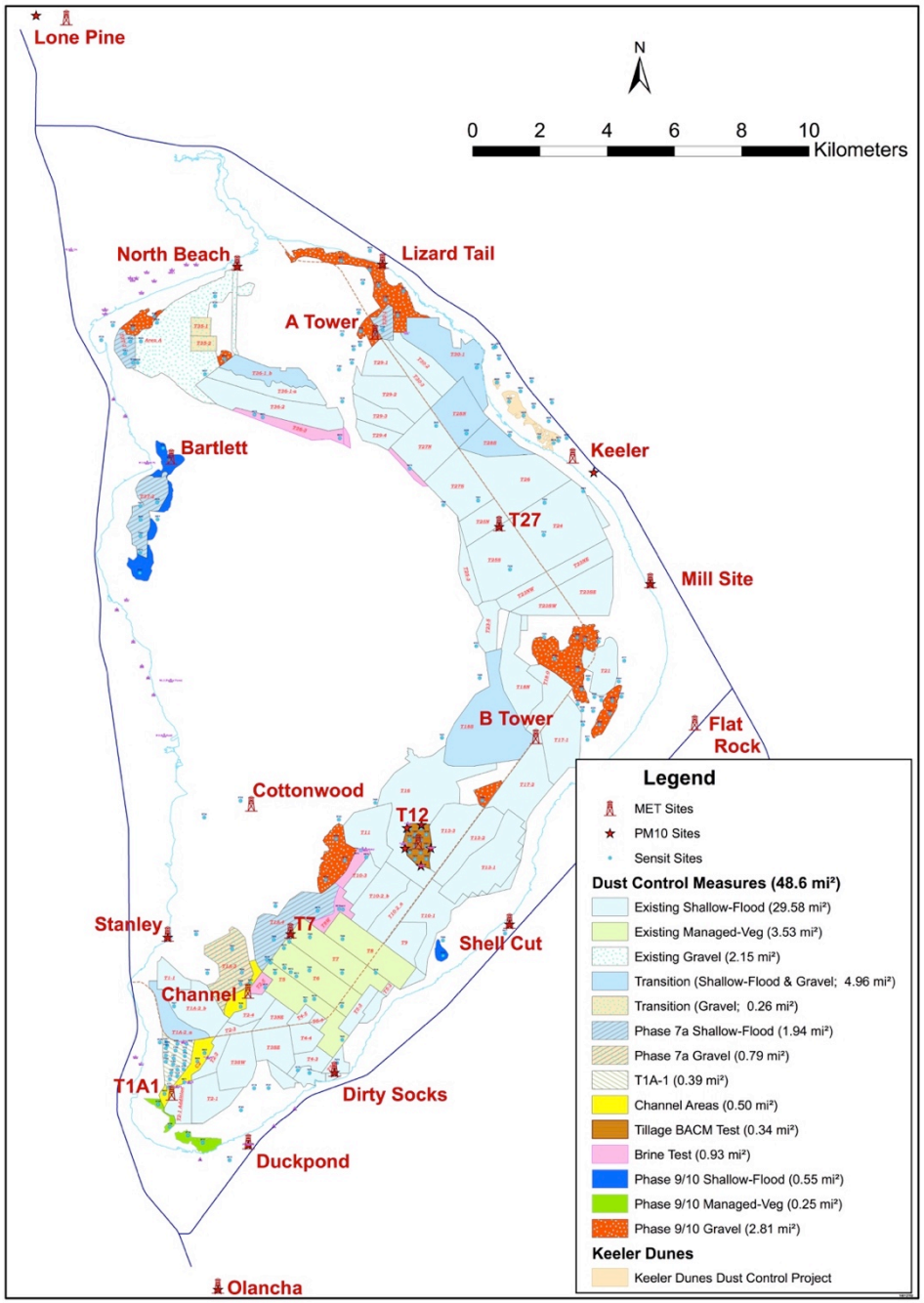
New Dust Control Methods Require New Monitoring Techniques

