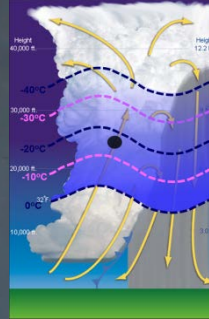


# Hail

## Near Storm Environment

- Large hail parameter ([LHP](#)) > 4
- Most unstable CAPE ([MUCAPE](#))  $\geq 1600$  J/kg
- Effective bulk wind difference ([EBWD](#))  $\geq 29$  kt

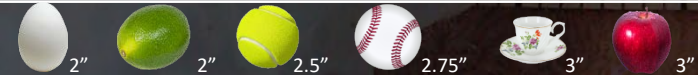
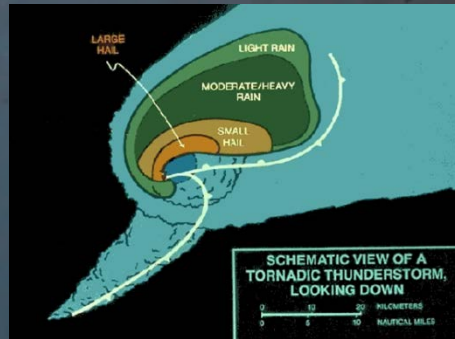
### Severe ( $\geq 1$ -inch)



## Storm Characteristics

- Discrete thunderstorm
- Weak echo region (WER)
- 50 dBZ thickness above the melting level  $\geq 16$  kft
- Reflectivity (Z)  $\geq 60$  dBZ
- Correlation coefficient (CC) = 0.93-0.97
- Three body scatter spike (TBSS)
- Storm-top divergence (STD)  $\Delta V > 70$ -102 kt
- Hail detection algorithm (HDA)  $\geq 1$ "
- Max estimated size of hail (MESH)  $\geq 1$ "

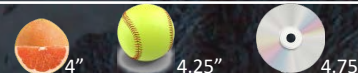
### Significant ( $\geq 2$ -inch)



- Significant hail parameter ([SHIP](#)) > 1
- Large hail parameter ([LHP](#))  $\geq 5$
- Most unstable CAPE ([MUCAPE](#))  $\geq 1850$  J/kg
- Effective bulk wind difference ([EBWD](#))  $\geq 39$  kt
- 700-500 mb lapse rate ([LR<sub>7-5</sub>](#))  $\geq 6.5$  °C/km
- Surface to equilibrium level bulk shear ([Shear<sub>EL</sub>](#))  $\geq 46$  kt

- Discrete supercell
- Bounded weak echo region (BWER)
- Updraft persists  $\geq 30$  min
- 60 dBZ above -20°C
- Correlation coefficient (CC)  $\approx 0.7$ -0.9
- Differential reflectivity (ZDR)  $\approx 0$  dB
- Storm-top divergence (STD)  $\Delta V > 130$ -162kt
- Peak rotational velocity ( $V_r$ )  $> 27$ -41 kt
- Hail detection algorithm (HDA)  $\geq 2$ "
- Max estimated size of hail (MESH)  $\geq 2$ "

### Giant ( $\geq 4$ -inch)



- Large hail parameter ([LHP](#))  $\geq 8$
- Most unstable CAPE ([MUCAPE](#))  $\geq 3000$  J/kg
- Effective bulk wind difference ([EBWD](#))  $\geq 46$  kt
- 700-500 mb lapse rate ([LR<sub>7-5</sub>](#))  $\geq 7.0$  °C/km
- Surface to equilibrium level bulk shear ([Shear<sub>EL</sub>](#))  $\geq 60$  kt

- Storm-top divergence (STD)  $\Delta V > 233$ -267 kt
- Peak rotational velocity ( $V_r$ )  $> 39$ -56 kt