Global Positioning System GPS

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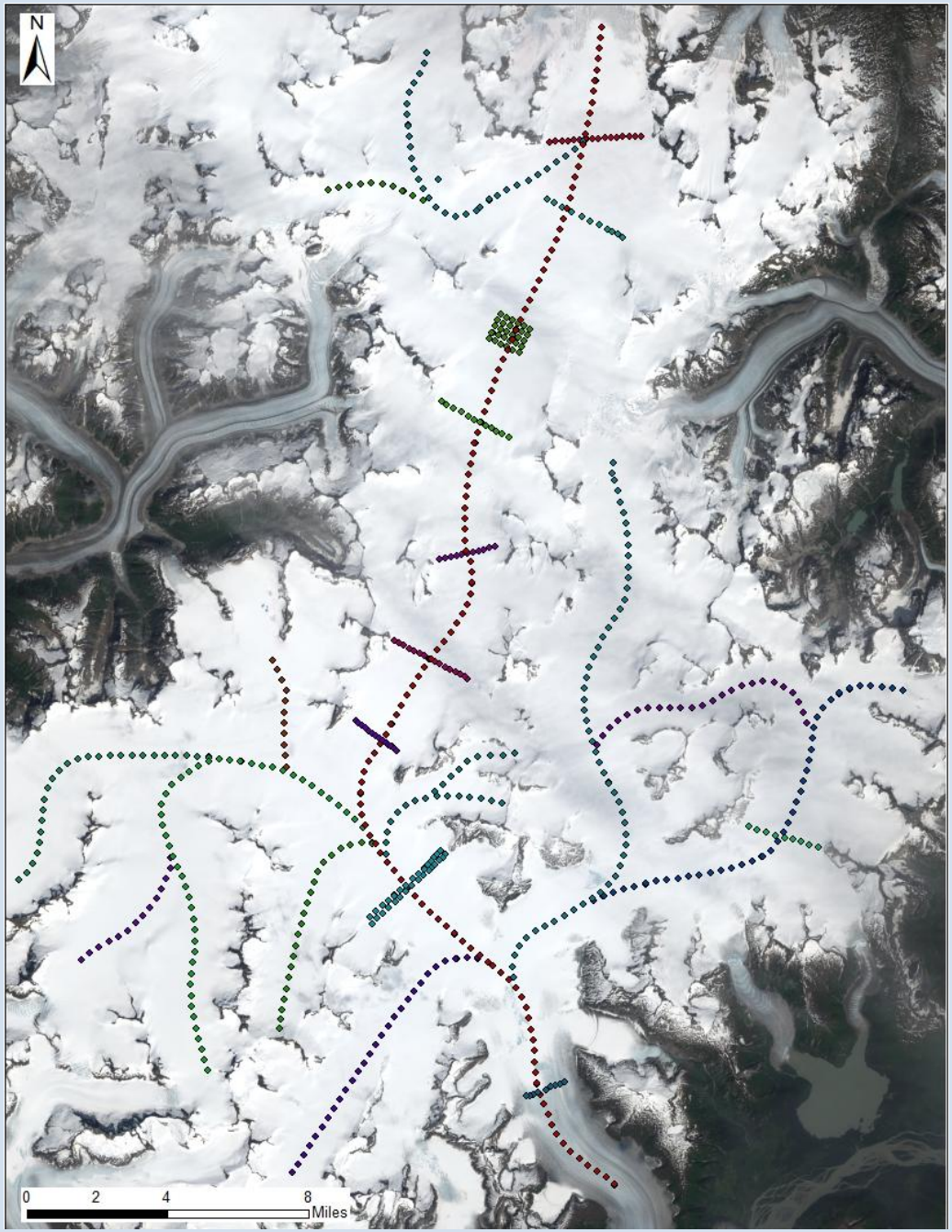
Survey Profiles of the Juneau Icefield

