

The Modern Early Warning System for Severe Weather Events: the Theory and Applications

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A brief introduction is given to the modern Early Warning System for Severe Weather Events (EWSSWE) with emphasis on its main functions and the key technologies adopted as well as the applications. Using WWW as its platform, EWSSWE generates and demonstrates a series of forecast and early warning products, including the diagnoses of the severe convection indexes, extrapolative products based on satellites/radars, meso-scale model prediction outputs as well as probability products of severe weather outlook and early warning via "the composite nesting method". The EWSSWE generates promptly the forecast/warning products that can be called remotely and displayed artistically through the internet with automation and stable operation. Its preliminary applications to the operational services show that the EWSSWE is able to improve the local weather forecast accuracy and thus becomes a powerful tool with the warning products of quality.

Key words: Early warning system; Severe convection index; Composite nesting method