

Josh Willis
joshua.k.willis@jpl.nasa.gov
M/S 300-323 • 4800 Oak Grove Dr., • Pasadena, CA 91109 • (818) 354-0881

Education

B.S., Physics & Mathematics, University of Houston, Honors College, Houston, Texas (1996)
M.S., Physics, University of California, San Diego, La Jolla, California (1998)
Ph.D. Oceanography, Scripps Institution of Oceanography, University of California, San Diego, La Jolla, California (2004)

Professional Experience

Jet Propulsion Laboratory

- Project Scientist, Sentinel-6/Jason-CS, (2016 to present)
- Project Scientist, Jason-3, (2011 to present)
- Principal Investigator, OMG: Oceans Melting Greenland (Earth Ventures – Suborbital, 2015 to 2021)
- Co-Chair, Ocean Surface Topography Science Team, (2009 to present)
- Deputy Project Scientist, Jason-1 & Jason-2, (2009 to 2019)
- Scientist (Oceanography), (2006 to present). Conduct research on sea level rise, Greenland ice loss, ocean warming and changes in the ocean's general circulation.

Jet Propulsion Laboratory

- Caltech Postdoctoral Scholar, (2004 to 2006). Conducted research on the general circulation of the upper ocean using satellite measurements of sea surface height from the Jason and TOPEX altimeters and Argo float data. Studied global- and basin-scale, climate-related ocean variability using a variety of data analysis and assimilation techniques and ocean models.

Research Interests

- Understanding ocean ice interactions in Greenland and their contribution to sea level rise.
- Estimating ocean warming and sea level rise on regional to global scales.
- The role of the ocean in the Earth's climate system under global climate change.
- Understanding large scale changes in the ocean and its circulation on interannual to decadal time scales.
- Development of analysis techniques for global oceanographic data sets.

Membership and Service in Technical Organizations

Co-Chair, Ocean Surface Topography Science Team (2009 to present)
Member, NOAA Global Ocean Monitoring and Observing Program (GOMO) review panel (2022 to present)
Member, US Argo Science and Implementation Panel (2021 to present)
Member, US Argo Science and Implementation Panel (2010 to 2015)

Member, Ocean Salinity Science Team (2009 to 2012)
Member, GRACE Science Team (2006 to 2014)
Steering Committee, Atlantic Meridional Overturning Circulation Science Team (2008 to 2013)

Awards and Honors

2007 Contributing author to the IPCC Fourth Assessment Report (Chapter 5)
2008 Dr. Charles K. Witham Environmental Stewardship Award, JPL
2009 Ranger Award for contributions to the Jason-1 and Jason-2 Missions, JPL
2009 Presidential Early Career Award for Scientists and Engineers (PECASE)
2009 JPL Lew Allen Award for Excellence
2011 AGU Ocean Sciences Early Career Award
2012 NASA Exceptional Scientific Achievement Medal
2016 AMS Nicholas P. Fofonoff Award
2017 OMG Group Achievement Award
2019 OMG Group Achievement Award
2020 JPL Team Award for OMG Continuation
2021 NASA Outstanding Public Leadership Medal

Current Research Contracts and Grants

2013-	PI	NASA: OSTST Project Scientist
2009-	PI	NASA: Jason-3 Project Scientist
2016-	PI	NASA: Jason-CS Project Scientist
2019-	Co-I	ROSES Physical Oceanography – AMOC
2020-	Co-I	ROSES Cryosphere – Greenland
2023-	PI	ROSES Physical Oceanography – Greenland
2022-	PI	NASA: Greenland Ocean Observations – Float deployments

