

## IRS-1A Data Dissemination

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Systematic earth monitoring from the space platform has proved to be of great value for a wide range of applications in the fields of geology, hydrology, agriculture, land use, etc. The growing interest shown by the remote sensing user community in the use of satellite remote sensing techniques has stressed the primary importance of a guaranteed and uninterrupted satellite data flow as well as good quality standards and a knowledgeable information service.

Landsat and SPOT data products were important precursors to IRS-1A and have provided useful guidelines to satellite remote sensing applications in India. With the advent of IRS-1A data products, remote sensing in India has entered an operational phase as can be seen by the sales figures of the last five years (Figures 1 and 2).

IRS data products have progressively grown in popularity from a modest beginning during the first year of launch and since October 1988, IRS data products are being sold in greater numbers than that of other satellites, reaching an all time high in January 1990 (Figure 3).

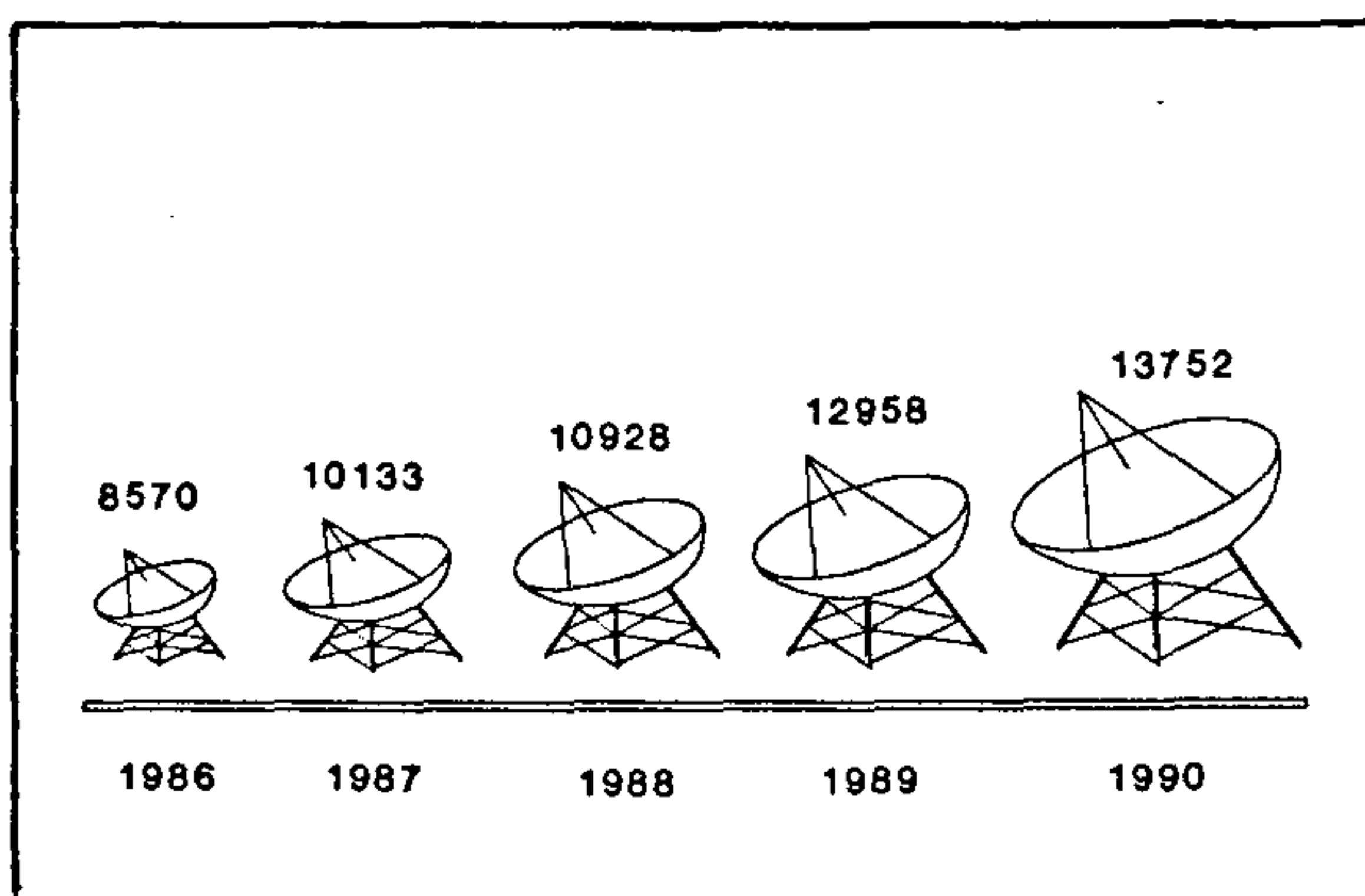


Figure 1. Sales in numbers.

