



Ontario  
Winter  
Lake-  
effect  
Systems

# Sounding Data Collection Operations: A Summary

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# Overview

- Sounding teams & acknowledgements
- IOP launch statistics
- Commentary of university-based systems
- Lessons learned
- Summary

# Sounding Teams

- **SUNY Oswego**
  - PI: Dr. Scott Steiger
  - Team: Andrew Janiszkeski, Dillon Ulrich, Stephen Piechowski, Michael Ginnick, Tyler Pelle, Lauren Cutler (and Karen Kosiba too!)





# Sounding Teams

- Hobart and William Smith
  - PIs: Dr. Neil Laird and Dr. Nick Metz
  - Team: Chad Hecht, Caitlin Crossett, Brooke Adams, Macy Howarth, Raleigh Grysko, Zack Dameron, Pamela Eck, Nicole Desko, Abou Okeke-Diagne





# Sounding Teams

- **Millersville**
  - PIs: Dr. Rich Clark and Dr. Todd Sikora
  - Team: 20+ students involved  
thanks to all!

IOP 4 12/15/2014

Andrew Yarosh  
Andrew Henry  
Mike Yalch  
Jimmy Fowler



# Sounding Teams

- Utah

- PI: Dr. Jim Steenburgh
- Team: Leah Campbell (Utah), Peter Veals (Utah), Ted Letcher (Albany), numerous additional Utah students
- thank you all!





# Sounding Teams

*Local school kids and residents came over and assisted with a few of our launches. -JS*



# Sounding Teams

- Illinois

- PI: Dr. Dave Kristovich
- Team: Dr. Sharon Kristovich, Luke Bard (ISWS), Jason Keeler (UIUC & Oswego alum), Jesse Olsen (Oswego alum), Sarah Trojniak (SLU), Zac Suriano (U. Delaware), additional supporters





# Sounding Teams





# Rawinsonde Equipment

Institution	Ground Station Software	Ground Check Set	Sondes	GPS Windfinding
Oswego	<i>Vaisala MW41</i>	<i>Vaisala GC25</i>	<i>Vaisala RS92-SGP</i>	<i>yes</i>
HWS	<i>GRAWmet V5</i>	<i>Kestrel / manual input</i>	<i>GRAW DFM-09</i>	<i>yes</i>
Millersville	<i>Vaisala MW41</i>	<i>Vaisala GC25</i>	<i>Vaisala RS92-SGP</i>	<i>yes</i>
Utah	<i>GRAWmet V5 5.0.8</i>	<i>Kestrel / manual input</i>	<i>GRAW DFM-09</i>	<i>yes</i>
Illinois	<i>GRAWmet V5 5.9.2.4</i>	<i>Kestrel / manual input</i>	<i>GRAW DFM-09</i>	<i>yes</i>



# Launch Locations

Institution	Sites
Oswego	<i>Oswego campus, Sodus Point, others?</i>
HWS	<i>near Penn Yan, Ontario Beach Park, Hamil Beach, SE of Cayuga lake, Ithica, others?</i>
Millersville	<i>Sandy Creek Central School, Finger Lakes Technology and Career Center</i>
Utah	<i>North Redfield, others?</i>
Illinois	<i>Darlington Provincial Park, Cobourg Harbour</i>



# IOP Launch Statistics

Institution	Active IOPs	Successful Launches	Failed Launches	Missed Launches
Oswego	~17	51	13	
HWS	Nearly all	80+	4-5	0
Millersville	16	62	8*	
Utah	10	40	TBD / not many	TBD / not many
Illinois	17	62	6	0

\* Reserve sondes, more info on the next slide



# IOP Launch Statistics

Institution	Successful Launches	Notes
Oswego	51	
HWS	80+	
Millersville	62	<i>4 early terminations, 3 missing wind data, 7 with correctable data display issues on field catalog</i>
Utah	40	<i>Ground values taken with Kestrels, kept in 'unprocessed' directory; 'processed' directory replaces ground values with those collocated North Redfield Snow Study Station</i>
Illinois	62	





# IOP Launch Statistics

Institution	Failed Launches	Notes
Oswego	13	<i>Majority were technical issue failures, a couple ran into trees</i>
HWS	4-5	
Millersville	8?	<i>8 reserve sondes failed upon launch (some ran into trees), 3 sondes DOA (delivered broken)</i>
Utah	TBD	
Illinois	6	<i>4 failed prior to launch, 2 failed after launch</i>



# University Sounding Systems

Institution	Comments
Oswego	<i>Overall pleased with the system. Ours is over 5 years old so we have some updating to do. -SS</i>
HWS	<i>GRAW system worked well for our group. -NL</i>
Millersville	<i>MU sounding system provided data necessary for MU / PSU research and afforded an excellent field training experience for MU students. -TS</i>
Utah	<i>Our system worked well. We launched from a garage, which greatly aided the effort given the difficult and challenging weather. -JS</i>
Illinois	<i>GRAW system provided a reliable dataset that compared well with other systems, was relatively easy to set up, &amp; handled well by students - DK</i>



# Lessons Learned

Institution	Notes
Oswego	<i>Using a college 12-passenger van was difficult at times, especially having to fill the balloon outside with little shelter. -SS</i>
Utah	<i>A heated garage is a big help! Experienced users are a big help with the GRAW system. We bough too much helium, and it was high grade. - JS</i>
Illinois	<i>Check crime rates –DK (In Canada? Really?) Late-night suspicious activity at Cobourg Harbour –LB High-ceiling trailer worked very well in winter, except for indoor rain - DK</i>



# Summary

- Sounding operations
  - As a whole, wildly successful... and fun too!
  - Some soundings failed
    - Ballpark 10% (all groups)
    - A subset thereof “missed”
    - Could finalize these tallies
  - Some valuable / unexpected lessons learned
    - Fine-tune logistics
  - I’d do it again