

ISAAC GINIS

Graduate School of Oceanography
University of Rhode Island
Narragansett, RI 02882
Tel: (401) 874-6484; Email: iginis@uri.edu

Education

Kabardino-Balkarian State University, Nalchik, Russia	Mathematics	M.S.	1977
Institute of Experimental Meteorology, Obninsk, Russia	Geophysics	Ph.D.	1986

Professional Experience

Permanent Appointments:

2003 -	Full Professor, University of Rhode Island
1998 - 2003	Associate Professor of Oceanography, University of Rhode Island
1998 - 2008	Co-Founder/Chairman, Accurate Environmental Forecasting Inc.
1995 - 1998	Adjunct Professor of Oceanography, University of Rhode Island
1993 - 1998	Marine Research Scientist, University of Rhode Island
1990 - 1993	Research Scientist, Geophysical Fluid Dynamics Laboratory/NOAA Princeton University, Princeton, NJ
1977 - 1989	Research Scientist, Kabardino-Balkarian State University, Nalchik, Russia

Affiliated/Visiting Appointments:

2015 -	Affiliate Faculty, NOVA Southeastern University
2013 - Jan-Feb	Visiting Scientist, Jet Propulsion Laboratory, NASA
2013 - Mar-Apr	Visiting Professor, University of Melbourne, Australia
2006 - Sep-Dec	Visiting Research Scholar, Princeton University/NOAA GFDL

Professional Appointments:

2017 -	Editorial Board, <i>Journal of Marine Science and Engineering</i>
2017 -	Editorial Board, <i>Journal of Geosciences - Natural Hazards</i>

Honors/Awards:

2001 NOAA Outstanding Science Paper
2002 NOAA Environmental Hero Award
2002 NOPP Excellence in Partnership Award
2017 NOAA Certificate of Appreciation

Teaching:

General Oceanography OCG 301
Numerical Methods for Environmental Modeling OCG 593
Tropical Meteorology/Individual Study OCG 591
Doctoral Dissertation OCG 699
Master's Thesis Research OCG 599
Independent Study OCG 493

Thesis Advisor:

Sergey Frolov (PhD 2001, WeatherPredict Consulting Inc), Evan Robertson (MS 2002, SAIC), Minoru Kadota (MS 2003, Temple U. Japan), Yalin Fan (PhD 2007, Navy NRL), Richard Yablonsky (PhD 2009, AIR Worldwide Inc), Zhitao Yu (PhD 2010, Navy NRL), Lou Licate (MS 2010), Seunghoun Lee (PhD 2011, AG Korea), Melissa Kaufman (MS 2012, Karen Clark and Company Inc), Colin Hughes (MS 2013, Dalhousie University Canada), Michael Bueti (PhD 2014, Parkwhiz Inc), Kun Gao (PhD 2015, NOAA/GFDL), Brandon Reichl (PhD 2015, NOAA/GFDL), Austen Blair (MS 2016, AIR Worldwide)

Inc), Xuanyu Chen (PhD present), Xiaohui Zhou (PhD present), Mansur Ali Jisan (PhD present), Il-Kyeong Ma (MS present).

Postgraduate-Scholar Sponsor:

Dr. Clark Rowley (Navy NRL), Dr. Weixing Shen (NOAA/NCEP), Dr. Ray Richardson (WeatherPredict Consulting Inc), Dr. Il Ju Moon (Jeju University, Korea), Dr. Yalin Fan (Navy NRL), Dr. Jeffrey Gall (Validus Inc), Dr. Richard Yablonsky (AIR Worldwide Inc), Dr. Biju Thomas (NOAA/NCEP), Dr. Kun Gao (NOAA GFDL).

Research Grants:

PI: I. Ginis “Advancing tropical cyclones models through explicit representation of boundary layer roll vortices”, *Office of Naval Research*, 10/01/15 - 12/31/18.

PI: I. Ginis, Co-PIs: C. Kincaid, T. Hara, D. Ullman, L. Rothstein “Modeling the combined coastal and inland hazards from high-impact hypothetical hurricanes”, *Department of Homeland Security*, 01/01/16 - 6/30/20.

PI: I. Ginis, Co-PI: T. Hara “Collaborative Research: Surface wave impacts on upper ocean response to tropical cyclones”, *National Science Foundation*, 03/01/18 - 06/30/20.

PI: I. Ginis “Cooperative modeling study of rapidly intensifying typhoons in the Northwest Pacific”, *Korea Institute of Ocean Science and Technology*, 06/15/2017 - 12/31/21.

PI: I. Ginis “Assessing Nor’easter vulnerability for three New England Parks, *National Park Service*, 09/15/2018-10/30/2021.

Refereed publications during last 3 years:

Stempel, P., I. Ginis, D. Ullman, A. Becker, R. Witkop, 2018: Real-time chronological hazard impact modeling, *J. Mar. Sci. Eng.*, in press.

