FLIGHT SUMMARY REPORT

Flight #:	91-085
Date:	8 May 1991
Sensor Package:	Wild-Heerbrug RC-10 High-Resolution Interferometer Sounder (HIS)
Area(s) Covered:	Coastal Central California

Investigator(s): Smith, University of Wisconsin

Flight Request: 91T298

Aircraft #: 709

Julian Date: 128

SENSOR DATA

Accession #:	04218	-----
Sensor ID #:	036	083
Sensor Type:	RC-10	HIS
Focal Length:	6" 153.19 mm	-----
Film Type:	Aerial Color SO242	-----
Filtration:	2.2 AV	-----
Spectral Band:	400-700 nm	-----
f Stop:	4	-----
Shutter Speed:	1/100	-----
# of Frames:	61	-----
% Overlap:	60	-----
Quality:	Excellent	-----
Remarks:		No data

Airborne Science and Applications Program

The Airborne Science and Applications Program (ASAP) is supported by three ER-2 high altitude Earth Resources Survey aircraft. These aircraft are operated by the High Altitude Missions Branch at NASA-Ames Research Center, Moffett Field, California. The ER-2s are used as readily deployable high altitude sensor platforms to collect remote sensing and *in situ* data on earth resources, celestial phenomena, atmospheric dynamics, and oceanic processes. Additionally, these aircraft are used for electronic sensor research and development and satellite investigative support.

The ER-2s are flown from various deployment sites in support of scientific research sponsored by NASA and other federal, state, university, and industry investigators. Data are collected from deployment sites in Kansas, Texas, Virginia, Florida, and Alaska. Cooperative international scientific projects have deployed the aircraft to sites in Great Britain, Australia, Chile, and Norway.

Photographic and digital imaging sensors are flown aboard the ER-2s in support of research objectives defined by the sponsoring investigators. High resolution mapping cameras and digital multispectral imaging sensors are utilized in a variety of configurations in the ER-2s' four pressurized experiment compartments. The following provides a description of the digital multispectral sensor used for data collection during this flight.

High-Resolution Interferometer Sounder

The High-Resolution Interferometer Sounder (HIS) measures upwelling infrared spectral radiance at the aircraft altitude with high absolute accuracy using a passive Michelson interferometer and precision onboard blackbody calibration sources. The instrument has a single nadir staring field of view with observed spectra obtained every six seconds. The spectra cover the range 16.6 microns to 3.3 microns with a spectral resolution of 0.3 to 0.5 cm^{-1}. The primary use of the instrument is as an atmospheric sounder of temperature and water vapor. The spectra also contain important information on trace gases and surface properties. The HIS was developed by the University of Wisconsin at Madison and is a prototype instrument for advanced infrared satellite sounders.

Additional information regarding ER-2 acquired photographic and digital data is available through the Aircraft Data Facility at Ames Research Center. For specific information regarding flight documentation, sensor parameters, and areas of coverage contact the Aircraft Data Facility, NASA-Ames Research Center, Mail Stop 240-6, Moffett Field, California 94035-1000 (Telephone: (415) 604-6252).

CAMERA FLIGHT LINE DATA
FLIGHT NO. 91-085

Accession # 04218

Sensor # 036

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	8006-8014	21:25:05	21:32:46	65000/19800	Clear
B - C	8015-8018	21:33:44	21:36:36	"	10-30% scattered cumulus (frames 8016-8018)
D - E	8019-8024	21:42:32	21:47:19	"	10% cumulus (frame 8019); emulsion flaw (frames 8022-8027)
___	8025	21:48:16	_____	"	Clear; oblique frame
F - G	8026-8035	21:51:39	22:00:12	"	Clear; 10-30% scattered cumulus (frames 8031-8035)
H - I	8036-8044	22:05:46	22:13:19	"	10-30% scattered cumulus (frames 8036-8038)
___	8045	22:14:17	_____	"	Oblique frame