PQAO Module 3

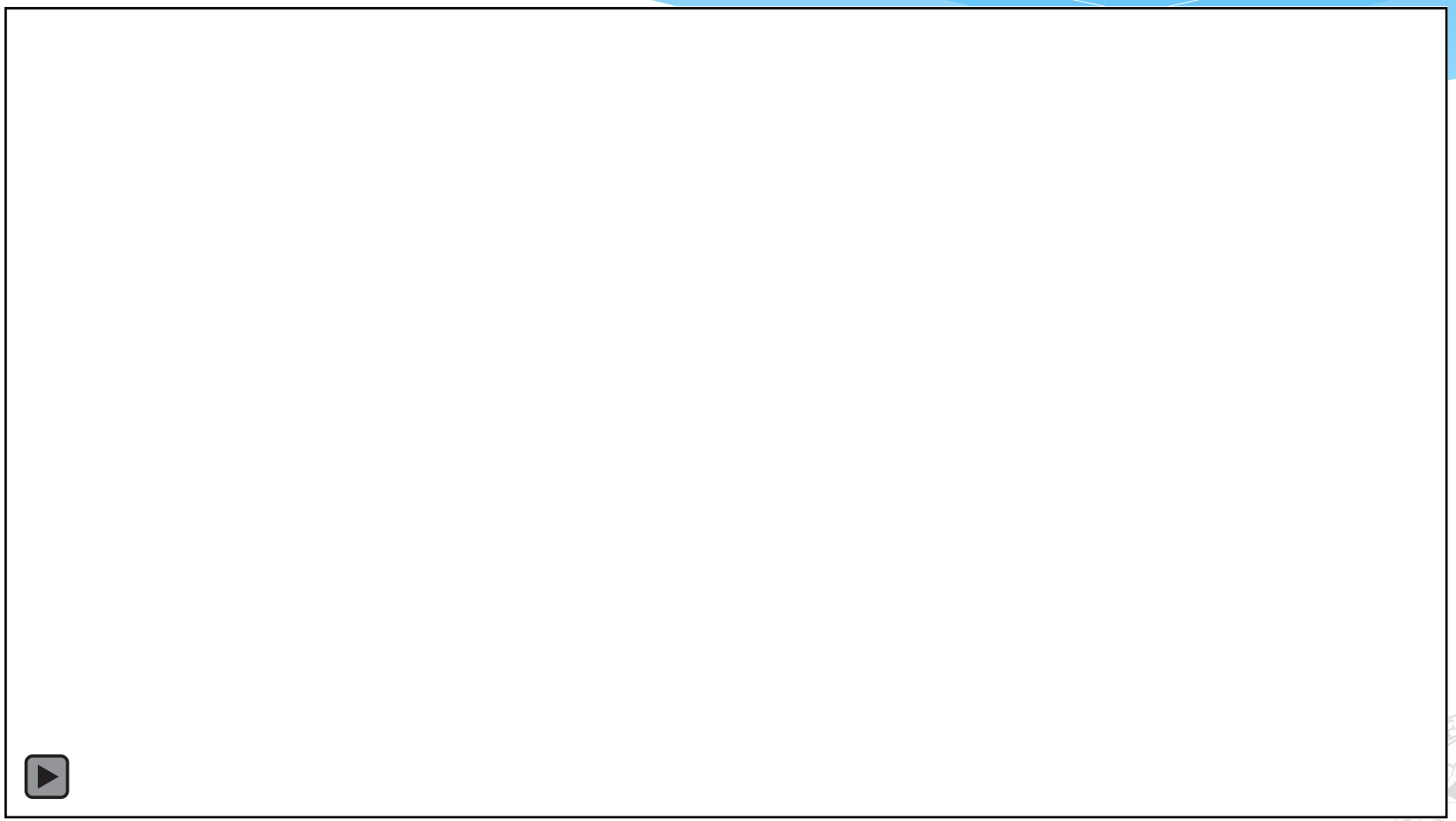
July 28-29, 2015


Lone Pine
N
0 2 4 6 8 10
Kilometers
North Beach
Lizard Tail
A Tower
Bartlett
Keeler
T27
Mill Site
B Tower
Flat Rock
Cottonwood
T12
Stanley
T7
Shell Cut
Channel
T1A1
Dirty Socks
Duckpond
Olancha
Legend
MET Sites
PM10 Sites
Sensit Sites
Dust Control Measures (48.6 mi²)
Existing Shallow-Flood (29.58 mi²)
Existing Managed-Veg (3.53 mi²)
Existing Gravel (2.15 mi²)
Transition (Shallow-Flood & Gravel; 4.96 mi²)
Transition (Gravel; 0.26 mi²)
Phase 7a Shallow-Flood (1.94 mi²)
Phase 7a Gravel (0.79 mi²)
T1A-1 (0.39 mi²)
Channel Areas (0.50 mi²)
Tillage BACM Test (0.34 mi²)
Brine Test (0.93 mi²)
Phase 9/10 Shallow-Flood (0.55 mi²)
Phase 9/10 Managed-Veg (0.25 mi²)
Phase 9/10 Gravel (2.81 mi²)
Keeler Dunes
Keeler Dunes Dust Control Project


