Light Detection And Ranging

Presentation to

Cowichan Watershed Board

April 7, 2011

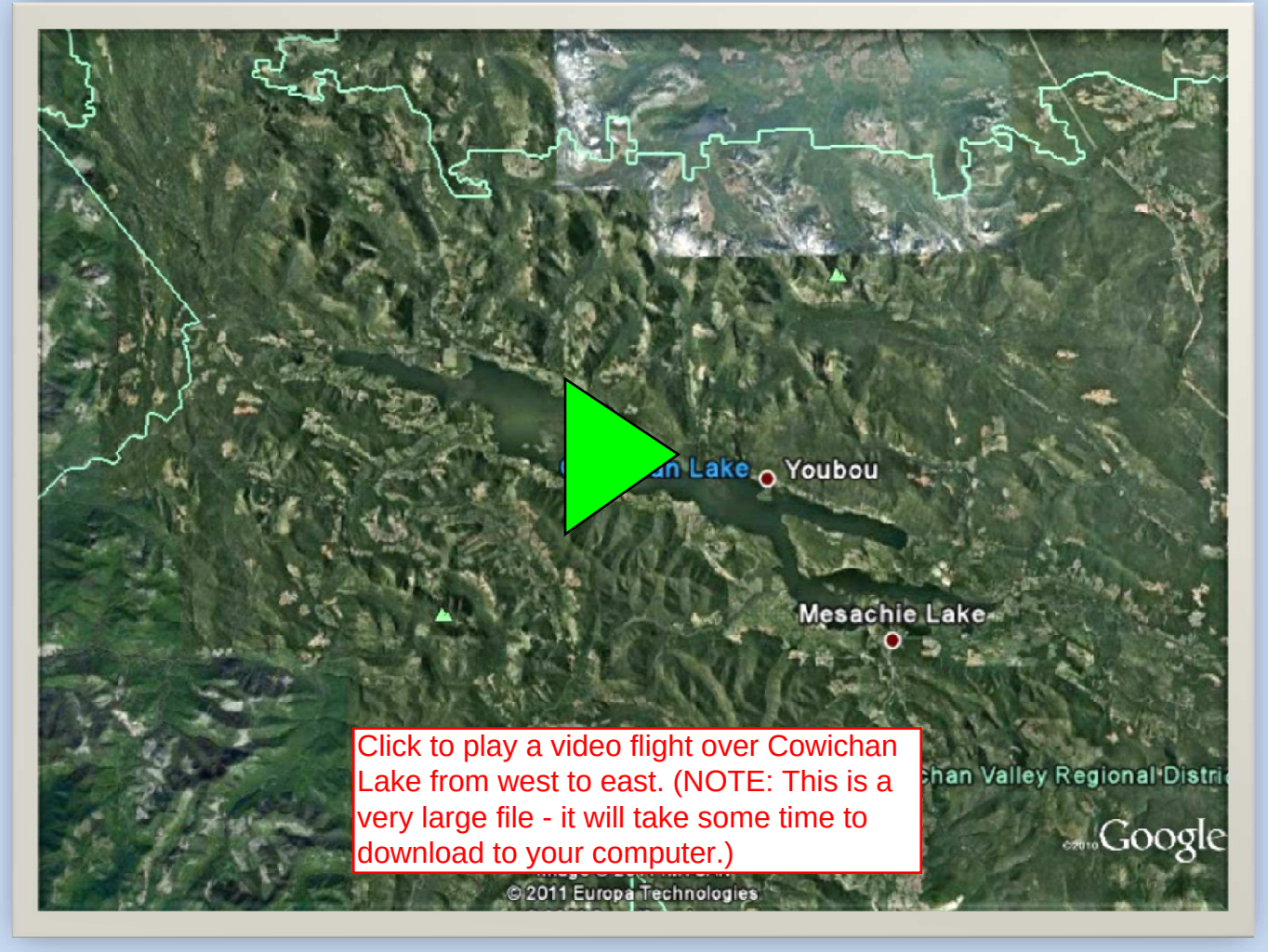
C·V·R·D

Agenda

- Introduction - Agenda
- Remote Sensing
- LiDAR – what is it?
- LiDAR – how can it be used?
- LiDAR – Cowichan Lake

