

## CLIMATOLOGICAL BEHAVIOUR OF STORMS AND DEPRESSIONS IN THE ARABIAN SEA

1. The storms and depressions in the Arabian Sea during the last 14 years (1961-1974), when the entire area has been scanned by weather satellites, have been studied to assess the genuineness or otherwise of certain peculiar features exhibited by the storms and depressions of earlier years, based only on ships' data. The results are given below.

2. Table 1 gives the frequencies of the total number of depressions, moderate storms and severe storms over the Arabian Sea for the last 84 years (1891-1974), divided into six equal (14-yr) periods. Satellite data have also been used, in addition to conventional data, while arriving at the figures for the last 14-yr period.

The frequency of all storms (moderate and severe) during the period, 1961 to 1974, shows moderate increase of about 50 per cent com.

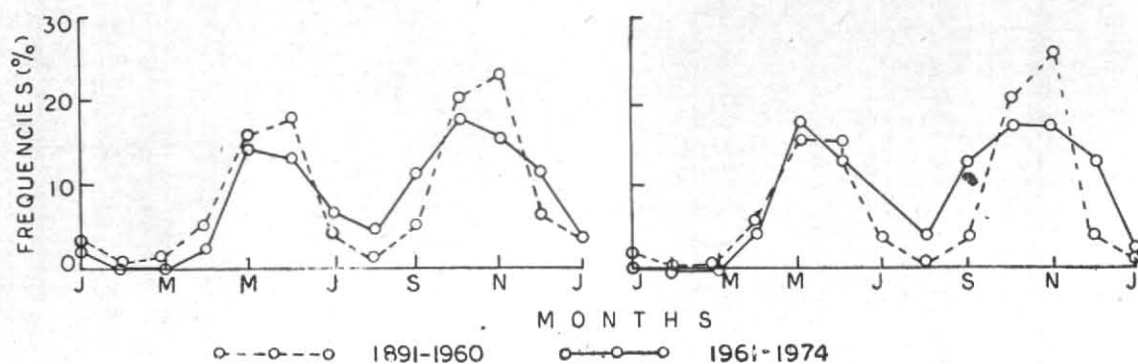


Fig. 1. Storms and depressions

Fig. 2. Storms

Annual variation of frequency of cyclonic storms/depressions over Arabian Sea

pared to the frequencies in earlier periods. This is mainly due to a large increase of about 100 per cent in the frequency of moderate storms during the last 14 years as compared to the frequency in the earlier periods. Ships' observations were too inadequate to detect most of the depressions during the first two periods. The total number of disturbances in the next three periods are nearly the same, though there is a larger variation in the frequencies of storms or depressions, when considered separately. It is likely that in the absence of satellite data, some ambiguity existed in assessing the intensity of some of the disturbances and classifying them as storms or depressions. The latest period shows an increase of about 12 disturbances or nearly one per year.

3. Figs. 1 and 2 depict the annual variation of the frequency of both the cyclonic storms and depressions and cyclonic storms only, over the Arabian Sea for the periods, 1891 to 1960 and 1961 to 1974. It is seen that the curves for the period, 1961 to 1974, are similar to the corresponding curves for the earlier period, with double maxima in May-June and November and minimum in July-August.

4. A peculiar feature of the behaviour of the storms and depressions over the Arabian Sea for the period, 1891 to 1960, has been that many of them weaken over the sea itself. Table 2 gives the percentage frequencies of the storms and depressions that have weakened over the sea during the periods, 1891 to 1960 and 1961 to 1974 for May, June, September, October and November (months of peak cyclonic activity) and for the

TABLE 1

Period	Storms			Depres- sions	Storms and depres- sions
	Severe	Moderate	Total		
1891-1904	14	4	18	3	21
1905-1918	6	10	16	2	18
1919-1932	11	8	19	11	30
1933-1946	6	6	12	23	35
1947-1960	10	6	16	17	33
1961-1974	9	14	23	22	45

TABLE 2

Period	May	Jun	Sep	Oct	Nov	Annual
1891-1960	43	33	80	75	71	61
1961-1974	42	58	43	54	60	64

whole year. Considering the fact that even during the months of peak cyclonic activity, the frequencies of storms and depressions in a 14-year period are only about 7 and a change of 1 in the number of storms and depressions that dissipate over the seas alters the percentage frequency by about 15, the values for the two periods agree quite well. The data for the period 1961 to 1974 bear out the weakening of a number of disturbances over the sea, shown by the data for the earlier years.

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