

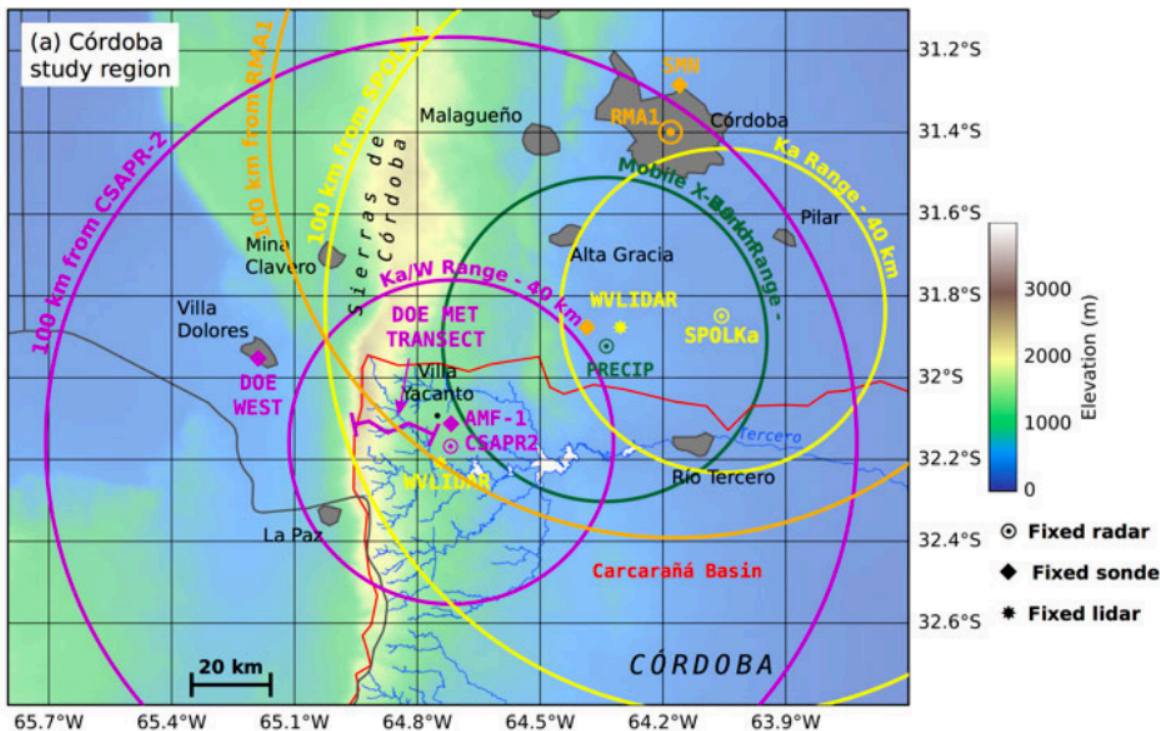
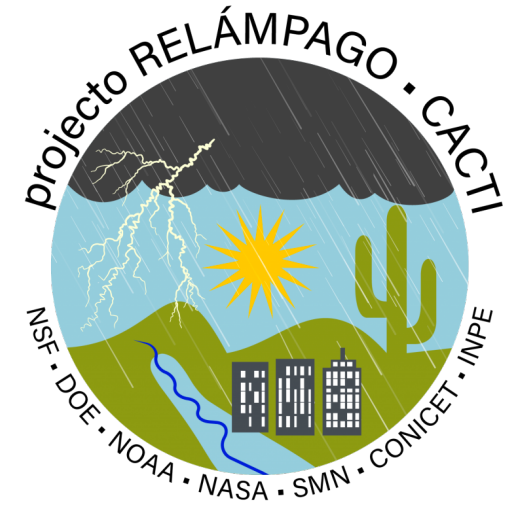
RELAMPAGO

(Remote sensing of Electrification, Lightning, And Mesoscale/microscale Processes with Adaptive Ground Observations)

CACTI

(Clouds, Aerosols, and Complex Terrain Interactions)

