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## **Development of Trend Analysis Techniques for Aviation and Range Operations Weather Hazards from Continuous Remote Sensing Observations**

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### **Abstract**

Aviation and space launch are billion dollar industries that are critical economic drivers. Understanding and being able to accurately predict significant weather events that may impact these operations can yield results ranging from increased revenue to saved lives. As such the development of tools to escalate decision-maker confidence is necessary to improve hazard avoidance and delays. In this study, we develop trend analysis techniques derived from continuous real-time remote sensing thermodynamic and wind measurements collected at Cape Canaveral Air Force Station near NASA's Kennedy Space Center in Cape Canaveral, FL. The techniques exploit the relationship between remotely sensed atmospheric dynamics and in-situ ground validation measurements to provide nowcasting and short-term forecasting tools specific to convective initiation and lightning risk potential.

### **Topic Areas**

Meteorology: Numerical Modeling and Nowcasting

### **Submission Format**

Oral