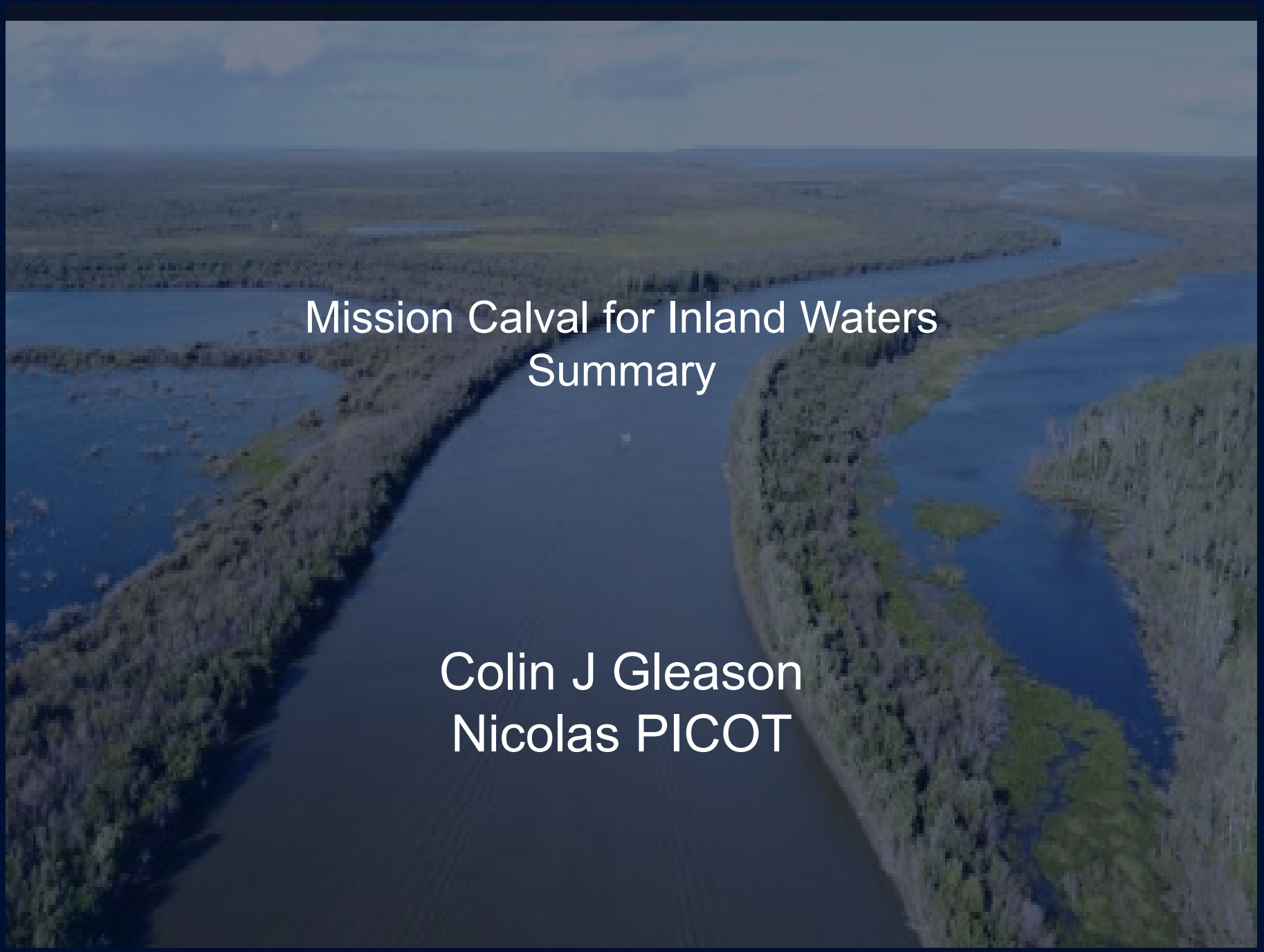

# Mission Calval for Inland Waters
# Summary

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# Goals:

What are we assessing [coarse validation]?

- Pixel cloud
- River SP
  - WSE [reach and node]
  - Slope [reach]
  - Area [reach and node]
- Lake SP
  - Area
  - WSE
- ADT algorithms that produce those products

What are we validating [fine validation]?

- River SP
  - Change in WSE [reach]
  - Slope [reach]
  - Area [reach]

# What did we measure, and how?

**Aerial data**
- Images
- Lidar
- High res. satellites
- Calculates areas

**Humans**
- Work hard
- Strict data entry control
- Professionally trained and certified: safety, wilderness medicine, science, boating

**GNSS**
- Measures elevations as SWOT does
- Geoid, ellipsoid, pole tide, solid earth tide
- PPP processing- no base stations
- 30m static > kinematic > 30min static
- Records every 1s
- Can take >1hr to traverse a reach
- 'drifts'

**Pressure Transducers (PT)**
- Record pressure
- Combine with air pressure to get 'level' via hydrostatic eq.
- Records every 15 minutes
- Fixed position

# Process

*"Toolbox"*
PT level -> WSE
Flagging
Uncertainty calc.
'Drift match'
Area calc.

*SWORD products*
Reach WSE
Reach slope
Node WSE
Node Slope
Reach area

WE ARE HERE

*Coarse validation*
Identify gross errors in SWOT
Identify gross errors in field data
Define conventions
Validate 'upstream' SWOT data
Kickoff SWOT algo changes

*Fine validation*
Assess SWOT performance

*By validation meeting*

*GNSS processing*
Remove interference
Limit to 5cm uncertainty

*Collect field data*

# Takeaways

- We are where we think we should be
- Coarse validation going well
- Fine validation to begin soon with reprocessed SWOT data
- Community poll revealed:
  - Hydro community mostly understands calval process
  - Hydro community mostly feels good about calval
  - Stronger French/US integration needed moving forward