Total vegetation cover soil protection Region:NRM Hunter NSW

This report describes vegetation protecting the soil surface from erosion during a chosen month compared to previous years. This report has been generated using MODIS fractional vegetation cover information available in Rangelands and Pasture Productivity (RAPP) map tool https://map.geo-rapp.org/#australia. The report is based on 500 metre pixel data on monthly time steps.

Land use forest cover:

Date: August 2013

Results can be shown for the whole region (polygon), and separated by land use and forest cover classes which are likely to show different cover patterns and targets. Land use is divided into four broad classes: Conservation and natural environments, Agriculture, production native forests and plantation forests (no report), and other (no report). Agriculture is divided into grazing, crops and horticulture which are sub-divided into non-irrigated and irrigated. If forest is present land use is further divided into: non-forest, woodland forest and non-woodland forest. The area of each land use and forest class are shown as a map and chart. The report content is repeated for each land use and forest cover class that covers at least 1% of the area of the chosen region. Total vegetation Cover:

The total vegetation cover indicates where soil is likely to be protected from wind and or water hillslope erosion. Total vegetation cover for this month is shown on a map and chart classified into 4 classes.

- 71-100% High cover protected from wind and usually water erosion (high rainfall, steep slopes, and erodible soils may need greater than 80, 90, 95 and up to 100% cover)
 - 51-70% Moderate cover protected from wind erosion
 - 31-50% Low cover not protected
 - 0-30% Very Low cover not protected

Erosion protection: Wind erosion 50% total vegetation cover

The vegetation cover threshold required to prevent soil erosion is usually 50% to reduce wind erosion, 70% or 80% to reduce water (hillslope) erosion depending on the steepness and rainfall. Areas protected from erosion for the month:

- Map: water erosion protection (>70% cover) percentage area and hectares.
- Map: wind erosion protection (>50% cover) percentage area and hectares.

Comparison with previous years:

- Map: anomaly comparing this month to the average cover from the same month in previous years.
- Map: deciles rank of month against the same month in previous years.

Anomalies and deciles until September 2019 are calculated comparing to the same months 2001 to 2019. Extra monthly data will be used to calculate anomalies and deciles post September 2019 as they become available. Time series monthly from January 2001 to current:

Erosion protection

- Wind erosion protection time series: percentage of the area of the region with greater than 50% cover for each month (orange lines). Horizontal lines are 10th (cover target) and 50th percentiles.
- Water erosion protection time series: percentage of the area of the region with greater than 70% cover for each month (blue line). Horizontal lines are 10th (cover target) and 50th percentiles.

Rainfall

• Millimetres rainfall each month (black line).

Each time series is also stacked by year. The black line shows the current year of data. Water erosion protection for higher rainfall and steeper slopes:

Water erosion protection on higher slopes. As slope increases, more cover is required to control water erosion. The thresholds reported are:

- the percentage area with pixels greater than 80% total cover.
- the percentage area with pixels greater than 90% total cover.
- the percentage area with pixels greater than 95% total 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







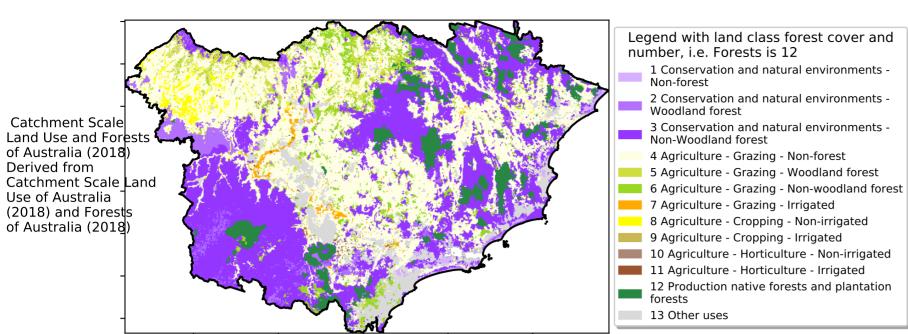




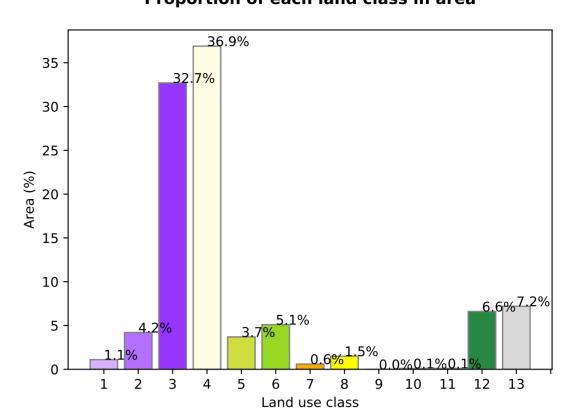


Vegetation Cover Aug 2013

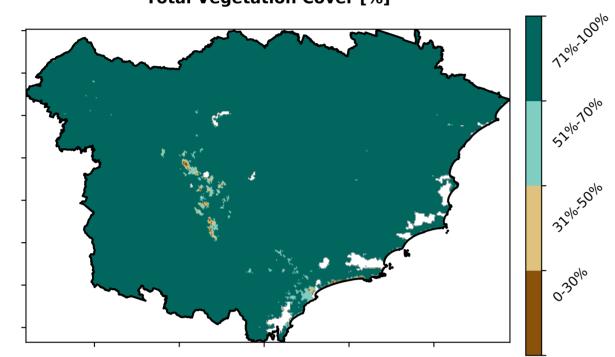
Land use and forest cover



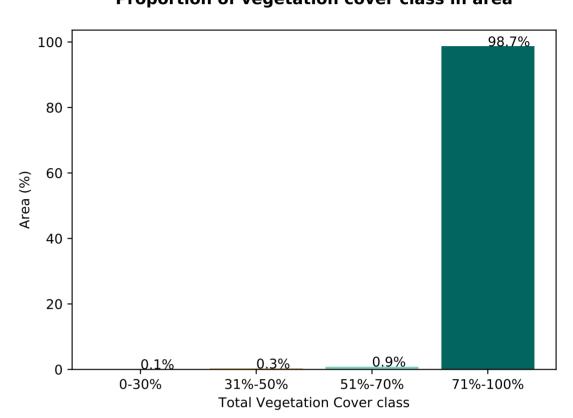
Proportion of each land class in area



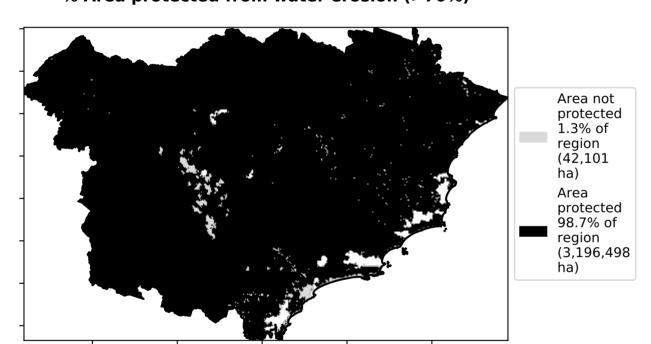
Total Vegetation Cover [%]



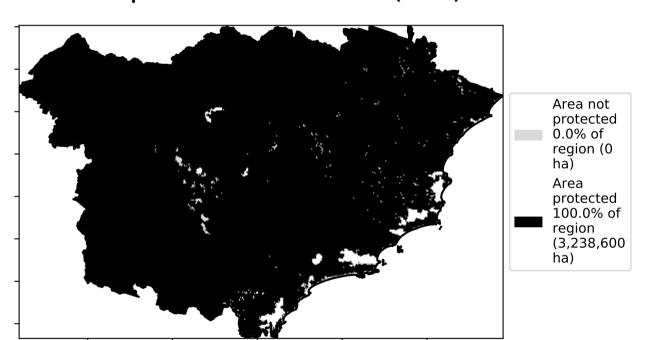
Proportion of vegetation cover class in area



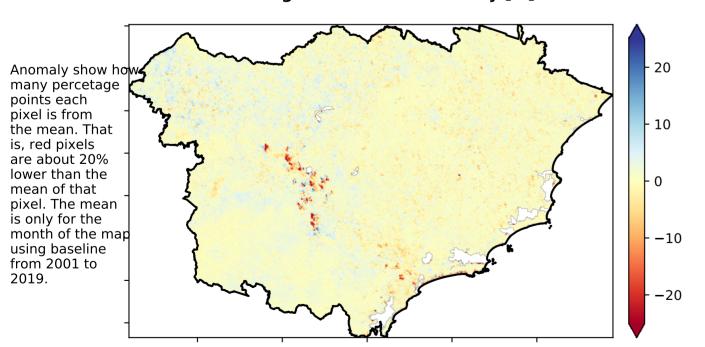
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

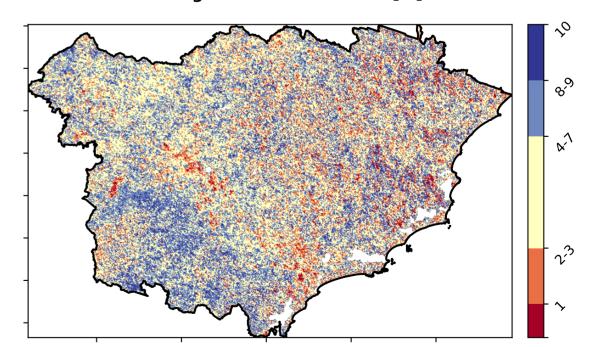


Total Vegetation Cover Anomaly [%]



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 map using baseline from 2001 to 2019.

Total Vegetation Cover Decile [%]





