

# ***Interactive comment on “CORDEX-WRF v1.3: Development of a module for the Weather Research and Forecasting (WRF) model to support the CORDEX community” by Lluís Fita et al.***

## **Anonymous Referee #1**

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This work introduces a tool that adds diagnostics to the WRF model while it is running in order to generate outputs of specific interest to CORDEX collaborators. As such it is valuable documentation of what is being added, and should be published for this information content.

### General points

1. The technical description looks accurate to someone familiar with the model structure and methods.
2. WRF has a previous set of output diagnostics (wrfxtrm output option) that also probably includes necessary outputs for CORDEX. Is it true or not that those fields such

as daily max/min/mean surface values would also be required, or is the set presented here a complete requirement for CORDEX. The context of the existing wrfxtrm output needs to be mentioned.

### Specific Points

1. p12, line 20. The model geopotential height is at full levels while others are at half levels. Does CORDEX expect that vertical staggering?
2. p13, line 10. The way these summations over time are done would preclude using adaptive time steps and just using a fixed step. This should be mentioned. In fact, wrong results could be obtained if adaptive steps are used. Slight modifications to the algorithms would allow for time-varying dt.
3. p14, line 7. It should be mentioned that sund has units of seconds. It was not obvious why it had such large values and a reader might first expect it to be in hours, for example.
4. p18, line 2. Is zp then used to simply vertically interpolate the wind? The description misses out this step.
5. p19, line 23. Why would not the Brasseur method also apply to gusts at 100 m? Assuming zp is above 100 m, it may be the same gusts.
6. Figure 13 and others. I am not sure the best figure quality has been achieved. The resolution looks low.
7. p26. Radiative fluxes. Are not the outward longwave and shortwave at the top also required? These would also be available from other WRF fields with CAM and RRTMG options.

### Minor Typos/Spelling

The paper could benefit from an editing read through, as I probably only caught a small percentage of errors.

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1. p17, line 13. zclout
2. p37, line 25. doamins
3. p39, line 19. oder
4. p40, line 25. beneficed -> benefit
5. p41, line 9. cmorzization (cmorization?)

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Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2018-241>, 2018.

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