Denis L. Volkov, Ph.D.

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EDUCATION

2000–2004	Ph.D. in Physical Oceanography, Utrecht University	Utrecht, Netherlands
1997–1999	M.Sc. in Hydrometeorology, Saint-Petersburg State University	St.-Petersburg, Russia
1992–1997	B.Sc. in Hydrometeorology, Saint-Petersburg State University	St.-Petersburg, Russia

APPOINTMENTS

2013 - present	**Associate Scientist** University of Miami, Cooperative Institute for Marine and Atmospheric Studies / NOAA Atlantic Oceanographic and Meteorological Laboratory	Miami, Florida
2009 - 2013	**Assistant Researcher (Jet Propulsion Laboratory affiliate)** University of California Los Angeles, Joint Institute for Regional Earth System Science and Engineering	Los Angeles, California
2006–2009	**Post-Doctoral Researcher** California Institute of Technology and Jet Propulsion Laboratory/NASA	Pasadena, California
2005–2006	**Post-Doctoral Researcher** Collecte Localisation Satellite, Space Oceanography Division	Toulouse, France
2000–2004	**Ph.D. student** Royal Netherlands Institute for Sea Research	Texel, Netherlands
1998–1999	**Technician/Engeneer** Arctic and Antarctic Research Institute	St.-Petersburg, Russia

FUNDED PROJECTS

- Regional heat convergence and deep-ocean warming in the subtropical South Pacific and Indian Oceans. Role: *Principal Investigator*. Proposal selected for the NASA's Ocean Surface Topography Science Team 2016 call. Period of work: 2017-2020. Budget ~$750K.
- Investigating the processes contributing to the salinity differences between Aquarius and in situ measurements. Role: *Co-Investigator and (since 2016) Principal Investigator*. Proposal selected for the NASA's Ocean Salinity Science Team 2013 call. Period of work: 2014 – 2017. Budget ~$552K
- The Mediterranean and Black seas: analysis of large sea level anomalies. Role: *Principal Investigator.* Proposal selected for the NASA's Ocean Surface Topography Science Team 2011 call. Period of work: 2013-2016. Budget ~ $650K.
- Investigating the variability of sea level in the sub-Arctic and Arctic seas. Role: *Principal Investigator*. Funding agency: NASA. Proposal # 10-PO10015, Solicitation NNH10ZDA001N-PO. Period of work: 2011 – 2014. Budget ~ $365K.
- Determination of Antarctic Intermediate Water formation using ECCO2 model and space-borne observations. Role: *Co-Principal Investigator from UCLA* (PI from Jet Propulsion Laboratory: V. Zlotnicki). Funding agency: NASA. Period of work: 2011 – 2012. Budget ~ $180K.

PUBLICATIONS

Peer-reviewed journal articles

Lindstrom, E.J., A.Y. Shcherbina, L. Rainville, J.T. Farrar, L.R. Centurioni, S. Dong, E.A. D'Asaro, C. Eriksen, D.M. Fratantoni, B.A. Hodges, V. Hormann, W.S. Kessler, C.M. Lee, S.C. Riser, L. St. Laurent, **D.L. Volkov** (2017): Autonomous multi-platform observations during the Salinity Processes in the Upper-Ocean Regional Studies, Oceanography, 30(2): 38-48, doi:10.5670/oceanog.2017.218.

Bashmachnikov I., M.A. Sokolovskiy, T.V. Belonenko, **D.L. Volkov**, P.E. Isachsen, X. Carton (2017): On the vertical structure and stability of the Lofoten vortex in the Norwegian Sea, Deep Sea Res. Part I, doi:10.1016/j.dsr.2017.08.001.

Dong, S., **D.L. Volkov**, G. Goni, R. Lumpkin, G. Foltz (2017): Near-surface salinity and temperature structure observed from dual-sensor drifters in the subtropical South Pacific. J. Geophys. Res. Oceans, 122, doi:10.1002/2017JC012894

Kubryakov, A.A., S.V. Stanichny, **D.L. Volkov** (2017): Quantifying the impact of basin dynamics on the regional sea level rise in the Black Sea, Ocean Sci., 13,443-452, dos:10.5194/os-13-443-2017.

Lee, S.-K., **D.L. Volkov**, H. Lopez, W.G. Cheon, A.L. Gordon, Y. Liu, R. Wanninkhof (2017): Wind-driven ocean dynamics impact on the contrasting sea-ice trends around West Antarctica, J. Geophys. Res. Oceans, in press, doi:10.1002/2016JC012416.

