

Curriculum Vitae

Robert E. Hart

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General Information

University address: Earth, Ocean, & Atmospheric Science
College of Arts and Sciences
Love Building 0361
Florida State University
Tallahassee, Florida 32306-4520
Phone: 850-645-1552

E-mail address: rhart@fsu.edu

Web site: <http://moe.met.fsu.edu>

Professional Preparation

2001 Ph.D., Pennsylvania State University. Major: Meteorology.
Midlatitude-Tropical Interaction. Supervisor: J. Evans.

Robert Hart. (2001). *THE EXTRATROPICAL TRANSITION OF ATLANTIC TROPICAL CYCLONES: CLIMATOLOGY, LIFECYCLE DEFINITION, AND A CASE STUDY*. Unpublished doctoral dissertation, Pennsylvania State University.

1997 M.S., Pennsylvania State University. Major: Meteorology. Mesoscale Meteorology. Supervisor: G. Forbes.

Robert Hart. (1997). *Forecasting Studies Using Hourly Model-Generated Soundings*. Unpublished master's thesis, Pennsylvania State University.

1995 B.S., Pennsylvania State University. Major: Meteorology. Synoptic Meteorology. Supervisor: G. Forbes and A. Fraser. Honors.

Robert Hart. (1995). *An Analog Forecast Model for Predicting Precipitation Type During Northeast U.S. Coastal Storms*. Unpublished bachelor's thesis, Pennsylvania State University.

Professional Experience

- 2015–present Professor, Earth, Ocean, and Atmospheric Science, Florida State University.
- 2010–2015 Associate Professor, Earth, Ocean & Atmospheric Science, Florida State University.
- 2009–2010 Associate Professor, Meteorology, Florida State University.
- 2003–2009 Assistant Professor, Meteorology, Florida State University.
- 2002–2003 Visiting Scientist, NCAR/UCAR.

Honors, Awards, and Prizes

- Werner A. and Shirley B. Baum Endowed Professorship (2010-2015), Florida State University (2015).
- External Participant in Departmental Retreat, Massachusetts Institute of Technology (2014).
- Rapporteur, Eighth IWTC Conference, World Meteorological Organization (2014).
- Graduate Faculty Mentor Award, Florida State University (2013).
- Transformation through Teaching, Florida State University (2011).
- BAMS Editor Paper of Note, American Meteorological Society (2008).
- Banner I. Miller Award, American Meteorological Society (2007).
- Special Award for Teaching, Pennsylvania State University (2002).
- Special Award for Teaching, Pennsylvania State University (2001).
- Eastern Region Outstanding Service Award, National Weather Service (1999).
- Top 5% of the Web, Point.com and Magellan.com (1995).

Current Membership in Professional Organizations

- American Geophysical Union
American Meteorological Society

Teaching

Courses Taught

- Tropical Meteorology II (MET5534)
Advanced Synoptic Lecture-Laboratory II (MET5506C)
Intro. Programming in Met. Res (MET5905)
Synoptic Lecture-Laboratory II: Four-Dimensional Structure (MET4501C)
TC-Trough Interaction (MET5905)
Doctoral Seminar (MET6930)

Lab Manual 1 (MET5905)
Lab Manual 2 (MET5905)
Master's Seminar (MET5930)
Meteorology Internship (MET4945)
Phys. Init Advanced VI (MET5905)
Phys. Init Advanced VII (MET5905)
Phys. Init. Advanced V (MET5905)
Willy Willy Research (MET5905)
Physical Init. Advanced I (MET5905)
Physical Init. Advanced II (MET5905)
Physical Init. Advanced III (MET5905)
Physical Init. Advanced IV (MET5905)
TC Research (MET5905)
Typhoon Research (MET5905)
Advanced Physical Init 2 (MET5905)
Advanced Physical Init. 1 (MET5905)
Advanced Physical Init. 3 (MET5905)
Directed Individual Study (MET4905)
Directed Individual Study (MET5905)
Directed Individual Study (MET6906)
Hurricane Core Structure (MET6906)
Hurricane Radar Observations (MET6906)
Hurricane Structure Forecast (MET6906)
Physical Initiation V (MET5905)
Physical Initiation VI (MET5905)
Hurricane Core Analysis (MET6906)
Hurricane Radar Structure (MET6906)
Hurricane RMW Prediction (MET6906)
Physical Initialization III (MET5905)
Physical Initialization IV (MET5905)
Honors Work (MET4900)
Physical Initialization I (MET5905)
Physical Initialization II (MET5905)
TC Core Structure (MET6906)
TC Eyewall Structure (MET6906)
TC Radar Observations (MET6906)
TC Core Observation (MET5905)
TC Eyewall Structure (MET5905)
TC Model Structure (MET5905)
Directed Individual Study (MET5906)
Advanced Synoptic Lecture-Laboratory II (MET5506-C)
Synoptic Lecture-Laboratory II: Four-Dimensional Structure (MET4501-C)
Advanced Synoptic Lecture-Laboratory II MET5506-C
Synoptic Lecture-Laboratory II: Four-Dimensional Structure MET4501-C
Tropical Meteorology II MET5534
Advanced Synoptic Lecture-Laboratory II MET5506-C

