Denis E. SERGEEV
Curriculum vitae

PERSONAL DATA

ADDRESS:	School of Environmental Sciences
	University of East Anglia
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RESEARCH INTERESTS

- Polar lows dynamics

- Atmospheric energetics

- Atmospheric boundary layers

- Planetary meteorology

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: - Meteorology - Physical and Chemical Processes in Earth's System
2010–2012	**Website coordinator and teaching assistant** Moscow Institute of Open Education - Schoolchildren training for Geography Olympiads - Geography and meteorology quizzes

Peer-reviewed 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.

Conference Proceedings and Non-reviewed Publications

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**, Zamyatina MY, Stepanenko VM. 2013. Thermal regime features of Kronotsky lake (in Russian). *Kronotsky State Natural Biosphere Reserve Proceedings.* **3:** 29–41.

3. **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.

4. **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.

5. 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.*

6. 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 workshop, 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

2015	Travel Grant Dynamics of Atmosphere-Ice-Ocean Interactions in the High Latitudes
2014-2018	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

Outreach

2015–Present	Contributor to ClimateSnack blogging platform My blog posts: ■ Polar lows: what fuels Arctic hurricanes?

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	LaTeX, 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: Buoyancy and CAPE
- Using Scatterometer Wind and Altimeter Wave Estimates in Marine Forecasting
- 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