

Atmos. Chem. Phys. Discuss., author comment AC2
<https://doi.org/10.5194/acp-2021-620-AC2>, 2022
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Comment on acp-2021-620

Paul Joe et al.

Author comment on "Measurement Report: Challenges of Nowcasting the Women's Slope Style Finals at the PyeongChang 2018 Olympic Winter Games" by Paul Joe et al., Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2021-620-AC2>, 2022

I need to clarify and summarize the discussion of the 2D/3D nature of the wind data, the computation and terminology of co and cross winds.

1. The winds (speed and direction) are made horizontally. There is no vertical wind measurement. This is a deficiency but this is what the forecasters and researchers had to work with. Nonetheless, part of the objectives of the paper was to investigate the usefulness of this for forecasting and nowcasting.

2. The slope of the terrain was the average slope in 3D using the weather station locations. However, since there is no vertical wind component, the direction of the slope was used to derive the wind components in the direction of the slope and across the slope.

3. The computation is done by dot (sometimes called the co-linear product) and cross products of the horizontal wind at each station and the unit vector of the slope direction.

4. This is termed "co" and "cross" slope winds instead of along and cross slope. This is purposely done to distinguish this from a wind that includes the vertical component and is truly along the slope.

This was clear in the original manuscript or in my previous response.