

# SGP Cloud and Land Surface Interaction Campaign (CLASIC)

**CIRPAS Twin Otter:**



**65 Flight hours (includes transit and testflight)**

**5 Days in Marina, CA (integration+testflight)**

**23 Days in field (incl. transit)**

**Based in Ponca City, OK**

**June 9 - 30, 2007.**

**CIRPAS staff: 2 Pilots, 1 Mechanic, 2 Scientists**

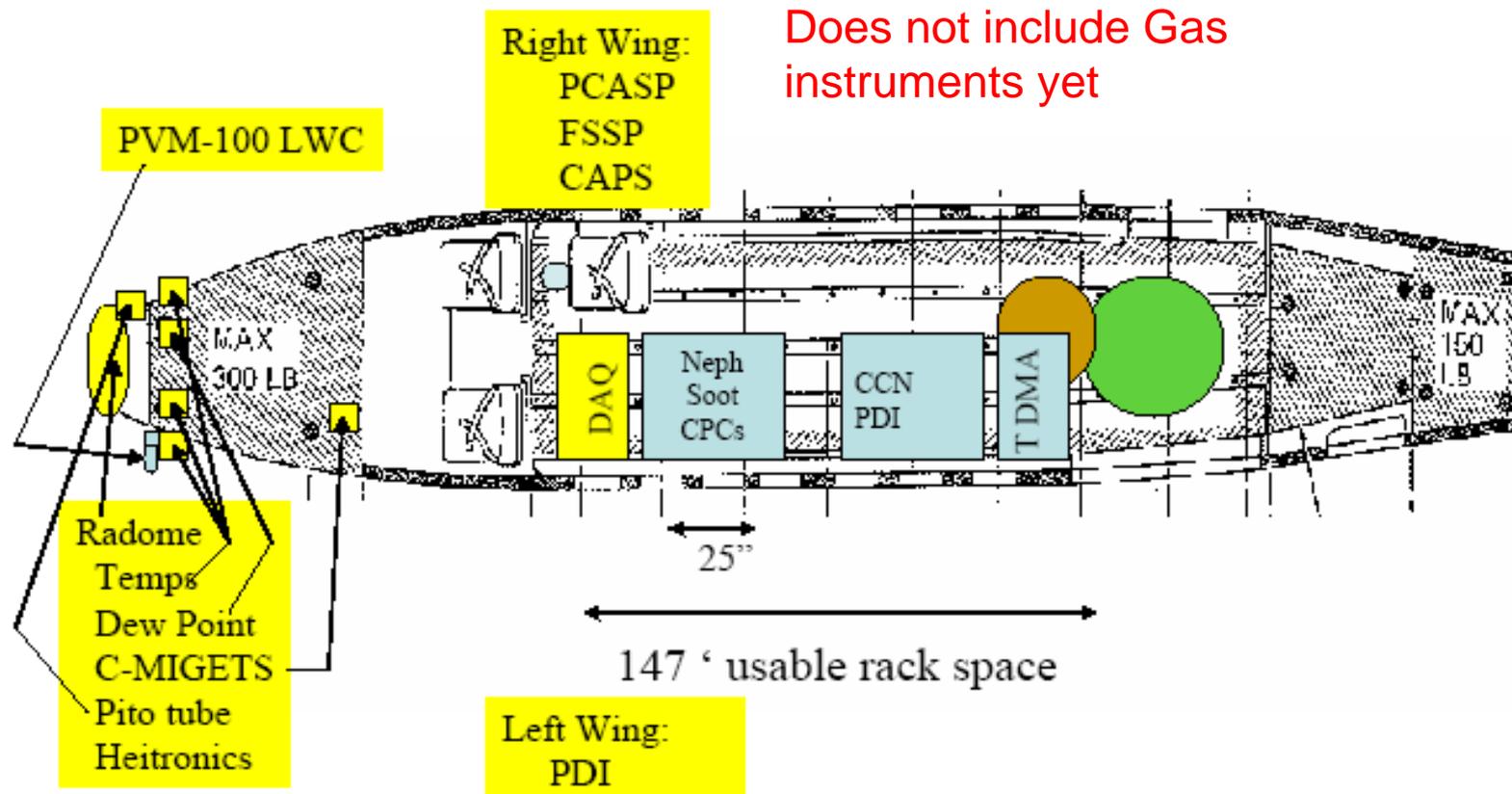
**Platform Scientist: Beat Schmid (PNNL)**

