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**Joseph J Tribbia\*** (tribbia@ucar.edu), Box 3000, Boulder, CO 803037. *The predictability of two-dimensional and quasi-geostrophic turbulence.*

Historically, both two-dimensional and quasi-geostrophic turbulence have served as paradigms for the behavior of the atmosphere on the large scale. Both barotropic (2D) and baroclinic (quasi-3D) systems have been used to understand the nature of the atmospheric energy spectrum and the flow of information and uncertainty through scale interactions. Through the flow of uncertainty, estimates of atmospheric predictability have been obtained using the inverse cascade of uncertainty inherent in the dual inviscid constraints of conservation of energy and (potential) enstrophy common to both 2D and Q-G flows. Despite their similarity with respect to inviscid constraints, the details of the growth of uncertainty and the loss of predictability due to small scale errors is considerably different in 2D and Q-G turbulence. This talk will discuss and analyze the nature of these differences using structures obtained through non-modal linear analysis techniques. (Received February 12, 2008)