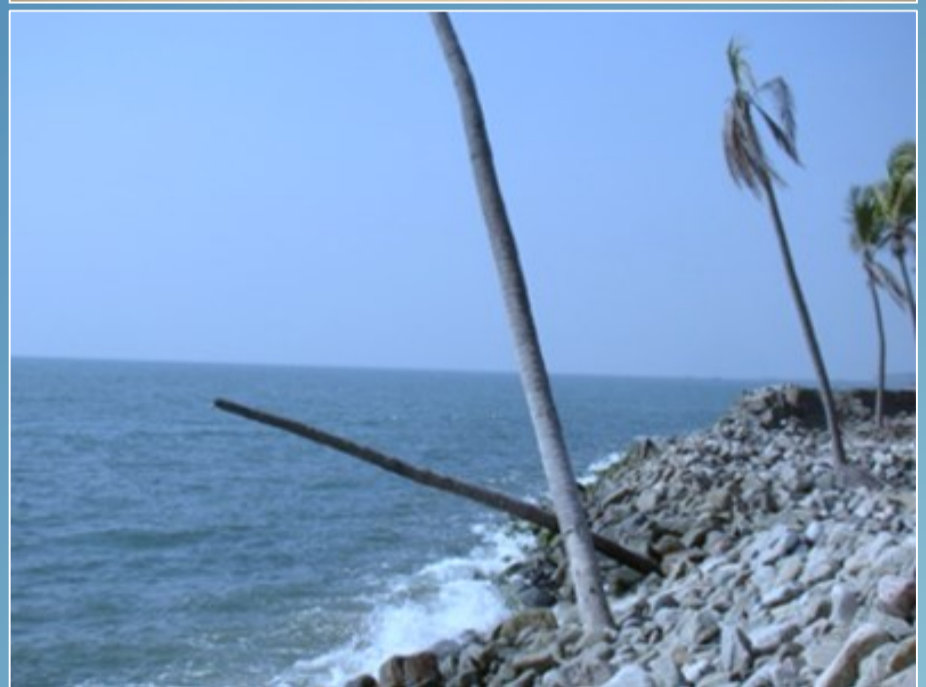
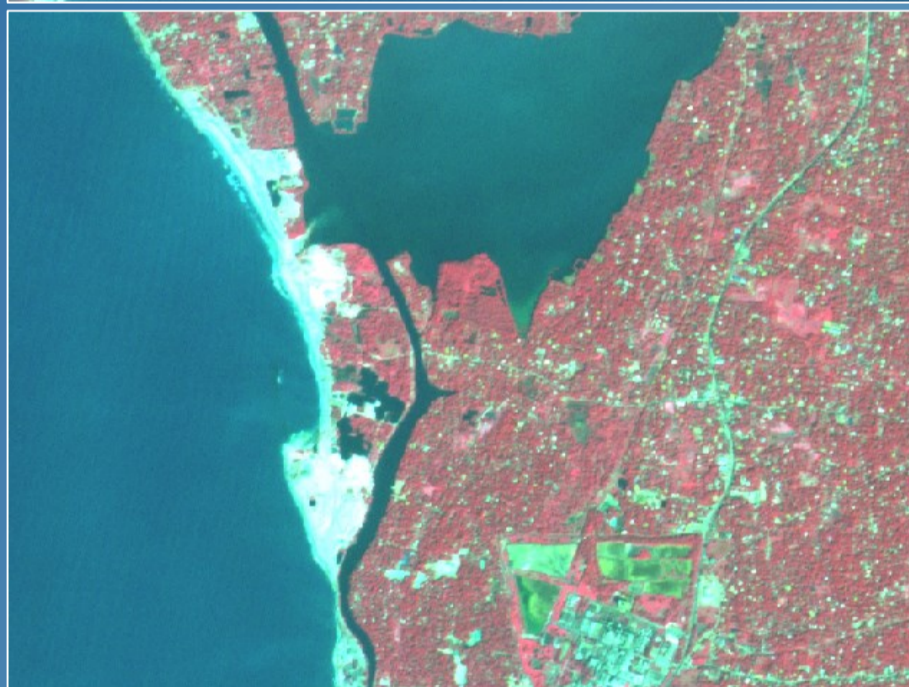


SHORE LINE CHANGE ATLAS OF THE INDIAN COAST

(Volume-VI)

Lakshadweep, Andaman and Nicobar Islands



SPACE APPLICATIONS CENTRE, ISRO
Ahmedabad

August-2021

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Abstract	This Atlas comprises of shoreline change maps prepared using satellite data of 2004-06 and 2014-16 time-frames on 1:25,000 scale for the entire country (Volume – VI Lakshadweep, Andaman and Nicobar Islands). The maps show eroding, stable and accreting coast. Data used, methodology, results, area under erosion and accretion and status of coastal protection measures are briefly described. Erosion in Lakshadweep Island is along 12 km and 13 km of the coast is under accretion, while 116 km show no change. The erosion in Lakshadweep Island caused a loss of 16.6 ha area of land while 18.4 ha area of land have accreted. In Andaman and Nicobar Islands, erosion is along 231 km, 256 km of the coast have accreted, and 1670 km shows no change. Around 1004 ha have accreted along the Andaman and Nicobar Islands, while 480 ha of the area have lost due to erosion.
Keywords	Shoreline change map, erosion, accretion, stable coast, coastal protection measures.
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MESSAGE

The Coastal Zone represents a complex environmental entity, which is in constant interaction with the marine and terrestrial processes. The coastal zone has been receiving increased attention due to the immense anthropogenic pressure and inevitable development activities related to trade and transport. The coast is bestowed with rich bio-diversity and fragile ecosystems like mangroves and coral reefs that are highly sensitive to any climatic and environmental changes.

The coastal region, due to the influence of natural and anthropogenic forces and the sporadic events like cyclones undergo severe erosions leading to loss of human livelihood and crucial biodiversity besides critically damaging the coastal constructions and aesthetic quality that attracts huge economic benefits. Quantifying coastal change is essential for calculating trends in erosion, evaluating processes that shape coastal landscapes and predicting the response of coast to future storms and sea-level rise. The dynamic natures of the coast prompt for frequent monitoring and comprehending the coastal erosion activities. Space technology has been effectively deployed in identification and measurement of such activities.

Space Applications Centre (SAC) in collaboration with a large number of scientific organization & universities of the country has carried out various scientific investigation/inventory of the entire coastal zone of India using satellite data like impact of sea level rise on the Indian coastal environment, development of Coastal Zone Information System (CZIS), mapping and monitoring of coral reefs and mangroves, inventory of the coastal land use etc. One such significant work was preparation of Shoreline Change Atlas of India for the time frame 1989-91 and 2004-06.

The present Shoreline Change Atlas is an outcome of the shoreline change mapped for the entire Indian coast between the time frames of 2004-06 and 2014-16 carried out by Space Applications Centre, ISRO, Ahmedabad based on recommendation of Coastal Protection and Development Advisory Committee (CPDAC) at the request of Central Water Commission, Department of Water Resources, River Development & Ganga Rejuvenation, Ministry of Jal Shakti, Government of India.

I congratulate the team of scientists for carrying out such an important study for the entire Indian coast. This study assumes greater significance in the context of planning shoreline protection measures to be constructed by various maritime States and UTs. I am sure this atlas will be highly useful not only to the coastal zone managers and to the authorities involved but also to the scientific community working in the coastal environment and climate change studies.

(S.K. Haldar)
Chairman
Central Water Commission





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FOREWORD

Coastal zone is one of the most fragile ecosystems having rich biodiversity and is characterised by constant interactions between various natural processes and human activities. Human interventions along the global coastal zones are profoundly increasing and may lead to disastrous consequences, if developmental activities are carried out with improper understanding of the coastal processes. In addition, the coastal ecosystems are also vulnerable to natural phenomena such as waves, tides, storm surges, erosion etc.

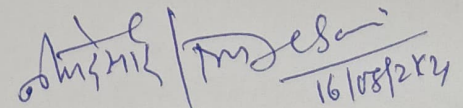
India has more than 7500 km. long coastline with diverse coastal ecosystem and hence, Coastal Zone in India, assumes its importance, more so because of high population pressure, development of various industries, spurt in recreational activities, exploitation of renewable and non-renewable natural resources, discharge of waste effluents and municipal sewage etc. The Indian shoreline is also dotted with vital coastal habitats like mangrove and coral reefs, ecological sensitive and biologically diverse regions and archaeologically and culturally important places. The natural and anthropogenic activities change the equilibrium of sediment transport along the coast and induce coastal erosion, thereby threatening the valuable resources. In view of its dynamic nature, frequent monitoring of the coast is also required and that can be achieved only through satellite based methods.

In India, the use of satellite data for coastal zone studies have been initiated by Space Applications Centre (SAC), ISRO, Ahmedabad in collaboration with various scientific organisations and universities across the country. For the past 30 years, SAC has been engaged in conducting various national level programmes aimed at detailed scientific investigations and preparing inventory of the entire coastal zone of India. I am happy to know that geo-sciences team at SAC/ISRO has completed Indian coastal shoreline change analysis (for 2004-06 and 2014-16 time frames) using Resourcesat-1&2 LISS-IV data and publishing these maps in the form of an atlas in six (6) volumes.

I am sure, this 6-volume atlas will be useful to the scientific community and decision makers in investigating the coastal challenges as well as for taking appropriate actions to protect the Indian coast, which will go a long way in conserving the coastal environment of the country. I would like to place on record my deep appreciation for all those scientists and support staff, who have made contributions for the successful execution of this project.

Place: Ahmedabad

Date: 16 August 2021


(एन एम देसाई) / (N M Desai)
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PREFACE

Coastal regions of the world undergo a continuous process of erosion & accretion due to natural reasons and anthropogenic as well. The climatic change and consequently the rise in sea level is likely to be one of the major factors causing coastal erosion and accretion in the near future. The risks and hazards arising due to coastal erosion have raised a serious concern for the Indian coastal regions too, as a large population survives on the economy of its resources. Coastal erosion and accretion are reflected as the shift in the shoreline. Hence, a systematic and repetitive inventory and monitoring of shoreline change are the pre-requisite for a proper coastal management and forms the baseline data to carry out coastal protection measures by the maritime States and Union Territories besides its use by the scientific community.

Space Applications Centre (ISRO) had brought out Atlas of maps showing shoreline changes for the entire Indian coast between time frame 1989–1991 and 2004–2006 at 1:25,000 scale. The project was funded by Coastal Management Directorate, Central Water Commission, Ministry of Water Resources, New Delhi. Coastal Protection and Development Advisory Committee (apex body concerned with planning of coastal protection measures at the national level in India) requested Space Applications Centre to update the existing shoreline change maps using recent satellite data (2014-16 time frame) for assessing status of coastal erosion. The mapping has been completed at 1:25,000 scale using IRS LISS IV data and changes in shoreline have been brought out between 2004-06 and 2014-16 time frame.

The atlas also shows location and type of coastal protection measures taken up by maritime states and UTs based on the data provided. The atlas has been brought out in six volumes covering the entire Indian coastline. Six volumes contain 618 maps prepared covering 7549 km of the Indian coastline. The maps suggest that about 1144 km is under erosion, 1084 km is under accretion and 5321 km of the coastline has been observed showing no change.

I congratulate the entire team specially Mr. Ratheesh Ramakrishnan, Scientist SF and Mrs. Preeti Rajput, Scientist SD of Space Applications Centre, ISRO Ahmedabad.

(I M Bahuguna)

SUMMARY

Shoreline is a dynamic geomorphological entity that coincides with the physical interface of land and ocean. The shoreline responds to the coastal processes exerted by waves, tides, nearshore currents and the resultant sediment transport and the pressure exerted by anthropogenic influences. The equilibrium in the sediment supply gets disturbed due to either natural phenomena or human intervention causing shoreline changes. The shoreline changes are attributed as erosion (accretion), where the shoreline shift landwards (seawards). The change in shoreline positions are of essential importance to the coastal scientists, engineers and managements, where the shoreline change information is required in the design of any sustainable management plans.

Coastal erosion ails threat to the life and livelihood along the shoreline, destroying settlements and infrastructures like road and pose major hazard to the ecologically sensitive habitats like mangroves and turtle nesting grounds. Coastal erosion, as in other maritime countries, is a serious problem along the Indian coast. India forms a peninsula and has a long coast on its east and west regions with varied coastal processes dominating the coastal dynamics. The Indian coast is relentlessly modified by the mounting development activities along the coastal region, which under improper management at times leads to severe coastal erosion.

Inventory related to coastal erosion are a pre-requisite in understanding the coastal dynamics of the region. Planning measures for sustainable development along the coastal region require a systematic inventory of shoreline changes. In this view, Space Applications Centre in collaboration with Central Water Commission, mapped the shoreline changes for the time frame 1989-91 and 2004-06 on 1:25, 000 scale for the entire Indian coast based on multirate remote sensing data in GIS environment. The database were then used to generate A3 size Shoreline Change Atlas of all the maritime states of India. Central Water Commission requested to update the existing shoreline change maps (1989-91 & 2004-06 time-frame) using the satellite data of 2014-16 time-frame. The major objective was to prepare digital shoreline change atlas on 1:25, 000 scale in GIS environment using the shoreline delineated for the time-frame 2004-06 and 2014-16, depict and quantify shoreline changes as eroding/accreting/stable, show status of shoreline protection measures taken by respective states.

Assessment of shoreline change using satellite images have gained its applicability owing to the synoptic observations covering a large spatial scale and its availability in temporal domain. LISS-4 images of 2014-16 (on board Resourcesat-2) and 2004-06 (on board IRS P6) time-frames

have been used to delineate the shoreline for entire Indian coast. The high tide line (HTL) is considered as the shoreline and on-screen digitization of the HTL has been carried out based on the geomorphic indicators.

The shoreline change status along 7549 km of the Indian coast is assessed that excludes river/creek mouths. About 1144 km of the Indian coast is under erosion, while 1084 km of the coast is accreting and the coastline is observed to be stable along 5321 km. The Indian coastal region have in total lost around 3680 ha of land due to erosion whereas around 4042 ha of area have been gained due to accretion. West Bengal coast is having around 35 percentage of its coast under erosion, which is the largest among the Indian coastal state and percentage of shoreline under accretion is the largest for Andhra Pradesh state (26%). Percentage of stable coast is largest along the Gujarat coast (87%) followed by the Lakshadweep Islands (82%), while more than 57 percentage of the West Bengal coast is under either erosion or accretion. A long coastal stretch to the northern Andhra Pradesh coast is eroding whereas a long coastal stretch along the Saurashtra coast of Gujarat is stable in nature.

The major natural processes involved in the coastal erosion are the wave induced erosion and littoral drift. Alongshore shift of inlets are observed due to growth of spits and erosion at the other side and is dominant at Chilika inlet, Odisha and Mulki-Pavanje Estuary, Karnataka. The processes of longshore sediment transport occurring naturally along the coasts are highly altered by the constructions of breakwaters and have triggered coastal erosion due to obstruction of the littoral drift. Sand mining and land reclamation are the other anthropogenic activities altering the sediment dynamics and triggering coastal erosion. Andaman and Nicobar Island is observed to have critical shoreline changes, where the coast is regaining the equilibrium after the subsidence, uplift and erosion due to tsunami associated with the 2004 mega earthquake. The inventory along with current status of coastal protection measures taken up by concerned state departments has been used to prepare a Shoreline Change Atlas of the Indian Coast.

The baseline data are aimed towards initiating appropriate action by concerned Maritime states and UTs besides use by the scientific community as well decision makers of the country. The Atlas shall function as a reference material to obtain information on the status of shoreline changes during 2004-06 and 2014-16 time-frames along entire Indian coastline. Areas under coastal erosion and status of coastal protection measures taken up by respective maritime State and Union Territory are depicted and can be used for planning coastal protection measures.

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1. INTRODUCTION

The coastal zone is in constant interaction between various natural processes and human activities that leads to a modification of its geomorphology. Coastal zone in India assumes its importance due the presence of fragile ecosystems and its interaction with anthropogenic activities. The coast is also subjected to exploitation of natural resources and is used as a medium for discharge of waste effluent and municipal sewages. The coastal regions are also overburdened with mounting developmental activities, increasing load on harbours, spurt in recreational activities and above all petroleum exploration activities.

Shoreline is a dynamic geomorphological entity, which responds to the external forces exerted by waves, tides, nearshore currents and the resultant sediment transport. When the resultant sediment transport entering a particular area is greater than the sediment going out from the area, accretion or beach development takes place. On the other hand, when there is a deficit of the incoming sediment supply into a particular area with reference to the sediment going out of the same area, beach erosion takes place. The equilibrium in the sediment supply is fairly maintained by the coastal geomorphic environment. However, sometimes this equilibrium gets disturbed due to either natural phenomena or human intervention. Natural phenomenon like intense wave activities during monsoon, cyclones and changes in river mouth during flood conditions contributes towards disrupting the equilibrium, while construction of coastal structures like breakwaters, dam construction in the rivers are the human interventions

India has a long shoreline of about 7500 km including its island territories. The destruction and loss of land due to erosion is a severe problem, particularly for a country like India facing an increased population growth. Erosion of the coastal region poses a major threat not only to the human population, but also to the vital coastal ecosystem. The dynamic interaction between nearshore features and the hydrodynamics of the region, termed as coastal processes, determines the stability of the adjacent shoreline. Moreover, various developments along the coast enhance the changes in the shoreline. Indian coast forms a peninsula and has a long coast on its east and west regions with varied coastal processes dominating the coastal dynamics. These include tide-

dominated regions along the northern parts of the west coast, open coast with high wave energy along the southern parts of the west coast, strong longshore sediment transport along the southern parts of the east coast and the coast strongly influenced with river discharges along the northern parts of the east coast. The coastal geomorphology and the land-use pattern along the Indian coast also show a varied range, which includes coral reefs, mangrove belts, tidal mudflats, rocky coasts, wide sandy beaches and deltaic and bay environments.

The Indian coast is relentlessly modified by the mounting development activities along the coastal region, which under improper management at times leads to severe coastal erosion. Management plans with proper understanding of the coastal processes and coastal dynamics are needed to achieve sustainable development along the coastal region, where planning measures have to be taken up at the national level. Inventory related to coastal erosion are a pre-requisite in understanding the coastal dynamics of the region. Planning measures for sustainable development along the coastal region require a systematic inventory of shoreline changes occurring along the entire Indian coast on 1 : 25,000 scale. Space Applications Centre, along with Coastal Protection and Development Advisory Committee (CPDAC) (apex body concerned with planning of coastal protection measures at the national level in India) have brought out shoreline change atlas (SAC, 2014 and Rajawat et al, 2015). The atlas depicts the shoreline changes for the time-frame 1989-1991 (using SPOT-1/2 HRV1-MLA) and 2004–2006 (using IRS-P6 LISSIV), that was mapped on 1 : 25,000 scale for the entire Indian coast.

Coastal Management Directorate, Central Water Commission, Ministry of Water Resources, New Delhi have requested to update the existing shoreline change maps (1989-91 & 2004-06 time-frame) using recent satellite data (2014-16 time-frame) for assessing coastal erosion. CPDAC recommended the need for preparation of Shoreline Change Atlas of the Indian coast showing information related to coastal erosion derived from satellite data and protection measures undertaken by all maritime states of India. It is in this context, Space Applications Centre in collaboration with Central Water Commission, have mapped the shoreline for the time-frame 2014-16 on 1:25, 000 scale for the entire Indian coast based on LISS-IV images of 2014-16 in GIS environment. The information is

catalogued as per Survey of India topographical map indexing which is 1:25000 Scale.

The major objective is to prepare digital shoreline change atlas on 1:25, 000 scale in GIS environment using the shoreline delineated for the time-frame 2004-06 and 2014-16. The atlas shall depict and quantify shoreline changes as eroding/accreting/stable, show status of shoreline protection measures taken by respective states and generate A3 size state wise Coastal Atlas of all the maritime states of India.

The detailed objectives are:

- i) To prepare shoreline database of 2014-16 time-frame for all the maritime states and UT.
- ii) To quantify and classify the shoreline as shoreline under erosion, stable and accretion for entire Indian coast by integrating shoreline using database of 2004-06 and 2014-16 period.
- iii) To integrate the information on coastal erosion and shoreline protection measures of all the maritime states and UT of India in GIS environment.
- iv) To generate Six Volumes of A-3 size coloured Coastal Atlas of India (Volume I covering Gujarat, Daman & Diu, Volume II covering Maharashtra & Goa, Volume III covering Karnataka & Kerala, Volume IV covering Tamil Nadu, Pondicherry & Andhra Pradesh, Volume V covering Odisha & West Bengal and Volume VI covering Lakshadweep & Andaman & Nicobar).

2. DATA USED

High tidal line is demarcated using IRS-P6 LISSIV data of 2004-06 period and Resourcesat-2 LISS-IV data of 2014-16 time-frame procured from NRSC. The LISS-IV is a multispectral (three-VNIR-band) push-broom camera having a spatial resolution of 5.8m with a swath of 23.9km for IRS-P6 and 70km for Resourcesat-2. Both the satellites orbits in a sun-synchronous orbit at an altitude of 817km with a 5-day revisit cycle.

Detailed list of the satellite data used is given in the Annexure-III. In few cases where suitable data were not available, the data of nearest time-frame was used. Shoreline changes are computed with respect to the spatial changes in the Highest High Tide Line. The status of coastal protection measures taken up by maritime states and UTs was provided through Central Water Commission (CWC), New Delhi. These were prepared in spatial format and were put in the GIS database.

DATABASE Standards

Satellite images of Resourcesat LISS-IV, having a spatial resolution of 5 m is used for both 2004-06 and 2014-16 time frame. Geometric projection for the images are set to UTM (Standard LANDSAT projection for Indian region). Image to image rectifications are carried out with an overlap error less than 1 pixel.

The vector layers are projected in polyconic projection system, with a planimetric accuracy of 6.25 m and weed tolerance of 3.125 m. Onscreen digitization are carried out in 1:12,500 scale. "State" and "year" attributes are created for the high tide line digitised using the satellite images.

3. METHODOLOGY

We have undertaken following steps to prepare shoreline change atlas:

- i. LISS-IV images of 2014-16 (on board Resourcesat-2) and 2004-06 (on board IRS P6) time-frames have been used to delineate the shoreline for entire Indian coast. LANDSAT orthorectified products are used as base map. Image to image co-registration is carried out on LISS-IV images of both time-frames to bring the data set to same geo-reference with an error of +/- 1 pixel.
- ii. High tide line (HTL) is considered as the shoreline. On-screen digitization of the HTL has been carried out based on the geomorphic indicators (NCSCM, 2015). Image interpretation keys based on Nayak et al (1991) is used to identify the geomorphic indicators to delineate the HTL.
- iii. The HTL is prepared for all maritime states and Union territories of India on 1:25,000 scale. The 1°X1° grid consists of 8X8 rectangular grids or cells. Each rectangular grid or cell represents one Survey of India (SOI) topographic area on 1:25,000 scale.
- iv. Limited field checks were carried out and based on field observations, corrections were incorporated while finalizing the map. Field photographs were also taken during the field visits.
- v. Accuracy Assessment: Classification as well as planimetric accuracy of the maps was assessed while carrying out the fieldwork. Overall, the classification accuracy of these maps range from 90-95% at 90% confidence level. The Planimetric Accuracy of these maps is 6.25 m as per SOI standard.
- vi. Spatial layer for habitation (as point feature) and, rail and road (as line features) are taken from CZIS database.
- vii. Spatial analysis techniques are used to compute the spatial shift among the HTL of different time frame.
- viii. Polygons for areas under erosion and accretion were created.

- ix. Areas under erosion and accretion were measured for the main shoreline (excluding creeks, river mouths, estuaries). Shore length under erosion, accretion and stable categories were measured for the main shoreline (excluding creeks, river mouths, estuaries). Areas with no changes were considered as stable.
- x. A table containing the length of eroding, accreting and stable coast along with the area of erosion and accretion for each SOI grid has been generated for the maritime state and U.T.
- xi. Shoreline protection measures have been depicted as per the information provided by the maritime State/UT agencies through Central Water Commission.
- xii. A standard map composition and layout were finalised and have been used for final map composition of each map.
- xiii. Final maps depicting shoreline changes were utilized for preparing shoreline change Atlas of the Indian coast (Six Volumes). Volume I covers Gujarat, Daman & Diu, Volume II covers Maharashtra & Goa, Volume III covers Karnataka & Kerala, Volume IV covers Tamil Nadu, Puducherry & Andhra Pradesh, Volume V covers Odisha & West Bengal and Volume VI covers Lakshadweep & Andaman & Nicobar Islands.

4. RESULTS

The shoreline change maps of Lakshadweep Islands and Andaman & Nicobar Islands at each SOI grid at 1:25000 scale are given in Section-II.

Lakshadweep Islands

The coral islands of Lakshadweep lie about 200 to 470 kilometers off the Kerala coast within the geographic limits of 8° - 12° N latitude and 71°-74° E longitude. The islands consist of a chain of well-developed coral reefs. There are about 36 islands, out of these only 10 are inhabited. The islands are flat, rising 3-9 meters above the sea. Chetlat is one of the northern most islands. The Minicoy Island is the southernmost island of this group, separated from the rest of islands by a stretch of a sea that is about 180 km wide. The corals occur as atolls in which the coral reef formation appears annular or ring shaped in its plan view. An atoll is often topped by low sand islands, enclosing a lagoon. These atolls are rich in biodiversity harbouring coral fauna over a hundred species. Sandy beach characteristically make up the coast of all the Lakshadweep islands.

Shoreline change analysis is carried out along 141 km of the Lakshadweep Islands. Erosion in Lakshadweep Island is along 12 km and 13 km of the coast is under accretion. Around 116 km of the Lakshadweep Island is stable in nature. Figure 1 shows the shoreline change status of Lakshadweep Islands. The erosion in Lakshadweep Island have caused a loss of 16.6 ha area of land while 18.4 ha area of land have accreted. Details of erosion/accretion status at each SOI grid is given in Table 1.

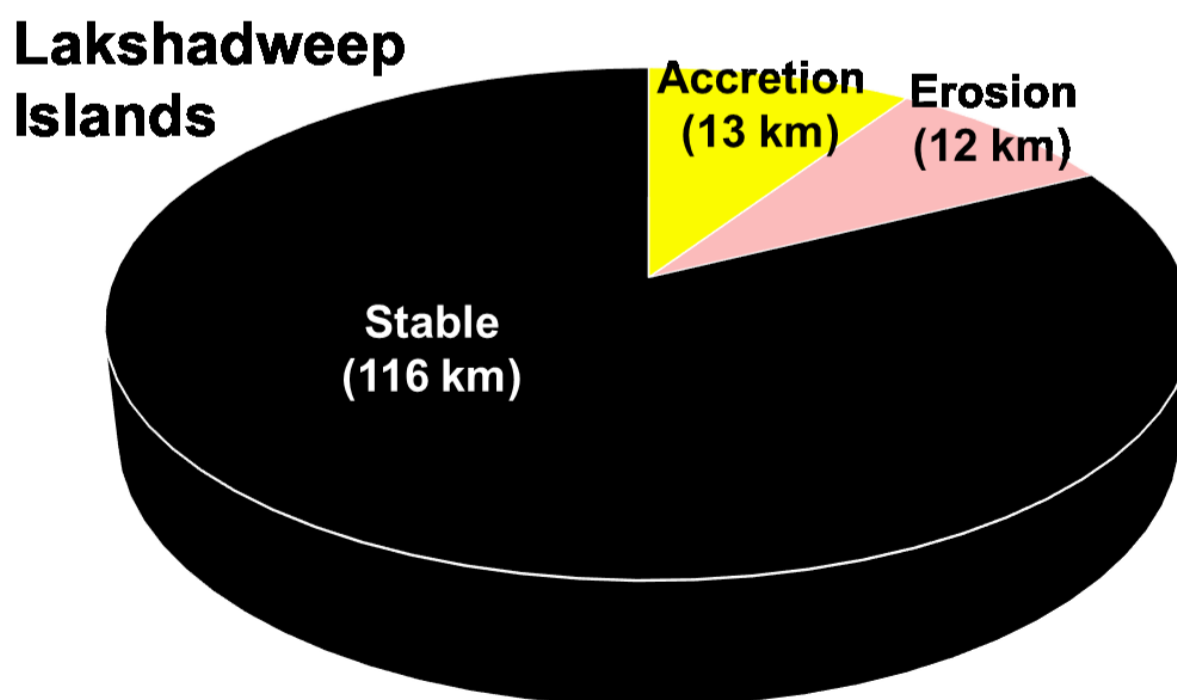


Figure 1: Shoreline change status of Lakshadweep Islands

The coastal erosion is observed for almost entire islands within the Lakshadweep Island group except for Chetlat (49A10NE), Amini (49A12NE and 49A12SE) and Kavaratti (49B10SW and 49B10SE). The shoreline changes at the southern coast of Bangaram Island (49B05NW) is shown in plate 1. Plate 2 shows the erosion of Cheriyakara Island (49B08SW) and the shoreline changes at Minicoy (49H03SW) is shown in plate 3.

Table 1: Mapsheet-wise results of shoreline changes for 2004-06 and 2014-16 time-frame for Lakshadweep Islands

Serial No.	Map Sheet No.	Erosion Area (ha)	Erosion Length (km)	Accretion Area (ha)	Accretion Length (km)	Stable Length (km)	Total Length (km)
1	49A10NE	0.00	0.00	0.15	0.32	5.59	5.92
2	49A2SE	0.06	0.06	1.47	0.85	1.08	2.00
3	49A15NE	0.00	0.00	0.00	0.00	0.84	0.84
4	49E3NW	0.53	0.60	0.30	0.30	6.01	6.92
5	49A15SW	0.00	0.00	0.49	0.70	1.58	2.28
6	49A12NE	0.00	0.00	0.19	0.23	3.09	3.32
7	49A16NW	2.89	0.83	2.74	2.27	13.39	16.49
8	49A12SE	0.00	0.00	0.00	0.00	3.42	3.42
9	49B01NE	0.00	0.00	0.00	0.00	1.32	1.32
10	49B5NW	4.43	1.65	6.31	2.63	4.52	8.80
11	49B01SE	0.92	0.69	1.04	0.99	14.60	16.28
12	49F9SE	1.00	1.35	0.20	0.18	9.11	10.64
13	49B10SW	0.00	0.00	0.00	0.00	2.86	2.86
14	49B10SE	0.00	0.00	0.86	0.75	8.27	9.02
15	49B8NW	0.90	0.66	0.00	0.00	2.53	3.18
16	49F12NE	0.56	1.03	1.00	0.85	4.62	6.50
17	49B8SW	1.12	1.11	0.60	0.58	1.71	3.40
18	49F12SE	0.70	0.90	0.63	0.64	12.08	13.62
19	49H3SW	3.48	2.77	2.42	1.86	19.22	23.85
	Total	16.6	11.7	18.4	13.2	115.8	140.6

Andaman and Nicobar Islands

The Andaman and Nicobar islands group is the largest archipelago system in the Bay of Bengal, consisting of more than 350 islands. It lies within the geographical coordinates 10° 30'-13° 40' N and 92° 00'- 94° 00' E (Andaman group) and 06° 30'- 09° 30' N and 92° 30' - 94° 00' E (Nicobar group). These groups of islands are the emerged part of a mountain chain and lie on a ridge extending southward from the Irrawady delta area of Burma. The Ten Degree Channel separates the Andaman group of islands from the Nicobar group of islands.

On the Andaman and Nicobar islands, there are many small tidal estuaries, long inlets and lagoons, which support a dense and diverse mangrove flora. The tidal creeks of Andaman and Nicobar islands often form the outlets to the rain-fed stream that flow from

the interior and carry silt to the shore to form muddy plains facilitating the spread and regeneration of mangroves. The islands alone account for about 18% of the country's total mangrove area.

Shoreline change analysis is carried out along 2157 km of the Andaman and Nicobar (AN) Islands. The December 2004 earthquake and the preceding tsunami had a devastating effect on the AN Islands. The shoreline change analysis have been carried out by using post tsunami satellite images for 2004-06 time frame to estimate the recovery of the shoreline along the AN Islands. A major part of the coastline is stable in nature accounting to about 77 %. Erosion happened along 231 km and 256 km of the coast have accreted. Figure 2 shows the shoreline change status of AN Islands. A large area of around 1004 ha have accreted along the AN Islands, while 480 ha of the area have lost due to erosion. Details of erosion/accretion status at each SOI grid is given in Table 2.

The shoreline change analysis of Andaman and Nicobar Island is carried out by dividing the entire coast into three sectors based on the district administrative boundary, that are the North and Middle Andaman, the South Andaman and the Nicobar districts.

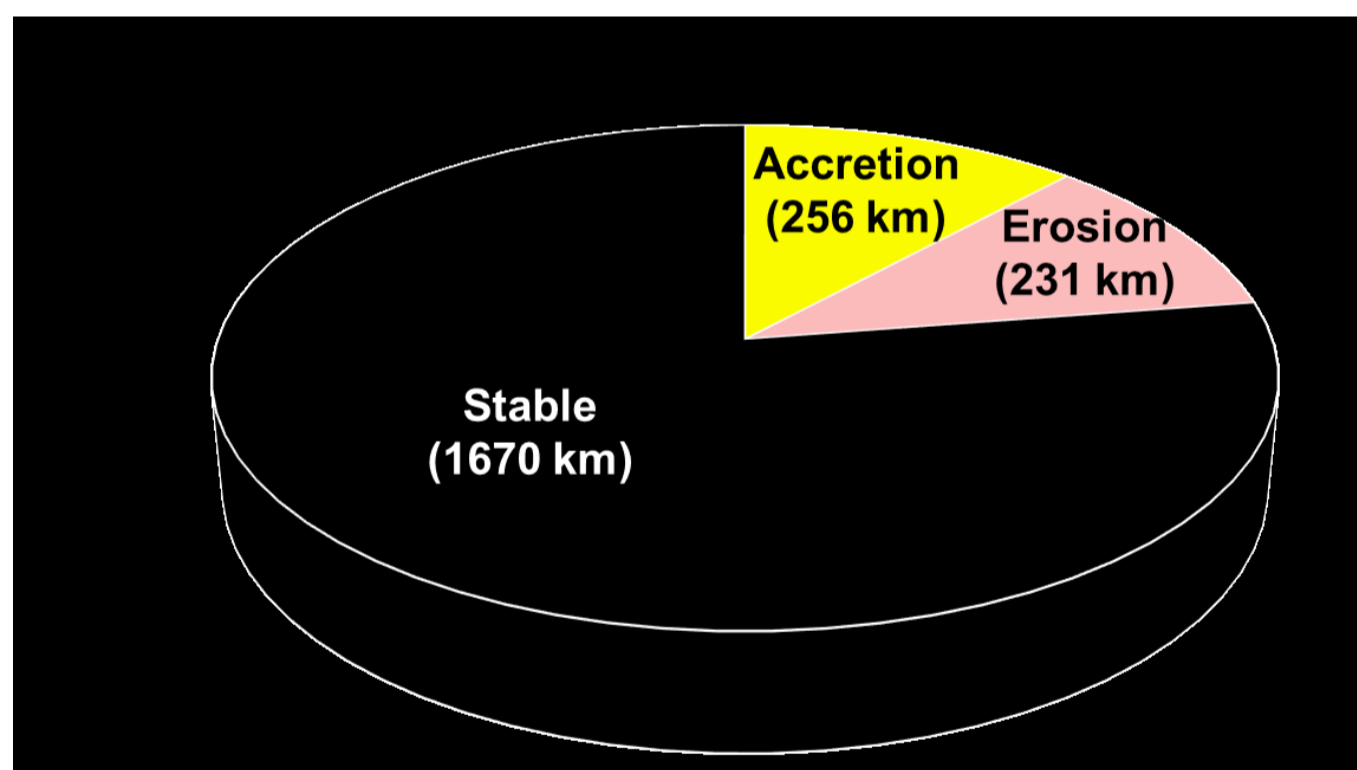


Figure 2: Shoreline change status of Andaman and Nicobar Islands

Along the districts of North and Middle Andaman, the accreting coast is significantly more than the eroding coast. Accretion is along 73 km while the coast under erosion is 29 km. Around 620 km of the district is stable in nature. The northern Andaman Island have undergone land uplift during the December 2004 earthquake, which have lead the submerged reef to get uplifted and terrestrial

vegetation have grown shifting the shoreline seaward. Plate 4 shows such growth of terrestrial vegetation along the North Reef Island (86C12SE). The shift in shoreline towards sea due to the growth of terrestrial vegetation over the erstwhile-submerged reef is observed along the west coast of the North and Middle Andaman District. Significant accretions are along Kishorinagar (86C16NW), along the western coast of Interview Island (86D09NE and 86D09SE) and to the coast along 86D10NE and 86D10SE. A small patch of accretion is observed to the west coast of Barren Island (86H15SW and 86H15SE).

The South Andaman District have eroding and accreting coastal length of 79 and 72 km respectively, while 594 km of the coast is stable in nature. Plate 5 shows coastal erosion along the west coast of Rutland Island (87A11NW) and Plate 6 shows erosion to the east coast at South Andaman District (87A13NW). Erosions are observed along long coastal stretch at 87A13SW, to the east coast of Ross Island (87A14NW), near Beadanbad (87A10SE), to the east coast of Taramugli Island (87A10SW) and to the coast of Cinque Islands (87A11SE).

Large-scale devastation along the Nicobar Islands happened due to the December 2004 tsunami and earthquake. Around 123 km of the coast is under erosion, accretion is along 112 km and 455 km coast is under stable condition.

Deterioration of the shoreline and slow recovery at Malacca to the east coast of Car Nicobar Island (87C16NW) (Plate 7), at Campbell Bay (88E16SE and 88F13NE) (Plate 8) and to the east coast of Trinkat Island (87H12SW) (Plate 9) are shown. A long stretch of coast at Pulloulo (88E11SE) in Little Nicobar Island is under erosion. Erosion in Car Nicobar Islands are along Mus (87C16NW and 87C15SW), Sawal (87C12NE) and Tamalo (87C16NW).

Table 2: Mapsheet-wise results of shoreline changes for 2004-06 and 2014-16 time-frame for Andaman and Nicobar Islands

Serial No.	Map Sheet No.	Erosion Area (ha)	Erosion Length (km)	Accretion Area(ha)	Accretion Length (km)	Stable Length (km)	Total Length (km)
1	86C14NE	0.00	0.00	0.00	0.00	1.56	1.56
2	86G02NW	0.24	0.16	0.69	0.58	16.17	16.91
3	86C14SW	0.00	0.00	0.96	0.63	2.58	3.21
4	86C14SE	0.00	0.00	1.52	0.58	23.59	24.17
5	86G02SW	0.00	0.00	0.40	0.51	16.59	17.10
6	86K07NW	0.00	0.00	0.00	0.00	11.76	11.76

7	86C15NW	0.00	0.00	1.09	0.00	18.15	18.15
8	86K03NE	0.00	0.00	0.00	0.00	0.96	0.96
9	86C15NE	0.00	0.00	0.00	0.00	7.88	7.88
10	86G03NW	0.00	0.00	1.99	1.86	37.92	39.78
11	86C15SW	2.84	1.34	14.41	3.93	18.12	23.38
12	86C15SE	0.00	0.00	0.00	0.00	4.13	4.13
13	86G03SW	0.00	0.00	1.56	1.55	43.55	45.10
14	86C16NW	0.00	0.00	16.54	8.97	11.34	20.31
15	86G04NW	1.33	2.28	2.71	1.58	13.75	17.62
16	86C12SE	0.19	0.20	22.18	9.83	2.25	12.28
17	86C16SW	0.00	0.00	2.10	1.03	5.12	6.15
18	86C16SE	0.71	0.61	0.60	0.84	17.43	18.89
19	86G04SW	1.10	0.98	0.71	0.82	13.21	15.02
20	86D09NE	0.00	0.00	8.65	5.40	10.67	16.07
21	86D13NW	0.00	0.00	1.87	1.46	12.77	14.23
22	86D13NE	0.73	0.88	3.04	3.77	63.48	68.13
23	86H01NW	0.00	0.00	0.00	0.00	2.23	2.23
24	86D09SE	0.00	0.00	7.55	6.30	37.12	43.43
25	86D13SW	0.00	0.00	0.00	0.00	0.36	0.36
26	86D13SE	0.60	0.50	0.57	0.67	20.12	21.29
27	86D10NE	0.41	0.24	5.53	5.43	21.64	27.31
28	86D14NW	0.00	0.00	0.00	0.00	0.96	0.96
29	86D14NE	0.27	0.29	6.48	3.24	16.52	20.05
30	86D10SE	1.77	0.80	12.33	7.24	15.24	23.28
31	86D14SE	1.75	1.21	4.18	1.90	13.11	16.22
32	86D11NE	1.34	1.04	0.83	0.67	14.83	16.53
33	86D15NE	2.55	3.38	0.04	0.00	25.64	29.02
34	86D11SE	1.46	2.27	0.03	0.00	27.75	30.01
35	86D15SE	1.21	1.21	0.86	0.65	24.96	26.82
36	86H03SW	0.00	0.00	0.00	0.00	4.12	4.12
37	86H15SE	0.00	0.00	0.00	0.00	1.85	1.85
38	86H15SW	0.00	0.00	1.65	0.44	10.83	11.27
39	86D12NE	0.55	0.89	0.30	0.36	26.87	28.12
40	86D16NW	5.28	4.06	3.27	2.10	8.42	14.58
41	86D16NE	1.54	1.78	0.01	0.00	20.71	22.49
42	86H04NW	0.63	0.31	0.00	0.00	41.29	41.59
43	86D12SW	0.34	0.49	0.43	0.34	11.34	12.17
44	86D12SE	0.29	0.38	0.27	0.43	5.01	5.82
45	86D16SW	10.05	8.31	0.24	0.18	4.88	13.37
46	86D16SE	0.00	0.00	0.73	0.52	28.55	29.07
47	86H04SW	0.41	0.51	0.00	0.00	23.85	24.36
48	87A09NW	0.00	0.00	1.21	0.87	41.01	41.88
49	87A09NE	0.58	0.61	0.00	0.00	5.30	5.91
50	87A13NW	8.63	7.33	0.17	0.20	11.77	19.31
51	87A13NE	0.00	0.00	0.29	0.00	14.68	14.68
52	87E01NW	3.23	3.47	0.00	0.00	20.95	24.42
53	87A09SW	0.21	0.23	0.95	1.33	16.14	17.69
54	87A13SW	8.69	6.38	0.00	0.00	10.69	17.08
55	87E01SW	0.85	0.68	0.42	0.25	21.69	22.62
56	87A10NW	3.94	2.03	2.96	0.72	24.52	27.28
57	87A10NE	3.79	3.87	0.00	0.00	36.54	40.41
58	87A14NW	1.79	2.20	0.15	0.11	14.27	16.59
59	87A02SE	0.00	0.00	3.30	1.51	15.92	17.43
60	87A06SW	0.00	0.00	1.10	0.55	12.68	13.22
61	87A10SW	12.85	12.08	2.37	2.87	37.90	52.84
62	87A10SE	9.25	9.74	0.20	0.19	18.32	28.25
63	87A14SW	0.43	0.37	0.00	0.00	2.21	2.58
64	87A11NW	6.57	5.84	1.31	1.28	14.80	21.92
65	87A11NE	6.42	7.93	0.13	0.18	27.36	35.46
66	87A11SW	0.28	0.40	0.10	0.27	7.35	8.02
67	87A11SE	8.51	6.90	0.00	0.00	25.64	32.54
68	87A12NE	0.24	0.28	0.00	0.00	1.51	1.78
69	87B05NE	0.00	0.00	3.03	1.62	1.43	3.05

70	87B09NW	0.00	0.00	13.66	4.53	2.14	6.68
71	87B05SE	0.00	0.00	88.08	19.79	6.22	26.02
72	87B09SW	1.14	1.01	12.70	6.00	10.24	17.25
73	87B06NE	0.00	0.00	51.25	6.50	10.80	17.30
74	87B10NW	0.00	0.00	2.92	1.54	17.52	19.06
75	87B06SE	1.65	1.19	45.23	16.02	10.05	27.26
76	87B10SW	1.38	0.89	20.49	4.14	14.03	19.06
77	87C15SW	2.28	1.06	0.00	0.00	0.83	1.89
78	87C12NE	2.64	1.28	0.55	0.24	13.84	15.37
79	87C16NW	18.86	7.36	27.20	4.70	16.11	28.16
80	87C12SE	0.00	0.00	0.00	0.00	1.34	1.34
81	87C16SW	0.00	0.00	3.48	1.49	3.07	4.56
82	87H10SE	0.00	0.00	0.00	0.00	7.15	7.15
83	87H10SW	0.00	0.00	0.01	0.00	18.17	18.17
84	87H11NE	0.00	0.00	0.00	0.00	18.10	18.10
85	87H11NW	0.31	0.44	0.52	0.48	12.37	13.29
86	87H03NW	0.91	0.79	1.69	1.22	7.72	9.73
87	87H03SE	1.48	0.70	9.97	3.77	14.84	19.31
88	87H03SW	0.02	0.00	7.12	4.43	11.63	16.06
89	87H12NW	5.05	1.61	51.05	6.78	21.80	30.19
90	87H08NE	6.94	3.16	43.50	8.49	5.27	16.92
91	87H08NW	0.00	0.00	0.00	0.00	0.30	0.30
92	87H04NE	0.03	0.00	11.82	6.87	21.26	28.13
93	87H04NW	0.00	0.00	5.05	2.80	1.82	4.62
94	87H12SW	10.90	5.68	52.64	9.40	36.36	51.44
95	87H08SE	5.06	2.87	1.56	0.23	22.27	25.37
96	87H08SW	0.00	0.00	0.45	0.16	7.81	7.98
97	88E09NW	1.55	0.45	2.86	1.34	23.83	25.62
98	88E05NE	18.23	7.00	22.78	5.43	20.59	33.02
99	88E05NW	0.00	0.00	5.15	1.86	17.91	19.77
100	88E05SE	0.38	0.27	0.00	0.00	1.23	1.50
101	88E15NW	1.96	1.13	0.18	0.13	3.58	4.84
102	88E11NE	15.37	5.03	13.94	3.14	21.36	29.53
103	88E15SW	2.31	0.85	0.00	0.00	2.08	2.93
104	88E11SE	35.48	14.56	17.29	3.49	22.44	40.49
105	88E11SW	0.00	0.00	0.00	0.00	0.85	0.85
106	88E16NE	4.82	2.20	0.87	0.29	10.01	12.51
107	88E16NW	11.99	5.61	1.29	0.61	19.01	25.23
108	88E12NE	21.01	6.20	46.35	6.01	18.67	30.88
109	88E16SE	29.96	10.72	7.65	1.72	10.68	23.11
110	88E12SE	19.62	4.69	101.12	10.44	8.95	24.07
111	88F13NE	37.86	13.62	7.93	2.80	8.29	24.71
112	88F13NW	19.33	4.97	35.77	6.39	3.77	15.13
113	88F09NE	20.01	2.47	39.29	4.58	2.81	9.86
114	88F13SE	25.13	7.90	6.68	1.61	5.70	15.21
115	88F13SW	42.57	10.60	99.91	11.13	11.02	32.75
	Total	480.1	230.7	1004.0	256.4	1669.7	2156.8

5. END USE

Coastal management plans require a proper understanding of the coastal processes and coastal dynamics to achieve a sustainable development along the coastal region. The inventory of shoreline change is the pre-requisite in understanding the dynamics of the coastal region. As the Indian coastal regions are modified by mounting development activities, an improper management at times shall lead to severe coastal erosion. Planning measures for sustainable development along the coastal region require a systematic inventory of shoreline changes occurring along the entire Indian coast on 1: 25,000 scale.

The Atlas can be used as a reference material for obtaining information on status of shoreline changes during 2004-06 and 2014-16 time-frames along entire Indian coastline. Areas under coastal erosion and status of coastal protection measures taken up by respective maritime State and Union Territory are depicted and can be used for planning coastal protection measures.

The Atlas is extremely useful to Coastal Management Directorate, Central Water Commission for providing guidance towards coastal protection works in maritime states of India.

All the State Public Works Departments, Ports and Harbour Authorities, Coastal Regulation Zone Authorities shall be able to have better management of the shorelines in respective states.

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We express special thanks to the Chairman and Members of Coastal Protection and Development Advisory Committee (CPDAC) for necessary support. We express deep gratefulness to the Director, Coastal Management Directorate, Central Water Commission, Ministry of Water Resources for his full support for this work and in organizing collection of coastal protection measures data from all the maritime States and U.T. of India.

We are highly grateful to the quality check team Shri T.V.R Murthy, Shri J.G Patel, Shri R.J Bhanderi, Shri B.P Rathore and Shri Manish Parmar for meticulously checking the shoreline change database and giving invaluable suggestion towards improving the same. We express our sincere gratitude to Ms. Savita Kumari and Ms. Anupama Sahoo for helping us in the map composition and database management.

Project team
Shoreline Change Atlas

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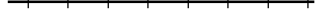







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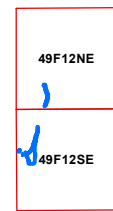
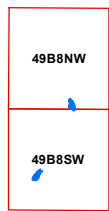
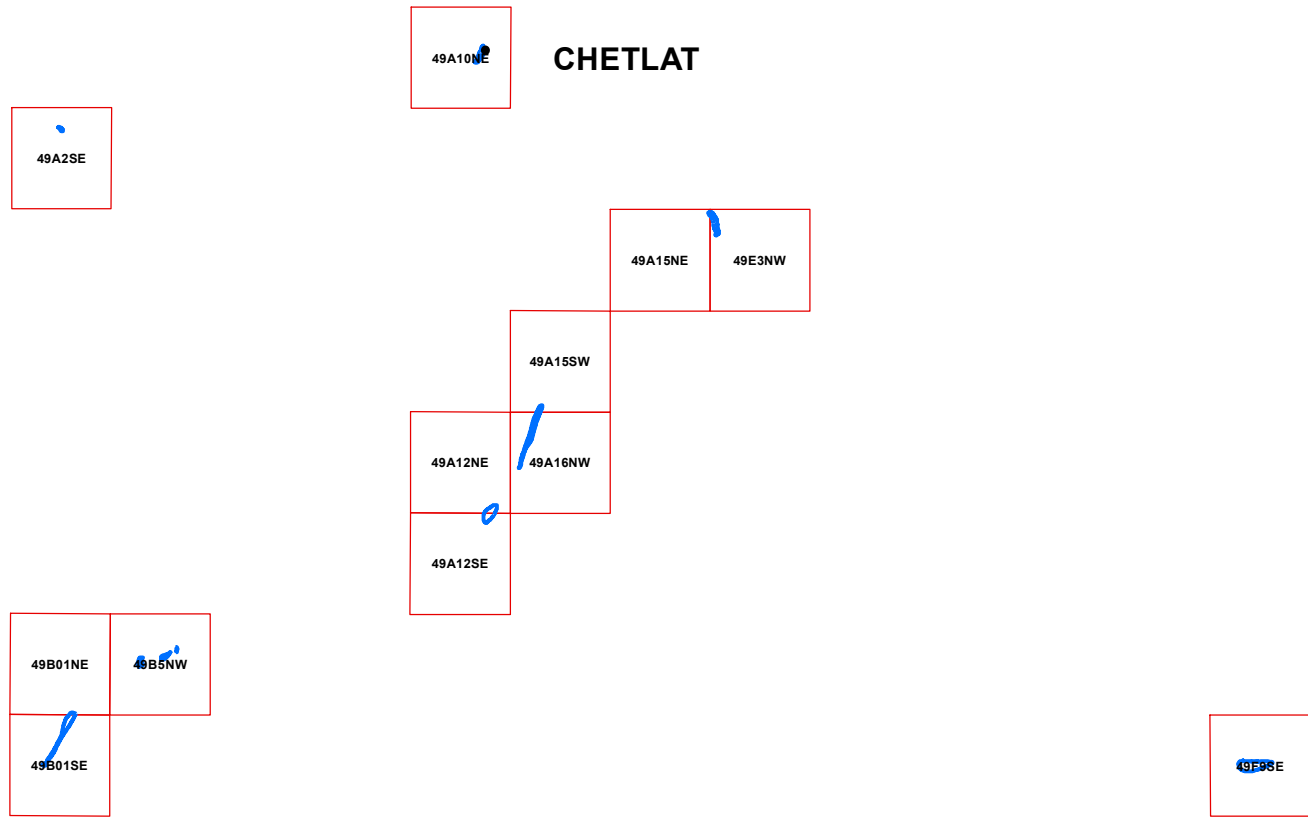
SHORELINE CHANGE MAPS

COMPLETE LEGEND TO SHORELINE CHANGE MAPS

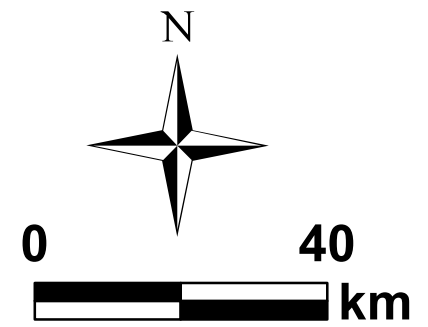
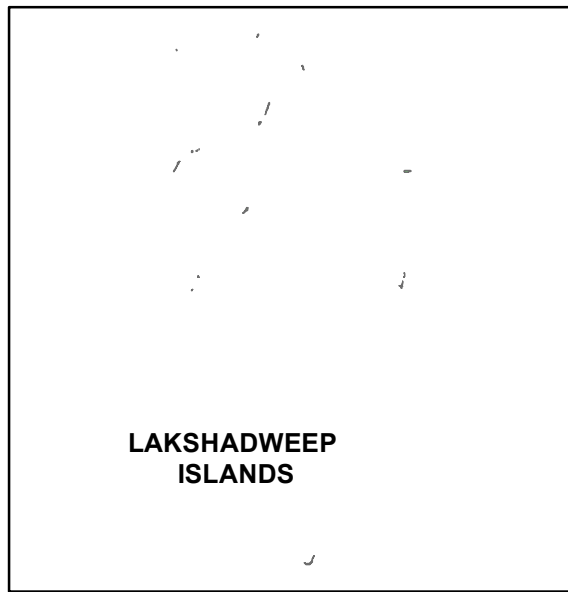
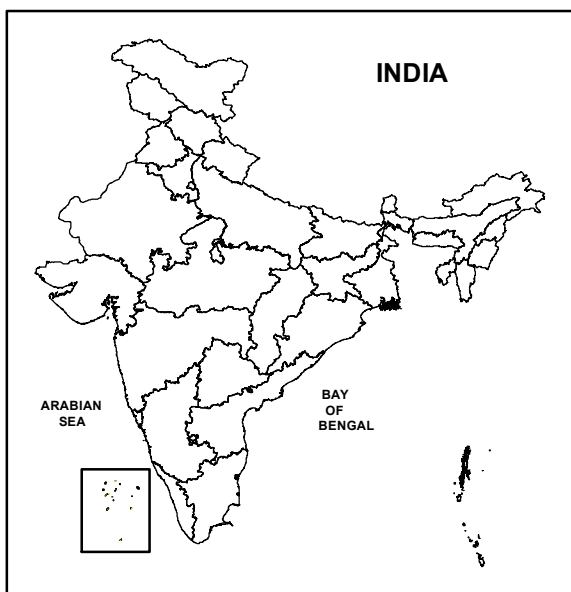
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	ACCRETION
	HIGH-TIDE LINE 2014-16
	HIGH-TIDE LINE 2004-06
	STABLE
	ROAD
	RAILWAY
	SEA WALL
	GROYNES
	BREAKWATER
	JETTY
	STATE BOUNDARY
	PORT/HARBOUR
	HABITATION

SHORELINE CHANGE MAPS
LAKSHADWEEP ISLANDS

INDEX MAP OF LAKSHADWEEP ISLANDS



ARABIAN SEA



MINICOY

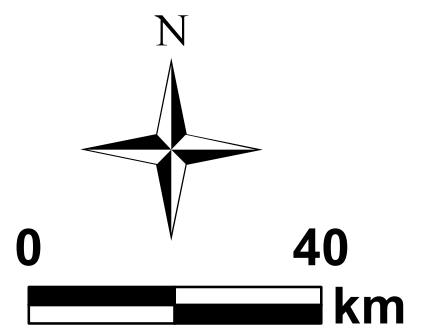
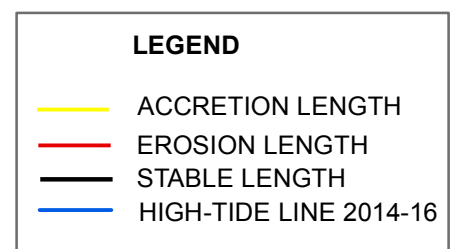
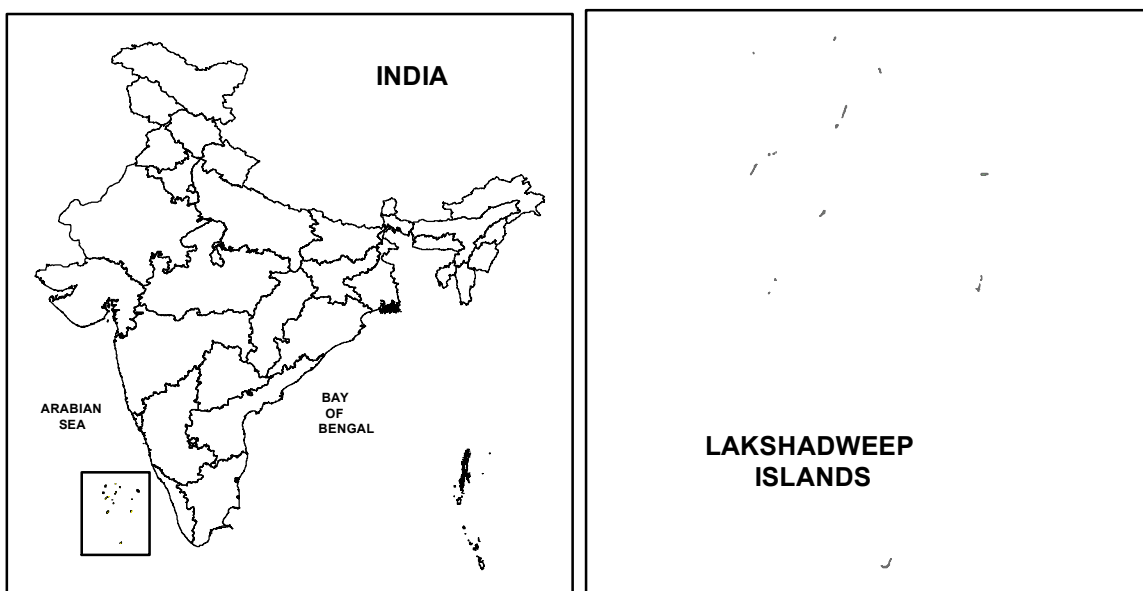
SHORELINE CHANGES OF ANDAMAN AND NICOBAR ISLANDS

CHETLAT

KAVARATTI

MINICOY

ARABIAN SEA

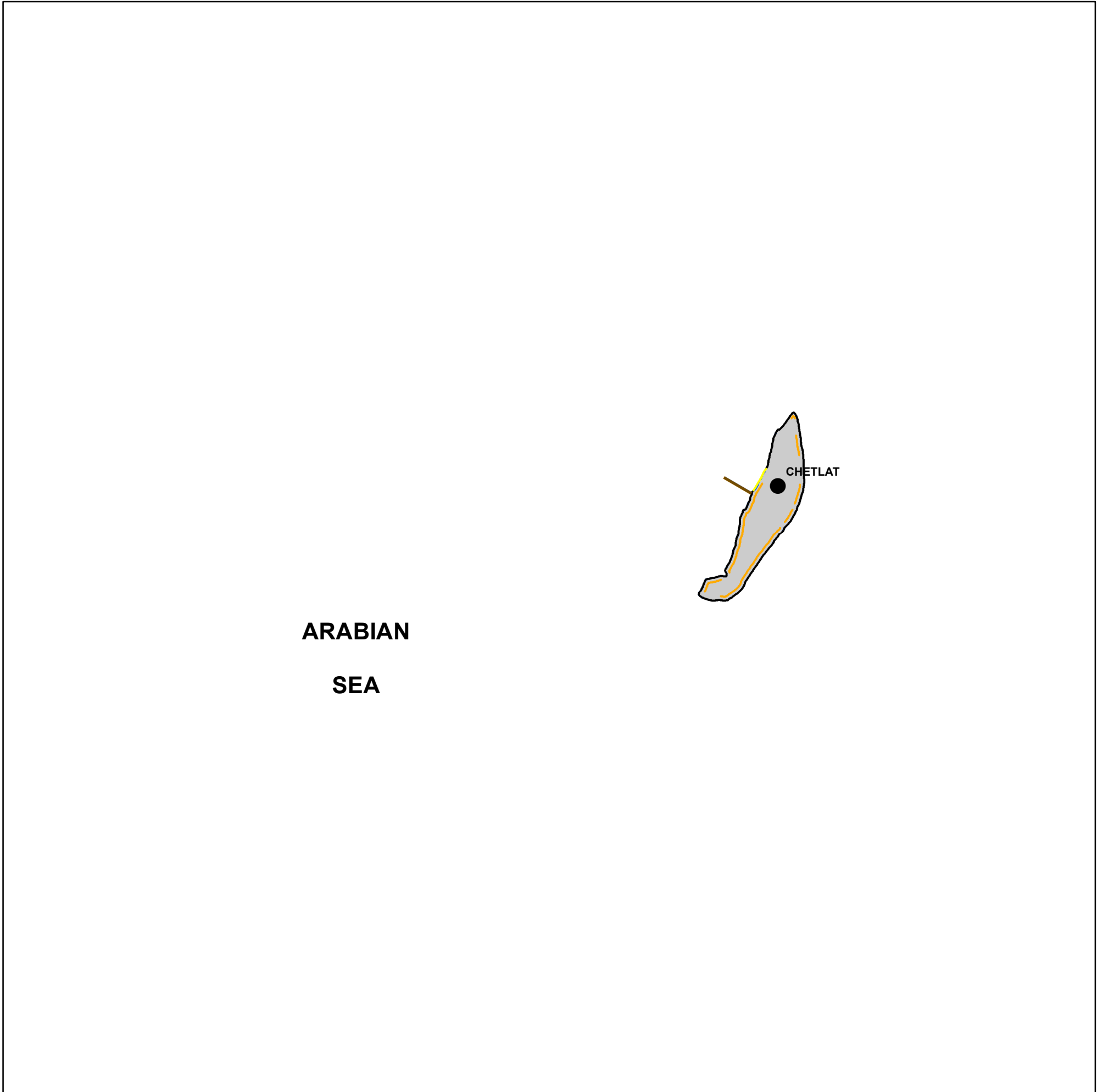


SHORELINE CHANGE MAP

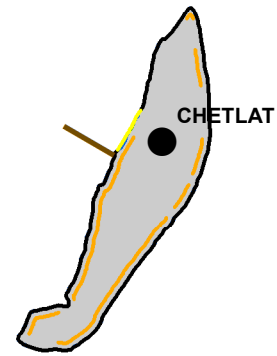
CETLAT ISLAND

LAKSHADWEEP ISLANDS








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ARABIAN
SEA

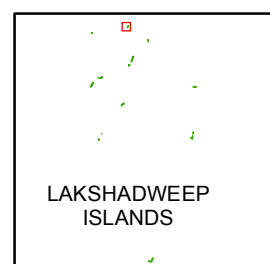
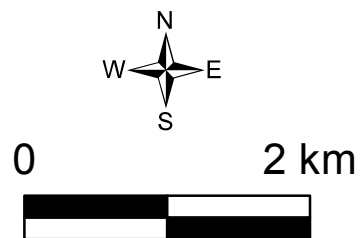


Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  SEA WALL
-  JETTY
-  HABITATION

INDEX TO SHEETS

SEA	SEA	SEA
SEA	49A10NE	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

BITRA ISLAND

LAKSHADWEEP ISLANDS

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ARABIAN
SEA

Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY
- HABITATION

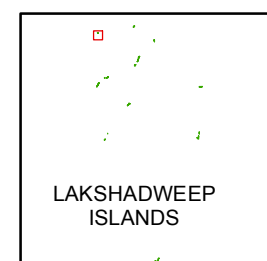


0 2 km



INDEX TO SHEETS

SEA	SEA	SEA
SEA	49A02SE	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

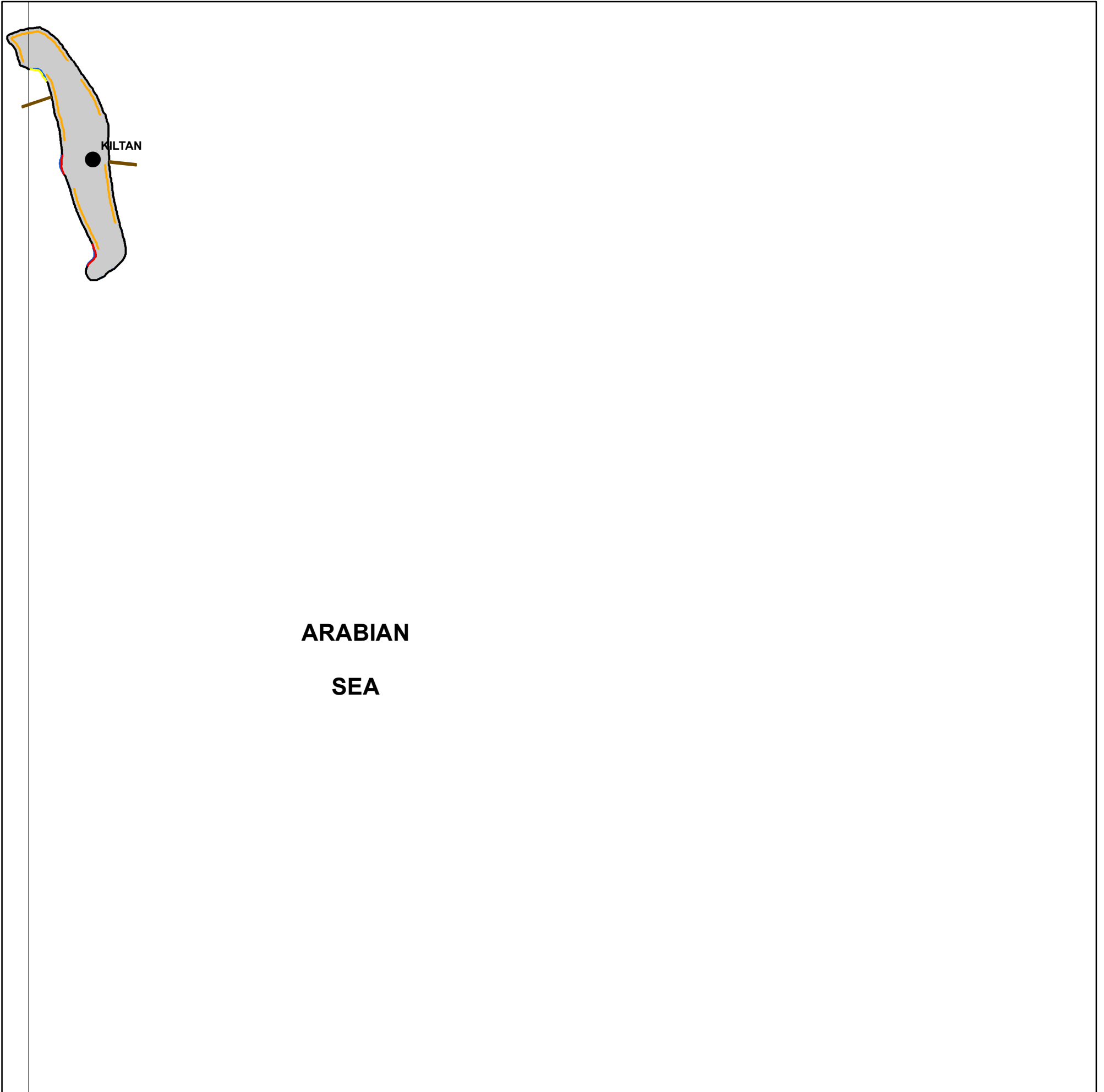


SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY
SHEET NO. 49A15NE
49E03NW









KILTAN ISLAND

LAKSHADWEEP ISLANDS



ARABIAN
SEA

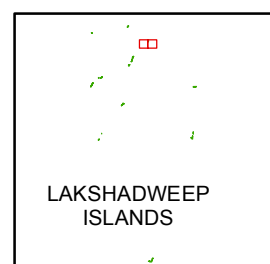
Legend

-  EROSION
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  SEA WALL
-  JETTY
-  HABITATION



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SEA	SEA	SEA
49A15NE	49E03NW	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



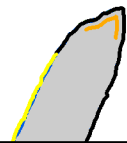
SHORELINE CHANGE MAP

KADMAT ISLAND






LAKSHADWEEP ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 49A15SW

ARABIAN
SEA



Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  SEA WALL

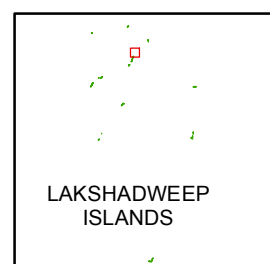


0 2 km



INDEX TO SHEETS

SEA	SEA	49A15NE
SEA	49A15SW	SEA
49A12NE	49A16NW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

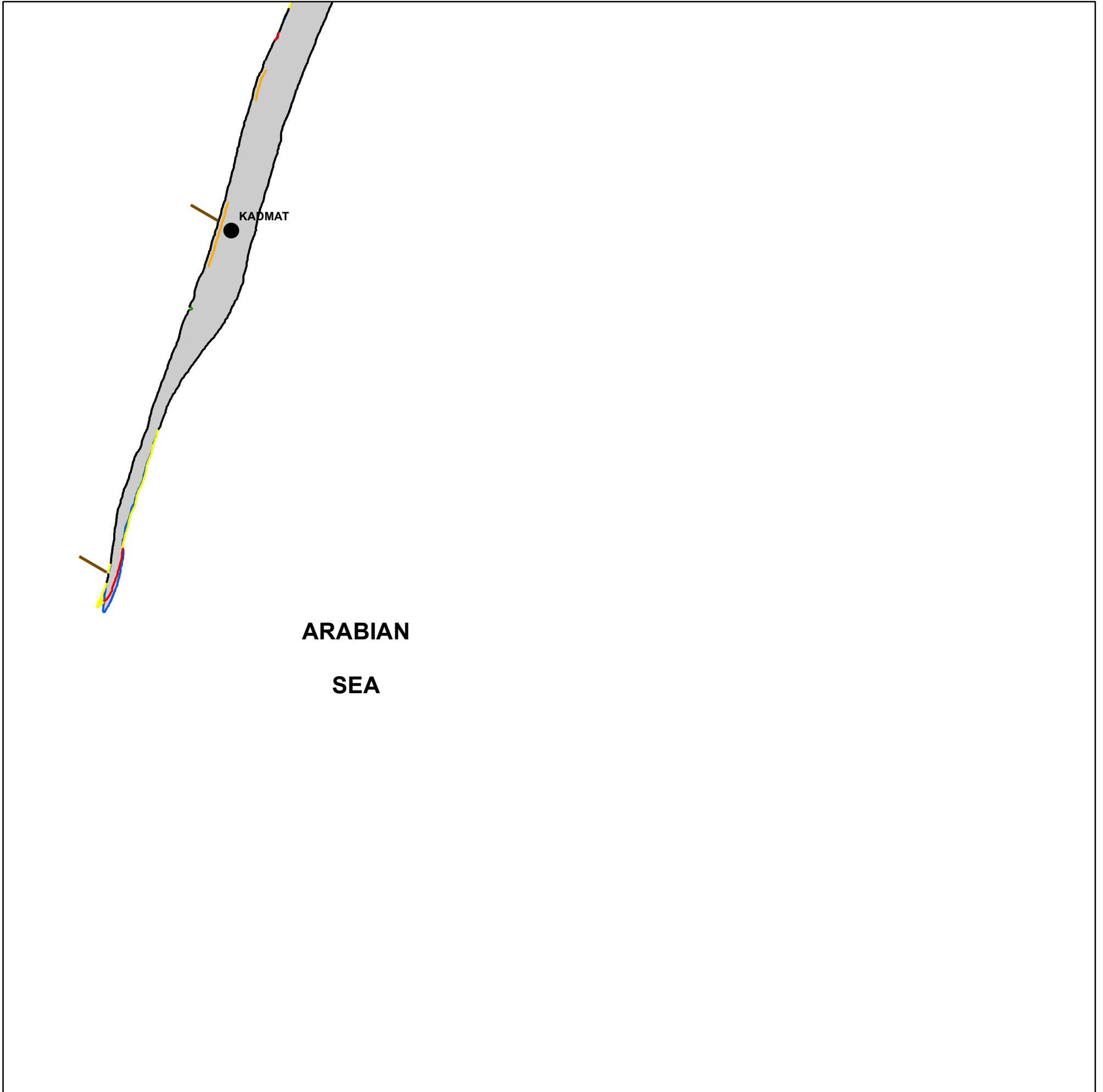


SHORELINE CHANGE MAP

KADMAT ISLAND

LAKSHADWEEP ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 49A16NW



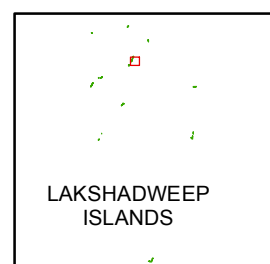
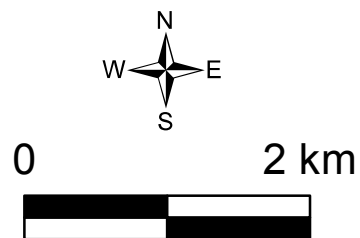
ARABIAN
SEA

Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY
- HABITATION

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SEA	49A15SW	SEA
49A12NE	49A16NW	SEA
49A12SE	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



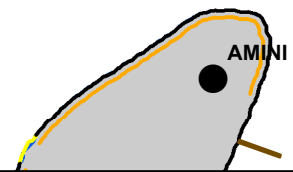
SHORELINE CHANGE MAP

AMINI ISLAND

LAKSHADWEEP ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 49A12NE

ARABIAN
SEA

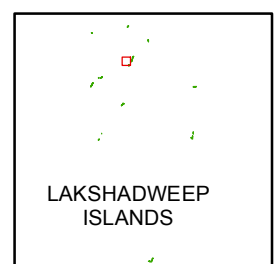
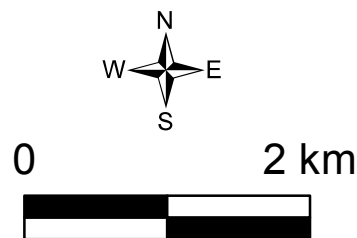


Legend

- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY
- HABITATION

INDEX TO SHEETS

SEA	SEA	49A15SW
SEA	49A12NE	49A16NW
SEA	49A12SE	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

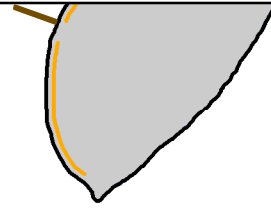


SHORELINE CHANGE MAP

AMINI ISLAND






LAKSHADWEEP ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 49A12SE



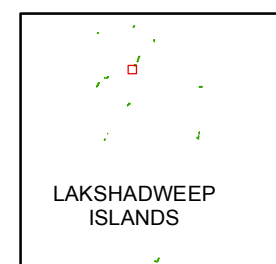
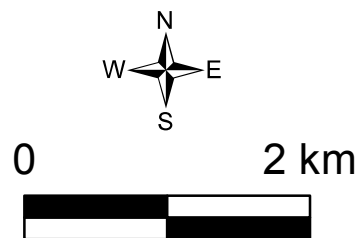
ARABIAN
SEA

Legend

-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  SEA WALL
-  JETTY

INDEX TO SHEETS

SEA	49A12NE	49A16NW
SEA	49A12SE	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

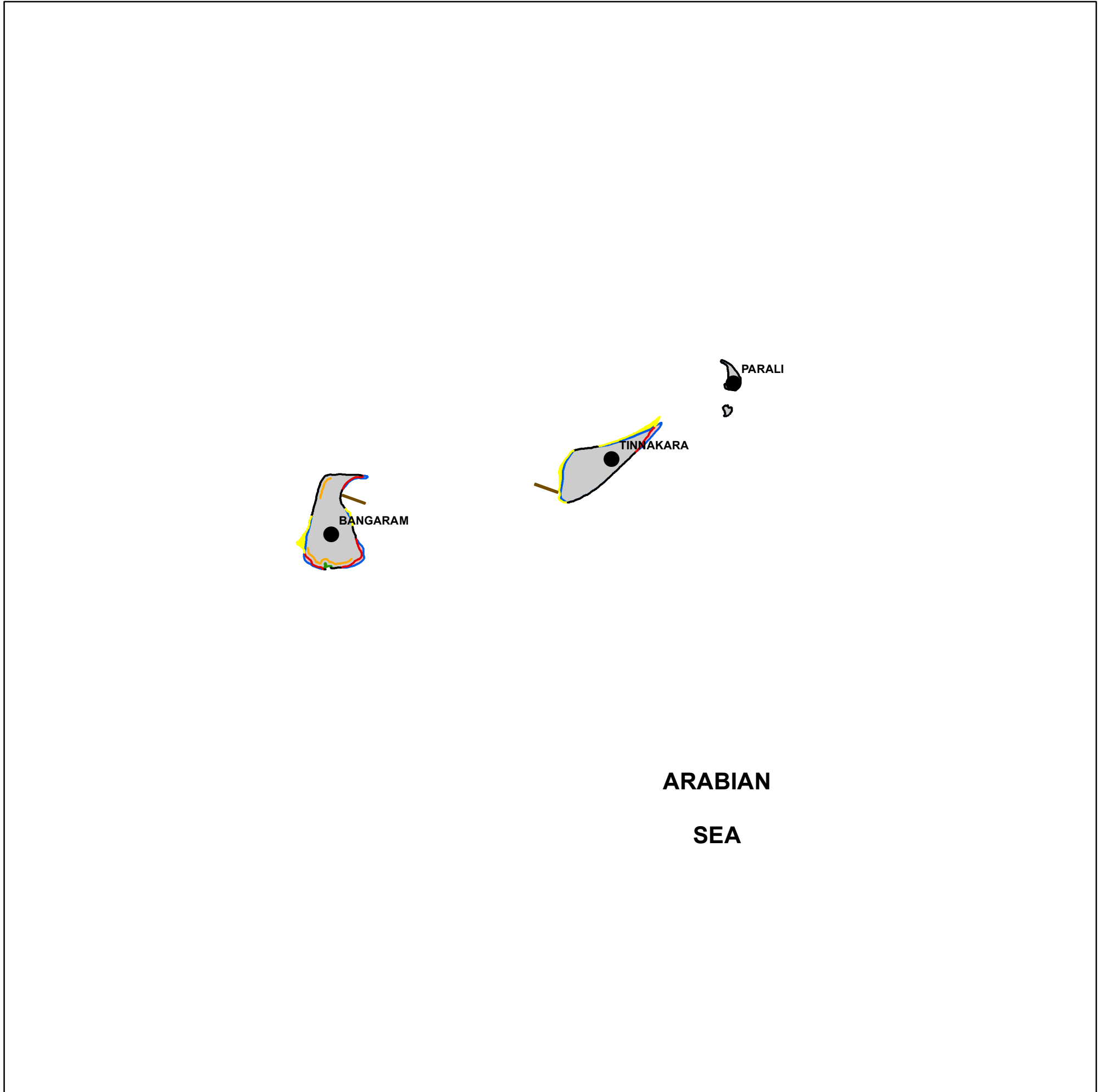


SHORELINE CHANGE MAP

BANGARAM ISLAND

LAKSHADWEEP ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 49B05NW



Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY
- HABITATION

INDEX TO SHEETS

SEA	SEA	SEA
49B01NE	49B05NW	SEA
49B01SE	SEA	SEA

0 2 km

INDIA

LAKSHADWEEP ISLANDS

DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

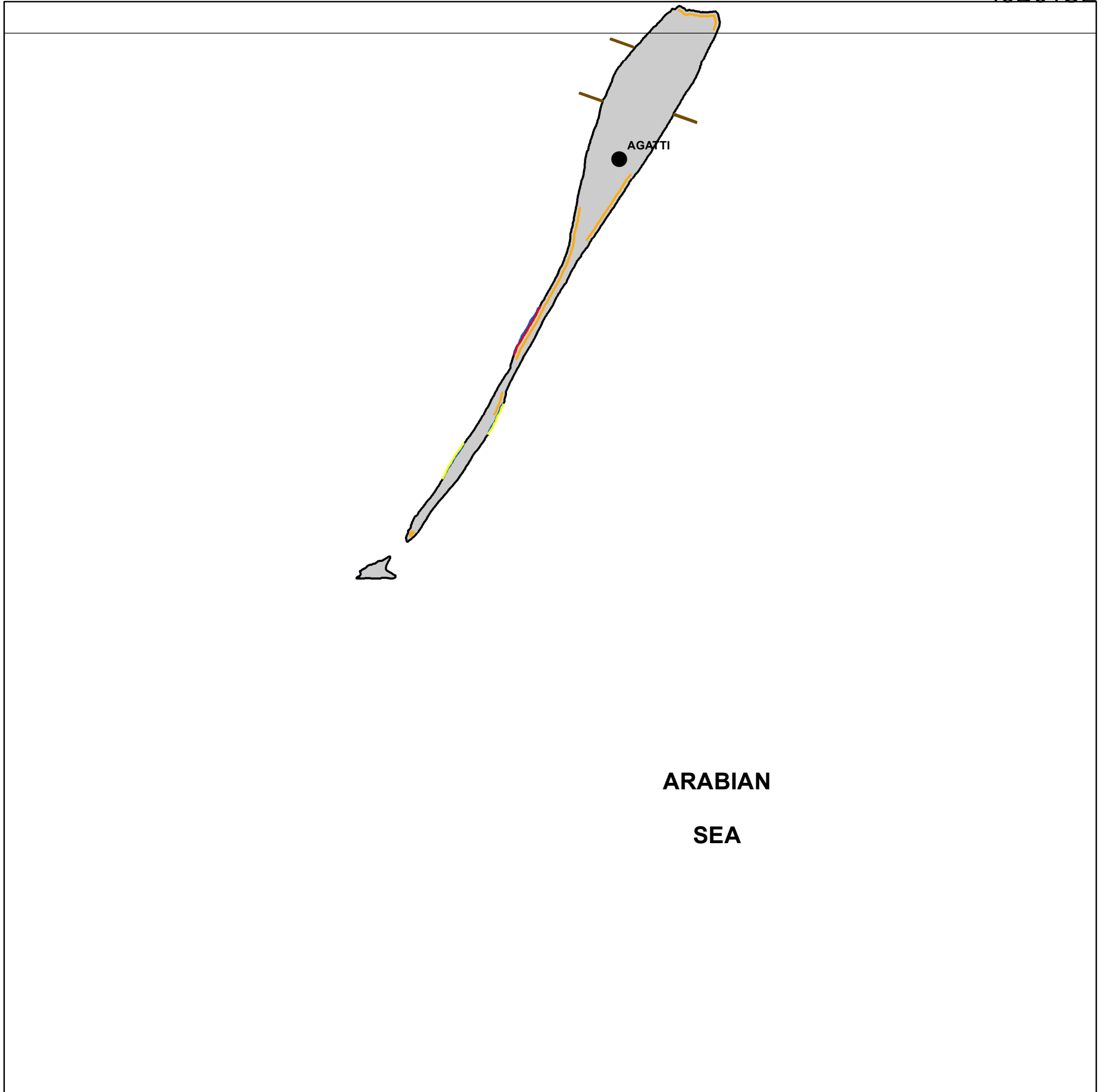
PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI

SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY
SHEET NO. 49B01NE
49B01SE

AGATTI ISLAND

LAKSHADWEEP ISLANDS



ARABIAN
SEA

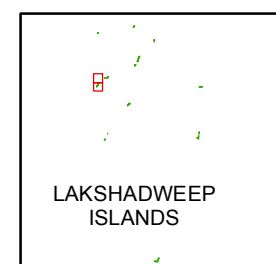
Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY
- HABITATION



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SEA	49B01SE	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI

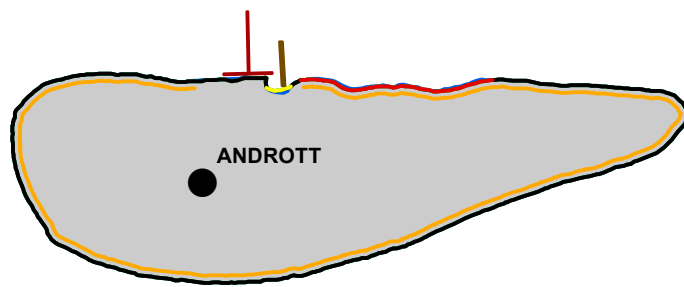


SHORELINE CHANGE MAP

ANDROTT ISLAND

LAKSHADWEEP ISLANDS

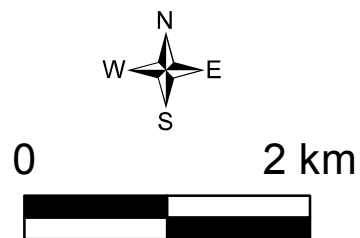
FOR OFFICIAL USE ONLY
SHEET NO. 49F09SE



ARABIAN
SEA

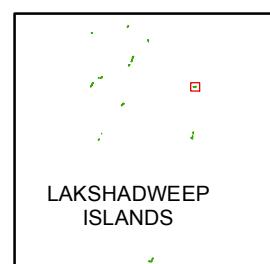
Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY
- BREAKWATER
- HABITATION



INDEX TO SHEETS

SEA	SEA	SEA
SEA	49F09SE	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

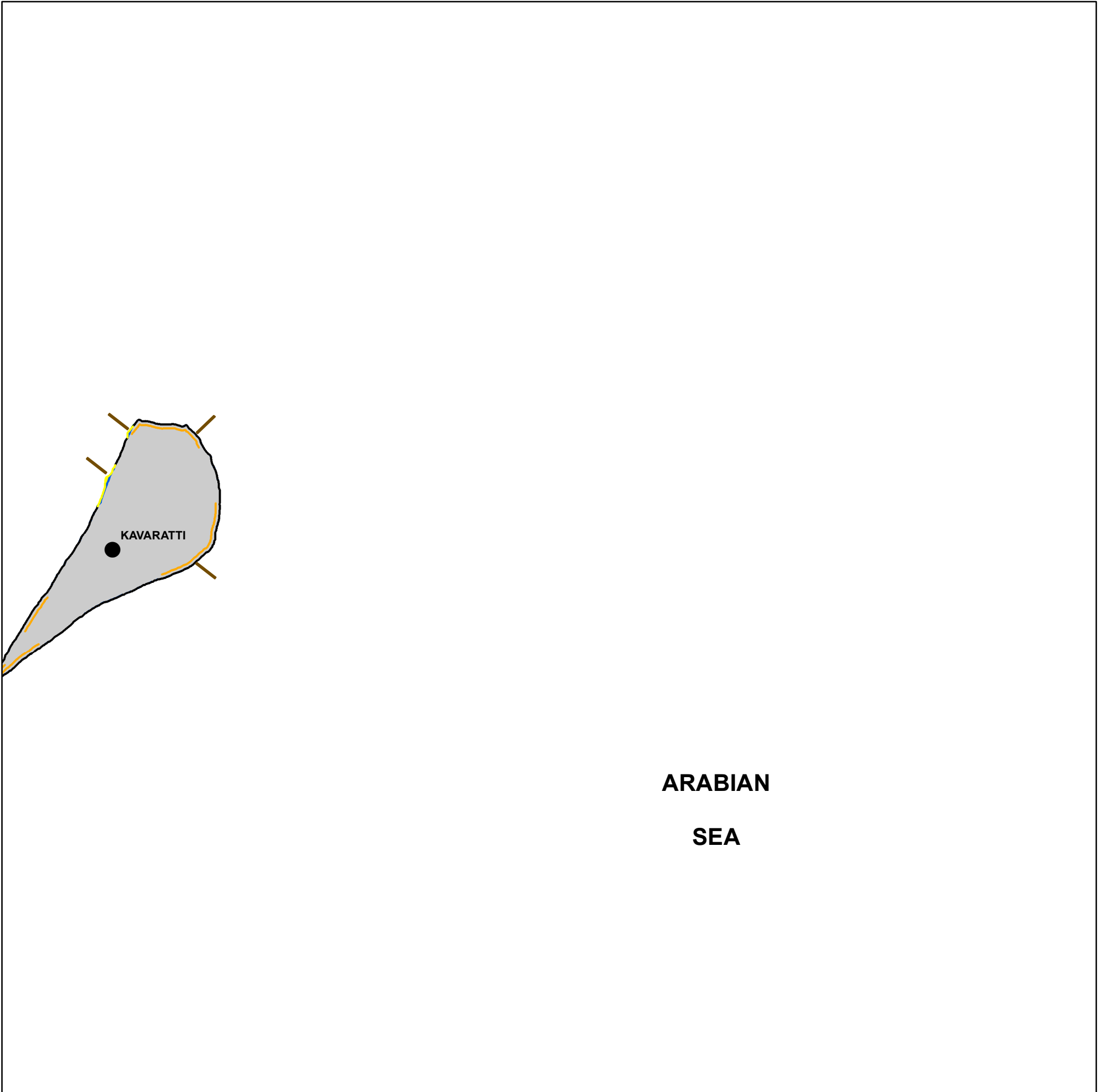


SHORELINE CHANGE MAP

KAVARATTI ISLAND

LAKSHADWEEP ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 49B10SE



Legend

- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY
- HABITATION

INDEX TO SHEETS

SEA	SEA	SEA
49B10SW	49B10SE	SEA
SEA	SEA	SEA

0 2 km

INDIA

LAKSHADWEEP ISLANDS

DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

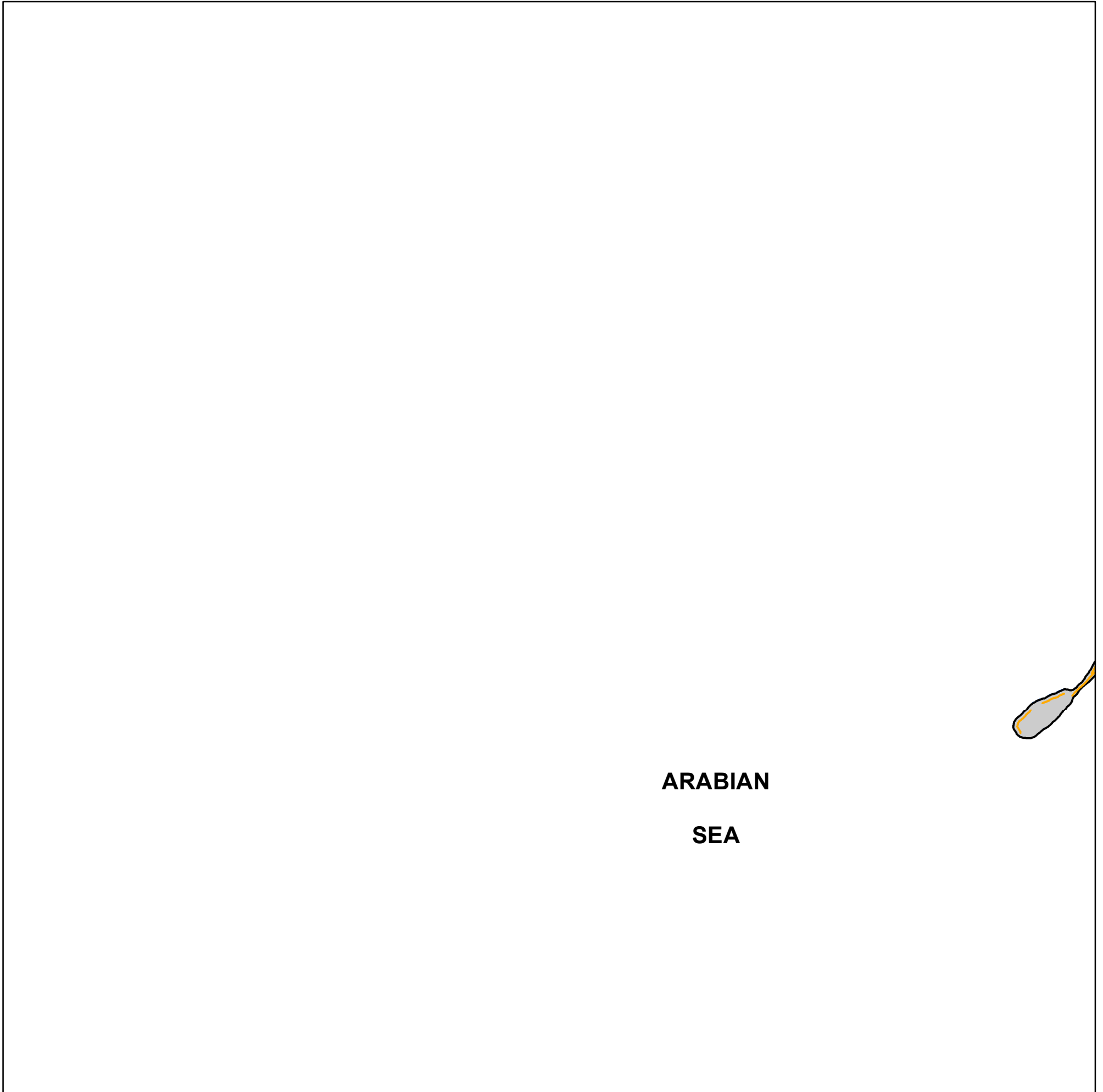
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AND CENTRAL WATER COMMISSION, NEW DELHI

SHORELINE CHANGE MAP

KAVARATTI ISLAND





LAKSHADWEEP ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 49B10SW



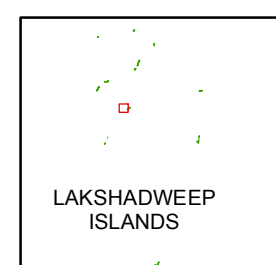
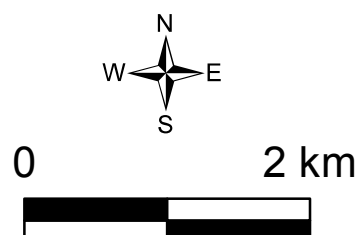
ARABIAN
SEA

Legend

-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  SEA WALL

INDEX TO SHEETS

SEA	SEA	SEA
SEA	49B10SW	49B10SE
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

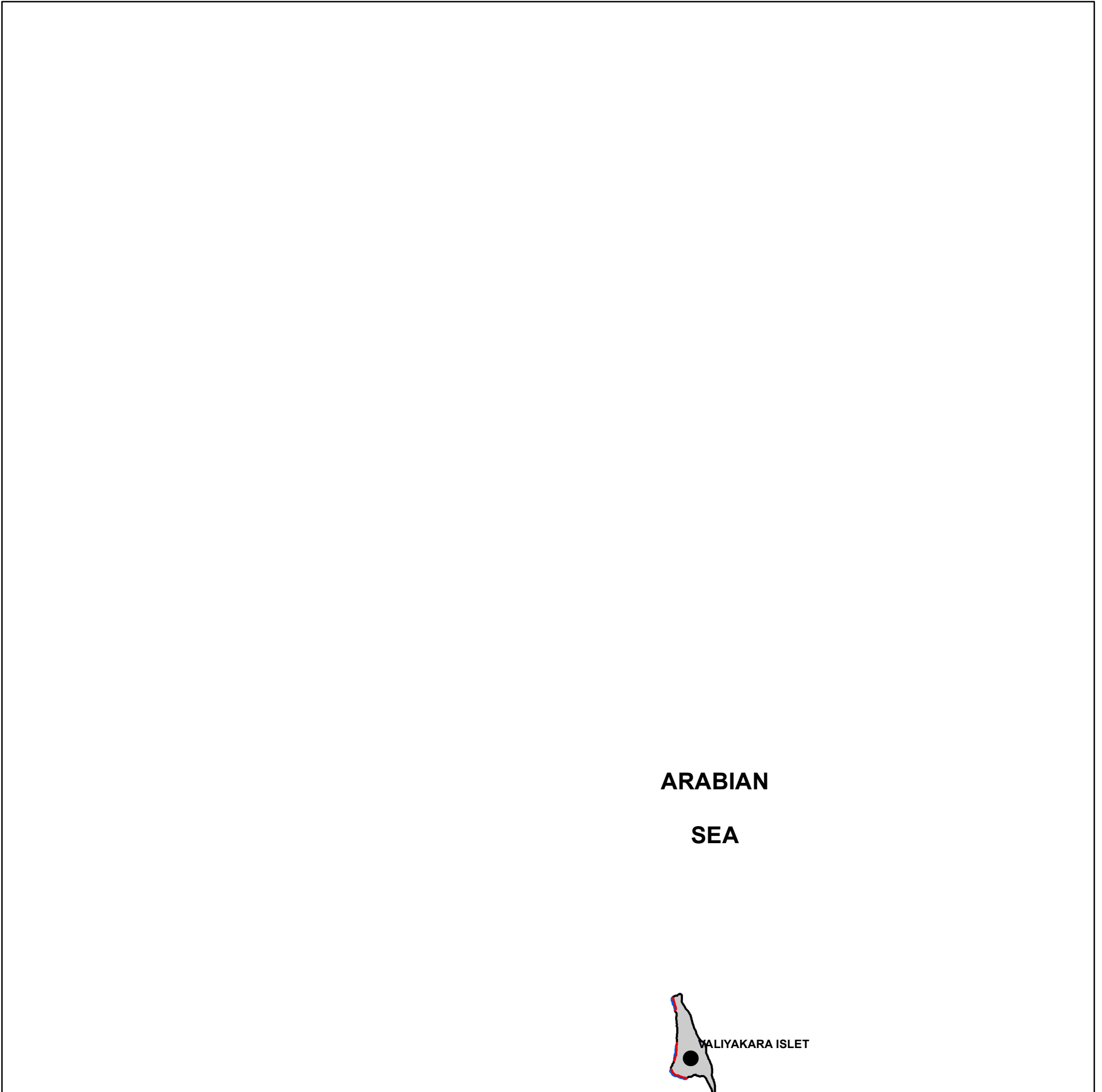


SHORELINE CHANGE MAP






SUHELI ISLAND

LAKSHADWEEP ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 49B08NW



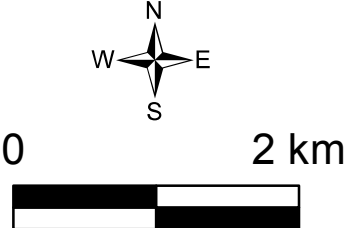
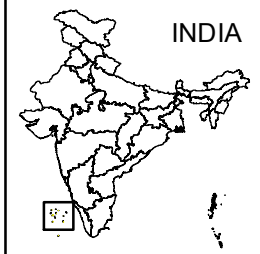
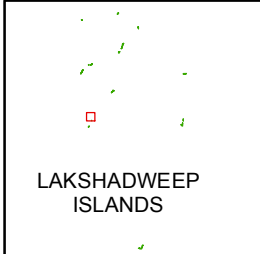
Legend

-  EROSION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  HABITATION

INDEX TO SHEETS

SEA	SEA	SEA
SEA	49B08NW	SEA
SEA	49B08SW	SEA

0 2 km

DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

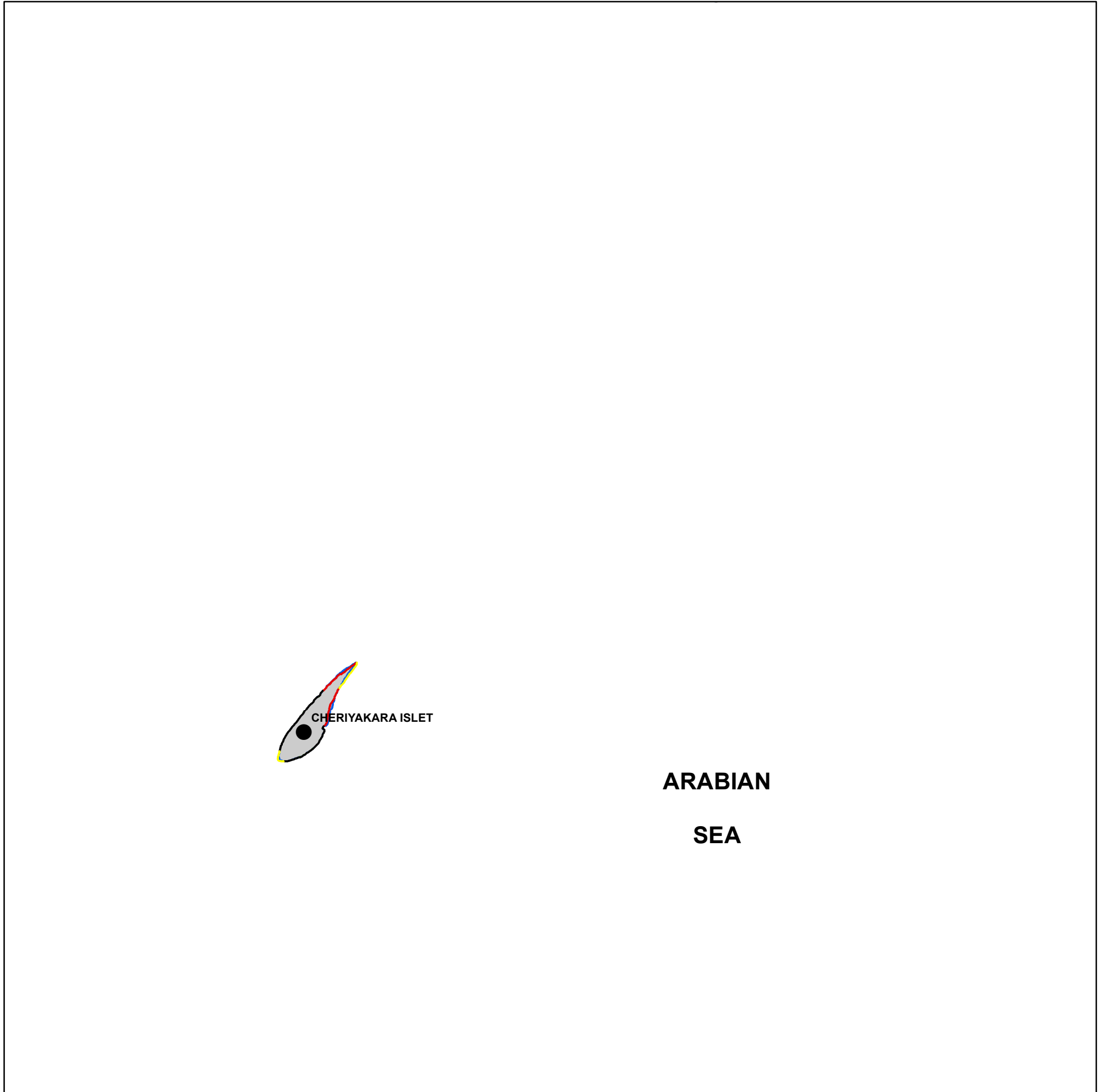


SHORELINE CHANGE MAP

SUHELI ISLAND

LAKSHADWEEP ISLANDS

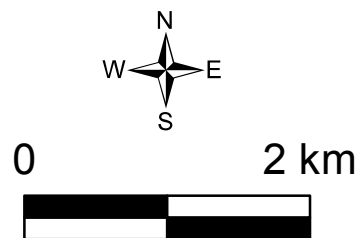
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SHEET NO. 49B08SW



ARABIAN
SEA

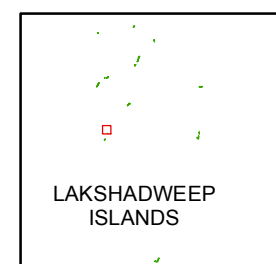
Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- HABITATION



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SEA	SEA	SEA
SEA	49B08NW	SEA
SEA	49B08SW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI

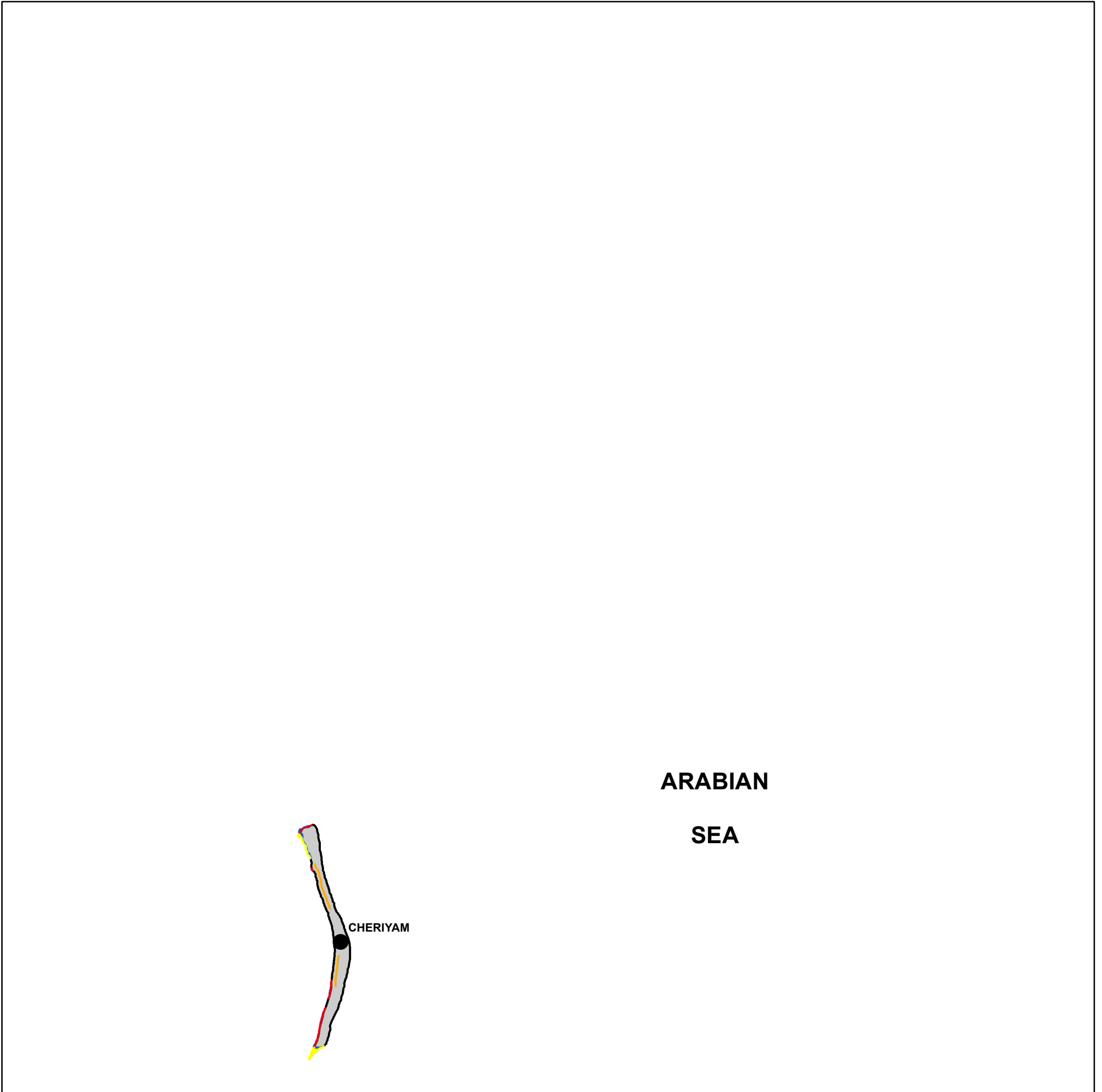









SHORELINE CHANGE MAP


CHERIYAM ISLAND

LAKSHADWEEP ISLANDS


FOR OFFICIAL USE ONLY
SHEET NO. 49F12NE



	EROSION
	ACCRETION
	HIGH-TIDE LINE 2014-16
	HIGH-TIDE LINE 2004-06
	STABLE
	SEA WALL
	HABITATION

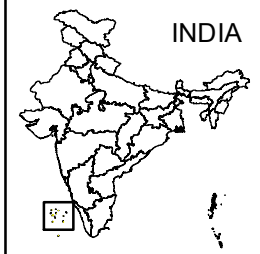


0 2 km

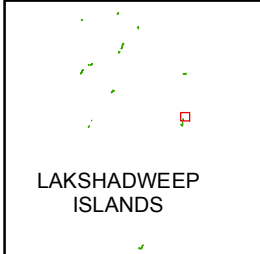


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SEA	49F12SE	SEA



INDIA



LAKSHADWEEP ISLANDS

DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI

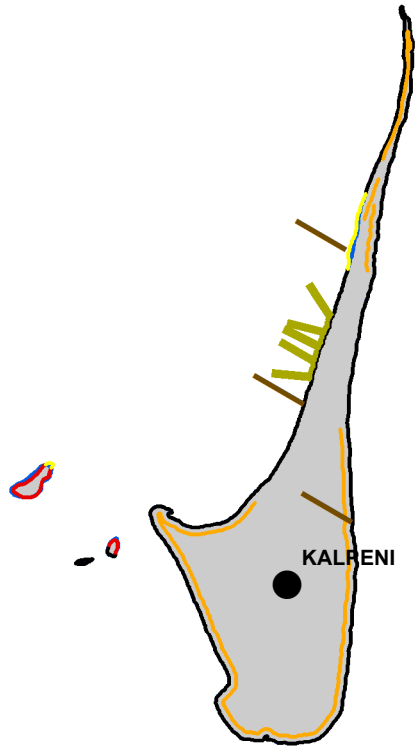


SHORELINE CHANGE MAP

KALPENI ISLAND

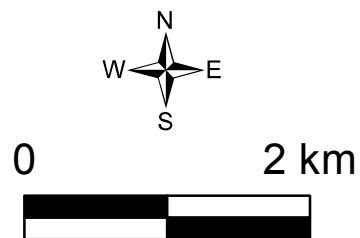
LAKSHADWEEP ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 49F12SE



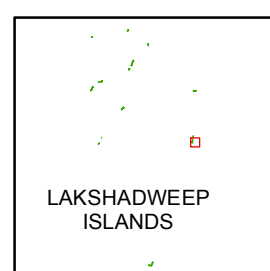
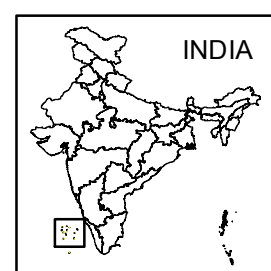
ARABIAN
SEA

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY
- GROYNES
- HABITATION



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SEA	49F12SE	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

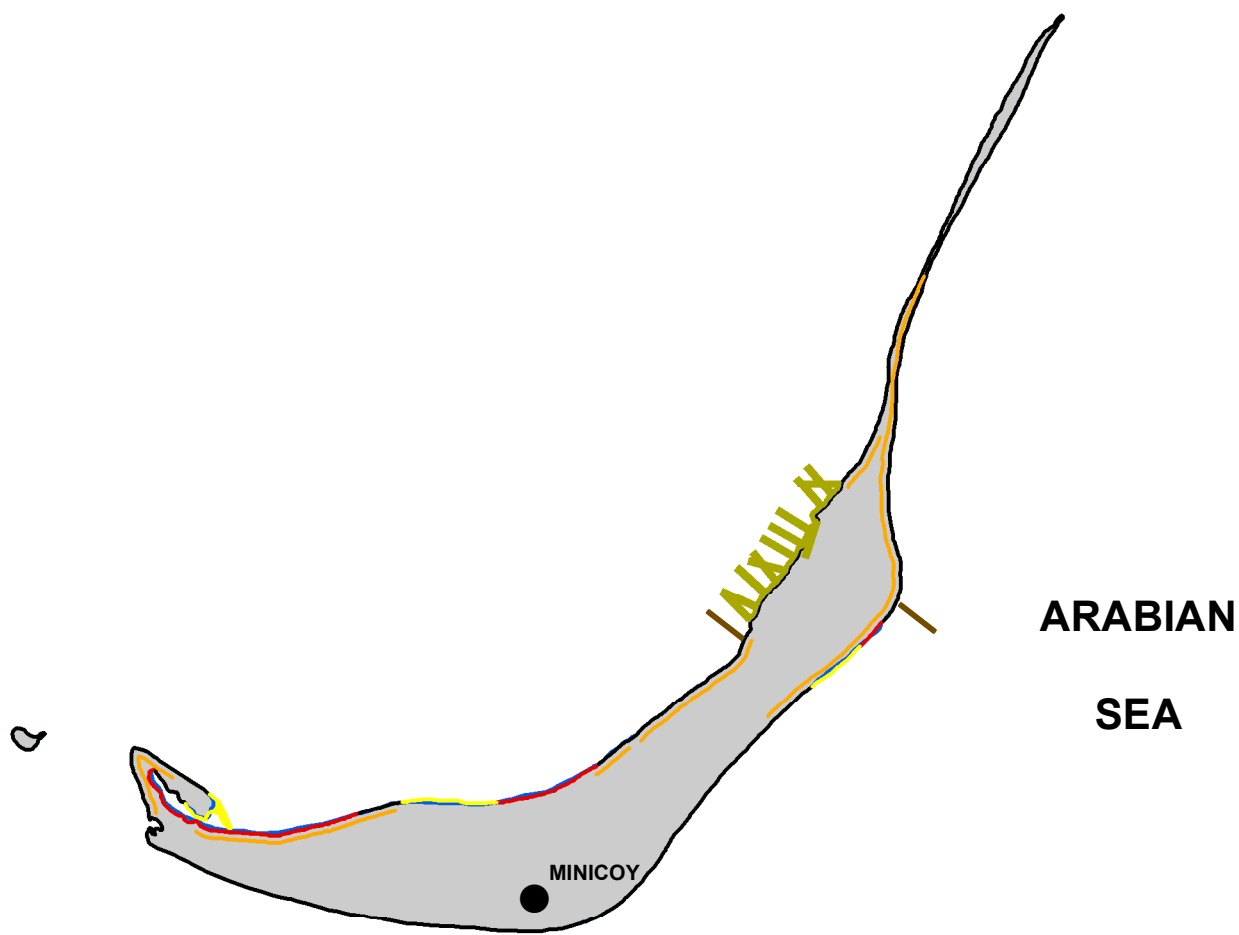


SHORELINE CHANGE MAP

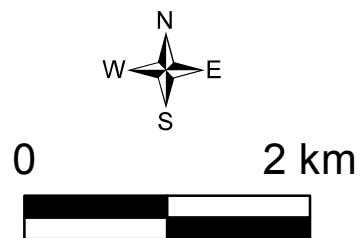
MINICOY ISLAND

LAKSHADWEEP ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 49H03SW

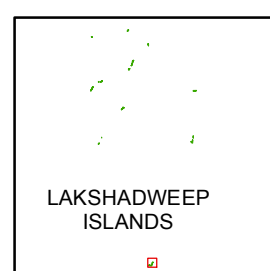
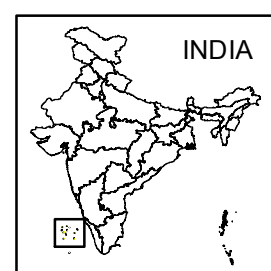


- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY
- GROYNES
- HABITATION



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SEA	SEA	SEA
SEA	49H3SW	SEA
SEA	SEA	SEA



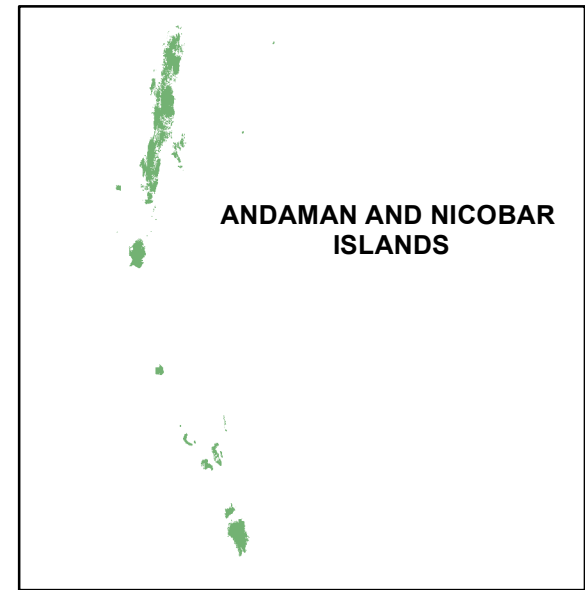
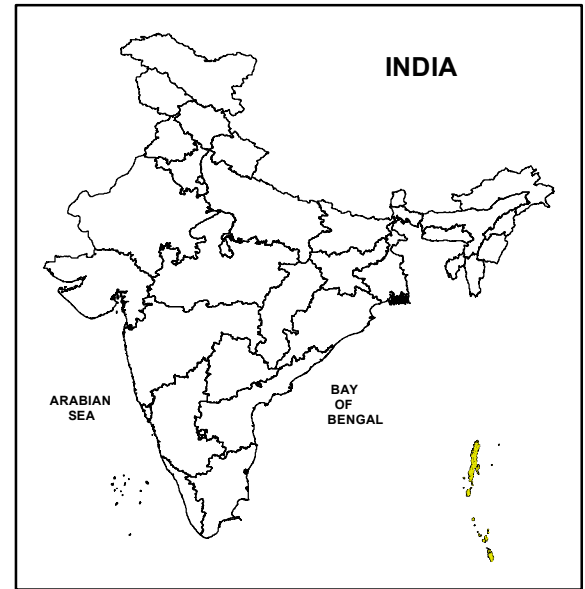
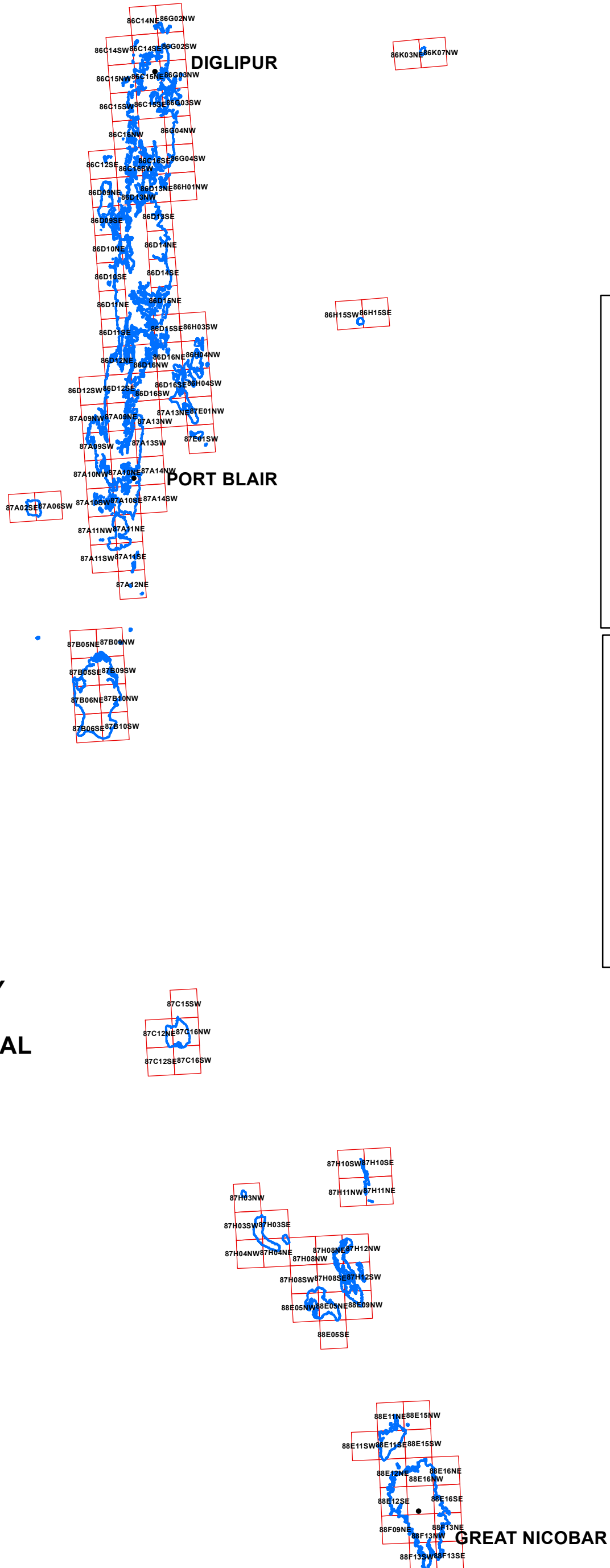
DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

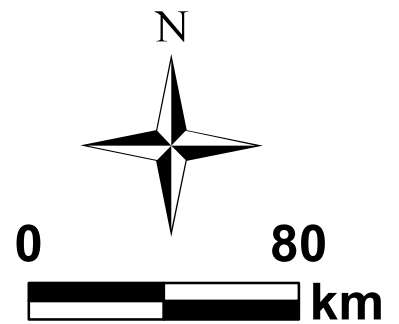


SHORELINE CHANGE MAPS
ANDAMAN AND NICOBAR ISLANDS

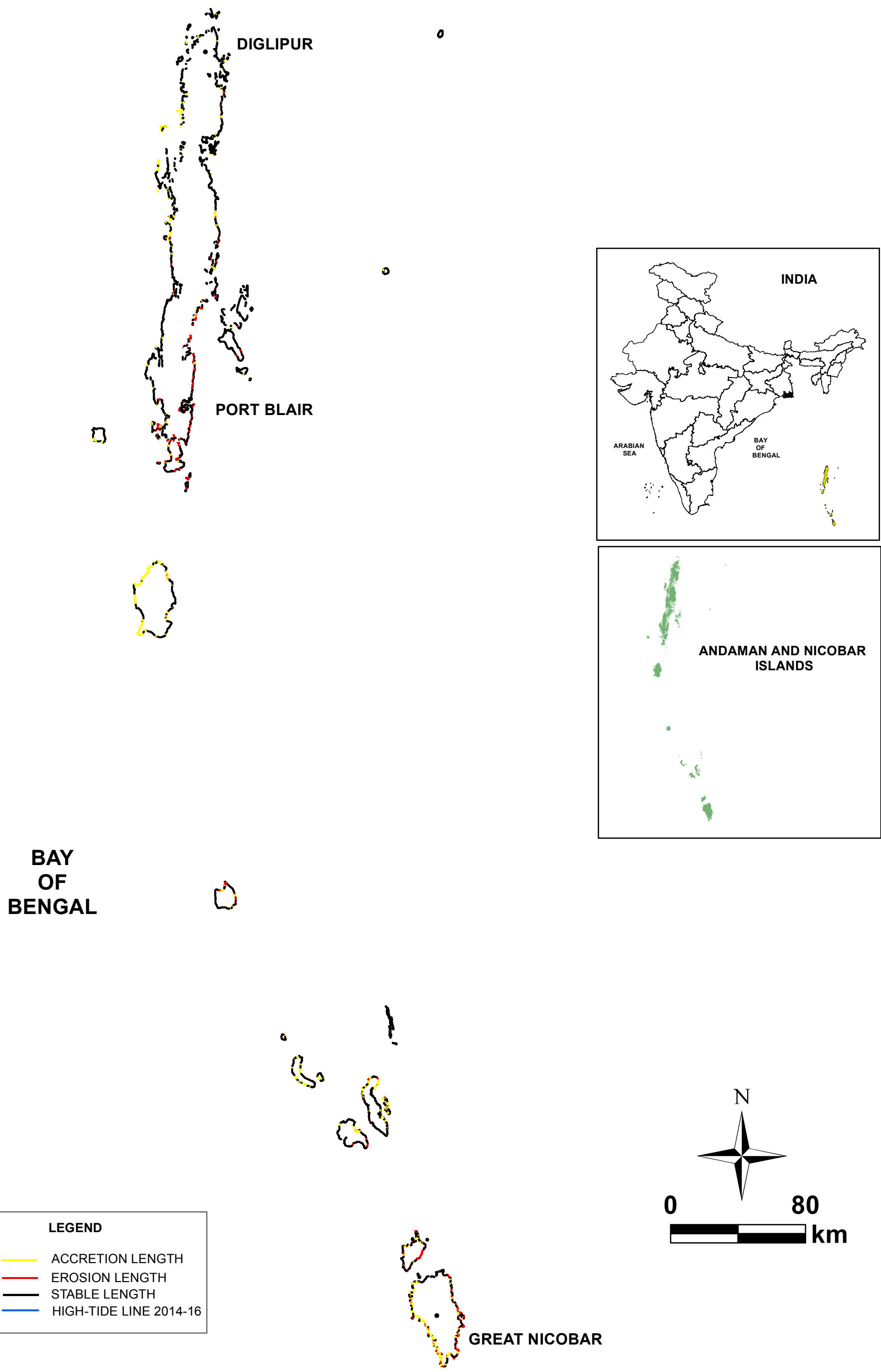
INDEX MAP OF ANDAMAN AND NICOBAR ISLANDS



BAY OF BENGAL



SHORELINE CHANGES OF ANDAMAN AND NICOBAR ISLANDS



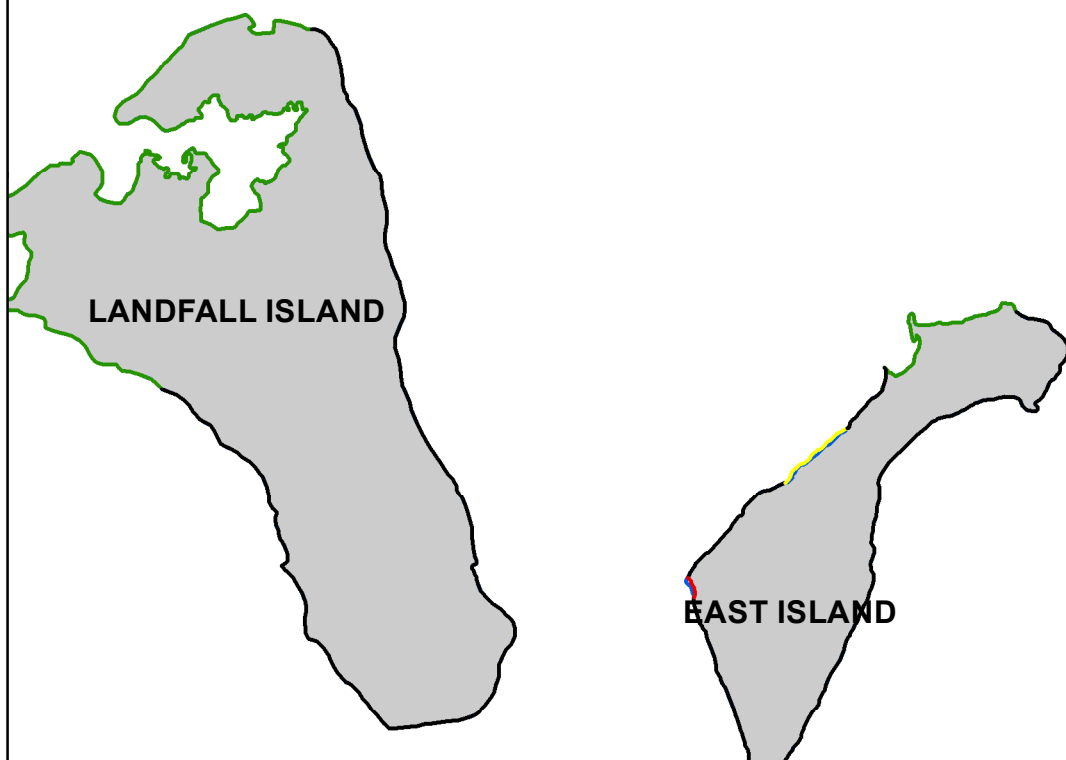
SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86G02NW

BAY
OF
BENGAL

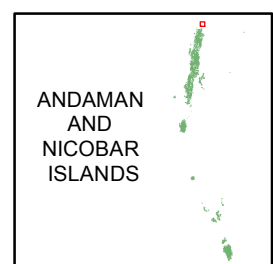
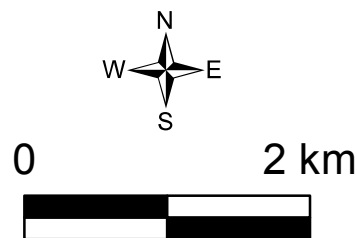


Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- HABITATION

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SEA	SEA	SEA
86C14NE	86G02NW	SEA
86C14SE	86G02SW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

NORTH AND MIDDLE ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 86C14NE

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BAY
OF
BENGAL



CLEUGH PASSAGE

Legend

- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

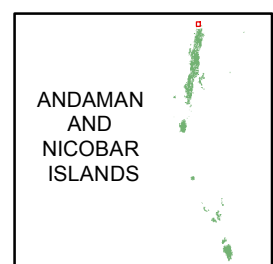


0 2 km



INDEX TO SHEETS

SEA	SEA	SEA
SEA	86C14NE	86G02NW
86C14SW	86C14SE	86G02SW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP






NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86C14SE

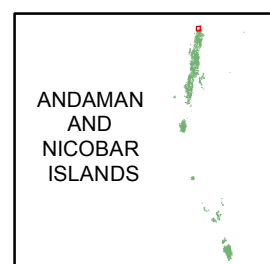


Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  HABITATION

INDEX TO SHEETS

SEA	86C14NE	86G02NW
	86C14SE	86G02SW
	86C15NW	86G03NW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP





NORTH AND MIDDLE ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 86C14SW

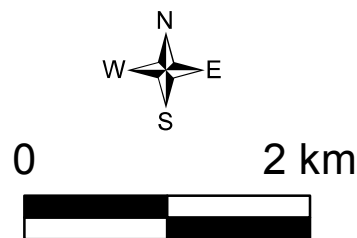
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OF
BENGAL



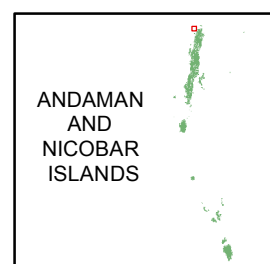
Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE



INDEX TO SHEETS

SEA	SEA	86C14NE
SEA	86C14SW	86C14SE
SEA	86C15NW	86C15NE



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

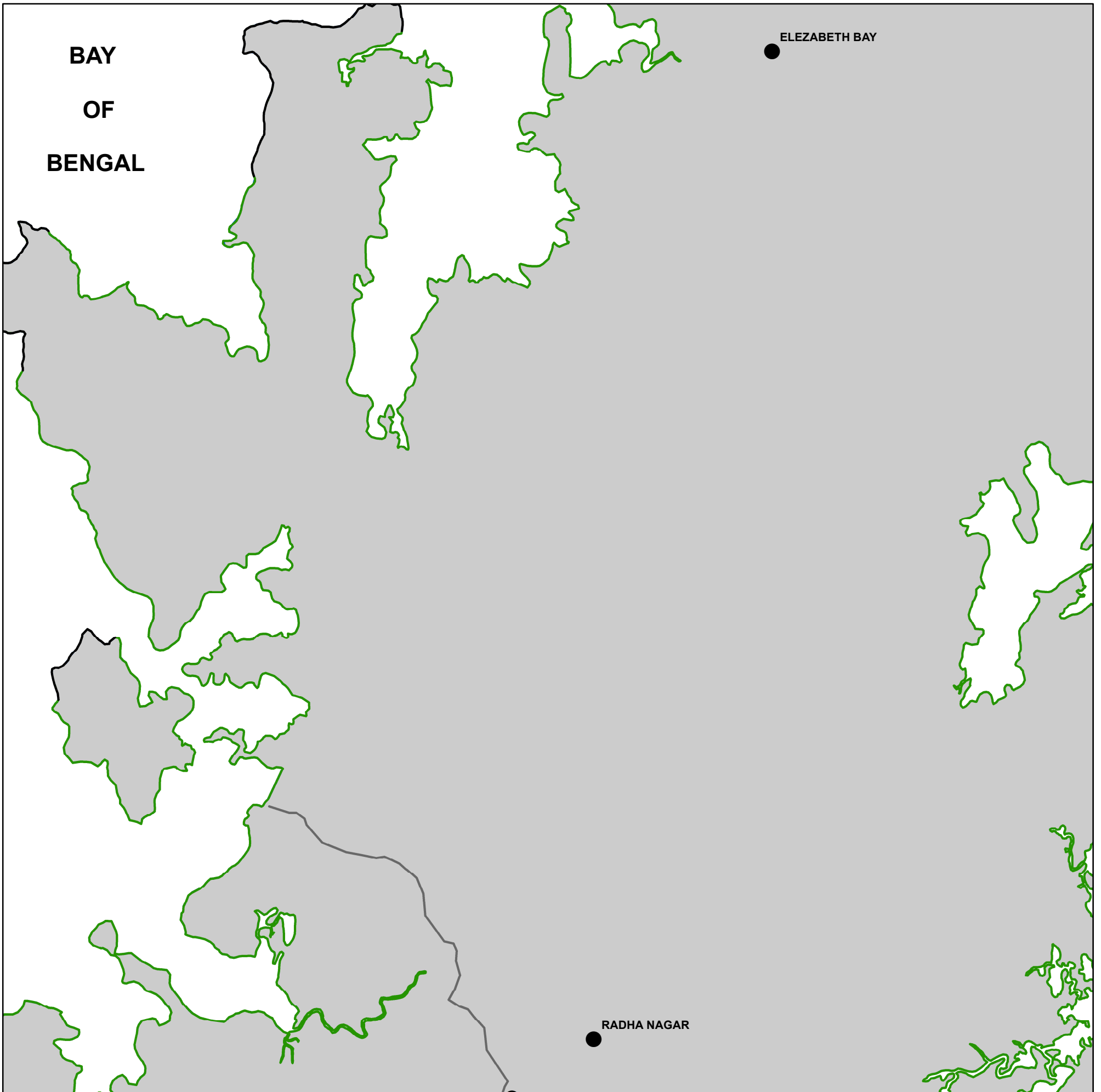


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86C15NE



Legend

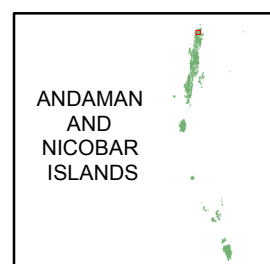
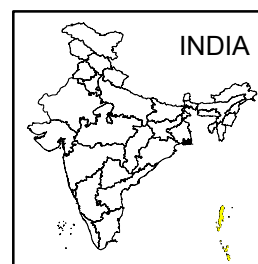
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- HABITATION

INDEX TO SHEETS

86C14SW	86C14SE	86G02SW
86C15NW	86C15NE	86G03NW
86C15SW	86C15SE	86G03SW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



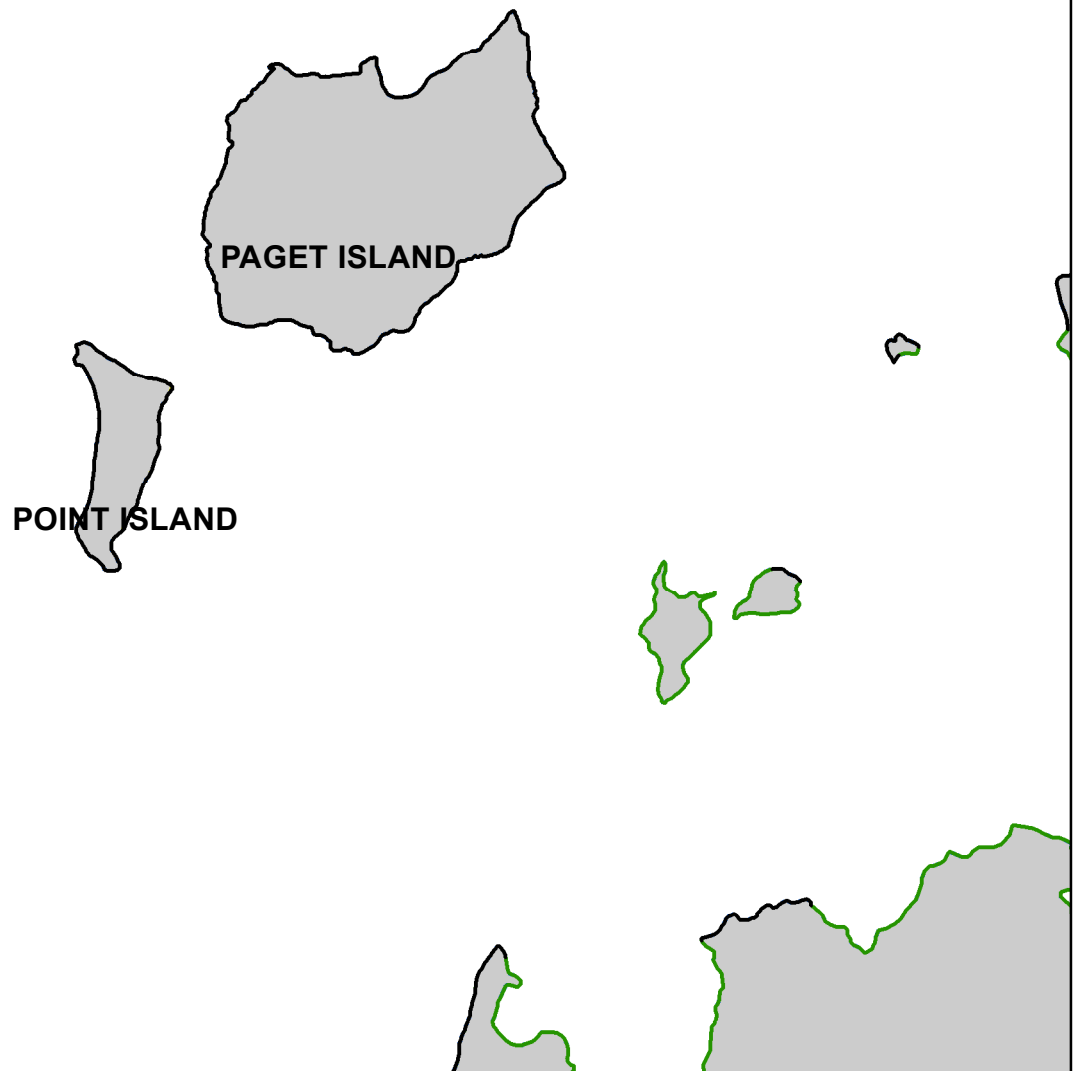
SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86C15NW

BAY
OF
BENGAL



Legend

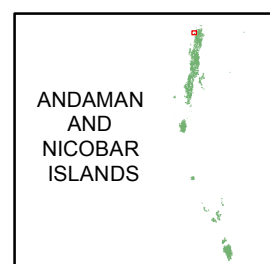
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	86C14SW	86C14SE
SEA	86C15NW	86C15NE
SEA	86C15SW	86C15SE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



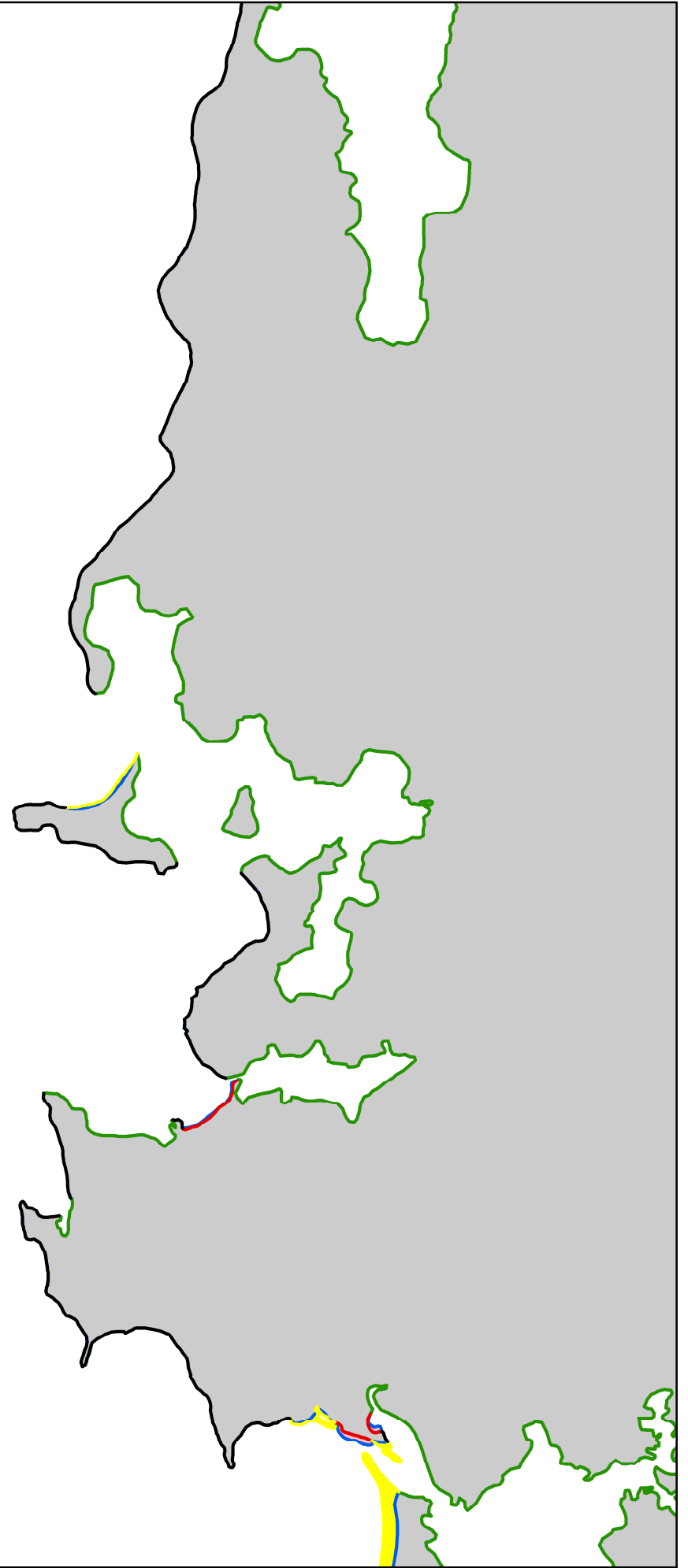
SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86C15SW

BAY
OF
BENGAL



Legend

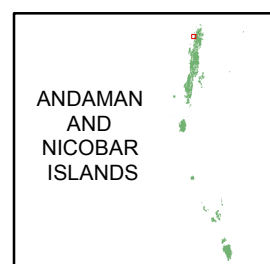
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	86C15NW	86C15NE
SEA	86C15SW	86C15SE
SEA	86C16NW	86C16NE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

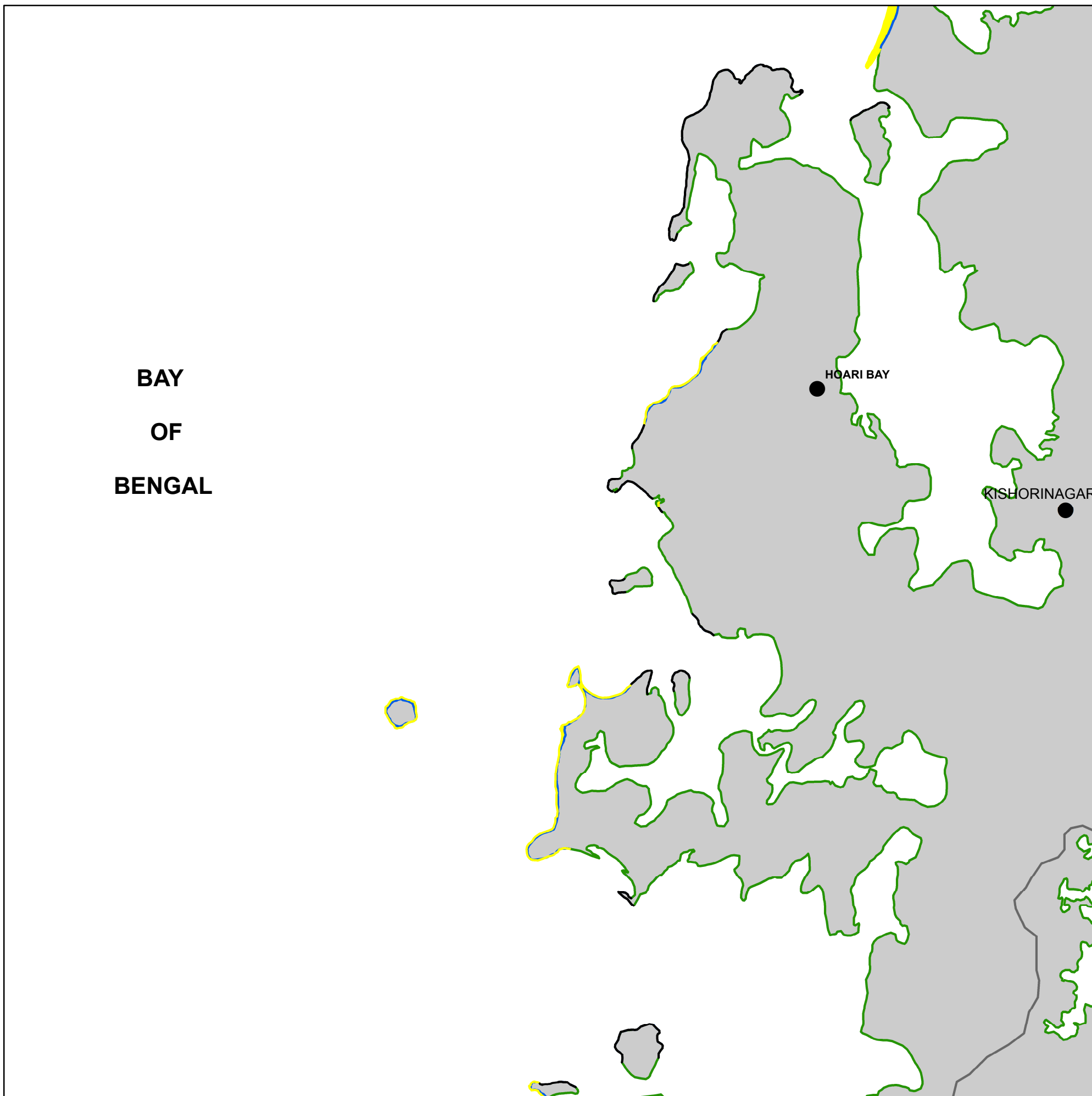


SHORELINE CHANGE MAP






NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86C16NW



Legend

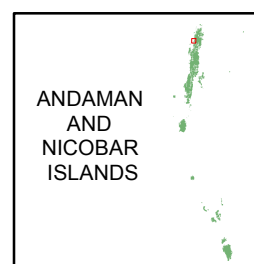
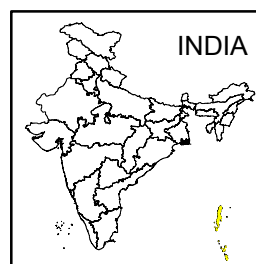
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE ROAD
-  HABITATION

