

FLIGHT SUMMARY REPORT

Flight #: 91-078
Date: 27 April 1991
Sensor Package: Airborne Ocean Color Imager (AOCI)
Wild-Heerbrug RC-10
Area(s) Covered: Off-shore Southern California

Investigator(s): Carlson, Naval Ocean Systems Center **Aircraft #:** 709
Flight Request: 91R100 **Julian Date:** 117

SENSOR DATA

Accession #:	-----	03789
Sensor ID #:	090	023
Sensor Type:	AOCI	RC-10
Focal Length:	-----	6" 153.21 mm
Film Type:	-----	Aerial Color SO-242
Filtration:	-----	2:2 AV
Spectral Band:	-----	400-700 nm
f Stop:	-----	4
Shutter Speed:	-----	1/100
# of Frames:	-----	52
% Overlap:	-----	60
Quality:	Excellent	Excellent
Remarks:		

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:

<u>Channel</u>	<u>Wavelength, μm</u>
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:	85°
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. 91-078

Accession # 03789

Sensor # 023

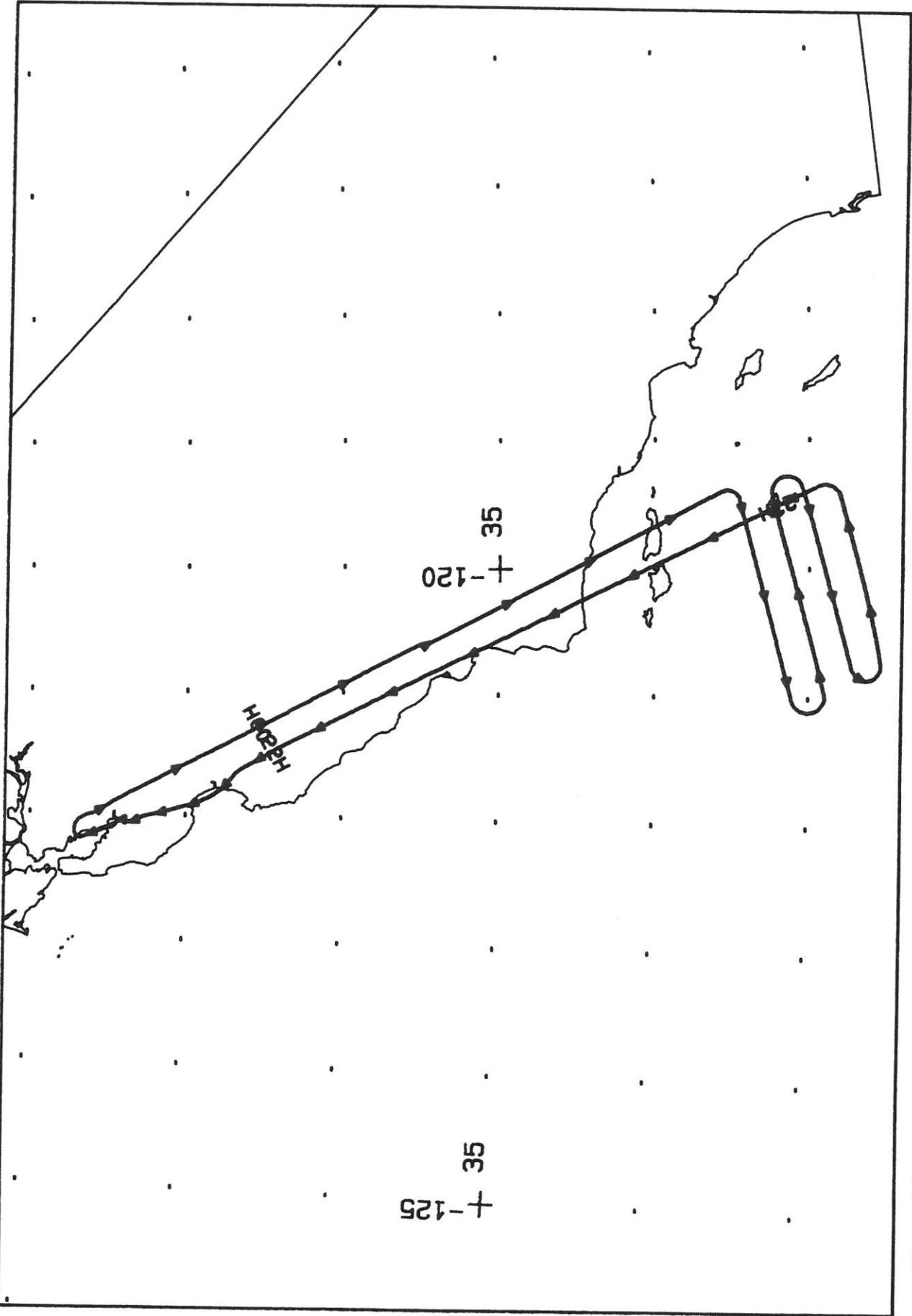
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	7769-7781	22:31:21	22:41:49	65000/19800	Clear
C - D	7782-7795	22:45:19	22:57:04	"	Clear
E - F	7796-7808	23:00:08	23:10:36	"	Clear
G - H	7809-7820	23:13:39	23:23:09	"	Clear

