#### Title: National Lightning Detection Network (NLDN) Data

## **Author(s):**

- Jacob Chacko. Affiliation: Vaisala. Title: Field Application Engineer. Telephone: +1-303-262-4030, Email: Jacob.Chacko@vaisala.com
- Data Contact: Christian Nairy, Affiliation/Mailing Address: University of North Dakota, Department of Atmospheric Sciences, 4149 University Ave., Stop 9006 Grand Forks, ND 58202-9006. Title: Ph. D. Student. Telephone: 585-545-8785, Email: christian.nairy@und.edu
- Data Contact: Dr. David J Delene, Affiliation/Mailing Address: University of North Dakota, Department of Atmospheric Sciences, 4149 University Ave., Stop 9006 Grand Forks, ND 58202-9006. Title: Research Professor (Advisor to Christian Nairy). Telephone: 701-777-4847, Email: <a href="mailto:delene@aero.und.edu">delene@aero.und.edu</a>

#### 1.0 Data Set Overview:

- Introduction to data: <a href="https://www.vaisala.com/en/products/national-lightning-detection-network-nldn">https://www.vaisala.com/en/products/national-lightning-detection-network-nldn</a>;
- Time period covered by the data:
  - o January 1, 2023 March 5, 2023
- Data Domain:
  - o UPPER-LEFT: 49°N, 95°W
  - o LOWER-RIGHT: 35°N, 43.1°W
- Physical location of NLDN Network: https://www.jstor.org/stable/pdf/26216779.pdf

## 2.0 Instrumentation Description:

• https://www.jstor.org/stable/pdf/26216779.pdf

## 3.0 Data Collection and Processing:

- The data were collected in real-time and have not had any quality control applied.
- Secondary processing included separating the total data into daily data, converting the time data to seconds-from-midnight (SFM), and outputting the data to UND/NASA ASCII data format using the Airborne Data Processing and Analysis (ADPAA) package (Delene, D. J., Airborne Data Processing and Analysis Software Package, Earth Science Informatics, 4(1), 29-44, 2011, URL: <a href="http://dx.doi.org/10.1007/s12145-010-0061-4">http://dx.doi.org/10.1007/s12145-010-0061-4</a>, DOI: 10.1007/s12145-010-0061-4).

# 4.0 Data Format

- The data are available in NASA/UND ASCII format (YYYYMMDD\_NLDN\_IMPACTS.txt).
- The data are written in daily files.
- Units and all metadata can be found in each data file.

# **5.0 Data Remarks**

• Each data file contains the detected lightning strokes (from the NLDN) within the listed domain on a specific day (listed in the file name) from 00:00:00 to 23:59:59 UTC.