



CERES Science Team Meeting, Brussels Belgium, Jan 18-21, 2002

ERBE-like Snow Maps

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CERES Snow/Ice Maps

Current maps are made from NSIDC data.

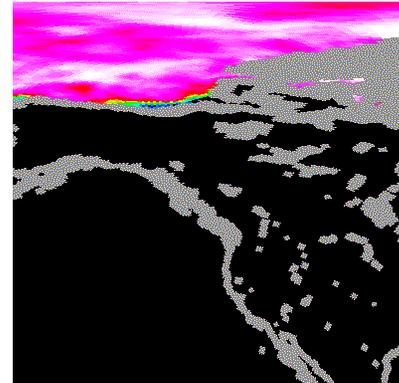
- NSIDC provides snow/no-snow value, and ice percentage.
- Test files in 1997 were different from production files.
- Algorithm no longer executed within 50km of coasts.
- Consequently called their fill values 'no snow', 'no ice'.

What we have.

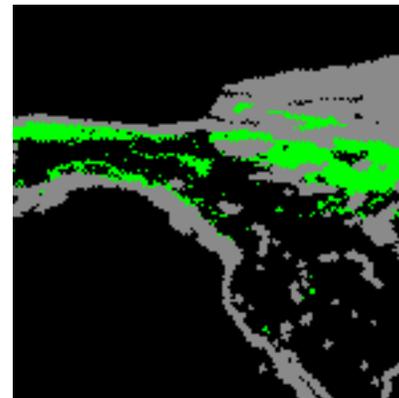
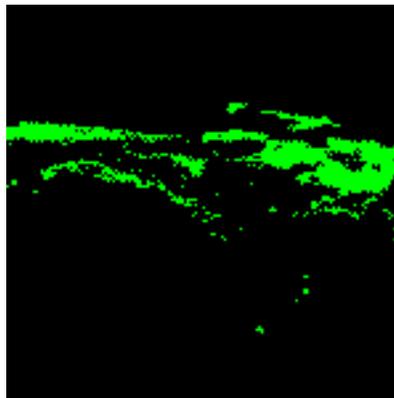


NSIDC Ice Map

What it should be.



NSIDC Snow Map





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This error effects:

- Clouds & SARB - misidentifies surface on 10' maps.
- ERBE-Like - uses a 2.5deg Geo-map created from the 10' maps.

What can we do?

- For 10' snow/ice maps put in the fill value, letting Clouds and SARB make allowances for it.
- Then what will ERBE-Like do with a fill value?

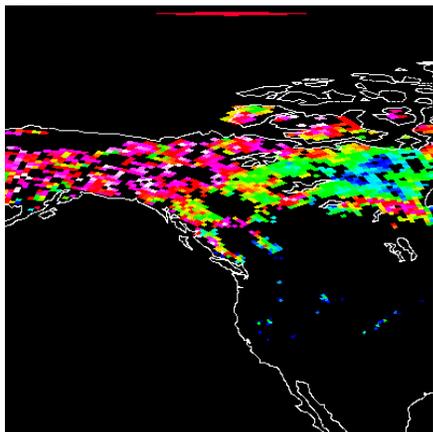
CERES also receives ice and snow data from NOAA NESDIS.

- Their algorithm does execute along coastlines.
- Should we use NESDIS?
- Perhaps create a composite map?

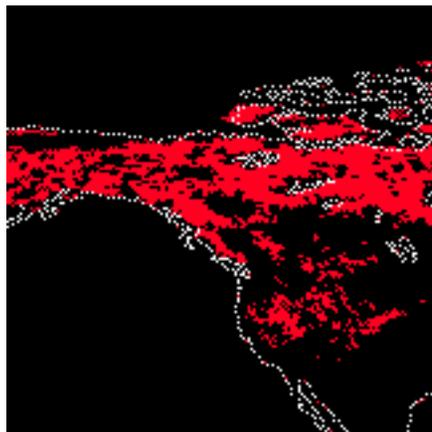
Look at what NESDIS supplies:



