

Kristine L. DeLong

Department of Geography and Anthropology, Louisiana State University
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<https://faculty.lsu.edu/pastlab/>

Education

University of South Florida, College of Marine Science, St. Petersburg, FL	2008
Ph.D. in Marine Science with a concentration in Geological Oceanography	
University of South Florida, College of Marine Science, St. Petersburg, FL	2006
M.S. in Marine Science with a concentration in Geological Oceanography	
University of South Florida, Tampa, FL	
B.S. in Mechanical Engineering	1991

Appointments

Coastal Studies Institute Fellow, Louisiana State University	February 2018	present
Professor	August 2023	present
Associate Professor	August 2015	August 2023
Assistant Professor	August 2009	August 2015
Geologist	May 2008	August 2009
U.S. Geological Survey, Center for Coastal Studies, St. Petersburg FL		

Professional Recognition and Awards

Outstanding reviewer award from Geophysical Research Letters	2020
Outstanding reviewer award from Paleoceanography and Paleoclimatology	2019
LSU Alumni Association Faculty Excellence Award	2017
Tiger Athletic Foundation Teaching Award	2016
Outstanding contributions in reviewing - Palaeogeography, Palaeoclimatology, Palaeoecology	2015
Louisiana State University Alumni Association Rising Faculty Research Award	2014
Special Thanks for Achieving Results (STAR) award, U.S. Geological Survey	2009
Gulf Oceanographic Trust Fellowship, College of Marine Science, USF	2007
Outstanding Student Presenter, International Sclerochronology Conference	2007
Carl Riggs Endowed Fellowship, College of Marine Science, USF	2006
Exxon Scholarship, Bermuda Biological Station for Research	2004

Media Relations Highlights

Contributed to the Anthropocene exhibit housed at the Museum Haus der Kulturen der Welt, Berlin Germany for the Anthropocene Curriculum, www.anthropocenecurriculum.org/anthropogenemarkers.

Speaker at the Science CafŽ LSU April 30, 2019. The Underwater Ancient Forest, www.lsu.edu/research/news/LSU-science-cafe.php/

LSU Committed to the Coast, featured researcher, February 2016.

LSU Research Magazine, Office of Research and Development, November 2015,

highlighted in article titled "From the Sea to Sky: What Corals and Satellites can tell us about Climate Change."

Nominated as Flagship Faculty Member for LSU Today in May 2013.

Publications(Student authors are underlined)

Summary	First author	Co-author	Student	in review	Total
Journal Publications	11	22	8	5	48
Book Chapters	2	2			4
Government Publications	1	2			3
Conference Proceedings		1			1
Original Data Sets	7	6	8	1	20
Technical Reports	25				25
Magazine/Trades	1	2	1		4
Miscellaneous	1	2	1		4
Totals	50	40	18	8	114

In review

Moran, Kelli L., Kehui Xu, Jeffrey Obelcz, Kristine L. DeLong, Kendall Brome, Carl A. Reese, Grant L. Harley, Douglas Jones, and Alicia Caporaso, Storm tide exposure and geomorphic change predicting the distribution of preserved Late Pleistocene tree stumps on the outer Alabama continental shelf, submitted to Marine Geology April 30, 2023.

Sun, Chijun, Timothy Shanahan, Shaoneng He, Adriana Bailey, Jesse Nusbaumer, Jun Hu, Aubrey Hillman, Erika Ornouski, Jacob Warner, Kristine DeLong, ¹⁷O₂ excess in tropical cyclones reflects local rain re-evaporation more than moisture source conditions, submitted to Journal of Geophysical Research Atmospheres, in second review 11/26/23.

