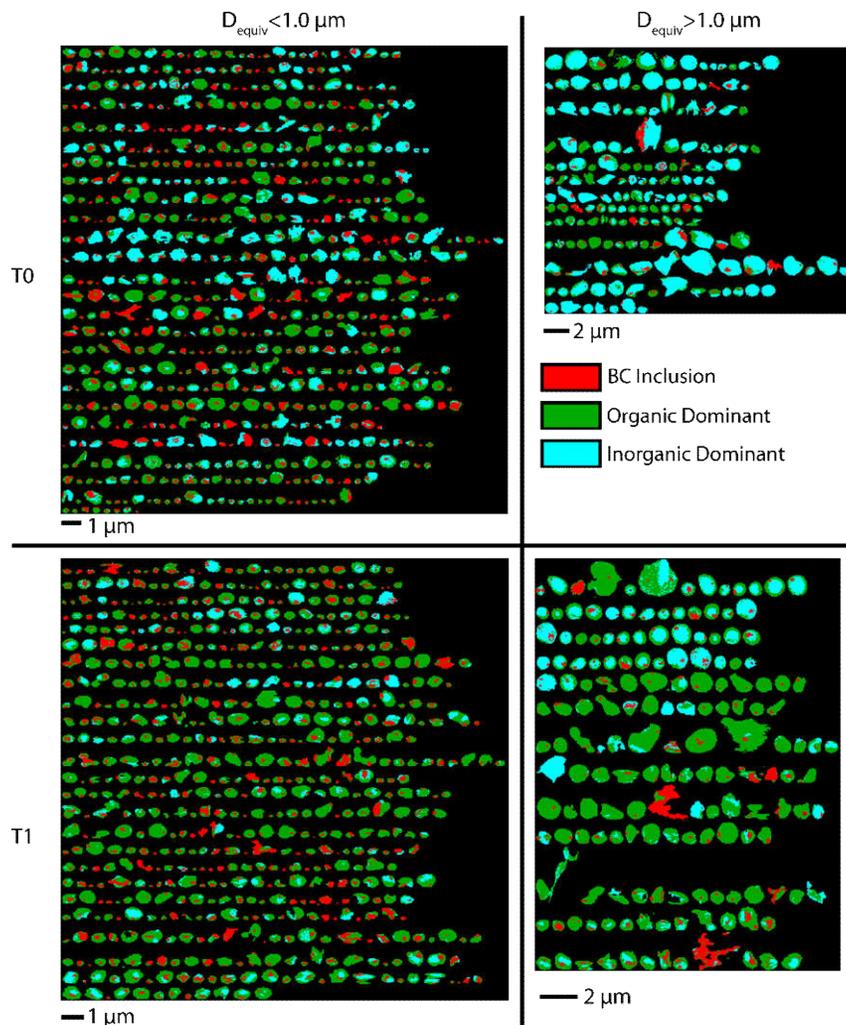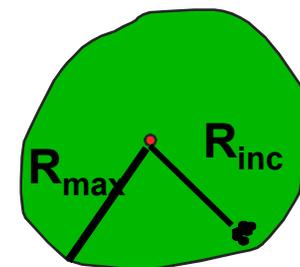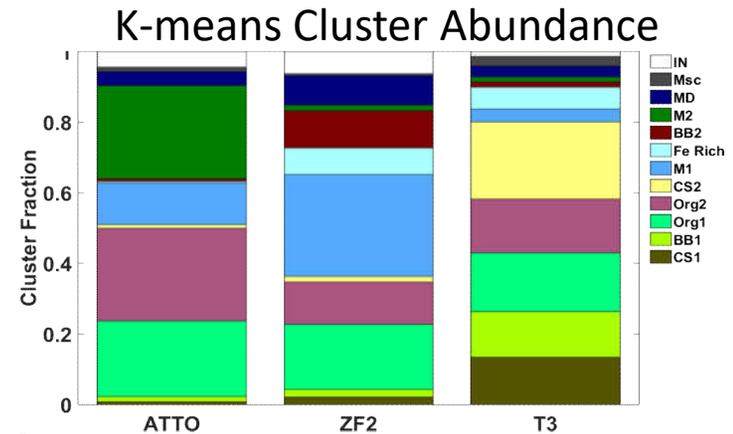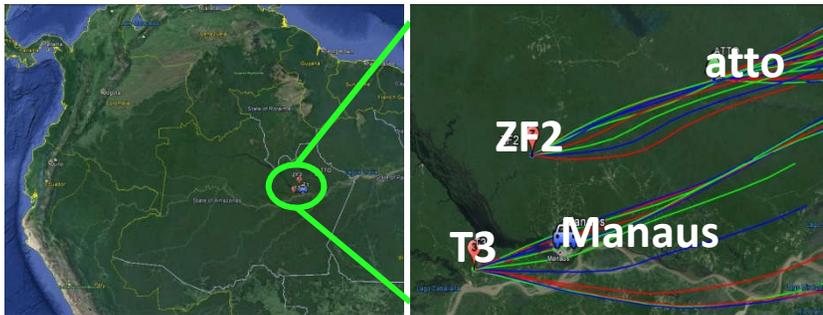# Inorganic (IN) Inclusions Affect BC Radial Distributions

