Scientific Publications

A list of all publications in scientific journals that are based on data or methodology from the Alfred Wegener Institutes SIRAL project.

Peer Reviewed

	Year	Citation	Keywords	Link
1	2014	Ricker, R., Hendricks, S., Helm, V., Skourup, H., and Davidson, M.: Sensitivity of CryoSat-2 Arctic sea-ice freeboard and thickness on radar-waveform interpretation, The Cryosphere, 8, 1607-1622, https://doi.org/10.5194/tc-8-1607-2014, 2014.	CryoSat-2	The Cryosphere
2	2014	Stroeve, J., Barrett, A., Serreze, M., and Schweiger, A.: Using records from submarine, aircraft and satellites to evaluate climate model simulations of Arctic sea ice thickness, The Cryosphere, 8, 1839-1854, https://doi.org/10.5194/tc-8-1839-2014, 2014.	CryoSat-2, model evaluation	The Cryosphere
3	2014	Yinghui Liu and Jeffrey R Key: Less winter cloud aids summer 2013 Arctic sea ice return from 2012 minimum, 2014 Environ. Res. Lett., 9	CryoSat-2, Arctic	Environmental Research Letters
4	2015	Ricker, R., S. Hendricks, D. K. Perovich, V. Helm, and R. Gerdes (2015), Impact of snow accumulation on CryoSat2 range retrievals over Arctic sea ice: An observational approach with buoy data. *Geophys. Res. Lett.*, 42, 4447–4455. doi: 10.1002/2015GL064081.	CryoSat-2, Arctic	Geophysical Research Letters
5	2015	Price, D., Beckers, J., Ricker, R., Kurtz, N., Rack, W., Haas, C., ... Langhorne, P. (2015). Evaluation of CryoSat-2 derived sea-ice freeboard over fast ice in McMurdo Sound, Antarctica. *Journal of Glaciology, 61*(226), 285-300. doi:10.3189/2015JoG14J157	CryoSat-2, Antarctic	Journal of Glaciology
6	2015	Ruibo Lei, Hongjie Xie, Jia Wang, Matti Leppäranta, Ingibjörg Jónsdóttir, Zhanhai Zhang, Changes in sea ice conditions along the Arctic Northeast Passage from 1979 to 2012, Cold Regions Science and Technology, Volume 119, 2015, 132-144,	CryoSat-2, Arctic	Cold Regions Science and Technology
7	2016	Schwegmann, S., Rinne, E., Ricker, R., Hendricks, S., and Helm, V.: About the consistency between Envisat and CryoSat-2 radar freeboard retrieval over Antarctic sea ice, The Cryosphere, 10, 1415-1425, https://doi.org/10.5194/tc-10-1415-2016, 2016.	CryoSat-2, Envisat, Antarctic	The Cryosphere
8	2016	Wang, X.; Key, J.; Kwok, R.; Zhang, J. Comparison of Arctic Sea Ice Thickness from Satellites, Aircraft, and PIOMAS Data. Remote Sens. 2016, 8, 713.	CryoSat-2, Arctic, Model Evaluation	Remote Sensing
9	2016	Ricker, R. , Hendricks, S. and Beckers, J. M. (2016): The Impact of Geophysical Corrections on Sea-Ice Freeboard Retrieved from Satellite Altimetry , Remote Sensing, 8 (4), pp. 1415-1425., doi: 10.3390/rs8040317	CryoSat-2	Remote Sensing
10	2016	Grosfeld, K. , Treffeisen, R. , Asseng, J. , Bartsch, A. , Bräuer, B. , Fritzsch, B. , Gerdes, R. , Hendricks, S. , Hiller, W. , Heygster, G. , Krumpen, T. , Lemke, P. , Melsheimer, C. , Nicolaus, M. , Ricker, R. and Weigelt, M. (2016): Online sea-ice knowledge and data platform <www.meereisportal.de> , Polarforschung, Bremerhaven, Alfred Wegener Institute for Polar and Marine Research & German Society of Polar Research, 85 (2), pp. 143-155 . doi: 10.2312/polfor.2016.011	CryoSat-2	Polarforschung