Synoptic Lecture-Laboratory II: Four-Dimensional Structure MET4501-C
Tropical Meteorology II MET5534
Advanced Synoptic Lecture-Laboratory I (MET5505-C)
Advanced Synoptic Lecture-Laboratory I (MET5505C)
Synoptic Lecture-Laboratory I: Basic Analysis Techniques (MET4500-C)
Synoptic Lecture-Laboratory I: Basic Analysis Techniques (MET4500C)
Selected Topics in Meteorology (MET4159)
Advanced Topics in Synoptic Meteorology (MET6561)
Advanced Synoptic Lecture-Laboratory I MET5505-C
Synoptic Lecture-Laboratory I: Basic Analysis Techniques MET4500-C
Tropical Meteorology II MET5534
General Meteorology (MET2700)
Tropical Meteorology II MET5534
General Meteorology MET2700
Tropical Meteorology II MET5534
Advanced Synoptic Lecture-Laboratory I MET5505-C
Synoptic Lecture-Laboratory I: Basic Analysis Techniques MET4500-C
Tropical Meteorology II MET5534
Advanced Synoptic Lecture-Laboratory I MET5505-C
Synoptic Lecture-Laboratory I: Basic Analysis Techniques MET4500-C
Tropical Meteorology II MET5534

Doctoral Committee Chair

Hazelton, A. T., graduate. (2016).
Truchelut, R. E. J., graduate. (2015).
Cossuth, J. H., graduate. (2014).
Schenkel, B. A., graduate. (2012).
Evans, A. C., graduate. (2009).
Cowan, L., doctoral candidate.

Doctoral Committee Cochair

Halperin, D. J., graduate. (2015).
Ryglicki, D. R., graduate. (2011).
Ahern, K. K., doctoral candidate.
Hall, T., doctoral candidate.

Doctoral Committee Member

Marchand, M. R., graduate. (2016).
Holbach, H. M., graduate. (2016).
Heath, N. K., graduate. (2015).

Kozar, M. E., graduate. (2015).
Wang, H., graduate. (2015).
Staehling, E., graduate. (2014). [Student of Princeton University]
Martin, A. C., graduate. (2012).
Hansen, A. E., graduate. (2012).
Hopkins, A. E., graduate. (2012).
Hayes, P. D., graduate. (2011).
Peffer, L. T., graduate. (2011).
Rudlosky, S. D., graduate. (2011).
Guimond, S. R., graduate. (2010).
Winterbottom, H. R., graduate. (2010).
Lin, H., graduate. (2010).
Maue, R. N., graduate. (2010).
Carrier, M., graduate. (2008).
Jordan, M., graduate. (2008).
Smith, T., graduate. (2008).
Shafer, P., graduate. (2007).
Guishard, M. P., graduate. (2006). [Graduate of Pennsylvania State University]
Ramaswamy, L., graduate. (2006).
O'Shay, A., graduate. (2005).
Ross, J., graduate. (2005). [Graduate of Pennsylvania State University]
Annane, B., doctoral candidate.
Glazer, R. H., doctoral candidate.
Groenen, D. E., doctoral candidate.
Preston, A., doctoral candidate.
Steffen, J. D., doctoral candidate.
Helms, C., doctoral candidate. [Student at U. Albany, New York]

Doctoral Committee University Representative

Fraza, E. A., graduate. (2016).
Widen, H. M., graduate. (2016).
Kang, Nam-Young, graduate. (2014).
Canfield, J. M., graduate. (2014).
Hodges, R. E., graduate. (2013).
Li, Q., graduate. (2011).
Chen, X., graduate. (2011).
Scheitlin, K. N., graduate. (2010).
Hodges, R. A., graduate. (2006).
Fricker, T., doctoral student.

Master's Committee Chair

McKenzie, T., graduate. (2017).
Hazelton, A. T., graduate. (2013).
Day, Lindsey Rose-Michelle, graduate. (2013).
Helms, C. N., graduate. (2012).
Truchelut, R. E. J., graduate. (2011).
Creighton, G. A., graduate. (2009).
Murray, D. A., graduate. (2009).
Bloemer, M., graduate. (2008).
Manning, D., graduate. (2007).
Piech, D., graduate. (2007).
Durante, A., graduate. (2006).
Evans, A. C., graduate. (2006).
Watson, M., graduate. (2005).

Master's Committee Cochair

Bielli, J. A., graduate. (2015).
Glazer, R. H., graduate. (2014).
Vickers, G., graduate. (2012).

Master's Committee Member

Dawson, M., graduate. (2017).
Snyder, M., graduate. (2017).
Allison, T. D., graduate. (2016).
Cruz, A., graduate. (2016).
Glasser, D., graduate. (2016).
Visin, L., graduate. (2016).
Noska, R. G., graduate. (2016).
Cotcamp, B. E., graduate. (2015).
Clark, M., graduate. (2015).
Ahern, K. K., graduate. (2015).
Aktas, D., graduate. (2015).
Wilkerson, J. C., graduate. (2015).
Navarro, M., graduate. (2014).
Rivard, J. M., graduate. (2014).
Speransky, S. V., graduate. (2014).
Hall, T., graduate. (2014).
Steffen, J. D., graduate. (2014).
Seay, B. A., graduate. (2014).
Jiao, Y., graduate. (2013).
Riggi, A. G., graduate. (2013).