INDEX TO SHEETS

SEA	86C15SW	86C15SE
SEA	86C16NW	86C16NE
	86C12SE	86C16SW 86C16SE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

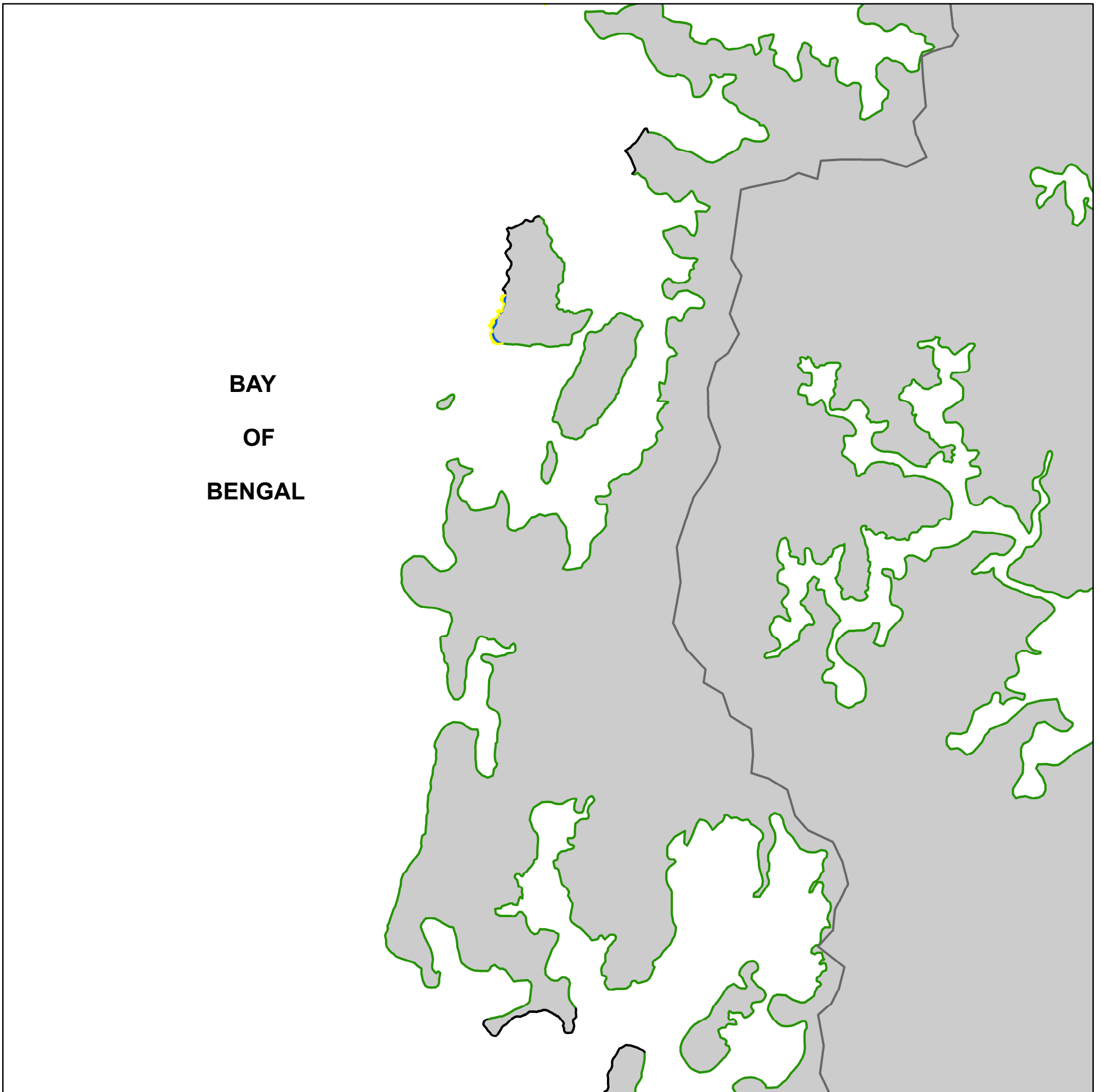


SHORELINE CHANGE MAP






NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86C16SW



Legend

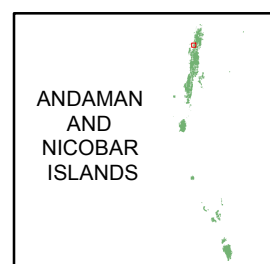
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  ROAD

INDEX TO SHEETS

SEA	86C16NW	86C16NE
86C12SE	86C16SW	86C16SE
86D09NE	86D13NW	86D13NE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



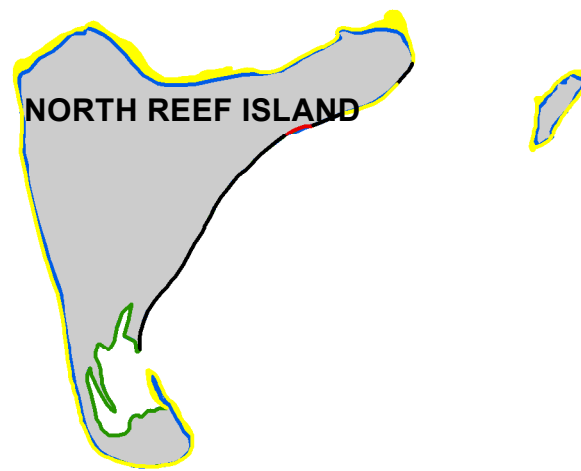
SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

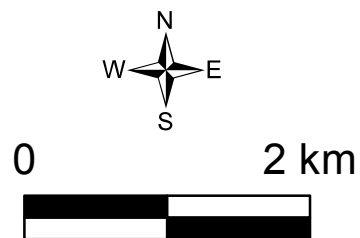
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SHEET NO. 86C12SE

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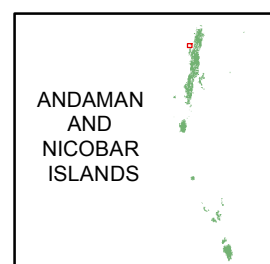
Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE



INDEX TO SHEETS

SEA	SEA	86C16NW
SEA	86C12SE	86C16SW
SEA	86D09NE	86D13NW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
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SHORELINE CHANGE MAP






NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

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SHEET NO. 86D13NW



Legend

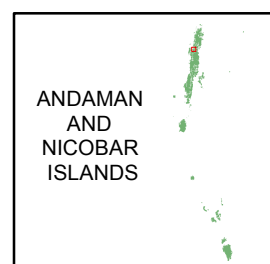
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  ROAD

INDEX TO SHEETS

86C12SE	86C16SW	86C16SE
86D09NE	86D13NW	86D13NE
86D09SE	86D13SW	86D13SE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

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SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN





ANDAMAN AND NICOBAR ISLANDS

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SHEET NO. 86D09NE

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OF
BENGAL



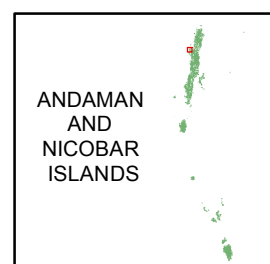
Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE



INDEX TO SHEETS

SEA	86C12SE	86C16SW
SEA	86D09NE	86D13NW
SEA	86D09SE	86D13SW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

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AND CENTRAL WATER COMMISSION, NEW DELHI

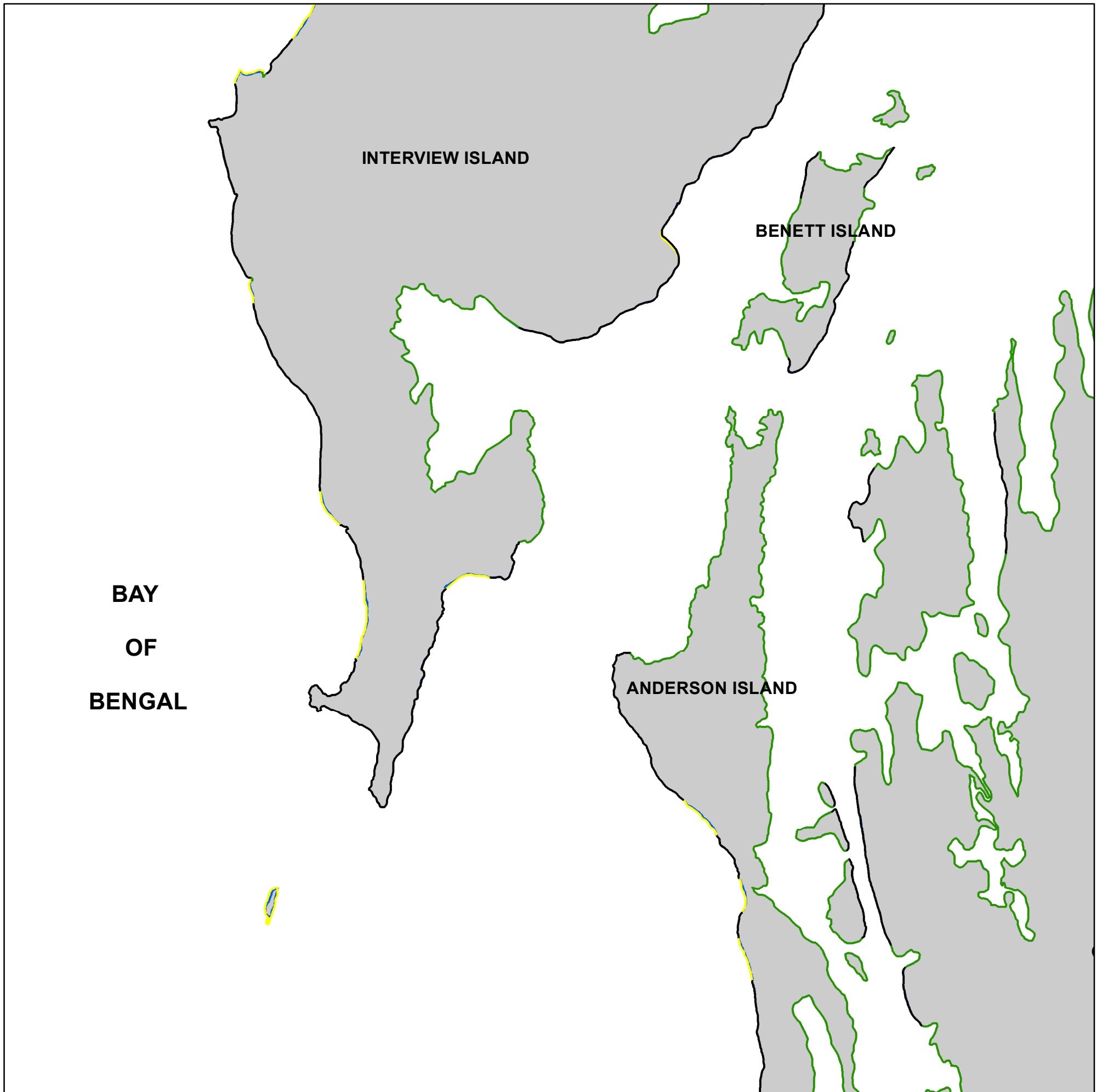


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

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SHEET NO. 86D09SE



Legend

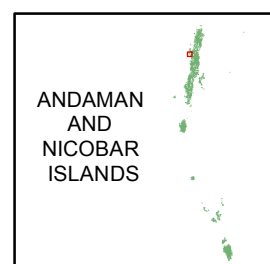
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	86D09NE	86D13NW
SEA	86D09SE	86D13SW
SEA	86D10NE	86D14NW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

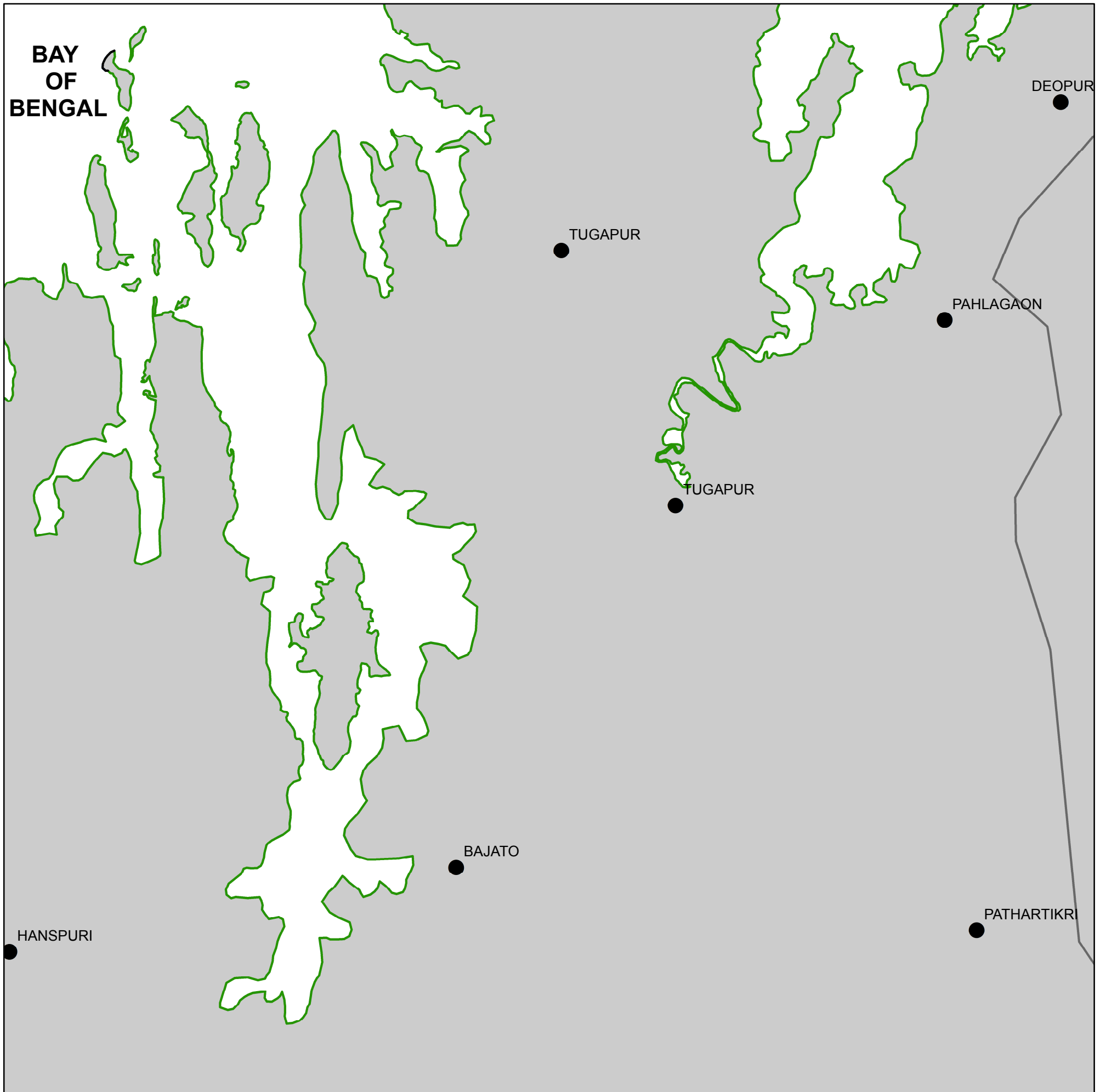


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86D13SW



Legend

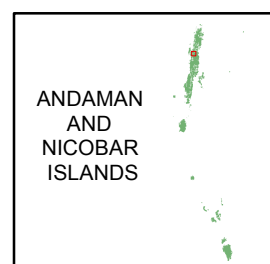
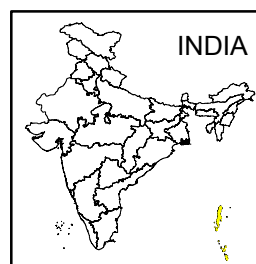
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- HABITATION

INDEX TO SHEETS

86D09NE	86D13NW	86D13NE
86D09SE	86D13SW	86D13SE
86D10NE	86D14NW	86D14NE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI

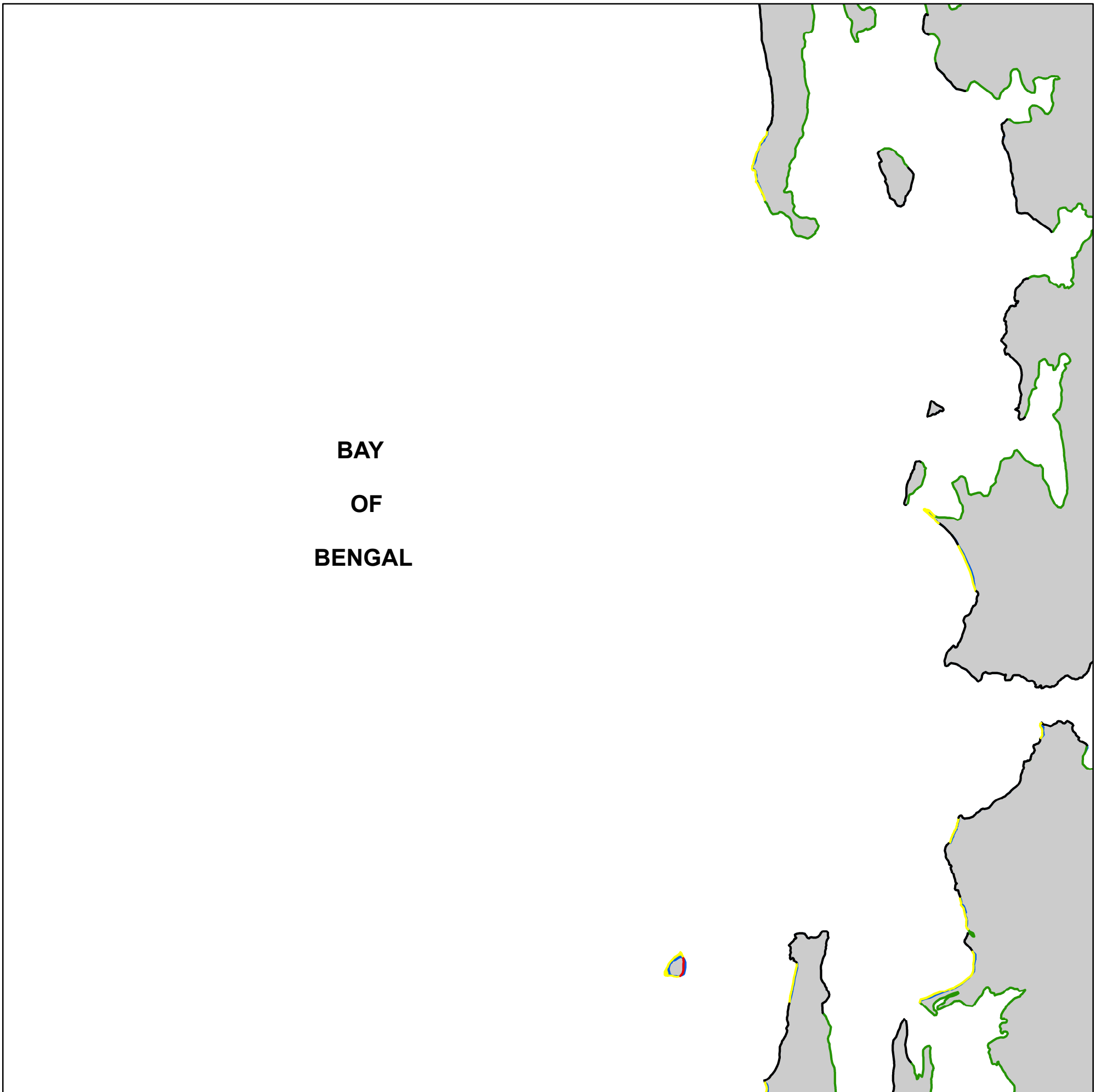


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

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SHEET NO. 86D10NE



Legend

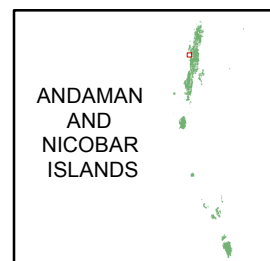
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	86D09SE	86D13SW
SEA	86D10NE	86D14NW
SEA	86D10SE	86D14SW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

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SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

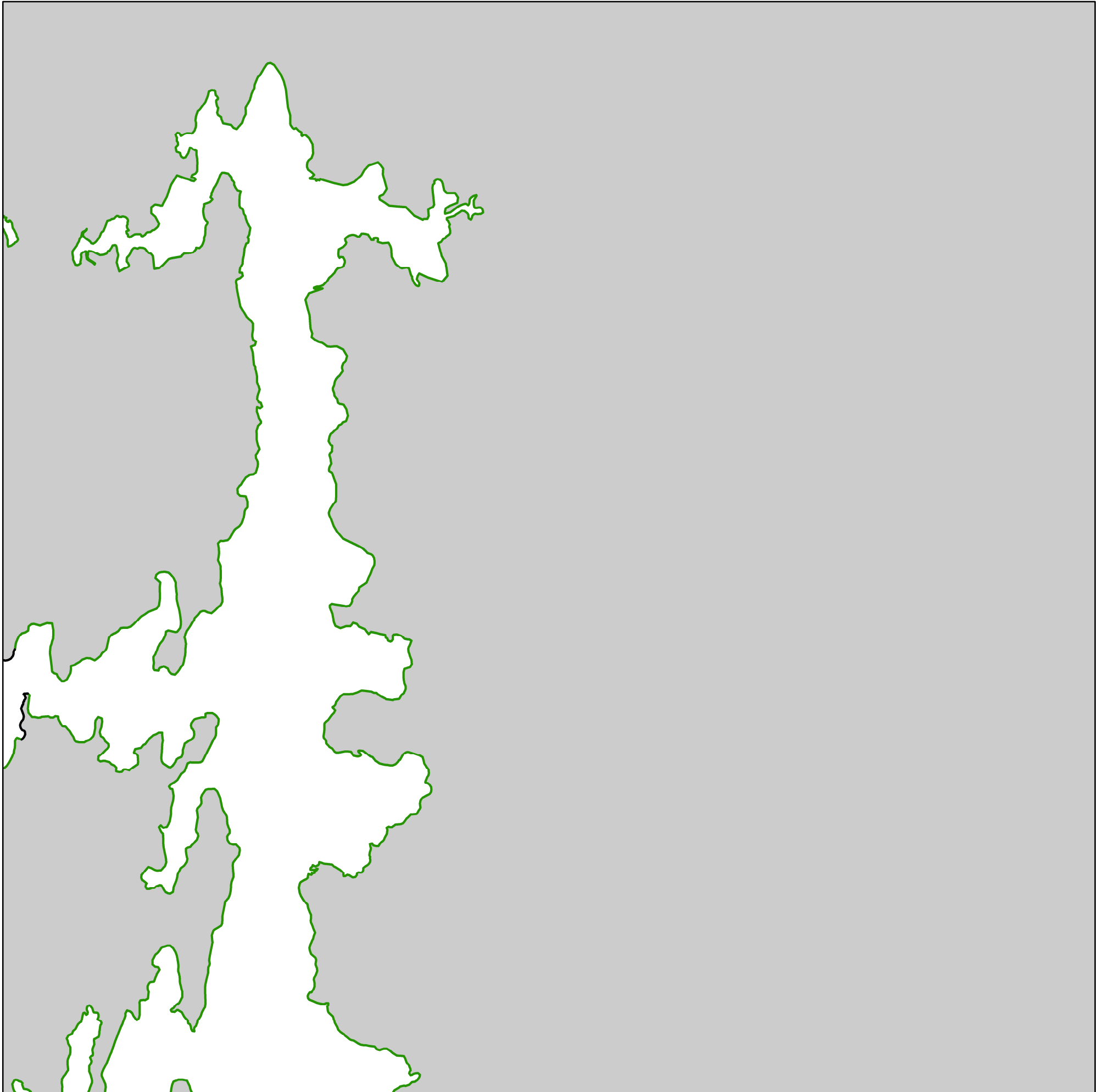


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

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SHEET NO. 86D14NW



Legend

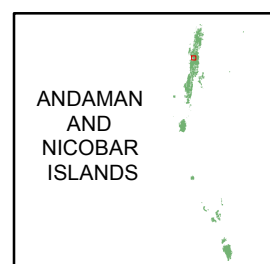
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

86D09SE	86D13SW	86D13SE
86D10NE	86D14NW	86D14NE
86D10SE	86D14SW	86D14SE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

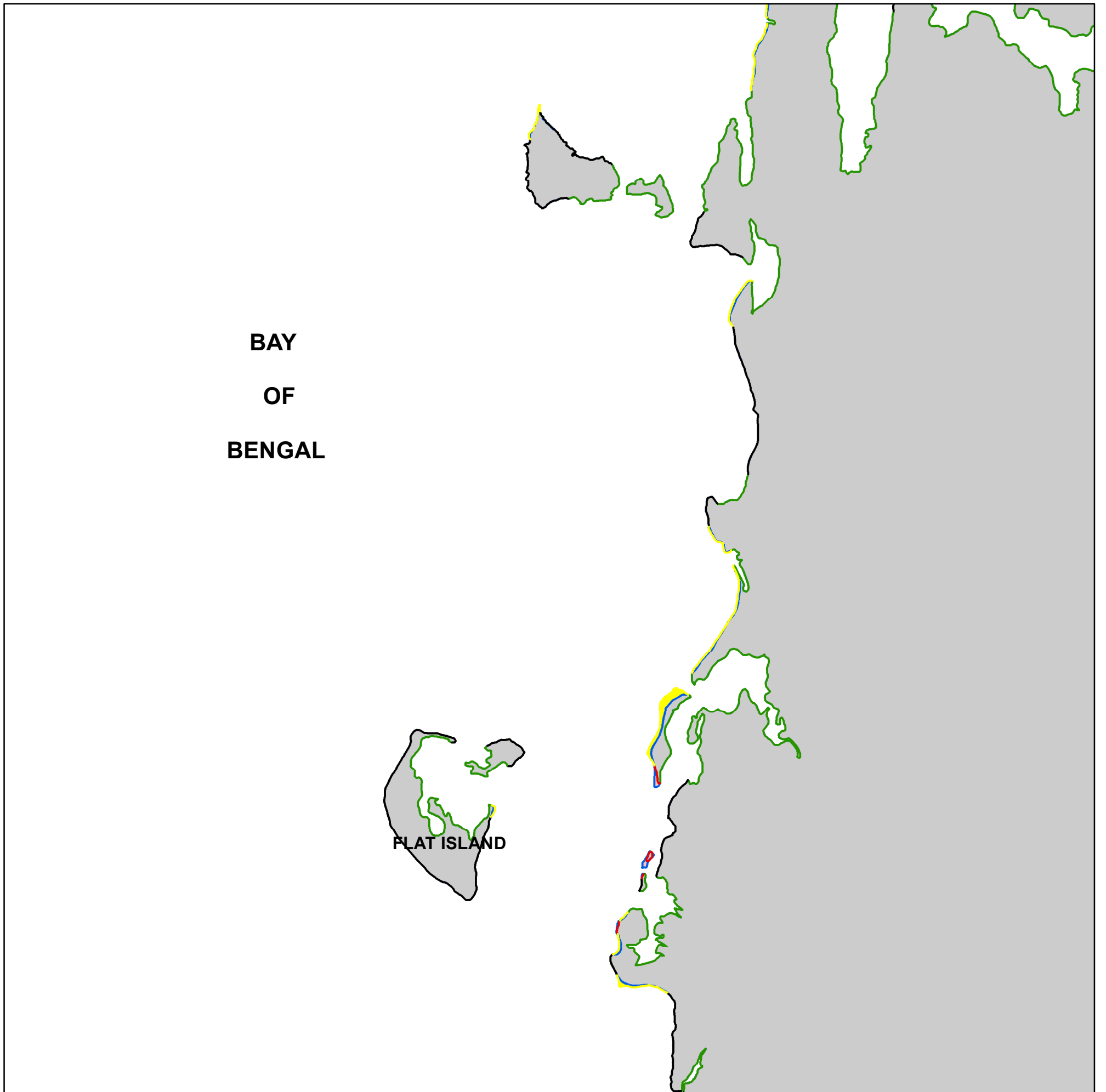


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS






FOR OFFICIAL USE ONLY
SHEET NO. 86D10SE



**BAY
OF
BENGAL**

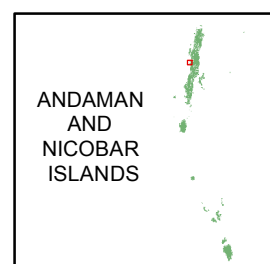
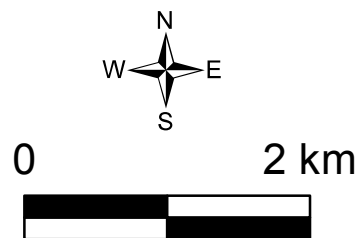
FLAT ISLAND

Legend

-  EROSION
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE

INDEX TO SHEETS

SEA	86D10NE	86D14NW
SEA	86D10SE	86D14SW
SEA	86D11NE	86D15NW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

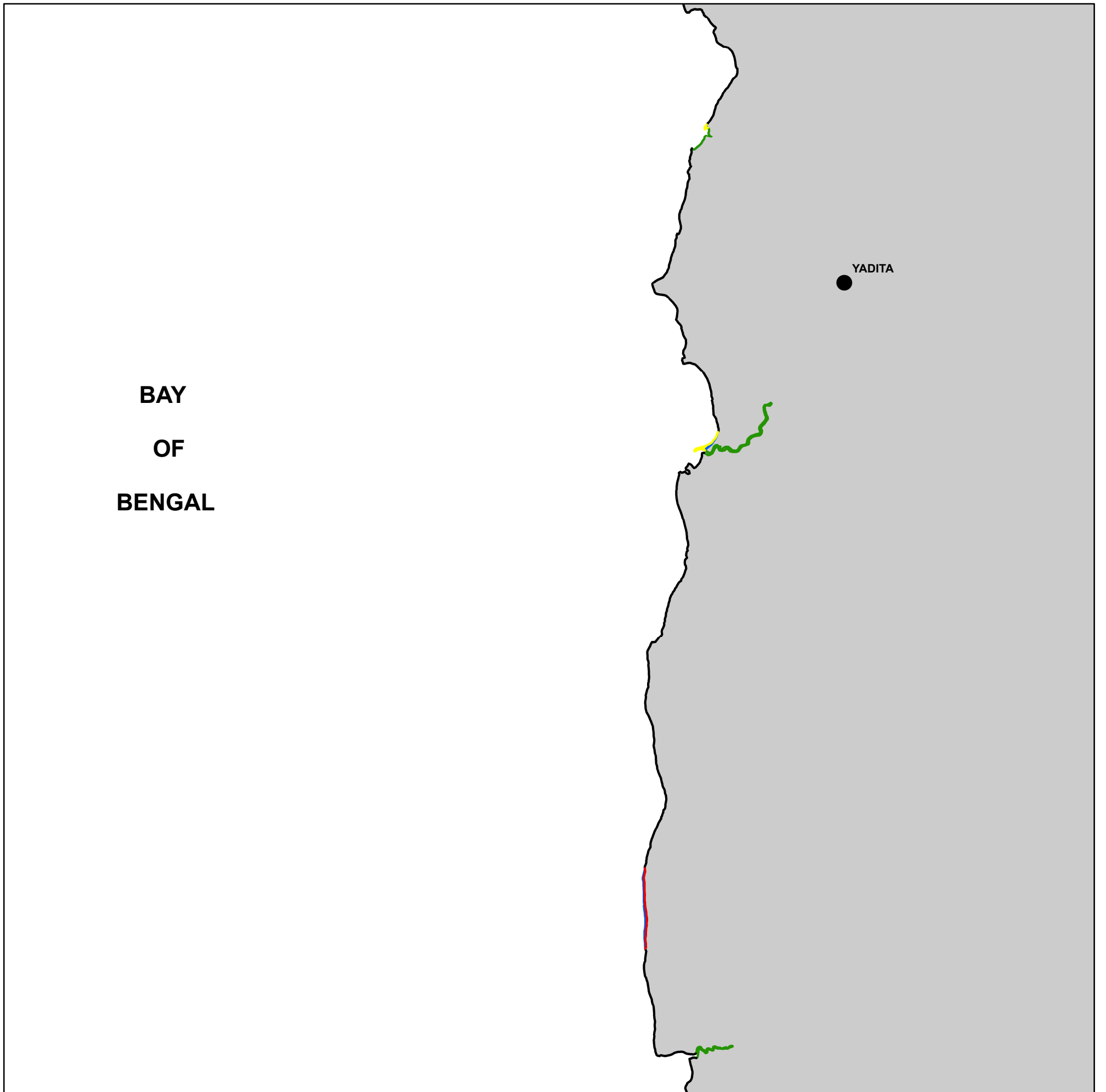


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86D11NE

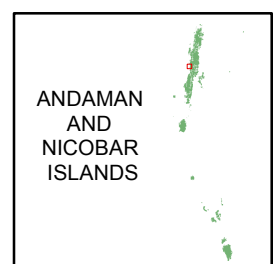
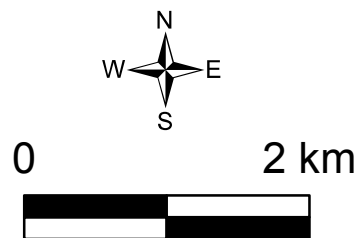


Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- HABITATION

INDEX TO SHEETS

SEA	86D10SE	86D14SW
SEA	86D11NE	86D15NW
SEA	86D11SE	86D15SW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP





NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

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SHEET NO. 86D11SE



Legend

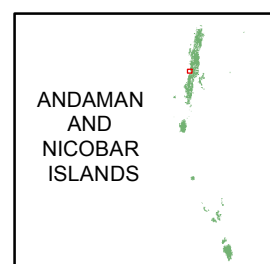
-  EROSION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE

INDEX TO SHEETS

SEA	86D11NE	86D15NW
SEA	86D11SE	86D15SW
SEA	86D12NE	86D16NW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

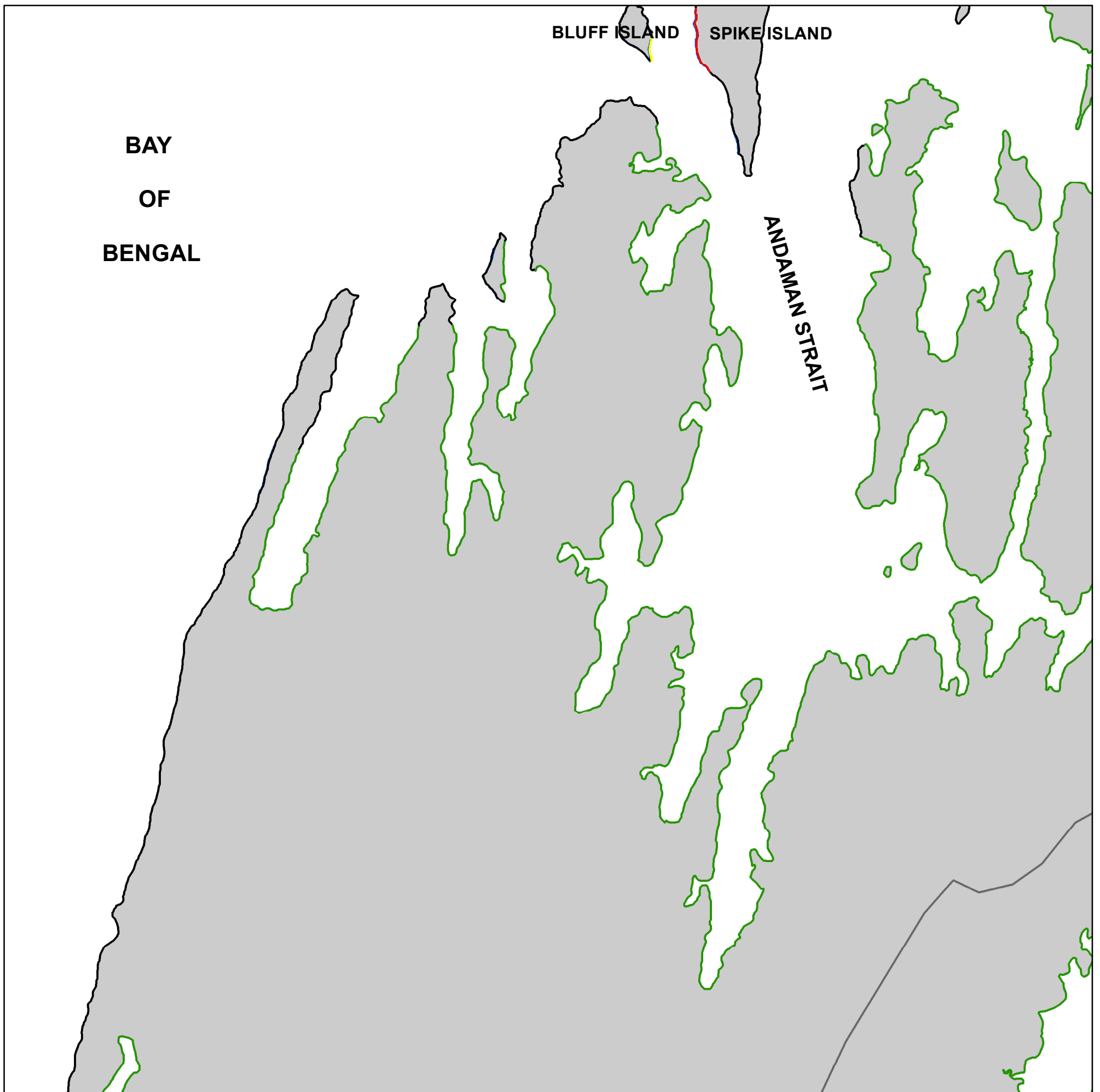


SHORELINE CHANGE MAP

NORTH AND MIDDLE ANDAMAN

FOR OFFICIAL USE ONLY

& SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 86D12NE



Legend

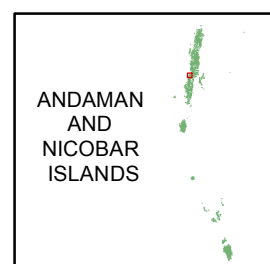
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD

INDEX TO SHEETS

SEA	86D11SE	86D15SW
SEA	86D12NE	86D16NW
86D12SW	86D12SE	86D16SW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

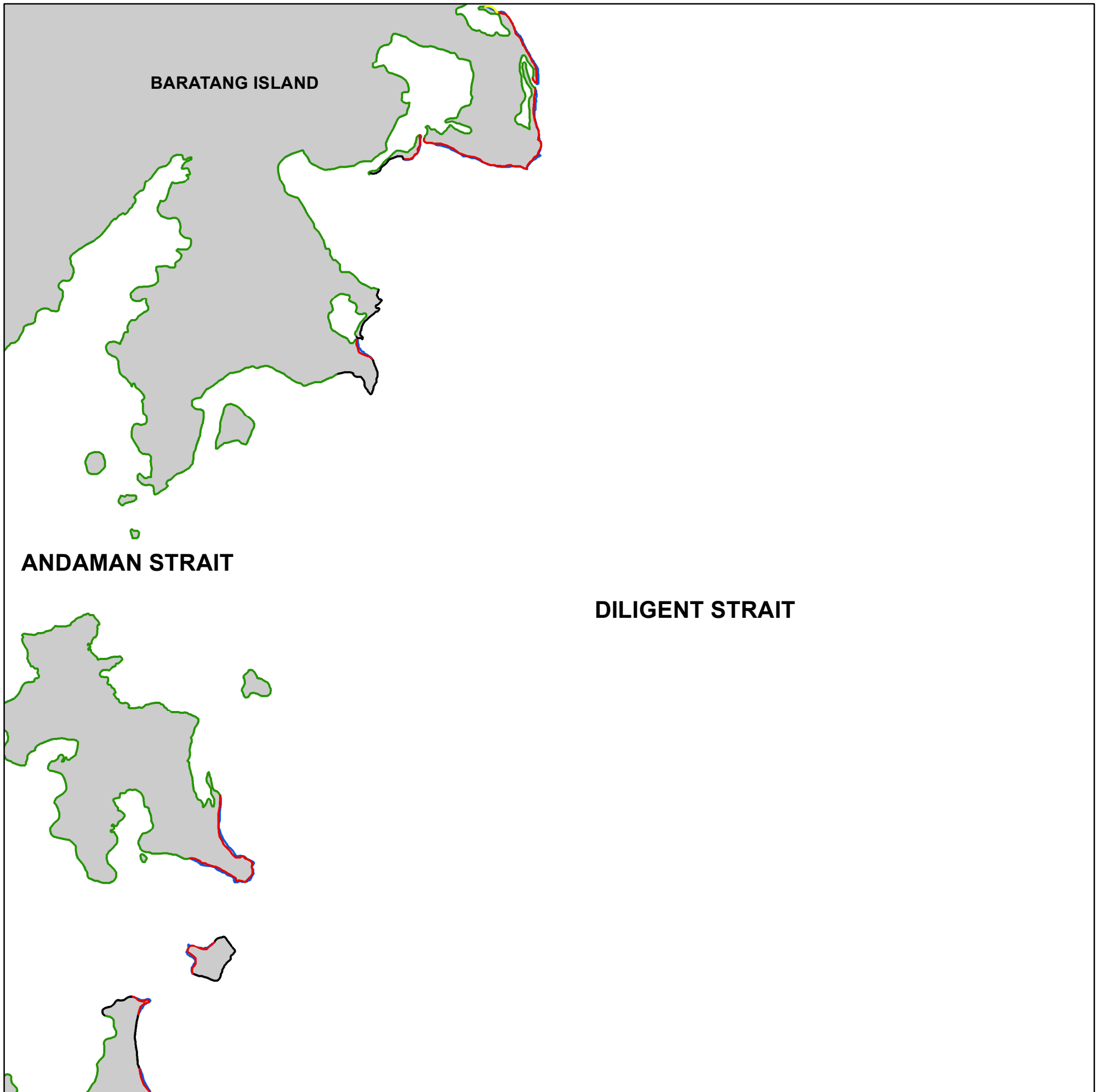


SHORELINE CHANGE MAP

NORTH AND MIDDLE ANDAMAN

FOR OFFICIAL USE ONLY

& SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 86D16SW



Legend

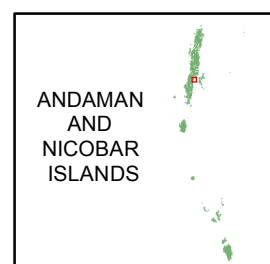
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

86D12NE	86D16NW	86D16NE
86D12SE	86D16SW	86D16SE
87A09NE	87A13NW	87A13NE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86D16NW



Legend

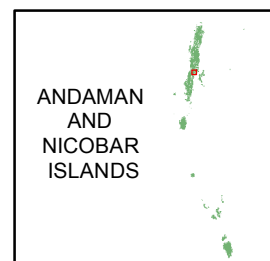
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- HABITATION

INDEX TO SHEETS

86D11SE	86D15SW	86D15SE
86D12NE	86D16NW	86D16NE
86D12SE	86D16SW	86D16SE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

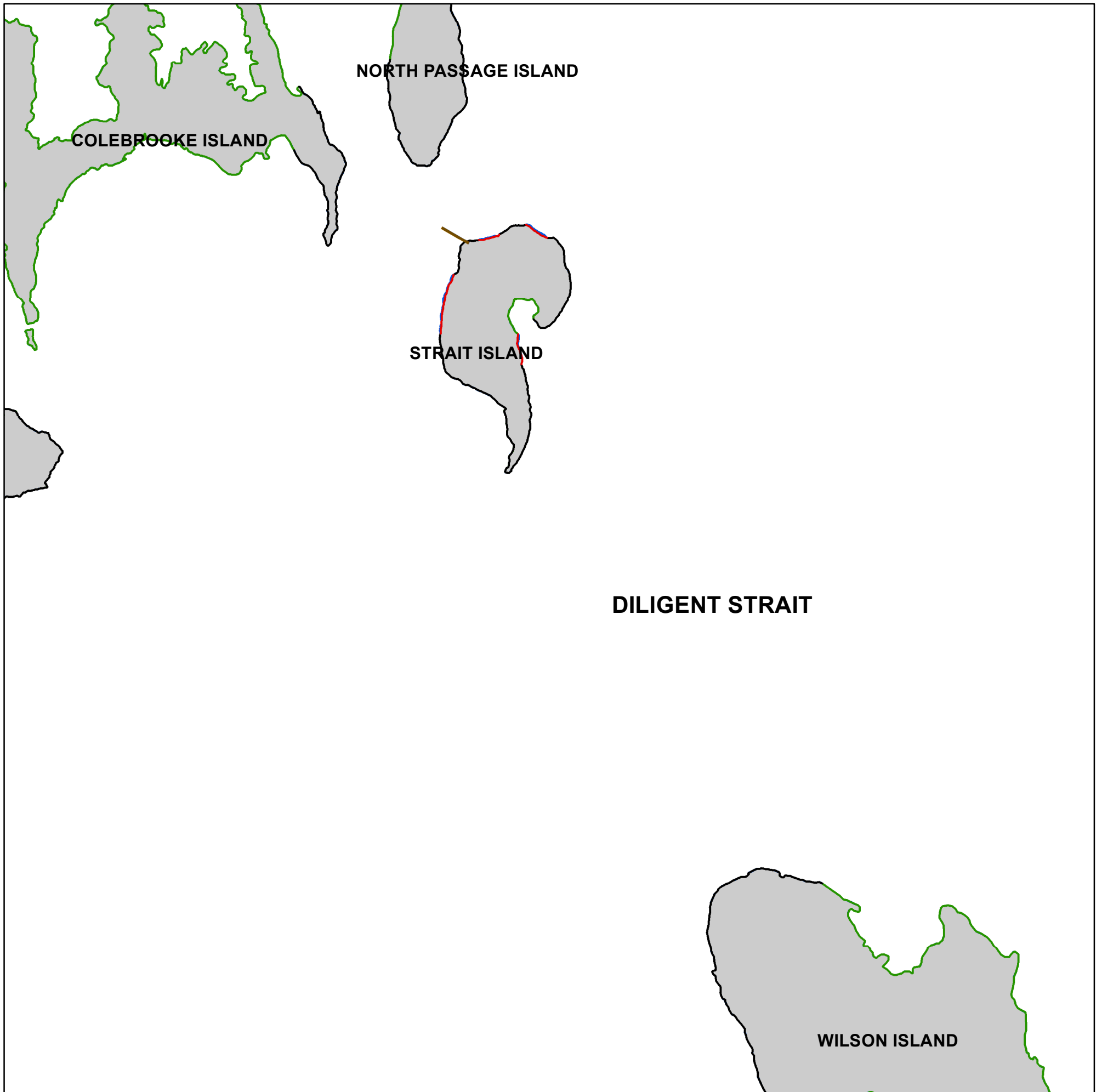


SHORELINE CHANGE MAP

NORTH AND MIDDLE ANDAMAN
& SOUTH ANDAMAN

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ANDAMAN AND NICOBAR ISLANDS SHEET NO. 86D16NE



Legend

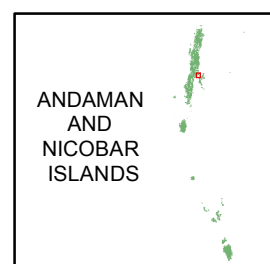
- EROSION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- JETTY

INDEX TO SHEETS

86D15SW	86D15SE	86H03SW
86D16NW	86D16NE	86H04NW
86D16SW	86D16SE	86H04SW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

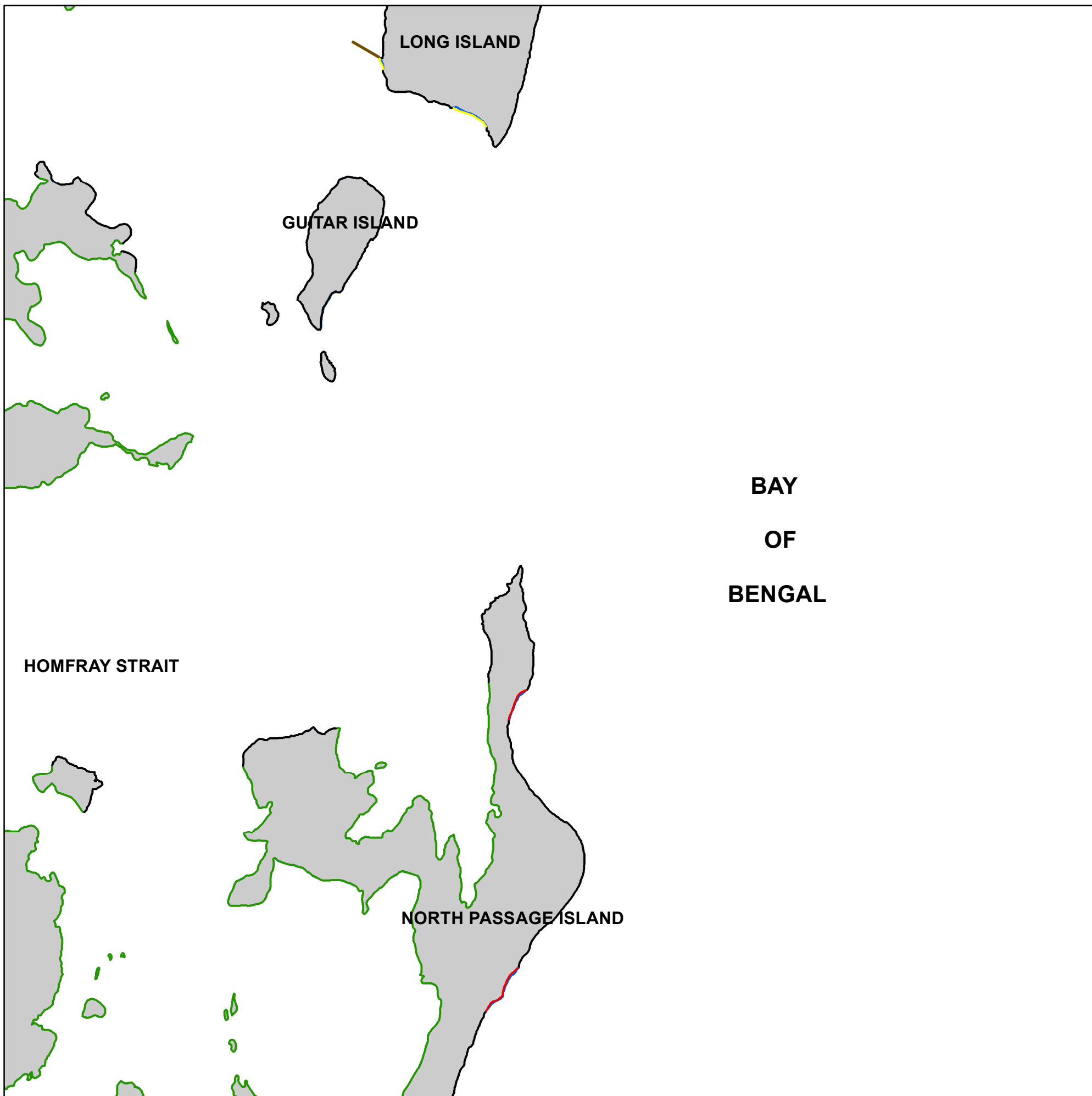


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86D15SE



Legend

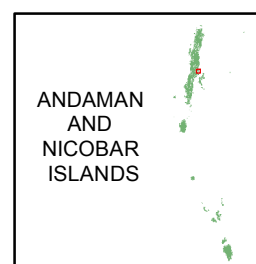
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- JETTY
- HABITATION

INDEX TO SHEETS

86D15NW	86D15NE	SEA
86D15SW	86D15SE	86H03SW
86D16NW	86D16NE	86H04NW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

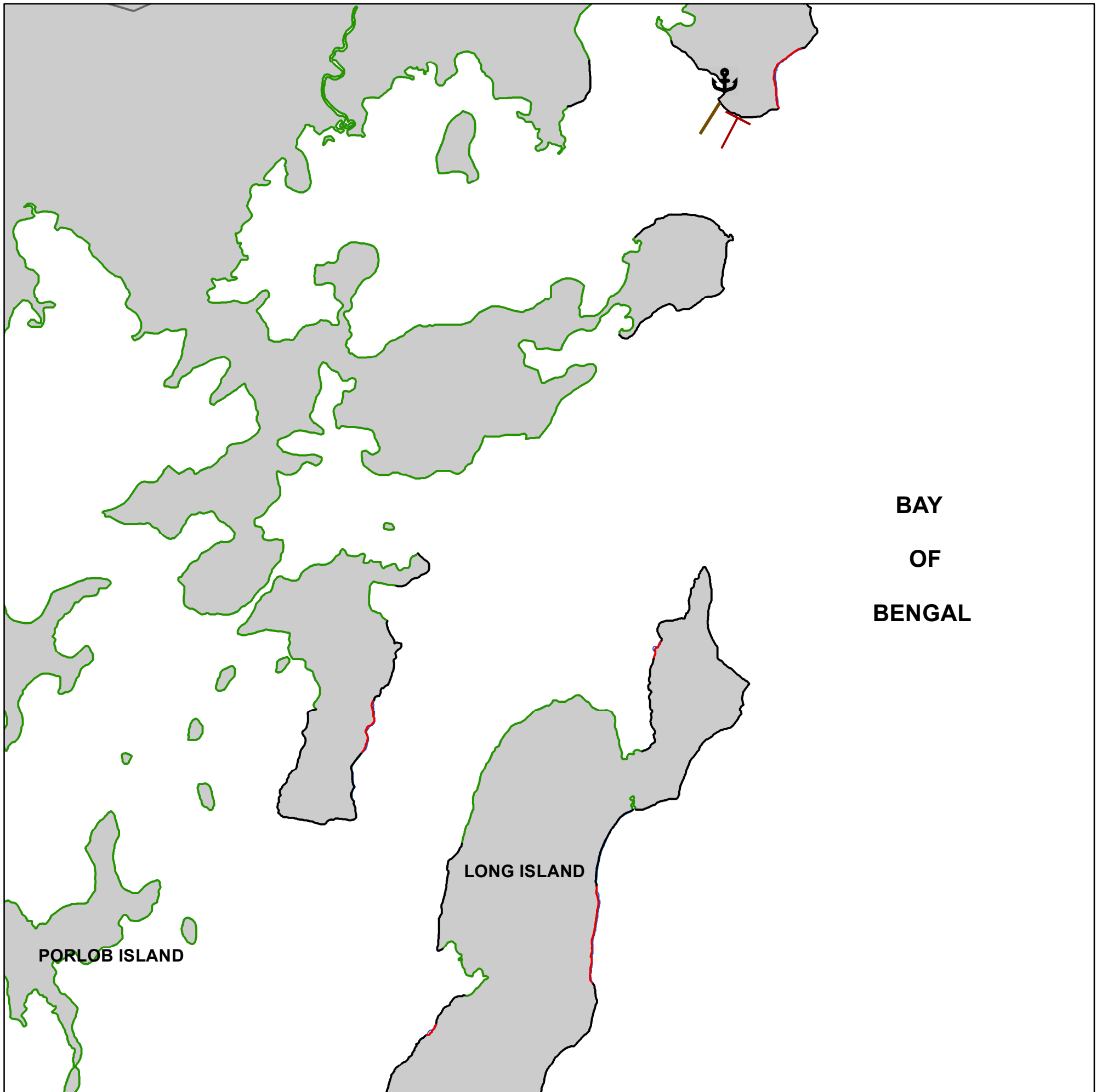


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86D15NE

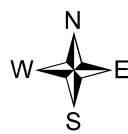


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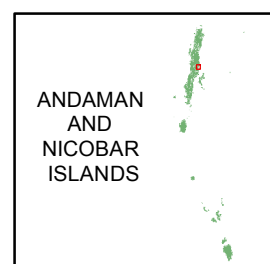
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- BREAKWATER
- JETTY
- ⚓ PORT/HARBOUR

INDEX TO SHEETS

86D14SW	86D14SE	SEA
86D15NW	86D15NE	SEA
86D15SW	86D15SE	86H03SW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

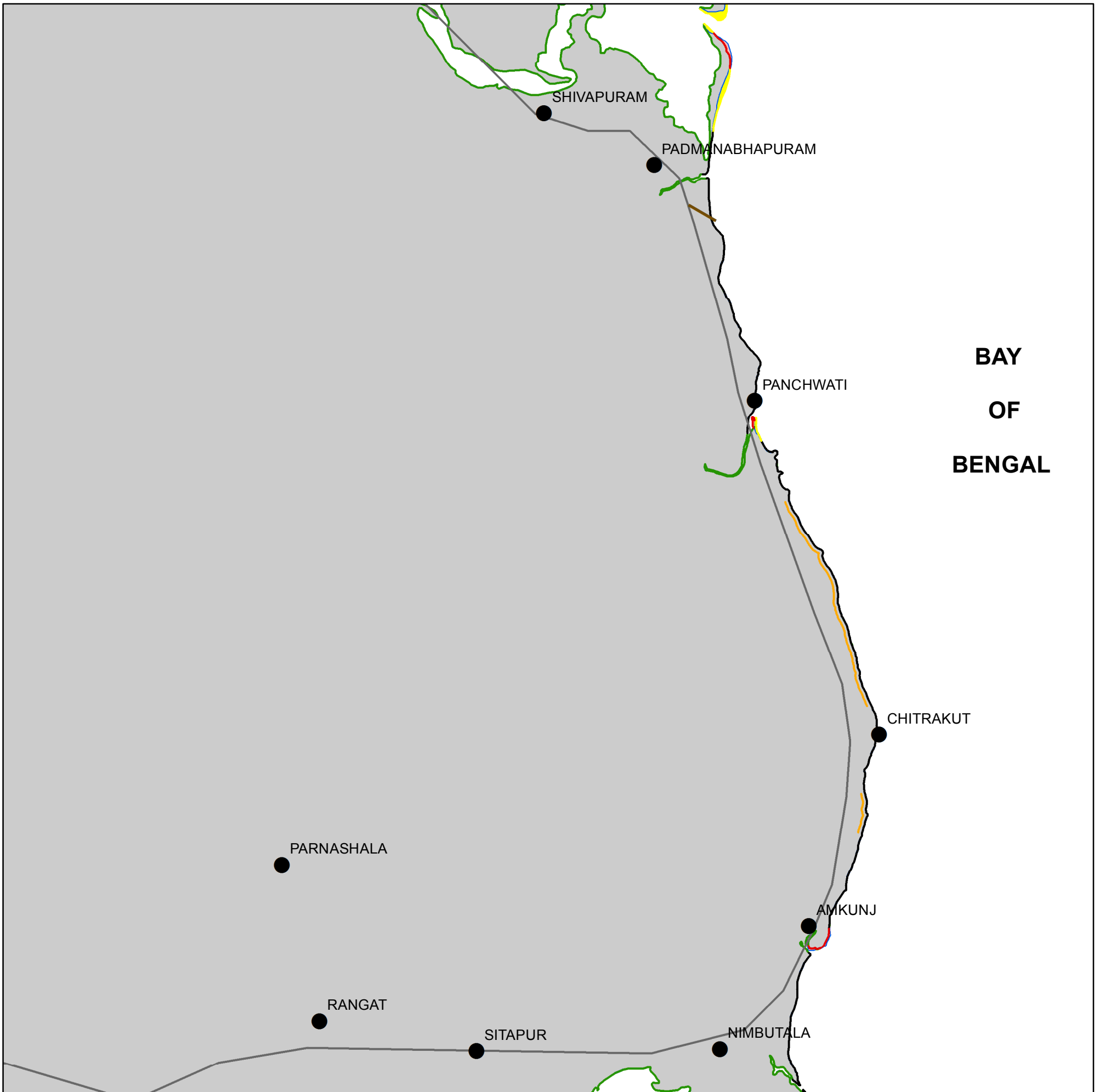


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

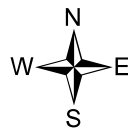
FOR OFFICIAL USE ONLY
SHEET NO. 86D14SE



**BAY
OF
BENGAL**

Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- SEA WALL
- HABITATION

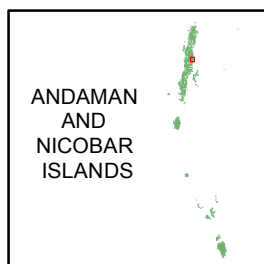


0 2 km



INDEX TO SHEETS

86D14NW	86D14NE	SEA
86D14SW	86D14SE	SEA
86D15NW	86D15NE	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

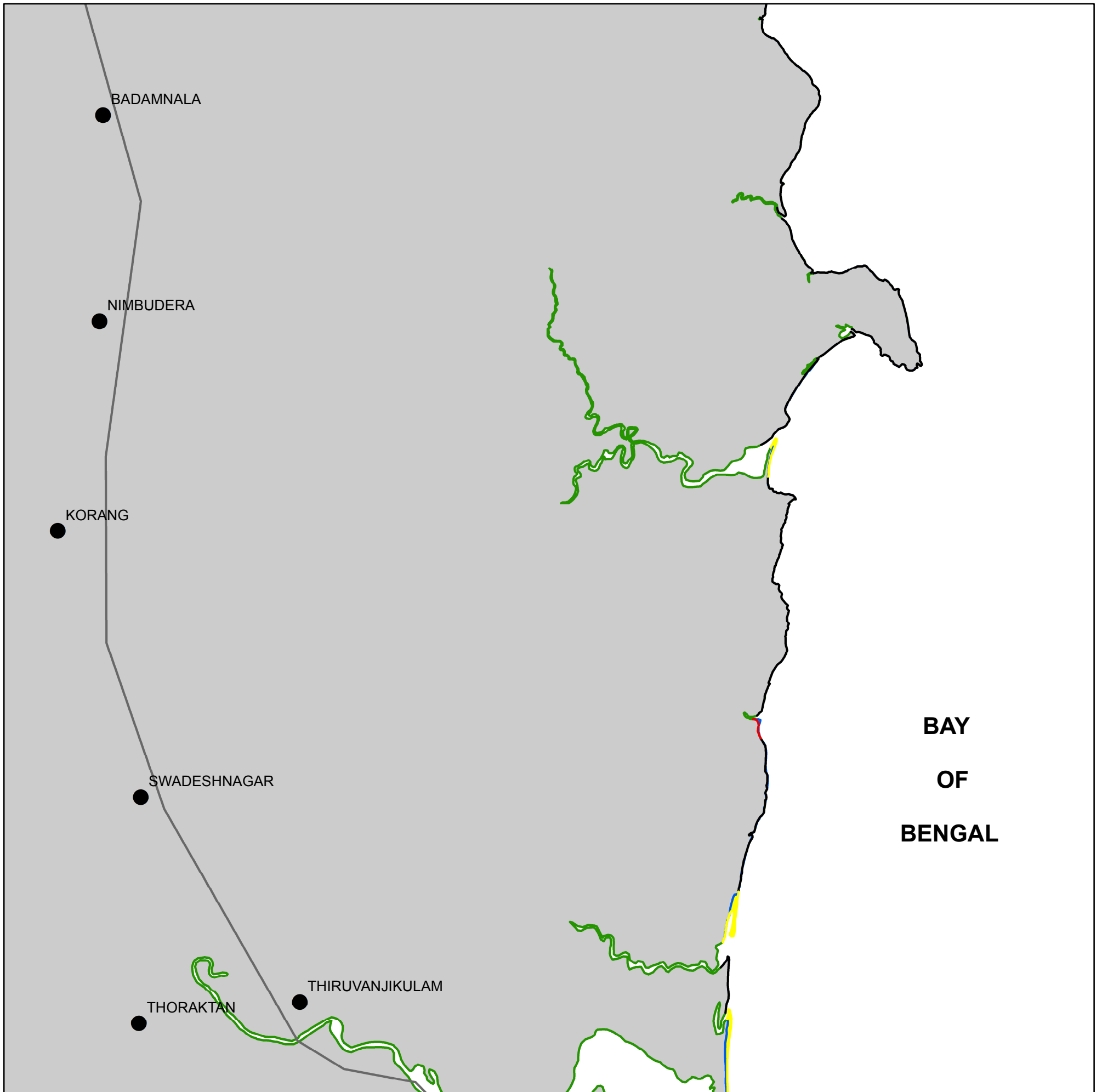


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86D14NE



Legend

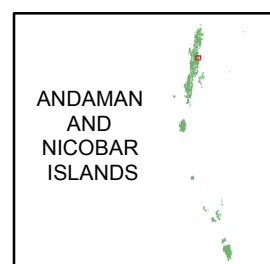
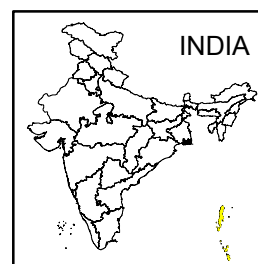
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- HABITATION

INDEX TO SHEETS

86D13SW	86D13SE	SEA
86D14NW	86D14NE	SEA
86D14SW	86D14SE	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

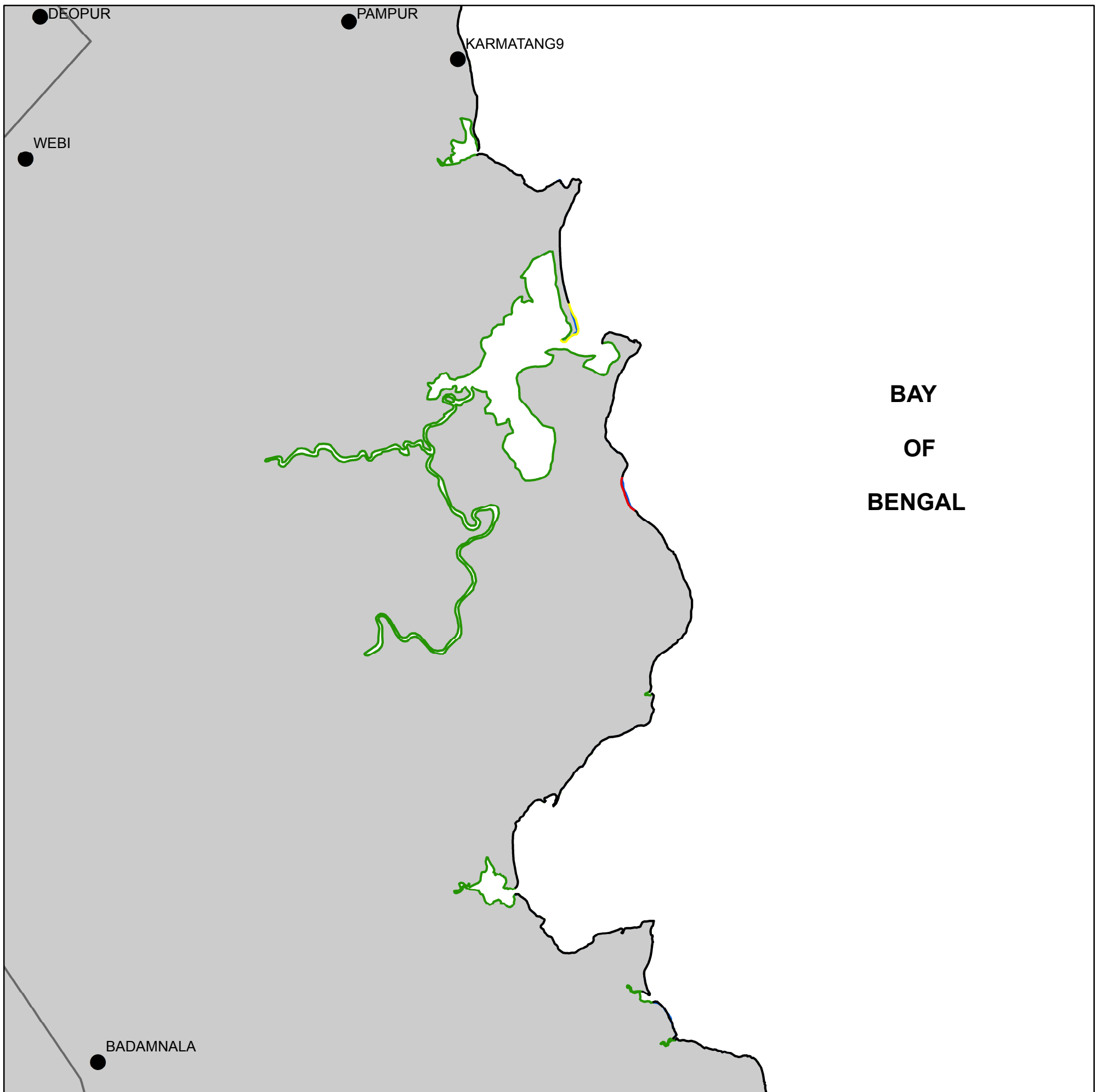


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86D13SE



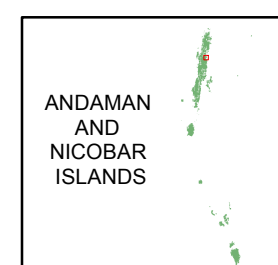
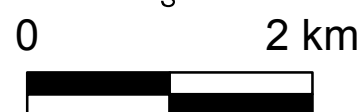
**BAY
OF
BENGAL**

Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- HABITATION

INDEX TO SHEETS

86D13NW	86D13NE	86H01NW
86D13SW	86D13SE	SEA
86D14NW	86D14NE	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

