Mesoscale meteorology

scales: space & time
- obs. of phenomena ~ network spacing, resolution (e.g. radar)
- theory

should be reln between 2

response to mesoscale!
- topographic forcing → mountain waves, sea-breeze / mtn. valley circ, dryline
- instabilities on mesoscale → slantwise convection, MCSs, tropical cyclones, gust fronts, microbursts → flash flooding

synoptic
- ≥ general view of the whole

"mesoscale" — MIT radar echoes, Ligda (1951) — too large to observed by single station; too small to appear on syn. maps

a peak or part of continuous spectrum?

fractal structure!
- time
- space

Fujita — pioneered mesoscale analysis

1950s microbarograph stations NSSP

time-to-space conversion

→ isolated unusual values of p, T, etc. on synoptic maps

errors?

sampling problem?

e.g. Denver sounding at 700 mb!

application to tstm out flow