Bauer, J. M., graduate. (2012).
Daly, B. S., graduate. (2012).
Klich, C. A., graduate. (2012).
Visco, T., graduate. (2012).
Collier, C. E., graduate. (2012).
Holbach, H. M., graduate. (2012).
Reinhart, B. J., graduate. (2012).
Halperin, D. J., graduate. (2012).
Christman, R. E., graduate. (2011).
Deal, R. L., graduate. (2011).
Hunniford, R. L., graduate. (2011).
Stroman, A. C., graduate. (2011).
Thompson, A. R., graduate. (2011).
Zelinsky, D. A., graduate. (2011).
Austin, M. D., graduate. (2011).
DiNapoli, S. M., graduate. (2010).
Harrigan, D. L., graduate. (2010).
Perron, M., graduate. (2010).
Anderson, H. A., graduate. (2010).
Onderlinde, M. J., graduate. (2010).
Wolf, L. S., graduate. (2009).
Latto, A. S., graduate. (2009).
Lowry, M. R., graduate. (2009).
Peppers, L. T., graduate. (2009).
Veenhuis, B. A., graduate. (2009).
Martin, A., graduate. (2009).
Schenkel, B., graduate. (2009).
Fieux, J. L., graduate. (2008).
Kramer, M., graduate. (2008).
Morrow, C., graduate. (2008).
Diaz, D., graduate. (2007).
Guimond, S., graduate. (2007).
Jackson, B., graduate. (2007).
Stano, G., graduate. (2007).
Stewart, M., graduate. (2007).
Van Dyke, D., graduate. (2007).
Hicks, A., graduate. (2006).
Kullgren, K., graduate. (2006).
Paz, G. A., graduate. (2006).
Waller, J., graduate. (2006).
Kimball, A., graduate. (2005).
Pologne, L., graduate. (2005).
Sheermohamed, J., graduate. (2005).
Weitlich, D., graduate. (2005).
Wood, J., graduate. (2005).
Yorsaner, M., graduate. (2005).

Bogenschutz, P., graduate. (2004).
Maue, R. N., graduate. (2004).
Maxham, W. D., graduate. (2004).
Szymczak, H., graduate. (2004).
Chaney, K., student.
Joyner, V., student.

Bachelor's Committee Chair

Visin, L., graduate. (2014).
Hazelton, A., graduate. (2011).
Cossuth, J., graduate. (2010).
Deal, R., graduate. (2008).
Molina, M., graduate. (2008).

Bachelor's Committee Member

Brannan, A., graduate. (2015).
Saunders, M., graduate. (2012).
Sliwinski, T., graduate. (2011).
Holbach, H., graduate. (2010).

Supervision of Student Research Not Related to Thesis or Dissertation

FSU Young Scholar Program Student: Moseley, Serena (2015).

FSU Young Scholar Program Student: Santa Ana, J. (2015).

FSU Young Scholar Program Student: Dove, Lily (2013).

FSU Young Scholar Program Student: Abesamis, Sabrina (2013).

FSU Young Scholar Program Student: Luthman, Briana (2012).

FSU WIMSE Student: Durham, Rachel (2011).

FSU WIMSE Student: Bills, Susan (2010).

FSU WIMSE Student: Timpe, Kelsie (2008).

Additional Teaching Not Reported Elsewhere

Hart, R. (2016). *Lecture and lab given to approximately 20 forecasters at the NHC annually. Invited.*

Hart, R. (2015). *Lecture and lab given to approximately 20 forecasters at the NHC annually. Invited.*

Hart, R. (2014). *Lecture and lab given to approximately 20 forecasters at the NHC annually. Invited.*

Hart, R. (2013). *Lecture and lab given to approximately 20 forecasters at the NHC annually. Invited.*

Hart, R. E. (2012). *NCAR ASP Colloquium on the Weather-Climate Interface.* NCAR.

Hart, R. E. (2012). *UCAR Unidata Symposium: LectureLab on GrADS.* UCAR.

Hart, R. E. (2010). *COMET:NORLAT/Midlatitude Training: Cyclone phase space and extra. transition.* COMET.

Hart, R. E. (2009). *COMET:NORLAT/Midlatitude Training: Cyclone phase space and extra. transition.* COMET.

Hart, R. E. (2008). *COMET:NORLAT/Midlatitude Training: Cyclone phase space and extra. transition.* COMET.

Hart, R. E. (2007). *COMET:NORLAT/Midlatitude Training: Cyclone phase space and extra. transition.* COMET.

Hart, R. E. (2006). *COMET:NORLAT/Midlatitude Training: Cyclone phase space and extra. transition.* COMET.

Hart, R. E. (2005). *3rd International Workshop on Extratropical Transition: Cyclone phase space.* WMO.

Hart, R. E. (2005). *COMET:NORLAT/Midlatitude Training: Cyclone phase space and extra. transition.* COMET.

Hart, R. E. (2004). *COMET:NORLAT/Midlatitude Training: Cyclone phase space and extra. transition.* COMET.

Hart, R. E. (2003). *2nd International Workshop on Extratropical Transition: Cyclone phase space.* WMO.

Hart, R. E. (2003). *COMET:NORLAT/Midlatitude Training: Cyclone phase space and extra. transition. COMET.*

Hart, R. E. (2000). *Binghamton NWS Office Winter Weather Workshop: Ensembling.* NOAA/NWS.

Research and Original Creative Work

Publications

Refereed Journal Articles

Halperin, D., Hart, R., Fuelberg, H., & Cossuth, J. (2017). The development and evaluation of a statistical-dynamical tropical cyclone genesis guidance tool. *Weather and Forecasting*, *32*, 27-46.

Hazelton, A. T., Rogers, R., & Hart, R. (2017). Analyzing Simulated Convective Bursts in two Atlantic hurricanes, Part I: Convective Burst Formation and Development. *Monthly Weather Review*, *145*, 3073-3094.

Hazelton, A. T., Hart, R., & Rogers, R. (2017). Analyzing Simulated Convective Bursts in two Atlantic hurricanes, Part II: Intensity Change due to Convective Bursts. *Monthly Weather Review*, *145*, 3095-3117.

