

**Estimating the Intensity of Rainfall
Based Upon the Rate of Fall...**

Light - Scattered drops that do not completely wet an exposed object, regardless of duration (up to .10"/hour, maximum of .10" in six minute period)

Moderate - .11" to .30" per hour; more than .01" to as much as .03" in six minute period

Heavy - More than .30" per hour; more than .03" in six minute period

Reporting Hail Sizes

Always remember that hail diameter should be reported to the NWS in inch size diameter (middle column below)

| Hail Sizes (Common Objects Diameter) | Hail Sizes (Inch Diameter) | Freefall Velocity |
|---|---------------------------------|----------------------|
| ... Non-Severe Reports ... | | |
| Pea Size | 1/4 inch (0.25 inch) or smaller | 25 mph |
| Pinto Bean Size | 3/8 inch (0.40 inch) | 30 mph |
| Regular Marble Size | 1/2 inch (0.50 inch) | 35 mph |
| Dime Size | 5/8 inch (0.60 inch) | 40 mph |
| ... Severe Reports ... | | |
| Penny Size | 3/4 inch (0.75 inch) | 43 mph |
| Nickle Size | 7/8 inch (0.88 inch) | 47 mph |
| Quarter Size | 1 inch (1.00 inch) | 50 mph |
| Half Dollar Size | 1 1/4 inch (1.25 inch) | 56 mph |
| Ping Pong Ball Size | 1 1/2 inch (1.50 inch) | 61 mph |
| Golfball Size | 1 3/4 inch (1.75 inch) | 66 mph |
| Hen Egg Size | 2 inches (2.00 inches) | 72 mph |
| Racket Ball Size | 2 1/4 inches (2.25 inches) | 76 mph |
| Tennis Ball Size | 2 1/2 inches (2.50 inches) | 80 mph |
| Baseball Size | 2 3/4 inches (2.75 inches) | 85 mph |
| Tea Cup Size | 3 inches (3.00 inches) | 89 mph |
| | 3 1/4 inches (3.25 inches) | 94 mph |
| | 3 1/2 inches (3.50 inches) | 98 mph |
| | 3 3/4 inches (3.75 inches) | 102 mph |
| Grapefruit Size | 4 inches (4.00 inches) | 106 mph |
| | 4 1/4 inches (4.25 inches) | 112 mph |
| Softball Size | 4 1/2 inches (4.50 inches) | 117 mph |
| DVD / CD Sizes | 4 3/4 inches (4.75 inches) | 122 mph |
| | 5 inches (5.00 inches) | 125 mph |

Observing Lightning

Types:

- LTGIC - Incloud Lightning
- LTGCC - Cloud to Cloud Lightning
- LTGCA - Cloud to Air Lightning
- LTGCG - Cloud to Ground Lightning (most dangerous)
- LTGCW - Cloud to Water Lightning
- ... and combinations ...
- LTGCCCG - Cloud to Cloud and Cloud to Ground Lightning

Frequency:

- OCNL (Occasional) - Less than 1 lightning flash per minute
- FQT (Frequent) - About 1 to 6 lightning flashes per minute
- CONS (Continuous) - More than 6 lightning flashes per minute

Typical lightning observations:

- FQT LTGCCCG Distant West
- OCNL LTGIC Overhead

**Estimating the Intensity of Rainfall
Based on Ground Observations...**

Light - Scattered drops that do not completely wet an exposed surface, regardless of duration; individual drops are easily seen; slight spray may be observed over pavement; puddles form slowly if at all; sound on roofs range from slow light pattering to gentle swishing; steady small streams may form in gutters and down spouts

Moderate - Individual drops are not clearly identifiable; spray is observed just above pavement and other hard surfaces; puddles form rapidly; gutters and down spouts 1/4 to 1/2 full; sound on roof ranges from swishing to gentle roar

Heavy - Rain seemingly falls in sheets; individual drops are unidentifiable; heavy spray, to a height of several inches, is observed over hard surfaces; gutters and down spouts run more than 1/2 full; visibility is greatly reduced; sound on roof resembles roll of drums or distant roar

Beaufort Wind Scale

How to use...

- (1) Observe wind conditions and closely match to those listed in the "specification" column
- (2) Move to the left on the chart until you reach the "MPH" or "KNOTS" - this is the estimated speed

| MPH | Knots | Description | Specification |
|-------|-------|--------------------|---|
| < 1 | < 1 | Calm | Calm; smoke rises vertically |
| 1-3 | 1-3 | Light Air | Wind direction shown by smoke drift; direction not shown by wind vanes |
| 4-7 | 4-6 | Light Breeze | Wind felt on face; leaves rustle; wind vanes moved |
| 8-12 | 7-10 | Gentle Breeze | Leaves and small twigs in constant motion; wind will extend light flag |
| 13-18 | 11-16 | Moderate | Raises dust, loose paper; small branches moved |
| 19-24 | 17-21 | Fresh | Small trees (in leaf) begin to sway; crested wavelets form on inland water |
| 25-31 | 22-27 | Strong | Large branches in motion; whistling heard in overhead power/telephone wires; umbrellas used with difficulty |
| 32-38 | 28-33 | Near Gale | Whole trees in motion; inconvenience felt walking against the wind |
| 39-46 | 34-40 | Gale | Breaks twigs off of trees; impedes walking progress |
| 47-54 | 41-47 | Strong Gale | Slight structural damage occurs |
| 55-63 | 48-55 | Storm | Trees broken/uprooted; more substantial damage begins |
| 64-72 | 56-63 | Violent Storm | Widespread damage |
| 73-82 | 64-71 | Hurricane Strength | Widespread damage |