Previously Funded Research Contracts and Grants

2015-2020	PI	NASA – EVS-2: OMG: Oceans Melting Greenland
2013-2018	PI	NASA – MEASURES: A climate Data Record of Altimetric Sea Level Change
2011-2014	PI	NASA – OSST: Closing Ocean Salinity and Heat Budgets on Basin Scales in the North Atlantic
2011-2013	PI	NASA – PO: Ocean Warming and the Earth's Energy Balance
2010-2014	Co-I	NASA – PO: Assessing the Quality of Aquarius Sea Surface Salinity Measurements Using an Ocean State Estimation System (PI: I. Fukumori)
2008-2010	Co-I	NASA – IDS: An Independent Assessment of the Contribution of Ice Melt to Sea Level Change (PI: S. Nerem)
2007-2011	PI	NASA – PO: Monitoring the Atlantic Meridional Overturning Circulation Using a Combination of SST, Altimeter, GRACE, and Argo Data
2007-2010	Co-I	NASA – GRACE: Steric Sea Level Variations from a Combination of GRACE, Jason-1, and Argo Float Data (D. Chambers)
2007-2008	PI	NASA: Closing the Global Sea Level Budget on Interannual Time Scales

Refereed Publications

- Volkov, D. L., et al. (2023), Atlantic meridional overturning circulation increases flood risk along the United States southeast coast, *Nature Communications*, under review.
- Le Bras, I. A.-A., **J. Willis**, and I. Fenty (2023), The Atlantic meridional overturning circulation at 35°N from deep moorings, floats, and satellite altimeter. *Geophysical Research Letters*, accepted.
- Willis, J. K., Wood, M. (2022), Lessons From Oceans Melting Greenland, a NASA Airborne Mission. *2022 Arctic Report Card*, NOAA Technical Report, <https://doi.org/10.25923/b076-sj26>
- Slater, D. A., Carroll, D., Oliver, H., Hopwood, M. J., Straneo, F., Wood, M., et al. (2022). Characteristic depths, fluxes, and timescales for Greenland's tidewater glacier fjords from subglacial discharge-driven upwelling during summer. *Geophysical Research Letters*, 49, e2021GL097081. <https://doi.org/10.1029/2021GL097081>.
- McMonigal, K., Gunn, K. L., Beal, L. M., Elipot, S., & **Willis, J. K.** (2021). Reduction in meridional heat export contributes to recent Indian Ocean warming. *Journal of Physical Oceanography*. <https://doi.org/10.1175/JPO-D-21-0085.1>
- Elipot, S., Centurioni, L., Haines, B. J., Lumpkin, R., **Willis, J. K.** (2021) Measuring Global-Mean Sea-Level Rise With Surface Drifting Buoys, *Marine Technology Society Journal*, Volume 55, Number 3, May/June 2021, pp. 66-67(2), <https://doi.org/10.4031/MTSJ.55.3.12>.
- Donlon, C., et al. (2021), The Copernicus Sentinel-6 mission: Enhanced continuity of satellite sea level measurements from space, *Remote Sensing of the Environment*, vol. 258, 1 June 2021, <https://doi.org/10.1016/j.rse.2021.112395>.
