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SEA SURFACE TEMPERATURE OF THE COASTAL ZONES OF FRANCE

Heat Capacity Mapping Mission - HCMM
Investigation n° 15
Progress Report n° 3

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SUMMARY

LIST OF ABREVIATIONS

AVHRR - Advanced Very High Resolution Radiometer on Tiros-N and NOAA-6 satellites.

CCT - Computer Compatible Tape.

CMS - Centre de Météorologie Spatiale.

CTAMN - Centre de Télédétection et d'Analyse des Milieux Naturels.

HCMM - Heat Capacity Mapping Mission.

HCMR - Heat Capacity Mapping Radiometer.

SST - Sea Surface Temperature.

VHRR - Very High Resolution Radiometer on NOAA-1 to 5 satellites.

1 - INTRODUCTION

The objectives of this investigation are to map the various thermal gradients in the coastal zones of France with regard to natural phenomena and man-made thermal effluents : to study and map the mesoscale thermal features in the English Channel, the Bay of Biscay and the North Western Mediterranean Sea ; to study and map the evolution of the thermal gradients generated by the main estuaries of the french coastal zones ; and to contribute to the modelling of diurnal heating of the sea surface and its influence on the oceanic surface layers.

The investigation is conducted by the followings : Dr P.V. DESCHAMPS (Principal Investigator) and Dr M. CREPON, Mr J.M. MONGET and Professor F. VERGER (Co-Investigators).
Appendix A give related organizations and addresses.

2 - TECHNIQUES

Techniques have been extensively discussed in Progress Report 1. Some additions concerned with digital data processing at CTAMN are given hereafter.

An improved computing facility, consisting of an arrayprocessor FPS (Floating Point System) has been implemented at CTAMN in order to allow us in the future a faster digital data processing, particularly for geometric correction and multispectral or multitemporal analysis images.

An example of geometric correction performed at CTAMN is given in Appendix B for a sequence of digital data from HCMR and VHRR/NOAA-5. The complete procedure developped at CTAMN allows us to mix up digital data from the different satellite experiments (HCMR, VHRR and AVHRR) and to build up a time sequence, over a day for studies of diurnal heating, or more than a day for the analysis of the dynamics of the SST field.

Data from AVHRR onboard TIROS-N and NOAA-6 are now currently received from CMS, Lannion, France, and alternatively processed for the needs of the investigation. An atmospheric correction algorithm has been implemented at CTAMN, which uses the equivalent radiometric temperatures T_3 and T_4 in AVHRR channels 3 and 4 (3.7 and 11 μm) to determine the actual sea surface temperature, T_0 :

$$T_0 = 1.054\ (1.42\ T_3 - 0.42\ T_4) + 1.13 \qquad (1)$$

$$(T_0, T_3 \text{ and } T_4 \text{ in } (°C))$$

This relation has been obtained by Mc CLAIN(1) from a comparison between AVHRR data and surface truth over the Gulf Stream and is very close to the one predicted by DESCHAMPS and PHULPIN(2) from a theoretical simulation :

$$T_0 = 1.48\ T_3 - 0.48\ T_4 + 2.02 \qquad (2)$$

3 - ACCOMPLISHMENTS

3-1 - Evaluation of the quality of HCMR radiometric performances

Some comparisons between HCMR digital data and surface truth have been performed in the Bay of Biscay, on September 15, 1978 (HCMM scene A-A0142 - 13190-2) - see appendix C. HCMR radiometric temperatures were found 7°²C less than in-situ measurements. This difference is rather large and cannot be explained only by the atmospheric correction of which the mean value is a few °C. A possible HCMR calibration bias of several °C should be addea to the data to derive absolute temperature. A more complete and systematic study should be done before to derive any definite conclusion on this point. A calibration bias is not a severe problem for the objectives of the investigation anyway, if nearly constant in time.

A previous comparison of HCMR vs VHRR data shown a definite improvment of the quality of the data when using HCMR - see Progress Report 1. An other comparison of HCMR vs AVHRR data has been performed on July 17, 1979 in the Bay of Biscay and is given in Appendix D. From this study, it may be concluded that both these two experiments have similarly improved radiometric

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(1) Mc CLAIN, E.P., 1980 - Multiple atmospheric-window techniques for satellite derived sea surface temperatures. COSPAR/SCOR/IUCRM Symp. "Oceanography from Space", Venice, Italy, may 26-30, 1980.

(2) DESCHAMPS, P.Y., PHULPIN, T., 1980 - Atmospheric correction of sea surface temperature using channels at 3.7, 11 and 12 µm. Boundary-Layers Meteorology, 18, 131-143.

performances as compared to the VHRR experiment. Repetitivity and multichannel (3.7 and 11 µm) atmospheric correction are in favour of AVHRR while the HCMM investigation has the unique advantage to deliver geometrically corrected photographic and digital products which may be directly used by the investigation.

HCMM photographic products with a suitable enhancement of the grey scale in the range of sea surface temperatures and a geometric correction appeared to be particularly useful for the objectives of the investigation. VHRR and AVHRR photographic products from meteorological satellites received at CMS, Lannion, France, have a standard enhancement for the meteorological needs in a large temperature range, which only permits the selection of cloud-free areas : consequently, all of the work has to be done after the heavy procedure of digital data processing. Against that, HCMM photographic products allowed us to have a global, and accurate overview of thermal features along the coastal zones of France, to locate and map some of these features such as thermal eddies and fronts, and to have preliminary discussions with the appropriate oceanographers to select the digital data to be processed and the mean guidelines for further elaborate analysis. The display of HCMM photographic products helped us efficiently to have a large and fruitful evaluation of the data within the oceanographer community, prior to any computerized processus.

More details on some accomplishments are given as specific results in the following section 4. Up to that time they may summarized as follows.
(1) HCMR photographic products have been used to make a qualitative analysis of persistent thermal features, over the year of investigation :
- thermal fronts in the Western British Channel, and North of Balearic Islands, Western Mediterranean Sea,
- large eddies North of the Algerian Coast, North Africa,
- upwellings along the shelf break in the Bay of Biscary, and coastal upwellings North West of Portugal and in the Gulf of Lions, Western Mediterranean Sea.
(2) HCMM photographic products have been used to obtain an assessment of the relative occurence of large diurnal heatings of the sea surface temperature in the Western Mediterranean Sea. The importance of frequent and large diurnal heatings was unexpected before HCMM launch and leads to the conclusion that daytime satellite imageries muist be used dubiously for oceanography be-

cause of possible erroneous interpretation of the SST field.
(3) HCMM digital products have been used to perform a statistical spectral analysis of the mesoscale variability of the SST field in the range of scales 3-30 km, thanks to the low noise level of the HCMR.

4 - SIGNIFICANT RESULTS

4-1 - Mesoscale variability of the SST field

Using VHRR and HCMR infrared digital data, a statistical two-dimensional analysis of the mesoscale variability of the SST field has been performed in order to characteristize the random properties of this field. The power law exponent, n, of the spatial variance density spectrum, $E(k) \sim k^{-n}$ (k is wave-number), is deduced from the computation of the structure function of the SST. The study was first started on VHRR/NOAA-5 in the range of scales 40-100 km. HCMR data allowed us to extend the study down to a scale of 3 km. In the range of scales 3-100 km, n was found to vary from 1.5 to 2.3, with a mean value of 1.8, over a study of 11 VHRR and 9 HCMM scenes. These values of n are of the order of the predicted values by the two-dimensional turbulence theories. However a discrepancy exists and we need further advanced theories to explain this experimental determination of the mesoscale SST variability.

The feasability of the spectral analysis in the range of scales 3-30 km was made possible by the only low noise level of the HCMR data. A detailea manuscript is to come and will be given as appendix in the next Progress Report.

4-2 - Western Mediterranean Sea test site

Results reported here are mainly based on VHRR/NOAA-5 data. HCMM and AVHRR data are presently included in the analysis by the time they become available.

A study of 100 VHRR/NOAA-5 images over the Ligurian Sea, between Corsica Island and the south east coast of France, during the period 1975-1979, has shown the quasi-permanence, over a year, of the mean superficial cyclonic circulation generally emphasized by its thermal pattern. Annual variations of the horizontal thermal gradient structure have been described and agree very well with previous in-situ measurements. Low frequency waves in the Ligurian-

Sea have been observed on time-series of VHRR/NOAA-5 in december 1977, with associated wavelength and phase-velocity of 40 km and 0.18 $m.s^{-1}$. These waves are analyzed in terms of large amplitude baroclinic waves as those discussed in the theory of baroclinic instability.

A similar study has been done in the Gulf of Lions, an area where coastal upwelling are common in summertime. The data show with a strong evidence that upwelling location is mainly related to the coastline drawing and that upwe-lling is much more intense along straight coastal segments of 10 to 20 km in length than i the vicinity of capes and small bays. The whole imagery suggests that the associated circulation in the surface layer is strongly variable in space and time. This has been verified by in-situ measurements and the existence of wind induced eddies in the surface layer is actual.Satellite images obtained in the largest upwelling areas (NW Africa, Oregon, Peru,...) show similar spatial variability of the SST, but because of the rectilinear coastline, plumes and eddies move slightly alongshore and are not characteristic of a mooring point.

The effect of the Mistral wind on the Ligurian current has been studied using a time sequence of VHRR/NOAA-5 data. The Ligurian current flows along the french coast from the Ligurian Sea into the Gulf of Lions and a frontal zone separates the Ligurian current and colder water upwelled in the Gulf of Lions. It has been found that the surface flow associated with the current is halted by strong Westerly winds. When the wind drops, the frontal zone moves westwards at speeds up to 0.3 $m.s^{-1}$. During a period of stratification, the Ligurian current in the surface layer tends to flow along the coasts of the Gulf of Lions.

4-3 - Coastal and estuarine studies

Appendix C give a contribution by J. CASSANET and F. VERGER about "studies of cold water near the shore", observed on HCMR data in the vicinity of Islands close to the shore, south of Brittany, France.

4-4 - Diurnal heating

Daytime HCMR data occasionnaly exhibit warmer sea surface areas which extend over 10 to 100 km. The warming is of several °C and is easily detected on photographic products because the warmer areas have usually smooth boundaries and cannot be confused with the sharper oceanic thermal boundaries.

These warmer areas are interpretated as a large diurnal heating of the upper surface layer under low wind speed conditions. Evidence of that is supported by several arguments.

(1) Meteorological observations and analysis show that warmer areas are associated with low wind speed conditions - i.e. anticyclonic conditions or coastal breeze effects.

(2) Glitter - i.e. direct solar radiation reflected by the wavy sea surface towards the sensor - has been used to derive an equivalent wind speed from the HCMR visible channel, where feasible (observation must be close to the specular reflection of a flat sea). Warmer areas are always associated with changes in the glitter patterns and decreasing wind speeds.

(3) Warmer areas disappear on consecetuve nightime HCMR data.

Under these low wind speed conditions, turbulence induced in the surface layer by the wind stress is strongly reduced, and most of the solar radiation absorbed is stored without downwards propagation. Theoretical simulations using a radiative and heat transfer model have been performed and predict large heating rates in the upper meter, and a maximum heating of several °C in the upper layer which is confirmed by a few in-situ measurements. Large heating only occurs in a few tens of cm and is very rapidly destroyed by the nightime cooling.

HCMR data allowed us to discover that a diurnal heating of more than 1° C could affect large areas. Frequencies of occurence are relativély high in the Western Mediterranean Sea where more than 10 % of marine surface are affected one day or an other, while a large diurnal heating is very unlikely in the North Sea (only one scene). In such strongly affected areas, daytime satellite data could consequently give meaningless SST fields, and observations should be restricted to nightime, or early in the morning when the surface layer is the most homogeneous.

5 - PUBLICATIONS

ALBUISSON, M. - *Télédétection de la température et de la couleur de la mer.* CTAMN, Ecole des Mines, Rapport Contrat CNEXO 79/2034.

ALBUISSON, M., MONGET, J.M., NIHOUS, G., POISSON, M., WALD, L. - *Seasonal variations of sea-surface temperature in the Ligurian Sea.* Presented at the 6th Annual Conference, Remote Sensing Society, Dundee, Scotland, December 1979, 17-19.

ALBUISSON, M., MONGET, J.M., NIHOUS, G., WALD, L. - *Sea-surface temperature anomaly mapping using the NOAA satellite.* Presented at the ICES Remote Sensing Working Group Meeting "Applications of Remote Sensing to Fisheries Research", Valbonne, France, June 1979, 13-14.

CASSANET, J. - *La télédétection HCMM et son application au littoral.* Mémoires du Laboratoire de Géomorphologie de l'EPHE, 1980, n° 34.

DESCHAMPS, P.Y., FROUIN, R., WALD, L. - *Comments on the "Spatial Variability of Coastal Surface Water Temperature During Upwelling"* - to appear in Journal of Physical Oceanography, August 1980.

DESCHAMPS, P.Y., FROUIN, R., WALD, L. - *Satellite determination of the mesoscale variability of the sea surface temperature.* Submitted to Journal of Physical Oceanography.

DESCHAMPS, P.Y., PHULPIN, T. - *Atmospheric correction of infrared measurements of sea-surface temperature using channels at 3.7, 11 and 12 µm.* Boundary-Layer Meteorology, 1980, 18, 131-143.

MILLOT, C., WALD, L. - *The effect of Mistral wind on the Ligurian current near Provence.* to appear in Oceanologica Acta, October 1980.

MILLOT, C., WALD, L. - *Infrared remote sensing in the Gulf of Lions.* Presented at Cospar/SCOR/IUCRM, Symposium on Oceanography from Space. Venice, Italy, May 26-30, 1980.

MILLOT, C., WALD, L. - *Spatial and temporal variability of the upwellings in the Gulf of Lions.* Presented at 17th annual meeting EGS, Budapest, Hungaria, August 24-29, 1980.

MILLOT, C., WALD, L. - *Upwelling in the Gulf of Lions.* ODOE Int. Symposium on Coastal Upwelling. AGU Mtg; Los Angeles, February 4-8, 1980 - to be published in Coastal Upwelling Ecosystems Analysis.

PRIEUR, L., ALBUISSON, M., WALD, L., BETHOUS, J.P., MONGET, J.M. - *A comparison between IR satellite images and sea-truth measurements.* Presented at COSPAR/SCOR.IUCRM, Symposium on Oceanography from Space, Venice, Italy, May 26-30, 1980.