Byrne, Kelli L., Kristine DeLong, Brian A. Schubert, Sophie A. Warny, Davin J. (Kelli L.)Tj 0.00

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Walter, Rachel M., Hussein R. Sayani, Thomas Felis, Kim M. Cobb, Nerilie J. Abram, Ariella K. Arzey, Alyssa R. Atwood, Logan D. Brenner, f milie P. DassiŽ, Kristine L. DeLong, Bethany Ellis, Matt J. Fischer, Nathalie F. Goodkin, Jessica A. Hargreaves, K. Halimeda Kilbourne, Hedwig Krawczyk, Nicholas P. McKay, Sujata A. Murty, Riovie D. Ramos, Emma V. Reed, Dhruvajyoti Samanta, Sara C. Sanchez, and Jens Zinke (2023) The CoralHydro2k Database: a global, actively curated compilation of coral $\delta^{18}O$ and Sr/Ca proxy records of tropical ocean hydrology and temperature for the Common Era, Earth System Science Data, 15(5), 2081–2116, doi:10.5194/essd-15-2081-2023.

DeLong, Kristine L., Kylie Palmer, Amy J. Wagner, Mudith M. Weerabaddana, Niall Slowey,

- Warner, Jacob P., Kristine L. DeLong, David Chicoine, Kaustubh Thirumalai, Fred Andrus (2022), Investigating the influence of temperature and seawater ^{18}O on *Donax obesulus* (Reeve, 1854) shell $\delta^{18}\text{O}$, *Chemical Geology*, 588, 120638, [doi:10.1016/j.chemgeo.2021.120638](https://doi.org/10.1016/j.chemgeo.2021.120638).
- DeLong, Kristine L., Suyapa Gonzalez, Jeffrey B. Obelcz, Jonathan T. Truong, Samuel J. Bentley Sr., Kehui Xu, Carl Andy Reese, Grant L. Harley, Alicia Caporaso, Zhixiong Shen, and Beth A. Middleton (2021), Late Pleistocene baldcypress (*Taxodium distichum*) forest deposit on the continental shelf of the northern Gulf of Mexico, *Boreas*, 50(3), 871–892, [doi:10.1111/bor.12524](https://doi.org/10.1111/bor.12524).
- Weerabaddana, Mudith M., Kristine L. DeLong, Amy J. Wagner, Deborah W.Y. Loke, Kelly H. Kilbourne, Niall Slowey, Hsun-Ming Hu, and Chuan-Chou Shen (2021), Insights from barium variability in a *Siderastrea siderea* coral in the northwestern Gulf of Mexico, *Marine Pollution Bulletin*, 173 (A), 112930, [doi:10.1016/j.marpolbul.2021.112930](https://doi.org/10.1016/j.marpolbul.2021.112930).
- Huei-Ting Lin, Hong-Wei Chiang, Tsai-Luen Yu, Marcus Christl, Juan Liu, Kristine DeLong Chuan-Chou Shen (2021), $^{236}\text{U}/^{238}\text{U}$ analysis of femto-gram

- Bregy, E. Capron, O. Cartapanis, H.-W. Chiang, K. Cobb, M. Debret, R. Dommain, J. Du, K. Dyez, S. Emerick, M. Erb, G. Falster, W. Finsinger, D. Fortier, Nicolas Gauthier, S. George, E. Grimm, J. Hertzberg, F. Hibbert, A. Hillman, W. Hobbs, M. Huber, A.L.C. Hughes, S. Jaccard, R. Jiaoyang, M. Kienast, B. Konecky, G. Leroux, V. Lyubchich, V.F. Novello, L. Olaka, J.W. Partin, C. Pearce, S. Phipps, C. Pigno, N. Piotrowska, M.-S. Poli, A. Prokopenko, F. Schwanck, C. Stepanek, G. Swann, R. Telford, E. Thomas, Z. Thomas, S. Truebe, L. von Gunten, A. Waite, N. Weitzel, B. Wilhelm, J. Williams, J.J. Williams, M. Winstруп, N. Zhao, Y. Zhou. (2019), PaCTS 1.0: A Crowdsourced Reporting Standard for Paleoclimate Data. *Paleoceanography and Paleoclimatology*, [doi:10.1029/2019PA003632](https://doi.org/10.1029/2019PA003632).
- Black, Bryan A., Carin Andersson, Paul G. Butler, Michael Carroll, Kristine L. DeLong, David J. Reynolds, Bernd R. Schšne, James Scourse, Peter van der Sleen, Alan D. Wanamaker, and Rob Witbaard, (2019), The revolution of crossdating in marine paleoecology and paleoclimatology, *Biology Letters* 15(1), 20180665, [doi:10.1098/rsbl.2018.0665](https://doi.org/10.1098/rsbl.2018.0665).
- Reese, Carl A., Grant L. Harley, Kristine L. DeLong, Samuel J. Bentley Sr., Kehui Xu, Suyapa Gonzalez, Jonathan T. Truong, Jeffrey Obelcz, and Alicia Caporaso, (2018), Stratigraphic pollen analysis performed on a Late-Pleistocene cypress forest preserved on the northern Gulf of Mexico continental shelf, *Journal of Quaternary Science*, 33(6), 865-870, [doi:10.1002/jqs.3074](https://doi.org/10.1002/jqs.3074).
- Gonzalez, Suyapa, Samuel J. Bentley Sr., Kristine L. DeLong, Kehui Xu, Jeffrey Obelcz, Jonathan Truong Grant L. Harley, Carl A. Reese, Alicia Caporaso, (2017), Facies Reconstruction of a
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Obelcz, Suyapa Gonzalez, and Jonathan T. Truong. (2020) Investigation of an Ancient Bald Cypress Forest in the Northern Gulf of Mexico Final Report. U.S. Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM M15AC00016. 108 pp, <https://marinecadastre.gov/epis/#/search/study/100147>.