Halperin, D., Fuelberg, H., Hart, R., & Cossuth, J. (2016). Verification of tropical cyclone genesis forecasts from global models: Comparisons between the North Atlantic and eastern North Pacific basins. *Weather and Forecasting*, *31*, 947-955.

Hart, R. E., Chavas, D. R., & Guishard, M. P. (2016). The arbitrary definition of the current Atlantic major hurricane landfall drought. *Bulletin of the American Meteorological Society*, *97*, 713-722. doi:<http://dx.doi.org/10.1175/BAMS-D-15-0018>

Hazelton, A., Rogers, R., & Hart, R. (2015). Shear-Relative Asymmetries in Tropical Cyclone Eyewall Slope. *Monthly Weather Review*, *143*, 883-903.

Helms, C. N., & Hart, R. E. (2015). The evolution of dropsonde-derived kinematic and thermodynamic structures in developing and non-developing Atlantic tropical convective systems. *Monthly Weather Review*, *143*, 3109-3135.

Ryglicki, D. R., & Hart, R. E. (2015). An Investigation of Center-Finding Techniques for Tropical Cyclones in Mesoscale Models. *Journal of Applied Meteorology and Climatology*, *54*, 825-846.

- Schenkel, B., & Hart, R. (2015). An examination of the thermodynamic impacts of western North Pacific tropical cyclones on their tropical tropospheric environment. *Journal of Climate*, 28, 7529-7560. doi:<http://dx.doi.org/10.1175/JCLI-D-14-0078>
- Schenkel, B., & Hart, R. E. (2015). An Analysis of the Large Scale Impacts of Western North Pacific Tropical Cyclones on the Moisture Content of Their Tropical Atmospheric Environment. *Monthly Weather Review*, 28, 2600-2622.
- Halperin, D., Fuelberg, H., Hart, R. E., Cossuth, J., Sura, P., & Pasch, R. (2014). An evaluation of tropical cyclone genesis forecasts from global numerical models. *Weather and Forecasting*, 28, 1423-1445. doi:<http://dx.doi.org/10.1175/WAF-D-13-00008>
- Cossuth, J. H., Knabb, R. D., Brown, D. P., & Hart, R. E. (2013). Tropical Cyclone Formation Guidance Using Pregenesis Dvorak Climatology. Part I: Operational Forecasting and Predictive Potential. *WEATHER AND FORECASTING*, 28(1), 100-118. doi:10.1175/WAF-D-12-00073.1
- Creighton, G., Hart, R. E., & Cunningham, P. (2013). A spatial filter approach to determining the role of convection on the evolution of a mesoscale vortex. *Journal of Atmospheric Science*, 70, 1954-1976. doi:<http://dx.doi.org/10.1175/JAS-D-12-0186>
- Hart, R. E., & Cossuth, J. (2013). A family tree of tropical meteorology's academic community and its proposed expansion. *Bulletin of the American Meteorological Society*, 94, 1837-1848. doi:<http://dx.doi.org/10.1175/BAMS-D-12-0011>
- Hazelton, A., & Hart, R. E. (2013). Hurricane Eyewall Slope as Determined From Airborne Radar Reflectivity Data: Composites and Case Studies. *Weather and Forecasting*, 28, 368-386. doi:<http://dx.doi.org/10.1175/WAF-D-12-00037>
- Helms, C. N., & Hart, R. E. (2013). A polygon-based line integral method for calculating vorticity, divergence, and deformation for non-uniform observations. *Journal of Applied Meteorology and Climatology*, 52, 1511-1521. doi:<http://dx.doi.org/10.1175/JAMC-D-12-0248>
- Truchelut, R., Hart, R. E., & Luthman, B. (2013). Global identification of previously undetected tropical cyclone candidates in NOAA/CIRES 20th Century Reanalysis data. *Journal of Applied Meteorology and Climatology*, 52, 2243-2259. doi:<http://dx.doi.org/10.1175/JAMC-D-12-0276>
- Schenkel, B. A., & Hart, R. E. (2012). An Examination of Tropical Cyclone Position, Intensity, and Intensity Life Cycle within Atmospheric Reanalysis Datasets. *JOURNAL OF CLIMATE*, 25(10), 3453-3475. doi:10.1175/2011JCLI4208.1