<https://publish.illinois.edu/relampago/>



RELAMPAGO-CACTI Themes

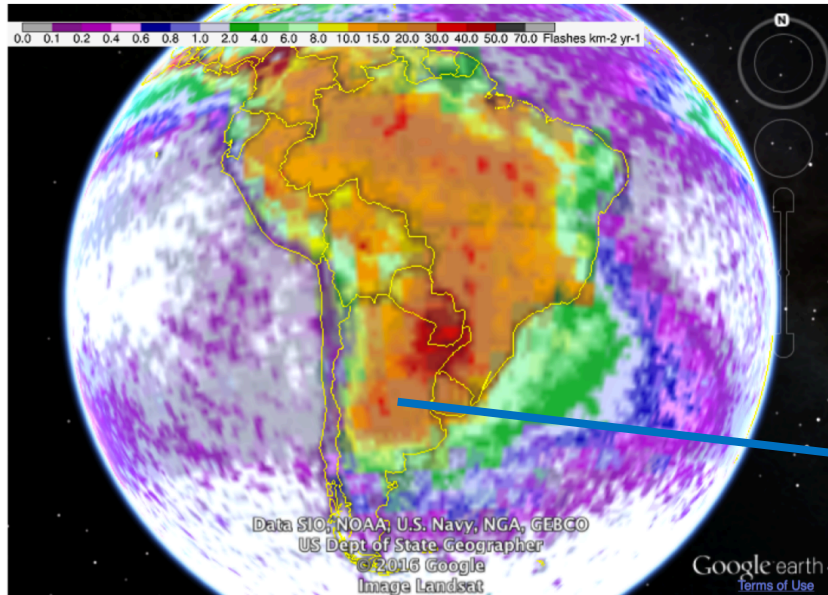
- Convective initiation in complex terrain
- Upscale growth of convection
- Generation of hazardous weather

Relevance to GOES-R/GLM

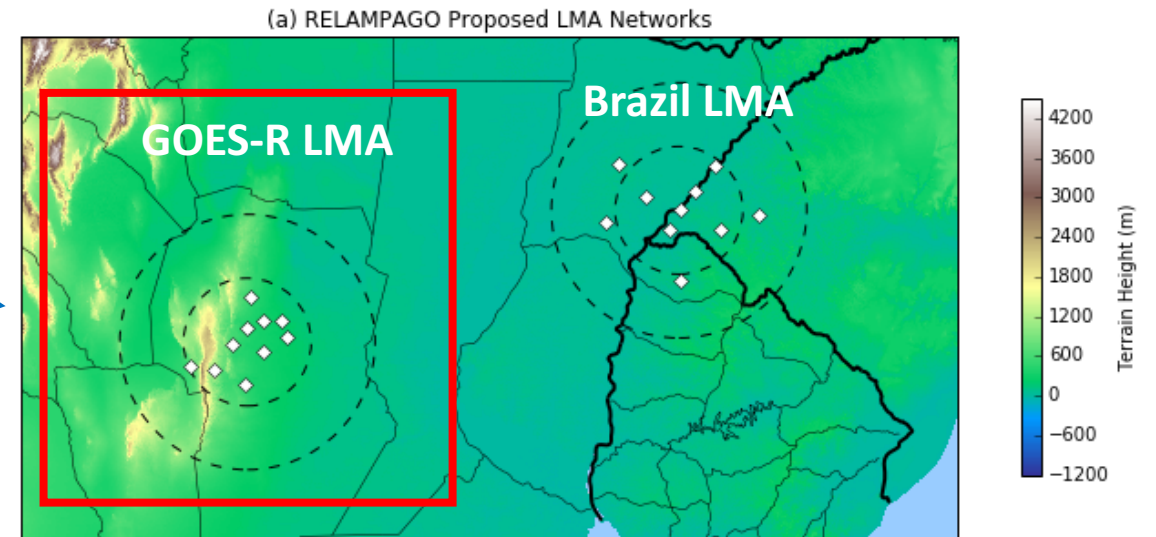
- VHF and VLF/LF lightning mapping, EFM, FCMs
- Mobile/fixed radar assets – S, C, X, Ka, W bands
- Multiple sounding/profiler sites
- DOE AMF-1 site, G1 aircraft

GLM Likely Science and Cal/Val Targets

- Compact region – observe initiation thru MCS
- High flash rates, severe weather
- “Super-bolt” lightning – size, duration, radiance



