



INTRODUCTION

NEWS UPDATE is intended to be a quarterly newsletter to keep people informed of ACRES and remote sensing activities.

ACRES SHUT DOWN

ACRES is moving to new premises located at Fern Hill Park in the Canberra suburb of Bruce. Relocation is scheduled to take place in early January and will involve the moving of all our existing personnel and equipment. The two major items to be moved are the current MSS processing hardware and our entire photographic processing equipment. In both cases extensive preparation work is required and it is therefore proposed to shut down the ACRES production line from December 19th until early February 1989. During this period the User Services Section will continue to answer enquiries and take orders.

The following table is a guide to the cut off dates for the receipt of customer orders to assure despatch before the shut down. Any orders received after these dates may not be despatched until mid February 1989.

<u>PRODUCT</u>	<u>CUT OFF DATE</u>
Floppy Disks	18 November
Image Writing Service	25 November
Photo Requiring Master	25 November
Photo From Existing Master	2 December
CCT	2 December

SPOT-1

SPOT operation has been satisfactory during the last couple of months. There have been a few problems with the only operational on-board recorder, which was switched to standby mode on April 2nd and June 1st. Normal operation was resumed the day after in each case.

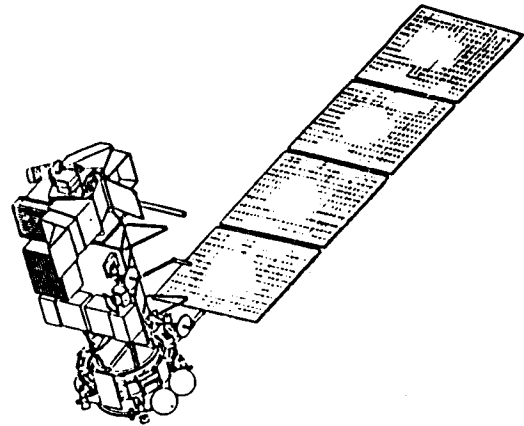
SPOT Image is claiming that this recorder now holds a world record with 744 functioning hours in space and up to 33,000 on-off sequences. The continuing successful operation of this tape recorder has allowed SPOT Image to postpone the SPOT-2 launch until June 1989.

The yearly inclination correction manoeuvre was successfully carried out on 27 April 1988. The satellite mission was interrupted at 5.30pm Universal Time (UT) on 27 April 1988 and resumed at 0.00 UT on April 29, 1988.

SPOT Image is also undertaking a study into the sensitivity of the optical sensors. This study has shown a slow natural loss in sensitivity at a linear rate of 0.3% per month. Since launch, this amounts to less than 20% in the XS mode and 8% in the PA mode. SPOT Image is now investigating the implementation of new gains for the HRV's but as yet no decision has been made.

LANDSAT 6

Landsat 6 is planned for launch in 1991. Two instruments are to be on board, the Enhanced Thematic Mapper (ETM) and the Sea Wide Field Sensor (Sea-WiFS).



1. ETM

This sensor incorporates the existing multispectral capability of the Landsat 4/5 Thematic Mapper sensor. In addition there will be a 15 metre co-registered Panchromatic band in the 0.5-0.9 micron range. It is planned that the Panchromatic band will not be directly received by foreign ground stations. The table below sets out the ETM's full spectral ranges and the respective ground resolutions.

BAND #	SPECTRAL RANGE (um)	GROUND RESOLUTION (metres)
Pan	0.50-0.90	13 X 15
1	0.45-0.52	30
2	0.52-0.60	30
3	0.63-0.69	30
4	0.76-0.90	30
5	1.55-1.75	30
7	2.08-2.35	30
6	10.4-12.5	120

Enhanced Thematic Mapper Spectral Bands.

