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## OCO-3 Snapshot Area Mapping Mode: Early Results

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The NASA Orbiting Carbon Observatory-3 (OCO-3) was launched on May 4, 2019 to the International Space Station and has been taking measurements since August. OCO-3, like its predecessor OCO-2, makes hyperspectral measurements of reflected sunlight in three near-infrared bands. However, one of the unique features of OCO-3 is its ability to scan large contiguous areas on the order of 80 km by 80 km using a pointing mirror assembly. This capability, known as snapshot area mapping (SAM) mode, is being used to look at cities, forests, volcanos, and multiple other areas that are of interest to the carbon dioxide (CO<sub>2</sub>) and solar-induced chlorophyll fluorescence (SIF) scientific communities. For example, OCO-3 can measure column-mean CO<sub>2</sub> (XCO<sub>2</sub>) over the entire Los Angeles, CA basin during the span of only two minutes. With several hundred SAMs having been collected so far and upwards of 25 possible per day, there is a wealth of data to investigate for scientific features and for any potential instrument biases. Additionally, this type of dense sampling will be a proof-of-concept for multiple future wide-swath CO<sub>2</sub> missions. Here, we present several OCO-3 SAM mode measurements and discuss interesting features, XCO<sub>2</sub> results, and future mission plans.