Volkov D.L., S.-K. Lee, F.W. Landerer, R. Lumpkin (2017): Decade-long deep-ocean warming detected in the subtropical South Pacific, Geophys. Res. Lett., 44, 927-936, doi:10.1002/2016GL071661.

Baringer, M.O., M. Lankhorst, **D. Volkov**, S. Garzoli, S. Dong, U. Send, and C. Meinen (2016): Meridional overturning circulation observations in the Atlantic Ocean, [In: State of the Climate 2015], Bull. Am. Met. Soc., 97(8), S84-87.

Volkov, D.L., W.E. Johns, T.V. Belonenko (2016), Dynamic response of the Black Sea elevation to intraseasonal fluctuations of the Mediterranean sea level, Geophys. Res. Lett., 42, doi:10.1002/2015GL066876.

Dmitrenko I.A., S.A. Kirillov, A. Forest, Y. Gratton, **D. Volkov**, W. Williams, J. Lukovich, C. Belanger, D. Barber (2016): Shelfbreak current over the Canadian Beaufort Sea continental slope: wind-driven event in January 2005, J. Geophys. Res. Oceans, 121, 2447–2468, doi:10.1002/ 2015JC011514.

Volkov D.L., A.A. Kubryakov, R. Lumpkin (2015): Formation and variability of the Lofoten Basin vortex in a high-resolution ocean model, Deep-Sea Res. Part I, 105, pp. 142-157, doi:10.1016/j.dsr.2015.09.001.

Volkov D.L., F.W. Landerer (2015): Internal and external forcing of sea level variability in the Black Sea, Clim. Dyn., pp. 1-14, doi:10.1007/s00382-015-2498-0.

Baringer M.O., W.E. Johns, S. Garzoli, S. Dong, **D. Volkov**, and W.R. Hobbs (2014): Meridional heat transport in the Atlantic Ocean, Bull. Am. Met. Soc., 95 (7), S69-71.

Volkov D.L. (2014): Do the North Atlantic winds drive the nonseasonal variability of the Arctic Ocean sea level?, Geophys. Res. Lett., 41, doi:10.1002/2013GL059065.

Volkov D.L., F.W. Landerer (2013): Nonseasonal fluctuations of the Arctic Ocean mass observed by the GRACE satellites, J. Geophys. Res., 118, doi:10.1002/JC009341.

Volkov D.L., F.W. Landerer, S.A. Kirillov (2013): The genesis of sea level variability in the Barents Sea, Continental Shelf Research, 66, doi:10.1016/j.csr.2013.07.007, 92-104.

Volkov D.L., T.V. Belonenko, V.R. Foux (2013): Puzzling over the dynamics of the Lofoten Basin – a sub-Arctic hot spot of ocean variability, Geophys. Res. Lett., 40, doi:10.1002/grl.50126.

Landerer F.W., **D.L. Volkov** (2013): The anatomy of recent large sea level fluctuations in the Mediterranean Sea, Geophys. Res. Lett., doi:10.1002/grl.50140.

Volkov D.L., V. Zlotnicki (2012): Antarctic Circumpolar Current fronts observed by GOCE and GRACE missions, Ocean. Dyn., 62, N6, 893-905, doi:10.1007/s10236-012-0541-9.

Volkov D.L., M.-I. Pujol (2012): Quality assessment of a satellite altimetry data product in the Nordic, Barents, and Kara seas, J. Geophys. Res., 117, C03025, doi:10.1029/2011JC007557.

Volkov D.L., L.L.Fu (2011), Interannual variability of the Azores Current strength and eddy energy in relation to atmospheric forcing, J. Geophys. Res., 116, C11011, doi:10.1029/2011JC007271.

Volkov D.L., L.L.Fu (2010), On the reasons for the existence and the variability of the Azores Current, J. Phys. Oceanogr., 40, doi:10.1175/2010JPO4326.1, 2197-2220.

Volkov D.L., L.L. Fu, T. Lee (2010), Mechanisms of the meridional heat transport in the Southern Ocean, Ocean Dynamics, 60, doi:10.1007/s10236-010-0288-0, 791-801.

Volkov D.L., T. Lee, L.L. Fu (2008): Eddy-induced meridional heat transport in the ocean, Geophys. Res. Lett., 35, LXXXXX, doi:10.1029/2008GL035490.

Volkov D.L., L.L. Fu (2008): The role of vorticity fluxes in the dynamics of the Zapiola Anticyclone, J. Geophys. Res., 113, C11015, doi:10.1029/2008JC004841.