Hickey, Todd D., Christopher D. Reich, Kristine L. DeLong, Richard Z. Poore, and John C. Brock (2013), Holocene Core Logs and Site Methods for Modern Reef and Head-Coral Cores: Dry Tortugas National Park, Florida, U.S. Geological Survey Open-File Report 2012-1095, 27 p., <http://pubs.usgs.gov/of/2012/1095/>.

Reich, Christopher D., T. Don Hickey, Kristine L. DeLong, Richard Z. Poore, and John Brock (2009), Holocene Core Logs and Site Statistics for Modern Patch-Reef Cores—Biscayne National Park, Florida: U.S. Geological Survey Open-File Report 2009-1246, 26 p. <http://pubs.usgs.gov/of/2009/1246/>.

Conference Proceedings—Peer Reviewed Papers

Ourbak, Timothee, Kristine L. DeLong, Thierry Corrège, B. Malaizé, Kelly H. Kilbourne, S. Caqueneau, and David J. Hollander, (2009), The Significance of Geochemical Proxies in Corals, Does Size (Age) Matter? Proceedings of the 11th International Coral Reef Symposium, Ft. Lauderdale, Florida, July 2008: 82-86.

Technical Reports for Projects

DeLong, Kristine L., Kehui Xu, Grant L. Harley, Carl Andy Reese, and Jeffery Obelcz (2020), Investigation of an Ancient Bald Cypress Forest in the Northern Gulf of Mexico Phase 2; Quarterly Reports #1-13, US Department of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA 70123. OCS Study BOEM.

DeLong, Kristine L., Samuel J. Bentley Sr., Kehui Xu, Grant L. Harley, and Carl Andy Reese, (2015-2019), Investigation of an Ancient Bald Cypress Forest in the Northern Gulf of Mexico Quarterly Reports #1-14 and Annual Reports for AER J92e4-01cA.5 IcdID 16 >>BDC 0 0 0 scn (ley in (OEwf lactine L)T-27.5 2L. DeLong

