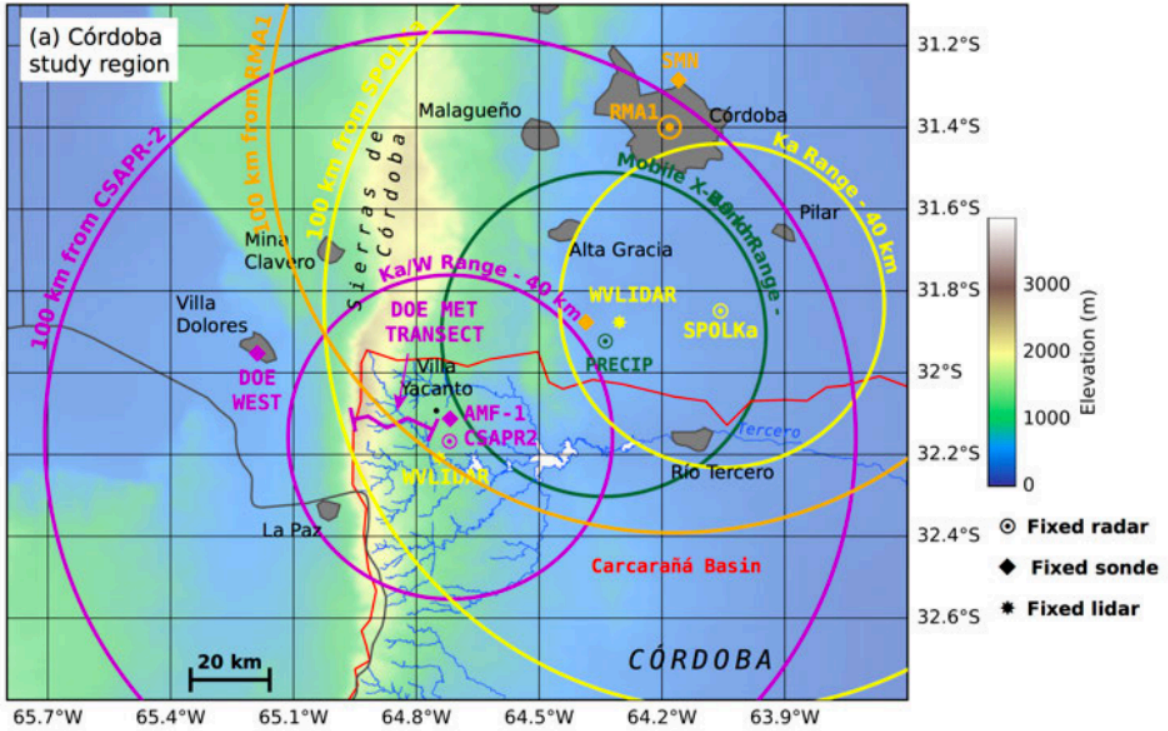
RELAMPAGO
(Remote sensing of Electrification, Lightning, And Mesoscale/microscale Processes with Adaptive Ground Observations)

CACTI
(Clouds, Aerosols, and Complex Terrain Interactions)

