AS.TRESS_Tam - Remote sensing platform, clouds, and aerosols properties, Tamanrasset

General information

Dataset name:	AS.TRESS_Tam - Remote sensing platform, clouds, and aerosols properties, Tamanrasset
Created on:	2006-01-12

Contact(s)

Cuesta Juan - LMD - cuesta@lmd.polytechnique.fr (PI or Lead scientist)
Flamant Cyrille - SA - Jussieu - cyrille.flamant@latmos.ipsl.fr (PI or Lead scientist)

Period

Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Project(s)

AMMA > AMMA-SOP

Data description

Abstract

Improved knowledge of heat low dynamics and aerosol radiative properties in the heat low region. Measurements in Tamanrasset will also be used for CAL/VAL issues concerning CALIPSO and the A-Train.

Observing strategy

The diurnal cycle being very marked in this region and the mesoscale variability being important (both in terms of PBL/SAL structral parameters and dust emissions), the experimental strategy calls for a complementary ground-based / spaceborne observational approach to address these key issues. The objective of ground-based (resp. spaceborne) component of the experimental strategy is to document the diurnal cycle (resp. mesoscale variability) of relevant variables in the heat low region. TReSS will be used to validate CALIPSO products over the Sahara, which will in turn be used to analyze the mesoscale/large scale variability of the PBL/SAL and aerosol properties. In the framework of SOP B1 and B2, airborne operations during inter-tropical front and heat low surveys will complement the above described strategy.

TReSS is an autonomous and high-performance system designed to observe radiative and structural properties of clouds and aerosol layers, as well as atmospheric boudary layer (ABL) dynamics. The standard payload is made of the following instruments: 1) a multi-wavelength elastic and Raman channels backscatter Mini-Lidar operating at

532, 1064 and 607 nm (with diverse polarization capability at 532 nm), 2) a sun-photometer, 3) an IR radiometer and 4) a full sky visible channel web-type camera. For the AMMA SOP period, the platform capability will be enhanced with an Optical Depth Sensor (ODS for daytime and nighttime measurements), a CLIMAT radiometer and a sonic anemometer. During SOP A, near-surface extinction and size distribution measurements will also be performed. The above instrumentation will also be enhanced by the measurements conducted routinely by the Météo Algérienne.

Geographic information

TAMANRASSET

Location name:	TAMANRASSET
Plateform type:	GROUND STATIONS
West bounding coordinate (°):	5
East bounding coordinate (°):	5
North bounding coordinate (°):	22
South bounding coordinate (°):	22
Altitude min:	136400
Altitude max:	9999000

Measured parameters

Brightness Temperature

Parameter name:	Brightness Temperature
Parameter keyword:	Spectral/Engineering > Infrared Wavelengths > Brightness Temperature
Unit:	Degrees Celsius - °C
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Aluminium

Parameter name:	Aluminium
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Aerosol Optical Thickness

Parameter name:	Aerosol Optical Thickness
Parameter keyword:	Atmosphere > Aerosols
Unit:	no unit
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Sodium

Parameter name:	Sodium
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Aerosol Size Distribution

Parameter name:	Aerosol Size Distribution
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Aerosol Size Distribution

Parameter name:	Aerosol Size Distribution
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Wind Speed

Parameter name:	Wind Speed
Parameter keyword:	Atmosphere > Atmospheric Winds > Wind Speed
Unit:	meters per second - m/s
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Angstrom Coefficient

Parameter name:	Angstrom Coefficient
Parameter keyword:	Atmosphere > Aerosols
Unit:	no unit
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Vertical Wind Motion

Parameter name:	Vertical Wind Motion
Parameter keyword:	Atmosphere > Atmospheric Winds > Vertical Wind Motion
Unit:	meters per second - m/s
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Aerosol Optical Thickness

Parameter name:	Aerosol Optical Thickness
Parameter keyword:	Atmosphere > Aerosols
Unit:	no unit

Date begin (yyyy-mm-jj): 2006-02-07
Date end (yyyy-mm-jj): 2006-11-23

Angstrom Coefficient

Parameter name: Angstrom Coefficient
Parameter keyword: Atmosphere > Aerosols
Unit: no unit
Date begin (yyyy-mm-jj): 2006-02-07
Date end (yyyy-mm-jj): 2006-11-23

Aerosol Size Distribution

Parameter name: Aerosol Size Distribution
Parameter keyword: Atmosphere > Aerosols
Date begin (yyyy-mm-jj): 2006-02-07
Date end (yyyy-mm-jj): 2006-11-23