WALD, L. - Utilisation du satellite NOAA-5 à la connaissance de la dynamique océanique . Thèse de 3e cycle, Université de Paris VI, février 1980.

WALD, L., CREPON, M., MONGET, J.M. - Low frequency waves in the Ligurian Sea during December 1977 from satellite NOAA-5. Submitted to Journal of Geophysical Research.

WALD, L., NIHOUS, G. - Ligurian Sea : annual variation of the sea-surface thermal structure as seen by satellite NOAA-5. To appear in Oceanologica Acta, October 1980.

6 - PROBLEMS

None.

7 - DATA QUALITY AND DELIVERY

7-1 - Image quality

The day and night consecutive photographic products cannot exactly superposed - e.g. A-A0142 - 02220 - 3 and A-A0142 - 13190-2 scenes on september 15, 1978.

Solar angles have been recomputed using the acquisition time and desagree with the solar angles given in the annotation. Solar elevation angles are within a few degrees but annotated solar azimuth angles seems to be erroneous and over the actual value by 15° to 25° at mid-latitudes.

7-2 - Test site coverage

A list of the received data is given in appendix E. Test site coverage is now excellent for the period may 1978 - may 1979 for photographic products, allowing to complete retrospective orders for digital products and a few day-night temperature differences.

7-3 - Delivery

A large number of scenes on CCT's have been received twice at different times.

A few CCT's were unreadables, possibly because of alteration during transportation.

8 - RECOMMANDATIONS

None.

9 - CONCLUSIONS

The following conclusions have been obtained during the reporting period :

(1) HCMM photographic products proved to be generally very useful and an easy way to locate and map oceanic thermal boundaries because of good radiometer performances, geometric correction and suitable enhancement of the grey scale.

(2) A systematic study of the space variability of the SST field in the range of scales 3-100 km was performed using HCMM digital data. This was only possible thanks to good radiometer performances of HCMM data.

(3) Using HCMM day IR images large diurnal heatings of the SST have been very frequently observed in the Mediterranean Sea, with a frequency of about 10 %. This leads us to the conclusion that daytime satellite data with overpasses in the afternoon should be rejected for an operational investigation of the SST field in these areas.

Appendix A

Permanent adresses and organizations of the investigators

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Appendix B

TIME SEQUENCE OF SATELLITE DATA OVER THE GULF OF LIONS, report by J.M. MONGET and L. WALD.

The following time sequence of satellite data acquired over the Gulf of Lions has been processed :

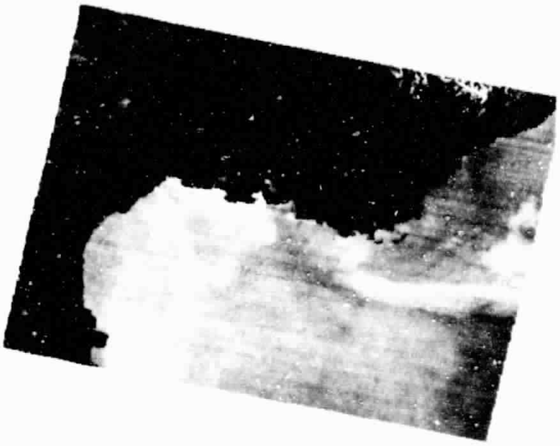
- HCMM scene A-A0082-02080-3, july 17, 1978 at 2.08 TU,
- VHRR/NOAA-5 from CMS, Lannion, France, july 17, 1978 at 8.35 TU,
- HCMM scene A-A0082-13040-2, july 17, 1978 at 13-04 TU.

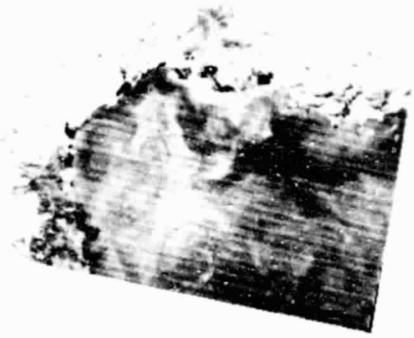
The following data processing has been applied to the data for geometric correction. First, VHRR/NOAA-5 data were resanpled and rectified using landmarks in order to fit a Lambert projection at a scale of 1 : 500.000 for the original product. Second, HCMM were sampled at a rate of one pixel over two, every other line, to adjust the HCMR ground resolution of 500 m to the VHRR nadir resolution of 1 km. HCMM data are then registered to the rectified VHRR image within an accuracy of one pixel.

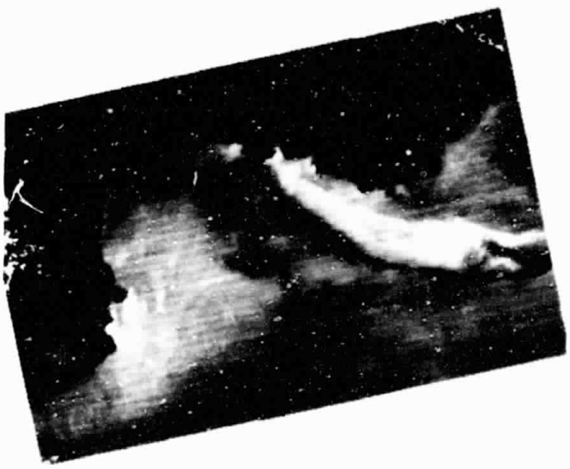
This procedure allows us to mix over data from different satellite experiments (HCMR, VHRR/NOAA-5 and AVHRR/TIROS-N and NOAA-6) for the evaluation of a time sequence of data over a day for studies of diurnal heating, or more than a day for the analysis of the dynamics of the SST field.

The three corrected images are given here after, for VHRR (top lelft), night HCMM (top right), and day HCMM(lower). VHRR and day HCMM are partly cloudy. The more interesting image is the night HCMM image where the SST structure is fully enhanced, and complex and detailed thermal features are visible. These features may still be recognized on the more noisy VHRR image, but not so finely. A few hours later the only coarse SST structure is identified on the day HCMM image because diurnal heating obscures most of SST details.

Good weather was reported in the Gulf of Lions during previous days. Mistral blown weakly (7 $m.s^{-1}$) over Camargue during july 16, but calm winds were observed after 3 a.m. on july 17. This was nethertheless enough to start an upwelling along the Camargue coast, where colder waters are opposed to the warmer waters of the Ligurian current flowing alongshore and westwards.







Appendix C

STUDIES OF COLD WATER NEAR THE SHORE, report by J. CASSANET and F. VERGER

Several prints reveal the existence of cooler water areas near the islands along the South Brittany shore. This has been studied from 5 digital data products :

19 August 1978 A-A0115-02180-3
24 August 1978 A-A0120-13080-2
31 August 1978 A-A0127-13380-2
15 September 1978 A-A0142-13190-2
28 October 1978 A-A0185-13180-2

The 08/31/78 and 09/15/78 scenes are particularly interesting: They show typical hydrological situations :

08/31/78 : neap tides (68)
09/15/78 : spring tides (94)

In both cases, it was about one hour before high water and meteorological conditions were similar : anticyclonic weather, low pressure's gradients, weak winds. Automatic cartography is given in fig. 1,2 and 3.

On 08/31/78, temperature gradients are less important than on 09/15/78 (spring tides), for example, between Belle Ile and the shore. (sections MN : fig. 4). Cold water areas seem to be particularly wide-spread near islands during spring tides (09/15/78) in the North of Loire estuary as well in the South (Belle Ile, Yeu island, Noirmoutier island). Figure 5 shows these cold water areas and simultaneously the tidal streams during spring tides. HCMM brings new elements in dynamic study of cold water areas and now it would be interesting to complete this analysis by ground data (shallow and deep temperature measurements).

(Ground truth data)

On September 15th 1978, HCMM recorded a scene over the Bay of Biscay (13 h 19 T.U.) and simultaneously, saa surface temperatures were measured by the Institut Scientifique et Technique des Pêches

Maritimes, Nantes, (Réseau National d'observation de la qualité du milieu marin) .

Measurements were established by six different stations in the estuary of the Loire. Two were selected because of the time of the measurements and because they were acclompished far enough the mouth of the Loire : At that time, it was the end of rising tide and the flow of the river was paticularly weak, only 250 m^3/s. The average flow of Loire, during a year is about 800 m^3/s. So it could'nt influence the measurements in stations A and B (fig. 2).

Results :	A :	13 h 10 T.U.	: 16,9°C	(290 K)
	B :	13 h 45 T.U.	: 17°C	(290 K)

Satellite measurements :

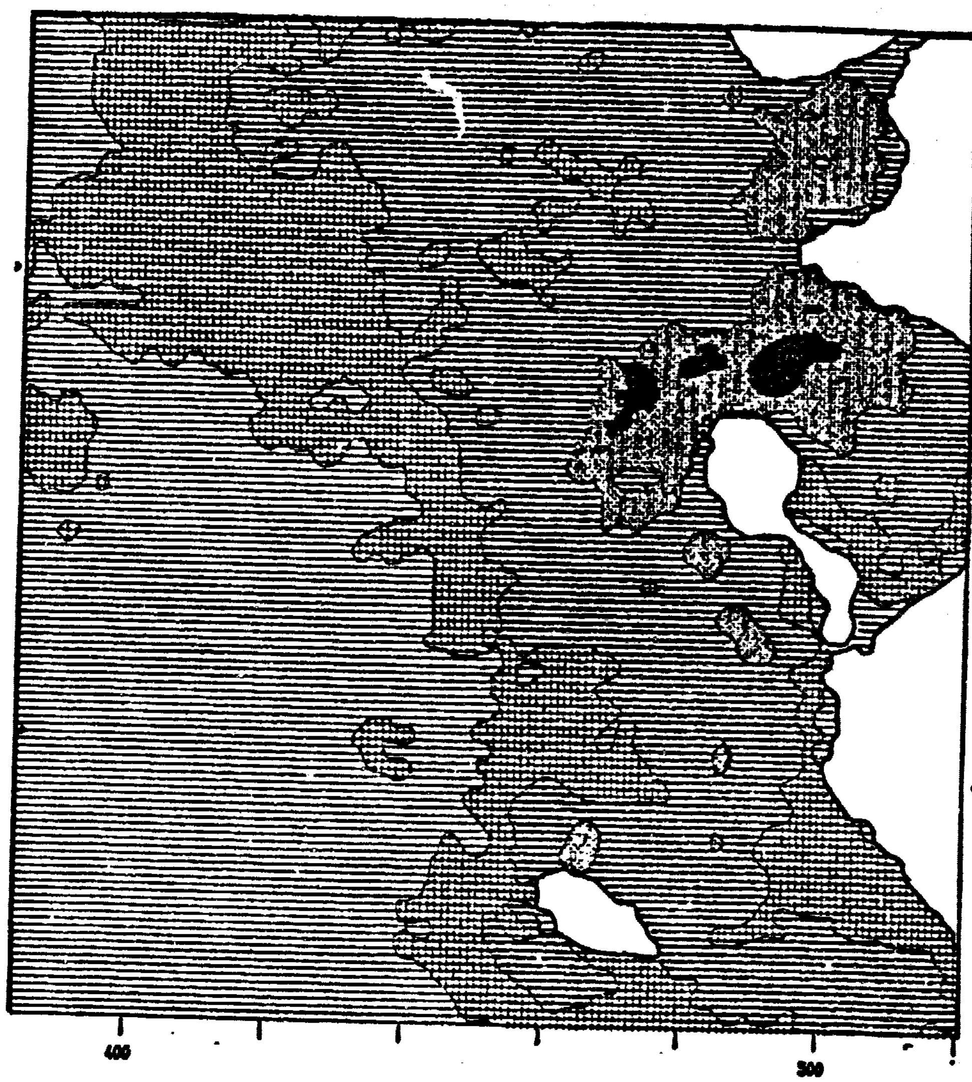
Calibrated count : 57-58 ; same in A and B

Calculated temperature : 283 K (without atmospheric correction)

Difference between ground truth and satellite measurements : 7°C

Moreover statistic treatment of sea surface temperature field from the routine observations given by merchant-ships performed by the " Etablissement d'études et de recherches météorologiques " at the C.O.B. , Brest, indicates an average measurement of about 18°C (291 K) for that date. Calibrated count of the HCMM is 59/60 for this area (284 K). The same difference between ground truth and satellite measurements , 7°C, is to be underlined.

HCMM 31 AOUT 1978 , 13 H 36 , IMAGE INFRA-ROUGE
ECOLE NORMALE SUPERIEURE • MONTROUGE •



1-50

51-52

53-54

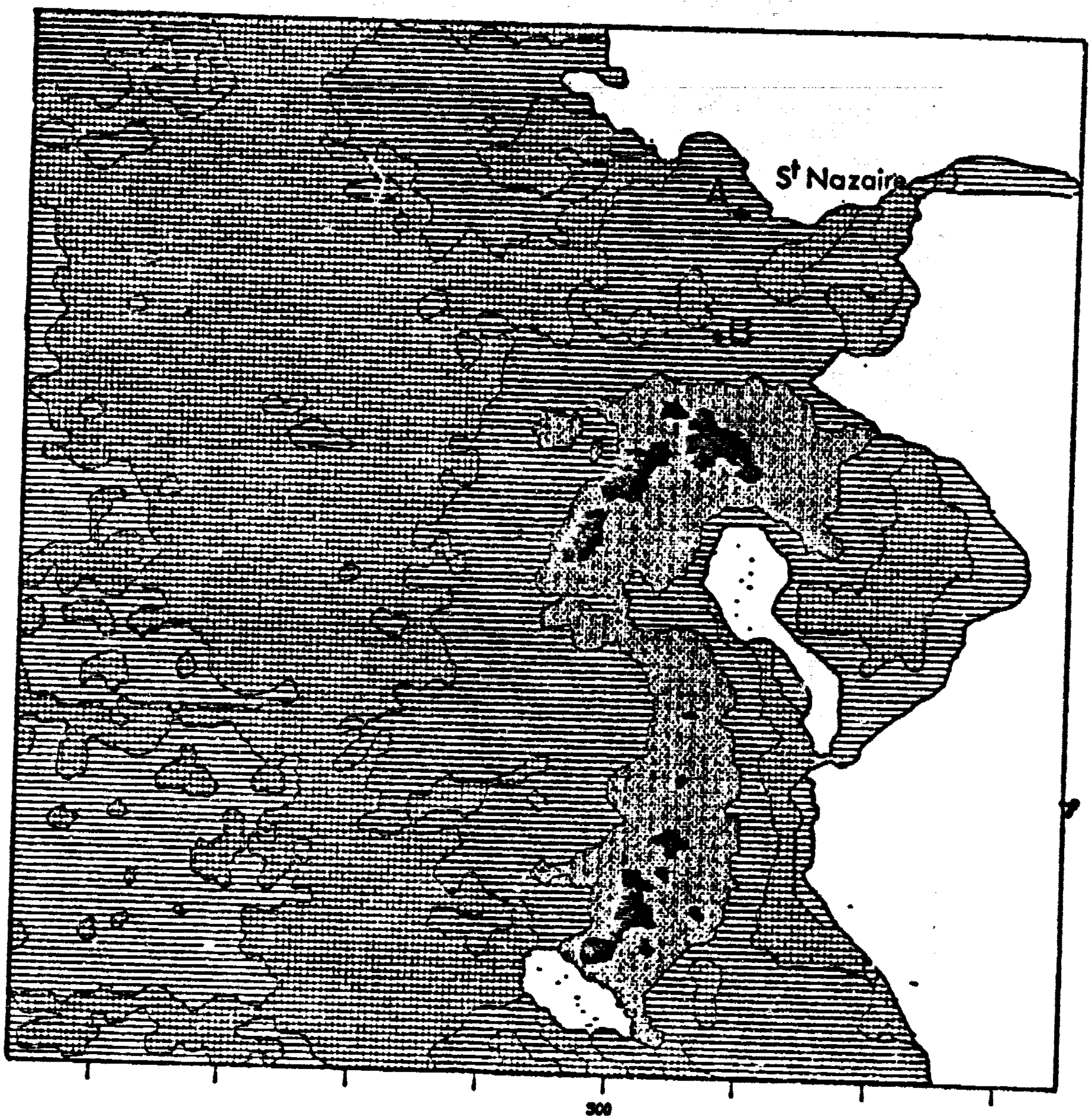
55-56

57-60

Atlantic Coast ; Loire estuary
Sea surface temperature

(fig. 1)

HCMM 15 SEPTEMBRE 1978 , 13 H 19 , IMAGE INFRA-ROUGE
ECOLE NORMALE SUPERIEURE . MONTROUGE .



