LGA Fraser_Coast_(R) (QLD) - Vegetation cover soil protection report Aug 2019

This report provides information about vegetation covering the soil surface for a region during a single month with comparison to previous years. Vegetation cover indicates where soil is likely to be protected from wind and or water (hillslope) erosion. Results are shown for the whole region (polygon) and also separated by land use and tree cover. Different land uses are likely to have different cover patterns and targets. Reporting is most reliable with less than 20% tree cover.

Fraser_Coast_(R)

• Context

o Map: Land use and forest cover

- o Chart: Land use and forest cover area
- Total vegetation cover for this month

 Map: vegetation cover classified into 4 classes
 Chart: vegetation cover area classified into 4 classes
- Areas protected from erosion for the month

o Map: wind erosion protection (>50% cover)

- o Map: water erosion protection (>70% cover)
- Comparison with previous years

o Map: anomaly – compare this month to the average cover from the same month in previous years

- o Map: deciles rank this month against the same month in previous years
- Time series

o Wind erosion protection time series: percentage of the area of the region with greater than 50% cover for each month in the archive (orange lines)

- o Water erosion protection time series: percentage of the area of the region with greater than 70% cover for each month of the archive (blue lines).
- o Rainfall: millimetres rainfall each month (black lines)
- Time series stacked by year
 - o Wind erosion protection time series: percentage of the area of the region with greater than 50% cover for each month in the archive (orange lines) in case of 5th percentile is less than 80i
 - o Water erosion protection time series: percentage of the area of the region with greater than 70% cover for each month of the archive (blue lines). in case of 5th percentile is less than 80
- Water erosion protection on higher slopes. As slope increases, more cover is required to control water erosion. The thresholds reported are:
 - o the percentage area with pixels greater than 80% total clover
 - o the percentage area with pixels greater than 90% total clover
 - o the percentage area with pixels greater than 95% total clover

The following pages repeat the above sequence for each land use and forest cover class. For example

- All agricultural lands, that is grazing, cropping plus Horticulture (depending on what land use is present)
- Grazing lands by forest classes if present
- Cropping lands
- Irrigation lands
- - Protected areas by forest classes if present
 - Explanatory notes:

This report has been generated using MODIS fractional vegetation cover information available in Rangelands and Pasture Productivity (RAPP) map tool. The report is based on an analysis of 500 metre pixels. Pixels with greater than or equal to 50% vegetation cover are generally considered to be protected from or have reduced soil loss by wind erosion, and pixels with greater than or equal to 70% vegetation cover are generally considered to also be protected from or have reduced soil loss from water (hillslope) erosion. Report used baseline from 2001 to 2019 for each month to generate anomalies and deciles. And it used threshold of 1% to create land use forest cover reports. Higher cover thresholds may be required for erosion protection in some regions. This report will be less applicable in areas with sparse forest (20-50% tree cover) or dense forest (> 50% tree cover). Therefore land use classes are divided by tree cover: 1) No forest is when there is less than 20% tree cover 2) Sparse forest, is when there is less than 20 to 50 % tree cover 3) Dense forest is greater than 50% tree cover

Acknowledgment of data:

- 1. http://www.agriculture.gov.au/abares/aclump/land-use/alum-classification
- 2. http://www.agriculture.gov.au/abares/forestsaustralia/sofr/sofr-2018
- 3. https://www.dpi.nsw.gov.au/agriculture/pastures-and-rangelands/establishment-mgmt/production-management2/groundcover
- 4. MODIS Fractional cover algorithm:

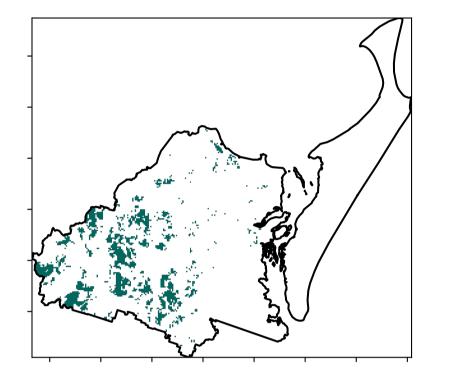
https://doi.org/10.4225/08/5848a3f19a7b3



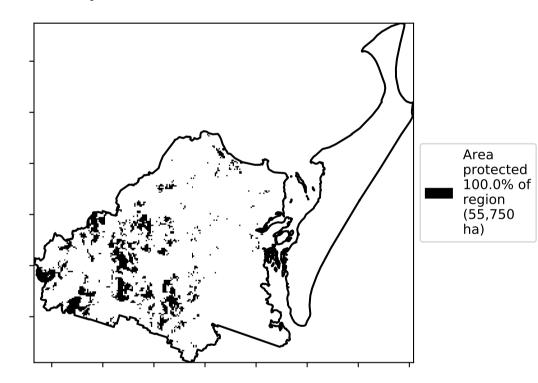
Grazing - Forest (non woodland)