C·V·R·D

Remote Sensing

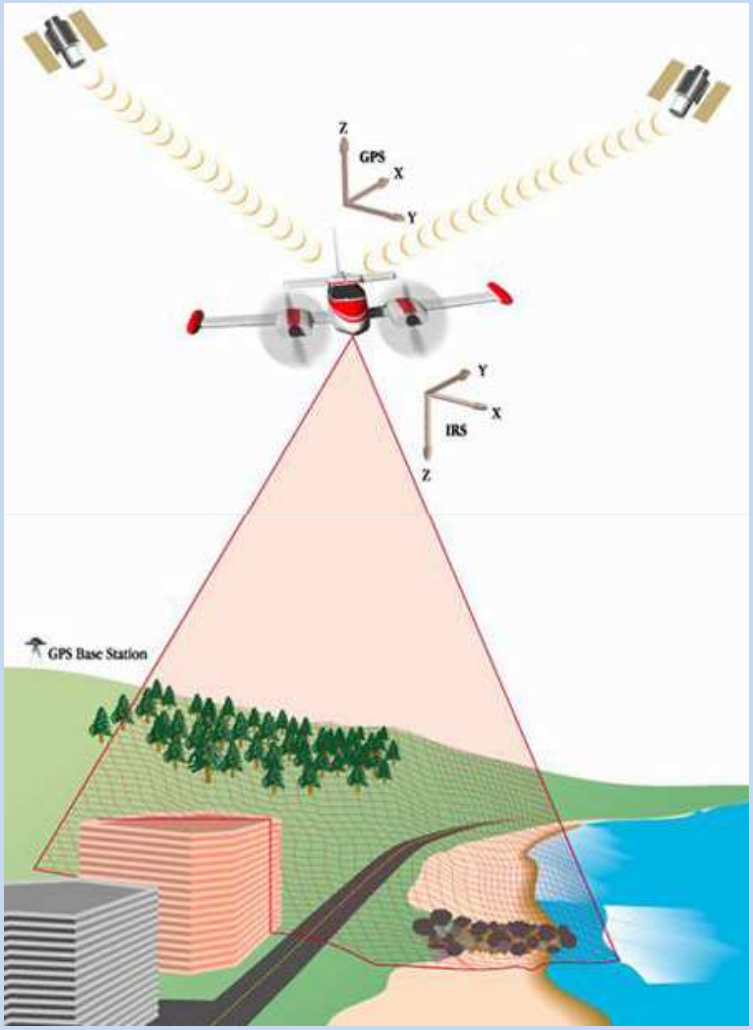


C·V·R·D

LiDAR

Light Detection And Ranging

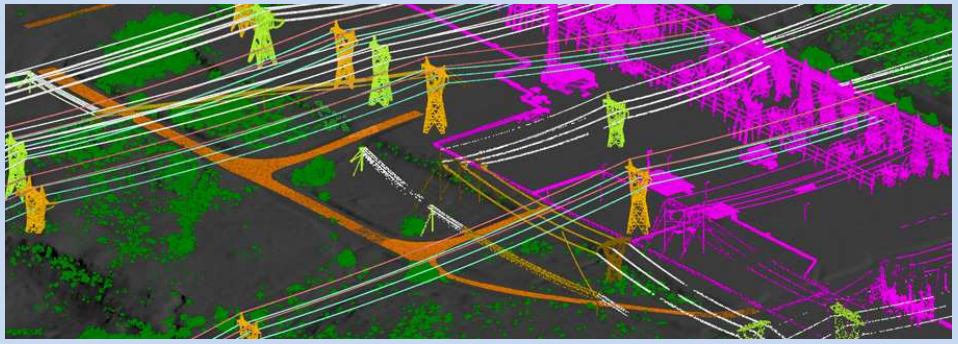
- light or laser pulses
- ultraviolet, visible, and/or near infrared light
- remote targets have different reflective properties or signatures