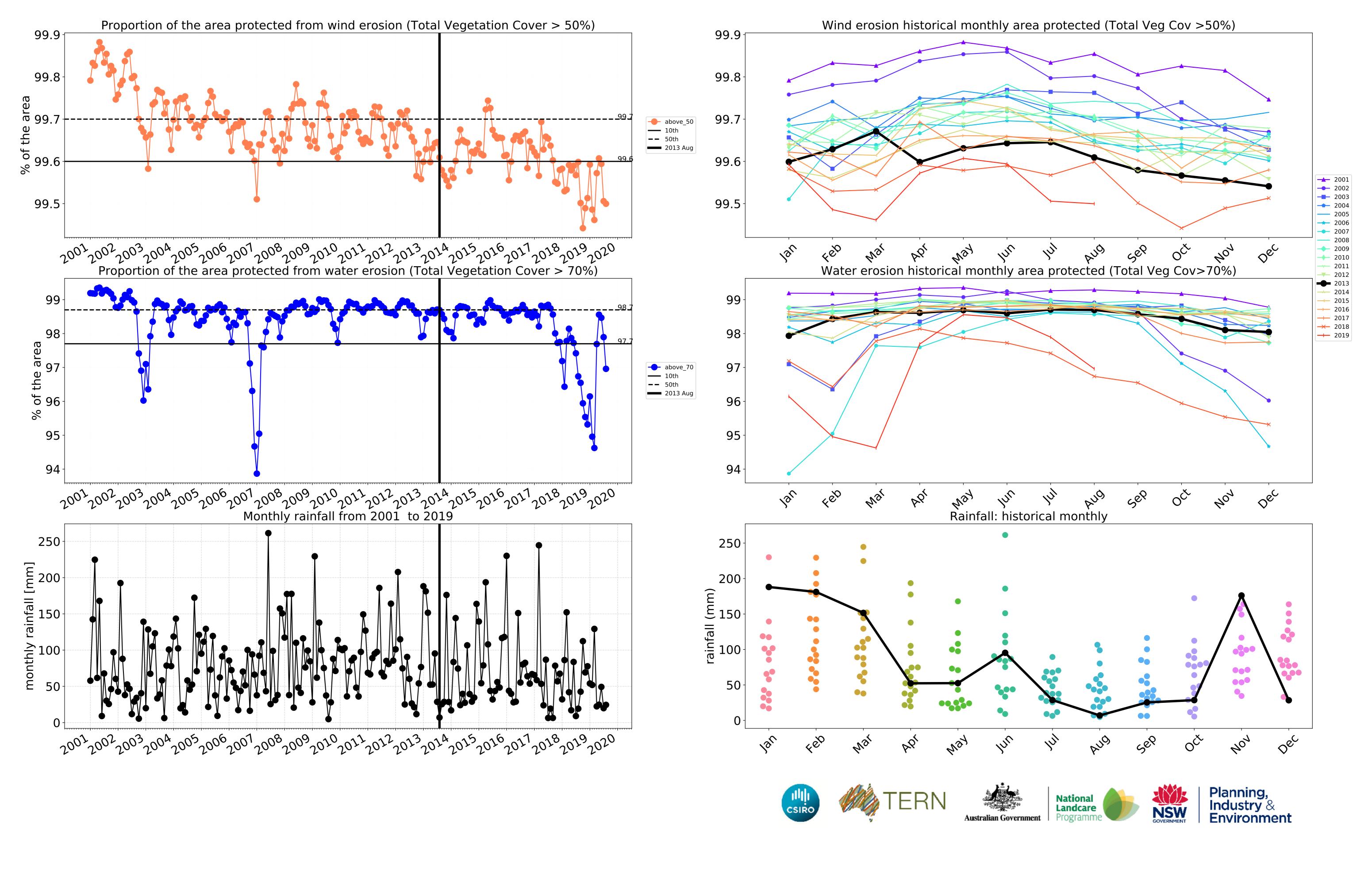




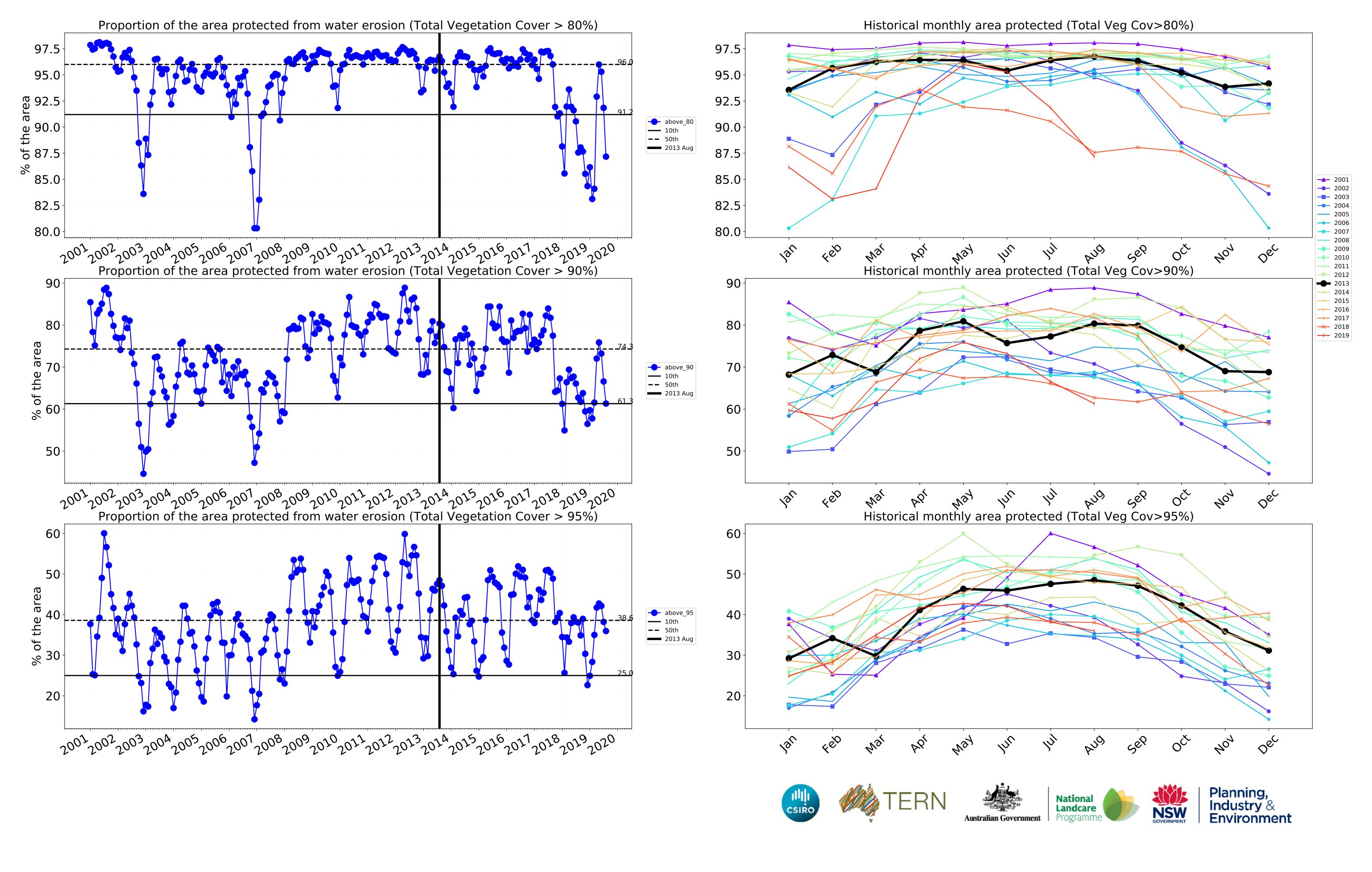




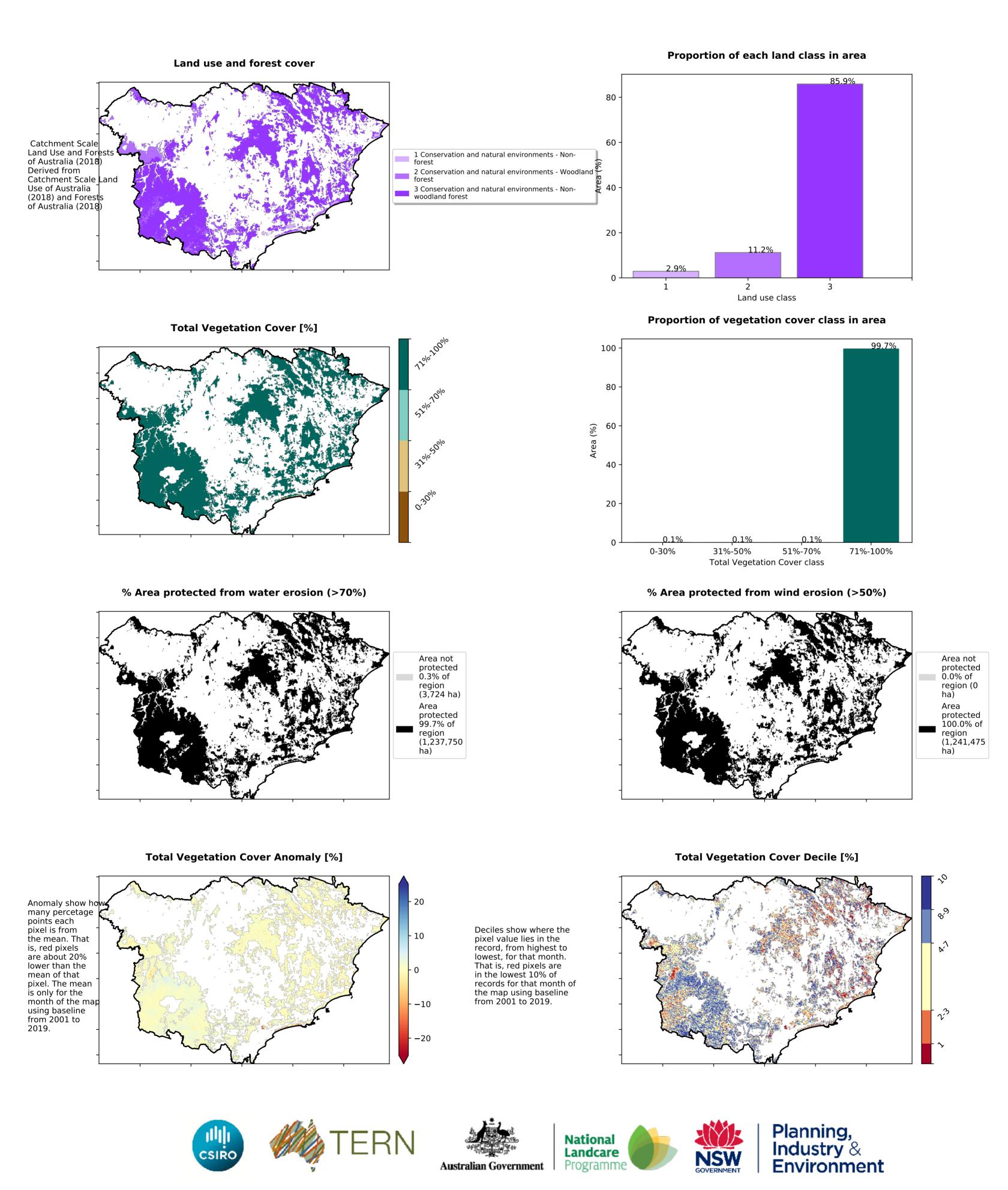




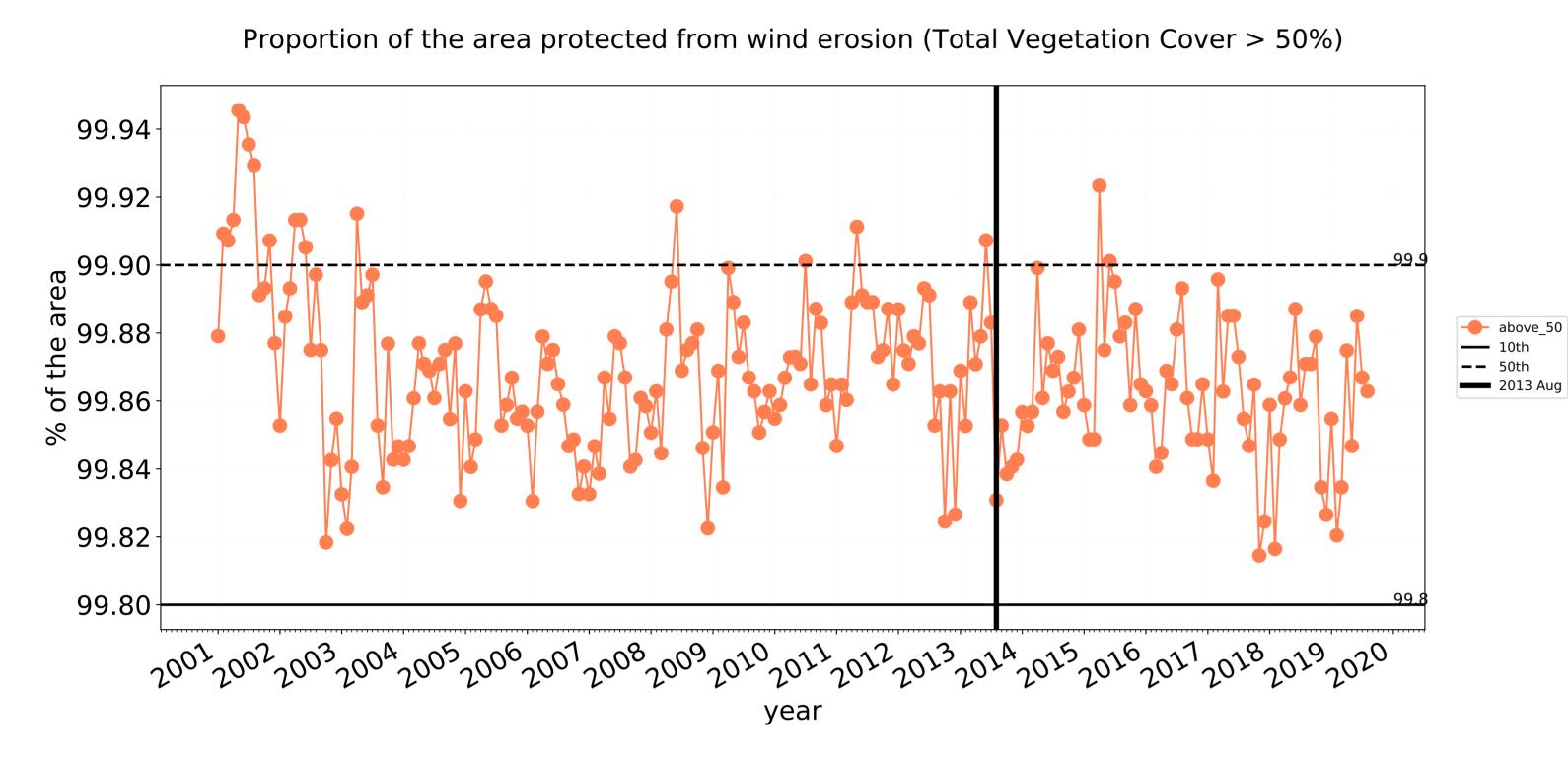
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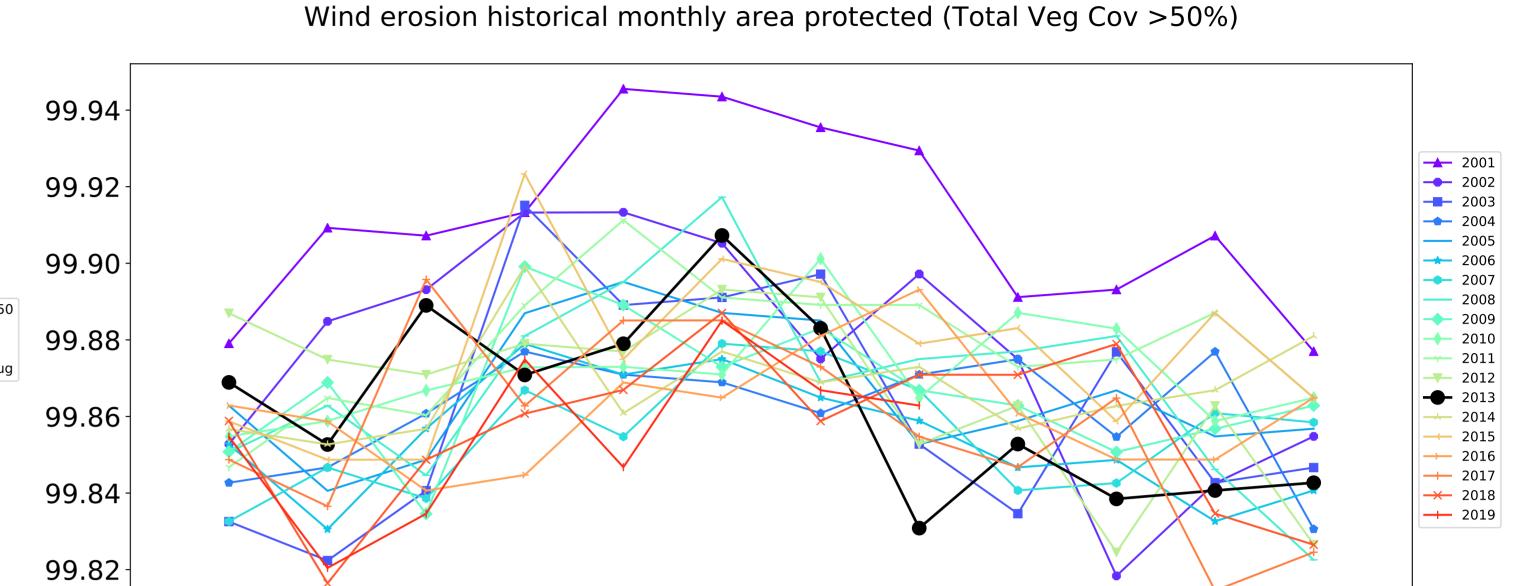


Conservation and natural environments

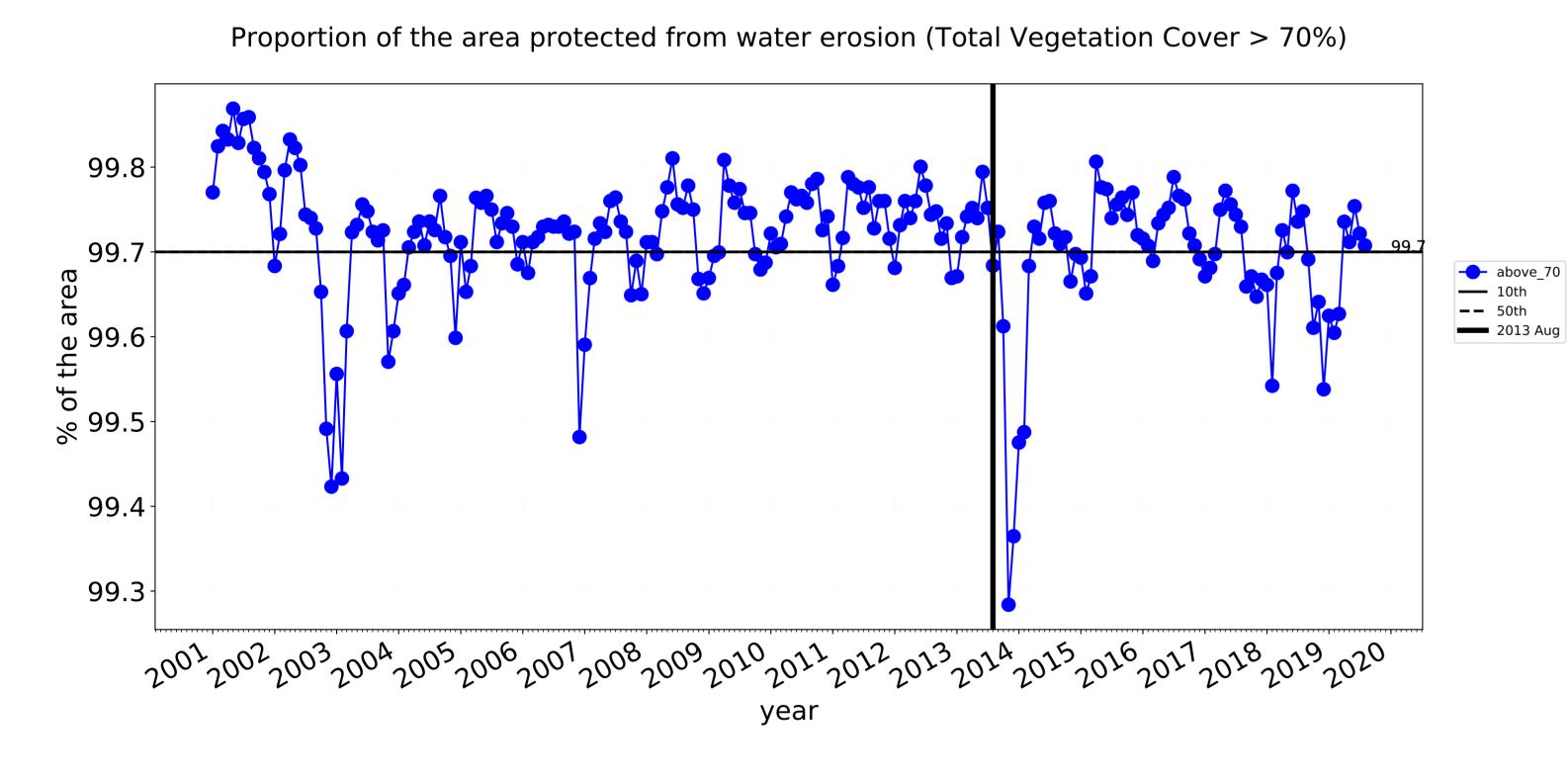


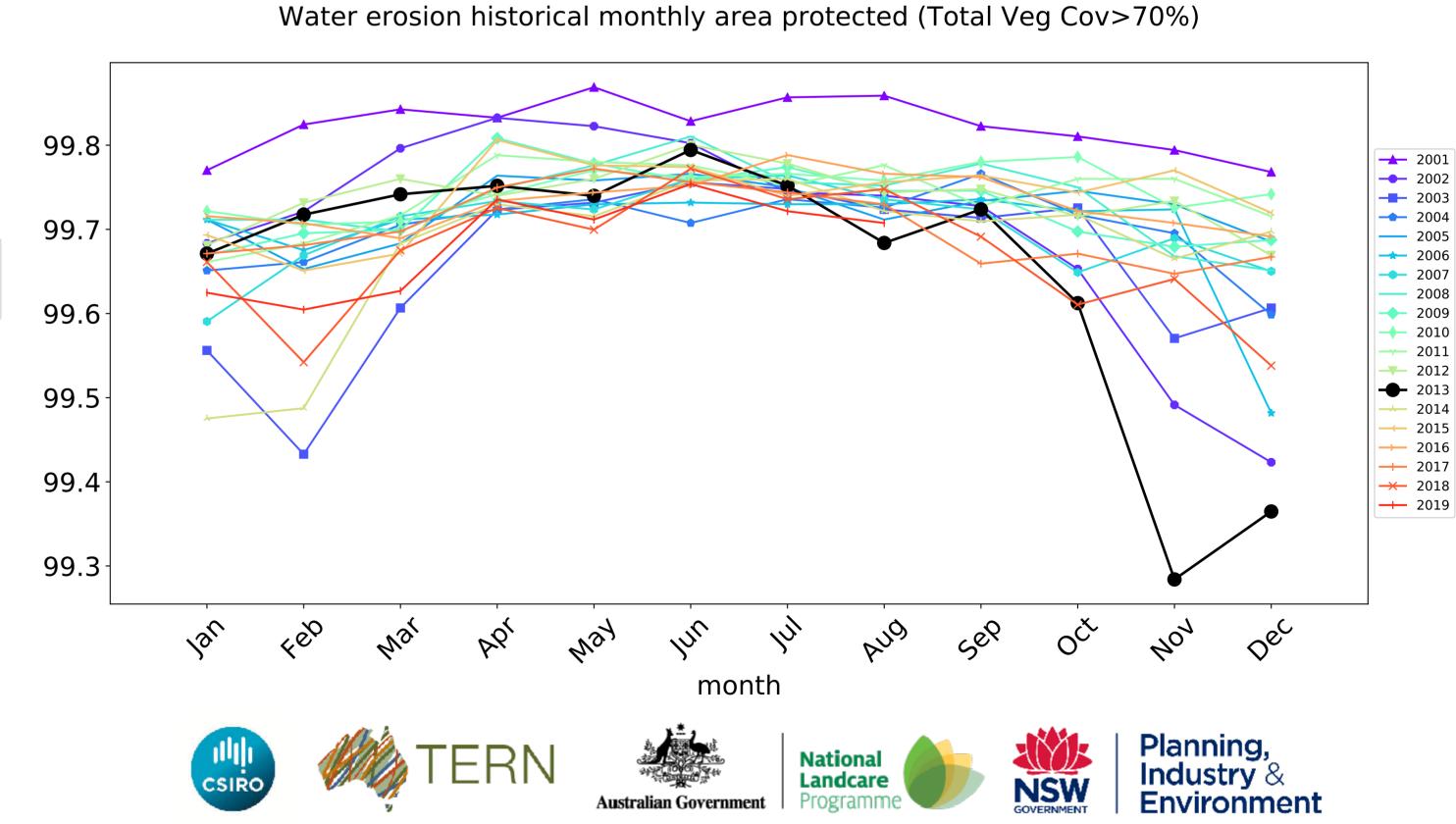
Conservation and natural environments timeseries

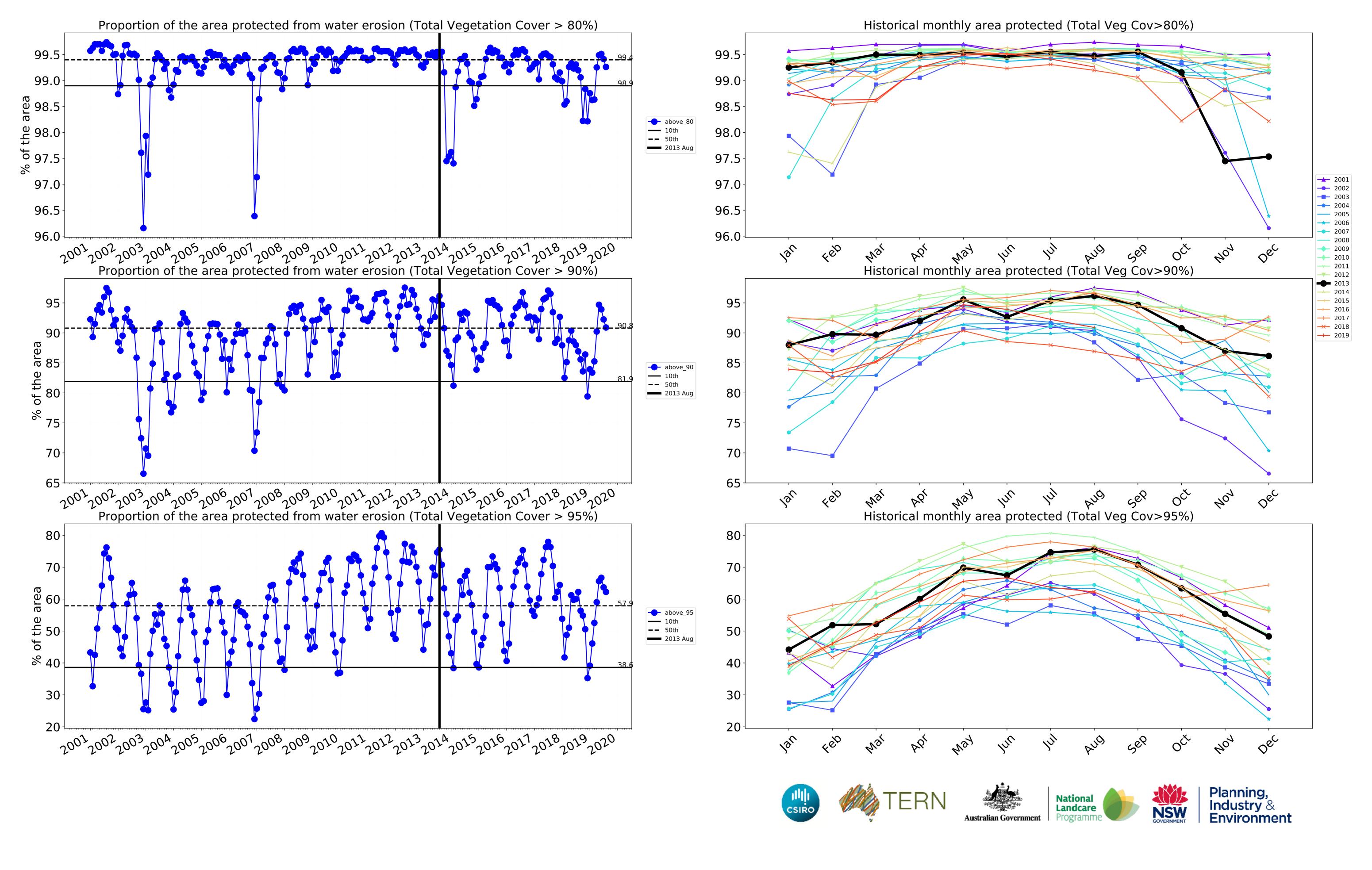




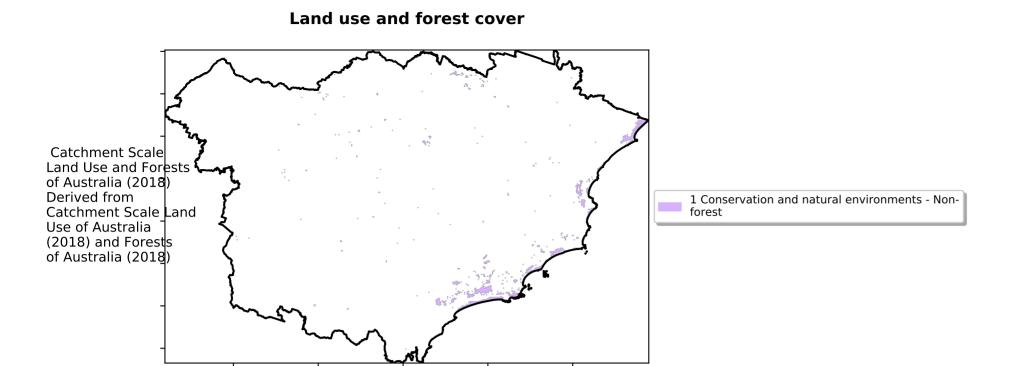
month





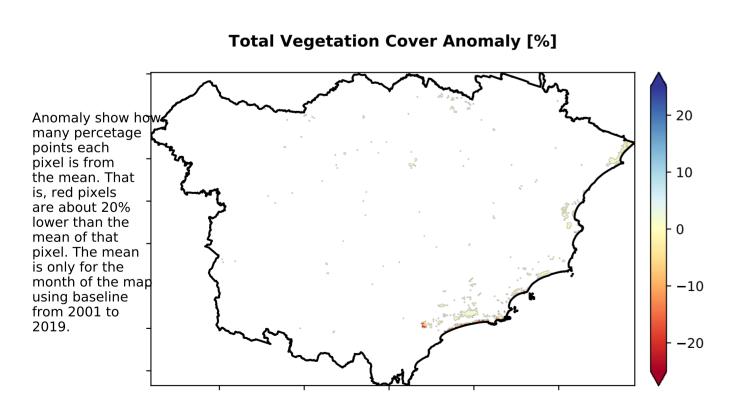


Conservation and natural environments non forest



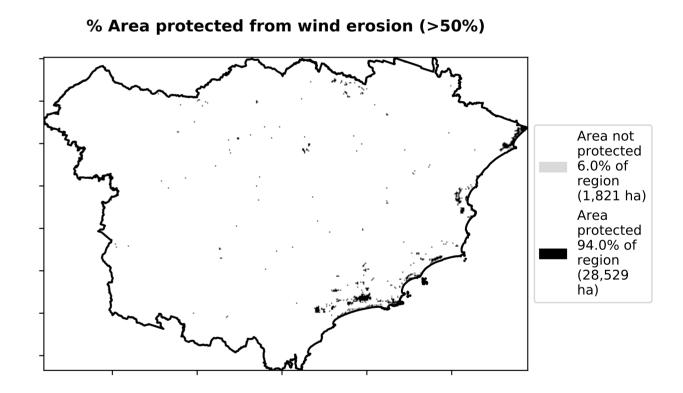
Total Vegetation Cover [%] Tiple Judolo Jiple Judolo Ji

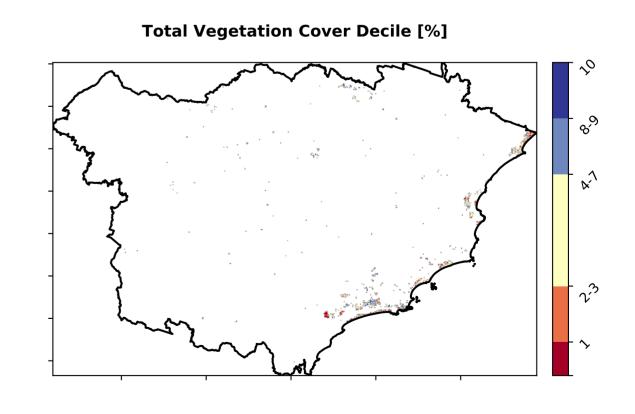
Area not protected 9.8% of region (2,974 ha) Area protected 90.2% of region (27,375 ha)



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Proportion of vegetation cover class in area 90.2% 80 - 60 - 60 - 20 - 20 - 20 - 20 - 31%-50% 51%-70% 71%-100% Total Vegetation Cover class