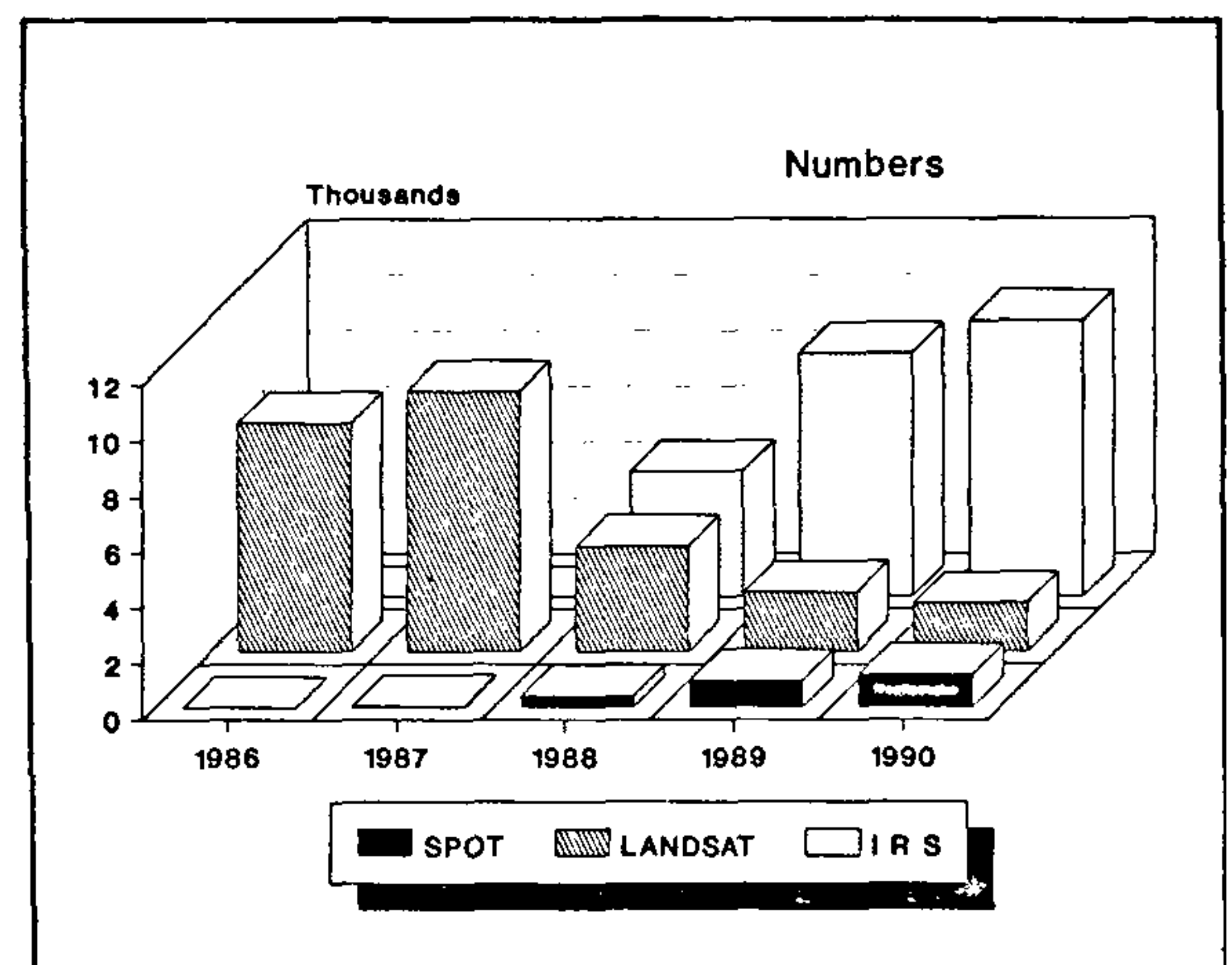


Figure 2. Satellite-wise Yearly Sales.

During the Year of launch (March 1988) IRS accounted for 6% of the total sale of products but it

