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: June 2010

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









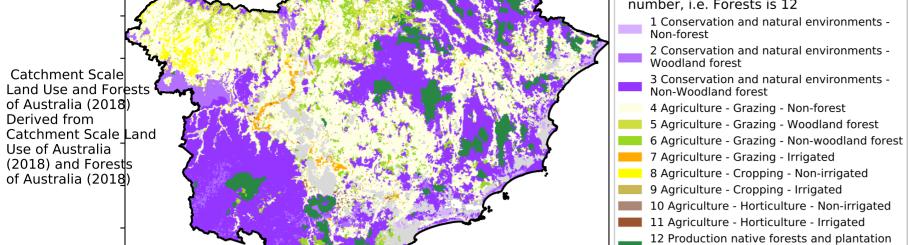




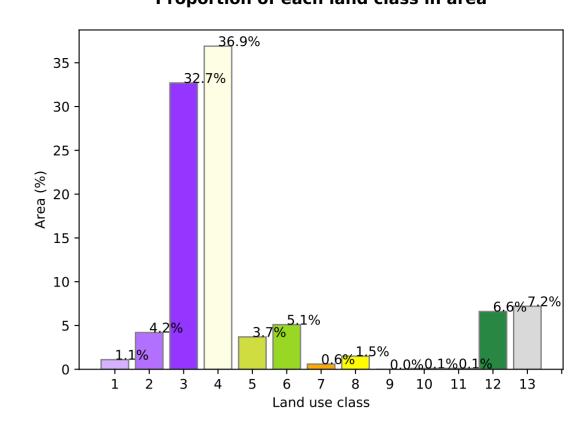
Vegetation Cover Jun 2010

Land use and forest cover Legend with land class forest cover and number, i.e. Forests is 12 1 Conservation and natural environments -

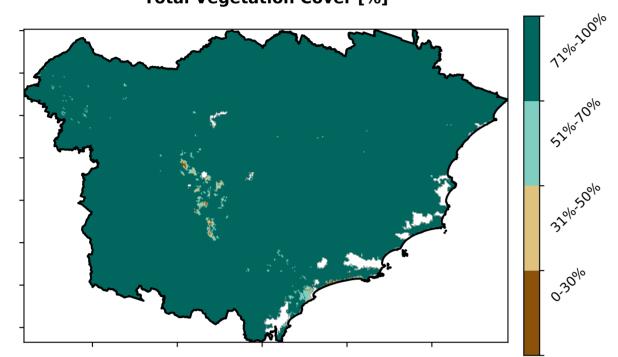
13 Other uses



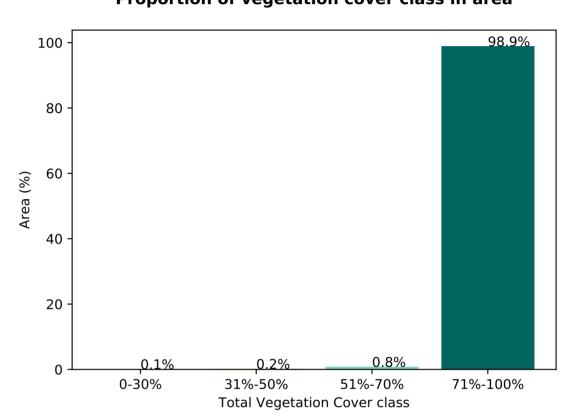
Proportion of each land class in area



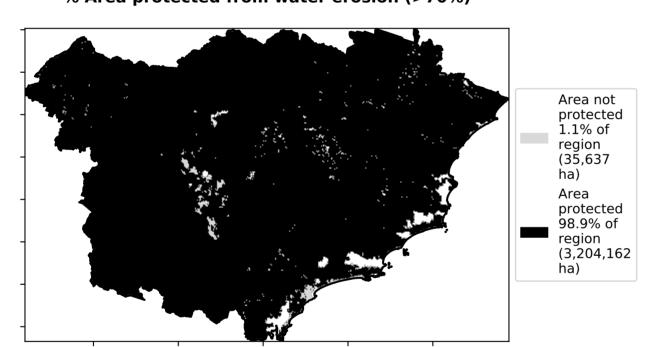
Total Vegetation Cover [%]



Proportion of vegetation cover class in area



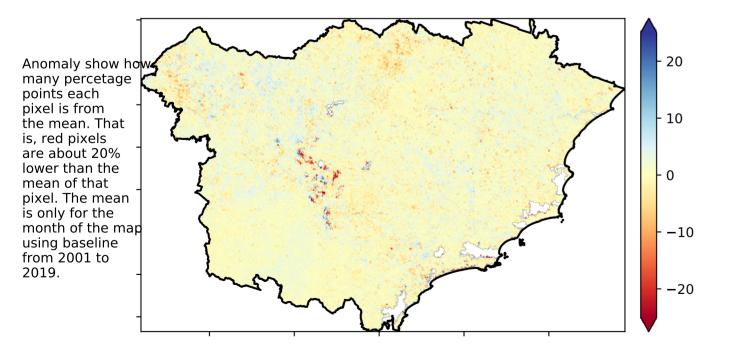
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

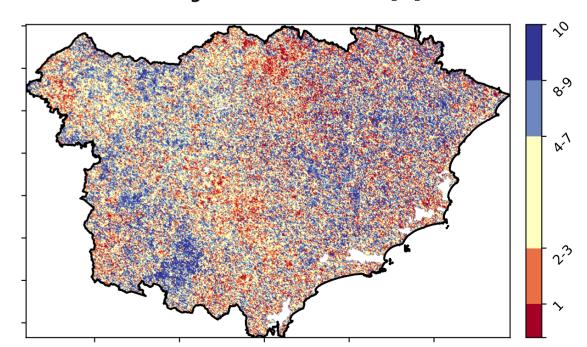


Total Vegetation Cover Anomaly [%]



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 [%]





