FLIGHT SUMMARY REPORT

Flight #:	91-097
Date:	5 June 1991
Sensor Package:	Wild-Heerbrug RC-10 Airborne Ocean Color Imager (AOCI)
Area(s) Covered:	Off-shore Washington

Investigator(s):	Richardson, Florida International University	**Aircraft #:**	709
Flight Request:	91B285	**Julian Date:**	156

SENSOR DATA

Accession #:	04229	-----
Sensor ID #:	033	090
Sensor Type:	RC-10	AOCI
Focal Length:	6" 153.17 mm	-----
Film Type:	Aerial Color SO242	-----
Filtration:	2.2 AV	-----
Spectral Band:	400-700 nm	-----
f Stop:	4	-----
Shutter Speed:	1/75	-----
# of Frames:	59	-----
% Overlap:	60	-----
Quality:	Excellent	Good
Remarks:		No Channel 5

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.

Airborne Ocean Color Imager

The Airborne Ocean Color Imager (AOCI) is a high altitude multispectral scanner designed for oceanographic remote sensing. It provides 10-bit digitization of eight bands in the visible/near-infrared region of the spectrum, plus two 8-bit bands in the near and thermal infrared. The bandwidths are as follows:

Channel	Wavelength, μm
1	0.436 - 0.455
2	0.481 - 0.501
3	0.511 - 0.531
4	0.554 - 0.575
5	0.610 - 0.631
6	0.655 - 0.676
7	0.741 - 0.800
8	0.831 - 0.897
9	0.989 - 1.054
10	8.423 - 12.279

Sensor/aircraft parameters are as follows:

IFOV:	2.5 mrad
Ground Resolution:	163 feet (50 meters) at 65,000 feet
Total Scan Angle:	85º
Swath Width:	19.6 nmi (36.3 km) at 65,000 feet
Pixels/Scan Line:	716
Scan Rate:	6.25 scans/second
Ground Speed:	400 kts (206 m/second)
Digitization:	8-bit channels 9-10
	10-bit channels 1-8

NOTE: Information on data tape format, logical record format, and scanner calibration data may be obtained from the NASA-Ames Aircraft Data Facility at (415) 604-6252 or FTS 464-6252.

