Key Takeaways from Day 1

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Day 1 Key Takeaways: Climate Science

- Temperatures are rising – the climate is changing
- We expect more warming in the future
  - Timing and magnitude are uncertain
- We can **project** potential changes in climate, but can’t **predict** them
- There are many sources of uncertainty including uncertainty about future emissions and exactly how the climate will change
- We expect some sources of uncertainty to never go away
Day 1 Key Takeaways: Climate Models

• Climate models are the best source of information on future climate
  – They have important limitations
  – Their outputs are projections, not predictions
  – The models tend to be improving but require extensive vetting and assessments before use
Day 1 Key Takeaways: Downscaling and Hydrologic Models

• Models can be used in a variety of ways to better understand the past and think about the future.

• Downscaling and hydrology modeling provide local-scale insights of global scale information.

• Downscaling exists on a continuum of tradeoffs between computational efficiency and method complexity.

• Model uncertainty is unavoidable.
  – Representation of uncertainties is hard but necessary.
  – Uncertainties are always there; just understanding them now.
  – Previous studies may be over-confident.
Day 1 Key Takeaways: Downscaling and Hydrologic Models

• Be extra careful not to confuse high resolution with increased accuracy.

• It is critical to understand important processes and uncertainties in your system.

• Models are tools that can be useful, if used appropriately. Be a savvy consumer.

• Consult local experts and national resources (e.g., OSU, UW, NCAR [https://ncar.github.io/dos_and_donts](https://ncar.github.io/dos_and_donts))
Day 1 Key Takeaways: Planning

• The challenge of anticipating climate change is making decisions in light of uncertainty
  – NOTE: this is the challenge of anticipating any future change

• Uncertainty approaches are better suited to identify and assess options for anticipation of climate change
  – Adaptive management, risk management
  – No regrets, low regrets
  – Incremental, modular (scalable), diversification

• Decision support can help in analyzing options
  – Traditional approaches (e.g., BCA) can still be useful

• Other factors besides climate are also changing and can be relevant.
Reflections on the Day?
Day 1 Wrap-Up

• Please complete your Day 1 feedback form
• Coffee available tomorrow starting at 8:00 am
• Please be seated and ready to go by 8:30 am