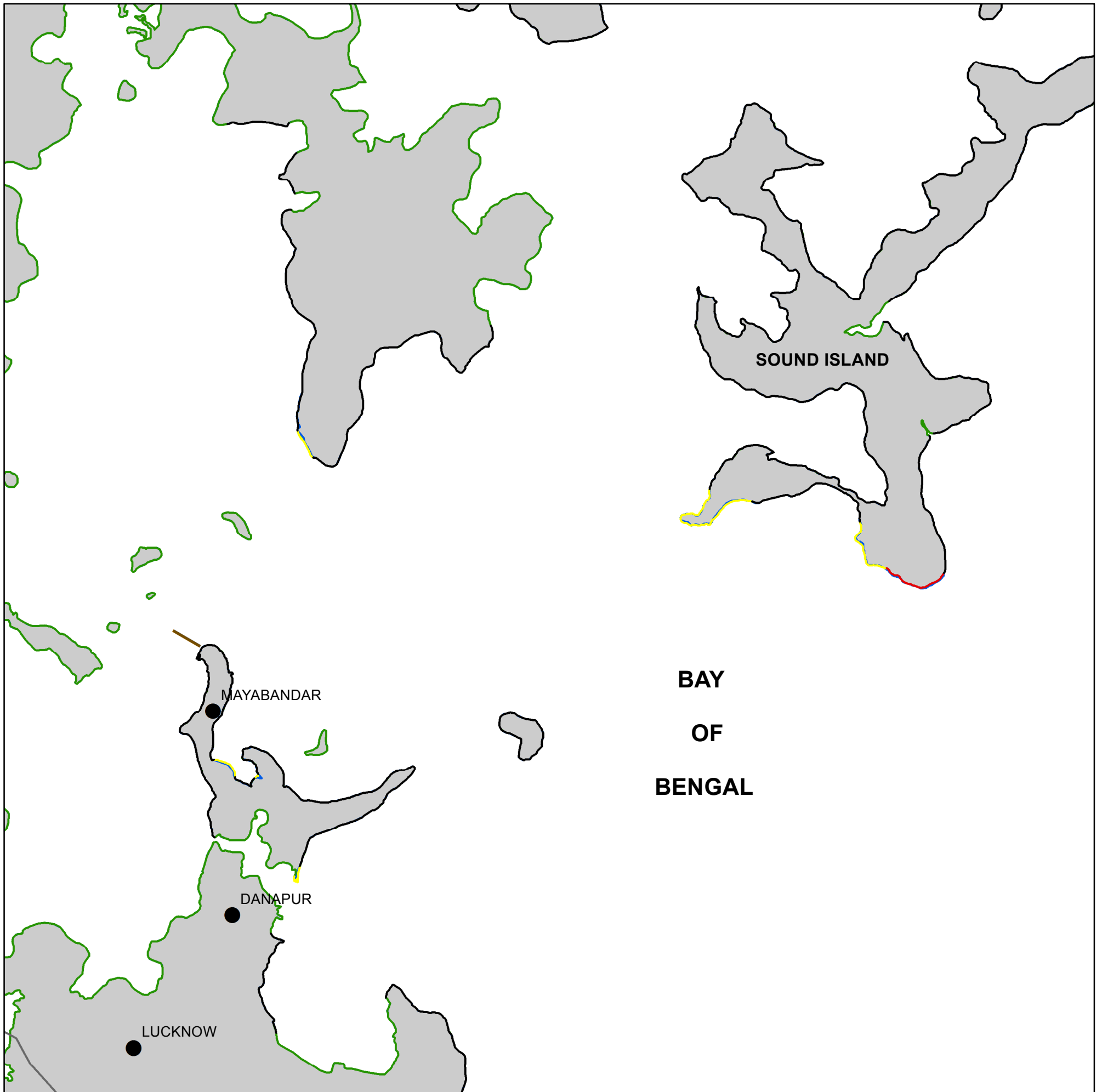


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86D13NE



Legend

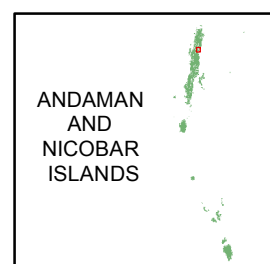
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- JETTY
- HABITATION

INDEX TO SHEETS

86C16SW	86C16SE	86G04SW
86D13NW	86D13NE	86H01NW
86D13SW	86D13SE	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

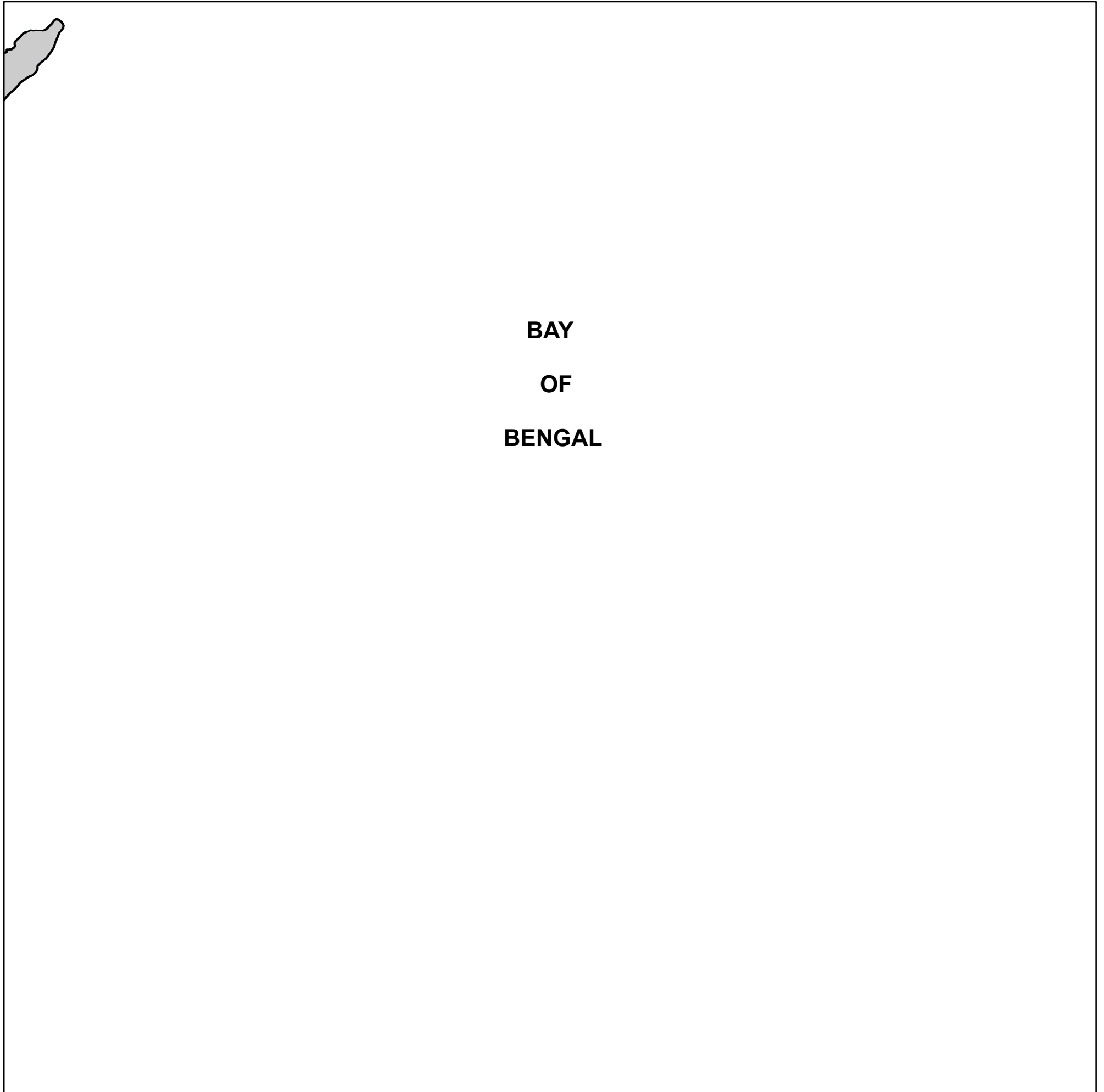


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN




ANDAMAN AND NICOBAR ISLANDS

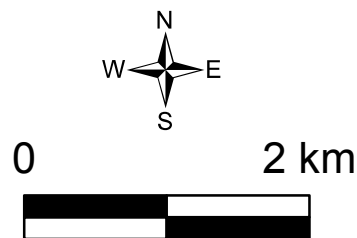
FOR OFFICIAL USE ONLY
SHEET NO. 86H01NW



**BAY
OF
BENGAL**

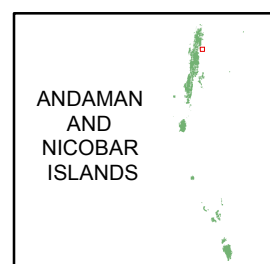
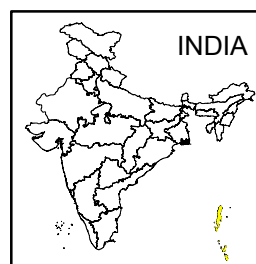
Legend

-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE



INDEX TO SHEETS

86C16SE	86G04SW	SEA
86D13NE	86H01NW	SEA
86D13SE	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

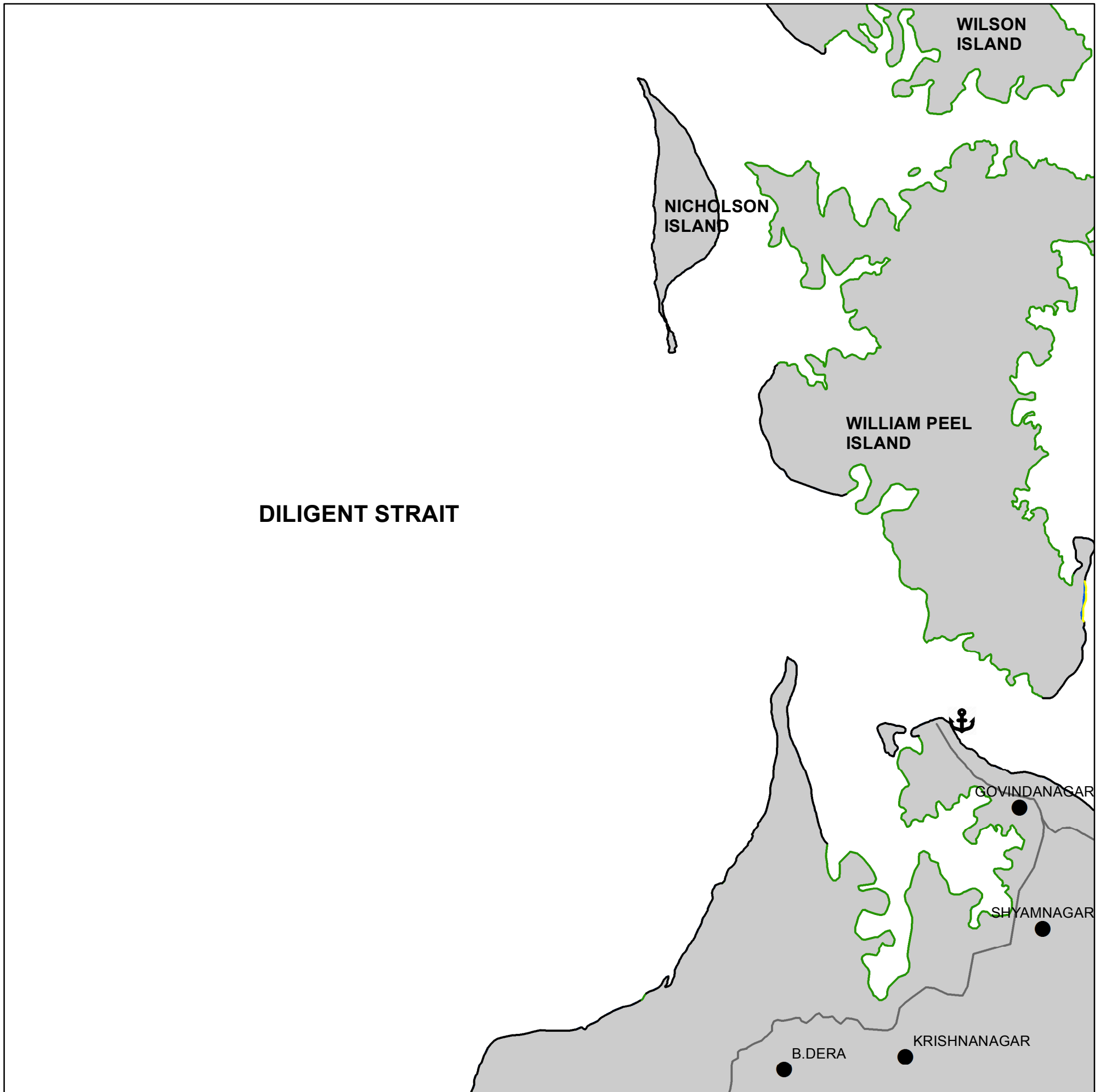
PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 86D16SE



Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  ROAD
-  PORT/HARBOUR
-  HABITATION

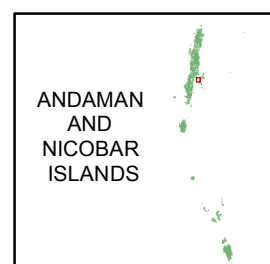


0 2 km



INDEX TO SHEETS

86D16NW	86D16NE	86H04NW
86D16SW	86D16SE	86H04SW
87A13NW	87A13NE	87E01NW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

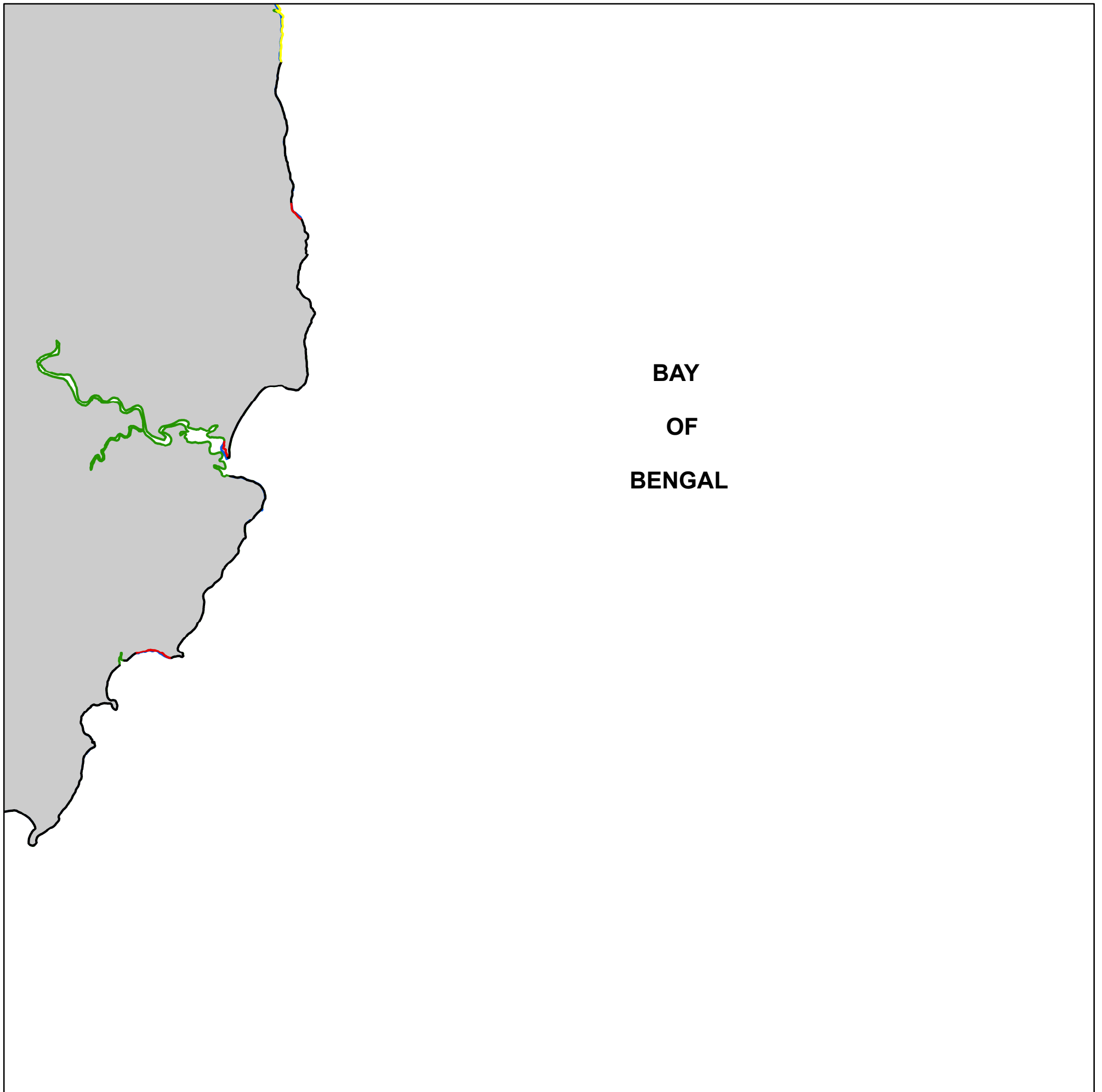


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

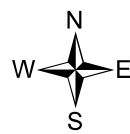
ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86G04SW



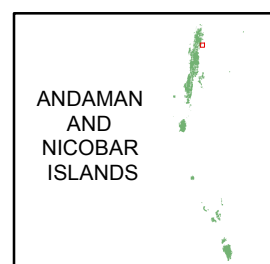
Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE



INDEX TO SHEETS

86C16NE	86G04NW	SEA
86C16SE	86G04SW	SEA
86D13NE	86H01NW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

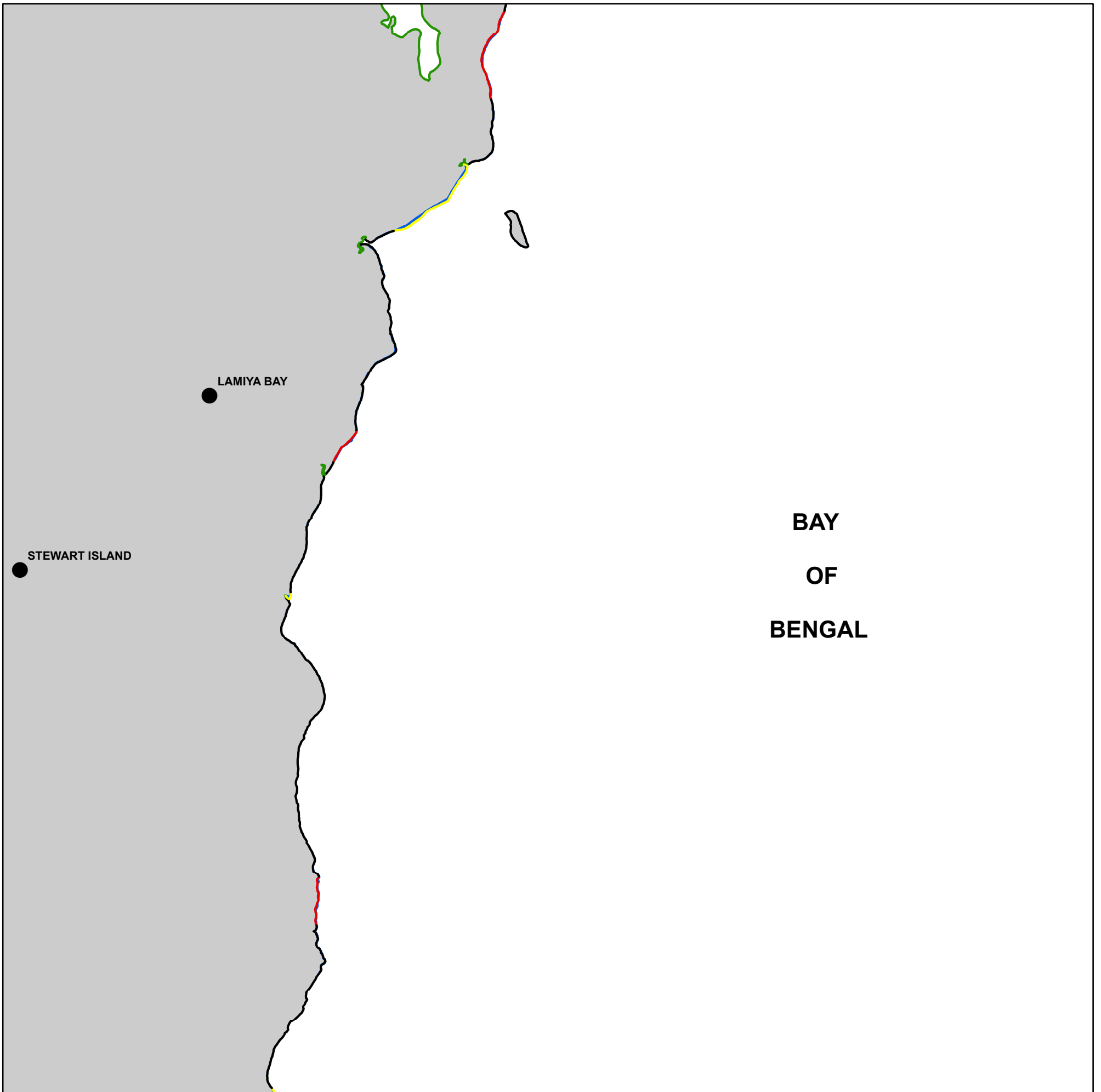


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

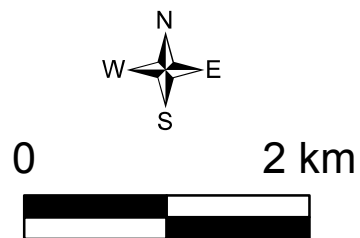
ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86G04NW



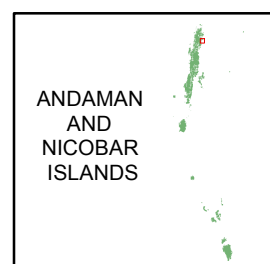
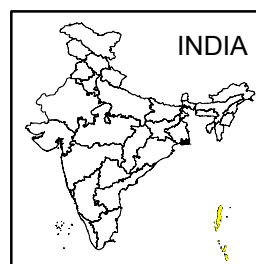
Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- HABITATION



INDEX TO SHEETS

86C15SE	86G03SW	SEA
86C16NE	86G04NW	SEA
86C16SE	86G04SW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

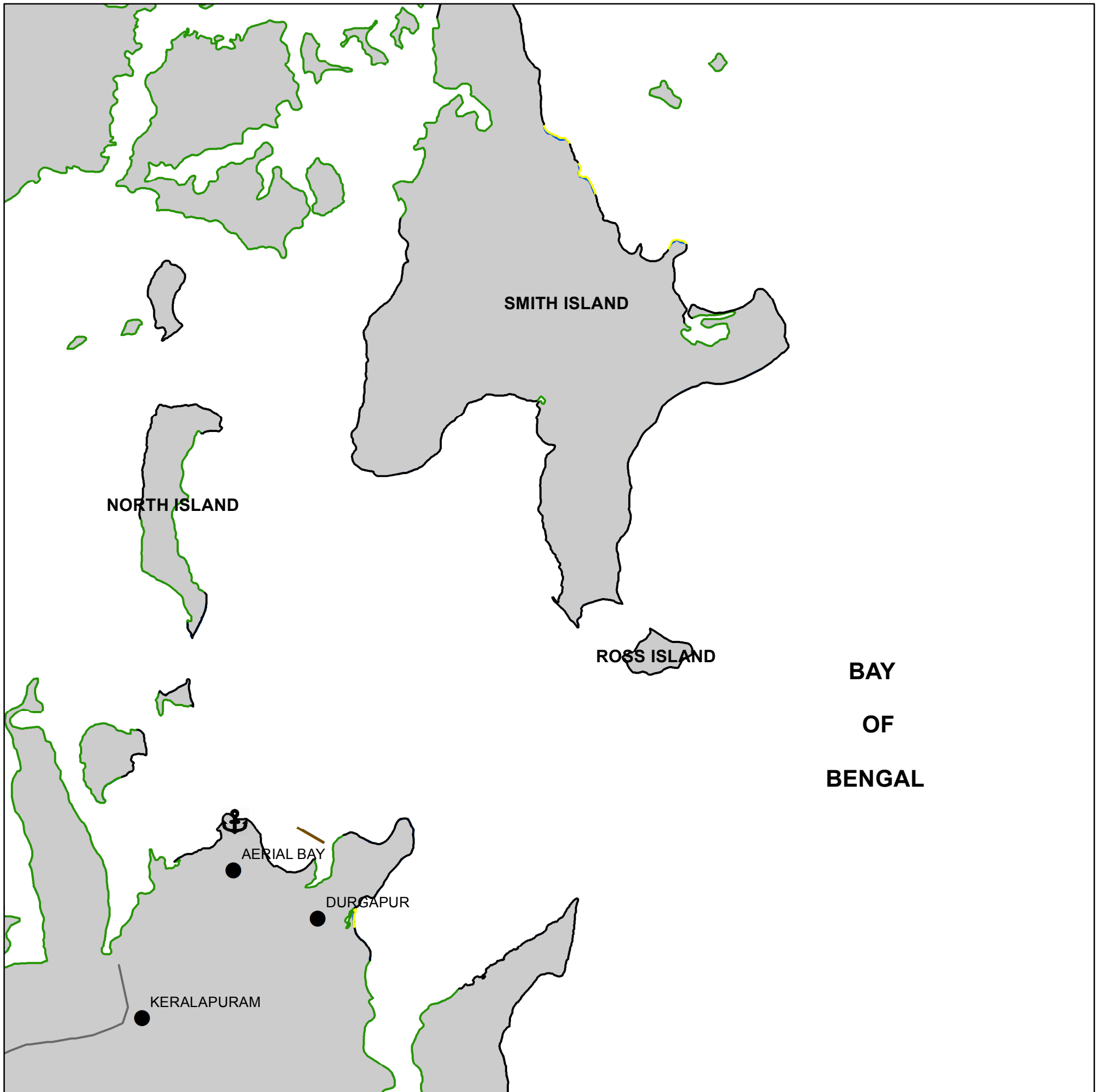


SHORELINE CHANGE MAP









NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86G03SW



Legend

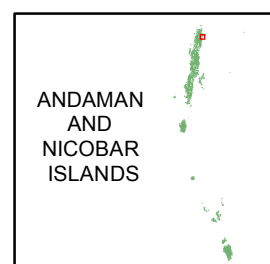
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  ROAD
-  JETTY
-  PORT/HARBOUR
-  HABITATION

INDEX TO SHEETS

86C15NE	86G03NW	SEA
86C15SE	86G03SW	SEA
86C16NE	86G04NW	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

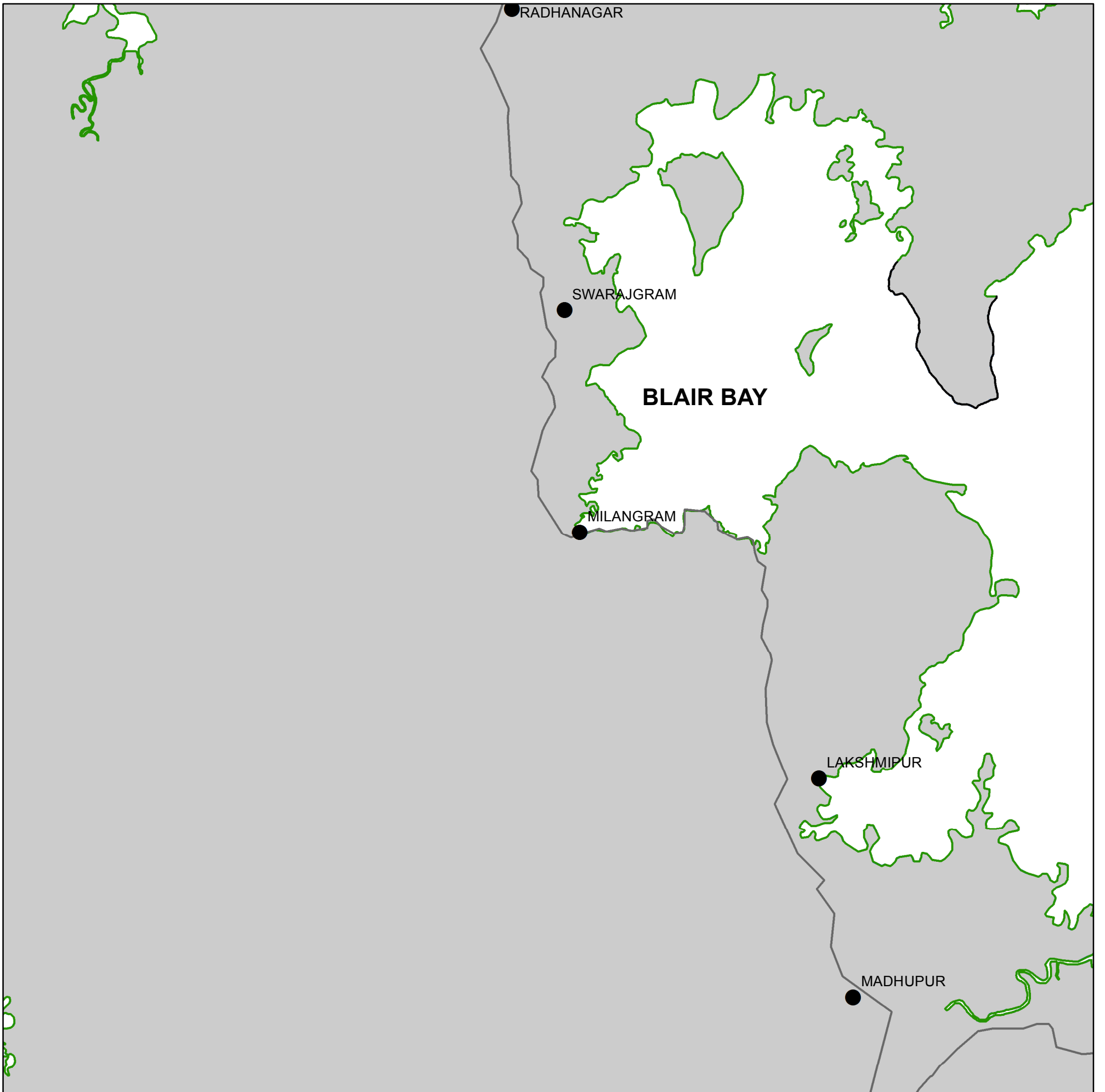


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86C15SE

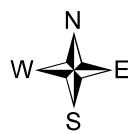


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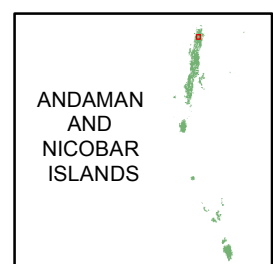
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- HABITATION

INDEX TO SHEETS

86C15NW	86C15NE	86G03NW
86C15SW	86C15SE	86G03SW
86C16NW	86C16NE	86G04NW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

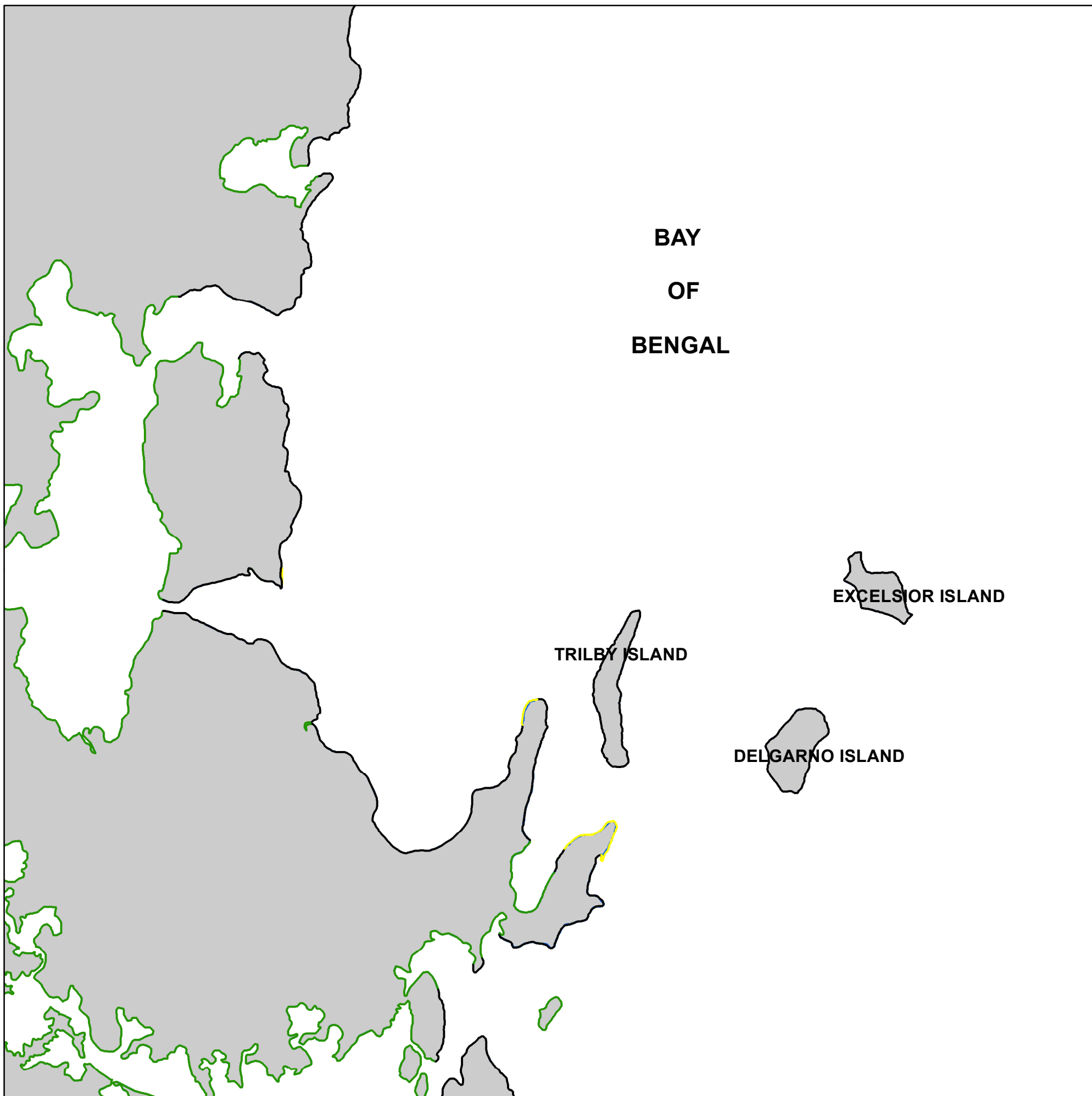


SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN

ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86G03NW



Legend

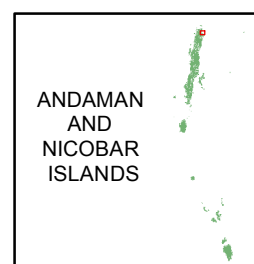
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

86C14SE	86G02SW	SEA
86C15NE	86G03NW	SEA
86C15SE	86G03SW	SEA



0 2 km



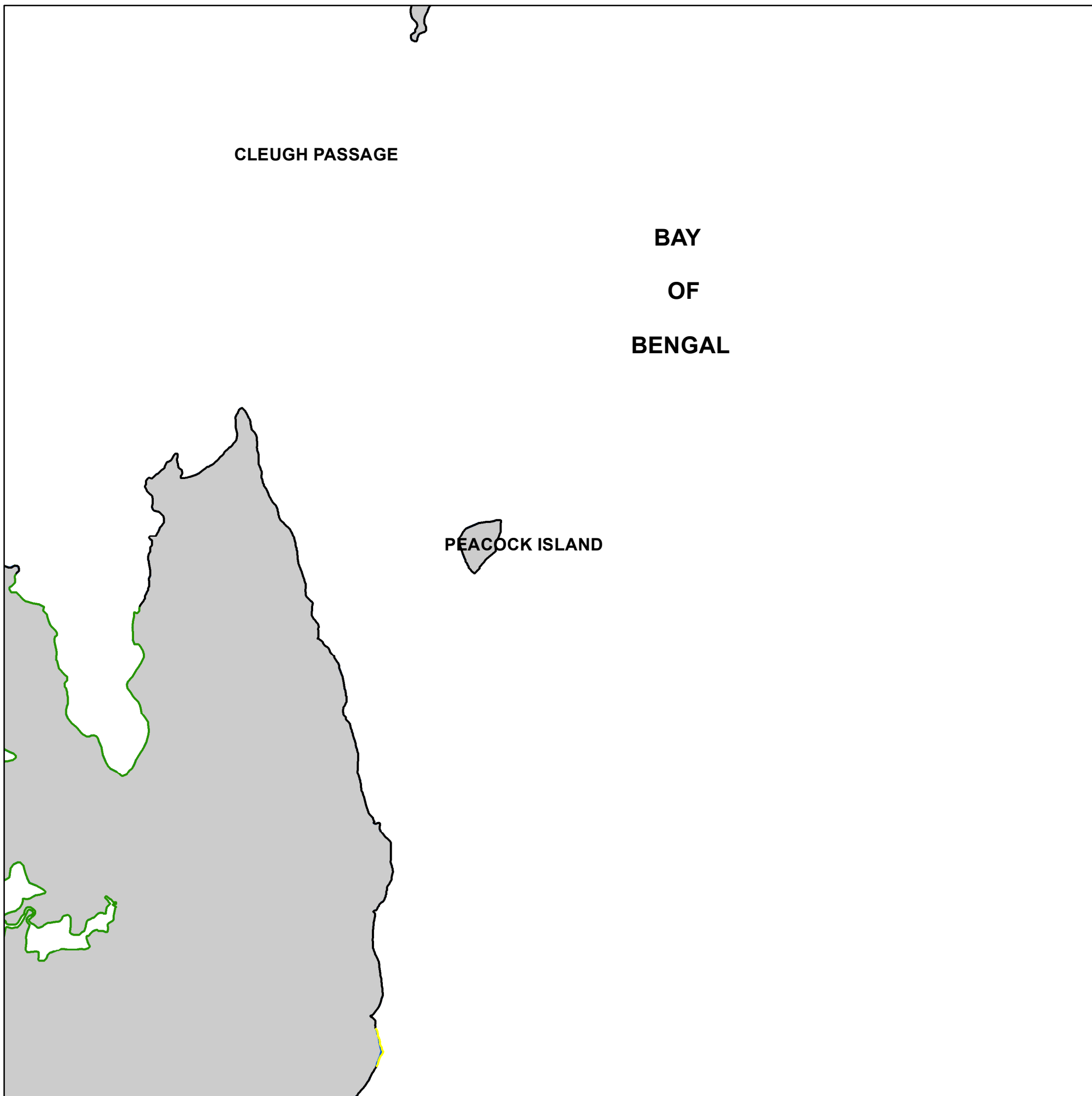
DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI







SHORELINE CHANGE MAP

NORTH AND MIDDLE ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 86G02SW FOR OFFICIAL USE ONLY



Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE

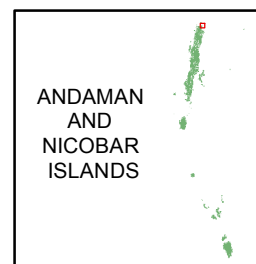


0 2 km



INDEX TO SHEETS

86C14NE	86G02NW	SEA
86C14SE	86G02SW	SEA
86C15NE	86G03NW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN




ANDAMAN AND NICOBAR ISLANDS

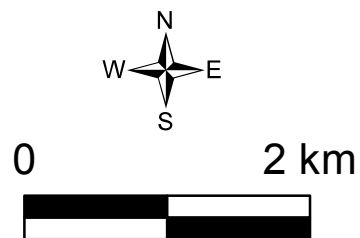
FOR OFFICIAL USE ONLY
SHEET NO. 86K07NW
86K03NE

BAY
OF
BENGAL



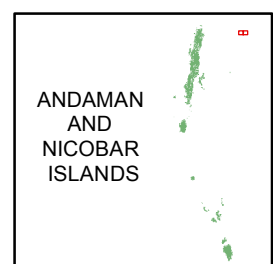
Legend

-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE



INDEX TO SHEETS

SEA	SEA	SEA
86K03NE	86K07NW	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

NORTH AND
MIDDLE ANDAMAN





ANDAMAN AND NICOBAR ISLANDS

FOR OFFICIAL USE ONLY
SHEET NO. 86H15SW
86H15SE

BAY
OF
BENGAL



Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE

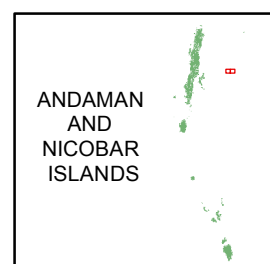


0 2 km



INDEX TO SHEETS

SEA	SEA	SEA
SEA	86H15SW 86H15SE	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

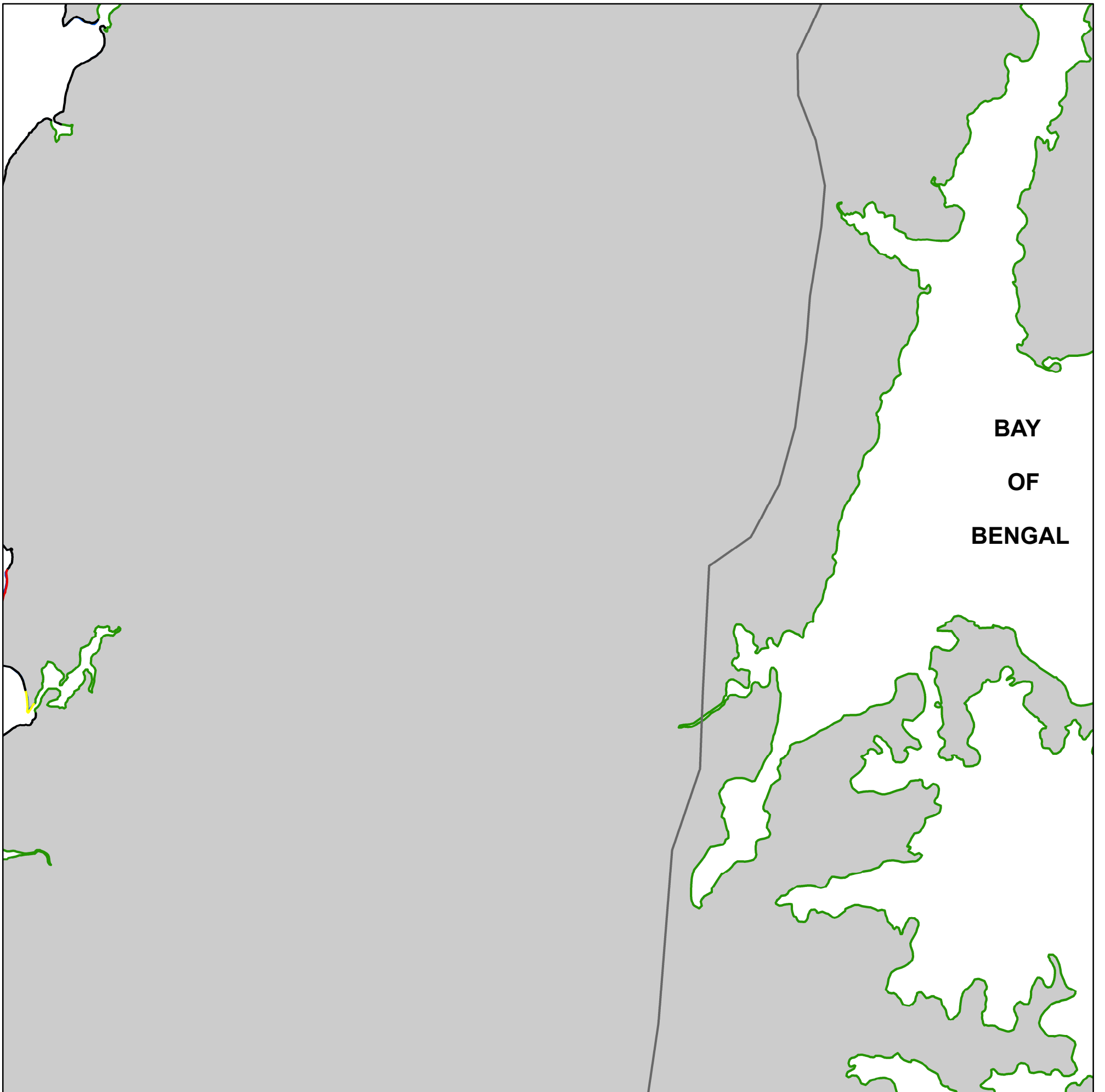
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 86D12SE



Legend

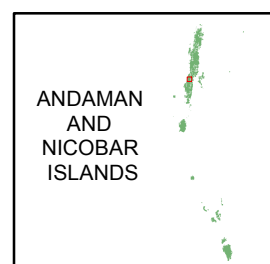
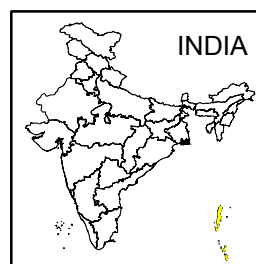
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD

INDEX TO SHEETS

SEA	86D12NE	86D16NW
86D12SW	86D12SE	86D16SW
87A09NW	87A09NE	87A13NW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

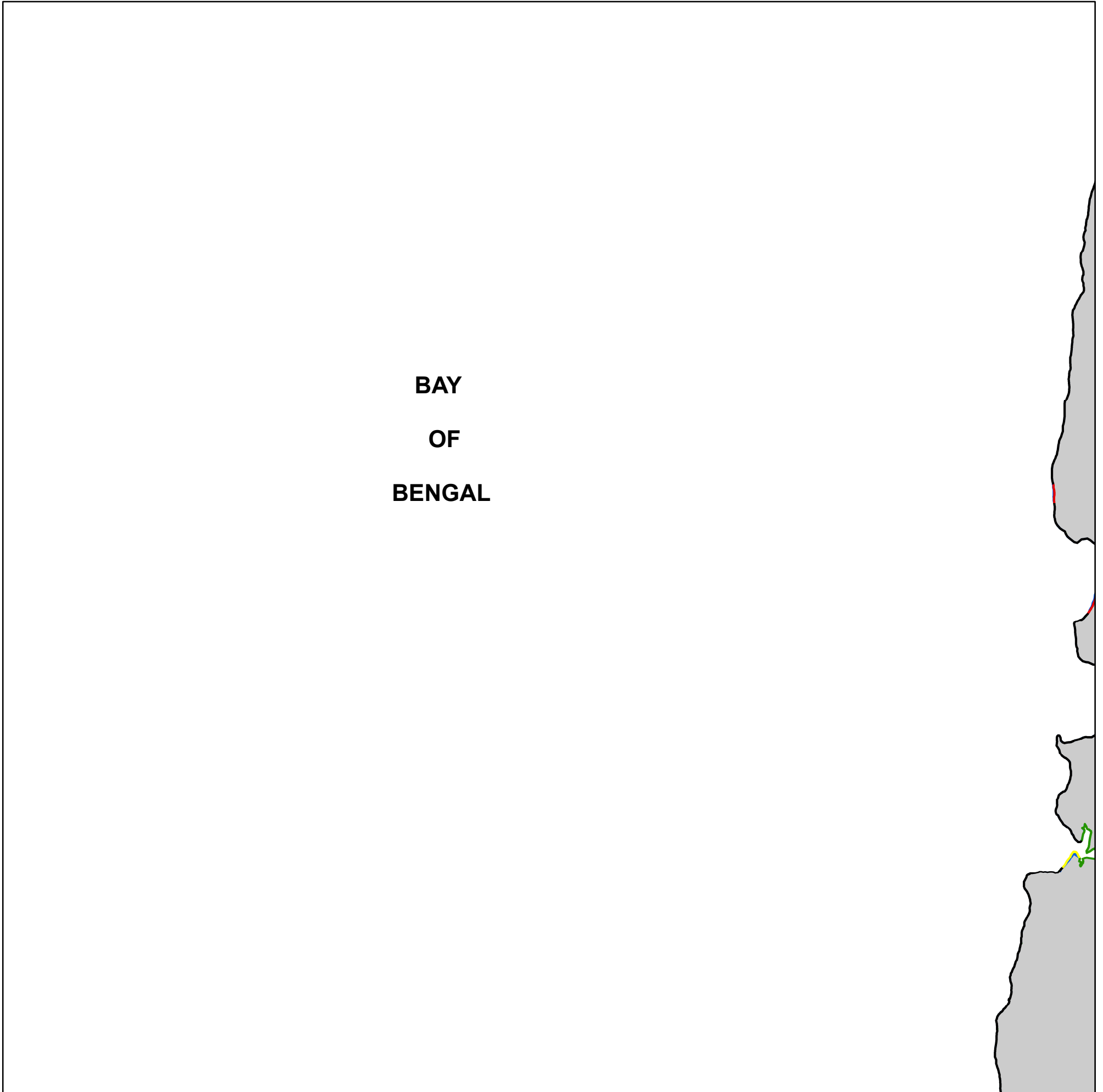


SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 86D12SW

BAY
OF
BENGAL

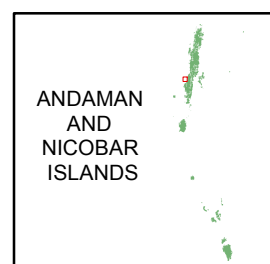
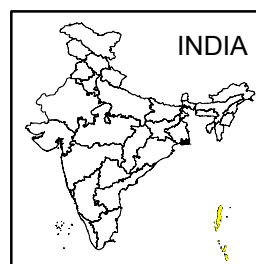
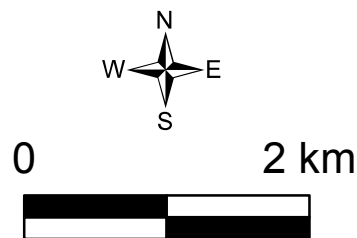


Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	SEA	86D12NE
SEA	86D12SW	86D12SE
SEA	87A09NW	87A09NE



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

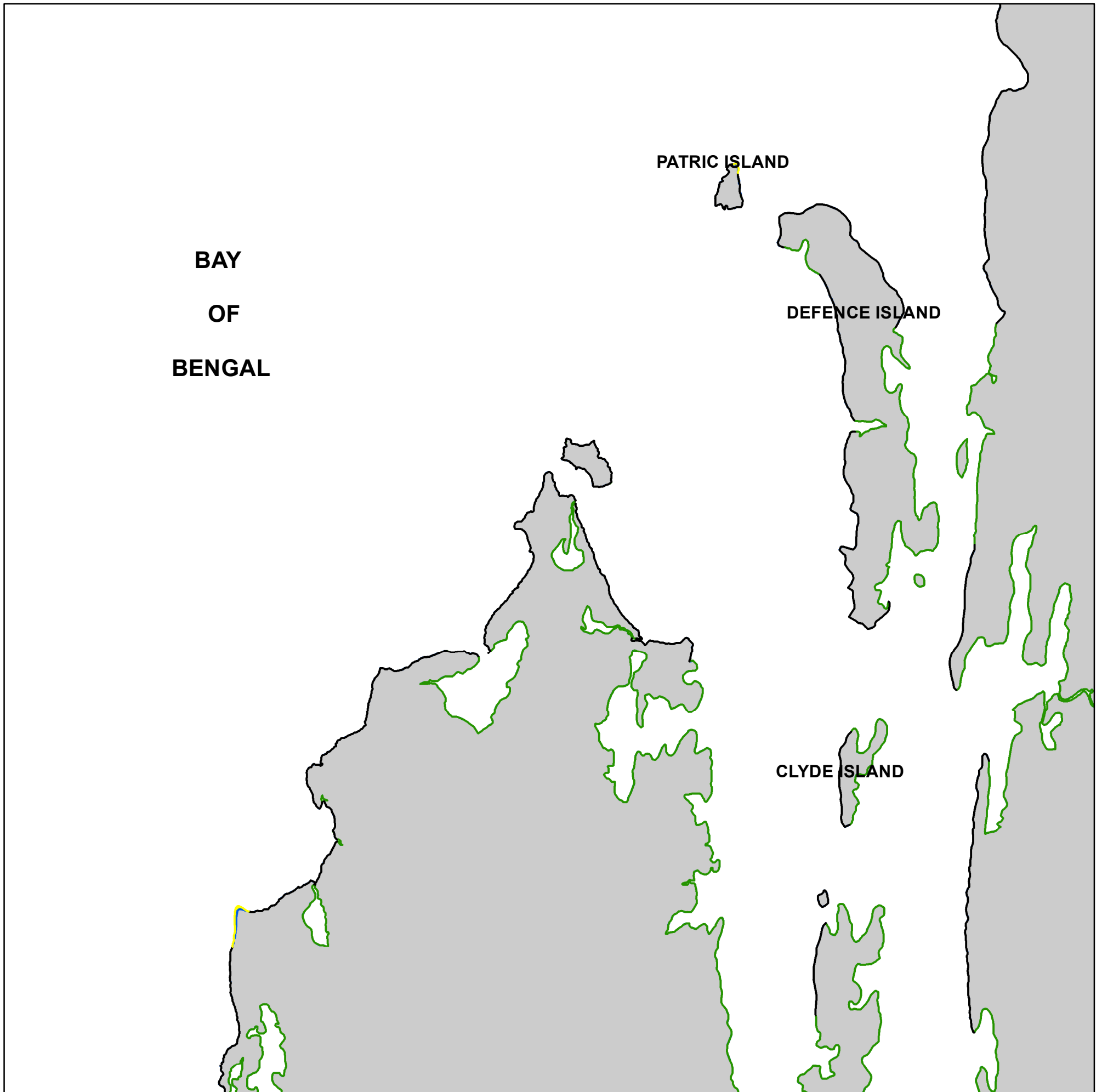
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A09NW



Legend

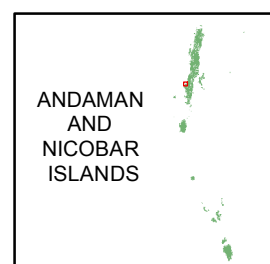
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	86D12SW	86D12SE
SEA	87A09NW	87A09NE
SEA	87A09SW	87A09SE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

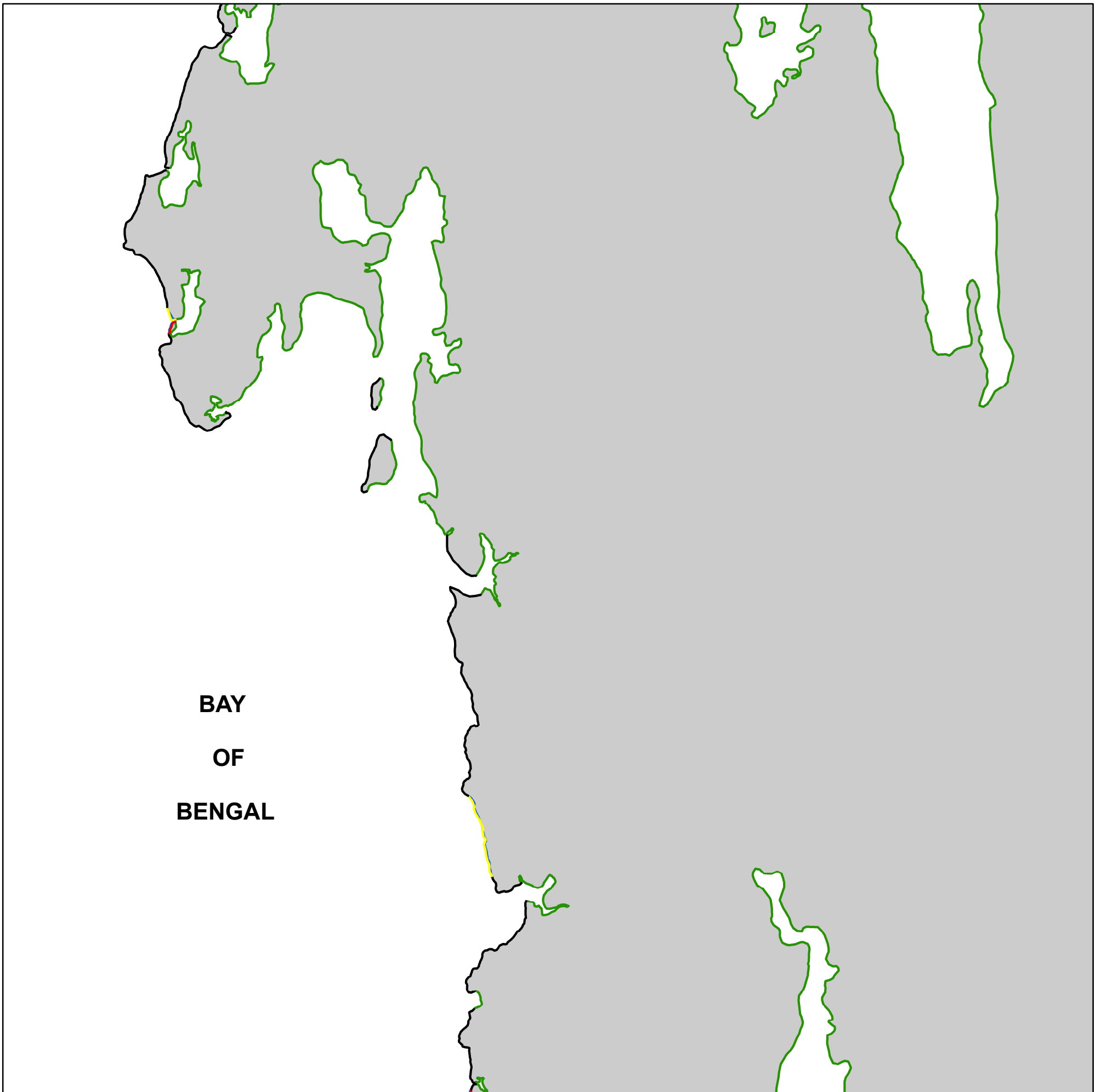
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A09SW



Legend

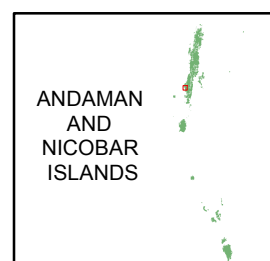
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	87A09NW	87A09NE
SEA	87A09SW	87A09SE
SEA	87A10NW	87A10NE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

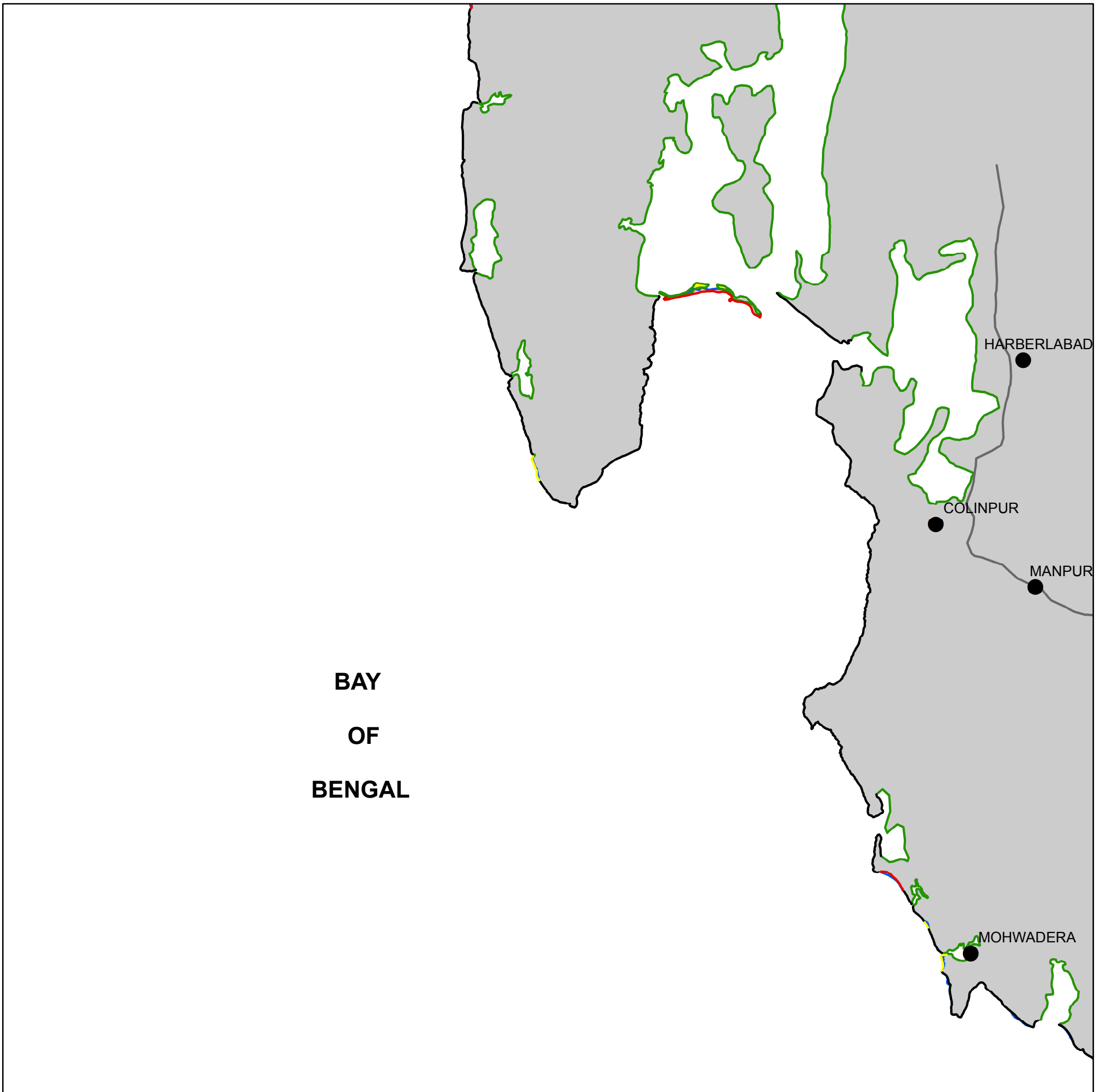
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A10NW

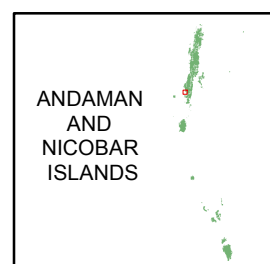
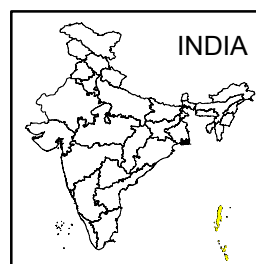
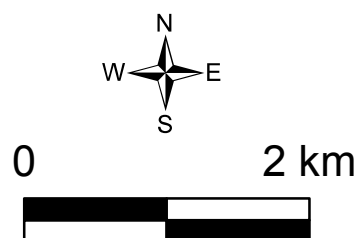


Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- HABITATION

INDEX TO SHEETS

SEA	87A09SW	87A09SE
SEA	87A10NW	87A10NE
SEA	87A10SW	87A10SE



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

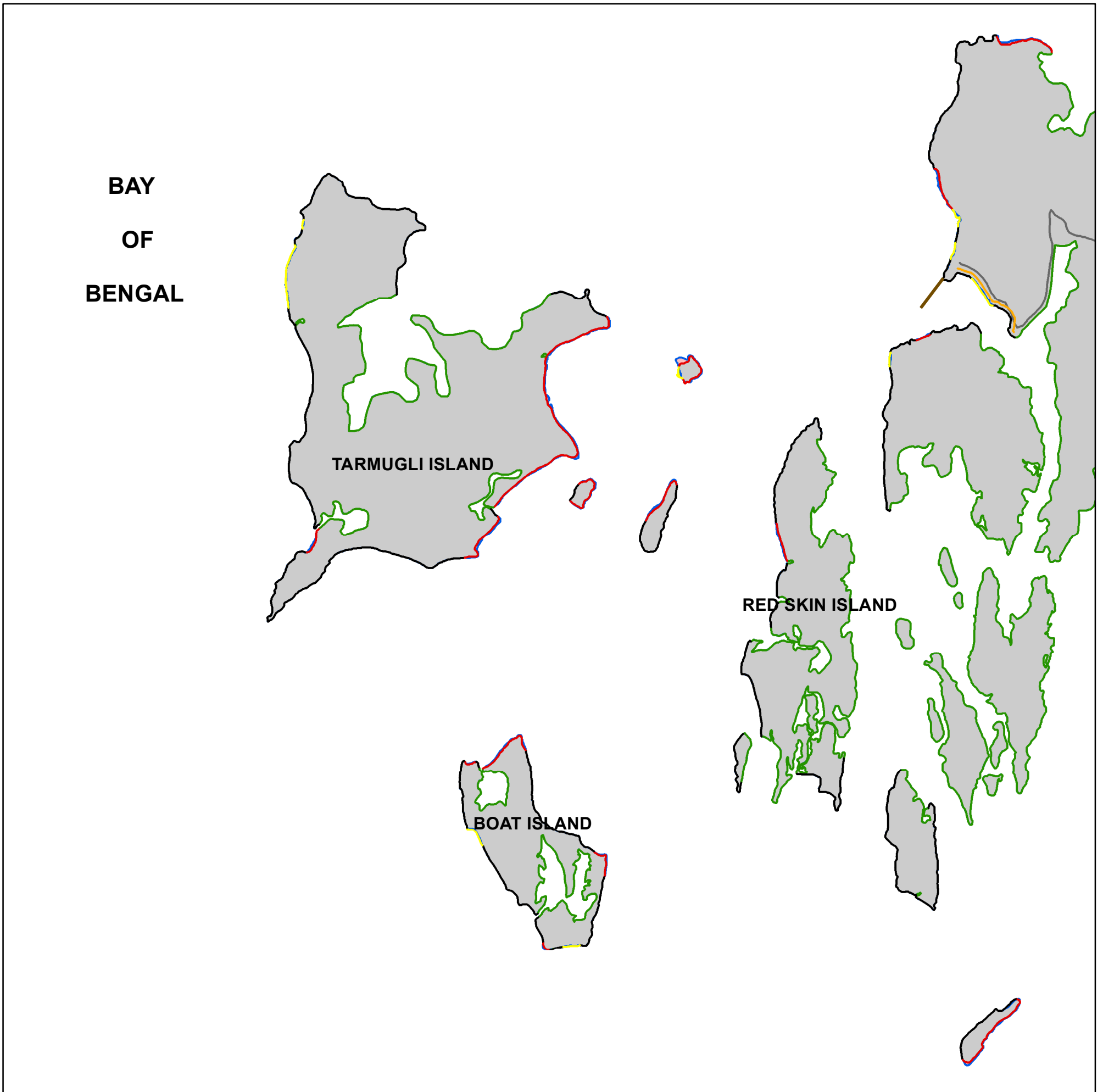
PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A10SW



Legend

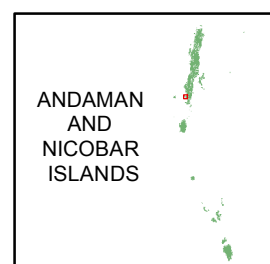
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY

INDEX TO SHEETS

SEA	87A10NW	87A10NE
SEA	87A10SW	87A10SE
SEA	87A11NW	87A11NE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

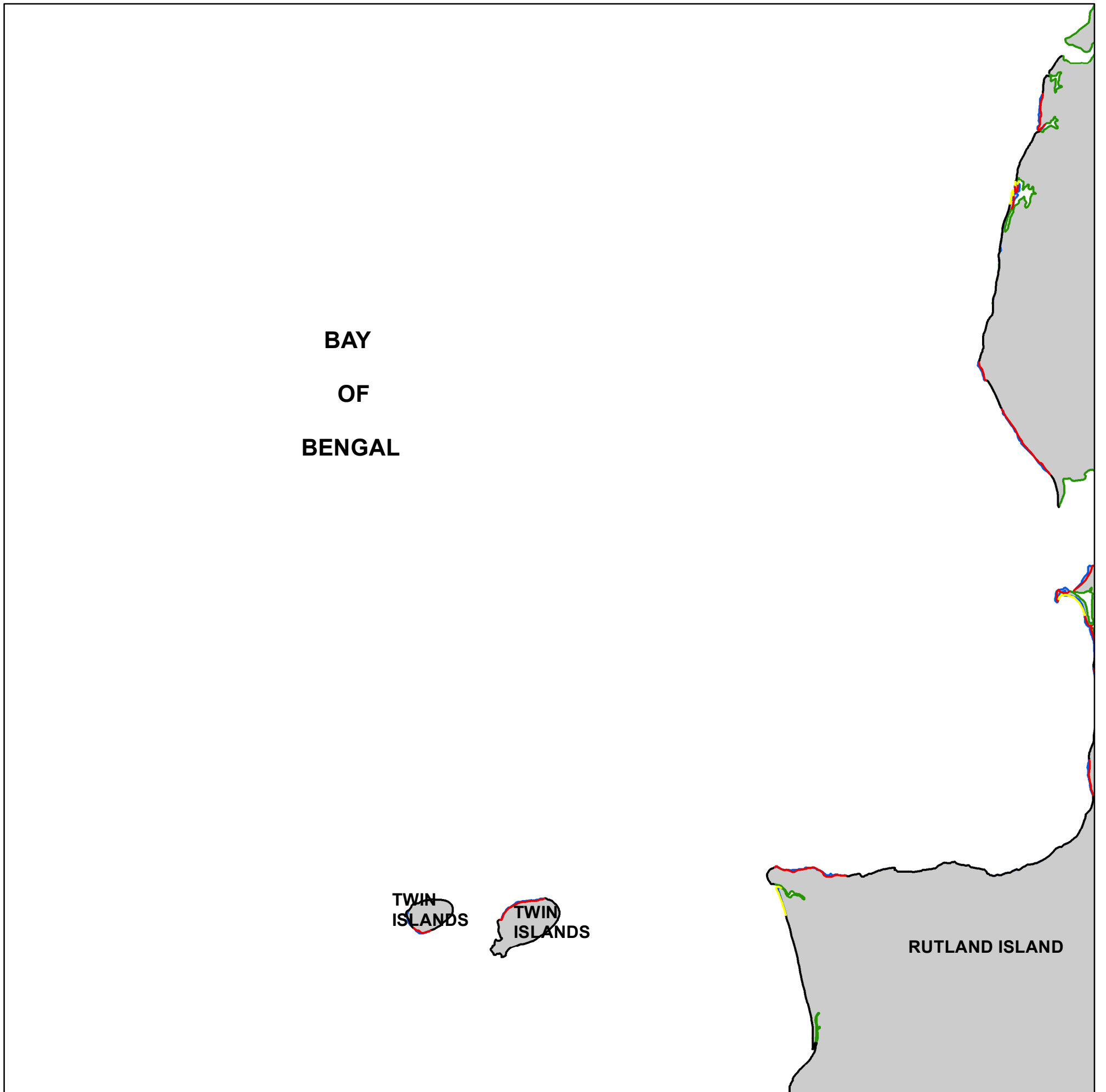
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A11NW



Legend

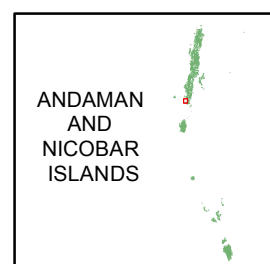
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	87A10SW	87A10SE
SEA	87A11NW	87A11NE
SEA	87A11SW	87A11SE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

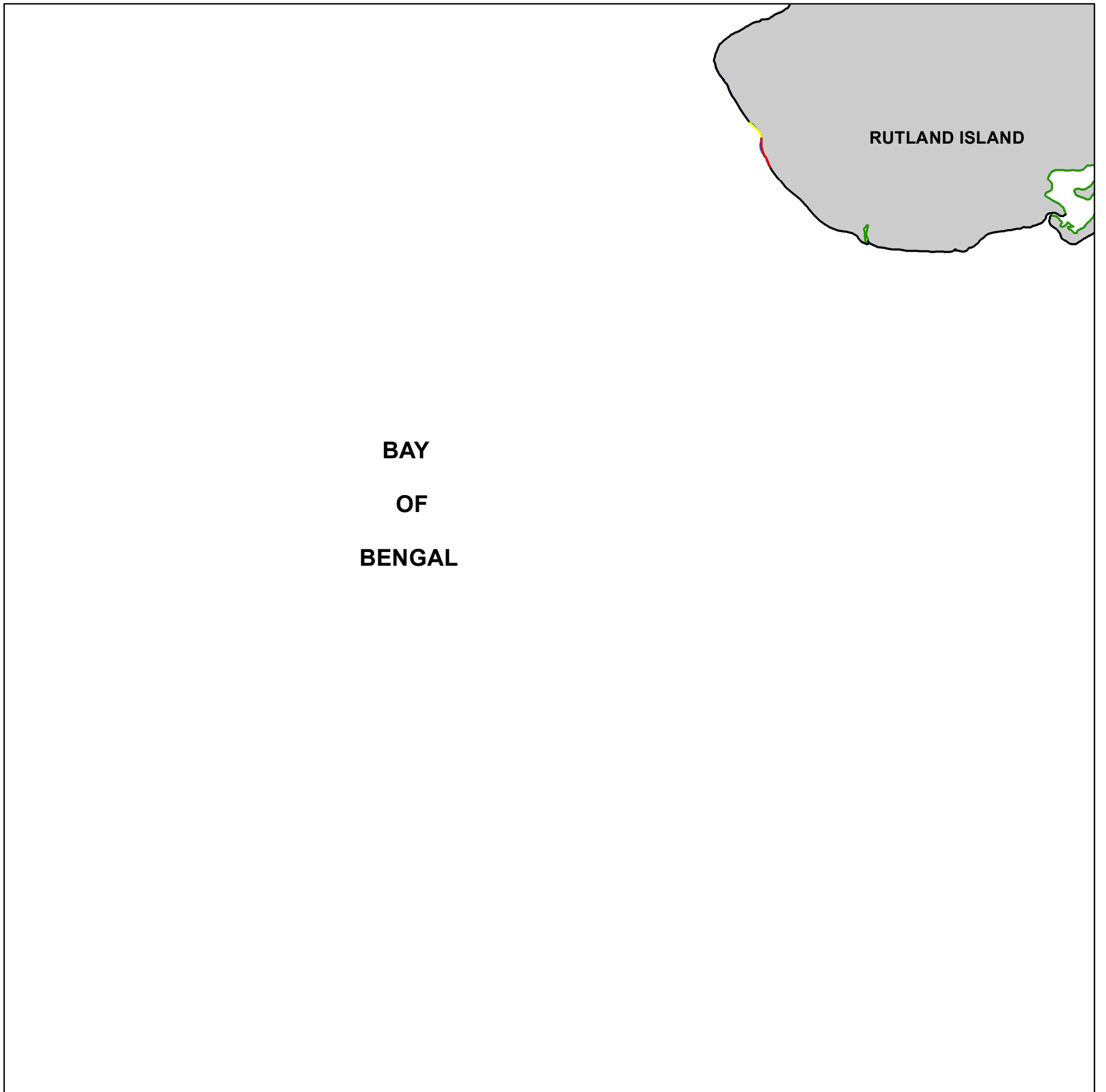
PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A11SW