.52-54

.55-56

.57-58

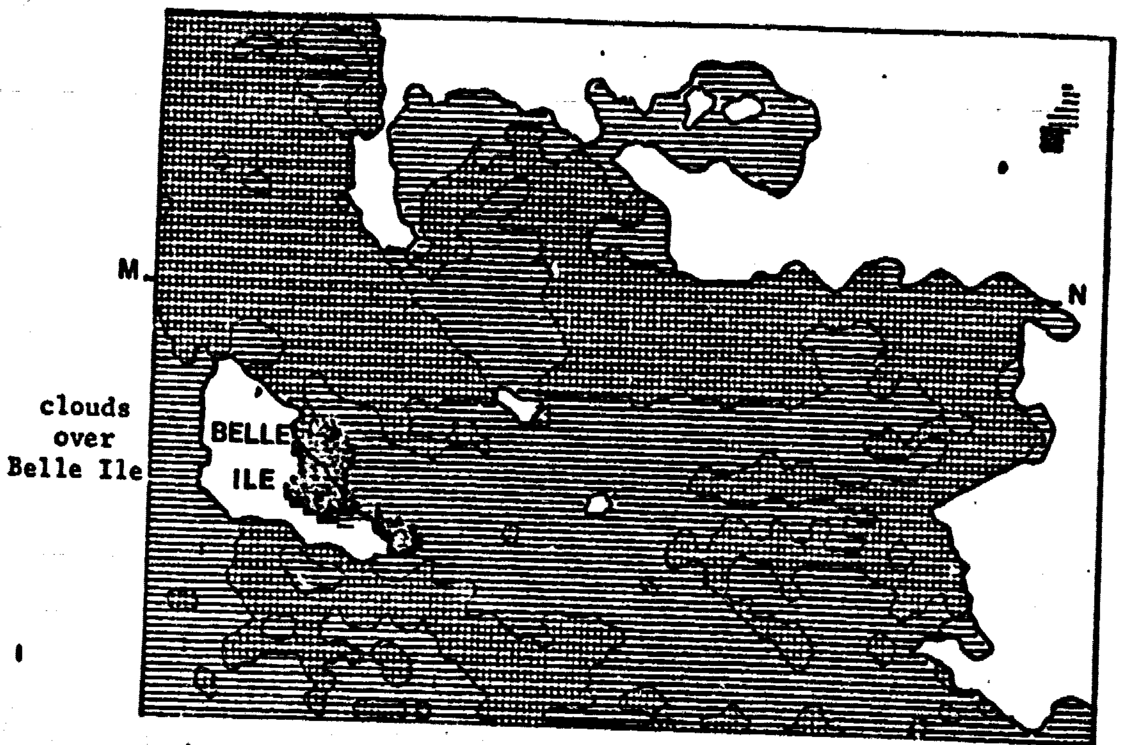
.59-60

.61-65

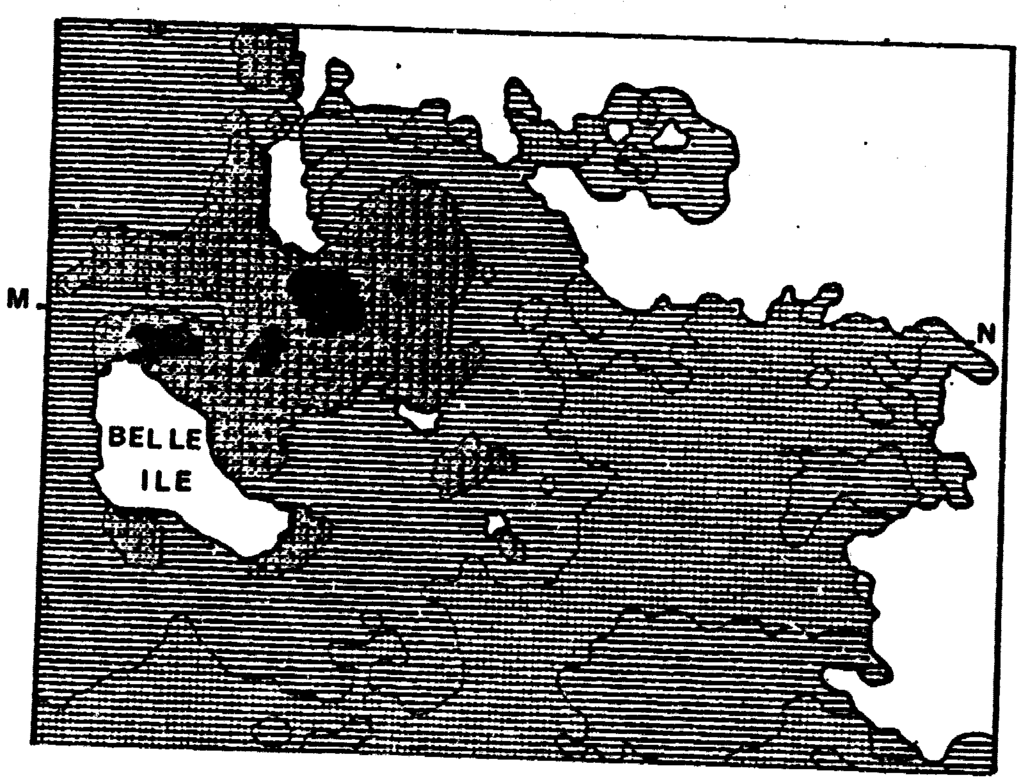
Atlantic coast ; Loire estuary

A and B are R.N.O. stations

(fig. 2)



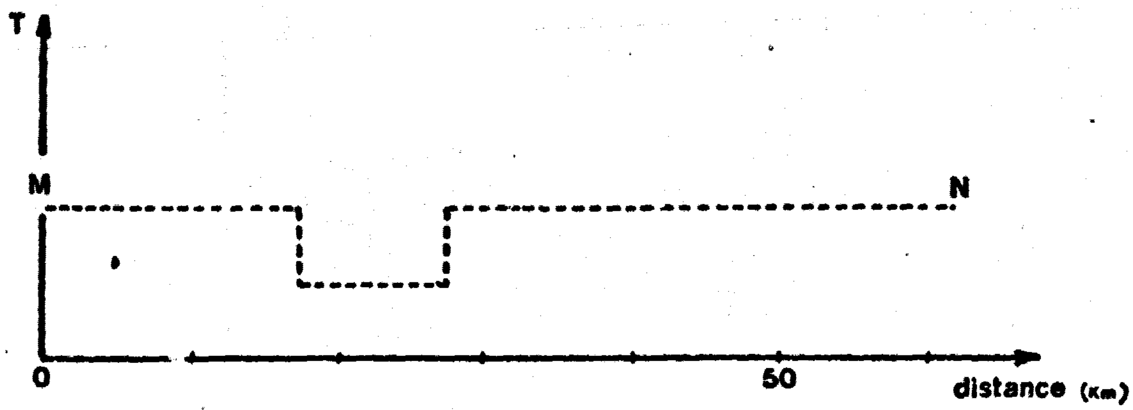
HCMM 31 AOUT 1978 , 13 H 36



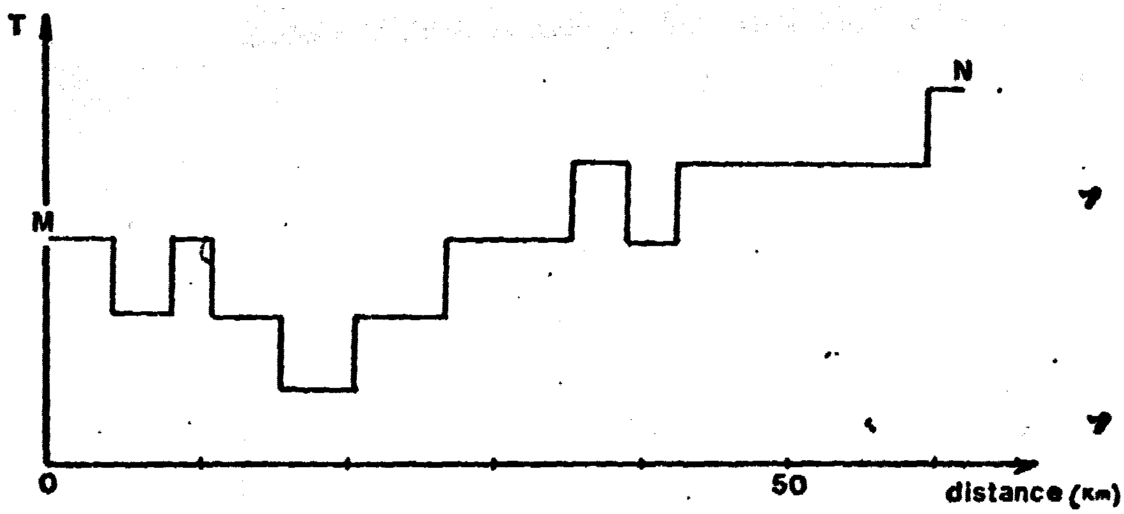
15 SEPTEMBRE 1978 , 13 H 19 ,

Atlantic coast ; Quiberon and Belle Ile. (fig 3)

Sea surface temperature



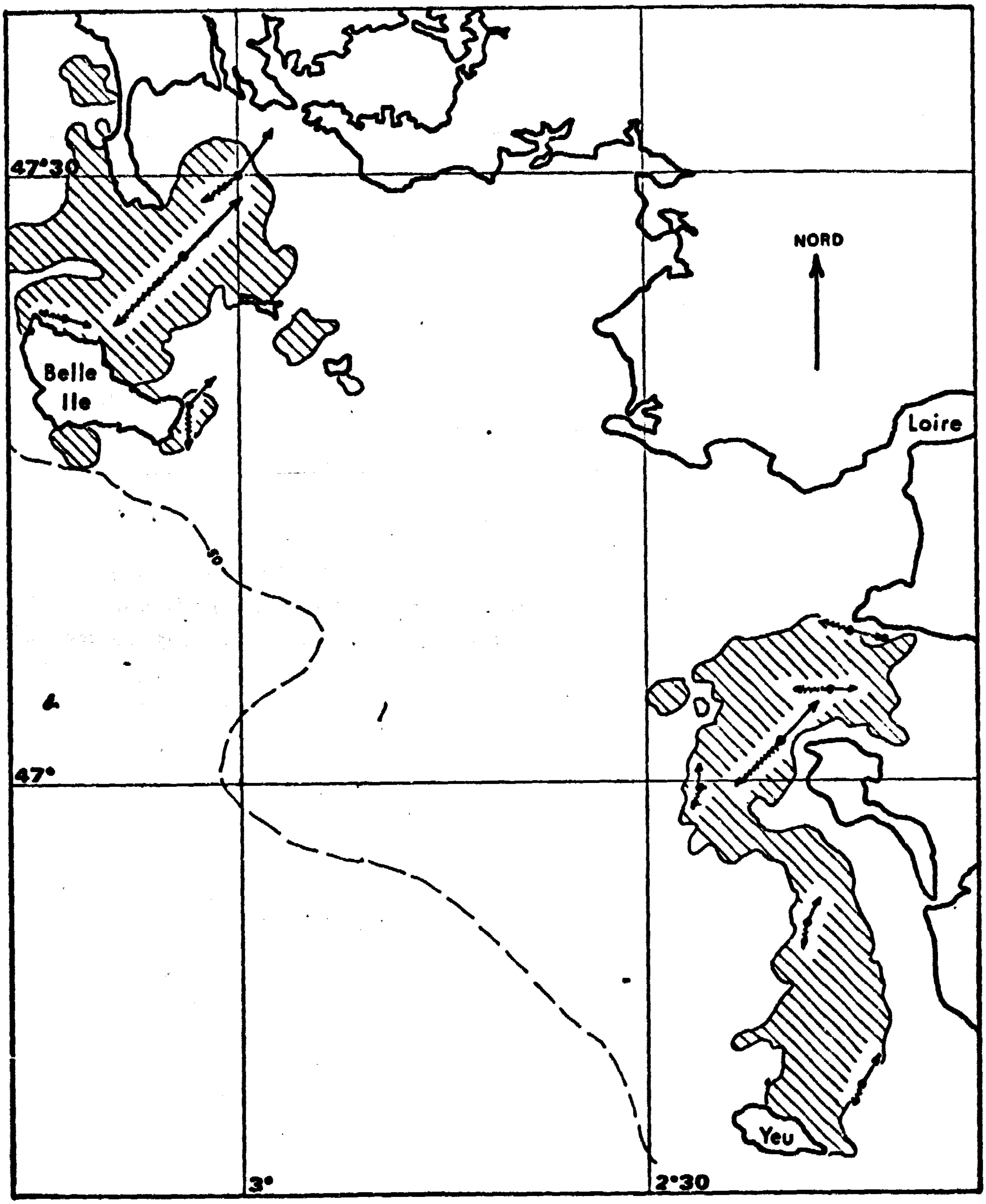
Sea surface temperature : section MN ; 08/31/78 ; 13 h 38 T.U.



