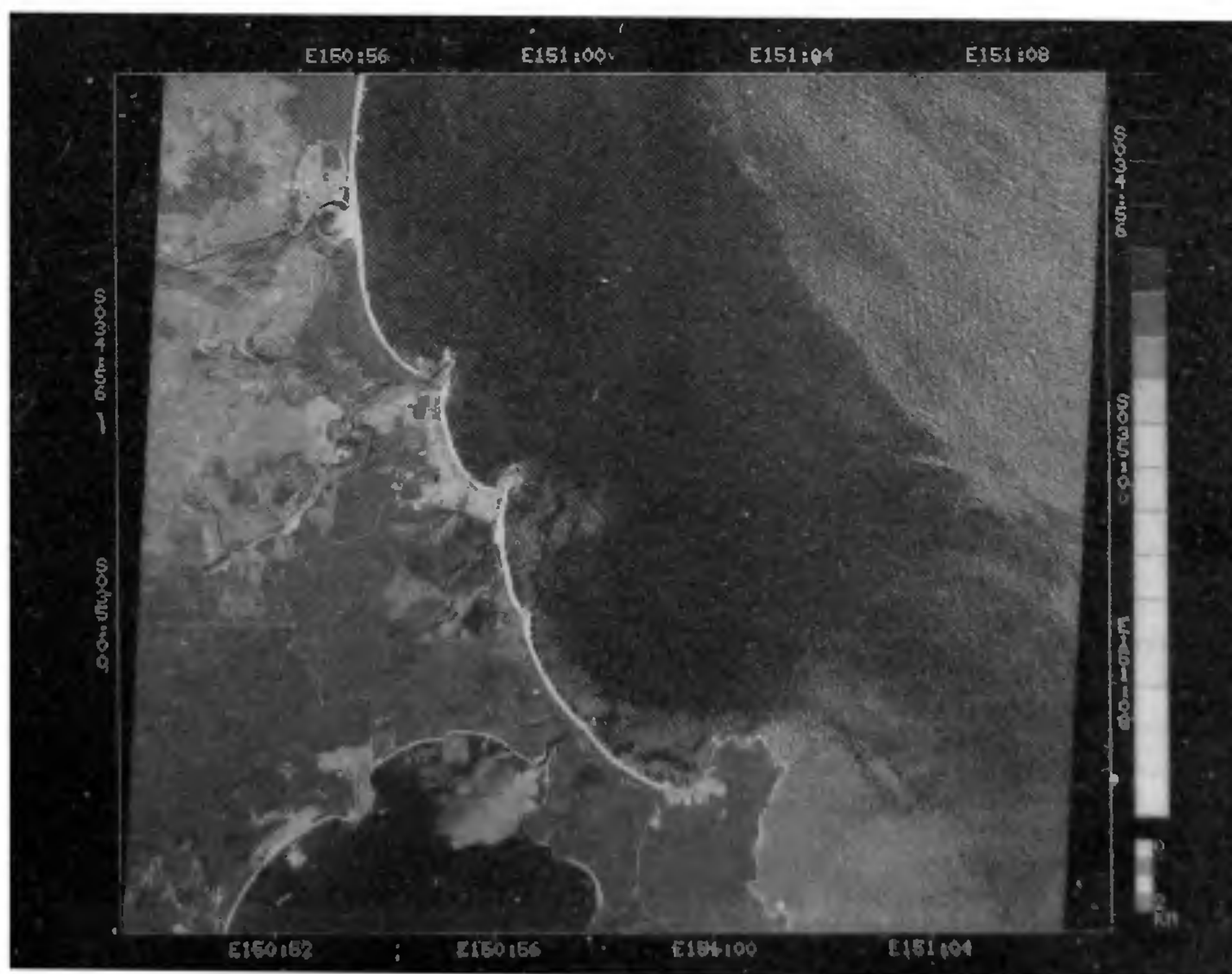


## IRS-1C

*The Indian Remote Sensing Satellite, IRS-1C, was launched on 28 December 1995. We have pleasure in reproducing here four amongst the many magnificent photographs this satellite has taken. We hope to have a special section in a forthcoming issue, which will have many such photographs and articles describing how these photographs can be used.*

— Editors

IRS-1C carries three payloads, viz. Panchromatic (PAN) Camera, Linear Imaging Self-Scanner (LISS)-III and Wide Field Sensor (WiFS). The images acquired by IRS-1C are used for various applications related to natural resources management in the areas of forestry, wasteland identification and reclamation, agricultural crop acreage and yield estimation, drought monitoring, mapping of flood-inundated areas and damage assessment, water resources development and management, marine resources survey, urban planning, mineral targetting, environmental impact assessment and so on. IRS-1C is a unique satellite in terms of payload combination, capabilities as well as application potentials and is considered as the best civilian remote sensing satellite, available in any part of the world, today.