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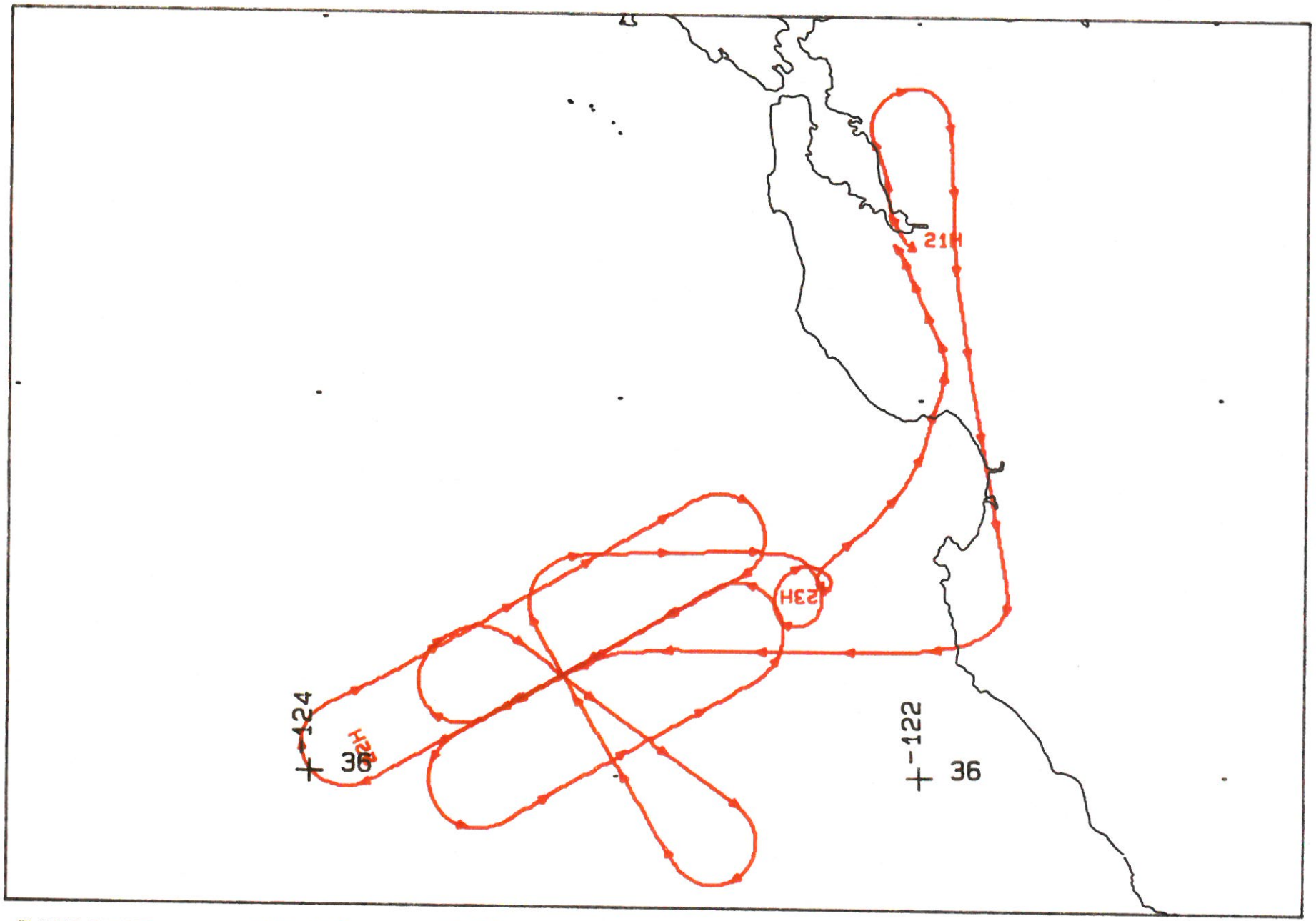
Check Points	Frame Numbers	Time (GMT-hr, min, sec) START	Time (GMT-hr, min, sec) END	Altitude, MSL feet/meters	Cloud Cover/Remarks
F - C	8046-8052	22:17:41	22:23:20	65000/19800	10-20% scattered cumulus (frames 8051-8052)
J - K	8053-8058	22:30:24	22:35:05	"	Very minor cumulus (frames 8053-8056)
___	8059	22:36:02	_____	"	Oblique frame in turn
L - J	8060-8066	22:40:03	22:45:13	"	Minor cumulus (frames 8060-8066)