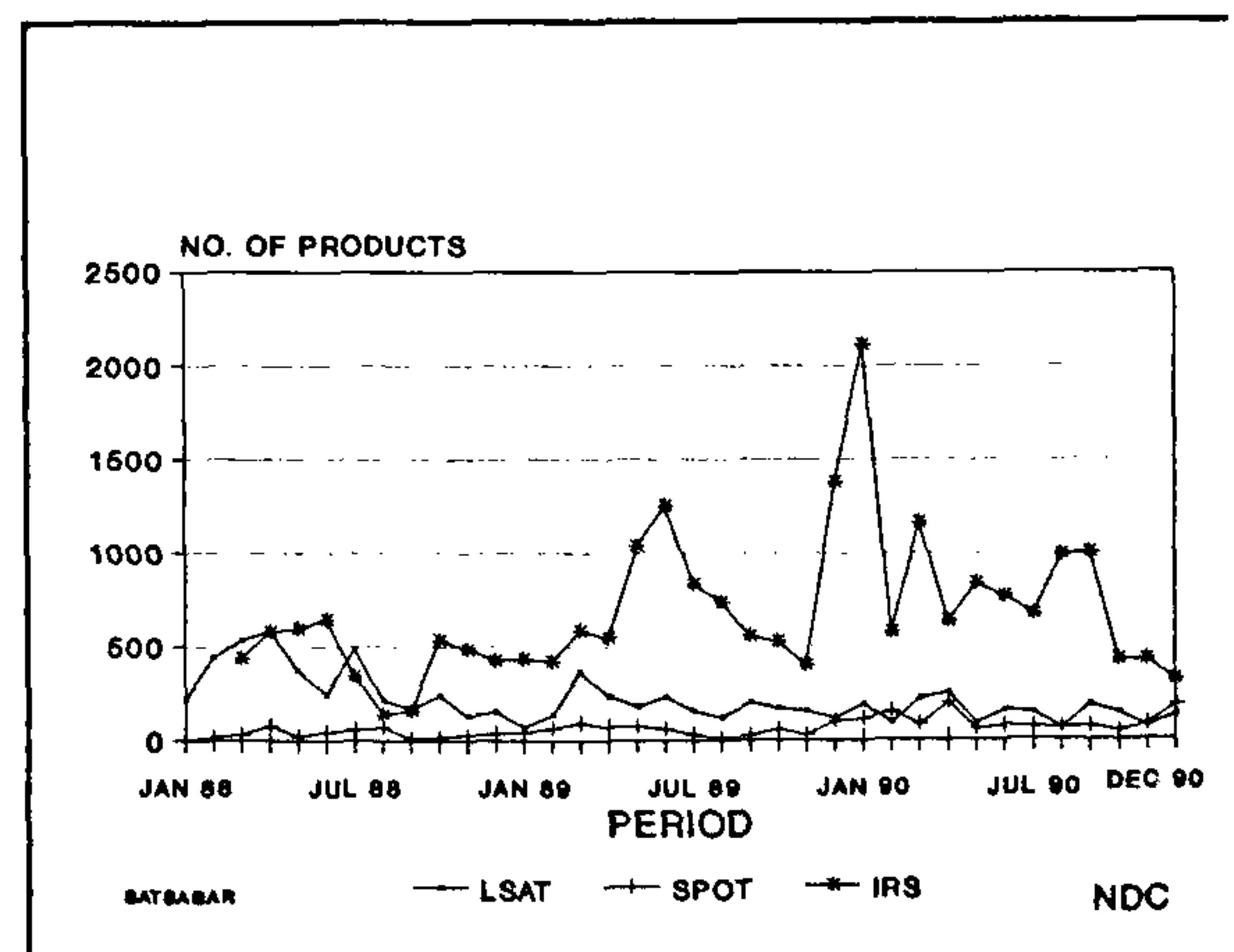


Figure 3. Sale comparison of IRS data products with SPOT & LANDSAT.

the succeeding 2 years, the demand for IRS has been steadily increasing i.e. 59% in 1988-89, 78% in 1989-90 and almost the same trend is observed during the third year of its operation. This speaks volumes for the growing popularity and success of IRS data products in the remote sensing user community. During the same period, the number of Landsat data products sold, have been steadily decreasing and SPOT sales have been more or less steady.

Of the two sensors onboard, the IRS-1A LISS-II products seem to be more in demand than those of LISS-I, mainly because of the higher resolution of

