

MCGREGOR UAV TESTING 2015



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HOW WE GOT HERE?

- One very geeky director with doubts
- But we decided that we would try the idea and see if we could learn anything from it
- We hired firms to fly fields and send the data back to us



WHAT WE LEARNED

- UAVs are a very good way to do crop imaging if they are deployed correctly.
- Imaging is like adding 3D to your cropping system
- There are a lot of variables that we can track with imagery that we can't track any other way.



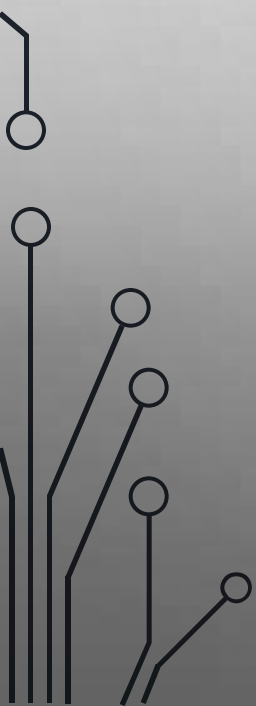
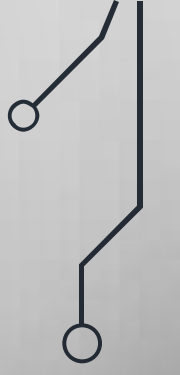
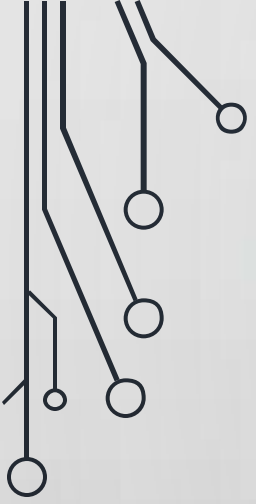
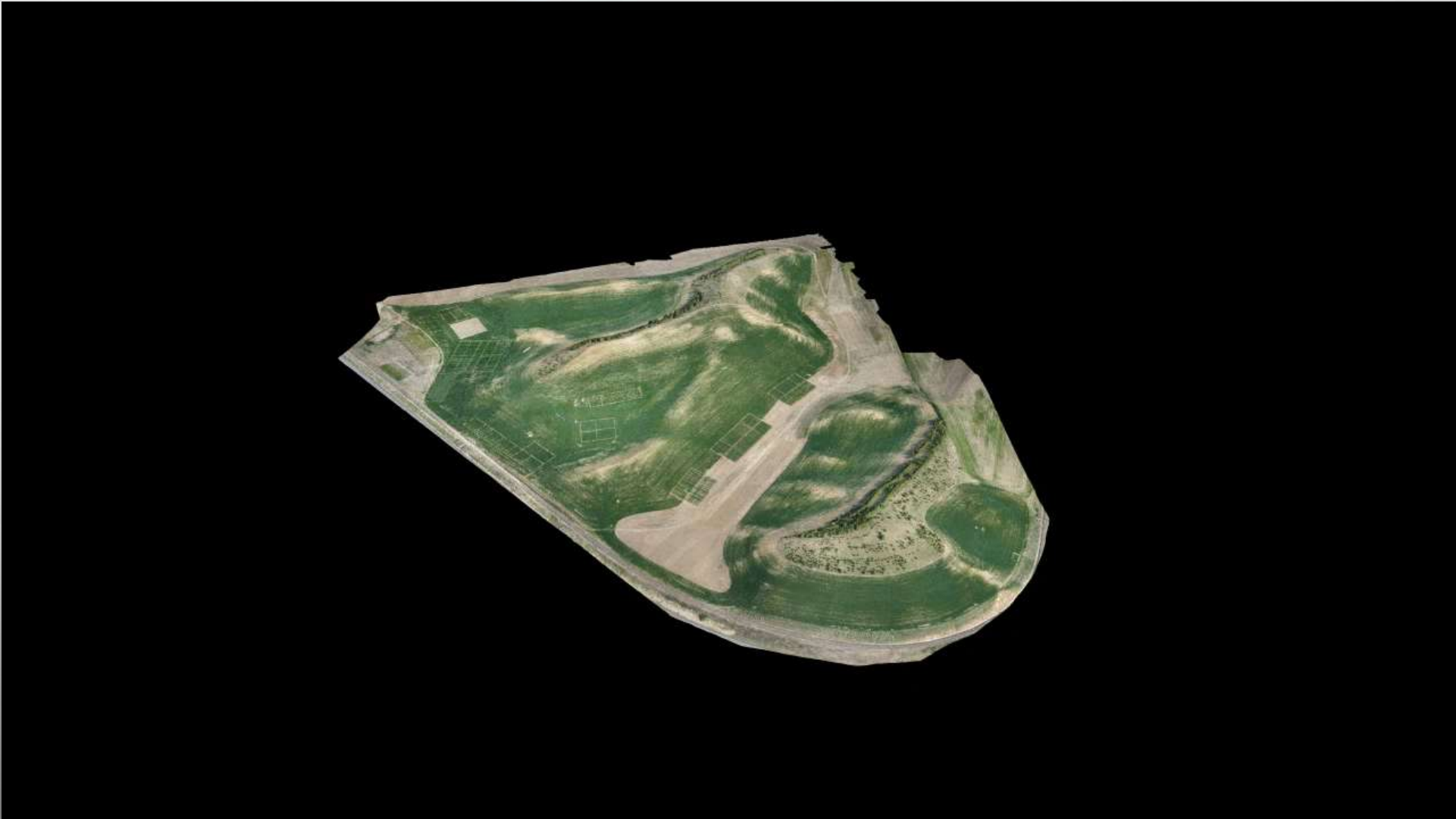
IMAGERY SOURCES

