

Updated: Aug 2015

Denis E. SERGEEV

Curriculum vitae

PERSONAL DATA

ADDRESS:	School of Environmental Sciences University of East Anglia Norwich Research Park Norwich NR47TJ UK
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RESEARCH INTERESTS

- Polar lows dynamics
- Atmospheric energetics
- Planetary atmospheres
- Planetary boundary layer
- Carbon cycle modelling

EDUCATION

2014– PRESENT	PhD in METEOROLOGY School of Environmental Sciences University of East Anglia, UK Thesis title: “Dynamics and predictability of polar lows” Supervisor: Ian A. Renfrew
2009–2014	Specialist Diploma in METEOROLOGY Faculty of Geography Lomonosov Moscow State University, Russia With Honours Average grade: 4.96/5 Thesis title: “Idealised numerical modelling of polar mesocyclones dynamics” Supervisor: Victor M. Stepanenko

RESEARCH EXPERIENCE

Oct. 2013	Visiting student Geophysical Institute, University of Bergen, Bergen, Norway Supervisor: Thomas Spengler
Jul. 2012	Research Assistant Laboratory of climate theory, A.M. Obukhov Institute of Atmospheric Physics, Russian Academy of Sciences Moscow, Russia Supervisor: Alexey V. Eliseev

FIELDWORK EXPERIENCE

Aug. 2012	Field practice in meteorology Attempt to understanding of prevailing mesoscale processes through wind characteristic measurements and lake hydrothermodynamical modelling. KRONOTSKY NATIONAL RESERVATION, KAMCHATKA PEN., RUSSIA
Jan.–Feb. 2012	Field practice in meteorology Measurements of the convective boundary layer over the polynya. WHITE SEA BIOLOGICAL STATION, KAREL REPUBLIC, RUSSIA
Jun.–Jul. 2011	Field practice in meteorology Basic field techniques in atmospheric sciences (profiling of atmosphere, study of atmospheric stratification and radiative measurements). Khibiny Mountains, Murmansk Region, Russia
Jan.–Feb. 2011	Field practice in meteorology Micrometeorological measurements, ice-breeze modelling. WHITE SEA BIOLOGICAL STATION, KAREL REPUBLIC, RUSSIA
Jun.–Jul. 2010	Field practice in geographical studies Including: meteorology, hydrology, geomorphology, soil science, biogeography, topography. KALUGA REGION, RUSSIA

TEACHING EXPERIENCE

2015–Present	Teaching assistance University of East Anglia In courses: <ul style="list-style-type: none">■ Meteorology■ Physical and Chemical Processes in Earth's System
2010–2012	Website coordinator and teaching assistant Moscow Institute of Open Education <ul style="list-style-type: none">■ Schoolchildren training for Geography Olympiads■ Geography and meteorology quizzes

JOURNAL PUBLICATIONS

1. Eliseev AV, **Sergeev DE**. 2014. Impact of Subgrid Scale Vegetation Heterogeneity on the Simulation of Carbon Cycle Characteristics. *Izvestiya, Atmospheric and Oceanic Physics*. **50(3)**: 259–270.
2. **Sergeev DE**, Zamyatina MY, Stepanenko VM. 2013. Thermal regime features of Kronotsky lake (in Russian). *Kronotsky State Natural Biosphere Reserve Proceedings*. **3**: 29–41.

CONFERENCE PROCEEDINGS

1. **Sergeev DE**, Stepanenko VM. 2013. Numerical modelling of polar mesocyclones generation mechanisms. *International Conference 'Turbulence, atmosphere and climate dynamics' dedicated to A.M. Obukhov. Selected papers*: 168–170.
2. **Sergeev DE**, Stepanenko VM. 2012. Parameterization of mesoscale sensible heat and methane fluxes in the region of Western Siberia. *International Conference and Early Career Scientists School on Environmental Observations, modelling and Information Systems (ENVIROMIS-2012). Selected papers*: 67–69.
3. **Sergeev DE**, Stepanenko VM. 2012. Methodology of dynamical downscaling of meteorological fields and its verification in the region of Western Siberia. *Proceedings of the XVI International Young Scientists School-Conference on Atmospheric Composition, Electricity and Climate Impacts (SATEP). Selected papers*: 182–184.
4. Barabanova OV, Fedorov GA, Khrupolova EA, Konstantinov PI, Kukanova EA, Malinina EP, **Sergeev DE**, Sokolova LA, Stepanenko VM, Varentsov MV, Veresemskaya PS, Zamyatina MY, Zheleznova

- IV. 2012. Experimental investigation and remote sensing of boundary layer in high latitudes (evidence from the coastal zone of the White Sea). *Proceedings of the International Youth Science Forum Lomonosov*.
5. Barabanova OV, Budaev ME, Debolskiy AV, Glebova ES, Kukanova EA, Melnik KO, Platonov VS, **Sergeev DE**, Varentsov MV, Zamyatina MY, Zhelesnova IV. 2011. The dynamics of the atmospheric boundary layer and its interaction with the underlying surface in the coastal zone of the White Sea. *Proceedings of the International Youth Science Forum Lomonosov*.

