

## An Assessment of Uncertainty in Atmospheric State Measurements on Airborne Platforms

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Several federal agencies, including NASA, maintain a fleet of highly specialized research aircraft which are routinely used in airborne science field studies. Well characterized measurements of atmospheric state parameters, such as pressure, ambient temperature, and wind speed are paramount in the ability to perform higher level analysis towards complex research questions. Even though measurements have been made over several decades, they remain a challenge given the compressibility of air along the aircraft axis, instrument placement along the aircraft skin, and the potential for probe contamination. Therefore, a set of redundant measurements is often acquired to ensure a complete instrument time series. This uncertainty assessment takes advantage of various inter-comparison techniques devised to diagnose the temporal and spatial fidelity of atmospheric state parameters, often between different instrumentation sources and aircraft assets. To be discussed are the impacts of this ongoing study, current limitations to the airborne probes, and plans for future work.