Subject: Re: Optimizing loops
Posted by Phillip Bitzer on Tue, 08 Dec 2015 16:28:48 GMT
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On Wednesday, December 2, 2015 at 1:04:33 PM UTC-6, sam.t...@gmail.com wrote:
> If anyone has optimization suggestions, please let me know! Thanks :)

In addition to the suggestions that Sergey provided, let's add a couple more:

```
>       ind14 = WHERE(dist LE 14.)
>       land14 = land_mask(ind14)
>       landy = WHERE(land14 EQ 0, landy_cnt)
>       land_perc[j] = FLOAT(landy_cnt)/FLOAT(N_ELEMENTS(land14))*100
```

For the last line, no need to "float" both numbers. Also, you might consider either a) dropping the *100 and do that at the end or b) reordering the operations so that you don't need to call FLOAT at all. Consider:

```
IDL> 1/2  ;we know this is not the number we are looking for
IDL> 1/FLOAT(2) ;closer, but we'll have to multiply the final array by 100
IDL> 100.0 * 1/2 ;this works, but only if the "100.0" comes first
```

Also, you don't need to count the number of elements in land14 - you already have that information. It's the same size as ind14, and you can get that size using the count argument.

Further, x*x is faster than x^2...although the cost/benefit depends on the size of the arrays.

Finally, there *is* a way to further vectorize your code. But, whether it's worth it depends on the size of the land/sat arrays. There's some black magic using rebins, pound signs, etc.