

# FIRE II Cirrus Mission Summary



Date: November 27, 1991  
Julian Day: 331  
Experiment Day: 15

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Mission Scientist: None  
Deputy Mission Scientist: None

#### Mission Objective:

No specific objective as a Stand Down was called to recuperate from IOP#2.

#### Mission Description:

A general Stand Down to recuperate after IOP#2. SPECTRE collected some good data and ground-based systems collected some observations of stratus and overlying cirrus (mostly attenuated by the low cloud).

#### Weather Synopsis:

An overcast of low clouds remained over the Hub all day Wednesday. Temperatures hovered near the 50 degree mark with light to moderate southerly breezes. The southerly flow at the low levels brought moisture and clouds north from Texas near the end of the previous day. A uniform deck of "ridge crest" cirrus covered southeast Kansas during most of the day.

#### Synoptic Situation:

A fairly low amplitude, short wave ridge moved across the western United States during the day. By evening, ridge axis was located along the continental divide. An extensive area of well-defined ridge-crest cirrus was associated with this feature. Cirrus in the exit region of the cloud system streamed over Kansas during the day often dissipating over eastern Kansas and Missouri. The trailing edge of the ridge-crest system was beginning to connect with a large area of sub-tropical jet cirrus moving into the Baja region.

Aircraft	Depart	Land	Notes
All Aircraft			No flights

Satellite	Hub Overpass Time	Zenith Angle	Azimuth Angle	RAOB
NOAA-11	21:00:00	10.34	258.68	yes
	09:24:23	36.74	101.32	yes
NOAA-12	14:41:42	30.21	286.49	yes
	02:01:42	45.87	261.16	yes

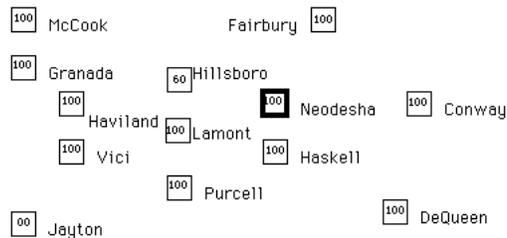
#### Rawinsonde Operations:

- Inner NWS stations (Type A): Enhanced mode @ 12, 18, and 00 UTC
- Outer NWS stations (Type B): Routine @ 12 and 00 UTC
- Hub CLASS station: Enhanced mode @ 18, and 00 UTC (12 UTC failed) and satellite overpasses @ 15, 21, 02 and 10 UTC
- Remote CLASS stations: Enhanced mode @ 12, 18, and 00 UTC
- Hub GSFC/WFF station: Launches @ 13 and 15 UTC
- CSU Parsons station: No launches

#### FIRE Profiler Status:

- CSU 405 MHz @ Parsons: Continuous operation
- PSU 50 MHz @ Coffeyville: Continuous operation
- NOAA 405 MHz @ Coffeyville: Not Operational

#### NWS Wind Profiler Status:



#### SPECTRE Operations:

Low-level cloud cover limited operations during most of the day. An early-morning window allowed some observations of a cirrostratus deck.

Highlights of FIRE Operations:

- Surface-based observations of stratus cloud layer and limited observations of cirrstratus layer.
- Enhanced mode rawinsonde observations continued from IOP#2 to capture the dynamics of a well-defined large-scale ridge crest cirrus system - a good case for the modellers.

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**Instrument Logs**

**Active Sensors**

Active Sensor	UTC Hour																								Notes	
	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	10	11		
Utah Lidar H																										NO OBSERVATIONS
LaRC Laser Ceilometer H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Wisc HSR Lidar H																										NO OBSERVATIONS
Wisc Vol Image Lidar																										NO OBSERVATIONS
GSFC RAMAN Lidar H																										NO OBSERVATIONS
NOAA CO2 Lidar H		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA Radar H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PSU Radar H			X	X	X	X	X	X	X																	
PSU Laser Ceilometer H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PSU 50 MHZ Wind Prof H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PSU/NOAA 50 MHz RASS H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	QUESTIONABLE DATA QUALITY
NOAA 405 MHz RASS H																										NOT OPERATIONAL
LaRC Lidar P																										NO OBSERVATIONS
CSU Wind Prof/RASS P	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CSU Laser Ceilometer P																										NO OBSERVATIONS

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**Passive Sensors**

Passive Sensor	UTC Hour																								Notes	
	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	10	11		
NOAA $\mu$ -wave Radiometer H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA Sun Photometer H																										NO OBSERVATIONS
NOAA H20 Photometer	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA IR Flux Radiom. H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA Dobson Ozone H																										NO OBSERVATIONS
NOAA Surface Ozone H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA Trace Gas H																										NO OBSERVATIONS
PSU $\mu$ -wave Radiometer H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PSU Sun Photometer H																										NO OBSERVATIONS
PSU Solar Flux Radiom. H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PSU IR Flux Radiometers H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PSU Sky Video H																										NO OBSERVATIONS
Utah IR-Window Radiom. H																										NO OBSERVATIONS
Utah Sky Video H																										NO OBSERVATIONS
LaRC Video H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
AFGL Sky Imager H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
Ames Radiometer H																										NO OBSERVATIONS
Denver Solar Radiom. H																										NOT OPERATIONAL
Denver IR-Spectrometers H		X	X	X	X	X	X	X																		
GSFC IR-Spectrometer H		X	X	X	X																					
Wisc. IR-Spectrometer H		X	X	X	X																					
MRI Sun Photometer H																										NO OBSERVATIONS
MRI IR Radiometer H																										NO OBSERVATIONS
MRI Spectro-Radiom. H																										NO OBSERVATIONS
MRI Solar Flux Radiom. H																										NO OBSERVATIONS
GSFC Sun Photometer H																										NO OBSERVATIONS
CSU Sun Photometer P																										NO OBSERVATIONS
CSU IR-Window Radiom. P																										NO OBSERVATIONS
CSU Solar Flux Radiom. P		X	X	X	X	X	X	X	X	X	X															



