

NASA Satellite Imagery used by NASS



Landsat 8, launched 2013

The first Landsat satellite was launched in 1972. Over the years, several Landsat satellites have been launched with the latest technological capabilities. Landsat 9 is being planned now.

NASS and NASA began inventing and developing satellite data products for the agricultural industry in 1968. For the *Agri-Stars Project* in 1978, NASS staff travelled the countryside to ground-truth the satellite data. NASS staff identified each crop growing in a location and NASA matched it with the individual color of the infrared spectrum generated by the satellite for that same location.

In 2010, NASS published the first inter-active, geospatial web tool to allow farmers, ranchers, and others in the agricultural industry to analyze and handle vegetative index and Cropland Data Layer data easily. VegScape data originates from the MODIS satellite continuously and analysis can be made on a daily, weekly, or biweekly basis throughout the year.

The Cropland Data Layer in CropScape merges the Landsat data with other USDA data to calibrate the satellite data to the crop grown in each pixel location each year. The process takes several months to collect, collate, and summarize all of the data. Therefore, the Crop Land Data Layer is published only once per year at the end of January following each crop year. Acreage totals have a 95% confidence interval due to misidentification of crops, cloud cover, or missing data.

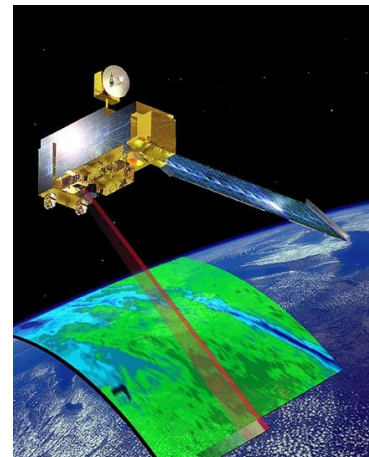
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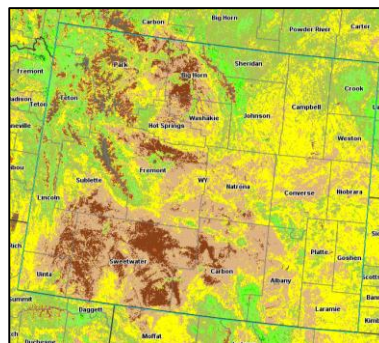
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Satellite Data Tools For Wyoming Agriculture

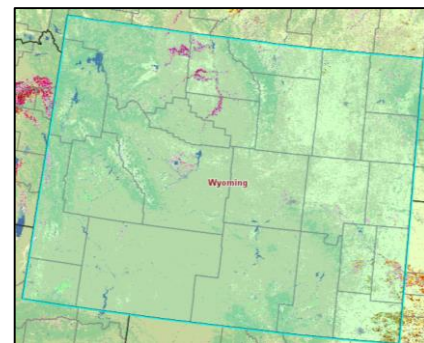


The MODIS satellite

VegScape



CropScape



VegScape and CropScape are joint projects between the:



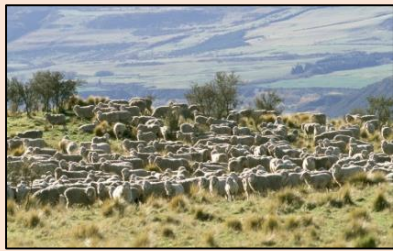
US Department of Agriculture
National Agricultural Statistics Service
&
National Aeronautics Space Administration



NASS's Satellite Data Tools can answer questions like:

VegScape - Vegetation Condition Explorer

How can I know if the grasses, forbs, and shrubs have started growing in the high country *before* I move my cattle?



Is there more forage for my sheep than last year?

What year did my allotment have the highest amount of forage?

What percentage of the pastures and rangeland in my county have any green vegetation on it this year? Was this the worst year ever?



CropScape - Cropland Data Layer

How can I know how many acres of crops are in my county if NASS does not publish a county estimate from their surveys?



How to use the tools

1) Go to www.nass.usda.gov and choose:

- Data and Statistics
- Charts and Maps

2) Choose VegScape or CropScape

3) Isolate your area of interest

- Use coordinates of your ranch
- Choose State or County boundaries
- Draw your own polygon
- Import from other GIS products

4) Choose dates of interest

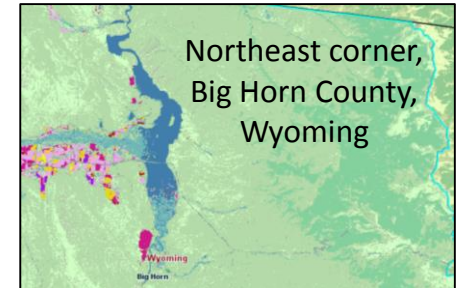
- VegScape, data since 2000
- CropScape, nationwide since 2008

5) Perform analysis

- “Swipe” to see year-to-year changes
- Acreage totals within area identified
- Calculate or chart percentage of area in each vegetation category
- Compare change across years
- And much more

6) Use the results

- Print or save
- Export satellite or GIS info
- Help and video available



VegScape – Daily, Weekly, Biweekly comparisons for each year, updated year-round as satellite passes over

CropScape – published end of January

Value	Category	Acreage	Percent...
0	<0.05	4402.6	0
1	0.05-0.10	2705.2	0
2	0.10-0.19	272881.1	0.13
3	0.19-0.29	722886.9	0.36
4	0.29-0.39	394933.6	0.2
5	0.39-0.49	215010.9	0.11
6	0.49-0.59	162193	0.08
7	0.59-0.69	112889.3	0.06
8	0.69-0.79	81593.8	0.04
9	0.79-0.89	36228.6	0.02
10	>0.89	15011.2	0.01
Total		2020736.2	1.0

