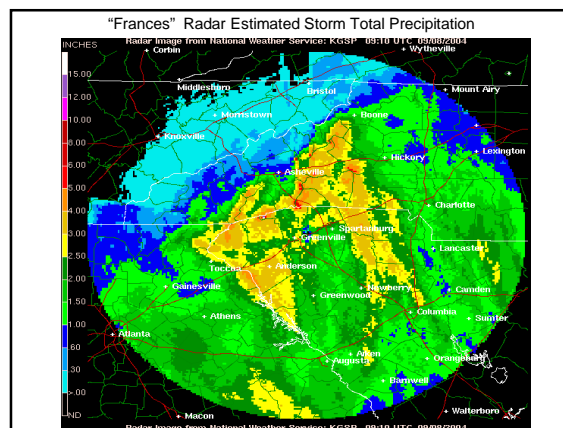
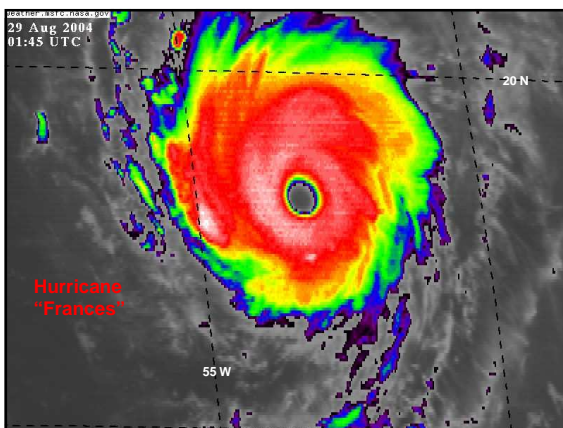
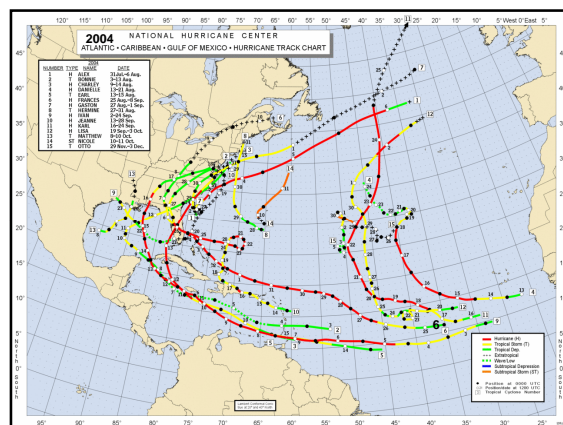