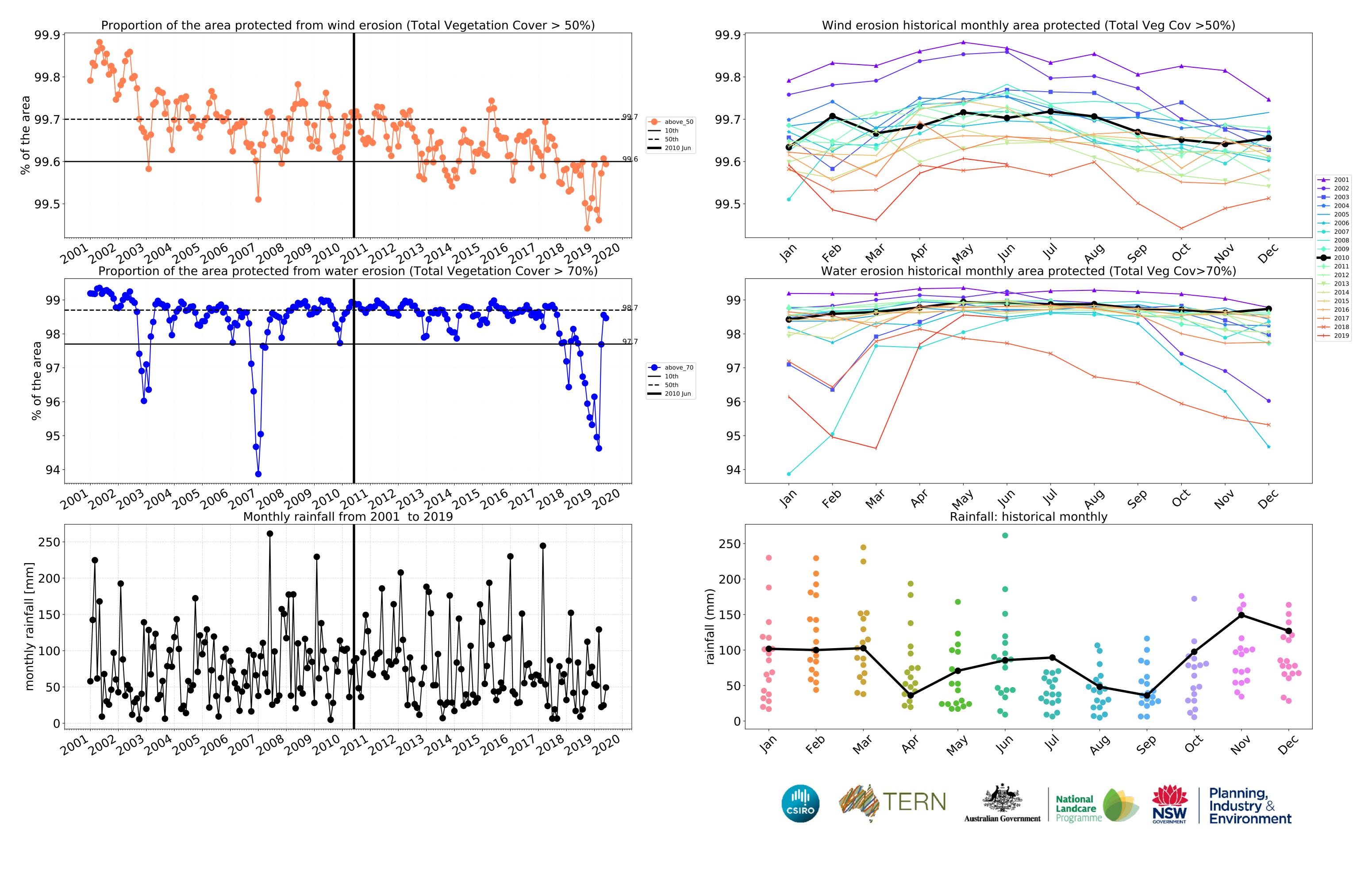


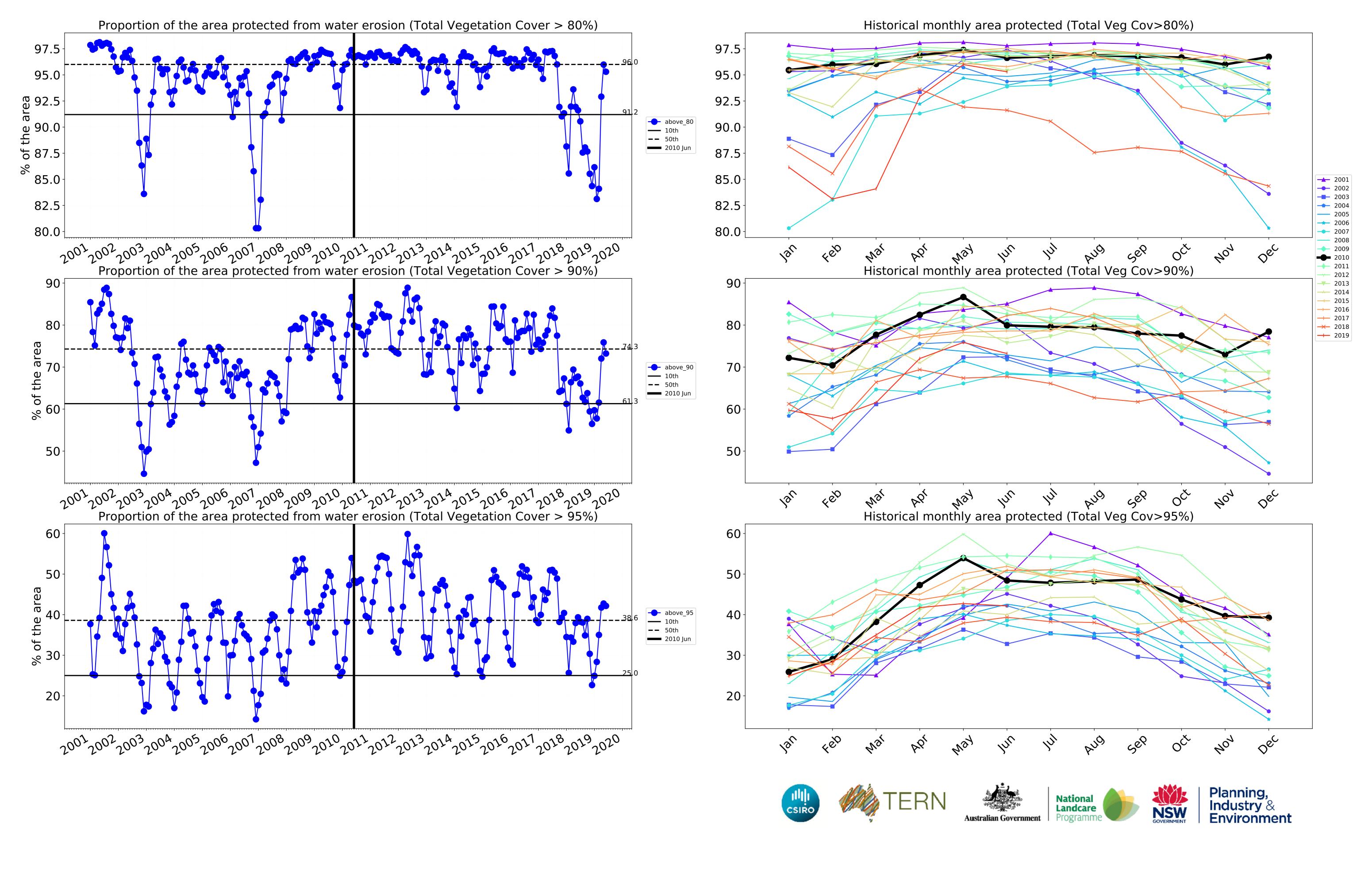






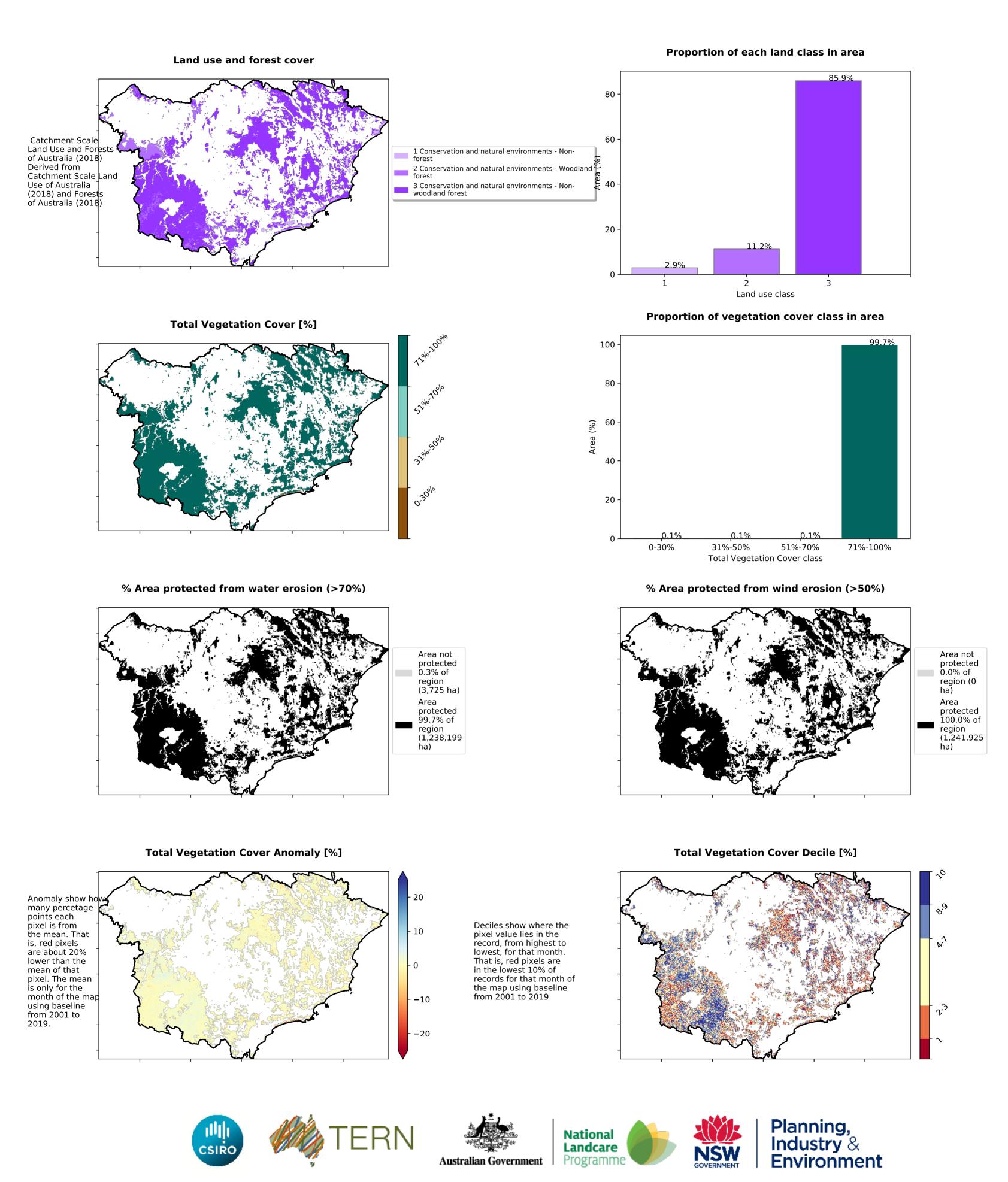




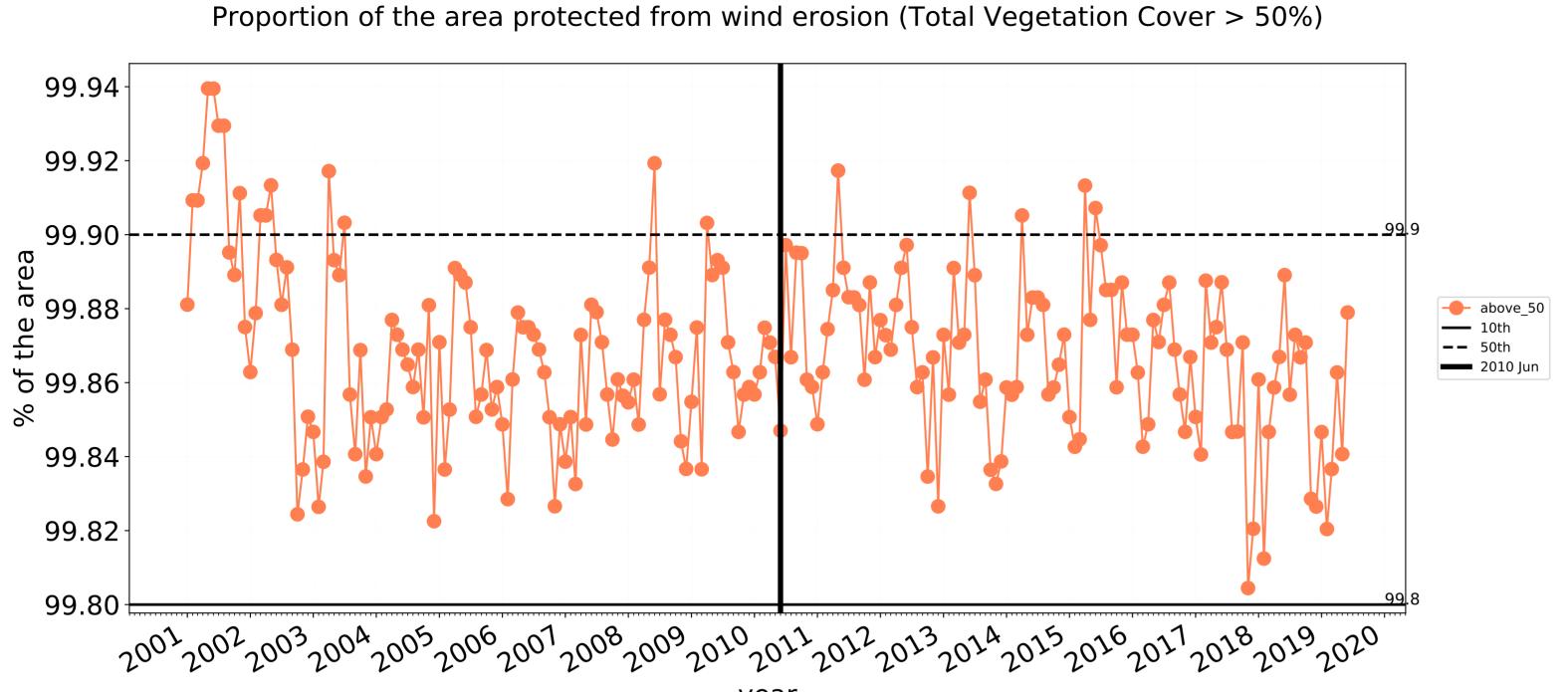


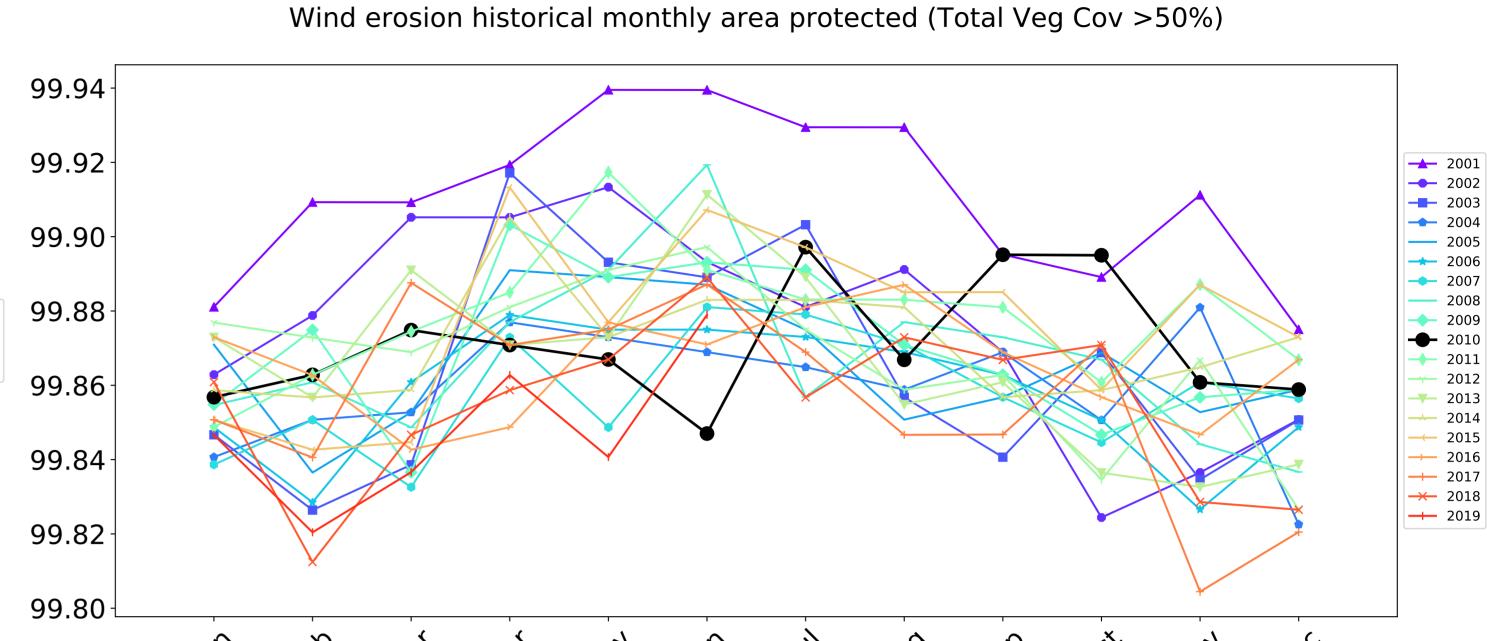
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Conservation and natural environments

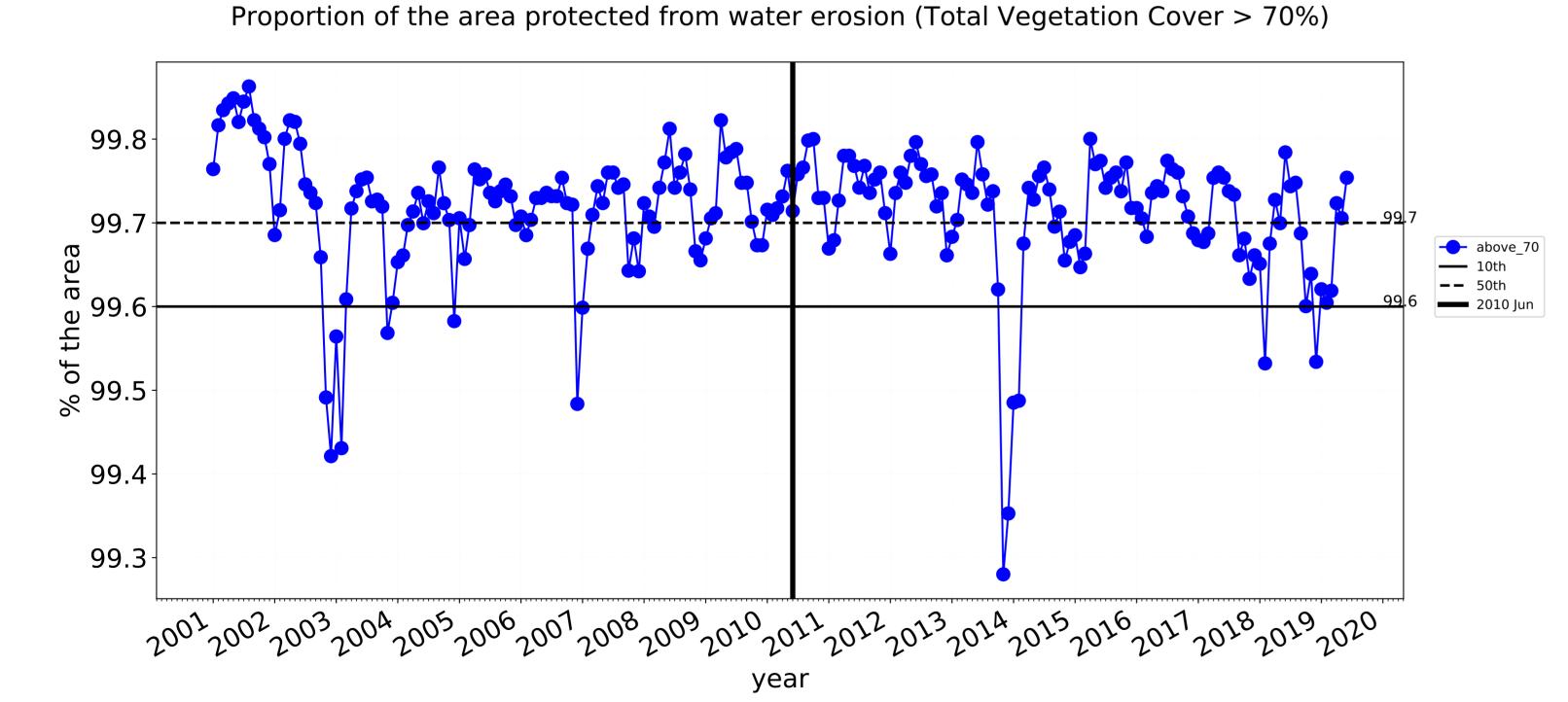


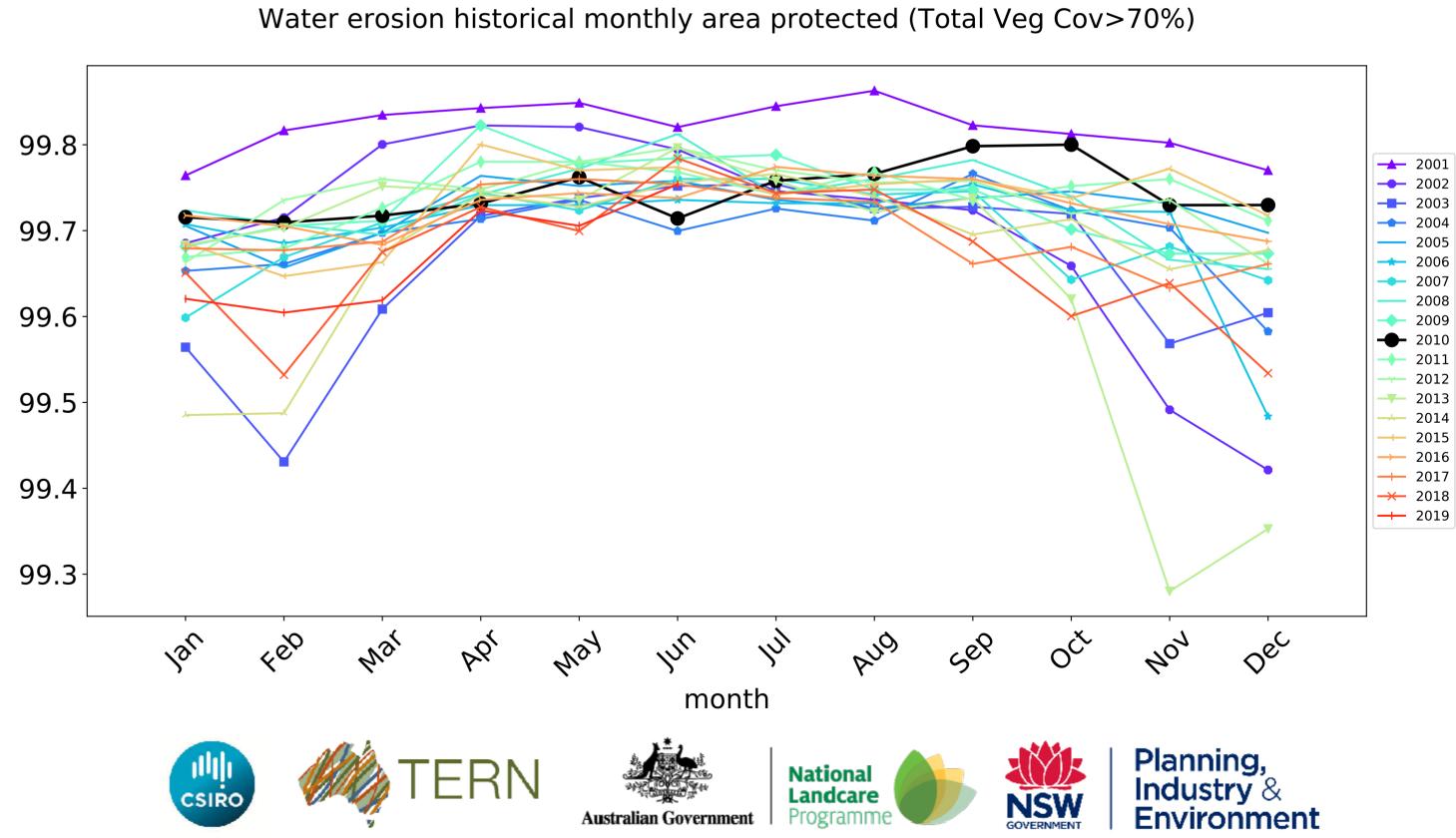
Conservation and natural environments timeseries

