

# CLIMATE AND CLIMATE CHANGE IN MINNESOTA

## TESTIMONY TO THE ENERGY AND CLIMATE COMMITTEE



**Contact:** Jessica Hellmann, Institute on the Environment and Department of Ecology, Evolution and Behavior, University of Minnesota; hellmann@umn.edu; @jessicahellmann; @UMNlonE

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## DAY 1 | Climate Science and Climate Change Impacts for Minnesota

*Presenter:* Mark Seeley, Department of Soil, Water & Climate

### I. Introduction

*Presenter:* Tracy Twine, Department of Soil, Water & Climate

### II. How Do We Know What Change Is and What Changes Are Likely to Occur?

Main points:

- a) Global climate models correctly capture global scale forcings and responses.
  - b) Regional climate models are needed to fill in the details and provide policy-relevant projections for counties and states.
  - c) Projections are updated periodically with new knowledge – and computing power increases.
- Q and A –

### III. What Do We Know? Statewide Predictions for Minnesota

Main points:

- a) Minnesota is becoming wetter and warmer.
  - b) The lowest temperatures are increasing fastest.
  - c) Extreme rainfall is increasing.
  - d) Hot days are not yet increasing but are expected to occur.
- Q and A –

*Presenter:* Peter Reich, Department of Forest Resources

### IV. Across Geography: How Differing Climate and Land Use Will Influence Climate Change Impacts Across Minnesota

Main points:

- a) Climate change isn't just about Minnesota getting a degree or two warmer. It is about how a variety of dimensions of climate change (e.g., average temperatures but also heat waves, droughts, extreme rainfall events, windstorms, etc.) will have an impact on our state.
  - b) Different regions (e.g. northeast, southwest, etc. ) and "elements" of Minnesota (e.g., agriculture, cities, human health, forests, lakes and rivers) differ in their sensitivity to specific aspects of a changing climate.
  - c) The combination of multiple dimensions of climate change and varying sensitivity to those different aspects of climate means that climate change impacts will take many diverse forms in different parts of the state and for different land uses, activities, sectors, and stakeholder groups.
- Q and A –