Sea surface temperature : section MN ; 09/15/78 : 13 h 19 T.U.

(fig. 4)

21



Rising tide

Ebb tide

Cold water area

Loire estuary : Tidal streams and sea surface temperature.

(fig. 5)

Appendix D

A COMPARISON OF RADIOMETER PERFORMANCES OF HCMR vs AVHRR, report by P.Y. DESCHAMPS and R. FROUIN

A comparison of the radiometric performances of HCMR and AVHRR/TIROS-N has been performed on data acquired on july 17, 1979 over the same geographical area in the Bay of Biscay (45° 30'N - 4° 30'W). Both HCMR and AVHRR data have been received at CMS, Lannion, France and were geometrically uncorrected. Spectral density variances of the measured temperatures of a 128 x x 128 km square have been computed in two directions, along and across the satellite track, and are given in Fig. 1 and 2. Over this oceanic area, the SST field may be characterized by a spectrum $E(k) \sim k^{-2}$ (k is wavenumber). This determination is limited at the larger wavenumbers by the noise level of the radiometers. For the two experiments the same limiting noise level of about 0.01 $(°C)^2$.km is found across the satellite track, and a bit more along the satellite track because of line striping. This means that in the study case of an oceanic area where the SST variance is very low, the analysis of the SST field has to be restricted to scales larger than 5 km because of the noise level. A typical noise level of 0.5 $(°C)^2$.km was previously found on VHRR/NOAA-5 data which would have limited the analysis at scales of about 40 km. It may be concluded that both HCMR and AVHRR experiments have similarly improved radiometer performances, allowing a much better analysis of the detailed structure of the SST field.

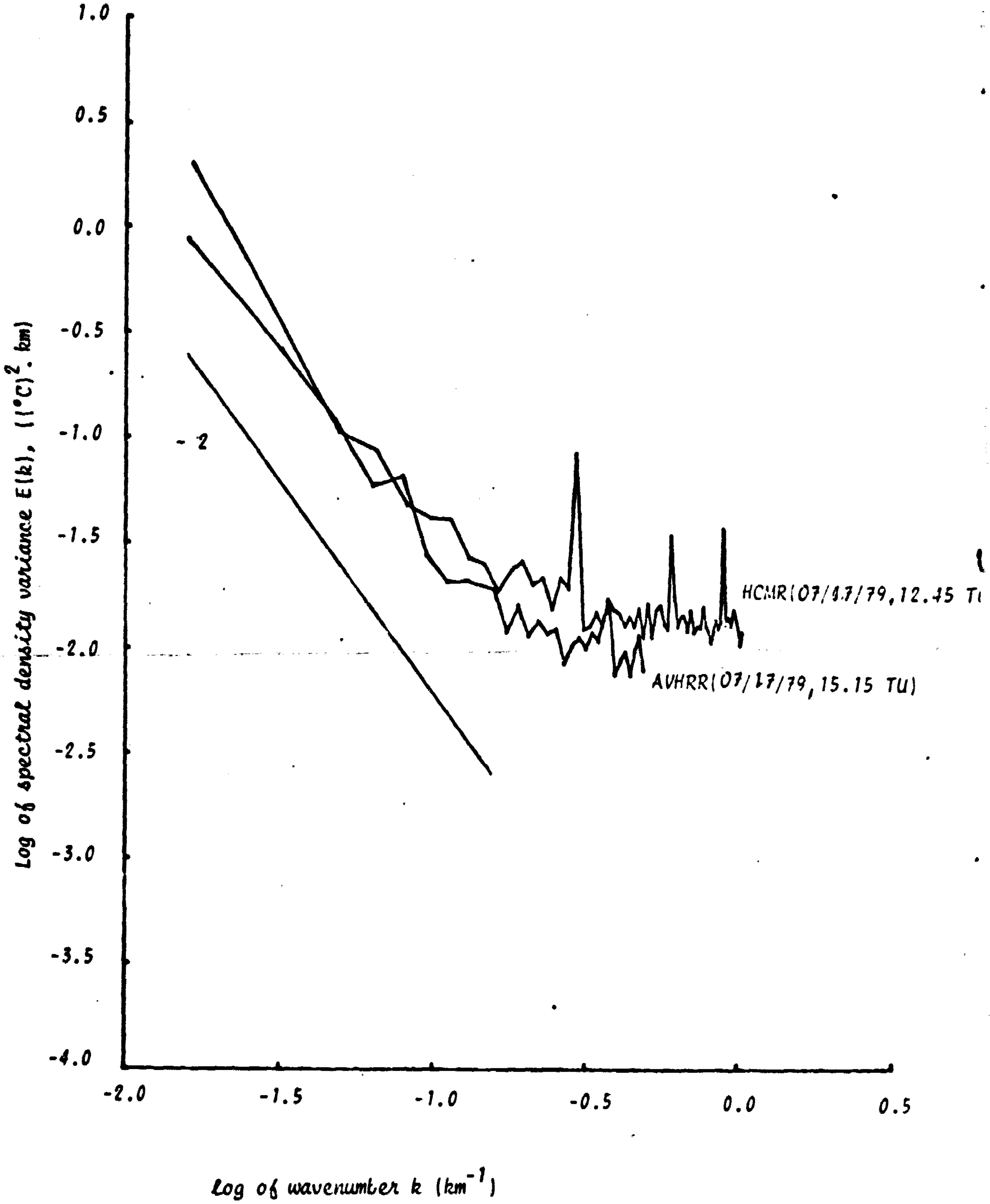


Fig. 1 - Spectral density variance of the observed temperature field of a 128 x 128 km square in the Bay of Biscay (45° 30' N - 4° 30' W). Direction of analysis is along the satellite track.

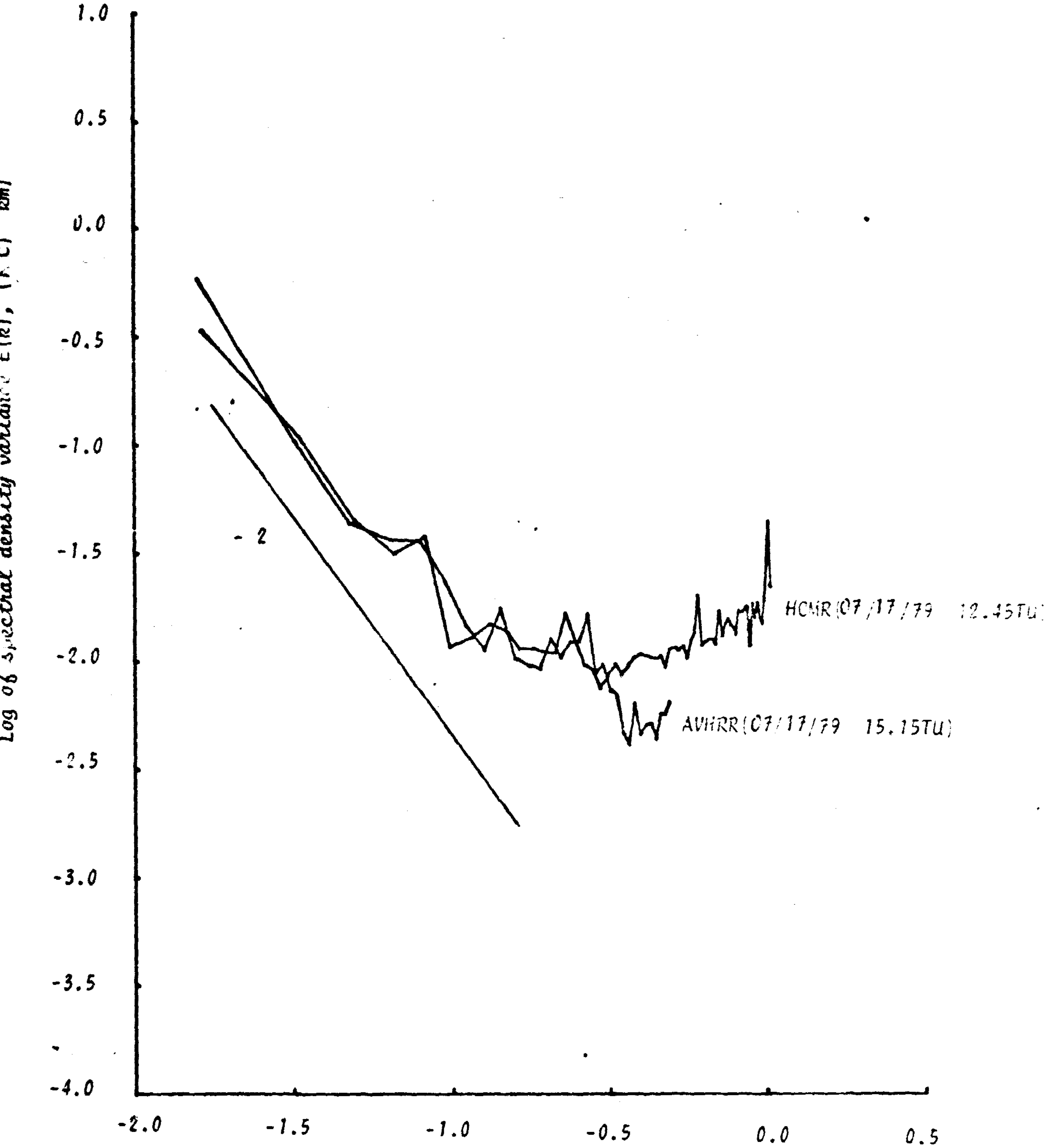


Fig. 2 - Same as Fig. 1, except direction of analysis is across the satellite track.

Appendix E

The following listing give the date, identification and location of center of image of HCMM scenes received from NASA by the Principal Investigator. The last column "ETAT" give the status of the corresponding digital data :

- R : received
- IR : received but not readable
- C : requested but not received.

*	DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ETAT
	11MAY78	15- 2540-3	53.32N	3.43W			
	11MAY78	15- 2550-3	47.29N	6.08W		303	R
	11MAY78	15- 2560-3	45.29N	6.08W		303	R
	11MAY78	15- 2570-3	41.26N	8.08W		303	R
	11MAY78	15-13510-1	40.35N	4.53W		318	R
	11MAY78	15-13510-2	40.35N	4.53W		318	R
	11MAY78	15-13530-1	46.38N	6.52W		318	R
	11MAY78	15-13530-2	46.38N	6.52W		318	R
	11MAY78	15-13550-1	52.40N	9.14W			
	11MAY78	15-13550-2	52.40N	9.14W			
	13MAY78	17- 1570-3	38.02N	5.56E		318	R
	13MAY78	17-12510-1	41.29N	9.56E		318	R
	13MAY78	17-12510-2	41.29N	9.56E		318	R
	13MAY78	17-12540-1	53.34N	5.29E			
	13MAY78	17-12540-2	53.34N	5.29E			
	14MAY78	18-13080-1	39.07N	6.02E		312	R
	14MAY78	18-13080-2	39.07N	6.02E		312	R
	14MAY78	18-13100-1	45.11N	4.08E		312	R
	14MAY78	18-13100-2	45.11N	4.08E		312	R
	16MAY78	20- 2480-3	51.30N	3.11W		318	R
	16MAY78	20- 2500-3	45.36N	5.28W		318	R
	18MAY78	22-12460-1	44.55N	10.11E			
	18MAY78	22-12460-2	44.55N	10.11E			
	18MAY78	22-12470-1	50.58N	7.57E		312	R
	18MAY78	22-12470-2	50.58N	7.57E		312	R
	19MAY78	23- 2050-3	55.24N	9.04E			
	19MAY78	23- 2080-3	43.19N	4.20E			
	19MAY78	23- 2100-3	37.13N	2.31E			
	20MAY78	24-13200-1	38.07N	3.07E			
	20MAY78	24-13200-1	30.32N	3.34E			
	20MAY78	24-13200-2	33.07N	3.07E			
	20MAY78	24-13200-2	30.32N	3.34E			
	20MAY78	24-13220-1	44.11N	1.15E			
	20MAY78	24-13220-2	44.11N	1.15E			
	20MAY78	24-13230-1	48.40N	.19E		293	R
	20MAY78	24-13230-1	50.13N	.56E		293	R
	20MAY78	24-13230-2	48.40N	.19E		293	R
	20MAY78	24-13230-2	50.13N	.56E		293	R
	20MAY78	24-13250-1	54.40N	2.52W		293	R
	20MAY78	24-13250-1	50.14N	3.37W		293	R
	20MAY78	24-13250-2	54.40N	2.52W		293	R
	20MAY78	24-13250-2	56.14N	3.37W		293	R
	21MAY78	25-13380-1	35.53N	.52E			
	21MAY78	25-13380-2	35.53N	.52E			
	21MAY78	25-13390-1	41.58N	2.38W			
	21MAY78	25-13390-2.	41.58N	2.38W			
	21MAY78	25-13410-1	48.04N	4.41W		312	R
	21MAY78	25-13410-2	48.04N	4.41W		312	R
	21MAY78	25-13430-1	54.04N	7.08E			
	21MAY78	25-13430-2	54.04N	7.08E			

* DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ETAT
23MAY78	27- 1440-3	42.47N	10.07E			
23MAY78	27- 1440-3	42.29N	10.01E			
23MAY78	27- 1450-3	36.40N	8.19E			
23MAY78	27- 1450-3	36.22N	8.14E			
23MAY78	27- 3180-3	52.55N	10.27W			
23MAY78	27- 3200-3	46.52N	12.50W		318	R
24MAY78	28- 2020-3	43.47N	5.49E		320	R
24MAY78	28- 2030-3	37.41N	3.58E			
24MAY78	28-12550-1	36.16N	9.35E			
24MAY78	28-12550-2	36.16N	9.35E			
24MAY78	28-12570-1	42.40N	7.47E		312	R
24MAY78	28-12570-2	42.40N	7.47E		312	R
25MAY78	29- 2210-3	39.37N	.02E		320	R
25MAY78	29-13170-1	.00N	.00E		310	R
25MAY78	29-13170-2	.00N	.00E		310	R
26MAY78	30- 2370-3	48.34N	1.41W		320	R
26MAY78	30- 2380-3	42.26N	3.45W		320	R
27MAY78	31- 2540-3	50.25N	5.32W		320	R
27MAY78	31- 2560-3	46.21N	7.44W		320	R
28MAY78	32-12350-1	50.08N	11.02E			
28MAY78	32-12350-1	51.38N	10.26E			
28MAY78	32-12350-2	50.08N	11.02E			
28MAY78	32-12350-2	51.38N	10.26E			
28MAY78	32-12360-1	56.08N	8.22E		320	R
28MAY78	32-12360-2	56.08N	8.22E		320	R
28MAY78	32-14110-1	46.40N	12.01W			
28MAY78	32-14110-2	46.40N	12.01W			
29MAY78	33- 1550-3	43.35N	7.08E		303	R
29MAY78	33- 1570-3	37.20N	5.18E			
29MAY78	33-12500-1	39.56N	9.57E		293	R
29MAY78	33-12500-2	39.56N	9.57E		293	R
29MAY78	33-12520-1	40.01N	7.59E		294	R
29MAY78	33-12520-2	40.01N	7.59E		294	R
29MAY78	33-12530-1	52.03N	5.40E		320	R
29MAY78	33-12530-2	52.03N	5.40E		320	R
30MAY78	34- 2120-3	50.41N	5.06E		303	R
30MAY78	34- 2130-3	44.37N	2.53E		303	R
30MAY78	34- 2130-3	50.05N	4.30E			
30MAY78	34- 2140-3	44.37N	2.53E			C
30MAY78	34- 2150-3	38.34N	1.02E			
30MAY78	34- 2280-3	56.13N	3.00E			C
30MAY78	34-13070-1	36.17N	6.25E			
30MAY78	34-13070-2	36.17N	6.25E			
30MAY78	34-13080-1	38.50N	5.41E		294	R
30MAY78	34-13080-2	38.50N	5.41E		294	R
30MAY78	34-13090-1	44.55N	3.47E		304	R
30MAY78	34-13090-1	42.22N	4.37E		304	R
30MAY78	34-13090-2	44.55N	3.47E		304	R
30MAY78	34-13090-2	42.22N	4.37E			
30MAY78	34-13100-1	48.26N	2.32E		303	R

*	DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ETAT
	30MAY78	34-13100-2	48.26N	2.32E		303	R
	30MAY78	34-13110-1	50.58N	1.33E		321	R
	30MAY78	34-13110-2	50.58N	1.33E		321	R
	30MAY78	34-13120-1	54.27N	.01E		303	R
	30MAY78	34-13120-2	54.27N	.01E		303	R
	31MAY78	35- 2280-3	50.13N	3.00E		313	R
	31MAY78	35- 2300-3	50.47N	.34E		313	R
	31MAY78	35- 2300-3	50.11N	.49E			C
	31MAY78	35- 2310-3	44.43N	1.38W			
	31MAY78	35- 2320-3	44.07N	1.50W			C
	31MAY78	35- 2330-3	38.37N	3.30W			
	31MAY78	35-21320-1	35.40N	119.30W		304	R
	31MAY78	35-21320-2	35.40N	119.30W		304	R
	1JUN78	36- 2480-3	51.25N	3.44W			
	1JUN78	36- 2490-3	45.21N	6.00W			
	1JUN78	36-13440-1	38.45N	3.23W		321	R
	1JUN78	36-13440-2	38.35N	3.23W		321	R
	1JUN78	36-13460-1	44.40N	5.17W		321	R
	1JUN78	36-13460-2	44.40N	5.17W		321	R
	1JUN78	36-13470-1	50.43N	7.31W			
	1JUN78	36-13470-2	50.43N	7.31W			
	3JUN78	38- 1490-3	41.44N	7.56E		294	R
	3JUN78	38- 1510-3	35.30N	6.11E			
	3JUN78	38-12440-1	40.54N	11.04E		304	R
	3JUN78	38-12440-2	40.54N	11.04E			C
	3JUN78	38-12460-1	46.50N	9.04E		304	R
	3JUN78	38-12460-2	46.50N	9.04E		304	R
	3JUN78	38-12470-1	53.01N	6.40E		304	R
	3JUN78	38-12470-2	53.01N	6.40E		304	R
	4JUN78	39-13020-1	39.54N	6.47E			
	4JUN78	39-13020-2	39.54N	6.47E			
	4JUN78	39-13030-1	46.01N	4.49E			
	4JUN78	39-13030-2	46.01N	4.49E			
	4JUN78	39-13050-1	52.03N	2.29E			
	4JUN78	39-13050-2	52.03N	2.29E			
	5JUN78	40- 2220-3	55.30N	4.03E			
	5JUN78	40- 2250-3	43.23N	.41E			
	5JUN78	40- 2270-3	37.16N	2.30W			
	5JUN78	40-13200-1	40.52N	1.56E			
	5JUN78	40-13200-2	40.52N	1.56E			
	5JUN78	40-13220-1	46.54N	.02E			
	5JUN78	40-13220-2	46.54N	.02E			
	5JUN78	40-13240-1	52.50N	2.26W			
	5JUN78	40-13240-2	52.50N	2.26W			
	6JUN78	41-13370-1	35.23N	1.05W			
	6JUN78	41-13370-2	35.23N	1.05W			
	6JUN78	41-13390-1	41.20N	2.51W			
	6JUN78	41-13390-2	41.20N	2.51W			
	6JUN78	41-13400-1	47.33N	4.53W			
	6JUN78	41-13400-2	47.33N	4.53W			

*	DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ETAT
	7JUN78	42- 3020-3	42.24N	10.08W			
	8JUN78	43-12370-1	34.45N	14.15E			
	8JUN78	43-12380-1	41.20N	12.20E		294	R
	8JUN78	43-12380-2	41.20N	12.20E		294	R
	9JUN78	44- 1590-3	50.04N	7.40E			
	9JUN78	44- 2010-3	43.59N	5.30E			
	9JUN78	44- 2020-3	37.53N	3.40E			
	9JUN78	44-12250-1	38.41N	8.34E			
	9JUN78	44-12550-2	38.41N	8.34E			
	9JUN78	44-12570-1	44.46N	6.40E			
	9JUN78	44-12570-2	44.46N	6.40E			
	9JUN78	44-12580-1	50.50N	4.26E			
	9JUN78	44-12580-2	50.50N	4.26E			
	10JUN78	45-13130-1	36.36N	4.35E			
	10JUN78	45-13130-2	36.36N	4.35E			
	10JUN78	45-13140-1	42.41N	2.46E			
	10JUN78	45-13140-2	42.41N	2.46E			
	10JUN78	45-13160-1	48.46N	.40E		307	R
	10JUN78	45-13160-2	48.46N	.40E		307	R
	10JUN78	45-13180-1	54.47N	1.52W			
	10JUN78	45-13180-2	54.47N	1.52W			
	11JUN78	46-13310-1	35.45N	.16E		313	R
	11JUN78	46-13310-2	35.45N	.16E		313	R
	11JUN78	46-13340-1	47.55N	3.33W		313	R
	11JUN78	46-13340-2	47.55N	3.33W		313	R
	12JUN78	47-13500-1	42.12N	6.13W			
	12JUN78	47-13500-2	42.12N	6.13W			
	12JUN78	47-13520-1	48.16N	8.17W			
	12JUN78	47-13520-2	48.16N	8.17W			
	13JUN78	48- 1370-3	41.24N	10.41E			
	13JUN78	48-12350-1	55.24N	8.24E			
	13JUN78	48-12350-2	55.24N	8.24E			
	15JUN78	50- 2090-3	55.40N	7.03E			
	15JUN78	50- 2110-3	49.47N	4.25E			
	15JUN78	50- 2120-3	43.42N	2.16E			
	15JUN78	50- 2140-3	37.35N	.26E			
	15JUN78	50-13070-1	40.05N	5.03E			
	15JUN78	50-13100-1	52.13N	.46E			
	15JUN78	50-13100-2	52.13N	.46E			
	15JUN78	50-13120-2	58.14N	2.10W			
	16JUN78	51- 2270-3	56.20N	2.44E			
	16JUN78	51- 2320-3	38.07N	3.59W		307	R
	16JUN78	51-13240-1	37.00N	1.23E			
	16JUN78	51-13240-2	37.00N	1.23E			
	16JUN78	51-13260-1	43.04N	.26E			
	16JUN78	51-13260-2	43.04N	.26E			
	16JUN78	51-13280-1	49.10N	2.34W			
	16JUN78	51-13280-2	49.10N	2.34W			
	17JUN78	52- 2450-3	55.38N	2.10W			
	17JUN78	52- 2470-3	49.35N	4.47W			

*	DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ETAT
	17JUN78	52- 2490-3	43.31N	6.55W			
	18JUN78	53-14030-1	40.05N	10.34W		305	R
	18JUN78	53-14030-2	40.05N	10.34W		305	R
	18JUN78	53-14050-1	52.00N	12.54W		305	R
	18JUN78	53-14050-2	52.00N	12.54W		305	R
	19JUN78	54- 1470-3	45.45N	8.58E		305	R
	19JUN78	54- 1490-3	39.40N	7.02E		305	R
	19JUN78	54-12430-1	42.44N	10.16E		294	R
	19JUN78	54-12430-2	42.44N	10.16E		294	R
	19JUN78	54-12450-1	48.51N	8.10E			
	19JUN78	54-12450-2	48.51N	8.10E			
	19JUN78	54-12470-1	54.53N	5.35E		321	R
	19JUN78	54-12470-2	54.53N	5.35E		321	R
	20JUN78	55- 2030-3	52.59N	7.11E		296	R
	20JUN78	55- 2040-3	52.00N	6.46E			C
	20JUN78	55- 2050-3	46.54N	4.47E		296	R
	20JUN78	55- 2070-3	39.40N	2.30E			C
	20JUN78	55-13000-1	39.00N	6.50E		294	R
	20JUN78	55-13000-2	39.00N	6.50E			C
	20JUN78	55-13020-1	45.05N	4.55E		295	R
	20JUN78	55-13020-2	45.05N	4.55E		295	R
	20JUN78	55-13040-1	51.10N	2.39E		295	R
	20JUN78	55-13040-2	51.10N	2.39E		295	R
	21JUN78	56- 2210-3	56.11N	4.04E			
	21JUN78	56- 2220-3	50.00N	1.26E			
	21JUN78	56- 2240-3	44.04N	.43E			
	21JUN78	56- 2260-3	37.59N	2.34W		295	R
	21JUN78	56-13180-1	36.42N	2.55E			
	21JUN78	56-13180-2	36.42N	2.55E			
	21JUN78	56-13190-1	42.40N	1.07E			
	21JUN78	56-13190-2	42.40N	1.07E			
	22JUN78	57-13350-1	35.02N	1.10W		321	R
	22JUN78	57-13350-2	35.02N	1.10W		321	R
	22JUN78	57-13370-1	41.08N	2.56W			
	22JUN78	57-13370-2	41.08N	2.56W			
	22JUN78	57-13390-1	47.13N	4.58W			
	22JUN78	57-13390-2	47.13N	4.58W			
	22JUN78	57-13400-1	53.17N	7.23W			
	22JUN78	57-13400-2	53.17N	7.23W			
	23JUN78	58- 2590-3	47.40N	8.34W			
	23JUN78	58-13550-1	41.11N	7.30W			
	23JUN78	58-13550-2	41.11N	7.30W			
	23JUN78	58-13570-1	47.17N	9.31W			
	23JUN78	58-13570-2	47.17N	9.31W			
	24JUN78	59- 1410-3	42.31N	9.22E		322	R
	24JUN78	59- 1430-3	36.24N	7.35E		322	R
	24JUN78	59-12370-1	42.34N	11.47E		322	R
	24JUN78	59-12370-2	42.34N	11.47E		322	R
	24JUN78	59-12490-1	54.41N	7.07E			
	24JUN78	59-12490-2	54.41N	7.07E			

*	DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ETAT
	25JUN78	60- 1560-3	54.26N	9.19E			
	25JUN78	60- 1580-3	48.23N	6.49E			
	25JUN78	60- 2000-3	42.17N	4.45E			
	25JUN78	60- 2010-3	36.14N	2.59E			
	25JUN78	60-12540-1	41.16N	7.39E			
	25JUN78	60-12540-2	41.16N	7.39E			
	25JUN78	60-12560-1	47.21N	5.38E			
	25JUN78	60-12560-2	47.21N	5.38E			
	26JUN78	61- 2160-3	49.14N	2.34E			
	26JUN78	61- 2170-3	43.10N	.27E			
	26JUN78	61- 2190-3	37.04N	1.20W		322	R
	26JUN78	61-13110-1	36.55N	4.21E		322	R
	26JUN78	61-13110-2	36.55N	4.21E		322	R
	26JUN78	61-13130-1	43.04N	2.32E			
	26JUN78	61-13130-2	43.04N	2.32E			
	26JUN78	61-13150-1	49.06N	2.25E			
	26JUN78	61-13150-2	40.06N	2.25E			
	26JUN78	61-13160-1	55.08N	2.10W			
	26JUN78	61-13160-2	55.08N	2.10W			
	27JUN78	62-13290-1	35.01N	.19E		322	R
	27JUN78	62-13290-2	35.01N	.19E		322	R
	27JUN78	62-13300-1	41.08N	1.25W			
	27JUN78	62-13300-2	41.08N	1.25W			
	28JUN78	63- 2510-3	51.35N	5.36W			
	28JUN78	63- 2530-3	45.32N	7.52W			
	28JUN78	63-13490-1	43.33N	6.46W		323	R
	28JUN78	63-13490-2	43.33N	6.46W		323	R
	30JUN78	65- 1500-3	54.07N	10.39E			
	30JUN78	65- 1530-3	41.50N	6.08E		305	R
	30JUN78	65- 1550-3	35.53N	4.23E			
	30JUN78	65-12470-1	39.22N	9.43E			
	30JUN78	65-12470-2	39.22N	9.43E			
	30JUN78	65-12490-1	45.20N	7.47E			
	30JUN78	65-12490-2	45.40N	7.47E			
	1JUL78	66-13050-1	38.10N	5.30E			
	1JUL78	66-13050-2	38.10N	5.30E			
	1JUL78	66-13080-1	50.21N	1.25E			
	1JUL78	66-13080-2	50.21N	1.25E			
	2JUL78	67- 2270-3	50.36N	.02E			
	2JUL78	67- 2280-3	44.32N	2.09W			
	2JUL78	67- 2300-3	38.26N	4.01W			C
	4JUL78	69-14000-1	41.19N	9.05W			
	4JUL78	69-14000-2	41.19N	9.05W			
	5JUL78	70- 1460-3	43.16N	8.04E			
	5JUL78	70- 1460-3	42.20N	7.49E			
	5JUL78	70- 1470-3	37.10N	6.15E			
	5JUL78	70- 1480-3	36.23N	6.02E			
	5JUL78	70-12410-1	43.01N	10.08E			C
	5JUL78	70-12410-1	43.34N	9.58E			
	5JUL78	70-12410-2	43.01N	10.08E			C