- Rignot, E., An, L., Chauche, N., Morlighem, M., Jeong, S., Wood, M., et al. (2021). Retreat of Humboldt Gletscher, north Greenland, driven by undercutting from a warmer ocean. *Geophysical Research Letters*, 48, e2020GL091342. <https://doi.org/10.1029/2020GL091342>.
- An, L., Rignot, E., Wood, M., **Willis, J. K.**, Mouginit, J., Khan, S. A. (2021). Ocean melting of the Zachariae Isstrøm and Nioghalvfjærdsfjorden glaciers, northeast Greenland. *Proceedings of the National Academy of Sciences*, 118 (2), e2015483118. <https://doi.org/10.1073/pnas.2015483118>.
- Wood, M., Rignot, E., Fenty, I., An, L., Bjørk, A., van den Broeke, M., Cai, C., Kane, E., Menemenlis, D., Millan, R., Morlighem, M., Mouginit, J., Noël, B., Scheuchl, B., Velicogna, I., **Willis, J. K.**, Zhang, H. (2021). Ocean forcing drives glacier retreat in Greenland. *Science Advances*, Vol. 7, no. 1, eaba7282. <https://doi.org/10.1126/sciadv.aba7282>.
- Hamlington, B. D., Frederikse, T., Thompson, P. R., **Willis, J. K.**, Nerem, R. S., & Fasullo, J. T. (2021). Past, present, and future Pacific sea-level change. *Earth's Future*, 8, e2020EF001839, <https://doi.org/10.1029/2020EF001839>.
- Jakobsson, M., Mayer, L.A., Bringensparr, C. et al. (2020), The International Bathymetric Chart of the Arctic Ocean Version 4.0. *Sci Data* 7, 176. <https://doi.org/10.1038/s41597-020-0520-9>.
- Khazendar A., Ian G. Fenty, Dustin Carroll, Alex Gardner, Craig M. Lee, Ichiro Fukumori, Ou Wang, Hong Zhang, Hélène Seroussi, Delwyn Moller, Brice P. Y. Noël, Michiel R. van den Broeke, Steven Dinardo, **J. K. Willis** (2019), Interruption of Two Decades of Jakobshavn Isbrae Acceleration and Thinning as Regional Ocean Cools, *Nature Geoscience*, 12, 277–283 (2019). <https://doi.org/10.1038/s41561-019-0329-3>.
- An, L., Rignot, E., Chauche, N., Holland, D., Holland, D., Jakobsson, M. et al. (2019). Bathymetry of southeast Greenland from oceans melting Greenland (OMG) data. *Geophysical Research Letters*, 46, <https://doi.org/10.1029/2019GL083953>, 205.
- Palmer MD, Durack PJ, Chidichimo MP, Church JA, Cravatte S, Hill K, Johannessen JA, Karstensen J, Lee T, Legler D, et al (2019). Adequacy of the ocean observation system for quantifying regional heat and freshwater storage and change. *Frontiers in Marine Science*, 2019 Aug 29.
- An L, Rignot E, Millan R, Tinto K, **Willis J.** (2019). Bathymetry of Northwest Greenland Using “Ocean Melting Greenland” (OMG) High-Resolution Airborne Gravity and Other Data. *Remote Sensing*. 2019; 11(2):131. <https://doi.org/10.3390/rs11020131>.

