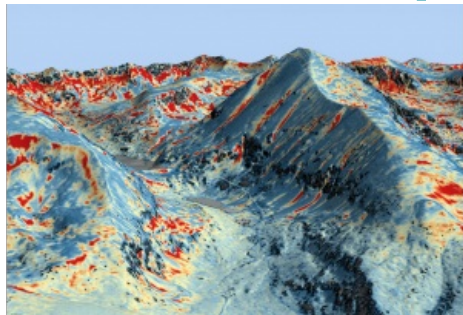
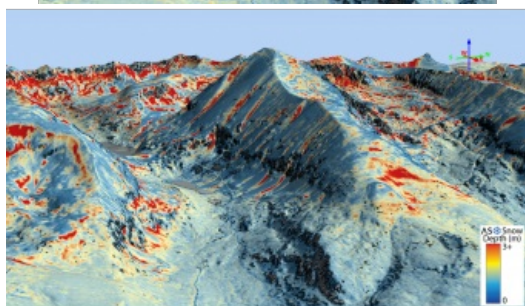


New Lidar System Applied for Snow Mapping



Airborne Snow Observatories (ASO) has taken delivery of one of North America's first RIEGL VQ-1560 II-S airborne laser scanners. This new Lidar system, with its doubled laser power and high pulse frequency, will allow ASO to measure snow water equivalent across extensive mountain basins much more efficiently. The ASO programme at NASA also pioneered the use of RIEGL's dual laser



scanner, the LMS-Q1560, in 2013.

Airborne Snow Observatories (ASO) is a public benefit corporation that was created via technology transfer from the NASA Jet Propulsion Laboratory to continue and expand ASO operational snow mapping and runoff forecasting to the world's mountains. Through coupling of Lidar, imaging spectrometer data and physical modelling, ASO maps mountain snow depth, snow water equivalent and snow albedo. This is accomplished with the highest precision and coverage, enabling reliably high-accuracy streamflow forecasting for water management agencies, irrigation districts and municipalities. With a changing climate, intense droughts such as that currently impacting the Western US, and increased demands on water resources, these paradigm-shifting measurements and forecasts are

critical for modern resource resilience.

Mass-scale airborne laser scanning

The ASO programme already pushed its capabilities to map series of mountain basins on the RIEGL LMS-Q1560. Now, the greater capabilities of the [VQ-1560 II-S](#) are enabling ASO to optimize collections at higher flight altitudes over rough terrain and in tight weather windows while maintaining high point densities and surface detection over highly varying target ranges and forest cover densities. The new VQ-1560 II-S follows the concept of RIEGL's proven dual-channel waveform processing Lidar scanning systems, now with increased laser power for ultra-wide area mapping. The VQ-1560 II-S is the latest model of maximum-productivity airborne laser scanning systems available from RIEGL for large, state-wide collection initiatives, urban mapping programmes and/or corridor asset surveying. With increased laser power, the operational altitudes are extended, and these improved maximum ranges allow an increase of the system's productivity.



RIEGL VQ-1560 II-S dual channel waveform processing airborne Lidar scanning system.

James Van Rens, senior vice president of RIEGL USA, said: "Water is one of the most important resources on earth. ASO's high-accuracy and high-density spatial variability of snow water equivalent is critical to water management districts, particularly in the western US. RIEGL is proud to be a partner of ASO and their important mission."

"The advances made by [RIEGL](#) from the LMS-Q1560 to now the VQ-1560 II-S have made possible the uniquely intense acquisitions by ASO over high mountains," said Thomas Painter, [ASO](#) CEO and founder. "We are compelled to cover large snow-covered mountain areas in short weather windows with high accuracy and precision. With the VQ-1560 II-S, we have greater acquisition efficiencies at higher altitudes, and we are still penetrating forest canopies to underlying snow at large ranges."



Snow depth across the Quandary Peak, Colorado acquired by Airborne Snow Observatories with their RIEGL VQ-1560 II-S.