- Morphological analysis of over 10,000 particles from the CARES field study using STXM/NEXAFS

- Exploring data archiving options

$D_{equiv} < 1.0\ \mu m$

$D_{equiv} > 1.0\ \mu m$

T0

T1

1 μm

1 μm

2 μm

2 μm

BC Inclusion
Organic Dominant
Inorganic Dominant

R_{max} R_{inc}

All BC

BCIN

BC-Large IN

Relative Number of Particles

R_{inc}/R_{max}

0

1

Moffet et al. ACP, 16, 14515-14525, 2016
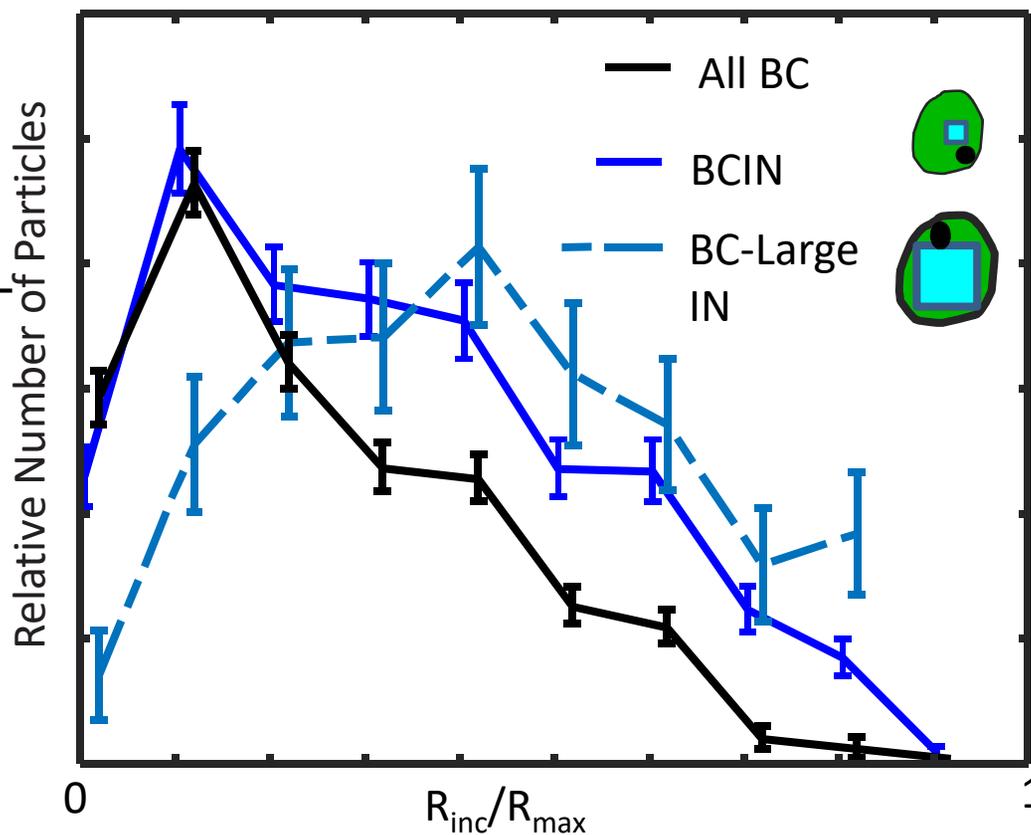
Single Particle Characterization of Rural and Remote Sites During GoAmazon IOP2