Volkov D.L., G. Larnicol, J. Dorandeu (2007): Improving the quality of satellite altimetry data over continental shelves, J. Geophys. Res., 112, doi:10.1029/2006JC003765.

Volkov D.L., H.M. van Aken (2005): Climate-related change of sea level in the extratropical North Atlantic and North Pacific in 1993-2003, Geophys. Res. Lett., 32, doi:10.1020/2005GL023097.

Volkov D.L. (2005): The inter-annual variability of the altimetry-derived eddy field and associated surface circulation in the North Atlantic Ocean in 1993-2001, J. Phys. Oceanogr., V35, 405-426.

Volkov D.L. (2004): Propagating features in the eddy field of the North Atlantic Current, Geophys. Res. Lett., 31, doi:10.1029/2004GL021401.

Volkov D.L., H.M. van Aken (2003): Annual and inter-annual variability of sea level in the northern North Atlantic Ocean, J. Geophys. Res., 108, C6, 3204.

Dmitrenko, I.A., V.A. Gribanov, **D.L. Volkov**, Berezovskaya S.L., Kassens H. (2000): Role of river discharge in the inter-annual variability of the sea land fast ice distribution in the Russian Arctic, Meteorolgia i Hydrologia, 2 (in Russian).

Other peer-reviewed publications / book chapters

D.L. Volkov (2018): Ocean warming. *AccessScience*, McGraw-Hill Education, in press.

Peralta-Ferriz, C., F.W. Landerer, D. Chambers, **D.L. Volkov**, W. Llovel (2017): Remorte sensing of bottom pressure from GRACE satellites, In: US CLIVAR Variations Newsletter, Vol. 15, No. 2, pp. 22-28.

Volkov D.L. (2004): Monitoring the sea level and surface circulation with satellite altimetry, Ph.D. thesis, ISBN: 90-393-3862-0, 152 pp..

Volkov D.L., H.M. van Aken (2004): Low frequency change of sea level in the North Atlantic Ocean as observed with satellite altimetry, in Satellite Altimetry for Geodesy, Geophysics and Oceanography Series: International association of geodesy symposia, Vol. 126, Hwang, Cheinway; Shum, C.; Li, Jiancheng (Eds.), 280 p., Springer-Verlag.

Volkov D.L., H. van Aken (2004): Climate-related change of sea level observed with satellite altimetry, NIOZ annual report.

Dmitrenko I.A., Gribanov V.A., **Volkov D.L.**, Kassens H., and Eicken H. (1999): Impact of river discharge on the sea land fast ice extension in the Russian Arctic shelf area, POAC 99, Proceedings, vol. 1, Espoo, Finland.

Articles in the media

Norwegian Sea's ups and downs, http://www.esa.int/esaEO/SEMRZZ81M9H_index_0.html, European Space Agency (ESA) news, 2012.

Up North, http://www.aviso.oceanobs.com/en/news/idm/2012/feb-2012-up-north.html, AVISO Images of the month, 2011.

PUBLISHED ABSTRACTS

Volkov, D.L., S.-K. Lee, F. W. Landerer, R. Lumpkin (2017): On the decade-long deep-ocean warming in the subtropical South Pacific Ocean, Vol. 19, EGU2017-11057, EGU General Assembly 2017.

Volkov, D.L., S. Dong, G. Goni, R. Lumpkin, G. Foltz (2017): Near-surface temperature and salinity stratification as observed with dual-sensor Lagrangian drifters deployed during SPURS-2 field campaign, Vol. 19, EGU2017-10975, EGU General Assembly 2017.

Lee, S.-K., **D.L. Volkov**, H. Lopez, W.G. Cheon, A. Gordon, Y. Liu, R. Wanninkhof (2017): Wind-driven ocean dynamic effects on the contrasting sea-ice trends around West Antarctica, Vol. 19, EGU2017-3742, EGU General Assembly 2017.

Dong, S., G. Goni, **D.L. Volkov**, R. Lumpkin, G. Foltz (2017): Near-surface salinity and temperature structure observed with dual-sensor drifters in the subtropical South Pacific, Vol. 19, EGU-2017-5672, EGU General Assembly 2017.

Lee, S.-K., **D.L. Volkov**, H. Lopez, W.G. Cheon, A.L. Gordon, Y. Liu, R.H. Wanninkhof (2016): The role of ocean dynamics in the summer retreat and winter expansion of Antarctic sea-ice in the Amundsen and Bellingshausen Seas since 1979. AGU 2016 Fall Meeting, Dec. 12-16, San Francisco CA, USA.

