

Coral Bleaching status in Andaman

The coral ecosystems are very sensitive to change in sea surface temperatures (SST). Persistence of SST above 1° C from maximum monthly temperature climatology for a long period, triggers the end of zooxanthellae and algae symbiosis. As a result, bleaching of corals occurs, as the algae leaves the corals— depriving the sheltering zooxanthellae of food made by them. The coral bleaching Alert System (CBAS), is a service initiated by ESSO-INCOIS since February 2011. This employs a model that assesses the thermal stress accumulated in the coral environs with the help of satellite derived SST.

Since last couple of months, it was observed that waters surrounding the Andaman Islands, the Gulf of Mannar and the Lakshadweep islands have positive SST anomaly. Based on CBAS, **the Gulf of Mannar and Lakshadweep Islands and the Andaman and Nicobar Islands** are put under **Warning** status of coral bleaching. The in-situ observations carried out by ESSO-NIOT at North Bay, South Andaman reveals the primary signs of the coral bleaching (Table1, Figures1-2).

Table1. *in-situ* Sea Surface Temperature observations as on 26-Apr-2016 along the Andaman coast

| Time (IST) | Station Name | Lat (N) | Long (E) | Atm. Temperature (deg. C) | SST (deg. C) | Humidity (%) |
|------------|-----------------------------|---------------|---------------|---------------------------|--------------|--------------|
| 11:00 a.m. | Near Chatham Jetty | 11° 41' 09.7" | 92° 43' 22.6" | 31.5 | 32.1 | 66 |
| 11:10 a.m. | Panighat nearshore | 11° 41' 25.0" | 92° 43' 42.6" | 31.9 | 31.7 | 72 |
| 11:25 a.m. | Near Channel Beacon | 11° 41' 20.0" | 92° 44' 31.7" | 31.7 | 31.8 | 68 |
| 11:40 a.m. | North Bay 500mts from shore | 11° 41' 27.6" | 92° 44' 59.3" | 31.8 | 31.8 | 69 |
| 11:50 a.m. | North Bay 150mts from shore | 11° 42' 03.7" | 92° 45' 02.5" | 31.8 | 31.8 | 71 |
| 11:55 a.m. | North Bay 20mts from shore | 11° 42' 16.7" | 92° 45' 05.1" | 33 | 32 | 64 |
| 02:18 p.m. | North Bay 20mts from shore | 11° 42' 16.7" | 92° 45' 05.1" | 32.8 | 32.3 | 66 |

(Source: ESSO-NIOT)

