

# Supplementary Materials: Evaluation of Atmospheric Features in Natural Disasters due Frontal Systems over Southern Brazil

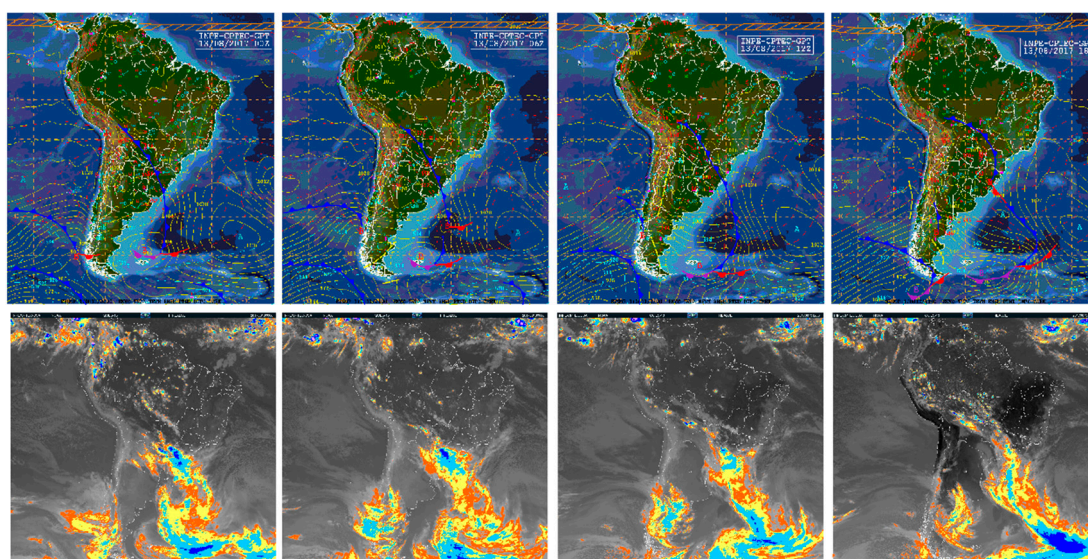
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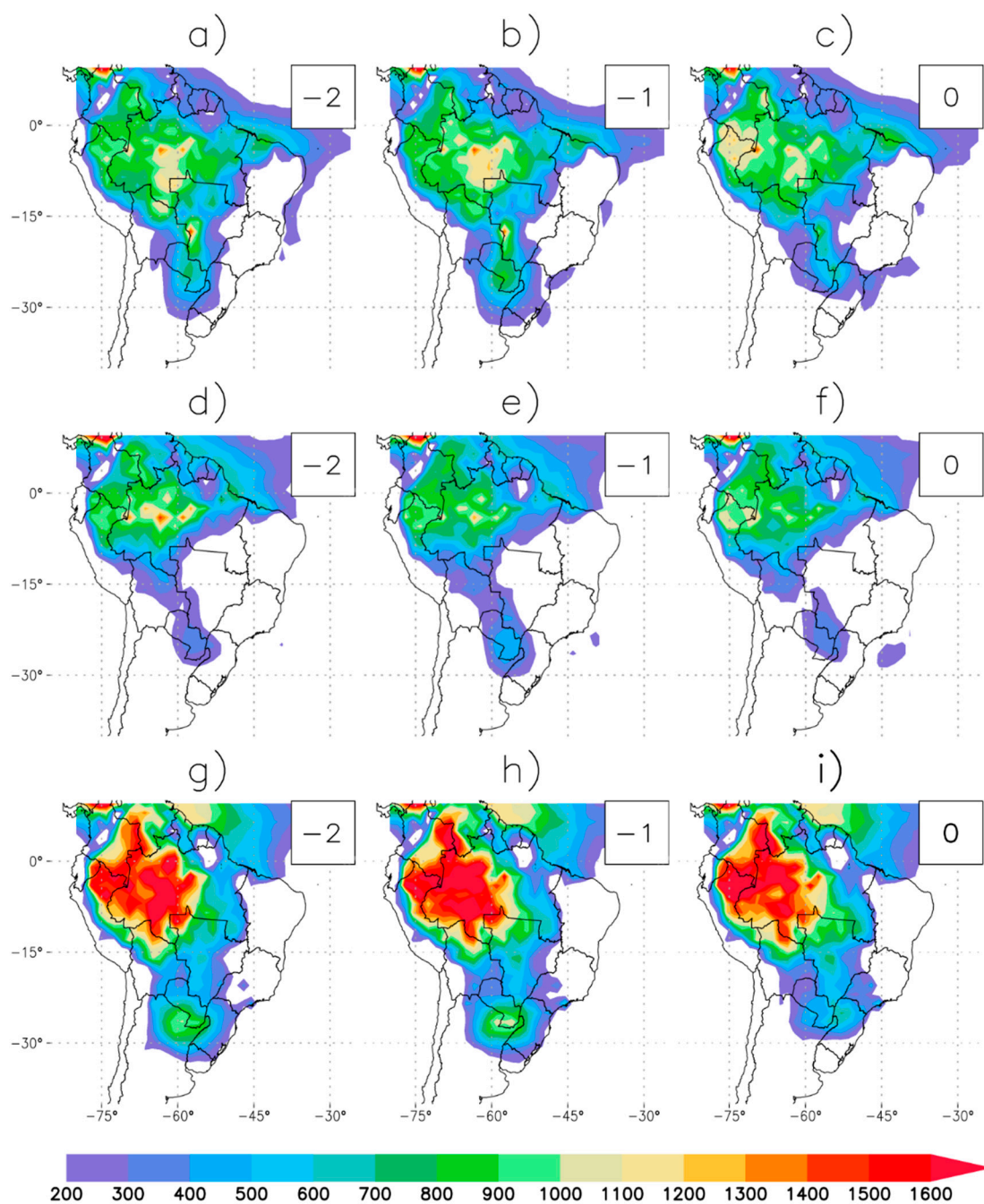
