



Peter J. Minnett, PhD

Professor, Meteorology and Physical Oceanography

NSF-NIEHS Oceans & Human Health Center Role: PI- Remote Sensing Core

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Education

- Ph.D. in Oceanography, University of Southampton, U.K. (1978)
- M.Sc., University of Southampton, U.K. (1975)
- B.A. in Natural Science, University of Oxford, U.K (1973)

Research Interests

Dr. Minnett's research interests include [remote sensing](#) of oceanic and atmospheric variables from satellite-borne and ship-borne sensors, primarily in the infrared. In particular, the retrieval of accurate sea-surface temperatures from space - this involves careful compensation of the effects of the intervening atmosphere. His interests in the sea surface temperature extend to the study of the small scale physical processes at the interface, including laboratory experiments in the [ASIST](#) facility.

Dr. Minnett is also active in Arctic research, particularly in the multi-disciplinary study of Arctic polynyas, such as the [North Water](#) , the applications of satellite data, and in cloud radiative forcing at the surface.

Dr. Minnett's teaching specialization includes Satellite Oceanography and Advanced Topics in Satellite Oceanography.

Representative Publications

- 2005 - Nalli, N. R., P. Clemente-Colón, V. Morris, E. Joseph, M. Szczodrak, P. J. Minnett, J. Shannahoff, M. D. Goldberg, C. Barnett, W. Wolf, R. O. Knuteson and W. F. Feltz. [Profile observations of the Saharan Air Layer during AEROSE 2004](#). Geophysical Research Letters, 32.doi:10.1029/2004GL022028
- 2005 - Hanafin, J. A. and P. J. Minnett, [Infrared-emissivity measurements of a wind-roughened sea surface](#). Applied Optics., 44, 398-411.
- 2004 - Marsden, R.F., J. Serdula, E.L. Key and P.J. Minnett, [Are Polynyas Self-Sustaining?](#) Atmosphere-Ocean 42 (4), 251–265.
- 2004 - Key, E.L., P. J. Minnett and R. A. Jones. [Cloud distributions over the coastal Arctic Ocean: surface-based and satellite observations](#). Atmospheric Research, 72, 57–88.
- 2004 - Key, E.L. and P. J. Minnett, Estimating Polynya Cloudiness. Gayana, 68, 311-316.
- 2004 - Rice, J.P., J. J. Butler, B. C. Johnson, P. J. Minnett, K. A. Maillet, T. J. Nightingale, S. J. Hook, A. Abtahi, C. J. Donlon and I. J. Barton, 2004. [The Miami2001 Infrared Radiometer Calibration and Intercomparison: 1. Laboratory Characterization of Blackbody Targets](#). Journal of Atmospheric and Oceanic Technology, 21, 258–267.
- 2004 - Barton, I. J., P. J. Minnett, C. J. Donlon, S. J. Hook, A. T. Jessup, K. A. Maillet and T. J. Nightingale, 2004. [The Miami2001 infrared radiometer calibration and inter-comparison: II Ship comparisons](#). Journal of Atmospheric and Oceanic Technology, 21, 268–283
- 2004 - Ward, B., R. Wanninkhof, P.J. Minnett and M.J. Head., 2004. [SkinDeEP: A Profiling Instrument for Upper Decameter Sea Surface Measurements](#). Journal of Atmospheric and Oceanic Technology. 21, 207-222.
- 2003 - Minnett, P. J., 2003. [Radiometric measurements of the sea-surface skin temperature - the competing roles of the diurnal thermocline and the cool skin](#). International Journal of Remote Sensing 24(24): 5033-5047
- 2003 - Vogelmann, A. M., P. J. Flatau, M. Szczodrak, K. Markowicz and P. J. Minnett, 2003. [Observations of Large Aerosol Infrared Forcing at the Surface](#). Geophys. Res. Let. 30(12) 10.1029/2002GL016829. 1655.