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

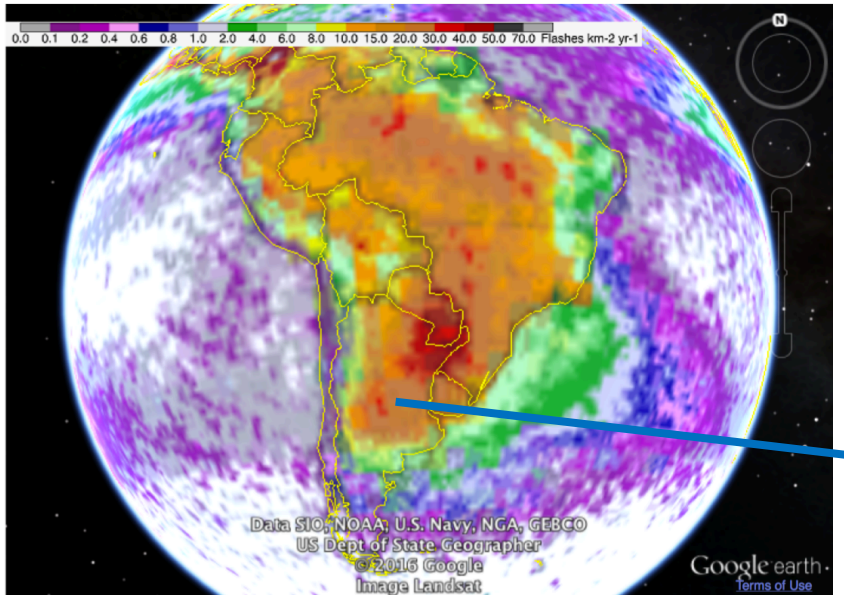


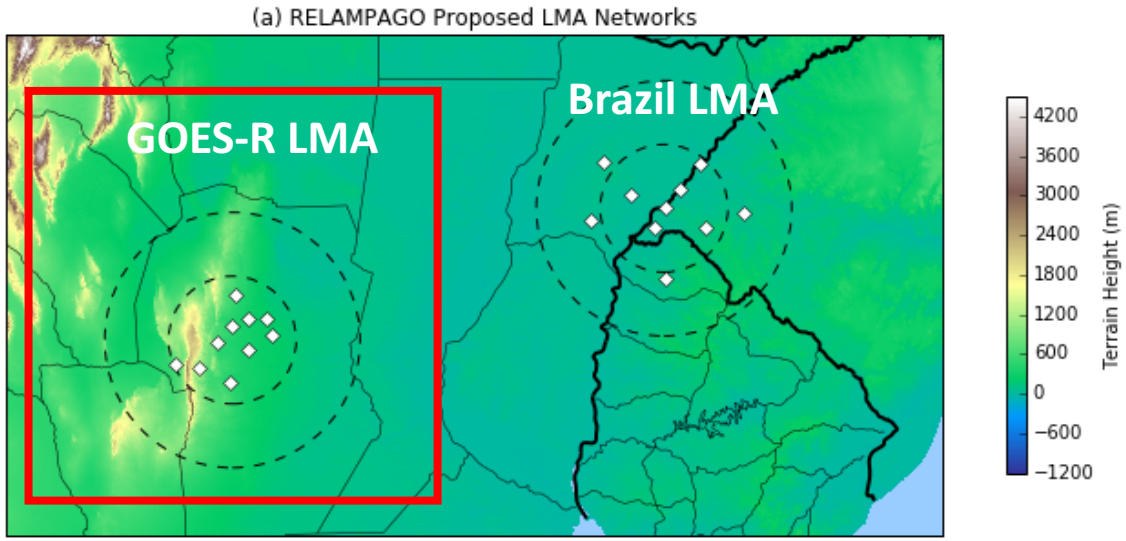
RELAMPAGO-CACTI Themes
- Convective initiation in complex terrain
- Upscale growth of convection
- Generation of hazardous weather

Relevance to GOES-R/GLM
- VHF and VLF/LF lightning mapping, EFMs, 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