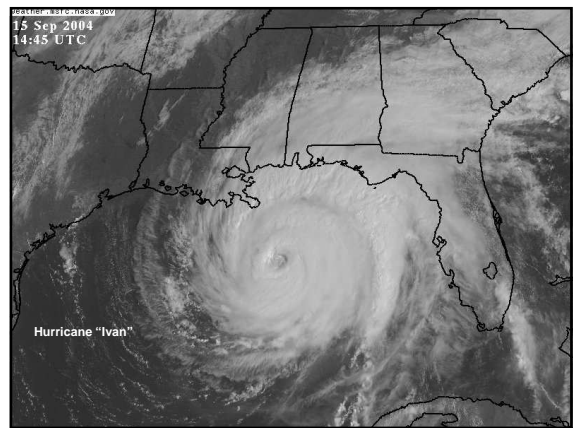
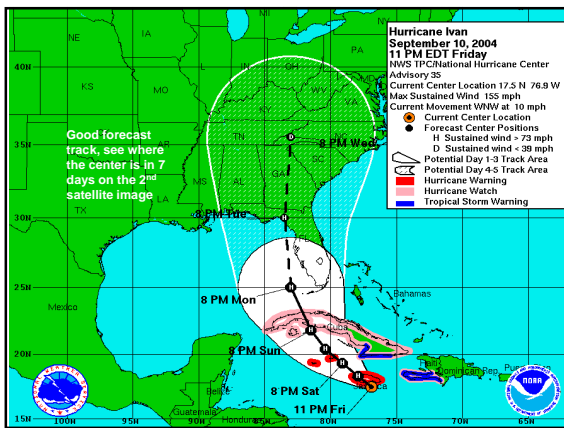
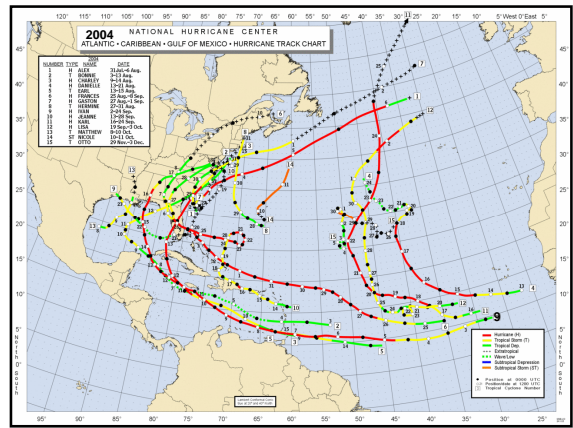
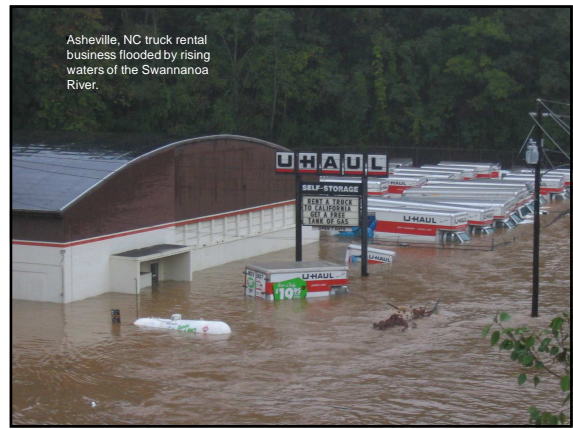
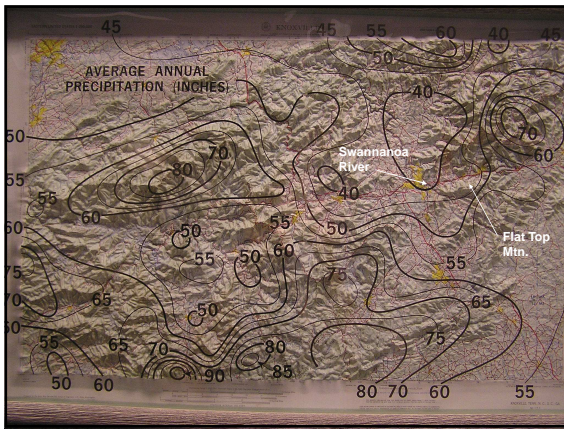
# Some Examples of Severe Weather Events in the Southern Appalachians

