

# FLIGHT SUMMARY REPORT

**Flight #:** 91-123  
**Date:** 28 June 1991  
**Sensor Package:** IRIS II Panoramic Camera  
Wild-Heerbrug RC-10  
Large Area Collector (LAC)  
**Area(s) Covered:** Virginia, West Virginia, and Maryland

**Investigator(s):** Acciavatti, USDA Forest Service  
**Flight Request:** 90R258

**Aircraft #:** 709  
**Julian Date:** 179

## SENSOR DATA

<b>Accession #:</b>	04238	04239	-----
<b>Sensor ID #:</b>	070	076	100
<b>Sensor Type:</b>	IRIS II	RC-10	LAC
<b>Focal Length:</b>	24" 609.6 mm	12" 304.89 mm	-----
<b>Film Type:</b>	High Definition Aerochrome IR SO-131	High Definition Aerochrome IR SO-131	-----
<b>Filtration:</b>	cc.20C	cc.20B	-----
<b>Spectral Band:</b>	510-900 nm	510-900 nm	-----
<b>f Stop:</b>	3.5	4	-----
<b>Shutter Speed:</b>	1/250	1/125	-----
<b># of Frames:</b>	582	214	-----
<b>% Overlap:</b>	60	60	-----
<b>Quality:</b>	Excellent	Excellent	-----
<b>Remarks:</b>	Clock mis-set by 7 hours		Exposed @ 1449, sealed @ 1830, exposure time 3 hrs. 41 min.

## 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 descriptions of the camera systems flown onboard the ER-2s.

### Camera Systems

Various camera systems and films are used for photographic data collection. Film types include high definition color infrared, natural color, and black and white emulsions. Available photographic systems are as follows:

- Wild-Heerbrug RC-10 metric mapping camera
  - 9 x 9 inch film format
  - 6 inch focal length lens provides area coverage of 16 x 16 nautical miles from 65,000 feet
  - 12 inch focal length lens provides area coverage of 8 x 8 nautical miles from 65,000 feet
- Hycon HR-732 large scale mapping camera
  - 9 x 18 inch film format
  - 24 inch focal length lens provides area coverage of 4 x 8 nautical miles from 65,000 feet
- IRIS II Panoramic camera
  - 4.5 x 34.7 inch film format
  - 24 inch focal length lens
  - 90 degree field of view provides area coverage of 2 x 21.4 nautical miles from 65,000 feet

The U.S. Geological Survey's EROS Data Center at Sioux Falls, South Dakota serves as the archive and product distribution facility for NASA-Ames aircraft acquired photographic and digital imagery. For information regarding photography and digital data (including areas of coverage, products, and product costs) contact EROS Data Center, Customer Services, Sioux Falls, South Dakota 57198 (Telephone: (605) 594-6151).

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. 91-123**

Accession # 04238

Sensor # 070

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0004-0063	8:09:40	8:18:36	65000/19800	10% minor cumulus (frames 0023-0028); 10-30% cumulus (frames 0041-0053); 10% cirrus (frames 0054-0063)
C - D	0064-0080	8:27:06	8:29:32	"	10% cumulus (frames 0064-0065); 10% cirrus (frames 0075-0080)
E - F	0081-0103	8:32:54	8:36:14	"	10% cumulus (frames 0095-0099)
B - G	0104-0128	8:50:22	8:54:03	"	10-20% cumulus and cirrus (frames 0104- 0115, 0125-0128)
H - I	0129-0145	8:59:05	9:01:32	"	10-20% cumulus (frames 0129-0145)
J - K	0146-0194	9:22:48	9:30:21	"	Very thin cirrus
L - M	0195-0242	9:34:01	9:41:12	"	Factory film splice (frame 0212); 10%-minor cirrus (frames 0235-0242)
N - O	0243-0252	9:42:44	9:44:06	"	10-20% cumulus (frames 0243-0252)

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Accession # 04238

Sensor # 070

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
P - Q	0253-0337	9:56:26	10:09:18	65000/19800	10% cumulus (frames 0315-0316, 0321-0337)
R - S	0338-0428	10:16:47	10:30:32	"	Clear
T - U	0429-0532	10:38:46	10:55:32	"	10% cumulus (frames 0429-0434, 0437-0441, 0445-0467, 0486-0496); 10-20% cirrus and cumulus (frames 0516-0532)
V - W	0533-0571	11:01:52	11:07:41	"	10% cumulus (frames 0560-0571)
X - Y	0572-0585	11:17:55	11:19:56	"	10-30% cirrus (frames 0572-0585)
<b>ADD 7 HOURS TO TIMES LISTED FOR CORRECT GMT</b>					

