Subject: Re: Triangulate and Trigrid
Posted by Marty Ryba on Thu, 11 Sep 1997 07:00:00 GMT
View Forum Message <> Reply to Message

Chunhua Qi wrote:
> I don't know whether anybody had raised any doubts or questions on
> the reliability of the results by triangulate and trigrid. I had some
> irregular-gridded data from satellite (about 1000 points for northern
> hemisphere) and wanted to fit them to a regular grid. I knew there were
> three big value points near each other and intuitively I would think
> they must come from a big-value area around this three points. Actually
> I binned the data into lat/lon boxes and took weighted averages and I
> got this big-value area. But when I used the procedures triangulate and
> trigrid, the result came like two big-value areas each of which centered
> on one of those three points with the low-value node between them. You
> know that was incorrect for the sense of interpolation. Later I found
> that this was due to the selection of the Delaunay triangulation. The
> triangulate procedure would select the points that far away those three
> points as triangulates and made the interpolation by them. It seems if
> there were a second trianulation algorithms, they would gave a much
> different result.

Sounds like some of the inherent problems/issues with triangulation. Depending on the nature of your data and your sampling, you may need to recourse to some other (slower) methods of interpolation. A good reference I have come across is:

Contouring: A guide to the analysis and display of spatial data, by David Watson, Pergamon Press, 1992, ISBN 0 08 040286 0.

Check out Dave's Web site at http://www.iinet.net.au/~watson/

--
Dr. Marty Ryba | Of course nothing I say here is official
MIT Lincoln Laboratory | policy, and Laboratory affililaton is
ryba@ll.mit.edu | for identification purposes only,
| blah, blah, blah, ...