

Impacts of Climate Change on Watershed Hydrology in the Northeastern United States

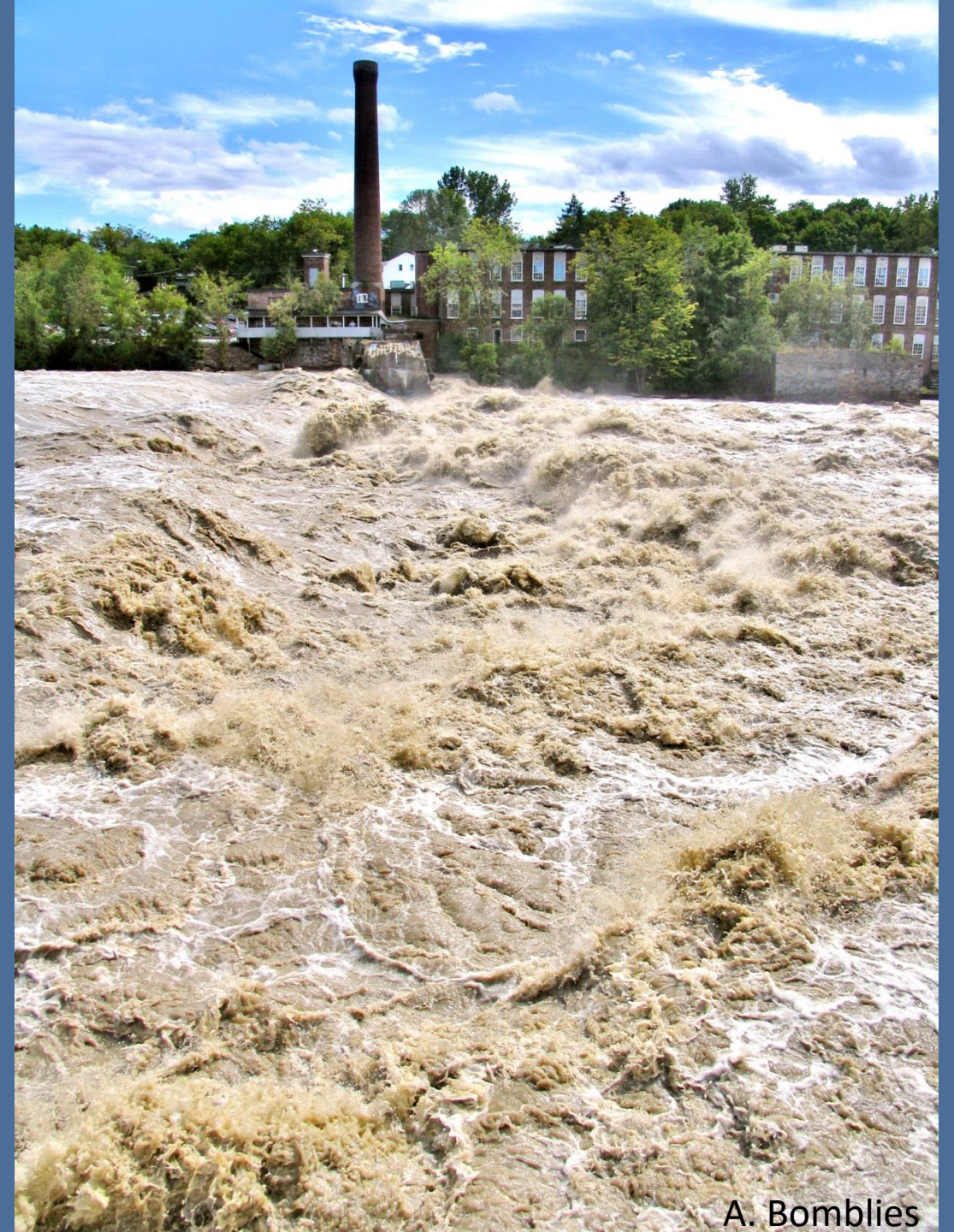
February 6, 2016

Justin Gilbert



Overarching Goal

Identify the contributions of a changing climate to shifts in precipitation and stream flow magnitudes



Publications

Impacts of Projected Climate Change over the Lake Champlain Basin in Vermont

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TIMOTHY PERKINS,+ AND ARNE BOMBLIES*

Journal of Applied Meteorology and Climatology

Research Letter

Characterization of increased persistence and intensity of precipitation in the Northeastern United States†