The ETM will have the facility to transmit and record data simultaneously. High reliability of the ETM will be expected with the

BAND #	SPECTRAL REGION	BAND CENTRE	BAND WIDTH	PURPOSE
1	Visible	443nm	20nm	Low chlorophyll
2	Visible	500nm	20nm	Other pigments
3	Visible	565nm	20nm	Baseline chlorophyll
4	Visible	665nm	20nm	Subsurface scattering
5	Near IR	765nm	40nm	Atmospheric correction
6	Near IR	865nm	44nm	Atmospheric correction
7	Infrared	11um	1.0um	Sea-surface temperature
8	Infrared	12um	1.0um	Sea-surface temperature

Sea-WiFS Spectral Bands.

inclusion of a large power supply and redundant multiplexers.

2. Sea-WiFS

The Sea-WiFS sensor will provide data to resolve chlorophyll over a range of concentrations from the open ocean to outer continental shelf areas. Sea-WiFS is intended to be a follow on from the ocean colour sensor, Coastal Zone Colour Scanner (CZCS).

Sea-WiFS' scan angle of ± 58 degrees produces a 2800 km swath and provides a daily revisit capability. The primary data defined as Local Area Coverage (LAC) will have a resolution of 1.13 km and the secondary data known as Global Area Coverage (GAC) is to be 4.5 km resolution.

Two data downlinks are to be available. These will provide real-time LAC and GAC data respectively.

The LAC data downlink is expected to be closely compatible with

currently operating High Resolution Picture Transmission (HRPT) receiving stations with a data rate of 665 kbps (L or S band).

The GAC data downlink will transmit at UHF frequency of 56 kbps allowing relatively inexpensive commercially available and fixed receiving antennae to be used. The real-time transmission of data is to be provided on a subscription basis.

EOSAT is currently assessing the likely market for Sea-WiFS data. ACRES is attempting to determine the level of Australian interest towards planning for real-time reception at Alice Springs and potential users are invited to contact the Centre.

Hughes Santa Barbara Research Centre (SBRC) is responsible for the design and development of the Landsat sensor instruments. The two Landsat 6 sensors, ETM and Sea-WiFS, will be the first instruments to be assembled in Hughes' new facilities, a 280,000 square foot complex comprising seven buildings. On the 23rd August 1988, the complex was officially opened and named the Hollister Business Park.

UPGRADE

ACRES staff numbers in Canberra are looking healthier as they return from the northern summer in Canada.

While some members of staff have been present at the factory acceptance tests and training on equipment at Macdonald Dettwiler in Vancouver others have been preparing for the upgrade by training at CSA in Canberra.

The buildings at Alice Springs and Fern Hill Technology Park, Canberra, are progressing on schedule. The installation of equipment at the Data Acquisition Facility, Alice Springs, commenced in mid September. Occupancy and installation of equipment at the new Data Processing Facility in Canberra is scheduled to commence in October 1988, after which the site testing of equipment will follow.

ACRES expects to begin introducing a range of Landsat TM products from March 1989.

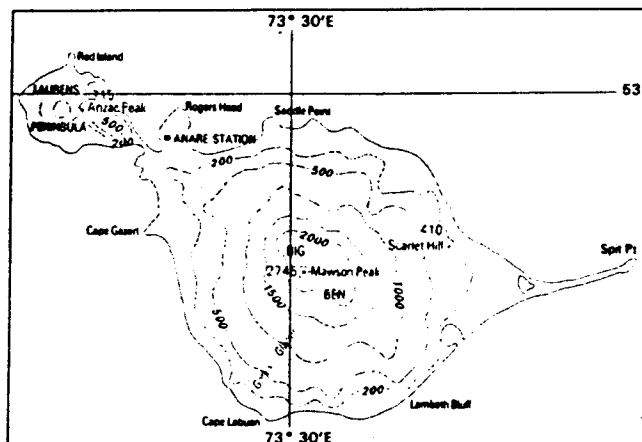
SPOT ANTARCTIC SCENES

During summer 87/88 a number of Antarctic scenes were acquired through programming requests with a surprisingly high success rate. The following Antarctic areas are now included in the ACRES archive and are available on CCT and/or film.

