

# DR. DMITRII KONDRIK

## Personal information:

**First name:** Dmitrii

**Family name:** Kondrik

**LinkedIn:** [www.linkedin.com/in/dmitrykondrik](http://www.linkedin.com/in/dmitrykondrik)

**Kaggle page:** <https://www.kaggle.com/dmitrykondrik>

**GitHub:** <https://github.com/Dmitry1991>

## Scientific information:

**Web of Science Researcher ID:** W-2455-2019

**Scopus Author ID:** 56606308300

**ORCID ID:** <https://orcid.org/0000-0002-4032-4662>

**ResearchGate:** [https://www.researchgate.net/profile/Dmitry\\_Kondrik/](https://www.researchgate.net/profile/Dmitry_Kondrik/)

**H-index:** 6 (Scopus); 7 (ResearchGate)

## Education:

PhD (Oceanography) degree defended in September 2020 (issued in February 2021) at Saint Petersburg State University, Saint Petersburg, Russia

PhD Thesis: “Development of a complex of satellite algorithms for estimating changes in the content of inorganic carbon in the *Emiliana huxleyi* bloom areas in the arctic and subarctic seas” (In Russian and English)

Thesis official link (English translation starts from page 134):

[https://disser.spbu.ru/files/2020/disser\\_kondrik.pdf](https://disser.spbu.ru/files/2020/disser_kondrik.pdf) .

Thesis defence video link (English):

[https://www.youtube.com/watch?v=R4a\\_9PIiEKY&feature=emb\\_imp\\_woyt](https://www.youtube.com/watch?v=R4a_9PIiEKY&feature=emb_imp_woyt)

September 2014 - April 2018

Arctic and Antarctic Research Institute, Saint Petersburg, Russia

Researcher. Lecturer-researcher (Earth Sciences) degree issued.

September 2008 - May 2013

Saint Petersburg State University Saint Petersburg, Russia

Specialist (Oceanography) degree issued.

Specialist degree thesis: “Study of the features of the freshwater anomalies transfer in the Arctic Ocean (based on data from drifting stations North Pole and ITP buoys)” (In Russian)

### **Research interests:**

Oceanography, Biogeochemistry, Climate change, Environmental Monitoring, Modelling, Machine Learning, Remote sensing.

### **Employment:**

October 2023 – Present **POSTDOC**

Centro Euro-Mediterraneo sui Cambiamenti Climatici, Bologna, Italy

January 2022 – December 2022 **SCIENTIST**

Saint Petersburg State University, Saint Petersburg, Russia

July 2019 – May 2022 **SCIENTIST**

Nansen International Environmental and Remote Sensing Centre, Saint Petersburg, Russia  
Aquatic Ecosystems in Response to Global Climate Change department

January 2021 – December 2021 **JUNIOR SCIENTIST**

Saint Petersburg State University, Saint Petersburg, Russia

January 2014 – July 2019 **JUNIOR SCIENTIST**

Nansen International Environmental and Remote Sensing Centre, Saint Petersburg, Russia  
Aquatic Ecosystems in Response to Global Climate Change department

September 2010 – May 2013 **ENGINEER**

Arctic and Antarctic Research Institute, Saint Petersburg, Russia  
Oceanography department

### **Visit:**

Nansen Environmental and Remote Sensing Centre, Bergen, Norway

Mohn-Sverdrup Center for Global Ocean Studies and Operational Oceanography

December 17th 2014 - January 30th 2015

A coccolithophore blooms study was carried out with the use of remote sensing ocean color data as a part of my PhD study

### **Projects participation and funding:**

Nansen Fellowship Holder during the years 2014-2020

2017-2019 Russian Science Foundation Grant #17-17-01117 “Assessment of calcifying phytoplankton role in CO<sub>2</sub> dynamics in the atmosphere-ocean system at subpolar and polar latitudes”, major participant

2021-2022 St. Petersburg State University grant "The Atlantic gateway to the Arctic: ocean circulation as a factor of long-term Arctic climate variability and the state of polar ecosystems"

**Expeditions:**

October 2010 Expedition “North Pole 38” on board of nuclear icebreaker “Rossiya”

**Technical skills:**

Linux (including terminal, SSH protocol, Miniconda virtual environment), MS Windows  
Python, SQL, Matlab  
NumPy, SciPy, Pandas, Matplotlib, Seaborn (visualization, statistics, boxplots, trends, etc.)  
Scikit-Learn, Keras, TensorFlow  
GitHub, BigQuery Google Cloud environment  
NetCDF, GDAL, QGIS, CDO

### **List of chosen publications:**

Morozov E., **Kondrik D.**, Fedorova A., Pozdnyakov D., Pettersson L., Tang D. L. 2015. A spaceborne assessment of cyclone impacts on Barents sea surface temperature and chlorophyll, *International Journal of Remote Sensing*, 36: 7, 1921-1941. doi: 10.1080/01431161.2015.1029098

**Kondrik, D. V.**, Popov, A. V., Rubchenya, A. V. 2016. Specific features of the transport of freshwater anomalies in the arctic ocean, *Russian Meteorology and Hydrology*, 41:4, 285-292. doi: 10.3103/S1068373916040087

