This presentation will describe recent results from coupling the Rice Convection Model (RCM) to the Lyon-Fedder-Mobary (LFM) Global MHD code. The goal of this project is to self-consistently combine the solar wind magnetosphere coupling, as represented by the LFM Global MHD code with the inner magnetospheric drift physics represented in the RCM. In addition to describing our overall strategy in coupling the codes, we will show some results using idealized solar wind inputs to drive the MHD model. We find that the overall configuration can be bi-modal, exhibiting either an almost steady-state SMC like behavior or a very dynamic response that includes periodic substorms. The overall state of the coupled code appears to be very sensitive to the inputs provided by various simple physics-based modules that are included in the model, such as the choice of the plasmasphere model and model of ionospheric outflow. Ultimately, it is the entropy of the plasma sheet that seems to determine the state of the system. For example, low entropy flux tubes or bubbles play an important role in ring current injection as they are allowed access to the inner magnetosphere from the plasma sheet, while high entropy flux tubes are associated with strong oscillations in the inner magnetosphere. We also find that by preventing high-plasma beta flux tubes from entering the inner magnetosphere, by moving the RCM boundary, the strength of these oscillations is reduced.