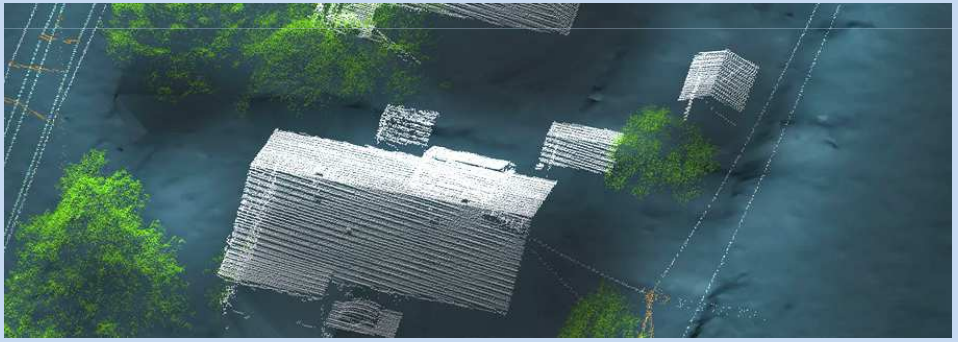


C·V·R·D

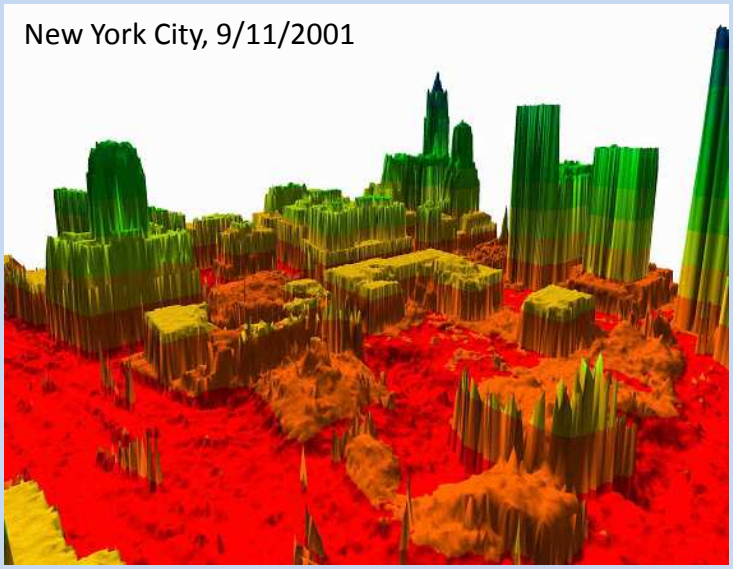
LiDAR

- Water management (flood)
- Public health
- Utilities
- Planning
- Airborne pollution
- Invasive species (plant)
- Coastline management