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5JUL78	70-12410-2	43.34N	9.58E			
5JUL78	70-12450-1	55.09N	5.25E			
5JUL78	70-12450-1	55.41N	5.08E			
5JUL78	70-12450-2	55.09N	5.25E			
5JUL78	70-12450-2	55.41N	5.08E			
6JUL78	71- 2020-3	48.26N	5.17E			
6JUL78	71- 2040-3	42.29N	3.13E		305	R
6JUL78	71- 2060-3	36.16N	1.27E			
6JUL78	71-12570-1	36.10N	7.38E			
6JUL78	71-12570-2	36.10N	7.38E			
6JUL78	71-12590-1	42.16N	5.49E		323	R
6JUL78	71-12590-2	42.16N	5.49E		323	R
7JUL78	72- 2210-3	46.31N	.02E		295	R
7JUL78	72- 2230-3	40.25N	1.54W			
7JUL78	72-13170-1	40.08N	1.54E			
7JUL78	72-13170-1	40.05N	1.55E		295	R
7JUL78	72-13170-2	40.08N	1.54E			
7JUL78	72-13170-2	40.05N	1.55E		295	R
7JUL78	72-13180-1	46.14N	.03E			
7JUL78	72-13180-1	46.11N	.02E		295	R
7JUL78	72-13180-2	46.14N	.03E			
7JUL78	72-13180-2	46.11N	.02E		295	R
8JUL78	73- 2370-3	52.33N	2.10W			
8JUL78	73-13350-1	40.53N	2.50W			
8JUL78	73-13350-2	40.53N	2.50W			
8JUL78	73-13360-1	46.50N	4.51W		296	R
8JUL78	73-13360-2	46.50N	4.51W		296	R
10JUL78	75- 1390-3	42.20N	9.21E		296	R
10JUL78	75- 1410-3	36.14N	7.35E		296	R
10JUL78	75-12350-1	45.02N	11.01E		323	R
10JUL78	75-12350-2	45.02N	11.01E		323	R
10JUL78	75-12370-1	51.07N	8.46E			
10JUL78	75-12370-2	51.07N	8.46E			
11JUL78	76- 1550-3	49.03N	7.04E			
11JUL78	76- 1570-3	42.59N	4.58E		296	R
11JUL78	76- 1590-3	36.53N	3.10E		296	R
11JUL78	76-12520-1	40.33N	7.52E		323	R
11JUL78	76-12520-2	40.33N	7.52E		323	R
11JUL78	76-12530-1	46.40N	5.54E			
11JUL78	76-12530-2	46.40N	5.54E			
11JUL78	76-12550-1	52.43N	3.32E			
11JUL78	76-12550-2	52.43N	3.32E			
12JUL78	77- 2130-3	51.37N	3.33E			
12JUL78	77- 2140-3	45.34N	1.17E		296	R
12JUL78	77- 2160-3	39.29N	.37E		296	R
13JUL78	78- 2310-3	51.45N	.56E			
13JUL78	78- 2320-3	45.49N	3.13W		322	R
16JUL78	81- 1500-3	45.08N	7.15E		323	R
16JUL78	81- 1510-3	39.04N	5.22E		323	R
17JUL78	82- 1540-3	.00N	.00E			C

*	DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ETAT
	17JUL78	82- 2060-3	51.24N	5.02E			
	17JUL78	82- 2080-3	45.21N	2.47E		297	R
	17JUL78	82- 2090-3	39.17N	.53E			
	17JUL78	82-13020-1	39.22N	5.15E			C
	17JUL78	82-13020-2	39.22N	5.15E			C
	17JUL78	82-13040-1	45.20N	3.19E			C
	17JUL78	82-13040-2	45.20N	3.19E			C
	17JUL78	82-13060-1	51.33N	1.02E			
	17JUL78	82-13060-2	51.33N	1.02E			
	18JUL78	83- 2270-3	39.41N	3.39W			
	18JUL78	83- 2440-3	51.22N	.29E			
	21JUL78	86- 1450-3	36.18N	6.12E			
	21JUL78	86-12380-1	42.55N	10.17E		297	R
	21JUL78	86-12380-2	42.55N	10.17E		297	R
	22JUL78	87- 2000-3	47.02N	4.59E			
	22JUL78	87- 2020-3	40.58N	3.00E			C
	23JUL78	88- 2200-3	40.08N	1.47W			
	25JUL78	90- 2530-3	51.47N	6.47W		324	R
	25JUL78	90- 2540-3	45.44N	9.04W		324	R
	26JUL78	91- 1370-3	41.00N	9.14E		297	R
	27JUL78	92- 1510-3	54.28N	9.41E			
	27JUL78	92- 1530-3	48.27N	1.11E			
	27JUL78	92- 1540-3	42.23N	5.07E		307	R
	27JUL78	92- 1560-3	36.10N	3.20E			
	28JUL78	93- 2100-3	50.54N	3.35E			
	28JUL78	93- 2120-3	44.52N	1.22E			C
	28JUL78	93- 2130-3	38.47N	.30E			
	28JUL78	93-13060-1	37.03N	4.29E		297	R
	28JUL78	93-13060-2	37.03N	4.29E		297	R
	28JUL78	93-13070-1	43.10N	2.40E		297	R
	28JUL78	93-13070-2	43.10N	2.40E		297	R
	28JUL78	93-13090-1	49.14N	.33E		297	R
	28JUL78	93-13090-2	49.14N	.33E		297	R
	28JUL78	93-13110-1	55.17N	2.01W			
	28JUL78	93-13110-2	55.17N	2.01W			
	29JUL78	94- 2280-3	51.50N	.31E		324	R
	29JUL78	94- 2290-3	45.48N	2.49W		324	R
	29JUL78	94-13230-1	36.00N	.16E			
	29JUL78	94-13250-1	42.07N	1.29W			
	29JUL78	94-13250-2	42.07N	1.29W			
	29JUL78	94-13270-1	48.11N	3.34W			
	29JUL78	94-13270-2	48.11N	3.34W			
	29JUL78	94-13280-1	54.14N	6.04W			
	29JUL78	94-13280-2	54.14N	6.04W			
	30JUL78	95- 2470-3	46.04N	7.16W			
	30JUL78	95-13430-1	42.46N	6.16W			
	30JUL78	95-13430-2	42.46N	6.16W			
	30JUL78	95-13450-1	48.50N	8.22W			
	30JUL78	95-13450-2	48.50N	8.22W			
	31JUL78	96- 3040-3	51.54N	9.34W			

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	31JUL78	96- 3050-3	45.42N	11.52W			
	31JUL78	96-12260-1	50.27N	10.45E			
	31JUL78	96-12260-2	50.27N	10.45E			
	31JUL78	96-12280-1	56.28N	8.01E			
	31JUL78	96-12280-2	56.28N	8.01E			
	31JUL78	96-14010-1	41.13N	10.17W			
	31JUL78	96-14010-2	41.13N	10.17W			
	31JUL78	96-14020-1	47.18N	12.19W			
	31JUL78	96-14020-2	47.18N	12.19W			
	1AUG78	97- 1470-3	43.44N	7.11E		298	R
	1AUG78	97- 1480-3	37.42N	5.21E			
	5AUG78	101- 2580-3	46.08N	10.08W			
	7AUG78	103- 1580-3	42.59N	4.01E			
	7AUG78	103- 1590-3	36.54N	2.12E			
	7AUG78	103-12520-1	39.58N	6.54E			
	7AUG78	103-12520-2	39.58N	6.54E			
	8AUG78	104- 2140-3	49.55N	1.57E			
	8AUG78	104- 2150-3	43.52N	.12E			
	8AUG78	104- 2170-3	37.47N	2.02W			
	8AUG78	104-13100-1	39.41N	2.25E			
	8AUG78	104-13100-2	39.41N	2.25E			
	8AUG78	104-13120-1	45.44N	.29E			
	8AUG78	104-13120-2	45.44N	.29E			
	9AUG78	105-13290-1	44.44N	3.41W			
	9AUG78	105-13290-2	44.44N	3.41W			
	9AUG78	105-13310-1	50.50N	5.55W			
	9AUG78	105-13310-2	50.50N	5.55W			
	11AUG78	107- 1320-3	42.53N	10.11E			
	11AUG78	107- 1340-3	36.49N	8.23E			
	12AUG78	108- 1510-3	41.31N	5.13E			:
	12AUG78	108- 1530-3	35.24N	3.28E			
	12AUG78	108-12450-1	40.34N	8.19E		324	R
	12AUG78	108-12450-2	40.34N	8.19E		324	R
	12AUG78	108-12470-1	46.30N	6.21E		324	R
	12AUG78	108-12470-2	46.30N	6.21E		324	R
	13AUG78	109- 2070-3	49.10N	3.22E			
	13AUG78	109- 2080-3	43.17N	1.15E			
	13AUG78	109- 2100-3	37.12N	.33E			
	14AUG78	110- 2270-3	42.34N	3.29W			
	14AUG78	110-13210-1	40.07N	.34E			
	14AUG78	110-13210-2	40.07N	.34E			
	14AUG78	110-13220-1	46.11N	2.31W			
	14AUG78	110-13220-2	46.11N	2.31W			
	17AUG78	113-12380-1	40.40N	9.54E		325	R
	17AUG78	113-12380-1	42.14N	9.27E		324	R
	17AUG78	113-12380-2	40.40N	9.54E		325	R
	17AUG78	113-12380-2	42.14N	9.27E		324	R
	17AUG78	113-12390-1	46.53N	7.55E			
	17AUG78	113-12390-2	46.53N	7.55E			
	17AUG78	113-12410-1	52.55N	5.31E		298	R

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17AUG78	113-12410-2	52.55N	5.31E		298	R
18AUG78	114-12550-1	37.48N	6.16E		325	R
18AUG78	114-12550-2	37.48N	6.16E		325	R
18AUG78	114-12570-1	43.53N	4.25E		298	R
18AUG78	114-12570-2	43.53N	4.25E		298	R
19AUG78	115- 2180-3	45.54N	.42E		307	R
19AUG78	115- 2209-3	39.52N	2.39W			
19AUG78	115-13130-1	37.32N	1.49E		325	R
19AUG78	115-13130-2	37.32N	1.49E		325	R
19AUG78	115-13140-1	43.37N	.00E		313	R
19AUG78	115-13140-2	43.37N	.00E		313	R
19AUG78	115-13160-1	49.40N	2.09W		313	R
19AUG78	115-13160-2	49.40N	2.09W		313	R
20AUG78	116- 2380-3	41.25N	6.43W			
20AUG78	116-13320-1	40.44N	3.38W			
20AUG78	116-13320-2	40.44N	3.38W			
20AUG78	116-13330-1	46.49N	5.37W			
20AUG78	116-13330-2	46.49N	5.37W			
20AUG78	116-13350-1	52.50N	8.00W			
20AUG78	116-13350-2	52.50N	8.00W			
21AUG78	117-13500-1	43.35N	9.04W		325	R
21AUG78	117-13500-2	43.35N	9.04W		325	R
21AUG78	117-13520-1	49.39N	11.13W		325	R
21AUG78	117-13520-2	49.39N	11.13W		325	R
22AUG78	118- 1350-3	45.14N	9.47E		298	R
22AUG78	118-12310-1	41.30N	11.21E		332	R
22AUG78	118-12310-2	41.30N	11.21E		332	R
22AUG78	118-12340-1	53.35N	6.53E			
22AUG78	118-12340-2	53.35N	6.53E			
23AUG78	119- 1510-3	54.52N	9.06E			
23AUG78	119- 1540-3	42.48N	4.26E			
23AUG78	119- 1560-3	30.43N	2.38E			
24AUG78	120- 2110-3	47.10N	1.22E			
24AUG78	120- 2120-3	41.04N	.37E			
24AUG78	120-13060-1	40.34N	2.34E		307	R
24AUG78	120-13060-2	40.34N	2.34E		307	R
24AUG78	120-13080-1	46.38N	.36E		307	R
24AUG78	120-13080-2	46.38N	.36E		307	R
25AUG78	121-13240-1	40.43N	2.01W			
25AUG78	121-13240-2	40.43N	2.01W			
25AUG78	121-13260-1	46.47N	4.00W			
25AUG78	121-13260-2	46.47N	4.00W			
25AUG78	121-13280-1	52.49N	6.22W			
25AUG78	121-13280-2	52.49N	6.22W			
26AUG78	122-13440-1	43.50N	7.34W			
26AUG78	122-13440-2	43.50N	7.34W			
26AUG78	122-13450-1	49.53N	9.43W			
26AUG78	122-13450-2	49.53N	9.43W			
27AUG78	123- 1290-3	44.15N	10.58E			
27AUG78	123- 1300-3	38.10N	9.05E			