- Willis, J.K.**, D. Carroll, I. Fenty, G. Kohli, A. Khazendar, M. Rutherford, N. Trenholm, and M. Morlighem (2018), Ocean-ice interactions in Inglefield Gulf: Early results from NASA's Oceans Melting Greenland mission. *Oceanography* 31(2). <https://doi.org/10.5670/oceanog.2018.211>.
- McMonigal, K., Beal, L. M., & **Willis, J. K.** (2018). The seasonal cycle of the South Indian Ocean subtropical gyre circulation as revealed by Argo and satellite data. *Geophysical Research Letters*, 45, 9034–9041. <https://doi.org/10.1029/2018GL078420>.
- V. Nieves, M. Marcos, and **J. K. Willis**. Upper-ocean contribution to short-term regional coastal sea level variability along the U.S. *J. Climate*, 30(11): 4037-4045 (2017).
- Fenty, I., **J.K. Willis**, A. Khazendar, S. Dinardo, R. Forsberg, I. Fukumori, D. Holland, M. Jakobsson, D. Moller, J. Morison, A. Münchow, E. Rignot, M. Schodlok, A.F. Thompson, K. Tinto, M. Rutherford, and N. Trenholm (2016), Oceans Melting Greenland: Early results from NASA's ocean-ice mission in Greenland, *Oceanography* 29(4):72–83, <https://doi.org/10.5670/oceanog.2016.100>.
- Morlighem, M., E. Rignot, and **J.K. Willis** (2016), Improving bed topography mapping of Greenland glaciers using NASA's Oceans Melting Greenland (OMG) data, *Oceanography* 29(4):62–71, <https://doi.org/10.5670/oceanog.2016.99>.
- Boyer, T. C. M. Domingues, S. A. Good, G. C. Johnson, J. M. Lyman, M. Ishii, V. Gouretski, **J. K. Willis**, J. Antonov, S. Wijffels, J. A. Church, R. Cowley, N. Bindoff (2016), Sensitivity of Global Upper Ocean Heat Content Estimates to Mapping Methods, XBT Bias Corrections, and Baseline Climatologies, *J. Clim.*, 29(13):4817–42. doi:10.1175/JCLI-D-15-0801.1.
- Palter, J. B., C.-A. Caron, K. L. Law, **J. K. Willis**, D. S. Trossman, I. M. Yashayaev, and D. Gilbert (2016), Variability of the directly observed, middepth subpolar North Atlantic circulation, *Geophys. Res. Lett.*, 43, doi:10.1002/2015GL067235.
- Nieves, **J. K. Willis**, W. Patzert (2015), Recent hiatus caused by decadal shift in Indo-Pacific heating, *Science*, 349(6247), pp. 532-535, doi: 10.1126/science.aaa4521.
- Elipot, S., E. Frajka-Williams, C. Hughes, and **J. Willis** (2014), The observed North Atlantic MOC, its meridional coherence and ocean bottom pressure, *J. Phys. Oceanogr.*, 44, 517–537, doi:10.1175/JPO-D-13-026.1, 2722.
- Nieves, V., J. Wang, and **J. K. Willis** (2014), A conceptual model of ocean freshwater flux derived from sea surface salinity, *Geophys. Res. Lett.*, 41, 6452–6458, doi:10.1002/2014GL061365.
- Llovel, W., **J. K. Willis**, F. W. Landerer, and I. Fukumori, (2014), Deep-ocean contribution to sea level and energy budget not detectable over the past decade, *Nature Climate Change*, 4, 1031–1035, doi:10.1038/nclimate2387.
- Johnson, G. C., J. M. Lyman, **J. K. Willis**, T. Boyer, J. Antonov, S. A. Good, C. M. Domingues, and N. Bindoff (2014), Global Oceans: Ocean Heat Content, in State of the Climate in 2013, *Bulletin of the American Meteorological Society*, 95, 7, S54-S57, doi:10.1175/2014BAMSStateoftheClimate.1
- Abraham, J. P., M. Baringer, N. L. Bindoff, T. Boyer, L. J. Cheng, J. A. Church, J. L. Conroy, C. M. Domingues, J. T. Fasullo, J. Gilson, G. Goni, S. A. Good, J. M. Gorman, V. Gouretski, M. Ishii, G. C. Johnson, S. Kizu, J. M. Lyman, A. M. Macdonald, W.J. Minkowycz, S. E. Moffitt, M. D. Palmer, A. R. Piola, F. Reseghetti, K. Schuckmann, K. E. Trenberth, I. Velicogna, and **J. K. Willis** (2013), A review of global ocean temperature observations: Implications for ocean heat content estimates and climate change. *Reviews of Geophysics*, 51, 450-483, doi:10.1002/rog20022.
- Baringer, M. O., W. E. Johns, S. Garzoli, S. Dong, D. Volkov, W. R. Hobbs, **J. Willis** (2014), Global Oceans: Meridional Oceanic Heat Transport in the Atlantic Ocean, in State of the Climate in 2013, *Bulletin of the American Meteorological Society*, 95 (7), 69.
- Baringer, M. O., G. McCarthy, **J. Willis**, M. Lankhorst, D. A. Smeed, U. Send, D. Rayner, W. E. Johns, C. S. Meinen, S. A. Cunningham, T. O. Kanzow, E. Frajka-Williams, and J. Marotzke (2014),

