



# BACKGROUND

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Experienced with the use of spatial information across Industries

- × Snr. Mine Geologist – Mount Gibson Iron – Koolan Is.
- × Casual Viticulturalist – Katnook Estate Coonawarra
- × Technical Manager – Katnook Estate Coonawarra
- × Former SPAA Committee member

# GROUP BACKGROUND

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- ✘ Precision Viticulture (PV) Methods Applied?
- ✘ Experiences Applying PV?
- ✘ Why Attempted? Ongoing Success?
- ✘ Plan?

# DEFINING PRECISION VIT. (PV)

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*“PV is just good viticulture”* (Rob Bramley)

× Need a soil survey?

★ Consider EM38 vs Grid Sampling

× Want to measure canopy density?

★ Consider PCD vs Point Quadrat (or both)

× Want to understand yield variability?

★ Consider yield mapping vs manual sampling



# DEFINING PRECISION VIT.

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- ✘ Using technology to help address agronomic challenges...
  - ✘ Right Action
  - ✘ Right Place
  - ✘ Right Time... More often!

# Defining Precision Vit

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- i. Finding your location and associating it with something (GPS & Attributes)
  
- ii. Presenting this data (Geographic Information systems)

# PV APPLICATIONS – POWER OF A POINT

- ✘ Ground truthing – Find your “place” to accurately track and map observations
- ✘ Therefore, examples from my personal experience...
  - ✘ Sampling locations (moisture probes to maturity sampling)
  - ✘ High vigour or high “potential” vines
  - ✘ Underperforming vines
  - ✘ Disease Infection & severity (investigation of causal relationships)
  - ✘ Broken Posts (efficiency, accurate budgeting, targeted installation)
  - ✘ Dripper Blowouts (easy to return to the same location)
  - ✘ Weeds (proclaimed weeds, multi – season treatment, area to spray)
  - ✘ Location of Infrastructure (reduce time wastage, proximity alarms)
  - ✘ Accountability\Reporting (VR application and spray tracking)
  - ✘ Whatever you need or can imagine...
- ✘ EM38, NDVI, Yield – All collected as point data

