Subject: Re: Erosion/Dilation Operators
Posted by Achim Hein on Tue, 18 Feb 1997 08:00:00 GMT
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David Fanning wrote:
>
> Hi,
>
> Does anyone have any practical experience using the erosion
> and dilation operators in IDL? I can't make much sense of the
> documentation. In particular, I can't figure out what a good
> structuring element would be.
>
> I am working with ice flow data. I want to calculate the
> size of the ice flows, but first I have to pick them out.
> I've fooled around with thresholding, edge operators, etc.,
> but in the end the data is still "messy", without clearly
> defined boundaries, or with small "artifact" ice flows
> inside the larger, definate ice flows. I thought erosion
> and dilation would be a good way to clean up the data,
> but I can't see how it works exactly.
>
> I would appreciate any and all suggestions.
>
> Thanks,
>
> David
>
Hi David,

erode/dilate are morphological functions to find special areas due to a structuring element.
In principal we can say that for the erosion the algorithm looks if ALL pixels of an interesting area in the image are identical to the structuring element. If the pixels are equal to the structuring element the actual pixel in the resulting image is set to one.
The dilation looks if ONLY ONE pixel is equal to the structuring element before setting the resulting pixel to one.

I do not know any english literatur describing this problem exactly - sorry.

These functions are a very fast way to clean up data due to special expectation but think about the border of dilated/eroded areas - you shift the border of the eroded area and so you can lost information you are interested in.

If you are interested in ice flow, in the frequency domain the flowing

areas had to be shifted as against the nonflowing parts?

Achim
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