New York City, 9/11/2001

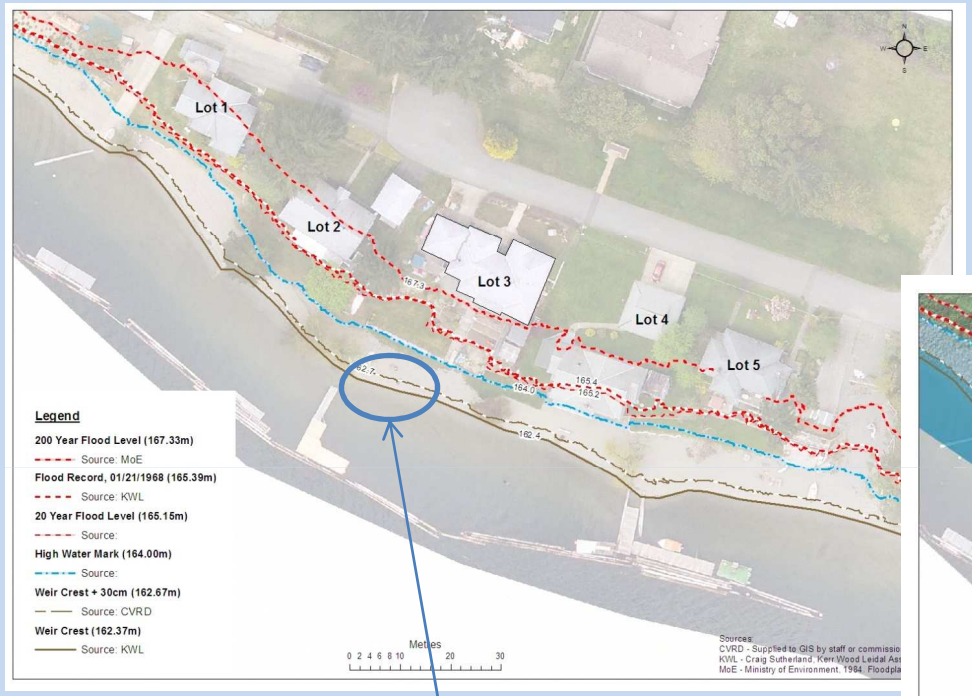


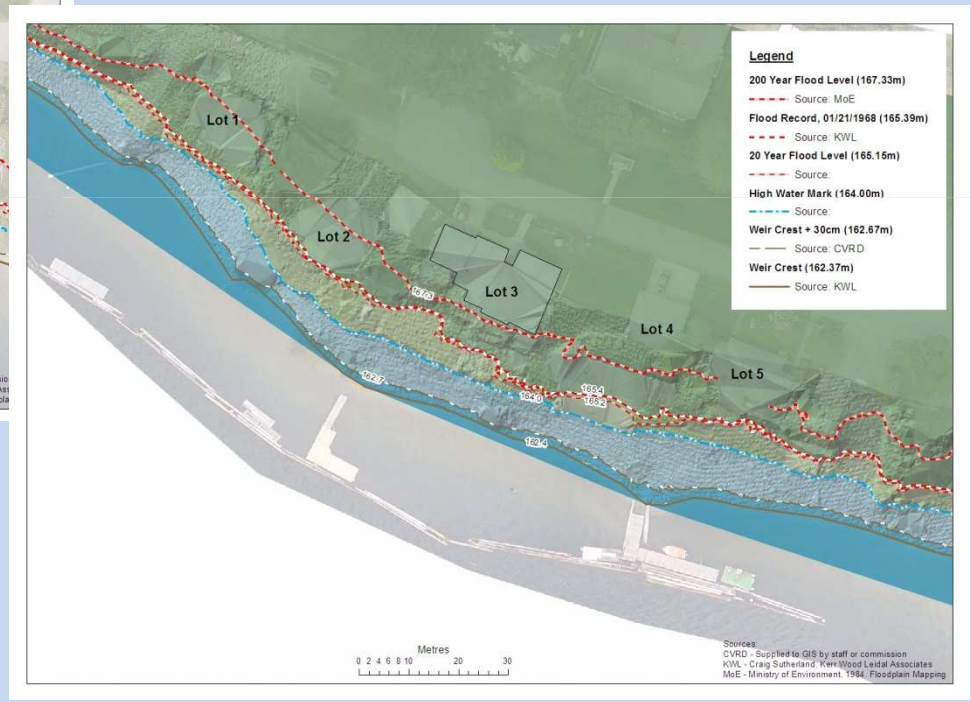
LiDAR & Cowichan Lake

- Create bare earth terrain model
  - 15cm vertical accuracy (variable)
  - 10cm horizontal accuracy (variable)
- Acquired 10cm orthophotos
- Map various water levels