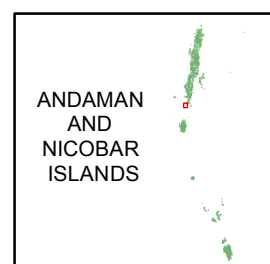
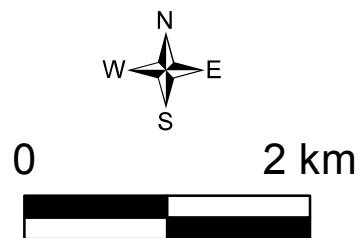


Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	87A11NW	87A11NE
SEA	87A11SW	87A11SE
SEA	SEA	87A12NE



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

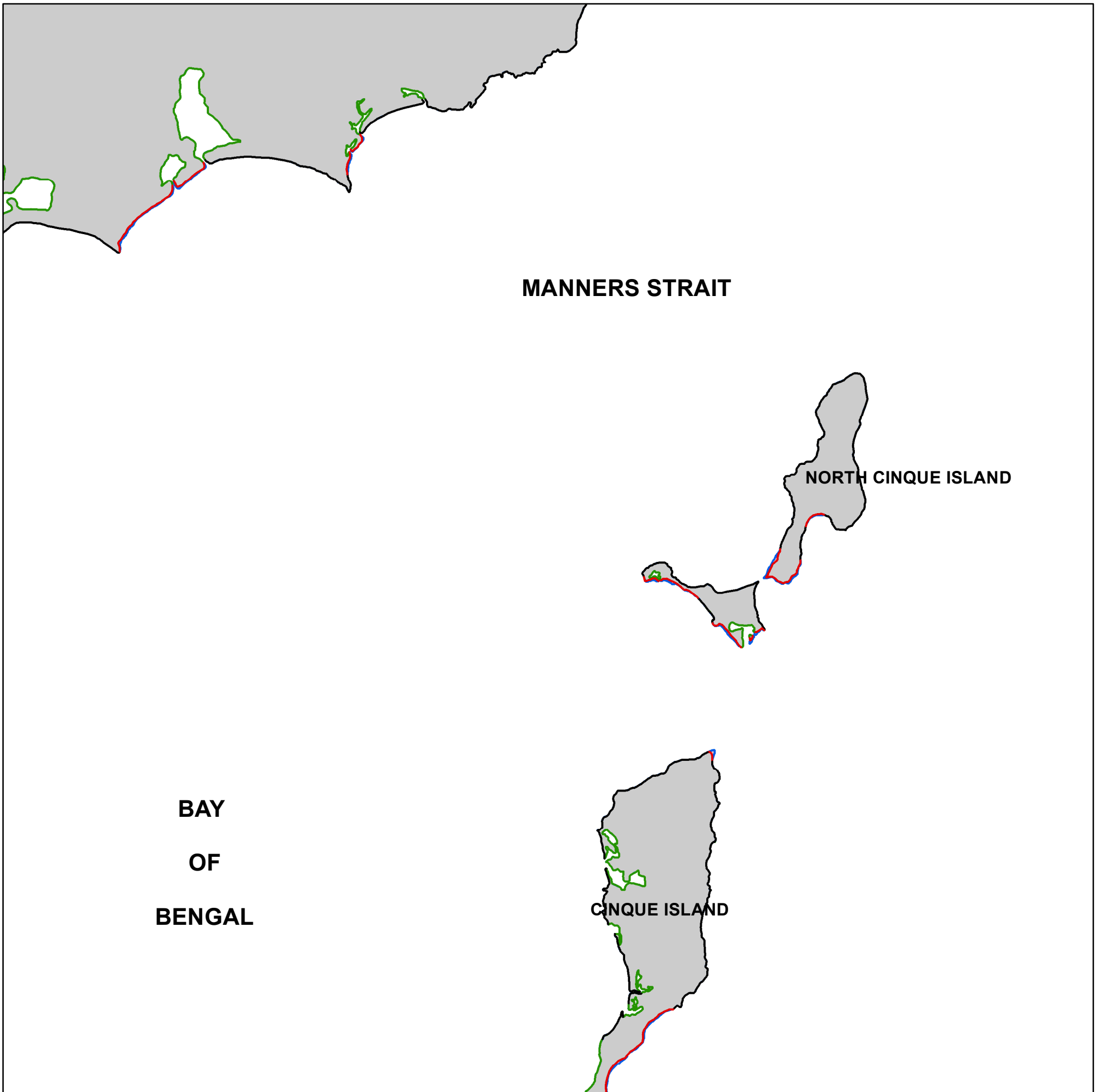
PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO.87A11SE



Legend

- EROSION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

87A11NW	87A11NE	SEA
87A11SW	87A11SE	SEA
SEA	87A12NE	SEA

0 2 km

INDIA

ANDAMAN AND NICOBAR ISLANDS

DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY





SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A12NE



BAY
OF
BENGAL



Legend

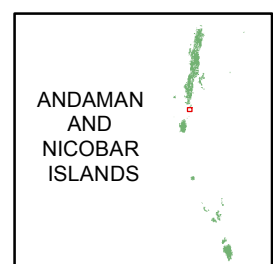
-  EROSION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE



0 2 km

INDEX TO SHEETS

87A11SW	87A11SE	SEA
SEA	87A12NE	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

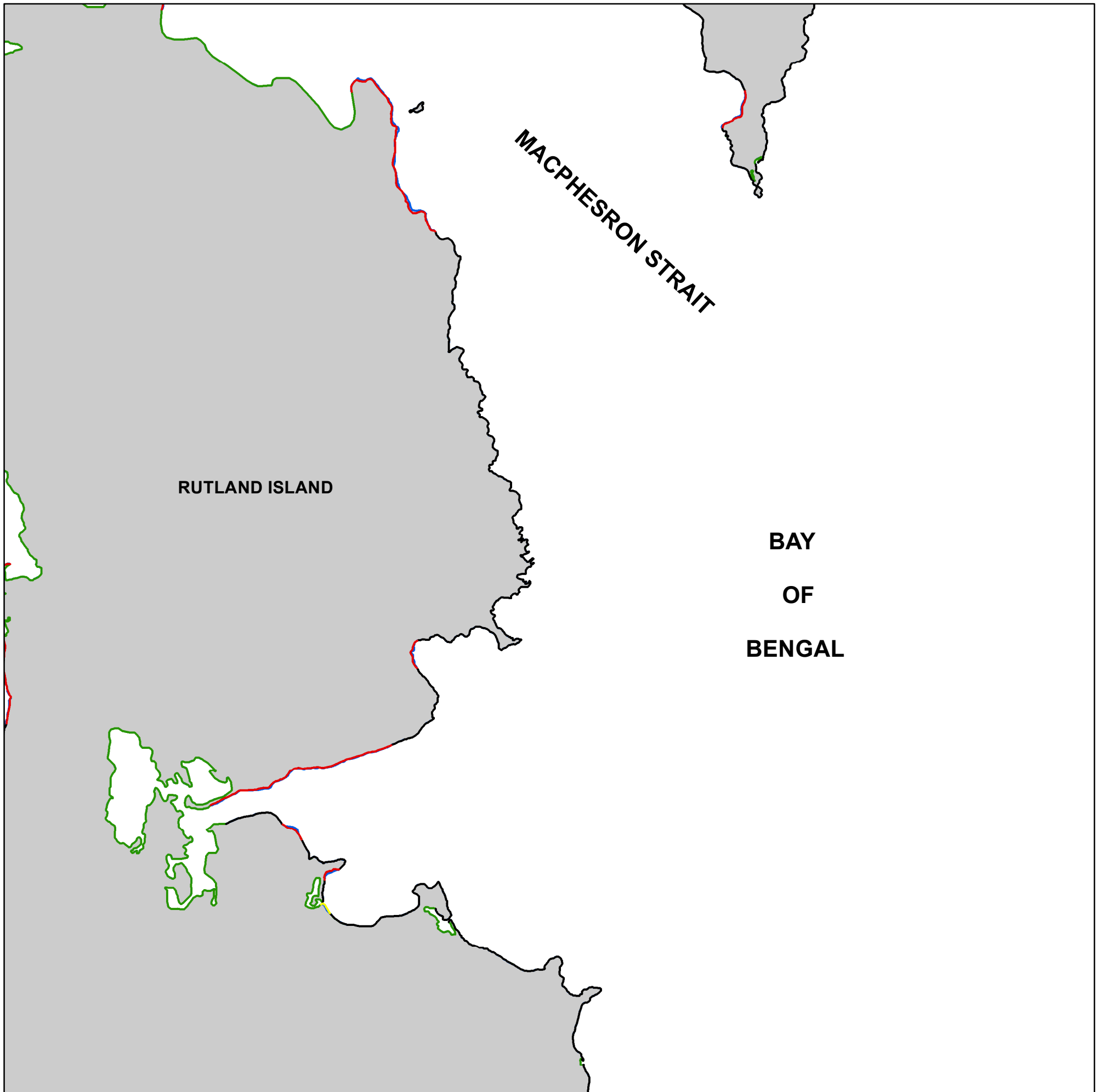
PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

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SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A11NE



Legend

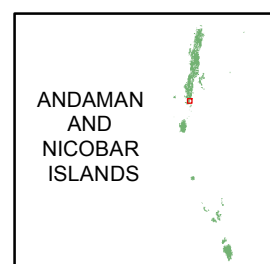
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- HABITATION

INDEX TO SHEETS

87A10SW	87A10SE	87A14SW
87A11NW	87A11NE	SEA
87A11SW	87A11SE	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

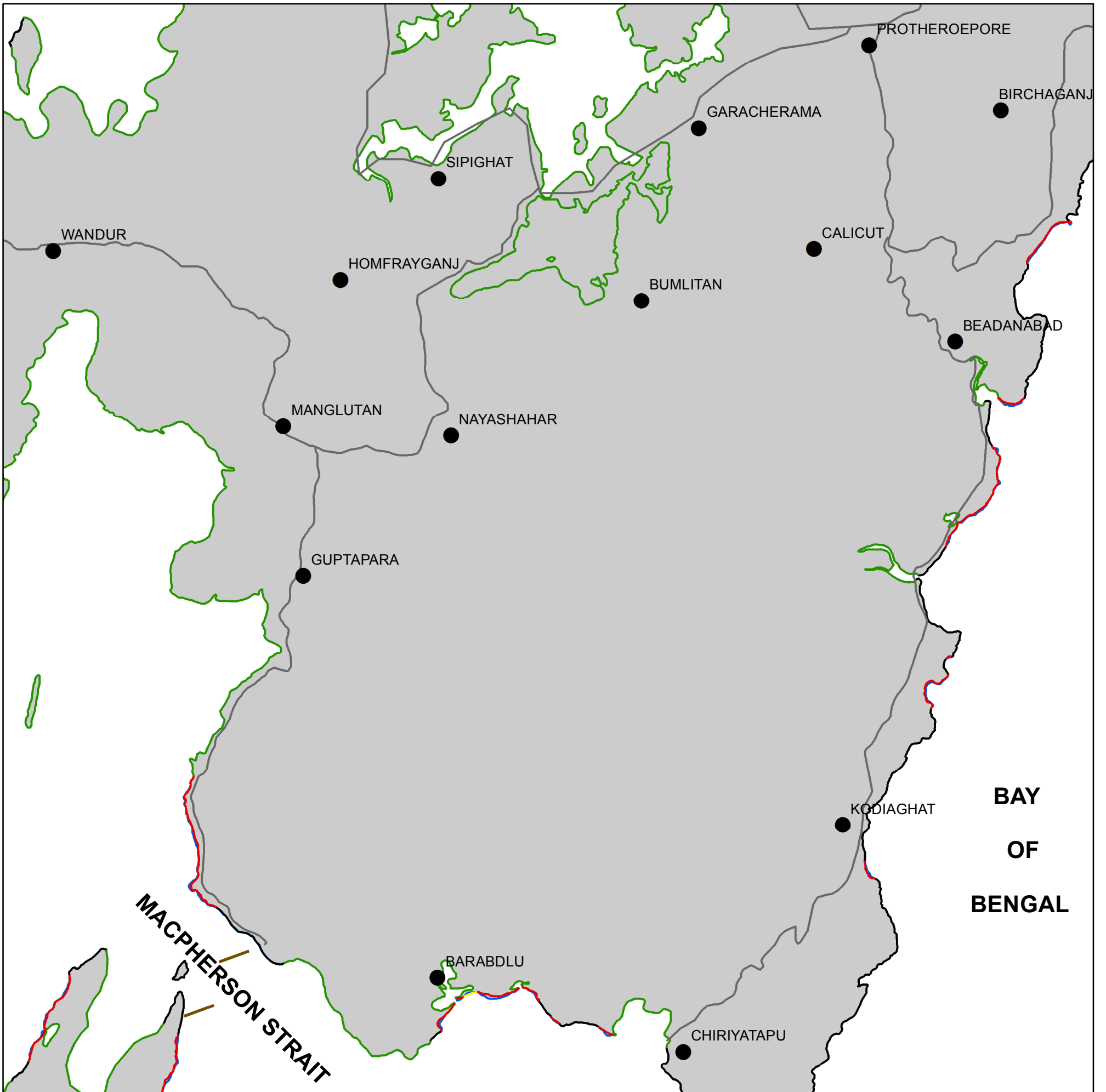
PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A10SE



Legend

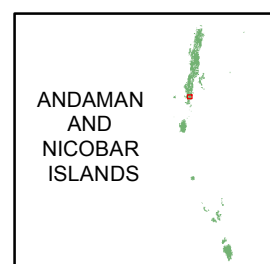
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- SEA WALL
- JETTY
- HABITATION

INDEX TO SHEETS

87A10NW	87A10NE	87A14NW
87A10SW	87A10SE	87A14SW
87A11NW	87A11NE	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

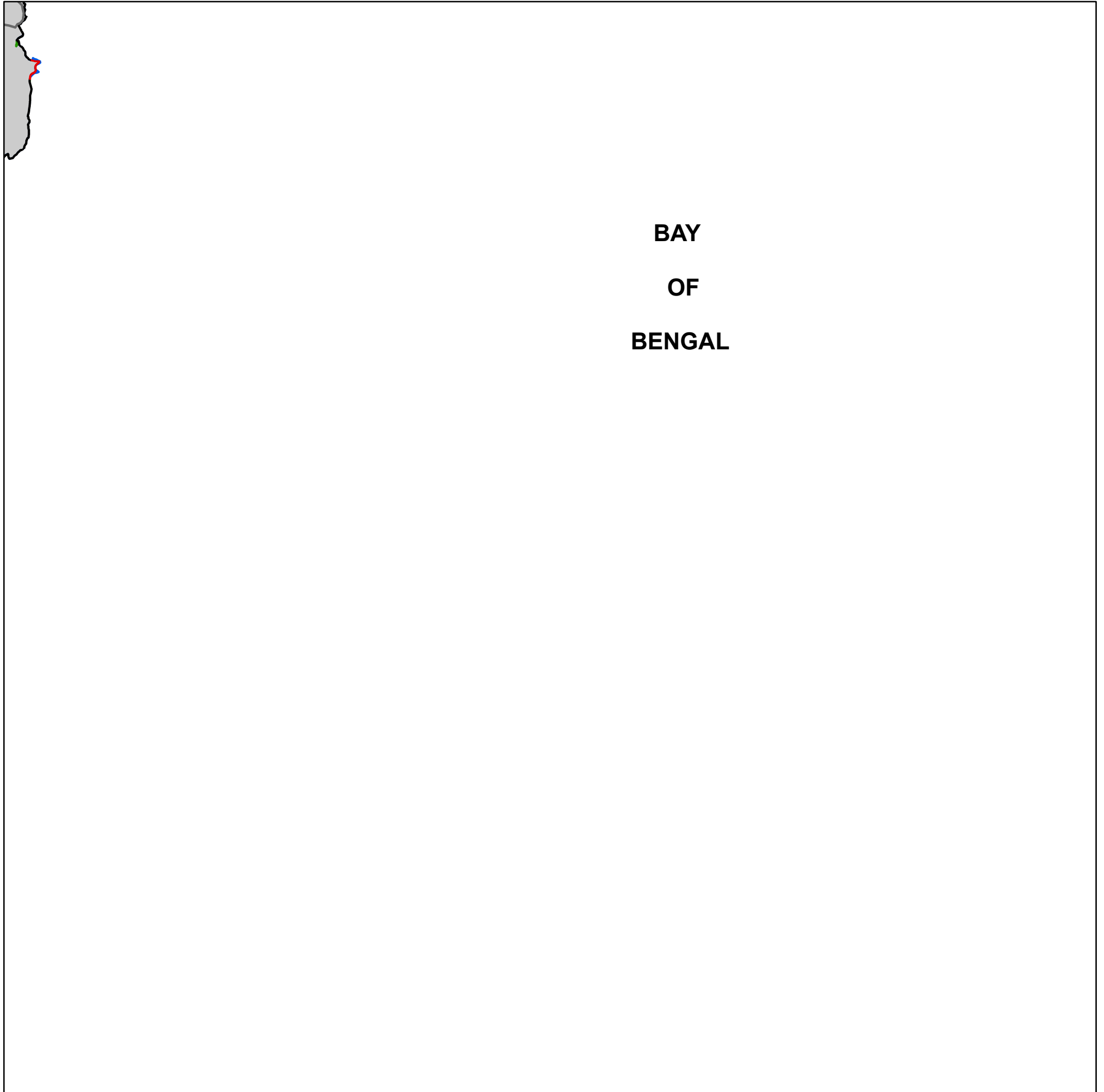
PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A14SW



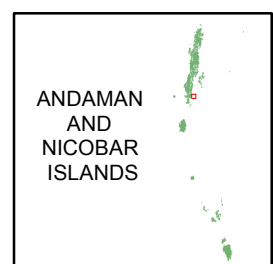
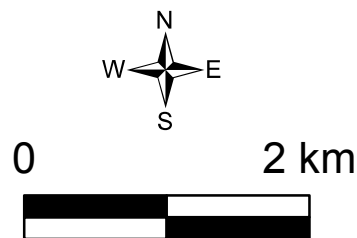
BAY
OF
BENGAL

Legend

- EROSION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD

INDEX TO SHEETS

87A10NE	87A14NW	SEA
87A10SE	87A14SW	SEA
87A11NE	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

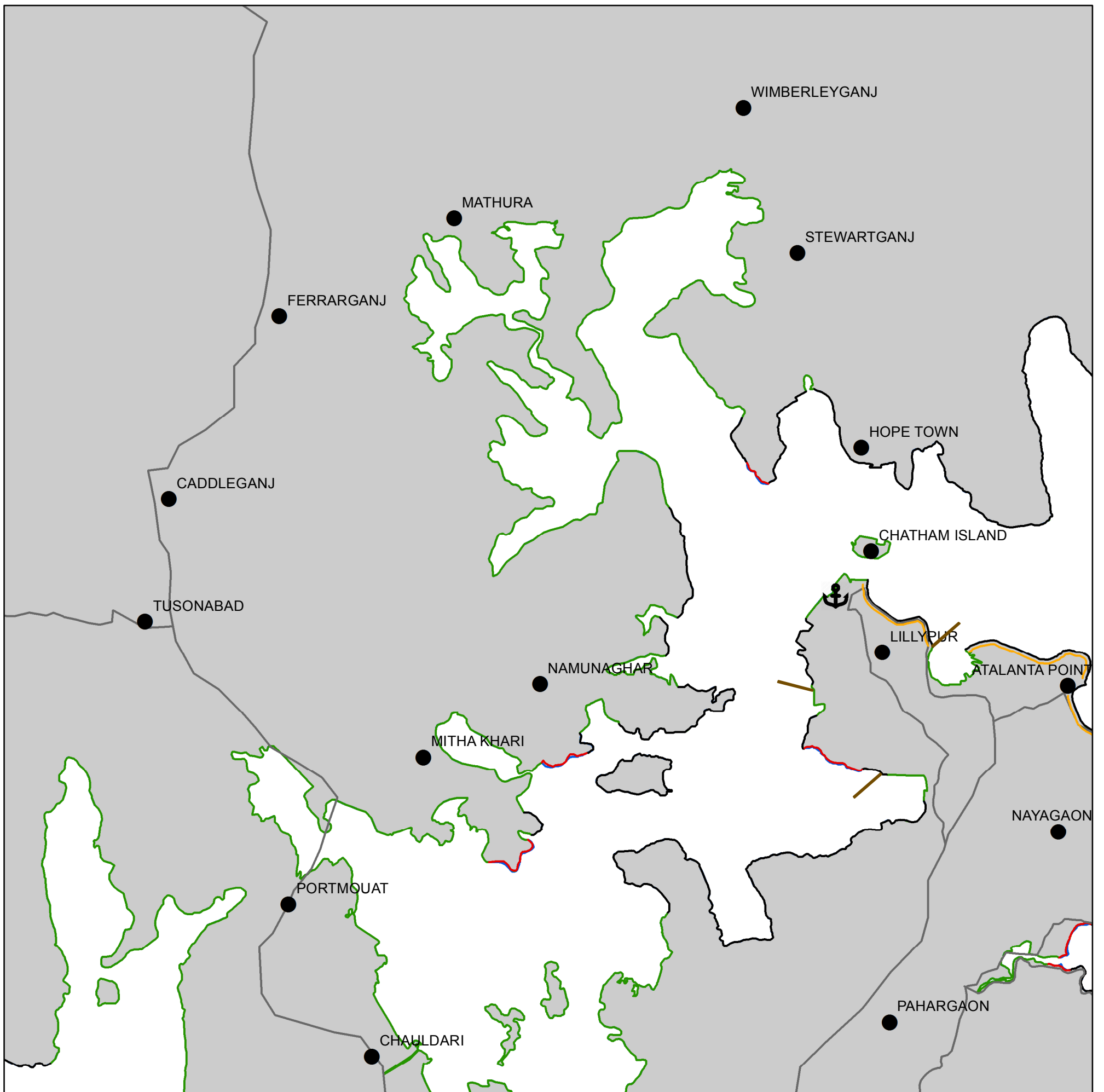
PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A10NE

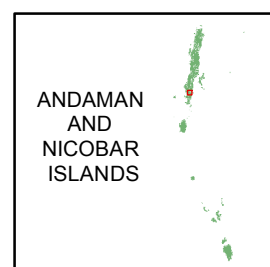


Legend

- EROSION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- SEA WALL
- JETTY
- ⚓ PORT/HARBOUR
- HABITATION

INDEX TO SHEETS

87A09SW	87A09SE	87A13SW
87A10NW	87A10NE	87A14NW
87A10SW	87A10SE	87A14SW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

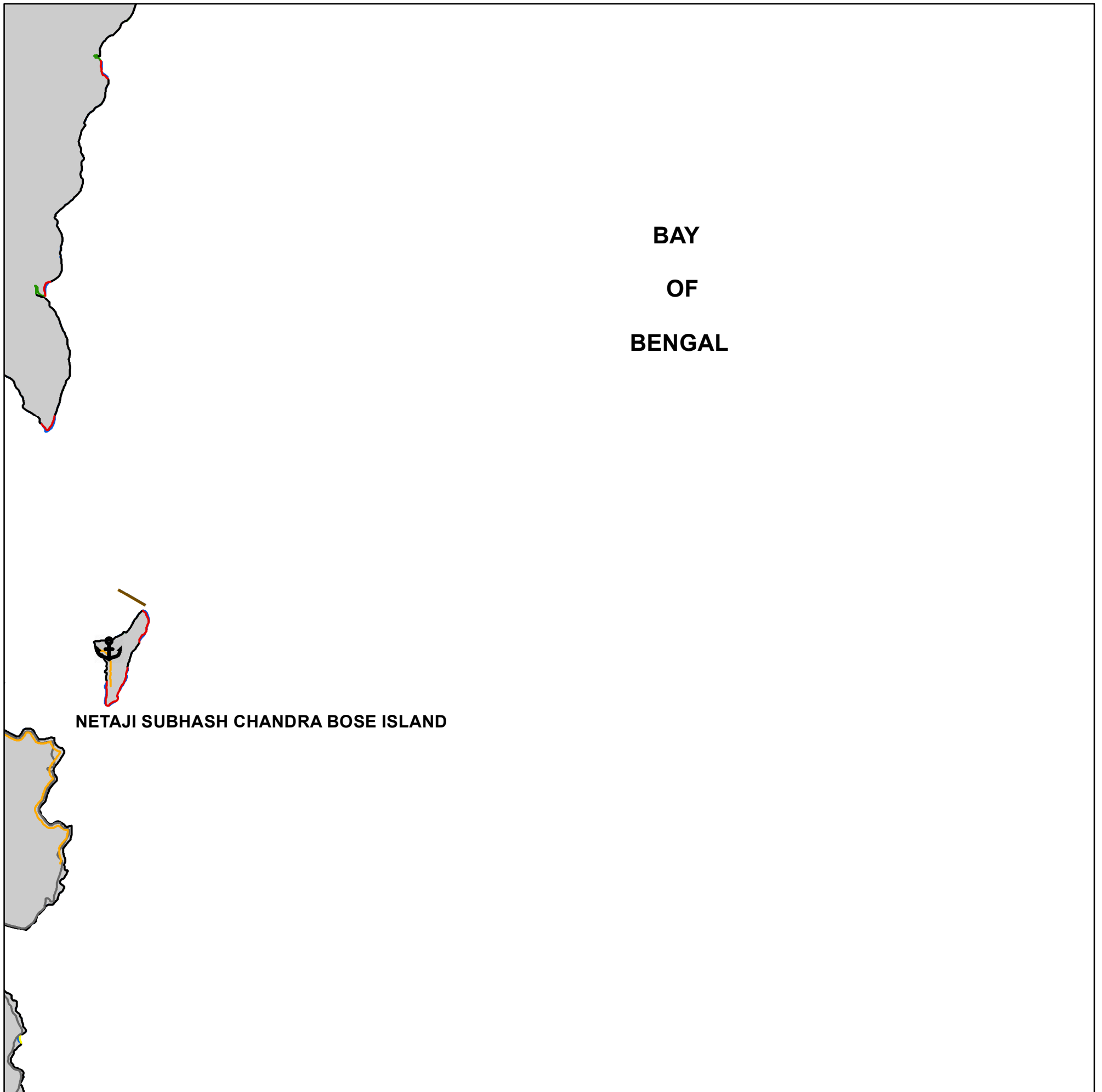
PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A14NW



Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY
- ⚓ PORT/HARBOUR

INDEX TO SHEETS

87A09SE	87A13SW	SEA
87A10NE	87A14NW	SEA
87A10SE	87A14SW	SEA

INDIA

ANDAMAN AND NICOBAR ISLANDS

DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

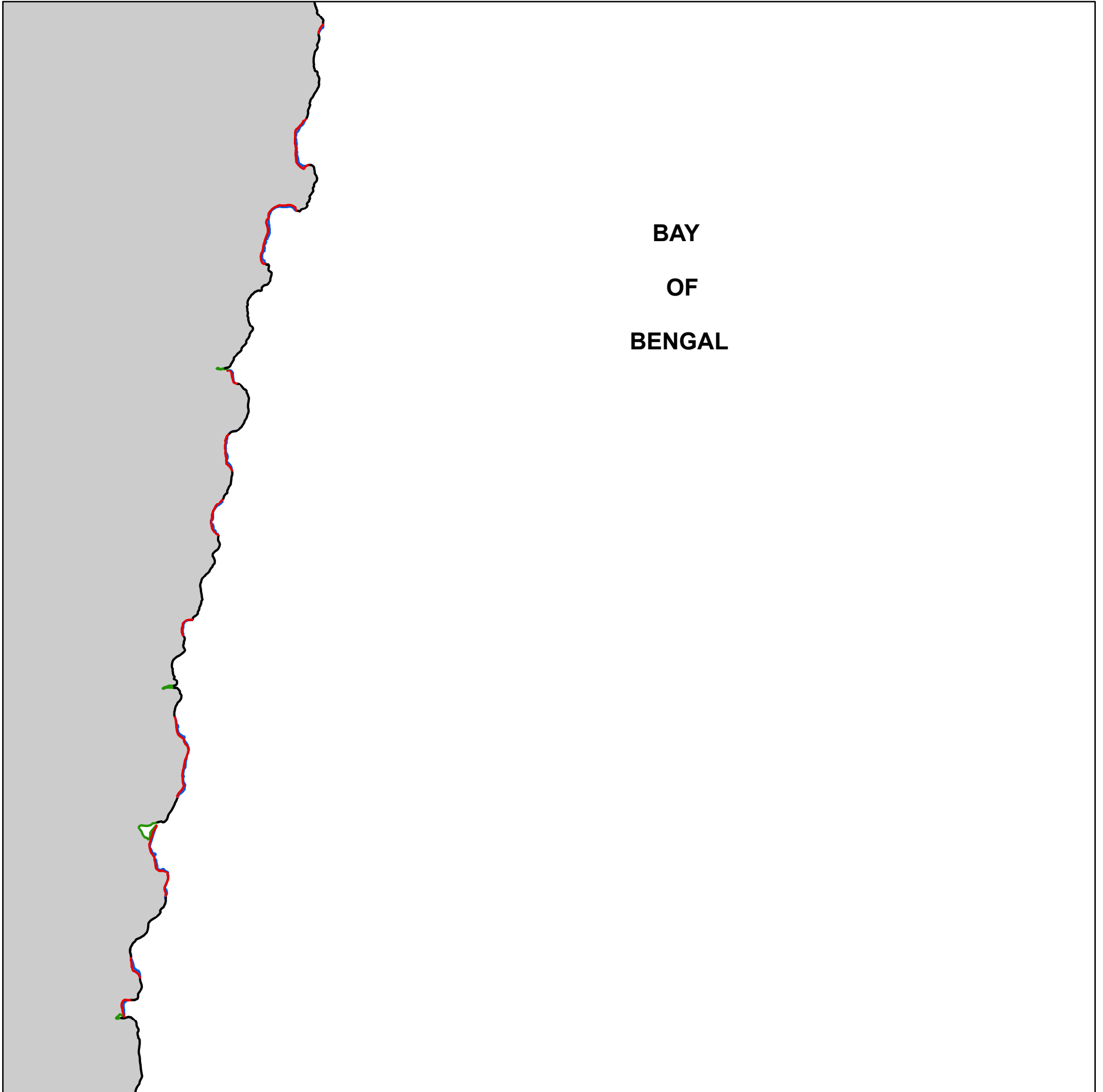
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A13SW



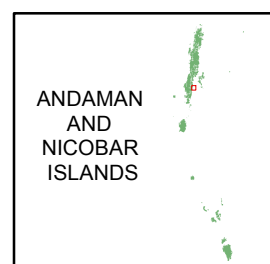
BAY
OF
BENGAL

Legend

- EROSION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

87A09NE	87A13NW	87A13NE
87A09SE	87A13SW	SEA
87A10NE	87A14NW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

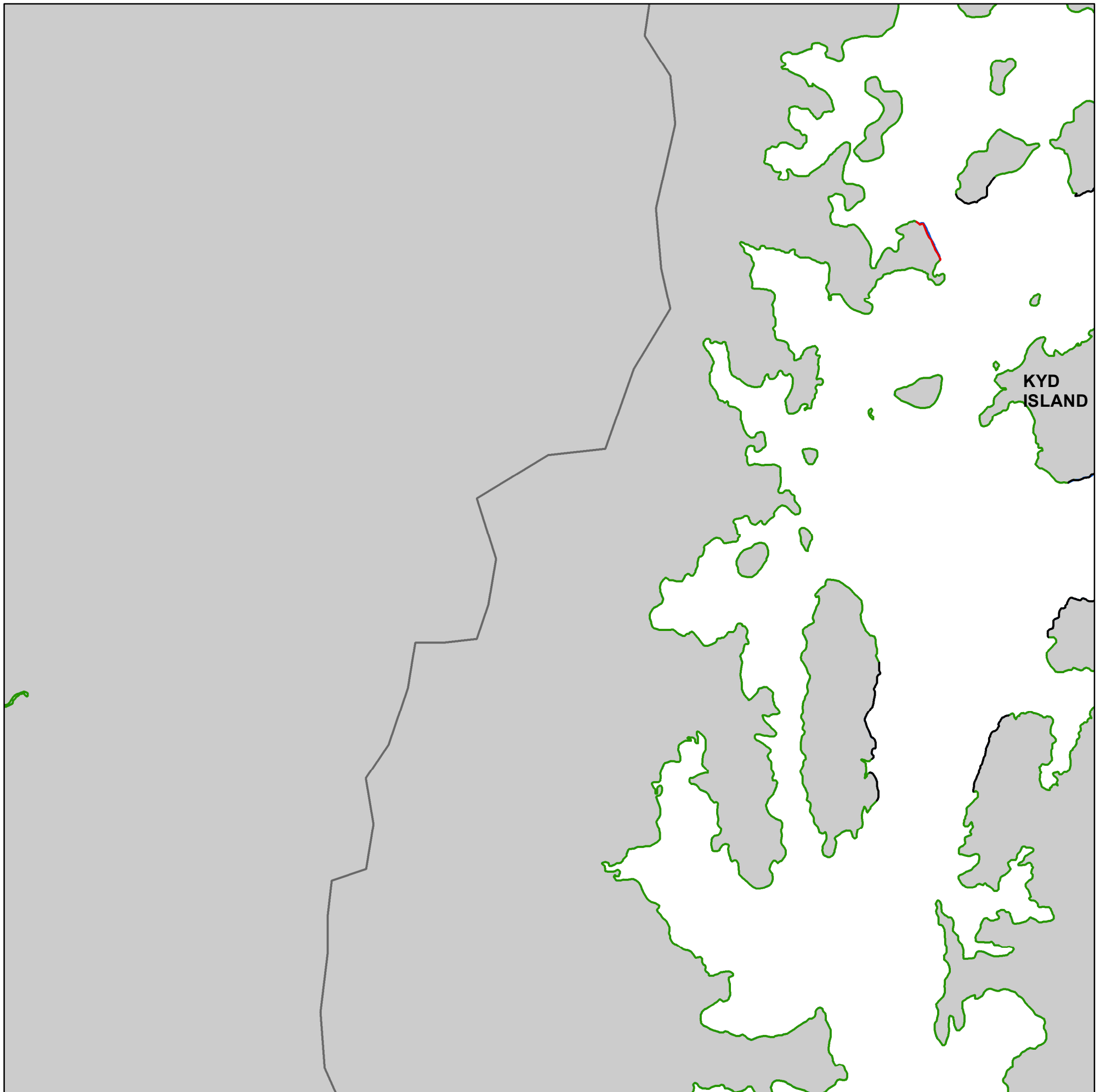
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A09NE



Legend

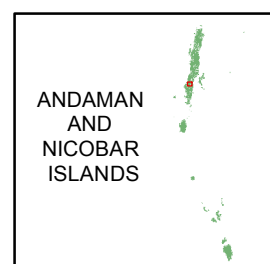
- EROSION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD

INDEX TO SHEETS

86D12SW	86D12SE	86D16SW
87A09NW	87A09NE	87A13NW
87A09SW	87A09SE	87A13SW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

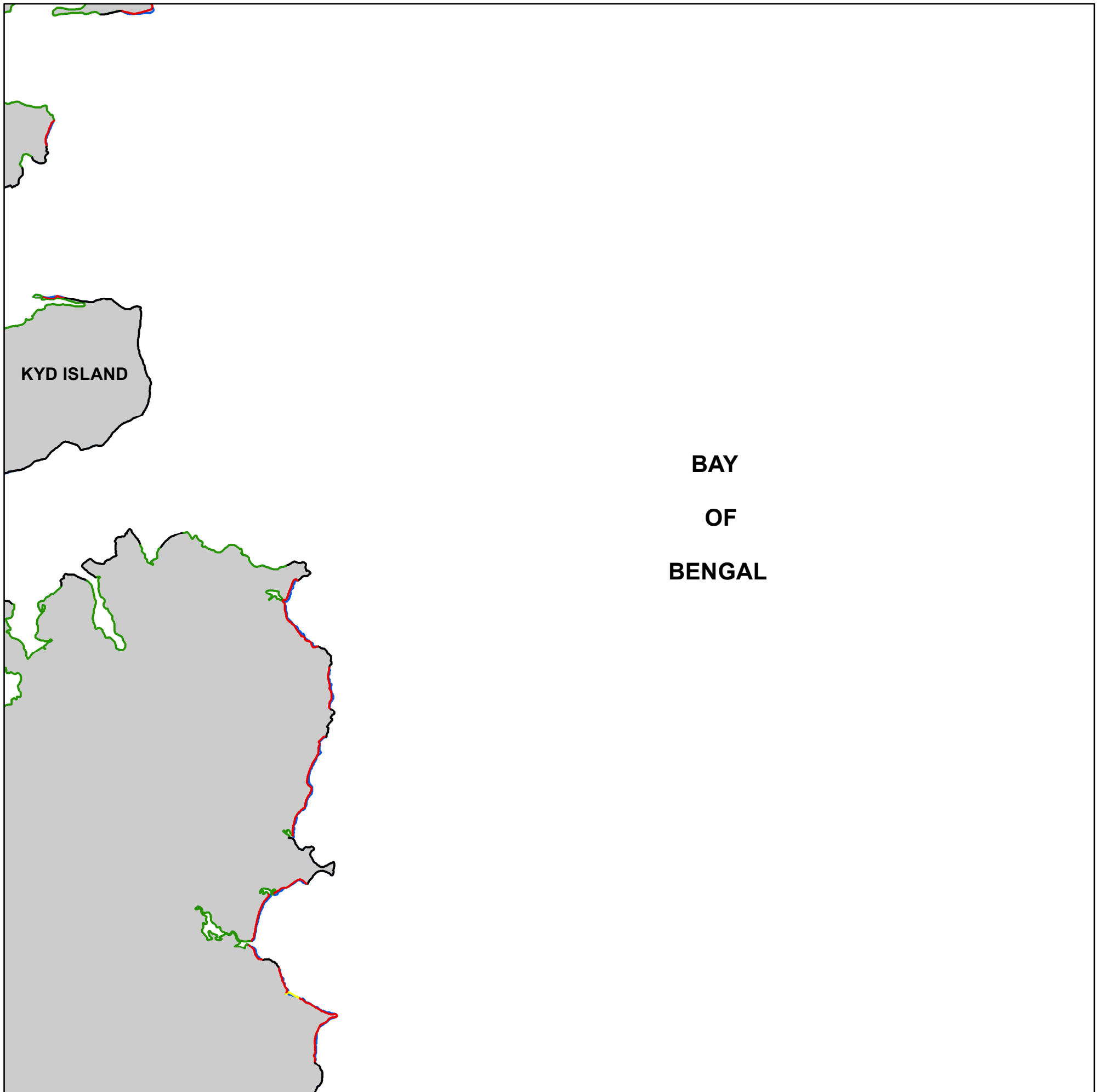
PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A13NW



Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

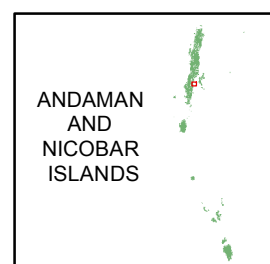
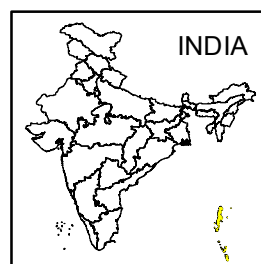


0 2 km



INDEX TO SHEETS

86D12SE	86D16SW	86D16SE
87A09NE	87A13NW	87A13NE
87A09SE	87A13SW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
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SHORELINE CHANGE MAP

NORTH AND MIDDLE ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 86H03SW FOR OFFICIAL USE ONLY

BAY
OF
BENGAL



Legend

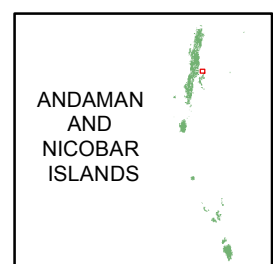
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

86D15NE	SEA	SEA
86D15SE	86H03SW	SEA
86D16NE	86H04NW	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

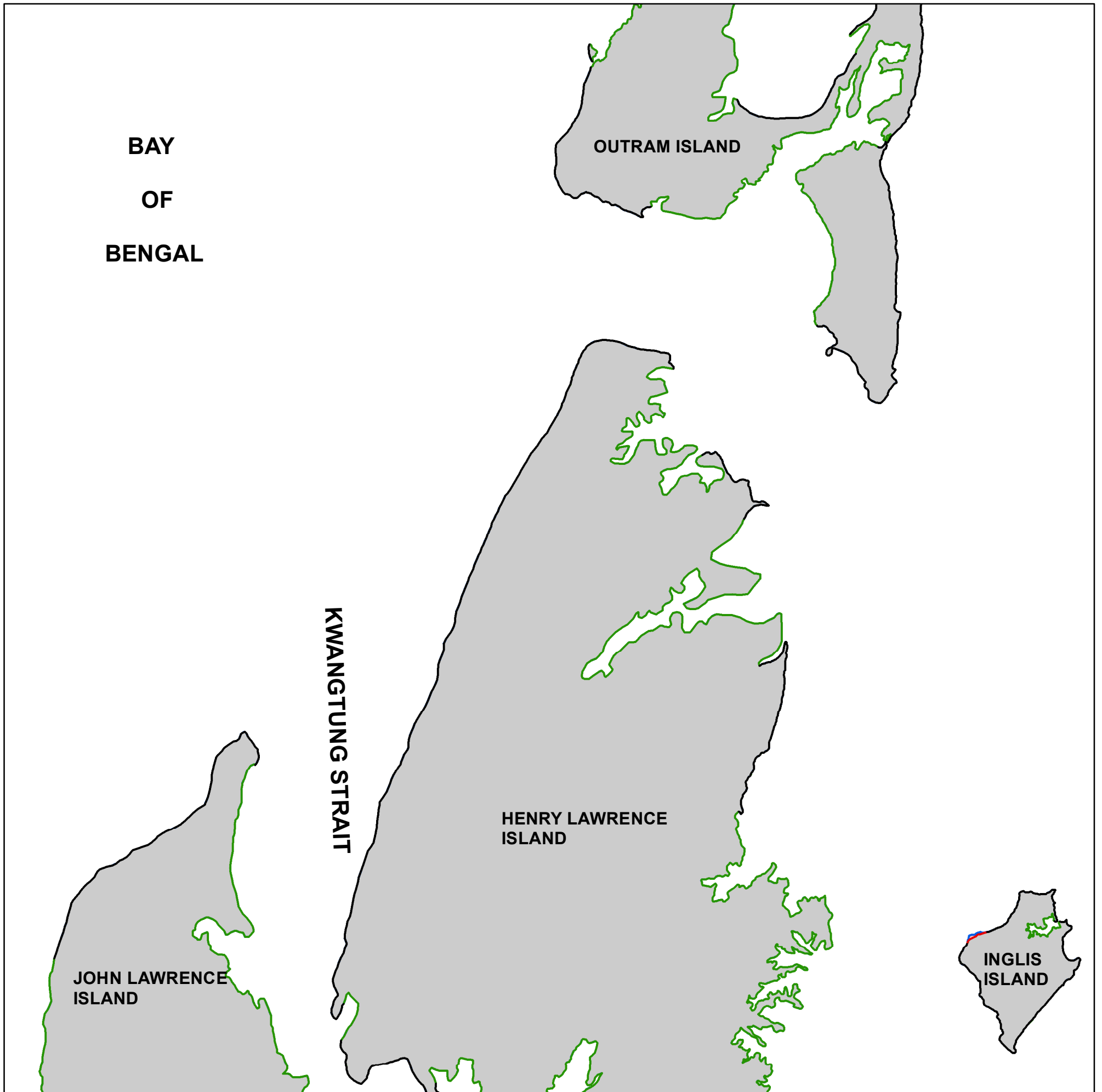
PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 86H04NW



Legend

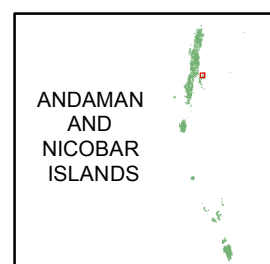
- EROSION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

86D15SE	86H03SW	SEA
86D16NE	86H04NW	SEA
86D16SE	86H04SW	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

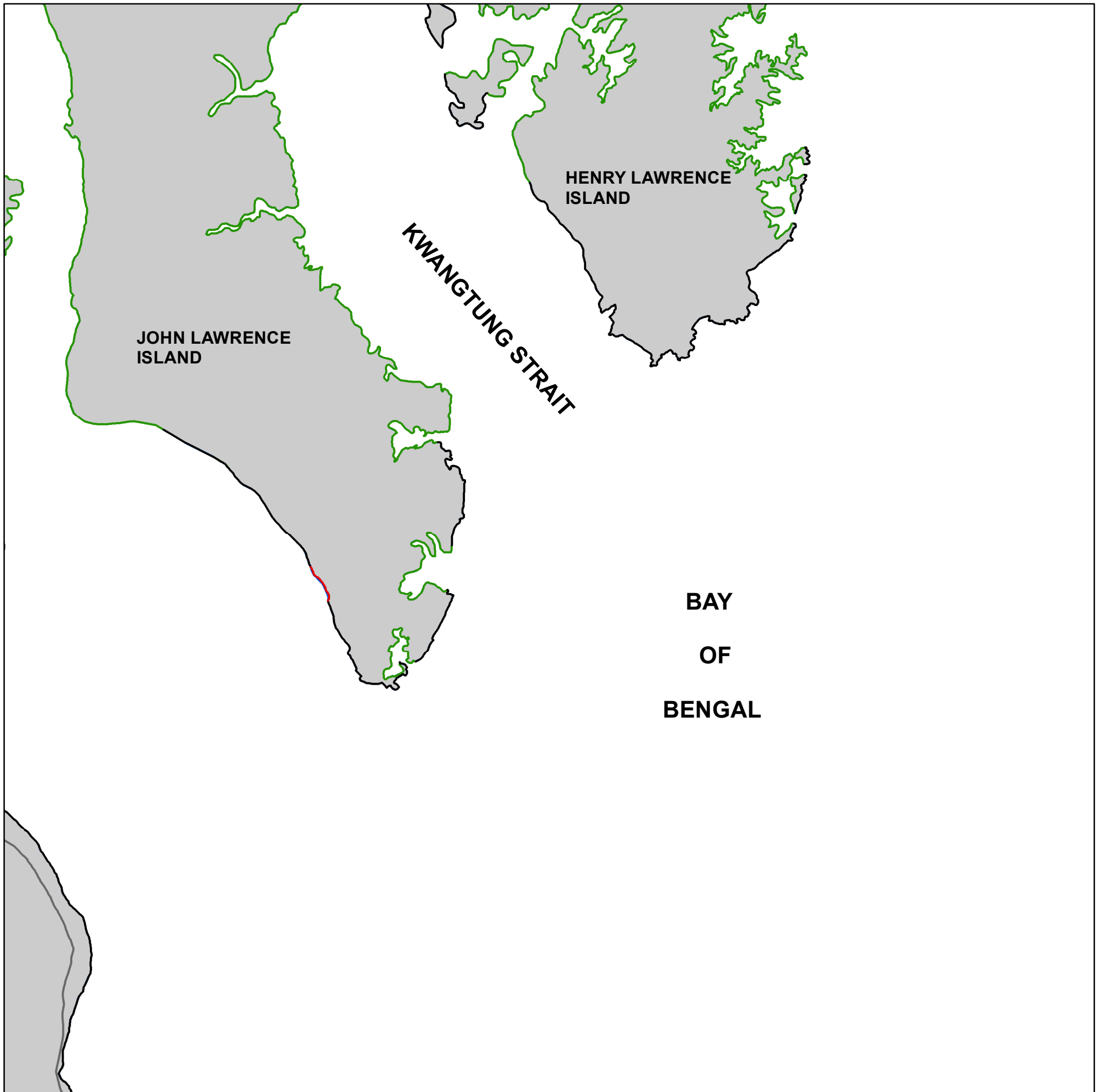
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SHORELINE CHANGE MAP

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SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 86H04SW



Legend

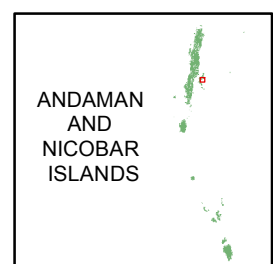
- EROSION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD

INDEX TO SHEETS

86D16NE	86H04NW	SEA
86D16SE	86H04SW	SEA
87A13NE	87E01NW	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

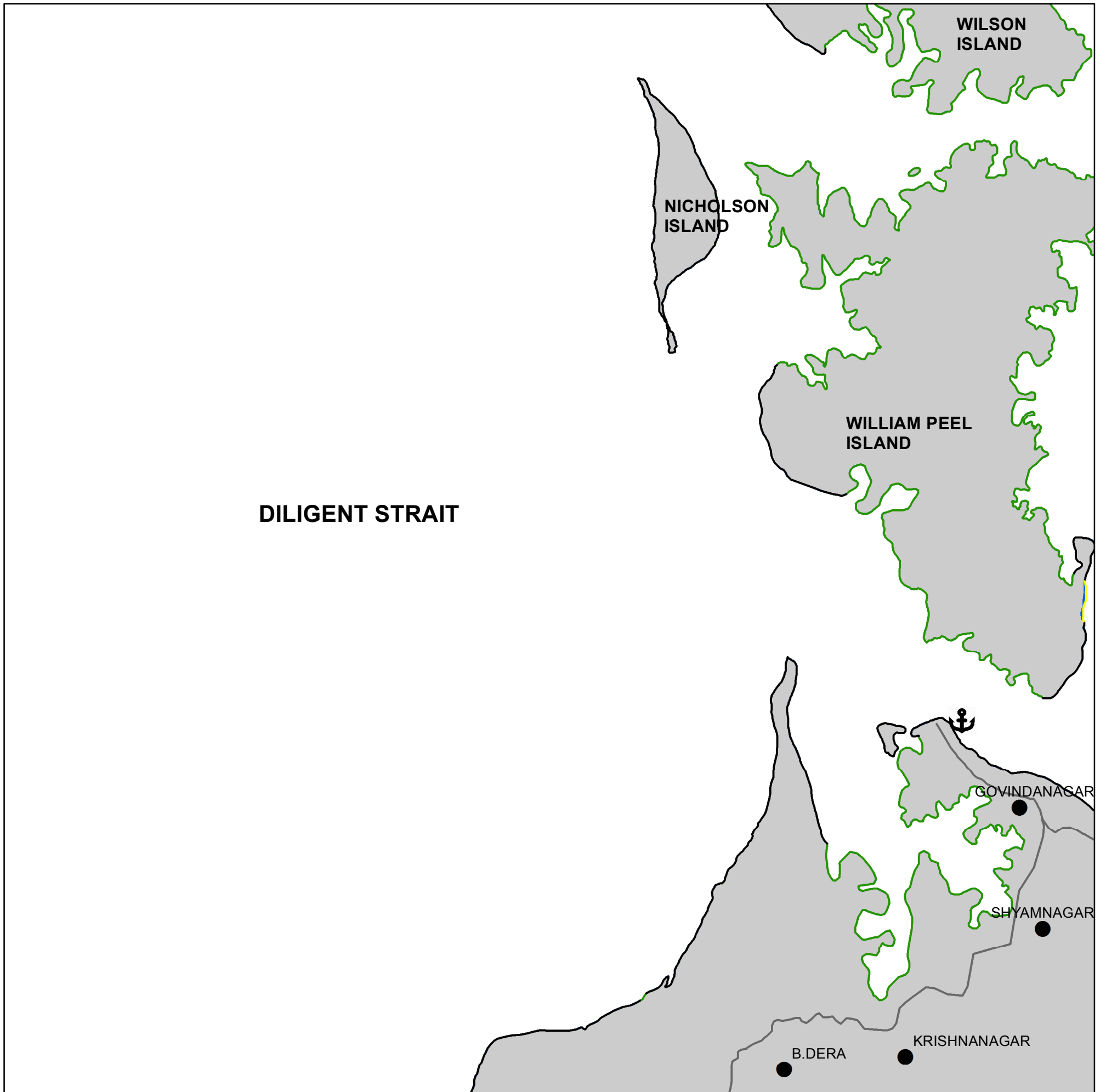
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 86D16SE

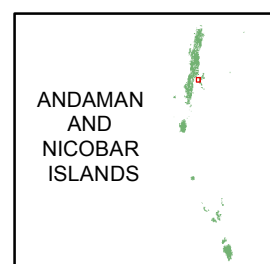


Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  ROAD
-  PORT/HARBOUR
-  HABITATION

INDEX TO SHEETS

86D16NW	86D16NE	86H04NW
86D16SW	86D16SE	86H04SW
87A13NW	87A13NE	87E01NW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

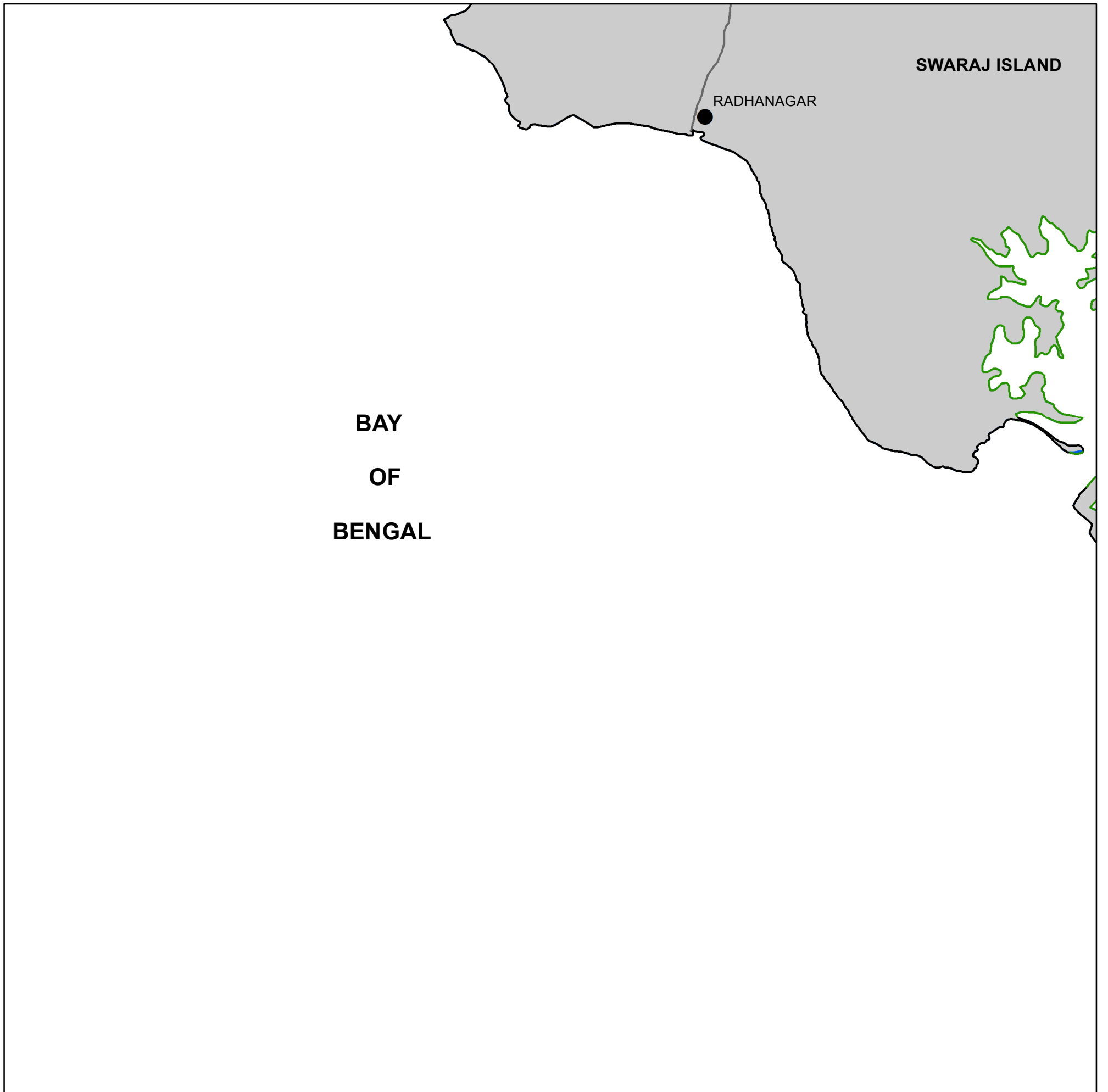
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A13NE

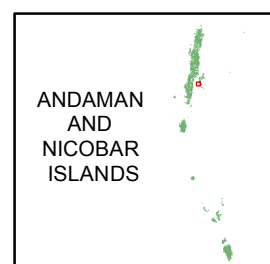
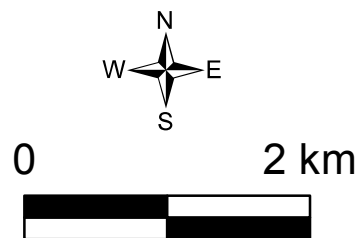


Legend

- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- HABITATION

INDEX TO SHEETS

86D16SW	86D16SE	86H04SW
87A13NW	87A13NE	87E01NW
87A13SW	SEA	87E01SW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

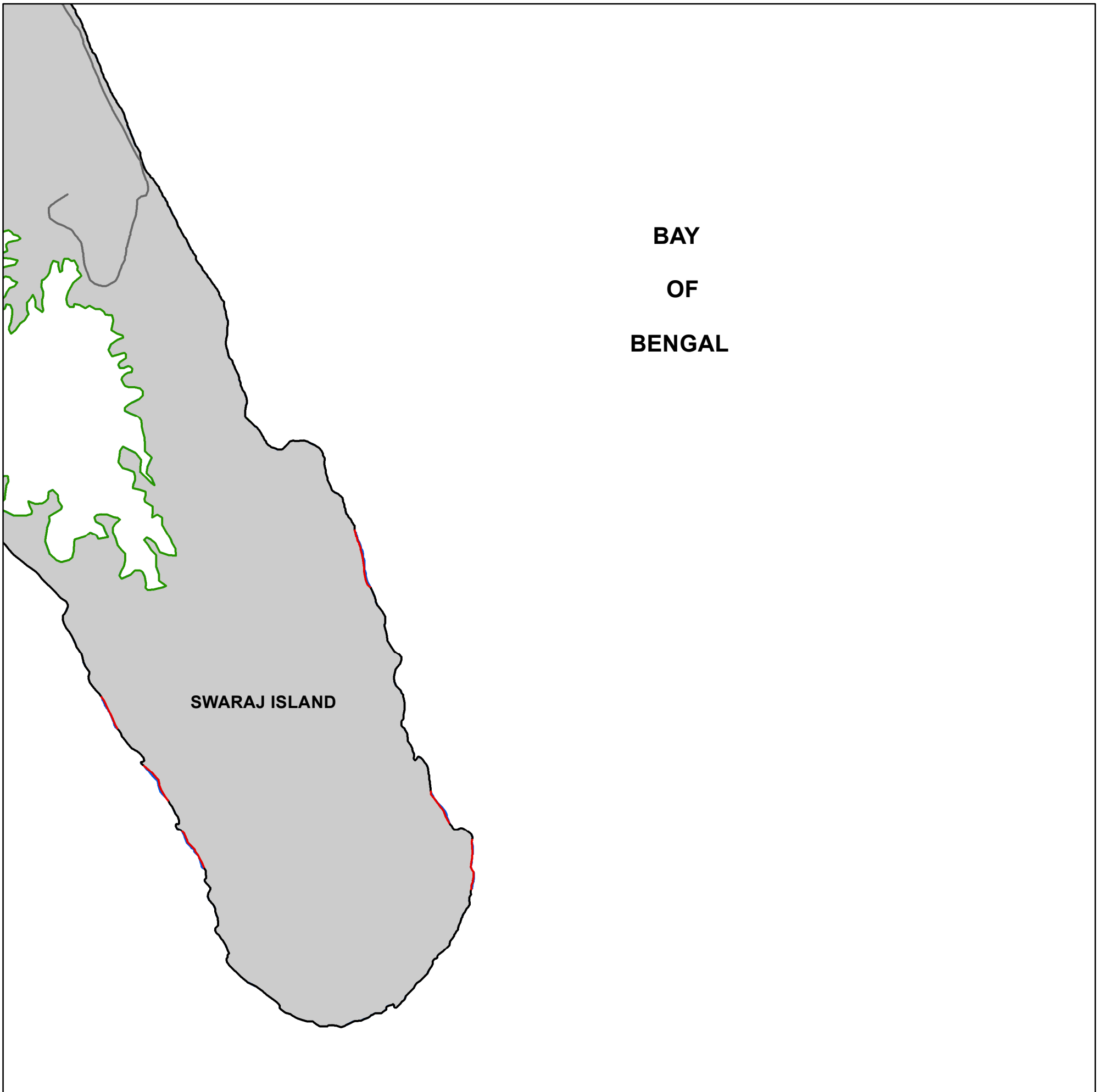
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI








SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87E01NW



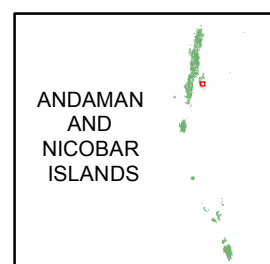
Legend

-  EROSION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  ROAD



INDEX TO SHEETS

86D16SE	86H04SW	SEA
87A13NE	87E01NW	SEA
SEA	87E01SW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

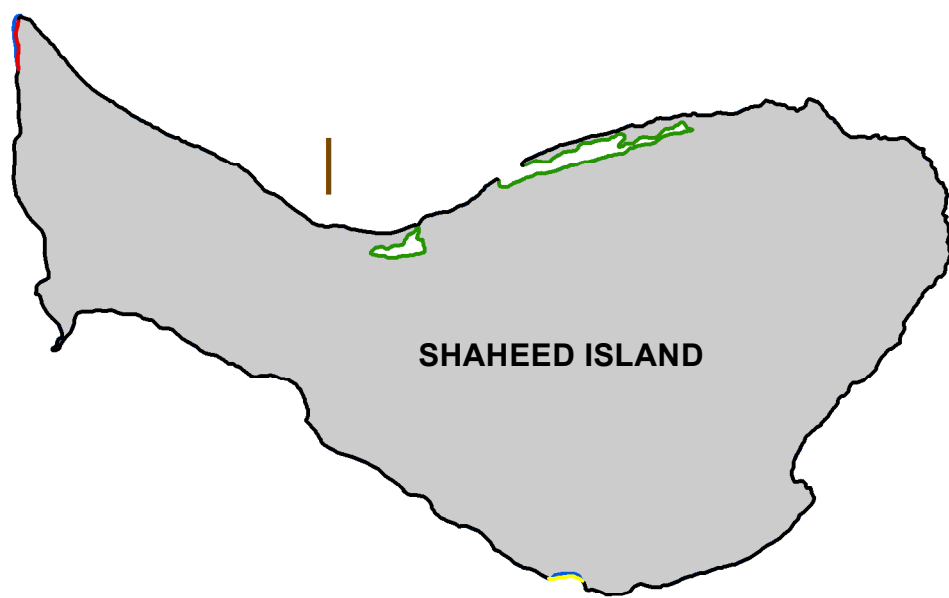
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87E01SW



BAY
OF
BENGAL

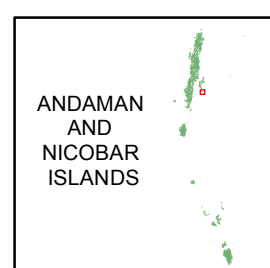
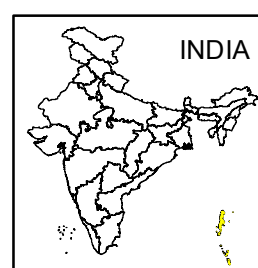
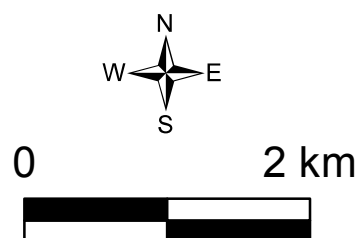


Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- JETTY

INDEX TO SHEETS

87A13NE	87E01NW	SEA
SEA	87E01SW	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

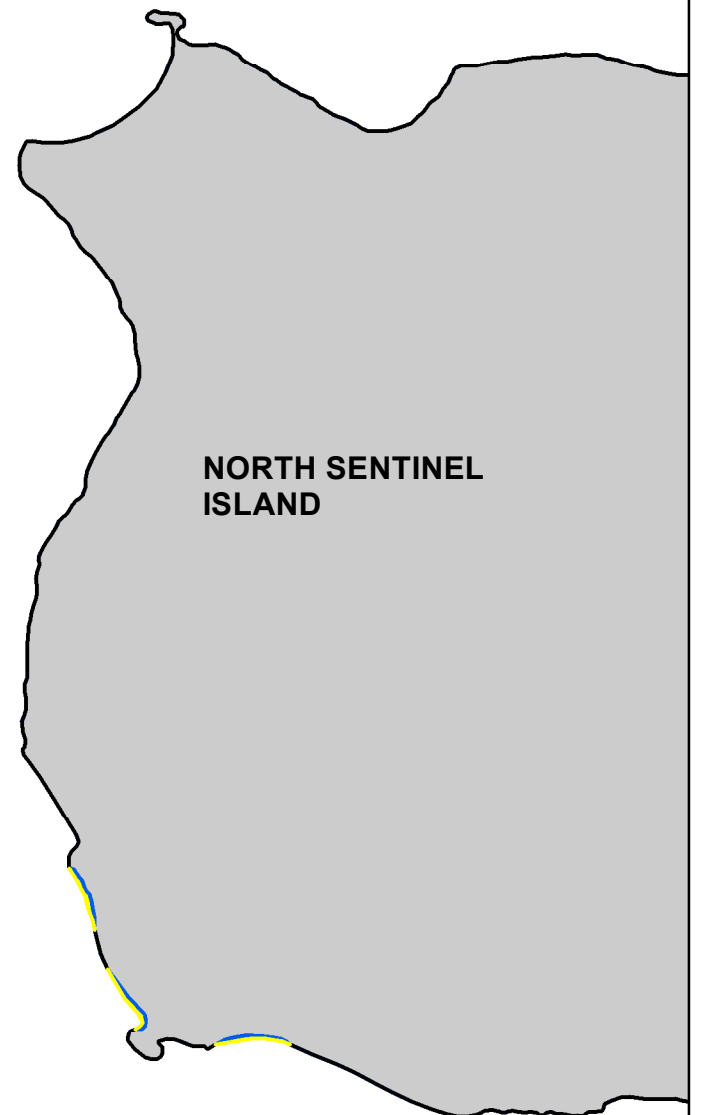


SHORELINE CHANGE MAP





FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A02SE

BAY
OF
BENGAL



Legend

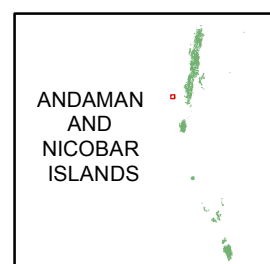
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE



0 2 km

INDEX TO SHEETS

SEA	SEA	SEA
SEA	87A02SE	87A06SW
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

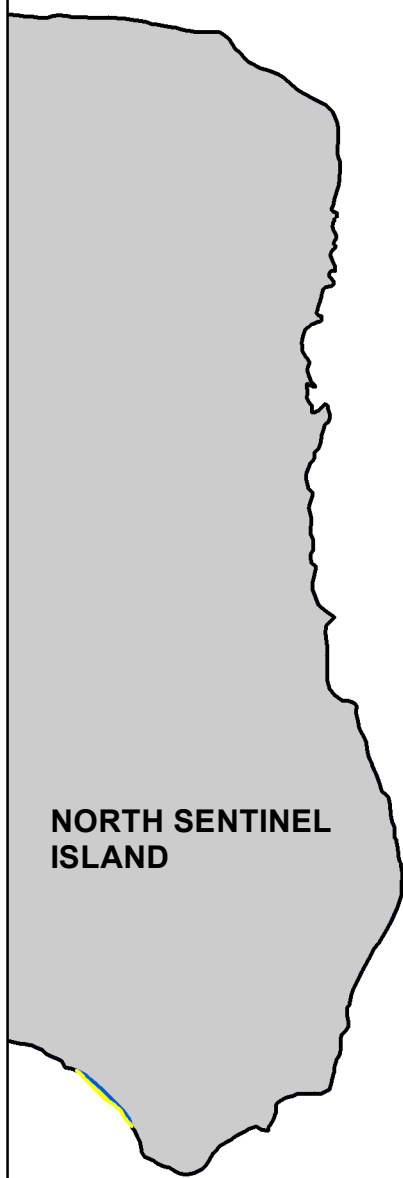


SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY





SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87A06SW

BAY
OF
BENGAL



NORTH SENTINEL
ISLAND

Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE

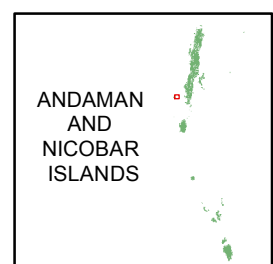


0 2 km



INDEX TO SHEETS

SEA	SEA	SEA
87A02SE	87A06SW	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP





FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87B05NE

BAY
OF
BENGAL

LITTLE ANDAMAN

Legend

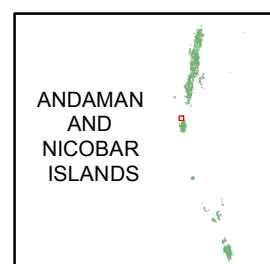
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE



0 2 km

INDEX TO SHEETS

SEA	SEA	SEA
SEA	87B05NE	87B09NW
SEA	87B05SE	87B09SW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

