

1. **Lightning:** Lightning is an electrical discharge caused by imbalances between storm clouds and the ground or within the clouds themselves. Most lightning occurs within the clouds. In the early stages of development, air acts as an insulator between the positive and negative charges in the cloud and between the cloud and the ground. When the opposite charges build up enough, this insulating capacity of the air breaks down and there is a rapid discharge of electricity that we know as lightning. The flash of lightning temporarily equalizes the charged regions in the atmosphere until the opposite charges build up again. Lightning can set off building or farm fires, damage electrical equipment, and electrocute humans and livestock. Lightning can enter your home by following wires and pipes that go into the ground; it can also travel through metal reinforcing wire or bars in concrete and explode. Lightning often knocks out power lines and sends powerful electrical surges through electrical and phone lines. Once in your home, they can burn out appliances and other electronics.

Annual Disaster Weather Report published by India Meteorological Department reports the lightning cases over India that caused hazards in terms of human death. Though actual lightning cases were more, only the cases that caused human death were reported during February to October and are considered in our analysis. For each of nine months and annual scale, maps are showing the total number of lightning days that caused casualties to humans. In addition, the Normalized Vulnerability Index is being calculated for each district as per the formula mentioned in equation 1.