Nascent Supercell

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http://www.underthemeso.com/blog/wp-content/uploads/2006/06/_DSC4009.jpg

Looking straight up a developing supercell, showing the effect of tilting

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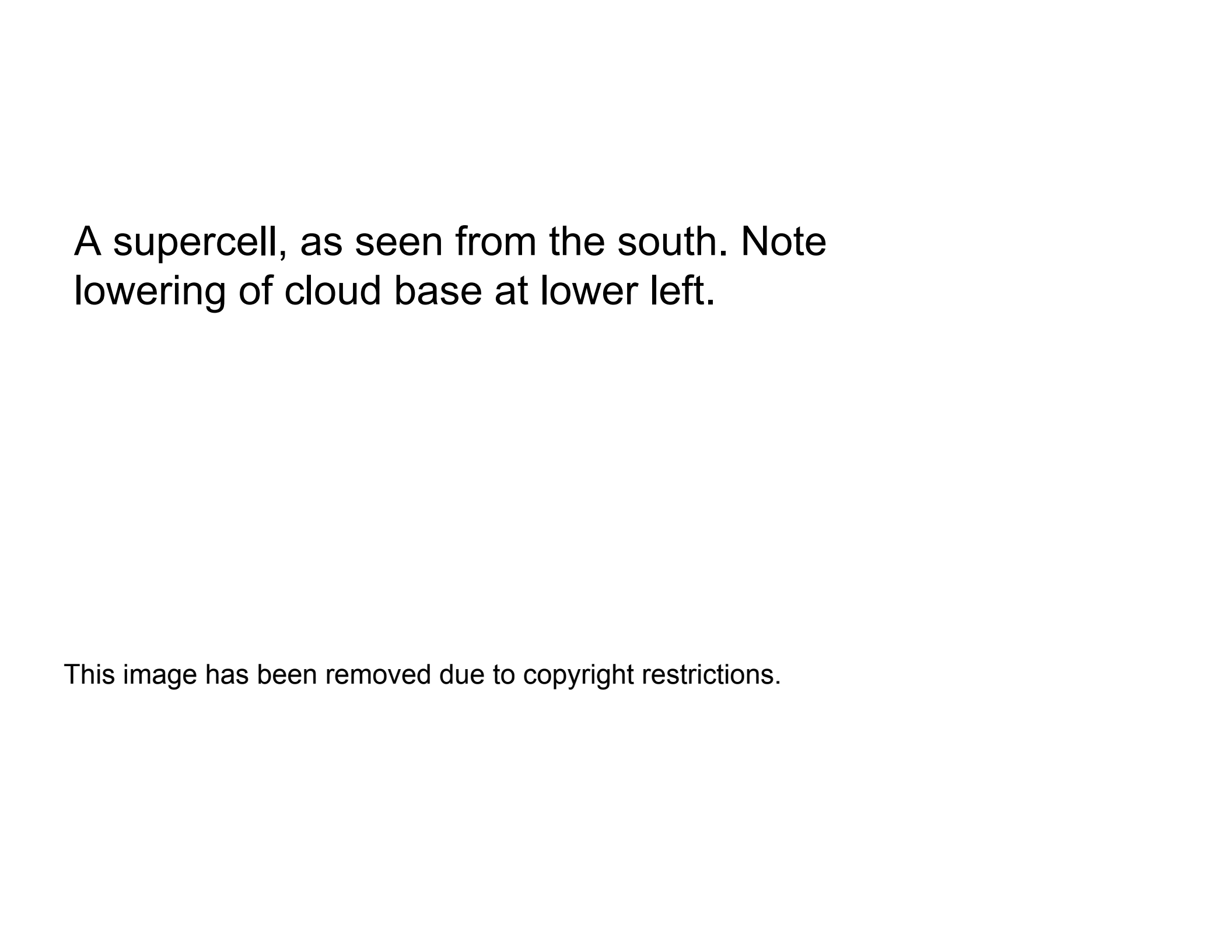
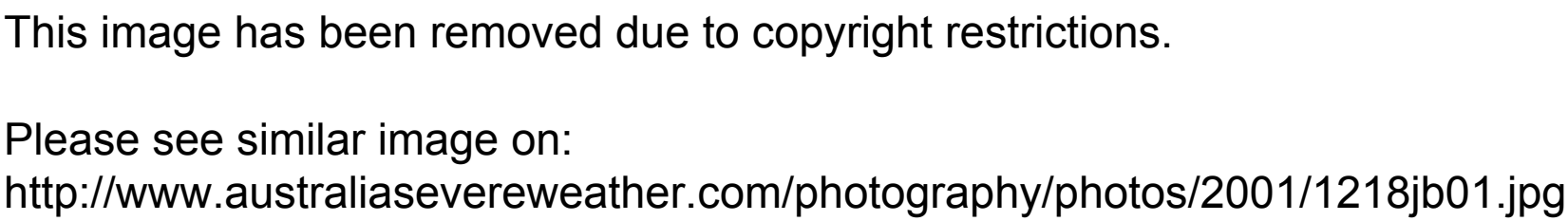
Please see similar image on:
http://www.stormeyes.org/tornado/digitals/100525a.jpg

A supercell, as seen from the south. Note lowering of cloud base at lower left.



