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Subject: Tasselated Cap in IDL?

Posted by [DavidF\[1\]](#) on Mon, 20 Aug 2012 16:59:19 GMT

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Folks,

Has anyone implemented a Tasselated Cap algorithm for Landsat data in IDL? I realize this exists in ENVI, but I am looking for an IDL-only solution.

Thanks,

David

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Subject: Re: Tasselated Cap in IDL?

Posted by [Yngvar Larsen](#) on Wed, 29 Aug 2012 06:09:20 GMT

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On Monday, 20 August 2012 18:59:19 UTC+2, Coyote wrote:

> Folks,

> Has anyone implemented a Tasselated Cap algorithm for Landsat data in IDL? I realize this exists in ENVI, but I am looking for an IDL-only solution.

Sorry for late answer, but since nobody answered yet... (Though likely you already resolved this by yourself, since Google knows the answer.)

Not sure what your actual problem is? The Tasseled Cap transformation is just a linear combination of (a selection of) the bands of a multispectral imager. So the actual IDL code would be something you literally implement in 2 minutes. So I guess you are looking for the weights to use? That of course depends on which Landsat data you have.

For Landsat TM and the older Landsat MSS, there is a useful summary here:

<http://www.sjsu.edu/faculty/watkins/tassel.htm>

For Landsat 7 ETM+, you can try Table 2 in the following document:

<http://landcover.usgs.gov/pdf/tasseled.pdf>

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Yngvar

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Subject: Re: Tasselated Cap in IDL?

Posted by [David Fanning](#) on Wed, 29 Aug 2012 12:45:07 GMT

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Yngvar Larsen writes:

- > Sorry for late answer, but since nobody answered yet...
- > (Though likely you already resolved this by yourself,
- > since Google knows the answer.)

Yes, but like most things, the answer is a little bit more complicated than you think it is going to be. :-)

Anyway, I've written a `cgTasseledCap` function that goes along with a `cgTasseledCapCoeffs` function that can return a number (eight, if I remember correctly) of tasseled cap matrices with coefficients for performing the operation, depending upon what kind of data you have.

Most of the coefficients apply to various types of LandSat data, but there are some Quickbird coefficients there as well.

I haven't officially released the code yet, as I am still testing it. But, I'm reasonably sure it is working correctly. Look for it by the end of the week.

Cheers,

David

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David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

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