

CHRISTINE ALFANO, PH.D., P.E., CCM

Engineering Specialist and Meteorologist

calfano@iccforensics.com

www.iccforensics.com



ICC Forensics, LLC

1115 F.M. 359

Richmond, TX 77406

Curriculum Vitae

Primary Areas of Expertise

Building Structures
Building Collapse

Structural Failures
Extent of Damage

Storm Damage Analysis
Meteorological Evaluations

Licensed Professional Engineer (P.E.):

North Carolina, South Carolina, Florida, Georgia, Tennessee, Virginia, Minnesota, Iowa, Wisconsin, South Dakota

Certified Consulting Meteorologist (CCM) #770

WORK EXPERIENCE

ICC Forensics, LLC

Principal Engineer and Forensic Meteorologist

Minneapolis, MN

October 2024 to Present

Haag Global

Senior Engineer and Director of Forensic Meteorology

Senior Engineer and Forensic Meteorologist

Associate Engineer and Forensic Meteorologist

Minneapolis, MN and Charlotte, NC

October 2022-October 2024

December 2020-October 2022

October 2017-November 2020

Insurance Institute of Business and Home Safety

Research Engineer

Post-Doctoral Contractor

Richburg, South Carolina

April 2016-October 2017

October 2015-March 2016

Valparaiso University College of Engineering

Visiting Assistant Professor

Valparaiso, Indiana

August 2014-June 2015

EDUCATION

Colorado State University Fort Collins, Colorado
Ph.D., Civil Engineering Graduation: May 2016
Dissertation Title: *Damage Analysis and Mitigation for Wood-frame Structures Subjected to Tornado Loading*

University of Alabama Tuscaloosa, Alabama
Ph.D., Civil Engineering (*partial, transfer to CSU*) August 2011-May 2013

University of Miami Miami, Florida
Master of Science, Meteorology Graduation: May 2012
Thesis Title: *Impact of Upper Ocean Warming on Hurricane Intensity*

Valparaiso University Valparaiso, Indiana
Bachelor of Science, Meteorology, *Summa Cum Laude* Graduation: May 2009

DAMAGE SURVEYS

Assist local National Weather Service offices or field research investigations following large-scale disasters. Responsibilities include collecting forensic data, documenting the type and extent of damage, analyzing progression of damage, estimating wind speeds, and/or rating tornado intensity.

- **Elkhorn, Nebraska** – EF4, April 26, 2024
- **Hurricane Ian** – Category 4, September 28, 2022
- **Nashville, Tennessee** – EF3, March 3, 2020
- **Hurricane Harvey** – Category 4, August 25, 2017
- **Moore, Oklahoma** – EF5, May 20, 2013
- **Macedonia/Ethelsville, Alabama** – EF1, April 11, 2013
- **Koffman, Alabama** – EF2, January 23, 2012
- **Maplesville, Alabama** – EF2, January 23, 2012
- **Perry County, Alabama** – EF1, January 23, 2012
- **Cordova, Alabama** – EF4, April 27, 2011
- **Tuscaloosa, Alabama** – EF4, April 27, 2011

PUBLICATIONS

1. Merhi, Ali, Brown-Giammanco, Tanya M., Roueche, David B., Wood, Richard L., Murphy, Todd A., Standohar-Alfano, Christine D., Childress, Olivia, Stetzer, Tessa, Godfrey, Elaine S., Godfrey, Christopher M., and Souhrada, Andrew J., 2025. Damage Assessment of the 2020 Monroe, Louisiana, Tornado Using Different Remote-Sensing Methods and Enhanced Fujita Scales. *Natural Hazards Review* (27), <https://ascelibrary.org/doi/full/10.1061/NHREFO.NHENG-2367>.
2. Marshall, Timothy P., Standohar-Alfano, Christine, Bright, Christopher, and Hurley, Krissy, 2022. Damage Survey of the Nashville, TN Tornado: 3 March 2020. 30th Conference on Severe Local Storms, Santa Fe, NM.

