



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
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Light Detection and Ranging (Lidar) in Natural Resource and Wildfire Management

High resolution Lidar combined with multi-band imagery and Geographic Information Systems (GIS) combine to provide far greater data accuracy than each of the individual information systems separately. Use of high-resolution Lidar and supporting technologies focus on the development of a ground truthed complete landscape-scale resource assessment (vegetation, water, fire, roads, wildlife) and a tree-level forest inventory census encompassing an identified area. This information is intended to support land management planning and annual operation planning processes for all resource managers.

Of the 57 million acres of Trust land, greater than 19 million acres of forest, woodland and rangelands are Moderate to Very High Wildfire risk. Climate change associated global warming is quickly advancing the rate of moderate fire risk acres to high risk. Lidar analysis provides for cost effective development of strategic landscape level planning that supports multi-year Active Management planning and implementation for integrated resource management regimes. The same Lidar collected data can identify strategic placement of active management measures that are critical component of fuels management to maximize cost effectiveness, efficiency, and reduce wildfire risk.

Lidar advances comprehensive natural resources and forest/fuels inventories and provides data for analyses of forest inventories, fire risk, wildlife, and other natural resource attributes. In addition, introduction of new technologies such as Lidar have training opportunities included which directly supports Workforce Development within Indian country. Initial Lidar cost (approximately \$2.50 per acre inclusive of a training regime) should be amortized over multiple years as new projects are planned, implemented, and monitored from the Lidar analysis.