- Hart, R. E. (2011). An inverse relationship between aggregate northern hemisphere tropical cyclone activity and subsequent winter climate. *GEOPHYSICAL RESEARCH LETTERS*, 38, 1-x. doi:10.1029/2010GL045612
- Schenkel, B., & Hart, R. E. (2011). Potential Precursors to Tropical Cyclone Passage. *Bulletin of the American Meteorological Society*, 1282-1283.
- Truchelut, R. E., & Hart, R. E. (2011). Quantifying the possible existence of undocumented Atlantic warm-core cyclones in NOAA/CIRES 20th Century Reanalysis data. *GEOPHYSICAL RESEARCH LETTERS*, 38, 1-x. doi:10.1029/2011GL046756
- Guishard, M. P., Evans, J. L., & Hart, R. E. (2009). Atlantic Subtropical Storms. Part II: Climatology. *JOURNAL OF CLIMATE*, 22(13), 3574-3594. doi:10.1175/2008JCLI2346.1
- Evans, C., & Hart, R. E. (2008). Analysis of the wind field evolution associated with the extratropical transition of Bonnie (1998). *MONTHLY WEATHER REVIEW*, 136(6), 2047-2065. doi:10.1175/2007MWR2051.1
- Hart, R. E., Maue, R. N., & Watson, M. C. (2008). How long does the climate record "Remember" a tropical cyclone? *BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETY*, 89(5), 596+.
- Junker, N. W., Grumm, R. H., Hart, R. E., Bosart, L. F., Bell, K. M., & Pereira, F. J. (2008). Use of anomalous fields to anticipate extreme rainfall in the mountains of northern California. *Weather and Forecasting*, 23, 336-356.
- Guishard, M. P., Nelson, E. A., Evans, J. L., Hart, R. E., & O'Connell, D. G. (2007). Bermuda subtropical storms. *METEOROLOGY AND ATMOSPHERIC PHYSICS*, 97(1-4), 239-253. doi:10.1007/s00703-006-0255-y
- Hart, R. E., Maue, R. N., & Watson, M. C. (2007). Estimating local memory of tropical cyclones through MPI anomaly evolution. *MONTHLY WEATHER REVIEW*, 135(12), 3990-4005. doi:10.1175/2007MWR2038.1
- Manning, D. M., & Hart, R. E. (2007). Evolution of North Atlantic ERA40 tropical cyclone representation. *GEOPHYSICAL RESEARCH LETTERS*, 34(5), 1-x. doi:10.1029/2006GL028266
- Maue, R. N., & Hart, R. E. (2007). Comment on "Low frequency variability in globally integrated tropical cyclone power dissipation" by Ryan Sriver and Matthew Huber. *GEOPHYSICAL RESEARCH LETTERS*, 34(11), 1-x. doi:10.1029/2006GL028283

- Hart, R., Evans, J., & Evans, C. (2006). Synoptic composites of the extratropical transition life cycle of north Atlantic tropical cyclones: Factors determining posttransition evolution. *MONTHLY WEATHER REVIEW*, *134*(2), 553-578. doi:10.1175/MWR3082.1
- Evans, J., & Hart, R. (2003). Objective indicators of the life cycle evolution of extratropical transition for Atlantic tropical cyclones. *MONTHLY WEATHER REVIEW*, *131*(5), 909-925. doi:10.1175/1520-0493(2003)131[0909:OIoTLC>2
- Hart, R. (2003). A cyclone phase space derived from thermal wind and thermal asymmetry. *MONTHLY WEATHER REVIEW*, *131*(4), 585-616. doi:10.1175/1520-0493(2003)131[0585:ACPSDF>2
- Jones, S., Harr, P., Abraham, J., Bosart, L., Bowyer, P., Evans, J., Hanley, D., Hanstrum, B., Hart, R., Lalaurette, F., Sinclair, M., Smith, R., & Thorncroft, C. (2003). The extratropical transition of tropical cyclones: Forecast challenges, current understanding, and future directions. *WEATHER AND FORECASTING*, *18*(6), 1052-1092. doi:10.1175/1520-0434(2003)018[1052:TETOTC>2
- Grumm, R. H., & Hart, R. E. (2001). Standardized Anomalies Applied to Significant Cold Season Weather Events: Preliminary Findings. *Weather Forecasting*, *16*, 736-754.
- Hart, R., & Evans, J. (2001). A climatology of the extratropical transition of Atlantic tropical cyclones. *JOURNAL OF CLIMATE*, *14*(4), 546-564. doi:10.1175/1520-0442(2001)014[0546:ACOTET>2
- Hart, R., & Grumm, R. (2001). Using normalized climatological anomalies to rank synoptic-scale events objectively. *MONTHLY WEATHER REVIEW*, *129*(9), 2426-2442. doi:10.1175/1520-0493(2001)129[2426:UNCATR>2
- Hart, R., & Evans, J. (1999). Simulations of dual-vortex interaction within environmental shear. *JOURNAL OF THE ATMOSPHERIC SCIENCES*, *56*(21), 3605-3621. doi:10.1175/1520-0469(1999)056[3605:SODVIW>2
- Hart, R., & Forbes, G. (1999). The use of hourly model-generated soundings to forecast mesoscale phenomena. Part II: Initial assessment in forecasting nonconvective strong wind gusts. *WEATHER AND FORECASTING*, *14*(3), 461-469. doi:10.1175/1520-0434(1999)014[0461:TUOHMG>2
- Hart, R., Forbes, G., & Grumm, R. (1998). The use of hourly model-generated soundings to forecast mesoscale phenomena. Part I: Initial assessment in forecasting warm-season phenomena. *WEATHER AND FORECASTING*, *13*(4), 1165-1185. doi:10.1175/1520-0434(1998)013[1165:FTTUOH>2

Invited Book Chapters

Evans, J. L., & Hart, R. E. (2006). Extratropical Transition of tropical cyclones. In William Perrie (Ed.), *Atmosphere-Ocean Interaction*. Wessex Institute of Technology.

Refereed Reports

Hart, R. (2005). *Hurricanes: A Primer on Formation, Structure, Intensity Change, and Frequency*. Marshall Institute.