3. Butler, Bret, Quarles, Steve, Standohar-Alfano, Christine, Morrison, Murray, Jimenez, Daniel, Sopko, Paul, Wold, Cyle, Bradshaw, Larry, Atwood, Loren, Landon, Justin, O'Brien, Joseph, Hornsby, Benjamin, Wagenbrenner, Natalie, and Page, Wesley, 2019. Exploring fire response to high wind speeds: fire rate of spread, energy release, and flame residence time from fires burned in pine needle beds under winds up to 27 m s⁻¹. *International Journal of Wildland Fire* 29 (1), 81-92. <https://doi.org/10.1071/WF18216>
4. van de Lindt, John W., Masoomi, Hassan, Attary, Navid, and Standohar-Alfano, Christine D., 2019. Tornado damage modeling: Single buildings, communities, and regions. Routledge Handbook of Sustainable and Resilient Infrastructure. https://ams.confex.com/ams/30SLS/mediafile/Manuscript/Paper376409/AMS-NashvillePaper-TIM_CDA.pdf
5. Standohar-Alfano, Christine D., van de Lindt, John W., and Holt, Eric M., 2017. Comparative Residential Property Loss Estimation for the April 25-28, 2011 Tornado Outbreak. *Journal of Architectural Engineering*. <https://ascelibrary.org/doi/10.1061/%28ASCE%29AE.1943-5568.0000283>
6. Standohar-Alfano, Christine D., van de Lindt, John W., and Ellingwood, Bruce R., 2017: Vertical Load Path Failure Risk Analysis of Residential Wood-Frame Construction in Tornadoes. *Journal of Structural Engineering*. [http://dx.doi.org/10.1061/\(ASCE\)ST.1943-541X.0001775](http://dx.doi.org/10.1061/(ASCE)ST.1943-541X.0001775)
7. Standohar-Alfano, Christine D., Estes, Heather, Johnston, Tim, Morrison, Murray J., and Brown-Giammanco, Tanya M., 2017: Reducing Losses from Wind-Related Natural Perils: Research at the IBHS Research Center. *Frontiers in Built Environment*. <https://doi.org/10.3389/fbuil.2017.00009>
8. Standohar-Alfano, Christine D., 2016: Damage Analysis and Mitigation for Wood-Frame Structures Subjected to Tornado Loading. *CSU Theses and Dissertations*. <http://hdl.handle.net/10217/173377>
9. Standohar-Alfano, Christine D., and van de Lindt, John W., 2015: Tornado Risk Analysis for Residential Wood-frame Roof Damage Across the United States. *Journal of Structural Engineering*. <http://ascelibrary.org/doi/abs/10.1061/%28ASCE%29ST.1943-541X.0001353>
10. Graettinger, A.J., Ramseyer, C.C., Freyne, S., Prevatt, D.O., Myers, L., Dao, T., Floyd, R.W., Holliday, L., Agdas, D., Haan, F.L., Richardson, J., Gupta, R., Emerson, R.N., Alfano, C., 2014: Tornado Damage Assessment in the Aftermath of the May 20th 2013 Moore Oklahoma Tornado. *NSF Final Report*. <http://esrivedv.caps.ua.edu/MooreTornado/Images/MooreTornadoFinalReport.pdf>

11. Standohar-Alfano, Christine D., Freyne, Seamus, Graettinger, Andrew J., Floyd, Royce W., Dao, Thang N., 2014: Performance of Residential Shelters in the May 20th, 2013 Moore, Oklahoma Tornado. *Journal of the Performance of Constructed Facilities*.
<http://ascelibrary.org/doi/abs/10.1061/%28ASCE%29CF.1943-5509.0000636>
12. Dao, Thang N., Graettinger, Andrew, Standohar-Alfano, Christine, Haan, Fred L., Gupta, Rakesh, Prevatt, David, Richardson, James, and Kashani, Alireza Geranmayeh, 2014: Failure Progression Analysis of Observed Residential Structural Damage with the Tornado Wind Field. *Structures Congress 2014*, 1448-1459.
<http://ascelibrary.org/doi/abs/10.1061/9780784413357.128>
13. Standohar-Alfano, Christine D., and van de Lindt, John W., 2014: An Empirically-Based Probabilistic Tornado Hazard Analysis of the U.S. Using 1973-2011 Data. *Natural Hazards Review*, **10**.
[http://ascelibrary.org/doi/abs/10.1061/\(ASCE\)NH.1527-6996.0000138](http://ascelibrary.org/doi/abs/10.1061/(ASCE)NH.1527-6996.0000138)
14. van de Lindt, J., Amini, M.O., Standohar-Alfano, C., Dao, T., 2012: Systematic Study of the Failure of a Light-Frame Wood Roof in a Tornado. *Buildings*, **2**, 519-533.
<http://www.mdpi.com/2075-5309/2/4/519>
15. Standohar-Alfano, Christine D., 2012: Impact of Upper Ocean Warming on Hurricane Intensity. *Open Access Theses*. Paper 362.
http://scholarlyrepository.miami.edu/oa_theses/362

PROFESSIONAL AFFILIATIONS AND MEMBERSHIPS

American Meteorological Society (AMS)	2007-Present			
Certified Consulting Meteorologist (CCM)	2021-Present			
American Society of Civil Engineers (ASCE)	2012-Present			
ASCE/AMS Wind Speed Estimation in Tornadoes Committee	2017-Present			
<i>Committee Secretary</i>				
Licensed Professional Engineer				
<i>NC (2020)</i>	<i>SC (2020)</i>	<i>GA (2020)</i>	<i>TN (2020)</i>	<i>FL (2020)</i>
<i>VA (2020)</i>	<i>MN (2021)</i>	<i>IA (2022)</i>	<i>WI (2022)</i>	<i>SD (2022)</i>