Wind Trends Bulletin India: 2012 Q2

24 September 2012

Across much of Central and West-Central India, wind speeds at 80 m above ground level were above normal in the second quarter of 2012 relative to the long-term (1997-2011) average. Below-average winds occurred across most other regions (see Figure 1). Positive wind speed anomalies were greatest in the Thar Desert (+15% or more); speeds were furthest below normal in the Western Ghats and coastal Maharastra (-15% or less).

The Southern Oscillation Index (SOI) and the El Niño/Southern Oscillation (ENSO) were largely neutral throughout the quarter. The Dipole Mode Index (a measure of the sea surface temperature gradient anomaly between the Western Equatorial Indian Ocean and the Southeastern Equatorial Indian Ocean) was positive in April, but trended neutral in May and June. The summer monsoon index remained above normal throughout April, then transitioned to strongly negative by the end of the quarter. Surface air pressures were near-normal during the first part of the period, then trended well below-normal in the northeast part of the country in June.

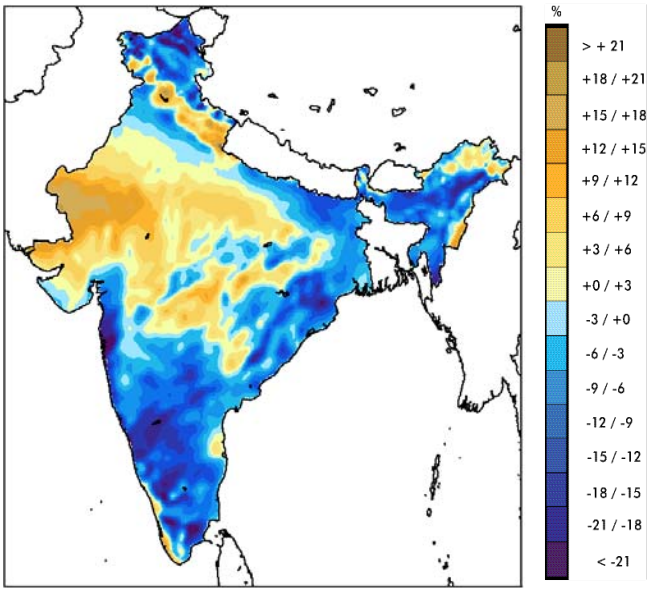


Figure 1.Wind Speed Anomaly Map: Q2 2012

The pattern of wind speed deviations shifted somewhat from month to month in the second quarter, with the magnitude of the deviations increasing markedly in June with the advent of the summer monsoon. In April, the largest positive deviations were in Manipur (+20% or more), while most of Gujarat and Maharashtra experienced more modestly above-average winds (+5% to +15%). Wind speeds across the southern portion of the country were generally below average (-20% to -10%) during this time. In May, much of Central and Western India experienced near-normal wind speeds (-5% to +5%), while winds were below average (-15% or less) in Odisha, Chhattisgarh, and northeastern Andhra Pradesh. June was especially influential in shaping the pattern of deviations for the entire quarter. The largest deviations for the month exceeded 35%, with winds more than 35% above average in the Thar Desert region of western Rajasthan as well as coastal Kerala and winds more than 35% below average along the coast of Maharastra. More generally, winds were above average (+10% to +30%) across most of Central and Western India and below-average (-20% to -10%) in the southern and eastern portions of the country. The southwest monsoon was weaker than normal during this time.

For the 12-month period from 1 July 2011 to 30 June 2012, wind speeds were predominantly near to below-normal (see Figure 2), except for parts of Northern and Eastern India where winds were somewhat above-average (+5% to 15%). Wind speeds have generally increased across India over the past twelve months relative to the previous year (see Figure 3).

This analysis was conducted by AWS Truepower's meteorology team. It is based on a computer simulation of weather conditions dating back to 1997, which results in a comprehensive and detailed weather snapshot at multiple heights above ground for every hour. Project assessments, maps, data and monthly reports are available. For more information on customized analyses for your project portfolio, data or subscription options, please contact us: info@awstruepower.com.

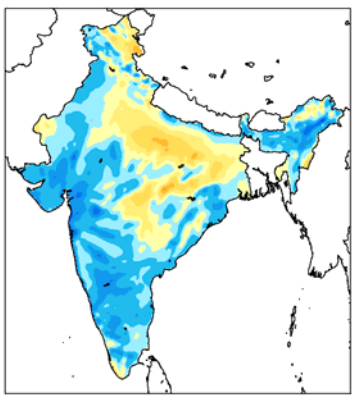
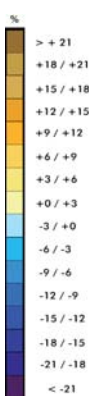


Figure 2.Wind Speed Anomaly Map: Q3 2011 – Q2 2012



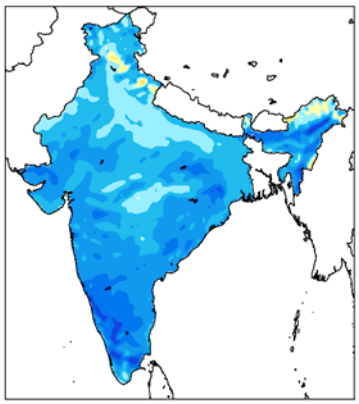


Figure 3.Wind Speed Anomaly Map: Q3 2010 – Q2 2011

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