive Impacts



- ✓ Leveraging Resources & Expertise
- ✓ Sharing Science-Based Information