Project Title: Machine Learning Based Clustering to Find Local Climate Regions
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Description: William Rossow' group at CCNY has identified 11 weather "states" going from fair weather to severe storm by examining a 20 year record of cloud types. These weather states are characterized based on the joint 2D histogram of atmospheric optical thickness and cloud top pressure over a region of earth; this means that each location on earth has a 20 year record of weather states. We want to explore how often the different states occur in each location and then figure out which locations are similar to each other using algorithms from a family of machine learning techniques called clustering. We expect that this will automatically identify different kinds of regions such as deserts, and rain forests, which we will then compare with established regional climate groupings.