- Global Oceans: Meridional overturning circulation observations in the North Atlantic Ocean, in State of the Climate in 2013, *Bulletin of the American Meteorological Society*, **95** (7), 67 -69.
- Hobbs, W., and **J. K. Willis** (2013), Detection of an observed 135-year ocean temperature change from limited data, *Geophys. Res. Lett.*, **40**, doi:10.1002/grl.50370.
- Willis J.**, and J. Church (2012), Regional Sea Level Projection, *Science*, 336, pp 548-549, doi:10.1126/science.1220366.
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- Baringer, M. O., W. E. Johns, G. McCarthy, **J. Willis**, S. Garzoli, M. Lankhorst, C. S. Meinen, U. Send, W. R. Hobbs, S. A. Cunningham, D. Rayner, D. A. Smeed, T. O. Kanzow, P. Heimbach, E. Frajka-Williams, A. Macdonald, S. Dong and J. Marotzke (2013), Global Oceans: Meridional Overturning Circulation and Heat Transport Observations in the Atlantic Ocean, in State of the Climate in 2012, *Bulletin of the American Meteorological Society*, **93** (7), 450-483.
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- Hobbs, W. R., and **J. K. Willis** (2012), Midlatitude North Atlantic heat transport: A time series based on satellite and drifter data, *J. Geophys. Res.*, **117**, C01008, doi:10.1029/2011JC007039.
- Johnson, G. C., J. M. Lyman, **J. K. Willis**, S. Levitus, T. Boyer, J. Antonov, and S. A. Good (2012), Global Oceans: Ocean Heat Content, in State of the Climate in 2011, *Bulletin of the American Meteorological Society*, **93**, 7, S62-S65, doi:10.1175/2012BAMSStateoftheClimate.1.
- Baringer, M.O., S.A. Cunningham, C.S. Meinen, S. Garzoli, **J. Willis**, M. Lankhorst, A. Macdonald, U. Send, W.R. Hobbs, T.O. Kanzow, D. Rayner, W. E. Johns, H.L. Bryden, and J. Marotzke (2012), State of the Ocean in 2011: Meridional Overturning Circulation Observations in the Subtropical North Atlantic, *Bulletin of the American Meteorological Society*, **93**(7), S78-S81.
- Leuliette, E., and **J. K. Willis** (2011), Balancing the Sea-level Budget, *Oceanography*, **24**(2):122–129, doi:10.5670/oceanog.2011.32.
- Johnson, G. C., J. M. Lyman, **J. K. Willis**, S. Levitus, T. Boyer, J. Antonov, M. D. Palmer, and S. A. Good (2011), Global Oceans: Ocean Heat Content, in State of the Climate in 2010, *Bulletin of the American Meteorological Society*, **92**, 6, S81-S84, doi:10.1175/1520-0477-92.6.S1.
- Syed, T., J. Famiglietti, D. Chambers, **J. Willis** and K. Hilburn (2010), Increasing Continental Freshwater Discharge from Satellite-Based Global Ocean Mass Balance (1994-2006), *Proc. Natl. Acad. Sci. USA*, published online Oct 4, 2010, doi: 10.1073/pnas.1003292107.
- Roemmich, D., **J. Willis**, J. Gilson, D. Stammer, A. Koehl, T. Yemenis, D. P. Chambers, F. Landerer, J. Marotzke, J. Gregory, T. Suzuki, J. Church, N. White, C. Domingues, A. Cazenave, and P.-Y. LeTraon (2010), Global Ocean Warming and Sea Level Rise, in *Understanding Sea-Level Rise and Variability*, J. A. Church, P. L. Woodworth, T. Aarup, and W. S. Wilson (eds.), Wiley-Blackwell.
- Lyman, J. M., S. A. Good, V. V. Gouretski, M. Ishii, G. C. Johnson, M. D. Palmer, D. A. Smith, and **J. K. Willis** (2010), Robust warming of the global upper ocean, *Nature*, **465**, 334-337 doi:10.1038/nature09043.
- Willis, J. K.**, Can In-Situ Floats and Satellite Altimeters Detect Changes in Atlantic Ocean Overturning? (2010), *Geophys. Res. Lett.*, **37**, L06602, doi:10.1029/2010GL042372.
- Willis, J.K.**, D. P. chambers, C.-Y. Kuo, and C. K. Shum (2010), Global Sea Level Rise: Recent Progress and Challenges for the Decade to Come, *Oceanography*, **23**(4), 26-35.
- Johnson, G. C., J. M. Lyman, **J. K. Willis**, S. Levitus, T. Boyer, J. Antonov, M. D. Palmer, and S. A. Good (2010), Global Oceans: Ocean Heat Content, in State of the Climate in 2009, *Bulletin of the American Meteorological Society*, **91**, 7, S56-S59, doi:10.1175/BAMS-91-7-StateoftheClimate.
- Chambers D. P., **J. K. Willis** (2009), Low-frequency exchange of mass between ocean basins, *J. Geophys. Res.*, **114**, C11008, doi:10.1029/2009JC005518.

