Subject: Re: Calculate the mean of many images
Posted by Wasit.Weather on Sun, 16 Nov 2008 18:30:20 GMT
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On Nov 16, 2:54 am, Craig Markwardt <cbmarkwa...@gmail.com> wrote:
> On Nov 16, 1:16 am, Bulrush <Wasit.Weat...@gmail.com> wrote:
>
>> Hello,
>> I know this topic has been posted several times. But I could not find
>> my answer from these posted.
>> My issue is: I have many images 2 bands in each, one image is QA image
>> and the other one is data.
>> I need to calculate the mean of good pixels. Let's say QA image tells
>> me the location of good pixels, e.g. 1 for good pixels, and other for
>> bad. There are also NaN values. So, if the pixels are "good" in 7
>> images out of ten, then
>> (pixel1+pixel2...+Pixel7) /7
>
> I would loop over input images, and keep track of the cumulative sum
> of the number of valid pixels (NPIX), and the cumulative sum of the
> pixel values (SUM). Something like the following. Since there are
> only a few images, there will be very little overhead in the FOR-loop.
>
> Craig
>
> npix = 0 & sum = 0
> for i = 0, n_images-1 do begin
> qa = ... the ith QA image ...
> img = ... the ith image ...
> mask = (qa EQ 1) AND (finite(img) EQ 1)
>
> ;; Sum valid pixels
> npix += mask
> wh = where(mask, ct)
> if ct GT 0 then sum(wh) += img(wh)
> endfor
>
> ;; Positions where there are good pixels
> qa_avg = (npix GT 0)
> wh = where(qa_avg EQ 1)
>
> ;; Compute average for valid pixels
> avg = sum*0
> avg(wh) = sum(wh) / npix(wh)

Thanks for all the comments. I think Craig's method would work for me.
the Actual QA image contains more than one value, such as 0.00 (good
pixel), 1.000 (between good and band), 2.000 (cloud), 3.000(snow),

etc.
What does finite(img) EQ 1 mean here? Can I write this statement as
the following?

mask = (qa EQ 1.000 and qa EQ 0.000) AND (finite(img) EQ 1.000 &&
0.000)

Thanks
