

Joseph J. Cione
NOAA / Hurricane Research Division
4301 Rickenbacker Causeway, Miami, FL 33149-1026

Education:

Ph.D., 1996, NC State Univ., Meteorology (*concentration in oceanography*)
Diabatic forcing in association with East Coast winter cyclogenesis
Gulf Stream current propagation and dynamics

Employment:

Research Meteorologist (present)
Specialization in air-sea interaction, atmospheric thermodynamics, upper ocean structure
NOAA PI for P-3/UAS-related hurricane research and operational reconnaissance

US Weather Research Program Deputy Director (1996-1997)
Science and programmatic HQ liaison for NOAA's 12 Nat'l Environmental Laboratories
Lead POC for USWRP activities with federal agencies and academic institutions

Leadership:

Management and Leadership Experience
USWRP Deputy Director; NOAA Environmental Laboratory Lead Scientist: Model Physics Evaluation and Improvement Project; NOAA Executive Leadership Program graduate; Interagency/International UAS Field program management; Hurricane Field Program Principal Investigator; HFIP Physics Team Lead

Instrumentation:

Platform Experience:
NOAA R/V Malcolm Baldrige (1992); NOAA WP-3D Orion aircraft (1997-); AAI/Textron/Aerosonde Mark III/IV UAS (2004-2008); Embry Riddle University Gale UAS (2008-2012); BAE Coyote (2009-); NOAA/DHS WISDOM global balloon launch system (2010); NASA GlobalHawk UAS (2010-)

Data Systems/Sensor Experience:
Moored and drifting buoy arrays; Airborne-deployed AXBT and GPS; Shipboard AXBT/CTD; Land and shipboard balloon launch; Land and air-deployed UAS; Precipitation and cloud particle measurement system (P-3); C-Band and Doppler radars (P-3); SST radiometer (satellite and P-3); Stepped Frequency Microwave Radiometer (winds and rain rate – P-3); Scanning Radar Altimeter (waves and rain rate – P-3)

Experimentation:

Interagency and/or International Aircraft/RV Experience
TOGA COARE (1992); ASTEX (1992); NOAA Hurricane Annual Field Program (1997-) CAMEX3/4; NOAA/NASA/NASKW UAS Demo Projects (2005-2009); Navy/NOAA Coyote/BAE P-3/UAS testing (2009-ongoing)

Communication:

Technical, informal, external and internal communications experience
On and off-camera interviews (local and national news outlets, Discovery Channel, BBC, NOVA, National Geographic, national podcasts); 100+ professional presentations (conferences, symposia, invited talks); Public briefings and outreach (national colloquiums, public and academic forums); Formal and informal briefings (internal management)

National Awards:

John A. Knauss National Sea Grant Fellow
1st Meteorologist appointed as a National Sea Grant Fellow
2010 US Dept of Commerce Bronze Medal Award
Executing the 1st launch and recovery of an unmanned aircraft into a tropical cyclone

References:

Federal, academic and private sector references available upon request.

Select Peer-reviewed publications and presentations (complete list available upon request):

Cione, J.J. 2013: The truth about 26C and the relative roles of the ocean and atmosphere at the hurricane air-sea interface. In review, *Mon. Wea. Rev.*

Cione, J.J., E. A. Kalina, J. A. Zhang, E. W. Uhlhorn 2013: Observations of air-sea interaction and intensity change in hurricanes. *Mon. Wea. Rev.*, **141**, 2368–2382.

Rogers, R.F., S.D. Aberson, A. Aksoy, B. Annane, M. Black, J. Cione, N. Dorst, J. Dunion, J. Gamache, S. Goldenberg, S. Gopalakrishnan, J. Kaplan, B. Klotz, S. Lorsolo, F. Marks, S. Murrillo, M. Powell, P. Reasor, K. Sellwood, E. Uhlhorn, T. Vukicevic, J. Zhang, and X. Zhang, 2013: NOAA's Intensity Forecasting Experiment (IFEX): A Progress Report. *Bull. Amer. Meteor. Soc.*, **94**, 859–882.

Cione, J.J. 2012: Hurricane intensity change and inner-core SST: Warmer is not always better. AMS 30th Conference on Hurricanes and tropical Meteorology. 15-20 April 2012, Ponte Vedra, FL.

Aberson, S.D., J. Cione, C.-C. Wu, M.M. Bell, J. Halverson, C. Fogarty, and M. Weissmann 2010: Global Perspectives on Tropical Cyclones: From Science to Mitigation, J.C.L. Chan and J.D. Kepert (eds.). World Scientific Publishing Company, 2nd edition, 227-240, 2010.

Cione, J.J., J. Zhang and E. Uhlhorn 2010: Near-surface temperature and moisture observations from tropical cyclones from 1975-2007: Axisymmetric and asymmetric structural analysis. AMS 29th Conference on Hurricanes and tropical Meteorology. 10-14 May 2010, Tucson, AZ.