ALPINE MONO
INYO

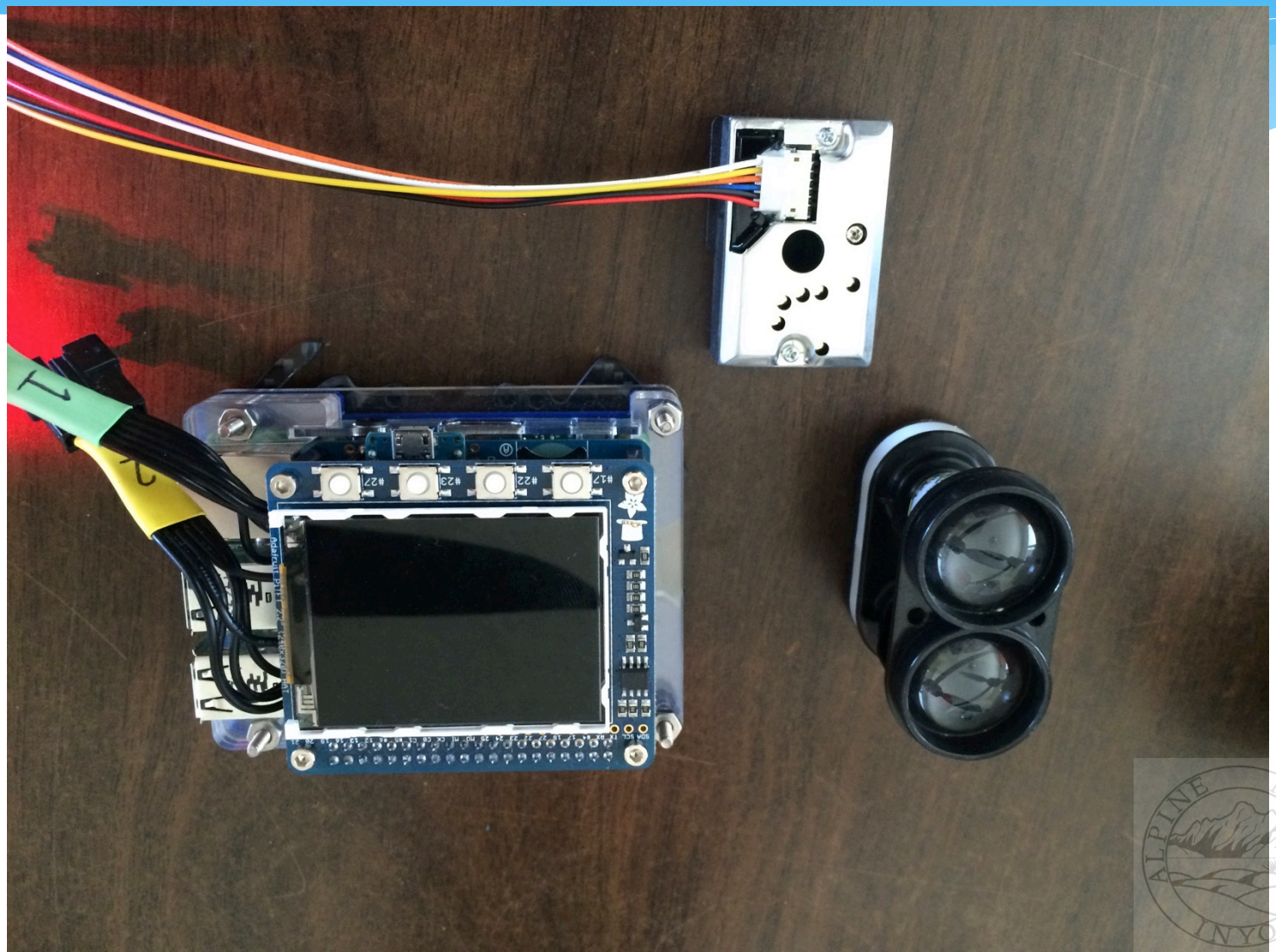
IPET High Efflorescent Salts

IPET Broken Crust



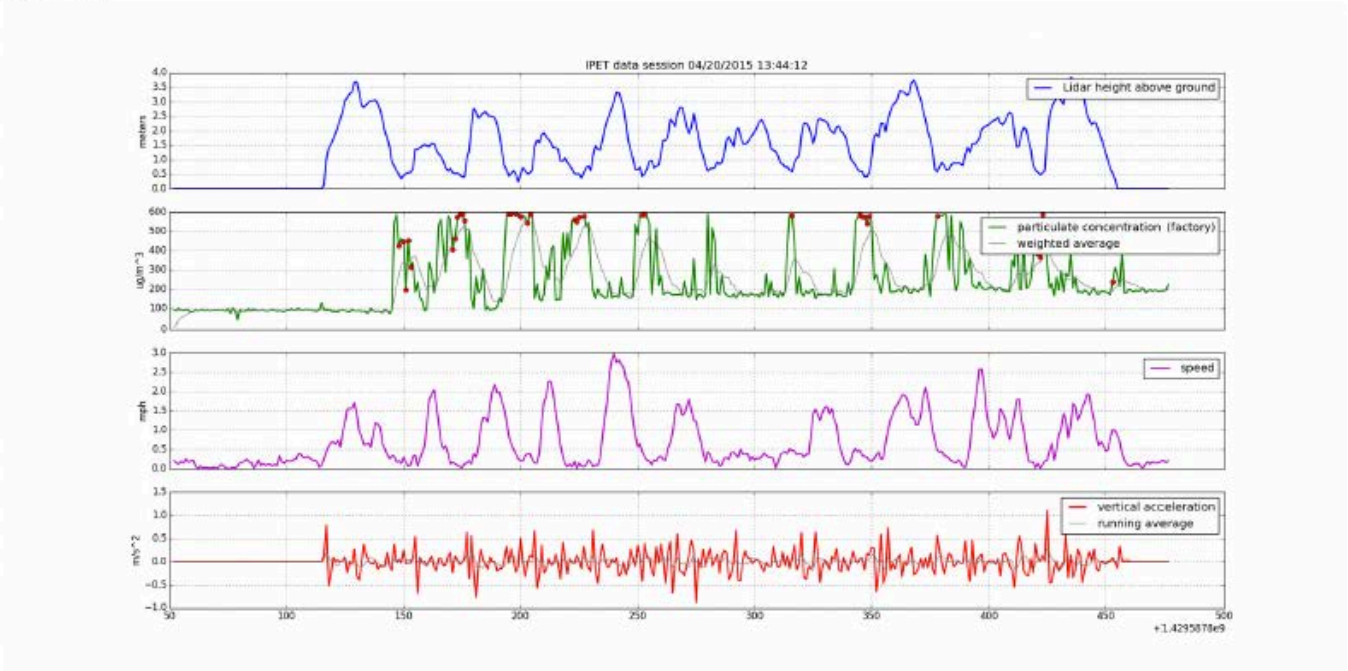
IPET Crust, no Dust

Sharp Sensor, LIDAR & Raspberry Pi

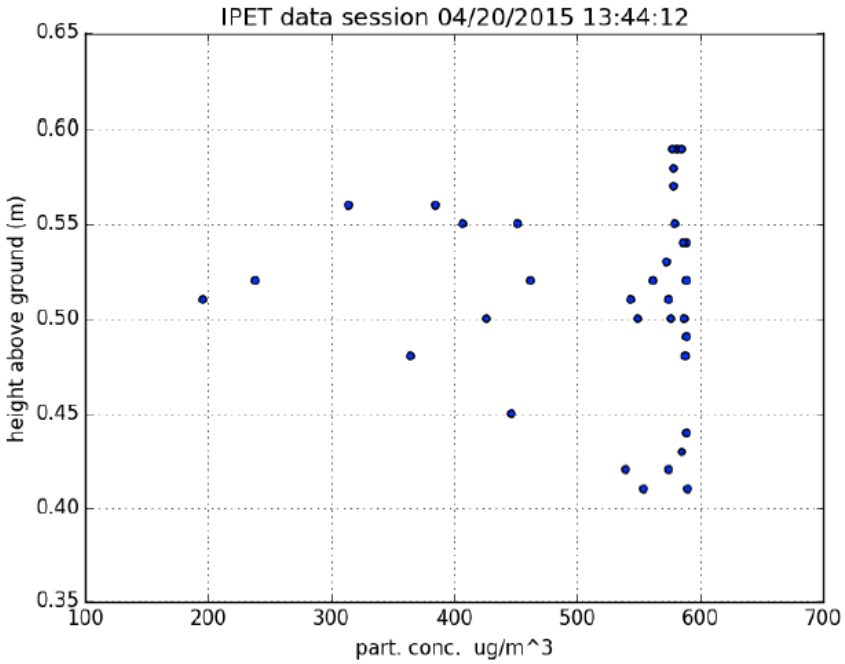


Results From Salt Surface Flight

Sites: Salt

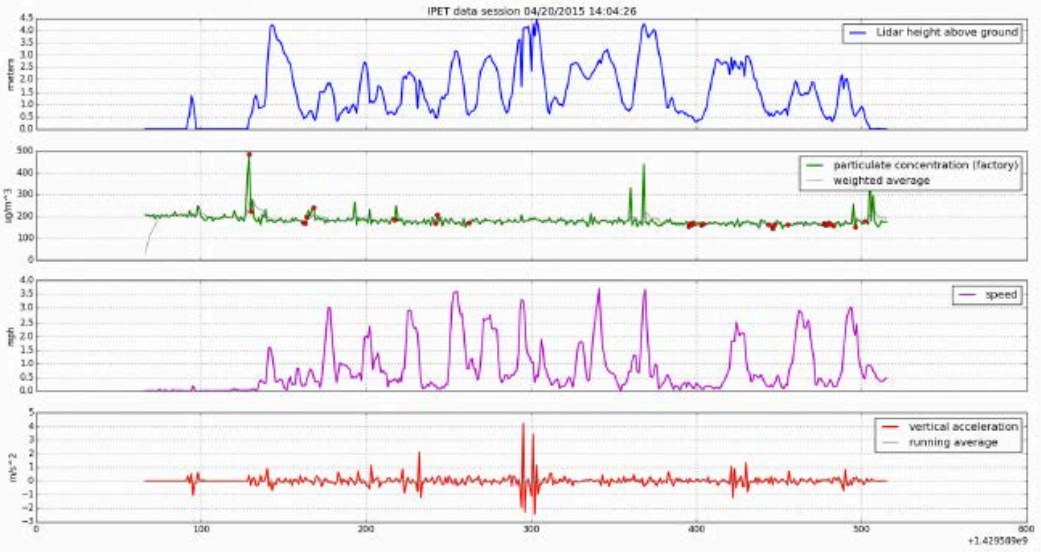