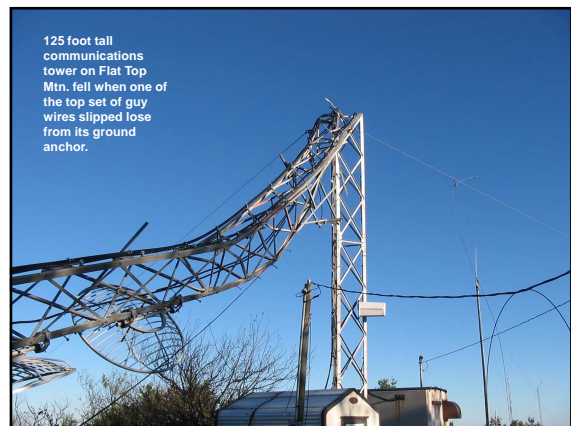
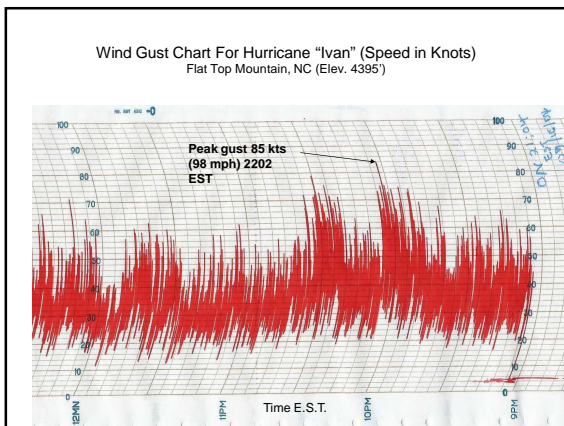
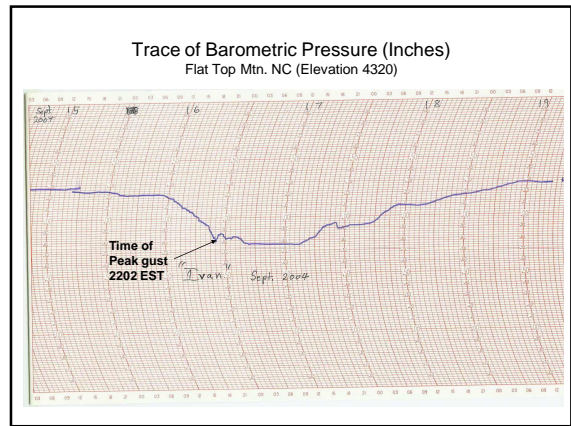
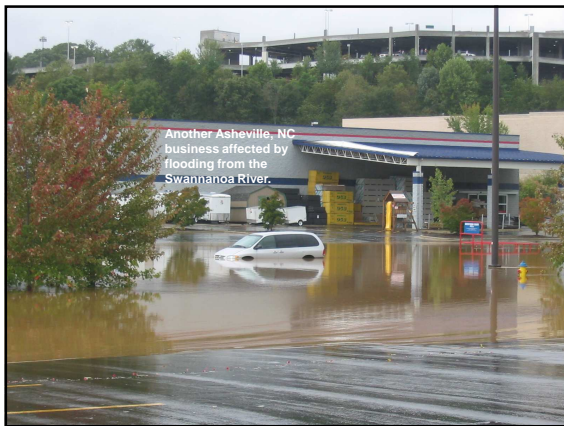
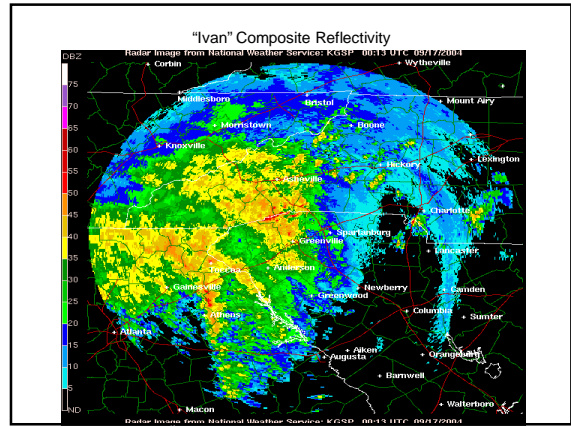
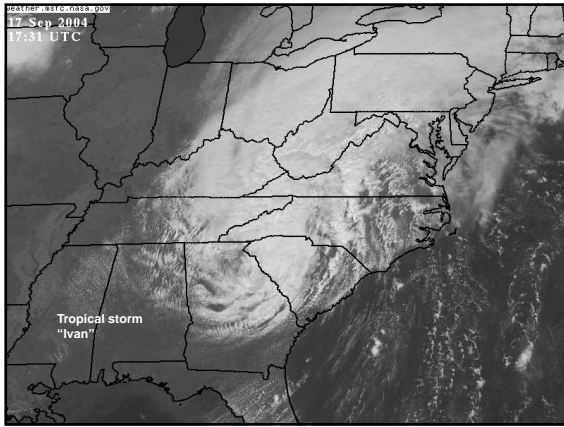
Grant W. Goadge