Nonrefereed Proceedings

Hart, R. (2014). IWTC VIII: Structure and Structure Change Processes. In Patrick Harr (Ed.), *Eighth International Workshop on Tropical Cyclones*. Jeju, South Korea. Retrieved from http://www.iwtc8.org/documents/Topic4.1_21_Nov.pdf

Presentations

Invited Papers at Conferences

Hart, R. (presented 2016, October). *The diverse roots of our beloved meteorology and the arbitrary definition of hurricane landfall droughts (including the current one!)*. Paper presented at 6th Tri-State Weather Conference, WCSU. (Regional)

Hart, R. (presented 2014, December). *Structure and Structure Change Processes*. Paper presented at 8th International Workshop on Tropical Cyclones, WMO, Jeju, South Korea. (International)

Information and Communication Technology

Internet Web Site Development

Hart, R. (2016). *Unofficial Forecast Global Tropical Cyclone (TC) ACE from Operational Models*. Retrieved from FSU: moe.met.fsu.edu/aceforecast

Halperin, D., Cossuth, J., & Hart, R. (2015). *Experimental tropical cyclone genesis probabilities based upon global model output*. Retrieved from FSU: <http://moe.met.fsu.edu/modelgen/>

Hart, R. (2014). *GFS Ensemble Tropical Cyclone Track Normalized Spread*. Retrieved from FSU: <http://moe.met.fsu.edu/tcspread/>

- Hart, R., & Cossuth, J. (2014). *Meteorology / Atmos. Science Academic Family Tree*. Retrieved from FSU: <http://moe.met.fsu.edu/familytree/>
- Hart, R. E. (2011). *World-wide record statistics*. Retrieved from Self: coolwx.com/record
- Cossuth, J., & Hart, R. E. (2010). *Hurricane Genesis Probabilities*. Retrieved from Self: <http://moe.met.fsu.edu/genesis>
- Hart, R. E. (2009). *Hurricane Climatological Landfall Risk*. Retrieved from Self: <http://moe.met.fsu.edu/tcprob>
- Hart, R. E. (2007). *Real time global weather extremes*. Retrieved from Self: <http://coolwx.com/extreme>
- Hart, R. E. (2007). *Real-time record occurrence by year*. Retrieved from Self: <http://moe.met.fsu.edu/recyear>
- Hart, R. E. (2007). *FSU 5th Floor Map Room*. Retrieved from FSU: <http://moe.met.fsu.edu/maproom>
- Hart, R. E., Briggs, K., Winterbottom, H., & Ruscher, P. (2007). *Real-time mesoscale fire condition modeling*. Retrieved from Self: <http://moe.met.fsu.edu/fire/mm5>
- Hart, R. E., & Maue, R. (2006). *Real-time and historical snowcover statistics*. Retrieved from Self: <http://moe.met.fsu.edu/snow>
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- Hart, R. E. (2001). *Cyclone phase diagnostics and forecasts*. Retrieved from Self: <http://moe.met.fsu.edu/cyclonephase>
- Hart, R. E., & Grumm, R. H. (2000). *Atmospheric rarity: historical and forecast*. Retrieved from Self: eyewall.met.psu.edu/ranking
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- Hart, R. E., & Grumm, R. H. (1999). *NCEP Ensemble MOS Graphics*. Retrieved from Self: eyewall.met.psu.edu/mos

- Hart, R. E., & Evans, J. (1998). *Tropical cyclone genesis fields*. Retrieved from Self: <http://moe.met.fsu.edu/tcgengifs>
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- Hart, R. E., Forbes, G. S., & Grumm, R. H. (1996). *Hourly model time-series forecasts*. Retrieved from Self: coolwx.com/modelts
- Hart, R. E. (1995). *Hourly U.S. Weather Statistics*. Retrieved from Self: <http://coolwx.com/ustats>
- Hart, R. E. (1994). *Decoded offshore weather data*. Retrieved from Self: <http://coolwx.com/buoydata>
- Hart, R. E. (1994). *Internet user weather observations*. Retrieved from Self: <http://coolwx.com/userobs>

Computer Software Development

- Hart, R. E. (2002). *Cyclone Phase Space Software* [Computer software]. Self.
- Hart, R. E. (2001). *GrADS Cyclone Tracker* [Computer software]. Self.
- Hart, R. E. (1999). *GrADS Isentropic, Isobaric, and Height Interpolators* [Computer software]. Self.
- Hart, R. E., & Bannon, P. R. (1999). *Matlab Resonant Mountain Wave Simulator* [Computer software]. Self.
- Hart, R. E. (1997). *GrADS Legend Software* [Computer software]. Self.
- Hart, R. E. (1996). *GrADS SkewT/LogP Software* [Computer software]. Self.

Contracts and Grants

Contracts and Grants Funded

- Hart, R. (Jul 2017–Jun 2019). *Improvements and extensions to an existing probabilistic TC genesis forecast tool using an ensemble of global models*. Funded by NOAA / JHT. (NA17OAR4590141). Total award \$149,883.