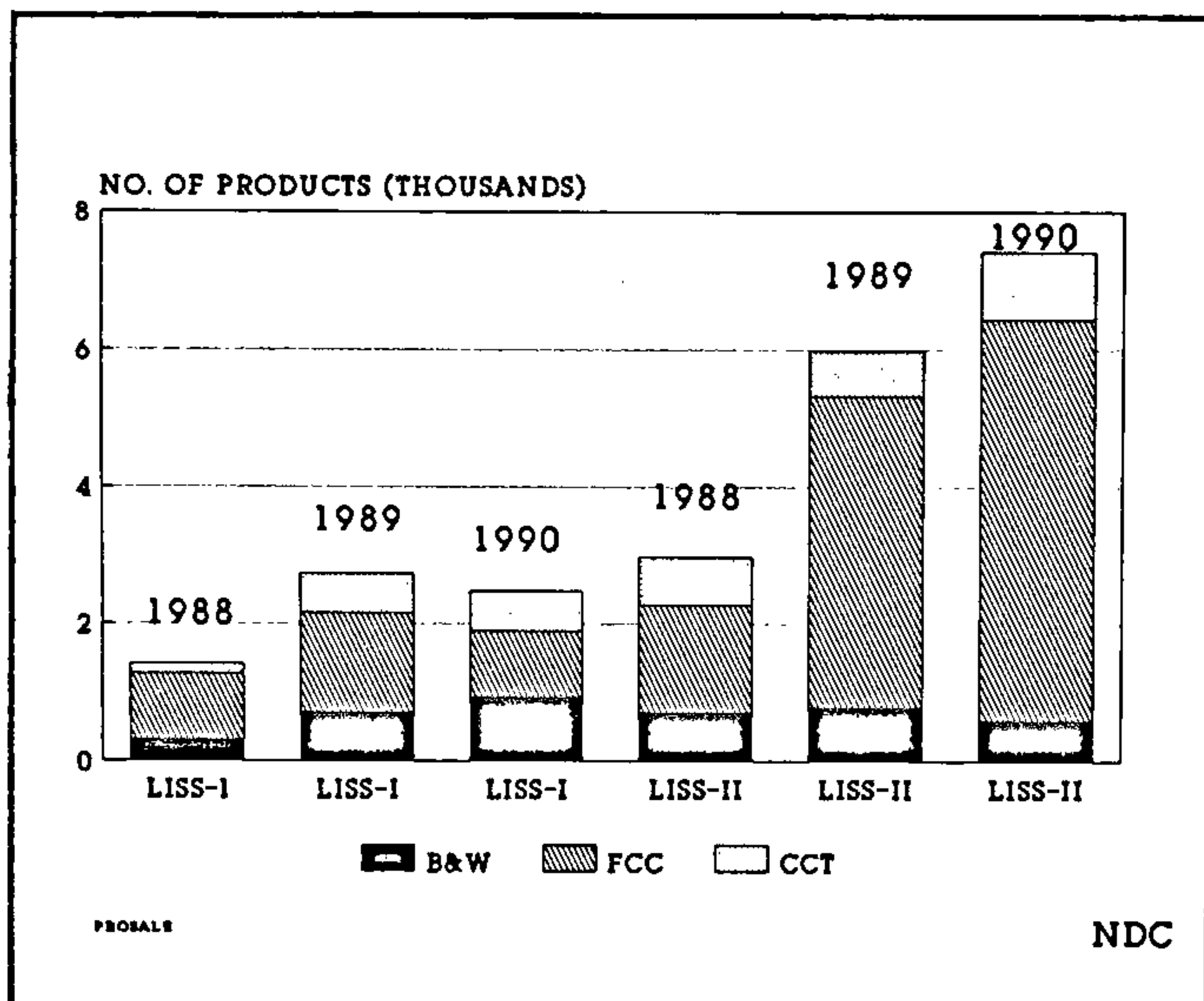


Figure 4. IRS product-wise sales.

36.25m compared to 72.5m of LISS-I sensor (Figure 4). Most users prefer false colour composites (FCC) to other types of IRS data products, such as black and white products, computer compatible tapes, cartridges and floppies. This is probably due to the larger use of manual techniques for remote sensing information extraction. Moreover many national level projects use FCCs more than other types of products. With increasing digital image analysis facilities and with the growing popularity of PC-based image analysis systems, demands, for other products are certain to increase in coming years.

Considering sectorwise sales of IRS data products (Figure 5), it may be seen that the Department of Space is the major user, which in turn redistributed the data to the various work centres under the nationwide projects. Other major participants are the state and central government organisations. The academic and industrial sector are only marginal contributors. Some sales have also been made to the foreign sector.