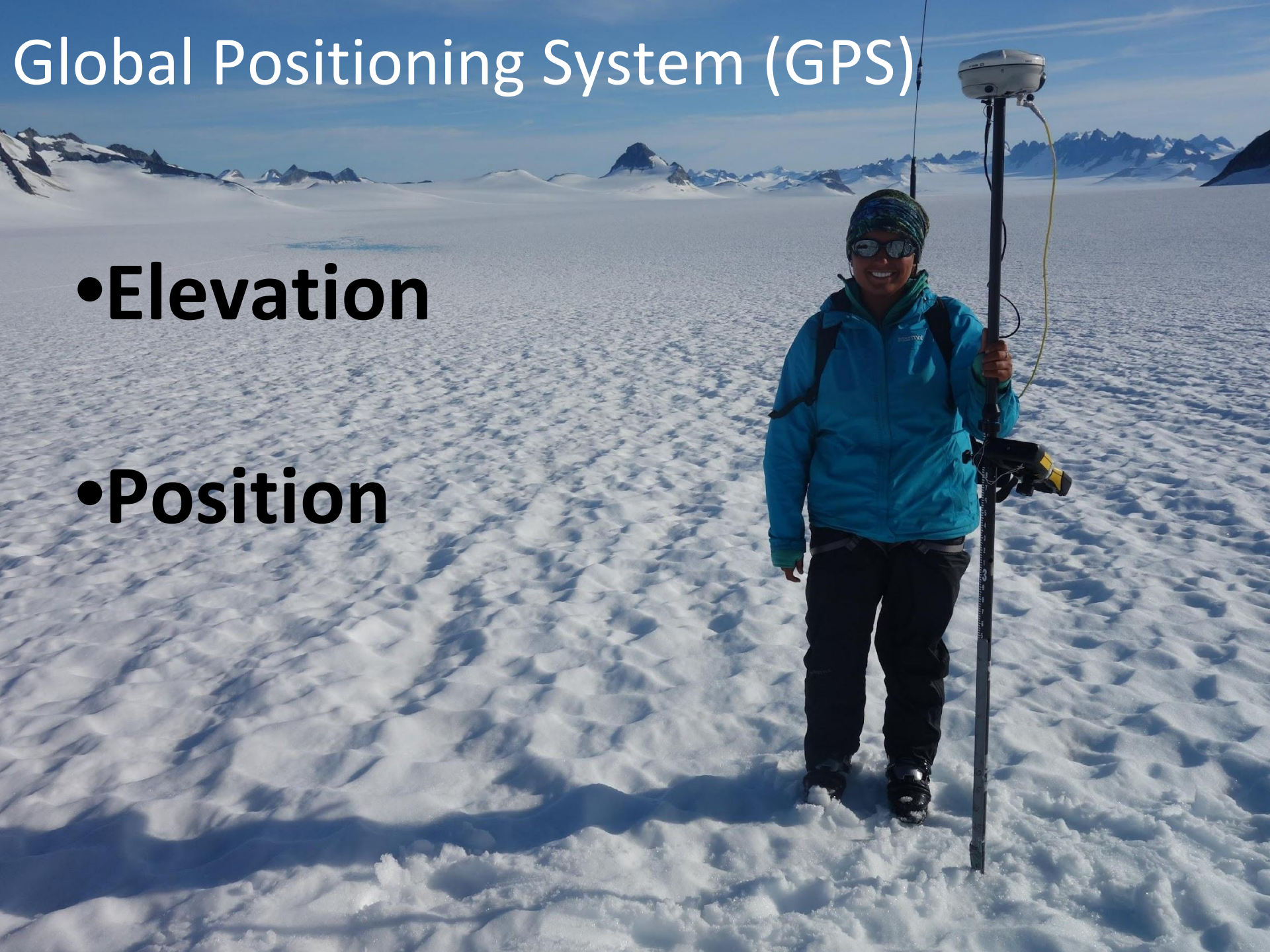
Points measured: 1012