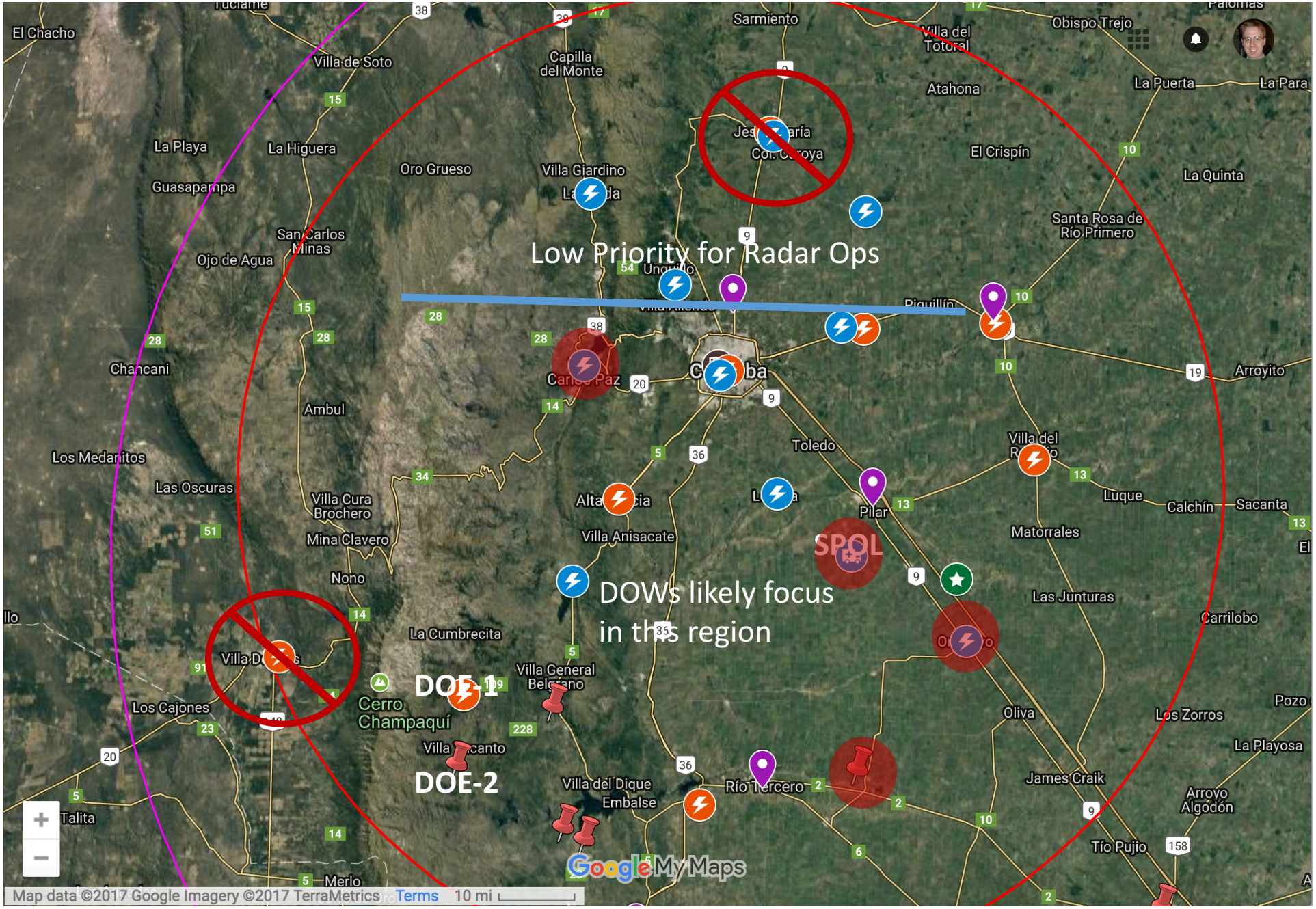




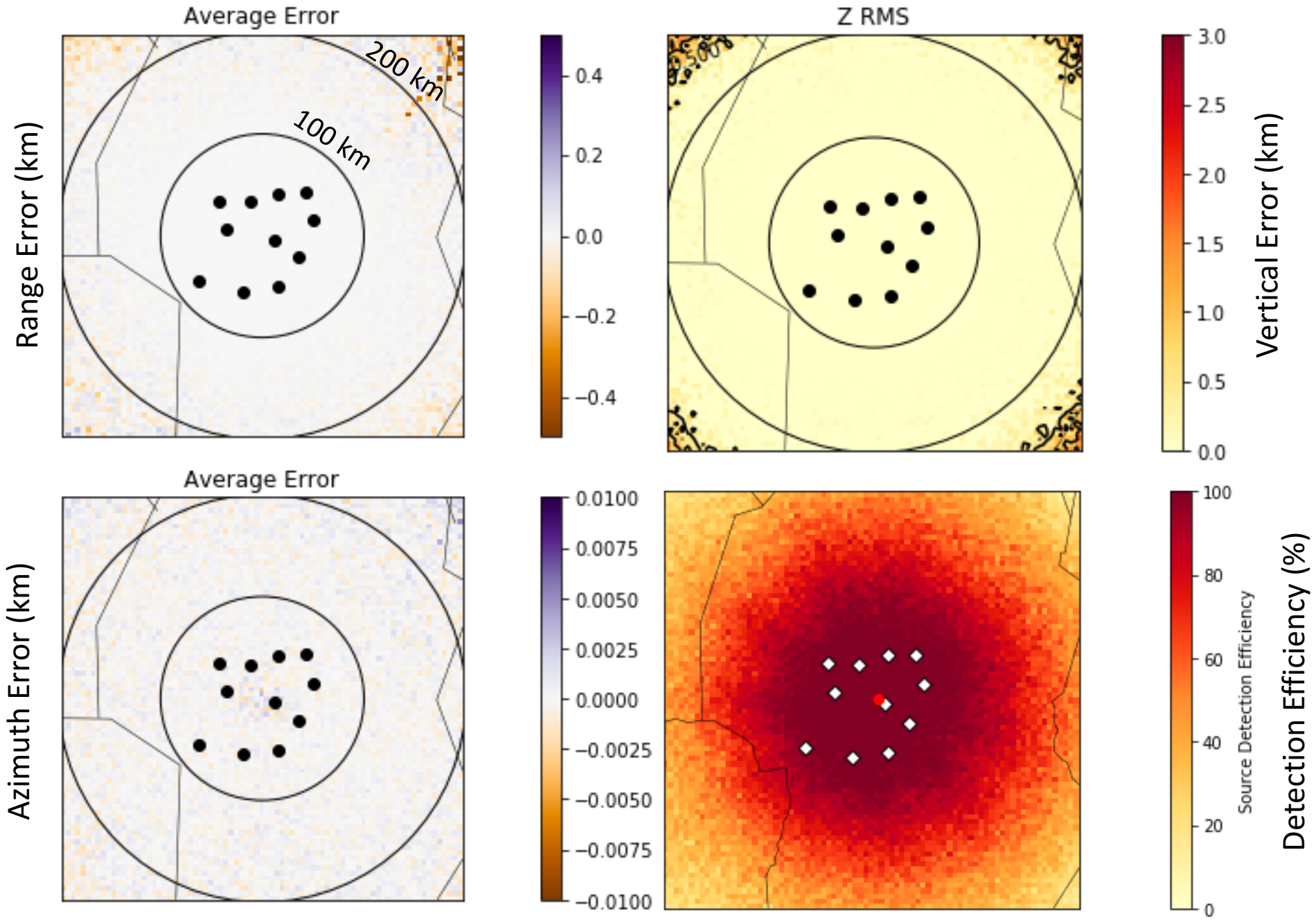
- GOES-R funding deployment of 10 MSFC LMA stations to Cordoba, Argentina in support of RELAMPAGO/CACTI field campaigns
- Nominal deployment Aug 2018 thru Feb 2019 (6 months) – RELAMPAGO is Nov/Dec 2018
- Possible co-deployment of Brazilian LMA near Argentina Border (PI: Albrecht)
- VHF source location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


Low Priority for Radar Ops
DOWs likely focus
in this region
SPOL
DOE-1
DOE-2
Sarmiento
Villa del Totoral
Obispo Trejo
Capilla del Monte
Villa de Soto
Atahona
La Puerta
La Para
El Chacho
La Playa
La Higuera
Oro Grueso
Villa Giardino
El Crispín
La Quinta
Guasapampa
San Carlos Minas
Ojo de Agua
Santa Rosa de Río Primero
Piquillín
Chancani
Carlos Paz
Arroyito
Ambul
Toledo
Villa del Rosario
Los Medanitos
Las Oscuras
Villa Cura Brochero
Pilar
Luque
Calchín
Sacanta
Mina Clavero
Villa Anisacate
Matorrales
Nono
Las Junturas
Carrilobo
La Cumbrecita
Villa General Belgrano
Cerro Champaquí
Los Cajones
Oliva
Los Zorros
Pozo
La Playosa
Villa del Dique
Embalse
Río Tercero
James Craik
Arroyo Algodón
Talita
Tío Pujio
Merlo
Google My Maps
Map data ©2017 Google Imagery ©2017 TerraMetrics
Terms
10 mi

Modeled Performance of Updated Network

11 stations

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