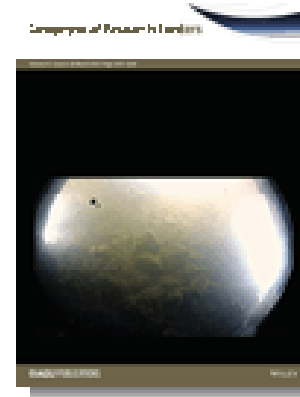


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DOI: 10.1002/2015GL063124

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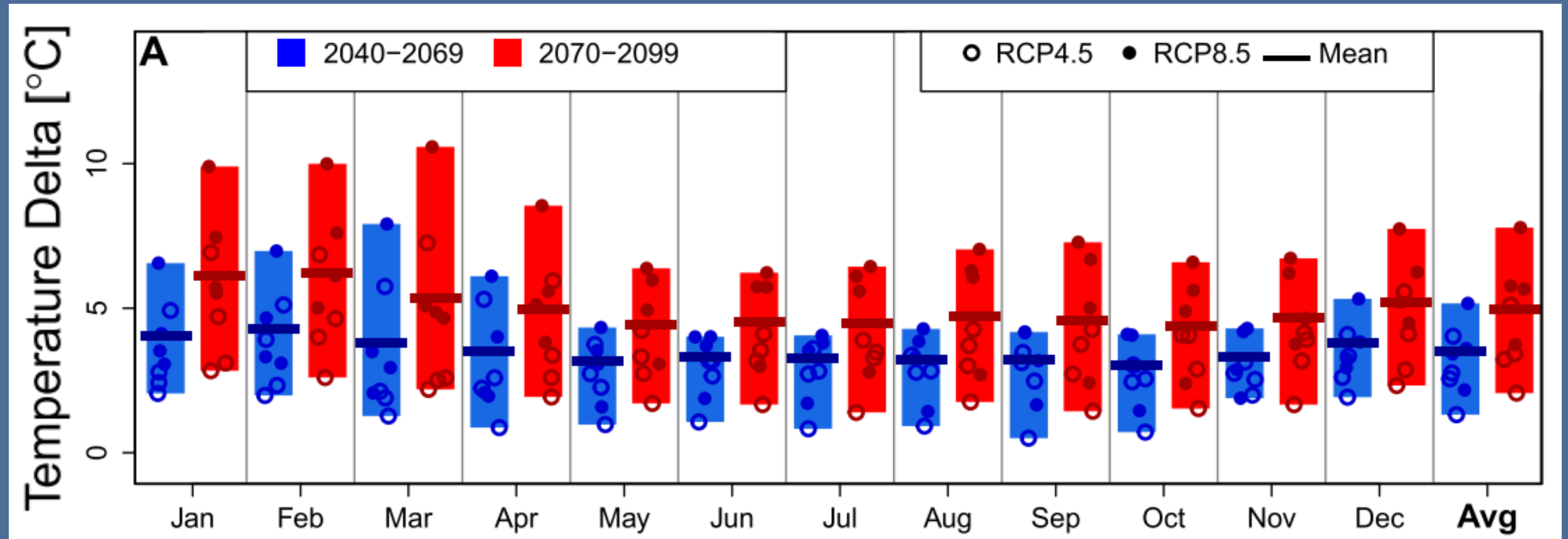
Issue