Chen, X., I. Ginis, and T. Hara, 2018: Sensitivity of offshore tropical cyclone wave simulations to spatial resolution in wave models. *J. Mar. Sci. Eng.*, 6, 116. <http://www.mdpi.com/2077-1312/6/4/116/>

Gao, K., and I. Ginis, 2018: On the characteristics of roll vortices under a moving hurricane boundary layer, *J. Atmos. Sci.*, 75, 2589-2598.

Wang, D., T. Kukulka, B. Reichl, T. Hara, I. Ginis, and P. Sullivan, 2018: Interaction of Langmuir turbulence and inertial currents in the ocean surface boundary layer under tropical cyclones, *J. Phys. Oceanogr.*, <https://doi.org/10.1175/JPO-D-17-0258.1>

Soloviev, A., R. Lukas, M. A. Donelan, B. K. Haus, and I. Ginis, 2017: Is the state of the air-sea interface a factor in rapid intensification and rapid decline of tropical cyclones? *J. Geophys. Res.*, 122, 10174-10183, DOI: 10.1002/2017JC013435.

Blair, A., I. Ginis, T. Hara, and E. Ulhorn, 2017: Impact of Langmuir turbulence on upper upper ocean response to Hurricane Edouard: Model and Observations, *J. Geophys. Res.*, DOI: 10.1002/2017JC012956.

Fei, T., W. Huang, and I. Ginis, 2017: Hydrological modeling of storm runoff in Taunton river basin by HEC-HMS and PRMS models, *Natural Hazards*, DOI 10.1007/s11069-017-3121.

Gao, K., I. Ginis, J.D. Doyle, and Y. Jin, 2017: Effect of boundary layer roll vortices on the development of an axisymmetric tropical cyclone. *J. Atmos. Sci.*, 74, 2737- 2759.

Aijaz, S., M. Ghantous, A. Babanin, I. Ginis, B. Thomas, and G. Wake, 2017: Nonbreaking wave-induced mixing in upper ocean during tropical cyclones using coupled hurricane-ocean-wave modeling. *J. Geophys. Res.*, 122, 3939-3963.

Gao, K. and I. Ginis, 2016: On the Equilibrium-State Roll Vortices and Their Effects in the Hurricane Boundary Layer. *J. Atmos. Sci.*, 73, 1205-1221.

Reichl, B. G., D. Wang, T. Hara, I. Ginis and T. Kukulka, 2016: Langmuir Turbulence Parameterization in Tropical Cyclone Conditions. Langmuir Turbulence Parameterization in Tropical Cyclone Conditions. *J. Phys. Oceanogr.*, 46, 863-886.

Reichl B. G., I. Ginis, T. Hara, B. Thomas, T. Kukulka, and D. Wang, 2016: Impact of sea-state dependent Langmuir turbulence on the ocean response to a tropical cyclone. *Mon. Wea. Rev.*, 144, 4569-4590.

- Tuleya, R. E., M. Bender, T. R. Knuston, J. J. Sirutis, B. Thomas and I. Ginis, 2016: Impact of Upper-Tropospheric Temperature Anomalies and Vertical Wind Shear on Tropical Cyclone Evolution Using an Idealized Version of the Operational GFDL Hurricane Model. *J. Atmos. Sci.*, **73**, 3803-3820.
- Yablonsky, R. M., I. Ginis, B. Thomas, V. Tallapragada, D. Sheinin, and L. Bernardet, 2015: Description and analysis of the ocean component of NOAA's operational Hurricane Weather Research and Forecasting (HWRF) Model. *J. Atmos. Oceanic Technol.*, **32**, 144-163.
- Yablonsky, R. M., I. Ginis, B. Thomas, 2015: Ocean modeling with flexible initialization for improved coupled tropical cyclone-ocean prediction, *Environmental Modelling & Software*, **67**, 26-30.
- Rabe T. J, T. Kukulka, I. Ginis, T. Hara, B. Reichl, E. D'Asaro, R. Harcourt, P. Sullivan, 2015: Langmuir turbulence under Hurricane Gustav (2008), *J. Phys. Oceanogr*, **45**, 657-677.
- Gao, K. and I. Ginis, 2014: On the generation of roll vortices due to the inflection point instability of the hurricane boundary layer flow. *J. Atmos. Sci.*, **71**, 4292-4307.
- Bueti, M. R., I. Ginis, L. M. Rothstein, S. M. Griffies, 2014: Tropical cyclone-induced thermocline warming and its regional and global impacts. *J. Climate*, **27**, 6978-6999.
- Soloviev, A. V., R. Lukas, M. A. Donelan, B. K. Haus, and **I. Ginis**, 2014: The air-sea interface and surface stress under tropical cyclones. *Nature Scientific Reports*, **4**.
- Reichl, B. G., T. Hara, and I. Ginis, 2014: Sea state dependence of the wind stress over the ocean under hurricane winds. *J. Geophys. Res.*, **119**, 30-51.