FLIGHT SUMMARY REPORT

Flight #:	90-043
Date:	22 January 1990
Sensor Package:	Wild Heerbrug RC-10 Airborne Ocean Color Imager (AOCI)
Area(s) Covered:	Puerto Rico

Investigator(s): Miller, NASA-Stennis Space Center **Aircraft #:** 709

Flight Request: 90D204 **Julian Date:** 022

SENSOR DATA

Accession #:	03993	-----
Sensor ID #:	076	090
Sensor Type:	RC-10	AOCI
Focal Length:	12" 304.89 mm	-----
Film Type:	Aerial Color SO-242	-----
Filtration:	None	-----
Spectral Band:	400-700 nm	
f Stop:	4	-----
Shutter Speed:	1/200	-----
# of Frames:	108	-----
% Overlap:	60	-----
Quality:	Excellent	-----
Remarks:	-----	See write up

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, *um*
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^{o}
Swath Width:	18 nmi (33.3 km)
Pixels/Scan Line:	716
Scan Rate:	6.25 scans/second
Ground Speed:	400 kts (206 m/second)

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. 90-043

Accession # 03993

Sensor # 076

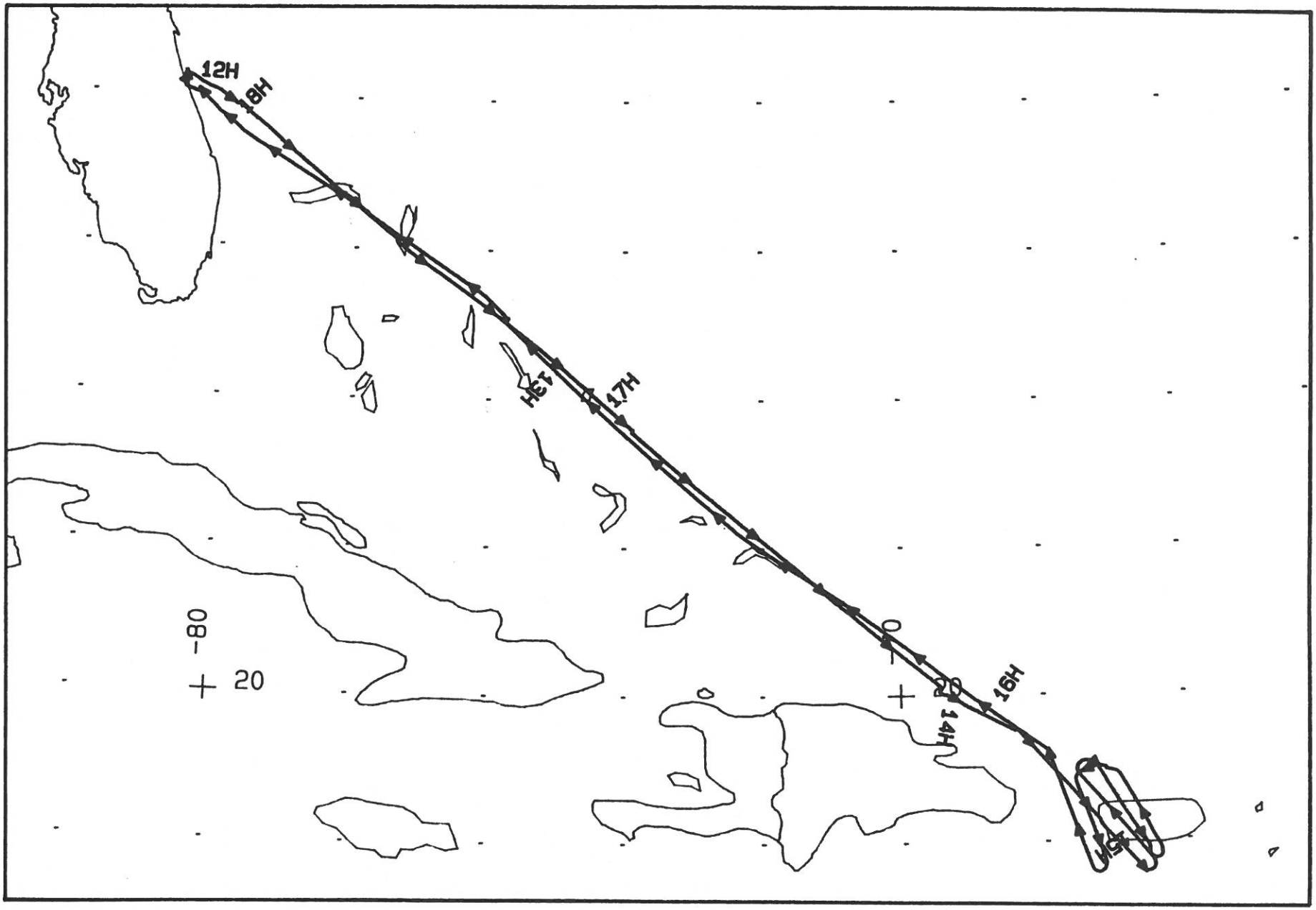
Check Points	Frame Numbers	Time (GMT-hr, min, sec) START	Time (GMT-hr, min, sec) END	Altitude, MSL feet/meters	Cloud Cover/Remarks
A - B	1767-1795	14:17:49	14:31:19	65000/19800	10-70% cumulus and cirro cumulus cloud cover (frames 1767-1774); 10% cirro cumulus (frames 1778-1780)
C - D	1796-1823	14:35:20	14:48:22	"	10% cumulus (frames 1796-1797, 1800-1802, 1811-1812); 10-50% cumulus (frames 1818-1821)
E - F	1824-1846	14:53:07	15:03:15	"	10-50% cumulus (frames 1824-1831)
G - H	1847-1864	15:08:45	15:16:57	"	10% cumulus (frames 1847-1864)
I - J	1865-1874	15:25:15	15:29:35	"	10% cumulus (frames 1865-1866)