During the last three years, IRS-1A data products

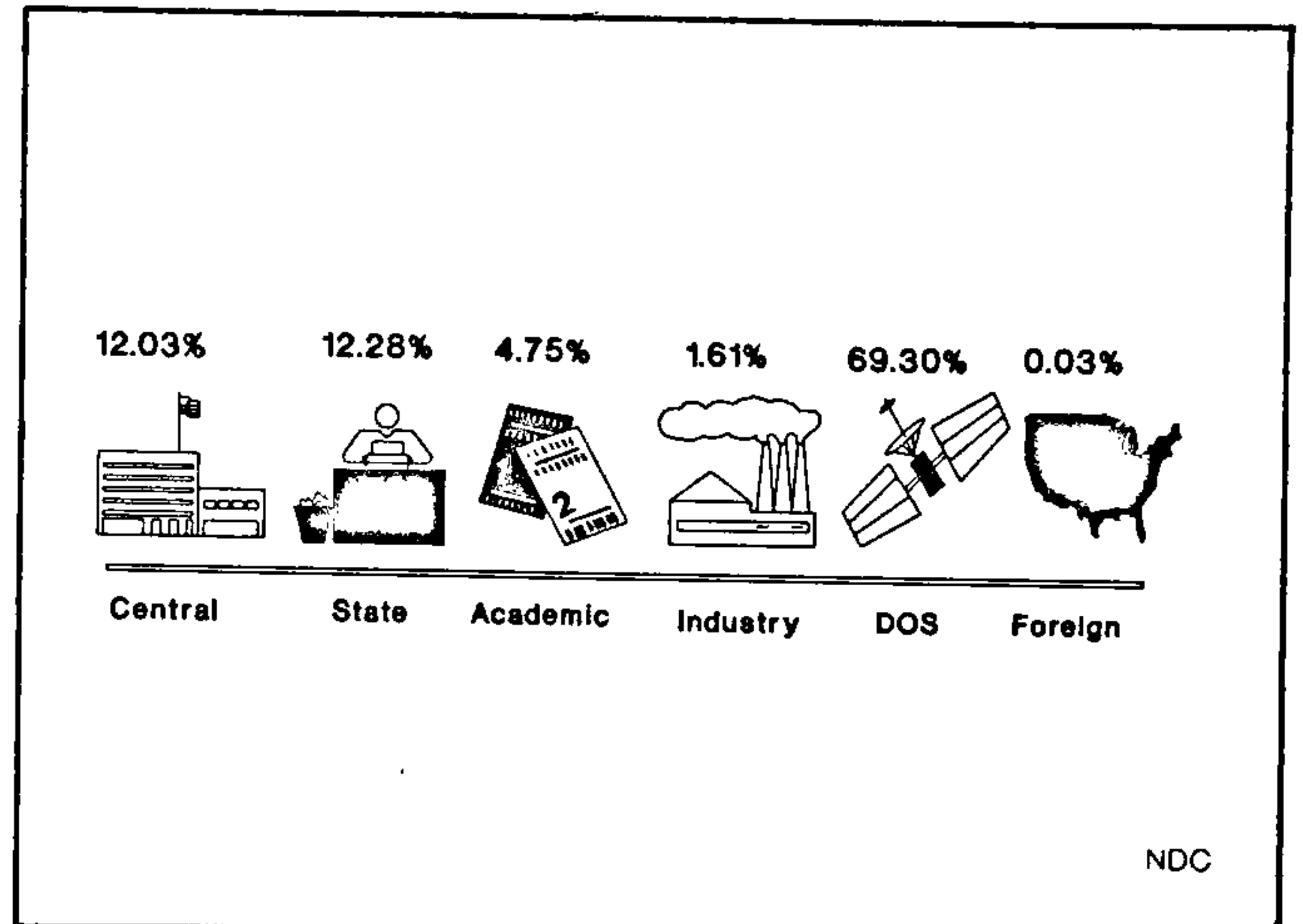


Figure 5. IRS sector-wise sales during 1990

have been supplied to cater to the remote sensing needs of many disciplines, such as geology, hydrology, forestry, soils, land use, multithematic applications, agriculture, oceanography, industry, etc., of which the most important are multithematic land use, terrain evaluation and hydrologic applications. Disciplines such as oceanography, cartography, forestry and soils have started using IRS-1A products only moderately. Discipline-wise sales of IRS data products in 1989 and 1990 are diagrammed in Figure 6.

The major application projects for which IRS-1A data has been or are being used are given in the following:

- Land use land cover mapping under agro-climatic zones mapping project.

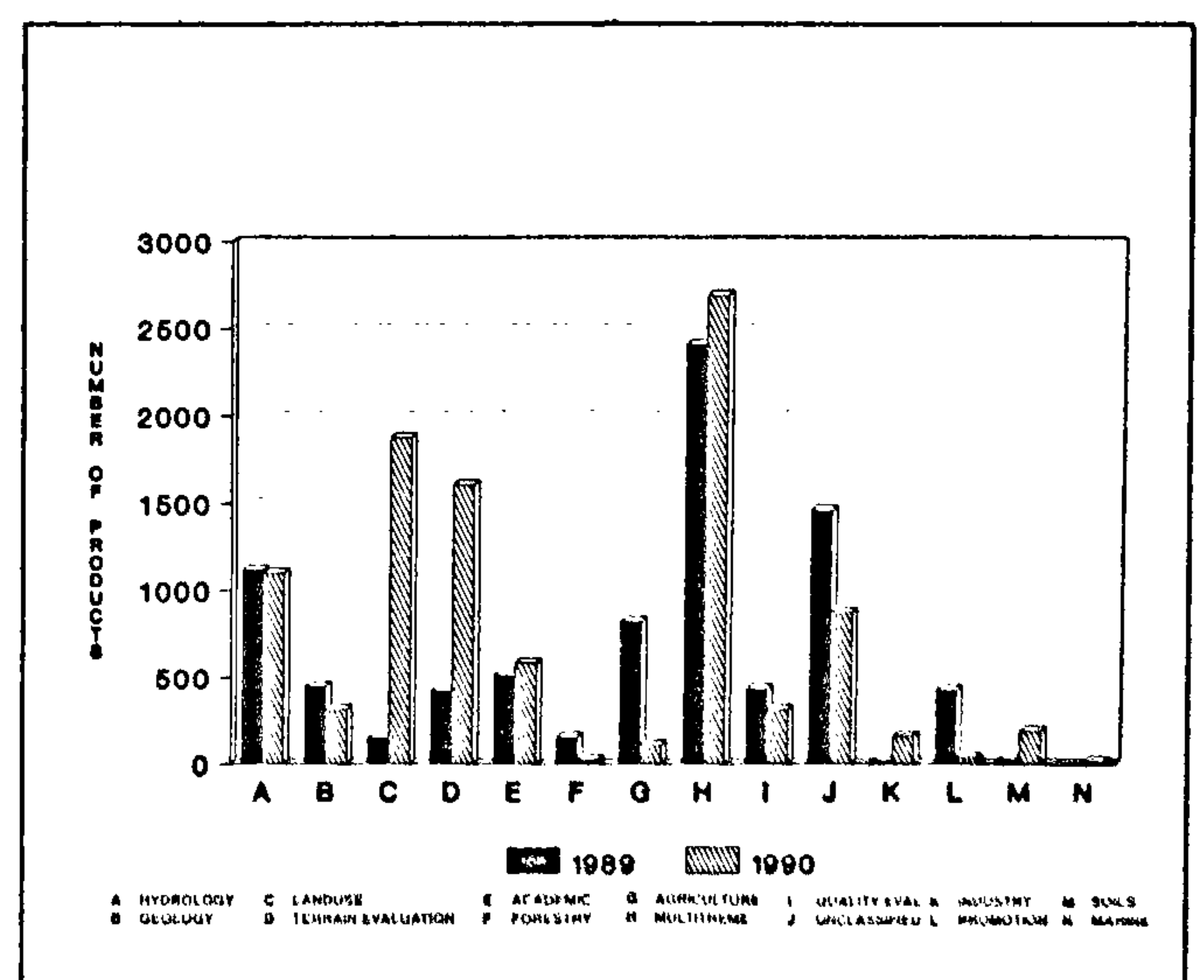


Figure 6. Discipline-wise sales of IRS data products during 1989 & 1990.