11	2017	Chen, Z., J. Liu, M. Song, Q. Yang, and S. Xu, 2017: Impacts of Assimilating Satellite Sea Ice Concentration and Thickness on Arctic Sea Ice Prediction in the NCEP Climate Forecast System. J. Climate, 30, 8429–8446, https://doi.org/10.1175/JCLI-D-17-0093.1	CryoSat-2, Assimilation	Journal of Climate
12	2017	Sato, K. & Inoue, J., Comparison of Arctic sea ice thickness and snow depth estimates from CFSR with in situ observations, Clim Dyn (2018) 50: 289. https://doi.org/10.1007/s00382-017-3607-z	CryoSat-2, Model evaluation	Climate Dynamics
13	2017	Ricker, R., S. Hendricks, F. GirardArdhuin, L. Kaleschke, C. Lique, X. TianKunze, M. Nicolaus, and T. Krumpen (2017), Satellite observed drop of Arctic sea ice growth in winter 2015–2016, *Geophys. Res. Lett.*, 44, 3236–3245, doi:10.1002/2016GL072244.	CryoSat-2, SMOS, Arctic	Geophysical Research Letters
14	2017	Marcello Passaro, Felix L. Müller, Denise Dettmering,Lead detection using Cryosat-2 delay-doppler processing and Sentinel-1 SAR images, Advances in Space Research, 2017, https://doi.org/10.1016/j.asr.2017.07.011.	CryoSat-2, Arctic	Advances in Space Research
15	2017	Ricker, R., Hendricks, S., Kaleschke, L., Tian-Kunze, X., King, J., and Haas, C.: A weekly Arctic sea-ice thickness data record from merged CryoSat-2 and SMOS satellite data, The Cryosphere, 11, 1607-1623, https://doi.org/10.5194/tc-11-1607-2017, 2017	CryoSat-2, SMOS, Arctic	The Cryosphere
16	2017	Skourup, H., Farrell, S. L., Hendricks, S., Ricker, R., Armitage, T. W. K., Ridout, A., … Baker, S. (2017). An assessment of stateoftheart mean sea surface and geoid models of the Arctic Ocean: Implications for sea ice freeboard retrieval. *Journal of Geophysical Research: Oceans*, 122, 8593–8613. https://doi.org/10.1002/2017JC013176	CryoSat-2, Arctic	Journal of Geophysical Research - Oceans

17	2017	J. Richter-Menge and J. T. Mathis, Eds., 2017: The Arctic [in “State of the Climate in 2016”]. *Bull. Amer. Meteor. Soc.*, **98** (8), S129–S154, doi:10.1175/2017BAMSStateoftheClimate.1.	CryoSat-2, Arctic	Bulletin of the American Meteorological Society
18	2017	Lange BA, Flores H, Michel C, et al. PanArctic sea icealgal chl *a* biomass and suitable habitat are largely underestimated for multiyear ice. *Glob Change Biol*. 2017;23:4581–4597. https://doi.org/10.1111/gcb.13742	CryoSat-2, Arctic	Global Change Biology
19	2017	Nandan, V., Geldsetzer, T., Yackel, J., Mahmud, M., Scharien, R., Howell, S., King, S., Ricker, R., Else, B. (2017). Effect of snow salinity on CryoSat2 Arctic firstyear sea ice freeboard measurements. *Geophysical Research Letters*, 44, 10,419–10,426. https://doi.org/10.1002/2017GL074506	CryoSat-2, Arctic	Geophysical Research Letters
20	2017	Haas, C., Beckers, J., King, J., Silis, A., Stroeve, J., Wilkinson, J., Notenboom, B., Schweiger, A., & Hendricks, S. (2017). Ice and snow thickness variability and change in the high Arctic Ocean observed by in situ measurements. *Geophysical Research Letters*, 44, 10,462–10,469. https://doi.org/10.1002/2017GL075434	CryoSat-2, Arctic	Geophysical Research Letters
