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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Novel method for hurricane trajectory prediction based on data mining" *by* X. Dong and D. C. Pi

Anonymous Referee #1

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General Review:

This manuscript describes a data mining technique to predict current hurricane trajectories using an archive of past trajectories. The reported accuracy of the method is 57 – 65%. I have some major comments that should be addressed prior to further consideration for publication. That said, I do think that their algorithm is interesting and potentially useful for improving forecasts. If they address my comments, I think this work could be published in a peer-reviewed journal, but maybe not NHESS.

Comments:

1. As this is mostly a computer algorithm study with no physical basis, I think that NHESS might not be the best journal for publication of this manuscript. I suggest

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another journal such as Computers & Geosciences.

2. The Authors mention other hurricane trajectory prediction techniques, but they do not compare any of these with their trajectory prediction method. I suggest that they compare their method with currently used data mining methods and other techniques. They need to clearly address how their method compares with the state-of-the-art for trajectory prediction. Also, I recommend that the Authors consider comparing their results with the techniques and results presented in these references below:

-Buckingham, Christian, Timothy Marchok, Isaac Ginis, Lewis Rothstein, Dail Rowe, 2010: Short- and Medium-Range Prediction of Tropical and Transitioning Cyclone Tracks within the NCEP Global Ensemble Forecasting System. Wea. Forecasting, 25, 1736–1754. doi: http://dx.doi.org/10.1175/2010WAF2222398.1

-Tien, Tran Tan, Cong Thanh, Hoang Thanh Van, Kieu Quoc Chanh, 2012: Two-Dimensional Retrieval of Typhoon Tracks from an Ensemble of Multimodel Outputs. Wea. Forecasting, 27, 451–461.doi: http://dx.doi.org/10.1175/WAF-D-11-00068.1

-Poroseva, Svetlana V., Nathan Lay, M. Yousuff Hussaini, 2010: Multimodel Approach Based on Evidence Theory for Forecasting Tropical Cyclone Tracks. Mon. Wea. Rev., 138, 405–420. doi: http://dx.doi.org/10.1175/2009MWR2733.1

3. Hurricanes do not really follow disengaged paths as they are governed by the physics of the atmosphere and ocean. Can atmospheric and ocean dynamics be integrated into this data mining method? That would be quite interesting.

4. Significant editing for grammar and style is needed.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 4681, 2013.