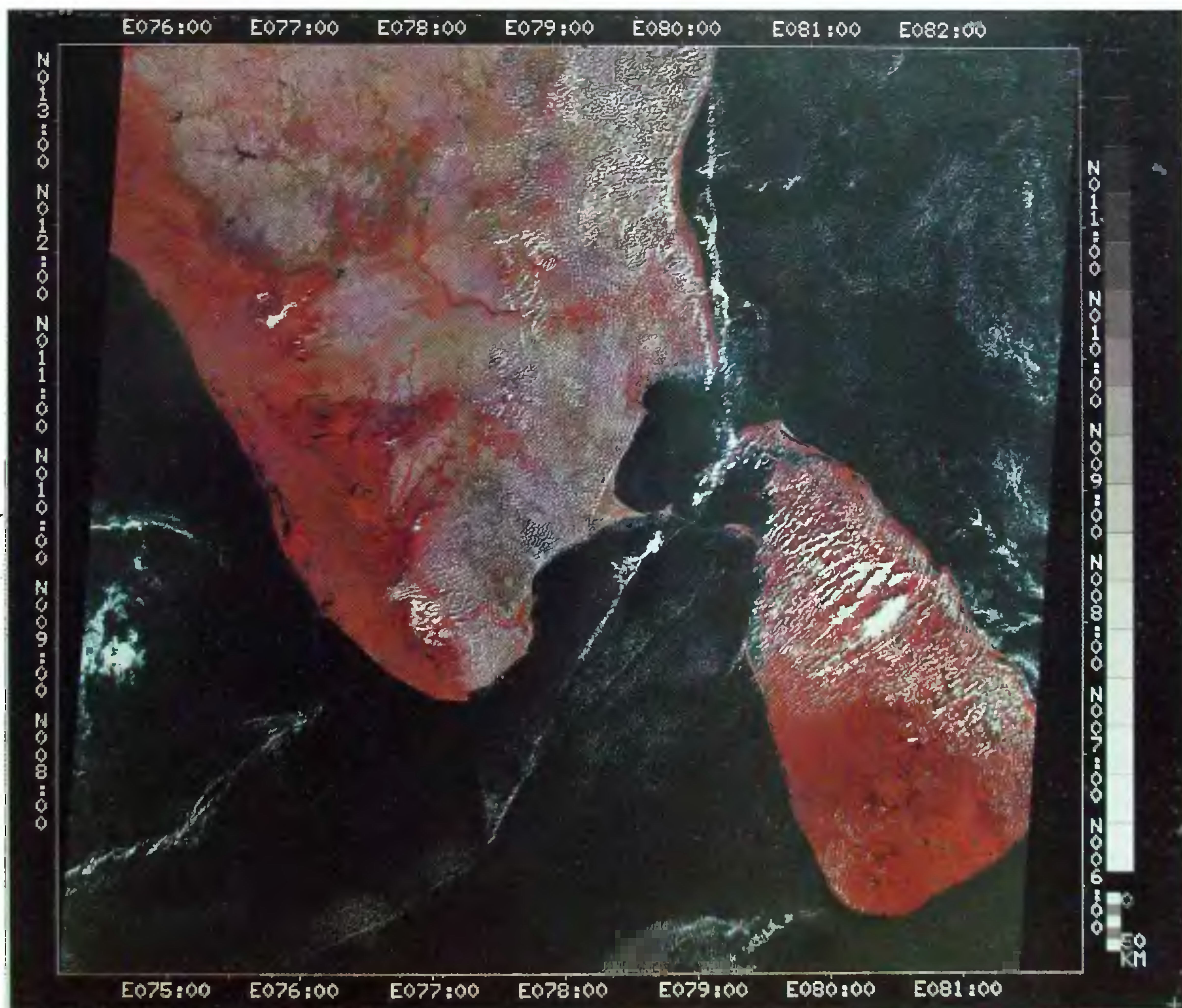
The Panchromatic camera (PAN) provides data in 0.5–0.75  $\mu\text{m}$  band with a resolution of 5.8 m and a swath of 70 km. The on board tape recorder enables the acquisition of data in any part of the world and the figure shows the image of south of Canberra. A payload-steering mechanism supports and rotates the PAN camera to a predetermined angle in the pitch-yaw plane with the maximum scan range being  $\pm 26^\circ$ . This enables the camera to revisit a place after 5 days. Also, provides the capability to have stereo images. The high resolution along with stereo viewing capability makes PAN camera a unique payload and promises excellent application potential, especially for the generation of digital cartographic database with Digital Terrain Models leading to engineering solutions to complex problems involved in microlevel development.