0 4

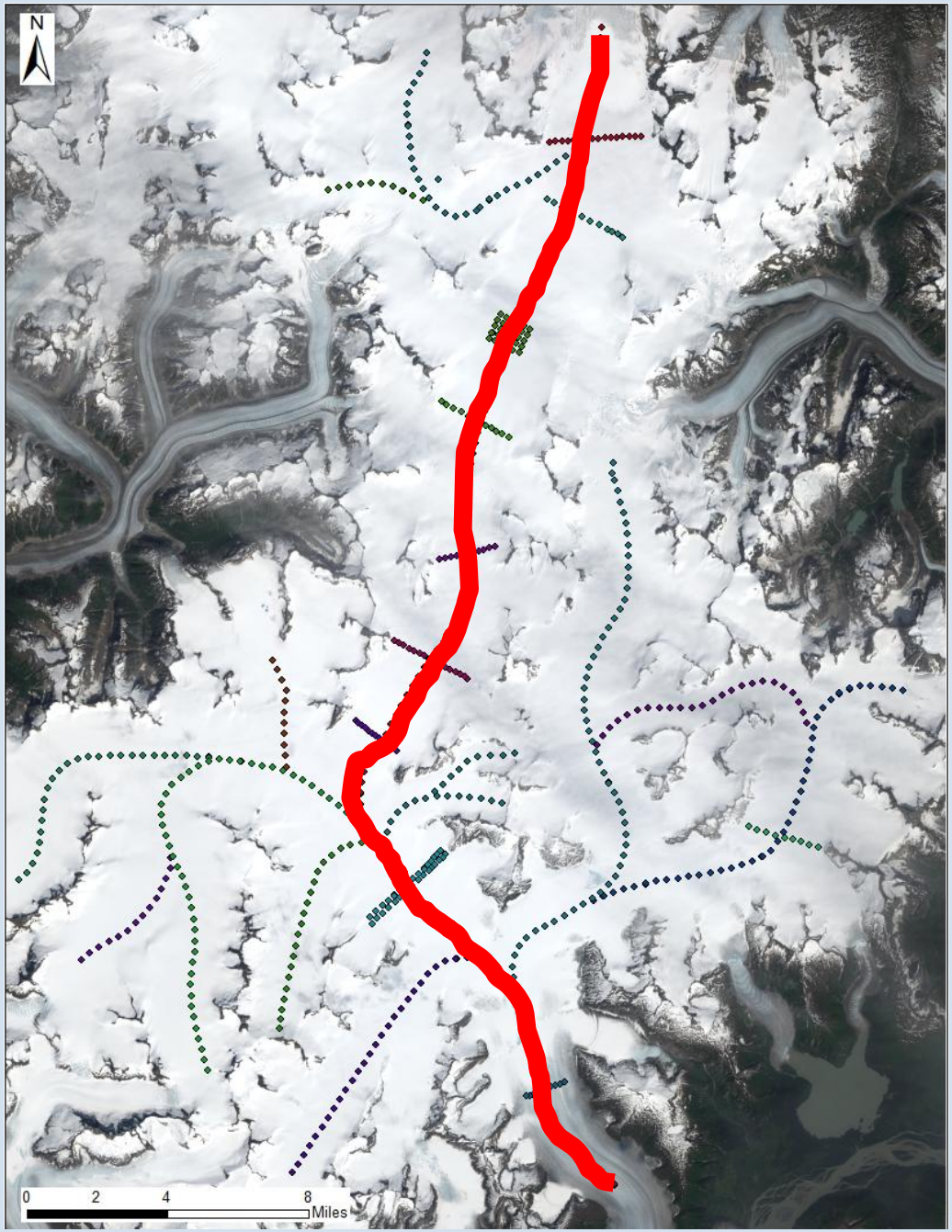
Miles