SCANNER FLIGHT LINE DATA

FLIGHT NO. 90-043

DAEDALUS FLIGHT DATA
FLIGHT NUMBER: 90-043

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	14:17:45.0	14:30:55.0	54264	59200	65000/19812	6.25	4917	0	20
C-D	14:35: 9.0	14:47:27.0	60788	65400	65000/19812	6.25	4605	0	8
E-F	14:53:18.0	15:02:39.0	67598	71100	65000/19812	6.25	3501	0	2
G-H	15:08:47.0	15:16:49.0	73404	76414	65000/19812	6.25	3001	0	10
I-J	15:25:22.0	15:29:40.0	79620	81232	65000/19812	6.25	1601	0	12



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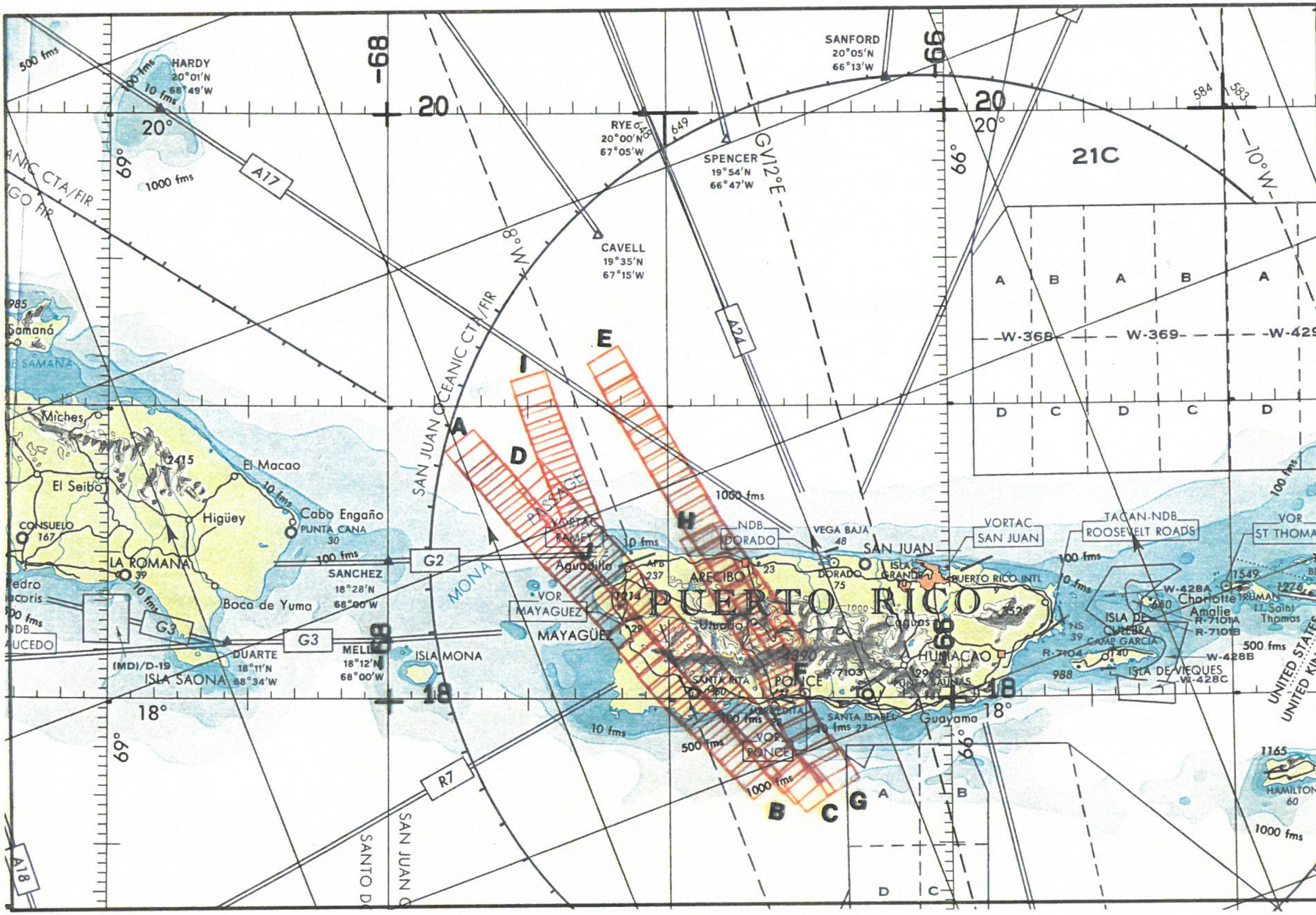
PUERTO RICO
SAN JUAN
MAYAGÜEZ
PONCE
ARECIBO
HUMACAO
Guayama
Aguadilla
Utuado
Caguas
SANTA ISABEL
DORADO
VEGA BAJA
ISLA GRANDE
