

# HAYDEN A. JOHNSON

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## EDUCATION

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**Ph.D., Oceanography** Jun. 2025  
**M.S., Oceanography** Dec. 2020  
Scripps Institution of Oceanography  
University of California San Diego *La Jolla, CA, USA*  
*Ph.D. Thesis:* “The release of bubbles and other small-scale processes at the ice-water boundary of marine-terminating glaciers”  
*Advisor:* Grant Deane  
*Committee:* Mike Buckingham, Jamin Greenbaum, David Saintillan, Fiamma Straneo

**B.S., Physics** (Honours with High Distinction) 2019  
University of Toronto *Toronto, ON, Canada*  
*Honours Thesis:* “Integration and calibration of SPIDER pinhole sun sensors”  
*Advisor:* Barth Netterfield

## EMPLOYMENT

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**Postdoctoral Fellow**  
College of Fisheries and Ocean Sciences Oct. 2025 - present  
University of Alaska Fairbanks *Fairbanks, AK, USA*

**Graduate Student Researcher**  
Scripps Institution of Oceanography 2019-2025  
University of California San Diego *La Jolla, CA, USA*

## PUBLICATIONS

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### Peer-reviewed

6. Weidner, E., Deane, G. B., Le Boyer, A., Alford, M. H., Vishnu, H., Chitre, M., Stokes, M. D., Glowacki, O., **Johnson, H. A.**, & Straneo, F. (2025). High frequency broadband acoustic systems as a tool for high latitude glacial fjord research. *The Cryosphere*, 19, 4715-4740. <https://doi.org/10.5194/tc-19-4715-2025>.
5. Vishnu, H., Chitre, M., Glowacki, O., Stokes, D., **Johnson, H. A.**, Moskalik, M., & Deane, G. B. (2025). Acoustic activity indicates submarine melt at tidewater glaciers. *Journal of Glaciology*, 71, e83. <https://doi.org/10.1017/jog.2025.10061>.
4. Grossman S., **Johnson, H. A.**, Stokes, M. D., & Deane, G. B. (2024). Toward monitoring submarine glacier melt using hydroacoustics: The role of timescale in the signal of bubble release. *Journal of the Acoustic Society of America*, 156, (3), 1820–1838. <https://doi.org/10.1121/10.0028628>.
3. **Johnson, H. A.**, Glowacki, O., Deane, G. B., & Stokes, M. D. (2024). Brief communication: A technique for making in-situ measurements at the ice-water boundary of small pieces of floating glacier ice. *The Cryosphere*, 18, 265-272. <https://doi.org/10.5194/tc-18-265-2024>.
2. Vishnu, H., Deane, G. B., Glowacki, O., Chitre, M., **Johnson, H. A.**, Moskalik, M., & Stokes, M. D. (2023). Depth-dependence of the underwater noise emission from melting glacier ice. *JASA Express Letters*, 3 (2). <https://doi.org/10.1121/10.0017348>.

1. Godin, P. J., **Johnson, H. A.**, Piunno, R., Le Bris, K., & Strong, K. (2019). Conformational analysis and global warming potentials of 1, 1, 1, 2, 3, 3-hexafluoropropane and 1, 1, 2, 2, 3-pentafluoropropane from absorption spectroscopy. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 225, 337-350. <https://doi.org/10.1016/j.jqsrt.2019.01.003>.

### Conference Proceedings

2. Xiaohui, Z., Vishnu, H., Chitre, M., Kalyan, B., **Johnson, H. A.**, & Glowacki, O. (2025). Estimating Iceberg Melt Rates from Video Using Novel View Synthesis. *OCEANS 2025 Brest*, 1-8. <https://doi.org/10.1109/OCEANS58557.2025.11104630>.
1. Jenkins, W., **Johnson, H. A.**, Vakhutinsky, S., Helmberger, M. N., Storheim, E., Sagen, H., & Sandven, S. (2022). Analysis of underwater acoustic data collected under sea ice during the Useful Arctic Knowledge 2021 cruise. *Proceedings of Meetings on Acoustics*, 47 (1). <https://doi.org/10.1121/2.0001574>.

### In Review

1. **Johnson, H. A.**, Deane, G. B., Stokes, M. D., Glowacki, O., Moskalik, M., Chitre, M., Vishnu, H., & Powell, C. Potential energy of air bubbles in glacier ice and its conversion into acoustic energy. Manuscript in review at *Journal of the Acoustical Society of America*.

## PRESENTATIONS

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### Conference Talks

6. **Johnson, H. A.**, Deane, G. B., Glowacki, O., Stokes, M. D., Chitre, M., Vishnu, H., Weidner, E., & Gollamudi, K. *Acoustic observations of individual bubble release events from melting glacier ice in an arctic fjord*. AGU Fall Meeting, Washington, DC, USA (Dec. 2024).
5. **Johnson, H. A.**, Deane, G. B., Glowacki, O., Stokes, M. D., Chitre, M., Vishnu, H., & Weidner, E. *Acoustic observations of individual bubble release events from melting glacier ice in an arctic fjord*. Acoustical Society of America Spring Meeting, Ottawa, ON, Canada (May 2024).
4. **Johnson, H. A.**, Deane, G. B., Glowacki, O., & Stokes, M. D. *Direct measurements of submarine melting of floating growlers, and implications for parameterizations of submarine melting*. AGU Fall Meeting, San Francisco, CA, USA (Dec. 2023).
3. **Johnson, H. A.**, Deane, G. B., Stokes, M. D., Glowacki, O., Moskalik, M., Chitre, M., Vishnu, H., & Powell, C. *Understanding the underwater noise of melting glacier ice*. International Glaciological Society Symposium on Maritime Glaciers, Juneau, AK, USA (Jun. 2022).
2. **Johnson, H. A.**, Deane, G. B., Stokes, M. D., Glowacki, O., Moskalik, M., Chitre, M., & Vishnu, H. *Predicting the acoustic energy radiated by melting glacier ice*. Acoustical Society of America Fall Meeting, Seattle, WA, USA (Dec. 2021).
1. **Johnson, H. A.**, Vishnu, H., Deane, G. B., Tuckman, P. J., Glowacki, O., & Moskalik, M. *Depth dependence of acoustic signals produced by bubble release events in melting glacier ice*. Acoustical Society of America Fall Meeting, Virtual (Dec. 2020).