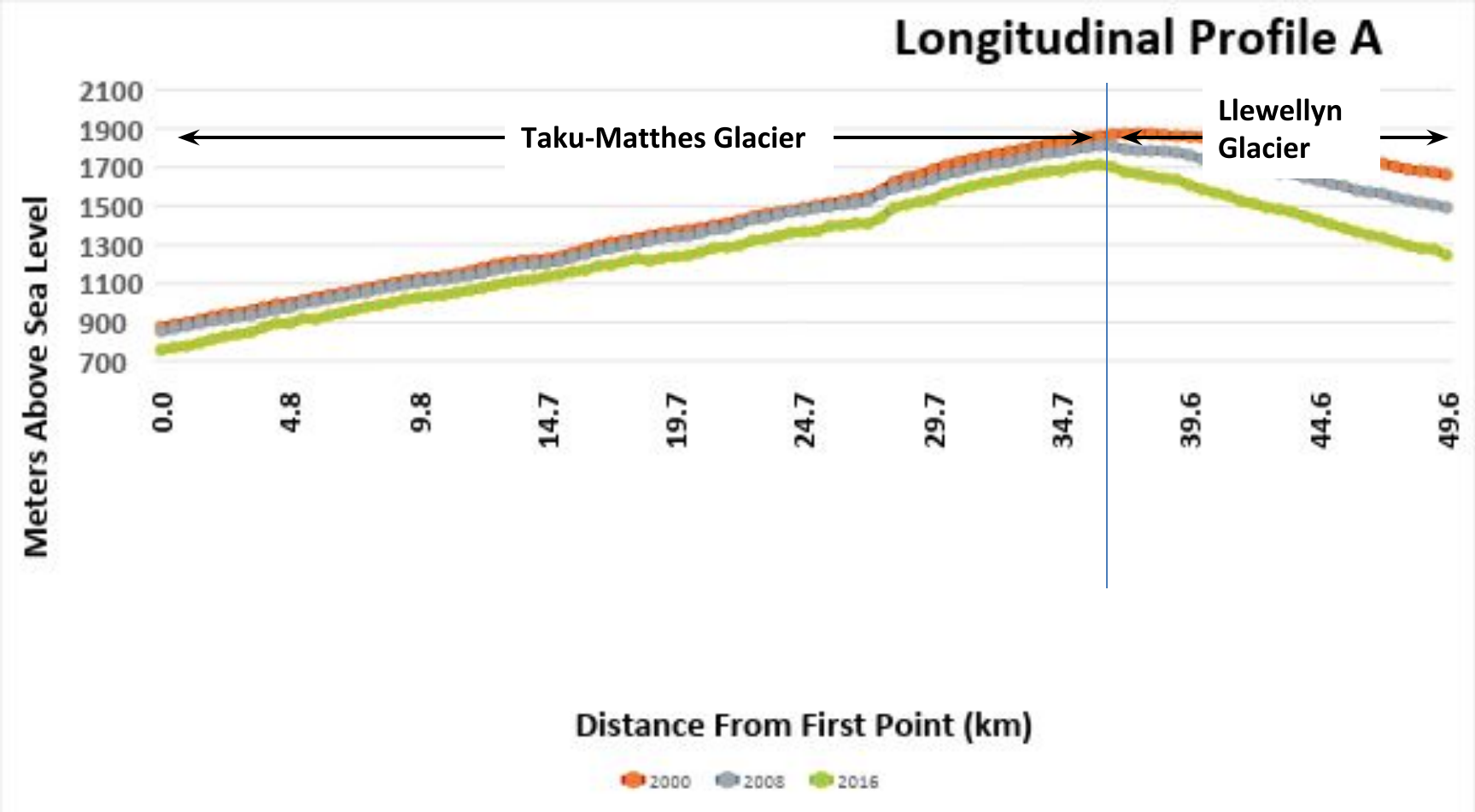
Global Positioning System (GPS)