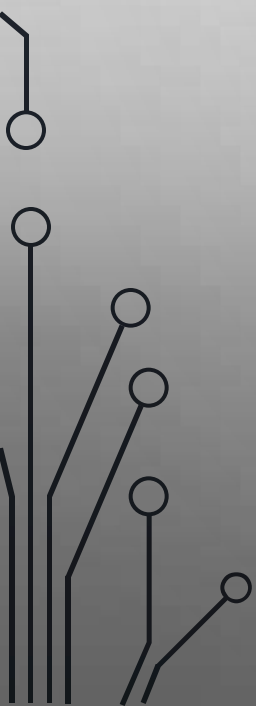
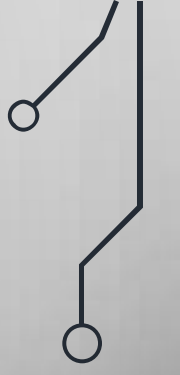
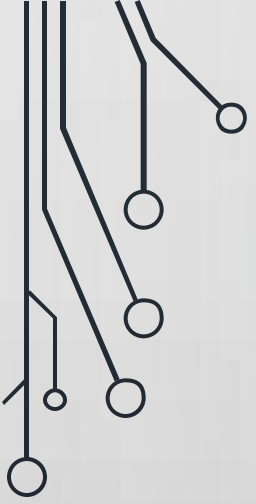
SATELLITE IMAGERY

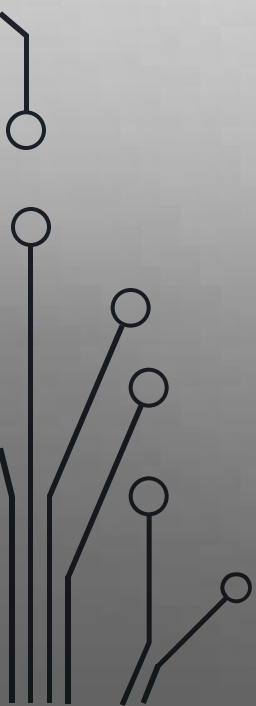
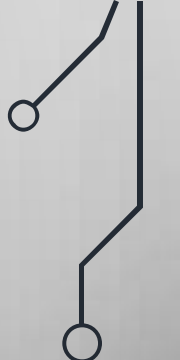
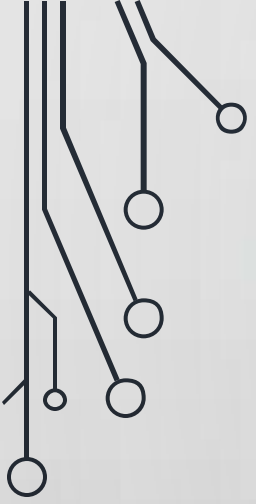
- Fixed area set temporal resolution
- Fixed spectral bands
- Automatic data capture
- Good resolution (15 ft)
- Manageable file size