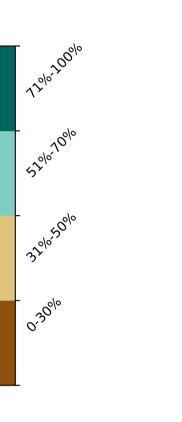
Agriculture - Grazing - Non-oodland forest

Total Vegetation Cover [%]

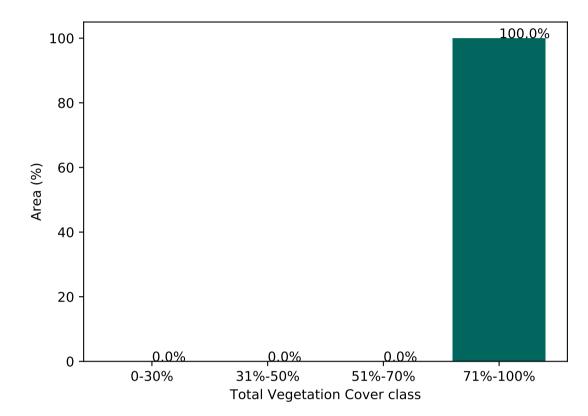


% Area protected from water erosion (>70%)

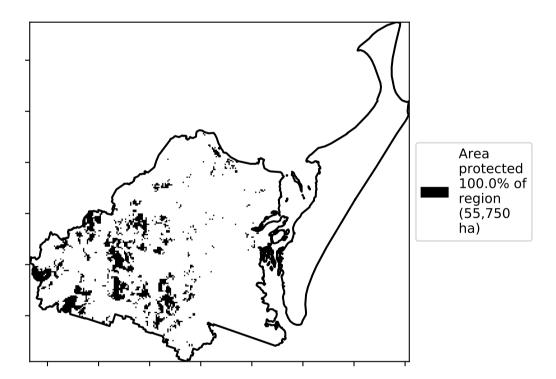




Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



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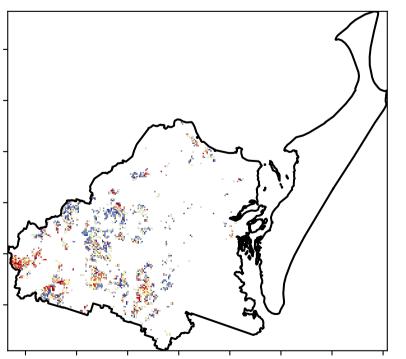
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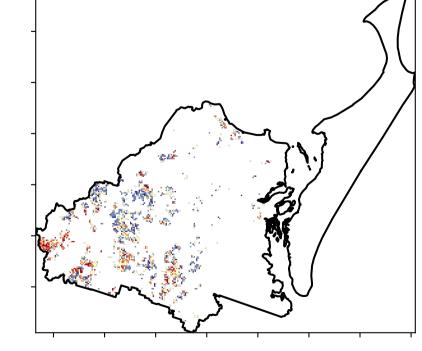
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Landuse map of area based on 2015 catchment scale landuse and Australia's National Forest Inventory, where no forest is < 20% tree cover, sparse is 20 to 50% and dense > 50% tree cover.

Land use and forest cover

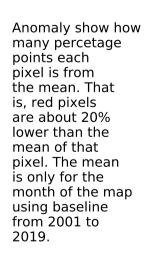
Total Vegetation Cover Decile [%]

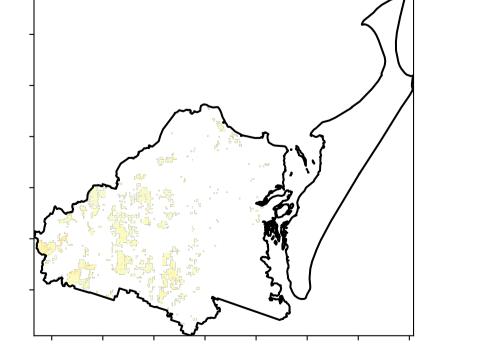






Total Vegetation Cover Anomaly [%]