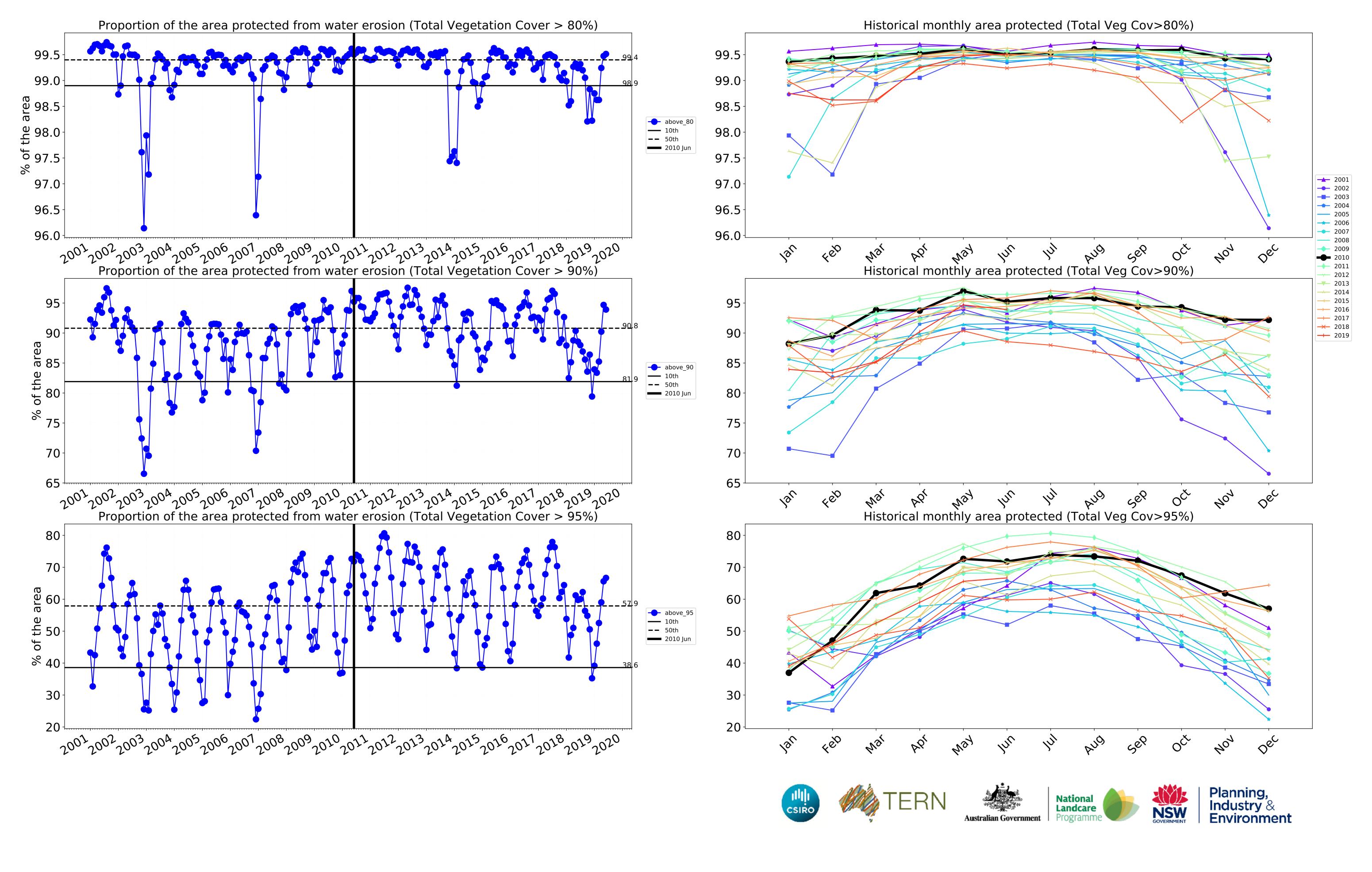




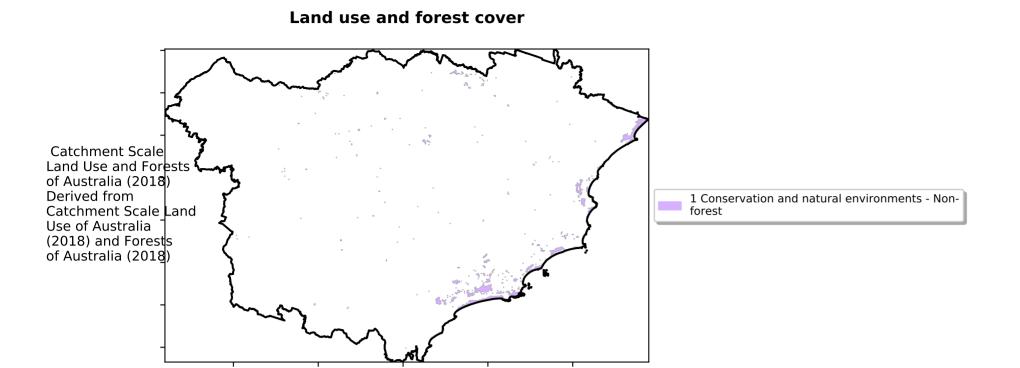
month



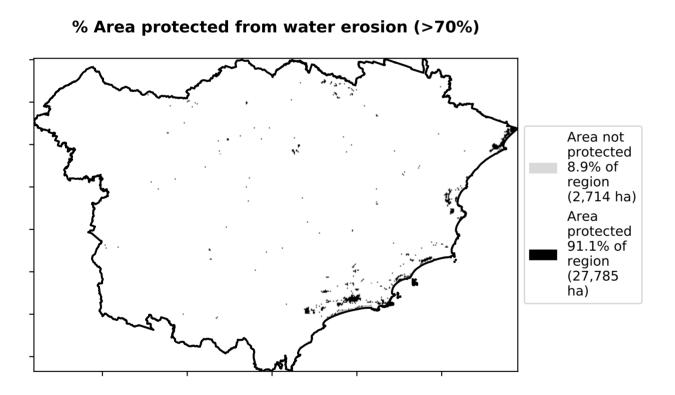


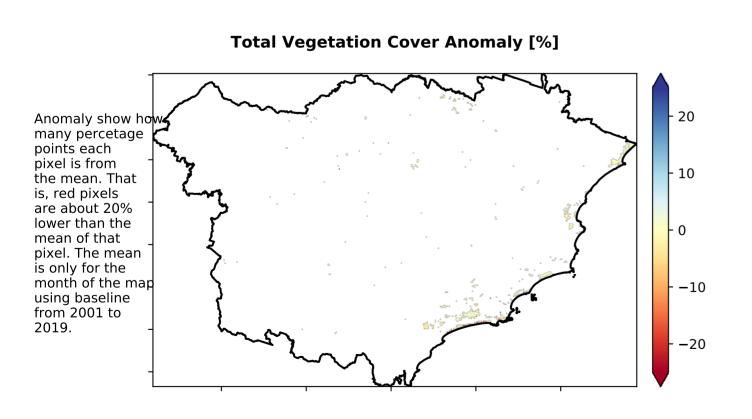


Conservation and natural environments non forest

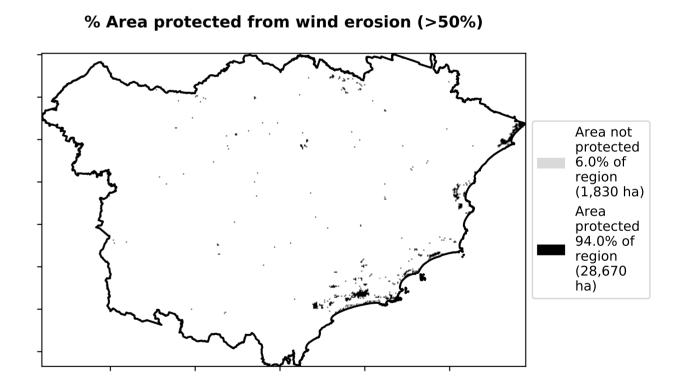


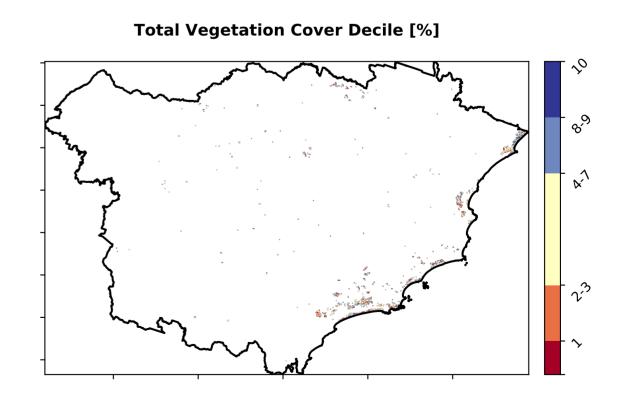
Total Vegetation Cover [%] Talestadolo Tal





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.









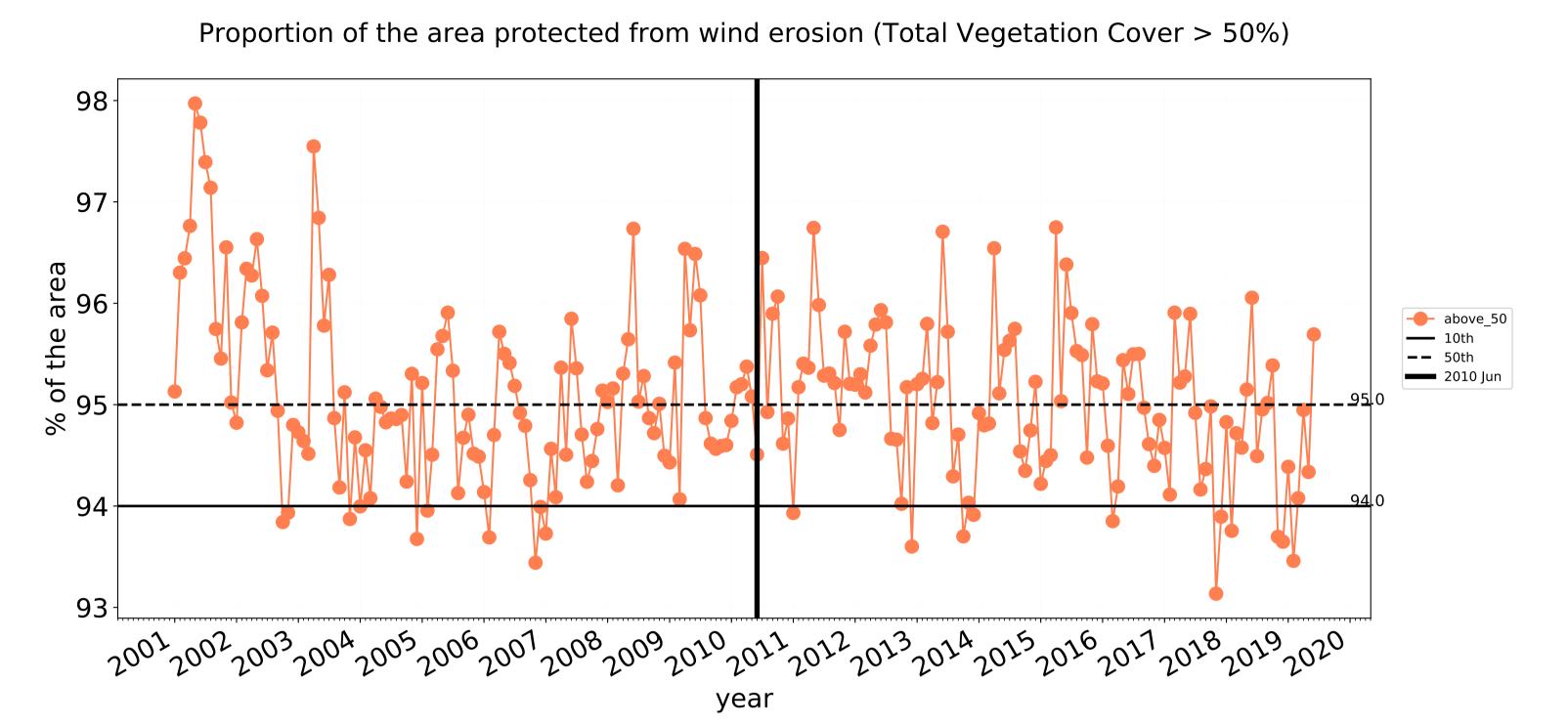




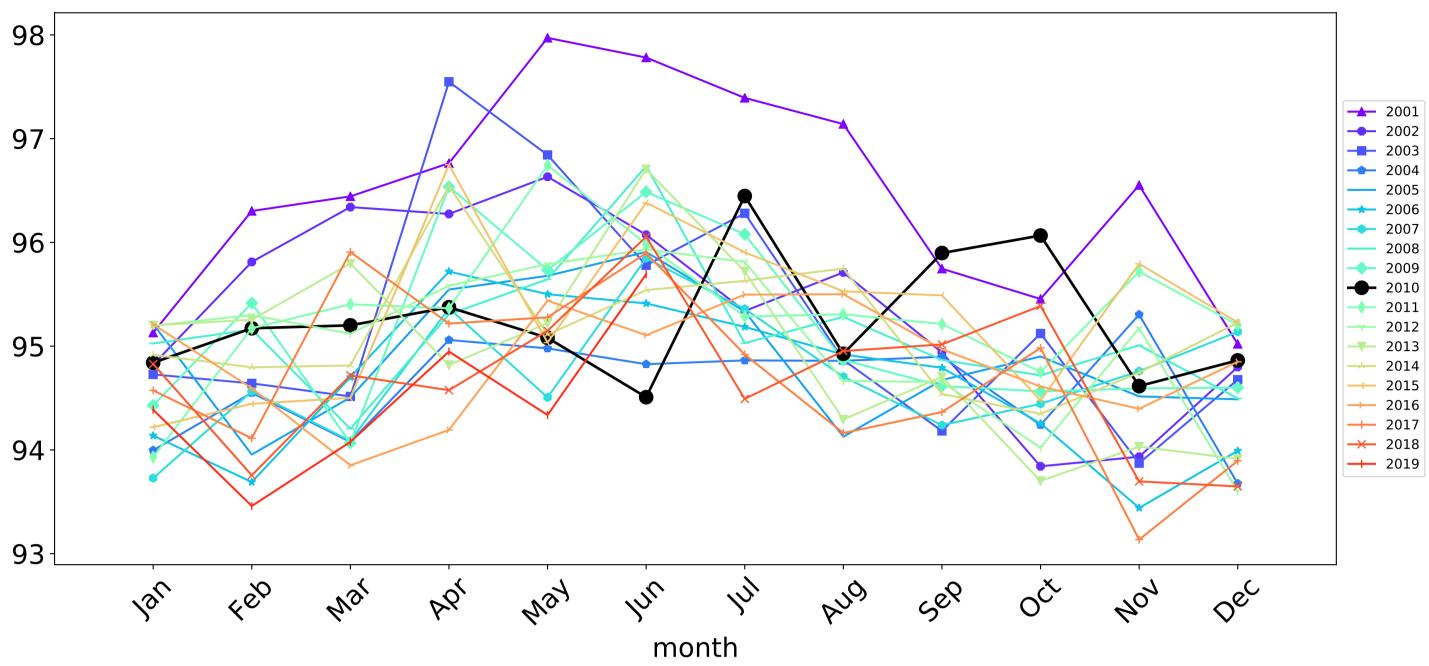




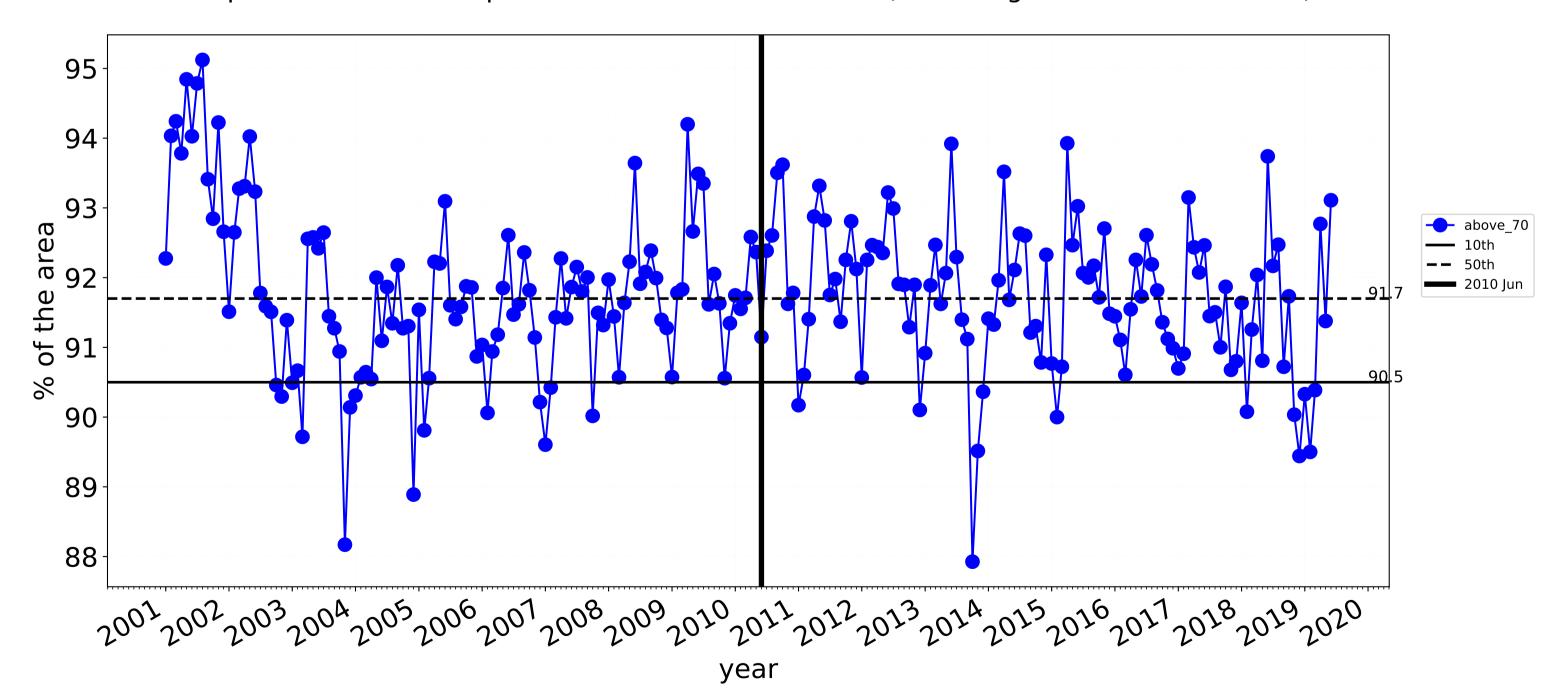
Conservation and natural environments non forest timeseries