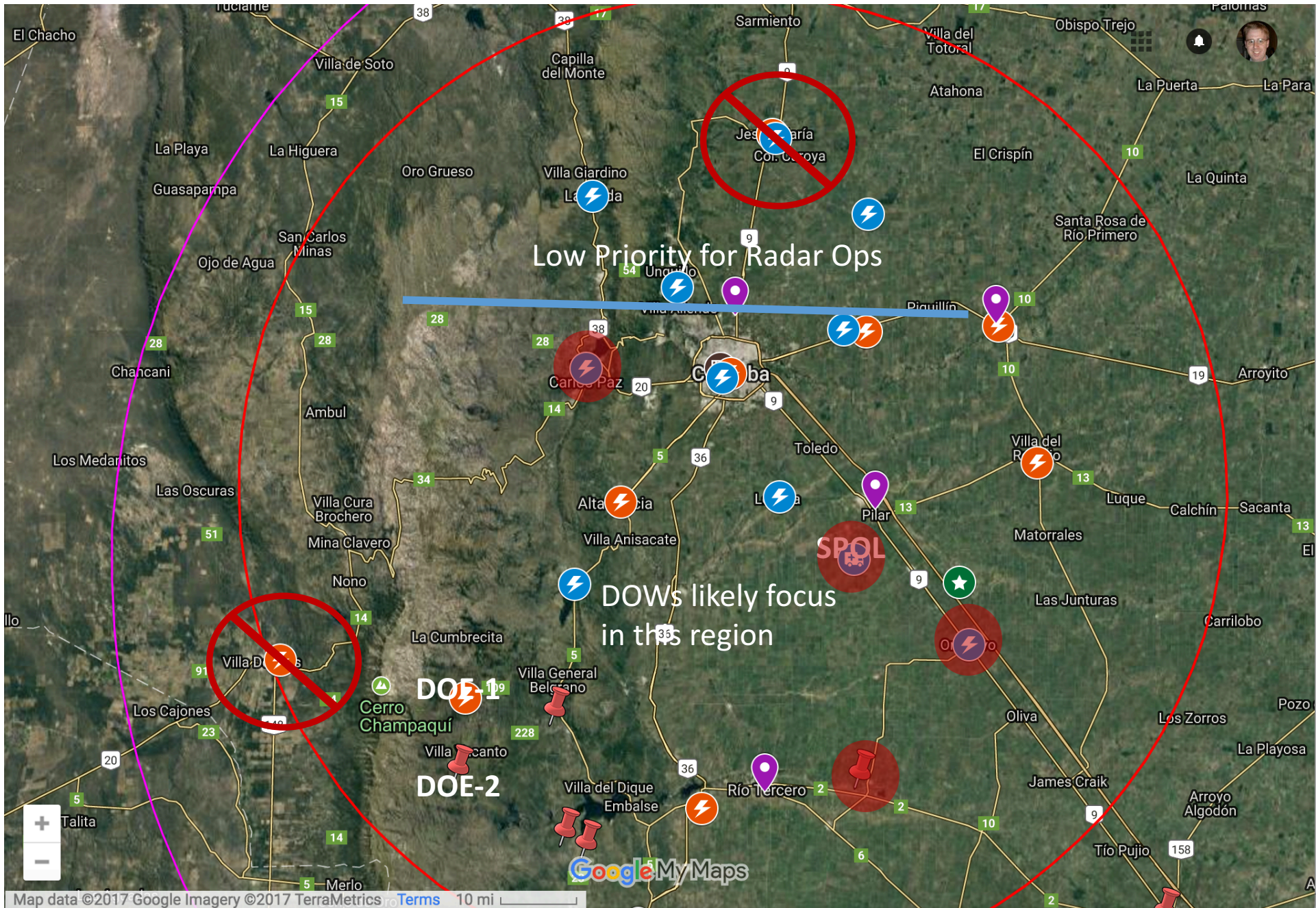
RELAMPAGO Lightning Mapping Arrays



- GOES-R funding deployment of 10 MSFC LMA stations to Cordoba, Argentina in support of RELAMPAGO/CACTI field campaigns
- Nominal deployment Aug 2018 thru Feb 2019 (6 months) – RELAMPAGO is Nov/Dec 2018
- Possible co-deployment of Brazilian LMA near Argentina Border (PI: Albrecht)
- VHF source location data will be posted to GHRC

Planning – On Schedule

- Working closely with NSF-funded lightning investigators (Deierling, Carey, Bitzer, Marshall)
- Information Gathering – Shipping List, Procurements List, Export Control, Importation Docs
- Site survey November 2017 – Also leveraging S-PolKa, DOW, and Hydrometeorology surveys
- Coordination with Argentinian colleagues (esp. Eldo Avila)
- Participation in regular RELAMPAGO calls and in-person meetings



Modeled Performance of Updated Network

11 stations

h/t: Vanna C. and Eric B., TTU

