Cloud radiative feedbacks are critical for predicting the global climate response to anthropogenic radiative forcings. They are critical also for understanding and simulating other aspects of the climate system, including the intra-seasonal variability of the tropical atmosphere. The role of cloud-radiative feedbacks in the climate system, as well as key uncertainties, will be discussed and illustrated based on observations, idealized modelling studies, and results from GCMs participating in the 4th Assessment Report of the IPCC. Different projects or initiatives aiming at improving our understanding and our evaluation of cloud processes in large-scale models will be discussed.