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28AUG78	124- 1460-3	49.26N	8.13E			
28AUG78	124-12410-1	39.00N	9.00E			
28AUG78	124-12410-2	39.00N	9.00E			
28AUG78	124-12430-1	45.05N	7.07E		298	R
28AUG78	124-12430-2	45.05N	7.07E		298	R
28AUG78	124-12450-1	51.07N	4.52E		298	R
28AUG78	124-12450-2	51.07N	4.52E		298	R
30AUG78	126-13180-1	40.44N	.41E			
30AUG78	126-13180-2	40.44N	.41E			
30AUG78	126-13200-1	46.47N	2.40W			
30AUG78	126-13200-2	46.47N	2.40W			
30AUG78	126-13220-1	52.40N	5.02W			
30AUG78	126-13220-2	52.40N	5.02W			
31AUG78	127-13380-1	45.05N	6.39W		308	R
31AUG78	127-13380-2	45.05N	6.39W		308	R
1SEP78	128-12220-1	56.23N	8.22E			
1SEP78	128-12220-2	56.23N	8.22E			
2SEP78	129- 1410-3	45.22N	8.06E		299	R
2SEP78	129- 1420-3	39.17N	6.11E			
2SEP78	129-12370-1	45.20N	8.19E			
2SEP78	129-12370-2	45.20N	8.19E			
3SEP78	130- 1590-3	42.55N	2.41E			
3SEP78	130-12540-1	38.57N	5.48E			
3SEP78	130-12540-2	38.57N	5.48E			
3SEP78	130-12550-1	45.01N	3.54E		305	R
3SEP78	130-12550-2	45.01N	3.54E		308	R
3SEP78	130-12570-1	51.04N	1.39E		308	IR
3SEP78	130-12570-2	51.04N	1.39E		308	R
4SEP78	131- 2150-3	51.40N	1.19E		308	R
4SEP78	131- 2170-3	45.37N	.58E			
5SEP78	132- 2340-3	50.22N	3.49W			
5SEP78	132- 2350-3	44.13N	6.02W			
5SEP78	132-13300-1	39.34N	3.32W			
5SEP78	132-13300-2	39.34N	3.32W			
6SEP78	133-13490-1	43.30N	9.20W			
6SEP78	133-13490-2	43.30N	9.20W			
7SEP78	134- 1370-3	35.20N	6.31E			
7SEP78	134- 3090-3	53.38N	11.36W			
7SEP78	134-12300-1	43.44N	10.16E			
7SEP78	134-12300-1	43.20N	10.21E			
7SEP78	134-12300-2	43.20N	10.21E			
7SEP78	134-12300-2	43.44N	10.16E			
7SEP78	134-12340-1	55.32N	5.35E			
7SEP78	134-12340-1	55.47N	5.29E			
7SEP78	134-12340-2	55.47N	5.29E			
7SEP78	134-12340-2	55.32N	5.35E			
9SEP78	136- 2100-3	46.40N	.44E			
9SEP78	136- 2120-3	40.43N	1.14W			
9SEP78	136-13050-1	36.32N	3.17E			
9SEP78	136-13050-2	36.32N	3.17E			

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	9SEP78	136-13070-1	42.37N	1.29E			
	9SEP78	136-13070-2	42.37N	1.29E			
	9SEP78	136-13080-1	48.40N	.35E			
	9SEP78	136-13080-2	48.40N	.35E			
	10SEP78	137- 2290-3	44.37N	4.32W			
	12SEP78	139- 1290-3	42.48N	9.59E			
	12SEP78	139- 1300-3	36.41N	8.11E			
	13SEP78	140- 1450-3	51.05N	8.26E			
	14SEP78	141- 2050-3	41.39N	.28E		309	R
	14SEP78	141-12580-1	36.02N	4.49E			
	14SEP78	141-12580-1	36.10N	4.47E		309	R
	14SEP78	141-12580-2	36.02N	4.49E			
	14SEP78	141-12580-2	36.10N	4.47E		309	R
	14SEP78	141-13000-1	42.07N	3.02E			
	14SEP78	141-13000-1	42.15N	3.00E		309	R
	14SEP78	141-13000-2	42.07N	3.02E			
	14SEP78	141-13000-2	42.15N	3.00E		309	R
	14SEP78	141-13020-1	48.18N	.56E		309	R
	14SEP78	141-13020-1	48.11N	.59E			
	14SEP78	141-13020-2	48.11N	.59E			
	14SEP78	141-13020-2	48.18N	.56E		309	R
	14SEP78	141-13030-1	54.12N	1.30W			
	14SEP78	141-13030-1	54.19N	1.33W			
	14SEP78	141-13030-2	54.12N	1.33W			
	14SEP78	141-13030-2	54.12N	1.30W			
	15SEP78	142- 2210-3	52.02N	.22E			
	15SEP78	142- 2210-3	51.55N	.25E		302	R
	15SEP78	142- 2220-3	45.52N	2.43W			C
	15SEP78	142- 2220-3	45.50N	2.41W			
	15SEP78	142-12310-2	52.27N	5.16W			
	15SEP78	142-13180-1	40.21N	.58E		302	R
	15SEP78	142-13180-2	40.21N	.58E		302	R
	15SEP78	142-13190-1	46.25N	2.55W		302	R
	15SEP78	142-13190-2	46.25N	2.55W		302	R
	15SEP78	142-13210-1	52.27N	5.16W			
	16SEP78	143- 2390-3	52.40N	4.34W			
	16SEP78	143- 2400-3	46.44N	6.57W			
	17SEP78	144-12210-1	55.17N	8.33E			
	17SEP78	144-12210-2	55.17N	8.33E			
	17SEP78	144-13560-1	46.05N	11.58W			
	17SEP78	144-13560-2	46.05N	11.58W			
	17SEP78	144-13570-1	52.08N	14.17W			
	17SEP78	144-13570-2	52.08N	14.17W			
	18SEP78	145-12360-1	42.14N	9.00E		302	R
	18SEP78	145-12360-2	42.14N	9.00E		302	R
	18SEP78	145-12370-1	48.13N	6.56E			
	18SEP78	145-12370-2	48.13N	6.56E			
	18SEP78	145-12390-1	54.21N	4.26E			
	18SEP78	145-12390-2	54.20N	4.26E			
	19SEP78	146- 1570-3	50.44N	5.07E			

*	DATE	IDENTIFICATION	LOCATION		SCENE	GDE	ET
	19SEP78	146- 1530-3	44.41N	2.53E			
	19SEP78	146- 2000-3	38.35N	.59E			
	21SEP78	148- 2340-3	45.43N	5.52W			
	22SEP78	149-13480-1	40.40N	8.49W			0
	22SEP78	149-13480-2	40.40N	8.49W			0
	22SEP78	149-13490-1	46.53N	10.48W			0
	22SEP78	149-13490-2	46.53N	10.43W			0
	23SEP78	150-12300-1	46.10N	9.07E			
	23SEP78	150-12300-2	46.10N	9.07E			
	23SEP78	150-12320-1	52.20N	6.47E			
	24SEP78	151-12460-1	39.07N	6.50E			
	24SEP78	151-12460-2	39.07N	6.50E			
	24SEP78	151-12480-1	45.11N	4.56E			
	24SEP78	151-12480-2	45.11N	4.56E			
	24SEP78	151-12500-1	51.14N	2.41E			
	24SEP78	151-12500-2	51.14N	2.41E			
	26SEP78	153-13220-1	37.40N	1.54W			
	26SEP78	153-13220-2	37.40N	1.54W			
	26SEP78	153-13240-1	43.54N	3.45W		310	R
	26SEP78	153-13240-2	43.54N	3.45W		310	R
	26SEP78	153-13260-1	49.57N	5.55W		310	R
	26SEP78	153-13260-2	49.57N	5.55W		310	R
	27SEP78	154- 2450-3	49.20N	7.38W			
	27SEP78	154- 2460-3	43.25N	9.47W			
	27SEP78	154-13420-1	43.24N	8.09W			
	27SEP78	154-13420-2	43.24N	8.09W			
	28SEP78	155- 1280-3	42.13N	9.35E			
	28SEP78	155- 1290-3	36.14N	7.48E			
	28SEP78	155-12230-1	42.55N	11.44E			
	28SEP78	155-12230-2	42.55N	11.44E			
	28SEP78	155-12260-1	54.55N	7.05E			
	28SEP78	155-12260-2	54.55N	7.05E			
	30SEP78	157- 2030-3	44.17N	1.04E			
	30SEP78	157- 2050-3	38.10N	.47E			
	3OCT78	160-13530-1	43.20N	11.13W			
	3OCT78	160-13530-2	43.20N	11.13W			
	3OCT78	160-13550-1	49.30N	13.21W			
	3OCT78	160-13550-2	49.30N	13.21W			
	5OCT78	162-12520-1	40.33N	4.49E			
	5OCT78	162-12520-2	40.33N	4.49E			
	5OCT78	162-12530-1	46.43N	2.50E			
	5OCT78	162-12530-2	46.43N	2.50E			
	9OCT78	166-12270-1	41.44N	10.35E			
	9OCT78	166-12270-2	41.44N	10.35E			
	9OCT78	166-12290-1	47.40N	8.34E			
	9OCT78	166-12290-2	47.40N	8.34E			
	9OCT78	166-12300-1	53.50N	6.05E			
	9OCT78	166-12300-2	53.50N	6.05E			
	10OCT78	167-12450-1	39.54N	6.35E		299	R
	10OCT78	167-12450-2	39.54N	6.35E		299	R

• DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ETA
10OCT78	167-12460-1	46.09N	4.38E		209	2
10OCT78	167-12460-2	46.09N	4.38E		209	2
11OCT78	168- 2050-3	55.44N	4.09E			
11OCT78	168- 2060-3	49.39N	1.30E			
11OCT78	168- 2080-3	43.39N	.38E			
11OCT78	168- 2100-3	37.24N	2.28W			
11OCT78	168-13030-1	40.39N	1.52E			
11OCT78	168-13030-2	40.39N	1.52E			
11OCT78	168-13040-1	46.39N	.05E			
11OCT78	168-13040-2	46.39N	.05E			
11OCT78	168-13060-1	52.49N	2.27W			
11OCT78	168-13060-2	52.49N	2.27W			
13OCT78	170-13390-1	41.38N	7.32W			
13OCT78	170-13390-2	41.38N	7.32W			
13OCT78	170-13410-1	47.43N	9.34W			
13OCT78	170-13410-2	47.43N	9.34W			
15OCT78	172-12380-1	41.04N	7.50E			
15OCT78	172-12380-2	41.04N	7.50E			
15OCT78	172-12400-1	47.00N	5.50E			
15OCT78	172-12400-2	47.00N	5.50E			
17OCT78	174-13140-1	39.54N	.53E			
17OCT78	174-13140-1	39.43N	.50E			
17OCT78	174-13140-2	39.54N	.53E			
17OCT78	174-13140-2	39.43N	.50E			
17OCT78	174-13170-1	52.04N	5.08W			
17OCT78	174-13170-1	51.53N	5.04W			
17OCT78	174-13170-2	52.04N	5.08W			
17OCT78	174-13170-2	51.53N	5.04W			
19OCT78	176-12150-1	51.03N	10.30E			
19OCT78	176-12150-2	51.03N	10.30E			
21OCT78	178-12480-1	39.00N	5.32E			
21OCT78	178-12480-2	39.00N	5.32E			
21OCT78	178-12500-1	45.00N	3.38E			
21OCT78	178-12500-2	45.00N	3.38E			
24OCT78	181-13430-1	42.11N	8.57W		305	2
24OCT78	181-13430-2	42.11N	8.57W		305	2
24OCT78	181-13450-1	48.15N	11.03W		308	2
24OCT78	181-13450-2	48.15N	11.03W		308	2
25OCT78	182-12230-1	41.37N	10.58E			
25OCT78	182-12230-2	41.37N	10.58E			
25OCT78	182-12250-1	48.04N	8.48E			
25OCT78	182-12250-1	47.49N	8.56E			
25OCT78	182-12270-1	54.07N	6.19E			
25OCT78	182-12270-2	54.07N	6.19E			
25OCT78	182-12270-1	53.44N	6.28E			
25OCT78	182-12270-2	53.44N	6.28E			
25OCT78	182-12250-2	47.49N	8.56E			
27OCT78	184-12580-1	35.14N	3.45E			
27OCT78	184-12580-2	35.14N	3.45E			
27OCT78	184-12590-1	41.29N	2.91E			

*	DATE	IDENTIFICATION	LOCATION		SCENE	BOE	ETA
	27OCT78	184-12590-2	41.29N	2.01E			
	27OCT78	184-12590-3	40.45N	2.11E			2
	27OCT78	184-13010-1	47.28N	.00E			
	27OCT78	184-13010-2	47.28N	.00E			
	27OCT78	184-13010-3	46.54N	.13E			
	27OCT78	184-13020-3	52.55N	2.10W			
	27OCT78	184-13030-1	53.34N	2.26W			
	27OCT78	184-13030-2	53.34N	2.20W			
	28OCT78	185-13160-1	37.40N	1.25W		306	2
	28OCT78	185-13160-2	37.40N	1.26W			2
	28OCT78	185-13180-1	43.54N	3.17W		306	2
	28OCT78	185-13180-2	43.54N	3.17W		306	2
	28OCT78	185-13200-1	50.04N	5.27W		306	2
	28OCT78	185-13200-2	50.04N	5.27W		306	2
	30OCT78	187-12170-1	44.34N	11.44E		309	2
	30OCT78	187-12170-2	44.34N	11.44E		309	2
	30OCT78	187-12180-1	50.39N	9.31E			
	2NOV78	190-13090-2	40.23N	.26E			
	2NOV78	190-13090-1	40.23N	.26E			
	2NOV78	190-13110-1	46.20N	2.24W		299	2
	2NOV78	190-13110-2	46.20N	2.24W		299	2
	2NOV78	190-13130-1	52.31N	4.46W			
	2NOV78	190-13130-2	52.32N	4.46W			
	3NOV78	191-13280-1	45.13N	6.28W			
	3NOV78	191-13280-2	45.13N	6.28W			
	5NOV78	193-12260-1	40.37N	10.16E			
	5NOV78	193-12260-2	40.37N	10.16E			
	5NOV78	193-12270-1	40.43N	8.17E			
	5NOV78	193-12270-2	40.43N	8.17E			
	5NOV78	193-12290-1	52.47N	5.55E			
	5NOV78	193-12290-2	52.47N	5.55E			
	7NOV78	195- 2050-3	43.20N	.31E		310	2
	7NOV78	195- 2050-3	48.50N	.41E		310	22
	7NOV78	195- 2070-3	42.17N	1.33W		310	2
	7NOV78	195- 2070-3	42.47N	1.24W		310	2
	7NOV78	195- 2080-3	36.44N	3.13W			
	7NOV78	195-13010-1	43.40N	1.13E			
	7NOV78	195-13010-2	43.40N	1.13E			
	7NOV78	195-13030-1	46.55N	.45E			
	7NOV78	195-13030-2	46.55N	.45E			
	7NOV78	195-13050-1	52.50N	3.39W			
	7NOV78	195-13050-2	52.50N	3.39W			
	8NOV78	196- 2240-3	40.32N	4.36W			
	9NOV78	197- 2400-3	52.53N	6.38W		306	2
	9NOV78	197- 2420-3	46.52N	9.02W			2
	10NOV78	198- 1240-3	43.50N	8.43E			
	10NOV78	198-12190-1	42.10N	11.25E			
	10NOV78	198-12190-2	42.10N	11.25E			
	10NOV78	198-12210-1	44.14N	9.21E			
	10NOV78	198-12210-2	44.14N	9.21E			