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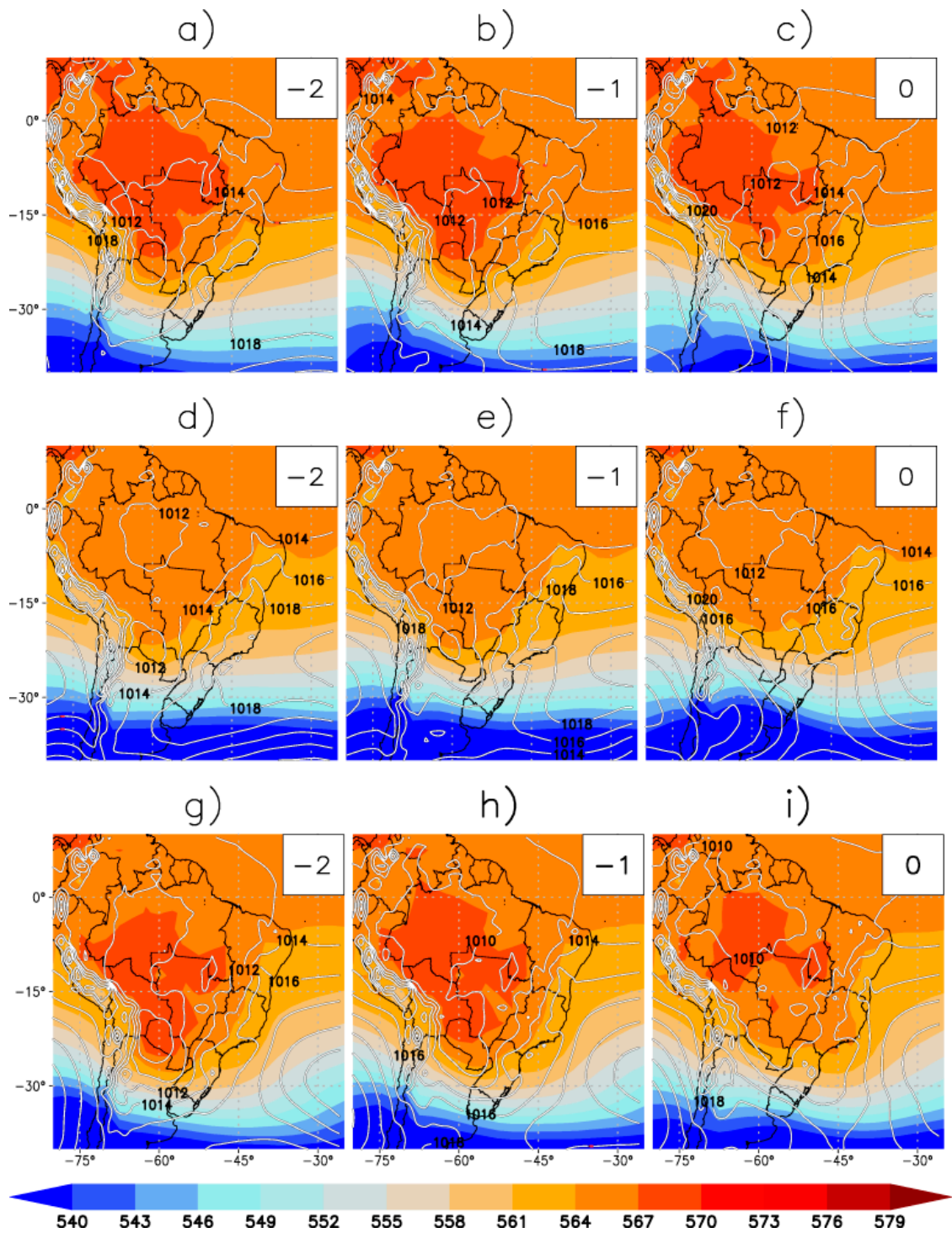
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**Figure S1.** Surface synoptic charts (top panel) and satellite image (bottom panel) of October 13, 2017, one of the NDs analyzed in this work.