SCANNER FLIGHT LINE DATA

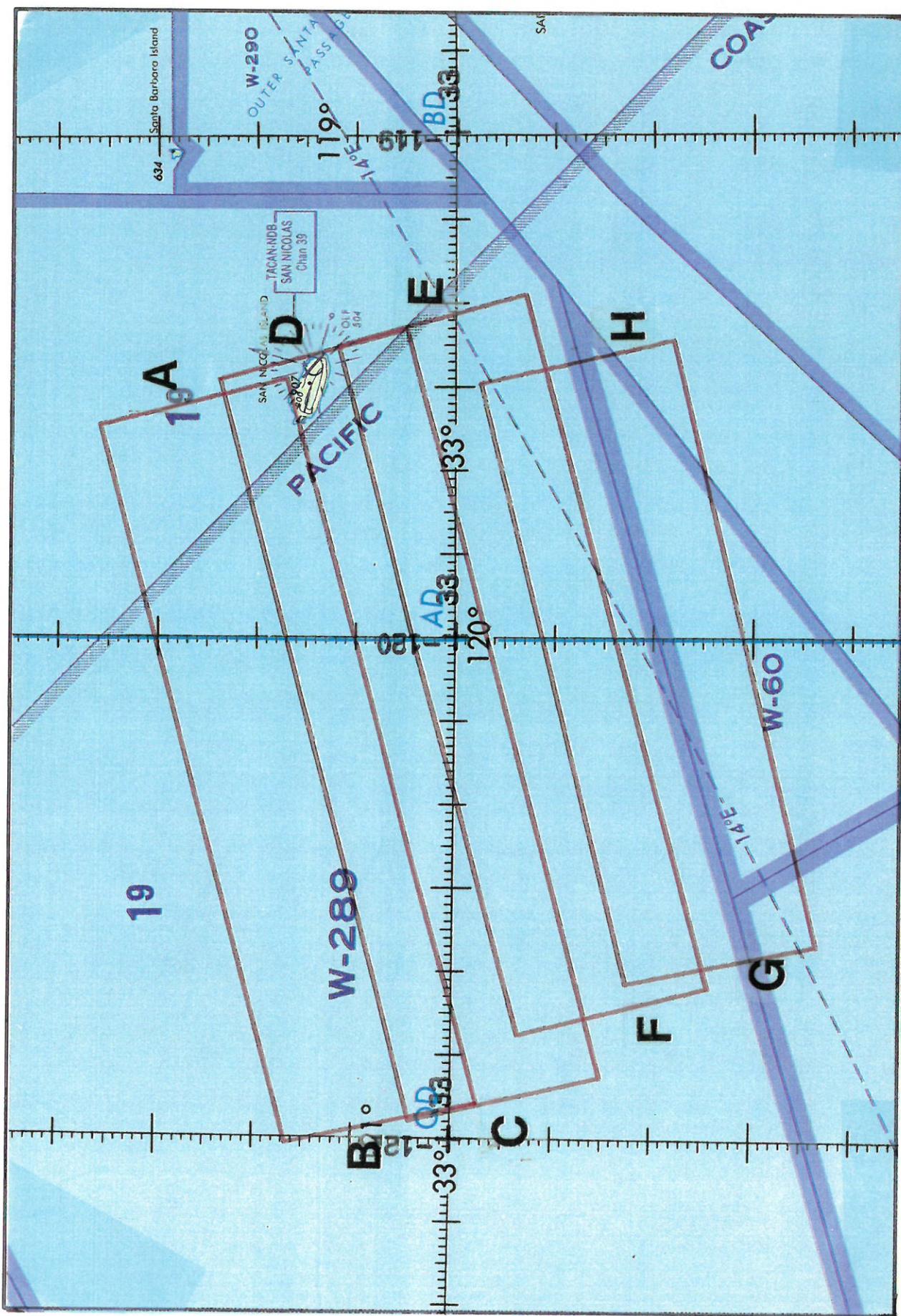
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DAEDALUS FLIGHT DATA
FLIGHT NUMBER: 91-078

Check Points	A c t u a l t i m e b e g i n	(GMT) e n d	A c t u a l s c a n l i n e b e g i n	e n d	A l t i t u d e f e e t / m e t e r	Scan S p e e d (r p s)	t o t a l G o o d s c a n l i n e s	t o t a l I n t e r p o l a t e d s c a n l i n e s	t o t a l R e p e a t e d s c a n l i n e s
A-B	22:31:5.0	22:41:51.0	22406	26443	65000/19812	6.25	4029	0	9
C-D	22:45:16.0	22:57:1.0	27728	32132	65000/19812	6.25	4399	0	6
E-F	23:00:3.0	23:10:34.0	33272	37212	65000/19812	6.25	3938	1	2
G-H	23:13:47.0	23:23:5.0	38420	41905	65000/19812	6.25	3463	0	23



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A/C 706

AOC1

Southern California

ONC 6-18