Depth



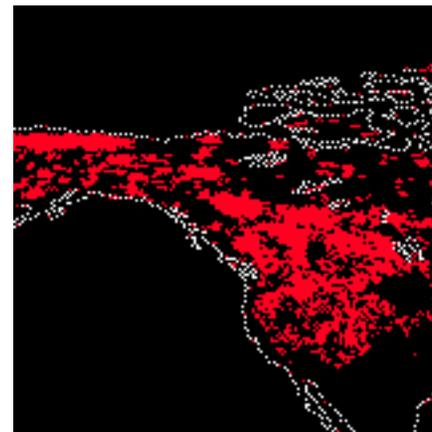
Dry



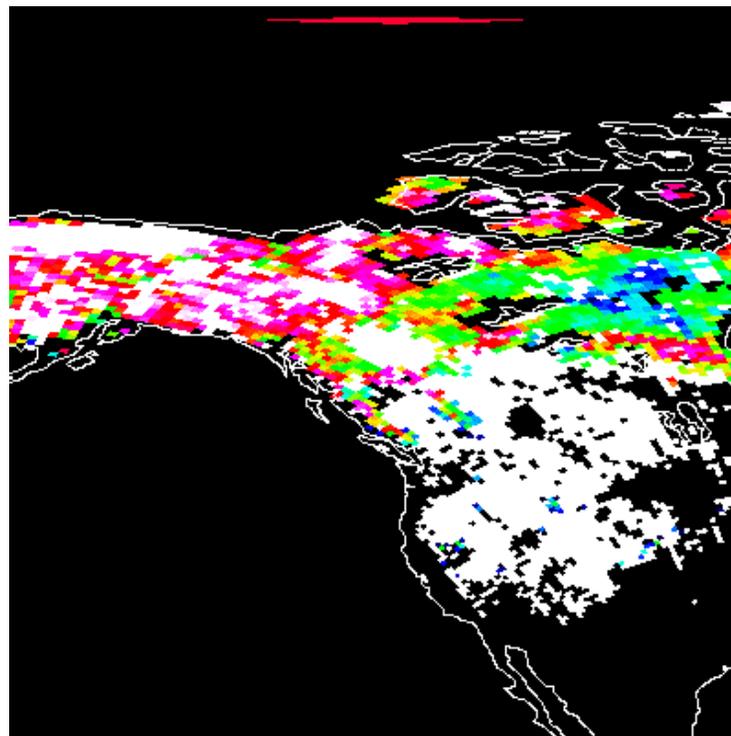
Wet



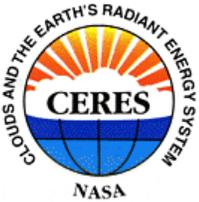
Refrozen



Final NESDIS
Snow Map



How does it compare
to NSIDC?

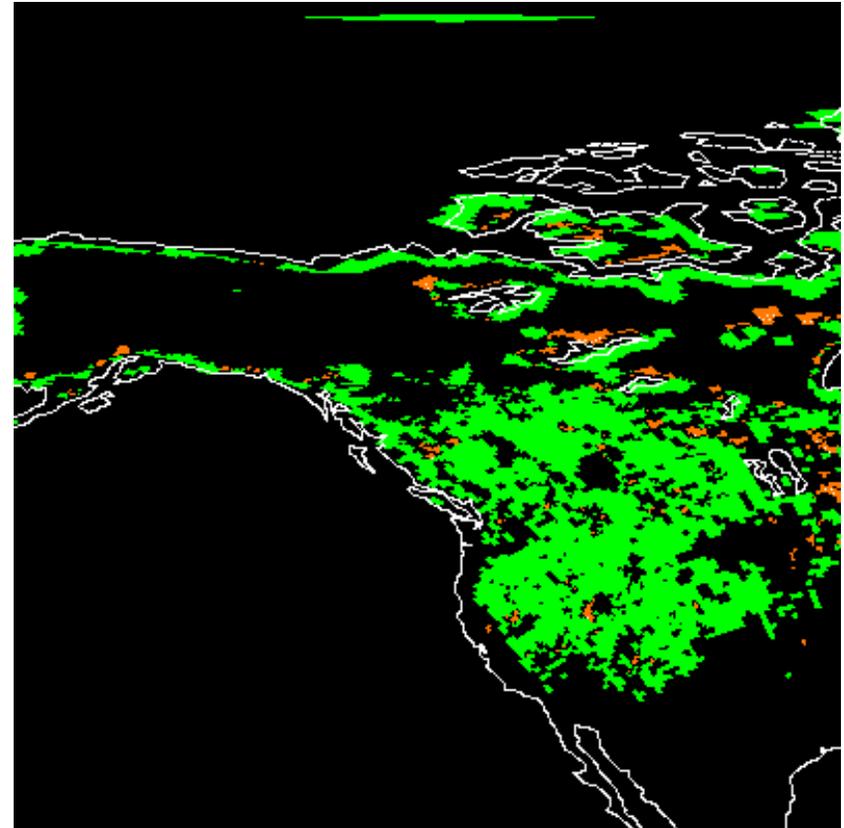
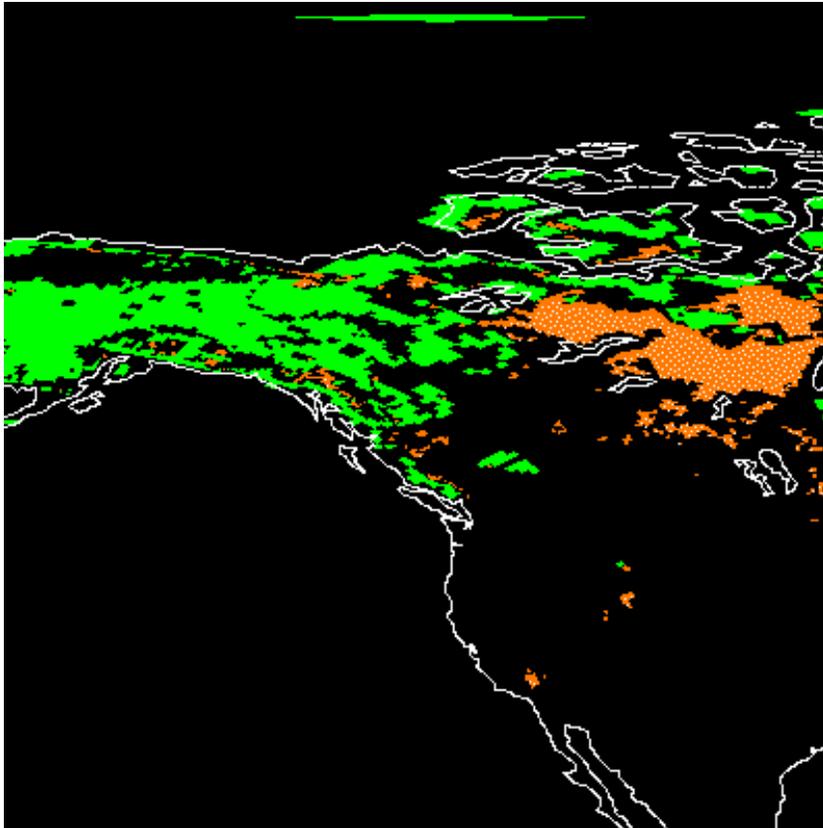


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NSIDC supplies only snow/no snow values, so comparing

Oct 15, 2001

Nov 26, 2001



 NSIDC has snow
NESDIS does not.

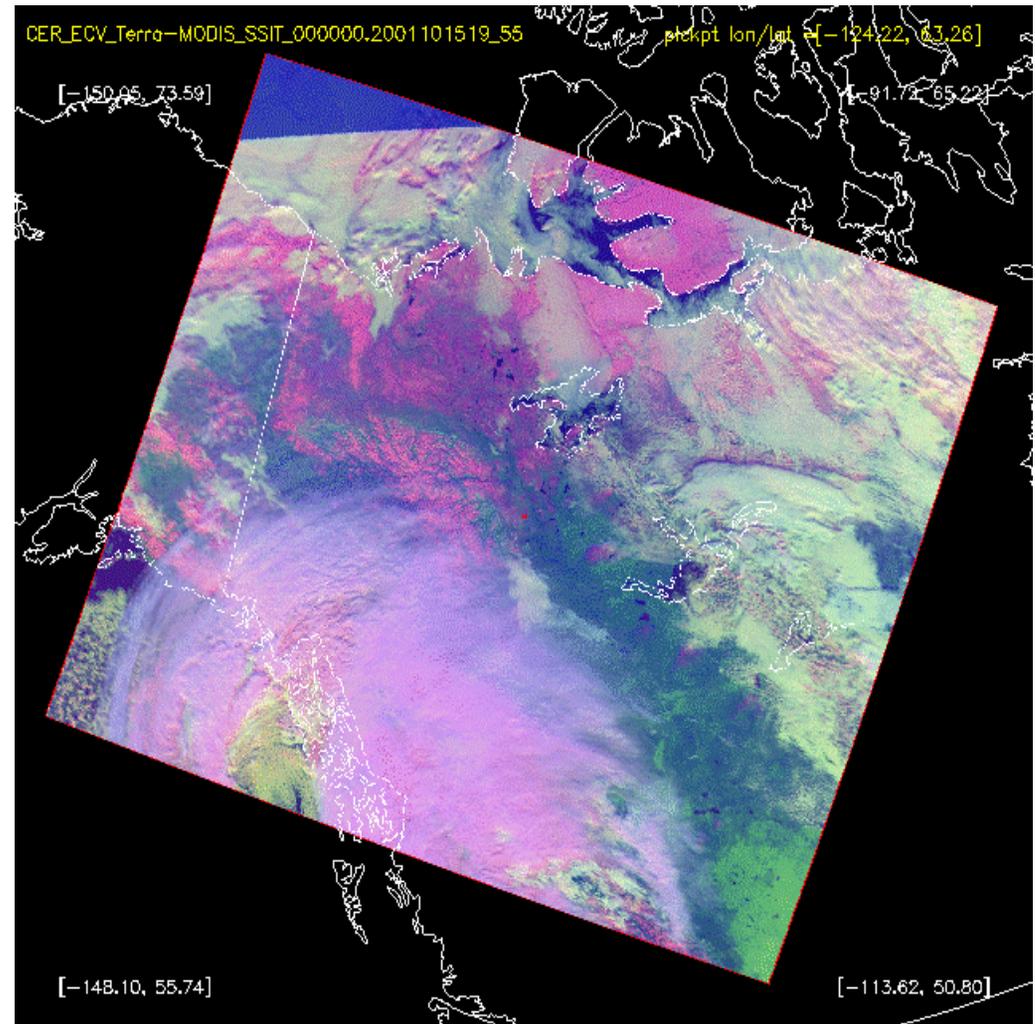
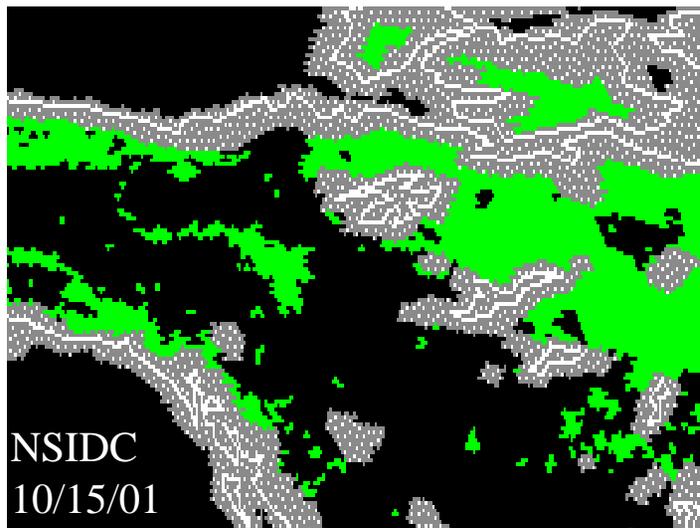
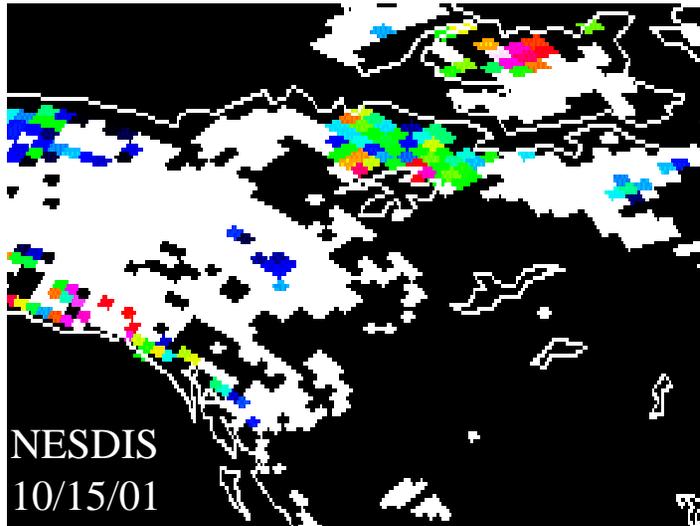
 NESDIS has snow
NSIDC does not.

