Good morning. LiDAR is fast becoming an important tool in the Cultural Resource manager’s toolbox. Today I will examine some of the LiDAR datasets available in the public domain. These include MSB, Kenai, Anchorage, and Katmai NP.
Validity of Using GIS/ Remote Sensing For Phase 1 Surveys
(How do we know what we Know?)

- Landscape Archaeology Theories
- Literature Review
- Cultural Site Models
- Ethnogeographic Data
- GIS analysis

Archaeologists use a wide variety of tools in archaeological prospecting, including landscape archaeological theory, literature review, cultural site models, ethnographic data and GIS analysis as part of the planning and execution of Phase I archeological surveys.
Anchorage LiDAR data from 2012. Here is TYO-00030, a late-prehistoric/historic Dena’ina village site located about one mile south of Pt Woronzof. It is composed of at least two components, the village site (red), a cemetery (not shown but north of larger gully), and a historic fish camp on the beach which for some reason was never given a separate AHRS number (yellow).
Matanuska-Susitna Borough 2011 LiDAR data is 1 pulse per meter, with 1 pulse .6 meter in overlap.

Second dataset is the MatSu Borough LiDAR project from 2010 and is used with the following two slides.
In comparison with Skyview factor and greyscale hill shade using MSB LiDAR data.
ANC-00610, located adjacent to the outlet of Echo Lake, is a large Dena’ina village site recorded by Dan Stone in 1998. Echo Lake’s outlet stream is a tributary to Fish Creek. Stone noted that over 70 house features located on both sides of the road strung out along the bluff (within the yellow polygon). Inset is a zoomed in 1:1000 view of a small section. This entire site is represented by a single point in the AHRS and illustrates using LiDAR data in creating site polygons in the AHRS.
ASAP APE where it crosses Fish Creek about 2 miles downstream for outlet of Cow Lake.
This example is Kenai River about 1 mile downstream from Skilak Lake. Using AHRS mapping data and LiDAR data obtained from public database, I examined 5 previously recorded sites (green polygons), all of which have features that can be discerned using Sky View Factor, even considering this dataset’s relatively poor density of LiDAR ground returns. Note the red polygon indicates a possible unrecorded site in lower right.
Katmai NP 2012 Brooks River LiDAR data set with .6m pulse spacing

The last the 2012 Brooks River data set.
The future trends in archaeological survey will include increased use of LiDAR and Camera equipped UAS.
References: