

Founder: Federal State Autonomous Educational Institution
of Higher Education "Northern (Arctic) Federal University
named after M.V. Lomonosov"

Scientific peer-reviewed journal

Published since 2012

(Until January 1, 2012 – Vestnik of Pomor University)

(Until January 1, 2016 – Vestnik of Northern (Arctic) Federal University)

Issued 4 times a year



Arctic Environmental Research

Registration certificate ПИ no. ФС 77-67711
issued on November 10, 2016 by the Federal
Service for Supervision in the Sphere
of Communications, Information Technology and Mass
Communications (Roskomnadzor)

Subscriptional index of the journal – 38565

Editor in Chief I.N. Bolotov

Deputy Chief Editor B.Yu. Filippov,
Yu.V. Bespalaya,
M.V. Nikitina

Executive Secretary E.V. Ugryumova

Editorial Council:

G. Binder (France), K.G. Bogolitsyn (Russia),
V.A. Bolotov (Russia), P.V. Boyarskiy (Russia),
L. Brigham (USA), I. Broch (Norway),
L.A. Verbitskaya (Russia),
V.I. Goldin (Russia), A.V. Golovnev (Russia),
J.S. Durrant (Canada),
A.L. Kudrin (Russia), O.L. Kuznetsov (Russia),
L. Lajunen (Finland),
V.I. Pavlenko (Russia), V.A. Sadovnichiy (Russia),
S.I. Soroko (Russia), I.E. Frolov (Russia),
A.N. Chilingarov (Russia), O.A. Shpigun (Russia),
H.-D. Engelmann (Germany)

Editorial Board:

V.S. Aslanov (Russia),
V.P. Gergel' (Russia),
S. Grozdev (Bulgaria),
M.G. Gubaidullin (Russia), A.I. Zeyfman (Russia),
A.I. Malov (Russia),
E.N. Nakvasina (Russia), J. Niemela (Finland),
A.P. Novoselov (Russia),
V.N. Popov (Russia), L.B. Sokolinskiy (Russia),
L. Urbaniak (Poland),
I.V. Khmelinsky (Portugal),
O.A. Shpigun (Russia)

Vol. 18, no. 1

2018

CONTENTS

GEOSCIENCES

- Kiselev G.P., Yakovlev E.Yu., Druzhinin S.V., Kiseleva I.M., Bazhenov A.V., Bykov V.M. Assessment of radioactivity of environmental components in the Kostomuksha state Nature Reserve 3

- Krasnov A.N., Kolovertnov G.Yu., Prakhova M.Yu., Khoroshavina E.A. Improving data transfer efficiency in a gas field wireless telemetry system 14

- Shakirova A.I., Ismakov R.A., Agliullin A.Kh., Tsenev N.K. Investigation of tribotechnical and corrosion behaviour of material for light-alloy drill pipes 21

BIOLOGY

- Dvoretsky V.G., Dvoretsky A.G. Features of winter zooplankton assemblage in the central trough of the Barents Sea 28

CONTENTS

Indexed in:

НАУЧНАЯ ЭЛЕКТРОННАЯ
БИБЛИОТЕКА

eLIBRARY.RU

**Included in:**

- Kishchenko I.T.** Development of introduced species *Malus* Mill. (Rosaceae Adans.) in South Karelia..... 37

- Potapov G.S., Kolosova Yu.S., Bolotov I.N.** A possible bivoltine development of several bumblebee species in Europe 45

Document Manager

T.G. Tagaeva

The journal is included by the Higher Attestation Commission of the Ministry of Education and Science of the Russian Federation in the list of Russian reviewed scientific journals, in which major scientific results of theses for academic degrees of doctor and candidate of science have to be published

Editorial office address:

Naberezhnaya Severnoy Dviny, 17,
Arkhangelsk, 163002, Russian Federation
Phone: +7 (8182) 21-61-21
E-mail: vestnik_est@narfu.ru; vestnik@narfu.ru

Signed in print 30.03.2018.
Writing paper. Format 84x108 $\frac{1}{16}$.
Conv. printer's sh. 5.46.
Acad. publ. sh. 4.12.
Circulation 1000 copies. Order № 5881.
NArFU Publishing House
named after V.N. Bulatov
56, ul. Uritskogo, Arkhangelsk, 163060,
Russian Federation

© NArFU named after M.V. Lomonosov, 2018