

SES08-2008-000275

Abstract for an Invited Paper
for the SES08 Meeting of
the American Physical Society

Recent Advances and Future Challenges in Hurricane Prediction

YUH-LANG LIN, N.C. A&T State University

Recent advances and future challenges in hurricane prediction reviewed. More skillful hurricane prediction is needed due to the some societal impacts, which include a high percentage of population living along coastal areas, costly evacuation, evacuation numbers depending on hurricane size and intensity, and the effects of global warming. In order to make skillful hurricane prediction, one has to understand the origin of hurricanes, such as that the precursors of eastern Atlantic major hurricanes are originated from African easterly waves and the embedded mesoscale convective systems over eastern North Africa. In this paper, we review the recent advances in hurricane forecast process, numerical weather prediction techniques, models used for hurricane prediction, hurricane track prediction, hurricane intensity and rainfall prediction, and seasonal hurricane forecast. Finally, the potential impacts of global warming on hurricane frequency and intensity are discussed. This work is supported by a grant from the National Oceanic and Atmospheric Administration, Educational Partnership Program under the cooperative agreement NA06OAR4810187.