Subject: optimization; which point falls into a polygon
Posted by Klemen on Tue, 22 Sep 2009 21:57:06 GMT
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Hi,

I am working with geostationary satellite data and some GIS rasters. The satellite data do not have a regular sampling (pixel has a form of a parallelogram) but I know corner coordinates of each pixels.

I would like to do some kind of spatial join - I would like to know which of my pixels in GIS rasters (regularly sampled) fall into each satellite pixel – I would like to create a raster where each GIS pixel contains an index of the corresponding satellite index. This can be easily done using 4 for loops when the GIS raster is small. However, I would like to do this on a 1000 * 1000 large GIS layer. Satellite data have factor 3 less pixels in one direction and factor 6 less pixels in the other direction. Such a way is then really time consuming.

How to do it faster? I was reading of triangulation, but this would probably mean that I would have to triangulate each GIS raster point with satellite centre points and then check in which of four closest satellite pixels falls the raster pixel. But I can imagine, that building a triangulation for a million times is also not really fast.

Does anybody have a suggestion?

Thank you in advance!
Klemen