

**SESSION: (B5) Hindcast and forecast quality assessment**

**(B5-06)**

**How skillful are the multi-annual forecasts of Atlantic hurricane activity?**

Caron, Louis-Philippe (1), Hermanson, Leon (2), Dobbin, Alison (3), Imbers, Jara (3), Lledo, Llorenç (1), Vecchi, Gabriel A. (4)

Barcelona Supercomputing Center, Spain (1), Met Office Hadley Center, United Kingdom (2), Risk Managemetn Solutions, United Kingdom (3), Princeton University, USA (4)

The recent emergence of near-term climate prediction has prompted the development of three different multi-annual forecasting techniques of North Atlantic hurricane frequency. Descriptions of these three different approaches, as well as their respective skill, are available in the peer-review literature, but because these various studies are sufficiently different in their details (e.g. period covered, metric used to compute the skill, measure of hurricane activity), it is nearly impossible to compare them. Using the latest decadal re-forecasts currently available, we present a direct comparison of these three multi-annual forecasting techniques with a combination of simple statistical models, with the hope of offering a perspective on the current state-of-the-art research in this field and the skill level currently reached by these forecasts. Using both deterministic and probabilistic approaches, we show that these forecast systems have a significant level of skill and can improve on simple alternatives such as climatological and persistence forecasts, and have skill similar to, or better than, statistical forecasts currently used by the cat modeling industry.