CURRICULUM VITA

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Education:

B.S. in Meteorology (minor in Mathematics), The State University of New York at Oneonta, 1983.

M.S. in Meteorology, The Pennsylvania State University, 1986

EMPLOYMENT HISTORY:

Research Assistant at the Pennsylvania State University
1983-1986.

Research Meteorologist at the Hurricane Research Division of
AOML, 1987- present

Honors and Awards:

1997 - Department of Commerce Bronze Medal- (Co-recipient along with Mark DeMaria of NOAA/NESDIS) for the development of a model for predicting the decay of hurricane winds after landfall.

2002 - Banner I. Miller Award - (Co-recipient along with Mark DeMaria of NOAA/NESDIS) for the first ever model-based skillful operational intensity forecasts of tropical cyclones documented in the two papers published during the years 1998-2001, 'An Updated Statistical Hurricane Intensity Prediction Scheme (SHIPS) for the Atlantic and Eastern North Pacific Basins' (WAF, Vol. 14) and 'On the Decay of Tropical Cyclone Winds after Landfall in the New England Area' (JAM, Vol. 40).

2011- Department of Commerce Bronze Medal- (Co-recipient along with Mark DeMaria and John Knaff of NOAA/NESDIS) for providing skillful operational hurricane intensity models as demonstrated by the NHC forecast verifications for the 2009 and 2010 seasons.

Major Accomplishments:

1989-present:
Co-developer (along with Mark DeMaria currently of CIRA/CSU) of the Statistical Hurricane Intensity Prediction scheme (SHIPS) (DeMaria and Kaplan 1994). The SHIPS model provides operational tropical cyclone intensity forecasts to the National Hurricane Center (NHC) and Central Pacific Hurricane Center (CPHC) for both the Eastern North Pacific and Atlantic basins.

1995-2006:
Co-developer (along with Mark DeMaria currently of CIRA/CSU) of an empirical model to predict the decay of tropical cyclone winds after landfall (Kaplan and DeMaria 1995). The decay model was incorporated into the original version of SHIPS making overland intensity predictions with that model possible for the first time commencing with the 2000 Hurricane Season. (DeMaria et al. 2005).

2003-present:
Co- developer of the SHIPS Rapid intensification index (RII). The SHIPS-RII (Kaplan et al. 2015) is a statistically-based model that employs environmental and satellite-derived predictors from the SHIPS model to estimate the probability of tropical cyclone rapid intensification at lead times of 12-h, 24-h, 36-h, 48-h and 72-h. The SHIPS-RII is currently utilized operationally by forecasters at both NHC and CPHC.

2015-2018:
Co-developer (along with Jason Dunion, Andrea Schumacher, and Joshua Cossuth of the Tropical Cyclone Genesis Index (TCGI) that utilizes NCEP model-derived environmental as well as GOES satellite-derived predictors to make probabilistic forecasts of tropical genesis. These forecasts are provided operationally to forecasters at the NHC and CPHC for lead times of 48 and 120 h.

2020-2022:
Collaborator (Lead PI is Galina Chirokova of CIRA/CSU) on the current NOAA/JTTI proposal "Use of Ocean Stability Data and Machine Learning to Improve Tropical Cyclone Situational Awareness and NHC Statistical-Dynamical Intensity Guidance".

Select Publications:

Kaplan, J. and W.M. Frank: The large-scale inflow-layer structure of Hurricane Frederic (1979), 1993, *Mon. Wea. Rev.*, **121**, 3-20.

DeMaria, M., and J. Kaplan, 1994: A statistical hurricane intensity prediction scheme (SHIPS) for the Atlantic basin. *Wea. Forecasting*, **9**, 209-220.

DeMaria, M, and J. Kaplan, 1994: Sea Surface temperature and the maximum intensity of Atlantic tropical cyclones. *J. Climate*, **7**, 1324-1334.

Kaplan, J., and M. DeMaria, 1995: A simple empirical model for predicting the decay of tropical cyclone winds after landfall. *J. Appl. Meteor.*, **34**, 2499-2512.

DeMaria, M., and J. Kaplan, 1999: An updated statistical hurricane intensity prediction scheme (SHIPS) for the Atlantic and Eastern North Pacific basins. *Wea. Forecasting*, 1**4**, 326-337.

Kaplan, J., and M. DeMaria, 2001: On the decay of tropical cyclone winds after landfall in the New England region. *J. Appl. Meteor.*, **40**, 280-286.

Kaplan, J., and M. DeMaria, 2003: Large-scale characteristics of rapidly intensifying tropical cyclones in the North Atlantic Basin. *Wea. Forecasting,* **18,** 1093-1108**.**

DeMaria, M., M. Mainelli, L.K. Shay, J.A. Knaff, and J. Kaplan, 2005: Further improvements to the Statistical Hurricane Intensity Prediction Scheme (SHIPS), *Wea. Forecasting*, **14**, 1093-1108.

DeMaria, M, J.A. Knaff, and J. Kaplan, 2006: On the decay of tropical cyclone winds crossing narrow landmasses. J. Appl. Meteor., **45**, 491-499.

Kaplan, J., M. DeMaria, and J. A. Knaff, 2010: A revised tropical cyclone rapid intensification for the Atlantic and eastern North Pacific basins. *Wea. Forecasting*, **25,** 220-241.

Sampson, C. R., J. Kaplan, J. A. Knaff, M. DeMaria, and C. A. Sisko, 2011: A deterministic rapid intensification aid, *Wea. Forecasting***, 26**, 579-585.

Rozoff, C.M., C.S. Velden, J, Kaplan, J.P. Kossin, and A. J. Wimmers, 2015: Improvements in the probabilistic prediction of tropical cyclone rapid intensification with passive microwave observations. *Wea. Forecasting*, **30**, 1016-1038.

Kaplan, J., C. M. Rozoff, M. DeMaria, C. R. Sampson, J.P. Kossin, C. S. Velden, J. J. Cione, J. P. Dunion, J. A. Knaff, J. A. Zhang, J. F. Dostalek, J. D. Hawkins, T. F. Lee, J. E. Solbrig ,2015: Evaluating environmental impacts on tropical cyclone rapid intensification predictability utilizing statistical models. *Wea. Forecasting*, **30**, 1374-1396.

Balaguru, K., G.R. Foltz, L.R. Leung, J. Kaplan, W. Xu, N. Reul, and B. Chapron, 2020. Pronounced impact of salinity on rapidly intensifying Atlantic hurricanes. *Bull. Amer. Meteor. Soc.,* **101(**9), 1497-1511.

DeMaria, M., J.L. Franklin, M.J. Onderlinde, and J. Kaplan, 2021. Operational forecasting of tropical cyclone rapid intensification at the National Hurricane Center. *Atmosphere*, **12(6)**: 683.