Predicting the predictability of nowcasting and NWP forecasting

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The skill of nowcasting by Lagrangian Persistence (LP) is highly variable. It may vary from 2 h to 9 h of useful skill and it depends on the geographic location and on the type of meteorological situation in which precipitation is generated. The usefulness of LP nowcasting is limited without defining the expected skill for a given situation.

A similar situation holds for forecasts by numerical prediction, and there is significant correlation between the two. This correlation severely limits the usefulness of blending (most of the apparent increase of skill from blending comes from the loss of small scales associated with the blending). It is commonly accepted that the degree of predictability is determined by the strength of the large scale forcing.

In this work we show preliminary results of our search for large-scale forcing indicators in are useful as predictors of skill of LP nowcasting at least 12 hours in advance. The formulation of such a predictor would assess the confidence of a forecast beforehand, and it will contribute to our knowledge of predictability by NWP models and of LP nowcast.