21	2018	Mu, L. , Yang, Q. , Losch, M. , Losa, S. N., Ricker, R. , Nerger, L. and Liang, X. (2018), Improving sea ice thickness estimates by assimilating CryoSat2 and SMOS sea ice thickness data simultaneously. Q.J.R. Meteorol. Soc., 144: 529-538. doi:10.1002/qj.3225	CryoSat-2, SMOS, Assimilation, Arctic	RMetS
22	2018	Ng AKY, Andrews J, Babb D, Lin Y, Becker A. Implications of climate change for shipping: Opening the Arctic seas. *WIREs Clim Change*. 2018;9:e507. https://doi.org/10.1002/wcc.507	CryoSat-2, Arctic	WIREs Climate Change
23	2018	Kaminski, T., Kauker, F., Toudal Pedersen, L., Voßbeck, M., Haak, H., Niederdrenk, L., Hendricks, S., Ricker, R., Karcher, M., Eicken, H., and Gråbak, O.: Arctic Mission Benefit Analysis: impact of sea ice thickness, freeboard, and snow depth products on sea ice forecast performance, The Cryosphere, 12, 2569-2594, https://doi.org/10.5194/tc-12-2569-2018, 2018.	CryoSat-2, Assimilation, Arctic	The Cryosphere
24	2018	Stroeve, J. C., Schroder, D., Tsamados, M., and Feltham, D.: Warm winter, thin ice?, The Cryosphere, 12, 1791-1809, https://doi.org/10.5194/tc-12-1791-2018, 2018.	CryoSat-2, Arctic	The Cryosphere
25	2018	Ricker, R., Girard-Ardhuin, F., Krumpen, T., and Lique, C.: Satellite-derived sea ice export and its impact on Arctic ice mass balance, The Cryosphere, 12, 3017-3032, https://doi.org/10.5194/tc-12-3017-2018, 2018.	CryoSat-2, Arctic	The Cryosphere
26	2018	Paul, S., Hendricks, S., Ricker, R., Kern, S., and Rinne, E.: Empirical parametrization of Envisat freeboard retrieval of Arctic and Antarctic sea ice based on CryoSat-2: progress in the ESA Climate Change Initiative, The Cryosphere, 12, 2437-2460, https://doi.org/10.5194/tc-12-2437-2018, 2018.	CryoSat-2, Envisat, Arctic, Antarctic	The Cryosphere
27	2018	Belmonte Rivas, M., Otosaka, I., Stoffelen, A., and Verhoef, A.: A scatterometer record of sea ice extents and backscatter: 1992–2016, The Cryosphere, 12, 2941-2953, https://doi.org/10.5194/tc-12-2941-2018, 2018.	CryoSat-2, Arctic	The Cryosphere
28	2018	Nakanowatari, T., Inoue, J., Sato, K., Bertino, L., Xie, J., Matsueda, M., Yamagami, A., Sugimura, T., Yabuki, H., and Otsuka, N.: Medium-range predictability of early summer sea ice thickness distribution in the East Siberian Sea based on the TOPAZ4 ice–ocean data assimilation system, The Cryosphere, 12, 2005-2020, https://doi.org/10.5194/tc-12-2005-2018, 2018.	CryoSat-2, SMOS, Assimilation, Arctic	The Cryosphere
29	2018	Xie, J., Counillon, F., and Bertino, L.: Impact of assimilating a merged sea-ice thickness from CryoSat-2 and SMOS in the Arctic reanalysis, The Cryosphere, 12, 3671-3691, https://doi.org/10.5194/tc-12-3671-2018, 2018	CryoSat-2, SMOS, Assimilation, Arctic	The Cryosphere
30	Under Review	Quartly, G. D., Rinne, E., Passaro, M., Andersen, O. B., Dinardo, S., Fleury, S., Guerreiro, K., Guillot, A., Hendricks, S., Kurekin, A. A., Müller, F. L., Ricker, R., Skourup, H., and Tsamados, M.: Review of Radar Altimetry Techniques over the Arctic Ocean: Recent Progress and Future Opportunities for Sea Level and Sea Ice Research, The Cryosphere Discuss., https://doi.org/10.5194/tc-2018-148, in review, 2018.	CryoSat-2	The Cryosphere Discussions
