

E1-30: Arrival and withdrawal weeks or the south-west monsoon in Sri Lanka

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The arrival and withdrawal date of the south-west monsoon are important for agriculture, fisheries, construction and this data is basic for climatic analysis. Our objectives were to estimate when the south-west monsoon onsets and when it withdraws, the extent of its temporal and spatial variability and the dependence if any on El Nino or La Nina conditions, with the available data.

The criteria that we have adopted in this study for the onset is a 30% rise of wind intensity from a week to a successive week which is sustained for another 3 weeks. The criteria adopted for the withdrawal of the monsoon is a 30% drop in wind intensity, which is sustained for at least 3 weeks. We arrived at this value by examining the data. We found that between certain weeks, there is an increase or decrease of wind speed by more than 30%. Such a rise was not found at other times of the year. We find this rise to be the most applicable and clearest criteria for the onset of the monsoon. Based on this criterion, we estimated the onset and withdrawal weeks for 16 stations where the data was available with various gaps for the last 20 years.

The onset of the monsoon is on average from the 18th to the 22nd week (2nd week of May to 1st week of June). The extremes of the onset for the past

20 years for all these stations were between the 17th and 22nd weeks (between 1st week of May to 2nd week of June). It appears that the monsoon onsets first in the North and then traverses to the South in succeeding weeks. There appears to be no correlation between El Nino or La Nina years and the onsets of the monsoons.

The monsoon withdraws from the island on the average between the 39th and 42nd weeks (1st week of October and the 4th week of October). The extremes of withdrawal were between the 37th and 44th weeks (mid-September to mid-November). There is no clear pattern of spatial organization of the withdrawal in the North-South direction. However, the withdrawal from the wet zone is later than in the dry zone. The withdrawal week for the El Nino years shows considerably more variability than average, but otherwise there is no statistically significant difference during El Nino or La Nina years during the past 20 years.

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