PUERTO RICO INTL
VORTAC SAN JUAN
NDB DORADO
VORTAC RAMEY
VOR MAYAGUEZ
VOR PONCE
TACAN-NDB ROOSEVELT ROADS
VOR ST THOMA
ISLA DE CULEBRA
ISLA DE VIEQUES
CAMP GARCIA
Charlotte Amalie
ISLA MONA
MONA PASSAGE
SAN JUAN OCEANIC CTA/FIR
SAN JUAN
SANTO D
UNITED STATES
UNITED KIN
21C
W-368
W-369
W-429
W-428A
W-428B
W-428C
R-7101A
R-7101B
R-7104
R-7103
HARDY 20°01'N 68°49'W
SANFORD 20°05'N 66°13'W
RYE 20°00'N 67°05'W
SPENCER 19°54'N 66°47'W
CAVELL 19°35'N 67°15'W
SANCHEZ 18°28'N 68°00'W
MELL 18°12'N 68°00'W
DUARTE 18°11'N 68°34'W
A17
A24
A18
G2
G3
R7
GV12°E
8°W
10°W
Miches
El Seibo
El Macao
Higüey
Cabo Engaño
PUNTA CANA
LA ROMANA
Boca de Yuma
CONSUELO
ISLA SAONA
Samaná
HAMILTON
A
B
C
D
E
F
G
H
I
J