Results From Salt Surface Flight

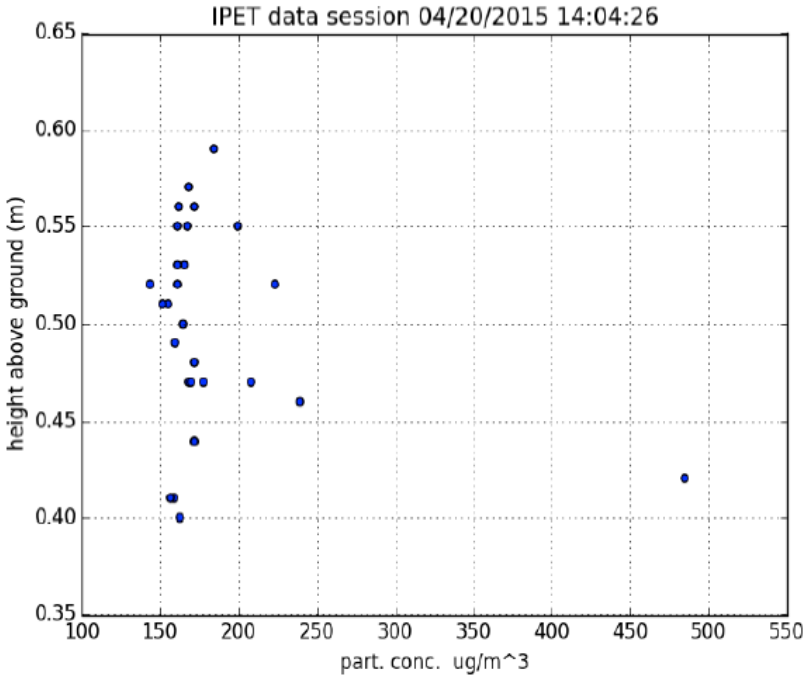


Results From Crusted Surface Flight

Site: Atower/Lone Rock



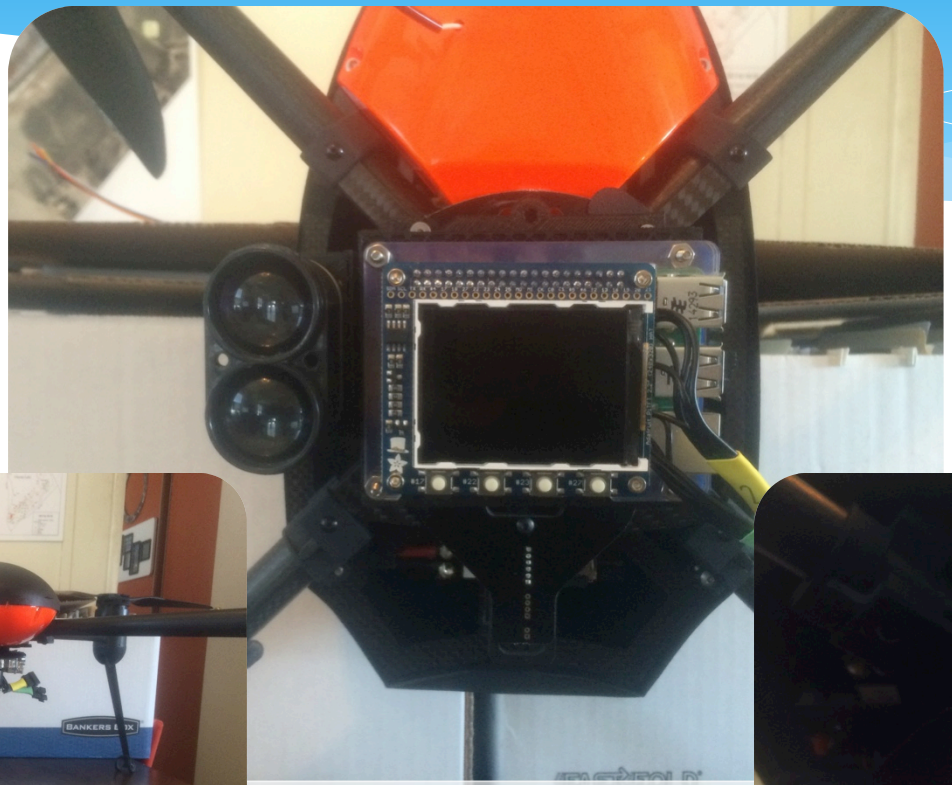
Results From Crusted Surface Flight



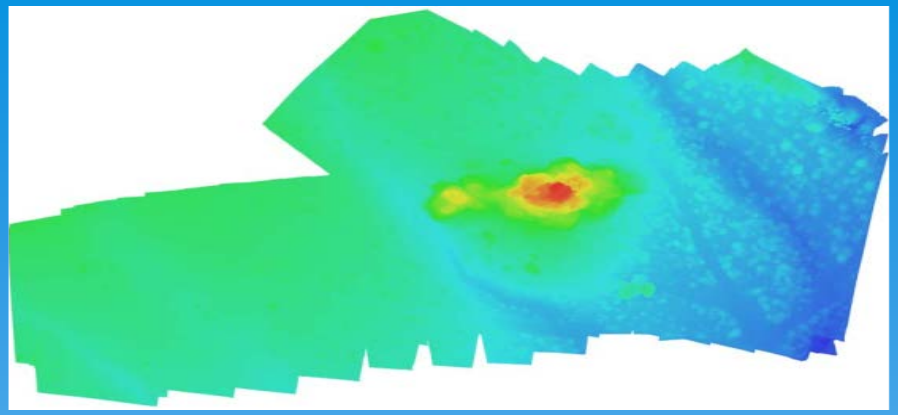
Protocol for Monitoring and Enforcing Tillage with BACM Backup