- Paleoclimatology Program, Boulder CO, USA. NOAA NCEI paleoclimate contributions #noaa-recon-21171.
- Pollock, A.L., P.E. van Beynen, K.L. DeLong, V. Polyak and Y. Asmerom, (2017), A Speleothem-based mid-Holocene precipitation reconstruction for West-Central Florida. The Holocene. NOAA/NCDC Paleoclimatology Program, Boulder CO, USA. NOAA NCEI paleoclimate contributions # noaa-ca20612, <https://www.ncdc.noaa.gov/paleo/study/20612>
- Pollock, A.L., P.E. van Beynen, K.L. DeLong, V. Polyak, Y. Asmerom, P.P. Reeder (2016), A mid-Holocene paleoprecipitation record from Belize. NOAA/NCEI Paleoclimatology Program, Boulder CO, USA. NOAA NCEI paleoclimate contributions # noaa-20611, <https://www.ncdc.noaa.gov/paleo-search/study/20611>
- Jennifer A. Flannery, Julie N. Richey, Kaustubh Thirumalai, Richard Z. Poore, and Kristine L. DeLong (2016), Multi-species Coral Sr/Ca Based Sea-Surface Temperature Reconstruction Using *Orbicella faveolata* and *Siderastrea siderea* from Dry Tortugas National Park, Florida, <http://dx.doi.org/10.5066/F7CC0XS9>. USGS data release, <http://coastal.er.usgs.gov/data-release/doi-F7CC0XS9/>.
- PAGES (Past Global Changes) Ocean2K Data Compilation Project. The Ocean2K group built a database of marine-based reconstructions for the past 2000 years that passed quality control, which I was involved in. Paleooceanographic records were compiled from high-resolution archives, mostly sediment cores and corals. This database has and will be used to analyze the sea surface conditions and marine climate of the last two millennia and to produce a reconstruction for publication and the next IPCC report. Database is available to the general public at <http://www.pages-igbp.org/workinggroups/ocean2k/metadatabase>
- DeLong, Kristine L., Jennifer Flannery, Richard Z. Poore, Terrence M. Quinn, Christopher R. Maupin, Ke Lin, and Chuan-Chou Shen, (2014), Dry Tortugas coral Sr/Ca-SST reconstruction from 1734–2008 CE. IGBP PAGES/World Data Center for Paleoclimatology, Data Contribution Series # noaa-coral-16217, NOAA/NCDC Paleoclimatology Program, Boulder CO, USA. <ftp://ftp.ncdc.noaa.gov/pub/data/paleo/coral/atlantic/delong2014/>, and http://hurricane.ncdc.noaa.gov/pls/paleox/f?p=519:1:0::: P1_STUDY_ID:16217. This data set contains reconstructed monthly sea surface temperatures for Dry Tortugas (24.454°N, 81.877°W) from 1734 to 2008 with error estimates and supporting data.
- DeLong, Kristine L., Terrence M. Quinn, Frederick W. Taylor, Ke Lin, and Chuan-Chou Shen (2012), Amždže Island, New Caledonia 350 Year Coral Sr/Ca SST Reconstruction. IGBP PAGES/World Data Center for Paleoclimatology, Data Contribution Series # 2012-085, NOAA/NCDC Paleoclimatology Program, Boulder CO, USA. ftp://ftp.ncdc.noaa.gov/pub/data/paleo/coral/west_pacific/amedee2012.txt, ftp://ftp.ncdc.noaa.gov/pub/data/paleo/coral/west_pacific/amedee2012.xls, and http://hurricane.ncdc.noaa.gov/pls/paleox/f?p=519:1:0::: P1_STUDY_ID:13035. This data set contains reconstructed monthly sea surface temperatures for New Caledonia (22.48°S, 166.47°E) from 1649 to 1999 for three coral colonies with supporting data.
- DeLong, Kristine L., Terrence M. Quinn, and Frederick W. Taylor (2012), New Caledonia Coral Proxy Data Sampling Resolution Comparison eo/coral/west_pacifTJ data. Proxy Data Sampling Resolution Comparison eo/coral/west_pacifTJ data.
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DeLong, Kristine L., Jennifer Flannery, Christopher R. Maupin, Richard Z. Poore, and Terrence M. Quinn (2011), Dry Tortugas Coral Sr/Ca Data on File with the World Data Center for Paleoclimatology, Boulder and NOAA Paleoclimatology Program, IGBP PAGES/WDCA Contribution Series Number: 2011-121, noaa-coral-11935

http://hurricane.ncdc.noaa.gov/pls/paleox/f?p=519:1:0:::P1_STUDY_ID:11935. This data set contains reconstructed monthly sea surface temperatures for Dry Tortugas (24.454¼N, 81.877¼W) from 1992 to 2008 with supporting data.