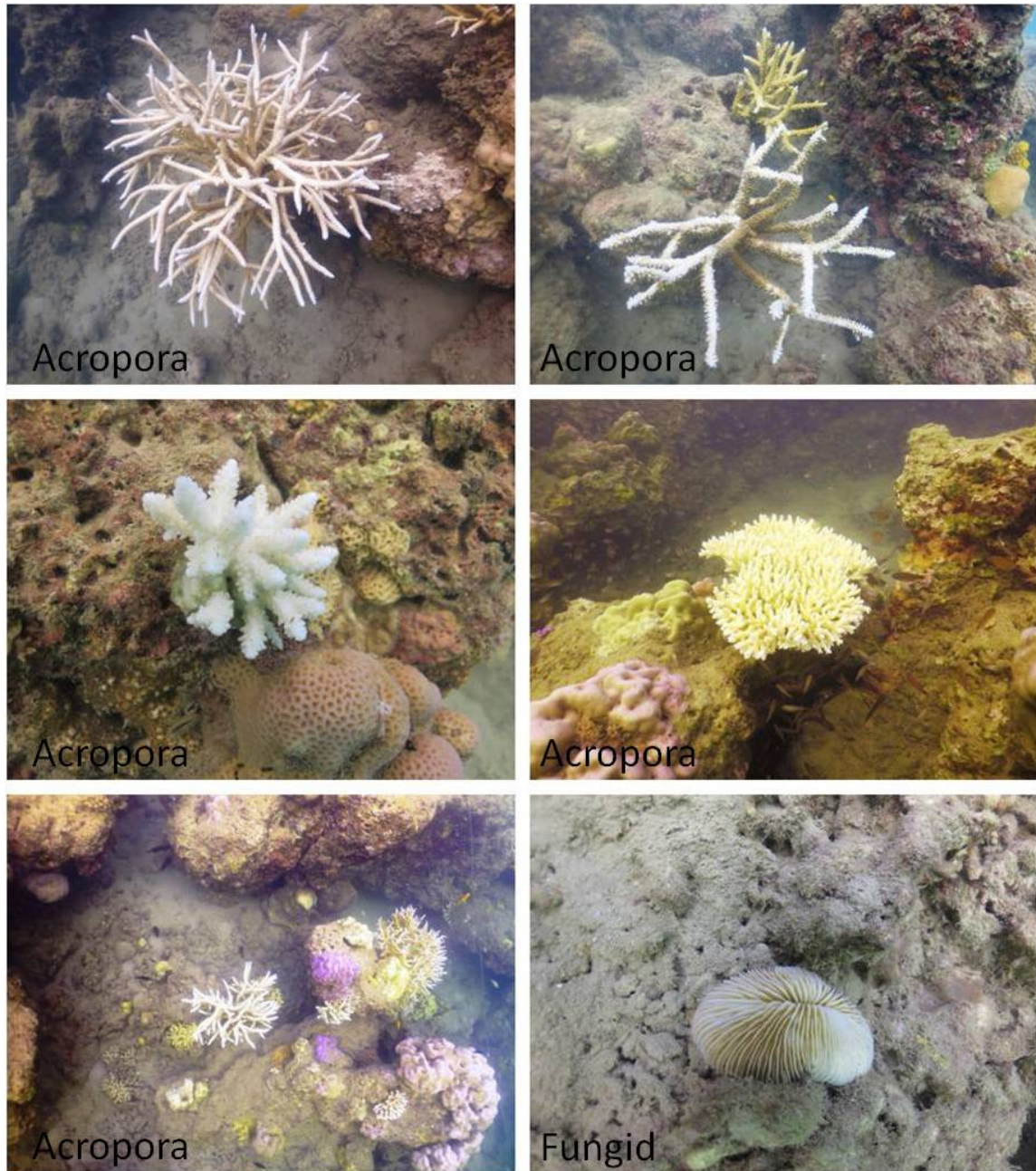


Figure1. Underwater photographs captured at North Bay coral environs as on 26 Apr, 2016 showing primary signs of coral bleaching. (Source: ESSO-NIOT)

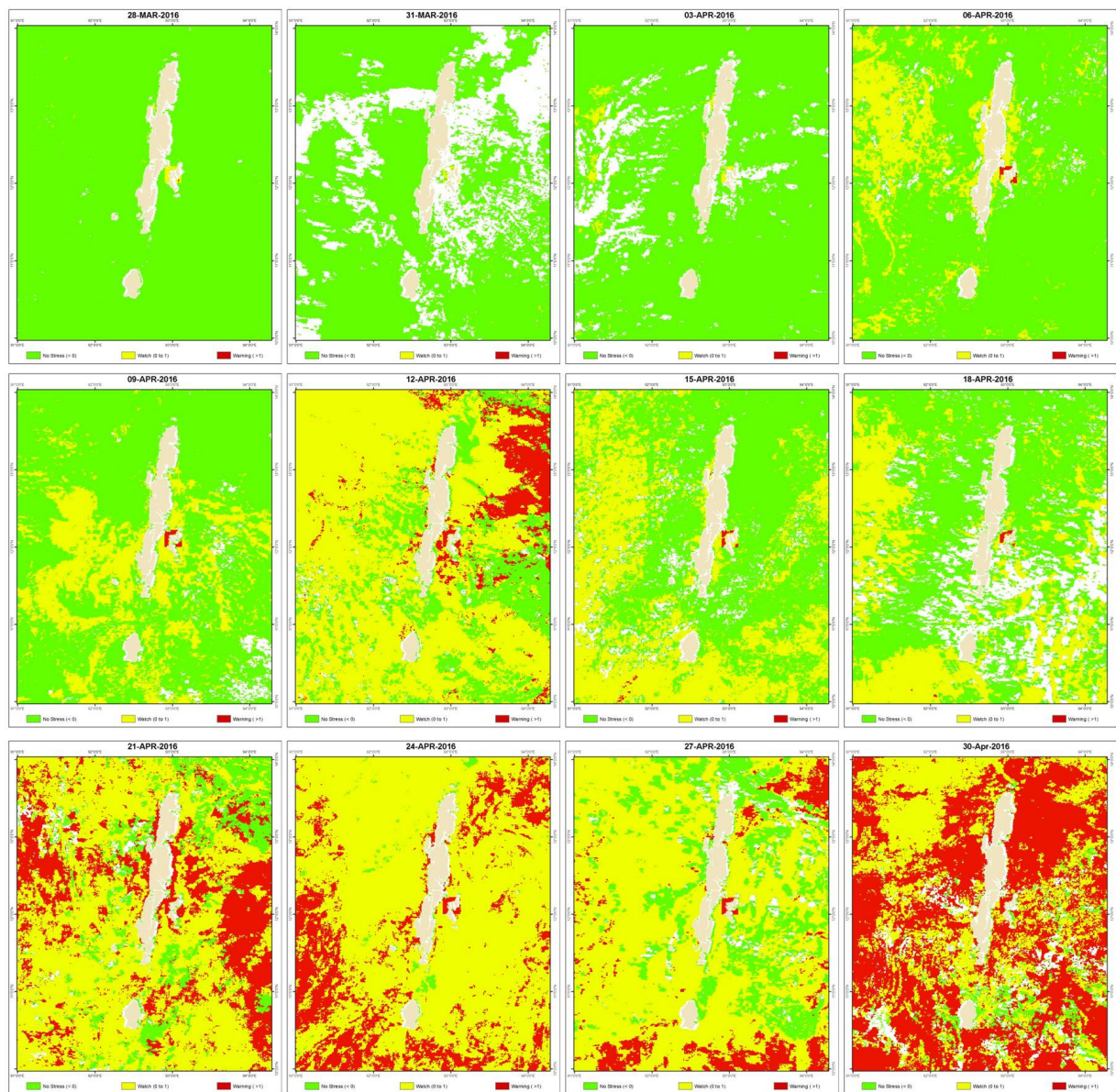


Figure2 Time-series composites of bi-weekly HotSpot for the Andaman Islands (Source: ESSO- INCOIS)