UAV IMAGERY

- Variable area and temporal resolution
- Swappable payload
- Must be deployed
- Very fine resolution (6")
- Very large data files (1 gig per 100)



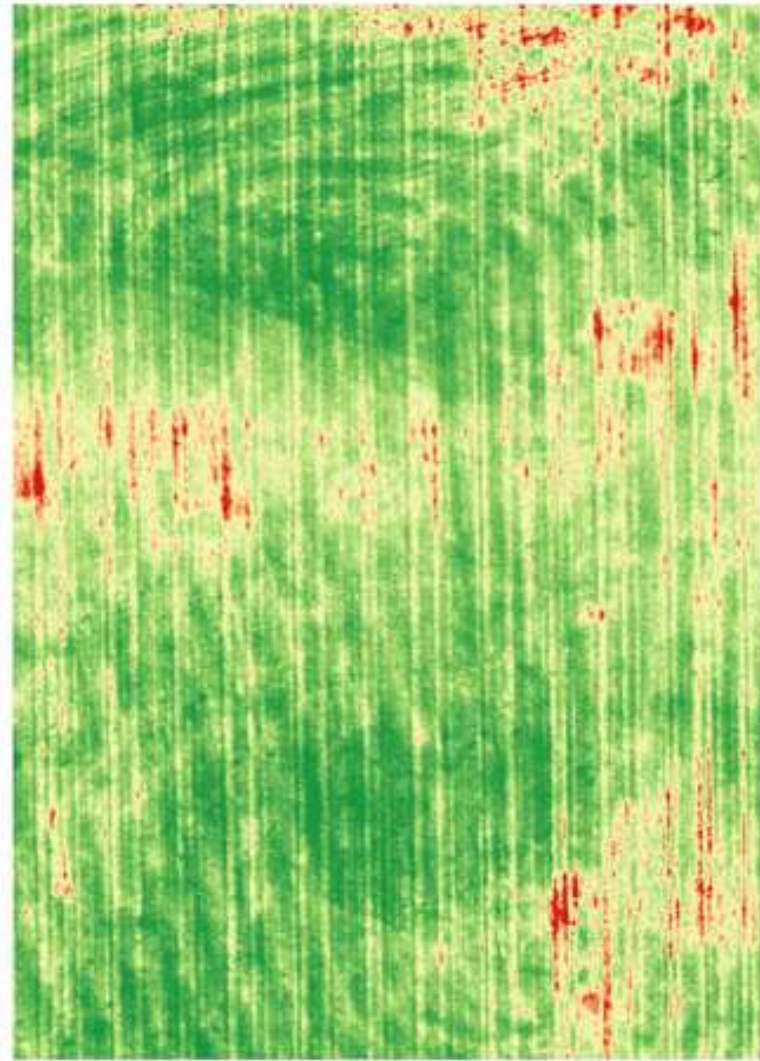


