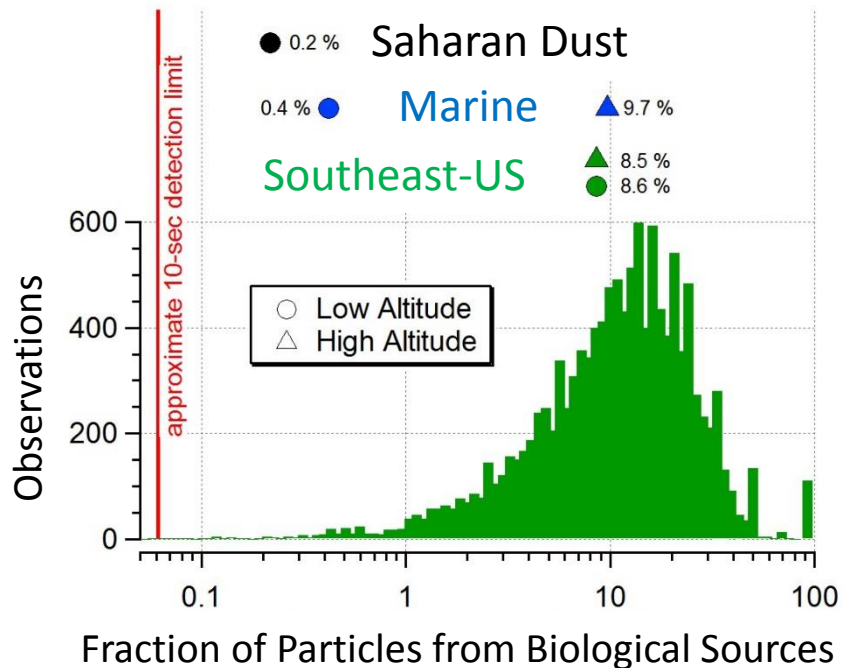


Source Apportionment of Bioaerosols in Southeastern USA

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- Bioaerosols are mainly comprised of bacteria, viruses, pollens, and fungal spores
- Bioaerosols can be very efficient ice nuclei.
- We have employed, for the first time on the DC-8 aircraft, a fluorescence technique to quantify the concentration and spectral characteristics of bioaerosols.



- Using a land-use model (right), we have attributed the highest bioaerosol concentrations (0.37 cm^{-3}) to agricultural croplands and lowest levels to evergreen forests (0.24 cm^{-3}).
- These sources can be quantitatively separated at low flight-altitude using observed spectral fluorescence characteristics, an example is shown (right).
- The Southeast-US region is a significant source of bioaerosols that make up 2-30% of coarse-mode particles (left), compared to < 1% attribution in the marine boundary layer and from a Saharan dust intrusion.**