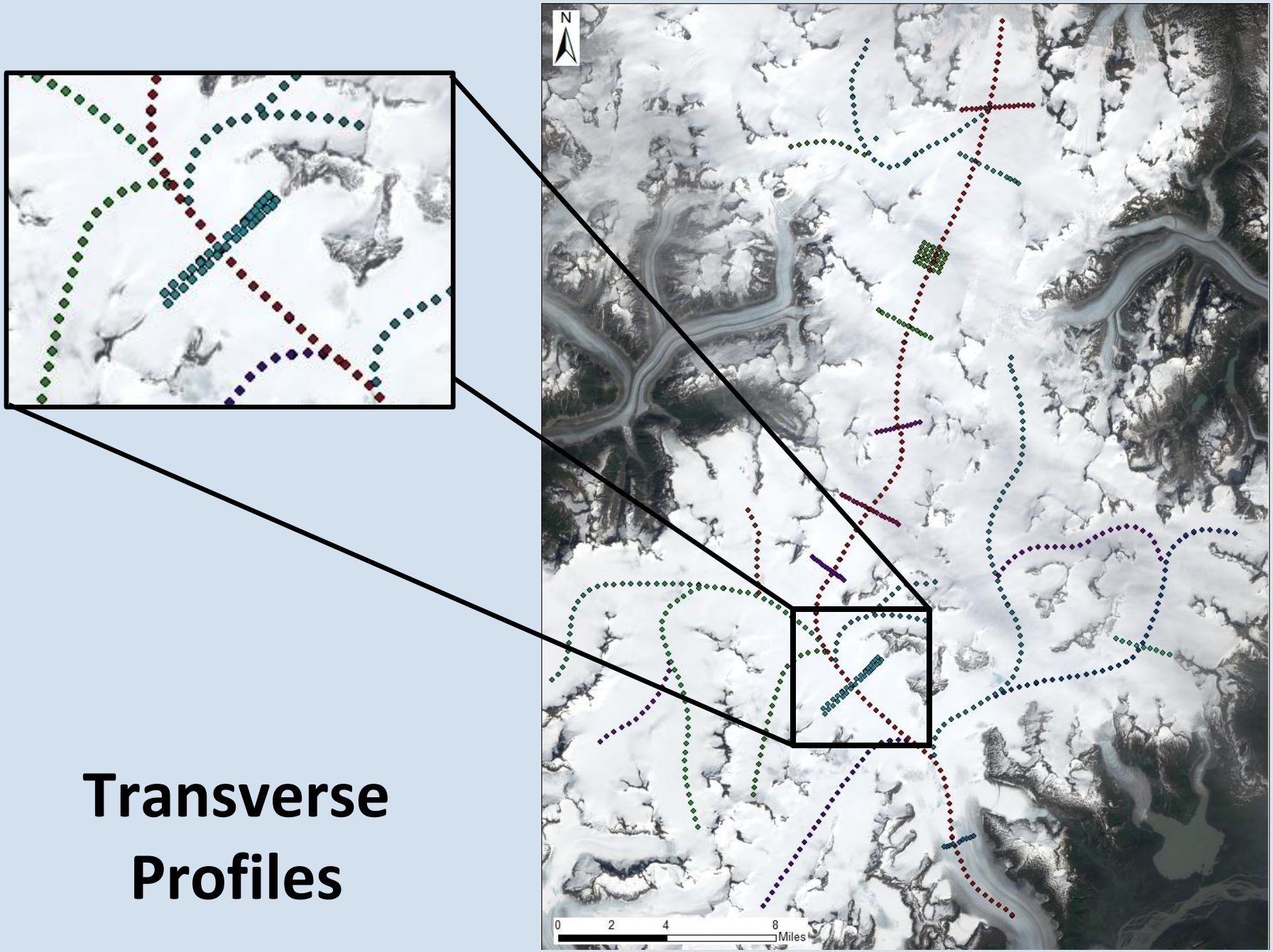


- **Elevation**
- **Position**

Longitudinal Profile A across the Juneau Icefield

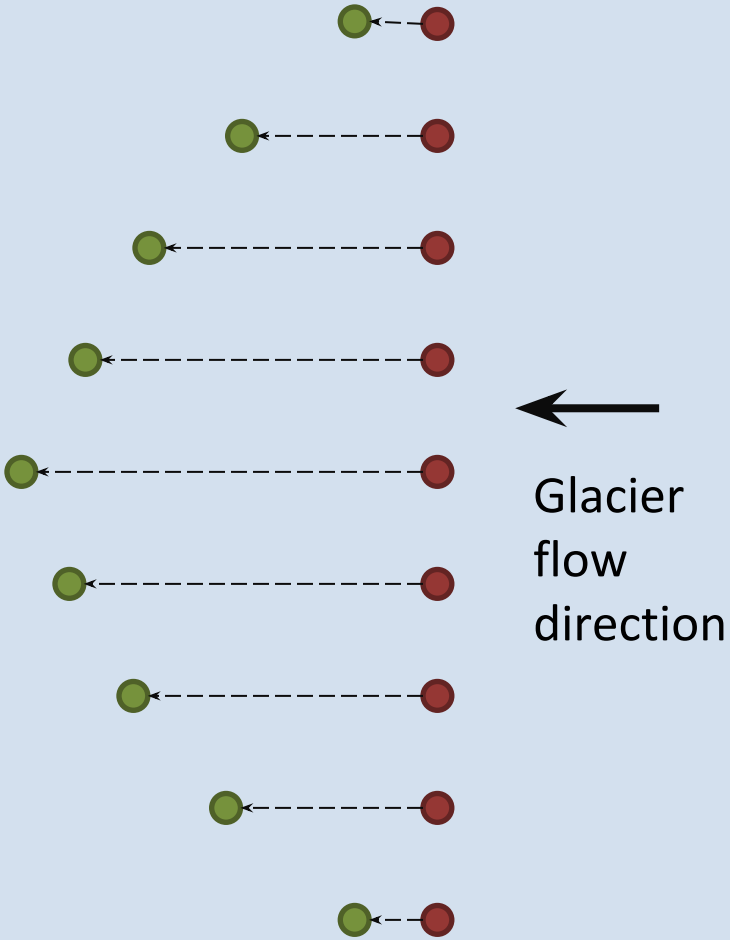


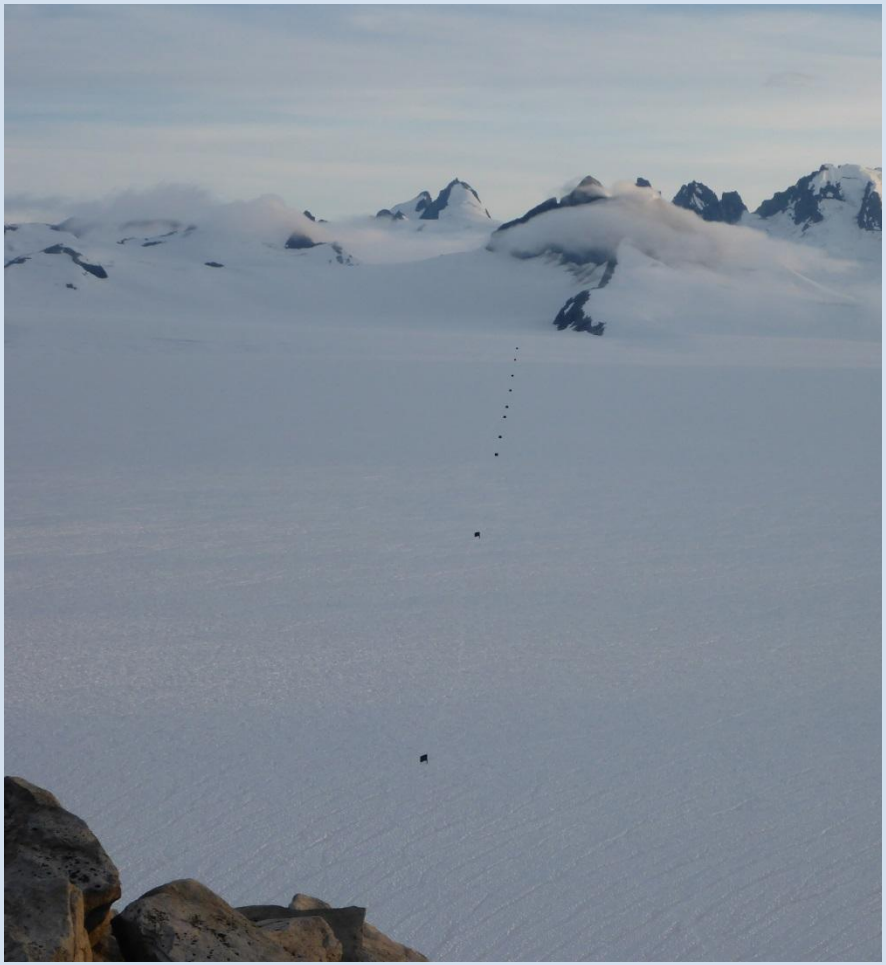

Longitudinal Profile A
Taku-Matthes Glacier
Llewellyn Glacier
Meters Above Sea Level
2100
1900
1700
1500
1300
1100
900
700
0.0
4.8
9.8
14.7
19.7
24.7
29.7
34.7
39.6
44.6
49.6
Distance From First Point (km)
2000
2008
2016