Badger Creek	CCT/Film
Beaver Lake	Film
Heard Island	Film
Larsemann Hills	CCT/Film
Prince Charles Mtns	CCT/Film

Full coverage of the Prince Charles Mountains is available and it is hoped to acquire the remaining imagery to complete the Larsemann Hills this summer. Casey and Macquarie Island are also to be obtained this coming season.

With summer fast approaching and the commencement date for recording, 1st November, close at hand programming requests over Antarctica should now be placed with ACRES for the best chance of success.



HEARD ISLAND
1:500,000

CATALOGUE SUBSCRIPTION

Subscribers to the ACRES micro image and micro data MSS catalogue are advised that they will need to renew their subscription before the 31st of December. In line with the general price increase of approximately 10% for all ACRES Landsat MSS products and services to take effect on the 1st January 1989 subscription renewals will be invoiced at the following prices.

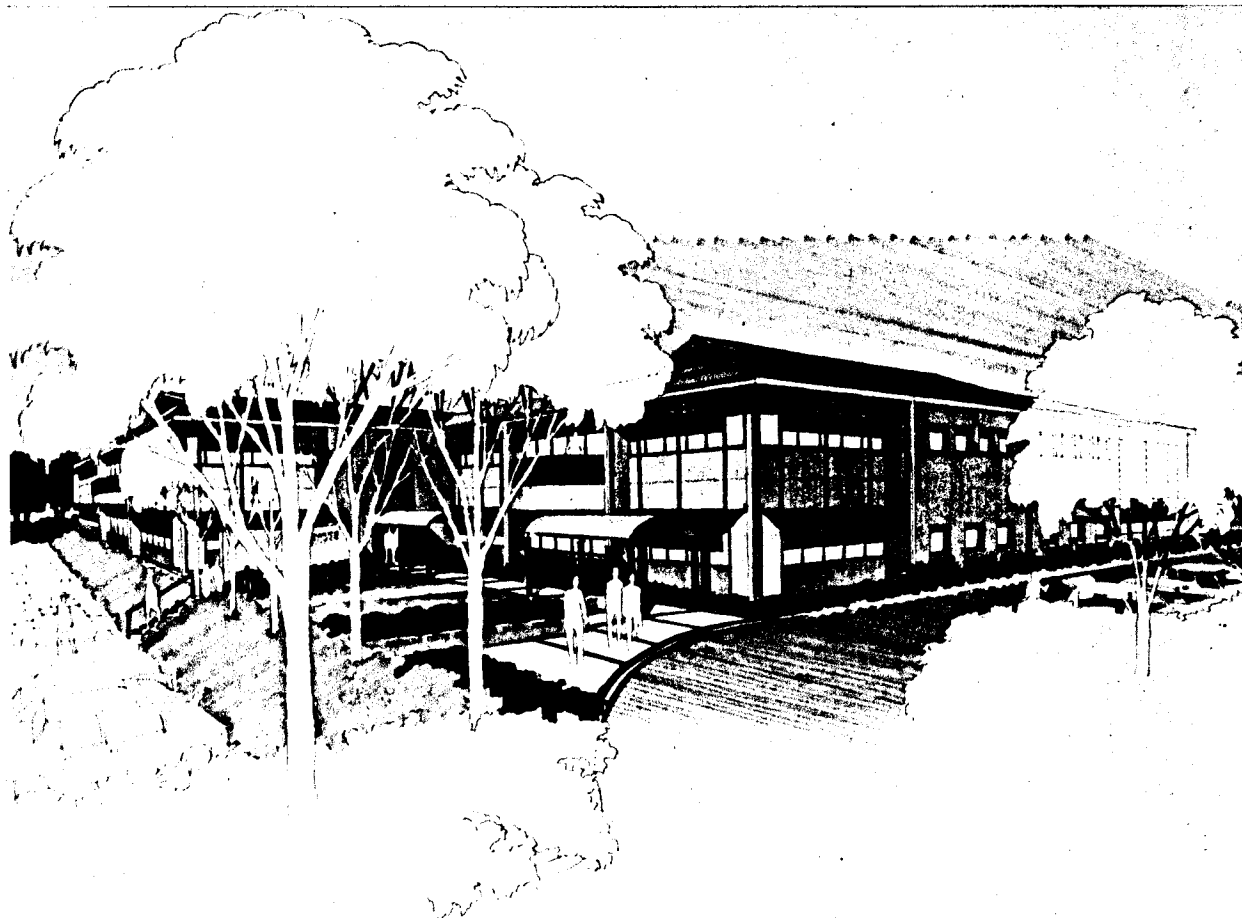
Total Image Catalogue (9 Fiche)	\$530
Part Catalogue (up to 5 Fiche)	\$ 65
	Per fiche

