A Study of Tropical Cyclones over India (Bay of Bengal and Arabian Sea) and Solar Influence on It

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A prominent example of extreme weather event in India is Cyclonic Storm. In this paper annual variation of tropical Cyclonic Storm (CS), Severe Cyclonic Storm (SCS), Very Severe Cyclonic Storm (VSCS) and Super Cyclonic Storm (SuCS) over Bay Of Bengal (BOB) and Arabian Sea (ARS) during last 20 years (1990-2009) have been analyzed .The analysis revels that the total number of cyclone (TNC) has increased with high rate(gradient being +1.67 per year) and although C.S. is more over BOB than that over ARS.The rate of increase of C.S. over Arabian Sea is more than that over Bay of Bengal. Furthermore, two interesting features have been noted: (i) Monsoon tends to prohibit the formation of C.S (ii) Cyclonic Storm(C.S.) increases with the increase of Global Sea Surface Temperature (GSST) during said period.. Attempt has also been made to find out the influence of solar activity on these extreme weather events. Keeping in mind that the Sun Spot Number (SSN) is an indicator of the strength of solar effects, it has been found that in most of the times the high value of SSN is associated with small number of total cyclone (C.S.). Specifically, when only the years of high Sun's Spot Number (approximately greater than 90) are taken into consideration then Correlation Coefficient (C.C.) between SSN and number of cyclones comes out to be quite high (-0.78) significance at 99.99. The wavelet analysis also has been done to get a significant periodicity of the tropical cyclone.