CAMERA FLIGHT LINE DATA
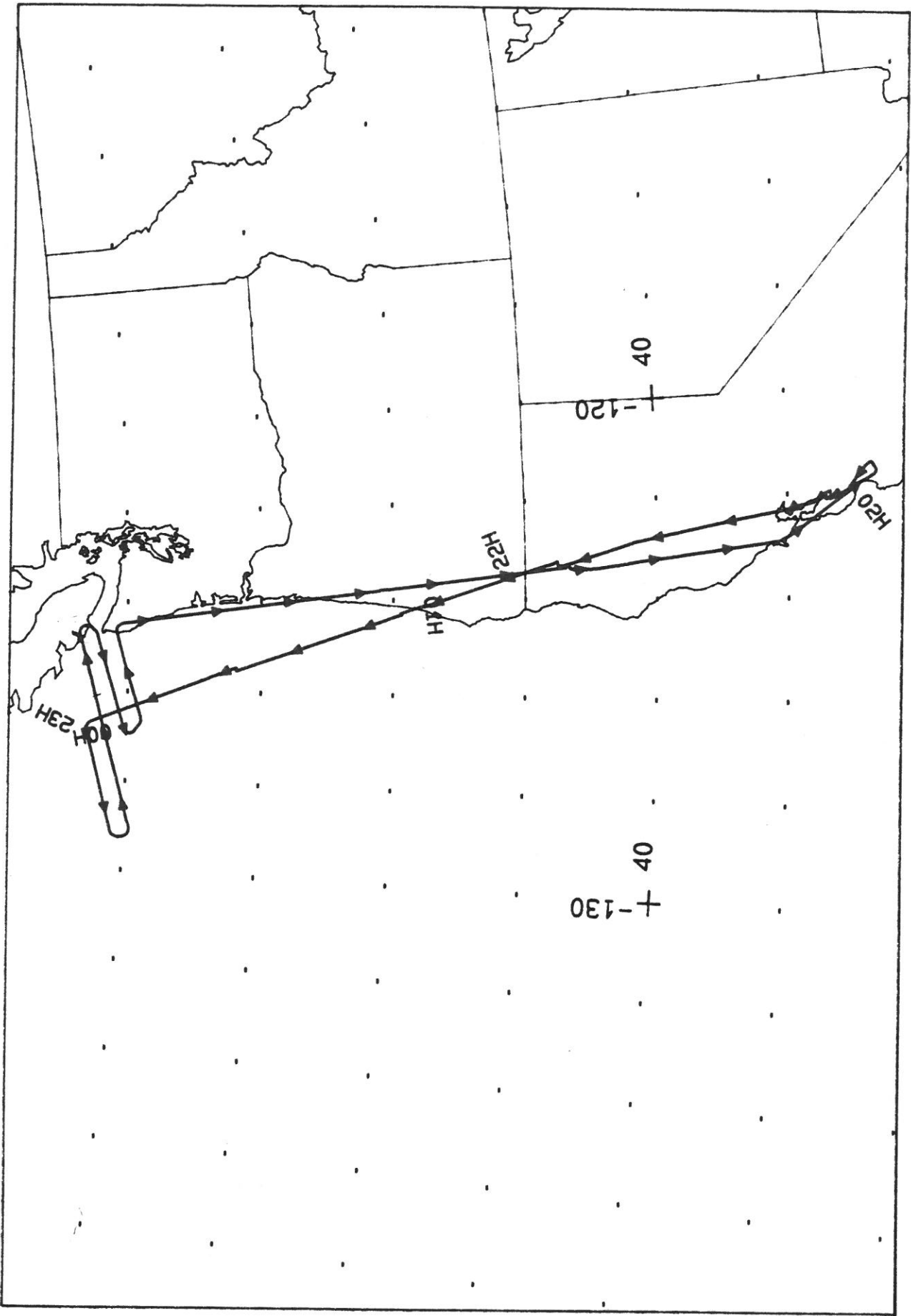## FLIGHT NO. 91-097

Accession #   04229

Sensor #   033

Check Points	Frame Numbers	Time (GMT-hr, min, sec) START	Time (GMT-hr, min, sec) END	Altitude, MSL feet/meters	Cloud Cover/Remarks
A - B	8740-8755	23:00:57	23:14:01	65000/19800	10-100% stratus (frames 8743-8755)
D - E	8756-8769	23:32:40	23:43:30	"	Clear
F - G	8770-8784	23:48:44	24:00:50	"	10-50% stratus-cumulus (frames 8783-8784)
H - I	8785-8798	24:05:26	24:16:36	"	10% stratus-cumulus (frames 8785-8786)

SCANNER FLIGHT LINE DATA

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DAEDALUS FLIGHT DATA
FLIGHT NUMBER: 91-097

Check Points	Actual time (GMT) begin	end	Actual scanline begin	end	Altitude feet/meter	Scan Speed (rps)	total Good scanlines	total Interpolated scanlines	total Repeated scanlines
A-B	23:00:21.0	23:13:43.0	44548	49560	65000/19812	6.25	5001	0	12
C-E	23:19:36.0	23:44:11.0	51766	60984	65000/19812	6.25	9201	0	18
F-G	23:48:27.0	00:00:44.0	62584	67190	65000/19812	6.25	4601	0	6
H-I	00:04:44.0	00:16:31.0	68690	73108	65000/19812	6.25	4401	0	18

40
+-120

22H

H70

23H
60H

40
+-130

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FLIGHT 91-097   5 June 1991   A/C 709   AOCI / RC-10   AOCI Coverage   JNC 28