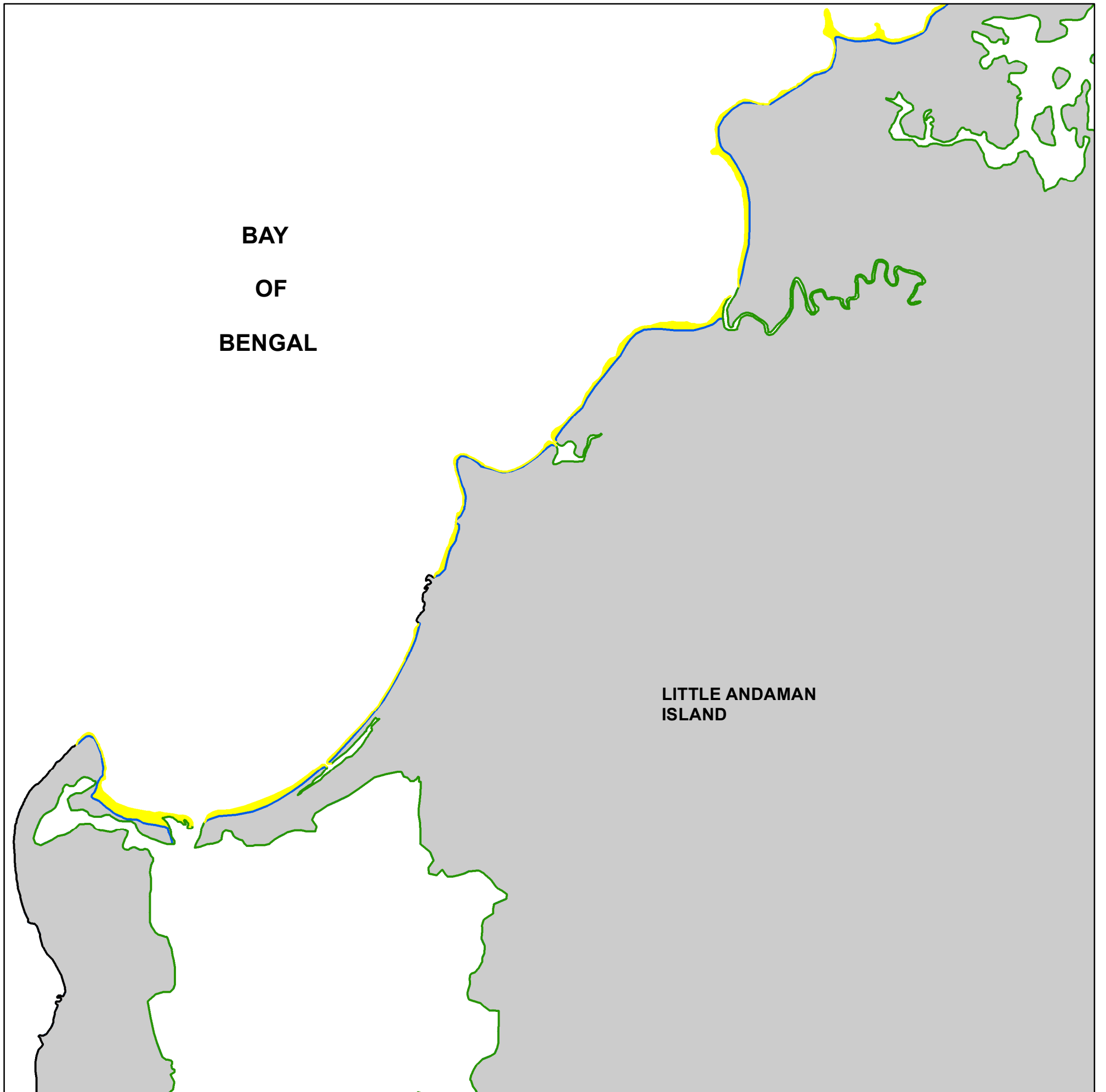
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87B05SE



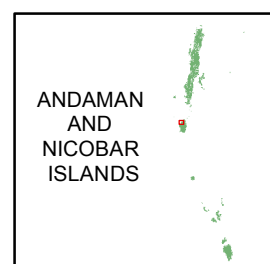
Legend

- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE



INDEX TO SHEETS

SEA	87B05NE	87B09NW
SEA	87B05SE	87B09SW
SEA	87B06NE	87B10NW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

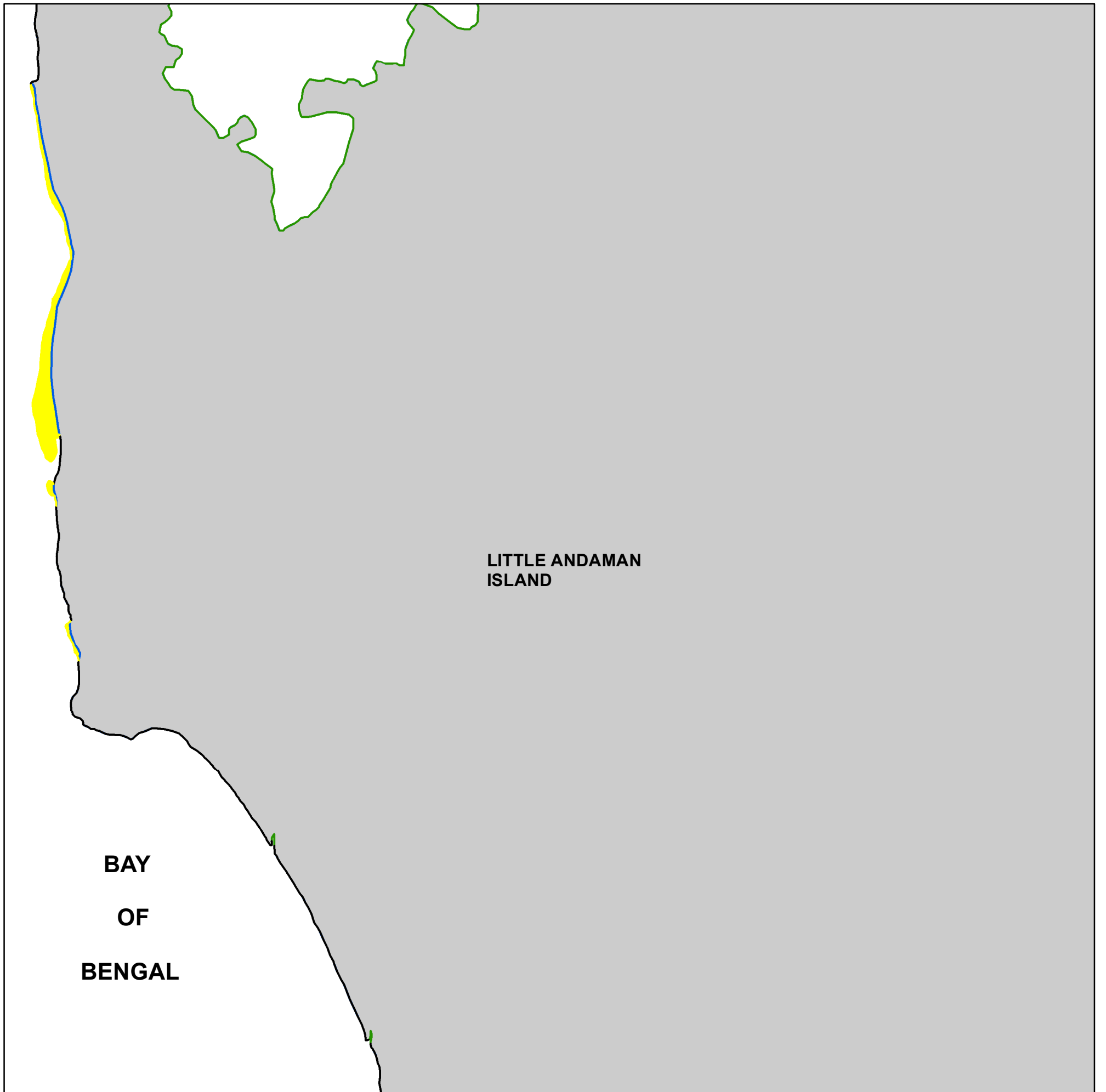
PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87B06NE



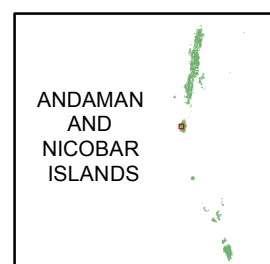
Legend

- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE



INDEX TO SHEETS

SEA	87B05SE	87B09SW
SEA	87B06NE	87B10NW
SEA	87B06SE	87B10SW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

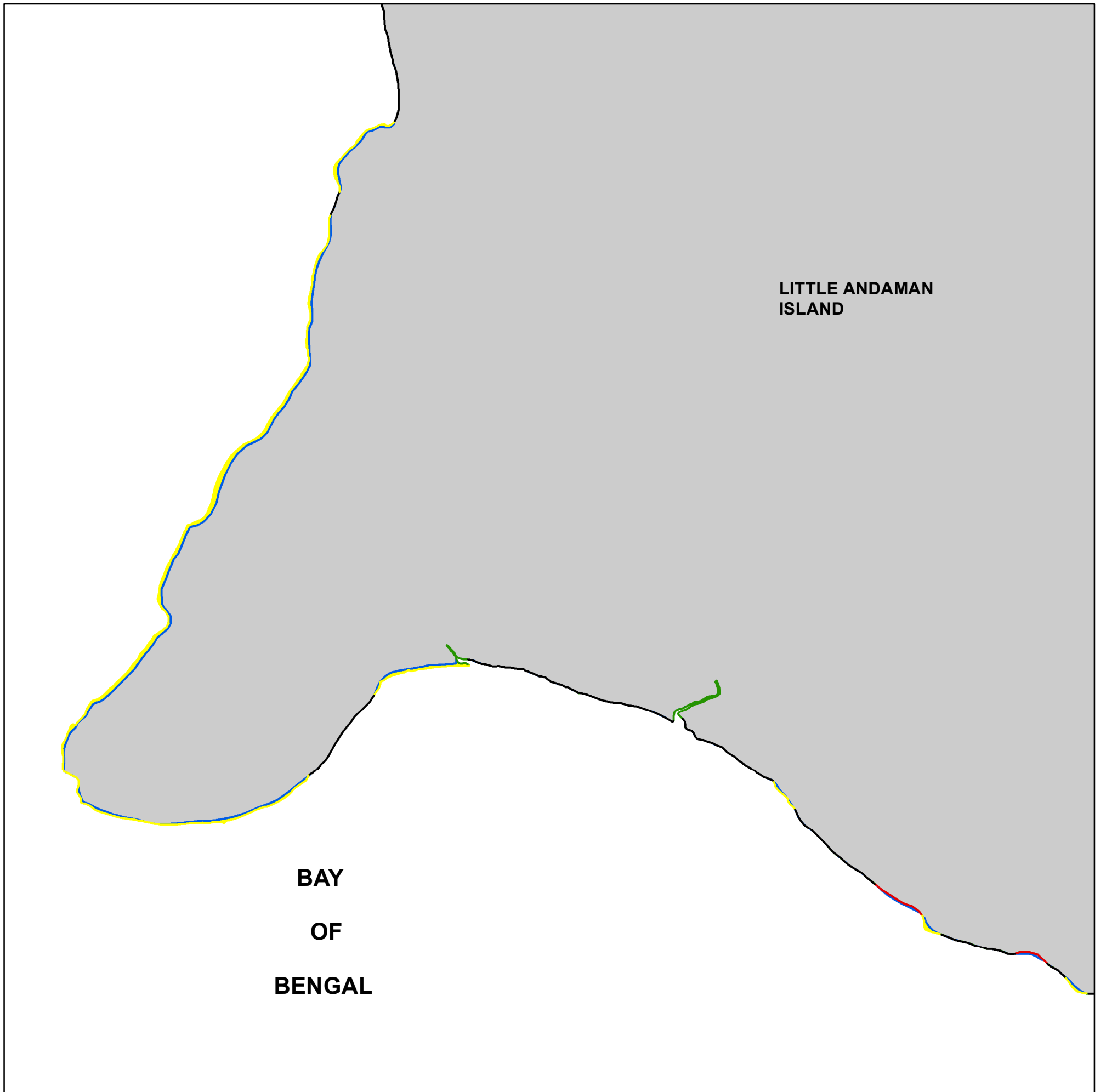
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87B06SE

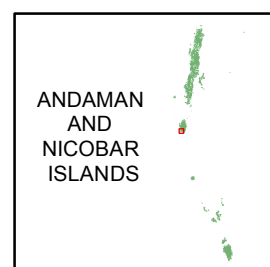
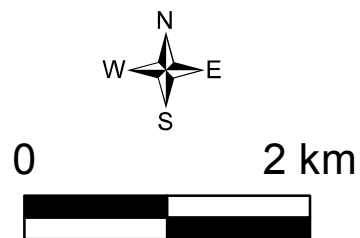


Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	87B06NE	87B10NW
SEA	87B06SE	87B10SW
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

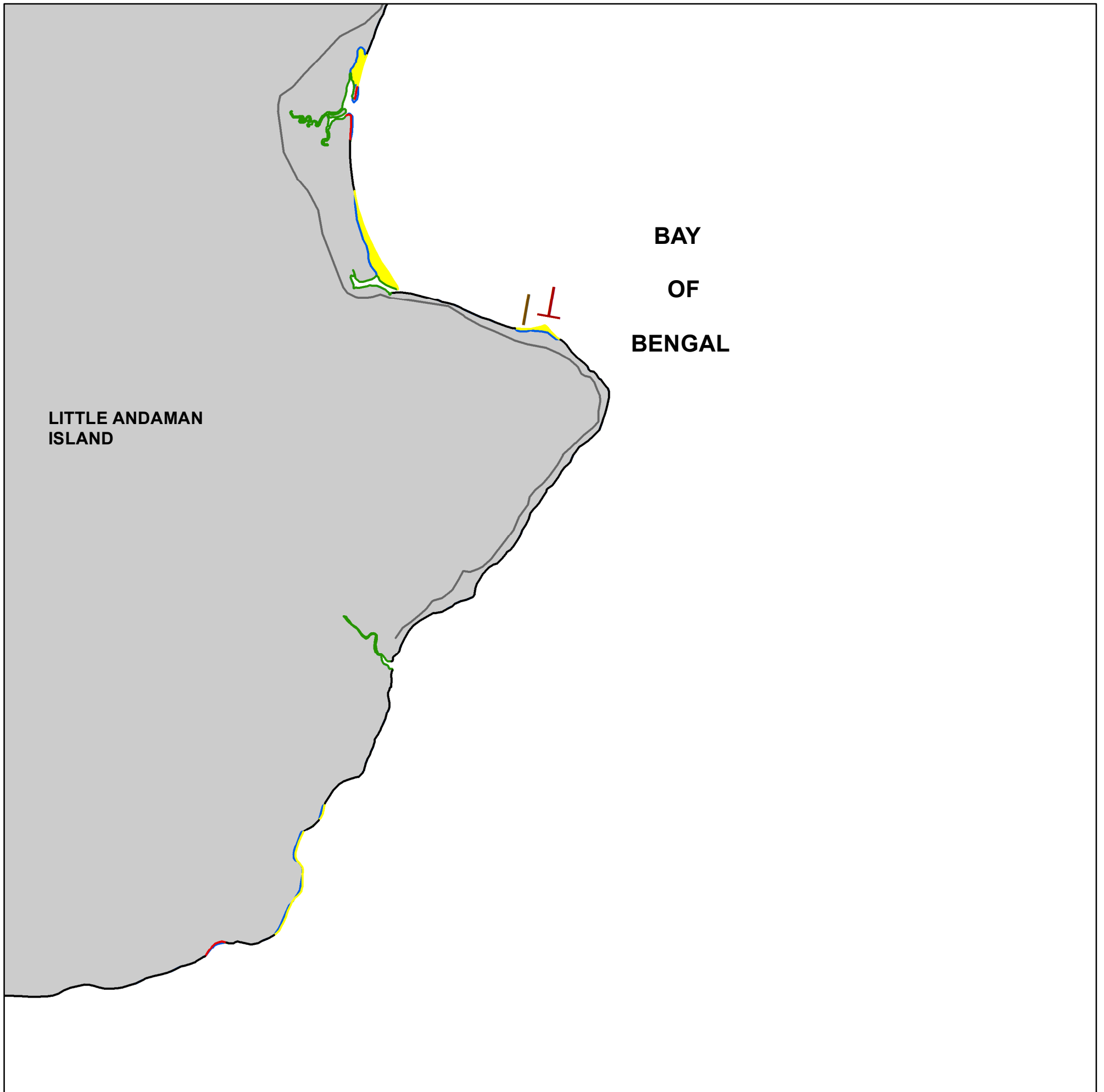
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87B10SW



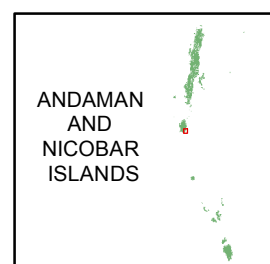
Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- BREAKWATER
- JETTY
- ROAD



INDEX TO SHEETS

87B06NE	87B10NW	SEA
87B06SE	87B10SW	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

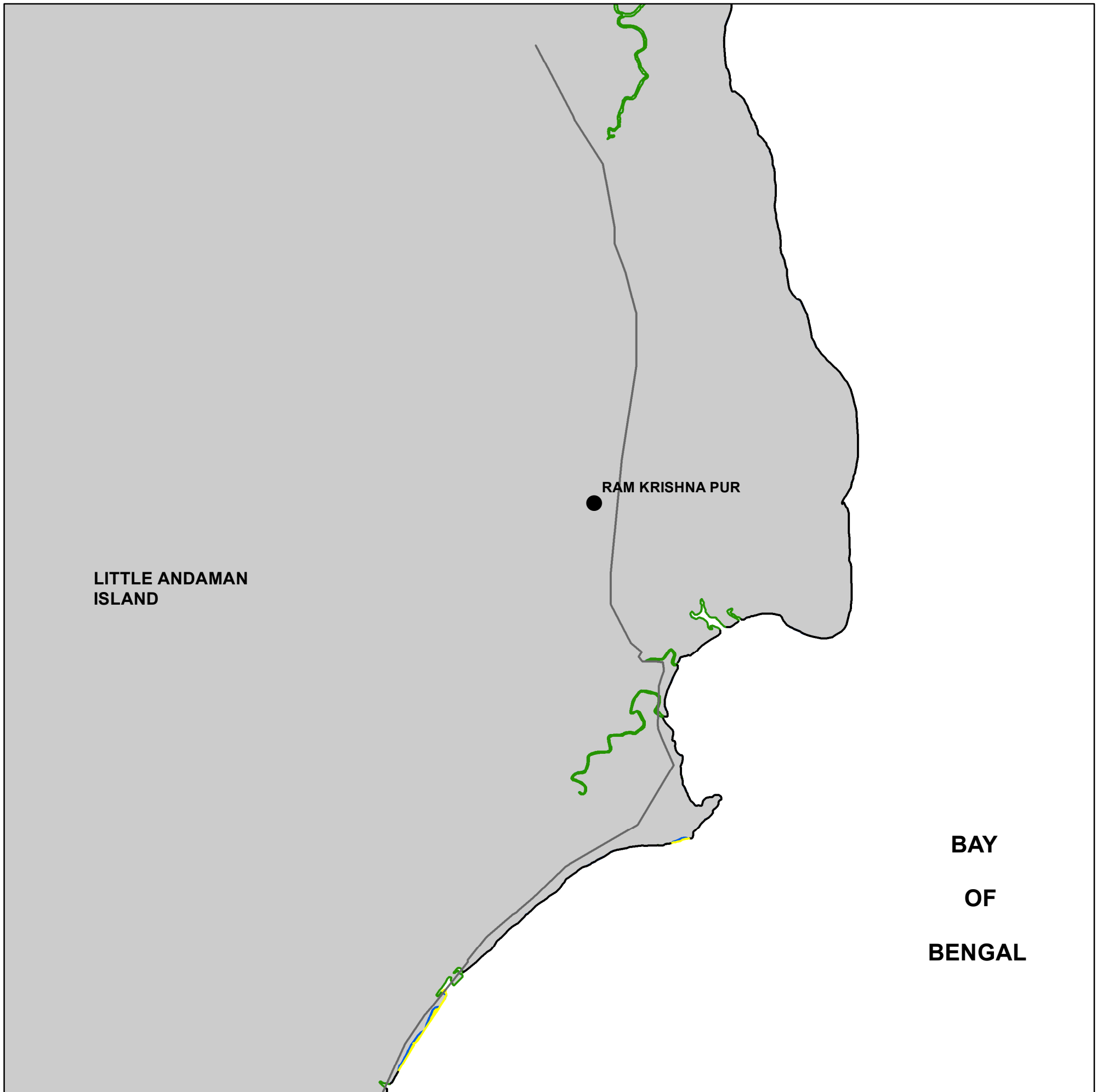
PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87B10NW



Legend

- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- ROAD
- HABITATION

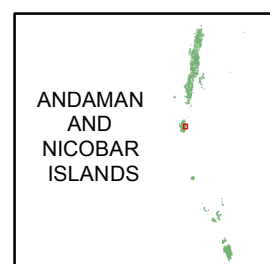


0 2 km



INDEX TO SHEETS

87B05SE	87B09SW	SEA
87B06NE	87B10NW	SEA
87B06SE	87B10SW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

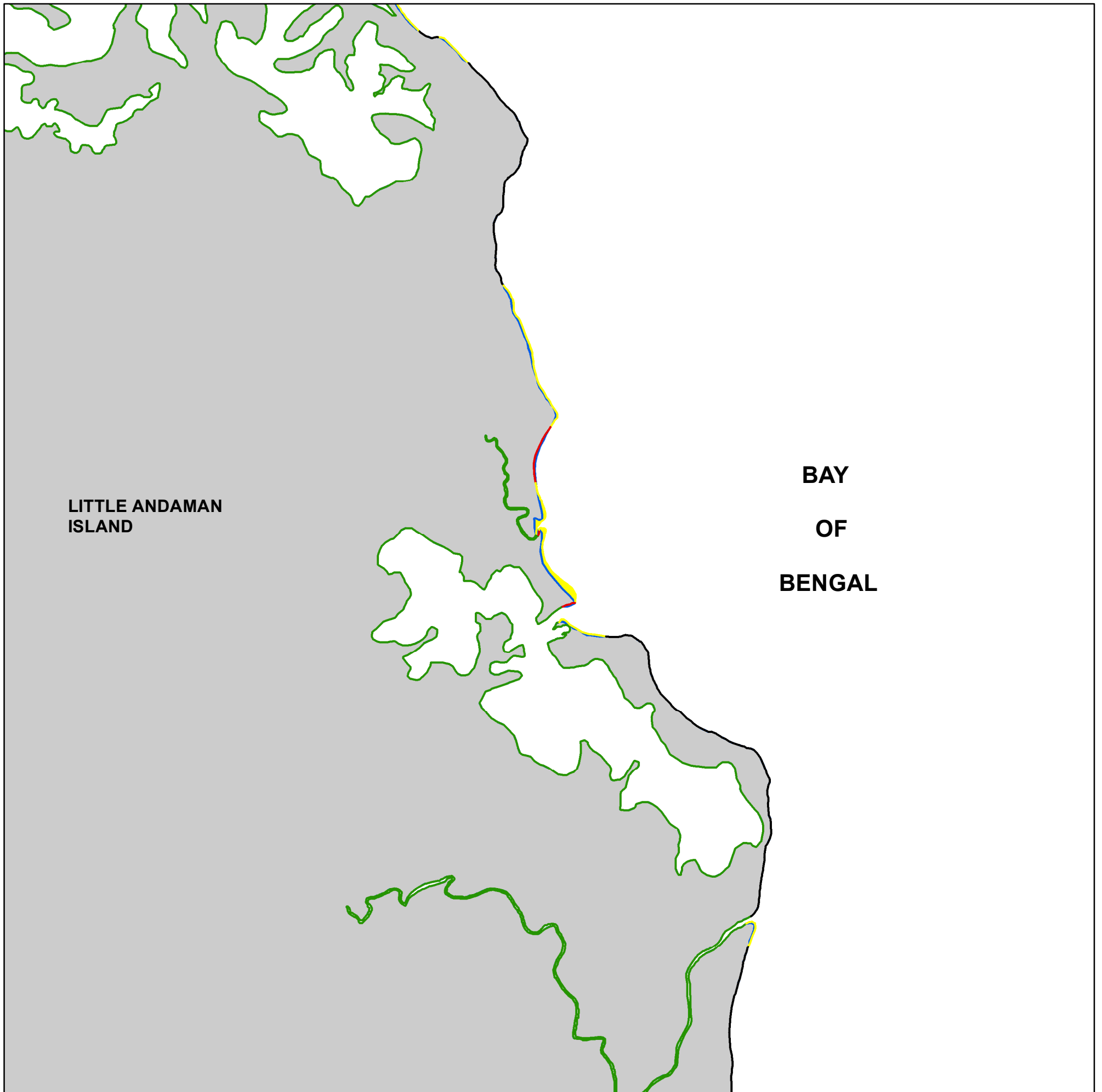
PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87B09SW



Legend

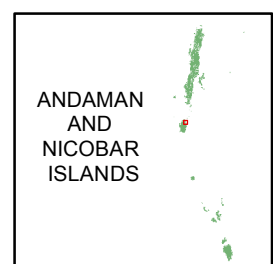
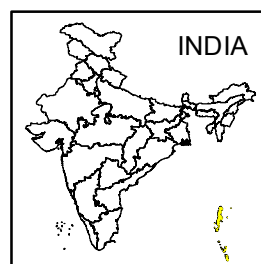
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

87B05NE	87B09NW	SEA
87B05SE	87B09SW	SEA
87B06NE	87B10NW	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

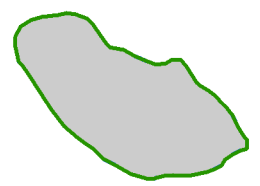


SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

SOUTH ANDAMAN **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87B09NW

BAY
OF
BENGAL



SOUTH BROTHER ISLAND



LITTLE ANDAMAN ISLAND

Legend

- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

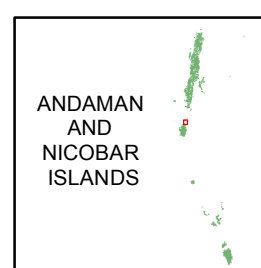
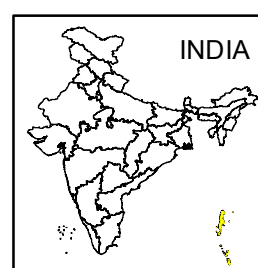


0 2 km



INDEX TO SHEETS

SEA	SEA	SEA
87B05NE	87B09NW	SEA
87B05SE	87B09SW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

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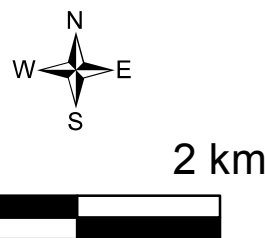
NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87C15SW

**BAY
OF
BENGAL**



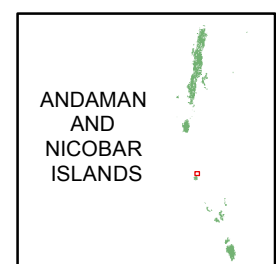
Legend

- EROSION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE



INDEX TO SHEETS

SEA	SEA	SEA
SEA	87C15SW	SEA
87C12NE	87C16NW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

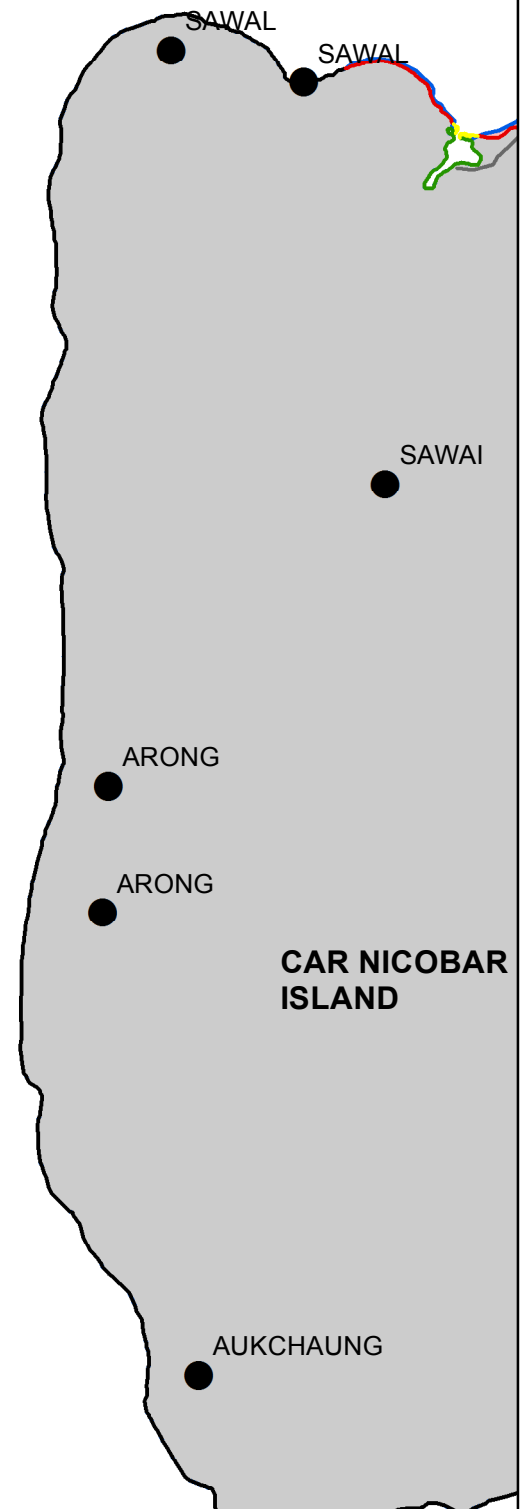


SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87C12NE

BAY
OF
BENGAL



Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- HABITATION

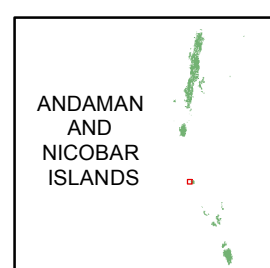


0 2 km



INDEX TO SHEETS

SEA	SEA	87C15SW
SEA	87C12NE	87C16NW
SEA	87C12SE	87C16SW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
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SHORELINE CHANGE MAP




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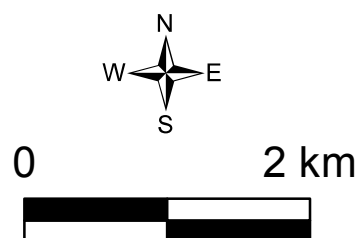
NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87C12SE

CAR NICOBAR ISLAND

BAY
OF
BENGAL

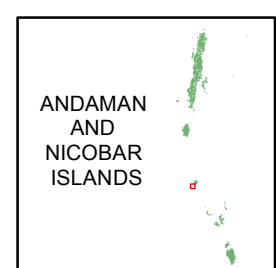
Legend

-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE



INDEX TO SHEETS

SEA	87C12NE	87C16NW
SEA	87C12SE	87C16SW
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

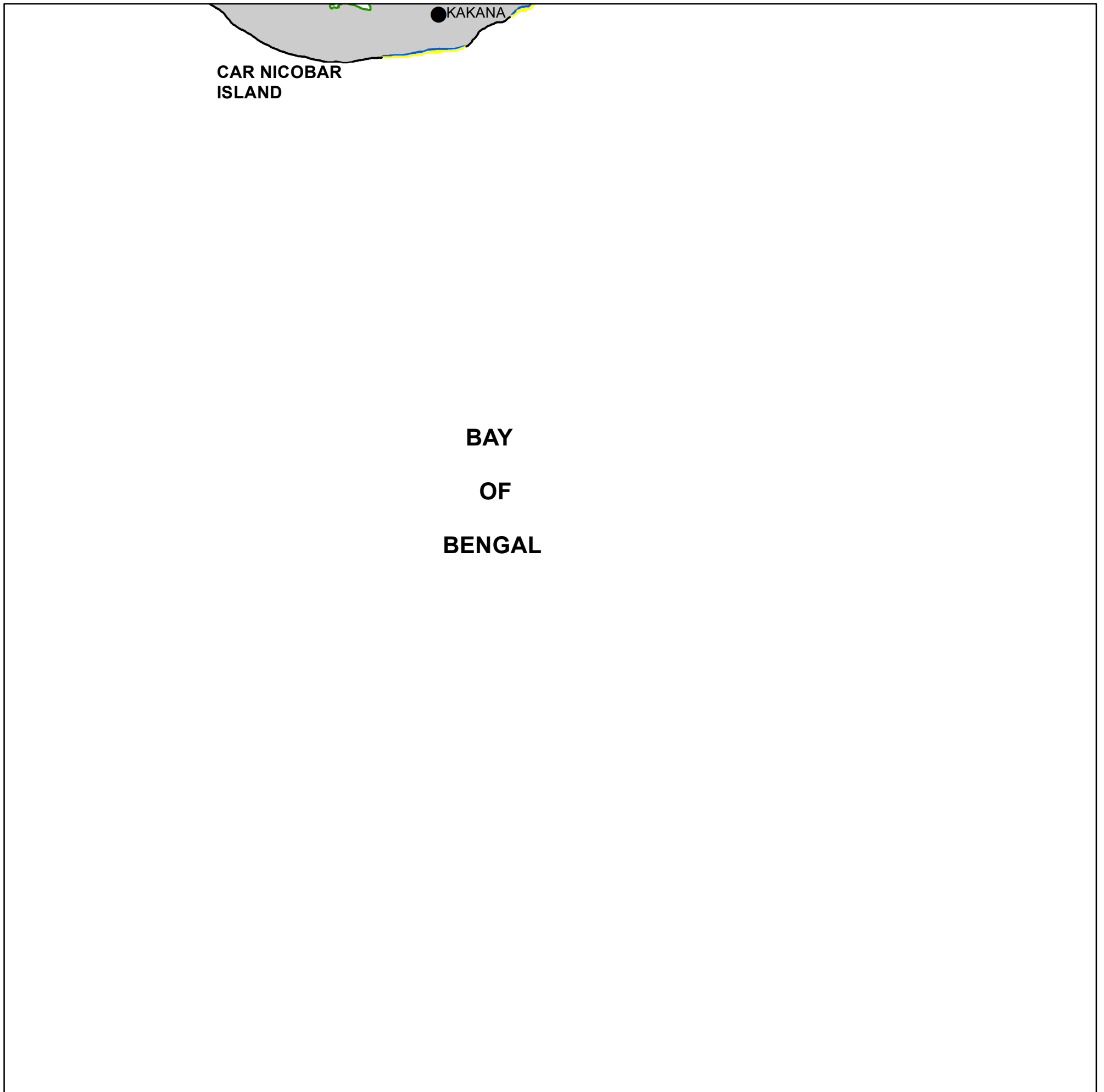
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI








SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87C16SW

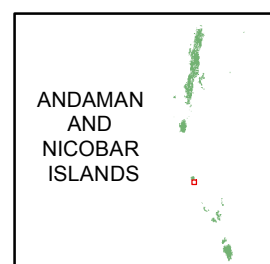
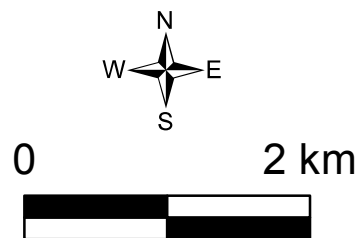


Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE
-  HABITATION

INDEX TO SHEETS

87C12NE	87C16NW	SEA
87C12SE	87C16SW	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

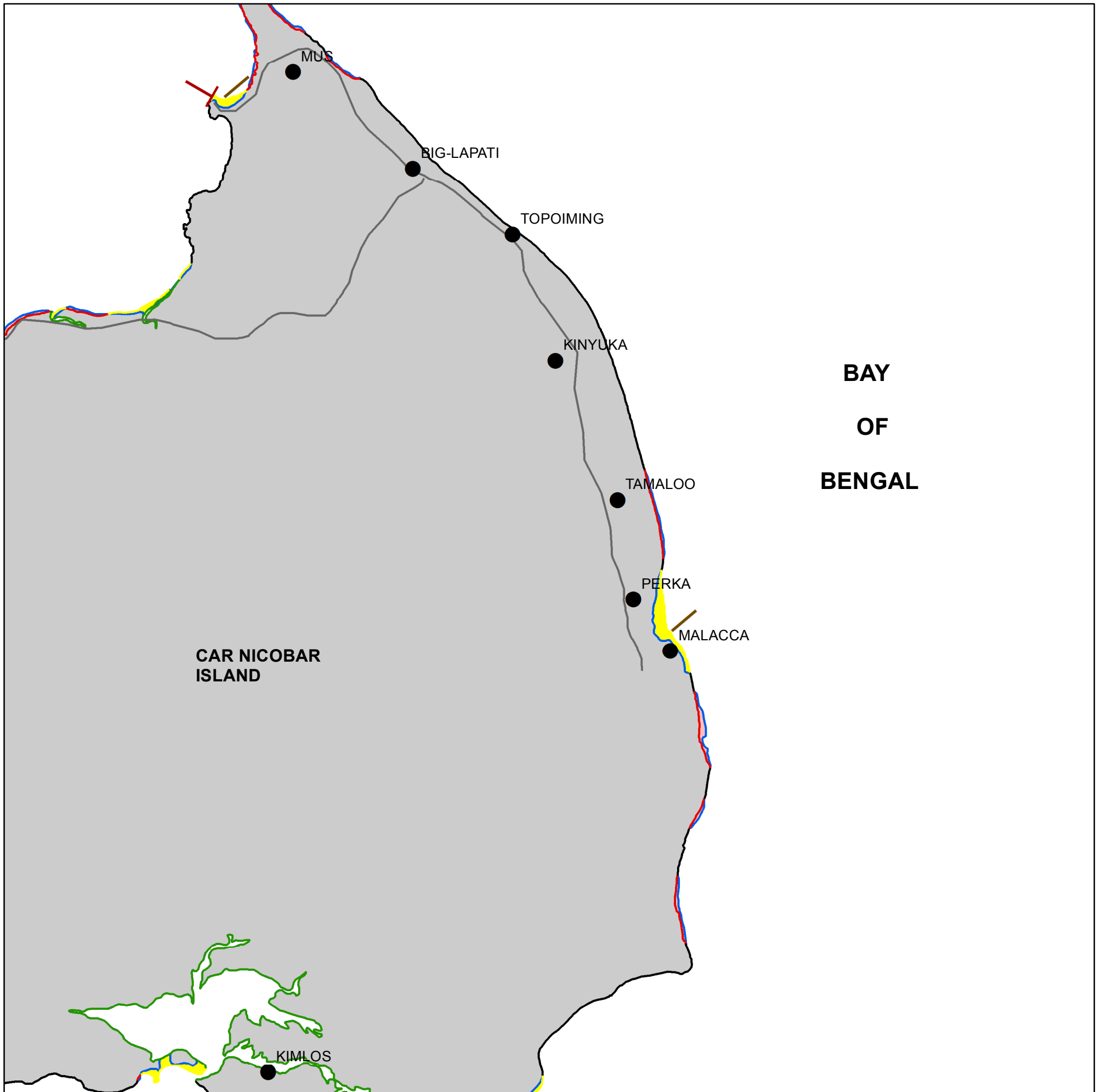
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY





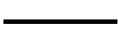




NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87C16NW



CAR NICOBAR ISLAND

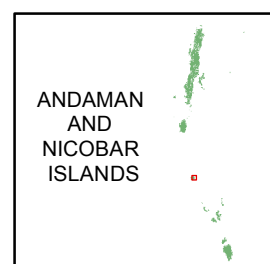
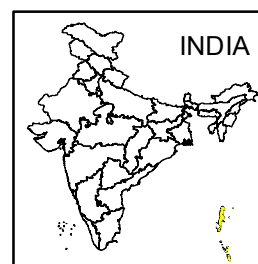
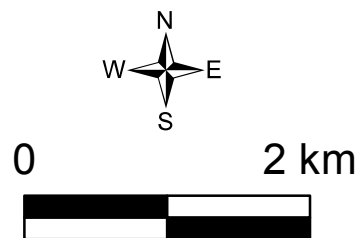
BAY OF BENGAL

Legend

-  EROSION
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE ROAD
-  ROAD
-  BREAKWATER
-  JETTY
-  HABITATION

INDEX TO SHEETS

SEA	87C15SW	SEA
87C12NE	87C16NW	SEA
87C12SE	87C16SW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

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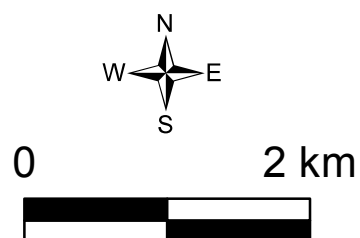
NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H10SE

**BAY
OF
BENGAL**



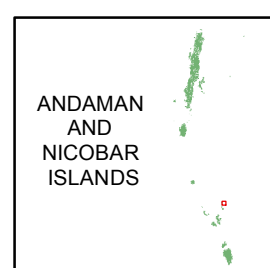
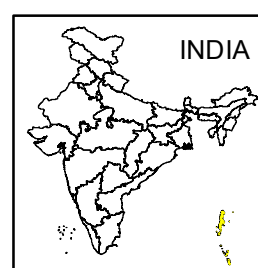
Legend

- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE



INDEX TO SHEETS

SEA	SEA	SEA
87H10SW	87H10SE	SEA
87H11NW	87H11NE	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

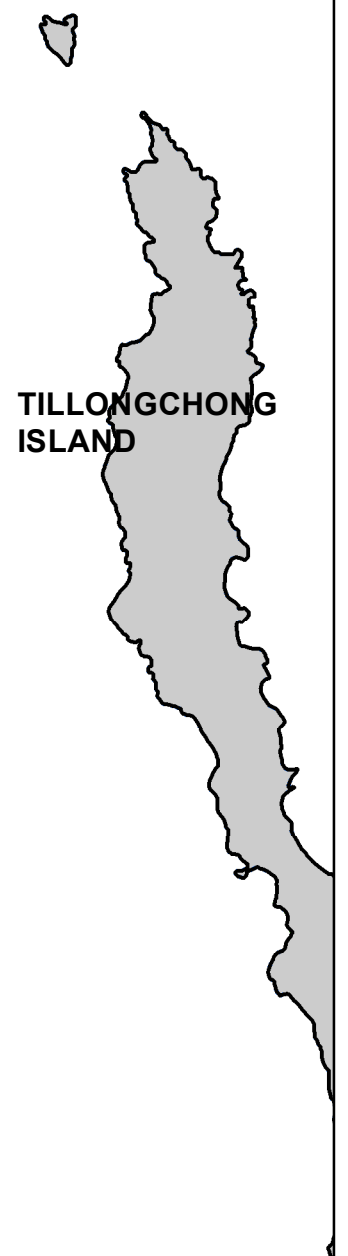


SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H10SW

BAY
OF
BENGAL



Legend

- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

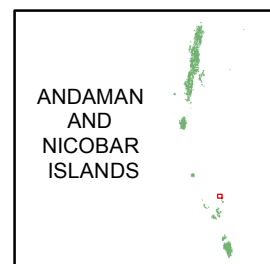


0 2 km



INDEX TO SHEETS

SEA	SEA	SEA
SEA	87H10SW	87H10SE
SEA	87H11NW	87H11NE



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

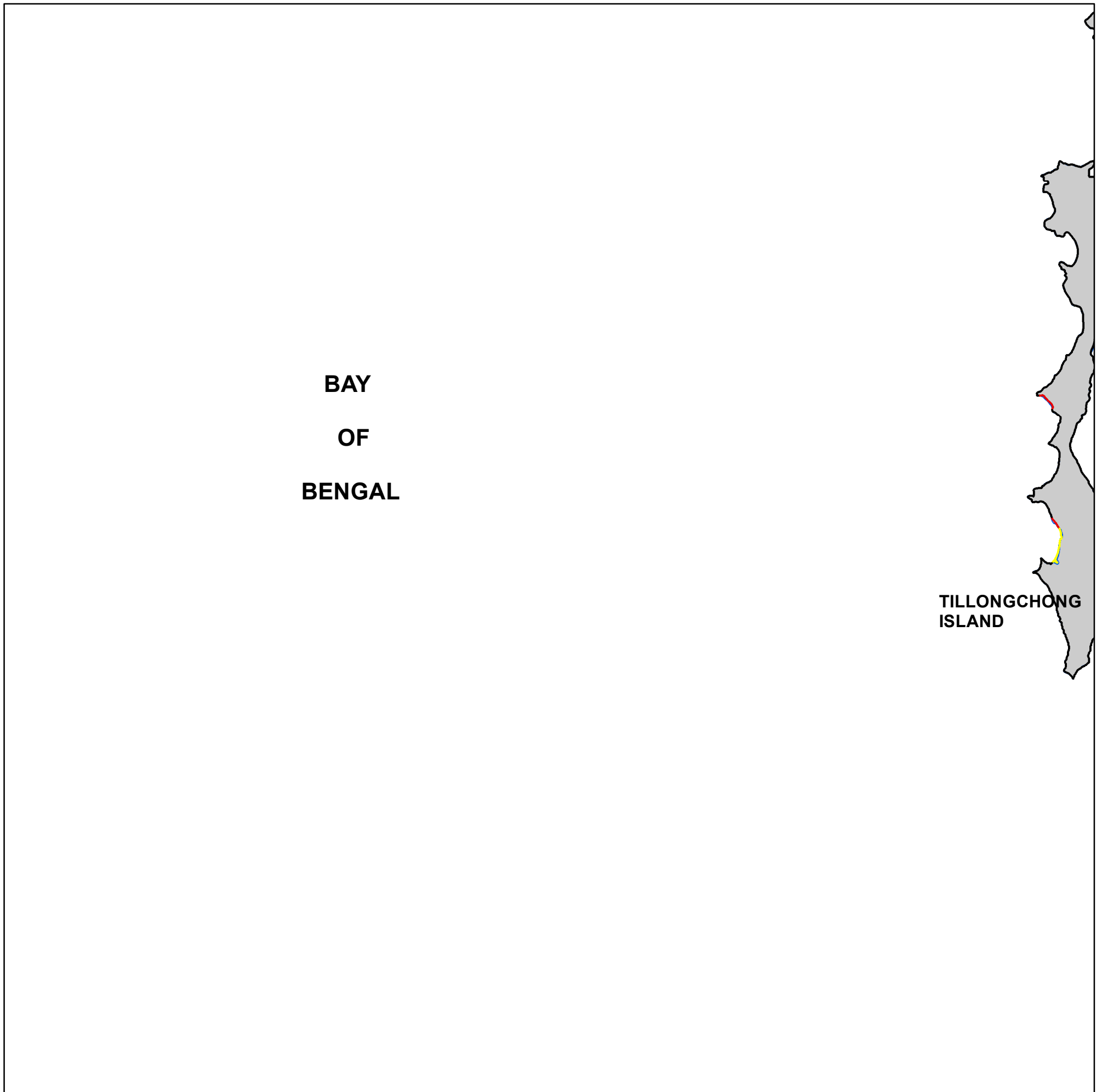
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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H11NW



Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

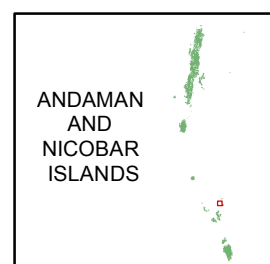


0 2 km



INDEX TO SHEETS

SEA	87H10SW	87H10SE
SEA	87H11NW	87H11NE
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

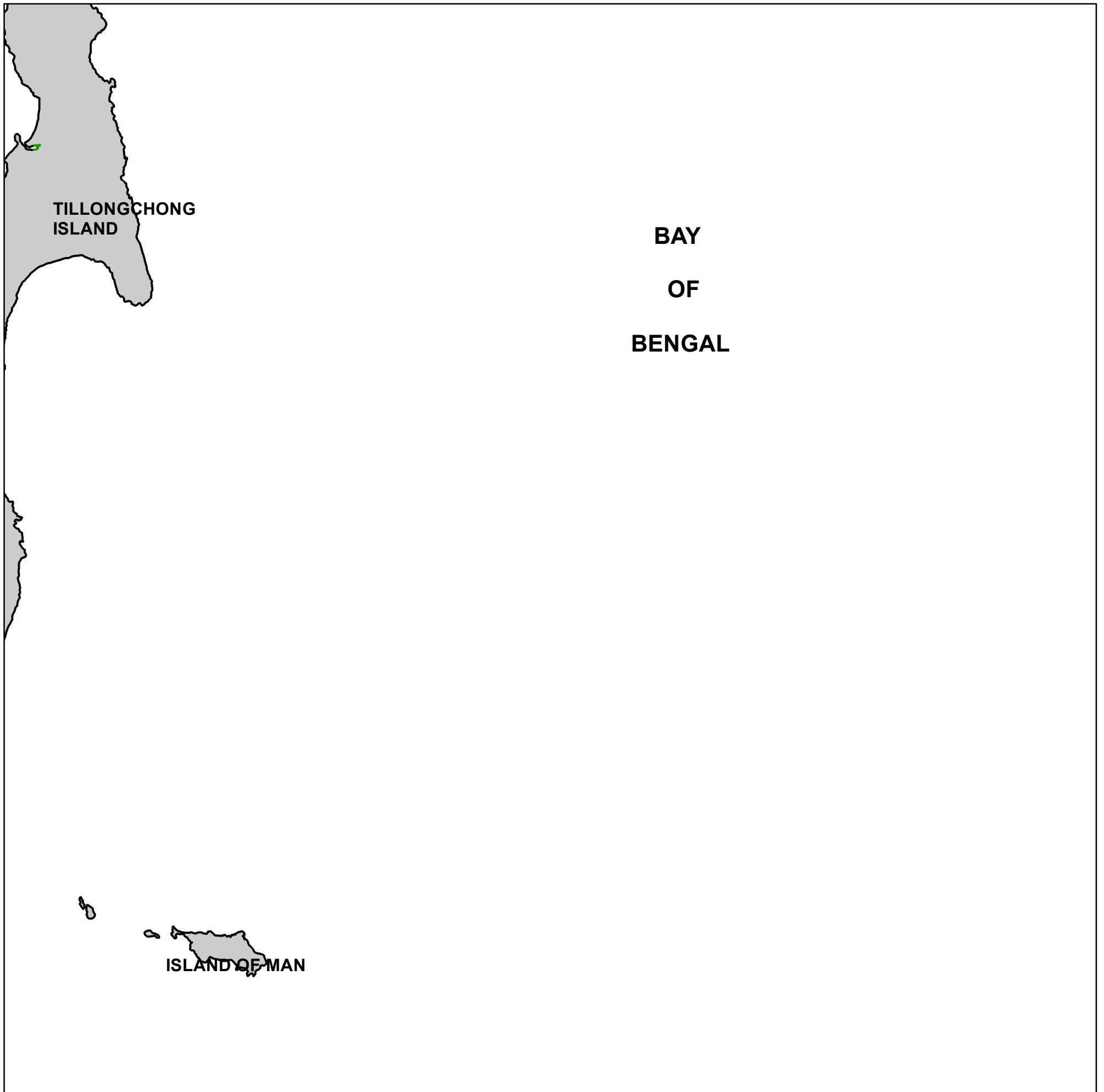
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H11NE



Legend

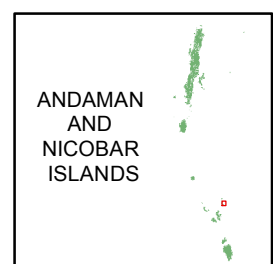
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2014-06
- STABLE
- HABITATION

INDEX TO SHEETS

87H10SW	87H10SE	SEA
87H11NW	87H11NE	SEA
SEA	SEA	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

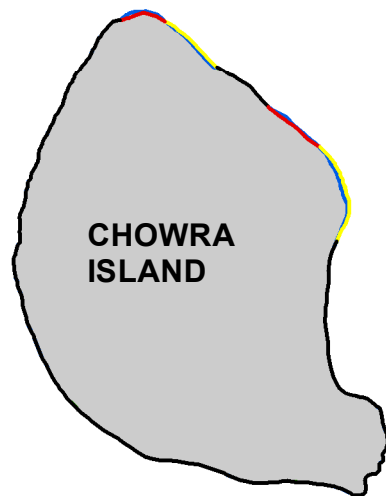
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H03NW



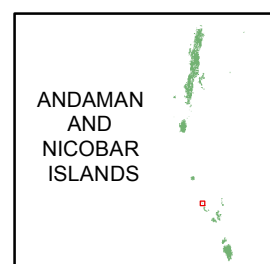
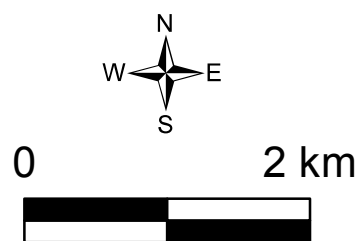
**BAY
OF
BENGAL**

Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	SEA	SEA
SEA	87H03NW	SEA
SEA	87H03SW	87H03SE



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

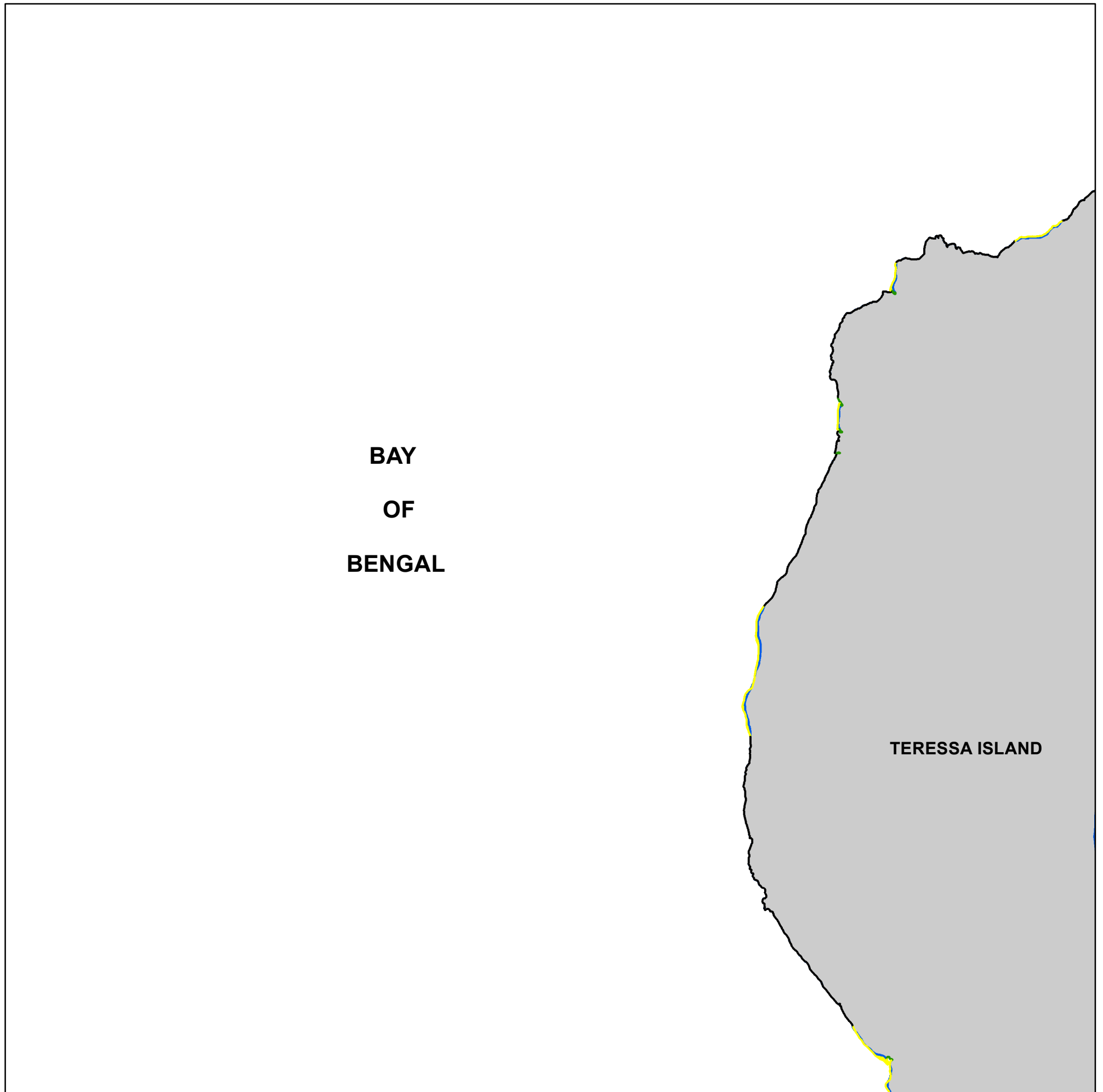
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI







SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H03SW



Legend

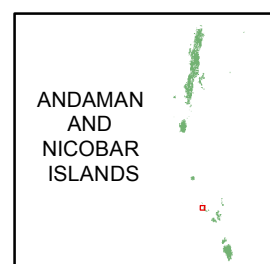
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE

INDEX TO SHEETS

SEA	87H03NW	SEA
SEA	87H03SW	87H03SE
SEA	87H04NW	87H04NE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

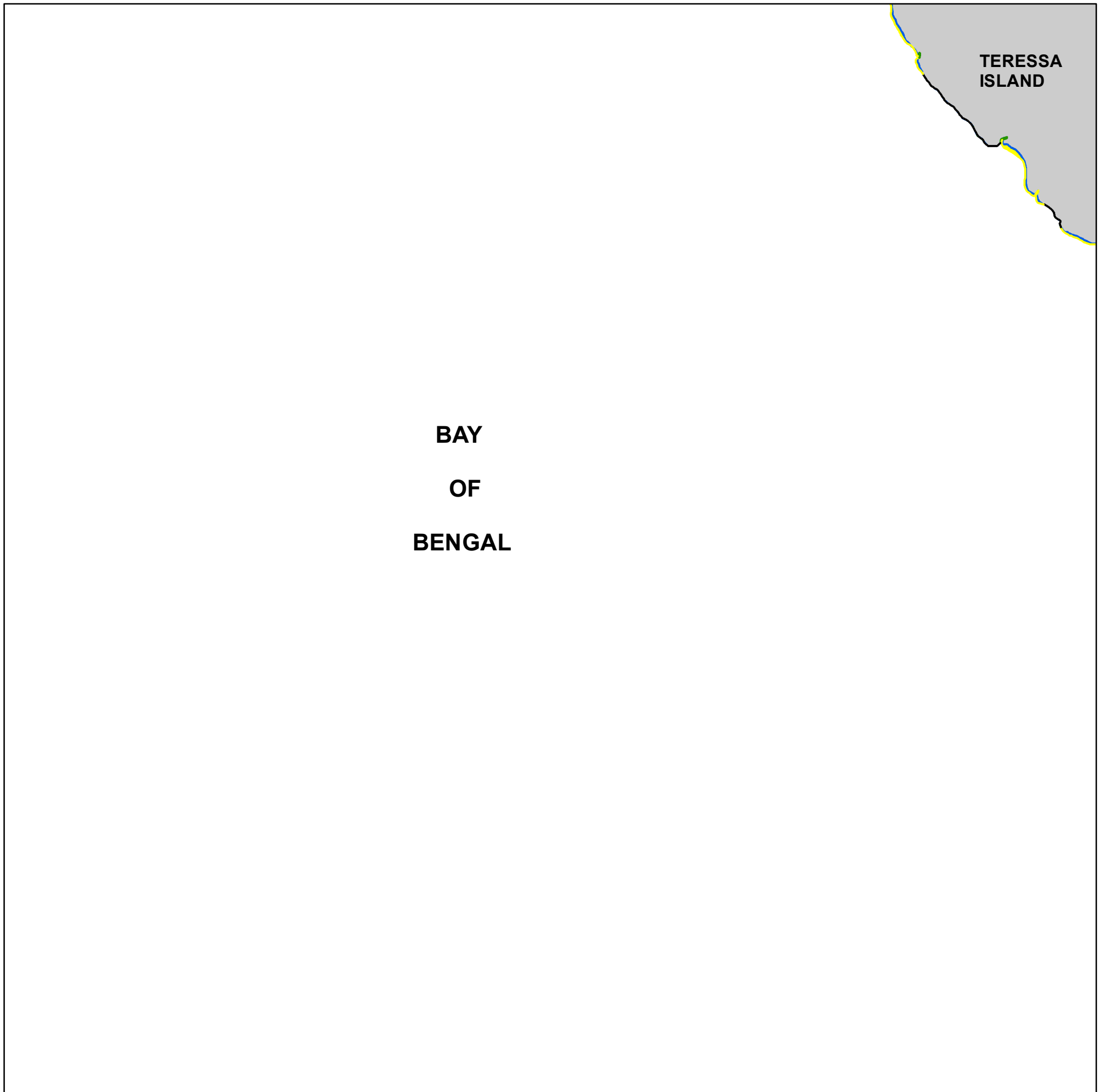
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI







SHORELINE CHANGE MAP

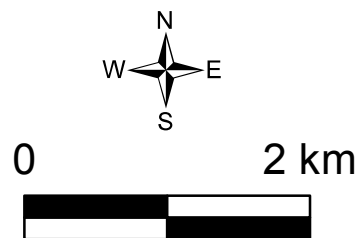
FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H04NW



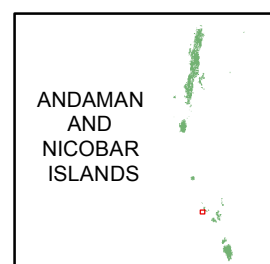
Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE



INDEX TO SHEETS

SEA	87H03SW	87H03SE
SEA	87H04NW	87H04NE
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

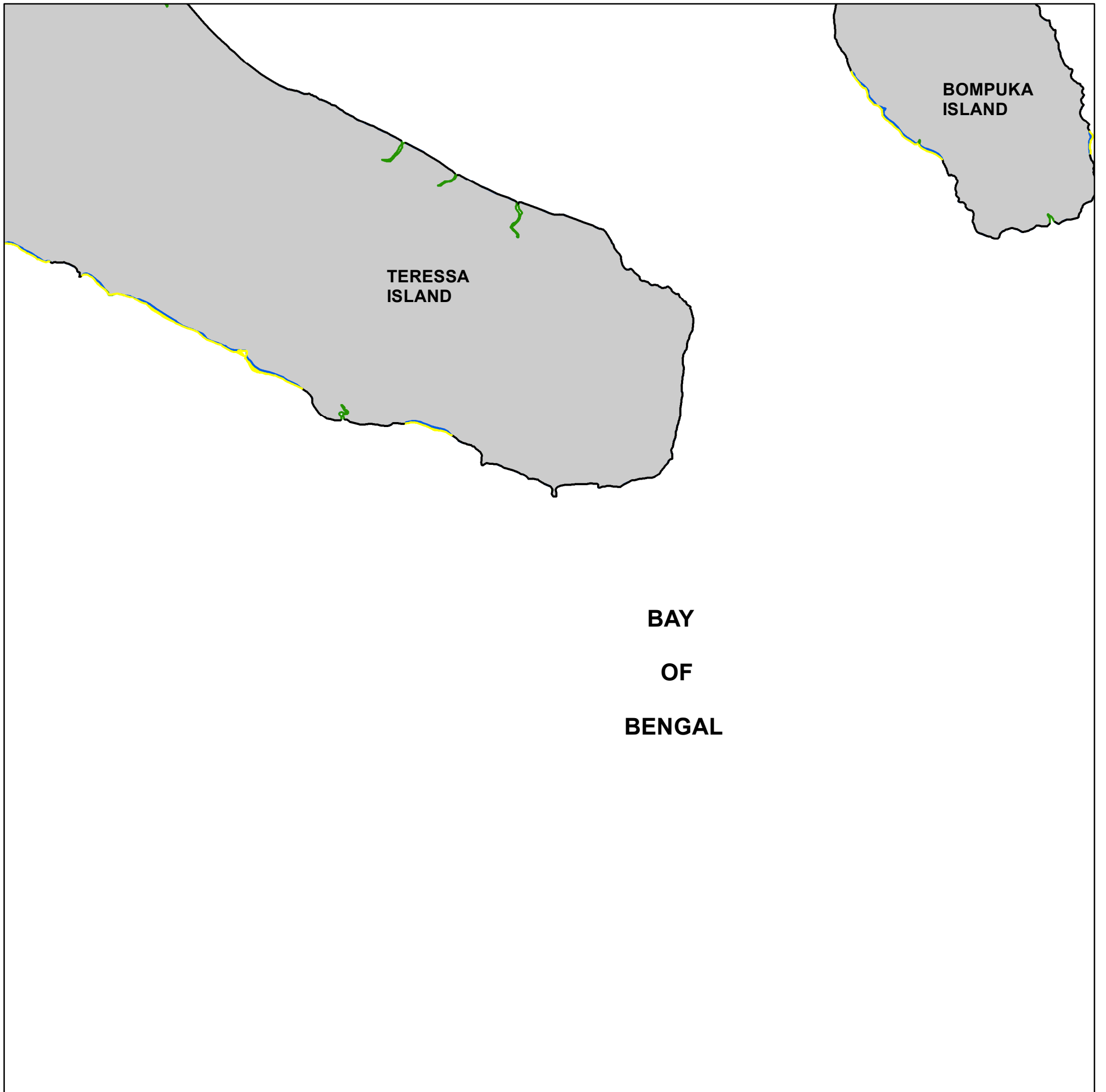
PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H04NE

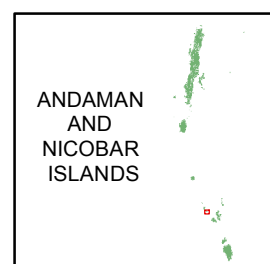


Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE

INDEX TO SHEETS

87H03SW	87H03SE	SEA
87H04NW	87H04NE	87H08NW
SEA	SEA	87H08SW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

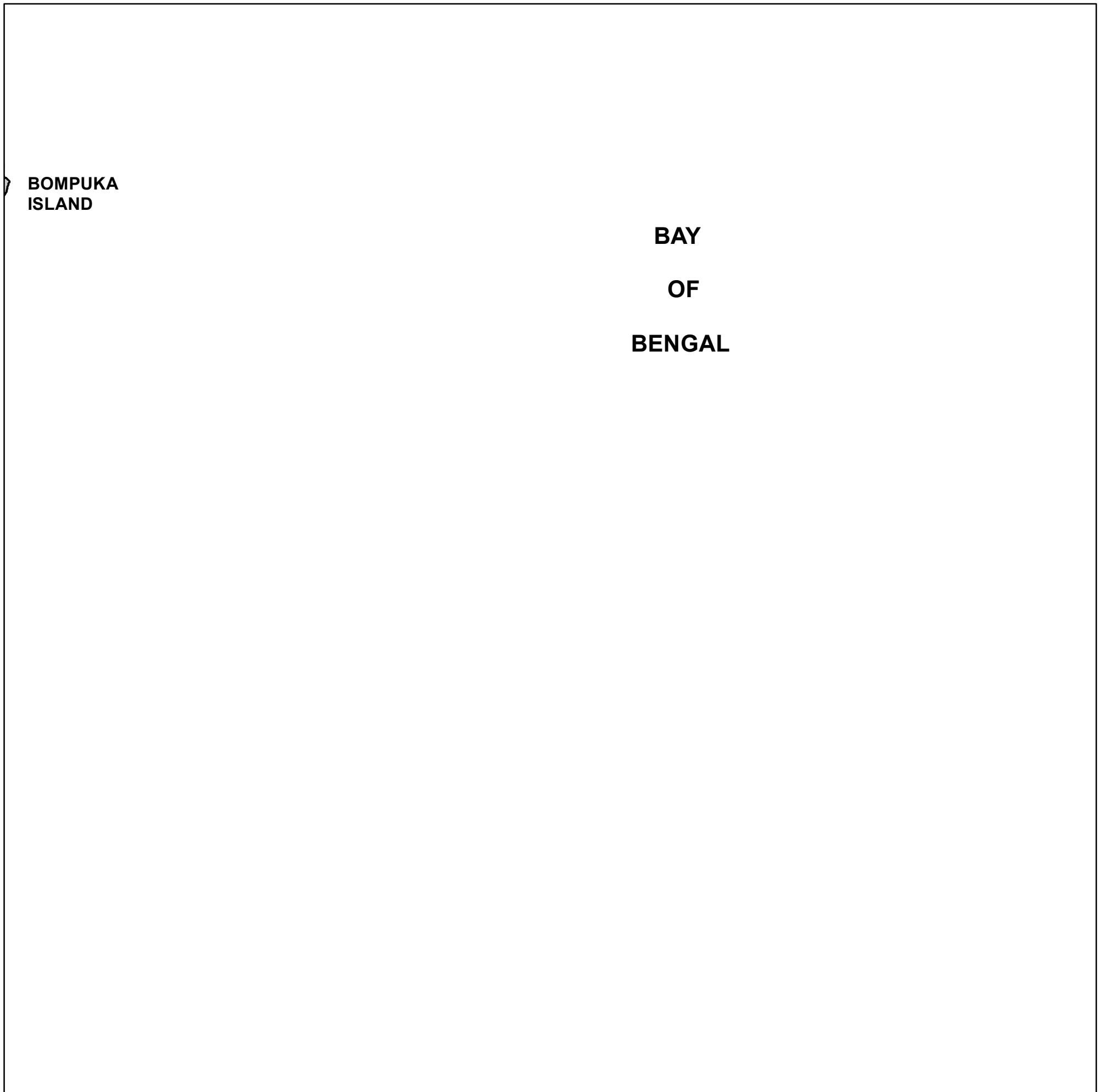
PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H08NW



BOMPUKA ISLAND

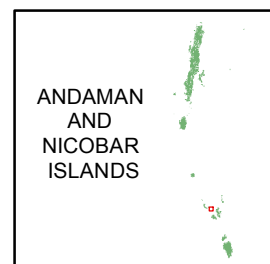
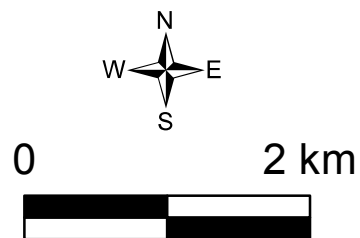
BAY
OF
BENGAL

Legend

- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

87H03SE	SEA	SEA
87H04NE	87H08NW	87H08NE
SEA	87H08SW	87H08SE



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

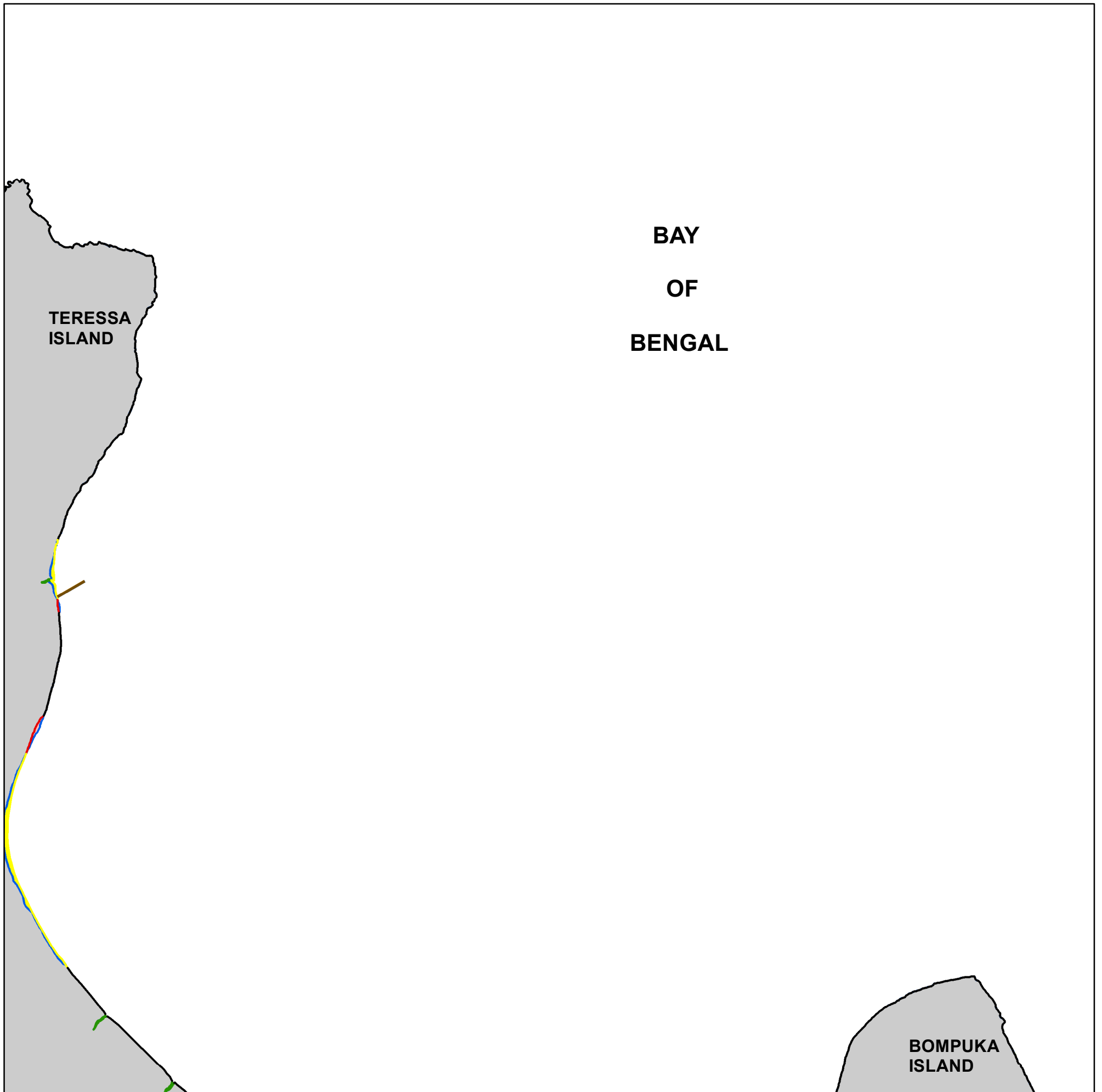
PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H03SE



