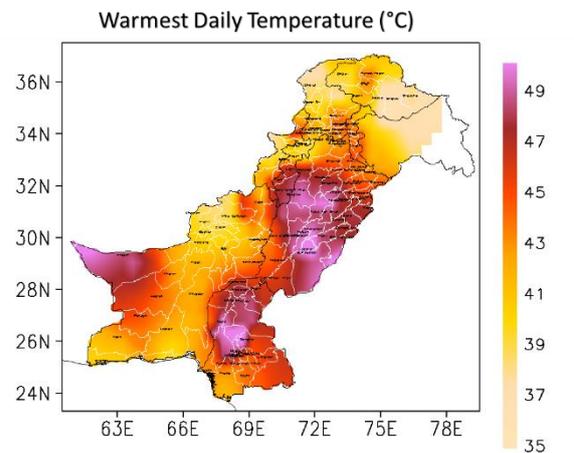


Introduction

Pakistan Meteorological Department is the sole entity of Pakistan which has the largest weather recording network at daily and sub-daily instances of time throughout the year. This data has provided useful assistance in analysing weather attributes and its changes along the course of current and historical period for better understanding of stakes that are evident.

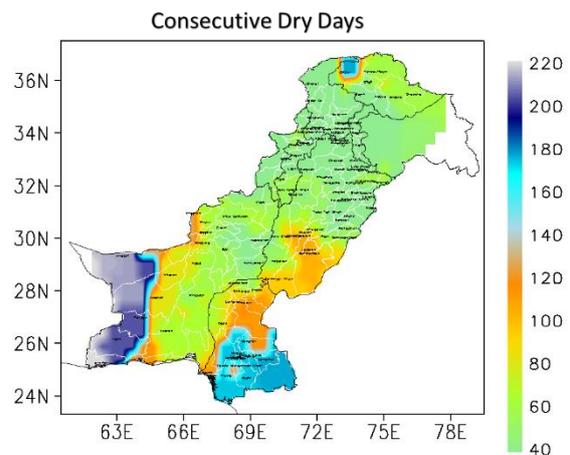
Warmest Daily Temperature

Annual warmest daily temperatures are concentrated towards four major hotspot regions i.e. in central and south Punjab, in central Sindh and in western regimes of Balochistan. The mean annual warmest temperature is beyond 49 °C for these regions. Moreover, districts of Parachinar and Charsadda in KPK also exhibit warmest daily temperatures of more than 45 °C along the course of recent 30 years historical period. The AJK and Potohar region of Pakistan also crosses thresholds of temperatures more than 43 °C during the recent historical period. Most alarming situation arises in the Hunza and Gilgit districts where again 43 °C thresholds are crossed.



Consecutive Dry Days

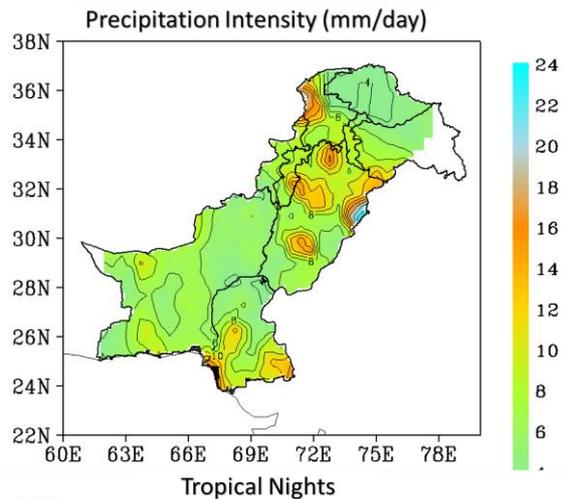
Pertaining to deficient rain, the consecutive dry days are pre-cursors of meteorological drought events that can trigger high level of hazard and vulnerability trends in the scope of livelihood and economy of the country. As may be seen in the recent 30 years historical analysis, major hot spot is focused towards western Balochistan where more than 200 days remain consecutively dry around the year. Another major hot spot is focused towards lower Sindh where up to 170 consecutive dry days subsist annually. More interestingly, towards the northern regimes of the country, the Ghizer district and the Northern peripherals of the Chitral district also remain liquid rain deficient zones with more than 170 consecutive dry days along the course of recent historical 30 years.