**CAMERA FLIGHT LINE DATA**  
**FLIGHT NO. 91-123**

Accession # 04239

Sensor # 076

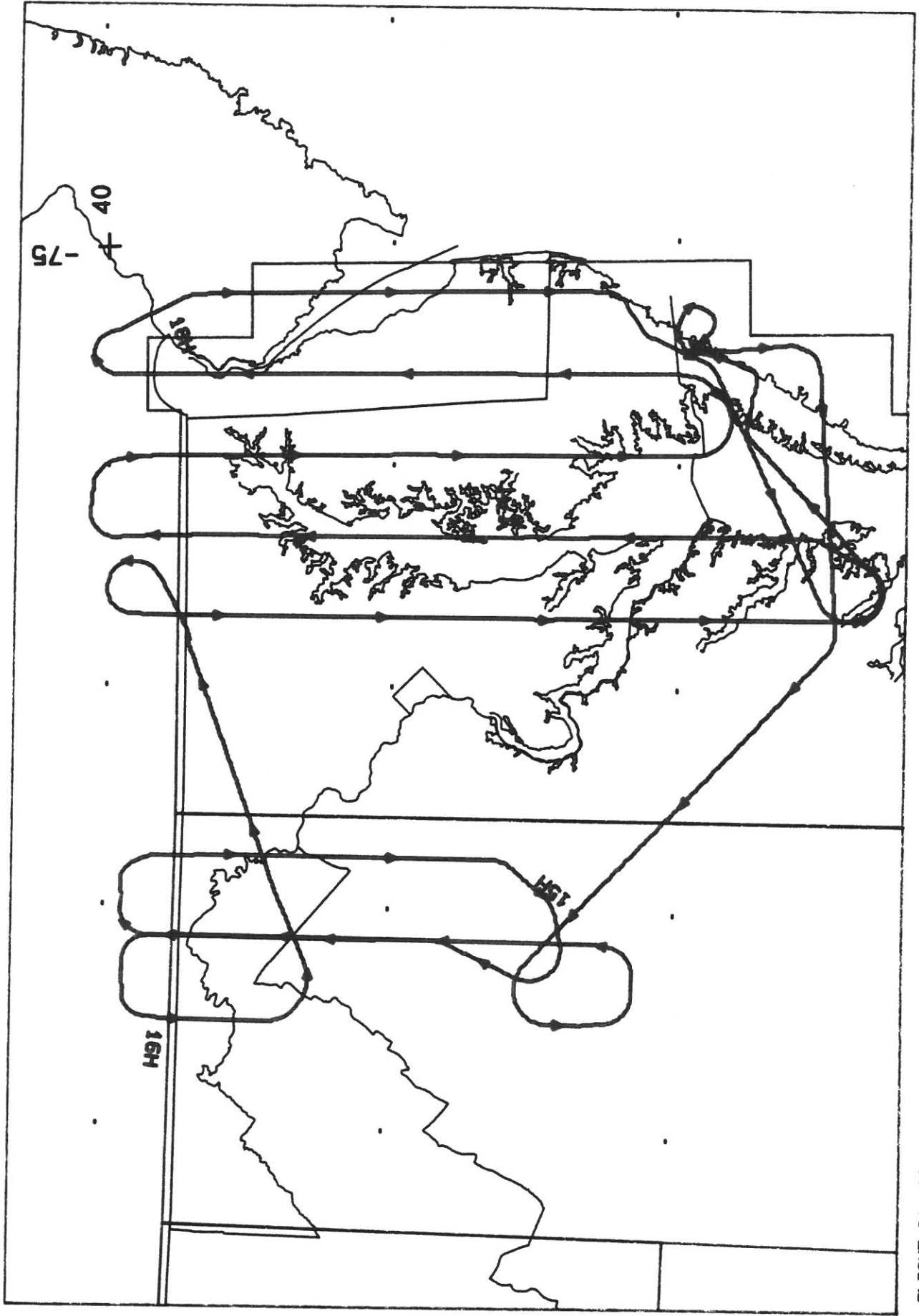
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	5747-5767	15:11:40	15:20:50	65000/19800	10-20% cumulus (frames 5760-5767)
C - D	5768-5774	15:28:55	15:31:22	"	10% cumulus (frames 5768-5774)
E - F	5775-5784	15:34:35	15:38:21	"	10% cumulus (frames 5781-5784)
B - G	5785-5795	15:52:14	15:56:10	"	10% cumulus (frames 5785-5792)
H - I	5796-5803	16:00:54	16:03:34	"	10-30% cumulus (frames 5796-5803)
J - K	5804-5821	16:24:37	16:32:10	"	10% cumulus (frames 5804-5807, 5811-5815); 10-20% cumulus (frames 5820-5821)
L - O	5822-5845	16:35:36	16:46:04	"	10% minor cirrus (frames 5822-5824); 10-20% cirrus (frames 5838-5845)
P - Q	5846-5875	16:58:02	17:11:08	"	10-30% cumulus (frames 5869-5875)
R - S	5876-5907	17:18:15	17:32:20	"	10% cumulus (frames 5876-5877)

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Sensor # 076

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
T - U	5908-5944	17:40:15	17:56:22	65000/19800	10-20% cumulus (frames 5908-5920, 5929-5931, 5939-5944)
V - W	5945-5958	18:03:24	18:09:02	"	10% cumulus (frames 5945-5948); 10-20% cumulus (frames 5957-5958)
X - Y	5959-5960	18:17:41	18:17:46	"	Clear



FLIGHT 91-123

28 June 1991

A/C 708

IRIS / RC-10 / LAC's