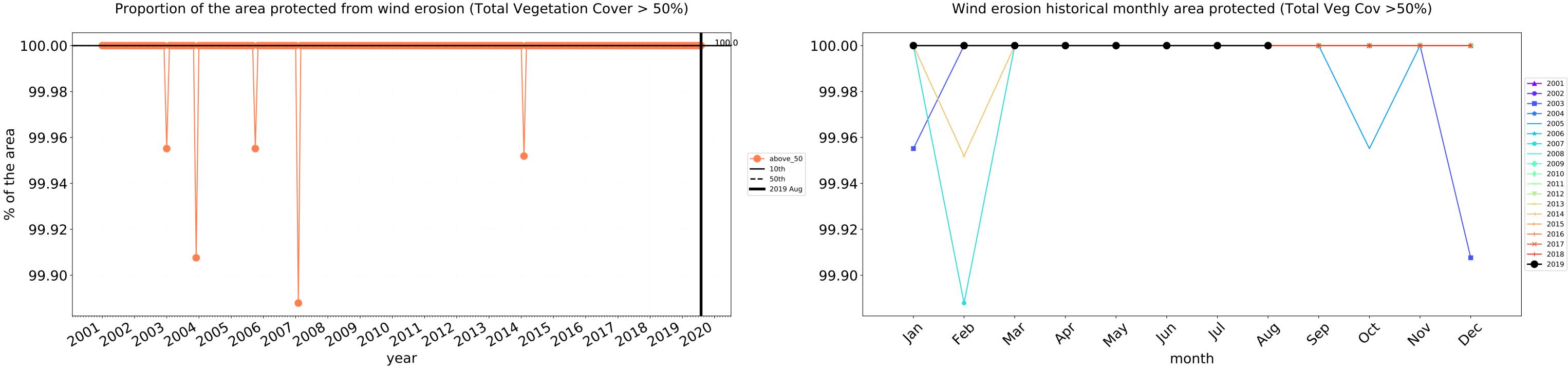


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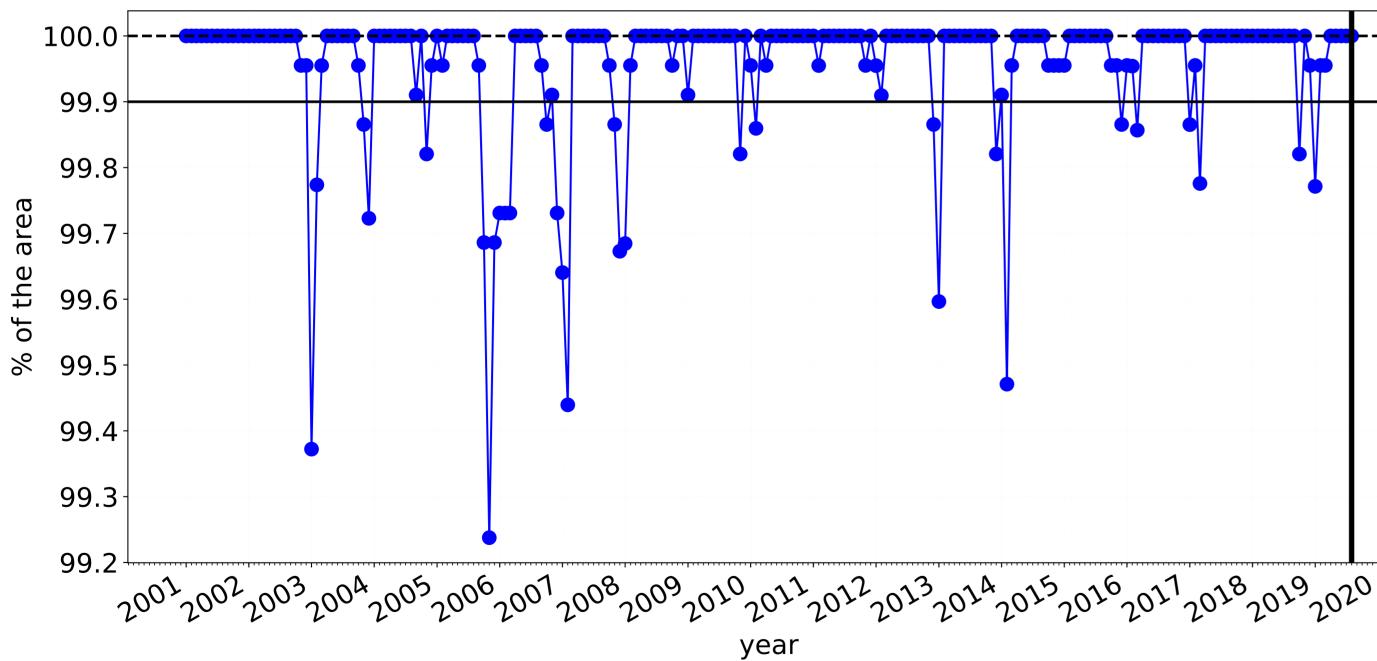
- 20

Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the man using baseline the map using baseline from 2001 to 2019.



Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)

Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



1000 100.0 99.9 99.8 ---- above_70 **—** 10th 99.7 **--** 50th 2019 Aug 99.6 99.5 99.4 99.3 99.2 lar feb In May Mai P.Q month ΓERN Australian Government

Water erosion historical monthly area protected (Total Veg Cov>70%)

