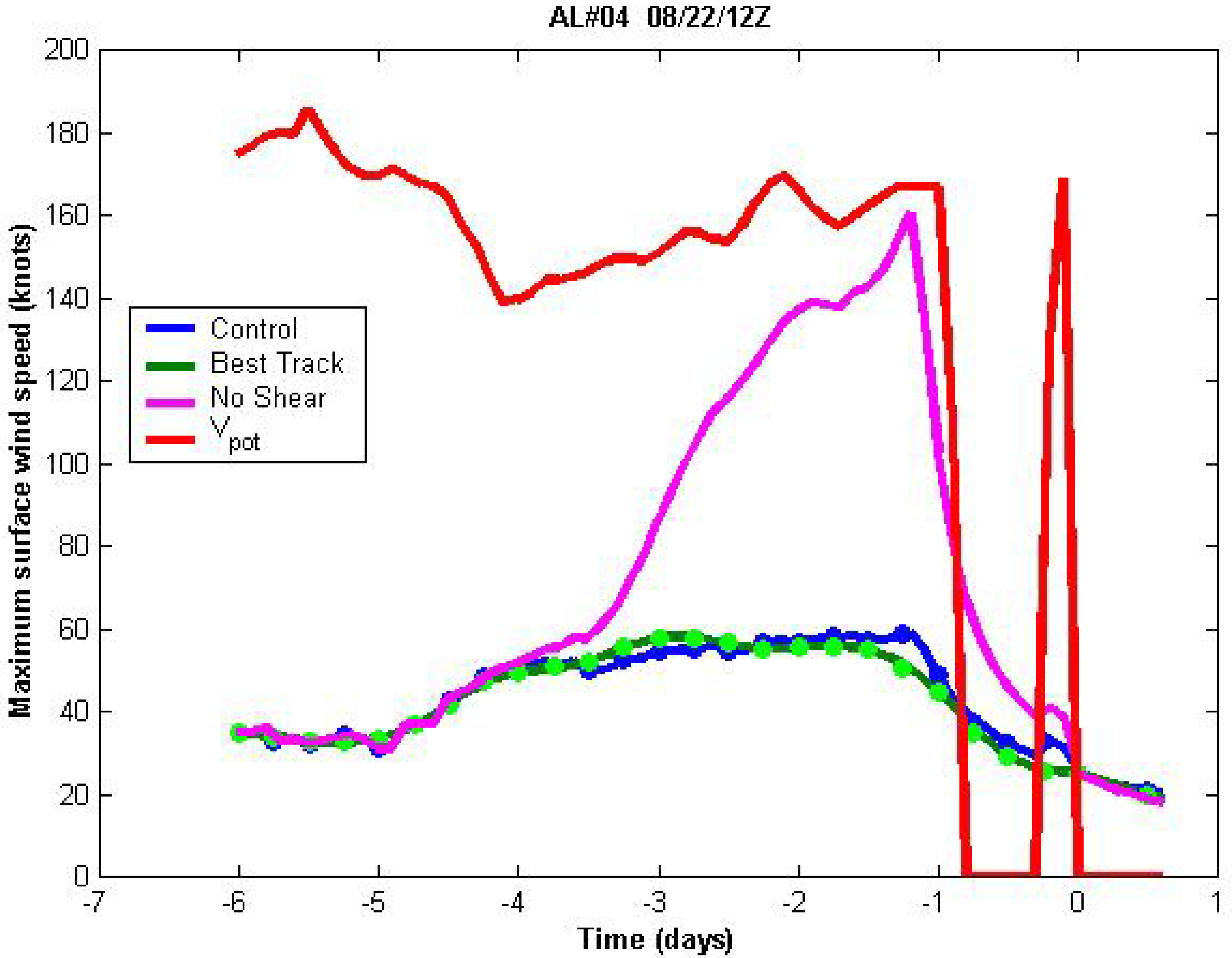
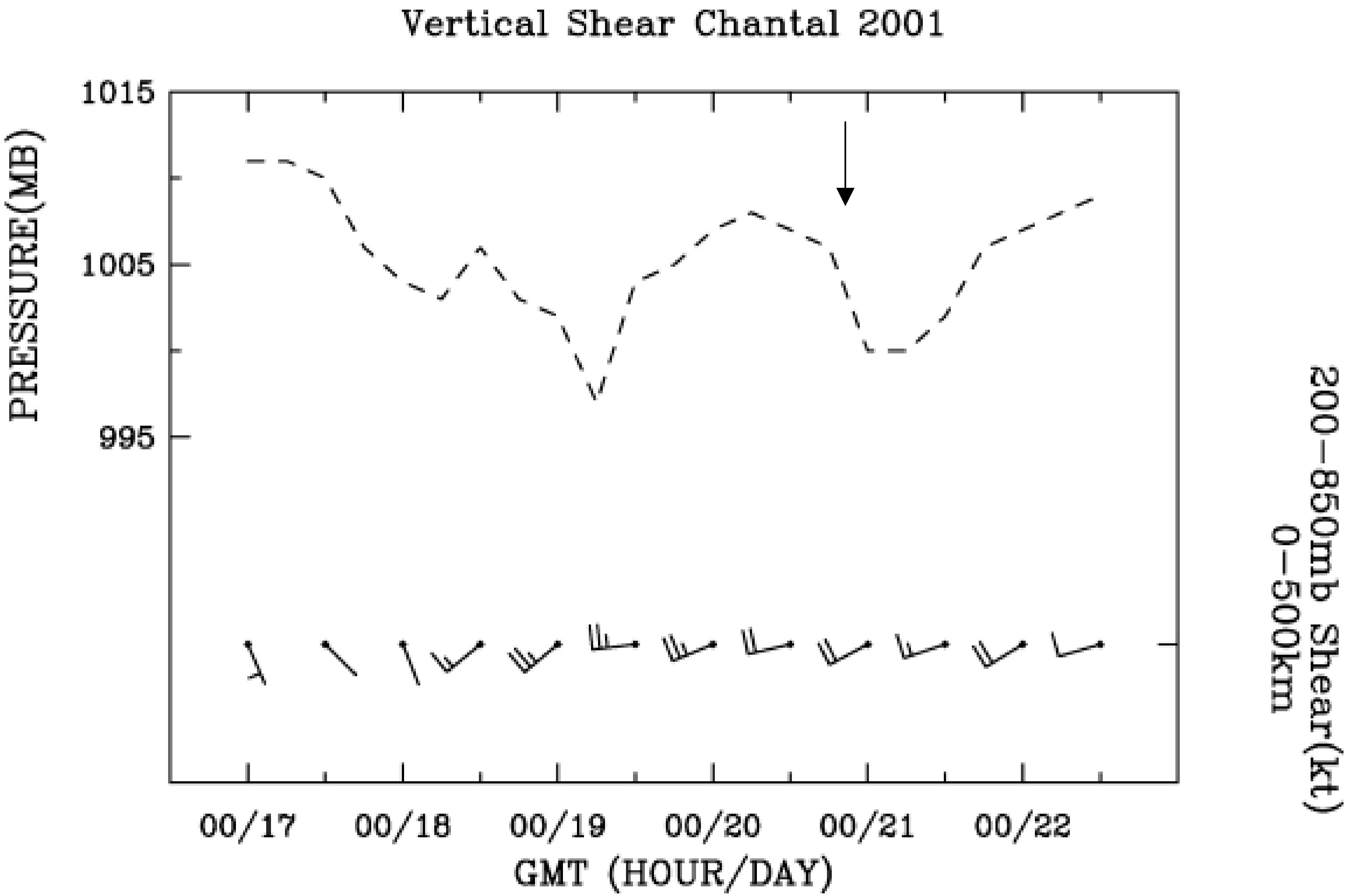
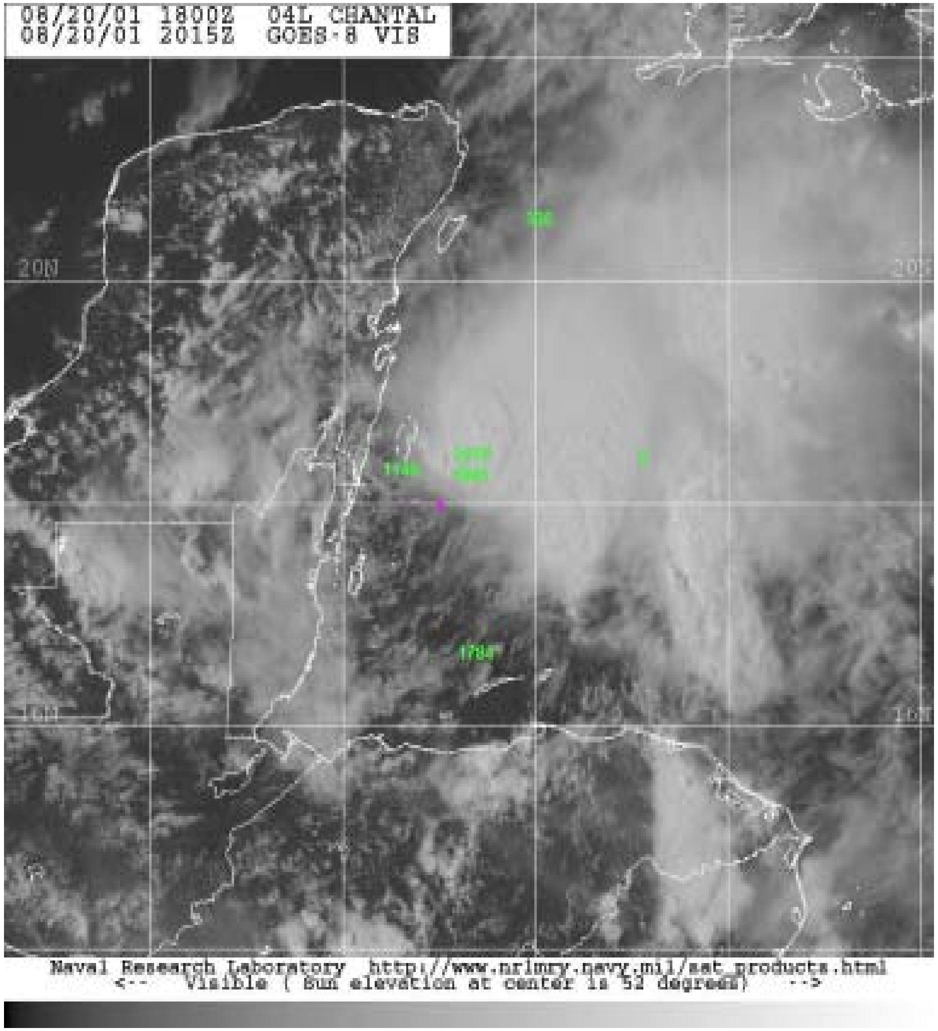


Results from simulations of Chantal using the model of Emanuel (1999).



Central pressure (dashed) and 850-200 mb wind shear vector (long barb = 5 ms^{-1}). Arrow indicates approximate flight time.



Visible image of Chantal at 2015 UTC 20 August. Green numbers show for each dropsonde the largest value of CAPE found between the surface and 850 mb.

Chantal was a strongly sheared system throughout its history.

Despite 20-knot deep-layer vertical shear, Chantal was intensifying during our flight.

Intensification in the presence of shear is important to understand, because almost all hurricanes begin as strongly sheared systems.

Deep convection contained the expected response, with strongest convection downshear left (check)

CAPE varied dramatically between upshear and downshear, with large values downshear. It is hypothesized that vertical shear-induced vertical circulations control the CAPE.