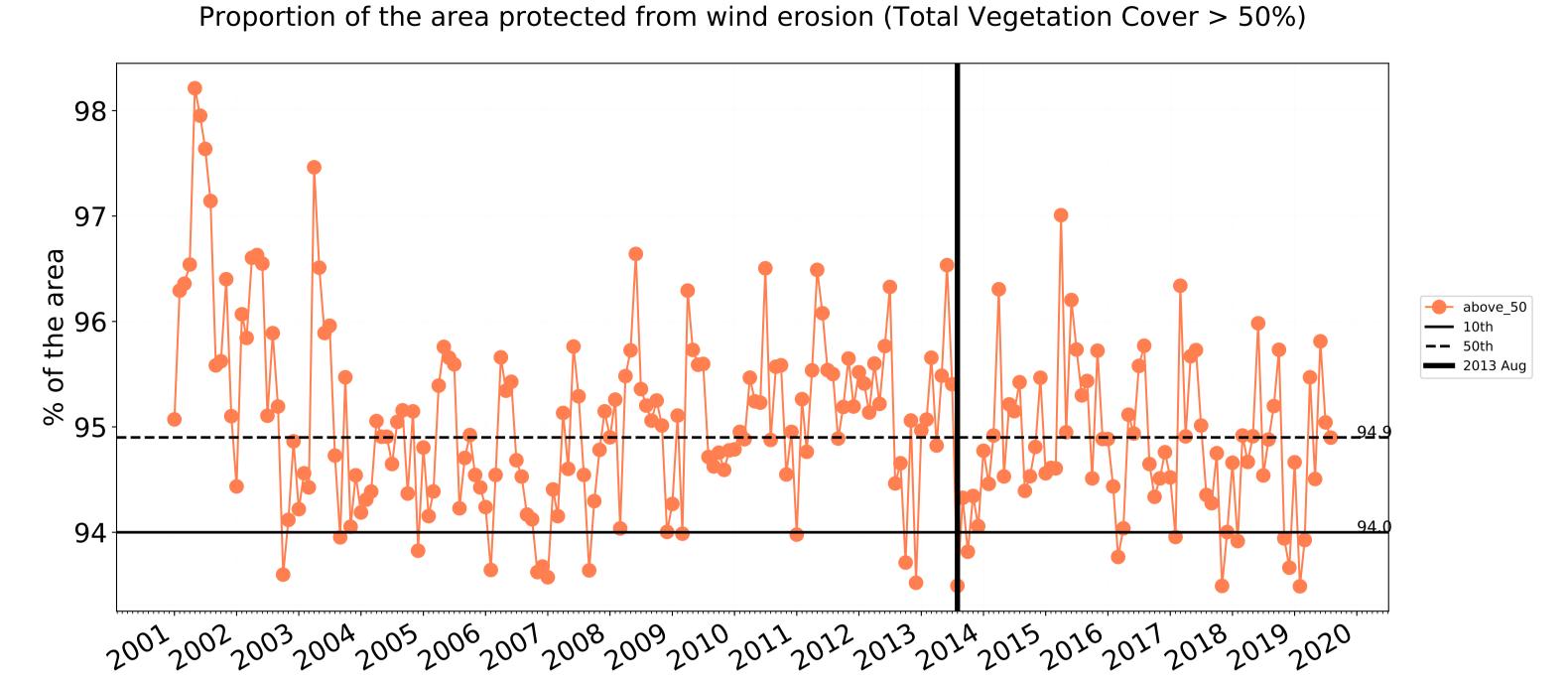




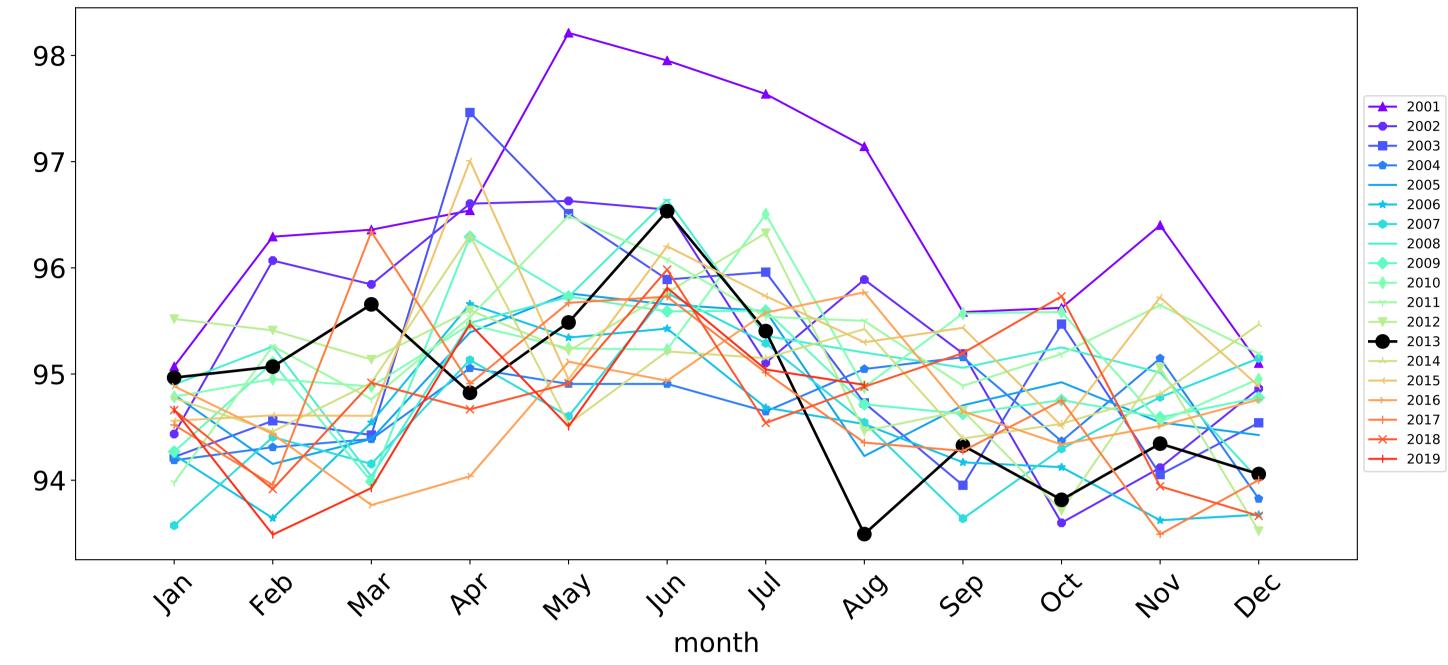


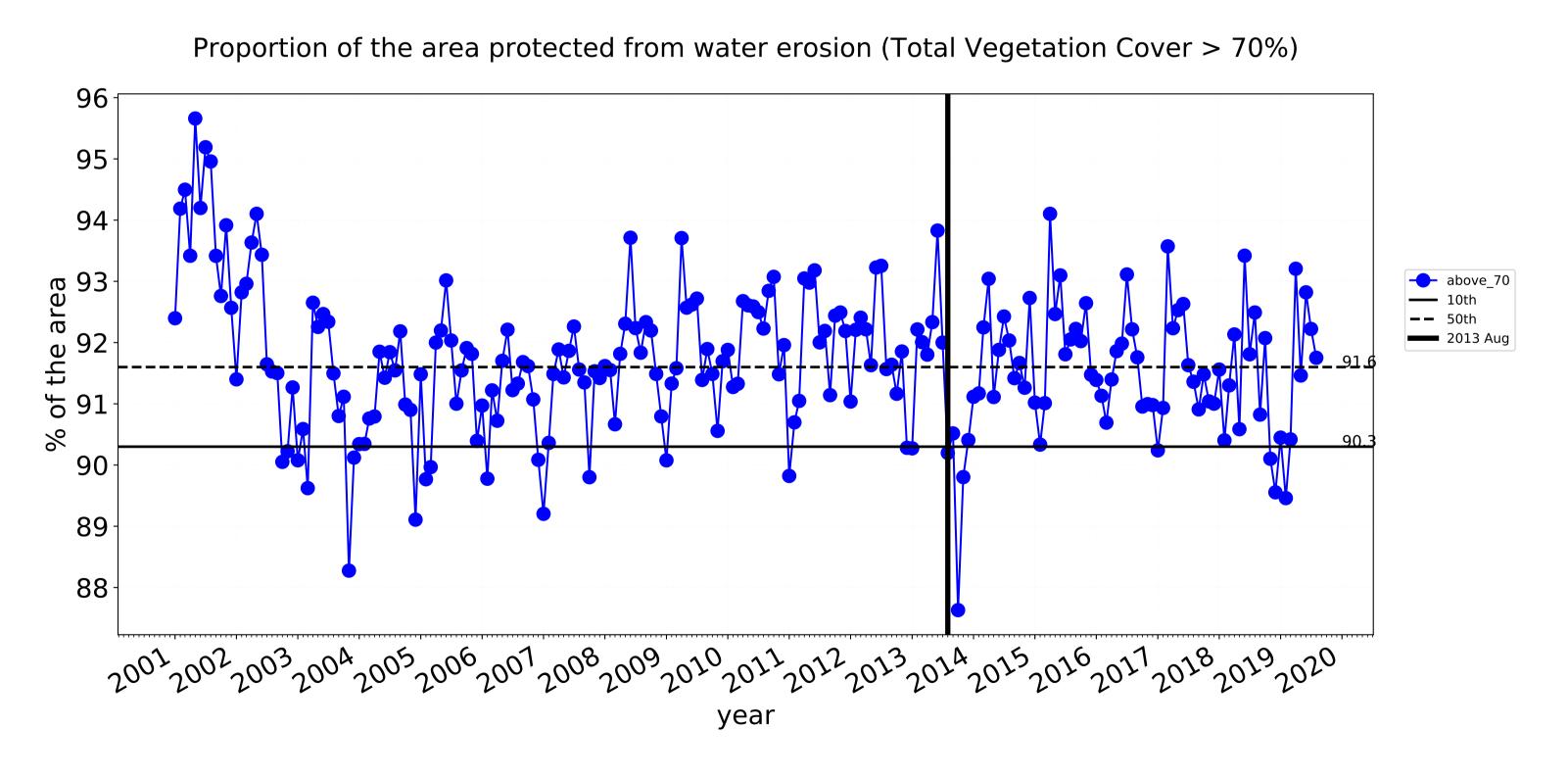


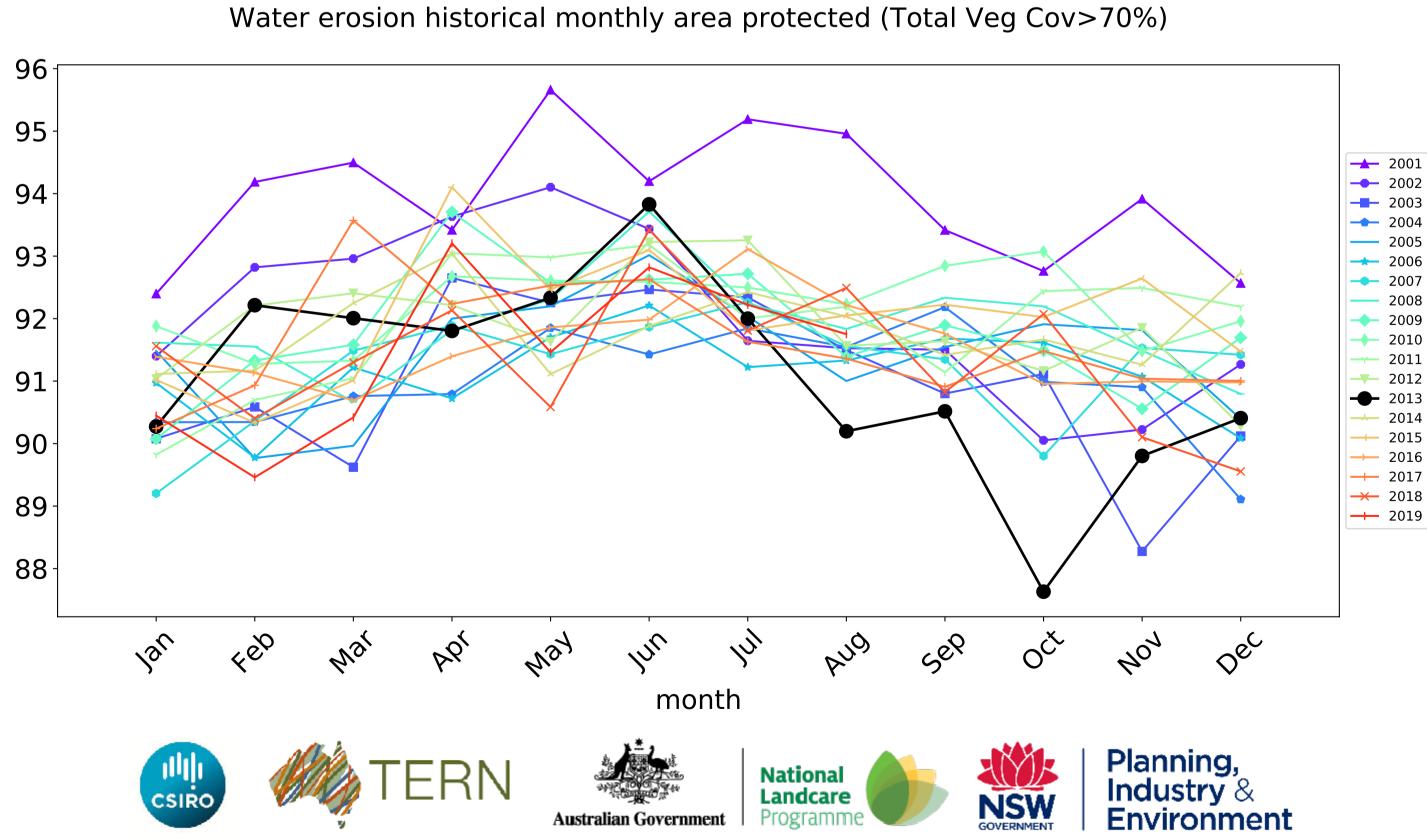
Conservation and natural environments non forest timeseries

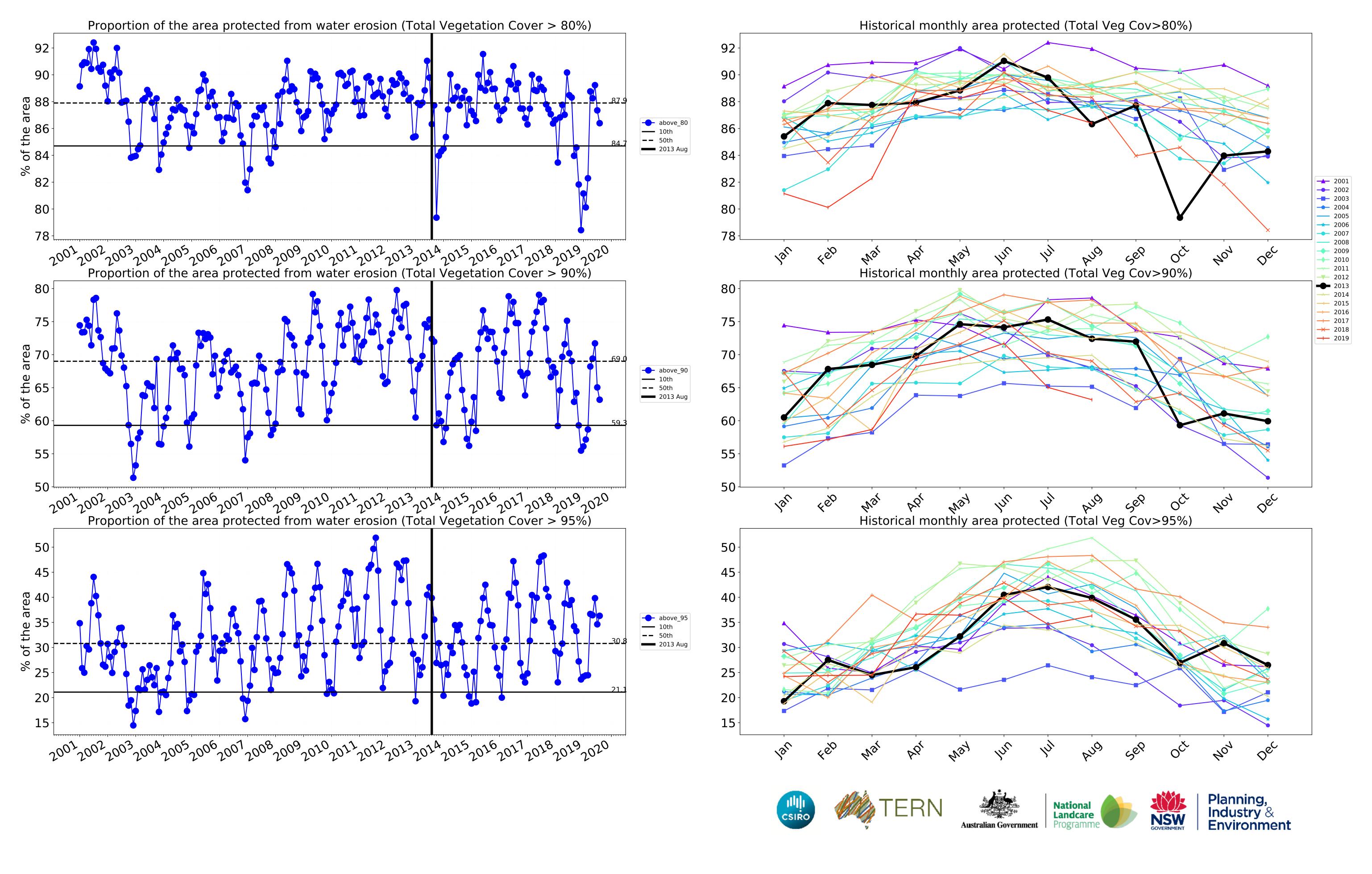




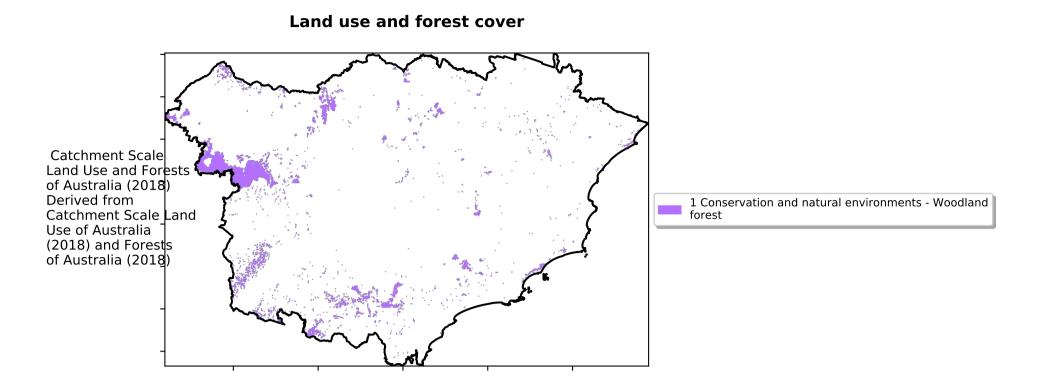


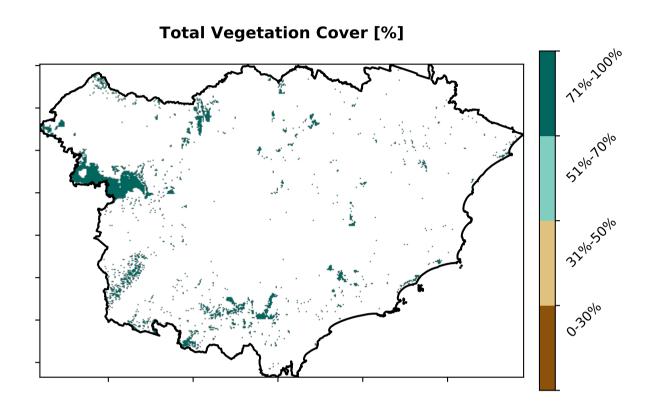


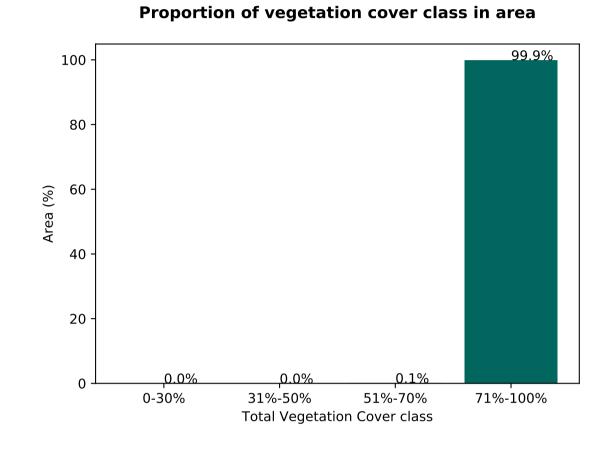


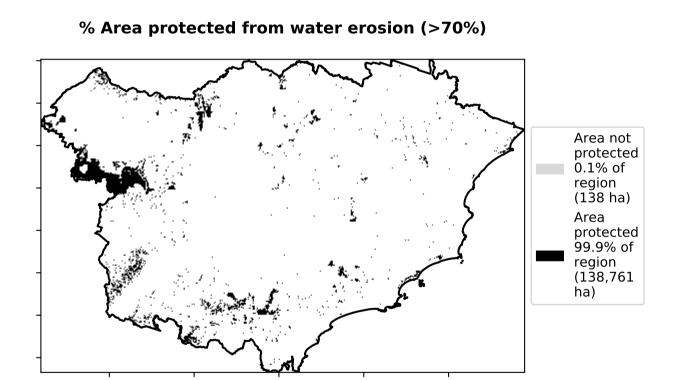


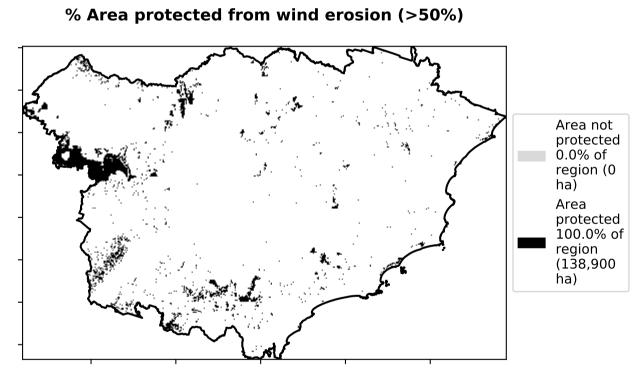
Conservation and natural environments Woodland forest

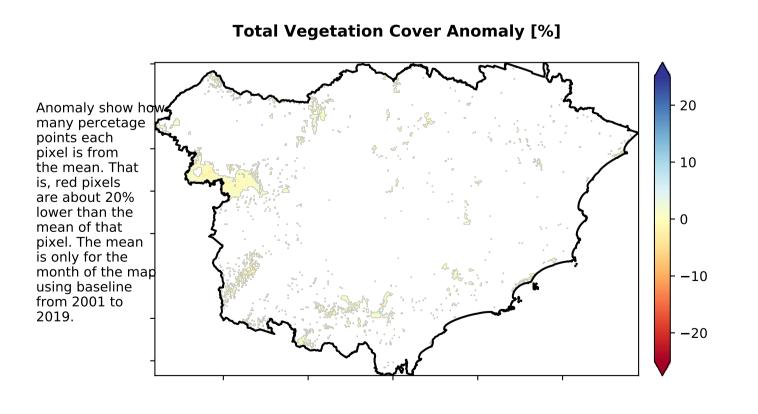




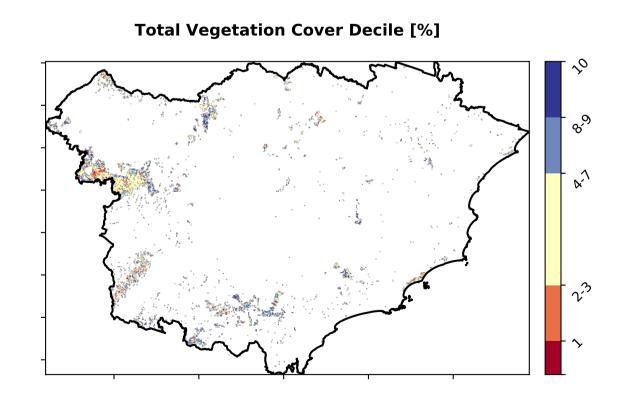








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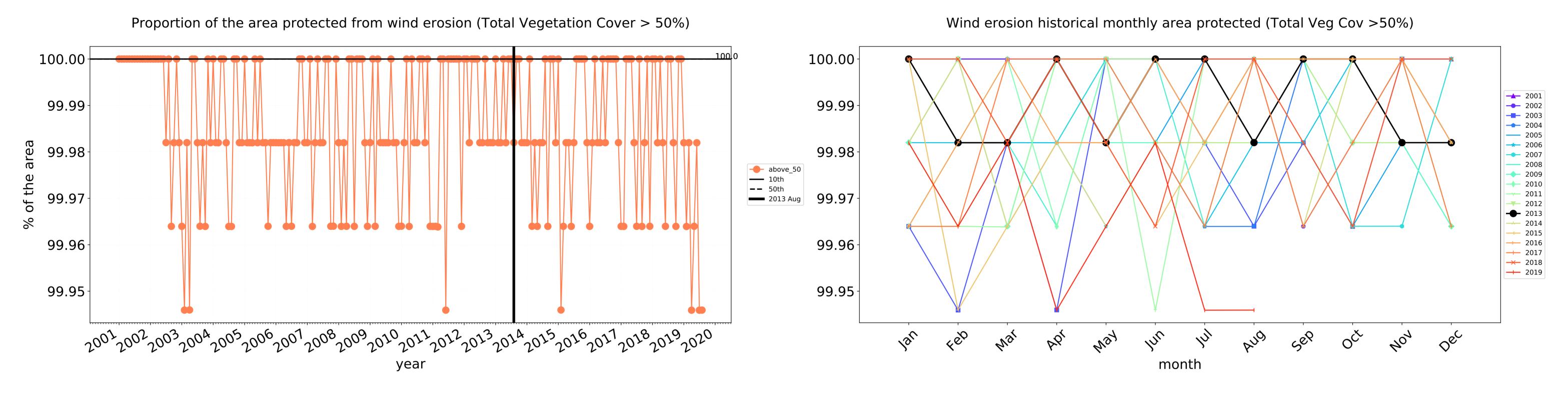


