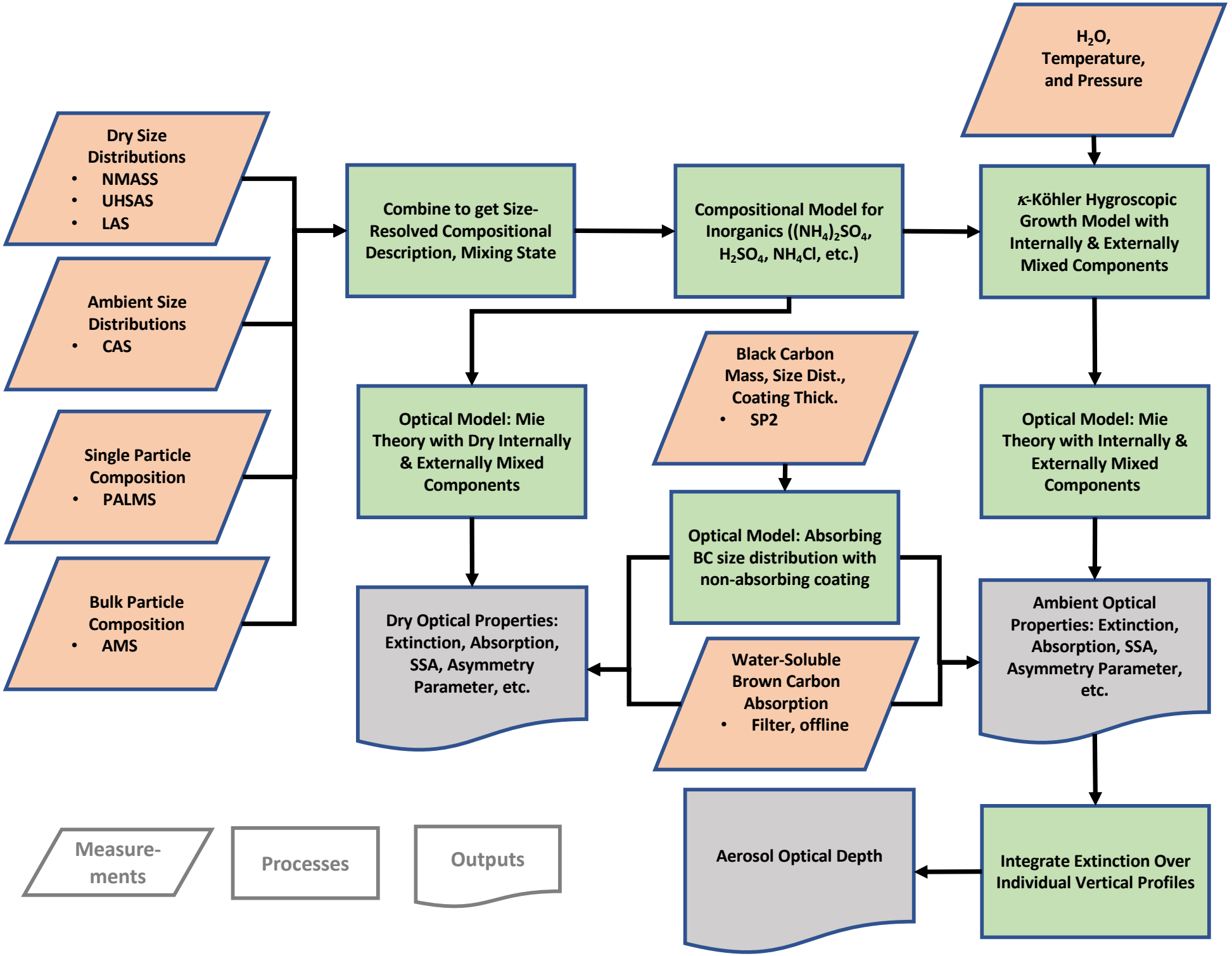
Dry Size Distributions
• NMASS
• UHSAS
• LAS
Ambient Size Distributions
• CAS
Single Particle Composition
• PALMS
Bulk Particle Composition
• AMS
Combine to get Size-Resolved Compositional Description, Mixing State
Compositional Model for Inorganics ($(NH_4)_2SO_4$, H_2SO_4, NH_4Cl, etc.)
H_2O, Temperature, and Pressure
κ-Köhler Hygroscopic Growth Model with Internally & Externally Mixed Components
Optical Model: Mie Theory with Dry Internally & Externally Mixed Components
Black Carbon Mass, Size Dist., Coating Thick.
• SP2
Optical Model: Mie Theory with Internally & Externally Mixed Components
Optical Model: Absorbing BC size distribution with non-absorbing coating
Dry Optical Properties: Extinction, Absorption, SSA, Asymmetry Parameter, etc.
Water-Soluble Brown Carbon Absorption
• Filter, offline
Ambient Optical Properties: Extinction, Absorption, SSA, Asymmetry Parameter, etc.
Aerosol Optical Depth
Integrate Extinction Over Individual Vertical Profiles
Measure-ments
Processes
Outputs