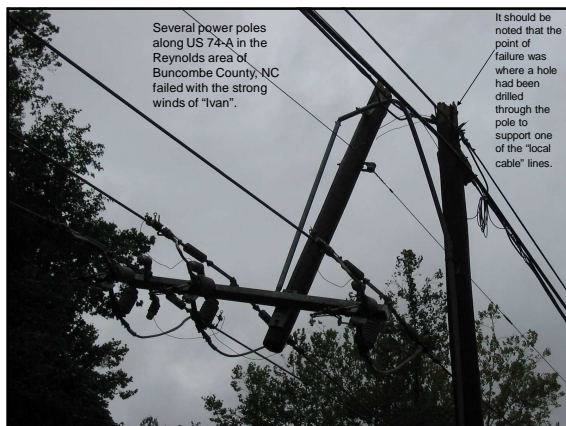
# Tropical Storms

| Flat Top Mountain Weather History             |            |           |                |                |
|---|------------|-----------|----------------|----------------|
| Tropical Weather Seasons Affecting Local Area |            |           |                |                |
| Year  | Storm Name | Month     | Total Rainfall | Peak Wind Gust |
| 1976  | None       |           |                |                |
| 1977  | None       |           |                |                |
| 1978  | None       |           |                |                |
| 1979  | David      | September | 2.95"          | 62 mph         |
| 1980  | Frederic   | September | 2.07"          | 53 mph         |
| 1981  | None       |           |                |                |
| 1982  | None       |           |                |                |
| 1983  | None       |           |                |                |
| 1984  | None       |           |                |                |
| 1985  | Danny      | August    | 2.86"          | 41             |
| 1986  | None       |           |                |                |
| 1987  | None       |           |                |                |
| 1988  | Chris      | August    | 0.67"          | 36 mph         |
| 1989  | Hugo       | September | 2.62"          | 70 mph         |
| 1990  | Marco      | October   | 3.82"          | 71 mph         |
| 1991  | None       |           |                |                |
| 1992  | Andrew     | August    | 1.93"          | 63 mph         |
| 1993  | None       |           |                |                |
| 1994  | Evel       | August    | 5.70"          | 64 mph         |
| 1995  | Jerry      | August    | 6.23"          | 64 mph         |
| 1996  | Opal       | October   | 6.55"          | 83 mph         |
| 1997  | None       |           |                |                |
| 1998  | None       |           |                |                |
| 1999  | Dennis     | August    | 0.00"          | 36 mph         |
| 2000  | Floyd      | September | 0.00"          | 62 mph         |
| 2001  | Sardon     | September | 0.24"          | 32 mph         |
| 2002  | Helen      | September | 0.74"          | 46 mph         |
| 2003  | None       |           |                |                |
| 2004  | Hanna      | September | 2.17"          | 38 mph         |
| 2005  | Istora     | September | 2.72"          | 58 mph         |
| 2006  | Blair      | July      | 2.67"          | 46 mph         |
| 2007  | Earl       | September | 9.30"          | 62 mph         |
| 2008  | Frances    | September | 6.30"          | 89 mph         |
| 2009  | Ivan       | September | 6.57"          | 89 mph         |
| 2010  | Izabelle   | September | 3.90"          | 68 mph         |



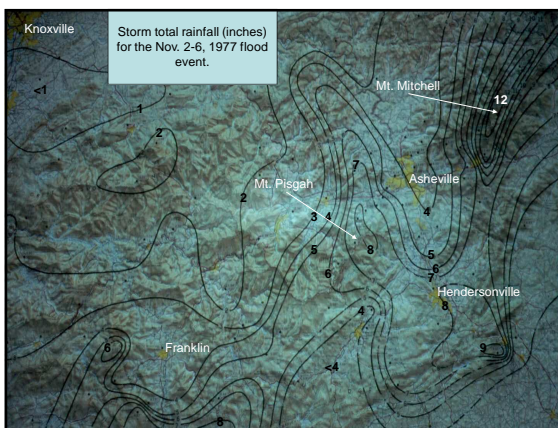
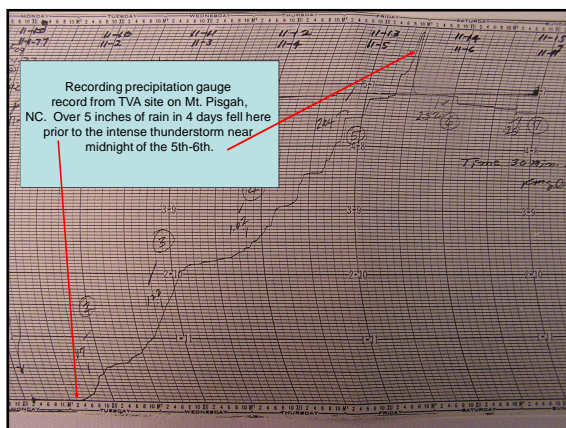
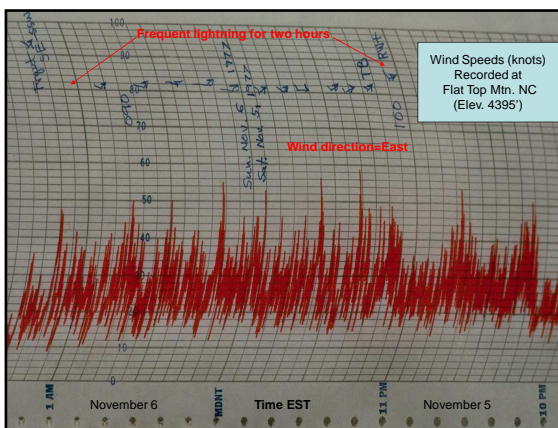
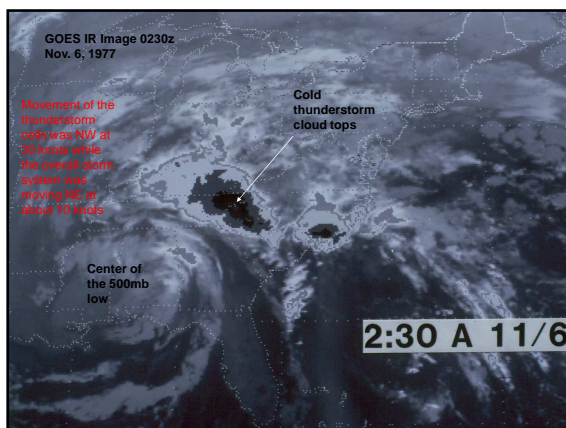


