

Emerging Water Technologies Used by ESRD

2013 Water Measurement Workshop

Lethbridge, Alberta

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Water Monitoring at ESRD

Meteorological



Hydrometrics



Surface Water Quality



Groundwater



What did we learn from the 2013 flood?

Safety

Response Time

Data Quality



Surface Water Quality



Surface Water Quality



Surface Water Quality



- Extended deployment times
- Smart ports/sensors
- Wet mateable sensor ports
- Bluetooth ready
- Threshold Sampling

Surface Water Quality

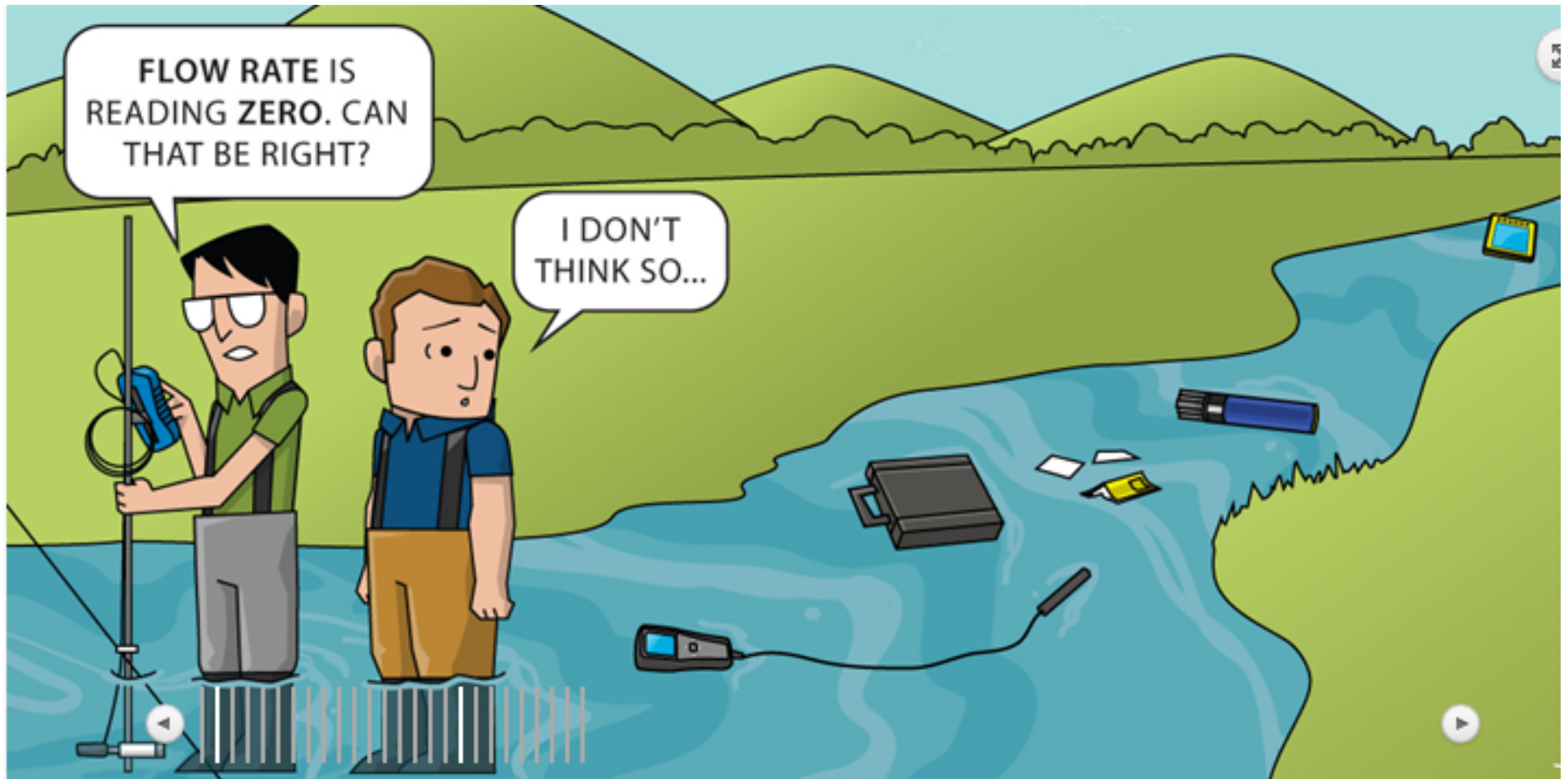


Surface Water Quality

- Submersible UV-Visible spectrometer
- NO₃/BOD/TSS
- NH₄/K⁺/pH
- DO, pH, ORP, Cl



