Recent Deployments of NASA Marshall Space Flight Center Atmospheric Electricity Instruments

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NASA Marshall Space Flight Center (MSFC) has deployed an electric field meter (EFM) and a Lightning Mapping Array (LMA) to support recent field campaigns. For PISTON (Propagation of Intraseasonal Tropical Oscillations), a ship-based campaign in the Western Pacific Ocean during August-October 2018, NASA MSFC worked in collaboration with Colorado State University (CSU) to deploy an EFM on the *R/V Thomas G Thompson* (Fig. 1a). This instrument was primarily intended to support intercomparisons with the Carnegie curve, as well as to investigate the role of maritime thunderstorms and electrified shower clouds in maintaining the global electric circuit. Polarimetric C-band weather radar observations were collected along with the EFM observations using the new SEA-POL ship radar developed by CSU.

The MSFC LMA is being installed near Cordoba, Argentina (Fig. 1b), in collaboration with University of Alabama in Huntsville (UAH) and the National University of Cordoba (UNC), to support the RELAMPAGO (Remote sensing of Electrification, Lightning, And Mesoscale/microscale Processes with Adaptive Ground Observations) campaign, as well as to support ground validation of the Geostationary Lightning Mapper (GLM) instrument. RELAMPAGO is aimed at understanding initiation and upscale growth of convection in Argentina, home to some of the most intense thunderstorms on Earth. The 11-station network will operate during approximately November 2018 through April 2019. Similar to PISTON, the electricity observations will be acquired in the context of multiple radar observations.

After all data have been collected and quality controlled, they will be made publicly available on the Internet by NASA MSFC.

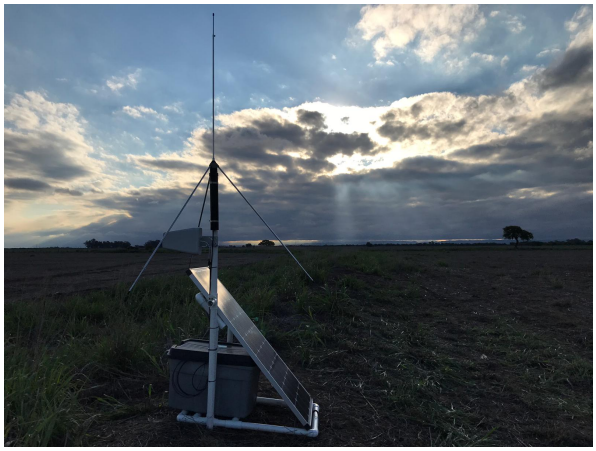
(a)  (b) 

Figure 1. (a) Photo of EFM on the *R/V Thomas G Thompson* while in port in Kaohsiung, Taiwan (*credit: Timothy Lang*). (b) Photo of an LMA station installed near Monte Cristo, Argentina (*credit: Matt Wingo*).