Aerosol Size Distribution

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Parameter keyword: Atmosphere > Aerosols
Date begin (yyyy-mm-jj): 2006-02-07
Date end (yyyy-mm-jj): 2006-11-23

Aerosol Size Distribution

Parameter name: Aerosol Size Distribution
Parameter keyword: Atmosphere > Aerosols
Date begin (yyyy-mm-jj): 2006-02-07
Date end (yyyy-mm-jj): 2006-11-23

Iron

Parameter name: Iron
Parameter keyword: Atmosphere > Aerosols
Date begin (yyyy-mm-jj): 2006-02-07
Date end (yyyy-mm-jj): 2006-11-23

Aerosol Size Distribution

Parameter name: Aerosol Size Distribution
Parameter keyword: Atmosphere > Aerosols
Date begin (yyyy-mm-jj): 2006-02-07
Date end (yyyy-mm-jj): 2006-11-23

Potassium

Parameter name: Potassium
Parameter keyword: Atmosphere > Aerosols
Date begin (yyyy-mm-jj): 2006-02-07

Date end (yyyy-mm-jj):	2006-11-23

Aerosol Size Distribution

Parameter name:	Aerosol Size Distribution
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Calcium

Parameter name:	Calcium
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Aerosol Size Distribution

Parameter name:	Aerosol Size Distribution
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Aerosol Optical Thickness

Parameter name:	Aerosol Optical Thickness
Parameter keyword:	Atmosphere > Aerosols
Unit:	no unit
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Aerosol Size Distribution

Parameter name:	Aerosol Size Distribution
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
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Silicon

Parameter name:	Silicon
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Aerosol Size Distribution

Parameter name:	Aerosol Size Distribution
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
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Aerosol Size Distribution

Parameter name:	Aerosol Size Distribution
Parameter keyword:	Atmosphere > Aerosols
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Phosphorus

Parameter name:	Phosphorus
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
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Aerosol Size Distribution

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Parameter keyword:	Atmosphere > Aerosols
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Aerosol Size Distribution

Parameter name:	Aerosol Size Distribution
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Aerosol Optical Thickness

Parameter name:	Aerosol Optical Thickness
Parameter keyword:	Atmosphere > Aerosols
Unit:	no unit
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Aerosol Size Distribution

Parameter name:	Aerosol Size Distribution
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Wind Direction

Parameter name:	Wind Direction
Parameter keyword:	Atmosphere > Atmospheric Winds > Wind Direction
Unit:	degrees - degrees
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Magnesium

Parameter name:	Magnesium
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Titanium

Parameter name:	Titanium
Parameter keyword:	Atmosphere > Aerosols
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Aerosol Size Distribution

Parameter name:	Aerosol Size Distribution
Parameter keyword:	Atmosphere > Aerosols
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Angstrom Coefficient

Parameter name:	Angstrom Coefficient
Parameter keyword:	Atmosphere > Aerosols
Unit:	no unit
Date begin (yyyy-mm-jj):	2006-02-07
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Aerosol Optical Thickness

Parameter name:	Aerosol Optical Thickness
Parameter keyword:	Atmosphere > Aerosols
Unit:	no unit
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Brightness Temperature

Parameter name:	Brightness Temperature
Parameter keyword:	Spectral/Engineering > Infrared Wavelengths > Brightness Temperature
Unit:	Degrees Celsius - °C
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Sonic Temperature

Parameter name:	Sonic Temperature
Parameter keyword:	Atmosphere > Atmospheric Temperature > Surface Temperature > Maximum/Minimum Temperature

Unit:	Degrees Celsius - °C
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Brightness Temperature

Parameter name:	Brightness Temperature
Parameter keyword:	Spectral/Engineering > Infrared Wavelengths > Brightness Temperature
Unit:	Degrees Celsius - °C
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Brightness Temperature

Parameter name:	Brightness Temperature
Parameter keyword:	Spectral/Engineering > Infrared Wavelengths > Brightness Temperature
Unit:	Degrees Celsius - °C
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Sensible Heat Flux

Parameter name:	Sensible Heat Flux
Parameter keyword:	Atmosphere > Atmospheric Radiation
Unit:	Watt per square meter - W.m-2
Date begin (yyyy-mm-jj):	2006-02-07
Date end (yyyy-mm-jj):	2006-11-23

Data use information

Use constraints:	AMMA data policy