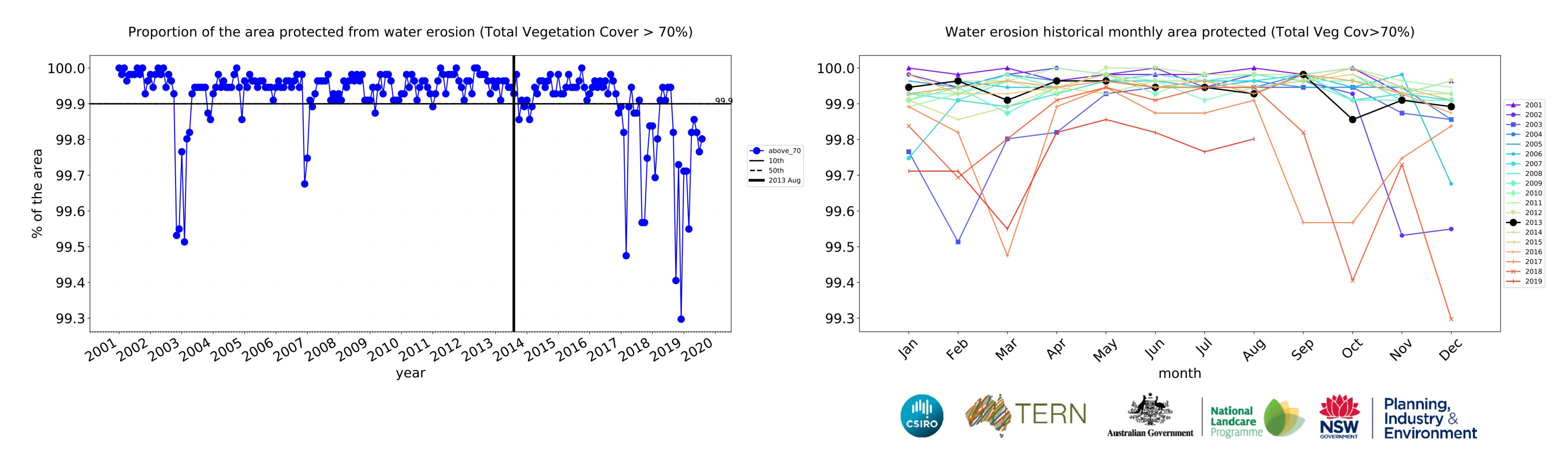


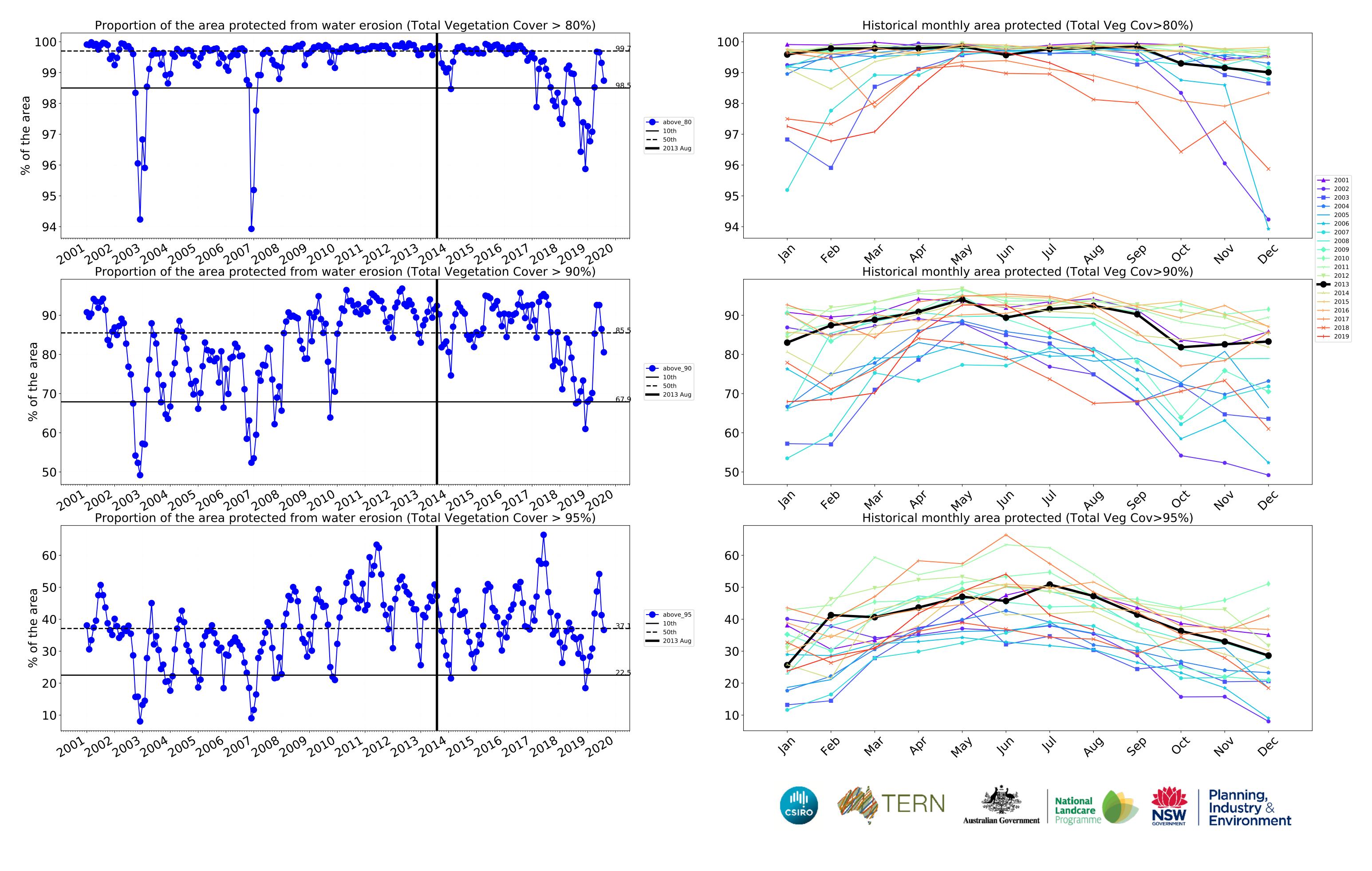




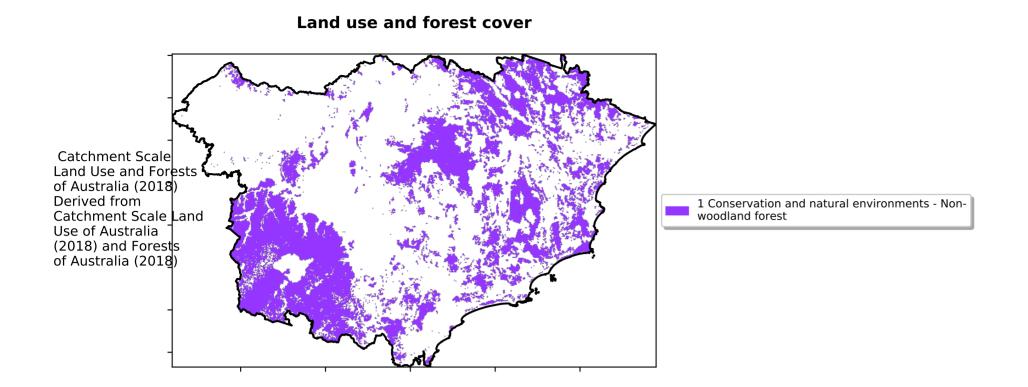
Conservation and natural environments Woodland forest timeseries



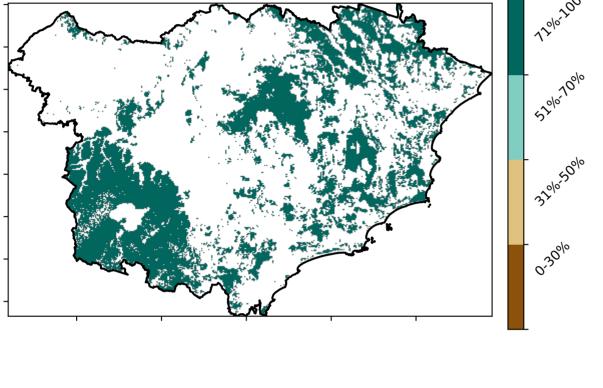


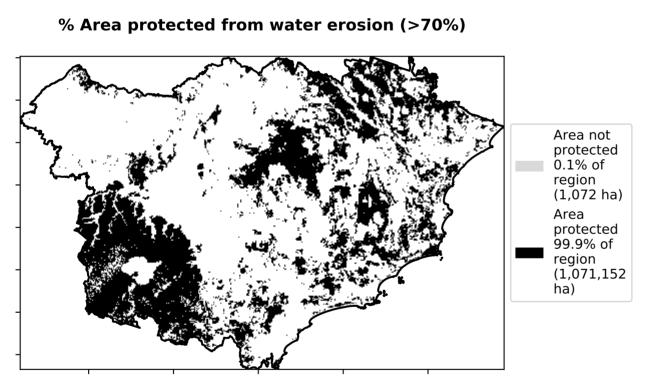


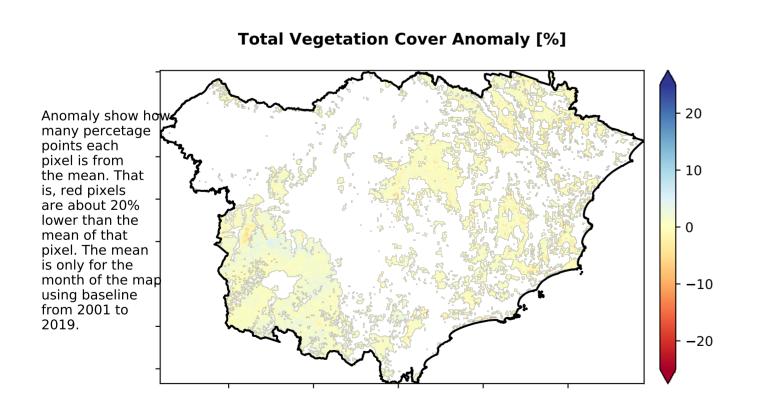
Conservation and natural environments Forest (non woodland)



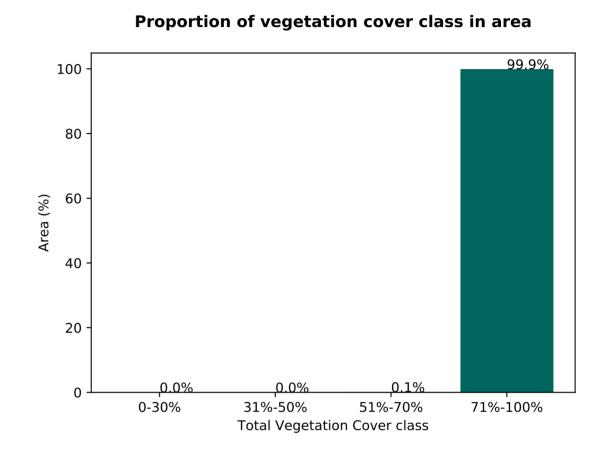
Total Vegetation Cover [%]

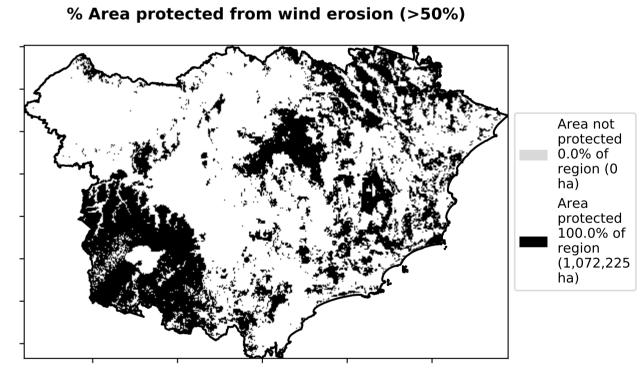


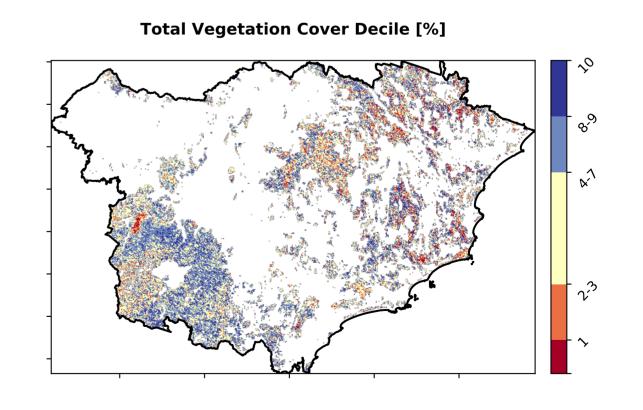




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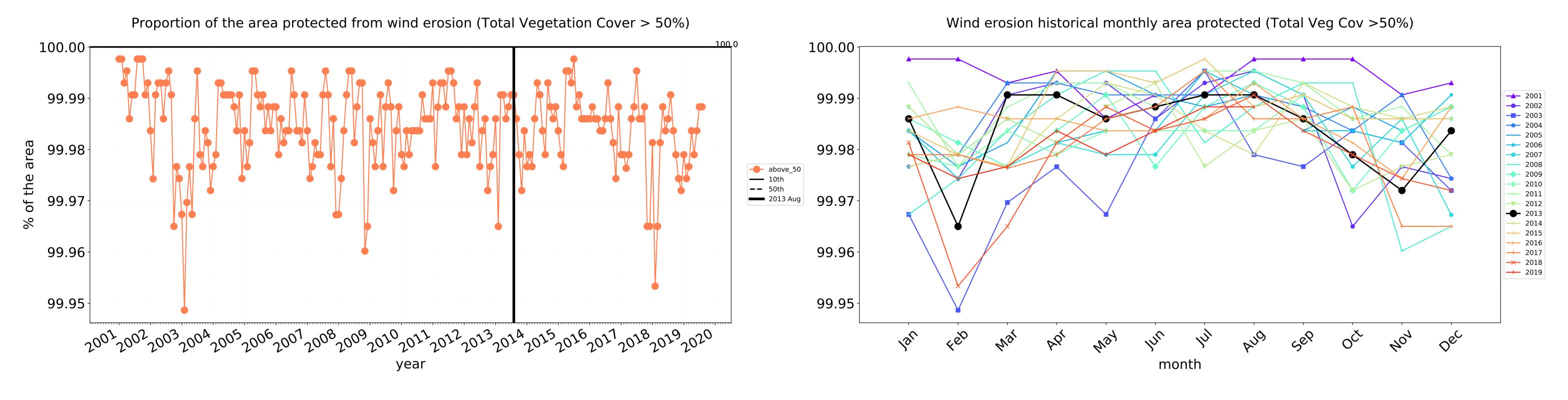


