

# FLIGHT SUMMARY REPORT

**Flight #:** 91-018  
**Date:** 17 October 1990  
**Sensor Package:** Wild-Heerbrug RC-10  
NASA Aircraft Satellite Instrument  
Calibration (NASIC)  
**Area(s) Covered:** White Sands, New Mexico

**Investigator(s):** Guenther, NASA-GSFC

**Aircraft #:** 708

**Flight Request:** 91D254

**Julian Date:** 290

## SENSOR DATA

<b>Accession #:</b>	04152	-----
<b>Sensor ID #:</b>	034	104
<b>Sensor Type:</b>	RC-10	NASIC
<b>Focal Length:</b>	12" 304.66 mm	-----
<b>Film Type:</b>	High Definition Aerochrome IR SO-131	-----
<b>Filtration:</b>	cc.10B	-----
<b>Spectral Band:</b>	510-900 nm	-----
<b>f Stop:</b>	4	-----
<b>Shutter Speed:</b>	1/100	-----
<b># of Frames:</b>	51	-----
<b>% Overlap:</b>	60	-----
<b>Quality:</b>	Excellent	-----
<b>Remarks:</b>		

## 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.

### NASA Aircraft Satellite Instrument Calibration

The NASA Aircraft Satellite Instrument Calibration (NASIC) is a scanner developed to calibrate research and operational instruments in orbit onboard NOAA and NASA satellites. The NASIC consists of a double Ebert Monochromator flown on NASA-Ames ER-2 aircraft. Airborne Satellite Calibration System missions are flown coincident with satellite overpasses and fly the same view vector as the satellite instrument over a selected ground scene. The system is used to calibrate instruments such as the Advanced Very High Resolution Radiometer (AVHRR), the Thematic Mapper (TM), and the Coastal Zone Color Scanner (CZCS).

Sensor parameters are as follows:

Detector:	Double Monochromator with Holographic Grating
Across Track FOV:	8°
Along Track FOV:	4°
Ground Swath Dimensions:	1.5 x 0.75 nmi (2.8 x 1.4 km)
Spectral Range:	400-1035 nm
Scans/Data Collection Leg:	36 + 2 Baseline Housekeeping
Data Points/Scan Line:	184
Data Point Spectral Range:	3.5 nm

For information regarding the NASIC project and data contact Peter Abel, Laboratory for Terrestrial Physics, Code 920.1, NASA-Goddard Space Flight Center, Greenbelt, Maryland 20771. (Telephone: (301) 286-7754).

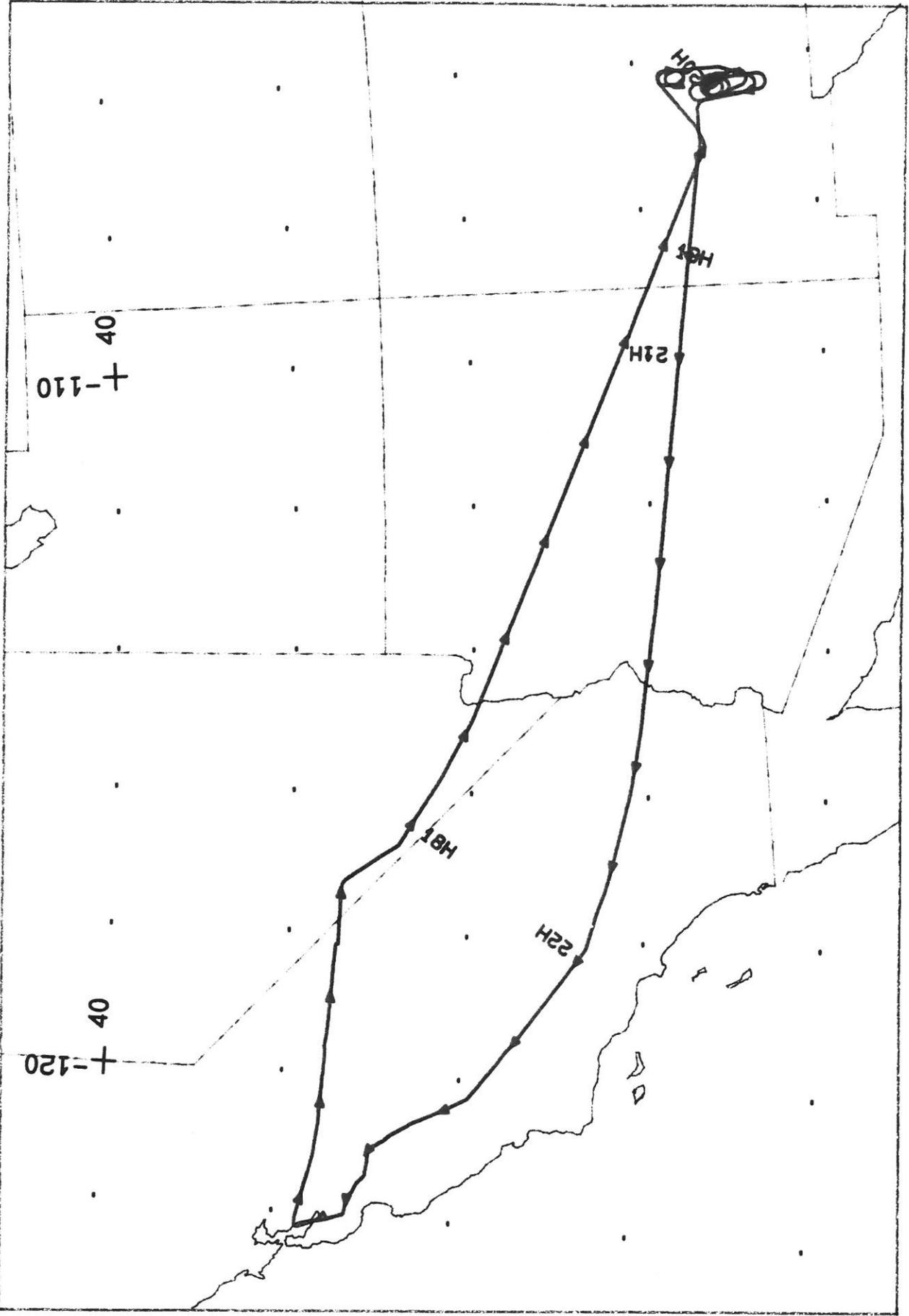
Additional information regarding ER-2 acquired photographic and digital data is available through the Aircraft Data Facility at Ames Research Center. For specific information regarding flight documentation, sensor parameters, and areas of coverage contact the Aircraft Data Facility, NASA-Ames Research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

**CAMERA FLIGHT LINE DATA  
FLIGHT NO. 91-018**

Accession # 04152

Sensor # 034

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	7742-7757	19:34:24	19:41:15	65000/19800	10% cumulus (frames 7742-7753)
B - C	7758-7763	19:41:43	19:44:01	"	Clear; oblique frames
C - D	7764-7770	19:44:28	19:47:13	"	Clear
D - E	7771-7776	19:47:41	19:49:58	"	10% cumulus (frames 7771-7772, 7775-7776); oblique frames
E - F	7777-7779	19:50:26	19:51:21	"	10% cumulus (frames 7777-7779)
F - G	7780-7783	19:51:49	19:53:12	"	10% cumulus (frame 7780); oblique frames
F - H	7784-7790	20:04:32	20:06:54	"	Clear
H - I	7791-7792	20:07:21	20:07:48	"	Clear; oblique frames



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