



Government of India
Earth System Science Organization
Ministry of Earth Sciences
India Meteorological Department

Press Release

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Sub: Advance of monsoon over Delhi

- i.** Southwest Monsoon continued its advance over the country till 13th June in association with favourable atmospheric circulation and a low pressure system over Bay of Bengal after the onset of monsoon over Kerala on 3rd June.
- ii.** By 13th June, it covered most parts of the country except northwest India. On 13th June, Numerical weather prediction (NWP) models suggested the favourable conditions with moist lower level easterly winds reaching to northwest India which may help further advance of monsoon into most parts Madhya Pradesh; remaining parts of Uttar Pradesh; Delhi; Haryana and Punjab during subsequent 48 hours. Accordingly, a press release was issued by 13th June indicating likely advance of monsoon into Delhi by 15th June.
- iii.** On 14th June, however, weather analysis based on satellite and NWP model consensus indicated approach of a trough in mid- latitude westerly winds, leading to weakening of easterly winds over northwest India. Due to adverse influence of this mid-latitude westerly winds, further advance of monsoon into remaining parts of northwest India including Delhi was not expected. Accordingly, IMD issued an updated press release on 14th June indicating that further advance of southwest Monsoon into remaining parts of northwest India including Delhi would be slow and delayed". However, this development of interaction with westerlies could not be anticipated by the weather prediction models.
- iv.** On 16th June, another press release was immediately issued indicating delay in monsoon advance into Delhi and slow progress into some parts of northwest India. Accordingly monsoon advanced into some more parts of northwest India by 19th June.
- v.** Since 20 June, there has been no further advance of monsoon due to weak/break monsoon conditions. Regular press releases were issued and updated to media from time to time on 22, 24, 26 and 30 June and 1 July indicating such delays in monsoon advance into remaining parts of northwest India including Delhi and weak/break monsoon conditions over the country. The delay in monsoon advance was mainly due to (i) no formation of low pressure area over Bay of Bengal, (ii) No presence of monsoon trough at mean sea level near to Delhi, (iii) 5-6 Western disturbances moved west to east across North India which dominated over the monsoon easterlies.
- vi.** On 5th July, updated press release on Status of monsoon was issued indicating that monsoon would advance into remaining parts of West Uttar Pradesh, some more parts of Punjab, Haryana and Rajasthan and Delhi around 10th July.
- vii.** The latest model analysis also indicated that the moist easterly winds in lower level from Bay of Bengal would spread into northwest India covering Punjab and Haryana by 10th

July leading to advance of monsoon and increase in rainfall activity over the northwest India including Delhi from 10th July onwards.

- viii.** Accordingly, the moist easterly winds have spread into northwest India. After 8th July, easterly winds at lower levels were established along the foothills and from 9th July onwards easterly winds were established over plains of Northwest India. These moisture laden easterly winds have led to increase in cloudiness and relative humidity. It also led to revival of monsoon over the region and occurrence of fairly widespread/widespread rainfall activity over east Rajasthan, HP, Uttarakhand, J&K and scattered rainfall over Punjab and west Rajasthan. However, it did not cause significant rainfall activity over Delhi even though, there was rainfall activity over neighbouring places around Delhi.

Such type of failure by numerical models in prediction of monsoon advance over Delhi is rare and uncommon. It is needless to mention that IMD has predicted well with high accuracy about the advance of monsoon over Delhi quite accurately in the recent past years and also the advance of monsoon over different parts of the country during the monsoon -2021 accurately about four to five days ahead. IMD is monitoring the situation continuously and will provide the regular updates on advance of monsoon into remaining parts of northwest India including Delhi.