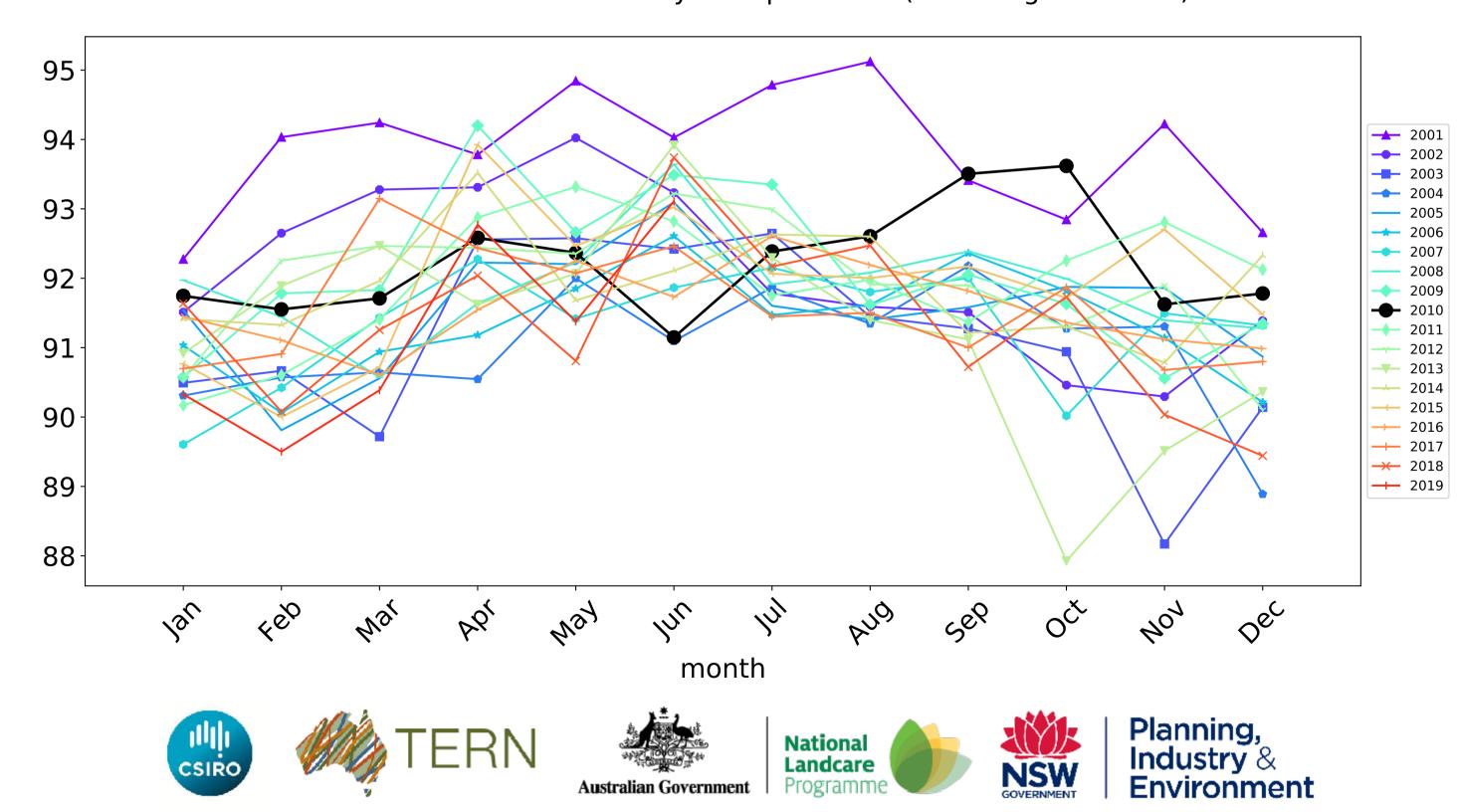


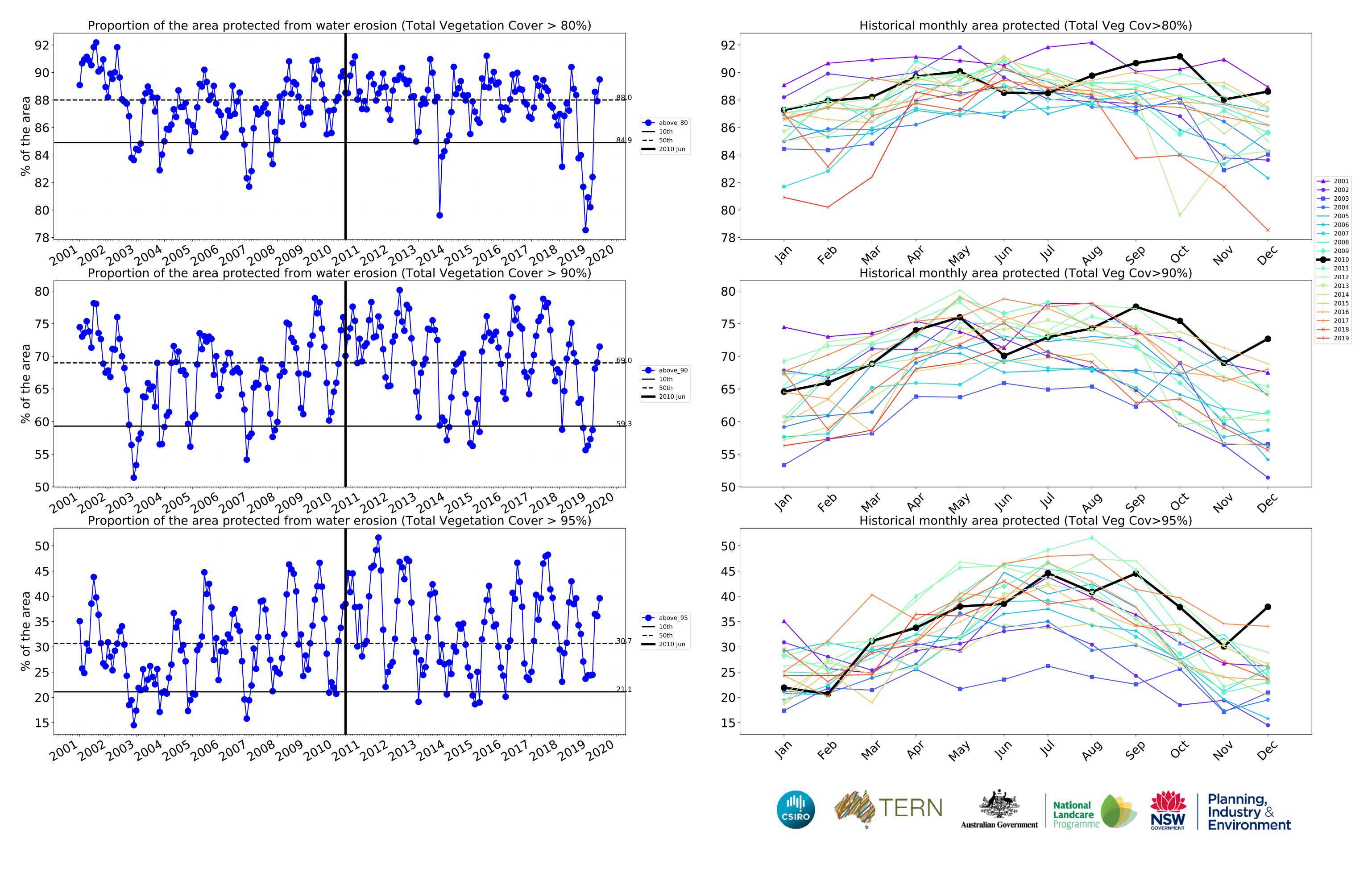




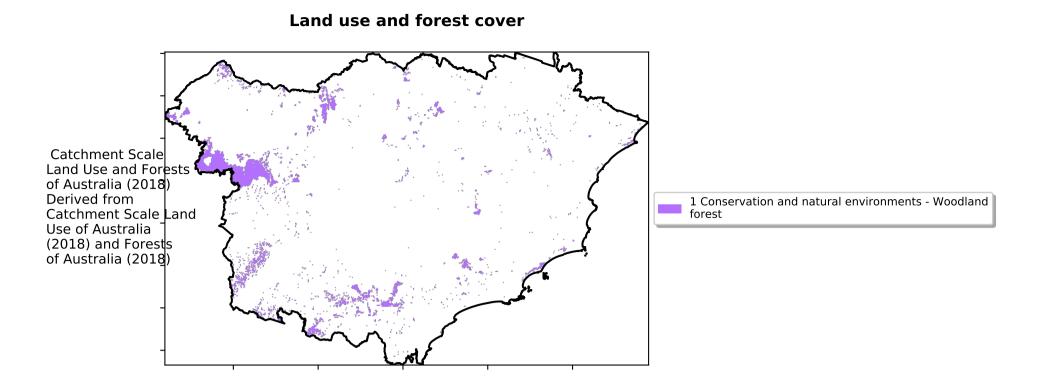


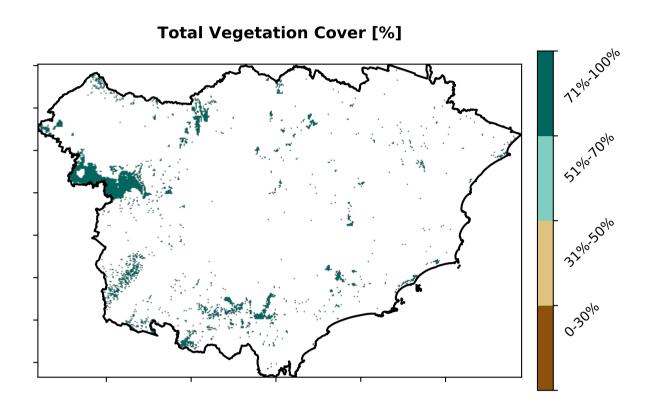
Water erosion historical monthly area protected (Total Veg Cov>70%)

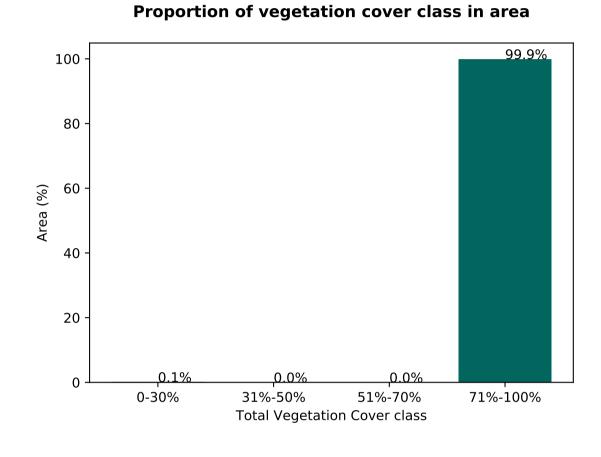


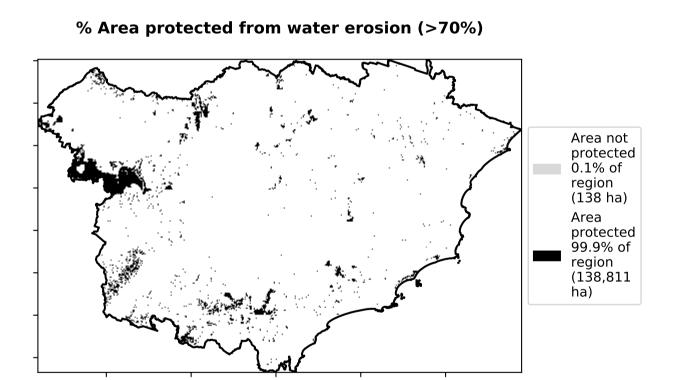


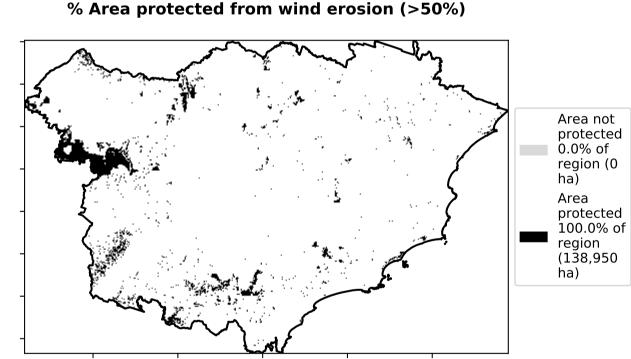
Conservation and natural environments Woodland forest