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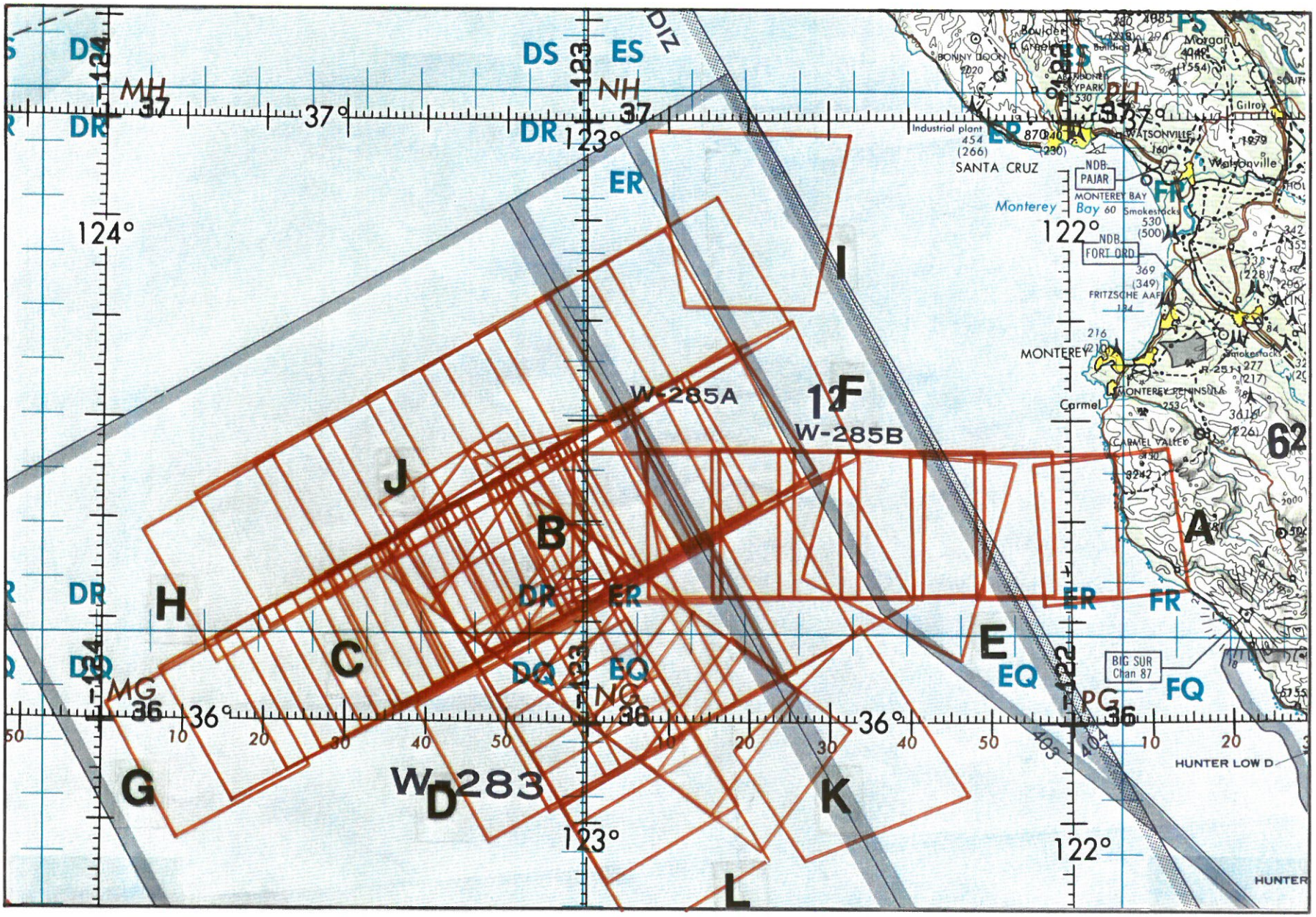

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