**Kondrik D. V.**, Popov, A. V., Rubchenya, A. V. 2016. The role of mesoscale eddies in the spread of freshwaters in the surface layer of the arctic ocean, *Vestnik of Saint Petersburg University. Earth Sciences*, 7:3, 106-117. doi: 10.21638/11701/spbu07.2016.308 [In Russian]

**Kondrik, D.**, Pozdnyakov, D., Pettersson, L. 2017. Particulate inorganic carbon production within *E. huxleyi* blooms in subpolar and polar seas: a satellite time series study (1998–2013), *International Journal of Remote Sensing*, 38:22, 6179-6205, doi: 10.1080/01431161.2017.1350304

**Kondrik, D. V.**, Pozdnyakov, D. V., and Pettersson, L. H. 2017. Tendencies in Coccolithophorid Blooms in Some Marine Environments of the Northern Hemisphere according to the Data of Satellite Observations in 1998–2013, *Izvestiya, Atmospheric and Oceanic Physics*, 53, 955-964. doi: 10.1134/S000143381709016X

Pozdnyakov D. V., Pettersson L. H., and Korosov A. A. 2017. Exploring the Marine Ecology from Space. Springer International Publishing: Switzerland, 215pp. (co-author of three sections in: **Chapter 3. Investigation of Harmful Algae Blooms in Marine Environments**)

**Kondrik, D. V.**, Pozdnyakov, D. V., and Johannessen, O. M. 2018. Satellite evidence that *E. huxleyi* phytoplankton blooms weaken marine carbon sinks, *Geophysical Research Letters*, 5, 846–854. doi: 10.1002/2017GL076240

Kazakov, E., **Kondrik, D.**, and Pozdnyakov, D. 2018. Spatial data assimilation with a service-based GIS infrastructure for mapping and analysis of *E. huxleyi* blooms in arctic seas, *Proc. SPIE 10773*, Sixth International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2018), 107730S (6 August 2018). doi: 10.1117/12.2325127

**Kondrik, D.**, Kazakov, E., and Pozdnyakov, D. 2019. A synthetic satellite dataset of the spatio-temporal distributions of *Emiliana huxleyi* blooms and their impacts on Arctic and sub-Arctic marine environments (1998–2016), *Earth System Science Data*, 11, 119–128. doi: 10.5194/essd-11-119-2019.

Morozov, E. A., **Kondrik, D. V.**, Chepikova, S. S., and Pozdnyakov, D. V. 2019. Atmospheric columnar CO<sub>2</sub> enhancement over *E. huxleyi* blooms: case studies in the North Atlantic and Arctic waters, *Transactions of the Karelian Research Centre of the Russian Academy of Sciences, Limnologia i Oceanologia series*, 3, 1-6. doi:10.17076/lim989.

Pozdnyakov, D. V., **Kondrik, D.V.**, Kazakov, E. E., and Chepikova, S. 2019. Environmental conditions favoring coccolithophore blooms in subarctic and arctic seas: a 20-year satellite and

multi-dimensional statistical study, *Proceedings of the SPIE 11150*, Remote Sensing of the Ocean, Sea Ice, Coastal Waters, and Large Water Regions, 111501W (14 October 2019). doi: 10.1117/12.2547868

**Kondrik, D. V., Kazakov, E.E., Pozdnyakov, D. V., Johannessen, O. M.** 2019. Satellite evidence for enhancement of the column mixing ratio of atmospheric CO<sub>2</sub> over *E. huxleyi* blooms, *Transactions of the Karelian Research Centre of the Russian Academy of Sciences*, 9, Limnologia i Oceanologia series, 9, 1-11. doi: 10/17076/lim1107.

### **Conferences and schools participation and co-authorship:**

Annual student sessions of Nansen International Environmental and Remote Sensing Centre (NIERSC, St. Petersburg, Russia, 2014, 2015, 2016, 2017, 2018, 2019);

EuRuCAS Summer School 2014: "Land Hydrology and Cryosphere of the Arctic and Northern Eurasia in the changing climate" (Repino, Russia, 2014)

The Twelfth and Thirteenth All-Russian open conferences "Modern Problems of Remote Sensing of the Earth from Space" (Moscow, Russia, 2014, 2015);

International Symposium «Atmospheric Radiation and Dynamics» (Peterhof, Russia, 2015, 2017);

International symposiums «ESA Living Planet Symposium 2016» and «ESA Living Planet Symposium 2019» (Prague, Czech Republic, 2016; Milan, Italy, 2019);

Winter school «Operational oceanography: Indian Ocean circulation and sea level variation» (Hyderabad, India, 2016);

International conference «The 3rd Pan–Eurasian Experiment (PEEX) Science Conference» (Moscow, Russia, 2017);

25th anniversary of the Nansen International Environmental and Remote Sensing Center symposium (St. Petersburg, Russia, 2017);

Sixth International Conference on Remote Sensing and Geoinformation of the Environment (Paphos, Cyprus, 2018);

European Geophysical Union General Assembly (EGU, Vienna, Austria, 2018);

International Conference «POLAR 2018» (Davos, Switzerland, 2018);

UArctic Congress (Oulu and Helsinki, Finland, 2018).

International Conference «SPIE Remote Sensing 2019» (Strasbourg, France, 2019)