- Integrated survey.
- Hydrogeomorphological mapping under technol-

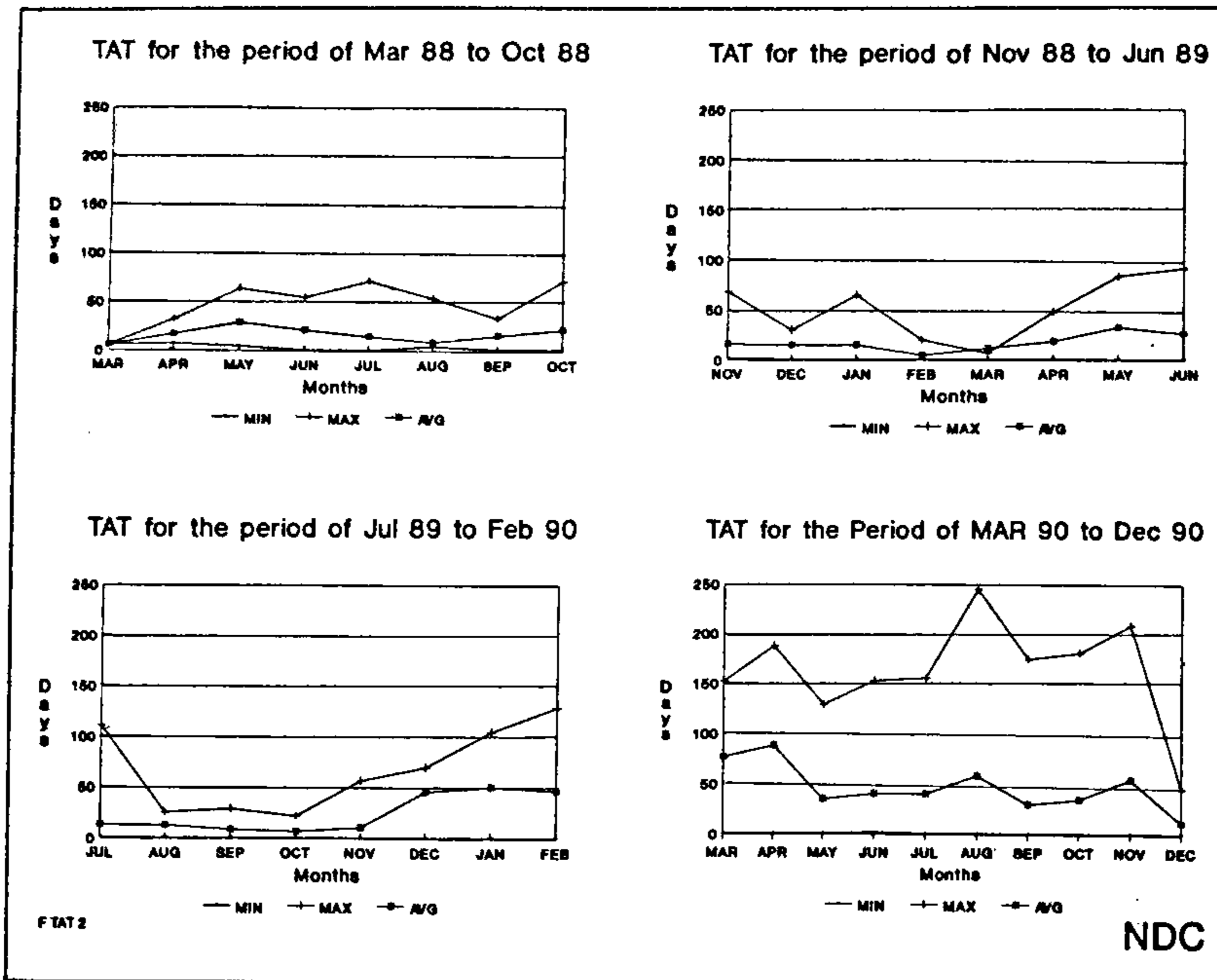


Figure 7. Yearwise turn around time (TAT) of IRS data products supply during March 1988 – December 1990.

- ogy mission on drinking water.
- Flood mapping.
- Crop studies under agricultural missions project.
- Locust monitoring project.
- Inland navigation studies by Inland Water Authority.

Many other applications including hydrology, agriculture, forestry etc., have also shown good results with the use of IRS data.

To aid selection of data, NRSA Data Centre provides a browse facility where among other data, IRS browse products are also archived. IRS browse products are also available at Regional Remote Sensing Service Centre, Bangalore and Space Applications Centre, Ahmedabad for use by the potential users of the region.