# POINT DATA COLLECTION – “GROUND TRUTHING”

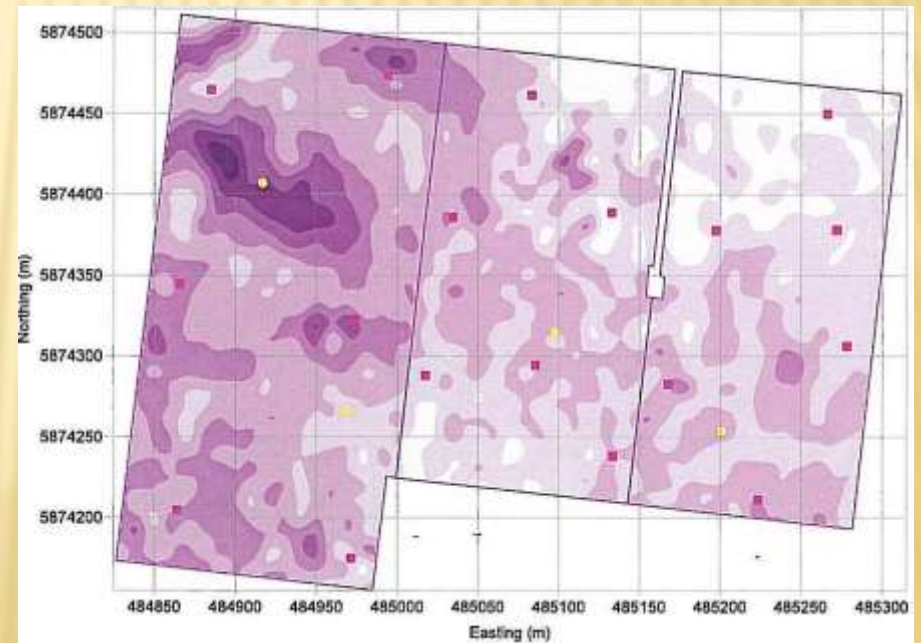




# PV APPLICATIONS – POWER OF A POINT

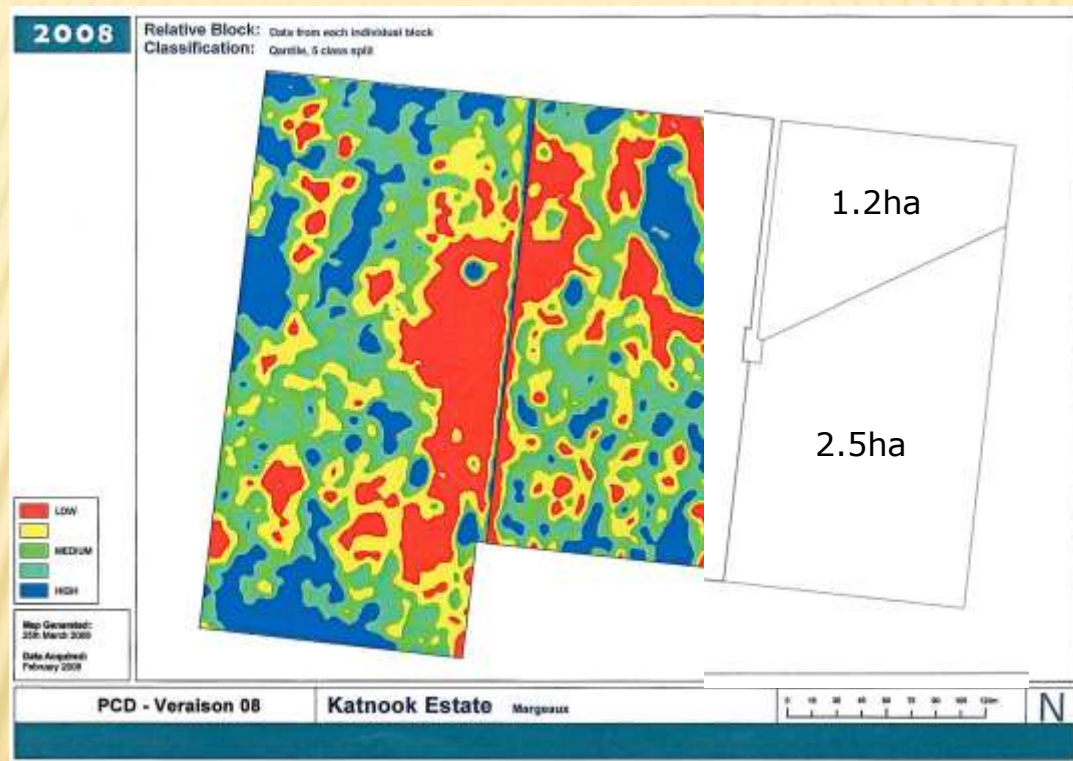
EM38 Map

# POINT DATA COLLECTION – “GROUND TRUTHING”



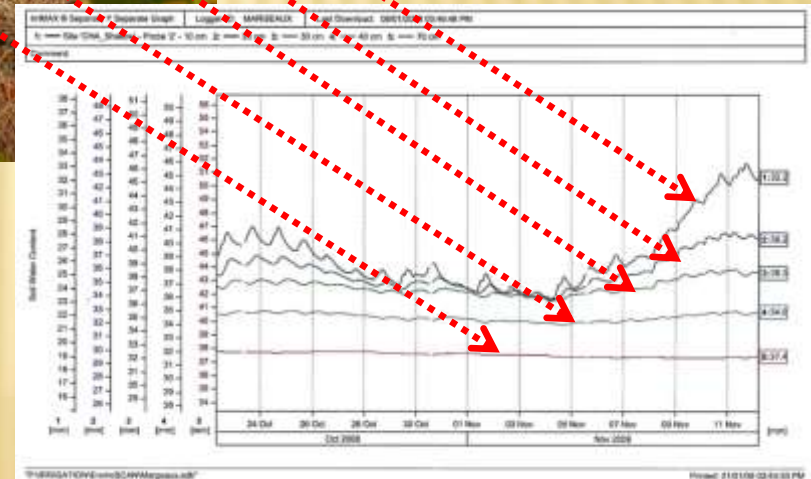
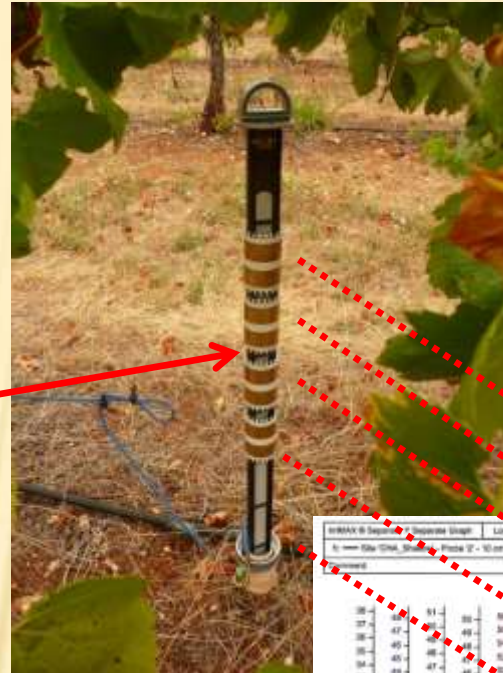
# POINT DATA COLLECTION – “GROUND TRUTHING”

- ✘ Vineyard map displaying variability in vigour (PCD):