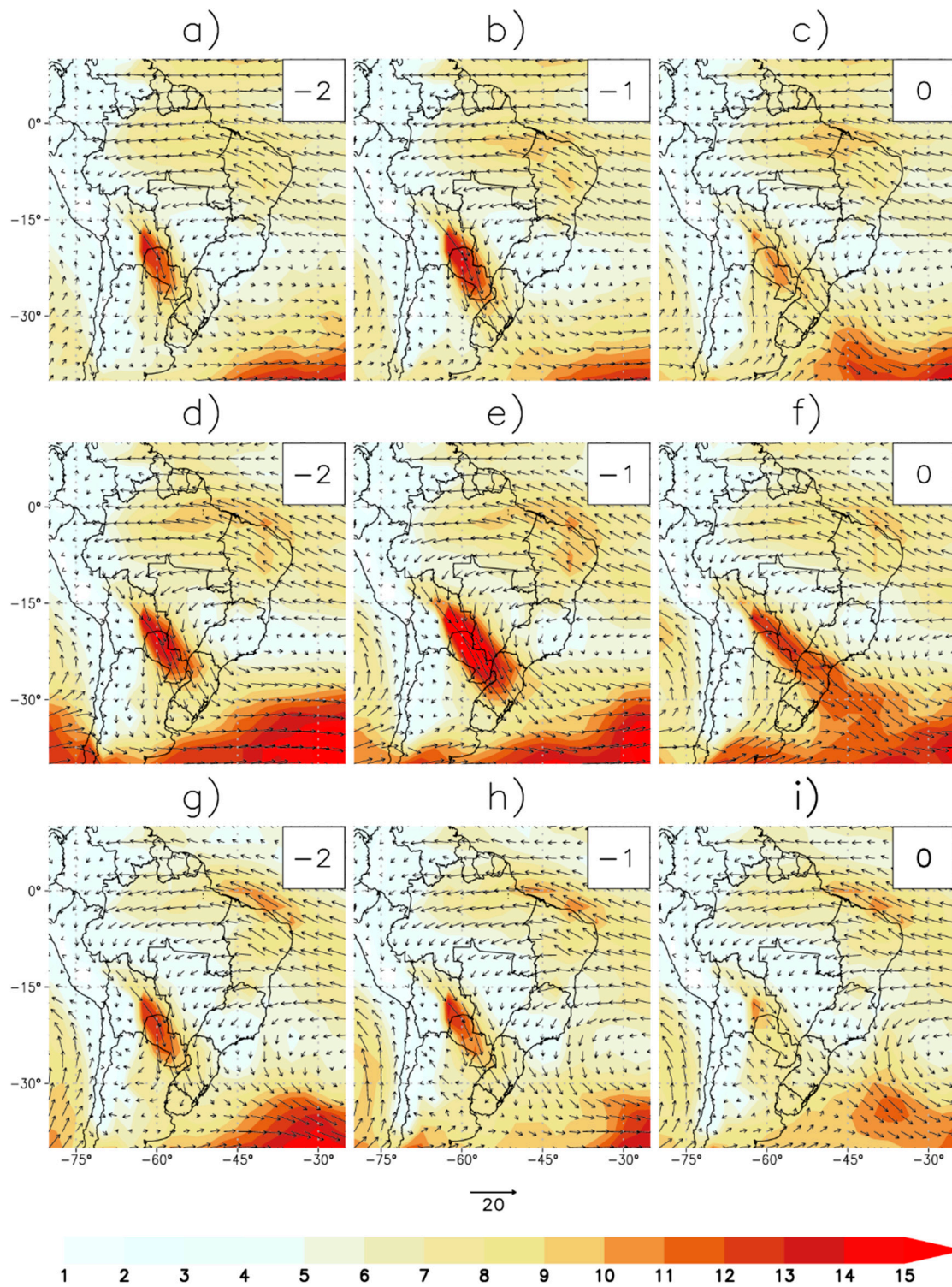


**Figure S2.** Composites of the available convective potential energy average fields (CAPE, in  $\text{J kg}^{-1}$ ) in autumn (a, b, c), winter (d, e, f) and spring (g, h, i) at 2 days before (-2), 1 day before (-1) and the day of the event (0).