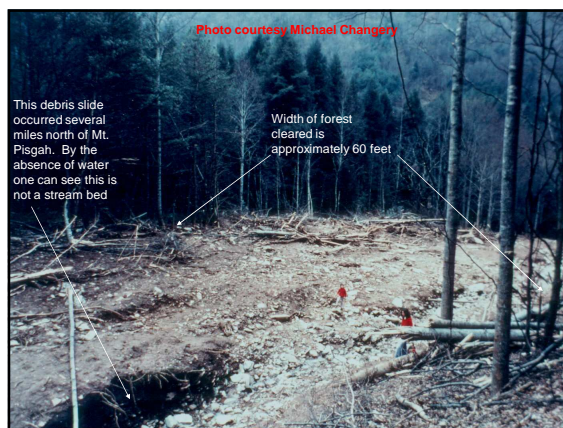
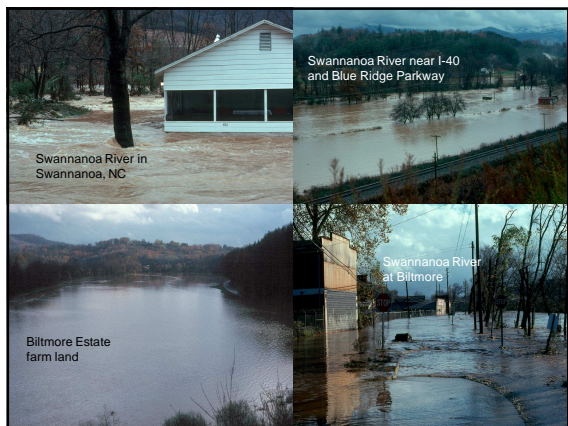




## NOVEMBER 1977

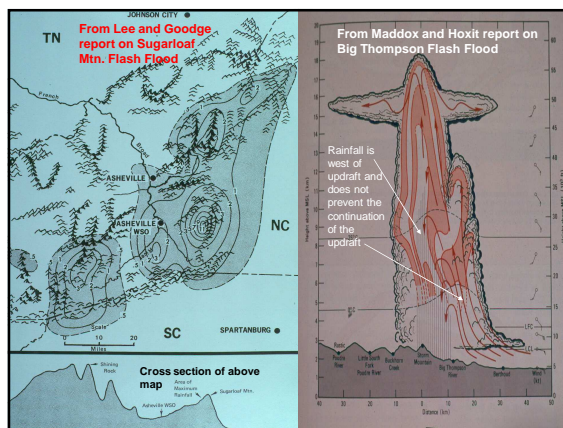
- Not all flood events result from tropical storms and hurricanes. This event was the result of a slow moving-vertically stacked 500mb low that tapped late season tropical moisture and forced it over the SE facing slopes of the Southern Appalachians. About 40 deaths in GA and 13 in NC resulted from the event.