* D. **Monitoring Test**
* 4. Three erosion alert levels are set using the IPET method:
  * 1) early warning of possible clod and surface stability deterioration,
  * 2) warning level to alert LADWP of a potential breakdown of the surface stability and to advise voluntary maintenance efforts,
  * 3) mitigation action level requires re-tilling and/or re-flooding of all or part of a TwB2 Area. The IPET method will be used to determine erosion alert levels as follows:
    * **Level 1** – Erosion early warning indicated when visible dust is observed being emitted from a surface or particles are dislodged when the RCWInD is flown at a height below one half of H_t. Voluntary mitigation may be appropriate to prevent further surface degradation.
    * **Level 2** – Erosion warning indicated when visible dust is observed to be emitted from a surface when the RCWInD is flown at a height below H_t and above one half of H_t. Voluntary mitigation is advised to prevent further surface degradation.
    * **Level 3** – Mitigation action is required if visible dust is observed to be emitted from a surface when the RCWInD is flown at a height of H_t or higher. If ordered by the APCO, LADWP must re-till and/or re-flood all or part of a TwB2 Area that triggers a Level 3 alert.

UAV w/ Raspberry Pi



Alternative Methods/ Uses



Digital Elevation Model Creation

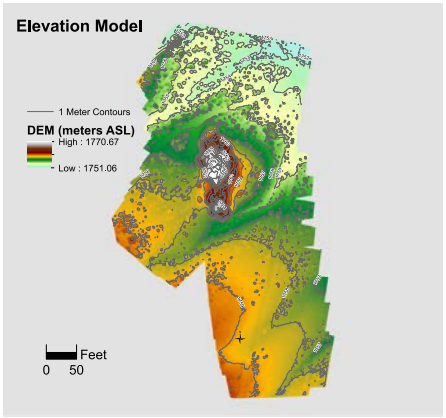
PQAO Module 3

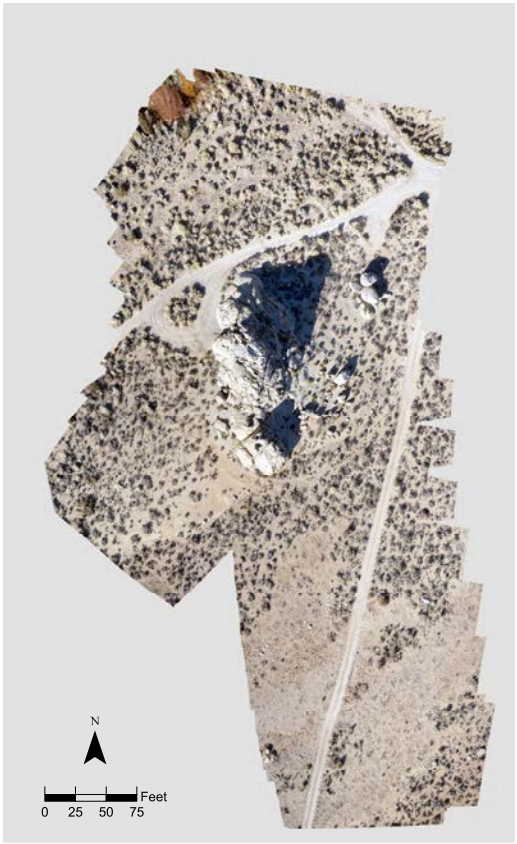
July 28-29, 2015

Mapping with Drones

by Chris Howard and Nik Barbieri, GBUAPCD

omatically-calculated terrain model.