Turn around time (TAT) of IRS data products supply is being reasonably maintained with continuous monitoring and production control. Figure 7 shows the minimum, maximum and average TAT achieved during March 1988 to December 1990. It may be noticed from this graph that during this period the average TAT was fairly steady except for some period in 1990 owing to inevitable systems problems. Analysing the TAT for IRS data products (Figure 8), it may be mentioned that nearly 40% of the products were despatched within 2 weeks of the

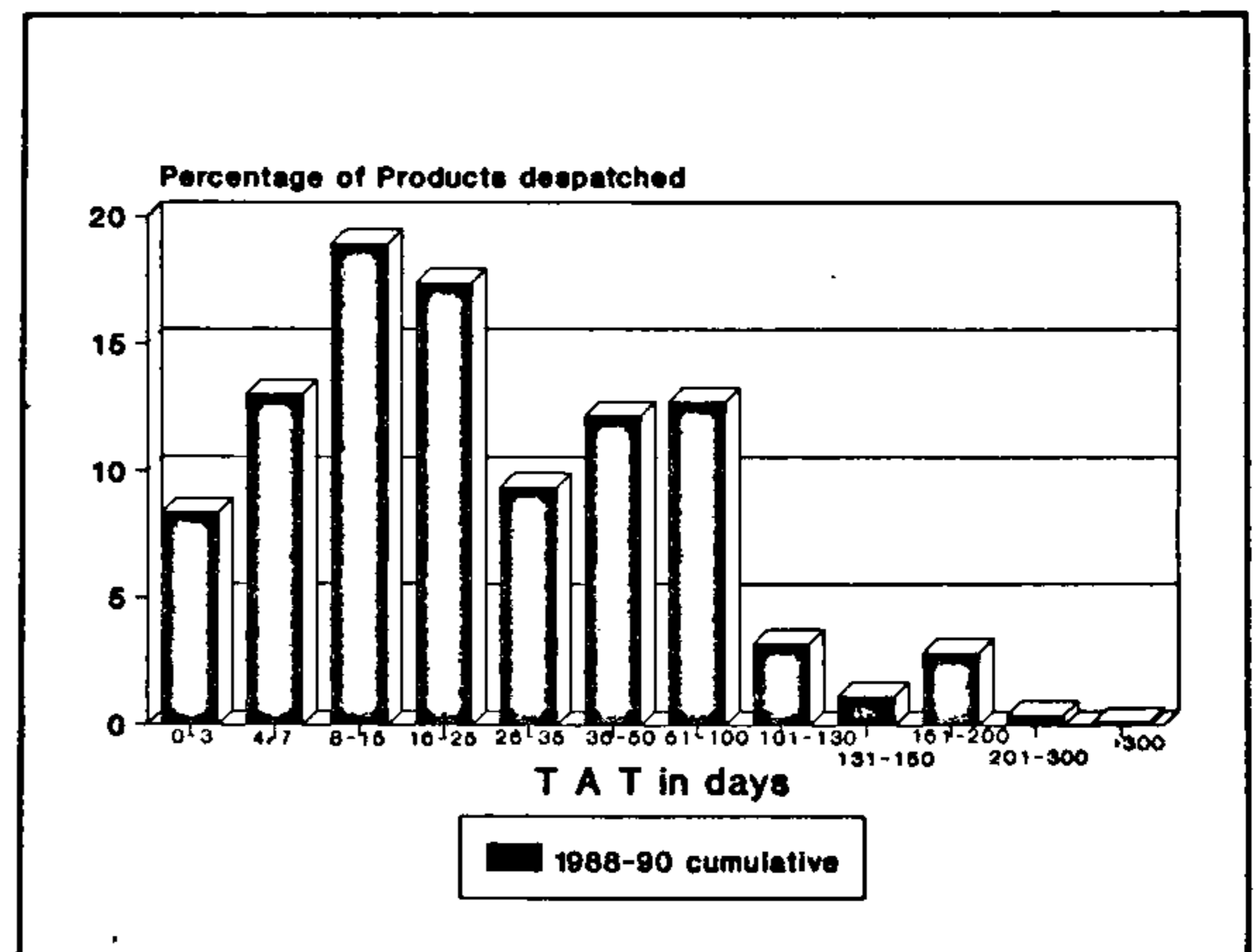


Figure 8. Turn around time analysis during 1988-90 for IRS data products.

placement of order, of which 8% products were despatched in less than 3 days. In a few extreme cases the TAT exceeded three months because of the following reasons:

- Shortage of photographic raw materials.
- Heavy demand for a particular type of product.
- Suspension of geocoded product generation for some time.
- Unexpected disturbances in the city and power

shortages due to which many valuable manhours were lost.

However, the backlog accumulated because of the aforementioned reasons in mid-1990 had been cleared by the last quarter of 1990 by efficient production management. A graph showing the backlog of IRS from March 1990 to December 1990 is shown in figure 9.