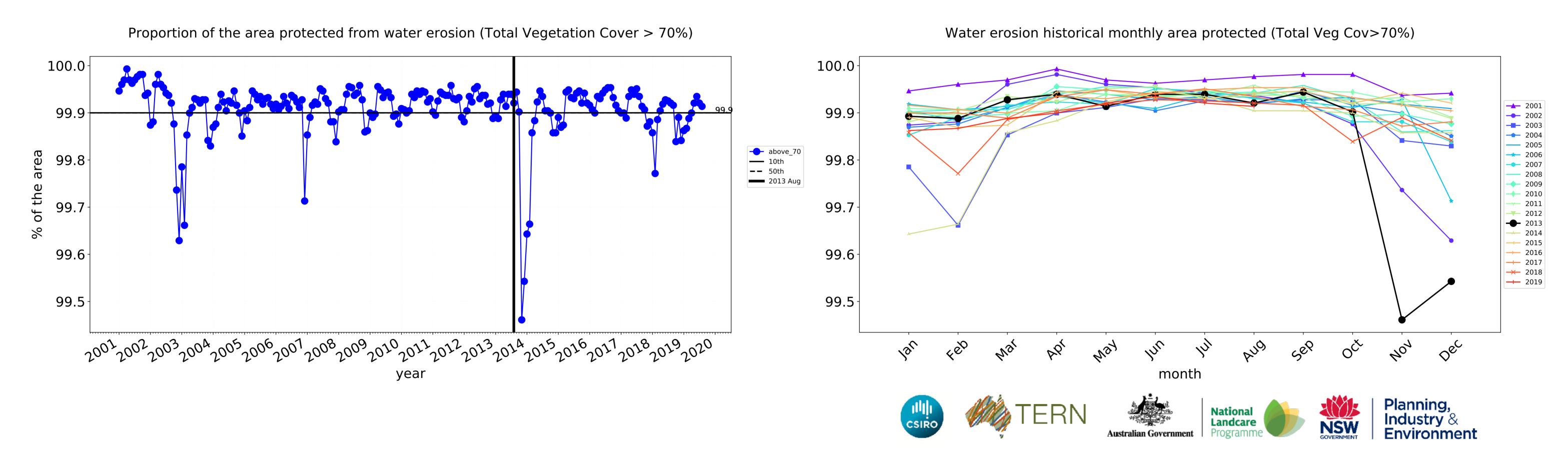


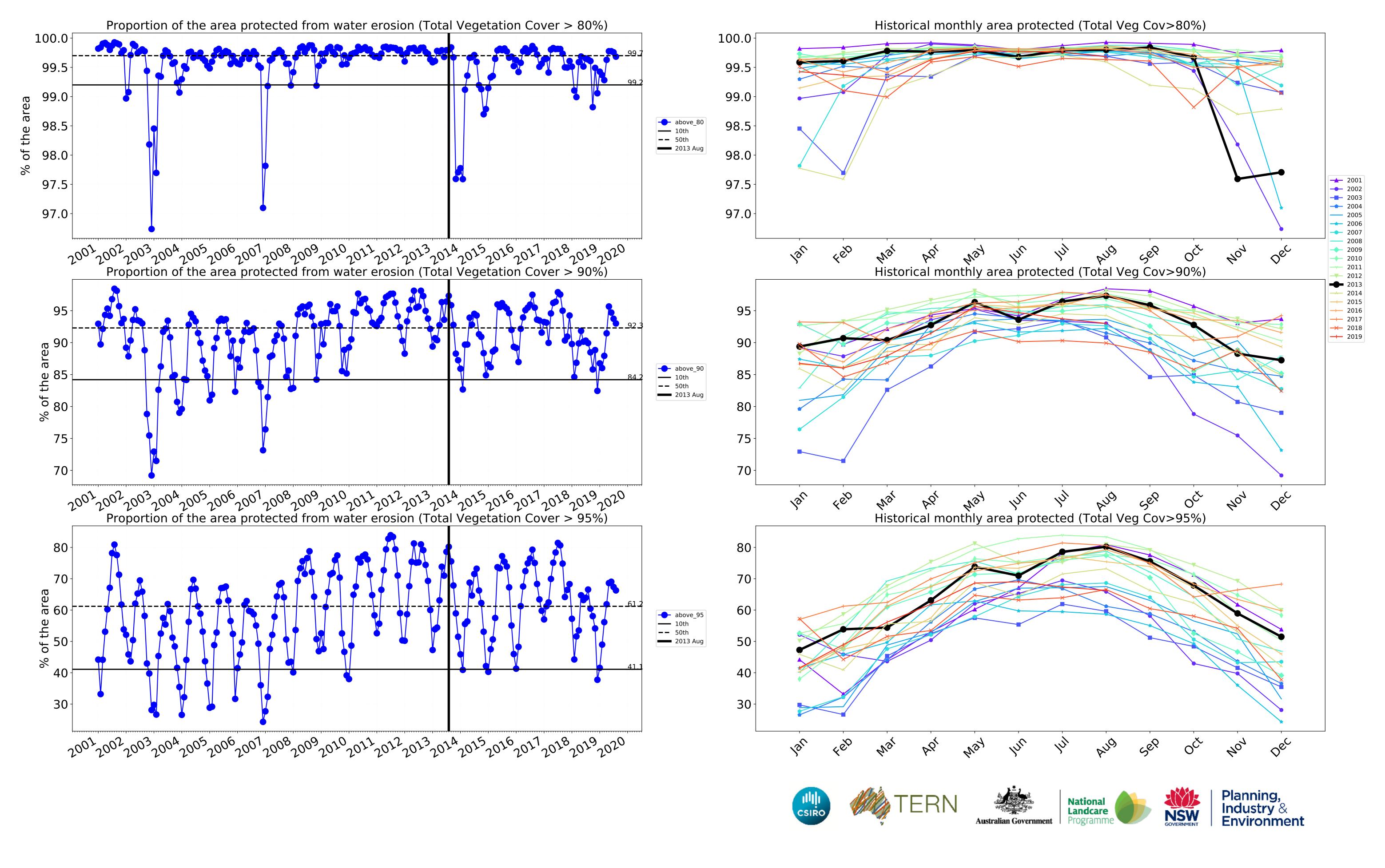








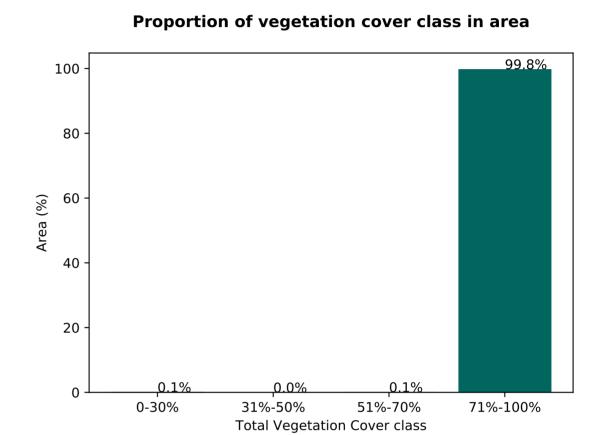


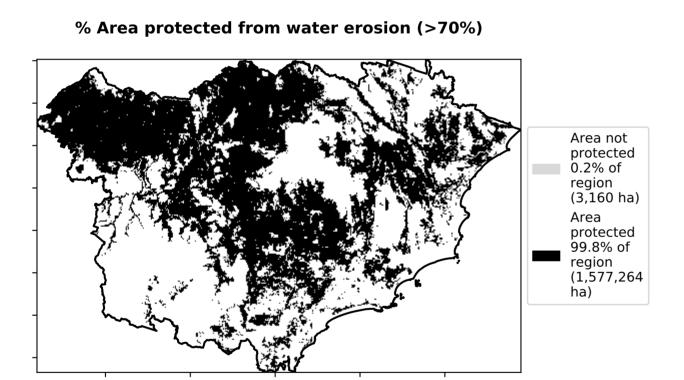


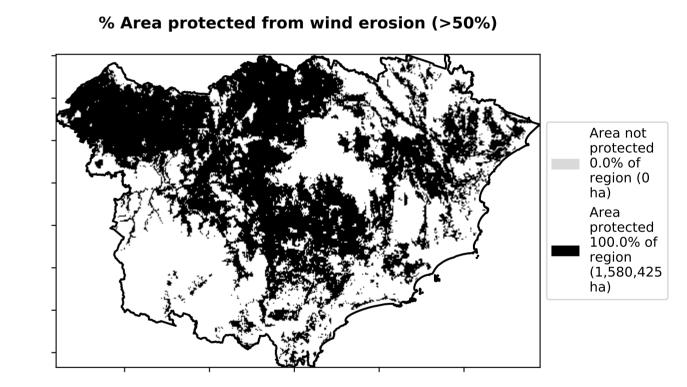
Agriculture

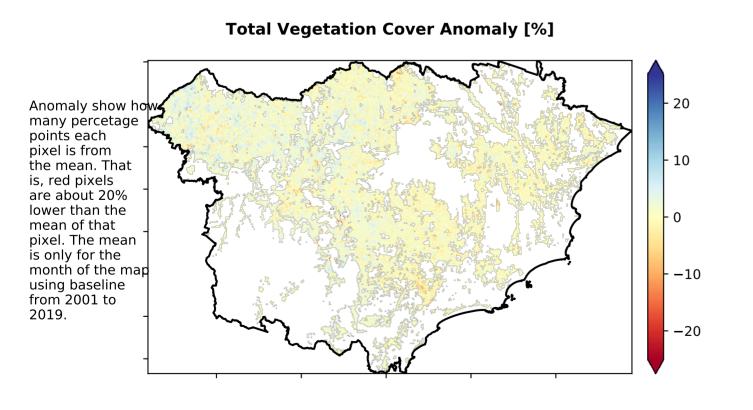




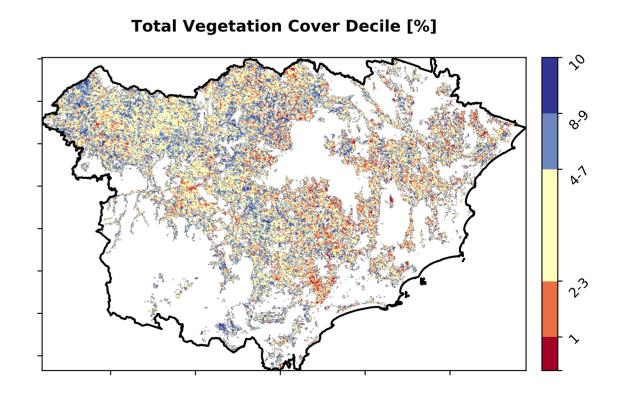








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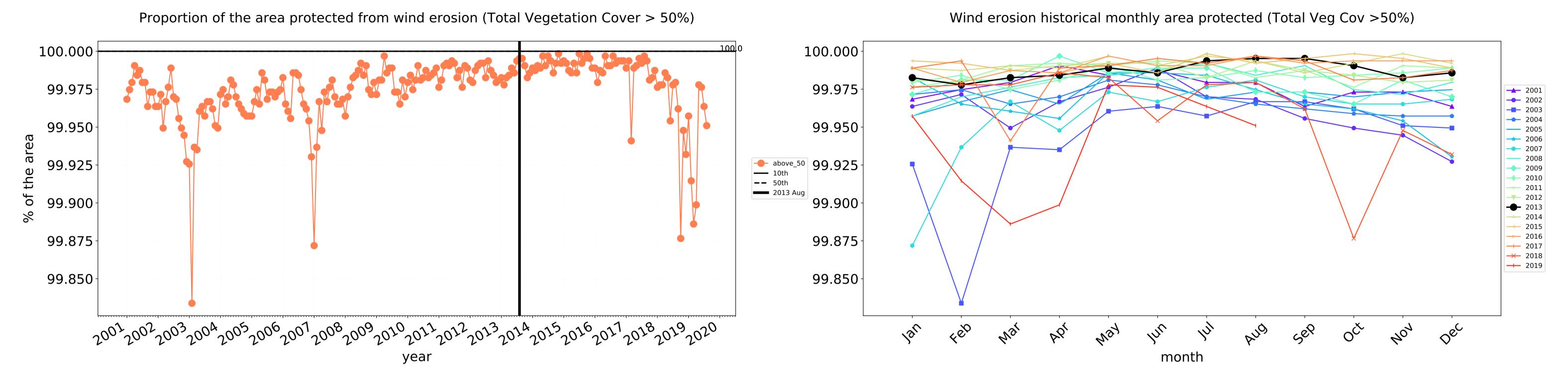


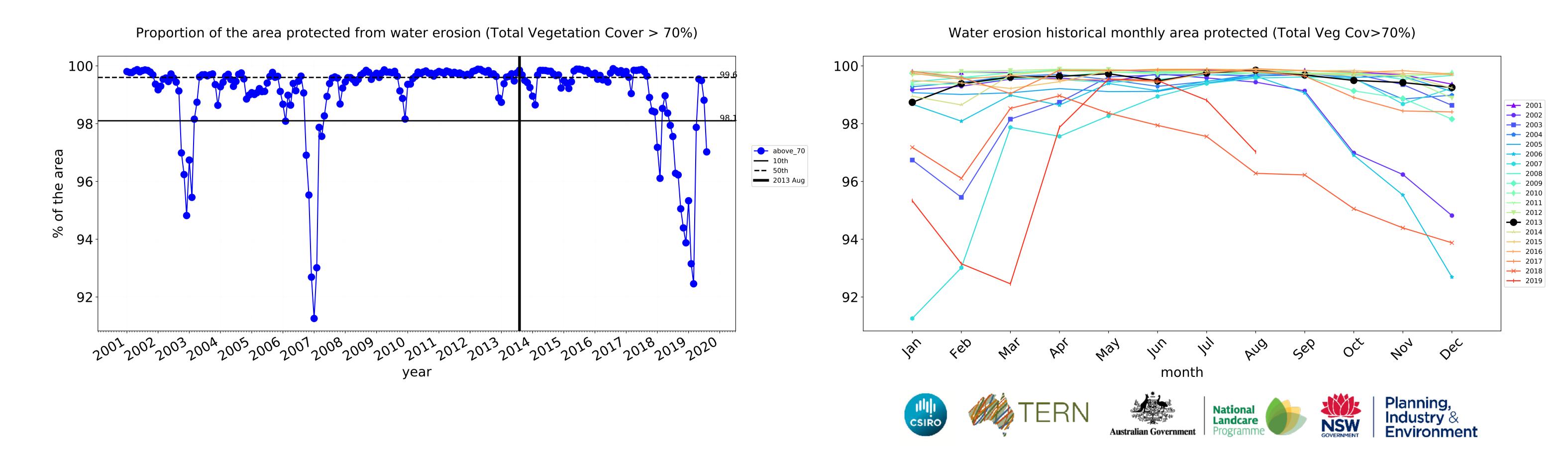


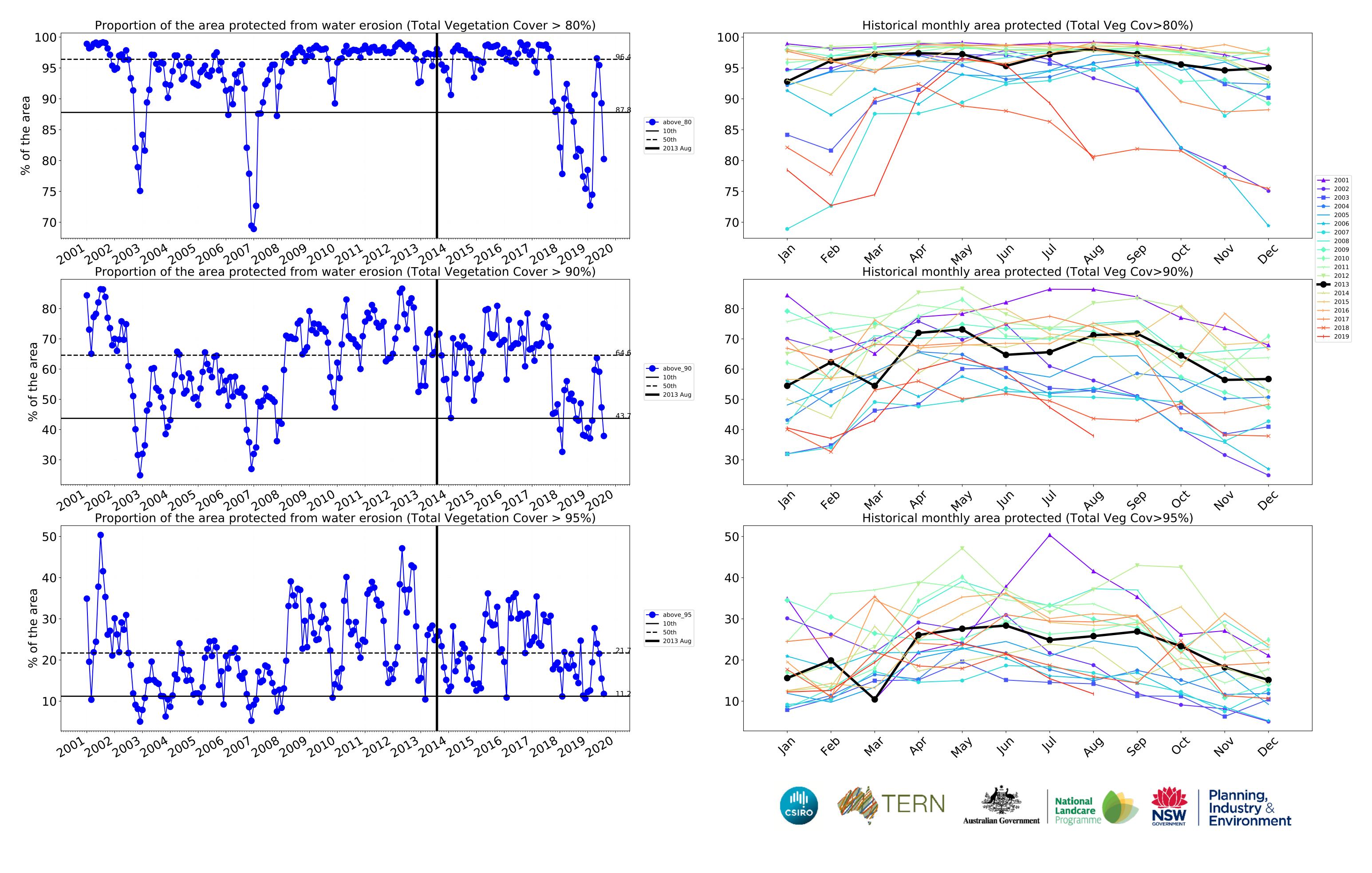




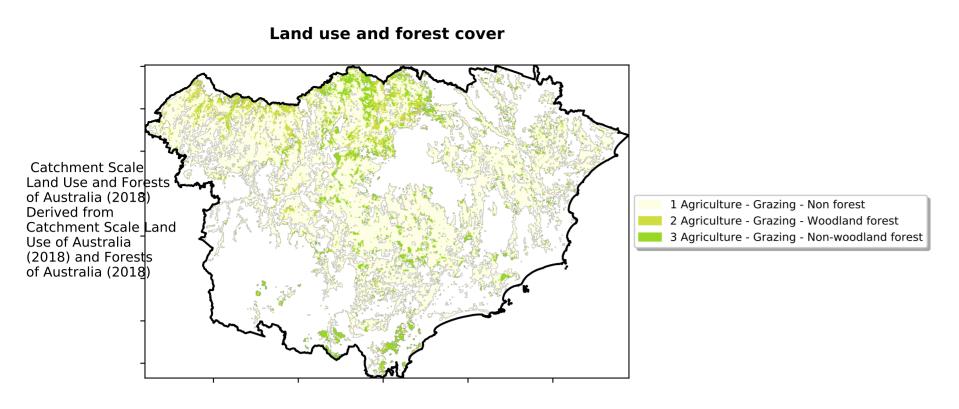
Agriculture timeseries



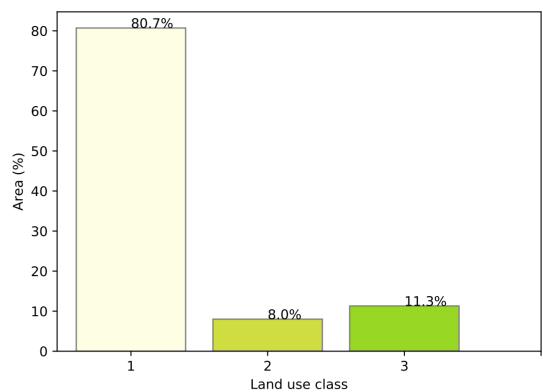




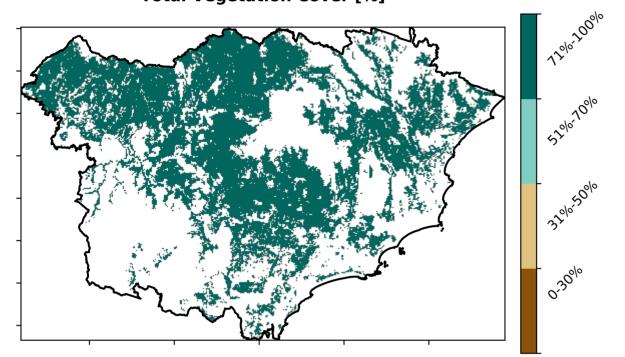
Grazing



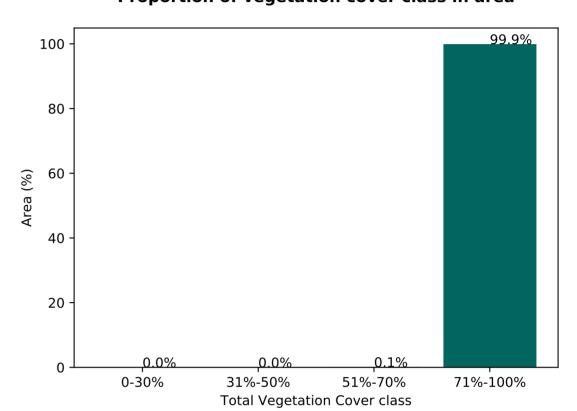
Proportion of each land class in area



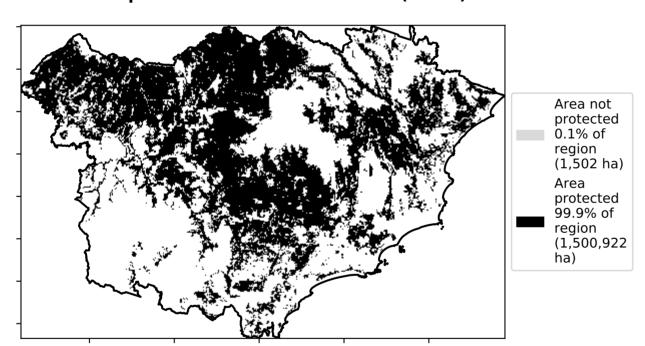
Total Vegetation Cover [%]



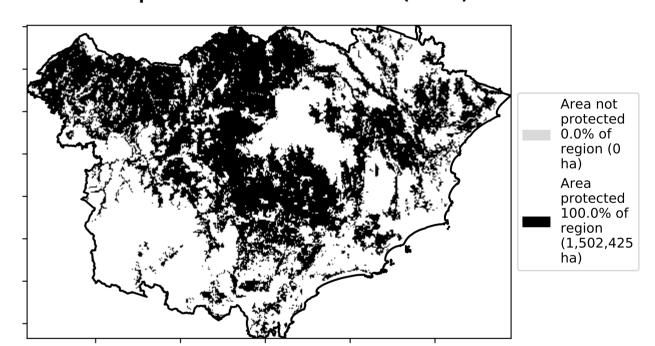
Proportion of vegetation cover class in area



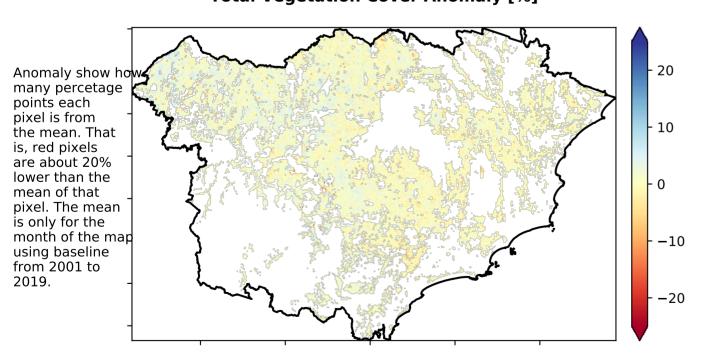
% Area protected from water erosion (>70%)



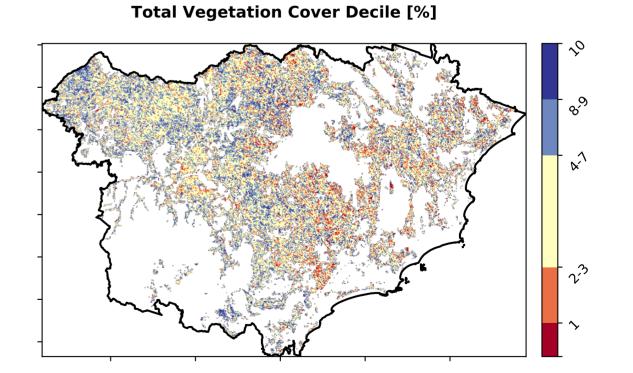
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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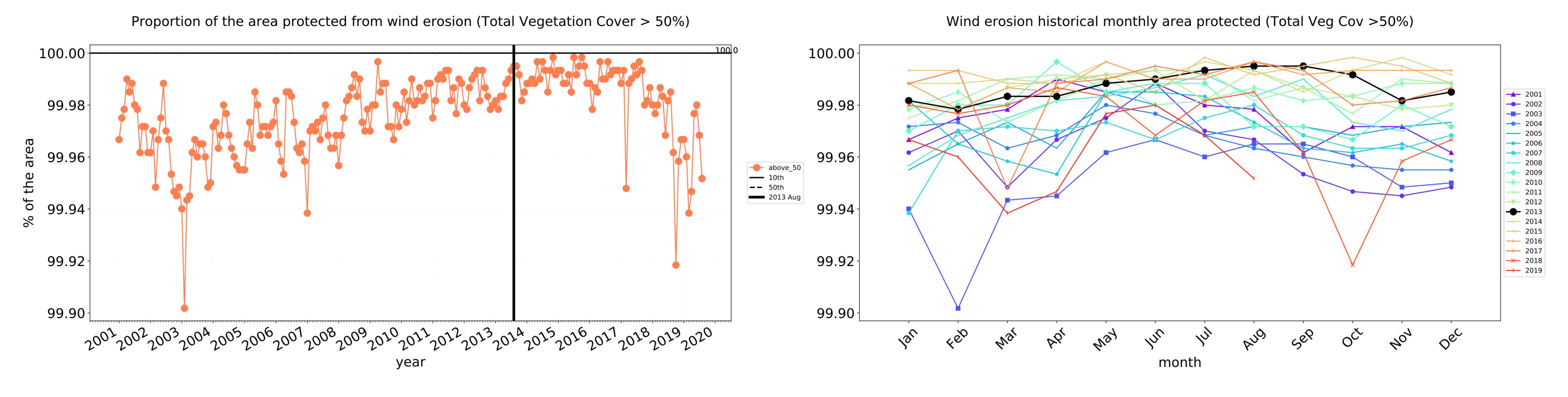


