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Climate Data: Generating, Accessing and Using Large and Diverse Datasets

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Climate scientists conducting research on past, present and future climate use three-dimensional general circulation models to probe questions about the atmosphere and the Earth System. This scientific process generates massive amounts of data covering a broad spatio-temporal range. One example of coordinated climate modeling efforts is the Climate Model Intercomparison Project (CMIP) as part of the Intergovernmental Panel on Climate Change (IPCC) synthesis reports. Generating these data, archiving them in publicly accessible platforms requires a large amount of coordination between global research groups. Accessing this data requires a dedicated amount of training, knowledge of how to use the data, and data storage needs. In this talk, I will discuss climate data from three perspectives: (1) as a climate data generator creating new data to be used in the public domain, (2) as a climate data user who needs to access and analyze climate model intercomparison data, and (3) as a data steward in a role as a journal editor, due to the new requirements by peer-reviewed journals for publicly available data for all publications. Additionally, I will share experiences in teaching data access, usability, and management to graduate students at the University of Michigan who are interested in using and analyzing climate data for a variety of applied climate projects.

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