Statistics of Satellite Observed Convective Cells Over Kolkata during Premonsoon-2009

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One of the greatest weather hazards in East India including is Thunder storm activity associated with squall (Or sudden strong winds), heavy rain,hail storm during premonsoon season i.e. March to May. A type of cloud which is tall, dense and creates thunder and lightning is known as cumulonimbus cloud. Cumuliform clouds are a classification of clouds characterized by irregular shapes that exhibit vertical development. Cumulonimbus clouds usually form from cumulus clouds at a much lower height, thus making them, like cumulus clouds grow vertically instead of horizontally, thus giving the cumulonimbus its mushroom shape. The base of cumulonimbus can be several miles across, and it can be tall enough to occupy middle as well as high altitudes. Cumulonimbus clouds may form over an area as a single or in groups. In general thunderstorm activity occurs over an area when cumulonimbus clouds formed over that area under favourable atmosphere. Thus to observe the thunderstorm activities over a region it is required to see the formation & growing of cumulonimbus clouds over that region.

Kolkata a metro city of East India experiences thunderstorm activities associated with sudden strong winds heavy rain etc which causes disturbance in normal activities of the city during premonsoon season. So it is necessary to know the statistics of thunderstorm activities over the important city like Kolkata for proper planning of various services in the city. Satellite imageries are important observation and tool to see the cumulonimbus clouds in different areas. Thus in this paper, an attempt has been made to prepare a statistics of cumulonimbus clouds also known as convective cells over Kolkata as observed in satellite images during 15th April-31st May 2009.During this period 15 convective cells were observed over Kolkata and studied w.r.t. different characteristic features viz. Initial location, time of development, areal extension and intensity in terms of CTT of convective cells and have been tabulated. Also various statistics of different features of the convective cells are prepared.This study may help for early warning of thunderstorm over Kolkata in future.