Curriculum Vitae for Karl-Göran Karlsson

Name: Karl-Göran O. Karlsson

Date of birth: 29.04.1959
Place of birth: Falkenberg, Sweden

Education:
09/1980-02/1984: Bachelor of Science in Physics at the Meteorological Institution of the University of Uppsala, Sweden.

12/2006: Ph. D. in Meteorology at Stockholm University. Thesis title:
The use of a satellite-derived cloud climatology for studying cloud-aerosol processes and the performance of regional cloud climate simulations.
Thesis advisor: Prof. Erland Källèn.
Thesis work supported by SNSB through Research Grants 59/95, 113/96, 125/99 and 196/00.

Professional record:
03/1984-12/1985: Meteorologist, Dispersion Modelling, Climate Section, SMHI
Status: permanent position, half time + Meteorologist, Meteorological Forecasting, Forecasting Section, SMHI, Status: permanent position, half time

01/1986-12/1989: Research Scientist, Meteorological Remote Sensing, Research and Development Section, SMHI, Status: permanent position, half time +
Meteorologist, Meteorological Forecasting, Forecasting Section, SMHI
Status: permanent position, half time

Since 01/1990: Research Scientist, Meteorological Remote Sensing Section, Research and Development Department, SMHI. Status: permanent position, full time

Projects:
- **CM SAF**
  EUMETSAT Climate Monitoring Satellite Application Facility project
Project member representing SMHI since November 1998.
January 2004-February 2012: CM SAF Work Package manager for Cloud studies (full time). Responsible for activities in the CM SAF Clouds group consisting of about seven scientists at SMHI, DWD (Germany) and KNMI (the Netherlands).
March 2013 until present: Responsible for CM SAF Clouds, Albedo and Radiation dataset from AVHRR data (the CLARA Climate Data Record).

- **C3S_312b Lot 1**
  Copernicus Climate Change Services (C3S) project "Essential Climate Variable products derived from observations - Lot 1"
Project member representing SMHI and the CM SAF project.
July 2017 – present: Responsible for quality control procedures and Gap Analysis studies for Essential Climate Variable groups Clouds, Surface Radiation, Earth Radiation Budget, Water Vapour and Precipitation.

- **ESA-CLOUD-CCI**
  Climat Change Initiative project by European Space Agency, Essential Climate Variable Clouds
October 2010-2017: Responsible for work packages related to cloud product validation and AVHRR, MODIS, AATSR and MERIS calibration monitoring.

Publications (peer reviewed):

Manninen, T., Jääskeläinen, E., Siljamo, N., Riihelä, A., and Karlsson, K.-G.: Cloud probability-based estimation of black-sky surface albedo from AVHRR data, *Atmos. Meas. Tech.* Discuss. [preprint], https://doi.org/10.5194/amt-2021-143, in review, 2021.

Karlsson, K.-G.; Johansson, E.; Håkansson, N.; Sedlar, J.; Eliasson, S. (2020). Probabilistic Cloud Masking for the Generation of CM SAF Cloud Climate Data Records from AVHRR and SEVIRI Sensors. Remote Sens. 2020, 12, 713. https://doi.org/10.3390/rs12040713

Benas, N., Meirink, J. F., Karlsson, K.-G., Stengel, M., & Stammes, P. (2020). Satellite observations of aerosols and clouds over southern China from 2006 to 2015 : analysis of changes and possible interaction mechanisms. Atmospheric Chemistry And Physics, 20(1), 457–474. https://doi.org/10.5194/acp-20-457-2020

Eliasson, S., Karlsson, K.-G., & Willén, U. (2020). A simulator for the CLARA-A2 cloud climate data record and its application to assess EC-Earth polar cloudiness. Geoscientific Model Development, 13(1), 297–314. https://doi.org/10.5194/gmd-13-297-2020

Eliasson, S., Karlsson, K.-G., van Meijgaard, E., Meirink, J. F., Stengel, M., & Willén, U. (2019). The Cloud_cci simulator v1.0 for the Cloud_cci climate data record and its application to a global and a regional climate model. Geoscientific Model Development, 12(2), 829–847. https://doi.org/10.5194/gmd-12-829-2019

Karlsson, K.-G., & Devasthale, A. (2018). Inter-Comparison and Evaluation of the Four Longest Satellite-Derived Cloud Climate Data Records : CLARA-A2, ESA

