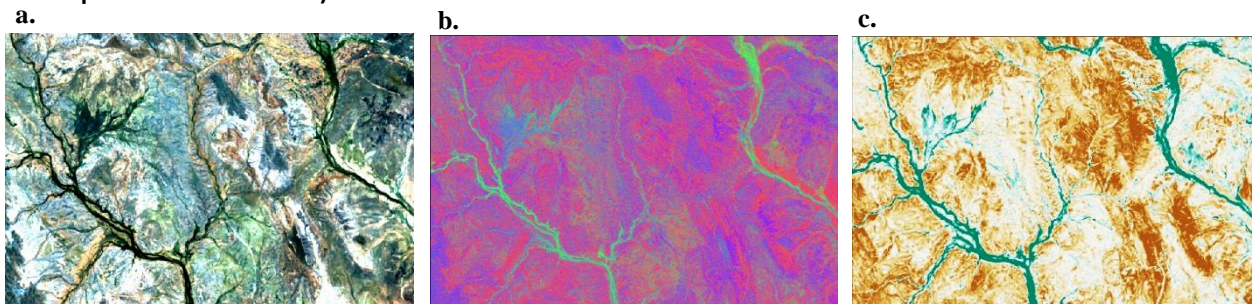


NSW green accumulation index

The landscape of NSW undergoes a large variation in greenness throughout the seasonal and drought cycles. Information about the variation in greenness can be useful for a variety of mapping and planning tasks. Areas of green vegetation are important for native species habitat and human recreation activities. Green areas in the landscape are often related to the availability of near surface water or recent inundation, such as bogs, swamps and mires. These green areas are important for native plants and animals as locations of food and water in dry times.

Data layers representing the fractional cover of a given area (see fractional cover factsheet) have been made available by OEH. The Landsat-derived fractional cover layer gives the amount of bare ground, green vegetation, and dead vegetation for each pixel on a specific date. The green fraction has been analysed for a sequence of images to show how long an area stays green following a greening event, such as grass growth in response to rainfall. The map of green accumulation for NSW was created from Landsat images from 1988 to 2012. Areas exhibiting the highest values are the areas of NSW that respond with high green cover for a long period after a greening event.

Figure 1 a. Satellite imagery used in the creation of b. the fractional cover index (red: bare ground, green: green vegetation, blue: non green/dry vegetation) and c. green accumulation index (green areas retain green vegetation cover for longer after rainfall compared to brown areas).



The NSW green accumulation index is processed as two separate products representing:

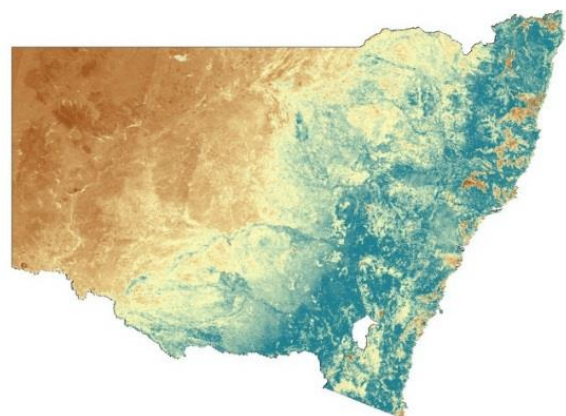
1. Raw values of 'area under the curve', per pixel. Processing stage code is 'djj'.
2. Percentile classes of the percent of maximum theoretical area under the curve. The area of the curve as a percentage of the maximum possible area under the curve, classified into 15 discrete classes: class 1, where the pixel is never green (0%), to class 15, where the pixel is green at least 51% of the time. The class boundaries were chosen so each class had about the same number of pixels (calibrated using the state-wise dataset). Processing stage code 'djs'.

What can the maps be used for?

The maps are intended for rural landscapes in areas with low woody vegetation cover and are suited to many applications including:

- property planning
- vegetation maps
- local government planning
- risk assessment
- native vegetation mapping
- habitat identification and mapping

Figure 2 NSW green accumulation index



What maps are available?

NSW green accumulation index is available as raster layers of each Landsat scene in each stage code (djj and djs) across NSW, based on calculations of the area under the curve from the Landsat-derived seasonal green fraction time series from 1987 to 2012.

Additional information

Figure 3 Conceptual representation of the ‘area under the curve’ of the green fraction used to develop the green accumulation index.

