

Nowcasting lightning activity over the Mediterranean Sea

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As part of the EU FP6 FLASH project, we plan to develop nowcasting techniques to improve our short term estimates of heavy precipitation and possibly flash floods. As part of this effort the ZEUS lightning data were used to study to characteristics of lightning storms over the Mediterranean region. The ZEUS ground network is a very low frequency (VLF) lightning detection network run by the National Observatory of Athens (NOA). We have looked at the statistics of thunderstorms (lifetime, size, motion vectors, etc.) to better understand the characteristics of these thunderstorms. Using these statistics we have started to develop nowcasting algorithms that estimate the lightning activity in the next few hours. Initial results will be presented, while connections to heavy precipitation will be addressed in future research. Initial results are promising, showing that simple algorithms can give a useful estimate of the location of thunderstorms in the coming hours.