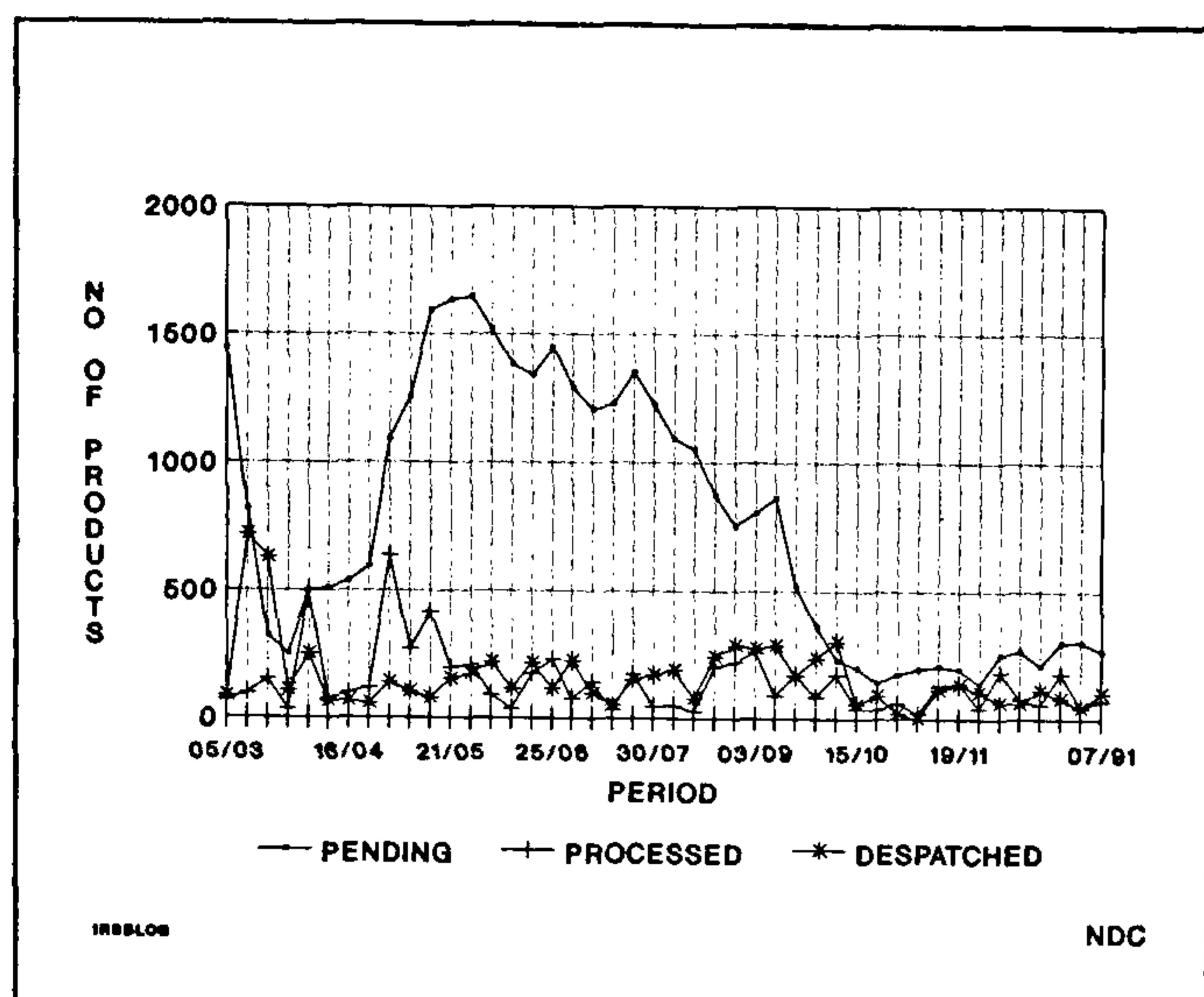


Figure 9. Backlog of IRS data supply during the period March – December 1990.

During the last 3 years various promotional activities were carried out to familiarise the remote sensing community with IRS-1A data products. These included various publications in Indian and

international circles, announcements, exhibitions, seminars, and standardisation of IRS data purchase methodology.

The publications made specifically for the promotion of IRS-1A data products include, the “IRS Data Users Handbook”, the quarterly NDC newsletter ‘Interface’, the annual IRS-1A accession catalogues, etc. IRS application appraisal cards have been brought out to highlight various applications of IRS data. These have helped in informing users regarding availability of IRS data products, their prices and other details.

Attempts were also made to promote IRS data products through exhibitions and seminars. An exhibition of IRS imagery was organised during the National Seminar on IRS-1A Mission and its application potential held in December, 1988 as also at various IRS-1A regional workshops. IRS imagery were also exhibited during the Festival of France in India in February 1989 and during the ‘Space and Man’s Future’ exhibition in 1989. Recently, a User Interaction Workshop was held at NRSA, Hyderabad to bring the remote sensing data users together. A video film on remote sensing data products and user assistance was also prepared as a promotional effort. Further, it is planned to produce accession information on floppies and establish a digital browse facility for IRS data accessions.

IRS completed three successful years of its valuable service on 17th March, 1991 and it is hoped that the remote sensing user community will continue to enjoy the availability of IRS data for years to come.