This paper presents results of an initial study of relations between national delay, center level delays and weather. The results presented in the paper indicate: (a) the methodology used for estimating the delay at the national level can be extended to estimate delays caused by a center and delays experienced by a center, (b) delays caused by a center can be predicted using that center’s WITI whereas delays experienced by a center are best predicted using WITI of that center and that of a few prominent centers (c) there is differential impact of weather of different centers on center delays.