A splitting pair, from the northwest



A supercell’s flanking line, as seen from the southwest

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http://www.stormgasm.com/4-17-02LPday/pics/supercell17.jpg

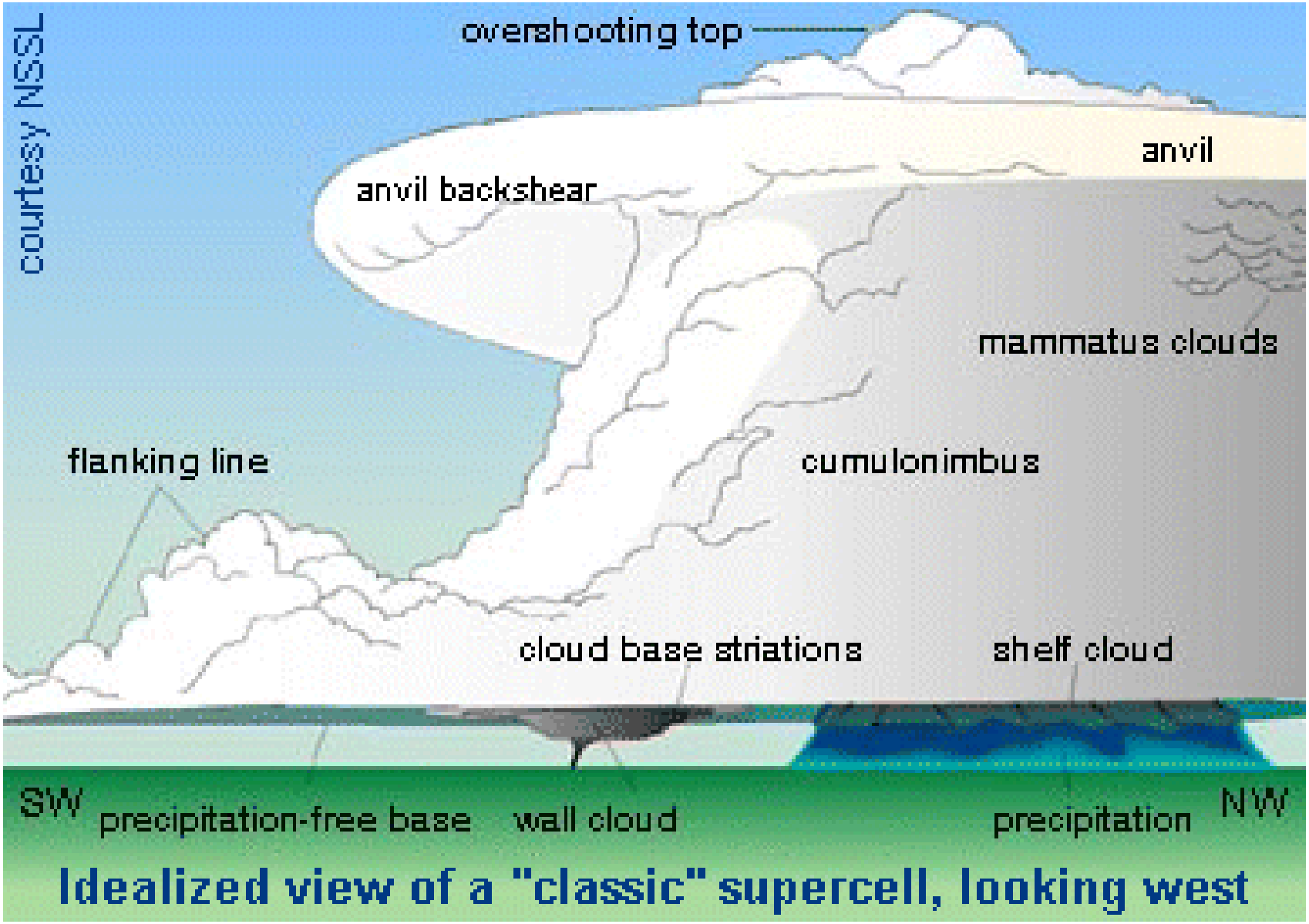

Image courtesy of NOAA.

Mammatus

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http://www.nerdtests.com/picsarea/7053a41f6c39c1eb2d9f180c2f760f9f.jpg
http://www.strangedangers.com/images/content/135439.jpg

Types of Tornadoes

Classical single funnel

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Please see the similar images on:
http://thenewsof.com/wp-content/uploads/2010/09/tornado1.jpg
http://www.horsburgh.com/images/t3.jpg
http://www.geog.ucsb.edu/img/news/2010/tornado.jpg

Wedge Tornado

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Please see the similar images on:
http://www.weatherpix.com/wsi-tor002.jpg
http://www.ladeltaweather.com/archives/tor0722.jpg
http://www.waterspoutvideo.com/images/Wedge_Tornado2.jpg