Cione, J.J., E. W. Uhlhorn, G. Casella, S. J. Majumdar, C. Sisko, N. Carrasco, M. D. Powell, P. Bale, G. Holland, P. Turlington, D. Fowler, C. W. Landsea, and C. L. Yuhua 2008: The first successful unmanned aerial system (UAS) mission into a tropical cyclone (Ophelia 2005) with preliminary UAS observations from hurricane Noel (2007). AMS 88th Annual Conference, 20-25 January 2008, New Orleans, NO.

Rogers, R.F., S.D. Aberson, M.L. Black, J. Cione, P. Dodge, J. Dunion, J. Gamache, J. Kaplan, M. Powell, N. Shay, N. Surgi, and E. Uhlhorn, 2006: The Intensity Forecasting Experiment (IFEX): A NOAA Multi-year Field Program for Improving Tropical Cyclone Intensity Forecasts. *Bull. Amer. Meteor. Soc.*, **87**, 1537.

Aberson, S.D., M.L. Black, R.A. Black, R.W. Burpee, J.J. Cione, C.W. Landsea, and F.D. Marks 2006: Thirty years of tropical cyclone research with the NOAA P-3 aircraft. *Bull. Amer. Meteor. Soc.*, **87**(8): 1039-1055 1537.

Fitzpatrick, P.J., Q. Xiao, G. Holland, Y. Kuo, and J. Cione 2006: Analysis of Hurricanes Using Unmanned Aircraft Systems (UAS) and COSMIC Satellite Data. 11th Symposium on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface AMS Conference on Coastal Oceanic and Atmospheric Prediction; San Antonio, Texas, 14-18 January 2007.

Cione, J.J., J. Kaplan, C. Gentemann and M DeMaria 2005: Developing an Inner-Core SST Cooling Predictor for Use in SHIPS. Session on funded projects from NOAA's Joint Hurricane Testbed, 59th Interdepartmental Hurricane Conference, March 1-7, 2005, Jacksonville, FL.

Cione, J.J. and E. W. Uhlhorn 2004: Atmospheric boundary layer and upper-ocean observations in Hurricane Lili (2002). 26th Conference on Hurricanes and Tropical Meteorology, May 3-7 2004, Miami, FL.

Cione, J.J., J. Kaplan, C. Gentemann and M DeMaria 2004: Developing an Inner-Core SST Cooling Predictor for Use in SHIPS, Session on funded projects from NOAA's Joint Hurricane Testbed, 58th Interdepartmental Hurricane Conference, March 1-5, 2004, Charleston, SC.

Cione, J.J., and E. W. Uhlhorn 2003: Sea surface temperature variability in hurricanes: Implications with respect to intensity change. *Mon. Wea. Rev.*, **131**: 1783-1796.

Cione, J.J. and E.W. Uhlhorn 2003: Hurricane intensity and storm-cooled sea. Spotlight Article. *Bull. Amer. Met Soc.*, **84**..

Cione, J.J. and E. W. Uhlhorn 2001: Upper ocean heat content and energy extracted by the storm: An analytical look. Preprint from the 25th Conference on Hurricanes and Tropical Meteorology, 29 April-3 May 2002, San Diego, CA.

Uhlhorn, E.W. and J. J. Cione 2001: Real-time simulation of hurricane inner-core ocean cooling as a gauge for intensity change. Preprint from the 25th Conference on Hurricanes and Tropical Meteorology, 29 April - 3 May 2002, San Diego CA.

Cione, J.J., P. J. Black and S. Houston 2000: Surface observations in the hurricane environment. *Mon. Wea. Rev.*, **128**: 1550-1561.

Cione, J.J., P. Molina, J. Kaplan and P. G. Black 2000: SST time series directly under Tropical Cyclones: Observations and implications. Preprint from the 24th Conference on Hurricanes and Tropical Meteorology, 29 May - 2 June 2000, Fort Lauderdale, FL.

Cione, J.J., E. W. Uhlhorn and P. G. Black 2000: Atmospheric boundary layer and upper ocean structure in Hurricane Erika (1997). Preprint from the 24th Conference on Hurricanes and Tropical Meteorology, 29 May - 2 June 2000, Fort Lauderdale, FL.

Uhlhorn, E. W., P. G. Black, L. K. Shay, J. J. Cione, S. D. Jacob and G. Goni 2000: Warm core ocean features in the central and eastern Gulf of Mexico. Preprint from the 24th Conference on Hurricanes and Tropical Meteorology, 29 May - 2 June 2000, Fort Lauderdale, FL

Shay, L. K., G. Goni, P. G. Black, S. D. Jacob, J. J. Cione and E. W. Uhlhorn 2000: Global analogues of deep warm upper ocean layers: Hurricane heat potential estimates. Preprint from the 24th Conference on Hurricanes and Tropical Meteorology, 29 May - 2 June 2000, Fort Lauderdale, FL.