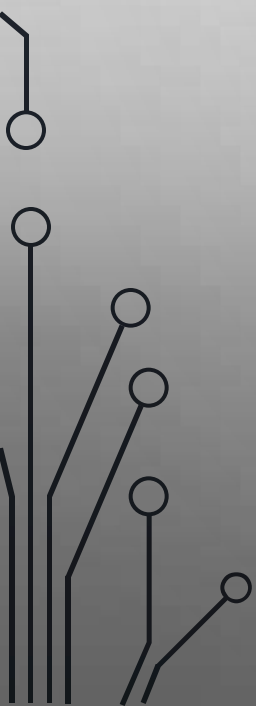
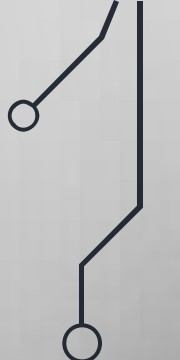
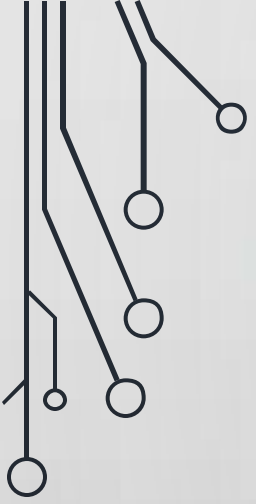
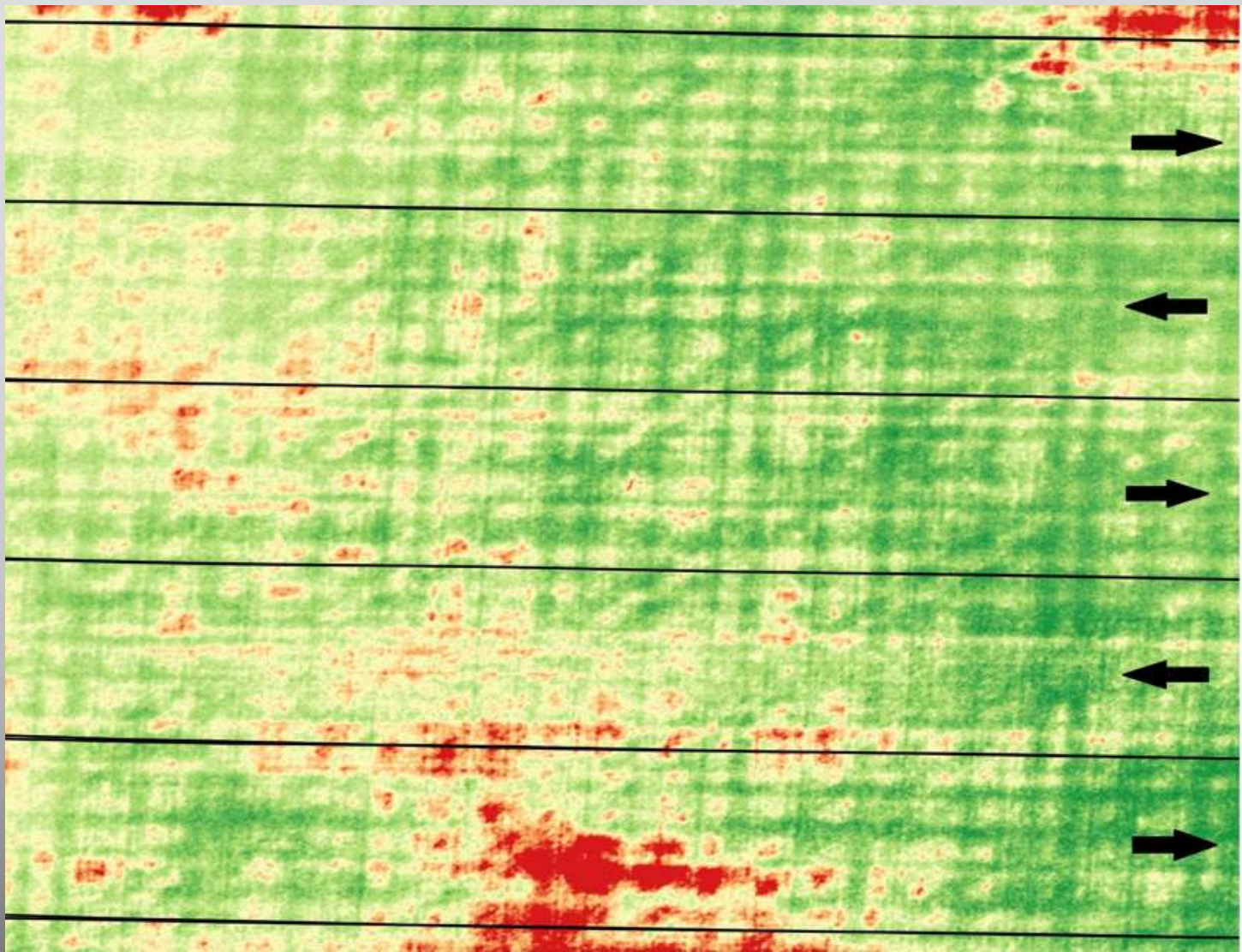