DeLong, Kristine L., Terrence M. Quinn, Chuan-Chou Shen, and Ke Lin (2010), Tahiti 9.5ka Fossil Coral Geochemical Data on file with the World Data Center for Paleoclimatology, Boulder and NOAA Paleoclimatology Program, IGBP PAGES/WDCA Contribution Series Number: 2010-054, noaa-coral-10424 <http://www.ncdc.noaa.gov/paleo/coral/tahiti.html>, http://hurricane.ncdc.noaa.gov/pls/paleox/f?p=519:1:::P1_STUDY_ID:10424. This data set contains reconstructed monthly sea surface temperatures for Tahiti (17.7658¼S, 149.551¼W) from the Early Holocene (9.5 ka) with supporting data.

Magazine/Trade Publication- (Reviewed)

DeLong, Kristine L., Alyssa Atwood, Andrea Moore, and Sara Sanchez (2022) Clues from the sea paint a picture of Earth's water cycle, *106*, doi10.1029/2022EO220231. Reviewed by

Bureau of Ocean Energy Management, Coastal Marine Institute FY 2019, "Investigation of an Ancient Bald Cypress Forest in the Northern Gulf of Mexico: Phase 2," Lead PI Kristine DeLong and co-PIs Kehui Xu of the Department of Oceanography, Grant Harley of University of Idaho, and Andy Reese of the Department of Geography and Geology at University of Southern Mississippi. Funded \$538,235 for three years September 1, 2020–August 31, 2023.

U.S. Department of the Interior, U.S. Geological Survey, "A Proposal to Host the Department of the Interior's South Central Climate Adaptation Science Center," lead PI Renee A. McPherson, University of Oklahoma, LSU co-PIs, Chris D'Elia, Kristine DeLong, Victor Rivera-Monroy. Fully funding \$642,032 for six years for LSU, September 2019–August 2024.

PasFunded Projects

National Science Foundation, NSF 13-576 Paleo Perspectives on Climate Change (P2C2) Program, Award #1805702, "New Perspectives on Paleo-ENSO Conditions in Coastal Peru as Seen Through Short-Lived Bivalves," PIs DeLong and David Chicoine. Funded \$411,493 for July 2018 to June 2023.

Traditional and Undergraduate Enhancement, Louisiana State Board of Regents for Fiscal Year 2020–2021. Submitted October 24, 2020, a proposal titled "Investigating cloud and hurricane water isotopic processes for research and student education," PIs Kristine L. DeLong, Jill Trepanier, and Barry Kiem. Funded for \$110,126 for June 1, 2021–June 30, 2022.

Haus der Kulturen der Welt Museum, and Anthropocene Working Group, co-PI Kristine DeLong with Jens Zinke and Colin Waters of the University of Leicester, 2019, "Cayman Corals as an Anthropocene Marker for the Tropical Atlantic Project with the Anthropocene Working Group," subproject of the Anthropocene Working Group project, funded 39,840 Euros or \$44,838 US, for September 1, 2020 – December 31, 2021.

NOAA RISA program, "Building Resilience to Extreme Events and Water Hazard Planning in Remote, Rural Communities," co-PI with Barry Keim and Jean Renee Edwards and Sarah Trainor at the University of Alaska, funded for \$55,907 for August 2018–2020.

U.S. Department of the Interior, U.S. Geological Survey, Climate Science Centers, and the National Climate Change and Wildlife Science Center, Annual Funding Opportunity Fiscal Year 2017. Proposal titled, "Regional Graduate Student, Post-Doc, and Early Career Researcher Training III," PI Derek Rosendahl of University of Oklahoma, Co-PIs Kristine DeLong, and Victor H. Rivera-Monroy. Funded for \$61,783, September 2017–2018.

Traditional and Undergraduate Enhancement, Louisiana State Board of Regents, for Fiscal Year 2016–2017. "High-Resolution Raman System for Multidisciplinary Research at LSU." PI Manas Ranjan Gartia, co-PIs Kristine L. DeLong, Kerry M. Dooley, Martin Feldman, Louis H. Haber, Kevin Michael McPeak, Devireddy, Ramachandra, Earl Ward Plummer, Isiah M Warner, and Phillip Sprunger. Funded for \$232,609, July 2017–2018.