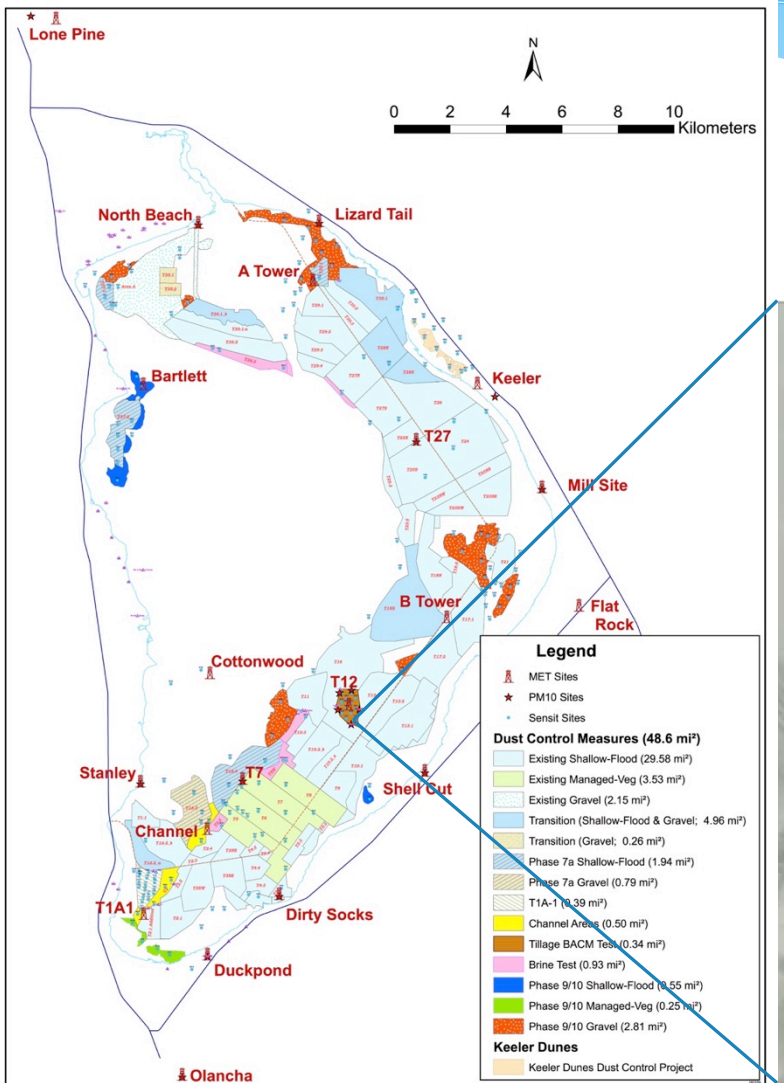




Feet
0 50

Draganfly X4-P

Flight Path of T12 Survey



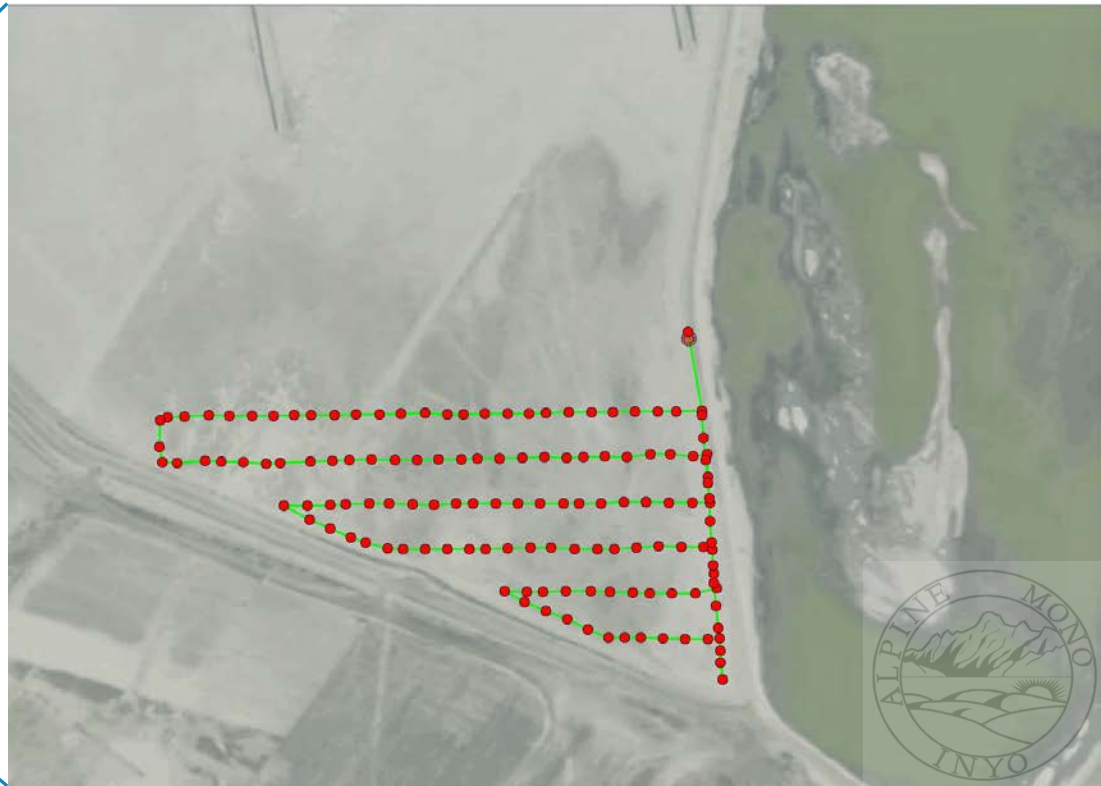
