Subject: Re: Interpolation: grid --> observation point
Posted by wmc on Fri, 25 Feb 2000 08:00:00 GMT
View Forum Message <> Reply to Message

Andy Loughe <loughe@fsl.noaa.gov> wrote:
> I have inherited code that takes atmospheric model (gridded) data
> and interpolates it to station observation points that report
> hourly precipiation. The model points form a cartesian coordinate
> system, while the station observations are spread randomly
> within the boundaries of the full model domain.

> Currently, a bi-linear approach is used to interpolate the
> model data to each observation point. This method uses the
> four closest model grid points which surround the observation
> point.

> I would like to use more than just the four model grid points
> which surround the observation point, and weight the more distant
> points appropriately.

Is this a good idea? If there is any justification for
doing this, its that the model numerics means that more than just the
surrounding grid points influences a point. But in that case, your
interpolation should be based on the model numerics.

This might just be sensible for, say, surface pressure, but I'd have
thought that it would not be appropriate for ppn (by virtue of how its
generated).

In fact, one could probably make a reasonable case for saying that, for
convective ppn, even bilinear interpolation is inappropriate and you
you should just use the value from whichever grid square the station
happens to be in.

-W

--
William M Connolley | wmc@bas.ac.uk | http://www.nbs.ac.uk/public/icd/wmc/
Climate Modeller, British Antarctic Survey | Disclaimer: I speak for myself