- Hart, R., & Fuelberg, H. (Jun 2016–May 2019). *Collaborative Research On Improved Understanding & Prediction Of Warm-Season (Derecho) & Cold-Season (Mesoscale Snow Banding) High Impact Events*. Funded by NOAA. Total award \$449,950.
- Hart, Robert (PI). (Sep 2015–Dec 2016). *Evolution of Several Factors Influencing U.S. Landfall Probability*. Funded by Bermuda Institute of Ocean Sciences. (RP12.0-2016-HART). Total award \$60,210.
- Fuelberg, Henry E (PI), & Hart, Robert (Co-PI). (Sep 2013–Aug 2016). *Improved Forecasting of Extreme Rainfall Events Associated with Tropical Cyclones*. Funded by National Oceanic and Atmospheric Association. (NA13NWS4680005). Total award \$299,307.
- Hart, Robert (PI), & Fuelberg, Henry E (Co-PI). (Sep 2013–Aug 2016). *A Probabilistic TC Genesis Forecast Tool Utilizing an Ensemble of Global Models*. Funded by National Oceanic and Atmospheric Association. (NA13OAR4590185). Total award \$197,792.
- Hart, Robert (PI). (Jun 2012–Aug 2014). *The Impact Of cyclone Interaction In Quantifying United States East Coast Tropical Cyclone Risk*. Funded by Bermuda Institute of Ocean Sciences. (RP12.0-2012-03). Total award \$56,927.
- Fuelberg, Henry E (PI), & Hart, Robert (Co-PI). (Nov 2011–Sep 2012). *Determining the Abilities of Operational Numerical Models to Forecast Tropical Cyclogenesis*. Funded by University Corporation for Atmospheric Research. (Z12-93225). Total award \$11,880.
- Hart, R., Chassignet, E., & Collins, J. (Dec 2010–Dec 2012). *Tackling Florida's Growing Geophysical Threats through Collaborative Coupled Modeling*. Funded by SUS New Florida Initiative. Total award \$400,000.
- Hart, Robert (PI). (Jun 2010–Aug 2011). *Refining Historical US Landfalling Hurricane Evolution*. Funded by Bermuda Institute of Ocean Sciences. (RPI10-1-001). Total award \$55,150.
- Hart, Robert (PI), & Schenkel, B. (Sep 2009–Aug 2012). *NASA Earth and Space Science Fellowship - 2009*. Funded by National Aeronautics & Space Administration. (NNX09AN84H). Total award \$90,000.
- Hart, Robert (PI). (Feb 2009–Jan 2013). *The Climate Memory of Tropical Cyclones: Dimensions, Magnitude, Mechanisms for Generation and Removal, and Implications*. Funded by National Science Foundation. (0842618). Total award \$418,524.
- Hart, Robert (PI), & Fuelberg, Henry (co-I). (Nov 2008–Dec 2013). *Breaking the Barrier of Short-Term Hurricane Intensity Forecasting by Interrogating Remotely Sensed and Reconnaissance Datasets to Predict Core Evolution*. Funded by National Aeronautics & Space Administration. (NNX09AC43G). Total award \$599,941.

Hart, Robert (PI). (Jul 2008–Jun 2009). *Extending Northern Hemisphere Tc Best-Tracks*. Funded by Bermuda Institute of Ocean Sciences. (RPI08-1-003). Total award \$41,557.

Hart, Robert (PI). (Apr 2008–Dec 2008). *Optimizing the Winter Climate Relationship Through Sensitivity Testing of Aggregate Tropical Cyclone Activity Measures*. Funded by Bermuda Institute of Ocean Sciences. (RPI08-2-001). Total award \$12,065.

Hart, Robert (PI). (Aug 2007–Dec 2008). *Hemispheric Recurving Tropical Cyclone Frequency as a Potential Indicator of Subsequent North Atlantic Winter Severity*. Funded by Bermuda Institute of Ocean Sciences. (RPI07-3-001). Total award \$40,021.

Hart, Robert (PI). (Aug 2006–Dec 2007). *The Development of Anomalous Probability Forecasts for the Threat of Higher Latitude Hurricane Impacts*. Funded by Bermuda Biological Stations For Research. (RPI06-2-001). Total award \$26,001.

Hart, Robert (PI). (Jun 2006–May 2007). *Significance Testing Of Hurricane Role in Winter Climate*. Funded by National Science Foundation. (0627908). Total award \$23,836.

Hart, Robert (PI). (Aug 2005–Jul 2007). *A Re-analysis and Testing of Trends of Tropical Cyclone Data During the Aircraft Reconnaissance and Satellite Era*. Funded by National Oceanic and Atmospheric Association. (NA05OAR4311114). Total award \$100,999.

Hart, Robert (PI). (Jan 2005–Jun 2006). *An examination of the relationship between climate indices and tropical cyclone extratropical transition frequency and intensity*. Funded by Bermuda Biological Stations For Research. (RPI-04-2-001). Total award \$39,496.

Hart, Robert (PI). (Jun 2004–Dec 2007). *The Development of Forecast Confidence Measures Using Ensembles*. Funded by University Corporation for Atmospheric Research. (S04-44696). Total award \$119,458.

Hart, Robert (PI). (May 2004–Aug 2004). *FYAP - A Statistical-Physical Model as the Foundation for Wind Field Expansion during Extratropical Transition*. Funded by FSU CRC. Total award \$13,000.

Contracts and Grants Pending

Hart, R., & Chagnon, J. (Oct 2016). *CPEX: Analyzing the roles of convective burst development and evolution and associated circulation changes in nondeveloping, developing, and intensifying tropical cyclones*. - \$418,909. Submitted to NASA.

Contracts and Grants Denied

Hart, R., & Chagnon, J. (Jan 2015). *DOWNSTREAM: The Origin, Dynamical Consequences, and Downstream Forecasting Implications of Diabatically-Modified PV in Organized Tropical Convection*. - \$449,806. Submitted to National Science Foundation.

Service

Florida State University

FSU University Service

Member, FSU STEM Building Committee (2016–present).

Member, High Performance Computing Committee (2010–present).

FSU College Service

Member, EOAS Building Committee (2011–present).

Member, Department of EOAS Internal Chair Search Committee (2012).

Member, Arts and Sciences Reorganization Committee (2011).

Member, EOAS Department Merger Strategic Planning Committee (2010–2011).

FSU Department Service

Member, Graduate Admissions Committee - Meteorology (2012–present).

System Administrator, Beowulf Cluster Service (2004–present).

Associate Chair, Departmental Administration, EOAS (2013–2019).

Co-Chair, Meteorology Faculty Meeting Leader (2016).

Member, Mesoscale Meteorology Faculty Search (2015–2016).