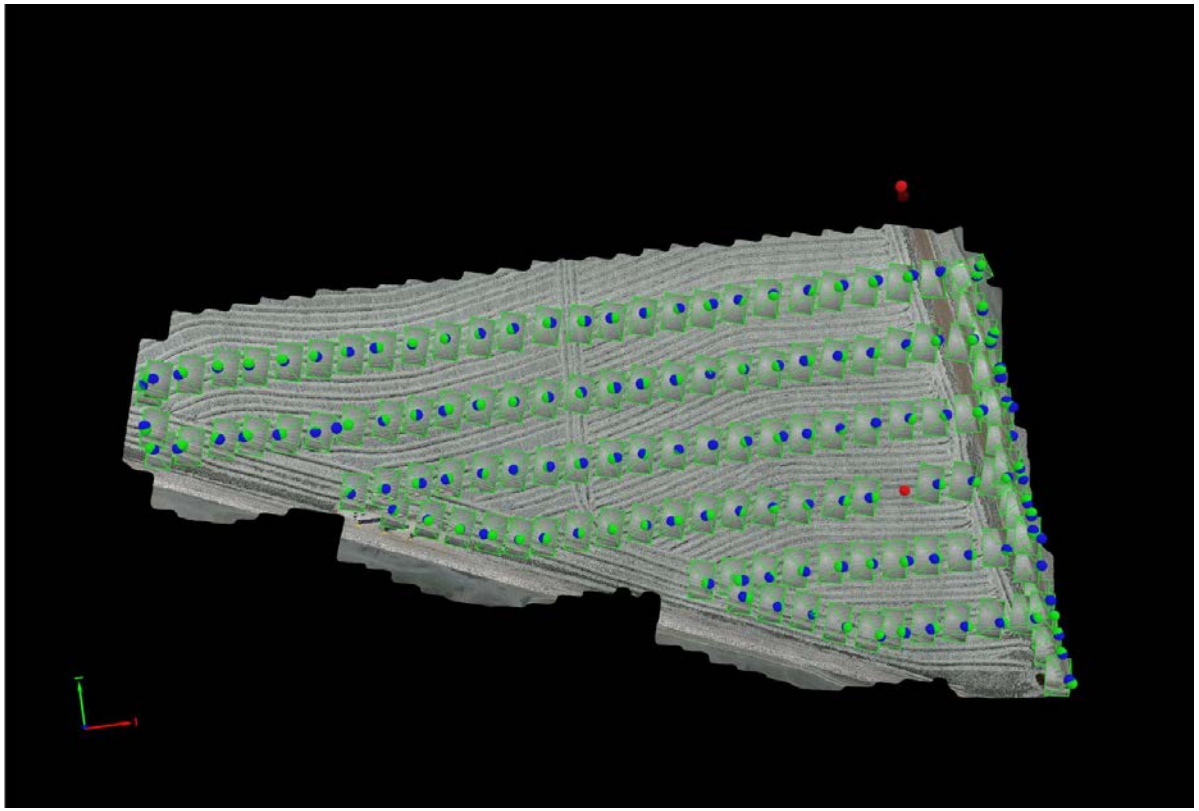
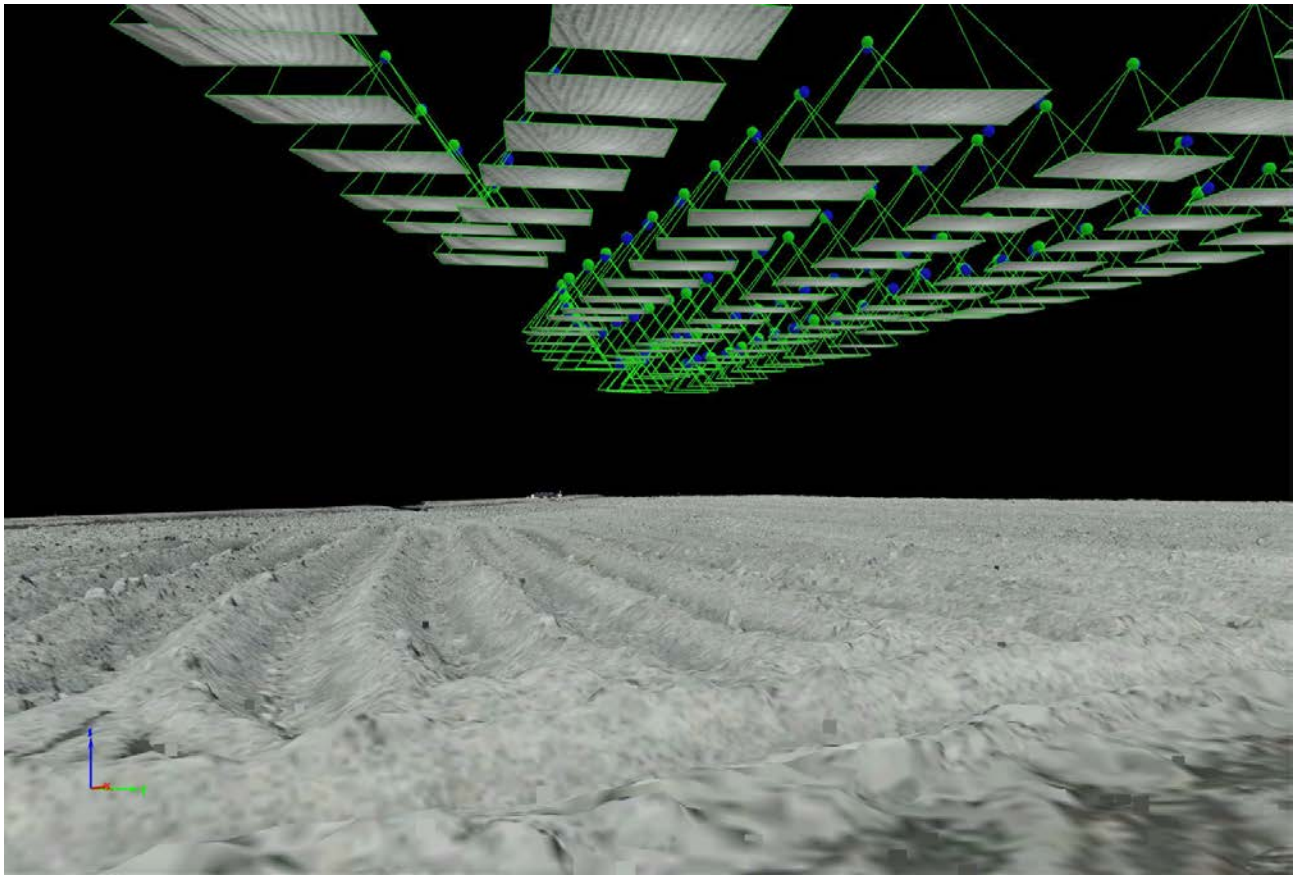
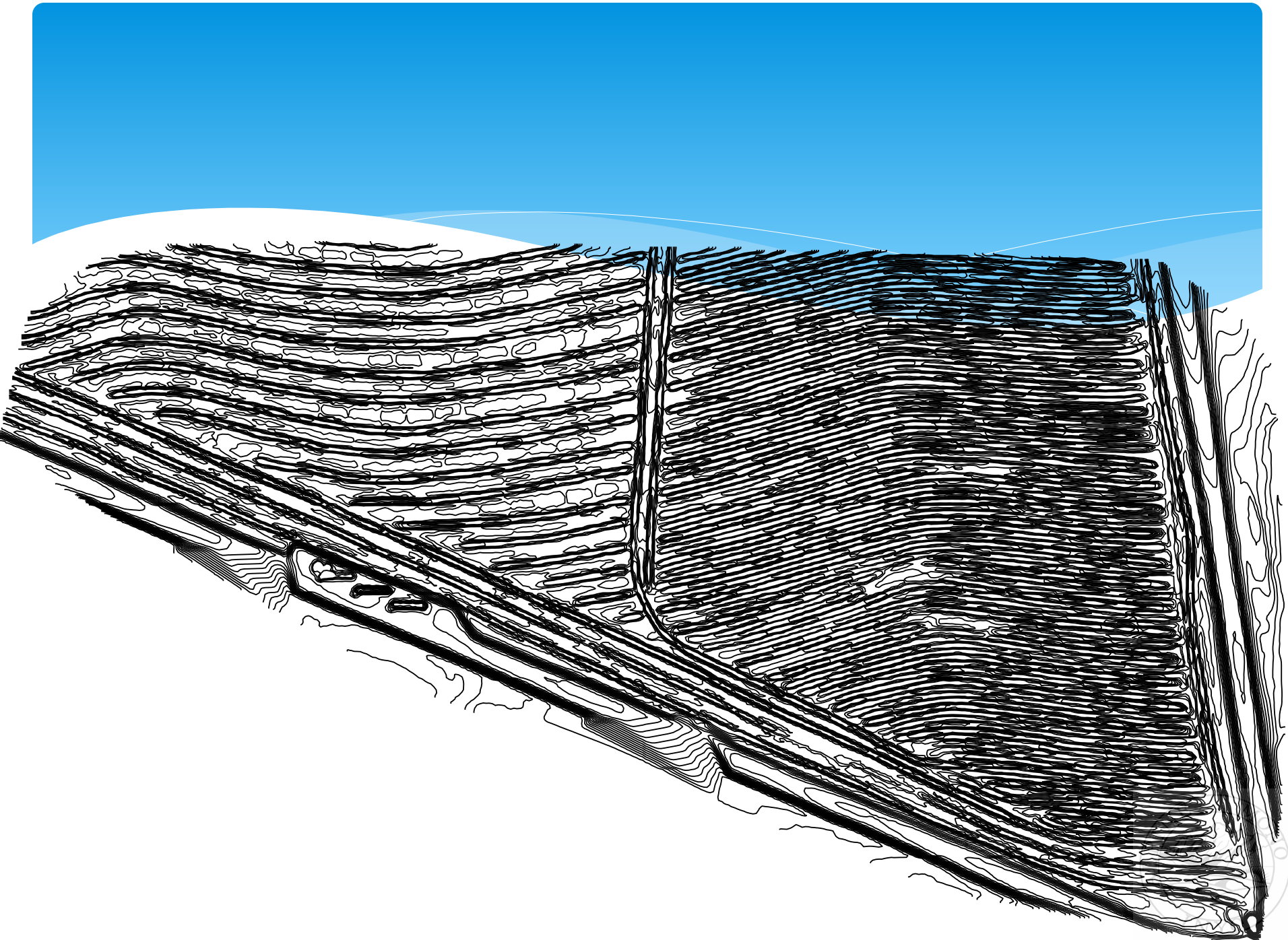


