

# Downbursts

- Also called Microbursts or Macrobursts depending on size of the area affected.
- Winds may exceed 130 mph.
- Visibilities may be reduced to near zero with little or no warning.
- Can be “wet” or “dry” depending on the surrounding environment.



# Downburst Diagram

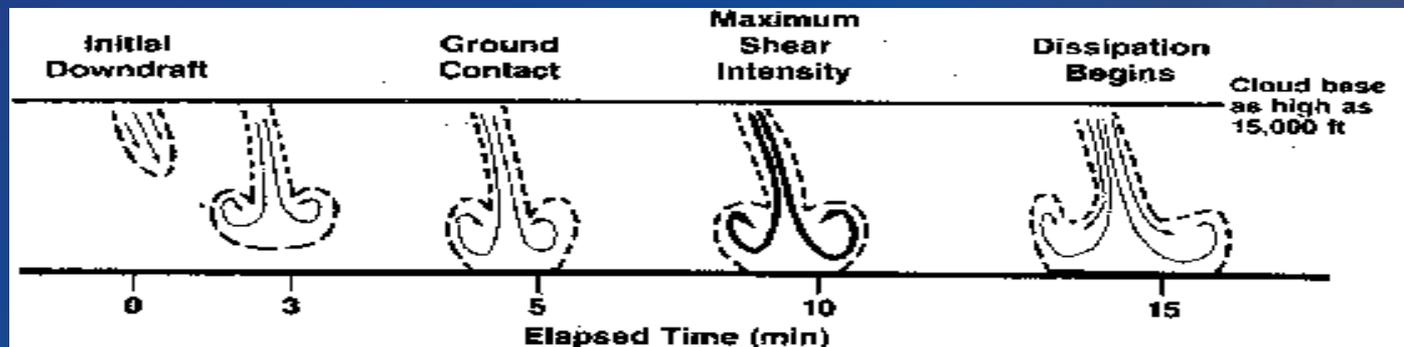
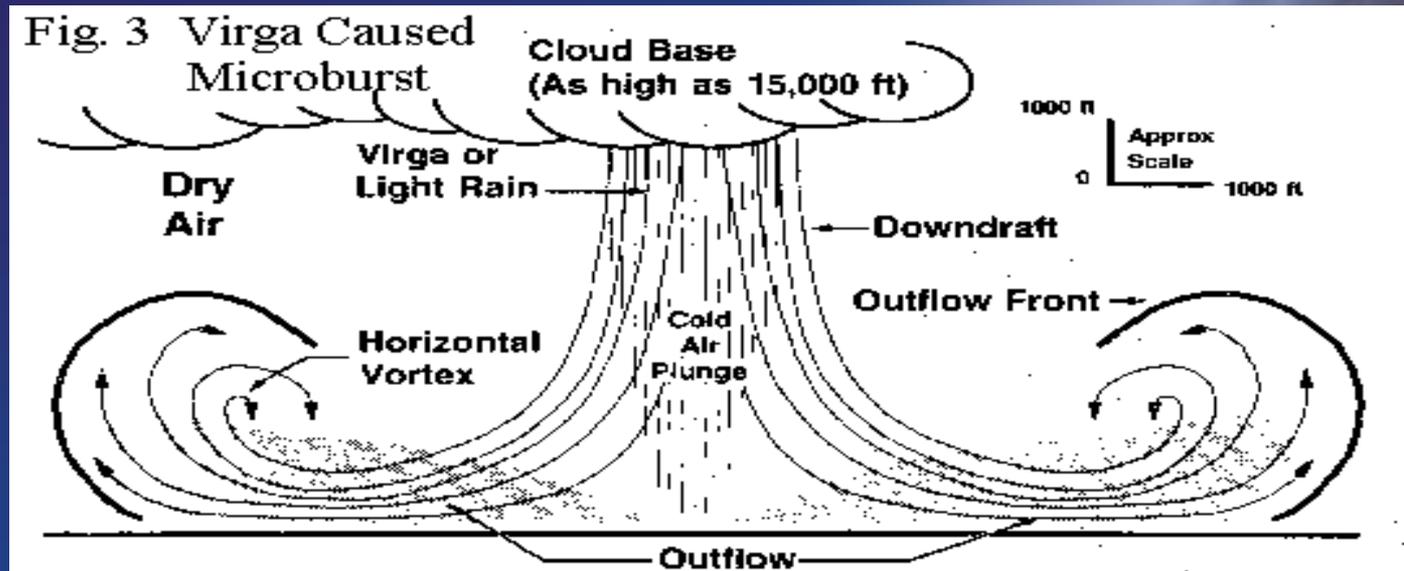


Fig. 4 Lifecycle of a typical Microburst.

# What do downbursts look like?

© C. Doswell

**Wet Microburst** – A microburst accompanied by heavy precipitation at the surface. A rain foot may be a visible sign of a wet microburst.



