

Joseph A. Sedlar

CONTACT INFORMATION	Remote Sensing Division Research Department Swedish Meteorological and Hydrological Institute (SMHI) 601 76 Norrköping, Sweden	<i>Tele:</i> +46 (0)11 495-8109 <i>Email:</i> joseph.sedlar@smhi.se <i>www:</i> http://www.smhi.se/en/
PROFESSIONAL APPOINTMENTS	Swedish Meteorological and Hydrological Institute , Remote Sensing Division, Norrköping, Sweden: Research scientist, <i>2010-present</i> Stockholm University , Department of Meteorology, Stockholm, Sweden: Ph.D. candidate, <i>2006-2010</i> Meridian Environmental Technology, Inc. , Grand Forks, ND, USA: Operational weather forecaster, <i>2004-2005</i>	
EDUCATION	Stockholm University , Stockholm, Sweden Ph.D. in Atmospheric Science and Oceanography, <i>December 2010</i> <ul style="list-style-type: none">• Dissertation Title: "Arctic Clouds: Interactions with Radiation and Thermodynamic Structure" M.Sc. (Magisterexam), Meteorology, <i>June 2006</i> University of Wisconsin-Milwaukee , Milwaukee, WI USA B.Sc., Atmospheric Science, <i>June 2004</i> <ul style="list-style-type: none">• Minor in Mathematics• Graduated with honors	
RESEARCH INTERESTS	Arctic clouds: macro- and microphysical, radiative, thermodynamic and dynamical processes and characteristics; surface energy budget and boundary-layer structure and dynamics; remote sensing of clouds and thermodynamics; Arctic climate; global cloud and radiation characteristics through a synergy of in-situ and satellite-based observational platforms; simulating cloud properties with variable model complexities	
TEACHING EXPERIENCE	Theoretical exercise and laboration instructor for the below courses at Stockholm University, <i>2006-2009</i> <ul style="list-style-type: none">• Dynamic Meteorology I, II• Climatology• Atmospheric and Oceanic Boundary Layers• Atmospheric Chemistry	
FIELD WORK EXPERIENCE	Surface-layer turbulence mast measurement laboration - Stockholm University, <i>2008, 2009</i> Arctic Summer Cloud Ocean Study (ASCOS) - central Arctic Ocean, <i>2008</i> Balloon validation of remotely sensed aerosol properties - Chilbolton Observatory, England, <i>2008</i>	
HONORS AND AWARDS	L&E Kinanders donation stipend, <i>2009</i> SUCLIM Climate Research School travel stipend, <i>2009</i> President, Atmospheric Science Club, University of Wisconsin-Milwaukee <i>2003-2004</i> Bill Carlsen Scholarship, University of Wisconsin-Milwaukee, <i>2003</i> Honors list, University of Wisconsin-Milwaukee, <i>2002, 2004</i>	

