Potential Air Quality Application of Planet Data

Tracy Holloway, University of Wisconsin

Purpose: Health and air quality management

Study Objective: Assess the utility of commercial imagery to support the goals of Health and Air Quality Applied Science Team (H-AQAST)

Imagery: PlanetScope

Findings: In the absence of an Aerosol Optical Depth (AOD) data product, we used the AOD product developed by Drs. Jaehwa Lee and Dr. Christina Hsu as part of CSDAP. The retrieved AOD for a specific fire event in Oregon was compared with a model simulated AOD. The high resolution AOD product has an immense potential for validating dispersion models for small scale events, like forest fires, power plant plumes, and volcanic eruptions.
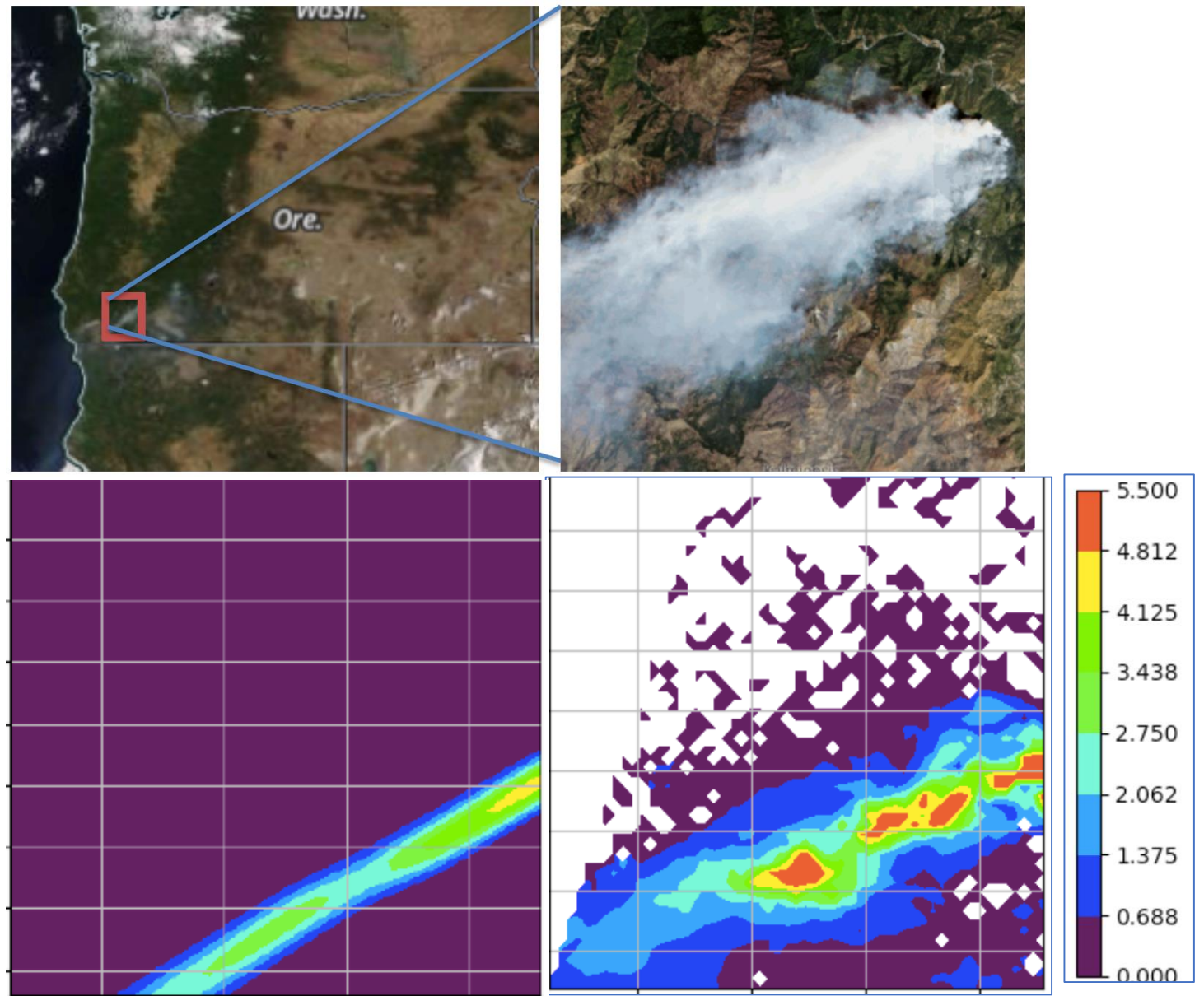
Visible imagery over the State of Oregon acquired in July 20th, 2018 (top, left); PlanetScope imagery over the Oregon forest fire event at 18:35:14 UTC (top, right); Aerosol Optical Depth (AOD) product, created from PlanetScope imagery (Lee and Hsu) for the Oregon forest fire event, re-gridded to HYSPLIT model resolution (bottom, right); HYSPLIT model output initialized using High-Resolution Rapid Refresh (HRRR) model (bottom, left).