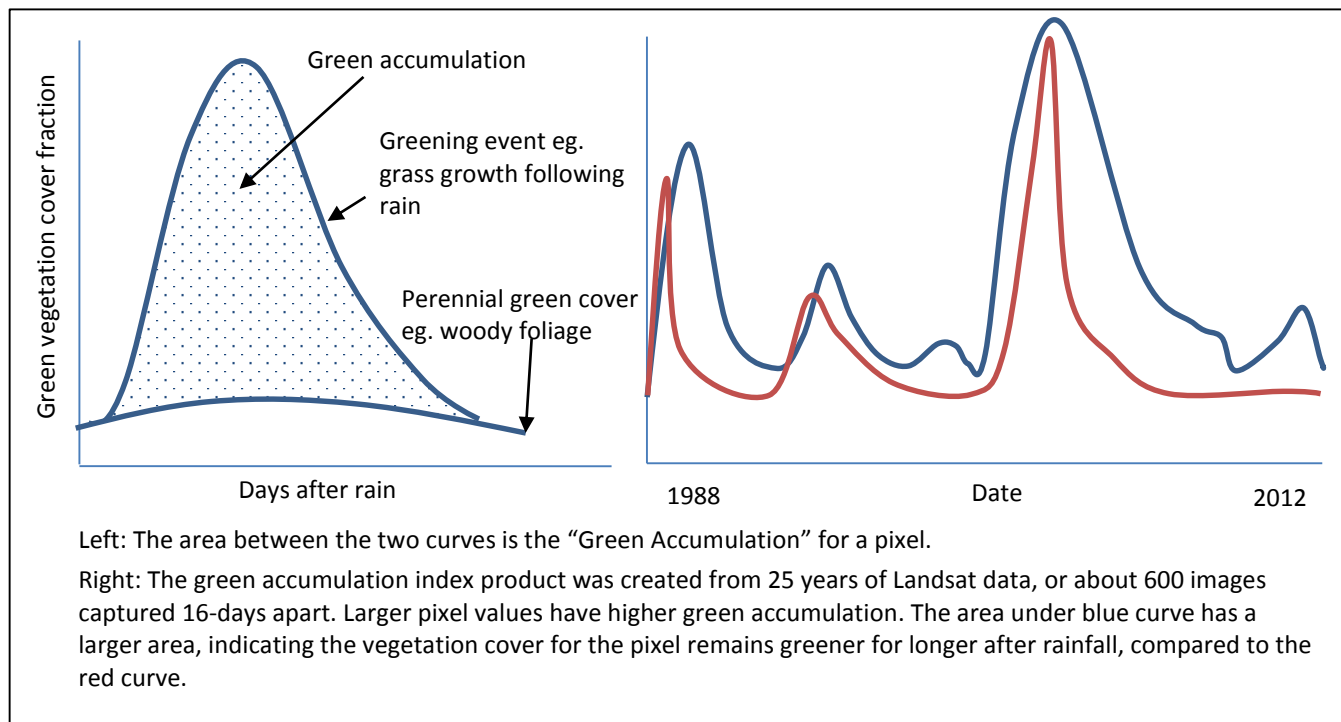


Image details

Data type:	Raster
Pixel size:	30 m
Base imagery:	Landsat5 TM, Landsat7 ETM+

Image pixel values

Raw value of area under the curve (djj):	001 to ~9000 (unit = fraction days)
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Percentile classes of % of max area under the curve (djs):	class 1 = 0%
	class 2 = 0 to <3%
	class 3 = 3 to <6%
	class 4 = 6 to <9%
	class 5 = 9 to <12%
	class 6 = 12 to <15%
	class 7 = 15 to <18%
	class 8 = 18 to <21%
	class 9 = 21 to <24%
	class 10 = 24 to <27%
	class 11 = 27 to <30%
	class 12 = 30 to <36%
	class 13 = 36 to <42%
	class 14 = 42 to <51%
	class 15 ≥51%
	0 = null

Acknowledgement

Thanks to the following organisations:

- Landsat data courtesy of the U.S. Geological Survey
- Staff from the Joint Remote Sensing Research Program.

Data access

The maps may be requested through the Office of Environment and Heritage’s Spatial Data Online catalogue:

<http://mapdata.environment.nsw.gov.au>

Or by direct download from TERN-auscover:

ftp://qld.auscover.org.au/landsat/green_accumulation/nsw/

Contact

Contact the data broker for data access and product information: data.broker@environment.nsw.gov.au