

# Lightning Occurrence in Six Southeast African Countries



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### MOTIVATION

- Information about the occurrence of lightning in Southeast Africa has been somewhat limited to date due to inadequate continental-scale coverage by ground-based and satellite sensors
- Stroke data from the Global Lightning Dataset GLD360 network have been assembled for this region from 2013-2017

### GOAL

- Assist understanding of the lightning risk with respect to agriculture, school safety, utilities, and many other applications
- Depict the annual and daily cycle of lightning patterns for each country

### DATA

- Geo-location of strokes up to 9,000 km from each sensor in the very low frequency allows detection of lightning over all land and ocean areas
- Data reprocessed with v2.0 location algorithm released in 2015
- Data are not corrected for detection efficiency
- Location accuracy is ~2 to 4 km
- Temporal variations in performance due to power and communications interruptions are not taken into account

### CONCLUSIONS

- Largest stroke densities are near or over major elevation changes and large lakes
- The annual cycle often has one peak with an extreme minimum, or two maxima
- All nations have an afternoon maximum but some have additional nighttime persistence over large lakes
- Interannual variability is sometimes very large; trends are yet to be verified, since detection efficiency corrections have not yet been applied