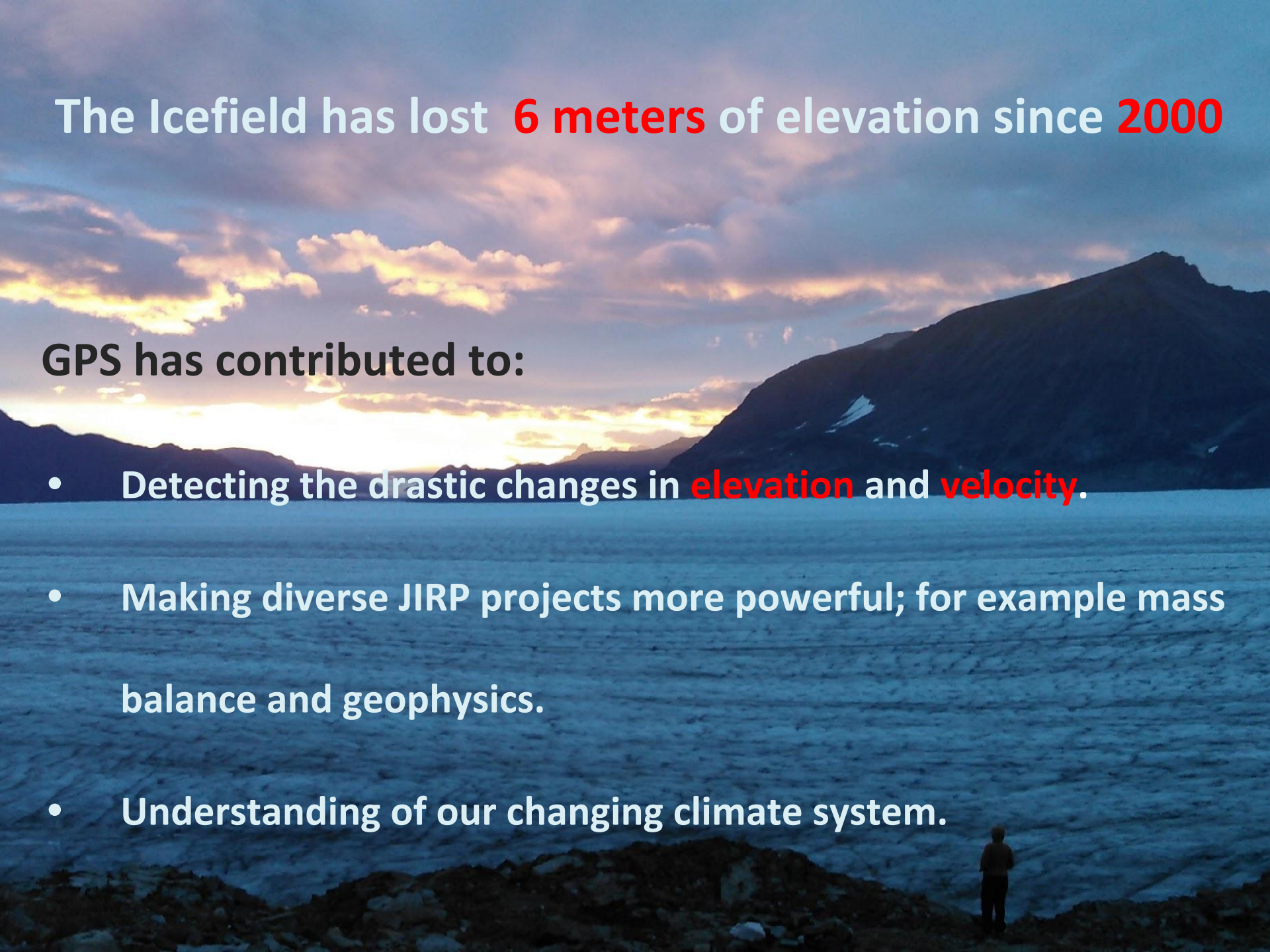
Transverse Profiles

Flags are used to measure velocity





- First measurement
- Second measurement



The Icefield has lost 6 meters of elevation since 2000

GPS has contributed to:

- Detecting the drastic changes in elevation and velocity.
- Making diverse JIRP projects more powerful; for example mass balance and geophysics.
- Understanding of our changing climate system.

Thank you!