These are some pretty big discrepancies, so try to compare with MODIS.



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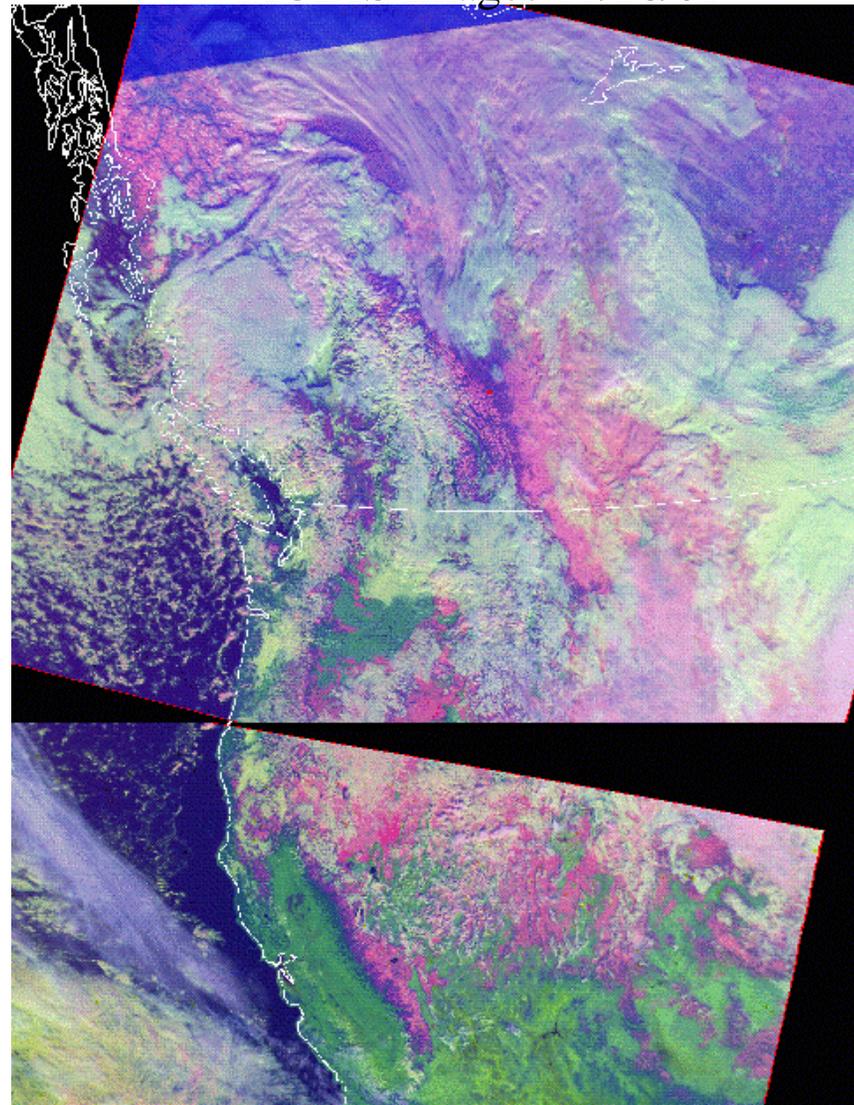
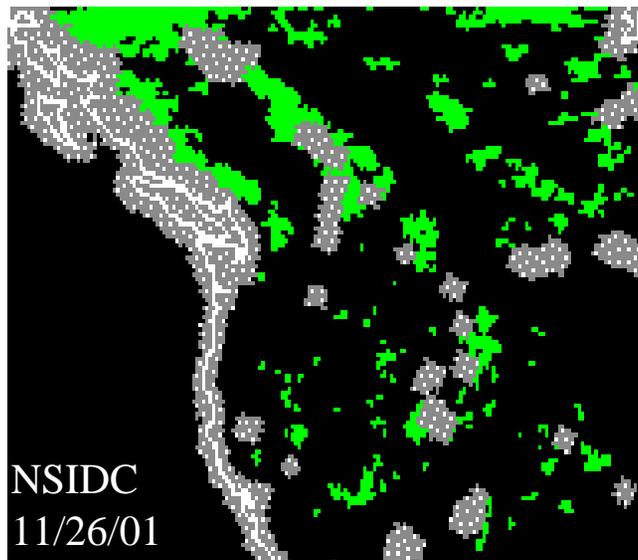
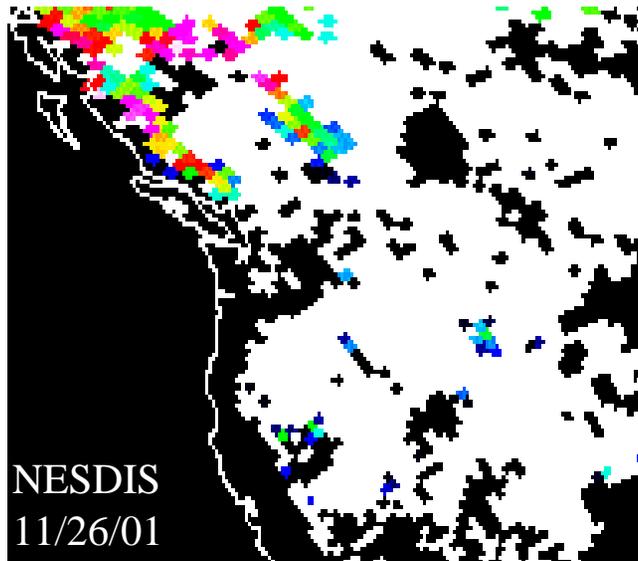
MODIS Image 10/15/01