SPOT AGREEMENT SIGNED

More recent news is that the Direct Reception and Distribution Agreement for SPOT data was signed in August.

The agreement between the Commonwealth and the French company, SPOT IMAGE, allows for the reception at Alice Springs of satellite imagery over Australia, transmitted by the SPOT remote sensing satellite. The Chairman of SPOT IMAGE, Mr. Gerard Brachet and the General Manager of the Australian Surveying and Land Information Group, Department of Administrative Services, Mr. Graham Lindsay signed the agreement in Canberra on Tuesday 9th August 1988.

ACRES expects to be receiving SPOT at Alice Springs from mid 1989.



Artist's impression of ACRES' new building, Fern Hill Park, Bruce.

1989 LANDSAT 5 ACQUISITION CALENDAR

PATH SEQUENCE

PATH	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
MONTH	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115
MONTH	116	117	118	119	120											83
JAN	1 17	8 24	15 31	6 22	13 29	4 20	11 27	2 18	9 25	16	7 23	14 30	5 21	12 28	3 19	10 26
FEB	2 18	9 25	16	7 23	14	5 21	12 28	3 19	10 26	1 17	8 24	15	6 22	13	4 20	11 27
MAR	6 22	13 29	4 20	11 27	2 18	9 25	16	7 23	14 30	5 21	12 28	3 19	10 26	1 17	8 24	15 31
APR	7 23	14 30	5 21	12 28	3 19	10 26	1 17	8 24	15	6 22	13 29	4 20	11 27	2 18	9 25	16
MAY	9 25	16	7 23	14 30	5 21	12 28	3 19	10 26	1 17	8 24	15	6 22	13 29	4 20	11 27	18
JUN	10 26	1 17	8 24	15	6 22	13 29	4 20	11 27	2 18	9 25	16	7 23	14 30	5 21	12 28	19
JUL	12 28	3 19	10 26	1 17	8 24	15 31	6 22	13 29	4 20	11 27	2 18	9 25	16	7 23	14 30	21
AUG	13 29	4 20	11 27	2 18	9 25	16	7 23	14 30	5 21	12 28	3 19	10 26	1 17	8 24	15 31	22
SEP	14 30	5 21	12 28	3 19	10 26	1 17	8 24	15	6 22	13 29	4 20	11 27	2 18	9 25	16	23
OCT	16	7 23	14 30	5 21	12 28	3 19	10 26	1 17	8 24	15 31	6 22	13 29	4 20	11 27	2 18	9 25
NOV	1 17	8 24	15	6 22	13 29	4 20	11 27	2 18	9 25	16	7 23	14 30	5 21	12 28	3 19	10 26
DEC	3 19	10 26	1 17	8 24	15 31	6 22	13 29	4 20	11 27	2 18	9 25	16	7 23	14 30	5 21	12 28

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JUL	12 28	13 29	14 30	15 31	16	17	18	19	20	21	22	23	24	25	26	27
AUG	13 29	14 30	15 31	16	17	18	19	20	21	22	23	24	25	26	27	28
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