

# SGP Field Campaigns: The Other Side of Operations

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## Background

The primary responsibility of the SGP staff is to maintain site instruments and data systems in an effort to ensure data quality and provide high data availability. With over 200 instrument systems and 29 remote sites this is essentially a fulltime effort.

Field Campaign support is also an important activity for ACRF as a National User Facility. This can present challenges at times when balancing the needs of a campaign with normal daily activities at the SGP. In this poster we highlight some of these challenges which necessarily highlight the experience and skills of the SGP staff.

## Campaign Evaluation

Before a field campaign is approved the site must make an evaluation of the impact and potential to successfully meet the request.

- Initial review and determination of needs by department; Management, Safety, SDS Operations, Facilities, and Instrument Maintenance.
- Match campaign needs with skills and capabilities of site personnel. At this point the site may offer an alternative approach to a particular implementation based on their field experience.
- Estimate budget for higher impact Field Campaigns.

## Implementation

All departments must work closely together to implement a campaign. In addition they must have the flexibility to adapt to new and unique instrument deployments. The following illustrate the type of support and adaptability that must take place to ensure a successful campaign.

**Safety considerations:** Safety is a primary part of any field campaign and spans all departments. Consideration must be given to:

- Overall personnel safety, staff and visitors
- Electrical hazards
- Environmental hazards
- Determine Regulatory agency policy (e.g. FAA)
- Identify and contract Professional services when required (e.g. certified electricians)



## RECENT SGP FIELD CAMPAIGNS

The SGP has supported a significant number of field campaigns over the last two years which represents a significant effort beyond normal operations.

- AIRS Validation ('05-'07)-Barry Lesht
- AMF/AAF AERI Cross-Calibration-Si-Chee Tsay
- ARM Atmospheric Compensation-Debra Davidson
- Aerosol CCN Study-Patrick Chuang
- AURA/ TES Validation('07/'08)-Frank Schmidlin
- Boundary Layer CO2 Experiment-Michael Dobbs
- CLASIC-Mark Miller
- CLASIC Land-Thomas Jackson
- Combined Wind Profiler Polarimetric Radar study of Precipitation Microphysics('07/'08)-Phil Chilson
- CO2Flux-Ameriflux Intercomparison-Marc Fischer
- Disdrometer and Polarimetric Radar Measurements of Precipitation Microphysics-Guifu Zhang
- Evaluation of EZLidar Performance-Iwona Stachlewska
- IASI/AIRS AQUA Validation-Henry Revercomb
- IRSI Intercomparison Study-Victor Morris
- Howard Beltsville MWR Intercomparison-Everette Joseph
- Hydro-Kansas ('05-'08)-Vijay Gupta
- Magnetic Field Observations('06-'08)-Peter Chi
- MWR Inter-comparison-Maria Cadeddu
- Nocturnal Flux-Monique Leclerc
- Nocturnal Flux-Perfluorocarbon Tracer-Thomas Watson
- Particle Phase Experiment-Scot Martin
- Precision Gas Sampling (PGS) Validation-Marc Fischer
- Prede-Cimel Comparison Study-Connor Flynn
- RS92 Radiosonde RH Sensor Contamination Evaluation-Barry Lesht
- RAMIX-Radon Meas. of Atmos. Mixing-Marc Fischer
- Single Frequency GPS H2Ov network-John Braun
- SAM Support for CLASIC-John DeVore
- SGP Aerosol Evolution Study-Don Collins
- Sun and Aureole Measurement (SAMNET) Validation -John DeVore
- Thin Cloud Shadowband Radiometer-Mary Jane Bartholomew
- Viability of 1.6um MFRSR-Joseph Michalsky
- Wind Profiler Precipitation Study-Phil Chilson
- 3<sup>rd</sup> Diffuse Irradiance Study-Joseph Michalsky
- 9.4 GHz CLASIC Phased Array Radar-Pavlos Kollias

**Staff Support:** Determining the appropriate skills and number of staff needed to support a Field Campaign is critical in the evaluation phase. One example of support that could not be provided directly by site staff was the CLASIC radiosonde effort. Twelve new radiosonde operators had to be hired, trained, schedules coordinated and travel and housing accommodations setup at sites separated by hundreds of miles to ensure 24 hr staffing of the Boundary Facilities with launches every 3 hrs during intensive operational periods.

## Facilities and Engineering Support:

The Facilities and Instrument Maintenance staff have years of experience installing, adapting and integrating almost any type of instrument system into the existing SGP measurement network.

**Remote/New sites:** Many Field Campaigns require temporary installations on non-ACRF sites. This requires identification of landowners, negotiation of leases, and infrastructure logistics for electrical and internet connectivity.

**Storage:** Many PIs have various storage needs, either before, during or after a campaign. To the right is a rather unique use of the S&R building, storing a rather large tethered balloon.



**Forecast support:** The SGP staff has the skill and capability to provide weather forecasting. This support has been central to several campaigns including CLASIC and Nocturnal Flux. A forecast web page developed for CLASIC is shown to the right.



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