Traditional and Undergraduate Enhancement, Louisiana State Board of Regents, for Fiscal Year 2015–2016. "Inductively Coupled Plasma Mass Spectrometer for Research in Geography and Anthropology," PI Kristine L. DeLong, Heather McKillop, David Chicoine, Ginesse Listi, and Rebecca Saunders. Funded for \$101,227 starting July 1, 2016–June 30, 2018.

Bureau of Ocean Energy Management (BOEM) FY 2015 Louisiana Coastal Marine Institute, Award #M15AC00016, 9/1/2015–8/31/2019 "Investigation of an Ancient Bald Cypress Forest in the Northern Gulf of Mexico, U.S.A.," Lead PI Kristine DeLong and co-PIs Sam Bentley, Kehui Xu, Grant Harley and Andy Reese. Funded \$261,077.

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- U.S. Department of the Interior, U.S. Geological Survey, Climate Science Centers, and the National Climate Change and Wildlife Science Center, 9/1/2015-8/31/2017, "Training for Native Tribes of Louisiana and New Mexico on Understanding Climate in a Changing World," Lead PI Kristine L. DeLong and co-PIs Micha Rahder. Funded for \$86,180.
- Department of the Interior, U.S. Geological Survey, South Central Climate Science Center, awarded to University of Oklahoma with a subcontract to Louisiana State University 2013-2019, Co-PIs Chris D'Elia, Kevin Robbins, Victor H Rivera-Monroy, and Kristine L. DeLong, Original grant was \$494,647 with a 2.5 year extension for a total of \$814,664 to LSU.
- Pilot Funding for New Research (Pfund), Louisiana Experimental Program to Stimulate Competitive Research (EPSCoR), The National Science Foundation and the Louisiana Board of Regents. Submitted September 25, 2013, a proposal titled, "Development of Coral Microatolls for Environmental Reconstructions," Lead PI Kristine DeLong, funded for \$10,000 for February 1, 2014 to June 2015.
- College of Humanities and Social Sciences 2017-2018 Academic Year Instructional Impact Committee, "Magic Planet," PIs Kory Koesner, Jill Trepanier, and Kristine DeLong Funded in the amount of \$34,227 for one year.
- Faculty Research Grant 2015-2016, "Development of Long-Lived Massive Corals in Haiti for Environmental Reconstructions," Kristine DeLong. Funded for \$10,000 for July 1, 2016- June 30, 2016.
- Wallace Research Foundation, December 2012, submitted a proposal "Recovery of Wood Samples from Ancient Cypress Forest in the Gulf of Mexico," Kristine DeLong is a co-PI with Grant Harley of University of Southern Mississippi. Funded \$25,000 in 2013 through University of Southern Mississippi.
- Research Competitiveness Subprogram (RCS), Louisiana State Board of Regents, for Fiscal Year 2012-2013. June 1, 2013 to June 30, 2016, "Assessment of the Geochemical Signals in Corals from Veracruz Mexico for Reconstructing Environmental Conditions in the Southwest Gulf of Mexico," Funded for \$136,827.
- Pilot Funding for New Research (Pfund), Louisiana Experimental Program to Stimulate Competitive Research (EPSCoR), The National Science Foundation and the Louisiana Board of Regents. Submitted December 2010 a proposal titled "Reconstructions of Past Climate from Modern and Fossil Corals." Funded for \$10,000.
- Manship Summer Research Award, College of Humanities and Social Sciences, summer 2012. Proposal titled "Investigations of Climate Variability from the Little Ice Age to Present from Corals in the Gulf of Mexico" Funded \$7500.
- Assistant Professor Summer Research Award for the summer of 2011, College of Humanities and Social Sciences. Proposal titled "Southwest Tropical Pacific Temperature Variability Since 1648 Derived from Coral Sr/Ca" Funded \$5000.
- Council on Research Summer Stipend Program, Louisiana State University, 2010. Proposal titled "Reconstructing Sea Surface Temperature in the Gulf of Mexico back to AD1750" Funded

Professional Memberships

American Geophysical Union (AGU), 2003–present

American Academy of Underwater Sciences (AAUS), 2005–present