K-means Cluster Abundance
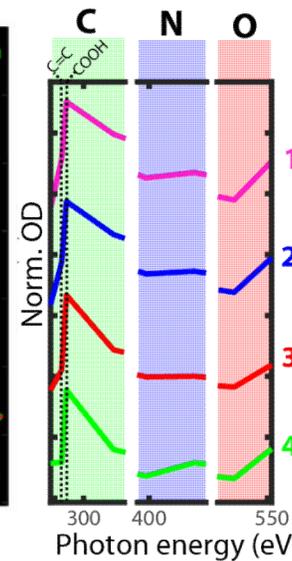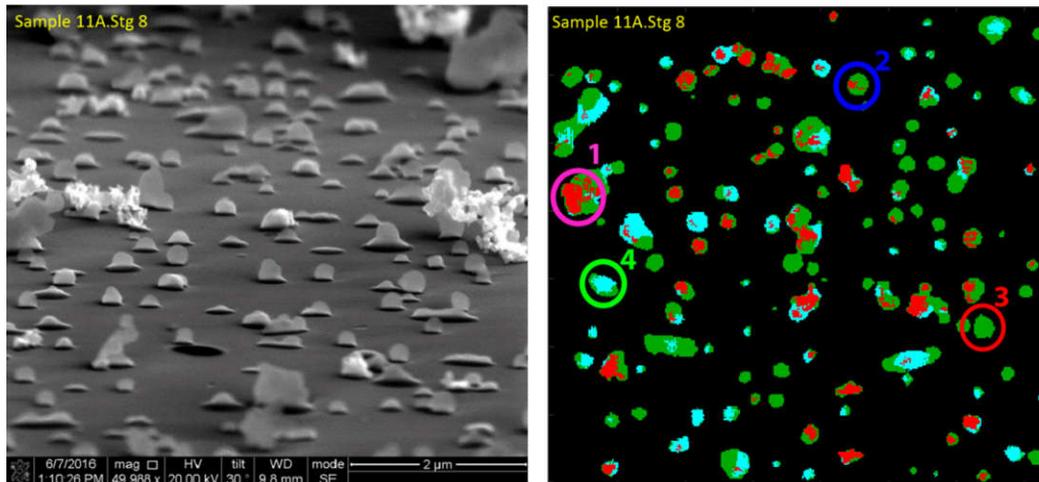

Composition Maps Derived from SEM and STXM
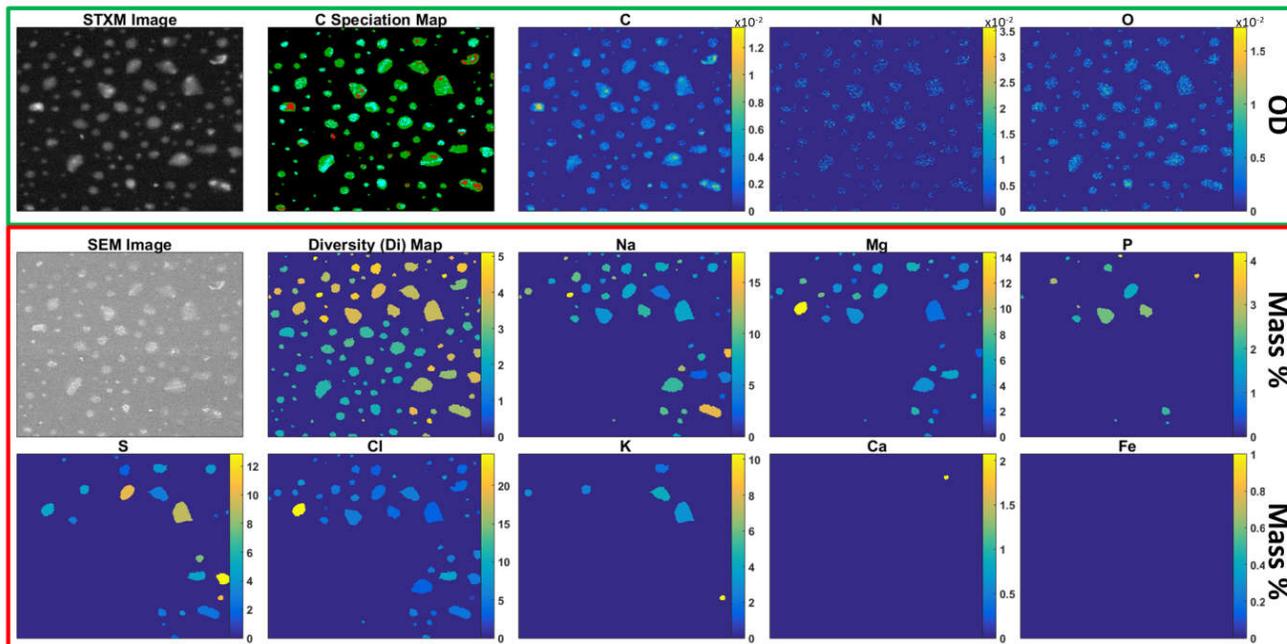
Combined SEM/EDX and STXM/NEXAFS on same particles

Quantification of elemental mixing state

K-means analysis of aerosol types

Working towards estimating molecular mixing state

Fraund et al. Atmosphere, in preparation 2017

Investigation of Atmospheric Solid Organic Particles (ASOPs) at SGP

SEM is used to determine abundance of ASOPs

STXM quantifies abundance of light elements

Peripheral PSAP data is used to investigate angstrom exponent

Angstrom exponent is correlated with %ASOPs in atmosphere

Bonanno et al, GRL, In Prep, 2017.