

FLIGHT SUMMARY REPORT

Flight #: 90-109
Date: 17 July 1990
Sensor Package: Dual Hycon HR-732
Wild-Heerbrug RC-10
Area(s) Covered: South Eastern Ohio

Investigator(s): Weber, USDA

Aircraft #: 709

Flight Request: 90R258

Julian Date: 198

SENSOR DATA

Accession #:	04056	04057	04058
Sensor ID #:	018	019	076
Sensor Type:	HR-732	HR-732	RC-10
Focal Length:	24" 609.6 mm	24" 609.6 mm	12" 304.89 mm
Film Type:	High Definition Aerochrome IR SO-131	Aerial Color SO-242	High Definition Aerochrome IR SO-131
Filtration:	cc.30B	-----	cc.10B
Spectral Band:	510-900 nm	400-700 nm	510-900 nm
f Stop:	8	8	4
Shutter Speed:	1/75	1/75	1/250
# of Frames:	156	156	100
% Overlap:	60	60	60
Quality:	Excellent	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.

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

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-109**

Accession # 04056

Sensor # 018

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0013	14:47:48	14:50:45	65000/19800	Clear
C - D	0014-0031	14:55:56	15:00:06	"	Clear
E - F	0032-0052	15:06:53	15:11:47	"	Clear
G - H	0053-0070	15:16:09	15:20:19	"	Clear; emulsion abrasion (frame 0069)
I - J	0071-0079	15:29:48	15:31:45	"	Clear
K - L	0080-0098	15:35:33	15:39:57	"	Minor-10% cumulus (frames 0088-0097)
M - N	0099-0111	15:43:06	15:46:02	"	10% cumulus
O - P	0112-0119	15:50:59	15:52:42	"	10-20% cumulus; emulsion abrasion (frame 0119)
Q - R	0120-0129	16:00:29	16:02:41	"	10-30% cumulus (frames 0120-0126)
S - T	0130-0147	16:06:39	16:10:48	"	10-30% cumulus (frames 0135-0147)
U - V	0148-0156	16:17:24	16:19:21	"	Minor-10% cumulus (frames 0153-0156)

CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-109

Accession # 04057

Sensor # 019

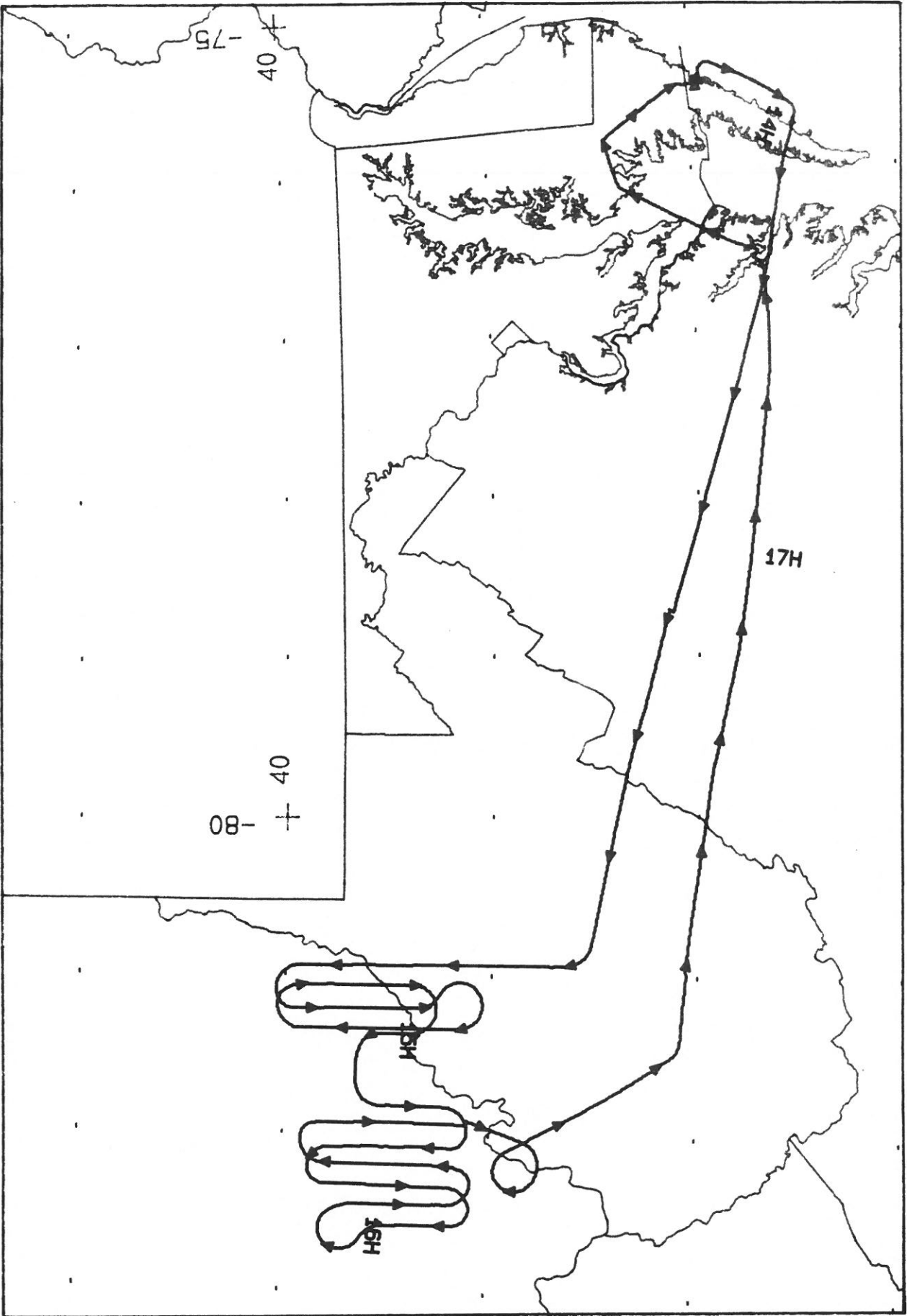
Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	0001-0013	14:47:48	14:50:45	65000/19800	Clear
C - D	0014-0031	14:55:56	15:00:06	"	Clear
E - F	0032-0052	15:06:53	15:11:47	"	Clear
G - H	0053-0070	15:16:09	15:20:19	"	Clear
I - J	0071-0079	15:29:48	15:31:45	"	Clear
K - L	0080-0098	15:35:33	15:39:57	"	Minor-10% cumulus (frames 0088-0097)
M - N	0099-0111	15:43:06	15:46:02	"	10% cumulus
O - P	0112-0119	15:50:59	15:52:42	"	10-20% cumulus
Q - R	0120-0129	16:00:29	16:02:41	"	10-30% cumulus (frames 0120-0126)
S - T	0130-0147	16:06:39	16:10:48	"	10-30% cumulus (frames 0135-0147)
U - V	0148-0156	16:17:24	16:19:21	"	Minor-10% cumulus (frames 0153-0156)

**CAMERA FLIGHT LINE DATA
FLIGHT NO. 90-109**

Accession # 04058

Sensor # 076

Check Points	Frame Numbers	Time (GMT-hr, min, sec)		Altitude, MSL feet/meters	Cloud Cover/Remarks
		START	END		
A - B	4220-4226	14:47:58	14:50:45	65000/19800	Clear; emulsion abrasions (frames 4221, 4226)
C - D	4227-4238	14:55:57	15:00:16	"	Clear
E - F	4239-4251	15:06:54	15:11:51	"	Clear
G - H	4252-4262	15:16:11	15:20:28	"	Clear
I - J	4263-4269	15:29:50	15:31:58	"	Clear
K - L	4270-4280	15:35:35	15:39:51	"	Minor-10% cumulus (frames 4276-4280)
M - N	4281-4289	15:42:54	15:46:14	"	Minor-10% cumulus
O - P	4290-4295	15:51:01	15:52:51	"	10-20% cumulus; emulsion abrasion (frame 4291)
Q - R	4296-4302	16:00:31	16:02:55	"	10-30% cumulus (frames 4296-4300)
S - T	4303-4313	16:06:41	16:10:56	"	Minor-30% cumulus (frames 4306-4313)
U - V	4314-4319	16:17:26	16:19:22	"	Minor cumulus (frames 4318-4319); emulsion abrasion (frame 4314)



Dua1 HR-732 / RC-10

A/C 709

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