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

**Author(s):**

- Chris Vagasky. Affiliation: Vaisala. Title: Meteorologist, Lightning Applications Manager. Telephone: 720-304-4421, Email: chris.vagasky@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: delene@aero.und.edu

**1.0 Data Set Overview:**

- Introduction to data: https://www.vaisala.com/en/products/national-lightning-detection-network-nldn;

- Time period covered by the data:
    - January 11, 2020 – January 13, 2020
    - January 17, 2020 – January 19, 2020
    - January 24, 2020 – January 26, 2020
    - January 31, 2020 – February 8, 2020
    - February 12, 2020 – February 14, 2020
    - February 18, 2020 – February 19, 2020
    - February 24, 2020 – February 28, 2020

- Data Domain:
    - UPPER-LEFT: 48°N, 87.5°W
    - LOWER-RIGHT: 36.5°N, 66.5°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: http://dx.doi.org/10.1007/s12145-010-0061-4, 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.