31	Under Review	Ponsoni, L., Massonnet, F., Fichefet, T., Chevallier, M., and Docquier, D.: On the time and length scales of the Arctic sea ice thickness anomalies: a study based on fourteen reanalyses, The Cryosphere Discuss., https://doi.org/10.5194/tc-2018-133, in review, 2018.	CryoSat-2, Arctic, Re-Analysis	The Cryosphere Discussions
32	2018	Dettmering, D.; Wynne, A.; Müller, F.L.; Passaro, M.; Seitz, F. Lead Detection in Polar Oceans—A Comparison of Different Classification Methods for Cryosat-2 SAR Data. *Remote Sens.* **2018**, *10*, 1190.	CryoSat-2	Remote Sensing
33	2018	Julienne C Stroeve et al., 2018 Environ. Res. Lett., in press, https://doi.org/10.1088/1748-9326/aade56	CryoSat-2, Arctic	Environmental Research Letters
34	Under Review	Sallila, H., McCurry, J., Farrell, S. L., and Rinne, E.: Assessment of Contemporary Satellite Sea Ice Thickness Products for Arctic Sea Ice, The Cryosphere Discuss., https://doi.org/10.5194/tc-2018-197, in review, 2018.	CryoSat-2, Arctic, CS2SMOS	The Cryosphere Discussion

35	2018	D. Yi, N. Kurtz, J. Harbeck, R. Kwok, S. Hendricks and R. Ricker: Comparing Coincident Elevation and Freeboard From IceBridge and Five Different CryoSat-2 Retrackers, IEEE Transactions on Geoscience and Remote Sensing. doi: 10.1109 /TGRS.2018.2865257	CryoSat-2, Arctic	IEEE Transactions on Geoscience and Remote Sensing
36	2018	Jena B, Kumar A, Ravichandran M, Kern S (2018) Mechanism of sea-ice expansion in the Indian Ocean sector of Antarctica: Insights from satellite observation and model reanalysis. PLoS ONE 13(10): e0203222	CryoSat-2, Antarctic	PLOS One
37	2018	Mu, L., M. Losch, Q. Yang, R. Ricker, S. Loza, and L. Nerger. (2018), Arcticwide sea ice thickness estimates from combining satellite remote sensing data and a dynamic iceocean model with data assimilation during the CryoSat2 period, *J. Geophys. Res. Oceans*, https://doi.org/10.1029/2018JC014316	CryoSat-2, CS2SMOS, Arctic, Assimilation	Journal of Geophysical Research - Oceans
38	Under Review	An, B. W., Lee, S. M., Chang, P.-H., Kang, K., and Kim, Y. J.: Seasonal sea ice forecast skills and predictability of the KMA's GloSea5, The Cryosphere Discuss., https://doi.org/10.5194/tc-2018-217, in review, 2018.	CryoSat-2, Arctic, Model Evaluation	The Cryosphere Discussion
39	2018	Prasad, S., Zakharov, I., McGuire, P., Power, D., and Richard, M.: Estimation of sea ice parameters from sea ice model with assimilated ice concentration and SST, The Cryosphere, 12, 3949-3965, https://doi.org/10.5194/tc-12-3949-2018, 2018.	CryoSat-2, Arctic, Model Evaluation	The Cryosphere
40	2019	Schröder, D., Feltham, D. L., Tsamados, M., Ridout, A., and Tilling, R.: New insight from CryoSat-2 sea ice thickness for sea ice modelling, The Cryosphere, 13, 125-139, https://doi.org/10.5194/tc-13-125-2019, 2019.	CryoSat-2, Arctic, Assimilation	The Cryosphere