

Landsat 7 & 8 Long Term Acquisition Plan

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ABSTRACT:

Landsat 8 was launched in February 2013 creating with Landsat 7 a two-satellite mission to image the Earth every 8 days. A complementary Landsat 7 and 8 data acquisition strategy was implemented using the strengths of each to maximize global coverage.

A continental-land strategy for Landsat 7 is reducing wear and tear on ETM+ mechanisms. After further analysis we allowed daily scene acquisition levels to rise unfettered except by instrument duty cycles. Acquisition levels are now averaging ~470 scenes daily during the Northern Hemisphere summer. During the past NH winter, all available scenes were acquired; during the heavier load of the NH summer, there are rejections due to duty cycle and recorder capacity. We are working to minimize these without impacting mission life.

Landsat 8 settled into nominal operations at 550 scenes/day. The scheduling system evolved over the first year as we encountered our first polar summers with the attendant acquisition demands caused by increased interest in Landsat 8 data over snow and ice. Processing of the special requests required for night, ocean and priority imaging provided challenges. Although with the exception of night imaging and some calibration requests, these are now handled routinely. There is a heavy load of calibrations that are routinely performed and housekeeping activities that preclude imaging for a part of each orbit's eclipse period. This summer we are stepping up our daily acquisition levels to evaluate the impact on global coverage, communications loading, station contacts, and operations staff. We will use the results to set a new daily acquisition level that will maximize the number of scenes while leaving room for special requests including night imaging, as well as the routine housekeeping activities and calibrations.

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