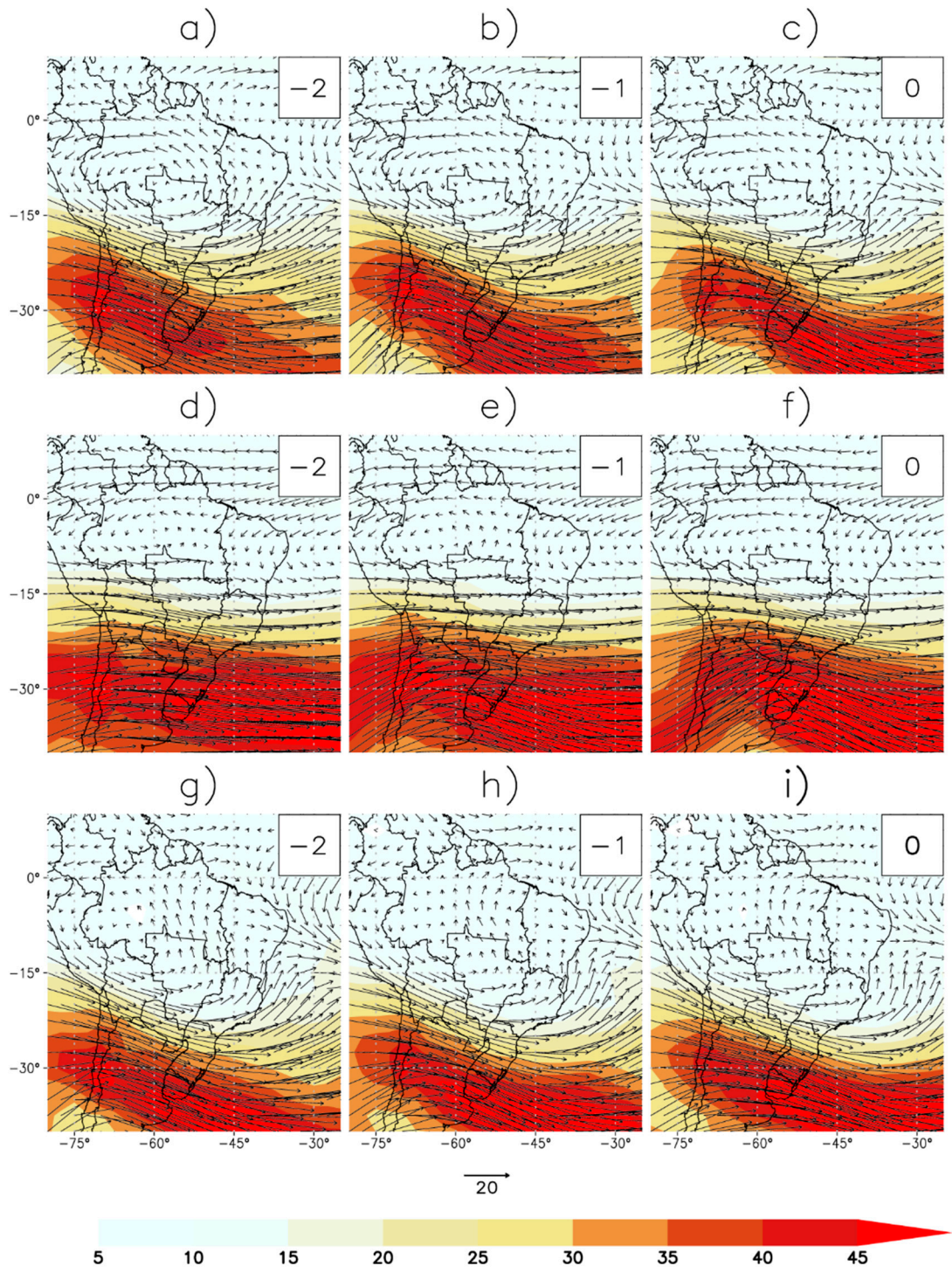
**Figure S3.** Composites of the mean sea level pressure (isolines, hPa) and layer thickness average fields (500 – 1000 hPa, hatched) in autumn (a, b, c), winter (d, e, f) and spring (g, h, i) at 2 days before (-2), 1 day before (-1) and the day of the event (0).





**Figure S4.** Composites of wind speed average fields (hatched in  $\text{m s}^{-1}$ ) and wind (arrows) at 850 hPa level in autumn (a, b, c), winter (d, e, f) and spring (g, h, i) at 2 days before (-2), 1 day before (-1) and the day of the event (0).





**Figure S5.** Similar to figure S4, but at 250 hPa level.