Volkov D.L., F.W. Landerer (2016): On the connection between the Atlantic Meridional Overturning Circulation and the Mediterranean Sea level, Ocean Surface Topography Science Team meeting, La Rochelle, France.

Dmitrenko I.A., S.A. Kirillov, A. Forest, Y. Gratton, **D. Volkov**, W. Williams, J. Lukovich, C. Belanger, D. Barber (2016): Shelfbreak current over the Canadian Beaufort Sea continental slope: wind-driven event in January 2005, Ocean Sciences 2016, New Orleans LA, USA.

Volkov D.L., W.E. Johns, T.V. Belonenko, F.W. Landerer (2015): Response of the Black Sea elevation to synoptic fluctuations of the Mediterranean Sea level, AGU 2015 Fall Meeting, Dec. 14-18, San Francisco CA, USA.

Volkov, D.L., S.-K. Lee, R. Lumpkin (2015): On the mechanisms of deep-ocean warming in the South Pacific, Ocean Surface Topography Science Team Meeting, Reston MD, Nov. 19-23, USA.

Volkov D.L. (2014): Do the North Atlantic winds drive the nonseasonal variability of the Arctic Ocean sea level? 40th COSPAR (Committee on Space Research) Scientific Assembly, Moscow, Russia, August 2-10, 2014 (planned).

Volkov D.L., **F**.W. Landerer (2014): Nonseasonal fluctuations of the Arctic Ocean mass observed by GRACE, Ocean Sciences 2014 Meeting, Honolulu, Hawaii.

Volkov D.L., T.V. Belonenko, V.R. Foux (2012): Mesoscale dynamics in the Lofoten Basin - a sub-Arctic "hot spot" of oceanic variability, AGU 2012 Fall Meeting, San Francisco, California.

Volkov D.L. and V. Zlotnicki (2012): Large scale Interannual Variability of Sea Level and Water Mass Properties in the Southeast pacific in 1993-2011, Ocean Surface Topography Science Team 2012 meeting, Sept. 27-28, Venice, Italy.

Volkov D.L., T.V. Belonenko, V.R. Foux (2012): Topographic Waves in the Norwegian Sea observed with Satellite Altimetry, 20 Years of Progress in Radar Altimetry, Sept. 24-29, Venice, Italy.

Volkov D.L., F.W. Landerer (2012): The genesis of sea level variability in the Barents Sea, EGU General Assembly 2012, held 22-27 April, 2012 in Vienna, Austria.

Volkov D.L., T.V. Belonenko, V.R. Foux, F.W. Landerer (2012): Topographic Rossby waves in the Norwegian Sea observed with satellite altimetry, Ocean Sciences 2012 meeting, Salt Lake City, Utah, USA.

Volkov D.L., F.W. Landerer (2011): The genesis of sea level variability in the Barents Sea, AGU 2011 Fall Meeting, San Francisco, California.

Landerer, F.W**, D.L. Volkov** (2011): The anatomy of the large-scale sea level fluctuations in the Mediterranean Sea in 2010 and 2011, AGU 2011 Fall Meeting, San Francisco, California.

Volkov D.L., M.-I. Pujol (2011): Quality assessment of a satellite altimetry data product in the Nordic and Kara seas, Ocean Surface Topography Science Team meeting, October 2011, San Diego California.

Volkov D.L., V. Zlotnicki (2011): Antarctic Circumpolar Current fronts observed by radar altimetry with GOCE and GRACE satellite gravity missions, Sea Level Workshop, Jet Propulsion Laboratory, August 2011, Pasadena California.

Volkov D.L., L.-L. Fu (2010): The formation and variability of the Azores Current as revealed from an ECCO2 data synthesis, *Ocean Sciences Meeting*, Portland OR, USA.

Volkov D.L., L.-L. Fu, T. Lee (2008): Meridional heat transports in the ocean from an ECCO2 data synthesis, *AGU Fall Meeting*, San Francisco CA, USA.

Volkov D.L., L.-L. Fu (2008): The role of vorticity fluxes in the dynamics of the Zapiola Anticyclone, *Ocean Sciences Meeting*, Orlando FL, USA.

M. Schodlok, D. Menemenlis, and **D. Volkov** (2008), Assessment of the Southern Ocean solution in the ECCO2 data syntheses, *Ocean Sciences Meeting*, Orlando FL, USA.