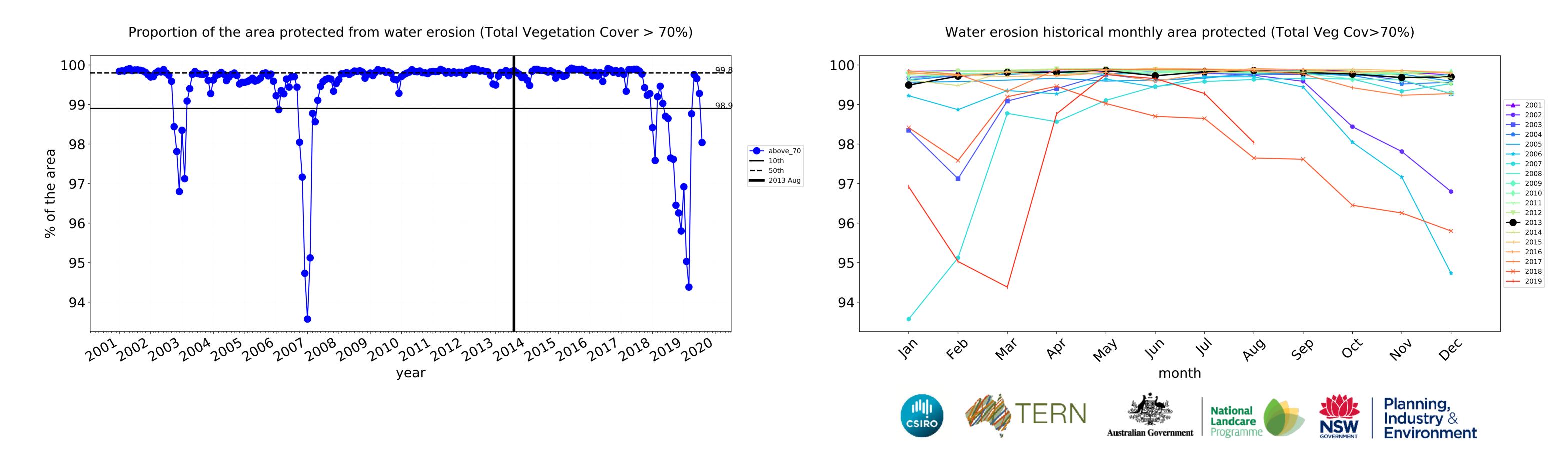


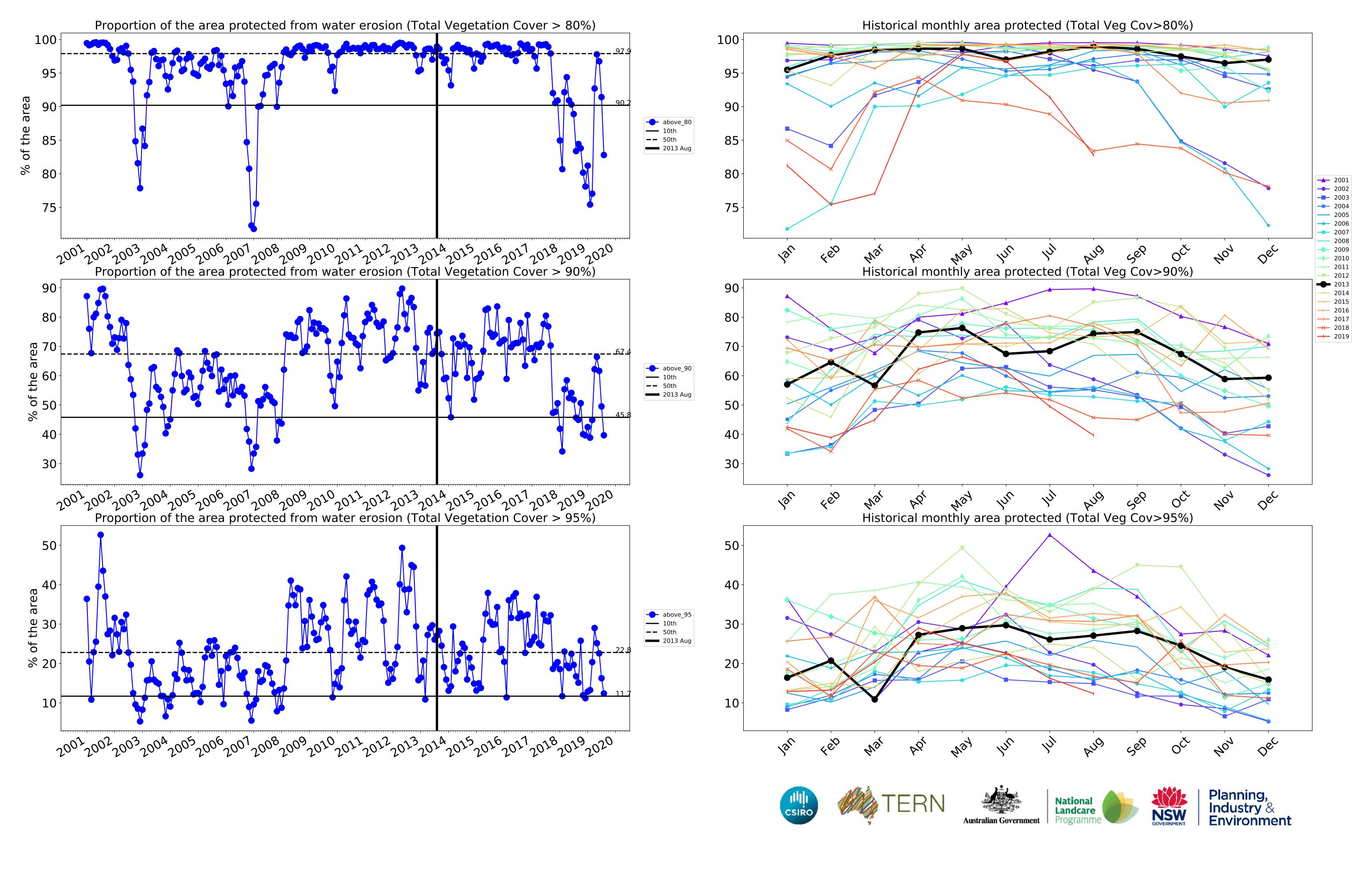




Grazing timeseries

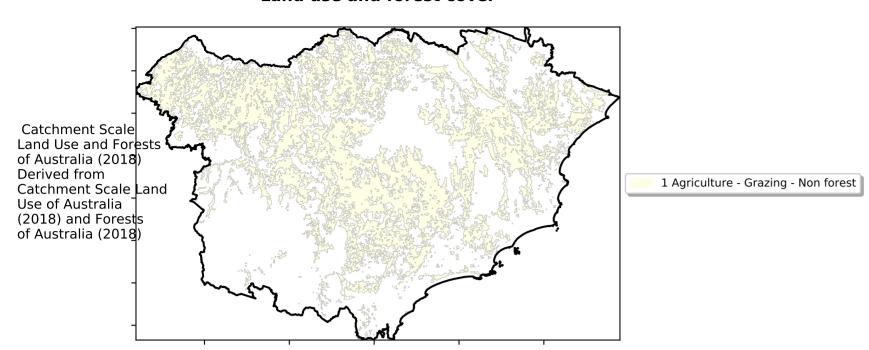




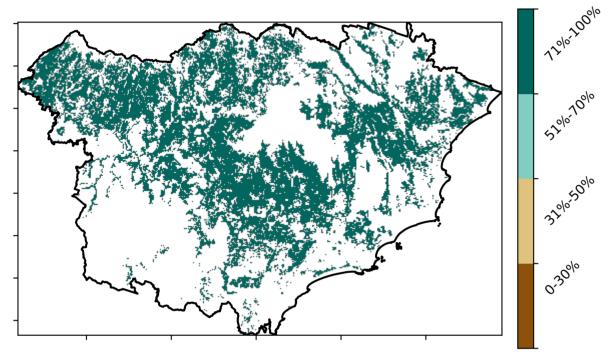


Grazing non forest

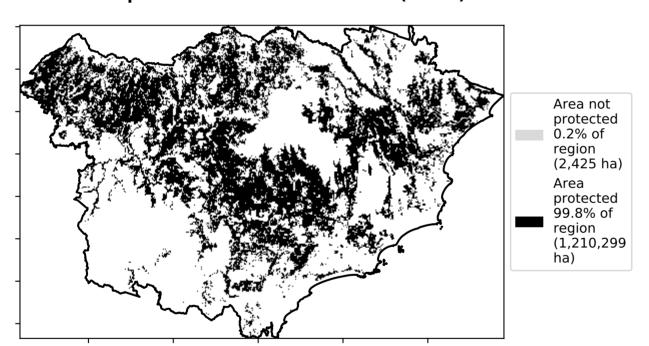
Land use and forest cover



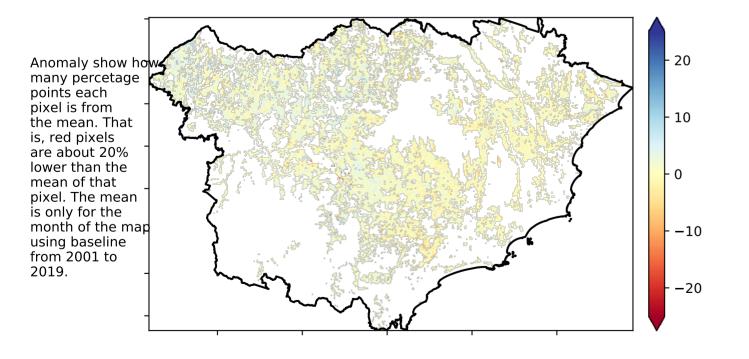
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

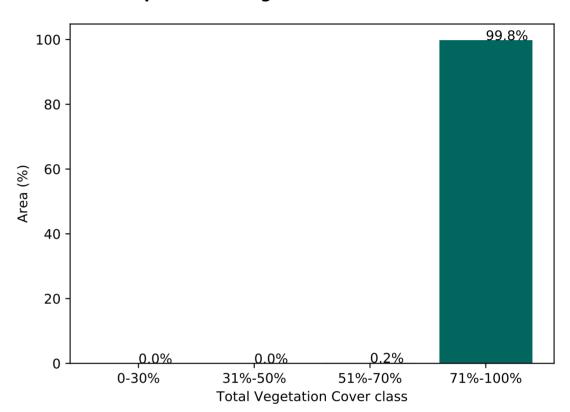


Total Vegetation Cover Anomaly [%]

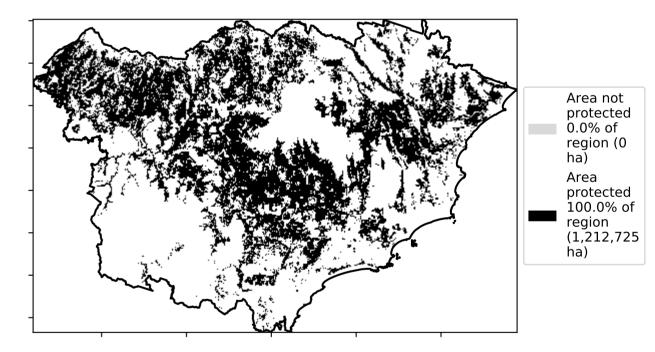


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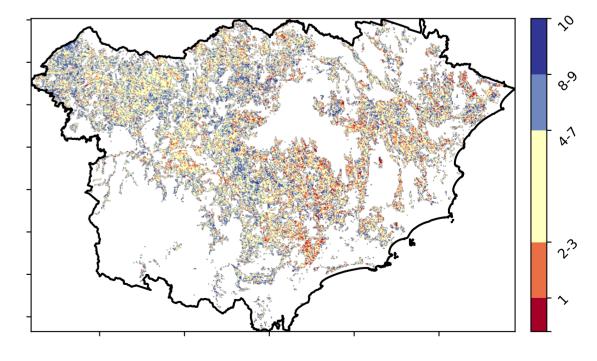
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







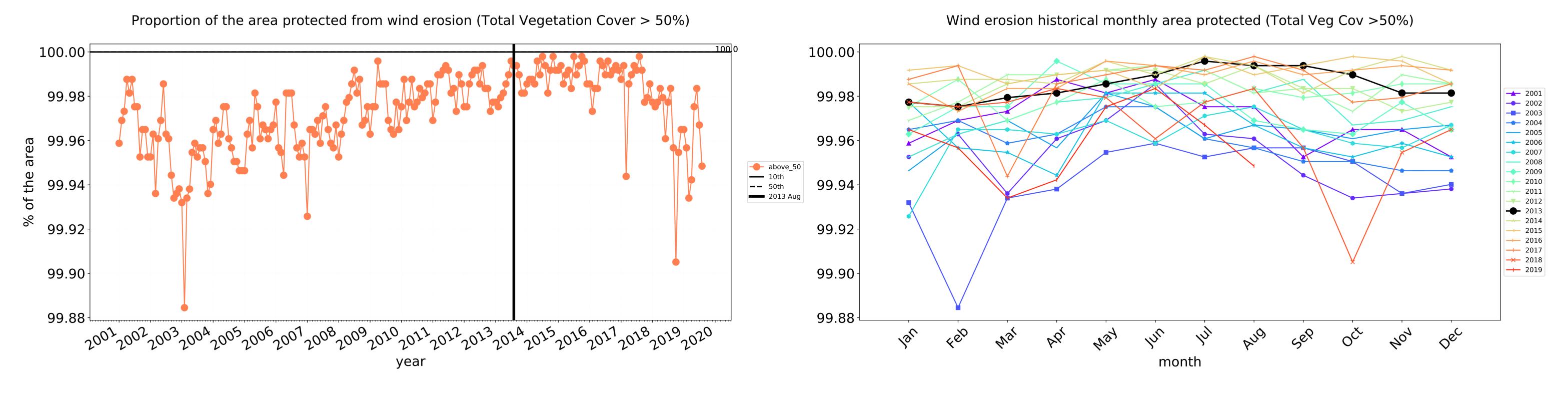


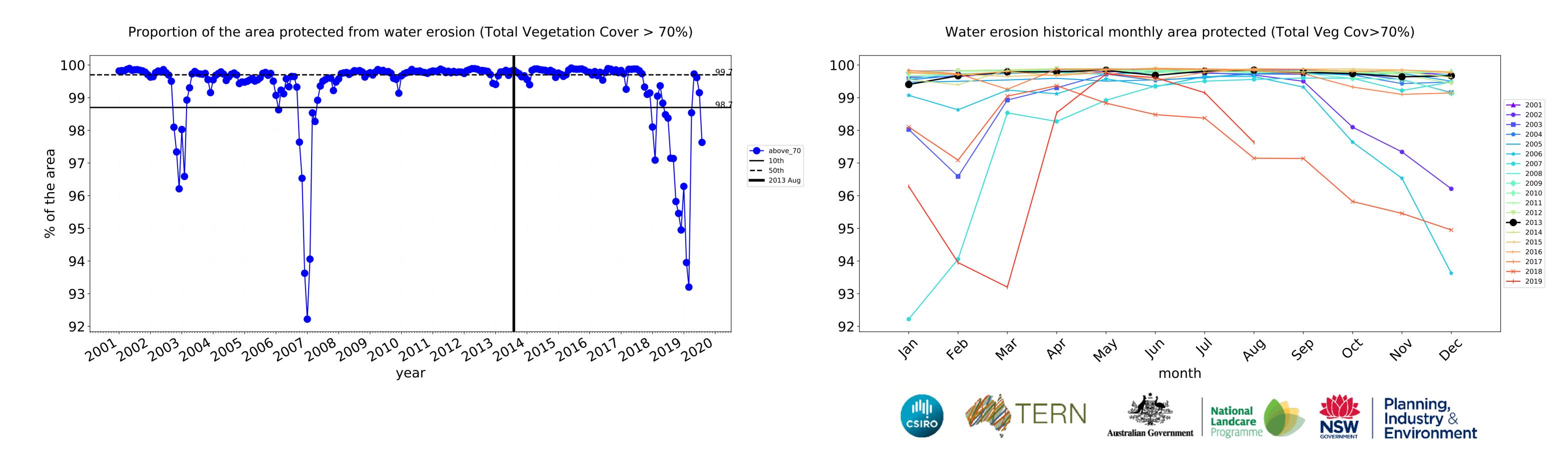


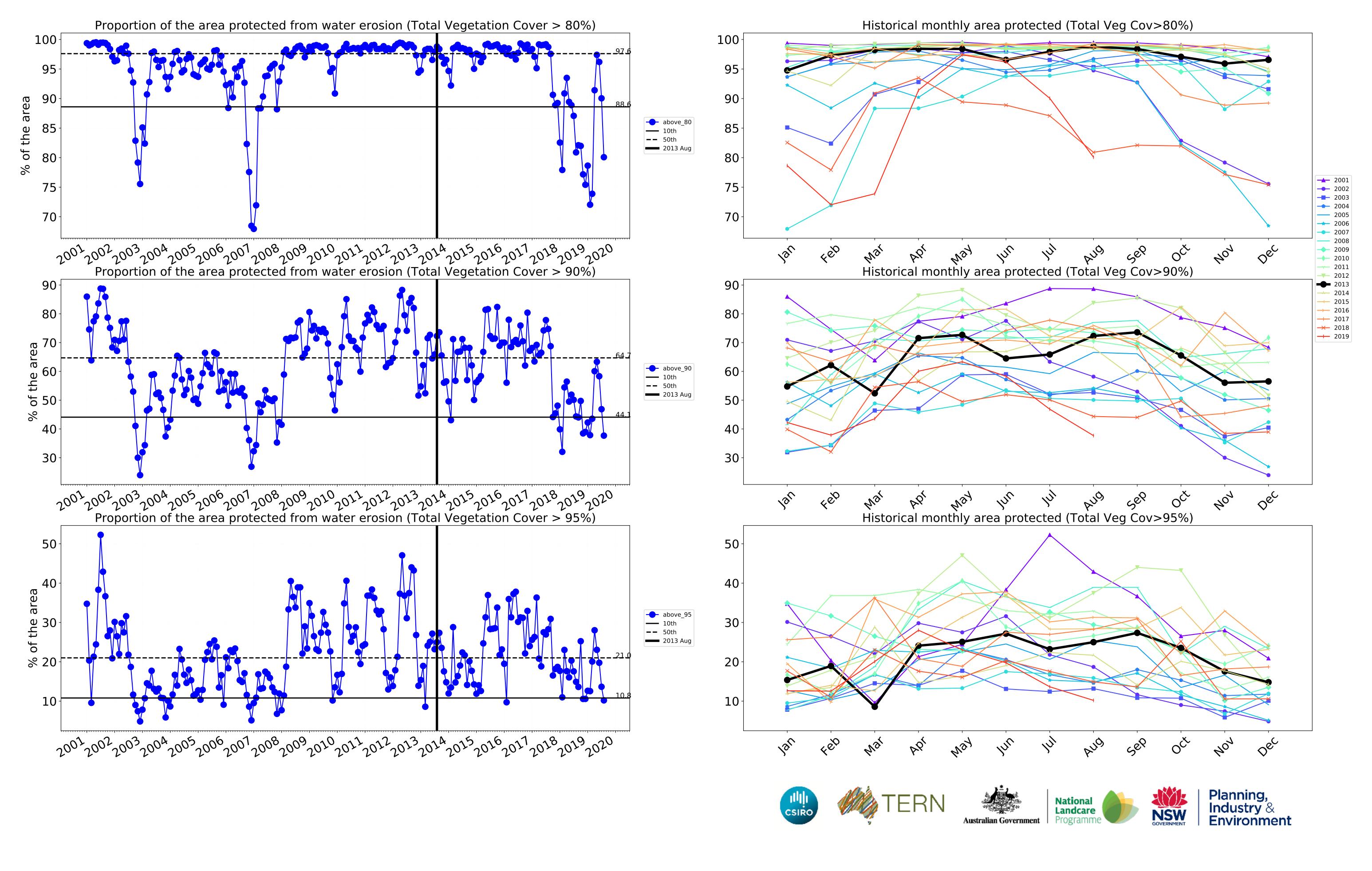




Grazing non forest timeseries





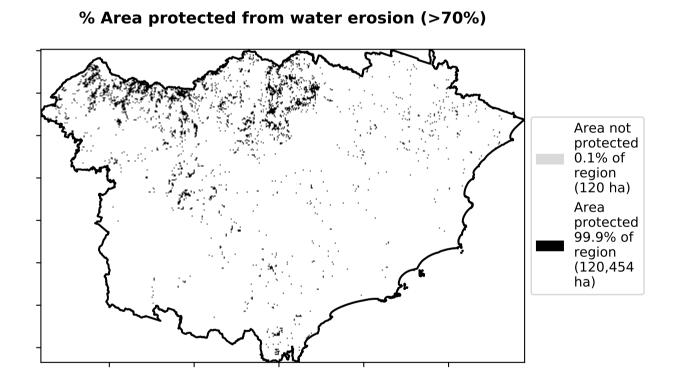


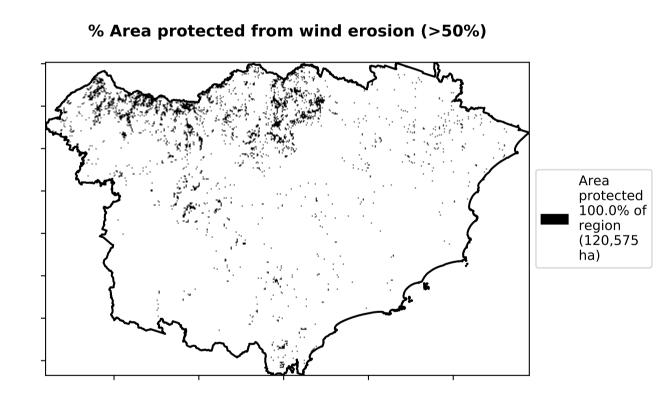
Grazing Woodland forest

Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Agriculture - Grazing - Woodland forest Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

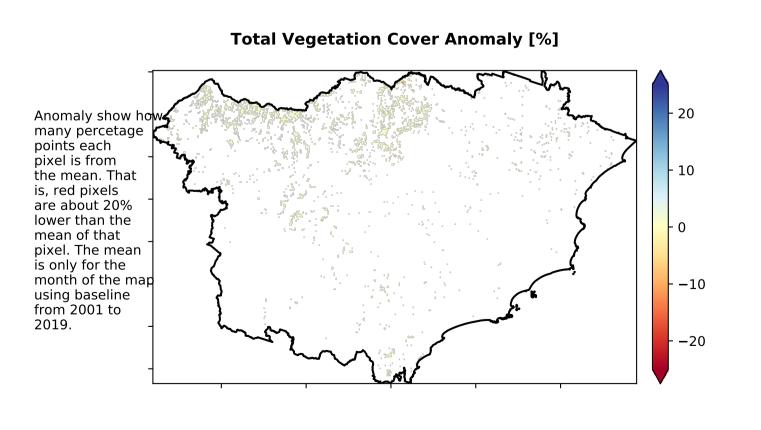
Total Vegetation Cover [%]

99.9% 100 80 Area (%) 40 20 -0.1% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**

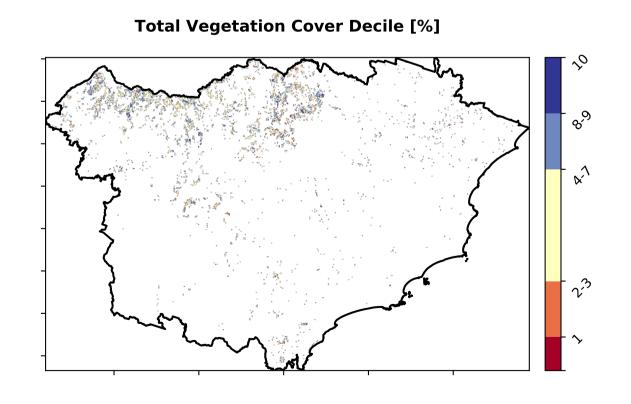




Proportion of vegetation cover class in area



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 baseling. the map using baseline from 2001 to 2019.







