Use of real time lightning observations for early warning of meteorological hazards

C. Price

Department of Geophysics and Planetary Sciences, Tel Aviv University, Tel Aviv, Israel

(cprice@flash.tau.ac.il)

Today many countries around the world have ground-based lightning detection networks that supply real time lightning data with high spatial and temporal resolution. In addition, global networks are sprouting up based on the detection of very low frequency (VLF) radiation emitted by lightning discharges. Lightning intensity is strongly connected to convective precipitation processes, and hence can possibly be used to estimate regions of heavy rainfall, with possible nowcasting capabilities for flash floods. Furthermore, severe weather storms (producing tornados, derechos, hailstorms, etc.) appear to exhibit specific lightning signatures, particularly in the polarity of the lightning discharges. Finally, lightning may also supply important information related to tropical hurricane genesis. In the presentation a few examples will be presented of how lightning information may help in the early warning of meteorological hazards.