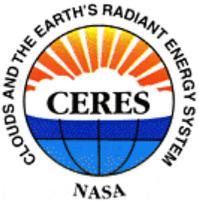




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MODIS Images 11/26/01





Difficult to quantify but, if you stare at the previous images long enough you can convince yourself that on Oct 15th NSIDC does a better job and on Nov 26th NESDIS does better.

In each instance NSIDC is more conservative (less snow) map.

Similar story for the ice maps and the when combined the ERBE-like 2.5deg map snow/ice map.



ERBE-Like Snowmaps, July 15, 2000

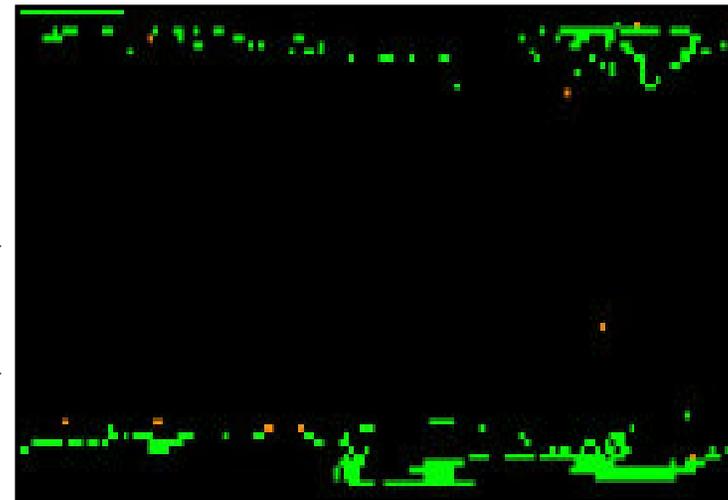
NESDIS



NSIDC



Difference



	Permanent Ice filled by IGBP map.	
	NSIDC has snow NESDIS does not.	→
	NESDIS has snow NSIDC does not.	→