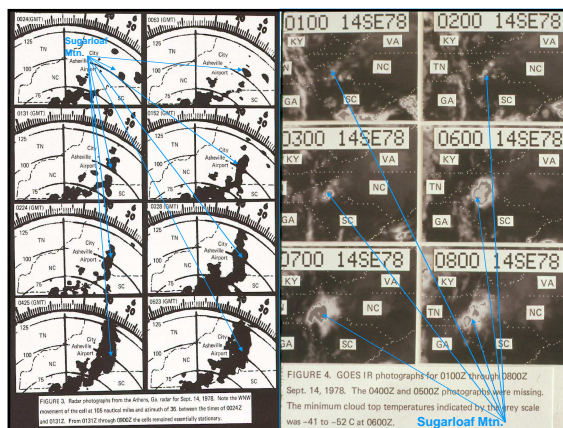
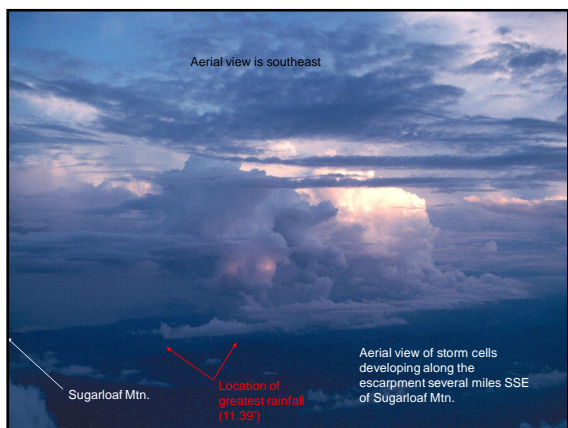
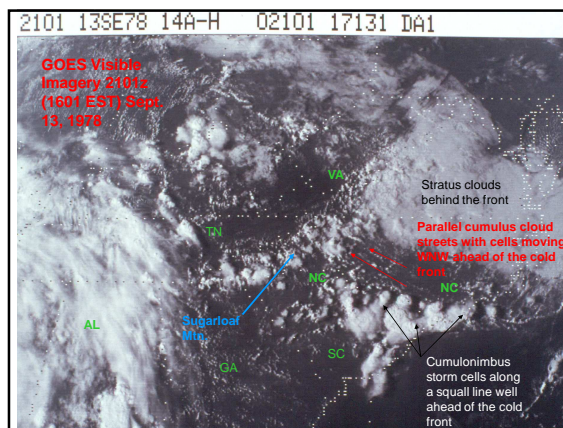
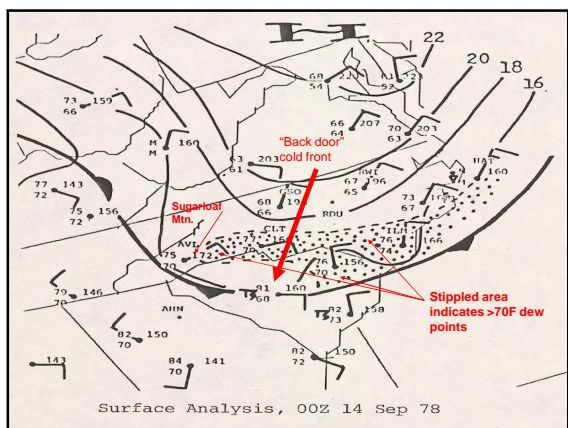
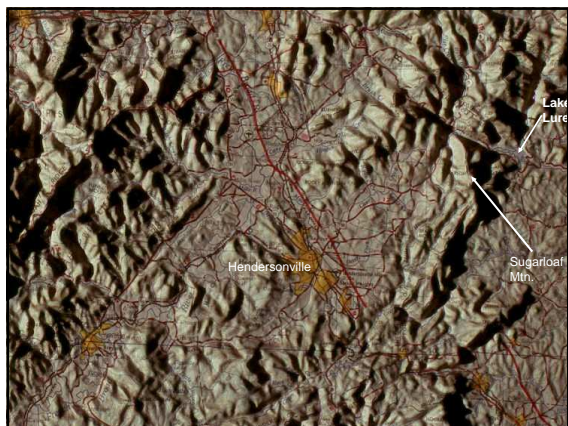


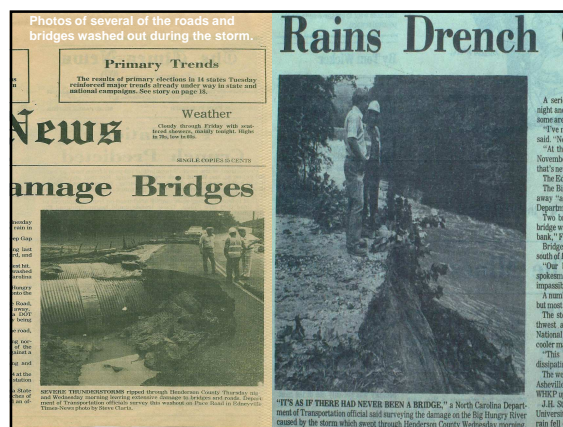
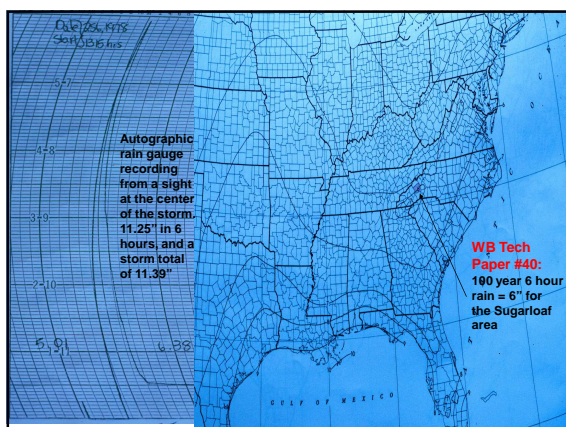


**SEPTEMBER 1978 Flash Flood Along the eastern escarpment of the Blue Ridge Mountains**

- This was a terrain locked event similar in nature to the Big Thompson River Canyon Flood in Colorado on July 31, 1976.

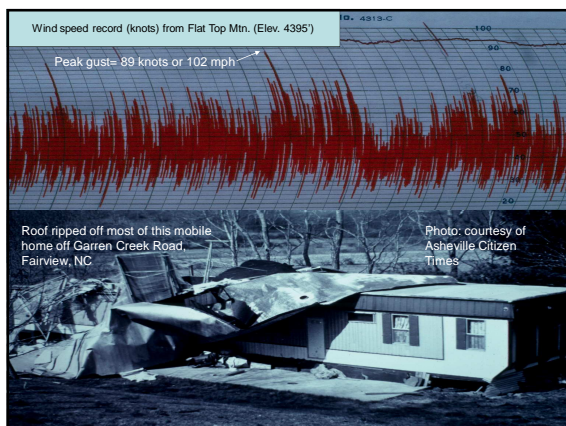
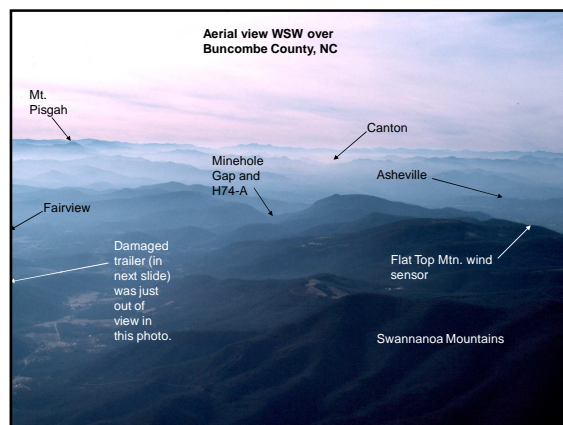






