

By synthesising the data collected by various technologies, climate models are able to provide a comprehensive view of the climate system, from the depths of the ocean to the upper reaches of the atmosphere, from the poles to the equator. The data collected by climate models include temperature, precipitation, atmospheric circulation, and ocean currents, among others. By solving these equations using supercomputers, scientists can simulate the behavior of the climate system under different conditions, allowing them to make predictions about future climate change. They have helped scientists to attribute the observed changes in the climate system to human activities, such as the burning of fossil fuels, and to project future changes under different scenarios. These equations are based on fundamental principles such as conservation of mass, energy, and momentum.