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- Willis, J.K.**, J.M. Lyman, G.C. Johnson, and J. Gilson (2009), In Situ Data Biases and Recent Ocean Heat Content Variability, *J. Atmos. Oceanic Technol.*, **26**, 846–852.
- Johnson, G. C., J. M. Lyman, **J. K. Willis**, S. Levitus, T. Boyer, J. Antonov, C. Schmid, and G. J. Goni (2009), Global Oceans: Ocean Heat Content, in State of the Climate in 2008, *Bulletin of the American Meteorological Society*, **90**, 8, S49-S52, doi:10.1175/BAMS-90-8-StateoftheClimate.
- Dickey J. O., S. L. Marcus, J. K. Willis (2008), Ocean cooling: Constraints from changes in Earth's dynamic oblateness (J 2) and altimetry, *Geophys. Res. Lett.*, **35**, L18608, doi:10.1029/2008GL035115.
- Willis, J.K.**, D. P. Chambers, R. S. Nerem (2008), Assessing the Globally Averaged Sea Level Budget on Seasonal to Interannual Time Scales, *J. Geophys. Res.*, **113**, C06015, doi:10.1029/2007JC004517.
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- Tamrazian, A., S. LaDochy, **J. Willis**, and W. C. Patzert (2008), Heat Waves in Southern California: Are They Becoming More Frequent and Lasting Longer? *Yearbook of the APCG*, **70**, 59-69.
- Willis J. K.**, L.-L. Fu (2008), Combining altimeter and subsurface float data to estimate the time-averaged circulation in the upper ocean, *J. Geophys. Res.*, **113**, C12017, doi:10.1029/2007JC004690.
- Chambers D. P., **J. K. Willis** (2008), Analysis of large-scale ocean bottom pressure variability in the North Pacific, *J. Geophys. Res.*, **113**, C11003, doi:10.1029/2008JC004930.
- Johnson, G. C., J. M. Lyman, and J. K. Willis (2008), Global Oceans: Ocean Heat Content, in State of the Climate in 2007, *Bulletin of the American Meteorological Society*, **89**, 7, S39-S41, doi:10.1175/BAMS-89-7-StateoftheClimate.
- Willis, J. K.**, J. M. Lyman, G. C. Johnson, and J. Gilson (2007) Correction to "Recent cooling of the upper ocean". *Geophysical Research Letters*, **34**, L16601, doi:10.1029/2007GL030323.
- Contributing author for Chapter 5, Observations: Oceanic Climate Change and Sea Level, IPCC Fourth Assessment Report, 2007.
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- Wong, T., B. A. Wielicki, R. B. Lee, G.L. Smith, K. A. Bush, and **J. K. Willis** (2006), Re-examination of the observed decadal variability of earth radiation budget using altitude-corrected ERBE/ERBS nonscanner WFOV data, *J. Climate*, **19**(16), pp. 4028–4040.
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- Johnson, G. C., J. M. Lyman, **J. K. Willis** (2006), "Heat Content", in State of the Climate in 2005, Shein, K.A., ed., *Bulletin of the American Meteorological Society*, **87**, S23-S34.
- Hansen, J., L. Nazarenko, R. Ruedy, M. Sato, **J. Willis**, A. Del Genio, D. Koch, A. Lacis, K. Lo, S. Menon, T. Novakov, J. Perlwitz, G. Russell, G.A. Schmidt, N. Tausnev (2005), Earth's Energy Imbalance: Confirmation and Implications, *Science*, 308.
- Roemmich, D., J. Gilson, **J. Willis**, P. Sutton, K. Ridgway, Closing the time-varying mass and heat budgets for large ocean areas: The Tasman Box, *J. Climate*, **18**(13), 2005.
- Willis, J. K.**, D. Roemmich, and B. Cornuelle (2004), Interannual variability in upper-ocean heat content, temperature and thermosteric expansion on global scales, *J. Geophys. Res.*, **109** (C12036).
- Willis, J. K.**, D. Roemmich, and B. Cornuelle (2003), Combining altimetric height with broadscale profile data to estimate steric height, heat storage, subsurface temperature, and sea-surface temperature variability, *J. Geophys. Res.*, **108** (C9), 3292.