<b>Available Measurement</b>	<b>Instrument</b>	<b>PI or Group</b>
<b>Total aerosol number concentration</b>	<b>Condensation Particle Counters (CPC) Up to 3</b>	<b>CIRPAS</b>
<b>Aerosol/cloud size distribution d=0.1 - 2.5 <math>\mu\text{m}</math>  d=0.8 - 80 <math>\mu\text{m}</math></b>	<b>Passive Cavity Aerosol Spectrometer Probe (PCASP) Cloud Aerosol and Precipitation Spectrometer (CAPS)</b>	<b>CIRPAS</b>
<b>Aerosol/cloud size distribution d=2.5 – 50 <math>\mu\text{m}</math></b>	<b>Forward Scattering Spectrometer Probe (FSSP)</b>	<b>CIRPAS</b>
<b>Cloud liquid water content</b>	<b>Gerber PVM Johnson probe on CAPS</b>	<b>CIRPAS</b>
<b>Aircraft state parameters: Position Airspeed Pressure altitude Attitude (pitch, roll, yaw)</b>	<b>Various instruments (with redundancy)</b>	<b>CIRPAS</b>
<b>Meteorological state parameters: Dry-bulb temperature Dew point temperature Pot. T, Equiv. Pot T Pressure Horizontal wind vector Updraft velocities Surface Temp</b>	<b>Various instruments (with redundancy)    Gust probe  Heiman KT18.95</b>	<b>CIRPAS</b>

<b>Available Measurement</b>	<b>Instrument</b>	<b>PI or Group</b>
<b>Aerosol scattering</b>	<b>TSI Nephelometer (450, 550, 700 nm) dry</b>	<b>CIRPAS+Ogren (NOAA)</b>
<b>Aerosol absorption</b>	<b>Soot Photometer (PSAP, 467, 530, 660 nm) dry</b>	<b>CIRPAS+Ogren (NOAA)</b>
<b>Cloud condensation nuclei supersaturation spectrum</b>	<b>CCN instrument</b>	<b>Collins (Texas A&amp;M)</b>
<b>Aerosol size distribution and hygroscopicity</b>	<b>Tandem Differential Mobility Analyzer (TDMA)</b>	<b>Collins (Texas A&amp;M)</b>
<b>Cloud drop size distribution D = 2 to 150 <math>\mu\text{m}</math></b>	<b>Phase-Doppler Interferometer (PDI)</b>	<b>Chuang (UC Santa Cruz)</b>
<b>Gases</b>	<b>(1) 12-flask CO<sub>2</sub> sampler</b> <b>(2) continuous CO<sub>2</sub></b> <b>(3) Maybe: continuous CO-CH<sub>4</sub></b> <b>(4) Maybe: tedlar bag sampler for radon analysis</b>	<b>Torn (LBL)</b> <b>Torn (LBL)</b> <b>Fischer (LBL)</b> <b>Torn (LBL)</b>

# CLASIC Payload

Does not include Gas instruments yet



Escape hatch

Camera bay

Double bay rack  
46 lbs.

Single Rack  
30 lbs

# CLASIC-CHAPS-Air

- 7 Airborne Platforms:
  1. NASA ER-2,
  2. CIRPAS Twin Otter
  3. ARM Cessna 206
  4. Duke Helicopter
  5. TBD Twin Otter
  6. G-1
  7. Beach Craft 200 King Air
- Gathering Info (ongoing)
- Planning Meeting, February 2007, Dallas TX
- Flight/Mission Planning Meeting, April 2007