ERBE-Like Snow Maps, Jan 15, 2000

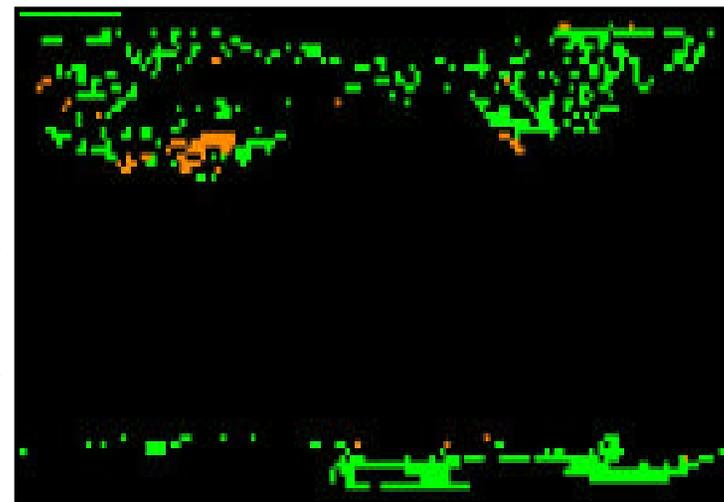
NESDIS



NSIDC

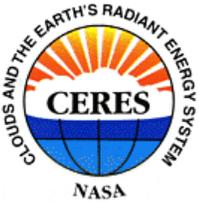


Difference



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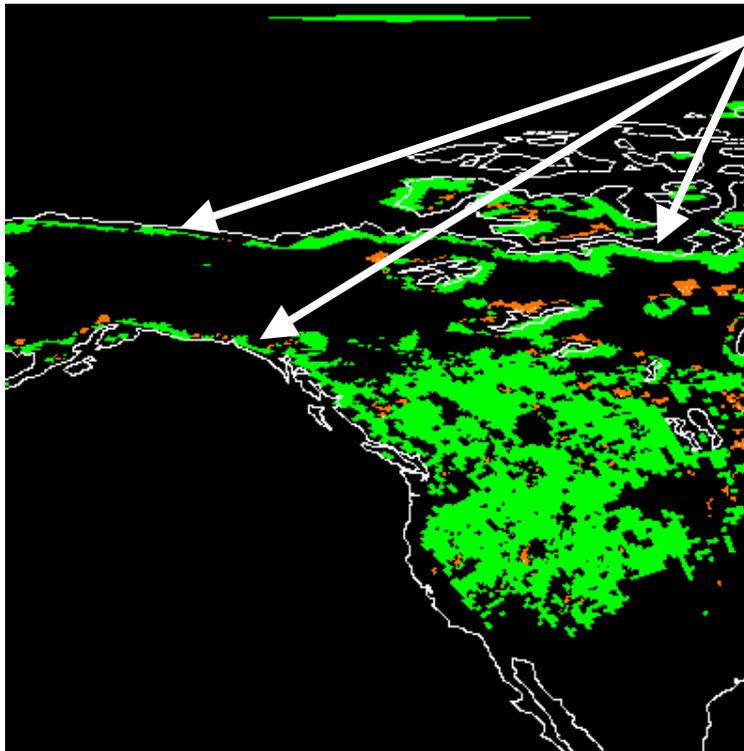
An upward-pointing arrow from the legend box to the NESDIS map.



Recommendation: Create a combined map, NSIDC and NESDIS

Use primarily NSIDC, since it is more conservative.

Where NSIDC = fill, and NESDIS = snow combined map will indicate snow



NESDIS Does pick up snow
Along the coastlines.