Multiple Vortex Tornadoes

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Please see the similar images on:
http://weathersavvy.com/tornado_multiple_vort2.jpg
http://www.cimms.ou.edu/~doswell/chasesums/jun0399_T01.JPG

Waterspout

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Please see the similar images on:
http://weblogs.marylandweather.com/waterspout.jpg
http://www.floridahurricanelawfirm.com/uploaded_images/singapore_waterspout_tornado_sea-709452.jpg
http://www.solarnavigator.net/geography/geography_images/tornado_sea_water_spout_florida_keys.jpg

Estimating Tornado Winds: The Bernoulli Equation

Valid for steady, frictionless flow, the quantity

$$\frac{1}{2}|\mathbf{V}|^2 + gz + c_p\theta\left(\frac{p}{p_0}\right)^{\frac{R}{c_p}}$$

is conserved along streamlines and vortex lines. The potential temperature, θ , is itself conserved.

$|\mathbf{V}| = wind\ speed$ $\qquad$ $p = pressure$

$g = acceleration\ of\ gravity$

$z = altitude$

$R = gas\ constant$ $\qquad$ $c_p = heat\ capacity$

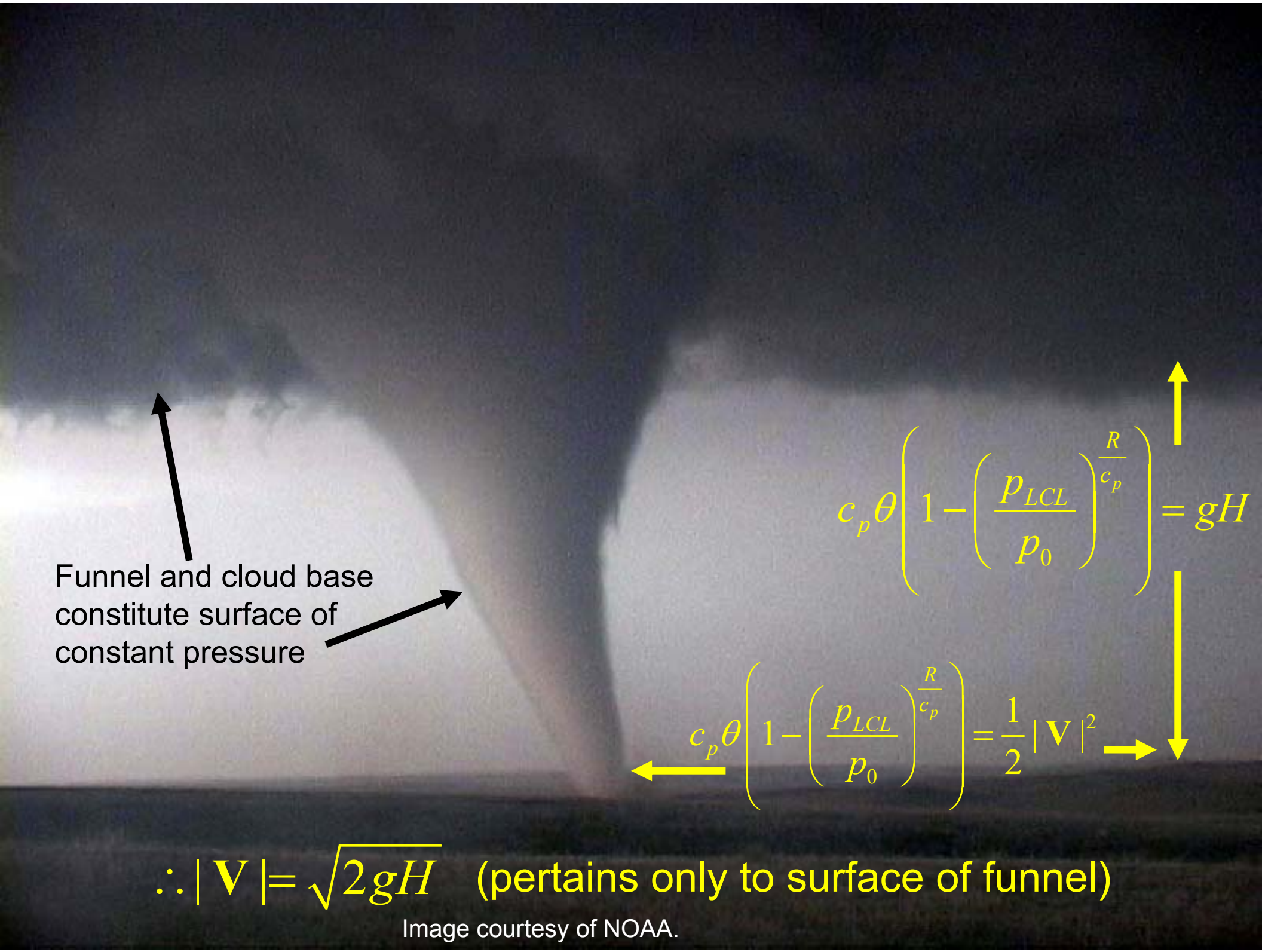

Image courtesy of NOAA.

12.103 Science and Policy of Natural Hazards
Spring 2010