Geosci. Model Dev. Discuss., 7, C3717–C3719, 2015
www.geosci-model-dev-discuss.net/7/C3717/2015/

Geoscientific Model Development Discussions

Interactive comment on "Mapping of satellite Earth observations using moving window block kriging" *by* J. M. Tadić et al.

Anonymous Referee #2

Received and published: 24 May 2015

Mapping of satellite Earth observations using moving window block kriging
24 May 2015
Reviewer Comments

The paper develops a methodology based on Gaussian process regression in order to interpolate missing data onto spatial-temporal grids. The paper is well-written and the idea is clearly presented. However, I think similar works have been proposed in the literature, for instance, what is the difference between your methodology and the next ones?

- Haylock, M. R.; Hofstra, N.; Klein Tank, A. M. G.; Klok, E. J.; Jones, P. D.; New, M.. A European daily high-resolution gridded data set of surface temperature and

precipitation for 1950-2006. Journal of Geophysical Research: Atmospheres, Volume 113, Issue D20

- Goovaerts, P.. Geostatistical approaches for incorporating elevation into the spatial interpolation of rainfall. Journal of Hydrology. Volume 228, Issue 1, p. 113-129.
- Haberlandt, Uwe. Geostatistical interpolation of hourly precipitation from rain gauges and radar for a large-scale extreme rainfall. Journal of Hydrology, Volume 332, Issue 1-2, p. 144-157.

Some of the results in the current literature show that kriging (and even more, cokriging) cannot be used in practical scenarios owing to the lack of correlations between components such as elevation and precipitation:

- Daly, Christopher; Neilson, Ronald P.; Phillips, Donald L. A Statistical-Topographic Model for Mapping Climatological Precipitation over Mountainous Terrain. Daly, Christopher; Neilson, Ronald P.; Phillips, Donald L. Journal of Applied Meteorology, vol. 33, Issue 2, pp.140-158

what do you say about this?

Other comments:

- In figure 2 and 5, the values in the colorbars are very small, what is the range of those values?

Interactive comment on Geosci. Model Dev. Discuss., 7, 5381, 2014.

Mapping of satellite Earth observations using moving window block kriging
May 24, 2015
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Fig. 1.