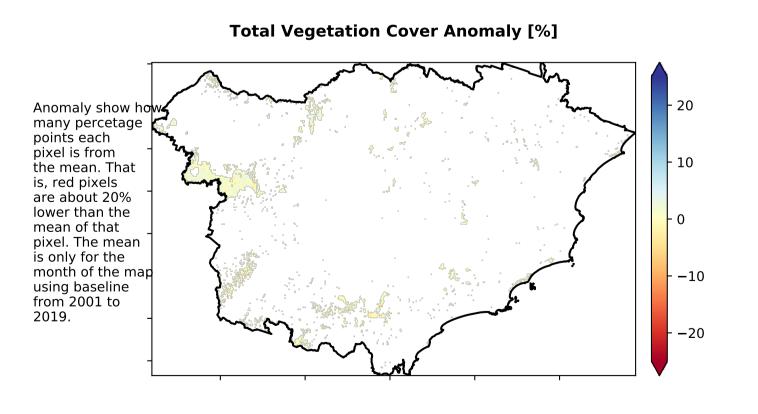


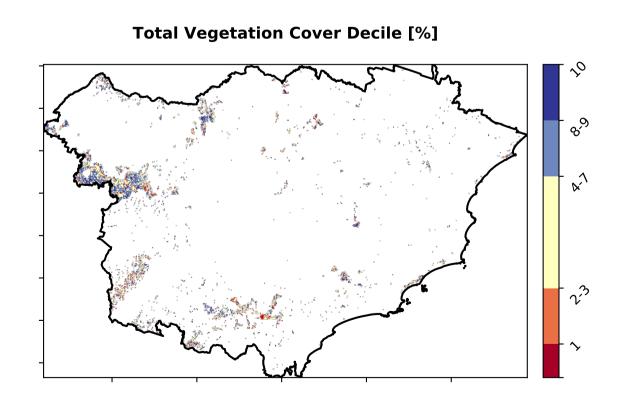














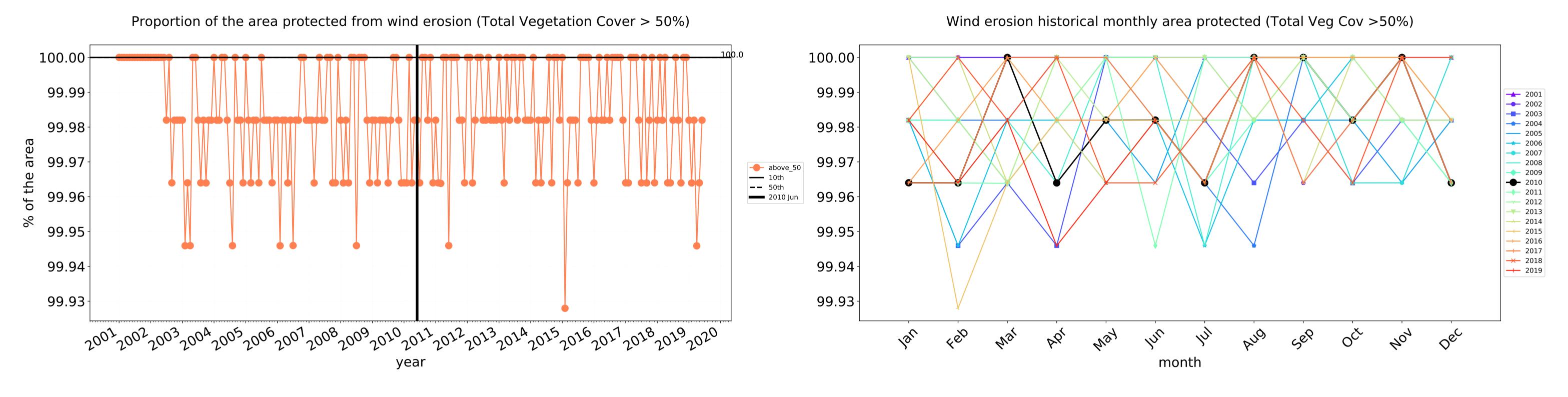


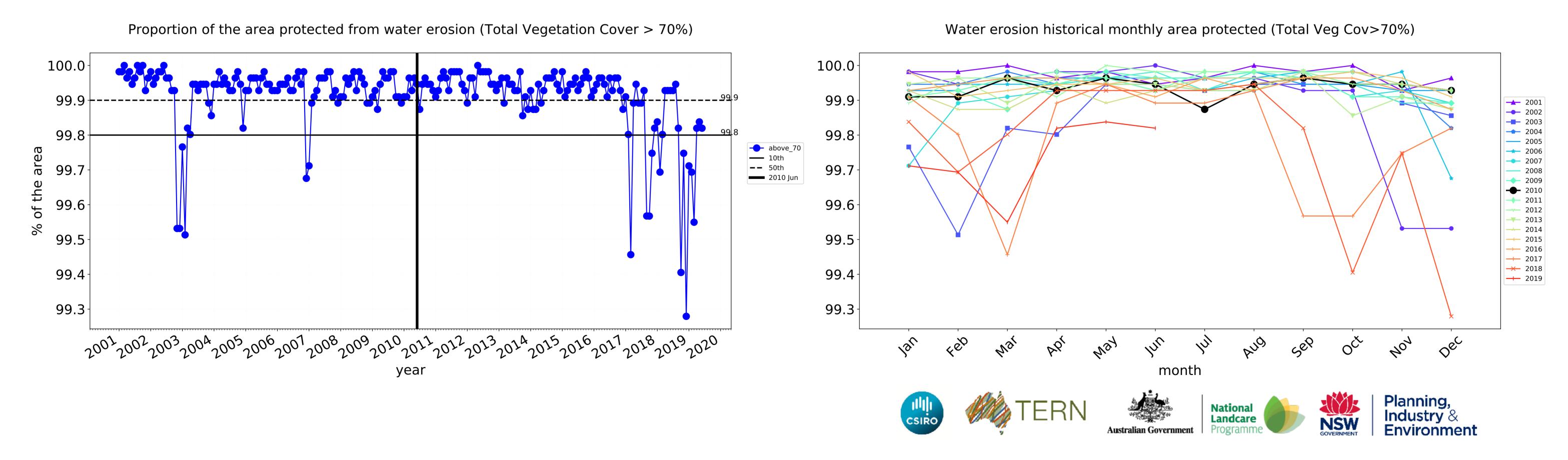


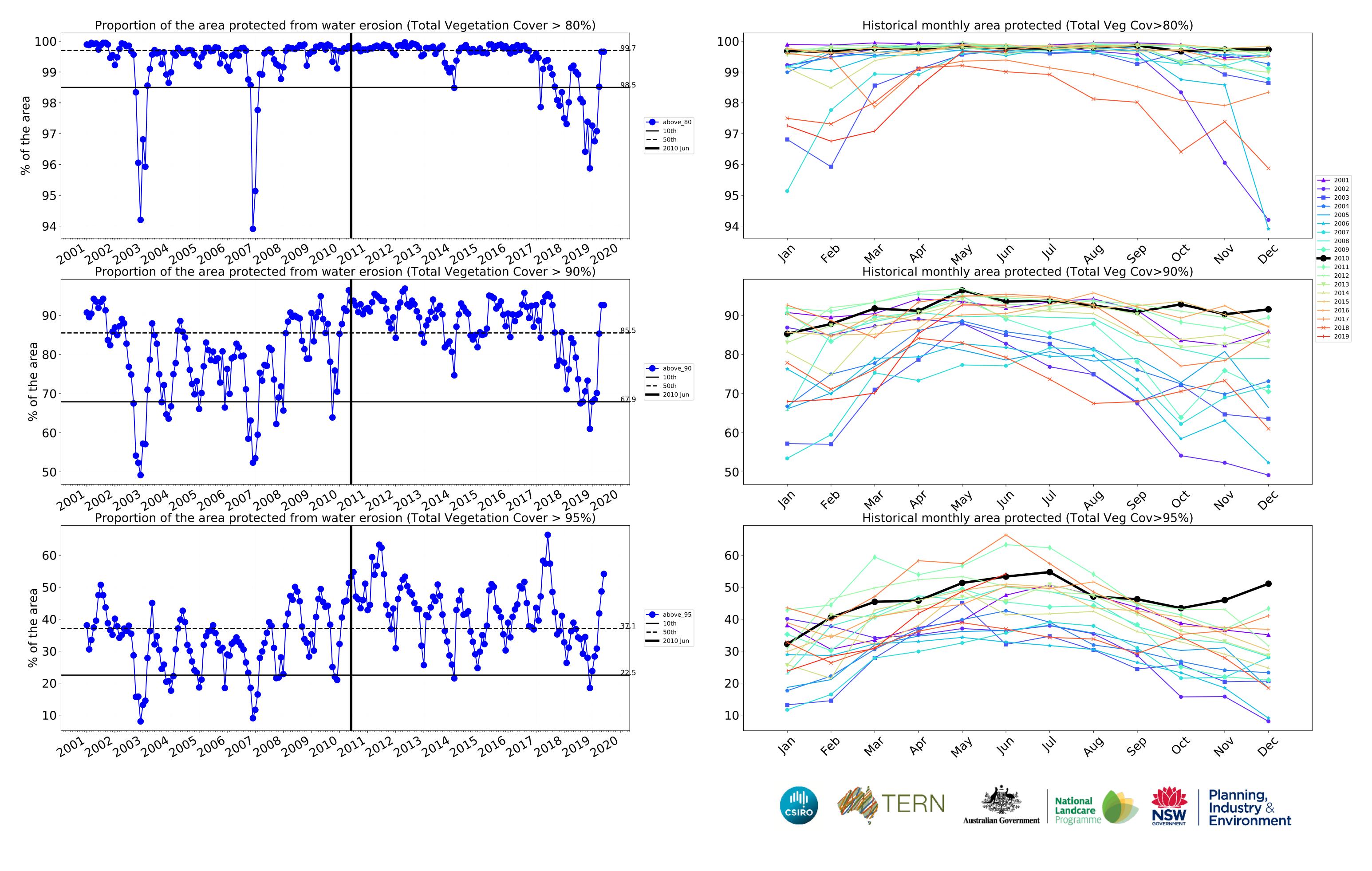




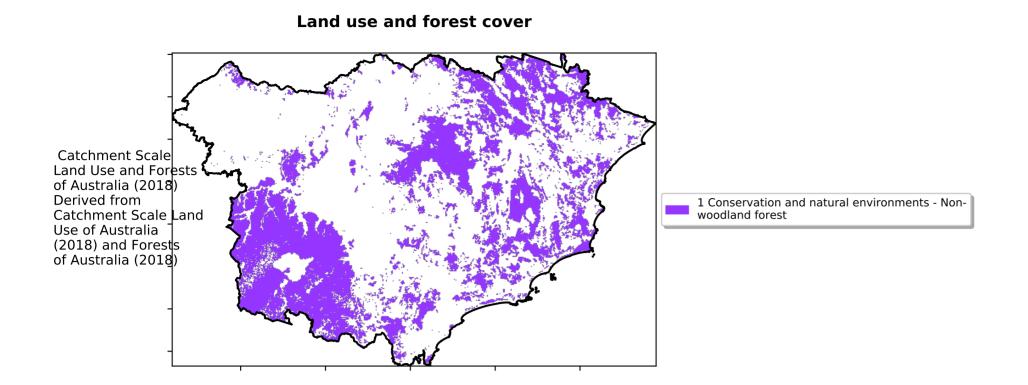




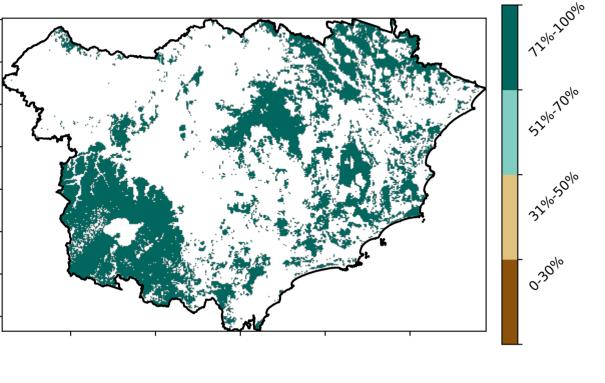


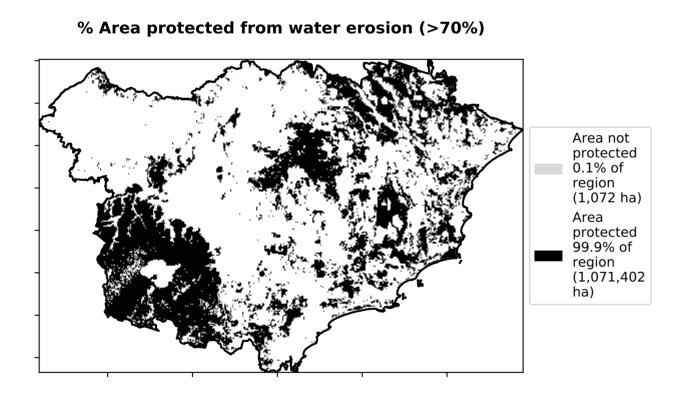


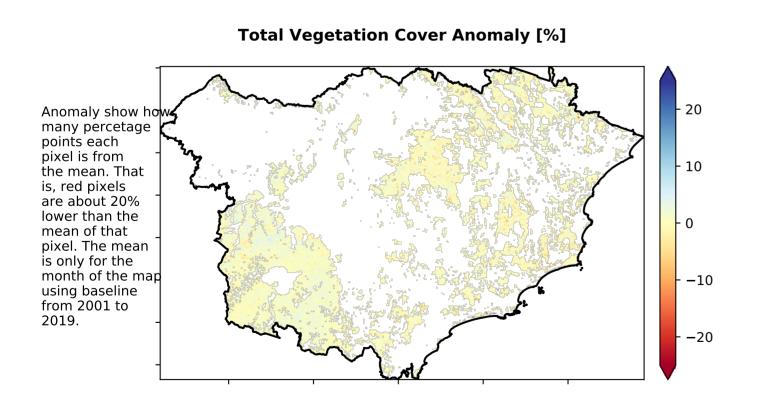
Conservation and natural environments Forest (non woodland)



Total Vegetation Cover [%]

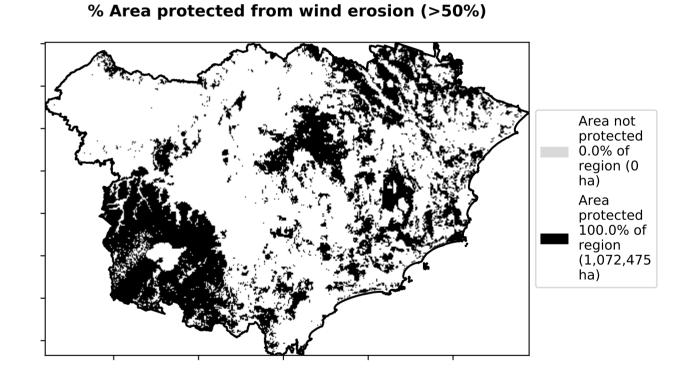


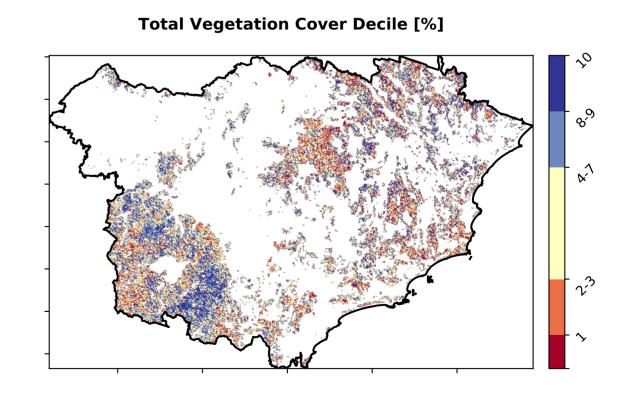




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Proportion of vegetation cover class in area 99.9% 100 80 60 40 20 0.1% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**









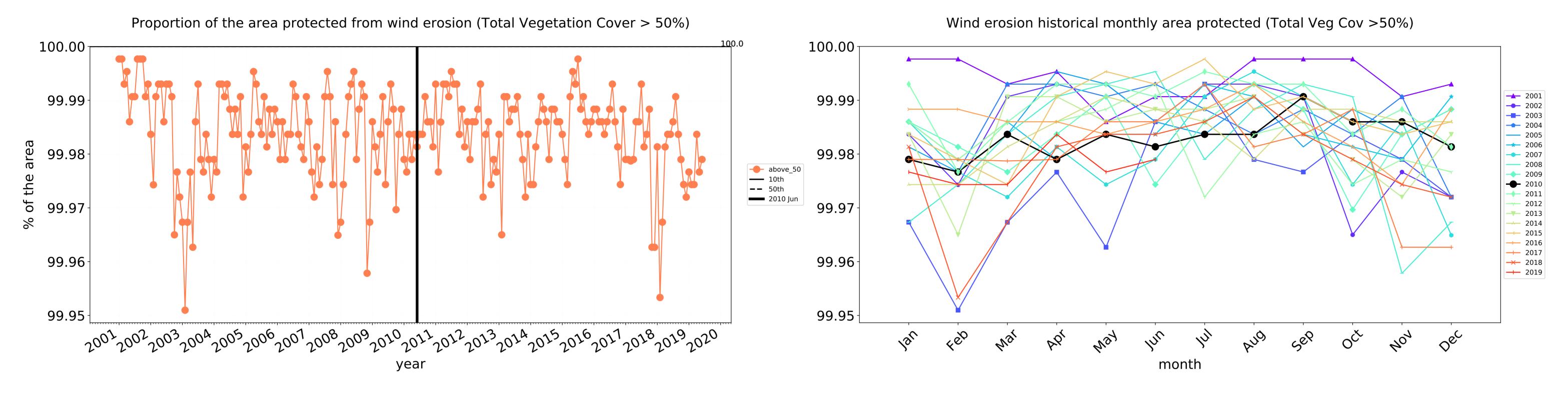


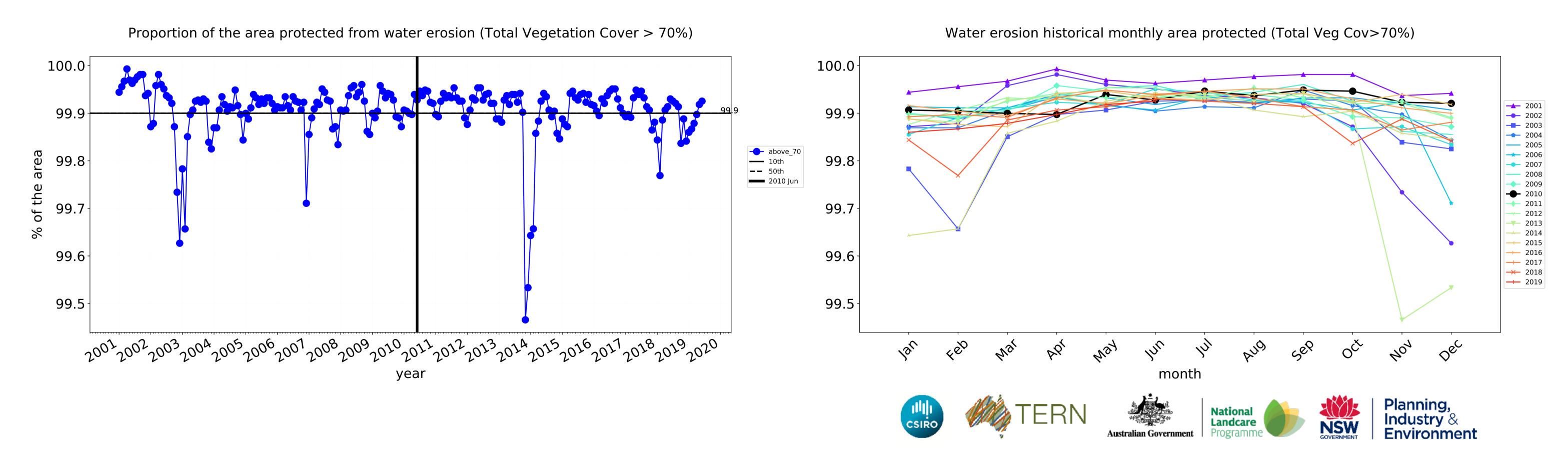


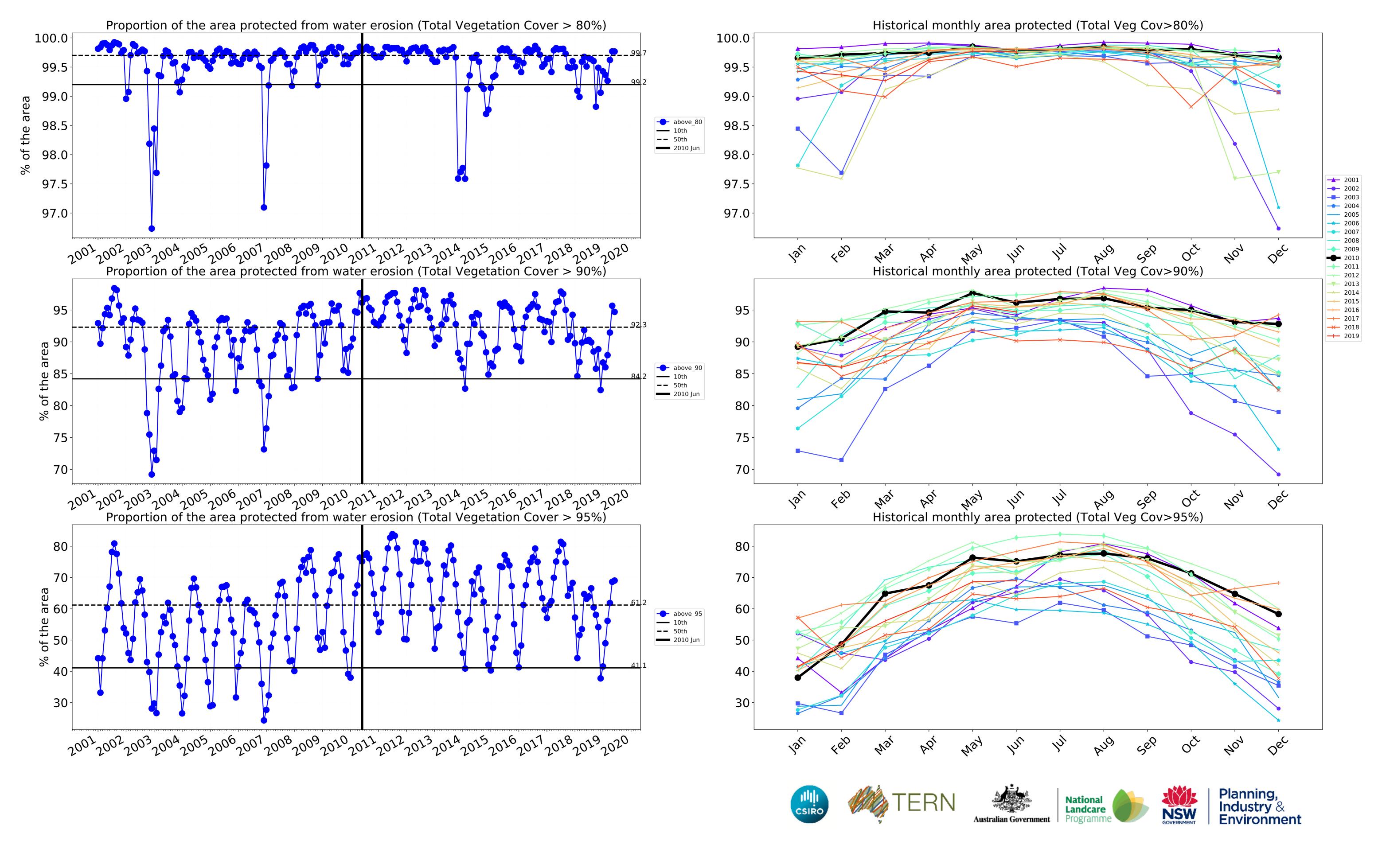




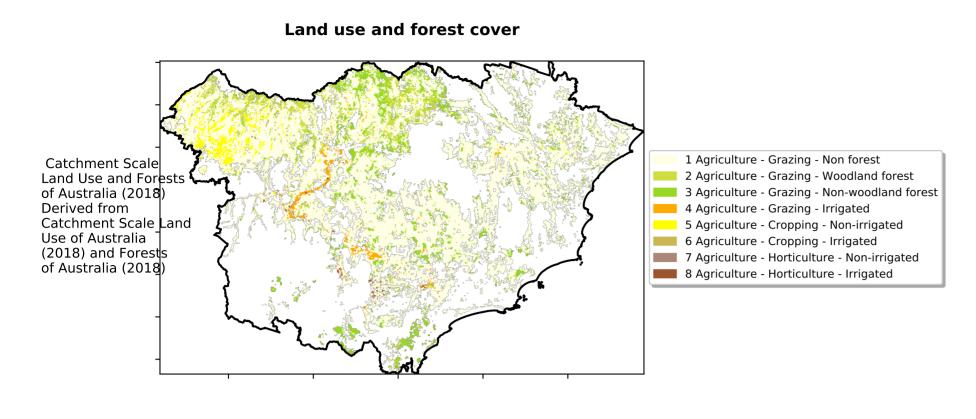
Conservation and natural environments Forest (non woodland) timeseries