Cloud CCI V3, ISCCP-HGM, and PATMOS-x. Remote Sensing, 10(10). https://doi.org/10.3390/rs10101567

Karlsson, K.-G., & Håkansson, N. (2018). Characterization of AVHRR global cloud detection sensitivity based on CALIPSO-CALIOP cloud optical thickness information : demonstration of results based on the CM SAF CLARA-A2 climate data record. Atmospheric Measurement Techniques, 11(1), 633–649. https://doi.org/10.5194/amt-11-633-2018

Karlsson, K.-G., Anttila, K., Trentmann, J., Stengel, M., Meirink, J. F., Devasthale, A., … Hollmann, R. (2017). CLARA-A2 : the second edition of the CM SAF cloud and radiation data record from 34 years of global AVHRR data. Atmospheric Chemistry And Physics, 17(9), 5809–5828. https://doi.org/10.5194/acp-17-5809-2017

Karlsson, K.-G., Håkansson, N., Mittaz, J. P. D., Hanschmann, T., & Devasthale, A. (2017). Impact of AVHRR Channel 3b Noise on Climate Data Records : Filtering Method Applied to the CM SAF CLARA-A2 Data Record. Remote Sensing, 9(6). https://doi.org/10.3390/rs9060568

Riihela, A., Key, J. R., Meirink, J. F., Munneke, P. K., Palo, T., & Karlsson, K.-G. (2017). An intercomparison and validation of satellite-based surface radiative energy flux estimates over the Arctic. Journal of Geophysical Research - Atmospheres, 122(9), 4829–4848. https://doi.org/10.1002/2016JD026443

Stengel, M., Stapelberg, S., Sus, O., Schlundt, C., Poulsen, C., Thomas, G., … Hollmann, R. (2017). Cloud property datasets retrieved from AVHRR, MODIS, AATSR and MERIS in the framework of the Cloud_cci project. Earth System Science Data, 9(2), 881–904. https://doi.org/10.5194/essd-9-881-2017

Wu, D. L., Baum, B. A., Choi, Y.-S., Foster, M. J., Karlsson, K.-G., Heidinger, A., … Watts, P. (2017). TOWARD GLOBAL HARMONIZATION OF DERIVED CLOUD PRODUCTS. Bulletin of The American Meteorological Society - (BAMS), 98(2), ES49-ES52. https://doi.org/10.1175/BAMS-D-16-0234.1

Karlsson, K.-G., E. Johansson and A. Devasthale, 2015: Advancing the uncertainty characterisation of cloud masking in passive satellite imagery: Probabilistic formulations for NOAA AVHRR data, Rem. Sens. Env. , 158, 126-139; doi:10.1016/j.rse.2014.10.028.

Sun, B., Free, M., Yoo, H. L., Foster, M. J., Heidinger, A., & Karlsson, K.-G. (2015). Variability and Trends in U.S. Cloud Cover : ISCCP, PATMOS-x, and CLARA-A1 Compared to Homogeneity-Adjusted Weather Observations. Journal of Climate (Vol. 28, pp. 4373–4389). https://doi.org/10.1175/JCLI-D-14-00805.1

Karlsson, K.-G. and E. Johansson, 2014: Multi-Sensor Calibration Studies of AVHRR-Heritage Channel Radiances Using the Simultaneous Nadir Observation Approach, Remote Sens., 6(3), 1845-1862, doi:10.3390/rs6031845.

Stengel, M., S. Mieruch, M. Jerg, K.G. Karlsson, R. Scheirer, B. Maddux, J.F. Meirink, C. Poulsen, R. Siddans, A. Walther and R. Hollmann, The Clouds Climate Change Initiative: Assessment of state-of-the-art cloud property retrieval schemes applied to AVHRR heritage measurements, Remote Sens. Environ., doi:10.1016/j.rse.2013.10.035, 2013.

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Karlsson, K.-G., Riihelä, A., Müller, R., Meirink, J. F., Sedlar, J., Stengel, M., Lockhoff, M., Trentmann, J., Kaspar, F., Hollmann, R., and Wolters, E.: CLARA-A1: a cloud, albedo, and radiation dataset from 28 yr of global AVHRR data, Atmos. Chem. Phys., 13, 5351-5367, doi:10.5194/acp-13-5351-2013, 2013.

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