# Wet Downburst



# What do microbursts look like?

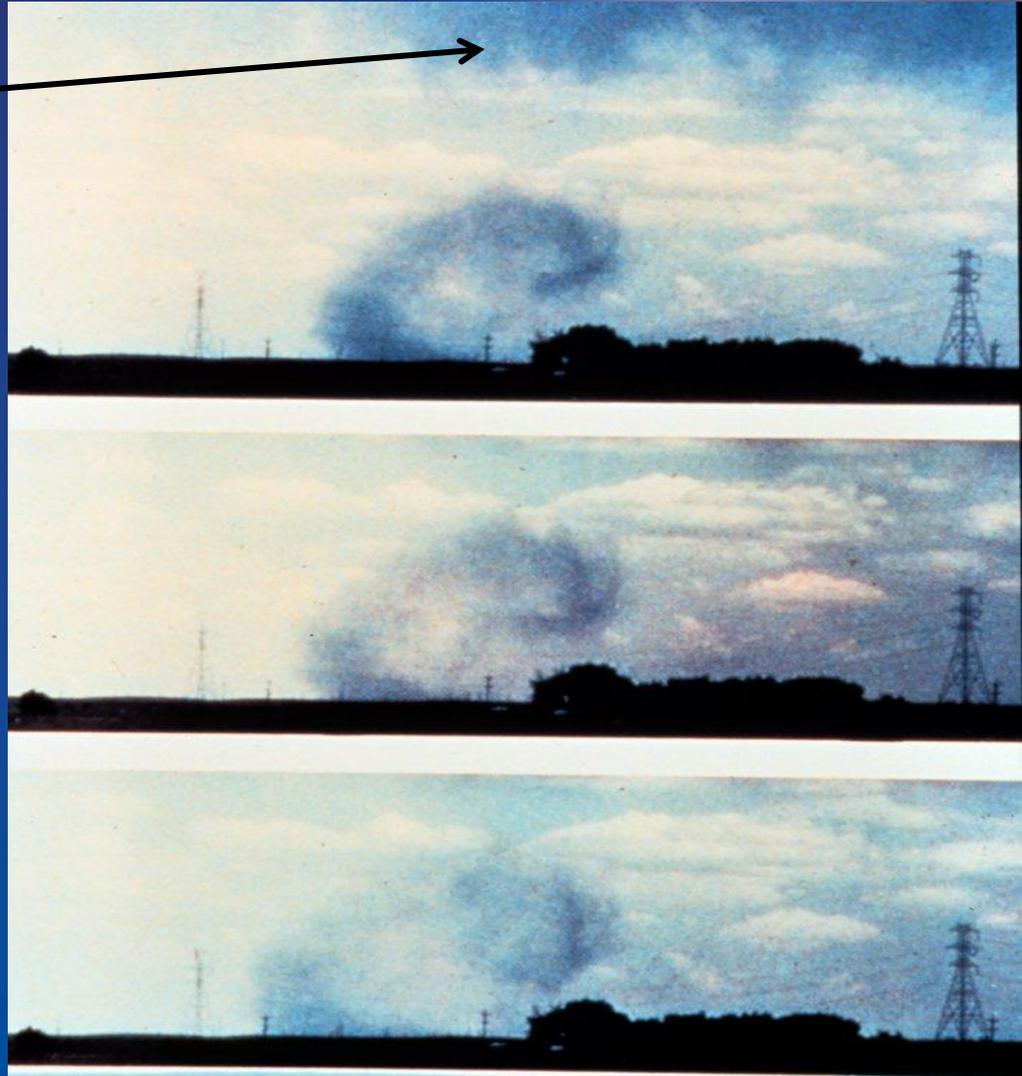
Example of a Dry Microburst

- **Virga – Precipitation evaporating before reaching the ground.**

- **Most common in the western U.S.**

- **Occur when most or all rain evaporates from the downdraft.**

- **Can cause wind damage without any rain falling.**



# Reporting Winds/Wind Damage

- Use Beaufort Scale to estimate wind speeds

- ~50 mph – Slight structural damage and large branches may break
- ~60 mph – Moderate structural and tree damage
- ~70 mph – Heavy to severe structural and tree damage

- Report Immediately:

- Wind damage
- 50+ mph winds



**Measure wind speeds when possible!**

# Beaufort Scale for Estimating Wind Speed

Beaufort*	Avg Miles per Hour	Knots	Surroundings
0 calm		0-1	Smoke rises vertically and the sea is mirror smooth
1 light air	1.2 - 3.0	1 - 3	Smoke moves slightly with breeze and shows direction of wind
2 light breeze	3.7 - 7.5	4 - 6	You can feel the breeze on your face and hear the leaves start to rustle
3 gentle breeze	8.0 - 12.5	7 - 10	Smoke will move horizontally and small branches start to sway. Wind extends a light flag
4 moderate	13.0 - 18.6	11 - 16	Loose dust or sand on the ground will move and larger branches will sway, loose paper blows
5 fresh breeze	19.3 - 25.0	17 - 21	Surface waves form of water and small trees sway
6 strong breeze	25.5 - 31.0	22 - 27	Trees begin to bend with the force of the wind and causes whistling in telephone wires. Some spray on the sea surface
7 moderate gale	32.0 - 38.0	28 - 33	Large trees sway. Moderate sea spray
8 fresh gale	39.0 - 46.0	34 - 40	Twigs break from trees, and long streaks of foam appear on the ocean
9 strong gale	47.0 - 55.0	41 - 47	Branches break from trees
10 whole gale	56.0 - 64.0	48 - 55	Trees are uprooted and the sea takes on a white appearance
11 storm	65.0 - 74.0	56 - 63	Widespread damage
12 hurricane	75+	64 +	Structural damage on land, and storm waves at sea