

SCIENCE SITREP JULY 91

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P A L M E R S T A T I O N A N T A R C T I C A

SCIENCE SITREP - PALMER STATION - JULY 1991

S-106 -- VLF TRIMPI STUDIES AT PALMER STATION.

-- VLF REMOTE SENSING OF THUNDERSTORM AND RADIATION BELT COUPLING. U.S. Inan (P.I.),

No personnel on station. Equipment being monitored and maintained by station Science Technician, Michael Butler.

Weekly printouts of Trimpi data summary charts were faxed to Stanford University for analysis and monitoring of system performance.

A special eight hour session of Trimpi and continuous analog recordings were performed on July 11, 1991 to coincide with the lunar eclipse. All requested special recordings were made without failure.

All normally scheduled data recordings were made for the month of July. There were two possible failures of the Trimpi data recorder. On July 5, 1991 and on July 10, 1991 the data recorder stopped mid tape. Full data charts for both days were produced.

Repair work was performed on the MF antenna. A "banana" type connector had corroded and broken. This was repaired on July 12, 1991.

All systems are operational, and a full schedule of data recording continues daily.

Three full crates of data have been packed and are ready to be shipped to CONUS on the R/V POLAR DUKE late in the month of August.

INVENTORY OF RECORDED DATA ON STATION: 31 JULY 1991

TYPE	QUANTITY	DATES COVERED
SYNOPTIC ANALOG TAPES....	150.....	23 Feb. to Present
(missing 6 April thru 10 April - due to Atlantis experiment)		
(missing 22 March, 30 April, June 2. No known reason*)		
(missing 27 June. Power Failure)		
CONTINUOUS VLF.....	101.....	18 April to Present
(missing 30 April, 21 May, 31 May. No known reason*)		
(missing 27 June. Power Failure)		
DIGITAL TRIMPI TAPES.....	102.....	19 April to Present
(missing 30 April. No known reason*)		
(missing 27 June. Power Failure)		

* The site operator, has found a report that data for April 30, 1991 was not recorded because the antenna cable was being repaired.

S-254 CHLORINE & BROMINE - CONTAINING TRACE GASES IN THE ANTARCTIC R.A. Rasmussen, Oregon State University

No personnel on station. Equipment being monitored by Hugh Cowan, Station Physician.

Fifteen (15) samples were collected during the month of July. A total of forty-two (42) prepared samples are currently archived on station. A total of fifty-nine (59) unused cylinders remain.

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L. Waterman, NOAA

No personnel on station. Equipment being monitored by Hugh Cowan, Station Physician.

Ten (10) samples were collected during the month of July. A total of sixteen (16) prepared samples are archived on station. A total of forty (40) unused flasks remain on station.

S-275 UM/DOE ATMOSPHERIC MONITORING PROGRAM at Palmer Station.
T. Snowdon, University of Miami; C. Sanderson/N. Chui, EML/DOE N.Y.
No personnel on station. System being run by station Science Technician, Michael Butler.

Sampling continued to be conducted with a weekly schedule of calibration, background and sample counts, with one sample filter being exposed for the duration of the week. Data was logged on computer disk, as well as transmitted via NOAA satellites.

Recorded Data On Station, 31 JULY 1991:

- 1) One (1) Data Disk, currently in use. (July)
- 2) Eight (8) exposed filters.
- 3) Two (2) prepared blank filters.
- 4) One (1) filter currently being exposed.
- 5) One (1) completed Data Disk (June)

System equipment continues to run well and there are adequate system supplies for operation throughout the austral winter.

T-312 TERASCAN SATELLITE IMAGING SYSTEM. R. Whritner, Scripps Institute ARC.

No personnel on station. System being run by station Science Technician, Michael Butler.

The satellite collection schedule continues with four daily passes: (1) high elevation pass, one (1) pass to the east of Palmer over the Weddell Sea, one (1) pass to the west over the Bellingshausen and (1) pass of arbitrary elevation and azimuth. The satellite image data was collected digitally on 8mm video tape. Both HRPT and DMSP satellite data were recorded.

Orbital elements were received and entered into the Terascan imaging and Telonics tracking systems.

Tracking system time continues to be controlled with the Omega clock which maintains accuracy to within one second, calibrated with the GOES satellite clock.

Images processed from data uploaded via the Vectra PC continue to look good, with the exception of extremely high elevation passes which contain dropouts. It is believed that this is caused by slight inaccuracies in the Omega clock which controls the satellite tracking system.

The filter system on the HP 9000 computer was cleaned. A cleaning was also performed on the Exabyte 8mm data recorder.

Recorded data tapes on station consist of PAL108 through PAL117. PAL118 is currently being recorded.

T-313 NSF UV MONITORING EXPERIMENT. C. Booth, Biospherical Instruments.

No personnel on station. System being run by station Science Technician, Michael Butler.

UV data and calibration scan information continued to be collected and sent to BSI on a daily basis.

A series of four absolute calibration scans were performed on July 4, 1991. This series used each of the four onsite 200 watt

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calibration lamps. An absolute calibration scan was also run on July 17, 1991. Details of all scans were forwarded to Biospherical for analysis.

A full inventory of all onsite spares associated with the project was sent to Biospherical.

Instability in response to the level still persists. All efforts using onsite equipment have failed to alleviate this problem. A new monochrometer is to be installed late in August after its arrival on the R/V POLAR DUKE.

All scheduled data was collected for the month with the exception of scans superseded by the absolute calibration series, and one scheduled response scan on July 28, 1991 which failed for no known reason.