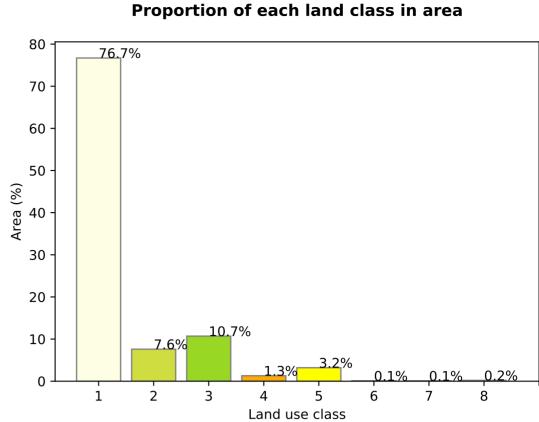


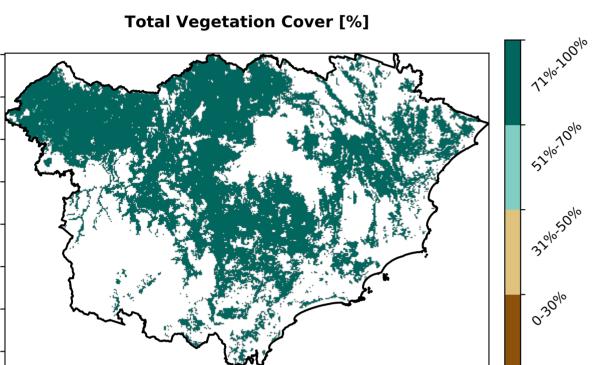


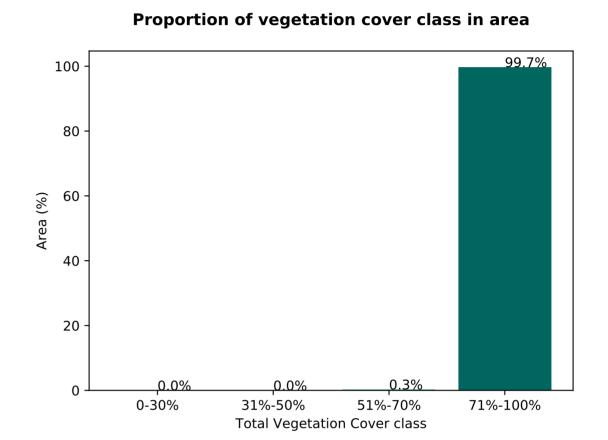


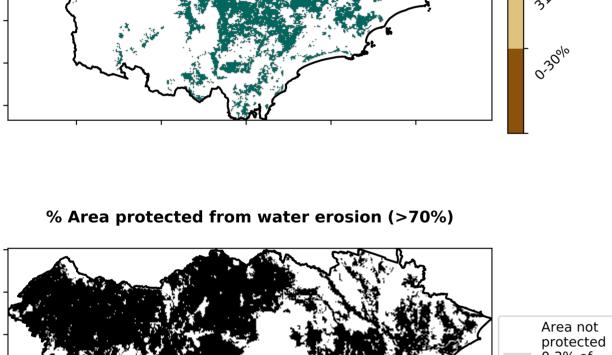
Agriculture

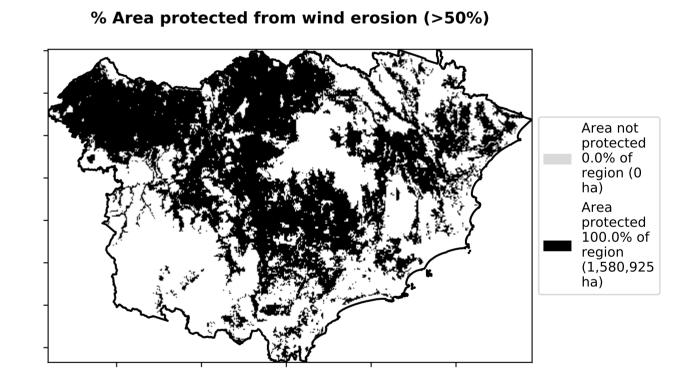


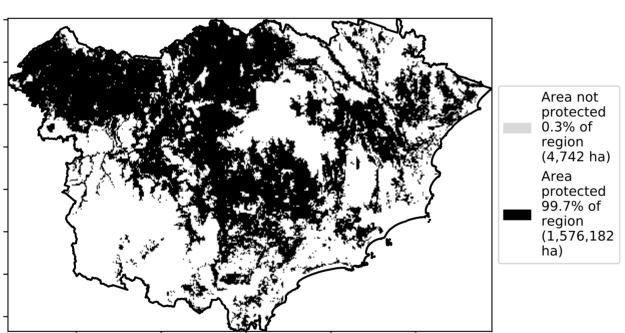


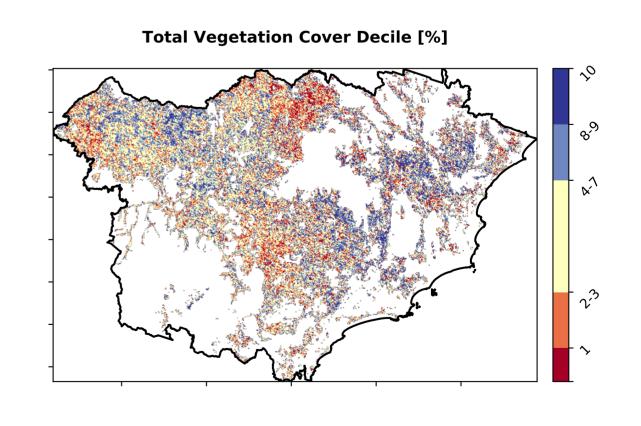


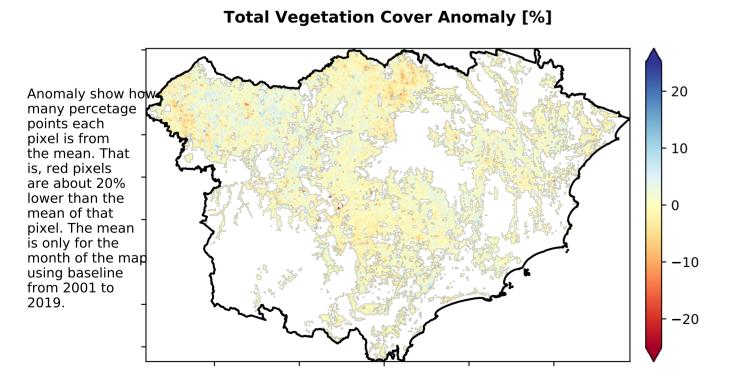
















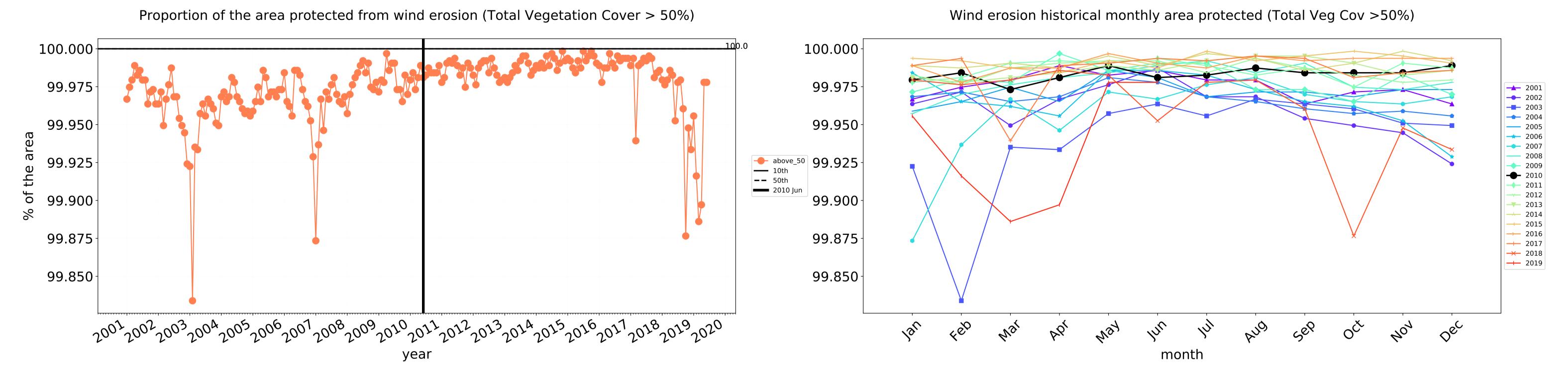


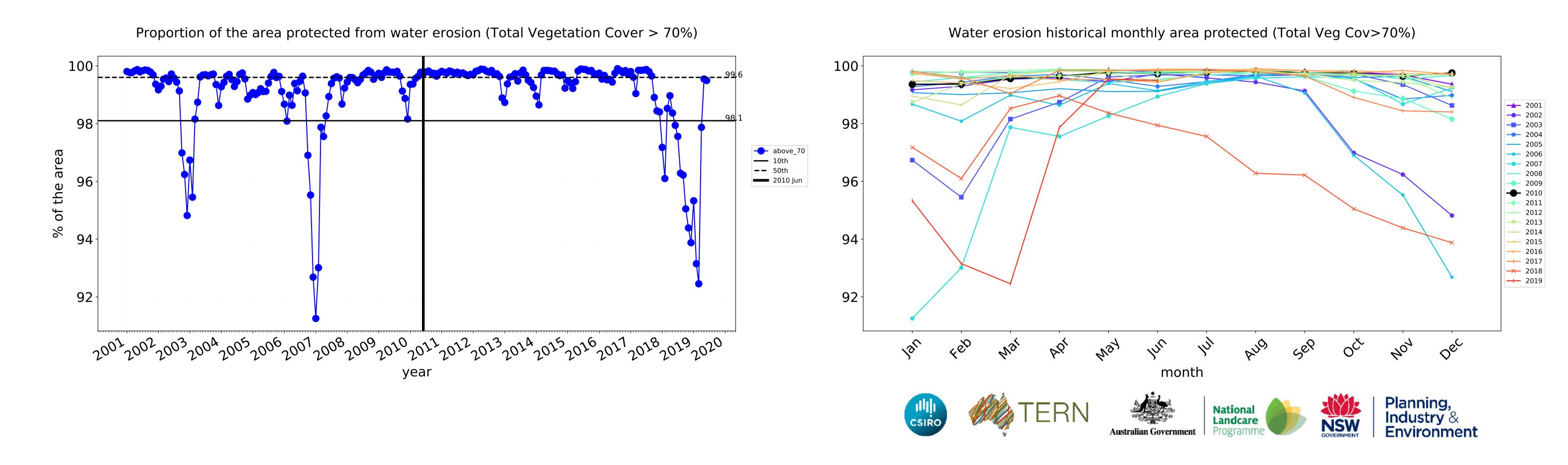


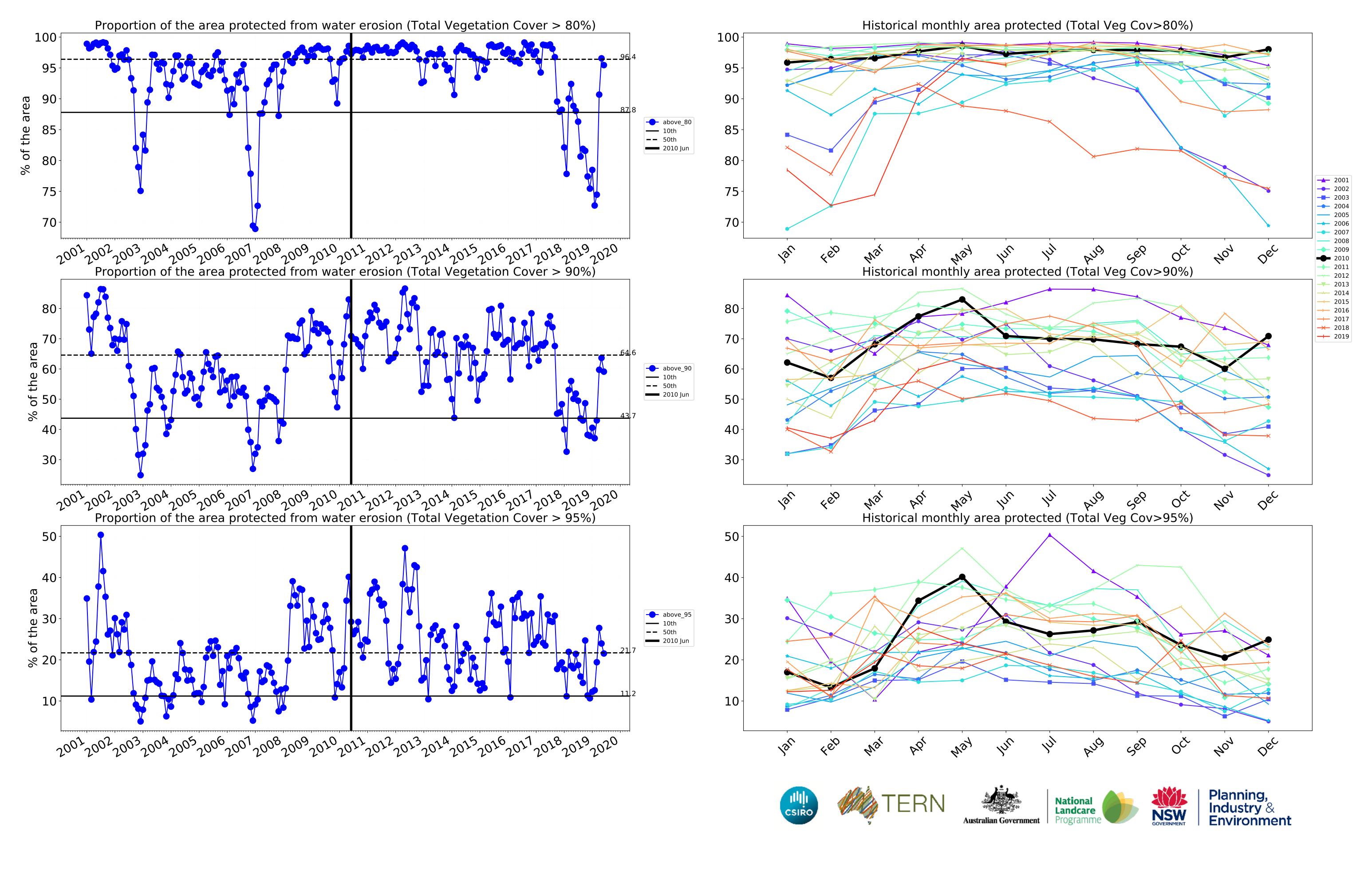




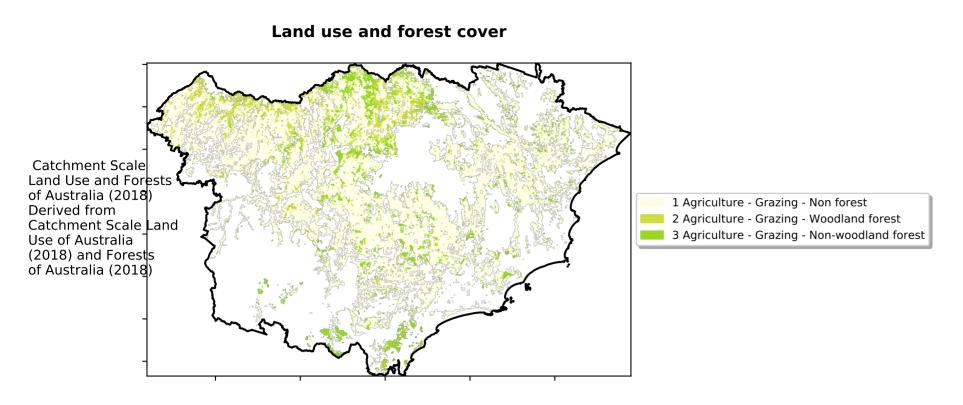
Agriculture timeseries



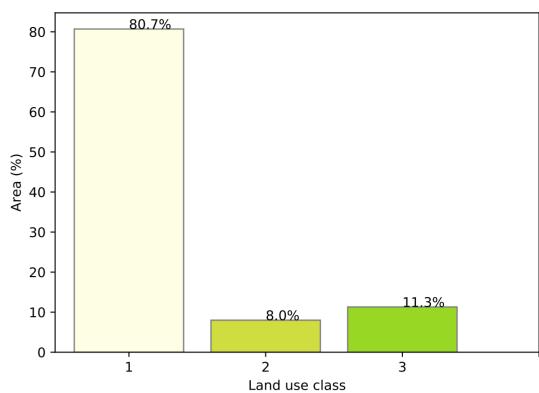




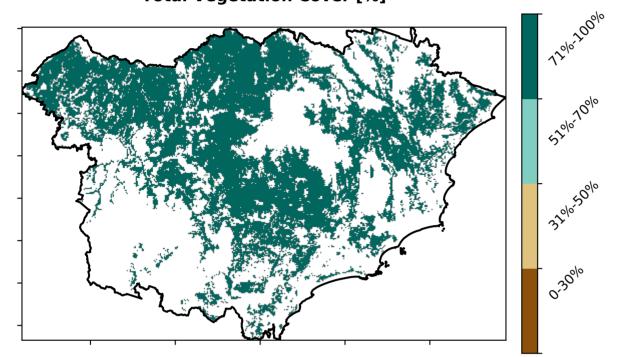
Grazing



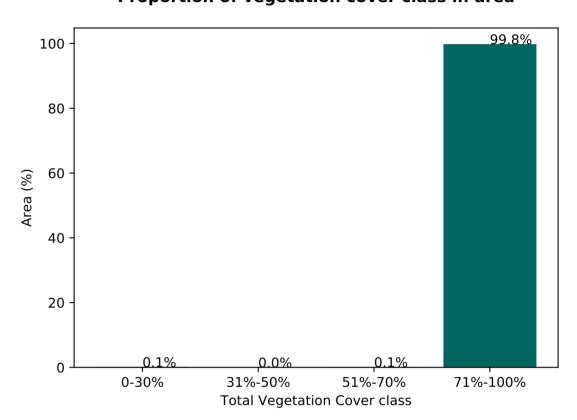
Proportion of each land class in area



