

# IMPROVING COMMUNICATION AND COLLABORATIVE KNOWLEDGE EXCHANGE

Climate non-stationarity demands an increased focus on knowledge exchange. Including civil society and communities in grass-roots communication improves support for systems change and can enable transformative pathways towards resilience. This level of inclusivity can also guide decision-makers toward choices or trade-offs that were not otherwise transparent. This type of inclusive communication can build transformative partnerships and improve overall adaptive response, which ensures social accountability and increased transparency of public information. This can be realized through horizontal partnerships for shaping and sharing visions, increasing participation and mainstreaming resilience-based approaches. These horizontal partnerships support collaboration across governments, sectors and civil organizations to support citizen understanding and engagement. Other common approaches for mid-level or professional audiences include providing case studies, guidance on best practices, and peer-to-peer learning, which improve drought assessment, response, adaptation, and resilience policies (Elias et al., 2023; Longman et al., 2022). Climate change and aridification add to the complexity of communication challenges. For example, educating a community about why water conservation is no longer a sufficient drought mitigation strategy for a long-term drought or aridifying conditions. This level of communication requires transparency and trust building to achieve the community engagement necessary to reach the adaptive measures required for future water security. In addition, confidence and/or uncertainty in drought assessments can be communicated in a way that informs decision-making. Good communication resources are geographically and culturally relevant, including consideration for diverse languages spoken across audiences. In addition, as research outcomes lead to changes in drought assessments, the tools for communicating those changes will also change.

## Priority Actions:

1. Leverage diverse and scalable communication vehicles to help explain how and why products are changing, when making improvements to strengthen existing drought assessment products to account for non-stationarity. Communicate non-stationarity in terms that work for knowledge exchange and outreach with a very wide drought information user-base.
2. Create a fact sheet, website, etc. for producers and land managers on the current state of knowledge regarding how precipitation intensity and other climate change signals affect the assessment of drought conditions using stories and case studies.
3. Create and conduct a sector-specific and/or community specific science communication training for climate services providers to assist them with better communication on what current drought assessments mean in the face of a changing and aridifying climate and how assessments are changing.

4. Explain and incorporate the concept of dynamic and cascading drought risk into existing resources and communication platforms.
  5. Develop guidance for communicating drought assessment effectively, across civil society and service providers to promote transparency and avoid misinformation in an increasingly artificial intelligence dependent society.
  6. Use metrics developed to characterize aridification—based on scientific consensus to quantify rates of aridification across the U.S.—to inform the framing of drought within the context of aridification in a changing climate.
  7. Develop resources and best practices to communicate the concepts of drought and aridification to increase public awareness and ensure those resources are discoverable, accessible and trusted.
  8. Provide resources to inform science education state standards (e.g., Next Generation Science Standards) and curriculum materials in K-12 to ensure the incorporation of accurate and relevant information on drought and aridification.
  9. Given the drought to aridification continuum, consider what communication messages or tools could complement drought assessment products for risk-based decision-making.
  10. Assess the value and effectiveness of aridification communication in order to adjust messaging and resources.
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### **Research Questions:**

1. What individual perceptions of drought influence how climate service providers communicate drought assessment in a changing climate?
  2. Regarding communicating uncertainty, what is the most effective way to evaluate and communicate confidence and uncertainty in drought assessments, including how particular drought events are affecting particular sectors or regions? How can uncertainty and/or confidence in drought assessments be standardized while maintaining the usefulness of the information? Do users interpret these confidence intervals around drought assessment and translate them to impacts in a way that aligns with their experience of drought?
  3. What improvements can be made in drought risk communication that provides equitable and inclusive language about drought in a changing climate?
  4. As research results are available, what are the best methods for knowledge sharing at all levels, from grass-roots methods to disseminating case studies, lessons learned, best practices, etc. for improving drought assessment and management in a changing climate to accelerate their uptake?
  5. What is needed to improve communication on the distinctions between aridification and drought? This includes understanding U.S. public perception of aridification vs drought and an exploration of how the framing of these two phenomena impacts decision-making.
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