

Developments in echo tracking - enhancing TITAN

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The TITAN storm tracking algorithm has been widely used since its introduction in 1993. During that time a number of modifications have been made to improve the performance, and we discuss these improvements. More recently, work has begun on several enhancements: (a) using an optical-flow field tracking technique to improve the motion estimation for newly-developed storms; (b) using an algorithm (such as Steiner et al) and bright-band detection to limit the identified storms to convective regions only, since TITAN works well with convective storms; and (c) using a 2-D spectral technique to separate the scene into various spatial scales, to apply tracking to the entities at those various scales, and to test the assumption that forecasts for larger spatial scales will be valid for longer lead times.