Australian severe thunderstorm studies almost invariably have a radar and low to mid-level meteorology focus, and are typically confined to an examination of events and climatologies in the vicinity of the more populated localities. This study examines the characteristics of eastern Australian severe weather, based on satellite detection of the enhanced-V signature. Quantitative enhanced-V parameters analyzed for their potential severe weather associations include (a) those examined by Brunner et al. 2006, and Brunner et al. 2007 (i.e., B06 and B07), (b) the temperature gradient between the cold storm top and the warm wake, and (c) the temperature difference between the storm top and the tropopause. This analysis includes a comparison with the B06/B07 findings. Additionally, this study examines the upper-level environments associated with the most intense severe weather outbreaks and enhanced-V signatures.