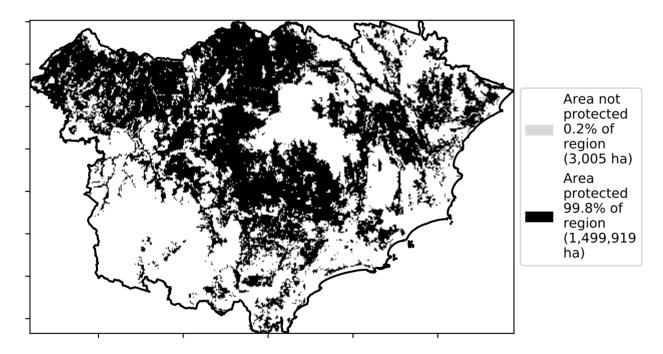
Total Vegetation Cover [%]



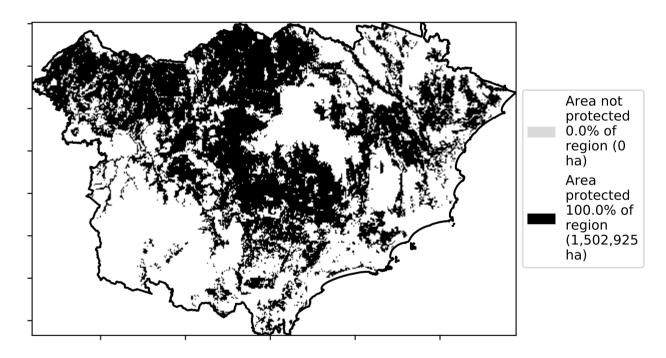
Proportion of vegetation cover class in area



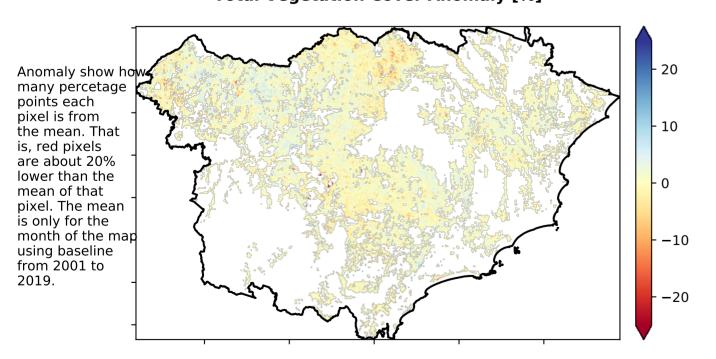
% Area protected from water erosion (>70%)

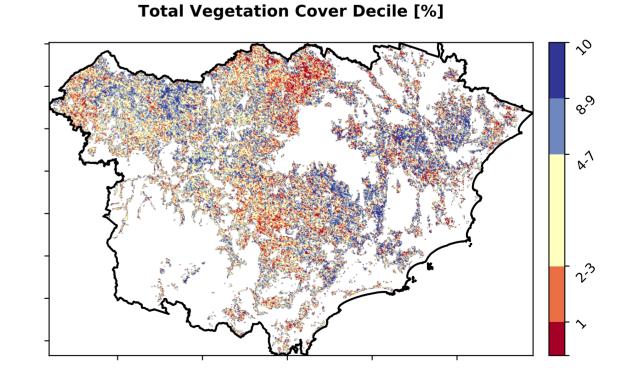


% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]









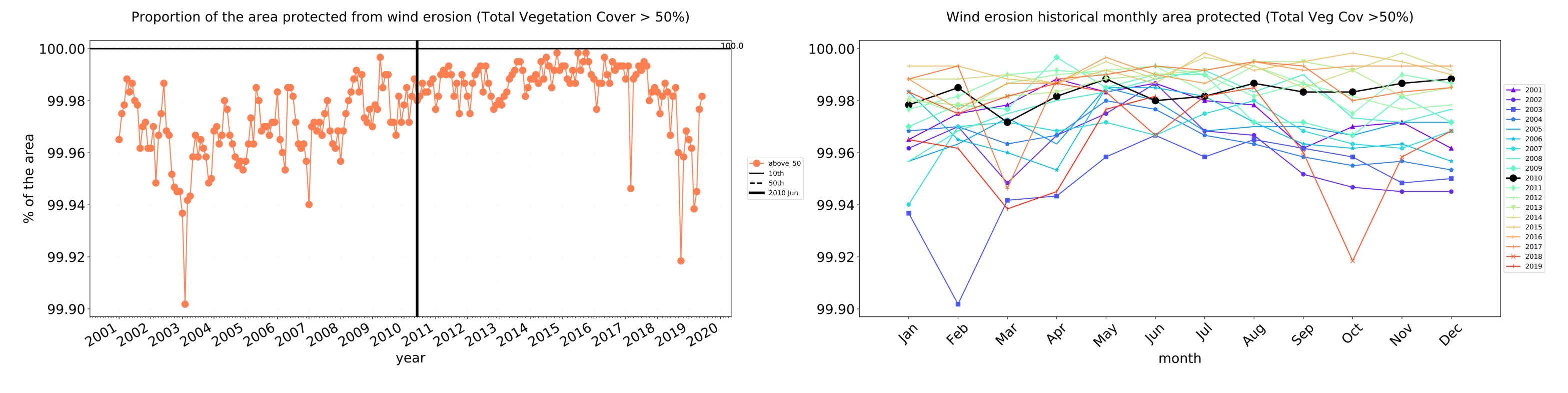


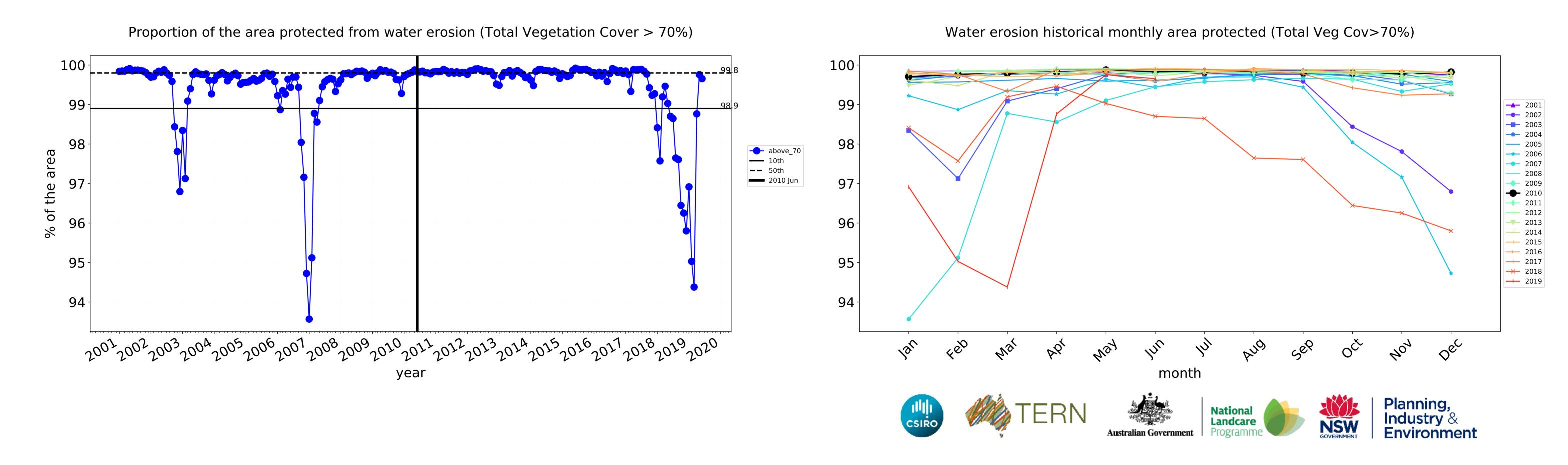


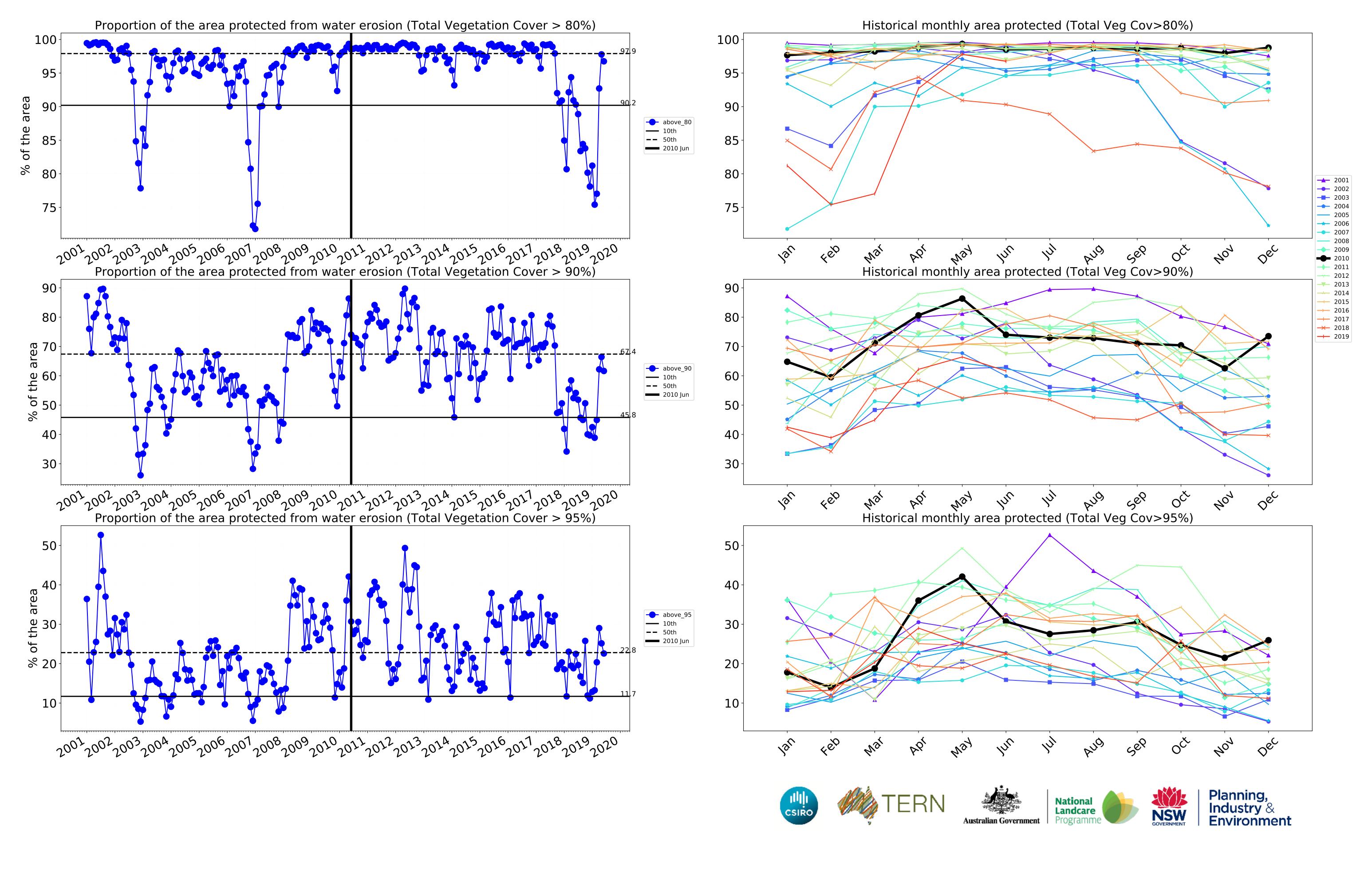




Grazing timeseries

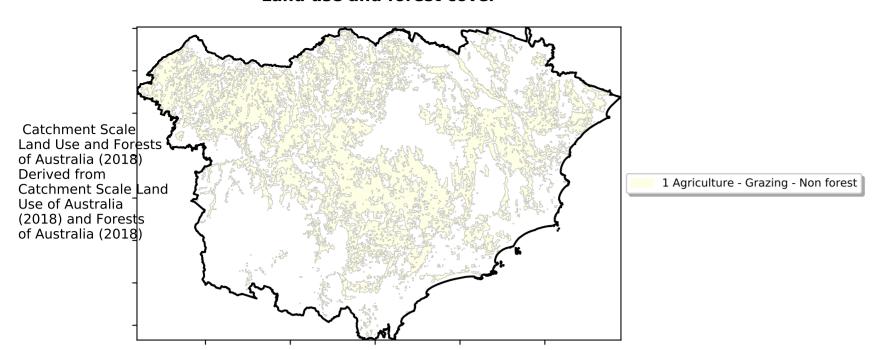




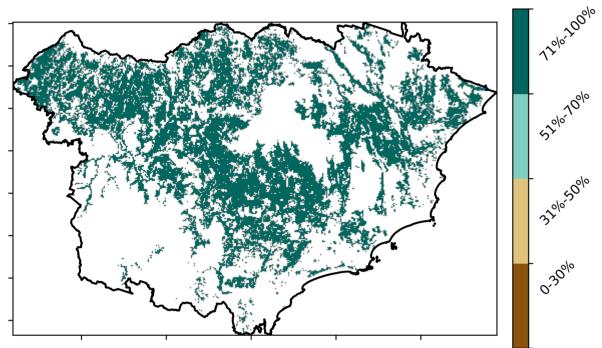


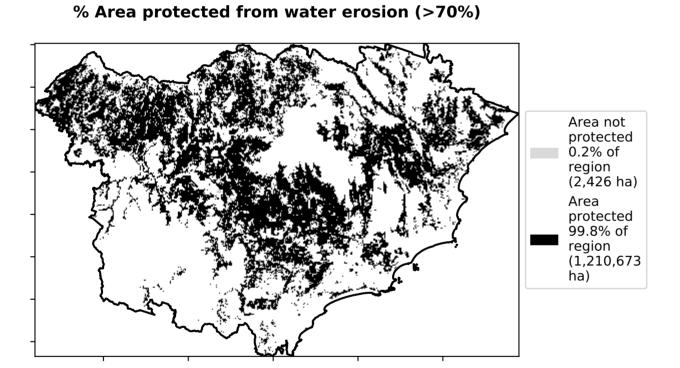
Grazing non forest

Land use and forest cover

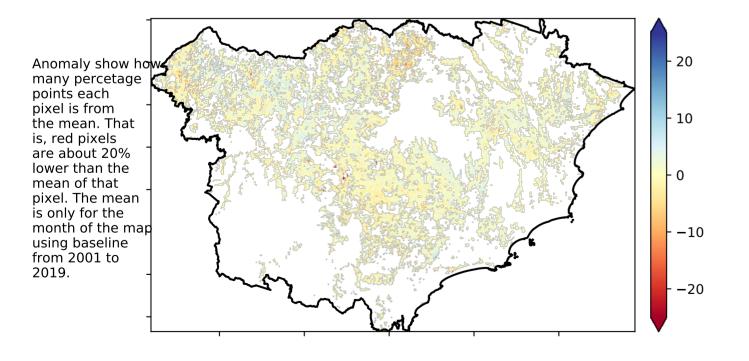


Total Vegetation Cover [%]



