Subject: Re: find max in 3D array -- slow
Posted by Maxwell Peck on Sun, 11 Apr 2010 10:44:55 GMT
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On Apr 11, 2:03 am, "Timothy W. Hilton" <hil...@meteo.psu.edu> wrote:
> Hello IDL users,
>
> I have a 1200x1200x2900 array of floats. The dimensions correspond to
> latitude x longitude x time. I need to find the maxium at each
> location -- that is, I need the 1200x1200 array containing the max
> along the 3rd dimsion. IDL takes almost 3 minutes to do this on my
> system. This seemed slow. I compared it with Matlab, which took ten
> seconds. Is there a better way to search for the maxima using IDL?
>
> The demo code I used to compare IDL and Matlab is below (with output).
>
> I'm wondering if I ought to switch to Matlab. I just spent a couple
> of days writing IDL code to read my data, so I'd rather not.
>
> Many thanks,
> Tim
>
> --
>
> Timothy W. Hilton
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>
> ========
> scratch.pro:
>
> foo = randomu(0, 1200, 1200, 2920)
> PRINT, systime()
> foo_max = max(foo, DIMENSION = 3)
> PRINT, systime()
> END
>
> IDL> .run scratch
> % Compiled module: $MAIN$.
> Sat Apr 10 10:44:44 2010
> Sat Apr 10 10:47:36 2010
> IDL>
>
> ========
> scratch.m:
>

```
>  foo = rand(1200,1200,2920);
>  fprintf('%s\n', datestr(now()));
>  foo_max = max(foo, [], 3);
>  fprintf('%s\n', datestr(now()));
>
>>>  scratch
>
>  10-Apr-2010 10:42:45
>  10-Apr-2010 10:42:55
```

I don't know if it's any quicker, and it will sure chew some memory
but sort_nd might be worth a try.

http://www.dfanning.com/programs/sort_nd.pro

Just sort it along the 3rd dimension and then pull the slice of the
last band...