Legend

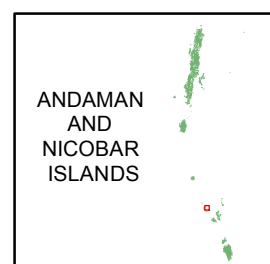
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- JETTY

INDEX TO SHEETS

87H03NW	SEA	SEA
87H03SW	87H03SE	SEA
87H04NW	87H04NE	87H08NW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

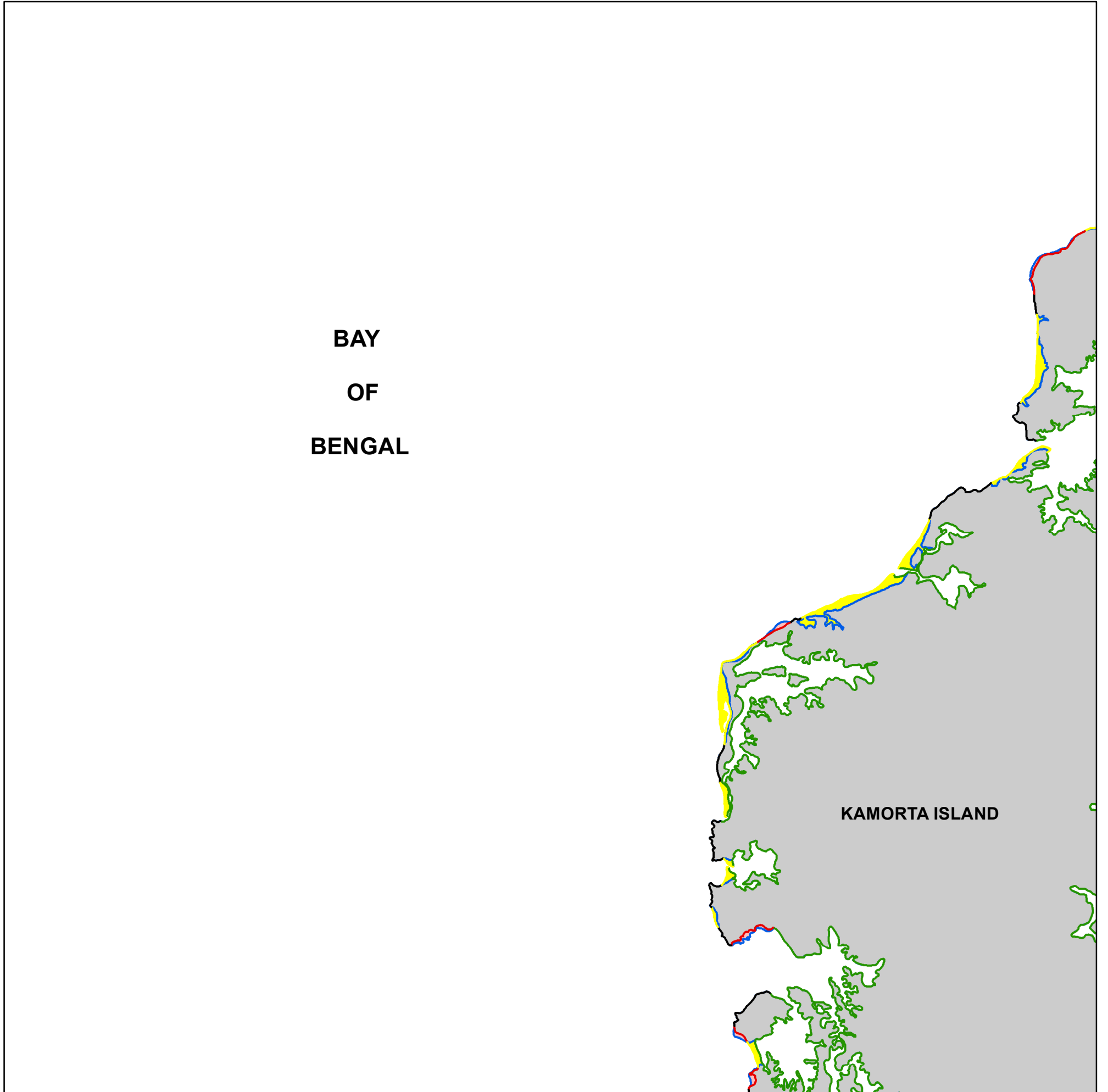


SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H08NE

BAY
OF
BENGAL

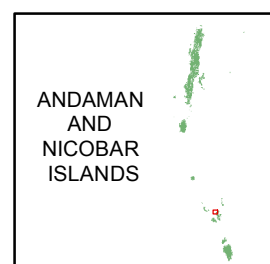


Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	SEA	SEA
87H08NW	87H08NE	87H12NW
87H08SW	87H08SE	87H12SW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

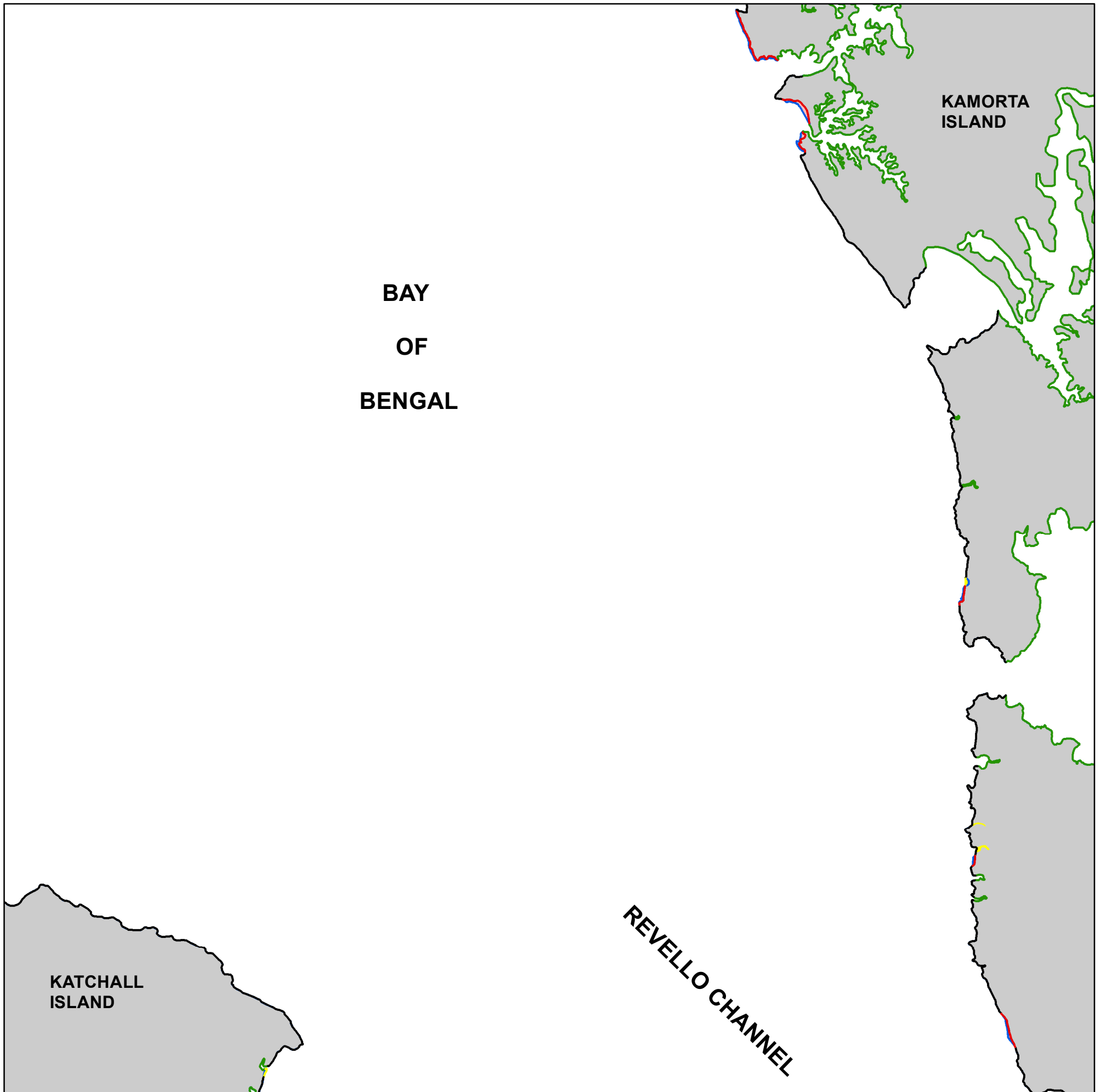
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H08SE



Legend

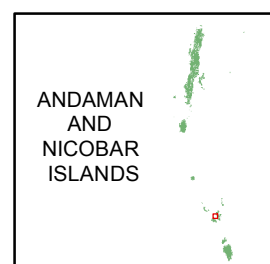
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

87H08NW	87H08NE	87H12NW
87H08SW	87H08SE	87H12SW
88E05NW	88E05NE	88E09NW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

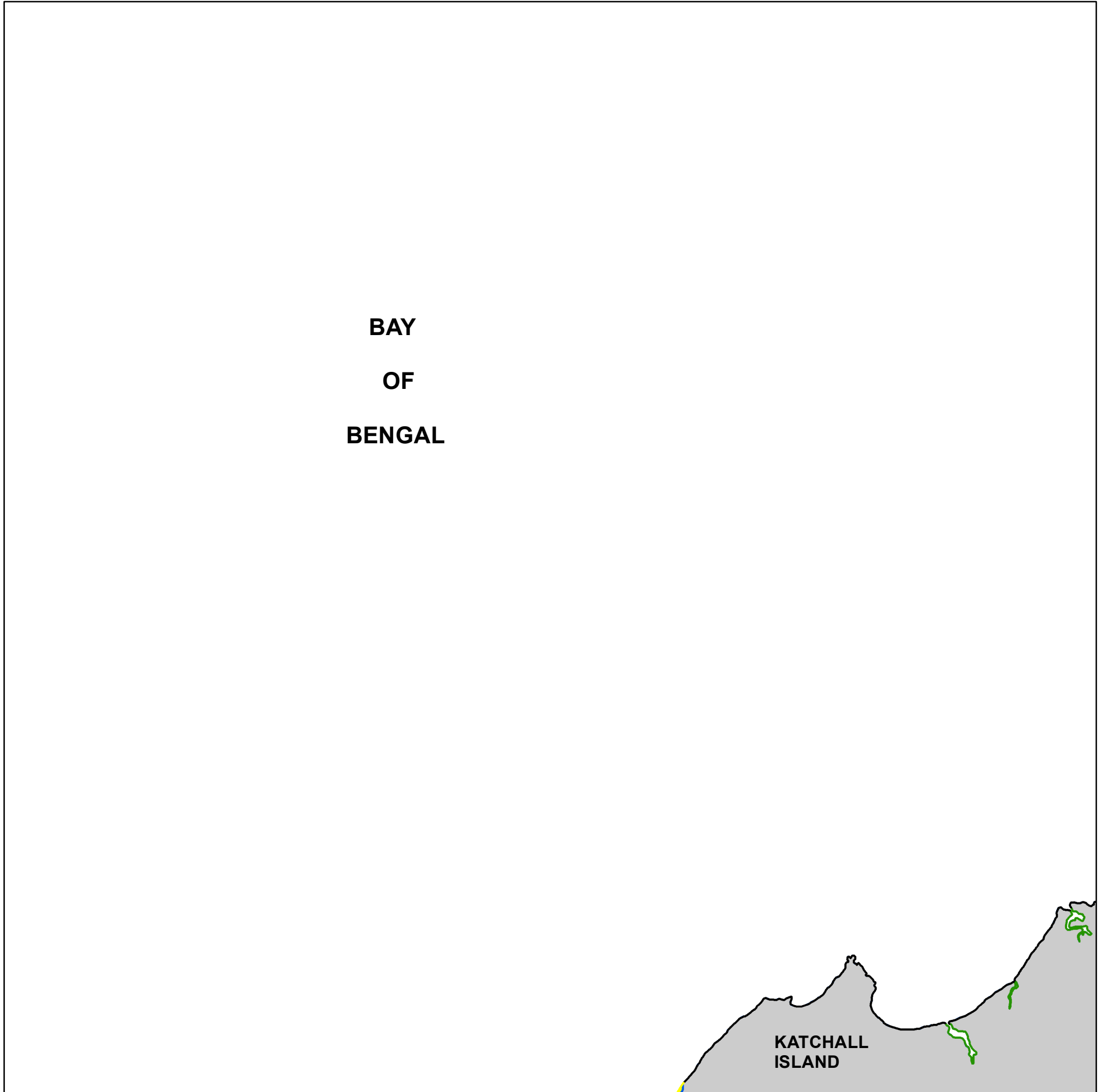


SHORELINE CHANGE MAP





FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H08SW

BAY
OF
BENGAL



Legend

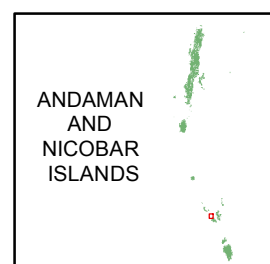
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE

INDEX TO SHEETS

87H04NE	87H08NW	87H08NE
SEA	87H08SW	87H08SE
SEA	88E05NW	88E05NE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

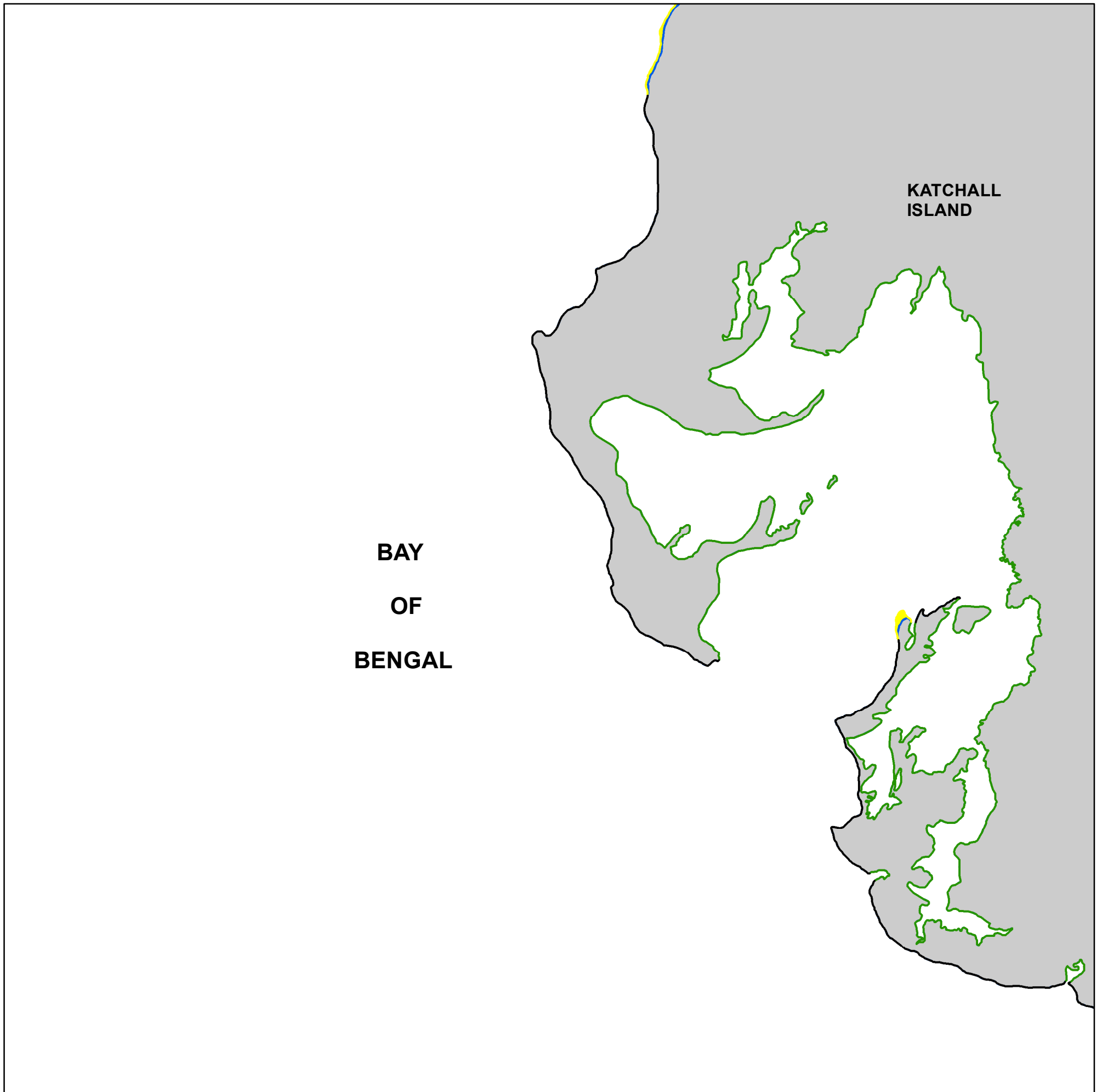
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI







SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E05NW



Legend

-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE

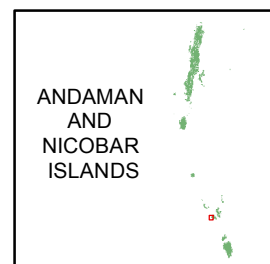
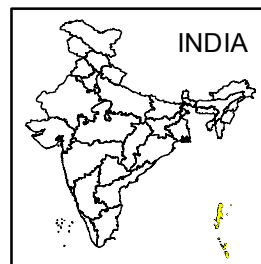


0 2 km



INDEX TO SHEETS

SEA	87H08SW	87H08SE
SEA	88E05NW	88E05NE
SEA	SEA	88E05SE



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

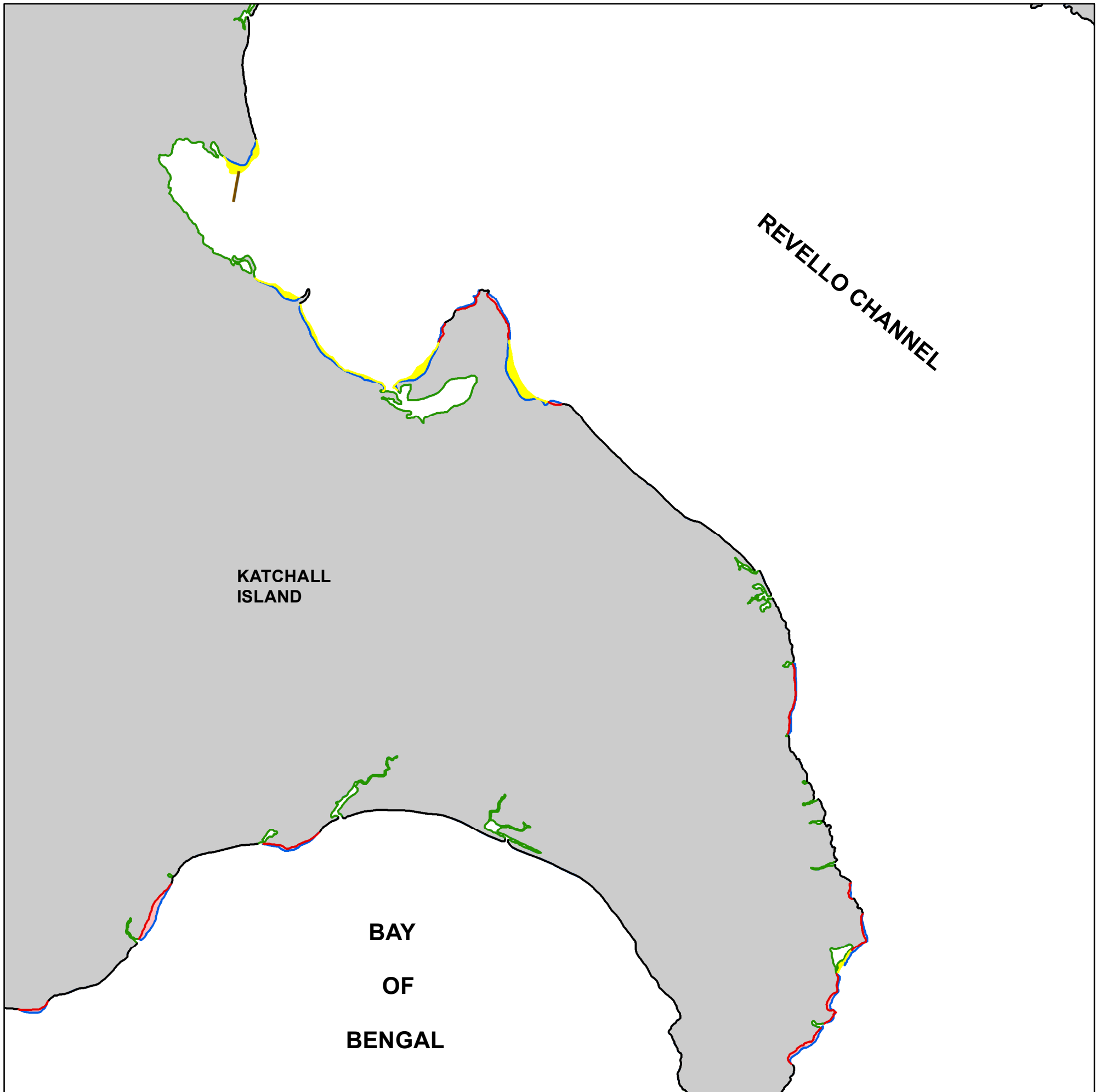
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E05NE



Legend

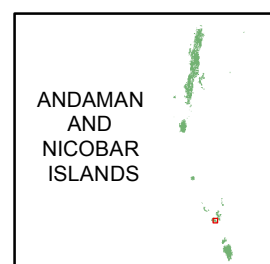
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- JETTY

INDEX TO SHEETS

87H08SW	87H08SE	87H12SW
88E05NW	88E05NE	88E09NW
SEA	88E05SE	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

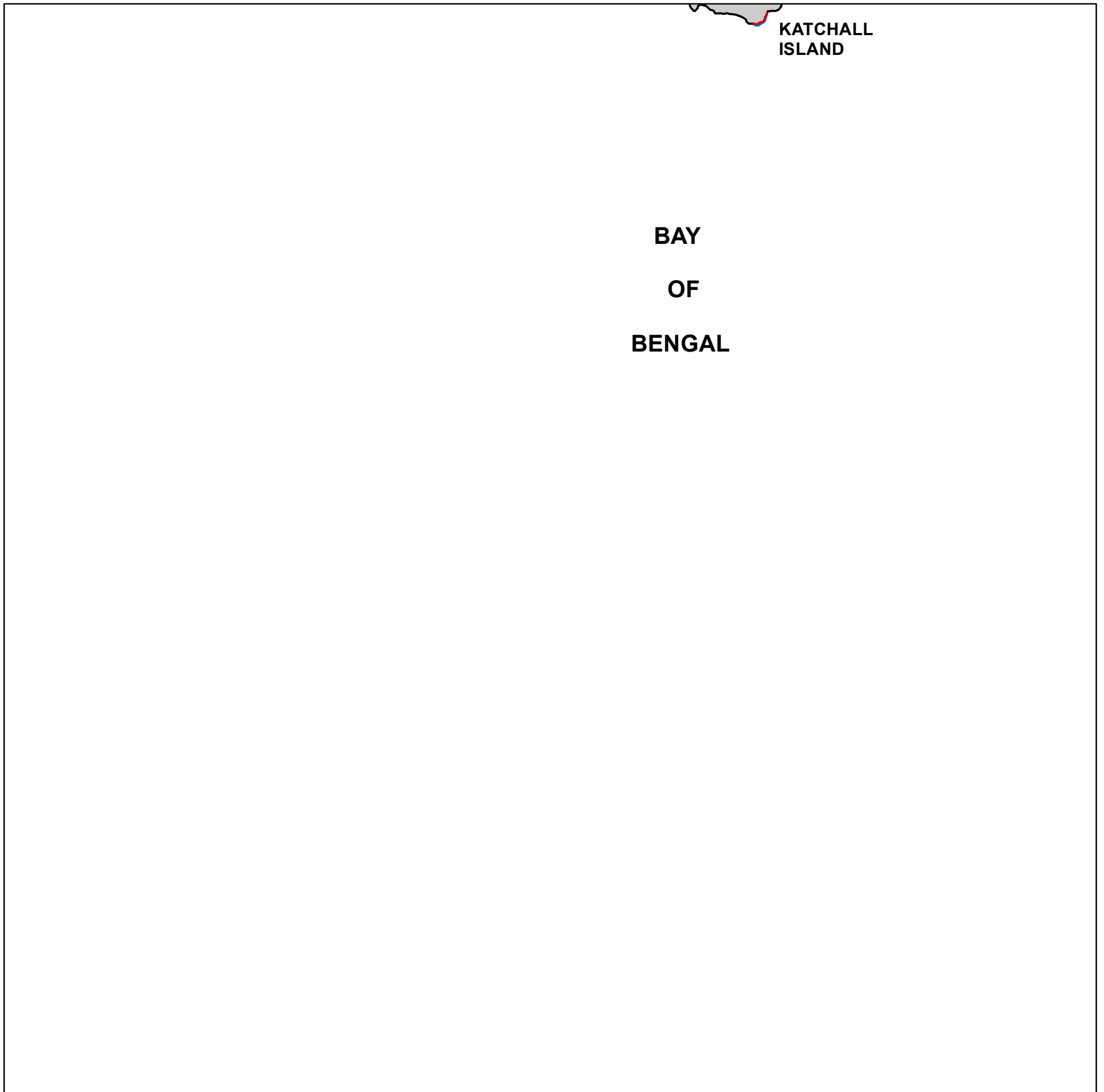
PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E05SE

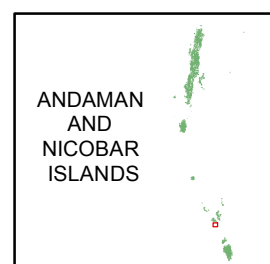
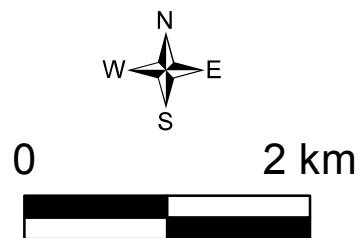


Legend

- EROSION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

88E05NW	88E05NE	88E09NW
SEA	88E05SE	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

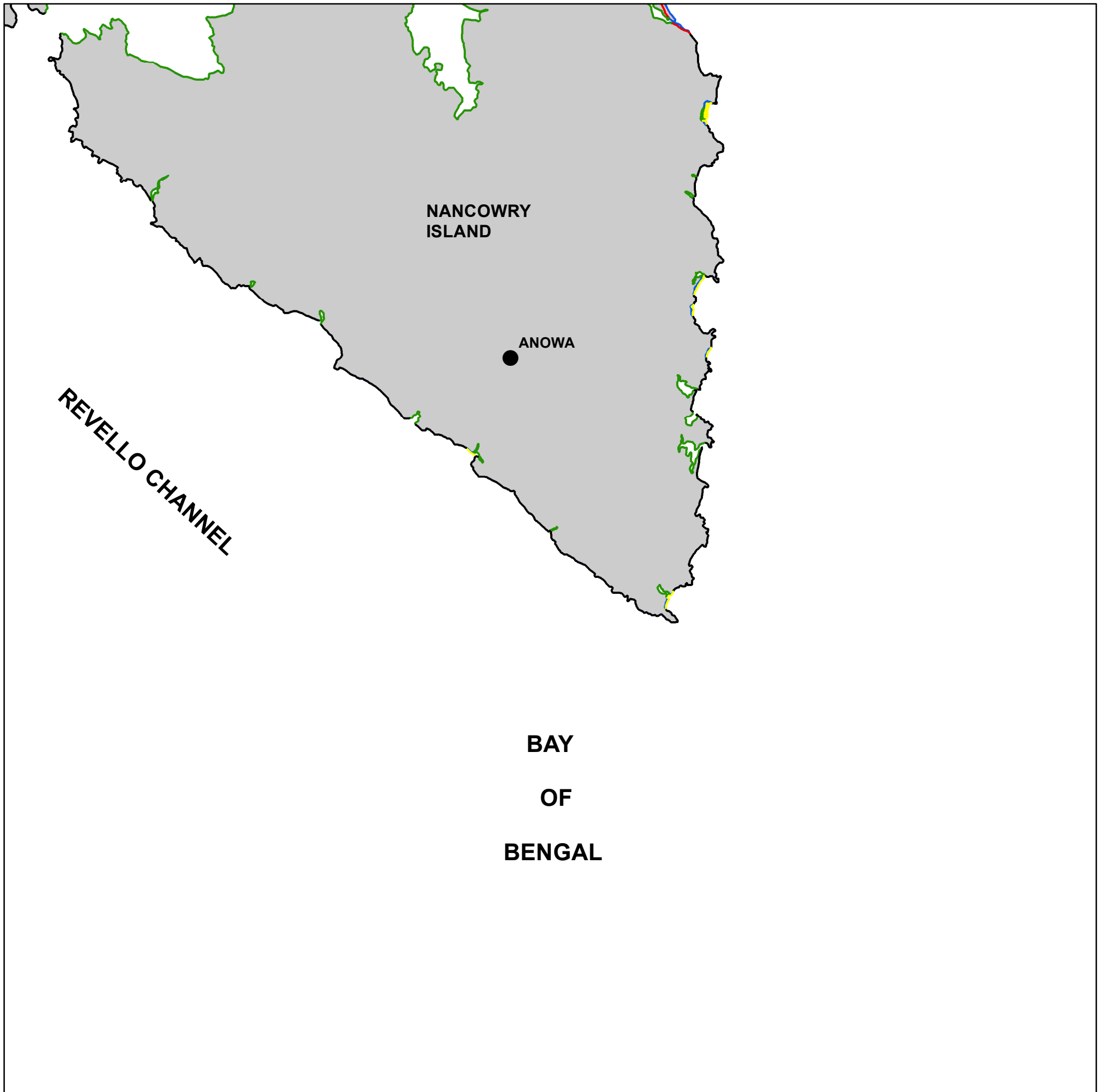
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E09NW



Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

87H08SE	87H12SW	SEA
88E05NE	88E09NW	SEA
88E05SE	SEA	SEA

INDIA

ANDAMAN AND NICOBAR ISLANDS

DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

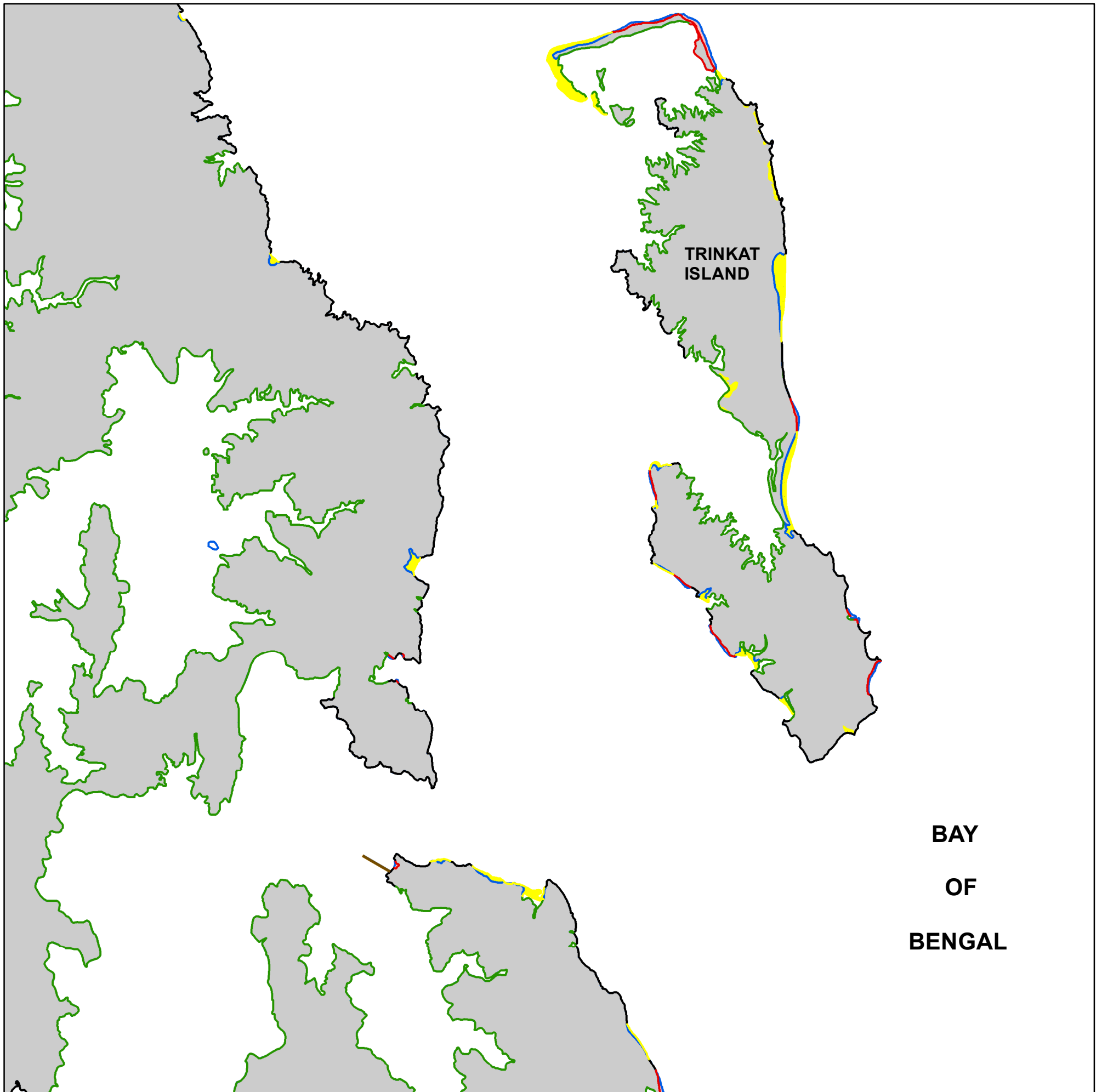
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H12SW



Legend

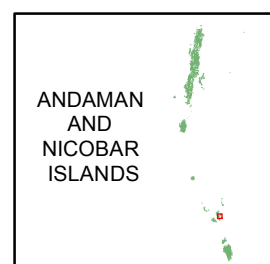
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY
- HABITATION

INDEX TO SHEETS

87H08NE	87H12NW	SEA
87H08SE	87H12SW	SEA
88E05NE	88E09NW	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

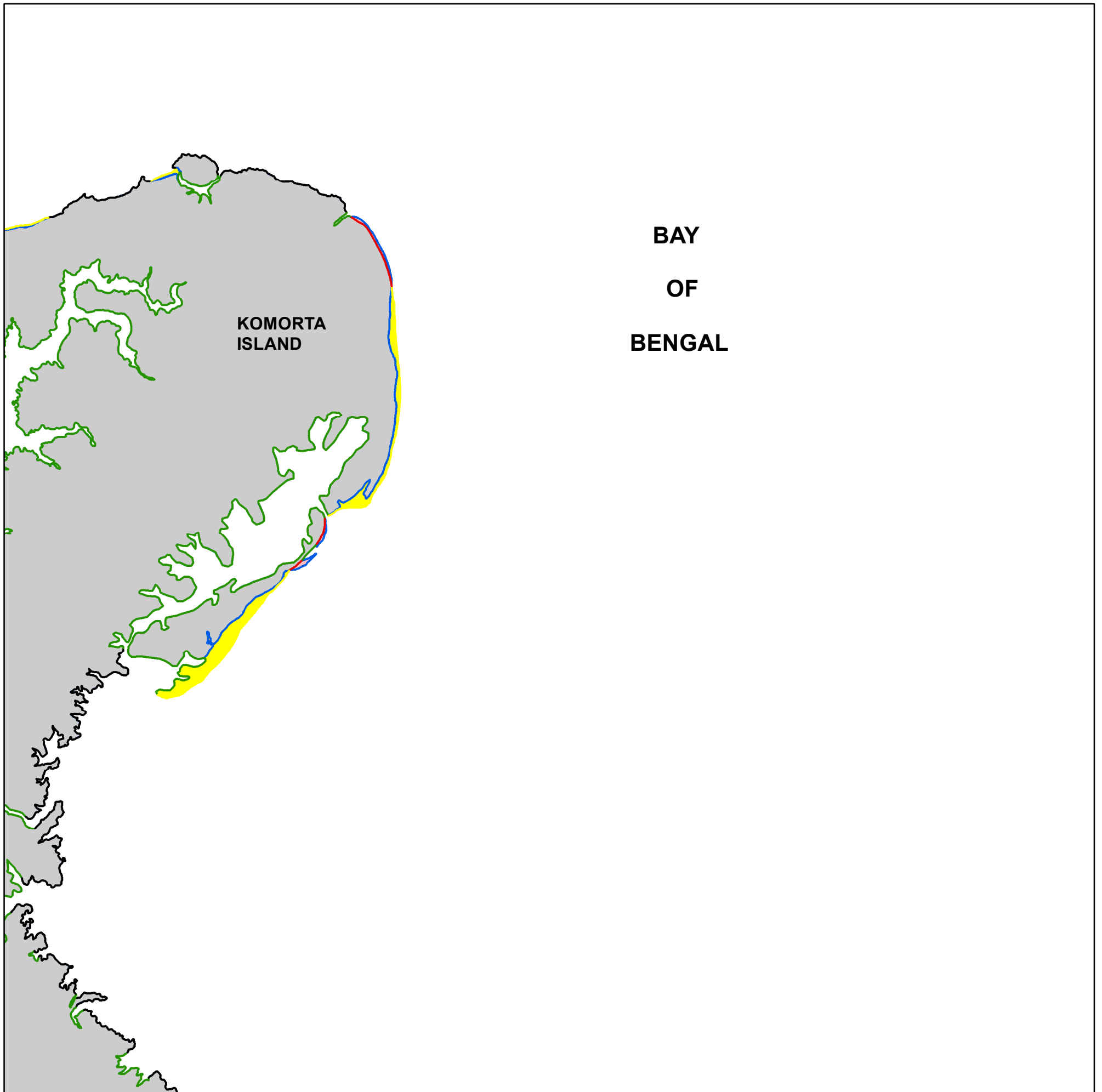
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 87H12NW



Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	SEA	SEA
87H08NE	87H12NW	SEA
87H08SE	87H12SW	SEA

INDIA

ANDAMAN AND NICOBAR ISLANDS

DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E11NE

BAY
OF
BENGAL



Legend

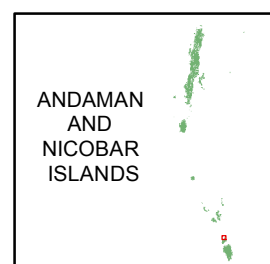
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- HABITATION

INDEX TO SHEETS

88E10SW	SEA	SEA
SEA	88E11NE	88E15NW
88E11SW	88E11SE	88E15SW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

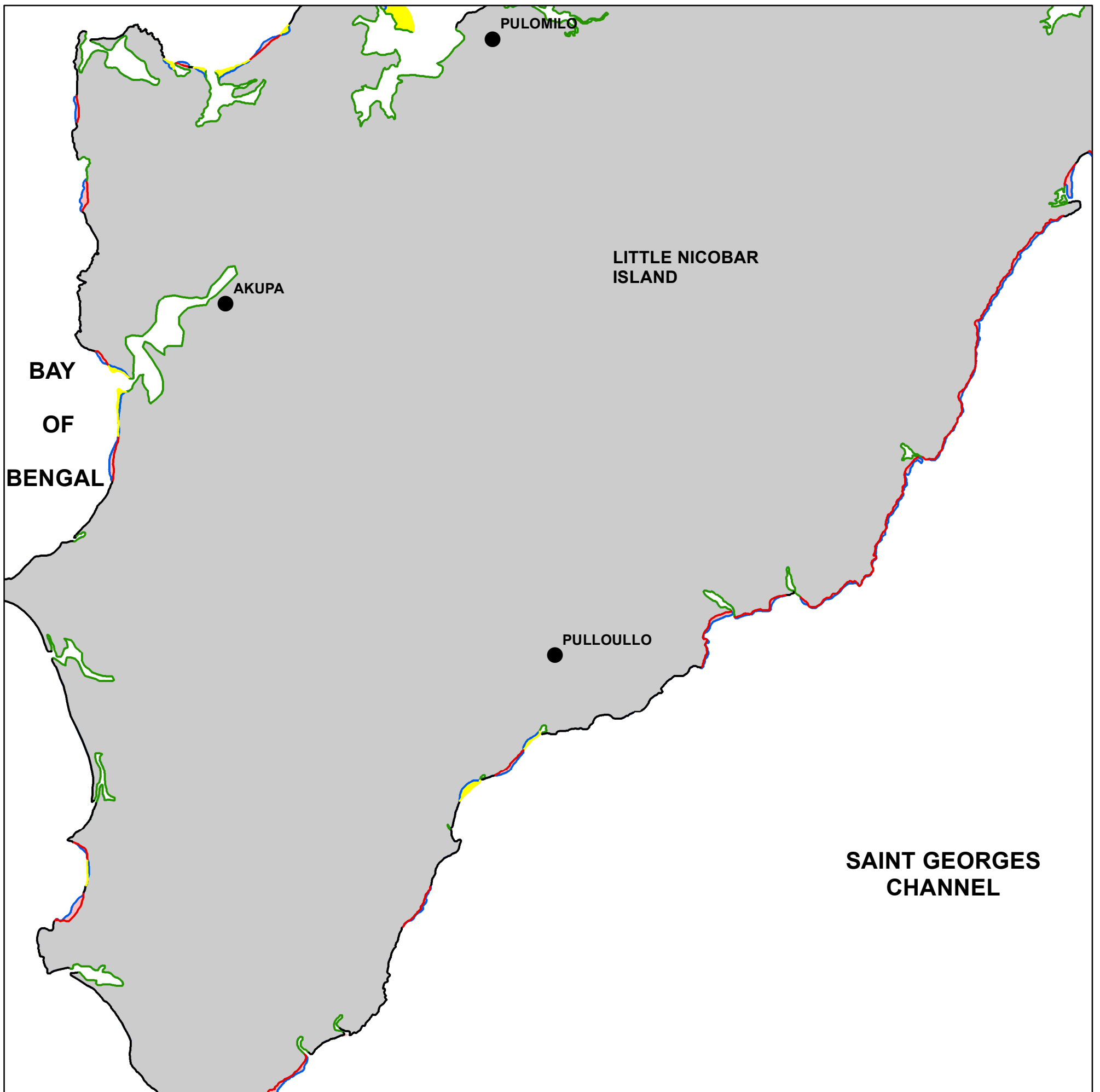
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

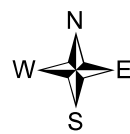
FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E11SE



Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- HABITATION

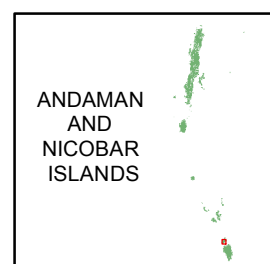


0 2 km



INDEX TO SHEETS

SEA	88E11NE	88E15NW
88E11SW	88E11SE	88E15SW
SEA	88E12NE	88E16NW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E11SW

BAY
OF
BENGAL

LITTLE NICOBAR
ISLAND

Legend

- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

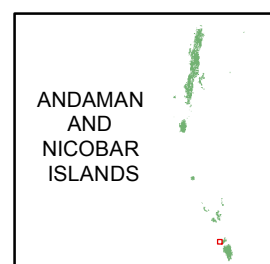


0 2 km



INDEX TO SHEETS

SEA	SEA	88E11NE
SEA	88E11SW	88E11SE
SEA	SEA	88E12NE



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

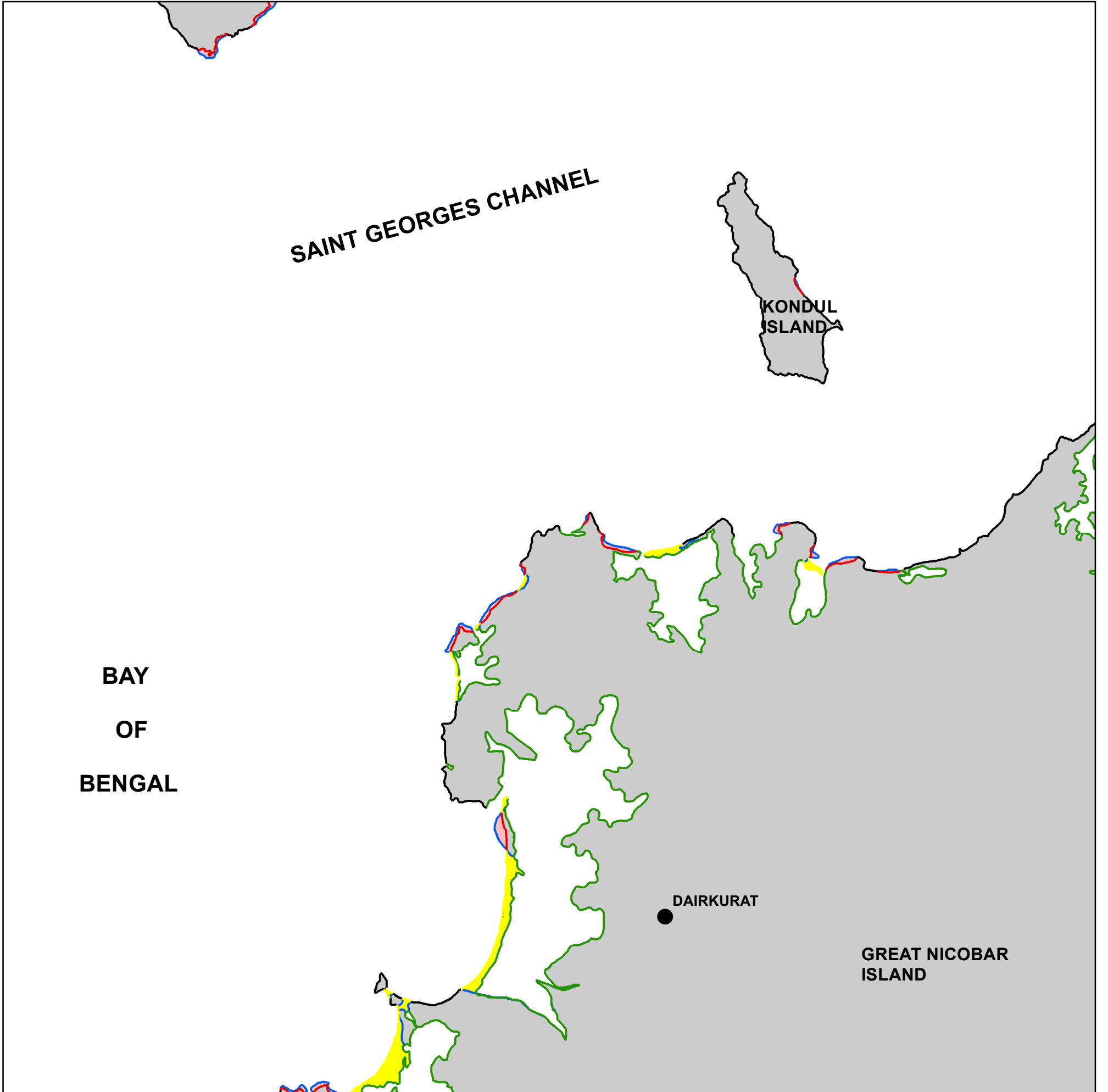
PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E12NE



Legend

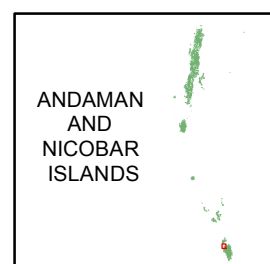
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- HABITATION

INDEX TO SHEETS

88E11SW	88E11SE	88E15SW
SEA	88E12NE	88E16NW
SEA	88E12SE	88E16SW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

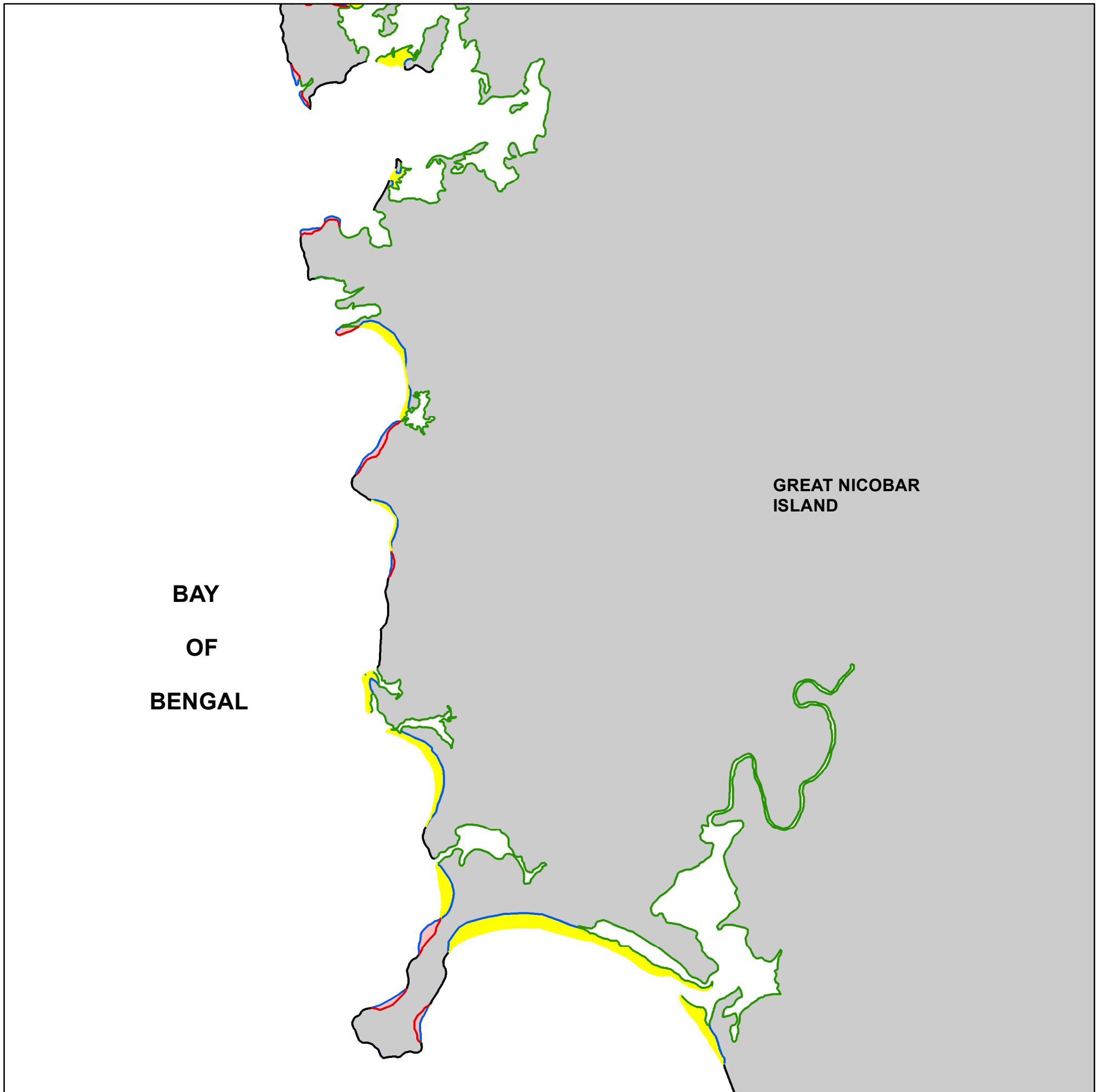
PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E12SE



Legend

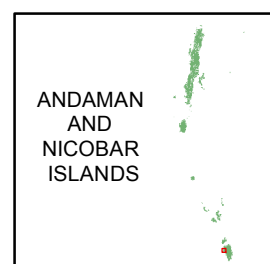
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

SEA	88E12NE	88E16NW
SEA	88E12SE	88E16SW
SEA	88F09NE	88F13NW



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

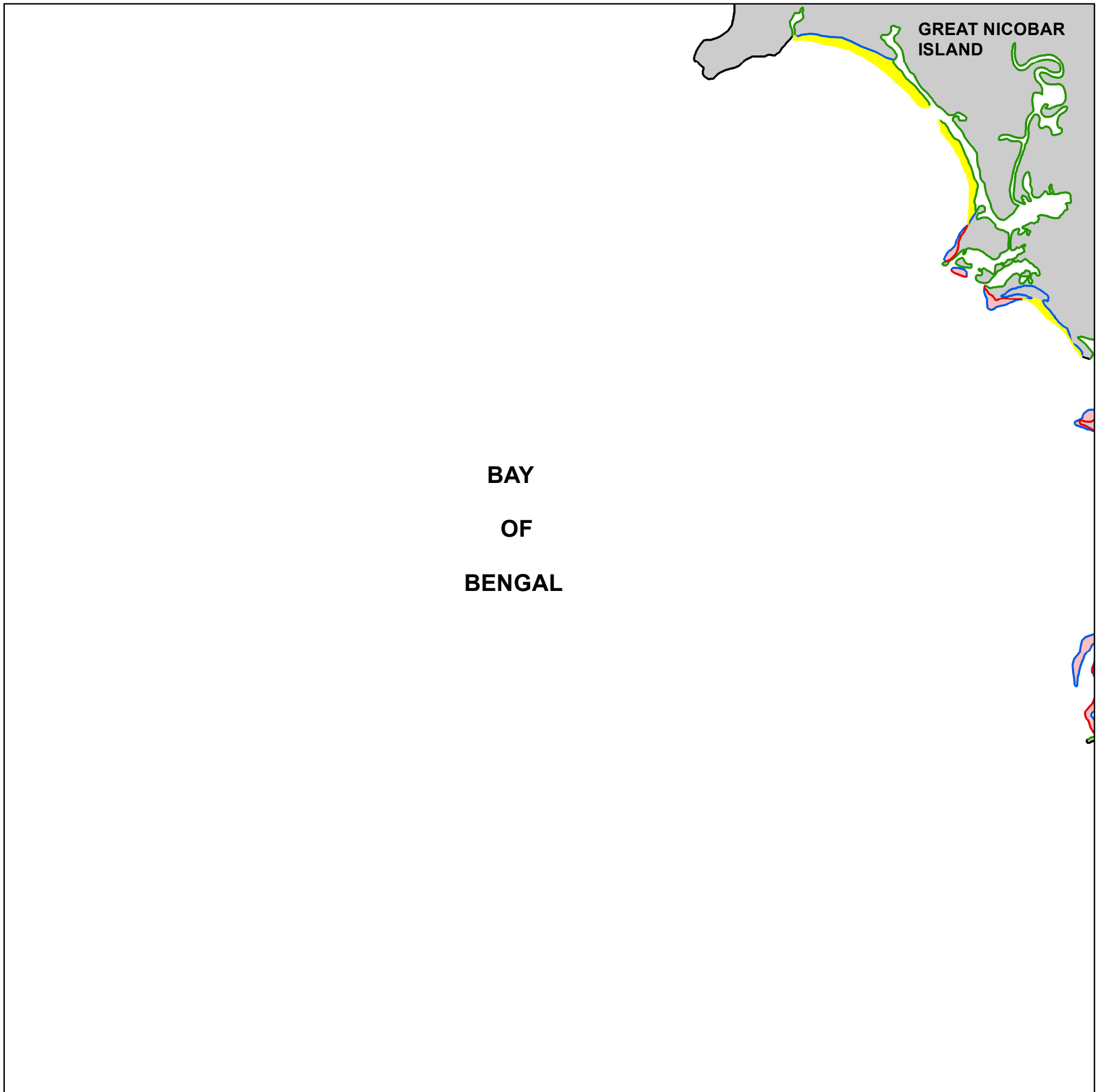
PREPARED BY:
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AND CENTRAL WATER COMMISSION, NEW DELHI








SHORELINE CHANGE MAP

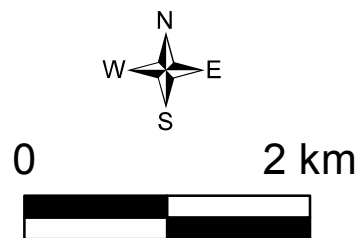
FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88F09NE



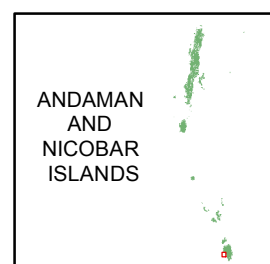
Legend

-  EROSION
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE



INDEX TO SHEETS

SEA	88E12SE	88E16SW
SEA	88F09NE	88F13NW
SEA	SEA	88F13SW



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

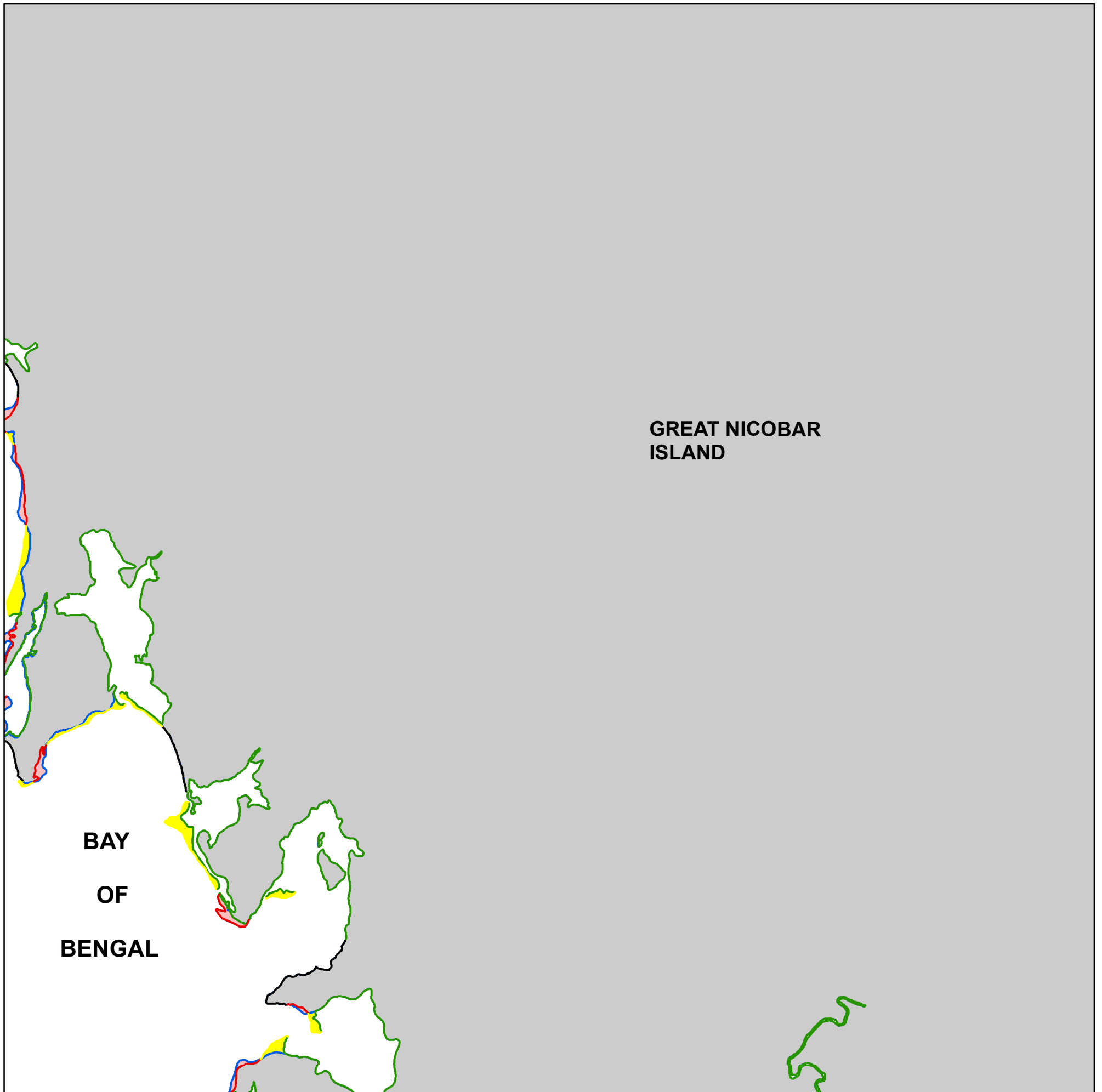
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88F13NW



Legend

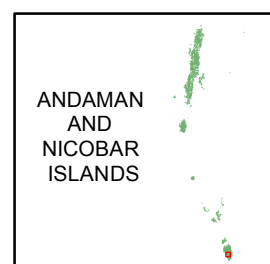
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

88E12SE	88E16SW	88E16SE
88F09NE	88F13NW	88F13NE
SEA	88F13SW	88F13SE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

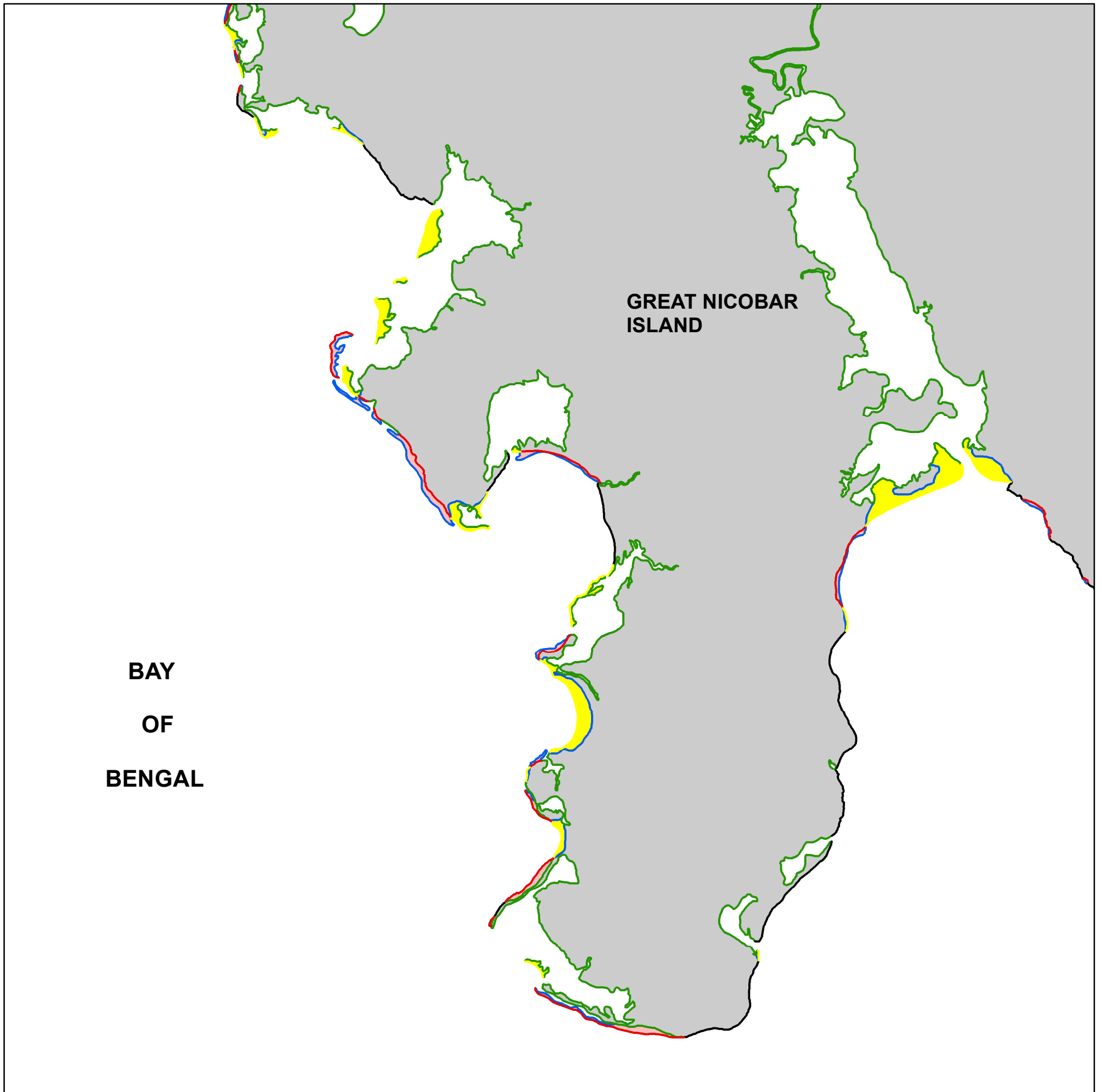
PREPARED BY:
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88F13SW



Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE

INDEX TO SHEETS

88F09NE	88F13NW	88F13NE
SEA	88F13SW	88F13SE
SEA	SEA	SEA

0 2 km

INDIA

ANDAMAN AND NICOBAR ISLANDS

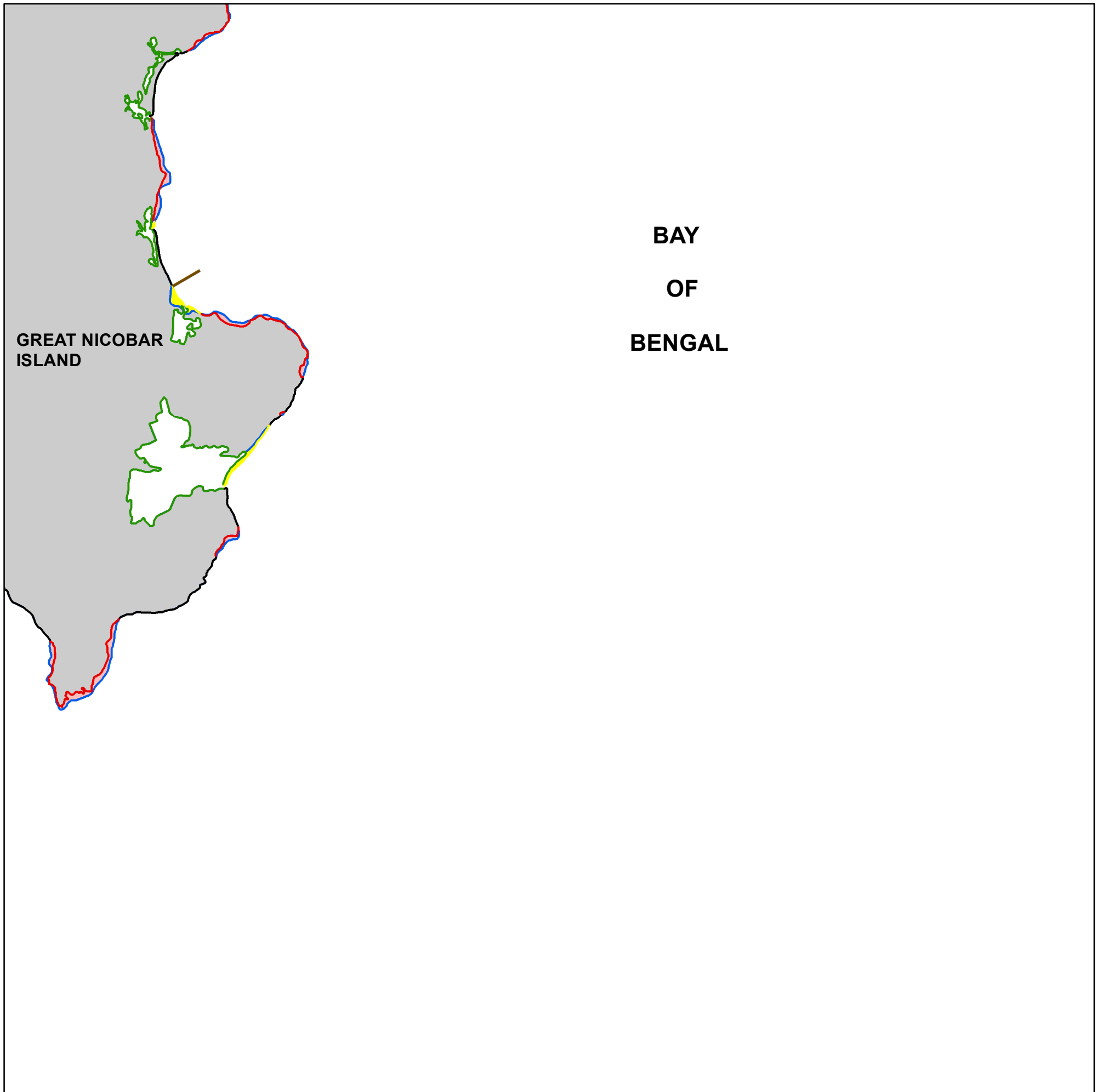
DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88F13SE



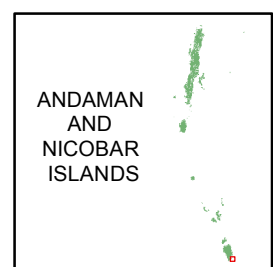
Legend

- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- JETTY



INDEX TO SHEETS

88F13NW	88F13NE	SEA
88F13SW	88F13SE	SEA
SEA	SEA	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

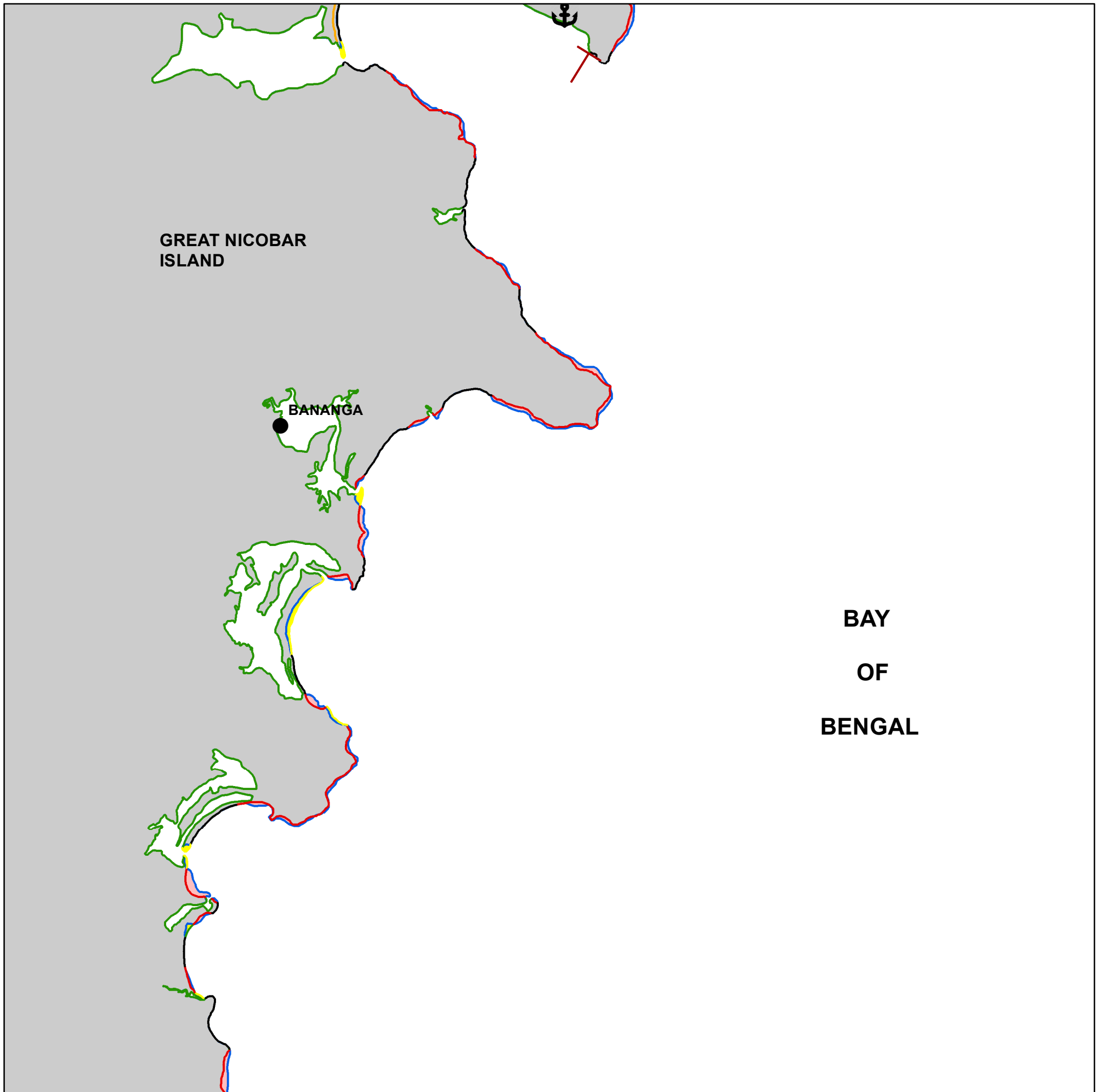
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SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88F13NE





