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The influence of sea surface temperature on tropical cyclone formed in the Bay of Bengal

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The influence of Sea Surface Temperature (SST) on tropical cyclone activity in the Bay of Bengal was examined, using 27 years data from 1981 to 2007. The study area was 10.5 - 21.5°N and 80.5 - 97.5°E; from that area total 216 observation grid points for SST were found. Statistical analysis revealed that percentage of formation of the tropical depression increased with SST. The formation of very severe cyclonic storm (VSCS) and severe cyclonic storm (SCS) started from SST of 27°C and increased with SST, but from 29°C to 29.9°C it declined. The SST showed positive trend in all the four seasons. In the post-monsoon season the increasing trend of SST was highest. In this season the mean SST was 28.82°C with standard deviation 0.29°C. Within study period the total number of severe cyclones were 48 and the total duration was 3414 hours. Highest number, 27 among 48, of severe cyclones formed in the post-monsoon season and their total duration was also maximum, 1765 hours. On the other hand the mean SST of winter season was lowest, 26.61°C with standard deviation 0.22°C and the number of SCS formation was also lower, 6 out of 48. Even though, the highest SST, 29.03°C with standard deviation 0.25°C, was in monsoon season but the formation of SCS was lowest. So it revealed that the frequency of cyclone has a step-like, rather than continuous relationship with SST.