

**VAISALA**

**ILDC/ILMC Strikes Again**  
Network with lightning  
experts from around the world

April 27-30, 2020  
Broomfield, Colorado, USA

[www.vaisala.com/ILDC](http://www.vaisala.com/ILDC)



## **Cloud-to-Ground Lightning During Rapid Intensification of Hurricane Michael (2018)**

### **Authors**

Mr. Chris Vagasky - Vaisala Inc.

Mr. Ron Holle - H

Dr. Ryan Said - Vaisala Inc.

### **Abstract**

Hurricane Michael of 2018 underwent rapid intensification over the Gulf of Mexico as it moved northward toward the Gulf Coast. This intensification phase occurred within range of the National Lightning Detection Network and thus the cloud-to-ground (CG) lightning behavior could be observed with nearly optimal performance. From 09 October 2018 at 0900 UTC to 10 October at 0900 UTC, the central pressure dropped from 973 to 943 hPa, and winds increased from 80 to 120 knots (41.2 to 61.7 ms<sup>-1</sup>). The corresponding eyewall CG lightning data rates showed several bursts, with highly variable ratios between positive and negative polarity flashes. The study compares these lightning bursts with satellite, pressure, and wind data to illustrate this occurrence of an unusually large amount of positive cloud-to-ground lightning.

### **Topic Areas**

Lightning and Weather

### **Submission Format**

Oral