Other Publications

- Willis, J.K.**, E. Rignot, R.S. Nerem, and E. Lindstrom (2016), Introduction to the special issue on ocean-ice interaction, *Oceanography* 29(4):19–21, <https://doi.org/10.5670/oceanog.2016.95>.
- Willis J.**, L. Miller, and G. Mountain (2011), Sea Level: An Introduction to the Special Issue, *Oceanography*, 24(2):22–23, doi:10.5670/oceanog.2011.24.
- Wijffels, S. E., M. Palmer, N. Raynor, G. Goni, S. Garzoli, G. C. Johnson, J. Willis, B. Dushaw, D. Roemmich, J. Church, and G. Meyers (2010), Progress and Challenges in Monitoring Ocean Temperature and Heat Content in *Proceedings of the "OceanObs'09: Sustained Ocean Observations and Information for Society" Conference (Vol. 1)*, Venice, Italy, 21-25 September 2009, Hall, J., D.E. Harrison, and D. Stammer, Eds., ESA Publication WPP-306, doi:10.5270/OceanObs09.pp.40.
- Palmer, M. D., J. Antonov, P. Barker, N. Bindoff, T. Boyer, M. Carson, C. M. Domingues, S. Gille, P. Gleckler, S. Good, V. Gouretski, S. Guinehut, K. Haines, D. E. Harrison, M. Ishii, G. C. Johnson, S. Levitus, M. S. Lozier, J. M. Lyman, A. Meijers, K. von Shuckmann, D. Smith, S. Wijffels, and **J. Willis** (2010), Future Observations for Monitoring Global Ocean Heat Content in *Proceedings of the "OceanObs'09: Sustained Ocean Observations and Information for Society" Conference (Vol. 2)*, Venice, Italy, 21-25 September 2009, Hall, J., D.E. Harrison, and D. Stammer, Eds., ESA Publication WPP-306, doi:10.5270/OceanObs09.cwp.68.
- Willis, J.K.**, Is It Me, or Did the Oceans Cool? A Lesson on Global Warming from my Favorite Denier (2008), *U.S. CLIVAR Variations*, 6 (2), U.S. CLIVAR Office.
- Johnson, G. C., S. Levitus, J. M. Lyman, C. Schmid, and J. K. Willis (2006), Ocean heat content variability, in: *Annual Report on The State of the Ocean and the Ocean Observing System for Climate*, Annual Report, Fiscal Year 2005, J.M. Levy (ed.), NOAA/Climate Program Office/Office of Climate Observation, 74-84.
- Willis, J. K.** (2004), "Combining satellite and in situ data to make improved estimates of upper-ocean thermal variability on eddy to global scales," Doctoral Dissertation, Scripps Institution of Oceanography.