

## **Climatologies of Precipitation Bands** over the USA and UK

David M. Schultz and Jonathan G. Fairman, Jr. Daniel Kirshbaum (*McGill University*) Suzanne Gray, Andrew Barrett (University of Reading)

Robert Houze's research in the 70s and 80s led to a classification of precipitation bands In midlatitude cyclones that we still use today.



We define a *band* as a precipitation feature from radar mosaics with: • a contiguous 20 dBZ (0 mm/h UK) area  $\geq$  500 km<sup>2</sup> (100 km<sup>2</sup> UK),

- a major axis  $\geq$  100 km, and
- a ratio of major axis length to minor axis length  $\geq$  3:1.

Thank you, Bob, for your inspiration, leadership, teaching, mentorship, and friendship.

Fairman et al., 2016: Climatology of banded precipitation over the contiguous United States. Mon. Wea. Rev., 144, 4553-4568.

Fairman et al., 2017: Climatology of size, shape and intensity of precipitation features over the United Kingdom and Republic of

of Manchester through the Precipitation Structures over Orography (PRESTO) project

Where and when do precipitation bands occur? Cyclones, lake-effect, orographic, convective storms, ...





<sup>N</sup>o



## **SUMMARY**

- UK bands tend to form over the coastal regions and mountains.
- US bands form inland over flatter terrain (e.g., Ohio Valley).
- US and UK bands favored daytime in spring and autumn.
- UK has more hours per year of bands due to our different definitions.