Lightning detection networks observe lightning flashes at differing spatial and temporal scales, and weather forecasters are increasingly using this information to monitor convective patterns. The planned GOES-R Geostationary Lightning Mapper (GLM) will detect intra-cloud and cloud-to-ground lightning with nearly uniform performance in both space and time. The GLM will provide data at spatial and temporal scales that are currently unavailable, so existing networks must be used to simulate future capabilities. This talk describes multi-scale lightning observations, the performance of ground-based networks, and some specifications and benefits of the GLM. Storm warning applications that use lightning data are described, including lightning jumps and severe weather, improving precipitation estimates, data assimilation (modeling efforts), improving hurricane intensity forecasts, and visualizing lightning at the National Weather Service Ocean Prediction Center.