Color Image



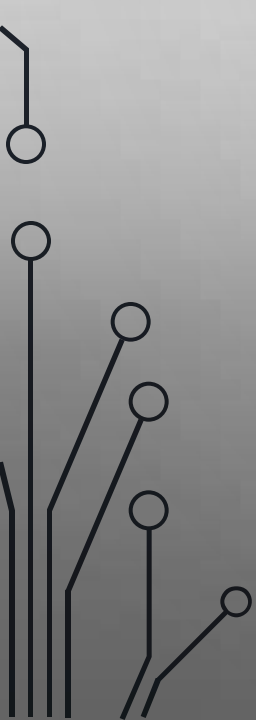
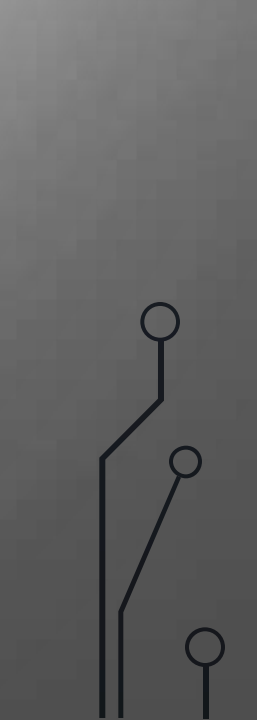
NDVI





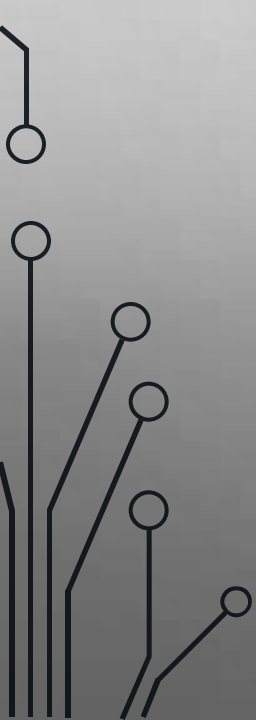
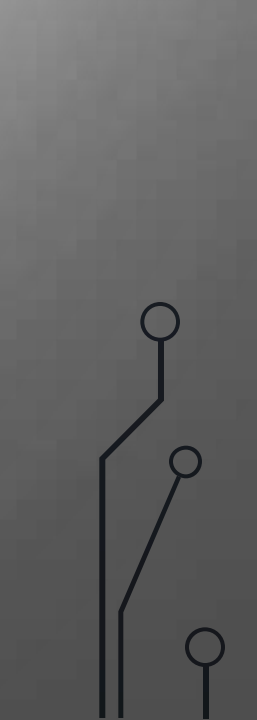


USES THAT WE SEE FOR UAV TECHNOLOGY

- Test plots:
 - Biomass measurement
 - Alternate variety charismatic tracking
 - In field tracking
 - Application problems or damage
 - INSIGHT
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CHALLENGES WITH UAV'S FOR IMAGING

- They are a mechanical piece of equipment
 - Unclear rules on operation/certification
 - Data capture is extremely large
 - Can't buy parts at the local hardware store
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THANKS!



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