- SPECIAL SKILLS Knowledgeable in Linux and PC computing. Proficient in MATLAB and Python. Working knowledge of Fortran and shell scripting. Introductory knowledge in IDL and C. Spoken languages: English (native), Swedish (read, write and speak - basic competence).
- OTHER Peer reviewer for *J. Geophys. Res.*, *Clim. Dyn.*, *J. Clim.*.
Parental leave of absences:
- October 2011 - February 2012 (full time, not working)
 - February 2012 - August 2012 (half time, working 50%)
- PUBLICATIONS Willen, U., R. Bintanja, **J. Sedlar**, T. Koenigk and C. Jones, The Arctic amplification and interrelation between Arctic sea-ice, cloud greenhouse heating and atmospheric circulation in ERA-Interim and EC-Earth, *manuscript*.
- Sedlar, J.**, Characteristic nature of vertical motions in Arctic mixed-phase stratocumulus, *manuscript*.
- Devasthale, A., T. Koenigk, **J. Sedlar** and E. J. Fetzer, 2013: The thermodynamic state of the Arctic atmosphere observed by AIRS: Comparisons during the record minimum sea-ice extents of 2007 and 2012, *Atmos. Chem. Phys. Discuss.*, 13, 177-199.
- Karlsson, K.-G., A. Riihelä, R. Müller, J.F. Meirink, **J. Sedlar**, M. Stengel, M. Lockhoff, J. Trentmann and E. Wolters, 2012: CLARA - The CMSAF cloud and radiation dataset from 28 years of global AVHRR data, *Atmos. Chem. Phys. Discuss.*, 13, 935-982.
- Sedlar, J.** and A. Devasthale, 2012: Clear-sky thermodynamic and radiative anomalies over a sea ice sensitive region of the Arctic, *J. Geophys. Res.*, 117, D19111, 11 pp., doi:10.1029/2012JD017754.
- Tjernström, M., C.E. Birch, I.M. Brooks, M.D. Shupe, P.O.G. Persson, **J. Sedlar**, T. Mauritsen, C. Leck, J. Paatero, M. Szczodrak and C.R. Wheeler, 2012: Meteorological conditions in the central Arctic summer during the Arctic Summer Cloud Ocean Study (ASCOS), *Atmos. Chem. Phys.*, 12, 6863-6889, doi:10.5194/acp-12-6863-2012.
- Birch, C.E., I.M. Brooks, M. Tjernström, M.D. Shupe, T. Mauritsen, **J. Sedlar**, A.P. Lock, S.F., P. Earnshaw, P.O.G. Persson, S.F. Milton and C. Leck, 2012: Modelling atmospheric structure, cloud and their response to CCN in the central Arctic: ASCOS case studies, *Atmos. Chem. Phys.*, 12, 3419-3435, doi:10.5194/acp-12-3419-2012.
- Sedlar, J.**, M.D. Shupe and M. Tjernström, 2012: On the Relationship between Thermodynamic Structure and Cloud Top, and its Climate Significance in the Arctic, *J. Clim.*, 25, 2374-2393, doi:10.1175/JCLI-D-11-00186.1.
- Sedlar, J.**, M. Tjernström, T. Mauritsen, M.D. Shupe, I.M. Brooks, P.O.G. Persson, C.E. Birch, C. Leck, A. Sirevaag and M. Nicolaus, 2011: A transitioning Arctic surface energy budget: the impacts of solar zenith angle, surface albedo and cloud radiative forcing, *Clim. Dyn.*, 37, 7-8, 1643-1660, doi:10.1007/s00382-010-0937-5.
- Devasthale, A., **J. Sedlar** and M. Tjernström, 2011: Characteristics of water-vapour inversions observed over the Arctic by Atmospheric Infrared Sounder (AIRS) and radiosondes, *Atmos. Chem. Phys.*, 11, 9813-9823, doi:10.5194/acp-11-9813-2011.
- Mauritsen, T., **J. Sedlar**, M. Tjernström, C. Leck, M. Martin, M. Shupe, S. Sjogren, B. Sierau, P.O.G. Persson, I.M. Brooks and E. Swietlicki, 2011: An Arctic CCN-limited cloud-aerosol regime, *Atmos. Chem. Phys.*, 11, 165-173, doi:10.5194/acp-11-165-2011.

Devasthale, A., M. Tjernström, K.-G. Karlsson, M.A. Thomas, C. Jones, **J. Sedlar** and A.H. Omar, 2011: The vertical distribution of thin features over the Arctic analyzed from CALIPSO observations, *Tellus B*, 63: 77-85, doi:10.1111/j.1600-0889.2010.00516.x.

Sedlar, J. and M. Tjernström, 2009: Stratiform Cloud-Inversion Characterization During the Arctic Melt Season, *Boundary-Layer Meteorol.*, 132, 455-474, doi:10.1007/s10546-009-9407-1.

Sedlar, J. and R. Hock, 2009: Testing longwave radiation parameterizations under clear and overcast skies at Storglaciren, Sweden, *The Cryosphere*, 3, 75-84, doi:10.5194/tc-3-75-2009.

Tjernström, M., **J. Sedlar** and M.D. Shupe, 2008: How Well Do Regional Climate Models Reproduce Radiation and Clouds in the Arctic? An Evaluation of ARCMIP Simulations, *J. Appl. Meteorol. Climatol.*, 47, 2405-2422, doi:10.1175/2008JAMC1845.1.