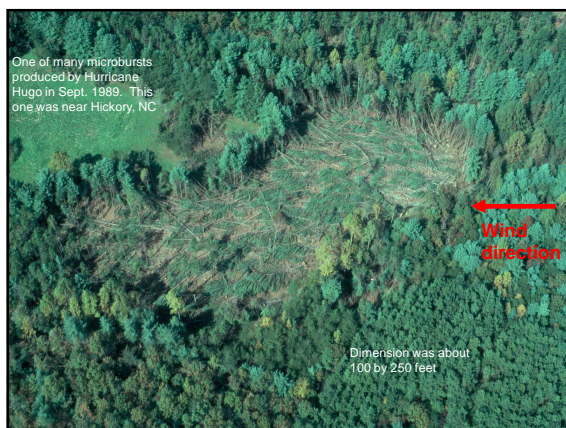
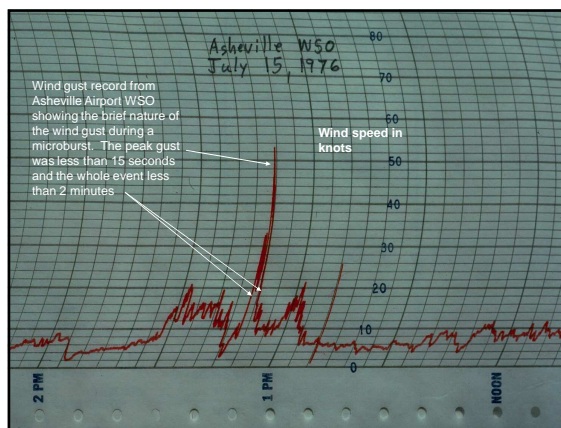
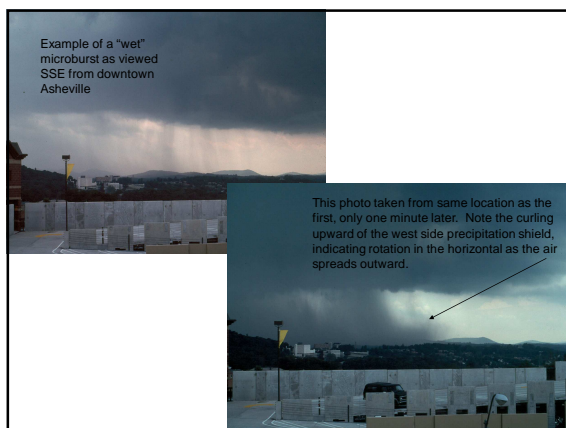
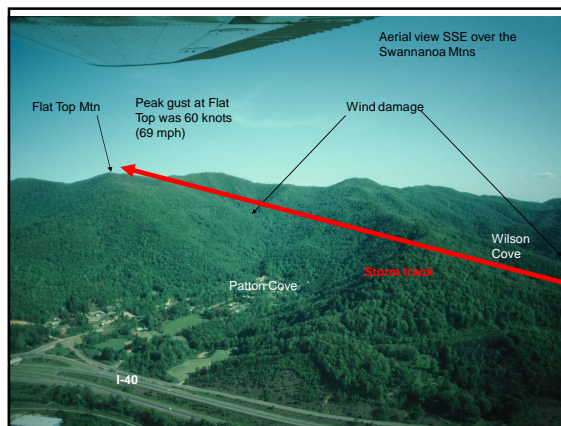
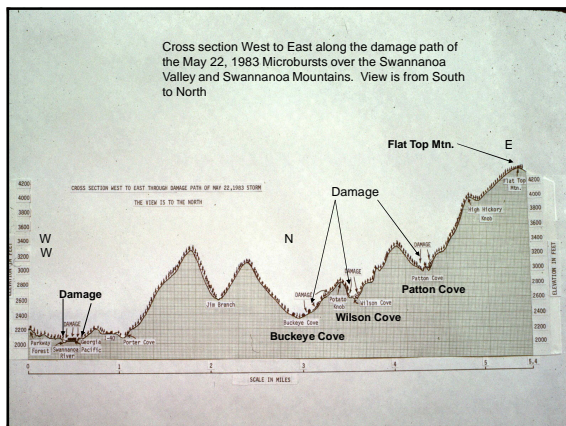
Example of Terrain Induced Acceleration of Winds Through Minehole Gap Buncombe County NC April 6, 1982

- These strong winds were post-cold frontal, there were no thunderstorms involved. The center of the low pressure was in the Cleveland, OH area at the time of peak winds.



May 22, 1983 Microburst in Eastern Buncombe County

- The initial assessment of the storm ruled that it was a tornado, however an aerial survey and a more detailed ground search clearly indicated that the damage had been the winds from one or more microbursts that were funneled by the local terrain. The majority of the tree fall was down slope to the north which was also the direction of least root strength.



End of Presentation

- Questions?