

stance by applying a comparative analysis of in-depth case studies, discussing this phenomenon in Poland and Norway—countries that not only differ significantly from each other in political, economic, and cultural terms but also lie outside the Anglo-Saxon context. We found that although both countries are fossil fuel giants and responsible for significant emissions of CO<sub>2</sub>, their general attitudes toward climate change are different.

By taking a qualitative approach, we propose explanations of contrarianism in these two settings by concentrating on predictors related to elements of identity, environmental values, political orientation, and the position of industrial actors in the political-economic system. In Norway, there is a broad social and political consensus about the cause and importance of climate change, while in Poland, the truth of anthropogenic climate change is particularly inconvenient. Our research resulted in mixed interpretations: while the two analyzed countries do differ to a large extent, the situations are not “black and white.” This observation confirms the results of previous studies, suggesting difficulties in defining universal factors leading to contrarian attitudes.

Thus, we proposed to also include complementary drivers that could explain contrarianism in future research, like trust in government, religion, or political-economic path dependencies. We acknowledge, however, the added value of an approach dealing with in-depth case studies because

scrutinizing different national contexts can contribute to a better understanding of specific factors behind contrarianism and their nuanced, relative importance under specific conditions—and that calls for more comparative research in the future to combine qualitative and quantitative approaches.—ANDRZEJ CEGLARZ (TECHNICAL UNIVERSITY MUNICH, POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH, RENEWABLES GRID INITIATIVE), R. BENESTAD, AND Z. W. KUNDZEWICZ, “Inconvenience vs. rationality. Reflections on different faces of climate contrarianism in Poland and Norway,” in the October issue of *Weather, Climate, and Society*.

#### HOW MOBILE HOME DISTRIBUTION SHAPES TORNADO IMPACTS

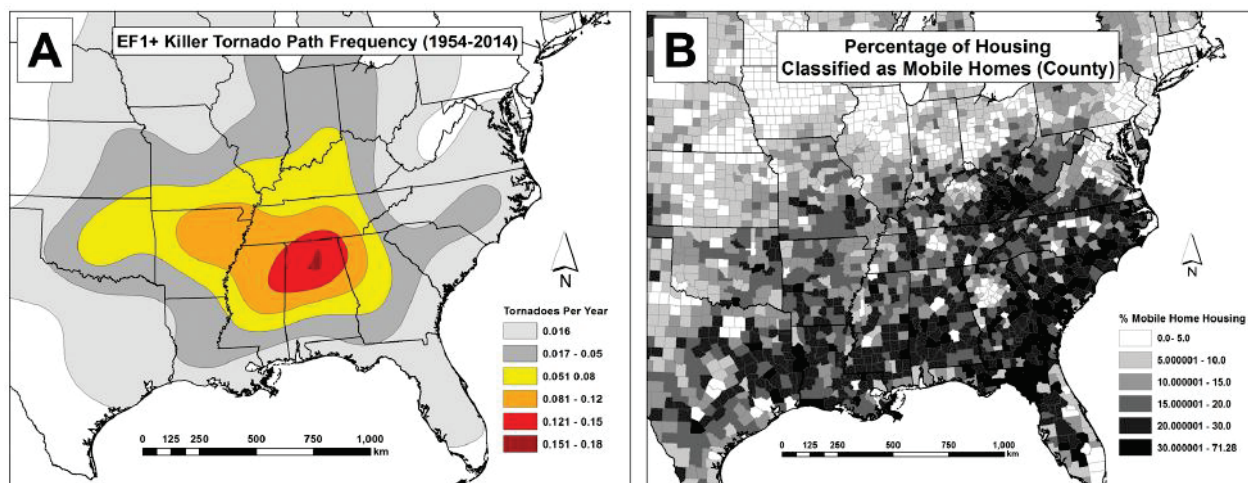
Since 1985, nearly 40% of all tornado deaths have occurred in manufactured or mobile homes,<sup>1</sup> even though these residences represent only 6% of the U.S. housing stock. Regionally, the Southeast’s elevated tornado mortality is thought to be, at least in part, a consequence of the region’s relatively high percentage of mobile home stock. However, no research has investigated how the spatial distribution of mobile homes and socioeconomic characteristics of mobile home residents affect tornado consequences. Our research reveals that a higher concentration of such homes in the Southeast and their sprawling nature vs. the Plains, combined with the inherent social status of mobile home residents, substantially increases their chances of being killed by tornadoes

or becoming victims of disaster.