Precipitation Intensity

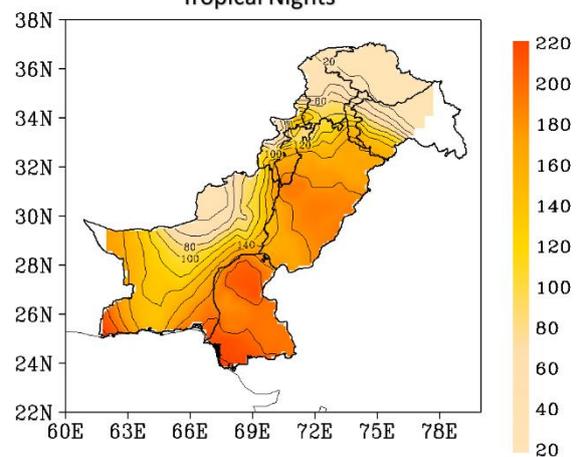
Annual mean of 30 years historical precipitation shows that average daily wet-day rainfall intensity is highest along the Sheikhupura, Lahore and Kasur districts with annual mean of up to 24 mm/day threshold. Second

highest intensity is along the Chitral and Swat districts with more than 18 mm/day precipitation intensity. The Potohar region, the central Punjab and the Southern Punjab also exhibit more than 14 mm/day precipitation intensity along the course of recent 30 years historical period. Moreover, it is also seen that lower Sindh (especially Karachi) has become a potential hotspot of precipitation intensity index with more than 14 mm/day rain intensity along the course of recent 30 years historical period.



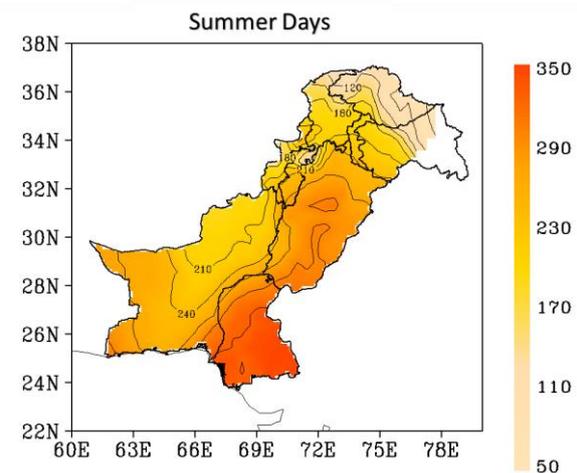
Summer days

Elongation in number of summer days can be detrimental since they have the potential to reduce the number of spring and autumn days of the year. In the analysis of recent historical 30 years, it is seen that summer days have significantly expanded in the central Punjab and the Sindh zones with up to 350 days experiencing average day-time temperature of more than 25°C throughout the year. This means that cold days have significantly reduced along these hotspot regions in the last 30 years.



Tropical nights

Warm nights are triggers of reduced crop growth and high energy consumption (air-conditioning) which both are significantly unpleasant for the economy. Further, warm nights also invite disease like malaria which are harmful for the wellbeing of a community. Four major hotspots are identified in the warm nights regime – the central Punjab, the upper and lower Sindh, and the south western Balochistan that experience up to 220 nights with night time temperatures exceeding 20°C in the last 30 years.



Conclusion

The warmest daily temperatures of the country are focused in Punjab, Sindh and Balochistan provinces with up to 50°C mean threshold along the recent 30 years historical period. The southern half of Pakistan experiences most number of consecutive dry days with a range of 120 to 220 uninterrupted days without rain. Precipitation intensity is more focused towards Lahore, Kasur and Chitral districts with a range of 18 to 24 mm/day in the last 30 years. Further, up to 350 summer days and up to 220 tropical nights are also seen in the Sindh province which are detrimental for crop growth, efficient energy use and disease control in the region.