2003 - Fetzer, E.; McMillin, L.M.; Tobin, D.; Aumann, H.H.; Gunson, M.R.; McMillan, W.W.; Hagan, D.E.; Hofstadter, M.D.; Yoe, J.; Whiteman, D.N.; Barnes, J.E.; Bennartz, R.; Vomel, H.; Walden, V.; Newchurch, M.; Minnett, P.J.; Atlas, R.; Schmidlin, F.; Olsen, E.T.; Goldberg, M.D.; Sisong Zhou; HanJung Ding; Smith, W.L.; Revercomb, H., 2003, [AIRS/AMSU/HSB validation](#). IEEE Transactions on Geoscience and Remote Sensing, 41, 418- 431.

2003 - Hagan, D.E. and P.J. Minnett, 2003. [AIRS radiance validation over ocean from sea surface temperature measurements](#), IEEE Transactions on Geoscience and Remote Sensing, 41, 432- 441.

2003 - Kumar, A., P. J. Minnett, G. Podestà, and R. H. Evans, 2003, [Error characteristics of the atmospheric correction algorithms used in retrieval of sea surface temperatures from infrared satellite measurements; global and regional aspects](#). Journal of the Atmospheric Sciences, 60, 575-585.

2002 - Donlon, C. J., P. J. Minnett, C. Gentemann, T. J. Nightingale, I. J. Barton, B. Ward and J. Murray, 2002. [Towards improved validation of satellite sea surface skin temperature measurements for climate research](#). J. Climate. 15, 353-369

2001 - Hanafin, J. A. and P. J. Minnett, 2001. Profiling temperature in the sea surface skin layer using FTIR measurements. Gas Transfer at Water Surfaces. edited by M. A. Donelan, W.M. Drennan, E.S. Saltzmann and R. Wanninkhof. American Geophysical Union Monograph 127. 161-166

2001 - Hanafin J. A. and P. J. Minnett, 2001. [Cloud forcing of surface radiation in the North Water Polynya](#). Atmosphere-Ocean. 39, 239-255.

2001 - Hanesiak, J. M., D. G. Barber, T. N., Papakyriakou, and P. J. Minnett, 2001. [Parameterization schemes of incident radiation in the North Water](#). Atmosphere-Ocean. 39, 233-238.

2001 - Minnett, P.J., 2001, Satellite Remote Sensing: Sea Surface Temperatures. Encyclopedia of Ocean Sciences, J. Steele, S. Thorpe, K. Turekian (eds). Academic Press, London, UK. 2552-2563.

2001 - Minnett, P. J., R. O. Knuteson, F.A. Best, B.J. Osborne, J. A. Hanafin and O. B. Brown, 2001. [The Marine-Atmosphere Emitted Radiance Interferometer \(M-AERI\), a high-accuracy, sea-going infrared spectroradiometer](#). Journal of Atmospheric and Oceanic Technology, 18, 994-1013.

2001 - Ward, B. and P. J. Minnett, 2001. An autonomous profiler for near surface temperature measurements. Gas Transfer at Water Surfaces. Edited by M. A. Donelan, W.M. Drennan, E.S. Saltzmann and R. Wanninkhof. American Geophysical Union Monograph 127. 167 - 172.

2000 - Kearns, E.J., J.A. Hanafin, R.H. Evans, P.J. Minnett and O.B. Brown, 2000. [An independent assessment of Pathfinder AVHRR sea surface temperature accuracy using the Marine-Atmosphere Emitted Radiance Interferometer \(M-AERI\).](#) Bull. Am. Met. Soc. 81, 1525-1536.

2000 - Kumar, A., P. J. Minnett, G. Podesta, R.H. Evans and K. Kilpatrick, 2000. Analysis of Pathfinder SST algorithm for global and regional conditions. Special Issue on the International JGOFS Symposium on 'Biogeochemistry of the Arabian Sea' Proceedings of the Indian Academy of Sciences: Earth and Planetary Sciences, 109, 395-405.

1999 - Minnett, P.J., 1999. [The influence of solar zenith angle and cloud type on cloud radiative forcing at the surface in the Arctic.](#) J. Climate, 12, 147-158.

More Info:

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