# POINT DATA COLLECTION – “GROUND TRUTHING”





# POINT DATA COLLECTION – “GROUND TRUTHING”



# POINT DATA COLLECTION – “GROUND TRUTHING”





# POINT DATA COLLECTION – “GROUND TRUTHING”

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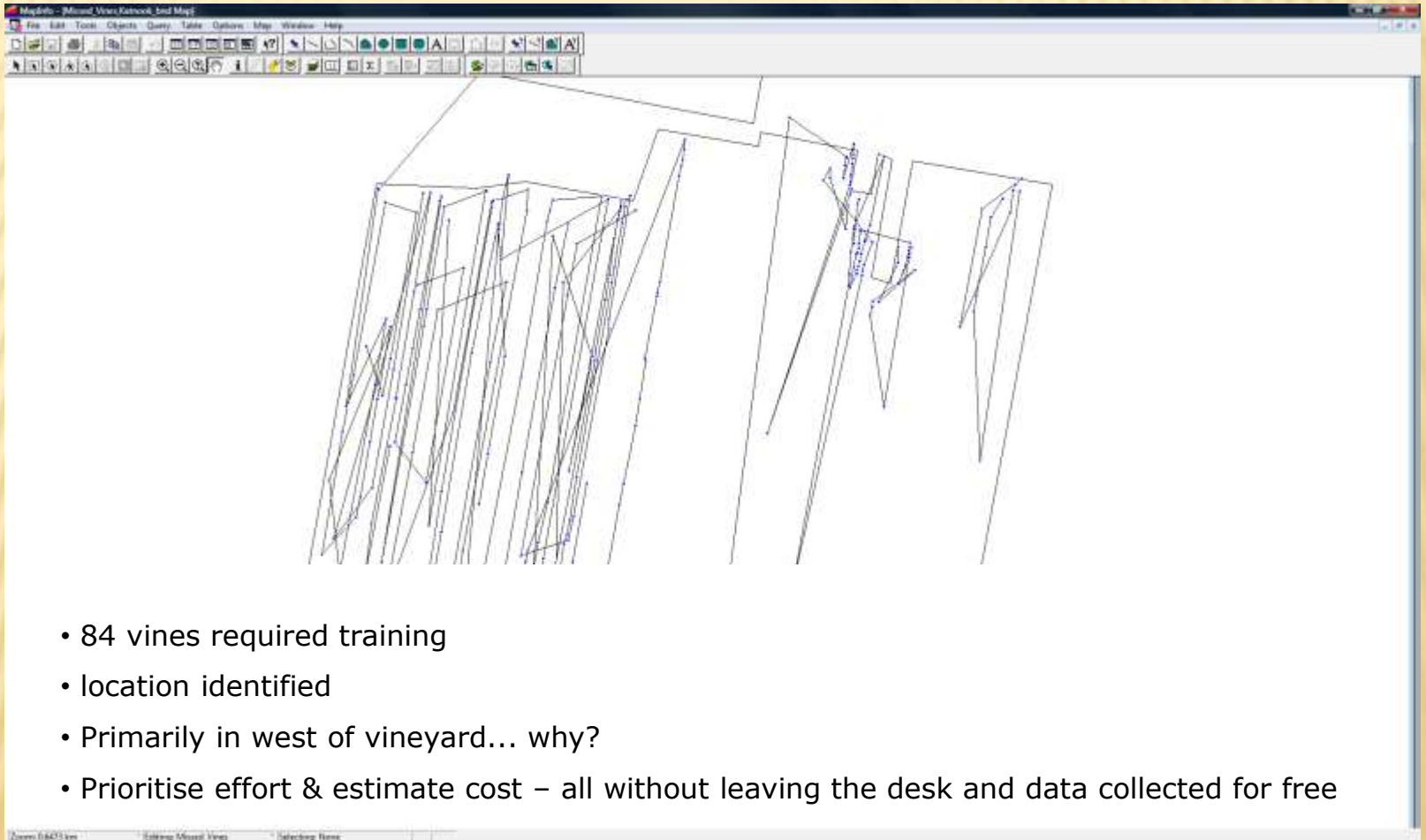
Lat: 37°20'3.00"S  
Long: 140°50'5.00"E

