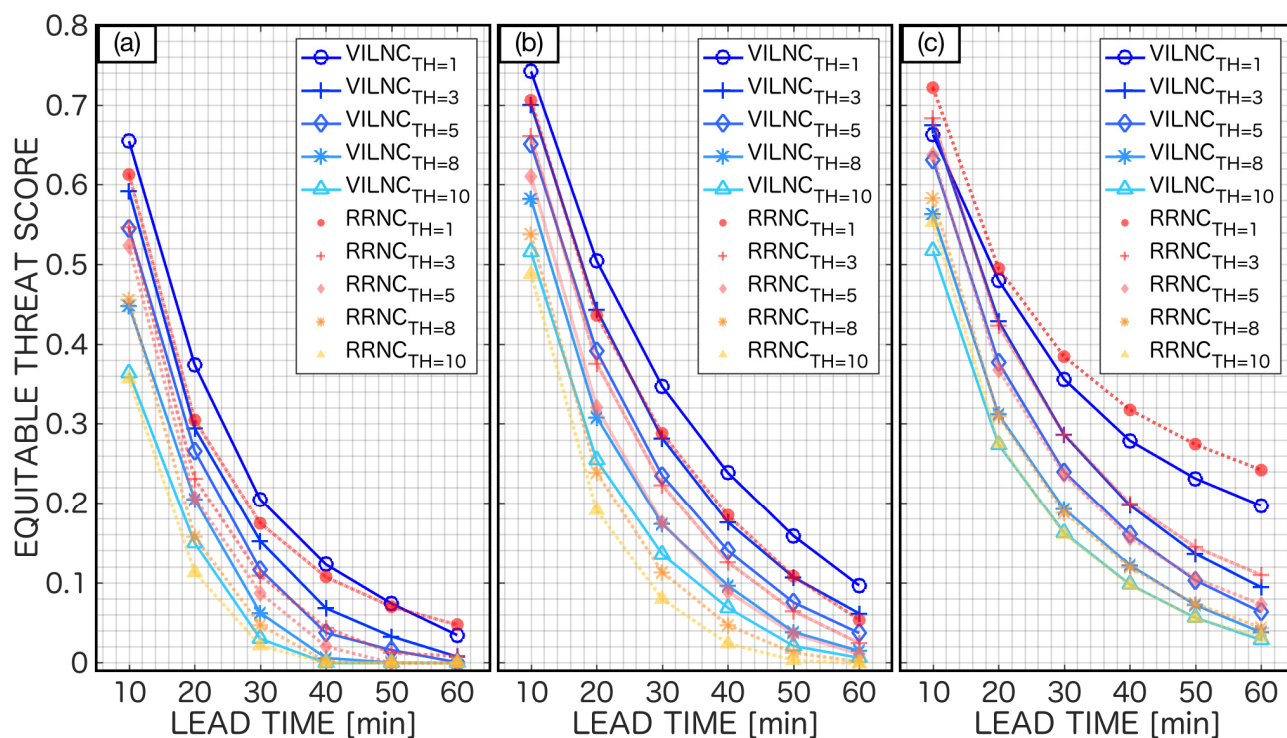


Hirano, K., and M. Maki, 2018: Imminent nowcasting for severe rainfall using vertically integrated liquid water content derived from X-band polarimetric radar. *J. Meteor. Soc. Japan*, **96A**, 201-220.
<http://doi.org/10.2151/jmsj.2018-028>



↑ Figure 1. Comparison of ETSs for different rainfall thresholds at 3 rainfall events. Solid, cool color lines show the skill for VIL_NC model, while dashed, warm color lines show the skill for RR_NC model, both measured against XRAIN.

- A very-short-range nowcast system (VIL_NC) using vertically integrated liquid water content, which is estimated from the X-band polarimetric radar, is developed to increase the skill in forecasting imminent localized heavy rainfall (LHR).
- During the three case studies, VIL_NC performs significantly better than rainfall rate nowcast system (RR_NC) by correctly capturing the time at which rainfall thresholds are first exceed at a majority of grid points from a nowcast made 10 minutes previously, whereas RR_NC produces a much greater number of delays and misses.
- The reduced time lag associated with VIL_NC was achieved partly because VIL_NC successfully captured “eggs” of rain formed aloft and “cores” brought in by vertically wind shear during the precipitation events. This shows a possible application of using VIL_NC as an indicator or alarm system for heavy rainfall that might affect daily public activities.