Chair, Meteorology Annual Evaluation Committee (2016).

Chair, Meteorology Synoptic-Dynamic Faculty Search Committee (2012–2014).

Co-Chair, Chi Epison Pi Honor Society Advisory Committee (2007–2013).

Chair, EOAS Department Merger Infrastructure Committee (2011).

Member, Department of Meteorology Executive Committee (2008–2009).

Member, Department of Meteorology Publicity Committee (2007–2008).

Member, Meteorology Awards Committee (2006–2008).

Member, Meteorology Computer Committee (2005–2008).

Chair, Meteorology Tropical Faculty Search Committee (2006–2007).

Member, Department Father McElwane Evaluation Committee (2004–2007).

The Profession

Editorial Board Membership(s)

Quarterly Journal of the Royal Meteorological Society (2016–present).

Monthly Weather Review (2006–2009).

Guest Reviewer for Refereed Journals

Proceedings of the National Academy of Science (2013–present).

Nature Geoscience (2009–present).

Quarterly Journal of the Royal Meteorological Society (2009–present).

Climate Research (2007–present).

Geophysical Research Letters (2007–present).

Journal of Geophysical Research (2007–present).

Journal of Applied Meteorology and Climatology (2004–present).

Weather and Forecasting (2002–present).

Journal of Atmospheric Science (2000–present).

Journal of Climate (2000–present).

Monthly Weather Review (1999–present).

Journal of Atmospheric and Oceanic Technology (2010).

Meteorology and Atmospheric Physics (2009).

Bulletin of the American Meteorological Society (2006).

International Journal of Climatology (2005).

Meteorologische Zeitschrift (2003).

Atmosphere-Ocean (2002).

Earth and Sky (1999–2002).

Chair of a Symposium

Hart, R. E. (Chair). (2012, April). *AMS 30th Hurricane and Tropical Meteorology Conference*. Symposium conducted at the meeting of American Meteorological Society, Ponte Vedra Beach, Florida.

Hart, R. E. (Chair). (2008, January). *AMS Special Hurricanes Symposium*. Symposium conducted at the meeting of American Meteorological Society, New Orleans, LA.

Reviewer or Panelist for Grant Applications

NASA (2011–present).

NOAA (2009–present).

NSF (2005–present).

Service to Professional Associations

Member, NOAA HFIP Science Review Committee (2012–2016).

Rapporteur, Rapporteur for 8th International Workshop on Tropical Cyclones (IWTC) in Jeju, Republic of Korea, World Meteorological Organization (2014).

Member, UCAR PACUR (2007–2013).

Member, Science Team GRIP Field Experiment, NASA (2009–2012).

Member, AMS STAC Committee on Tropical Meteorology (2006–2012).

Chair, UCAR PACUR External Funding Review Committee (2009–2011).

Chair, AMS Maxon Eaton Award Committee (2006).

Member, AMS Max Eaton Award Committee (2004).

Interviews

John Schwartz. (2016, September). Hurricane Season is Heating Up. So is the planet. Coincidence? *New York Times*. Retrieved from <https://www.nytimes.com/2016/09/03/us/hurricanes-global-warming.html>

Brian Donegan. (2016, June). A Streak Not Seen Since 1900: Colin Was the 144th Consecutive Atlantic Tropical Cyclone to Not Make U.S. Landfall as a Major Hurricane. *The Weather Channel / weather.com* [Television Channel / Website].

Kevin Spear. (2016, May). Could shifting weather patterns mean more hurricanes? *Orlando Sentinel* [Newspaper].

Katherine Hilton. (2016, February). History of FSU Meteorology. *FSU* [University].

Kraus, K. (2010, May). Studying the Fundamentals of Hurricanes. *Earth Gauge Connection*.

Perkins, B. (2010, May). Hurricanes and Risk. *Florida Association of Insurance Agents*.

Local TV Station. (2006). Hurricane Season. *Local TV Station*.

Service to Other Universities

Maintain the academic lineage / family tree database and display update for Meteorology/Atmospheric Science and all its roots, *All Universities* (2013–present).

P&T Reviewer for a candidate for the rank of Professor, *University of South Florida* (2015–2016).

P&T Reviewer for a candidate for tenure and promotion to the rank of Associate Professor, *University at Albany, New York* (2011).

P&T Reviewer for a candidate for tenure and promotion to the rank of Associate Professor,
University of North Carolina, Charlotte (2011).

Consultation

Risk Management Solutions. Evaluation of the inland wind risk model for RMS (2008–2010).

Paine PR/Duracell. Quantitatively identifying most at risk cities in the U.S. for aggregate risk (2009).

State Farm Insurance. Consulting on the short-vs-medium-vs-long term risk perspective on hurricane landfall threat in the USA (2008).

Risk Management Solutions. Evaluation of Winter Storm Risk insurance model for RMS (2007–2008).

George Marshall Institute. Developing a review of the current state of knowledge of the relationship between hurricane frequency/intensity and climate change (2006).

South Carolina Department of Insurance. Evaluating the South Carolina public insurance model for hurricane risk (2005–2006).

Environmental Technologies Group, Reston, VA. Development of a real-time mesoscale modeling (MM5) system among a group of five faculty and graduate students (2000).

General RE Reinsurance, Hartford, CT. Report on the relationship between hurricane activity in the Atlantic and known climate indices (1998).

Pennsylvania Academy of Science. (1997).

Additional Service Not Reported Elsewhere

Hart, R. (2016). *Invited to be Chair of a panel discussion on the definition of a tropical cyclone and TC genesis*. American Meteorological Society.