# POINT DATA COLLECTION – “GROUND TRUTHING”

= Targeted weed control



# POINT DATA COLLECTION – “GROUND TRUTHING”



- 84 vines required training
- location identified
- Primarily in west of vineyard... why?
- Prioritise effort & estimate cost – all without leaving the desk and data collected for free

# POINT DATA COLLECTION – “GROUND TRUTHING”

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Scouting.kml

# DEFINING PRECISION VIT. - REVIEW

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PV uses technology\positioning systems to:

- I. Provide Informed Management
- II. Targeted Management (Manage Variability)
- III. Make Life Easier
- IV. Provide Cost Benefits

*"...The precise application of vineyard management practices, for example, pruning and harvesting; and of resources such as fertilisers, water and pesticides..."* (Jim Hardie CRCV

Australia)

# DEFINING PRECISION VIT. - REVIEW

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PV and GIS is a communication tool...

- × Agronomists
- × Grower Liason Officers
- × Staff and contractors i.e. pruners etc.
- × Financial stakeholders

...but can be a specialised skill ☹️

Google Earth and .kml files may help!



# GETTING AROUND COMPLEX GIS...

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No getting around an accurate pick up of your vineyard boundary!



Vineyard Boundary.kml

# GETTING AROUND COMPLEX GIS...

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- ✗ Ask your provider for the following as .kml:
  - ✗ PCD
  - ✗ NDVI
  - ✗ Yield
  - ✗ Broken posts (or those replaced) etc.

“Freeware” & Apps may provide easy solutions for converting your own point data

# GETTING AROUND COMPLEX GIS...

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There is no getting around GIS (even Google is GIS), but a simpler format will help you get your data into the field!

- + On your phone
- + On your tablet
- + On your laptop
- + On your camera!



# IMPLEMENTATION

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*“PV is just good viticulture”* (Rob Bramley)

- ✗ Commit (needs buy in from your winemaker)
- ✗ Make a plan and start simple
  - ✗ Year 1: Property boundary and PCD map
  - ✗ Year 2: Pruning weight ground truthing, establish zones, split picking
- ✗ Add PV to your budget and make use of your current resources!
- ✗ Track results: keep separate wines, monitor vine response to inputs etc.

What information will help you improve the way you do things?

# WHAT IS YOUR GOAL?

Does PV have a place in your vineyard?



Thankyou