H. Zhang, D. Menemenlis, T. Lee, M. Schodlok, **D. Volkov**, and V. Zlotnicki (2008), Assessment of the ECCO2 high resolution global-ocean and sea-ice data synthesis using the CLIVAR/GODAE global synthesis and observations panel metrics, *Ocean Sciences Meeting*, Orlando FL, USA.

Zhang, H., **D. Volkov**, and D. Menemenlis (2008): Variability of the Meridional Overturning Circulation (MOC) in the 1992-2007 ECCO2 Synthesis, AGU Fall Meeting, San Francisco, CA.

Volkov D.L., H.M. van Aken (2004): The variability of sea level in the North Atlantic and North Pacific in 1993-2003 observed with satellite altimetry, *Joint Assembly of AGU, CGU, SEG and EEGS*, Montreal, Canada. The presentation received an **Outstanding Student Paper Award**.

Volkov D.L. (2004): The comparative analysis of the sea level variability in the North Atlantic and North Pacific from 1993 to 2002, *EGU General Assembly*, Nice, France.

Volkov D.L. (2004): Complex singular value decomposition analysis of eddy kinetic energy field in the North Atlantic Current, *EGU General Assembly*, Nice, France.

Volkov D.L. (2003): Eddy field and its interannual variability in the North Atlantic Ocean as observed with satellite altimetry, *EGU-AGU Joint Assembly*, Nice, France.

Volkov D.L., H.M. van Aken (2002): Annual and interannual variability of sea level in the northern North Atlantic Ocean, *EGS meeting*, Nice, France.

SEA GOING EXPERIENCE

Aug-Sep 2016	R/V *"Roger Revelle"* (USA), SPURS-2 cruise. Duties: deployment of dual-salinity sensor drifters and underway CTD survey.
Aug 2013	NOAA ship *"Ronald H. Brown"* (USA), CLIVAR cruise A16N (first leg). Duty: *Co-Chief Scientist*
Sep 2005	Icebreaker *"Kapitan Dranitsyn"* (Russia), International Arctic Research Center (USA), NABOS-2005 Arctic expedition. Duty: *ADCP team, analysis of velocity measurements*
Sep – Oct 2000	R/V *"Pelagia"* (Netherlands), the North Atlantic Ocean (section AR7E). Duty: *determination of the concentrations of dissolved oxygen in seawater samples*
Jul – Aug 1998	R/V *"Polarstern"* (Germany), the Laptev Sea. Duty: *CTD team, analysis of T-S fields*
Jul – Aug 1997	R/V "Dalniye Zelentcy" (Russia), the Barents Sea. Duty: *determination of the concentrations of nutrients*
Jul – Aug 1996	R/V *"Nikolay Matusevich"* (Russia), the Baltic Sea. Duty: *CTD team + determination of nutrients and oxygen, analysis of T-S fields*

COURSES / SCHOOLS

Jan 2010	GODAE International Summer School for Observing, Assimilation and Forecasting the Ocean (Perth, Australia)
Sep 2005	International Arctic Research Center Summer School "Climate Change in the Arctic Ocean" (research cruise to the Arctic Ocean)
Sep 2003	Institute for Marine and Atmospheric Research Utrecht (Netherlands) Summer School on Physical Oceanography (Switzerland)
May 2003	Course "Writing in English for publication" (Utrecht University, Netherlands)
Dec 2002	Course "Presenting in English" (Utrecht University, Netherlands)
Sep 2001	Introductory Course in Marine Sciences for PhD students (University of Bremen, Germany)

SYNERGETIC ACTIVITIES

2016 – present: Editor of Journal of Atmospheric and Oceanic Technology (American Meteorological Society)

Professional Membership: Ocean Surface Topography Science Team, Ocean Salinity Science Team, American Geophysical Union, European Geophysical Union, Russian Geographical Society.

Reviewer for Scientific Journals: Geophysical Research Letters, Journal of Geophysical Research - Oceans, Journal of Physical Oceanography, Journal of Climate, Ocean Sciences, Journal of Sea Research, Advances in Space Research, Chinese Journal of Oceanology, Journal of Oceanic and Atmospheric Technology, Theoretical and Applied Climatology, Oceanologia (Elsevier).

Proposal Review Service: National Science Foundation (2013, 2014, 2015, 2016), NASA Post-Doctoral Program (2016); NASA proposal review panels (2012, 2015, 2017.

ADDITIONAL INFORMATION

Languages spoken: Russian (native), English (fluent), French (intermediate)