We used geospatial methods, a Monte Carlo tornado simulation tool, high-resolution mobile home location information, and measurements of socioeconomic vulnerability factors to assess the tornado impact probabilities for mobile home residents in two regions prone to tornadoes—the Great Plains and Southeast. Specifically, the mobile home characteristics of Alabama and Kansas were examined, since these states have similar tornado risk but disparate land-use and development patterns. Comparative analyses between the two states determine how spatial distribution of mobile homes produces differences in tornado impact severity.

Study results reveal that tornado–mobile home impact potential is 4.5 times, or 350%, greater in Alabama than in Kansas because Alabama, in comparison to Kansas, has 1) a greater number of mobile homes and 2) a more sprawling mobile home distribution. Mobile home residents are also socioeconomically and demographically more vulnerable to tornado impacts compared to those living in permanent homes. Thus, mobile home residents not only reside in structures that make them physically vulnerable to tornadoes, but also their socioeconomic status exacerbates their vulnerability before, during, and after tornado events. The combination of elevated physical and social vulnerability of mobile home residents in Alabama—and throughout the southeast United States—produces greater odds of

<sup>1</sup> We follow Sutter and Simmons’s 2010 study, “Tornado Fatalities and Mobile Homes in the United States,” in using the more prevalent term “mobile home” for defining both manufactured and mobile homes since we do not differentiate structure age. Technically, mobile homes refer to those structures built prior to the 1976 Manufactured Home Construction and Safety Standards (HUD Code) implementation, whereas those built to that code are labeled manufactured homes. In both cases, these factory-built, transportable structures are moved to homesites on a permanent chassis.



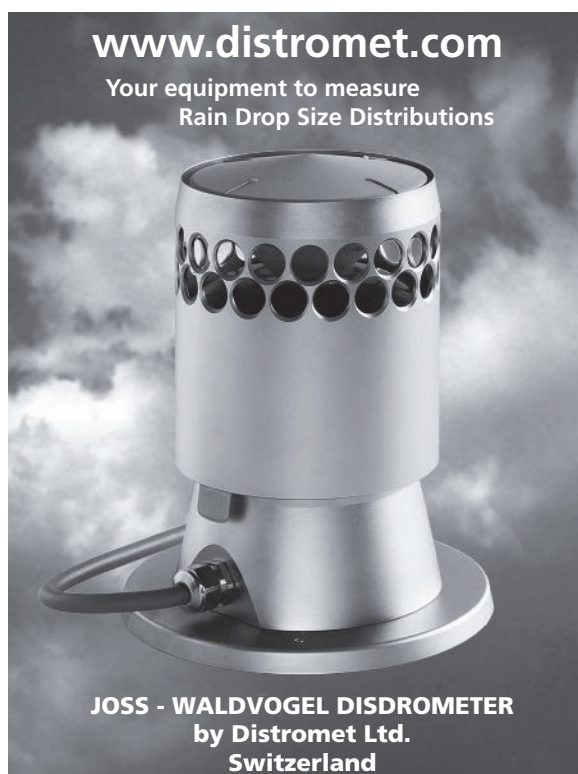
**Risk and Vulnerability Interact.** (a) EF1+ fatal tornado path frequency is concentrated in the central portion of the Southeast, where (in 2010) (b) the percentage of mobile homes is among the highest in the region.

tornado casualties and disaster potential in comparison to other high-risk regions such as the Great Plains.

Our research assessed the complex interplay of residential vulnerability and hazard risk in shaping the character of tornado impacts in the United States, revealing an initial understanding of how and

why mobile home residents are killed disproportionately in tornadoes compared to other housing, particularly in the Southeast. Along with land use planners and policymakers continuing to improve and enforce building codes that increase individual and community resilience, researchers, policy makers,

engineers, and members of the Integrated Warning Team should continue to work together to reduce tornado vulnerability and increase survivability during tornado events, especially for one of the most wind hazard-susceptible demographics in the United States: mobile home residents.—STEPHEN M. STRADER (VILLANOVA UNIVERSITY) AND W. S. ASHLEY (NORTHERN ILLINOIS UNIVERSITY), “Finescale assessment of mobile home tornado vulnerability in the Central and Southeast United States,” in the October issue of *Weather, Climate, and Society*.



**HOW BONNIE MAINTAINED INTENSITY FACING HIGH SHEAR AND AN EYEWALL REPLACEMENT**  
Hurricane intensity prediction remains a challenging problem in the forecasting community. Vertical wind shear and secondary eyewall formation represent two of the major processes affecting hurricane intensity, both of which typically weaken storms initially. We examined Hurricane Bonnie (1998)—a resilient hurricane that maintained intensity despite the presence of both strong vertical wind