Photo Points

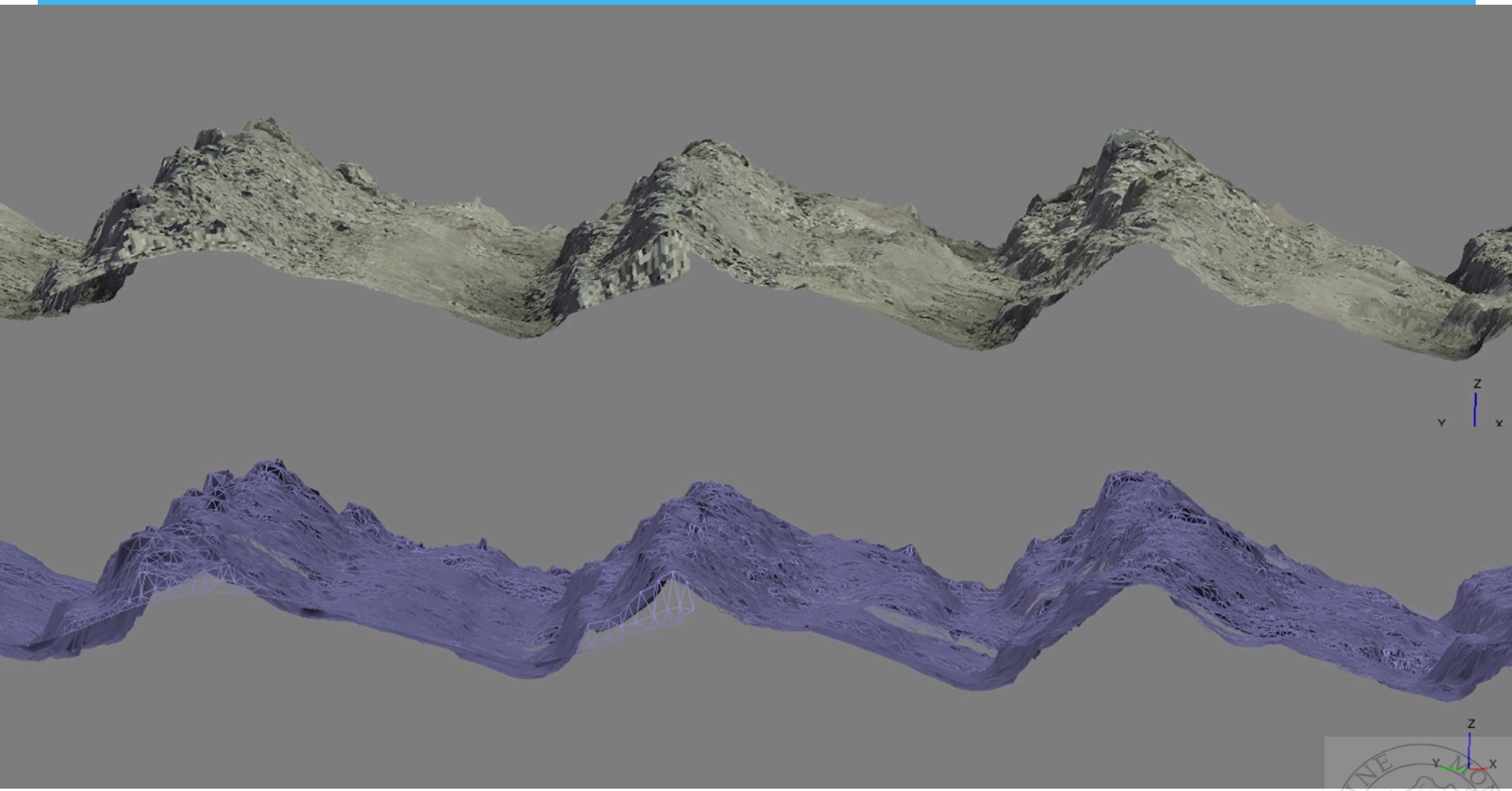


Surface Model w/ Image Locations





DEM Cross Section Tillage



End