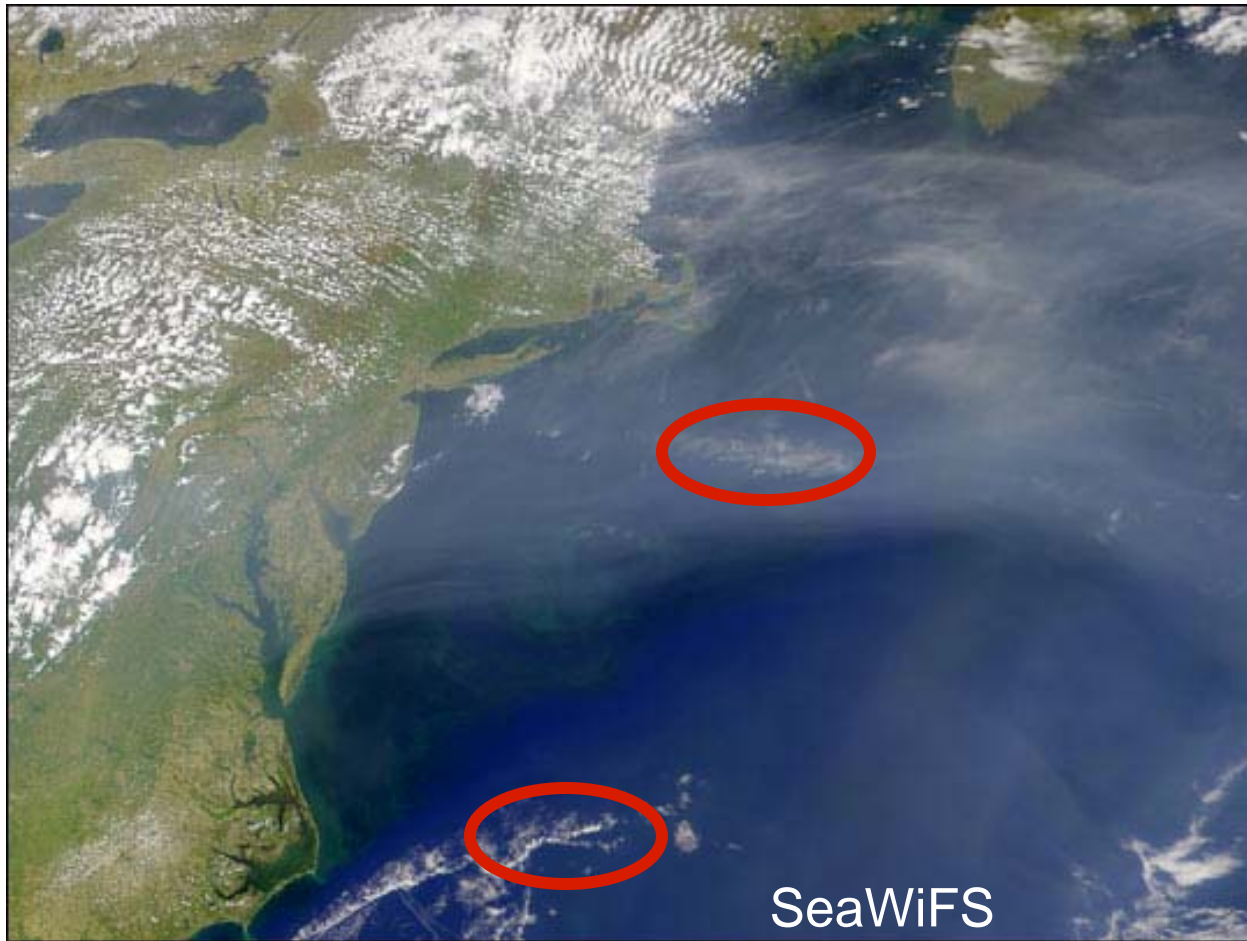


Direct effect:

Intrinsic properties complement satellite data on “how much”

Examples

- Hygroscopic growth
- Covariance of backscatter and single scatter albedo affects radiative forcing.
- Single scatter albedo varies systematically with amount of aerosol.
- Vertical profiles constrain global models.



Aerosol-cloud interactions:

How do clouds change with aerosols and vice versa?

Examples

- GCM parameterizations based on remote sensing data may underestimate the albedo effect.
- Evaporation-entrainment feedbacks mean pollution can either increase or decrease cloud fraction and lifetime.



Composition:

What will this plume be like in 2050?

We must understand the underlying processes

Examples

- Coatings on black carbon
- Formation and processing of organic aerosols
- Aerosol nitrate

