

**Dust storm:** Dust storms are common meteorological hazards in arid and semi-arid regions. It is usually caused by thunderstorms or strong pressure gradients associated with cyclones which increase wind speed over a wide area. These strong winds lift large amounts of sand and dust from bare, dry soils into the atmosphere, transporting them hundreds to thousands of kilometers away. Some 40% of aerosols in the troposphere (the lowest layer of the earth's atmosphere) are dust particles from wind erosion. Airborne dust presents serious risks for human health. Dust particle size is a key determinant of the potential hazard to human health. Particles larger than 10  $\mu\text{m}$  are not breathable, thus can only damage external organs – mostly causing skin and eye irritations, conjunctivitis, and enhanced susceptibility to ocular infection. Inhalable particles, those smaller than 10  $\mu\text{m}$ , often get trapped in the nose, mouth, and upper respiratory tract, and thus can be associated with respiratory disorders such as asthma, tracheitis, pneumonia, allergic rhinitis, and silicosis. However, finer particles may penetrate the lower respiratory tract and enter the bloodstream, affecting all internal organs and being responsible for cardiovascular disorders.

Dust storm climatological values for the period 1981-2010 have been used for the preparation of these maps. Since it is a part of weather phenomena, we are producing two types of district maps in our Atlas for this event, viz. monthly and annual climatology of frequencies of event. In addition, the Normalized Vulnerability index is being calculated for each district as per the formula mentioned in equation 1. Total twenty-six maps are presented.