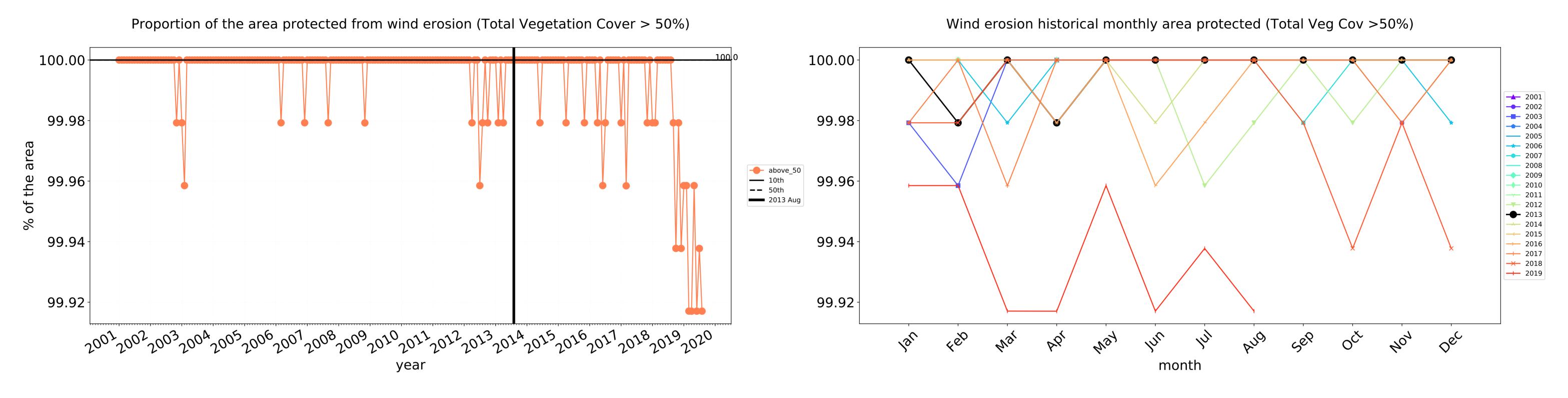


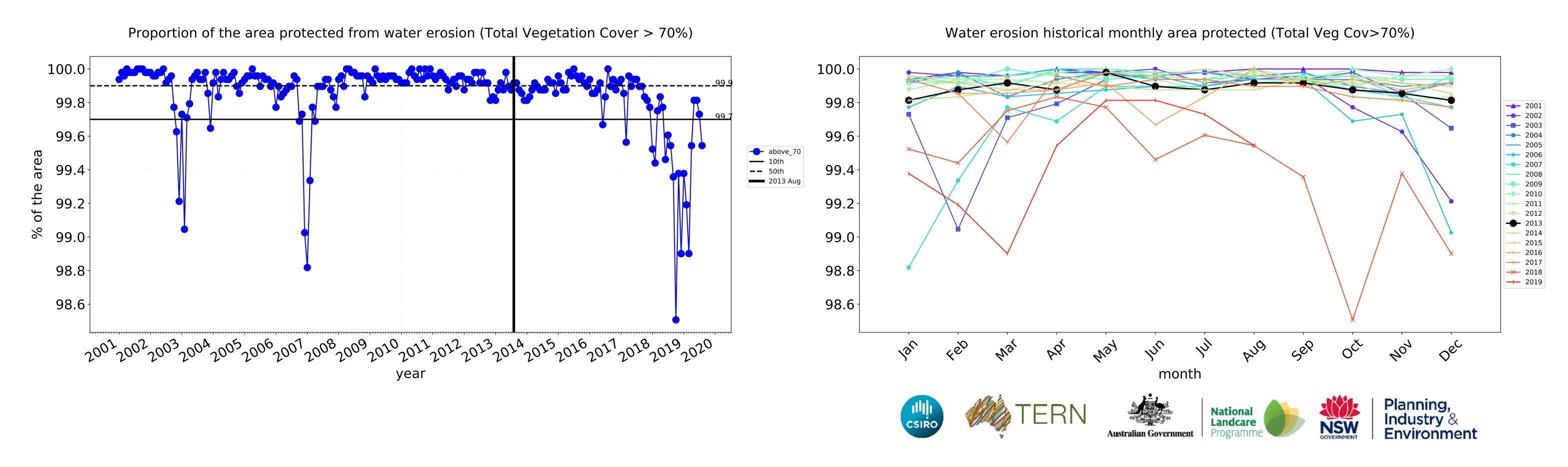


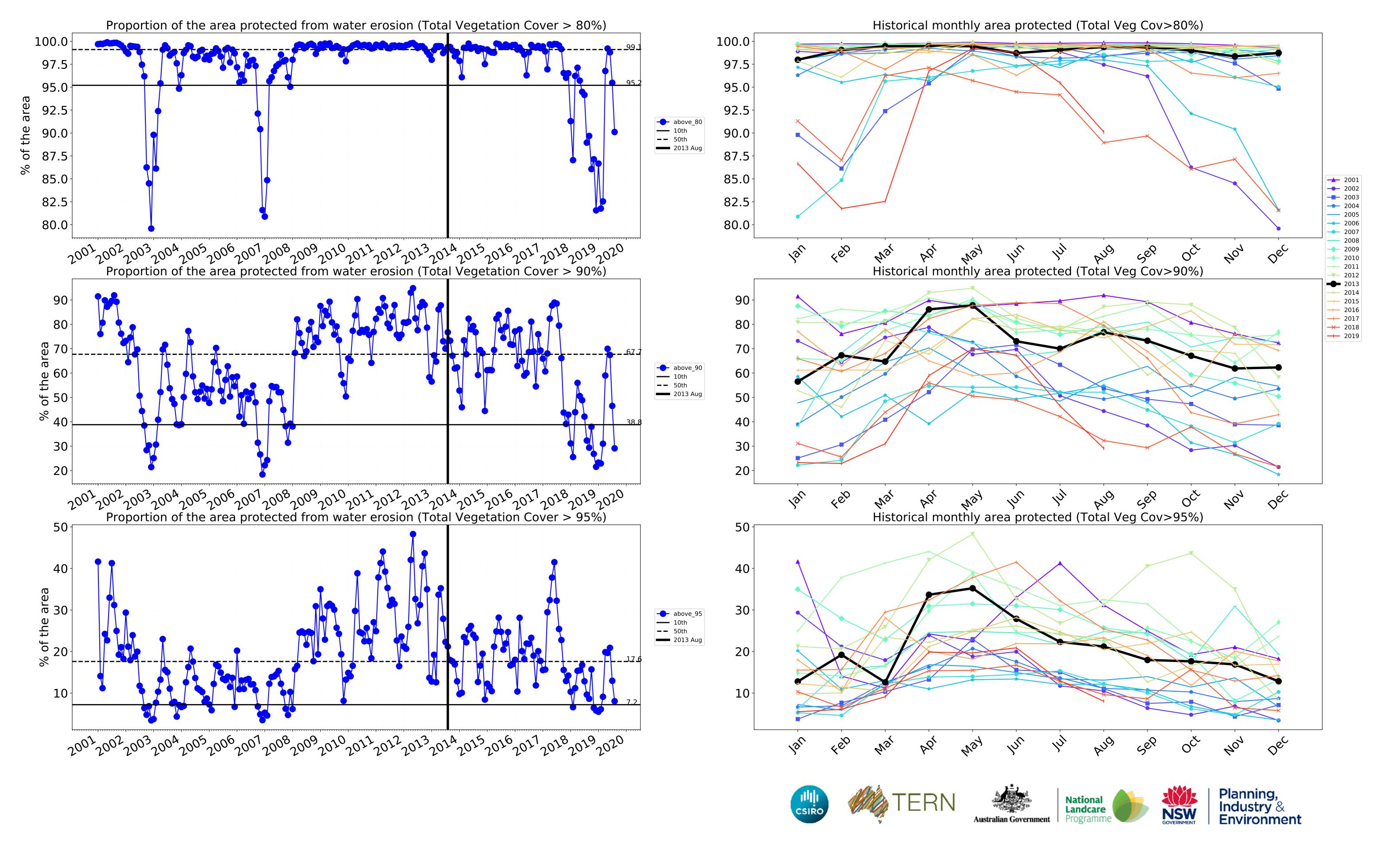




Grazing Woodland forest timeseries



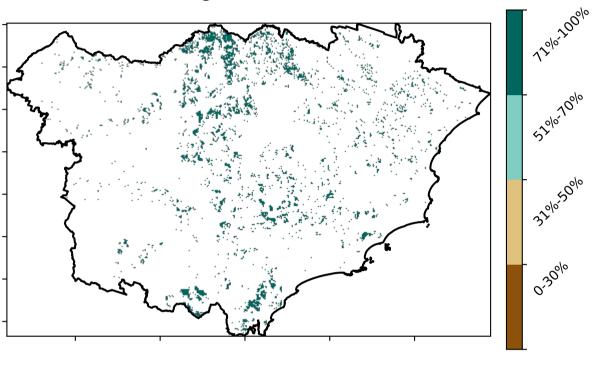


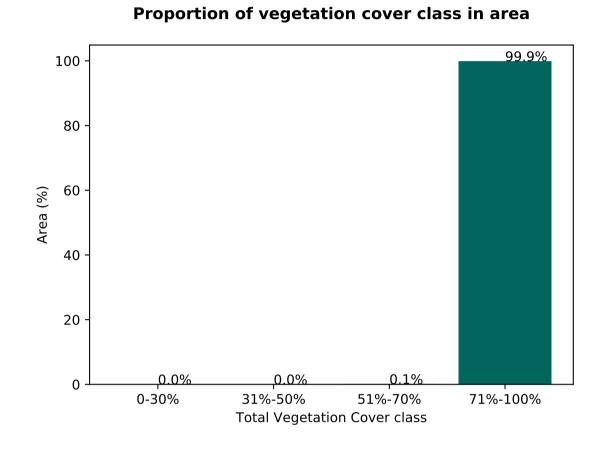


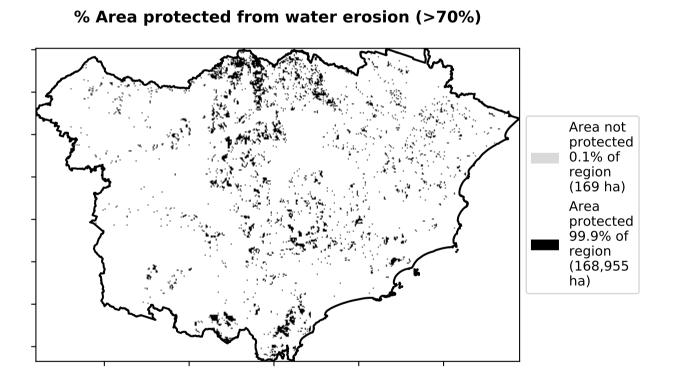
Grazing - Forest (non woodland)

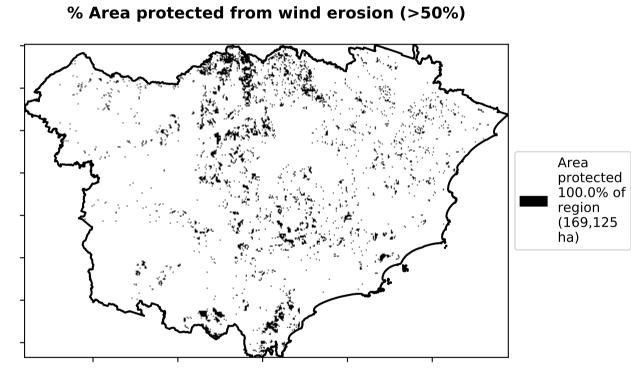
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Agriculture - Grazing - Non-woodland forest Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

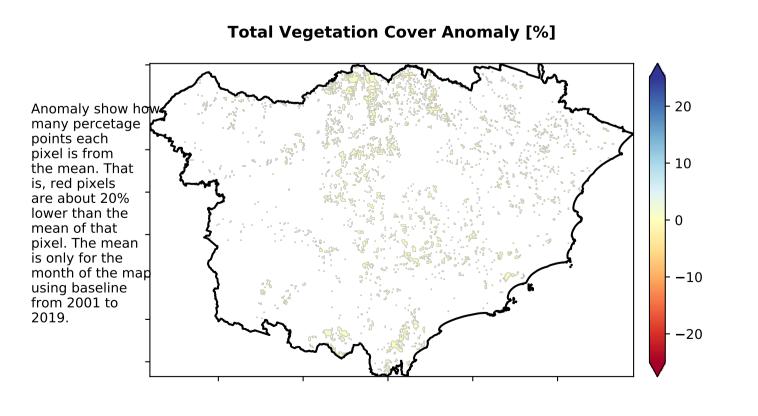
Total Vegetation Cover [%]



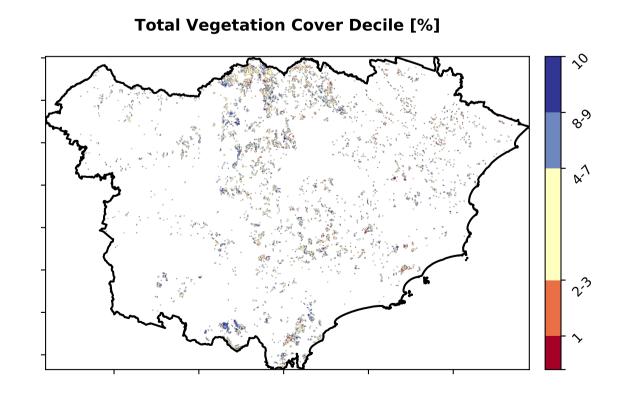








Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the man using baseling. the map using baseline from 2001 to 2019.





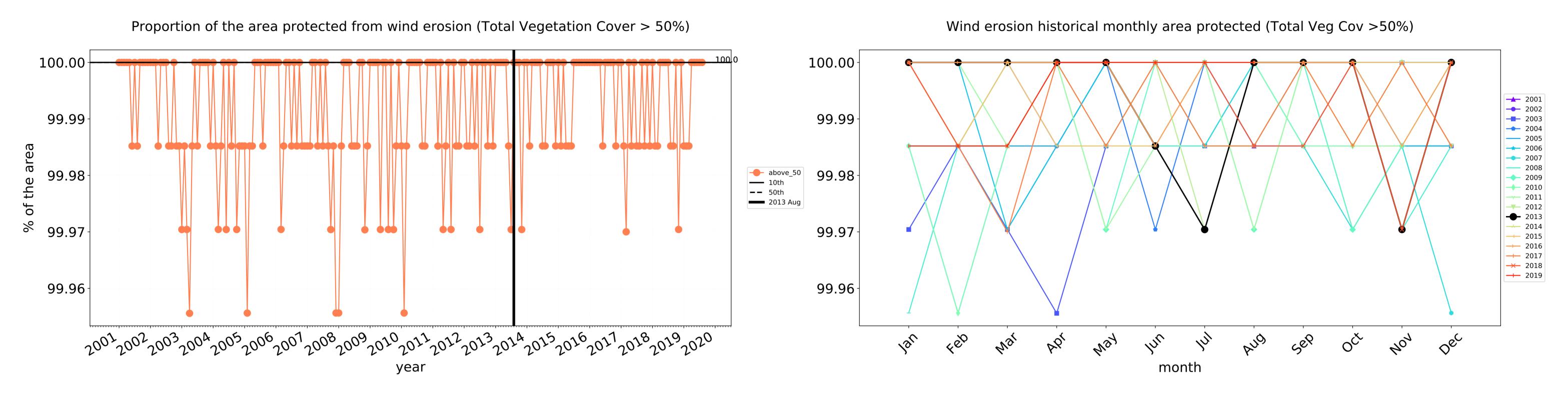


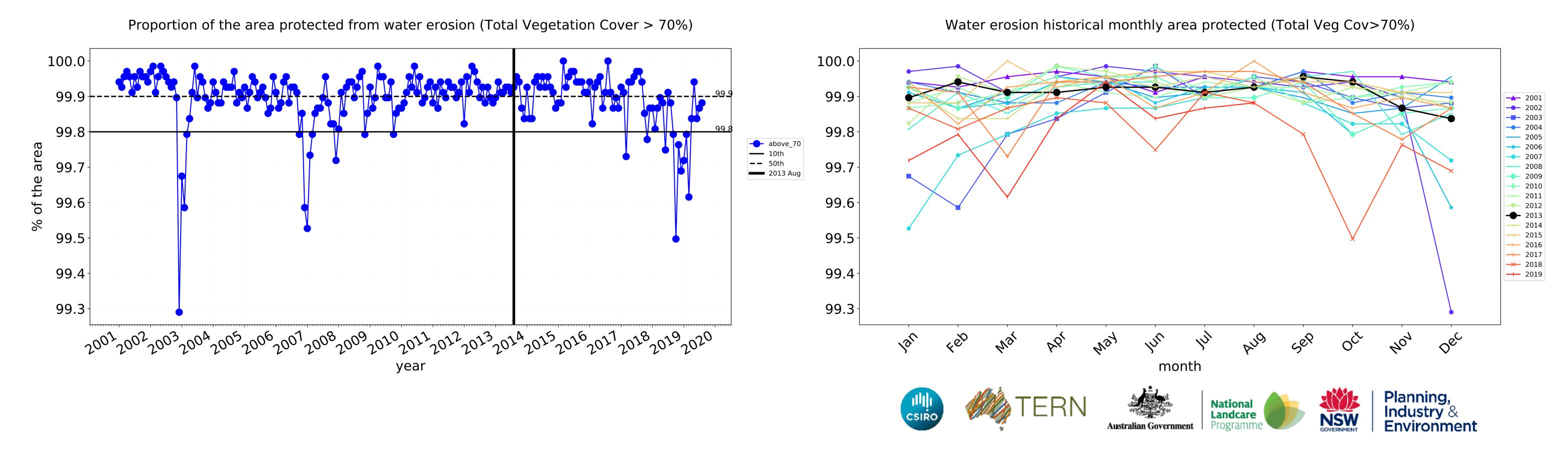


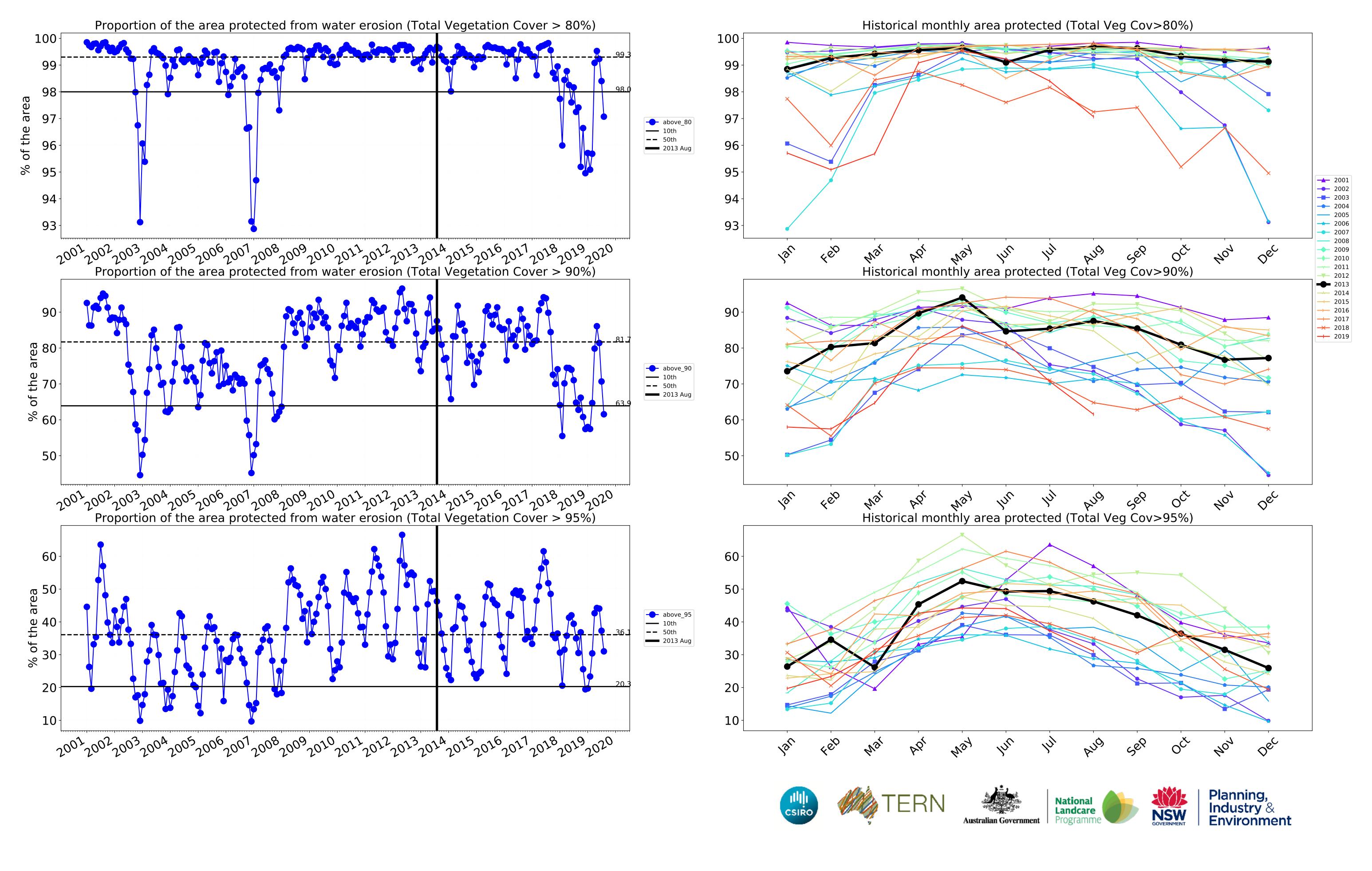






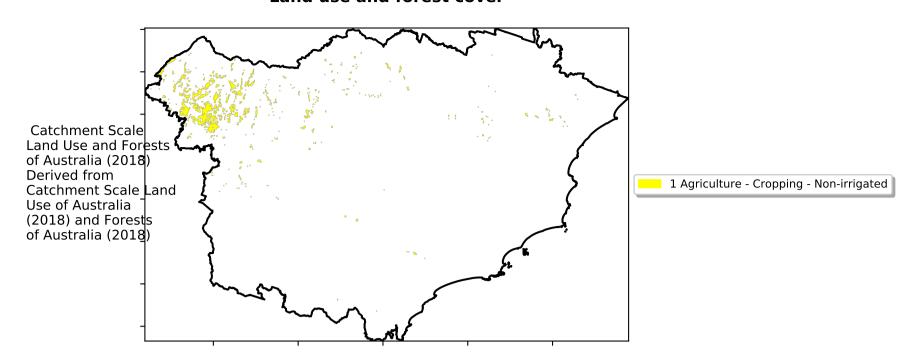




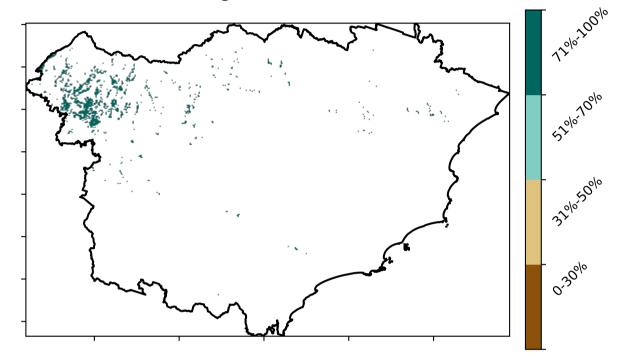


Cropping

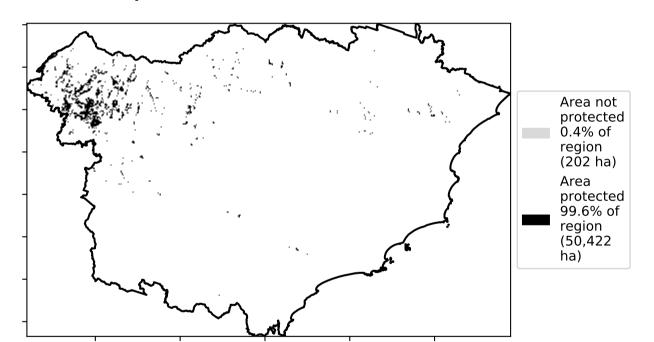
Land use and forest cover



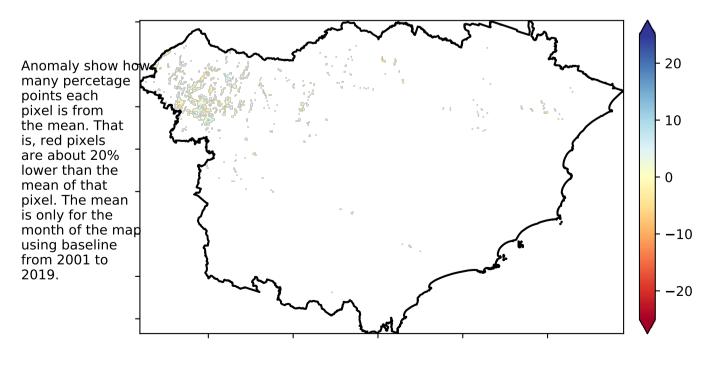
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

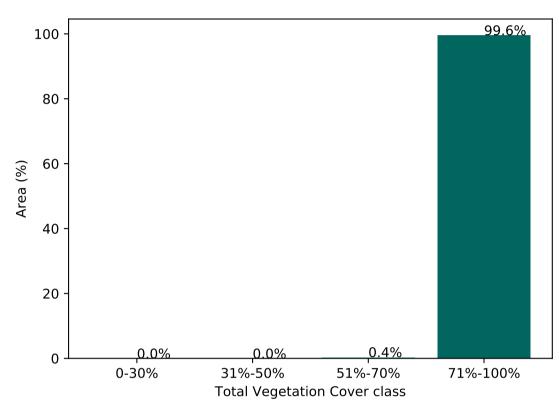


Total Vegetation Cover Anomaly [%]

