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Subject: Help with Histogram...

Posted by [MA](#) on Tue, 27 Sep 2005 21:45:12 GMT

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Sorry, some people here are surely starting to get sick of Histogram by now...

I've been reading the tutorial a couple of times in the last few weeks, and I've actually managed to get rid of a lot of unnecessary loops and stuff. I have a problem here, and I'm almost sure there must be a way to do it with histogram, but can't figure out how.

I have an (as yet empty) array (profile=IntArr(60)), each index corresponding to a height level (e.g. surface to 20km, unevenly spaced), and two arrays (base, top, each FltArr(8)) containing the height of eight cloud bases and cloud tops. I want to set the value of the levels in 'profile' that fall between a cloud base and a cloud top (i.e. are "inside" a cloud) with a 1. Here's an attempt at an illustration:

| profile<br>levels          | value of<br>profile |
|----------------------------|---------------------|
| .                          |                     |
| .                          |                     |
| .                          |                     |
| -                          | 0                   |
| -                          | 0                   |
| -       ----- top[1]=8000m | 1                   |
| -                          | 1                   |
| -                          | 1                   |
| -       -----base[1]=7300m | 1                   |
| -                          | 0                   |
| -                          | 0                   |
| -                          | 0                   |
| -       -----top[0]=500m   | 1                   |
| -                          | 1                   |
| -       -----base[0]=370m  | 1                   |
| -                          | 0                   |
| -                          | 0                   |

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/////////surface/////////

How can I do that without looping? If I could specify the histogram bins by hand, I'd set them to the cloud base and top levels, and let histogram sort 'profile' into those bin. At fist I thought the keyword 'Locations' would let me do that, but I guess I got that wrong. The only thing I can think of is something along the lines of

```
index=Where((profile GE base[0] AND profile LE top[0]) OR $
            (profile GE base[1] AND profile LE top[1]) OR $
```

```
...  
    (profile GE base[7] AND profile LE top[7]))  
profile[index]=1
```

Any ideas? As an aside, I got a couple of thousand profiles like that, and 'profile' is really an array of (number\_of\_profiles x 60). If there's any way to do this problem without looping over the individual profiles, that would be even better.

Thanks!

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