



The National Center for Airborne Laser Mapping
University of Houston • University of California, Berkeley

NCALM Announcement

December 2, 2014

NCALM Acquires New Titan MW Lidar Sensor

The Titan MW lidar sensor was developed by Optech Incorporated (a Teledyne company), following high-level operational specifications and requirements established by the NSF National Center for Airborne Laser Mapping (NCALM), at the University of Houston. The specifications called for an integrated multichannel/multispectral mapping lidar and high resolution digital camera that could operate in both terrestrial and very shallow bathymetry environments, while at flying heights ranging from 300–2000 m above ground level. The Titan MW (multi-wave) lidar emits laser pulses in 532, 1064, and 1550 nm, simultaneously, through a single oscillating mirror at pulse repetition frequencies that range from 50–300 kHz per wavelength (maximum combined PRF of 900 kHz). The channels are arranged such that the 1064 nm channel points at nadir, and the 1550 and 532 nm channels point 3.5 and 7° forward, respectively. Additionally, the system can support up to three waveform digitizers.

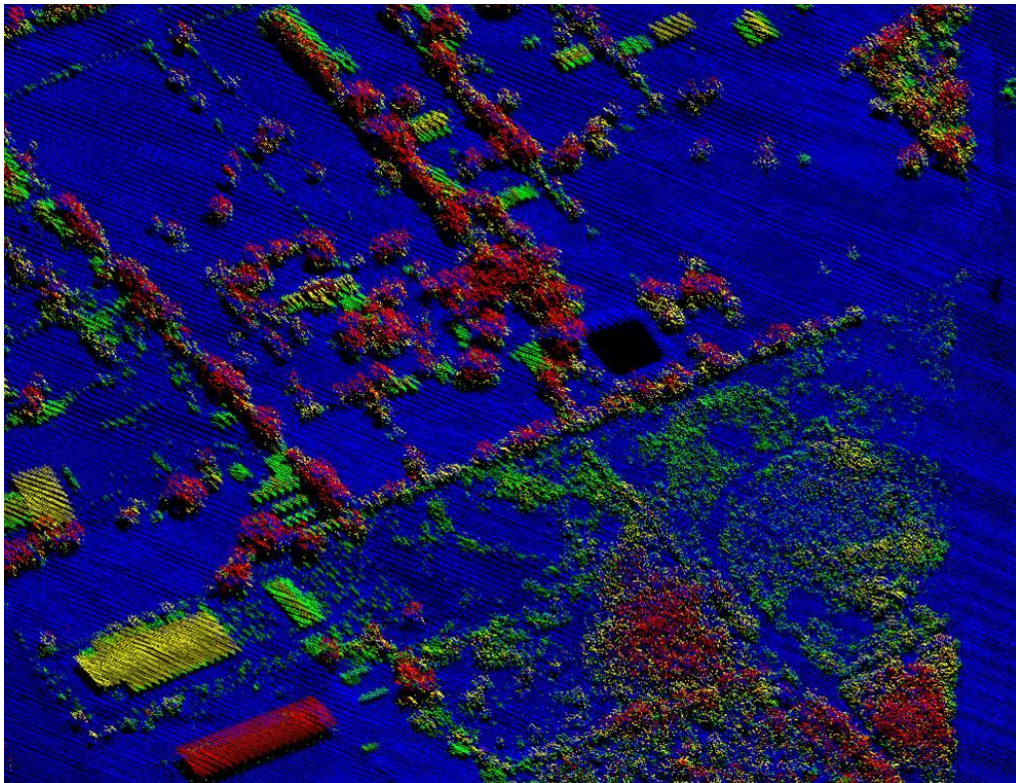


Optech Titan MW

The Titan was acquired by NCALM in early October 2014. Shortly after delivery, it was integrated into a Piper Navajo PA-31 twin-engine aircraft and test flown in different terrestrial environments. The first test flight campaign included urban environment tests in Houston and Baytown, TX, and seed project collections in Jordan and Hebgen Lake, MT, Big Creek, ID, Greys River, WY, Bishop, Bakersfield, and Yucaipa, CA, and Beaver, UT. The current results are promising and show high density with even single passes. After the first successful field campaign, the Titan was shipped to Antarctica where NCALM will use it to map 5000 km² over the McMurdo Dry Valleys near McMurdo Station.



False-color image of the University of Houston campus created from Titan MW intensities



Extensive coverage and density from even a single pass