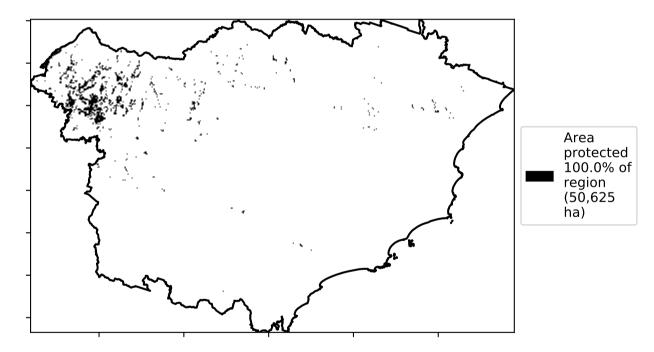


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

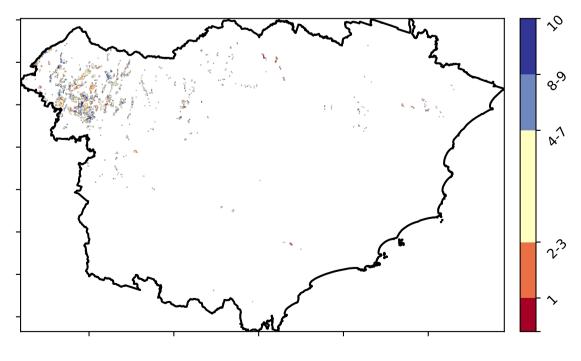
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







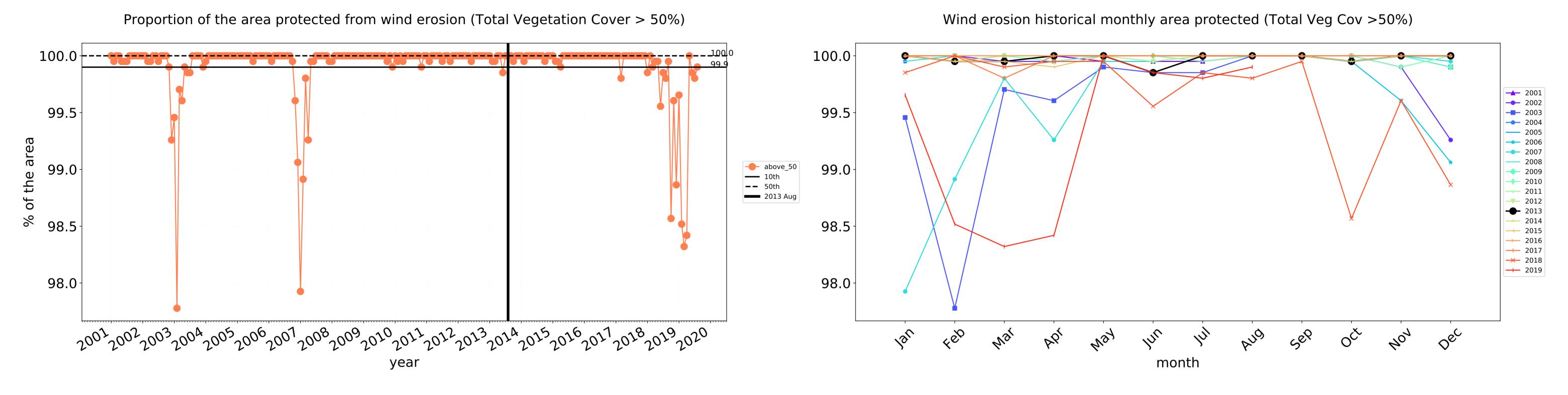


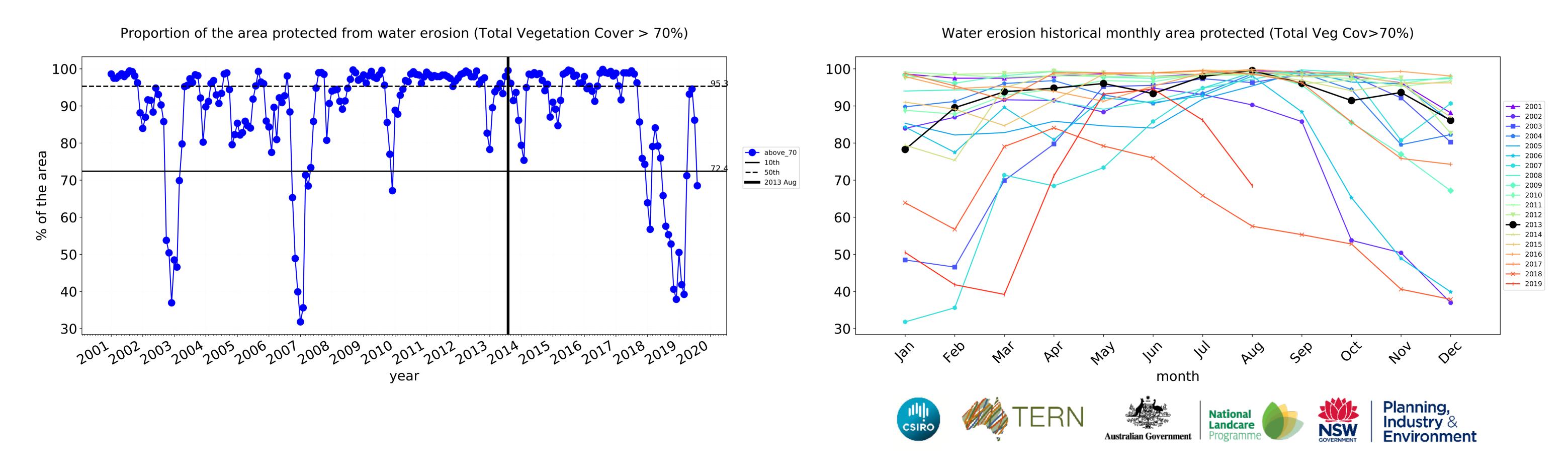


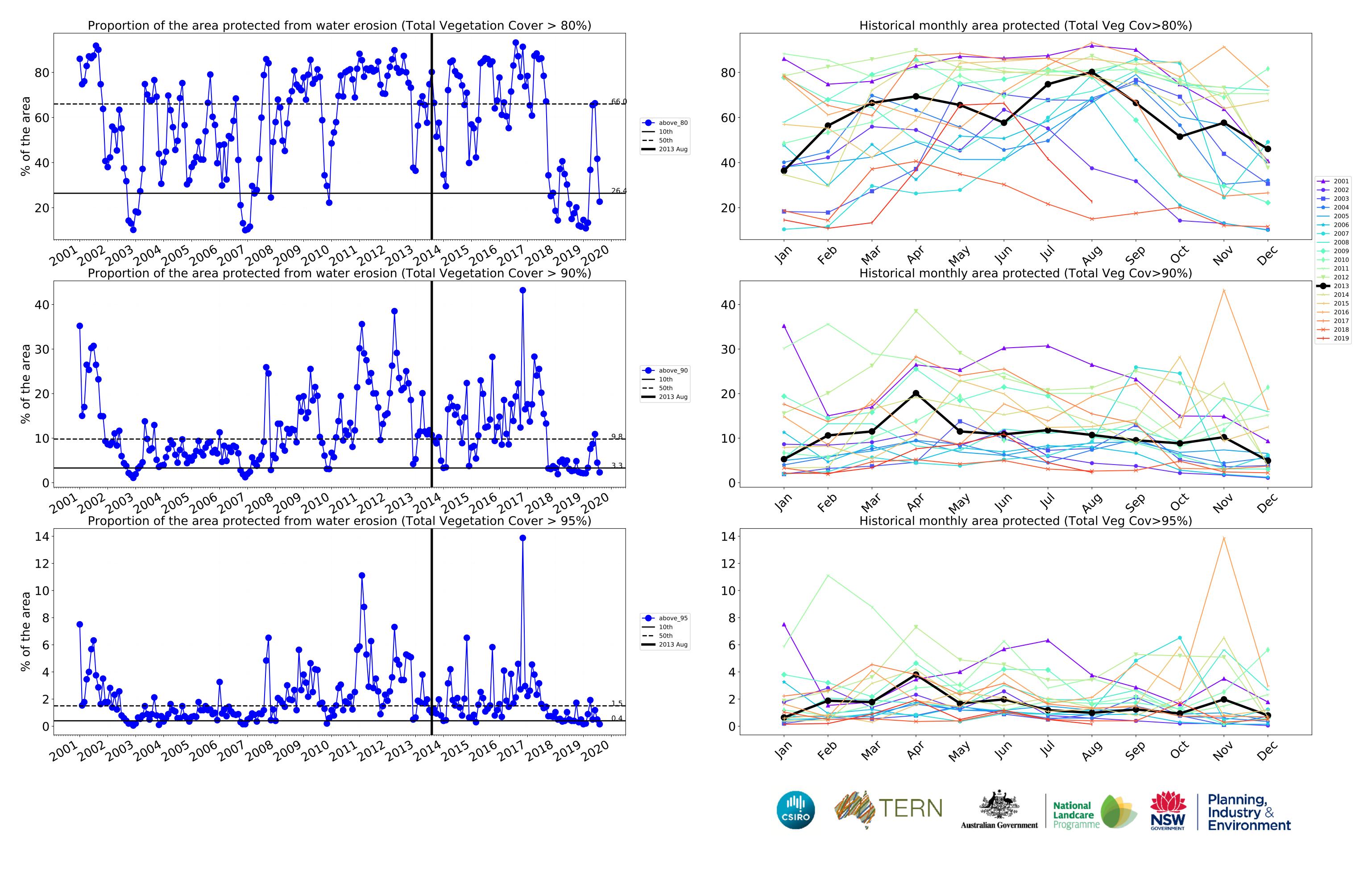




Cropping timeseries





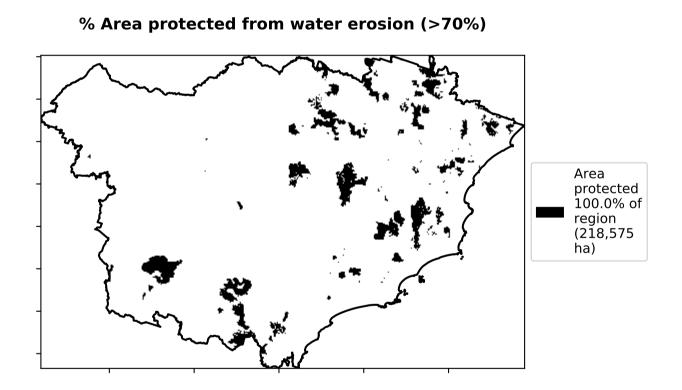


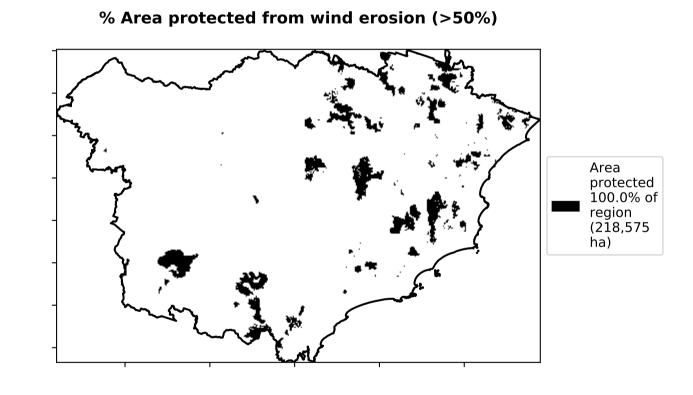
Production native forests and plantation forests

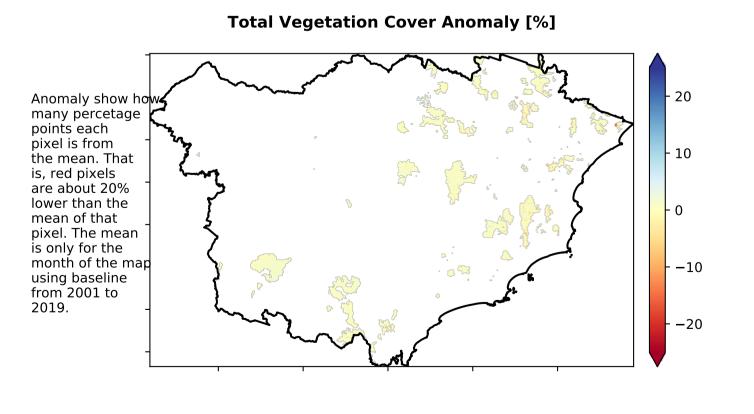
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) I Production native forests and plantation forests of Australia (2018)

Total Vegetation Cover [%]

Proportion of vegetation cover class in area 100 - 100.0% 80 - 20 - 20 - 20 - 0.0% 0-30% 31%-50% 51%-70% 71%-100% Total Vegetation Cover class







Total Vegetation Cover Decile [%]



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 baseling.

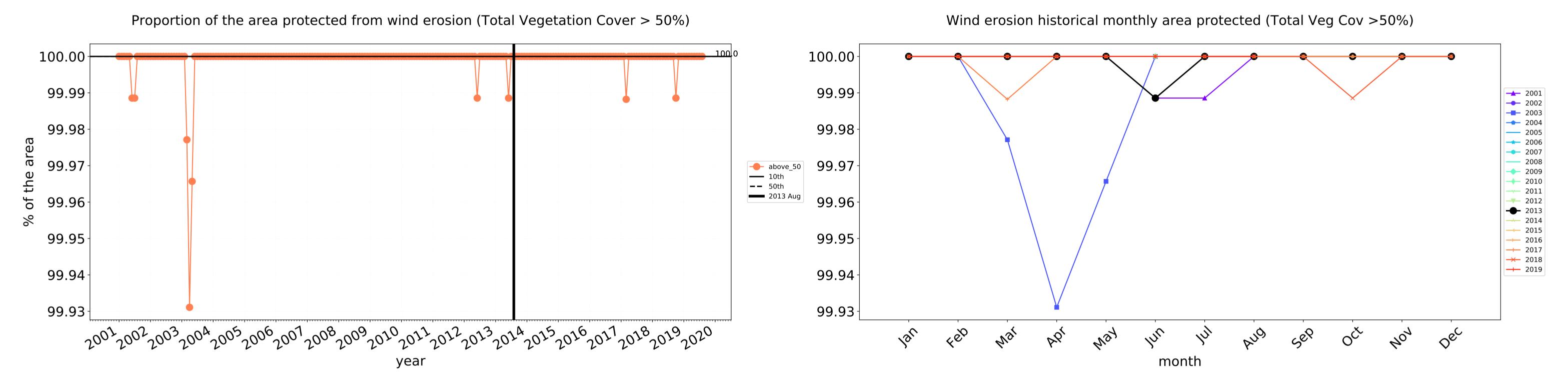
the map using baseline from 2001 to 2019.

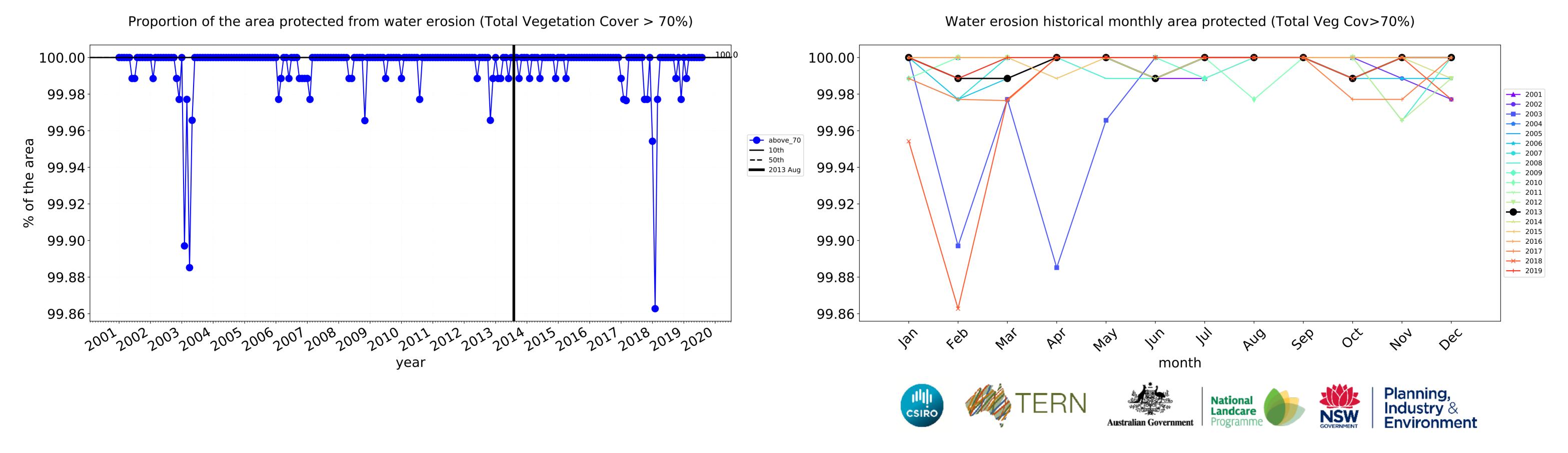


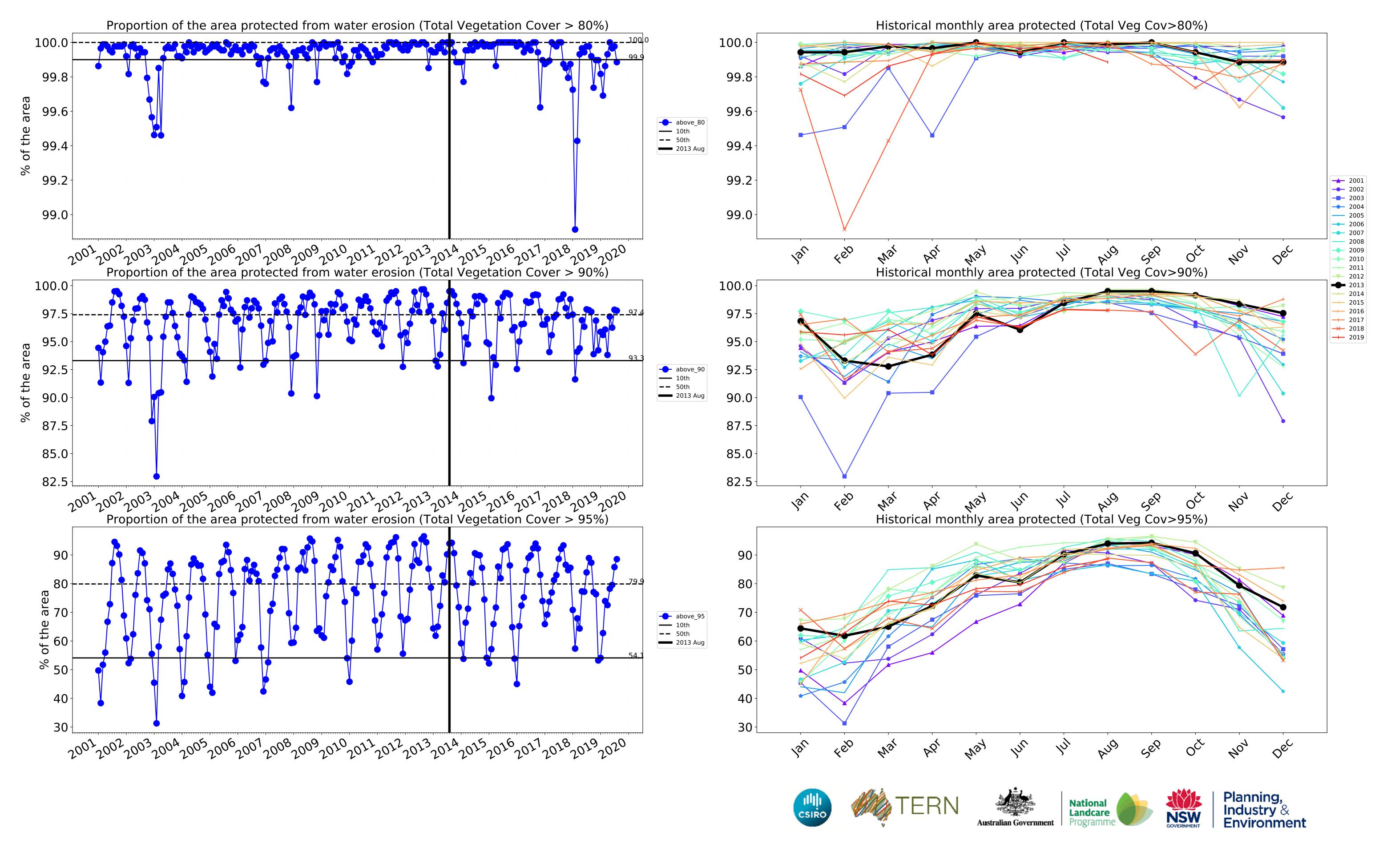




Production native forests and plantation forests timeseries







Hunter (3,238,600 ha and no data 61,825 ha) Percentage area and hectares protected with TVC threshold 30,50,70,80,90 and 95%

Land use and forest cover Class	area(ha)	above_30	above_50	above_70	above_80	above_90	above_95
Entire region	3,238,600	99.9% 3,235,250	99.6% 3,225,950	98.7% 3,196,375	96.8% 3,133,600	80.4% 2,602,479	48.5% 1,570,862
Conservation and natural environments	1,241,475	99.9% 1,240,250	99.8% 1,239,375	99.7% 1,237,550	99.5% 1,234,900	96.2% 1,193,925	75.5% 937,675
Conservation and natural environments non forest	30,350	96.0% 29,125	93.5% 28,375	90.2% 27,375	86.3% 26,200	72.4% 21,975	39.9% 12,100
Conservation and natural environments Woodland forest	138,900	100.0% 138,900	100.0% 138,875	99.9% 138,800	99.8% 138,625	92.4% 128,375	47.2% 65,625
natural environments Forest (non woodland)	1,072,225	100.0% 1,072,225	100.0% 1,072,125	99.9% 1,071,375	99.8% 1,070,075	97.3% 1,043,575	80.2% 859,950
Agriculture	1,580,425	100.0% 1,580,425	100.0% 1,580,350	99.8% 1,578,050	98.1% 1,550,250	71.2% 1,125,950	25.8% 407,725
Grazing	1,502,425	100.0% 1,502,425	100.0% 1,502,350	99.9% 1,500,300	98.9% 1,486,550	74.4% 1,117,400	27.1% 406,875
Grazing non forest	1,212,725	100.0% 1,212,725	100.0% 1,212,650	99.8% 1,210,825	98.8% 1,198,125	72.3% 876,825	25.0% 303,100
Grazing Woodland forest	120,575	100.0% 120,575	100.0% 120,575	99.9% 120,475	99.4% 119,825	76.7% 92,525	21.2% 25,550
Grazing - Forest (non woodland)	169,125	100.0% 169,125	100.0% 169,125	99.9% 169,000	99.7% 168,600	87.5% 148,050	46.3% 78,225
Cropping	50,625	100.0% 50,625	100.0% 50,625	99.6% 50,400	80.2% 40,600	10.7% 5,425	1.0% 500
Production native forests and plantation forests	218,575	100.0% 218,575	100.0% 218,575	100.0% 218,575	100.0% 218,550	99.5% 217,475	94.0% 205,425