C·V·R·D

Example 1

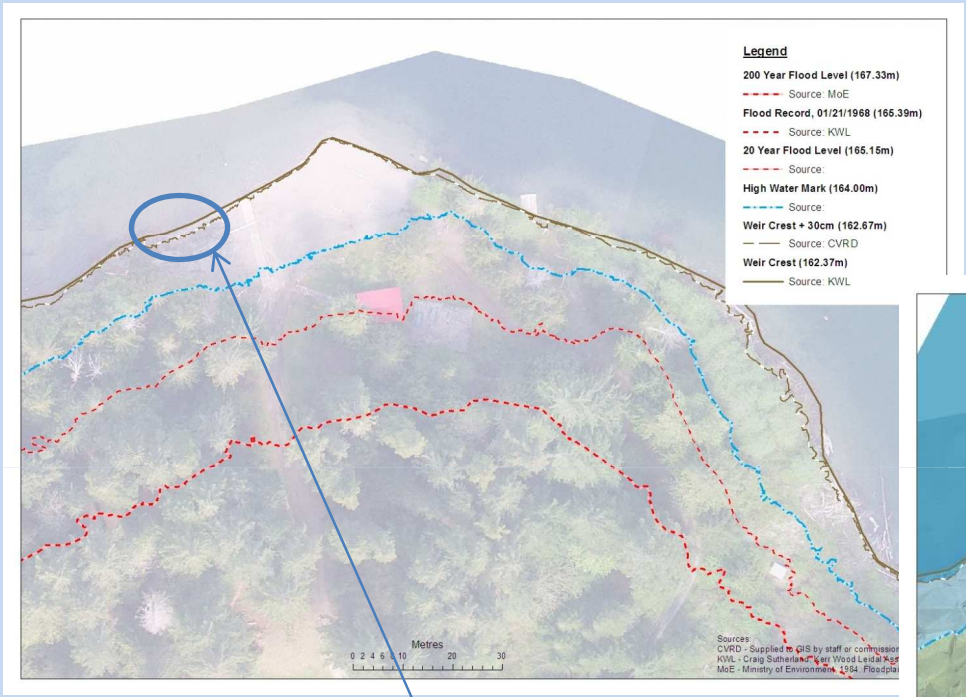


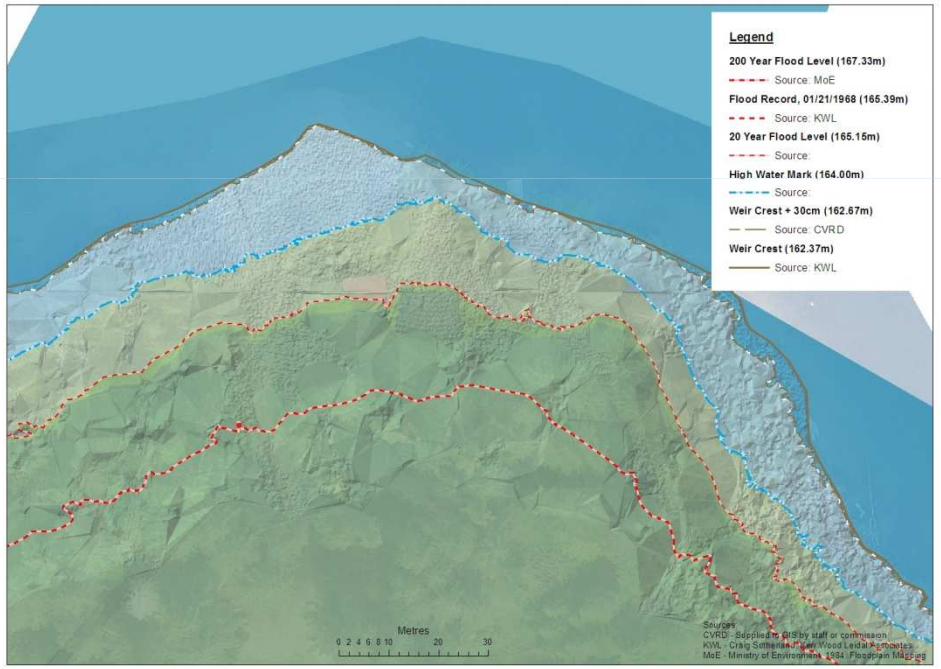


Vertical Difference of 30cm
Horizontal Difference of 2.0m

CVRD

Example 2





Vertical Difference of 30cm
Horizontal Difference of 2.0m

C·V·R·D

Thank-you

Questions?

Comments?

Recommendations?

C·V·R·D