POSTER PRESENTATIONS

- **Sergeev DE**, Renfrew IA. 2015. Structure and dynamics of a shear-line polar low during a cold-air outbreak over the Norwegian Sea. Royal Meteorological Society Student Conference, 1–3 July, 2015 Birmingham, UK.
- **Sergeev DE**, Renfrew IA. 2015. Structure and dynamics of a shear-line polar low during a cold-air outbreak over the Norwegian Sea. Dynamics of Atmosphere-Ice-Ocean Interactions in the High Latitudes, 23–27 March, 2015 Rosendal, Norway.
- **Sergeev DE**, Stepanenko VM. 2014. Numerical modelling of polar mesocyclones dynamics diagnosed by energy budget. European Geosciences Union (EGU) General Assembly 2014, 28 April – 02 May, Vienna, Austria.
- Eliseev AV, **Sergeev DE**. 2013. Impact of subgrid-scale vegetation heterogeneity on results of climate model simulation of carbon cycle. European Geosciences Union (EGU) General Assembly 2013, 07 – 12 April, Vienna, Austria.
- **Sergeev DE**, Stepanenko VM. 2013. Numerical modelling of polar mesocyclones generation mechanisms. European Geosciences Union (EGU) General Assembly 2013, 07 – 12 April, Vienna, Austria.

SCHOLARSHIPS AND AWARDS

2014-2017	Lord Zuckerman scholarship School of Environmental Sciences University of East Anglia
2014	Young Scientist's Travel Award (YSTA) European Geosciences Union (EGU) General Assembly
2014	Russian Academy of Sciences Young Scientist Medal In the area of oceanology, atmospheric physics and geography

GRANTS

2014-2016	Characteristics of the mesoscale atmospheric circulations in the Arctic and their influence on the atmosphere-ocean energy exchange Russian Foundation for Basic Research (RFBR) Grant
2014-2016	Carbon cycle in lake-atmosphere continuum: observations and modelling/Supercomputer modelling of multiscale interaction of turbulent atmospheric boundary layer with hydrologically heterogeneous Earth surface Russian Foundation for Basic Research (RFBR) Grant
2013-2015	Modelling of a climate system response and associated biochemical changes of Arctic Ocean, due to intense destabilization of methane hydrates on Eastern Arctic shelf seas Russian Foundation for Basic Research (RFBR) Grant
2013-2015	Multiscale modelling of turbulent atmospheric flow above sea surface with inhomogeneous ice cover Russian Foundation for Basic Research (RFBR) Grant
2013-2015	Developing and verification of the mesoscale sensible heat and tracers fluxes over hydrologically inhomogeneous surface Grant of the President of Russian Federation

MEMBERSHIPS

2014– PRESENT	Member of Royal Meteorological Society
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OUTREACH

2015– PRESENT	Contributor to ClimateSnack blogging platform My blog posts: <ul style="list-style-type: none">■ Polar lows: what fuels Arctic hurricanes?
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OTHER PROFESSIONAL EXPERIENCE

Mar. 2015	Rapporteur Dynamics of Atmosphere-Ice-Ocean Interactions in the High-Latitudes workshop Rosendal, Norway
Jun.–Jul. 2014	Professional translator Translation of documentation of meteorological equipment (En-Ru), Retail and Consumer Merchandise 'Meteomaster', Moscow, Russia
Aug.–Sep. 2013	Weather Forecaster Forecast and Briefing Service, Main Aviation Meteorological Centre, Vnukovo Airport, Moscow, Russia

LANGUAGES

RUSSIAN:	Native speaker
ENGLISH:	Fluent (IELTS 8.0)
FRENCH:	Reading Knowledge

COMPUTER SKILLS

Operating systems	Linux , Unix, Windows
Computer Languages	Python , Fortran
Data analysis and visualizing	Python , MATLAB, NCL, VAPOR, GrADS
Parallel programming in Fortran	MPI, OpenMP
Version control systems	Git, Subversion
Document preparation	L ^A T _E X, Microsoft Office
Web development	HTML, CSS (basic level)

EXTRA EDUCATION AND TRAINING

3–5 Dec 2014	Unified Model Training (by NCAS-CMS) Introduction to The Met Office Unified Model, including the set-up interface, how to run the model and the outline of research that is being carried out using the model
Sep–Dec 2011	Global Climate Change course Successfully completed Global Climate Change course taught by East Carolina University (USA) in partnership with Shandong University (China), Faculdade de Jaguariuna (Brazil), Moscow State University (Russia), TUD SUD America de Mexico (Mexico)

Completed on-line **MetEd** modules:

- Topics in Polar Low Forecasting
- Arctic Meteorology and Oceanography
- Skew-T Mastery
- Principles of Convection I: Buoyancy and CAPE
- How Mesoscale Models Work
- Jet Streams
- Downscaling of NWP Data
- Satellite Feature Identification: Cyclogenesis
- The Balancing Act of Geostrophic Adjustment
- Introduction to Statistics in Climatology
- Monitoring the Climate System with Satellites

Completed on-line **Coursera** courses:

- High Performance Scientific Computing

Completed on-line **INTUIT** courses:

- Parallel Programming Using MPI Technologies
- Working with LaTeX

1st place in the Lomonosov Geography Olympiad

3rd place in the All-Russian Geography Olympiad