Geophysical Research Letters

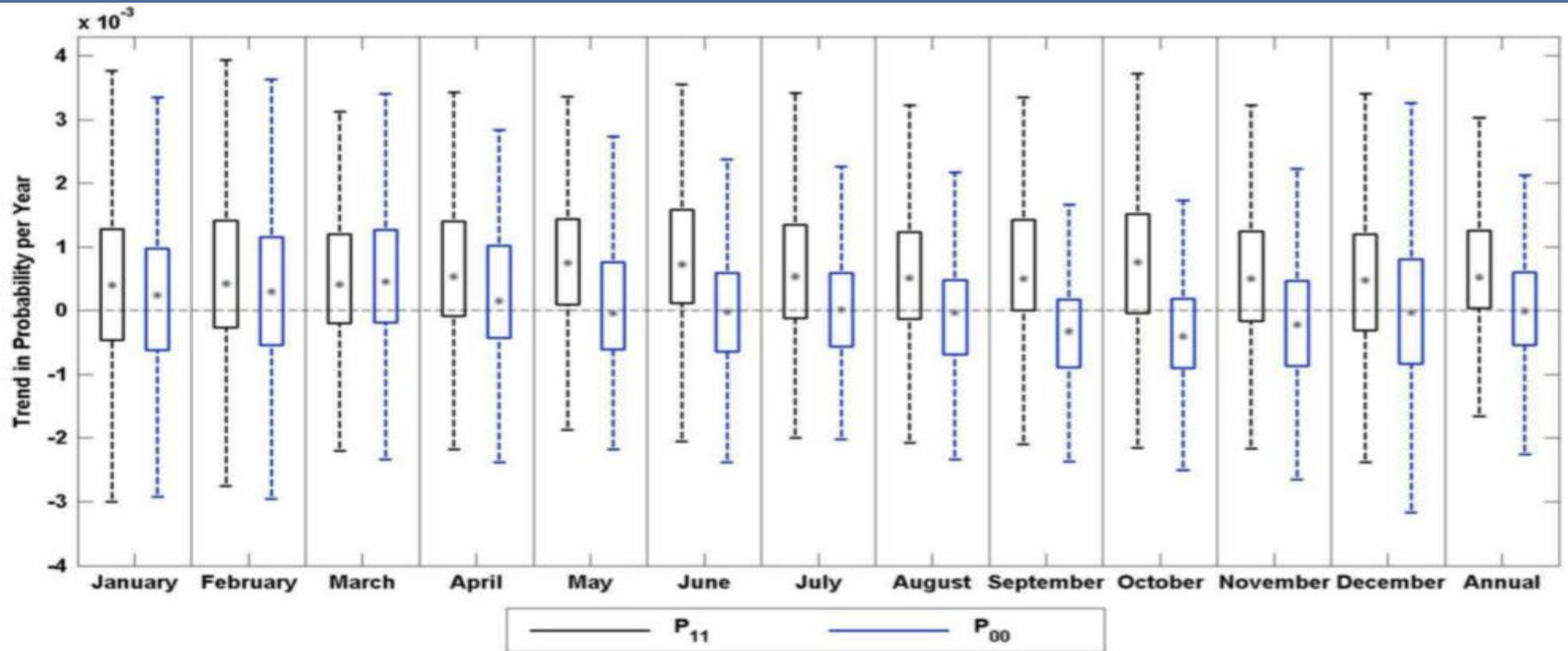
Accepted Article (Accepted, unedited articles published online and citable. The final edited and typeset version of record will appear in future.)

Impacts of Projected Climate Change over the Lake Champlain Basin in Vermont

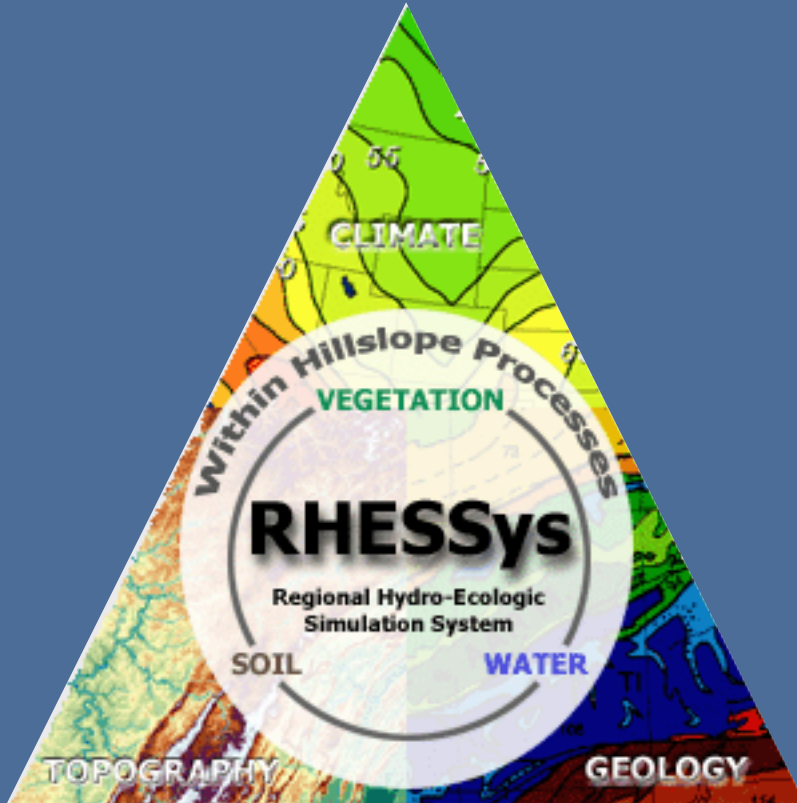


Freezing days, snowfall, heat index, days above 90°F, growing season length, maple sap production days, heating requirements, cooling requirements, and ratio of precipitation to potential evapotranspiration

Characterization of increased persistence and intensity of precipitation in the Northeastern United States



Impact of Climate Change on Future Hydrology



Utilize RHESSys and future climate scenarios to understand the impacts of a changing climate on the statistics of stream flow within the Mad River watershed.

In Progress

- Completion of the calibration of the RHESSys model
- Run model under future climate scenarios
- Study the impact of changing climate and snow on stream flow

Justin Guilbert, Ibrahim Mohammed, Donna Rizzo, Arne Bomblies; Impacts of Climate Change on Watershed Hydrology in the Northeastern United States, 2016, target journal: WRR.