*	DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ETA
	11NOV78	199- 14200-3	44.27N	5.11E			
	11NOV78	199- 14300-3	38.22N	3.19E			
	11NOV78	199-12360-1	36.10N	8.31E			
	11NOV78	199-12360-2	36.10N	8.31E			
	11NOV78	199-12370-1	42.25N	6.43E			
	11NOV78	199-12370-2	42.25N	6.43E			
	11NOV78	199-12390-1	48.34N	4.38E			
	11NOV78	199-12390-2	48.34N	4.38E			
	11NOV78	199-12410-1	54.33N	2.07E			
	11NOV78	199-12410-2	54.33N	2.07E			
	12NOV78	200- 20000-3	44.50N	.43E		299	R
	12NOV78	200- 20100-3	38.46N	1.10W		299	R
	12NOV78	200-12540-1	35.33N	4.07E			
	12NOV78	200-12540-2	35.33N	4.07E			
	12NOV78	200-12550-1	41.40N	2.21E			
	12NOV78	200-12550-2	41.40N	2.21E			
	12NOV78	200-12570-1	47.46N	.19E		300	R
	12NOV78	200-12570-2	47.44N	.19E		300	R
	16NOV78	204- 13400-3	49.53N	8.28E			
	16NOV78	204- 13600-3	43.50N	6.17E		300	R
	16NOV78	204- 13800-3	37.44N	4.26E			
	17NOV78	205- 15200-3	51.40N	4.35E			
	17NOV78	205- 15400-3	45.37N	2.17E		300	R
	21NOV78	209- 13100-3	39.40N	6.22E			
	22NOV78	210- 14500-3	55.23N	7.38E			
	22NOV78	210- 14700-3	49.23N	5.01E			
	22NOV78	210- 14800-3	43.20N	2.52E			
	22NOV78	210- 15000-3	37.16N	1.02E			
	23NOV78	211- 20600-3	45.50N	.50E			
	23NOV78	211- 20800-3	39.55N	2.46W			
	24NOV78	212- 22300-3	48.37N	4.27W			
	24NOV78	212- 22500-3	42.34N	6.32W			
	28NOV78	216-12540-1	36.30N	3.17E			
	28NOV78	216-12540-2	36.30N	3.17E			
	28NOV78	216-12560-1	42.47N	1.24E			
	28NOV78	216-12560-2	42.47N	1.24E			
	28NOV78	216-12570-1	48.50N	.39E		300	R
	28NOV78	216-12570-2	48.50N	.39E		300	R
	28NOV78	216-12590-1	54.50N	3.12W			
	28NOV78	216-12590-2	54.50N	3.12W			
	30NOV78	218-13320-1	42.13N	7.32W			
	30NOV78	218-13320-2	42.13N	7.32W			
	30NOV78	218-13340-1	50.44N	10.33W		300	R
	30NOV78	218-13340-1	48.17N	9.35W		300	R
	30NOV78	218-13340-2	50.44N	10.33W		300	R
	30NOV78	218-13340-2	48.17N	9.35W		300	R
	6DEC78	224-12090-1	49.59N	10.45E			
	6DEC78	224-12090-2	49.59N	10.54E			
	6DEC78	224-12100-1	55.50N	8.14E			
	6DEC78	224-12100-2	55.50N	8.14E			

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*	DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ET
	6DEC78	224-13440-1	43.20N	11.02W			
	6DEC78	224-13440-2	43.20N	11.02W			
	6DEC78	224-13460-1	49.24N	13.10W			
	6DEC78	224-13460-2	49.24N	13.10W			
	7DEC78	225-12230-1	37.05N	10.32E			
	7DEC78	225-12250-1	42.01N	9.05E		306	R
	7DEC78	225-12250-1	43.11N	8.44E			
	7DEC78	225-12250-2	42.01N	9.05E		306	R
	7DEC78	225-12250-2	43.11N	8.44E			
	7DEC78	225-12260-1	48.05N	7.02E			
	7DEC78	225-12260-2	48.05N	7.02E			
	7DEC78	225-12270-1	49.14N	6.37E			
	7DEC78	225-12270-2	49.14N	6.37E			
	7DEC78	225-12280-1	54.07N	4.34E		306	R
	7DEC78	225-12280-2	54.07N	4.34E		306	R
	7DEC78	225-12330-2	37.05N	10.32E			
	8DEC78	226-12410-1	36.38N	6.06E			
	8DEC78	226-12410-2	36.38N	6.06E			
	9DEC78	227-12590-1	35.40N	1.46E			
	9DEC78	227-12590-2	35.40N	1.46E			
	9DEC78	227-13010-1	41.54N	.00E		301	R
	9DEC78	227-13010-2	41.54N	.00E		301	R
	9DEC78	227-13030-1	47.59N	2.01W		301	R
	9DEC78	227-13030-2	47.59N	2.01W		301	R
	9DEC78	227-13040-1	54.00N	4.29W			
	9DEC78	227-13040-2	54.00N	4.29W			
	10DEC78	228-13170-1	34.58N	2.34W			
	10DEC78	228-13170-2	34.58N	2.34W			
	10DEC78	228-13190-1	41.04N	4.17W			
	10DEC78	228-13190-2	41.04N	4.17W			
	11DEC78	229-13400-1	50.35N	12.09W			
	11DEC78	229-13400-2	50.35N	12.09W			
	14DEC78	232-12530-1	35.27N	3.20E			
	14DEC78	232-12530-2	35.27N	3.20E			
	14DEC78	232-12540-1	41.33N	1.35E			
	14DEC78	232-12540-2	41.33N	1.35E			
	14DEC78	232-12560-1	47.37N	.25E			
	14DEC78	232-12560-2	47.37N	.25E			
	14DEC78	232-12580-1	53.39N	2.50W			
	14DEC78	232-12580-2	53.39N	2.50W			
	16DEC78	234-13320-1	48.27N	9.50W			
	16DEC78	234-13320-2	48.27N	9.50W			
	17DEC78	235- 2520-3	50.40N	11.35W			
	17DEC78	235- 2530-3	44.37N	13.49W			
	17DEC78	235-12120-1	42.37N	11.53E			
	17DEC78	235-12120-2	42.37N	11.53E			
	17DEC78	235-12130-1	48.45N	9.49E			
	17DEC78	235-12130-2	48.45N	9.49E			
	17DEC78	235-12150-1	54.42N	7.17E			
	17DEC78	235-12150-2	54.42N	7.17E			

*	DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ETA
	20DEC78	236- 4380-2	37.20S	138.04E			
	21DEC78	239- 2290-3	43.40N	8.00W			
	21DEC78	239-13250-1	45.08N	7.04W			
	21DEC78	239-13250-2	45.08N	7.04W			
	22DEC78	240-13440-1	49.37N	13.16W			
	22DEC78	240-13440-2	49.37N	13.16W			
	23DEC78	241-12230-1	42.34N	8.55E			
	23DEC78	241-12230-2	42.34N	8.55E			
	25DEC78	243- 2040-3	44.10N	1.42W		301	R
	25DEC78	243-12580-1	39.57N	.37E			
	25DEC78	243-12580-2	39.57N	.37E			
	25DEC78	243-13000-1	52.04N	3.36W			
	25DEC78	243-13000-1	46.01N	1.18W		301	R
	25DEC78	243-13000-2	52.04N	3.36W			
	25DEC78	243-13000-2	46.01N	1.18W		301	R
	26DEC78	244- 2210-3	45.24N	5.53W		301	R
	29DEC78	247-12360-3	48.43N	3.51E			
	29DEC78	247-12370-3	54.44N	1.19E			
	30DEC78	248-12500-1	35.55N	3.20E			
	30DEC78	248-12520-1	42.01N	1.36E			
	30DEC78	248-12520-2	42.01N	1.36E			
	6JAN79	255- 2260-3	42.50N	8.04W			
	7JAN79	256-13390-1	43.02N	10.38W			
	7JAN79	256-13390-2	43.02N	10.38W			
	10JAN79	259- 1570-3	53.10N	2.31E			
	10JAN79	259- 2010-3	41.10N	1.55W			
	13JAN79	262- 1170-3	41.26N	8.50E	R	301	R
	13JAN79	262- 1190-3	35.10N	7.04E			
	13JAN79	262- 2520-3	50.31N	12.05W			
	14JAN79	263- 1320-3	52.05N	8.13E		302	R
	14JAN79	263- 1360-3	39.55N	3.55E		302	R
	17JAN79	266-13250-1	46.46N	7.55W			
	21JAN79	270- 2010-3	51.18N	.36E			
	21JAN79	270- 2030-3	45.14N	1.40W			
	21JAN78	270- 2040-3	39.08N	3.35W			
	25JAN79	274-12340-2	40.30N	5.33E			
	25JAN79	274-12360-1	46.44N	3.34E			
	25JAN79	274-12360-2	46.44N	3.34E			
	25JAN79	274-12370-1	52.47N	1.11E			
	25JAN79	274-12370-2	52.47N	1.11E			
	26JAN79	275- 1590-3	38.39N	2.57W			
	26JAN79	275-12520-1	39.40N	1.14E			
	26JAN79	275-12520-2	39.40N	1.14E			
	26JAN79	275-12550-1	51.40N	2.58W			
	26JAN79	275-12550-2	51.40N	2.58W			
	27JAN79	276- 2140-3	50.40N	3.29W			
	28JAN79	277- 2330-3	47.36N	9.16W			
	28JAN79	277-13300-1	44.20N	9.26W			
	28JAN79	277-13300-2	44.20N	9.26W			
	28JAN79	277-13320-1	50.31N	11.39W			

* DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ETA
28JAN79	277-13320-2	50.33N	11.39W			
3FEB79	283- 1090-3	42.47N	10.08E			
3FEB79	233- 2220-3	36.41N	8.20E			
6FEB79	286-12570-1	36.03N	.20E			
6FEB79	286-12570-2	36.03N	.20E			
27FEB79	307- 1530-3	45.35N	.51E			
27FEB79	307- 1550-3	39.30N	2.46W			
1MAR79	309-13250-1	45.04N	9.03W			
1MAR79	309-13250-2	45.04N	9.03W			
30MAR79	338-12260-1	38.02N	6.10E			
30MAR79	338-12260-2	38.02N	6.10E			
30MAR79	338-12270-1	44.07N	4.19E			
30MAR79	338-12270-2	44.07N	4.19E			
1APR79	340-13010-1	37.32N	2.13W			
1APR79	340-13010-2	37.32N	2.13W			
1APR79	340-13030-1	43.37N	4.04W			
1APR79	340-13030-2	43.37N	4.04W			
1APR79	340-13050-1	49.40N	6.14W			
1APR79	340-13050-2	49.40N	6.14W			
8APR79	347- 590-3	41.39N	10.23E		302	3
11APR79	350-12460-1	39.40N	.11E			
11APR79	350-12460-2	39.40N	.11E			
11APR79	350-12480-1	45.45N	1.44W			
11APR79	350-12480-2	45.45N	1.44W			
13APR79	352-11490-1	50.30N	11.28E			
13APR79	352-11490-2	50.30N	11.28E			
13APR79	352-11500-1	53.04N	10.26E			
13APR79	352-11500-2	53.04N	10.26E			
13APR79	352-11510-1	56.40N	8.43E			
13APR79	352-11510-2	56.40N	8.43E			
19APR79	358-12000-1	41.25N	11.10E			
19APR79	358-12000-2	41.25N	11.10E			
19APR79	358-12030-1	53.30N	6.43E			
19APR79	358-12030-2	53.30N	6.43E			
23APR79	362-13160-1	49.34N	10.08W			
23APR79	362-13160-2	49.34N	10.08W			
25APR79	364- 1160-3	50.47N	8.08E			
25APR79	364- 1180-3	44.43N	5.56E			
26APR79	365- 1350-3	48.31N	2.40E			
26APR79	365- 1370-3	42.24N	.35E			
26APR79	365-12310-1	40.04N	3.28E			
26APR79	365-12310-2	40.04N	3.28E			
26APR79	365-12330-1	46.10N	1.32E			
26APR79	365-12330-2	46.10N	1.32E			
26APR79	365-12340-1	52.13N	.47E			
29APR79	368- 540-3	43.11N	11.18E			
1MAY79	370- 1310-3	41.54N	1.40E			
1MAY79	370-12250-1	37.23N	5.29E			
1MAY79	370-12250-2	37.23N	5.29E			
1MAY79	370-12260-1	43.34N	3.38E			

*	DATE	IDENTIFICATION	LOCATION		SCENE	BDE	ETA
	1MAY79	370-12260-2	43.34N	3.38E			
	2MAY79	371- 1480-3	40.53N	1.15W			
	2MAY79	371- 1500-3	40.53N	3.14W			
	3MAY79	372- 2040-3	55.53N	2.08W			
	3MAY79	372- 2060-3	49.50N	4.47W			
	5MAY79	374- 1060-3	45.37N	8.46E			
	6MAY79	375- 1230-3	50.43N	6.04E			
	6MAY79	375- 1250-3	44.33N	3.51E			
	6MAY79	375-12200-1	39.50N	6.04E		332	3
	6MAY79	375-12200-2	39.50N	6.04E		332	3
	6MAY79	375-12210-1	45.54N	4.08E			
	6MAY79	375-12210-2	45.54N	4.08E			
	7MAY79	376- 1420-3	40.54N	.01E			
	7MAY79	376- 1440-3	40.50N	1.57W			
	7MAY79	376-12380-1	41.03N	1.09E			
	7MAY79	376-12380-2	41.03N	1.09E			
	8MAY79	377- 2000-3	48.54N	3.50W			
	10MAY79	379- 1010-3	41.32N	8.43E			
	11MAY79	380- 1180-3	45.22N	5.26E			
	11MAY79	380-12130-1	38.41N	7.46E			
	11MAY79	380-12130-2	38.41N	7.46E			
	11MAY79	380-12150-1	44.44N	5.53E			
	11MAY79	380-12150-2	44.44N	5.53E			