Legend

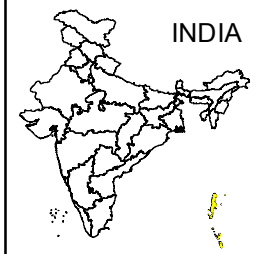
	EROSION
	ACCRETION
	HIGH-TIDE LINE 2014-16
	HIGH-TIDE LINE 2004-06
	STABLE
	SEA WALL
	BREAKWATER
	PORT/HARBOUR
	HABITATION

INDEX TO SHEETS

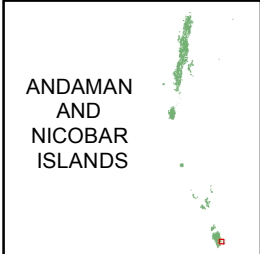
88E16SW	88E16SE	SEA
88F13NW	88F13NE	SEA
88F13SW	88F13SE	SEA



0  2 km



INDIA



ANDAMAN AND NICOBAR ISLANDS

DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

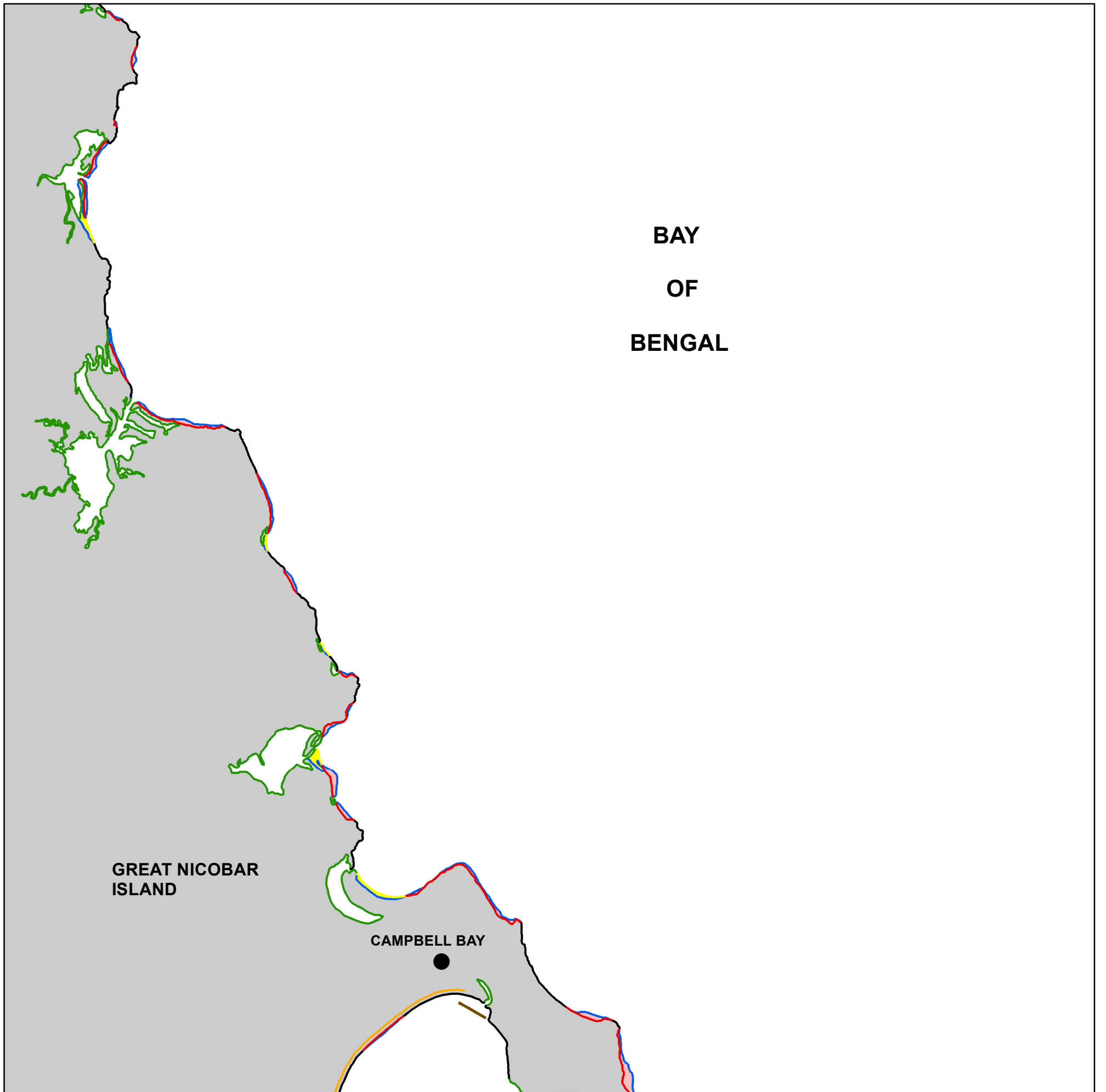
PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI



SHORELINE CHANGE MAP

FOR OFFICIAL USE ONLY

NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E16SE



Legend

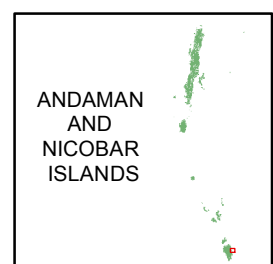
- EROSION
- ACCRETION
- HIGH-TIDE LINE 2014-16
- HIGH-TIDE LINE 2004-06
- STABLE
- SEA WALL
- JETTY
- HABITATION

INDEX TO SHEETS

88E16NW	88E16NE	SEA
88E16SW	88E16SE	SEA
88F13NW	88F13NE	SEA



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

PREPARED BY:
SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD
AND CENTRAL WATER COMMISSION, NEW DELHI

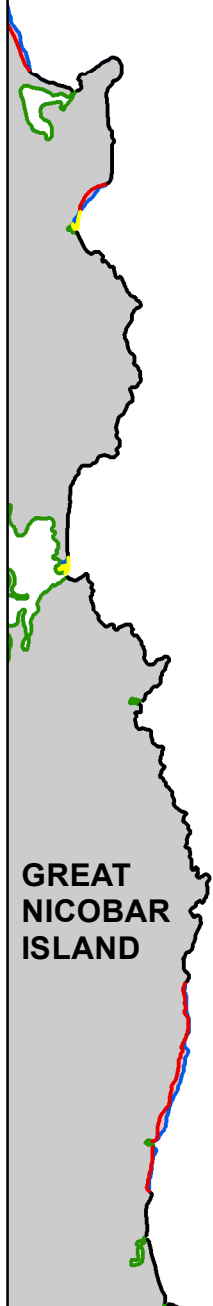


SHORELINE CHANGE MAP






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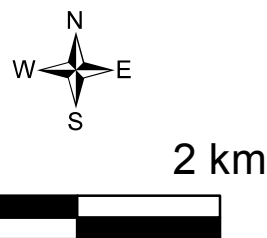
NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E16NE

BAY
OF
BENGAL



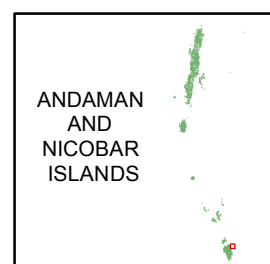
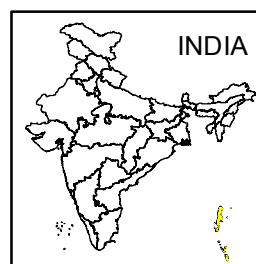
Legend

-  EROSION
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE



INDEX TO SHEETS

88E15SW	SEA	SEA
88E16NW	88E16NE	SEA
88E16SW	88E16SE	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

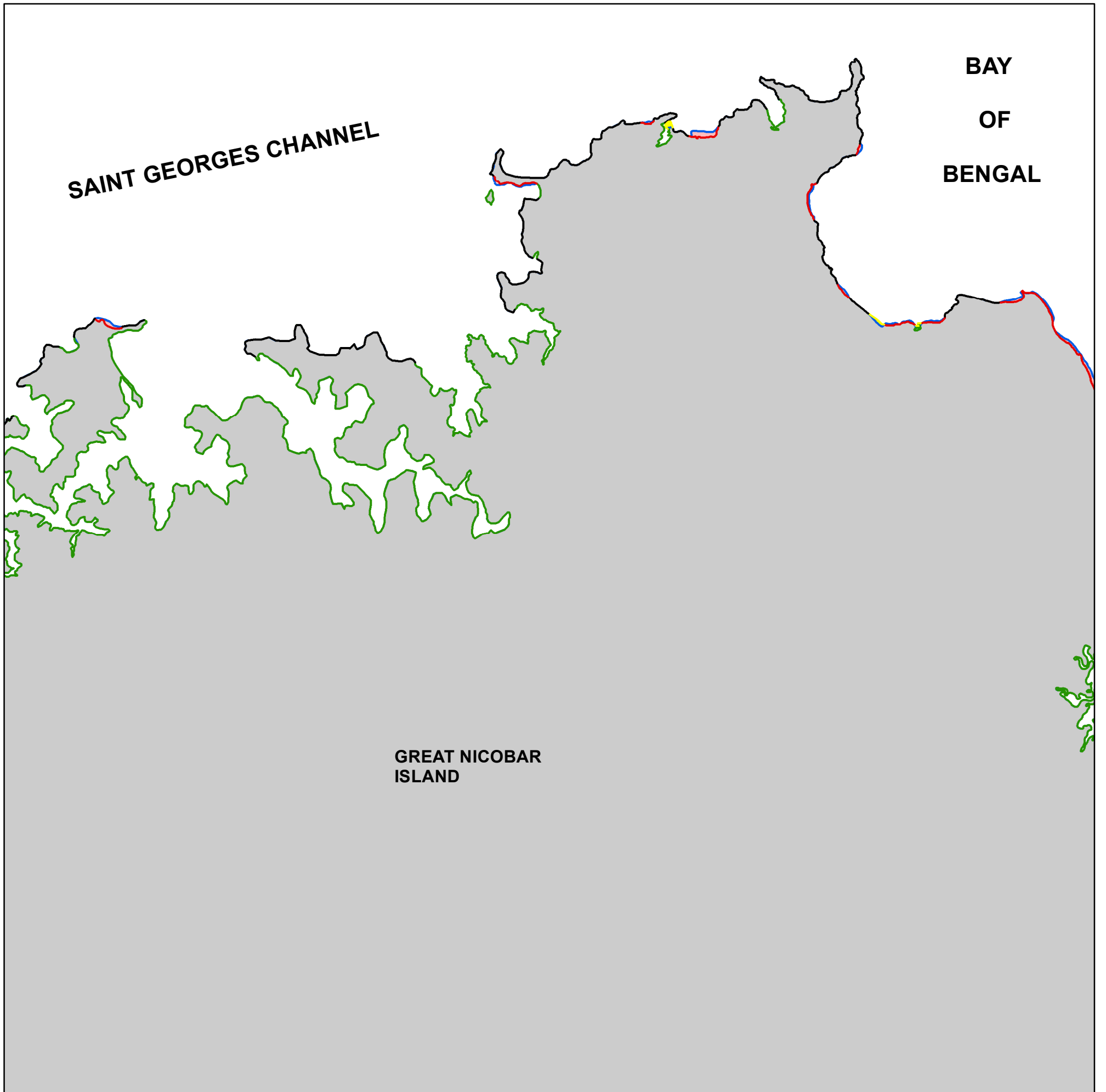
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SHORELINE CHANGE MAP

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NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E16NW



Legend

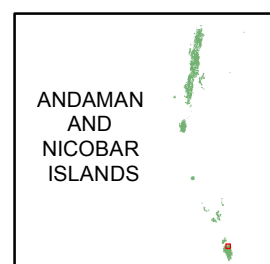
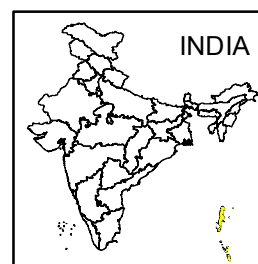
-  EROSION
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE

INDEX TO SHEETS

88E11SE	88E15SW	SEA
88E12NE	88E16NW	88E16NE
88E12SE	88E16SW	88E16SE



0 2 km



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

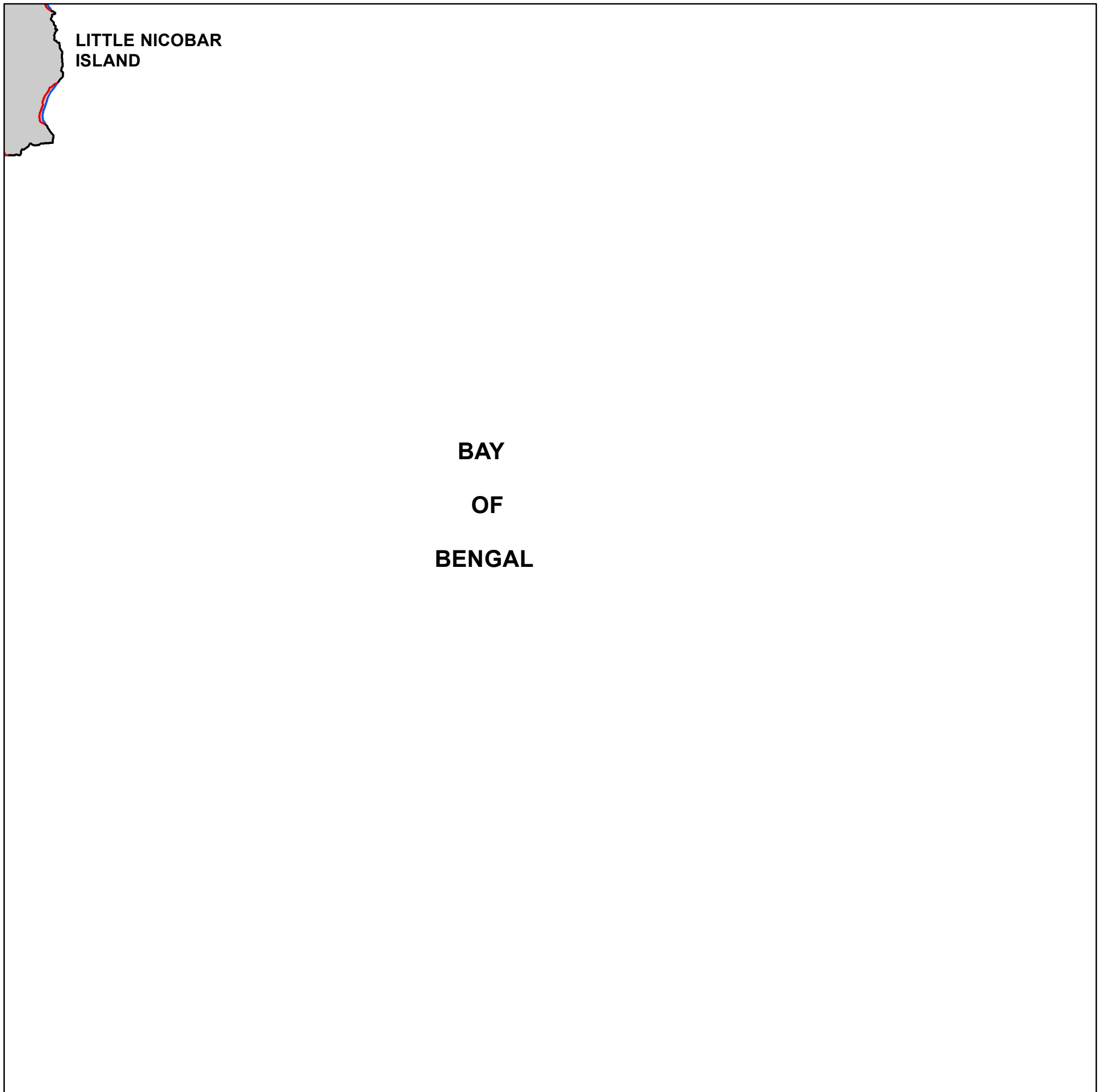
PREPARED BY:
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SHORELINE CHANGE MAP

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NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E15SW

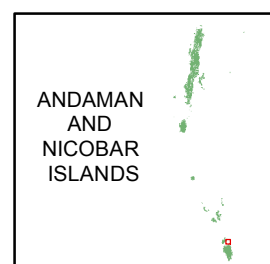


Legend

-  EROSION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE

INDEX TO SHEETS

88E11NE	88E15NW	SEA
88E11SE	88E15SW	SEA
88E12NE	88E16NW	88E16NE



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

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SHORELINE CHANGE MAP






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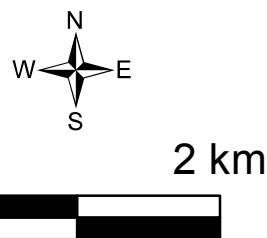
NICOBAR ISLANDS **ANDAMAN AND NICOBAR ISLANDS** SHEET NO. 88E15NW

BAY
OF
BENGAL



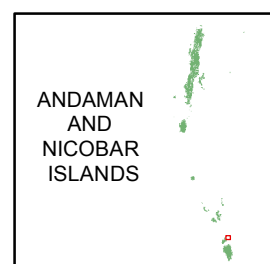
Legend

-  EROSION
-  ACCRETION
-  HIGH-TIDE LINE 2014-16
-  HIGH-TIDE LINE 2004-06
-  STABLE



INDEX TO SHEETS

SEA	SEA	SEA
88E11NE	88E15NW	SEA
88E11SE	88E15SW	SEA



DATA SOURCE:
IRS LISS4 IMAGES OF 2004-06 & 2014-16

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AND CENTRAL WATER COMMISSION, NEW DELHI



HOT SPOTS OF SHORELINE CHANGE

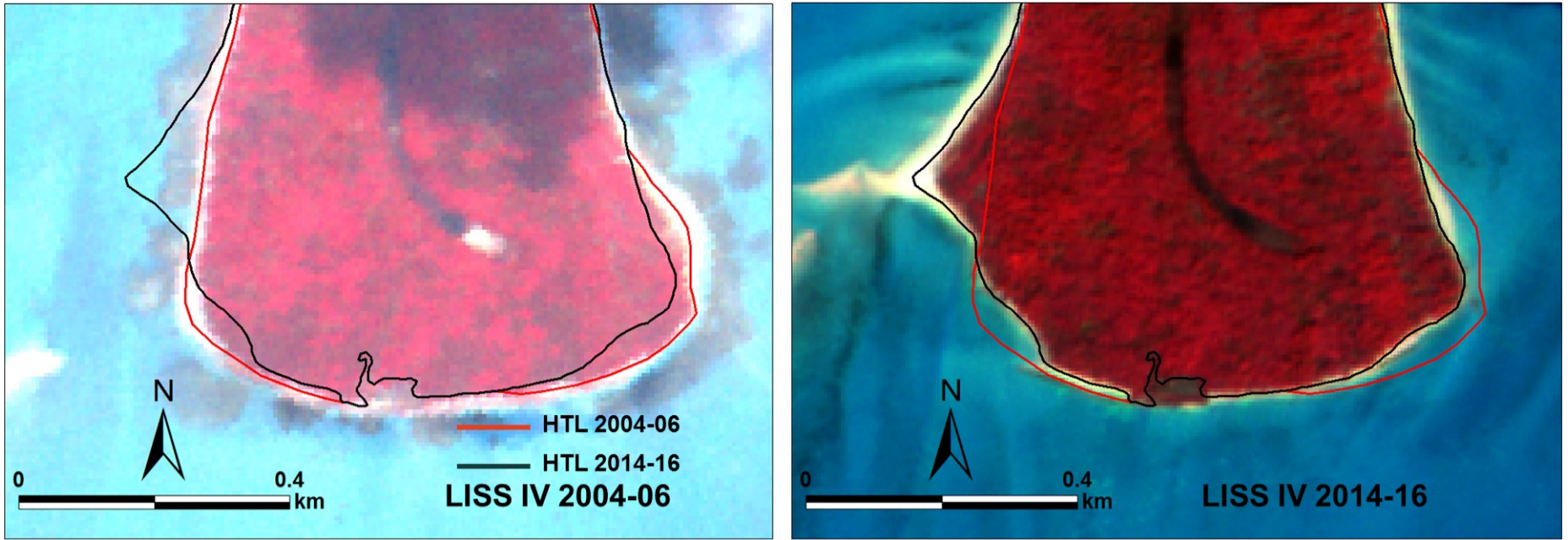


Plate 1: Shoreline change at the southern coast of Bangaram Island (49B05NW) marked on LISS IV images of IRS P6 and Resourcesat-2

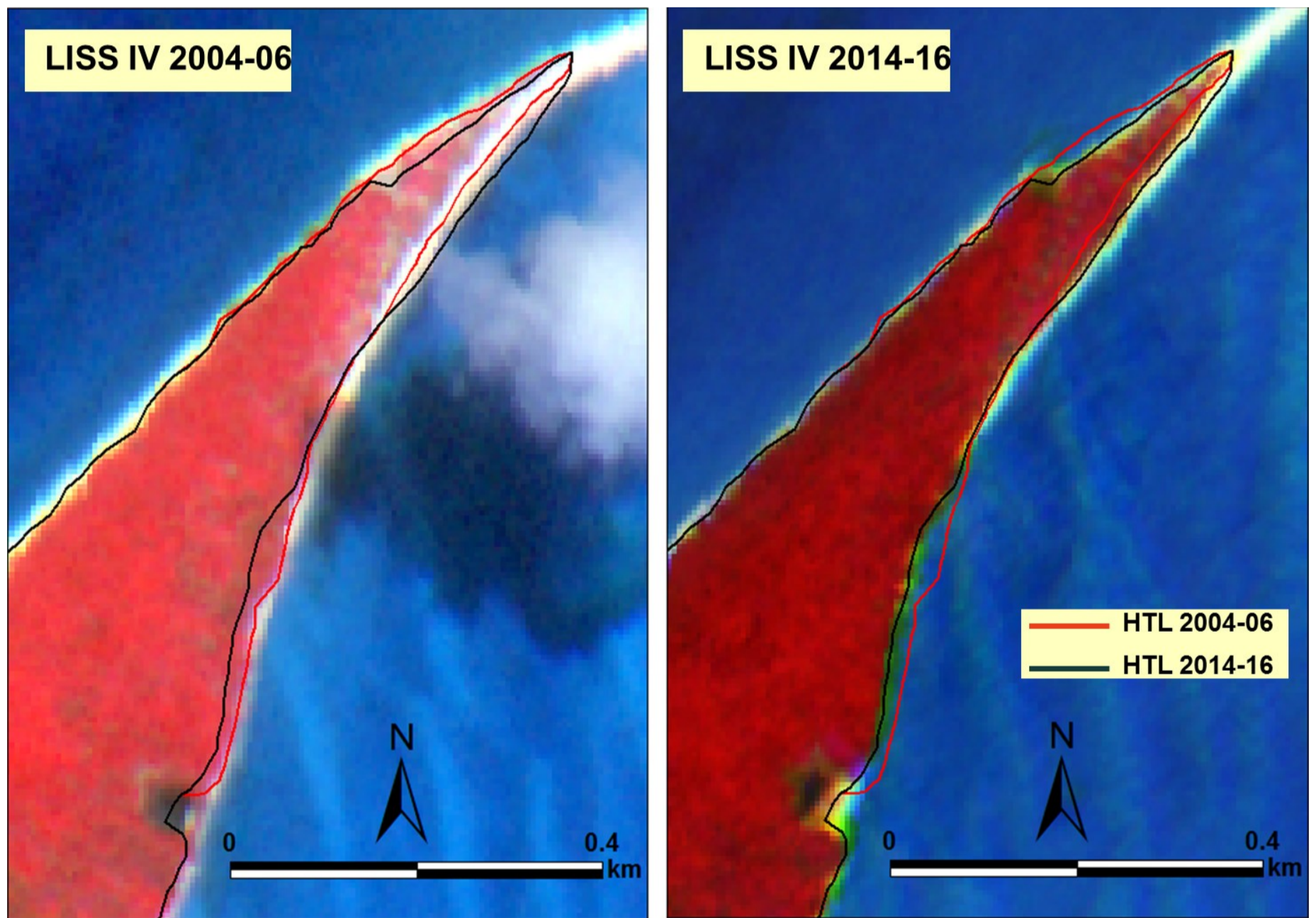


Plate 2: Erosion of Cheriyakara Island (49B08SW) marked on LISS IV images of IRS P6 and Resourcesat-2

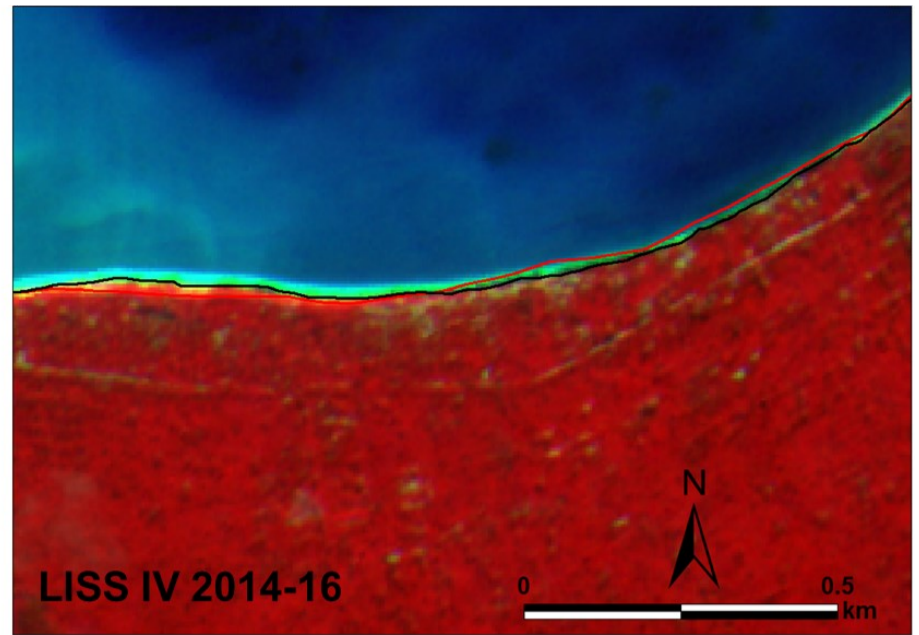
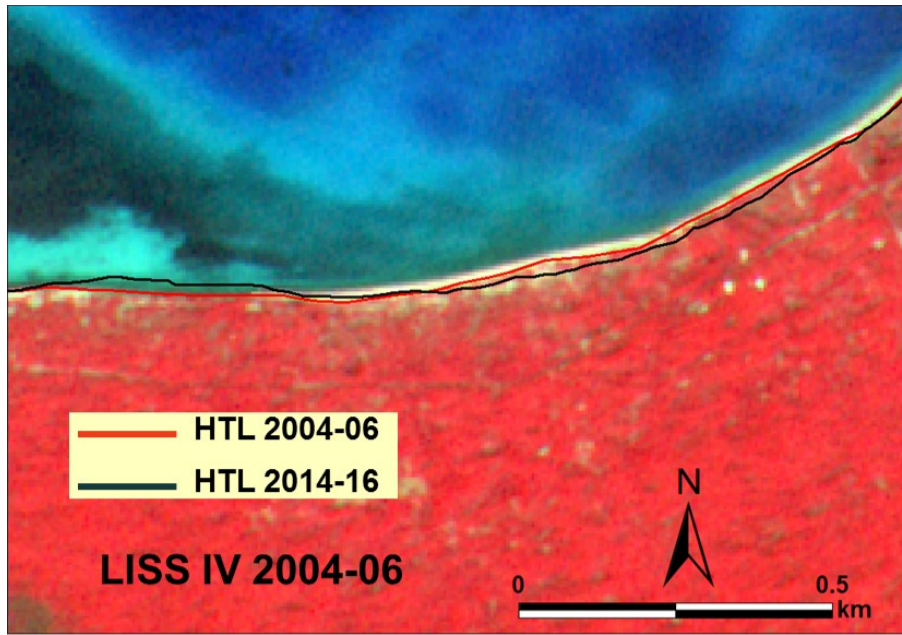


Plate 3: Shoreline changes at Minicoy (49H03SW) marked on LISS IV images of IRS P6 and Resourcesat-2

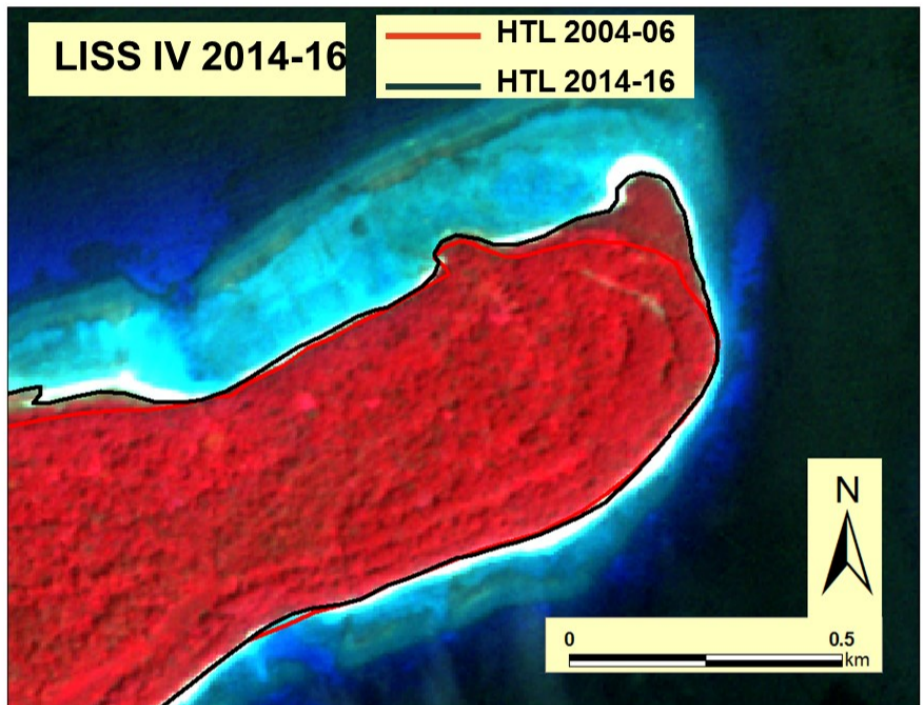
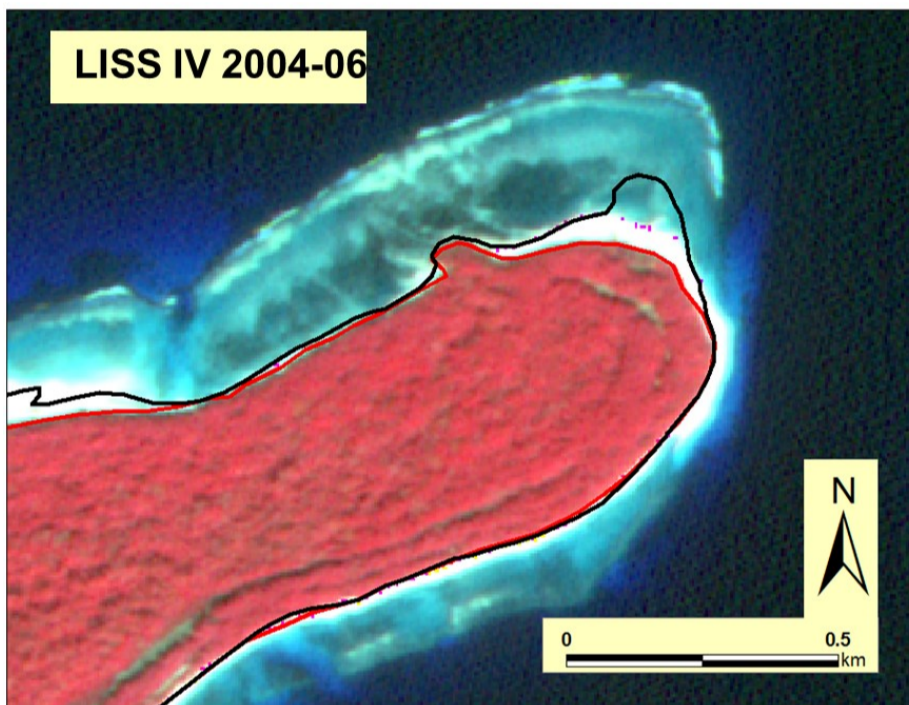


Plate 4: Accretion at the North Reef Island (86C12SE) marked on LISS IV images of IRS P6 and Resourcesat-2

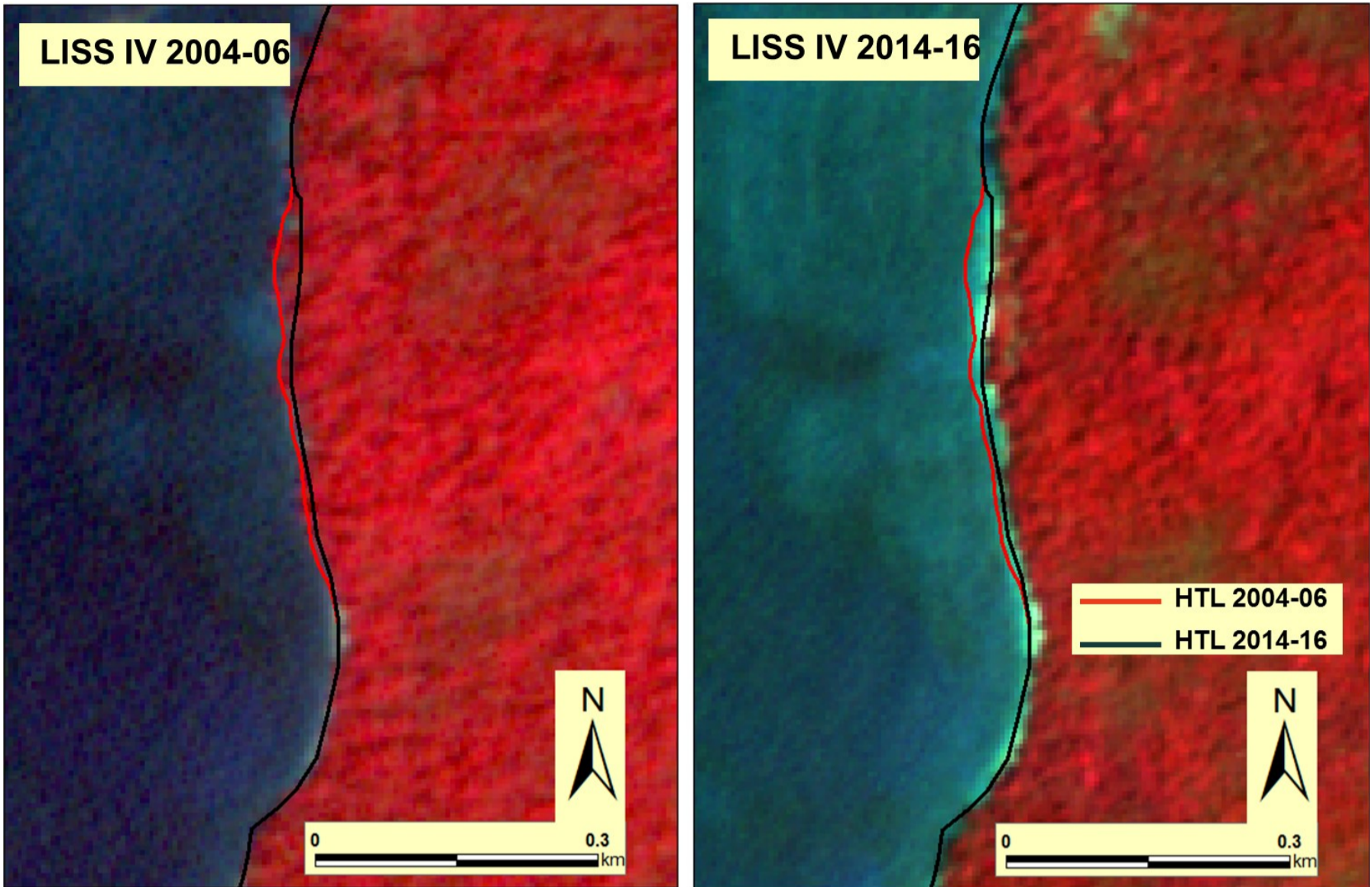


Plate 5: Coastal erosion along the west coast of Rutland Island (87A11NW) marked on LISS IV images of IRS P6 and Resourcesat-2

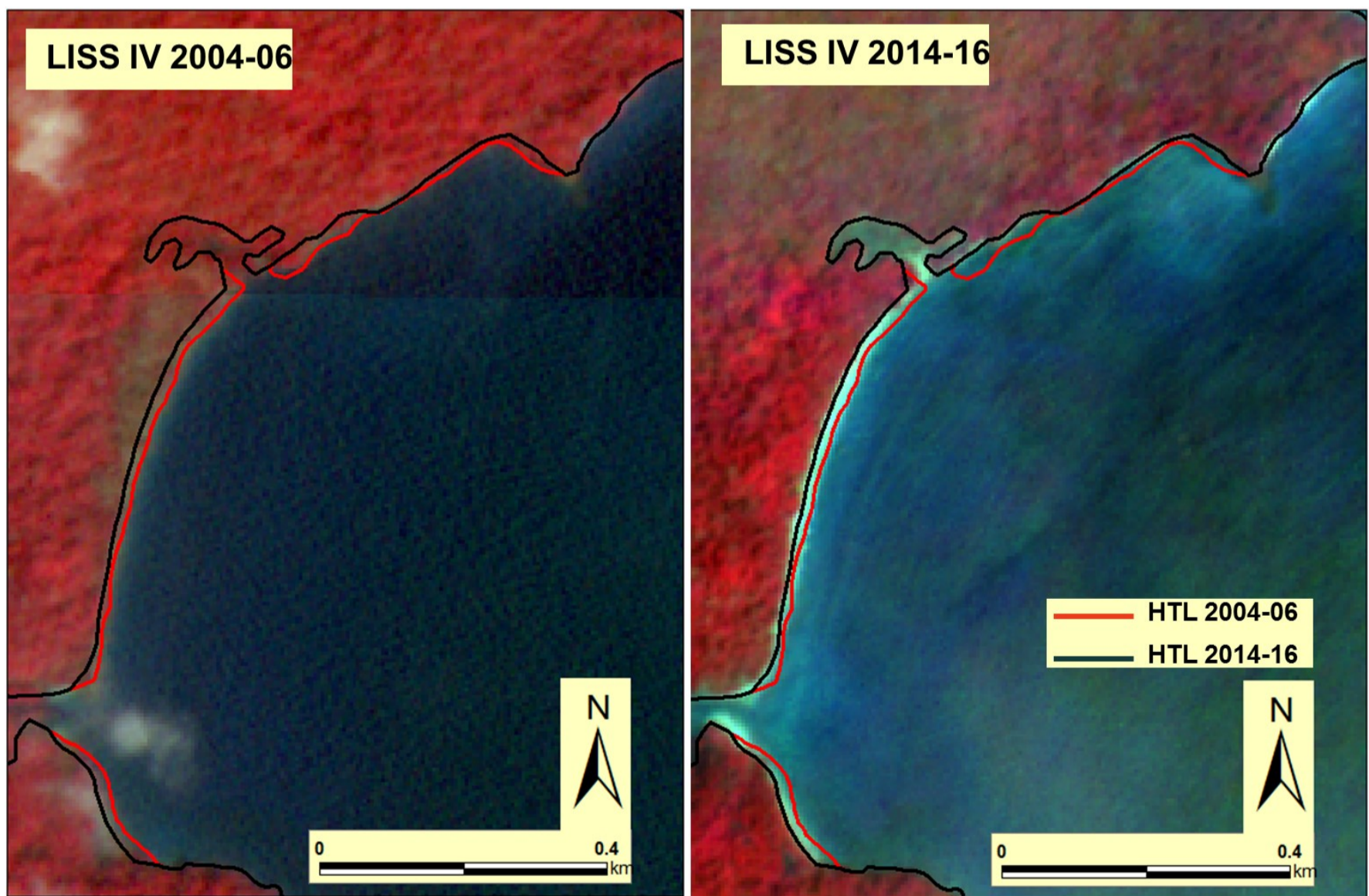


Plate 6: Coastal erosion to the east coast at South Andaman District (87A13NW) marked on LISS IV images of IRS P6 and Resourcesat-2

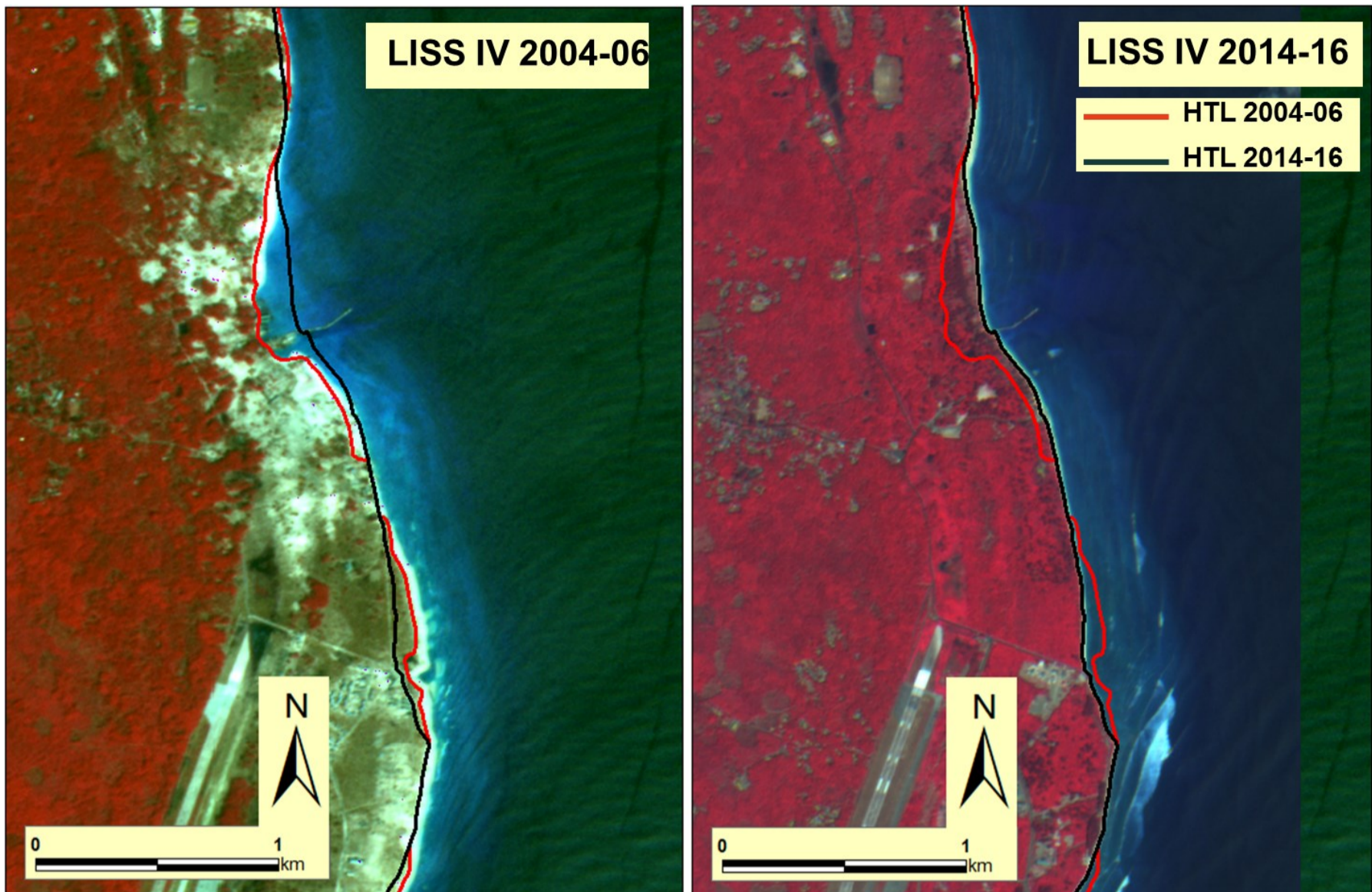


Plate 7: Shoreline change at Malacca to the east coast of Car Nicobar Island (87C16NW) marked on LISS IV images of IRS P6 and Resourcesat-2

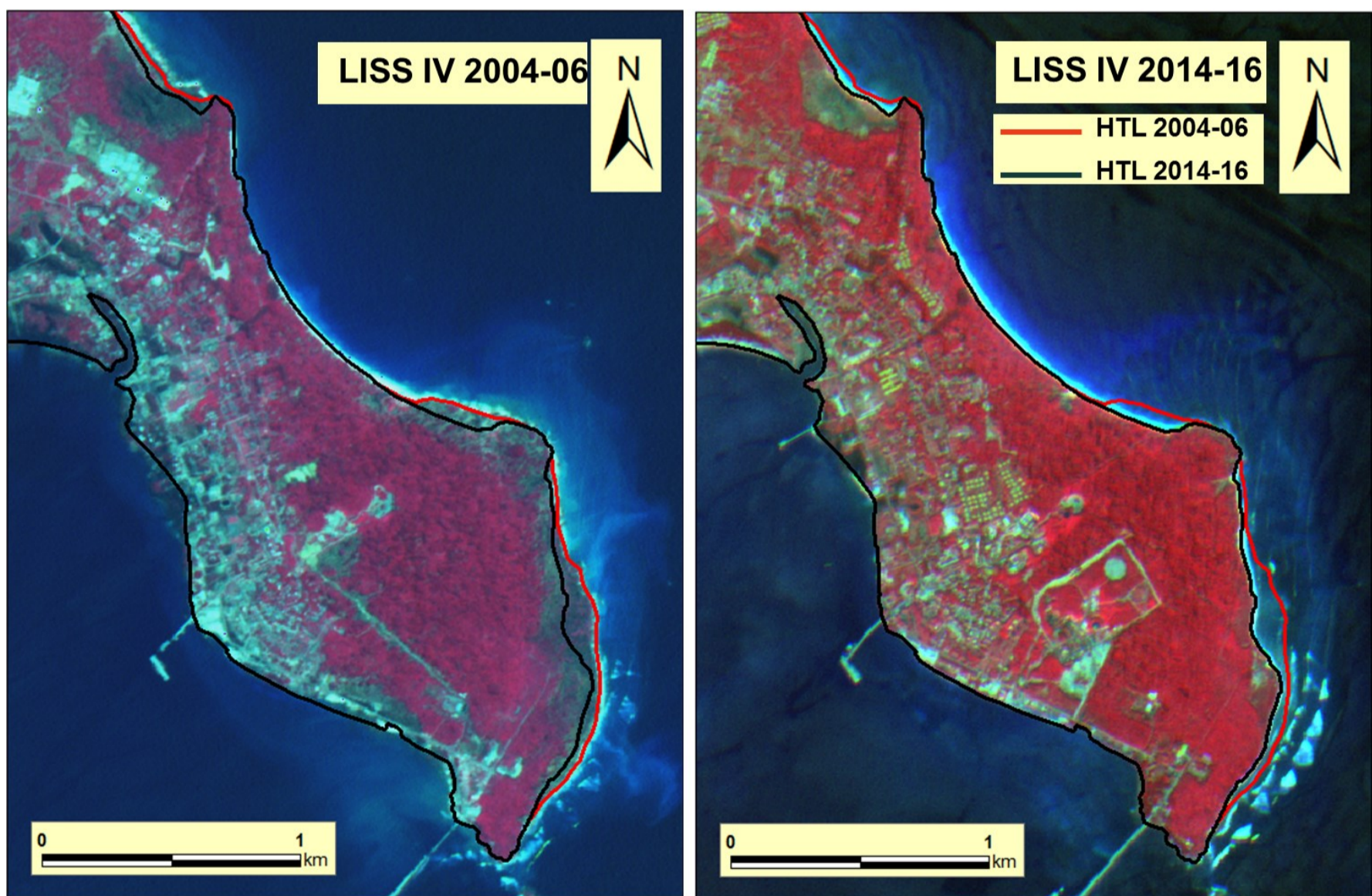


Plate 8: Erosion at Campbell Bay (88E16SE and 88F13NE) marked on LISS IV images of IRS P6 and Resourcesat-2

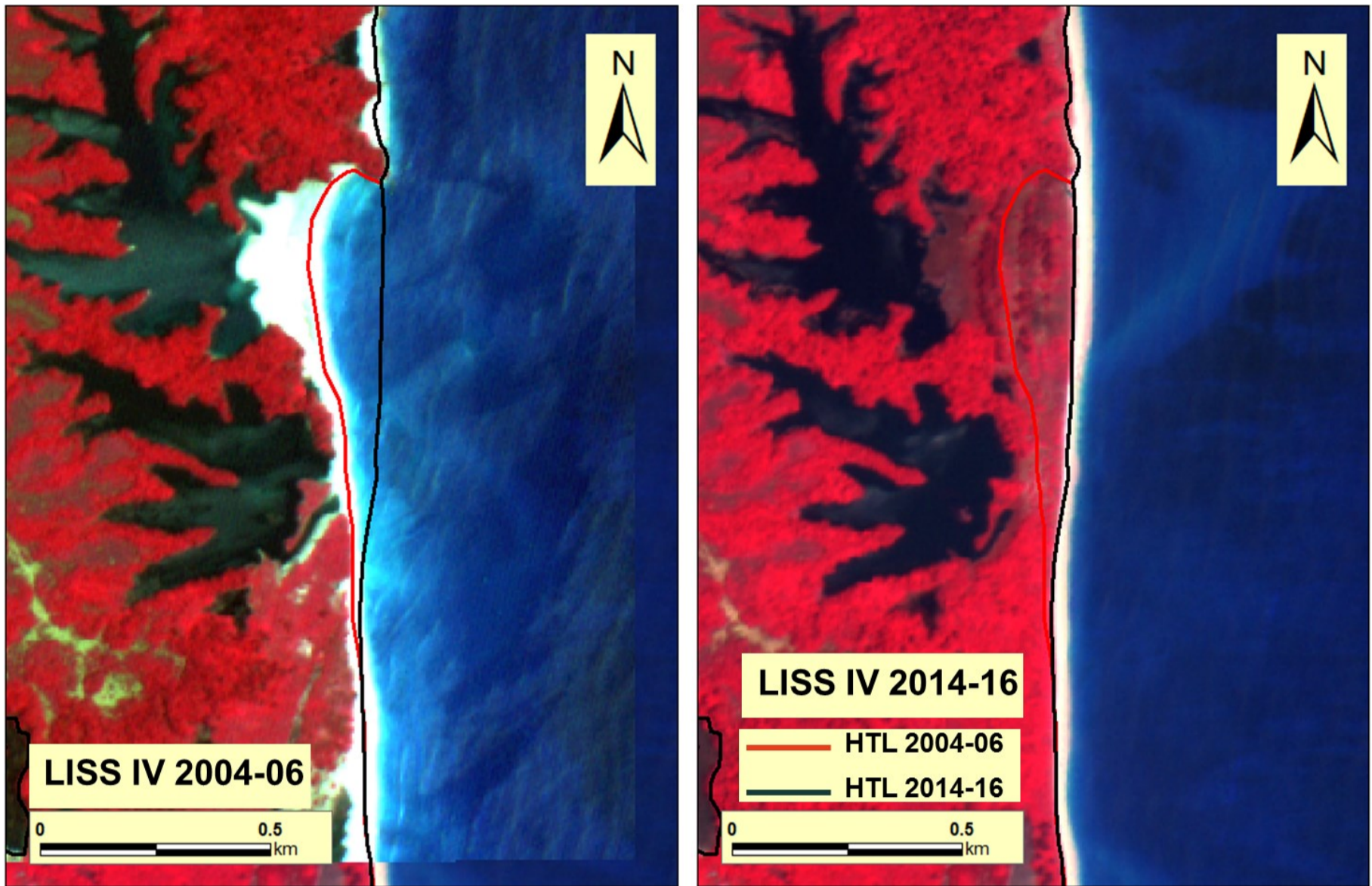


Plate 8: Shoreline change to the east coast of Trinkat Island (87H12SW) marked on LISS IV images of IRS P6 and Resourcesat-2

LIST OF SATELLITE DATA USED

Table No. 3: Satellite data used for Lakshadweep Island (2004-06 time-frame)

S. No.	Mapsheet No.	SATELLITE	SENSOR	ORBIT	SCENE NO.	DATE
1	49A10NE	IRS-P6	LISS IV	203	56	11-Dec-07
2	49A15NE	IRS-P6	LISS IV	202	138	29-May-04
3	49E03NW	IRS-P6	LISS IV	202	138	29-May-04
4	49A15SW	IRS-P6	LISS IV	201	148	06-Jan-04
5	49A16NW	IRS-P6	LISS IV	201	148	06-Jan-04
6	49A12NE	IRS-P6	LISS IV	201	148	06-Jan-04
7	49A12SE	IRS-P6	LISS IV	201	148	06-Jan-04
8	49B01NE	IRS-P6	LISS IV	203	90	09-Jan-07
9	49B01SE	IRS-P6	LISS IV	203	90	09-Jan-07
10	49B05NW	IRS-P6	LISS IV	201	111	04-May-06
11	49A04NW	IRS-P6	LISS IV	201	111	04-May-06
12	49B10SE	IRS-P6	LISS IV	201	151	06-Jan-04
13	49E10SW	IRS-P6	LISS IV	201	151	06-Jan-04
14	49B08NW	IRS-P6	LISS IV	203	92	05-May-05
15	49B08SW	IRS-P6	LISS IV	203	92	05-May-05
16	49F12NE	IRS-P6	LISS IV	201	153	11-Jan-04
17	49F12SE	IRS-P6	LISS IV	201	153	11-Jan-04
18	49A02SE	IRS-P6	LISS IV	202	125	19-Jan-05

Table No. 4: Satellite data used for Lakshadweep Island (2014-16 time-frame)

S. No.	Mapsheet No.	SATELLITE	SENSOR	Path	Row	Date
1	49A10NE	IRS-R2	L4FX	96	65	19-Apr-14
2	49A15NE	IRS-R2	L4FX	96	65	19-Apr-14
3	49E03NW	IRS-R2	L4FX	96	65	19-Apr-14
4	49A15SW	IRS-R2	L4FX	96	66	08-Apr-16
5	49A16NW	IRS-R2	L4FX	96	66	08-Apr-16
6	49A12NE	IRS-R2	L4FX	96	66	08-Apr-16
7	49A12SE	IRS-R2	L4FX	96	66	08-Apr-16
8	49B01NE	IRS-R2	L4FX	95	66	23-Dec-16
9	49B01SE	IRS-R2	L4FX	95	66	23-Dec-16
10	49B05NW	IRS-R2	L4FX	95	66	23-Dec-16
11	49A04NW	IRS-R2	L4FX	95	66	23-Dec-16
12	49B10SE	IRS-R2	L4FX	96	66	21-Jan-17
13	49E10SW	IRS-R2	L4FX	96	66	21-Jan-17
14	49B08NW	IRS-R2	L4FX	95	67	31-Aug-15
15	49B08SW	IRS-R2	L4FX	95	67	31-Aug-15
16	49F12NE	IRS-R2	L4FX	97	67	07-May-16
17	49F12SE	IRS-R2	L4FX	97	67	07-May-16
18	49A02SE	IRS-R2	L4FX	95	65	25-Feb-14

Table No. 5: Satellite data used for Andaman and Nicobar Islands (2004-06 time-frame)

S. No.	Mapsheet No.	SATELLITE	SENSOR	ORBIT	SCENE NO.	DATE
1	86C/12SE	IRS P6	LISS IV	6735	98	02-02-2005
2	86C/14NE	IRS 1D	LISS III	115	64	22-02-2006
3	86C/14SE	IRS 1D	LISS III	114	64	25-02-2007
4	86C/14SW	IRS 1D	LISS III	114	64	25-02-2007
5	86C/15NE	IRS 1D	LISS III	114	64	25-02-2007
6	86C/15NW	IRS 1D	LISS III	115	64	19-03-2006
7	86C/15SE	IRS P6	LISS IV	6735, 6863	97, 77	02-02-2005, 11-02-2005
8	86C/15SW	IRS P6	LISS IV	6664	75	28-01-2005
9	86C/16 NE	IRS P6	LISS IV	6735, 6863	97, 77	02-02-2005, 11-02-2005
10	86C/16SE	IRS P6	LISS IV	6863	78	11-02-2005
11	86C/16SW	IRS P6	LISS IV	6735	98	02-02-2005
12	86D/09SE	IRS 1D	LISS III	115	64	19-03-2006
13	86D/10NE	IRS P6	LISS IV	6735	100	02-02-2005
14	86D/11NE	IRS P6	LISS IV	6664	79	28-01-2005
15	86D/11SE	IRS P6	LISS III	114	65	06-02-2006
16	86D/12NE	IRS P6	LISS IV	6664, 6863	80, 82	28-01-2005, 11-02-2005
17	86D/12SE	IRS P6	LISS IV	6735	102	02-02-2005
18	86D/12SW	IRS P6	LISS IV	6735	102	02-02-2005
19	86D/13NE	IRS 1D	LISS III	115	64	22-02-2006
20	86D/13NW	IRS P6	LISS IV	6664, 6735	77, 96	28-01-2005, 02-02-2005
21	86D/13SE	IRS P6	LISS IV	6863	78	11-02-2005
22	86D/13SW	IRS P6	LISS IV	6664	77	28-01-2005
23	86D/14NE	IRS P6	LISS IV	6863	79, 80	11-02-2005
24	86D/14NW	IRS P6	LISS IV	6735	100	02-02-2005
25	86D/14SE	IRS P6	LISS IV	6863	80	11-02-2005
26	86D/15NE	IRS P6	LISS IV	6863	80, 81	11-02-2005
27	86D/15SE	IRS P6	LISS IV	6863	81	11-02-2005
28	86D/15NW	IRS P6	LISS IV	6863	81	11-02-2005
29	86D/16NE	IRS P6	LISS IV	6863	82	11-02-2005
30	86D/16NW	IRS P6	LISS IV	6863	82	11-02-2005
31	86D/16SE	IRS P6	LISS IV	6863	83	11-02-2005
32	86D/16SW	IRS P6	LISS IV	6863	82	11-02-2005
33	86D/09NE	IRS P6	LISS IV	6735	98	02-02-2005
34	86G/02SW	IRS P6	LISS IV	6863	76	11-02-2005
35	86G/03NW	IRS P6	LISS IV	6863	76	11-02-2005
36	86G/03SW	IRS P6	LISS IV	6863	77	11-02-2005
37	86G/04NW	IRS P6	LISS IV	6863	77	11-02-2005

38	86H/01NW	IRS 1D	LISS III	115	64	22-02-2006
39	86H/03SW	IRS 1D	LISS III	115	64	22-02-2006
40	86H/04NE	IRS 1D	LISS III	115	64	22-02-2006
41	86H/04NW	IRS 1D	LISS III	115	64	22-02-2006
42	86H/04SW	IRS 1D	LISS III	115	64	22-02-2006
43	87A/10NE	IRS P6	LISS III	114	65	06-02-2006
44	87A/10NW	IRS P6	LISS IV	6863	85	11-02-2005
45	87A/10SE	IRS P6	LISS III	114	65	06-02-2006
46	87A/10SW	IRS P6	LISS III	114	65	06-02-2006
47	87A/11NE	IRS P6	LISS IV	6863	85	11-02-2005
48	87A/11NW	IRS P6	LISS IV	6863	86	11-02-2005
49	87A/11SE	IRS P6	LISS IV	6792	121	06-02-2005
50	87A/11SW	IRS P6	LISS IV	6863	86	11-02-2005
51	87A/12NE	IRS 1D	LISS III	115	66	12-02-2005
52	87A/13NE	IRS 1D	LISS III	115	65	12-02-2005
53	87A/13NW	IRS P6	LISS IV	6863	83	11-02-2005
54	87A/13SW	IRS P6	LISS IV	6863	83	11-02-2005
55	87A/14NW	IRS P6	LISS IV	6863	84	11-02-2005
56	87A/02SE	IRS 1D	LISS III	115	65	19-03-2006
57	87A/06SW	IRS 1D	LISS III	115	64	19-03-2006
58	87A/09NE	IRS 1D	LISS III	115	65	22-02-2006
59	87A/09NW	IRS P6	LISS IV	6735	103	02-02-2005
60	87A/09 SE	IRS P6	LISS III	114	65	06-02-2006
61	87B/10NW	IRS P6	LISS IV	6863	89	11-02-2005
62	87B/10SW	IRS P6	LISS IV	6863	89, 90	11-02-2005
63	87B/01NE	IRS P6	LISS IV	6735	107	02-02-2005
64	87B/05NE	IRS P6	LISS IV	6792	123	06-02-2005
65	87B/05SE	IRS P6	LISS IV	6735	108	02-02-2005
66	87B/06NE	IRS P6	LISS IV	6863	89	11-02-2005
67	87B/06SE	IRS P6	LISS IV	6863	89, 90	11-02-2005
68	87B/09NE	IRS P6	LISS IV	6863	87	11-02-2005
69	87B/09NW	IRS P6	LISS IV	6863	88	11-02-2005
70	87B/09SW	IRS P6	LISS IV	6792	123	06-02-2005
71	87E/01NW	IRS 1D	LISS III	115	65	22-02-2006
72	87E/01SW	IRS 1D	LISS III	115	65	22-02-2006
73	87C/12NE	IRS P6	LISS IV	6721	130	01-02-2005
74	87C/15SW	IRS P6	LISS IV	6721	129	01-02-2005
75	87C/16NW	IRS P6	LISS IV	6721	130	01-02-2005
76	87C/16SW	IRS P6	LISS IV	6721	130	01-02-2005
77	87H/10SE	IRS 1D	LISS III	117	68	13-03-2006
78	87H/10SW	IRS P6	LISS III	116	68	28-01-2005
79	87H/11NE	IRS P6	LISS IV	6536	75	19-01-2006
80	87H/11NW	IRS P6	LISS IV	6536	75	19-01-2006
81	87H/04NE	IRS 1D	LISS III	116	68	30-05-2006

82	87H/08NE	IRS P6	LISS III	116	68	13-08-2004
83	87H/08SW	IRS 1D	LISS III	117	68	13-03-2006
84	88E/16NE	IRS P6	LISS IV	5712	112	22-11-2004
85	88E/16NW	IRS P6	LISS IV	5712	112	22-11-2004
86	88E/16SE	IRS P6	LISS IV	5712, 7829	112, 93	22 20--11 04-- 2004, 2005
87	88F13NE	IRS P6	LISS IV	5712	113, 114	22-11-2004
88	88F13NW	IRS P6	LISS IV	5712	113, 114	22-11-2004
89	88F13SE	IRS P6	LISS IV	5712	113, 114	22-11-2004
90	88F13SW	IRS P6	LISS IV	5712	113, 114	22-11-2004

Table No. 6: Satellite data used for Andaman and Nicobar Islands (2014-16 time-frame)

S.NO.	MAPSHEET NO.	SATELLITE	SENSOR	Path	Row	Date
1	86C14NE	IRS-R2	L4FX	114	64	20-Mar-14
2	86G02NW	IRS-R2	L4FX	114	64	20-Mar-14
3	86C14SW	IRS-R2	L4FX	114	64	20-Mar-14
4	86C14SE	IRS-R2	L4FX	114	64	20-Mar-14
5	86G02SW	IRS-R2	L4FX	114	64	20-Mar-14
6	86K07NW	IRS-R2	L4FX	114	64	20-Mar-14
7	86C15NW	IRS-R2	L4FX	114	64	20-Mar-14
8	86K03NE	IRS-R2	L4FX	114	64	20-Mar-14
9	86C15NE	IRS-R2	L4FX	114	64	20-Mar-14
10	86G03NW	IRS-R2	L4FX	114	64	20-Mar-14
11	86C15SW	IRS-R2	L4FX	114	64	20-Mar-14
12	86C15SE	IRS-R2	L4FX	114	64	20-Mar-14
13	86G03SW	IRS-R2	L4FX	114	64	20-Mar-14
14	86C16NW	IRS-R2	L4FX	114	64	20-Mar-14
15	86G04NW	IRS-R2	L4FX	114	64	20-Mar-14
16	86C12SE	IRS-R2	L4FX	114	64	20-Mar-14
17	86C16SW	IRS-R2	L4FX	114	64	20-Mar-14
18	86C16SE	IRS-R2	L4FX	114	64	20-Mar-14
19	86G04SW	IRS-R2	L4FX	114	64	20-Mar-14
20	86D09NE	IRS-R2	L4FX	114, 114	64, 63	20-03-2014, 20-03- 2014
21	86D13NW	IRS-R2	L4FX	114, 114	64, 63	20-03-2014, 20-03- 2014
22	86D13NE	IRS-R2	L4FX	114, 114	64, 63	20-03-2014, 20-03- 2014
23	86H01NW	IRS-R2	L4FX	114, 114	64, 63	20-03-2014, 20-03- 2014
24	86D09SE	IRS-R2	L4FX	114	63	20-Mar-14

25	86D13SW	IRS-R2	L4FX	114	63	20-Mar-14
26	86D13SE	IRS-R2	L4FX	114	63	20-Mar-14
27	86D10NE	IRS-R2	L4FX	114	63	20-Mar-14
28	86D14NW	IRS-R2	L4FX	114	63	20-Mar-14
29	86D14NE	IRS-R2	L4FX	114	63	20-Mar-14
30	86D10SE	IRS-R2	L4FX	114, 114	63, 65	20-03-2014, 20-03- 2014
31	86D14SE	IRS-R2	L4FX	114, 114	63, 65	20-03-2014, 20-03- 2014
32	86D11NE	IRS-R2	L4FX	114	63	20-Mar-14
33	86D15NE	IRS-R2	L4FX	114	63	20-Mar-14
34	86D11SE	IRS-R2	L4FX	114, 114	63, 65	20-03-2014, 20-03- 2014
35	86D15SE	IRS-R2	L4FX	114	63	20-Mar-14
36	86H03SW	IRS-R2	L4FX	115	65	20-Feb-18
37	86H15SE	IRS-R2	L4FX	115	65	14-Mar-16
38	86H15SW	IRS-R2	L4FX	115	65	14-Mar-16
39	86D12NE	IRS-R2	L4FX	114	65	20-03-2014
40	86D16NW	IRS-R2	L4FX	114	65	20-03-2014
41	86D16NE	IRS-R2	L4FX	114, 115	65, 65	20-03-2014, 20-02- 2018
42	86H04NW	IRS-R2	L4FX	115	65	20-02-2018
43	86D12SW	IRS-R2	L4FX	114	65	20-03-2014
44	86D12SE	IRS-R2	L4FX	114	65	20-03-2014
45	86D16SW	IRS-R2	L4FX	114	65	20-03-2014
46	86D16SE	IRS-R2	L4FX	114	65	20-03-2014
47	86H04SW	IRS-R2	L4FX	114	65	20-03-2014
48	87A09NW	IRS-R2	L4FX	114	65	20-03-2014
49	87A09NE	IRS-R2	L4FX	114	65	20-03-2014
50	87A13NW	IRS-R2	L4FX	114	65	20-03-2014
51	87A13NE	IRS-R2	L4FX	115	65	12-01-2014
52	87E01NW	IRS-R2	L4FX	115	65	12-01-2014
53	87A09SW	IRS-R2	L4FX	114	65	20-03-2014
54	87A13SW	IRS-R2	L4FX	114	65	20-03-2014
55	87E01SW	IRS-R2	L4FX	115	65	12-01-2014
56	87A10NW	IRS-R2	L4FX	114	65	20-03-2014
57	87A10NE	IRS-R2	L4FX	114	65	20-03-2014
58	87A14NW	IRS-R2	L4FX	114	65	20-03-2014
59	87A02SE	IRS-R2	L4FX	114	65	13-04-2014
60	87A06SW	IRS-R2	L4FX	114	65	13-04-2014
61	87A10SW	IRS-R2	L4FX	114	65	20-03-2014
62	87A10SE	IRS-R2	L4FX	114	65	20-03-2014
63	87A14SW	IRS-R2	L4FX	114	65	20-03-2014
64	87A11NW	IRS-R2	L4FX	114	65	20-03-2014
65	87A11NE	IRS-R2	L4FX	114	65	20-03-2014
66	87A11SW	IRS-R2	L4FX	114	65	20-03-2014
67	87A11SE	IRS-R2	L4FX	114	65	20-03-2014
69	87B05NE	IRS-R2	L4FX	114	66	20-03-2014
70	87B09NW	IRS-R2	L4FX	114	66	20-03-2014

71	87B05SE	IRS-R2	L4FX	114	66	20-03-2014
72	87B09SW	IRS-R2	L4FX	114	66	20-03-2014
73	87B06NE	IRS-R2	L4FX	114	66	20-03-2014
74	87B10NW	IRS-R2	L4FX	114	66	20-03-2014
75	87B06SE	IRS-R2	L4FX	114	66	30-08-2015
76	87B10SW	IRS-R2	L4FX	114	66	30-08-2015
77	87C15SW	IRS-R2	L4FX	115	67	14-03-2016
78	87C12NE	IRS-R2	L4FX	115, 115	67, 67	14-03-2016, 22-12- 2017
79	87C16NW	IRS-R2	L4FX	115, 115	67, 67	14-03-2016, 22-12- 2017
80	87C12SE	IRS-R2	L4FX	115, 115	67, 67	14-03-2016, 22-12- 2017
81	87C16SW	IRS-R2	L4FX	115, 115	67, 67	14-03-2016, 22-12- 2017
82	87H10SE	IRS-R2	L4FX	116	68	01-11-2014
83	87H10SW	IRS-R2	L4FX	116	68	01-11-2014
84	87H11NE	IRS-R2	L4FX	116	68	01-11-2014
85	87H11NW	IRS-R2	L4FX	116	68	01-11-2014
86	87H03NW	IRS-R2	L4FX	116	68	23-04-2014
87	87H03SE	IRS-R2	L4FX	116	68	23-04-2014
88	87H03SW	IRS-R2	L4FX	116	68	23-04-2014
89	87H12NW	IRS-R2	L4FX	116	68	23-04-2014
90	87H08NE	IRS-R2	L4FX	116	68	23-04-2014
91	87H08NW	IRS-R2	L4FX	116	68	23-04-2014
92	87H04NE	IRS-R2	L4FX	116	68	23-04-2014
93	87H04NW	IRS-R2	L4FX	116	68	23-04-2014
94	87H12SW	IRS-R2	L4FX	116	68	23-04-2014
95	87H08SE	IRS-R2	L4FX	116	68	23-04-2014
96	87H08SW	IRS-R2	L4FX	116	68	23-04-2014
97	88E09NW	IRS-R2	L4FX	116	68	19-03-2016
98	88E05NE	IRS-R2	L4FX	116	68	23-04-2014
99	88E05NW	IRS-R2	L4FX	116	68	23-04-2014
100	88E05SE	IRS-R2	L4FX	116	68	23-04-2014
101	88E15NW	IRS-R2	L4FX	116	69	19-03-2016
102	88E11NE	IRS-R2	L4FX	116	69	19-03-2016
103	88E15SW	IRS-R2	L4FX	116	69	19-03-2016
104	88E11SE	IRS-R2	L4FX	116	69	19-03-2016
105	88E11SW	IRS-R2	L4FX	116	69	19-03-2016
106	88E16NE	IRS-R2	L4FX	116	69	19-03-2016
107	88E16NW	IRS-R2	L4FX	116	69	19-03-2016
108	88E12NE	IRS-R2	L4FX	116	69	19-03-2016
109	88E16SE	IRS-R2	L4FX	116, 117	69, 69	19-03-2016, 11-05- 2016
110	88E12SE	IRS-R2	L4FX	116	69	19-03-2016
111	88F13NE	IRS-R2	L4FX	117	69	11-05-2016
112	88F13NW	IRS-R2	L4FX	117	69	11-05-2016
113	88F09NE	IRS-R2	L4FX	116	69	11-05-2016

114	88F13SE	IRS-R2	L4FX	116, 117	69, 69	19-03-2016, 11-05- 2016
115	88F13SW	IRS-R2	L4FX	116	69	19-03-2016