Goni, G. J, L. K. Shay, G. J. Goni, P. G. Black, S. D. Jacob, T. M. Cook, J. J. Cione and E. W. Uhlhorn 2000: Role of the upper ocean structure on the intensification of hurricane Bret (1999) from satellite altimetry. Preprint from the 24th Conference on Hurricanes and Tropical Meteorology, 29 May - 2 June 2000, Fort Lauderdale, FL.

Black, P. G., E. W. Uhlhorn, J. J. Cione, G. J. Goni, L. K. Shay, S. D. Jacob, E. J. Walsh, E. A. D'Arso 2000: Hurricane intensity change modulated by air-sea interaction effects based on unique airborne measurements during the 1998-99 hurricane seasons. Preprint from the 24th Conference on Hurricanes and Tropical Meteorology, 29 May - 2 June 2000, Fort Lauderdale, FL.

Parrish, J. R., M. L. Black, S. H. Houston, P.P Dodge and J. J. Cione 2000: The structure of Hurricane Irene (1999) over South Florida. Preprint from the 24th Conference on Hurricanes and Tropical Meteorology, 29 May - 2 June 2000, Fort Lauderdale, FL

Cook, T. M, L. K. Shay, P. G. Black, G. J. Goni, M. M. Huber, S. D. Jacob and J. J. Cione 2000: Coupled air-sea interactions during Hurricane Bonnie (1998).. Preprint from the 24th Conference on Hurricanes and Tropical Meteorology, 29 May - 2 June 2000, Fort Lauderdale, FL

- Cione, J.J., P. Black, S. Houston and S. Feuer 1999: Cooling and drying within the hurricane near surface environment? Preprint from the AMS Conference on Tropical Meteorology and Hurricanes; Dallas, Texas, 11-15 January 1999.
- Cione, J.J., S. Raman, L.J. Pietrafesa, R. A. Neuherz, K. Keeter and X. Li, 1998: The use of pre-storm low-level baroclinicity in determining and implementing the Atlantic Surface Cyclone Intensification Index. *Boundary Layer Meteorology*, **89**: 211-224.
- Cione, J.J. and P. Black 1998: Surface thermodynamic observations within the tropical cyclone inner core. Preprint from the Conference on Tropical Cyclone Intensity Change; Phoenix, Arizona, 11-16 January 1998.
- Shay, L., G. Goni, F. Marks, J. Cione and P. Black 1998: Role of warm ocean features on intensity change. Preprint from the Conference on Tropical Cyclone Intensity Change; Phoenix, Arizona, 11-16 January 1998.
- Niyogi, D. S., J. Cione, S. Raman 1998: Gulf Stream influence on the North Carolina meso-climate. Preprint from the Second Conference on Coastal Atmospheric and Oceanic Prediction and Processes; Phoenix, Arizona, 11-16 January 1998.
- Black, P., S. Houston, J. Cione and M. Hopkins 1997: Analysis of air-deployed drifting buoys in hurricane Fran over the eastern Atlantic in 1996. 51st Interdepartmental Hurricane Conference, OFCM; Miami, Florida, March 1997.
- Kaplan, J., C.W. Landsea, M. DeMaria and J. Cione 1997: The differing roles of the large-scale environment in the intensity changes of three 1996 Atlantic hurricanes. Preprint from the 22nd Conference on Hurricanes and Tropical Meteorology; Ft. Collins, Colorado, 19-23 May 1997.
- Cione, J.J., and S. Raman, 1996: Surface cyclone intensity forecasting within the mid-Atlantic Gulf Stream locale using pre-storm low level baroclinic indices. Preprint from the AMS Conference on Coastal Oceanic and Atmospheric Prediction; Atlanta, Georgia, 28 January - 2 February 1996.
- Cione, J.J., and S. Raman, 1996: The impact of SST gradients on propagating low-level mesovortices near the Gulf Stream. Preprint from the AMS Conference on Coastal Oceanic and Atmospheric Prediction; Atlanta, Georgia, 28 January - 2 February 1996.
- Cione, J.J., and S. Raman, 1995: A numerical investigation of surface-induced mesocyclogenesis near the Gulf Stream. *Tellus*, **47A**, 815-833.
- Cione, J.J., and S. Raman, 1994: A three dimensional numerical investigation of surface-induced coastal cyclogenesis near the Gulf Stream. *Proceedings from the Life Cycles of Extratropical Cyclones International Symposium*; Bergen, Norway, 27 June- 1 July 1994, Vol III, 52-55.
- Cione, J.J., and S. Raman, 1994: Two-dimensional numerical simulations of Gulf Stream-enhanced offshore cold advection. Preprint from the Sixth Conference on Mesoscale Processes; Portland, Oregon, 18-22 July 1994, 270-273.
- Cione, J.J. S. Raman and L.J. Pietrafesa, 1993: The effect of Gulf Stream-induced baroclinicity on U.S. east coast winter cyclones. *Mon. Wea. Rev.*, **121**, 421-430.