Hydrometrics



Hydrometrics

Sontek
RiverSurveyor M9



Sontek M9 in Qboat





Alberta

Meteorological

- Campbell Scientific GMON3 (GammaMONitor)
- Developed by Hydro-Quebec.
- Large area (50-100m²)

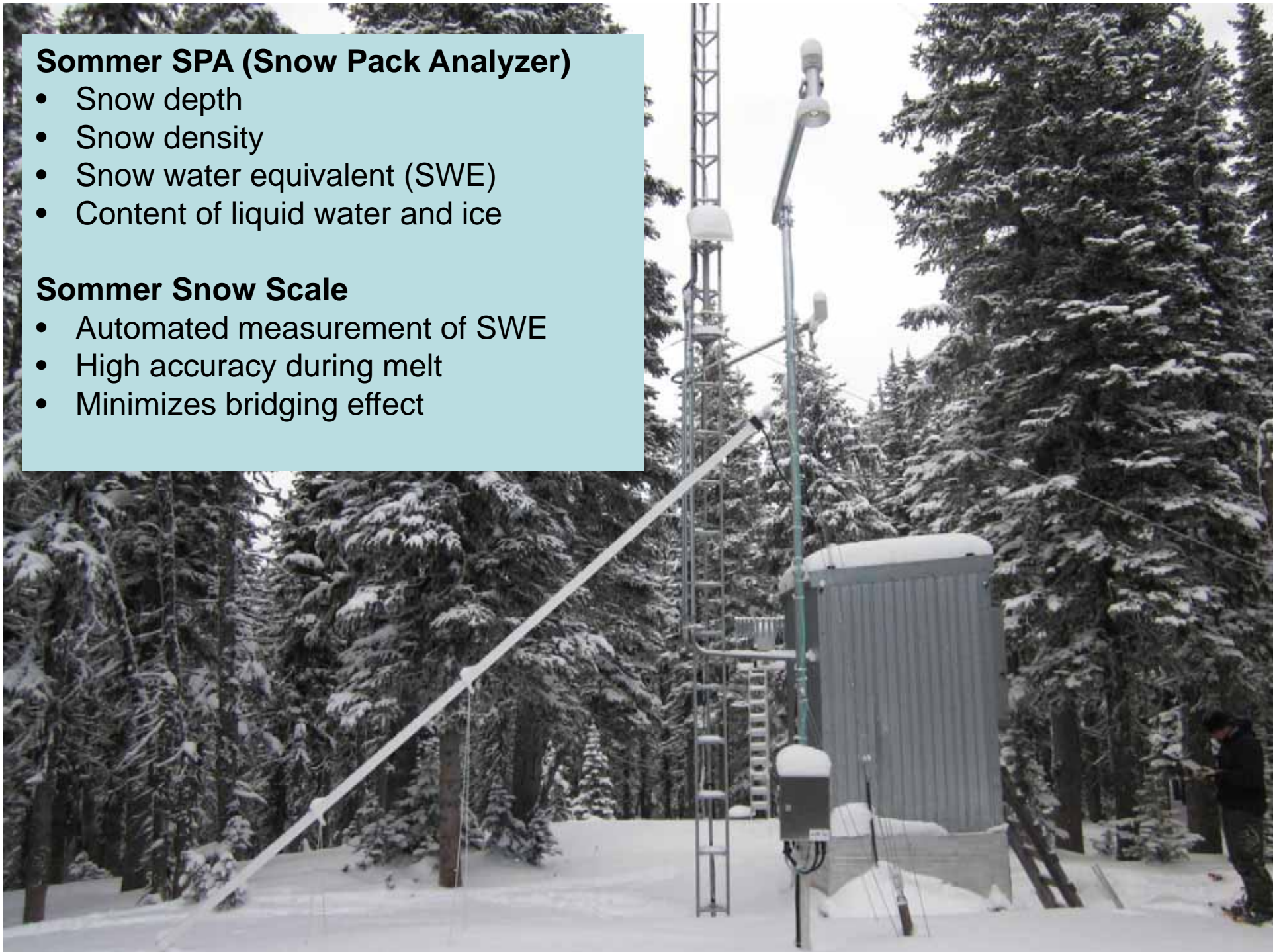


Sommer SPA (Snow Pack Analyzer)

- Snow depth
- Snow density
- Snow water equivalent (SWE)
- Content of liquid water and ice

Sommer Snow Scale

- Automated measurement of SWE
- High accuracy during melt
- Minimizes bridging effect



Groundwater

- Leveltroll 700H
- Ashtech ProMark 500

Questions?

