Subject: arithmetic operation on array
Posted by Phillip Miller on Mon, 12 Aug 2013 20:59:16 GMT
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Possibly a dumb question, but I'm pretty new to IDL:

I have a geographically explicit time-series with 456 time steps and a 1 degree resolution, so an array of dimensions 360 x 180 x 456, and I would like to recalculate it as the anomaly from the time-series average.

I can calculate the time series average no problem

> average = mean(data, dimension=3)

But, of course, when I try

> anomaly = data - mean(data, dimension=3)

then I "lose" my third dimension, and end up with an array of 360 x 180, rather than what I want, which is an array that is the same size as my original.

I know that I could loop it like

> for i = 0,456 data[*,*,i] = data[*,*,i] - mean(data, dimension=3)

but I feel like there must be a better way than making a for loop. Am I supposed to duplicate mean(data, dimension=3) times 456 in order to create an identically sized array for the minus operation? (i.e., an array with dimensions 360 x 180 x 456, but where each of the 456 "slices" is identical)

Thanks in advance for any suggestions!