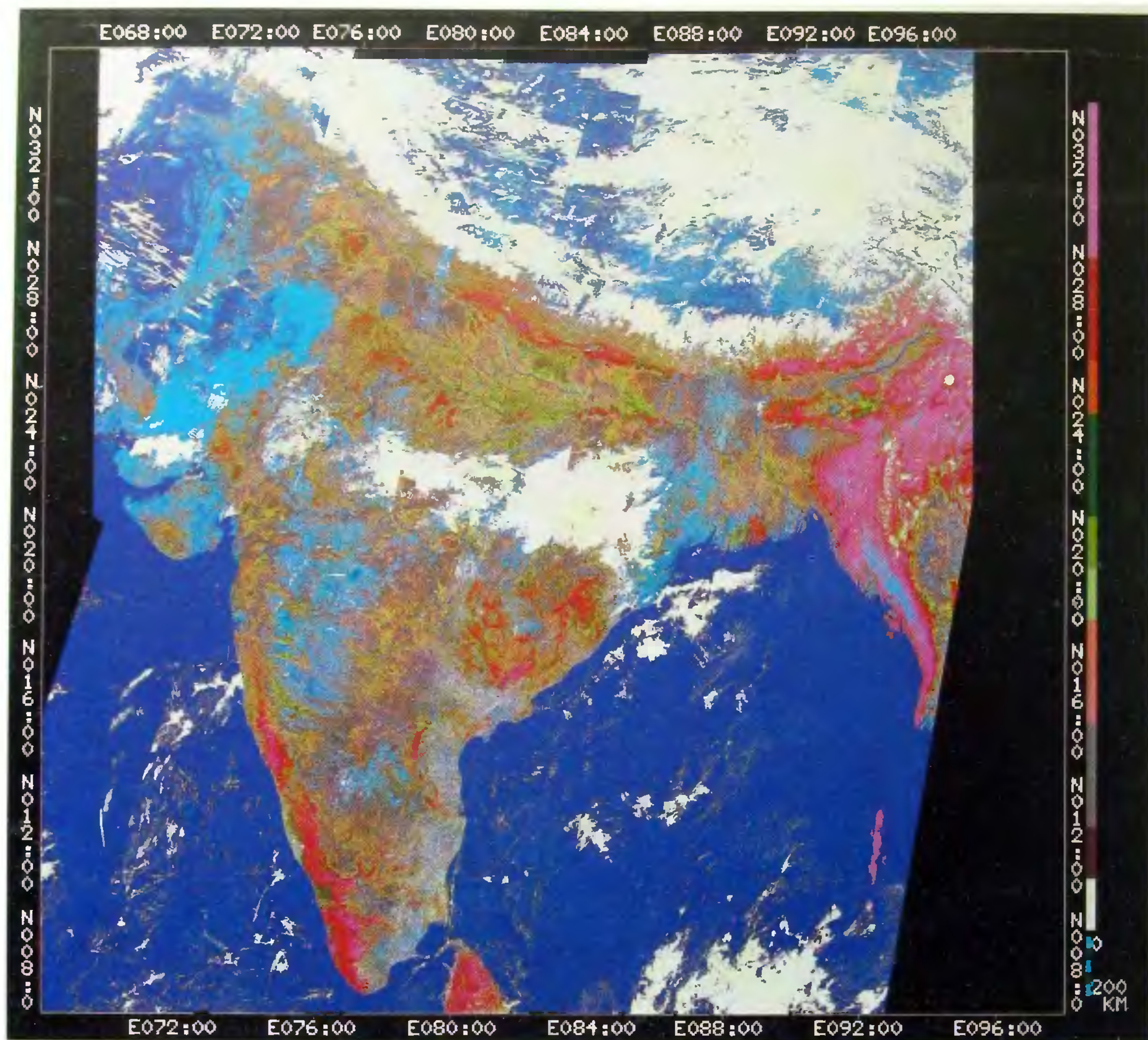
The Linear Imaging Self-Scanner (LISS)-III acquires data of the earth surface in the visible/near IR and shortwave IR regions of the electromagnetic spectrum with a resolution of 23.5 m and 70 m respectively. The figure shows a false colour composite (visible/NIR bands) of Jamnagar city and surroundings of Gujarat State. Northern part of the image with bluish to black colour is part of Gulf of Kutch; turbid waters are seen in light blue colour. Islands with mangroves/wetlands are seen clearly in the north-western part of the image. Jamnagar city is seen with a bluish and greyish tinge associated with road and rail network in the eastern part. The triangular feature seen in the centre part is the Jamnagar airport. The white colour features with regular pattern seen above the Jamnagar city are salt pans. Red indicates croplands and other vegetation. The black soil areas are shown in black colour.





The Wide Field Sensor (WiFS) operates in visible and near IR region with a spatial resolution of 188 m and a swath of 810 km. Because of the wide swath the camera can observe the same region once in every 5 days. The figure shows the WiFS image acquired soon after the launch covering South India and Sri Lanka. The red colour indicates vegetation and pure white patches are clouds. Reservoir and river courses are also seen.





One of the primary applications of WiFS data is the monitoring of vegetative cover, especially its vigour and health, by deriving a vegetation index based on the observation made by the sensor in the visible and near IR bands. The figure shows vegetation index image for the whole country, obtained by mosaicing different images, which could be prepared once in every five days. Pink colour indicates very healthy vegetation whereas grey and brown colours show vegetation with very poor health/vigour. Red, orange, green and light green indicate the vegetative condition in between, in the decreasing order of vigour. White patches are clouds. This capability is being effectively utilized for monitoring drought.