

## Overview

This is a nicely written review paper that should prove useful and interesting to people working in meteorology that lack knowledge of grid and cloud computing.

The paper provides useful reference material on previous work on meteorological applications on grid and cloud computers. It also uses several applications to illustrate the practical issues that can arise when running such applications in these environments. The technical material presented is clear and accurate, and the conclusions drawn are sensible.

## Manuscript evaluation criteria

### Scientific significance: 2

As noted above, this is primarily a review paper. Grid and cloud computing have been known for some time, and others have applied them in meteorology. What is valuable here is the collection of relevant material in one place, the experiences reported, and the careful analysis of lessons learned from that material.

### Scientific quality: 2

The discussion of related work is good. The experiments are clearly described. I wouldn't say that the results are tremendously significant from a scientific perspective: they are suggestive of what can be done on grid and cloud, but do not provide definitive guidance on how to proceed with other models, for example.

### Reproducibility: 2

The experiments are well described.

### Presentation quality: 1

The paper is particularly clearly written.

## Further discussion

The paper would be stronger if the authors ran the same applications in both grid and cloud. I initially thought to request such experiments as a condition for acceptance, but upon further consideration I concluded that the lessons learned were sufficiently valuable in themselves. But if the authors could do this, that would be useful.

In Section 2.1.1 and 2.1.2, the authors seem to be reviewing Grid and Cloud with respect to a pre-defined set of criteria. (E.g., at the end of 2.1.1, they write: "The *limited amount of resources* never influenced us as they were always vast enough to not hinder our models.") If indeed the criteria come from elsewhere, can you say where?

Table 1 duplicates data that is available online, in an up-to-date form. I don't see that it is necessary.