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### **Climate Feedbacks and Their Simulation in Coupled Ocean Atmosphere Models**

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The response of Earth's climate to an increase in greenhouse gases depends on a complex superposition of feedback processes. These processes act to either amplify or dampen the climate's response to an initial perturbation in the Earth's radiative energy budget. Differences in the representation of these feedback processes in current models represent a primary source of uncertainty in model projections of future climate change. Progress in reducing uncertainties in model predictions of climate change therefore requires an accurate assessment of the differences in various feedback strengths between models. In this talk I will review the key climate feedback processes and assess their range of values in current models. Attention will be focused on the feedbacks from water vapor and clouds, which represent the most important climate feedbacks in current models. My presentation will describe the prevailing view behind these feedbacks and review observational evidence used in assessing the fidelity of their representation in current models.