### Conference Posters

3. **Johnson, H. A.**, Dykstra, S., Crews, L., O'Keefe, N., & Mahoney, A. *Warm water melts grounded keels of landfast sea ice near Utqiagvik, Alaska*. Alaska Marine Science Symposium, Anchorage, AK, USA (Jan. 2026).
2. **Johnson, H. A.**, Deane, G. B., Glowacki, O., Stokes, M. D., Weidner, E., Chitre, M., & Vishnu, H. *Direct measurements of Submarine melting of floating growlers*. Ocean Sciences Meeting, New Orleans, LA, USA (Feb. 2024).

1. **Johnson, H. A.**, Deane, G. B., Glowacki, O., & Stokes, M. D. *Measurements of centimeter-scale temperature gradients at the ice-water boundary of floating glacier ice*. AGU Fall Meeting, Chicago, IL, USA (Dec. 2022).

### Invited Talks

2. **Johnson, H. A.**, Dykstra, S., Crews, L., O'Keefe, N., & Mahoney, A. *Warm water melts grounded keels of landfast sea ice near Utqiagvik, Alaska*. University of Alaska Fairbanks, Fairbanks, AK, USA (Feb. 2026).
1. **Johnson, H. A.**, Deane, G. B., Stokes, M. D., Glowacki, O., Chitre, M., Vishnu, H., & Weidner, E. *Testing parameterizations of submarine glacier melt with direct observations*. Oregon State University, Corvallis, OR, USA (Oct. 2023).

### FIELDWORK EXPERIENCE

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Fall freeze-up campaign, Utqiagvik, Alaska	Oct.-Nov., 2025
Investigating acoustics of ice melt, Polish Polar Station, Svalbard	Jun.-Jul. 2023
Investigating acoustics of ice melt, Polish Polar Station, Svalbard	Jun.-Jul. 2022
Investigating acoustics of ice melt, Polish Polar Station, Svalbard	Sept. 2021
Useful Arctic Knowledge cruise, <i>KV Svalbard</i>	Jun. 2021
UC Ship Funds cruise, <i>RV Sally Ride</i>	Aug. 2020
SWOT calibration & validation cruise, <i>RV Robert Gordon Sproul</i>	Sept. 2019

### HONOURS & AWARDS

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<b>Outstanding Student Presentation Award</b> American Geophysical Union	Fall Meeting 2024
<b>Undergraduate Student Research Award</b> Natural Sciences and Engineering Research Council of Canada	2018

### TEACHING & MENTORING

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<b>Assistant Instructor</b> Office of Naval Research Acoustics Bootcamp West Scripps Institution of Oceanography, UCSD Instructors: Grant Deane and Dale Stokes	November 4-8, 2024
<b>Teaching Assistant</b> SIO 203A/MAE 294A: Introduction to Applied Mathematics (graduate level) Scripps Institution of Oceanography & Mechanical and Aerospace Engineering Dept., UCSD Instructor: Stefan Llewellyn Smith	Fall 2022
SIO 175: Analysis of Atmospheric and Oceanographic Data (undergraduate level) Scripps Institution of Oceanography, UCSD Instructor: Mark Merrifield	Fall 2020
MAT 135 & 136: Calculus I (A & B) (undergraduate level) Department of Mathematics, University of Toronto Instructor: Sarah Mayes-Tang	Fall 2017 - Spring 2019
<b>Research Mentor</b> Kavi Gollamudi, Marine Physical Laboratory Summer Intern	2024

**Peer Mentor**  
Aidan Blaser, SIO

2021-present

## LEADERSHIP & SERVICE

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SIO Graduate Student Council Physical Oceanography Curricular Group Representative	2021-2022
SIO Peer Mentor Leadership Team	2021-2022
Climate, Atmospheric Science, and Physical Oceanography Seminar Organizer	2020-2021

## COMPUTER PROGRAMMING

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**Data Analysis:** MATLAB, Python  
**Microcontroller Software Development:** C++  
**Typesetting:** L<sup>A</sup>T<sub>E</sub>X

## SKILLS & QUALIFICATIONS

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### Small Boat Operation

Scripps Institution of Oceanography Motorboat Operator Training Course	2023
California Boater Card	2022
Ontario Pleasure Craft Operator Card	2008

### All-Terrain Vehicle Operation

UIC Science ATV Orientation	2025
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### VHF Radio

Canadian Power and Sail Squadron Restricted Operator Certificate (Maritime)	2015
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### Firearm Safety

Poway Gun Range Basic Rifle Instruction	2023
California Firearm Safety Certificate	2021