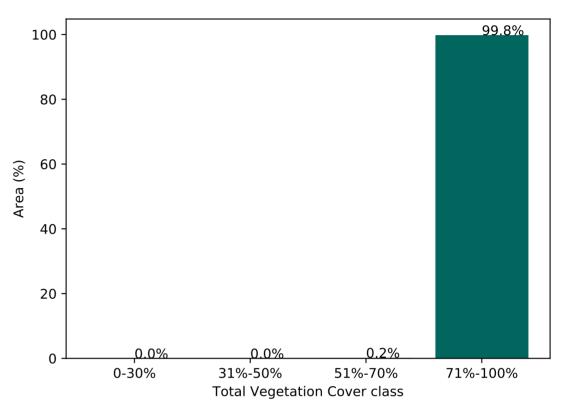


Total Vegetation Cover Anomaly [%]

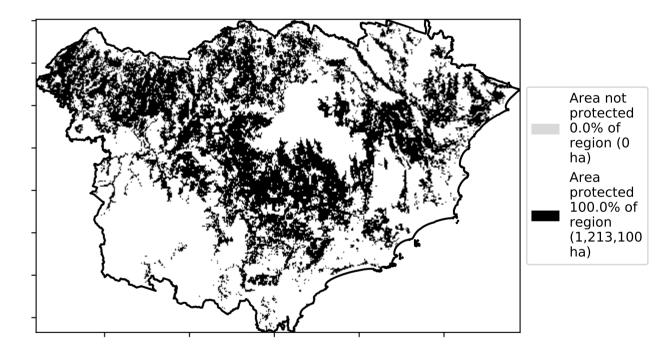


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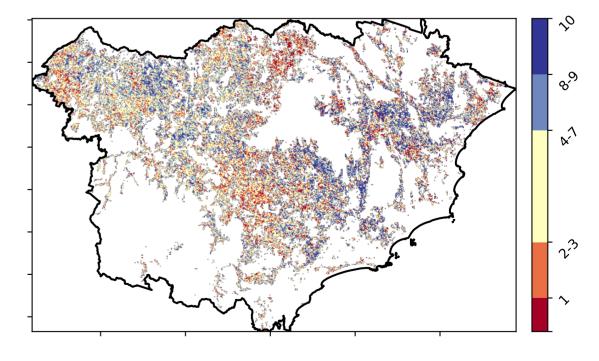
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







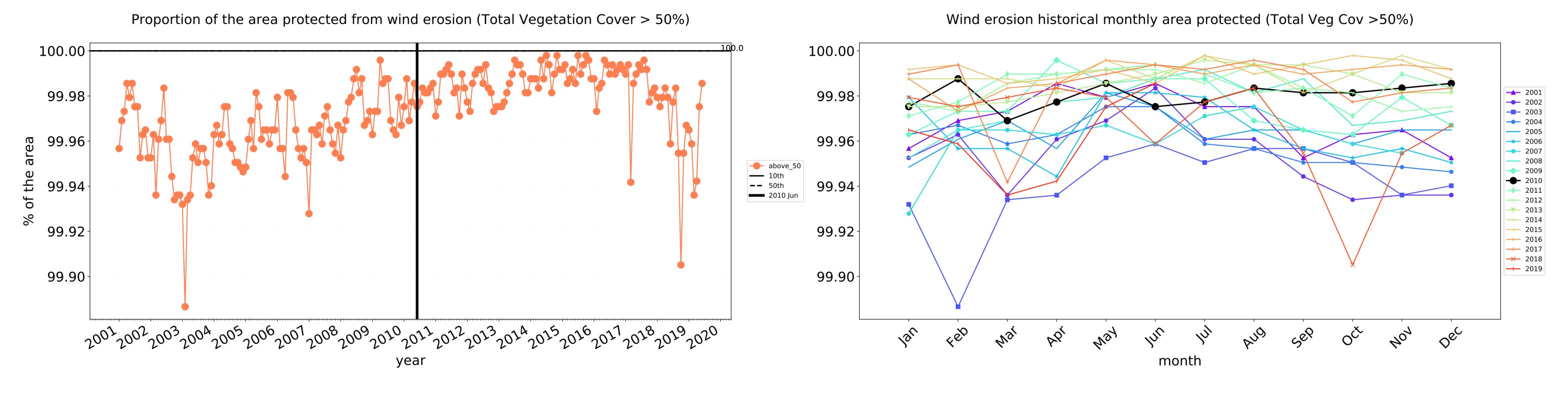


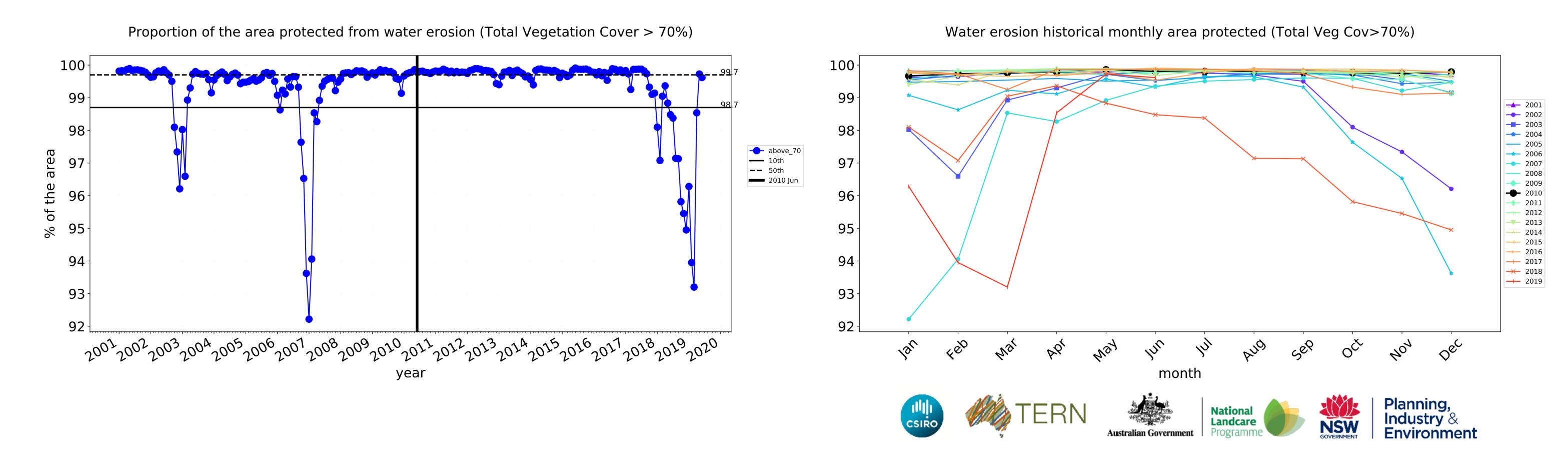


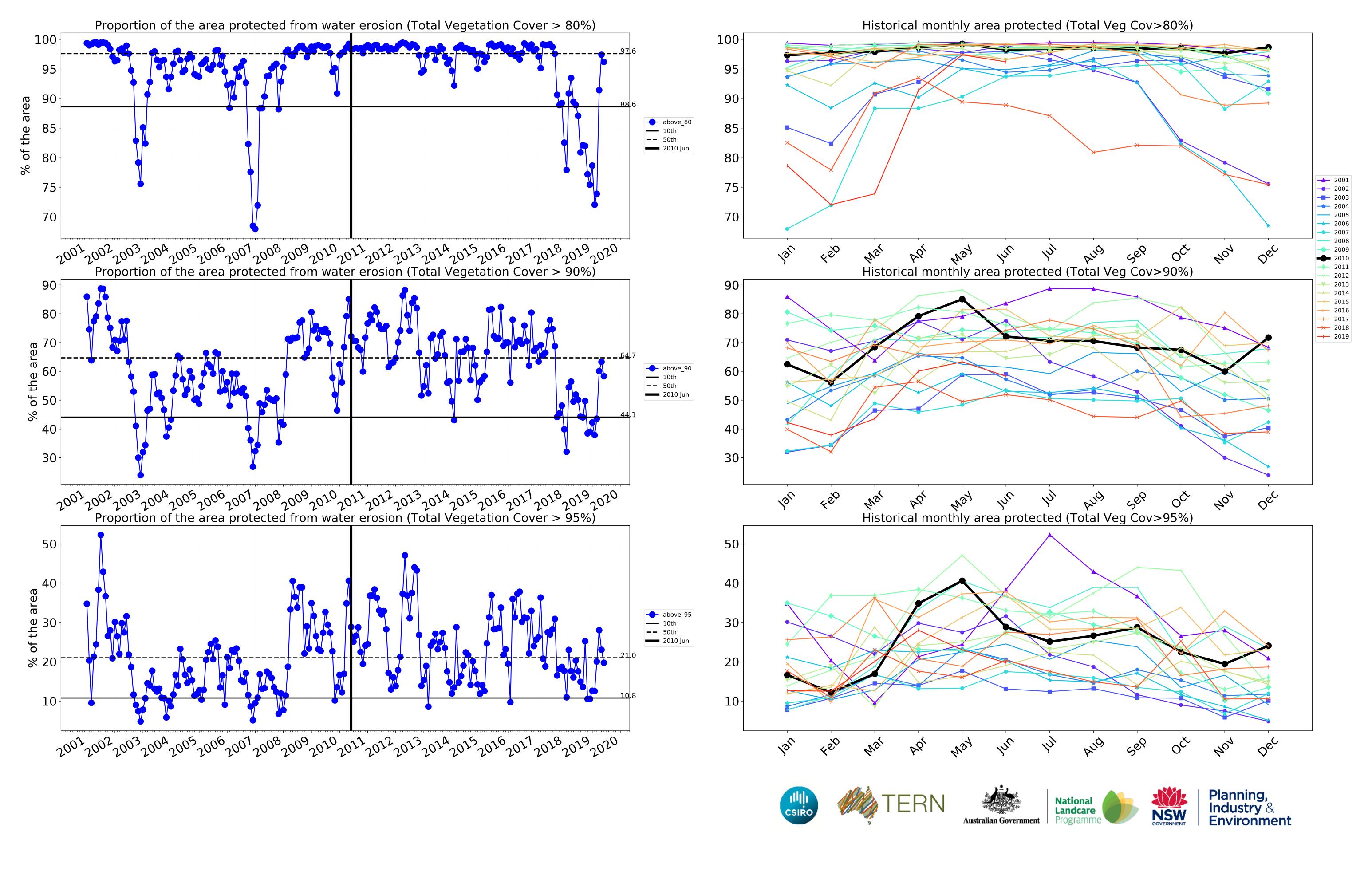




Grazing non forest timeseries







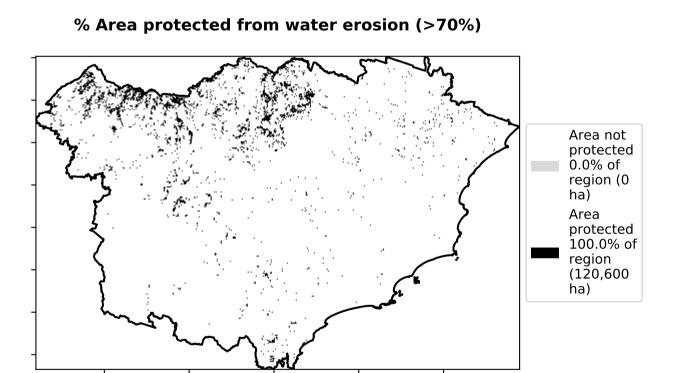
Grazing Woodland forest

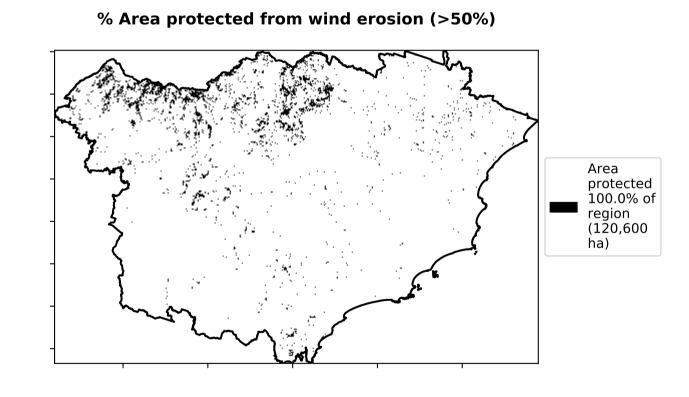
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) Australia (2018) Of Australia (2018) I Agriculture - Grazing - Woodland forest Use of Australia (2018)

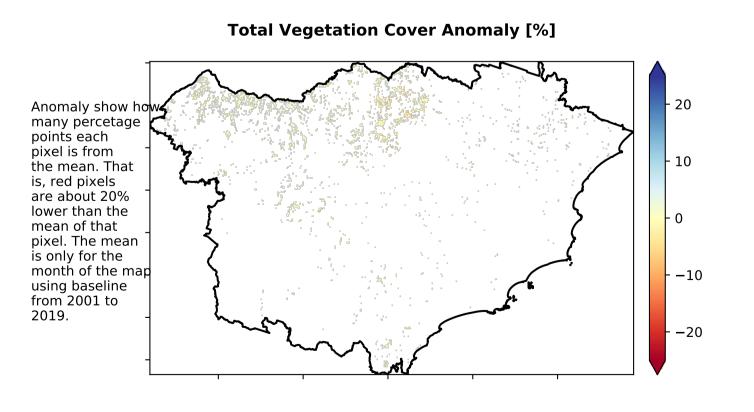
Total Vegetation Cover [%] Total Vegetation Cover [%] Total Vegetation Cover [%]

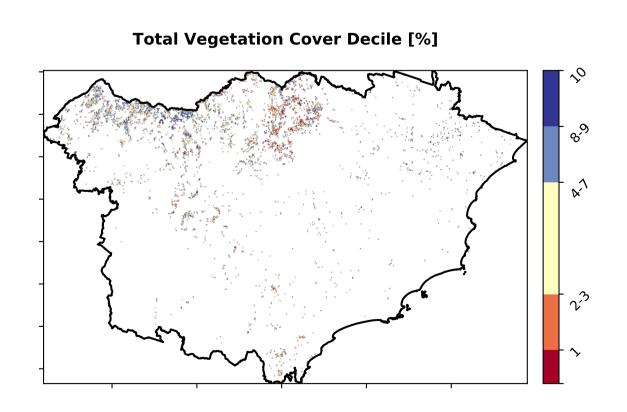
100 - 100.0% 80 - 20 - 20 - 0.0% 0.0% 0.0% 0-30% 31%-50% 51%-70% Total Vegetation Cover class

Proportion of vegetation cover class in area













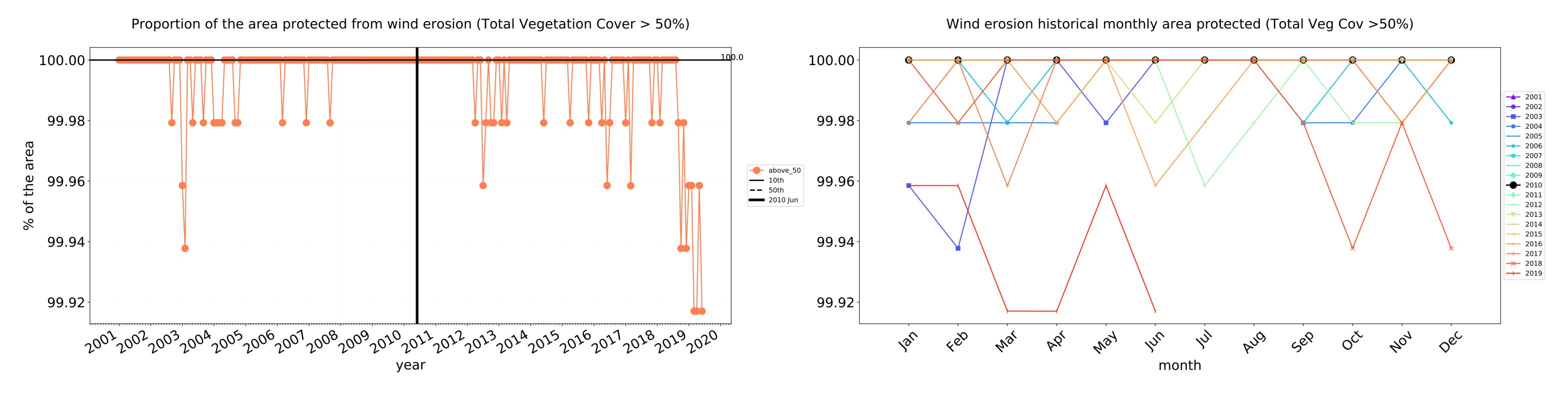


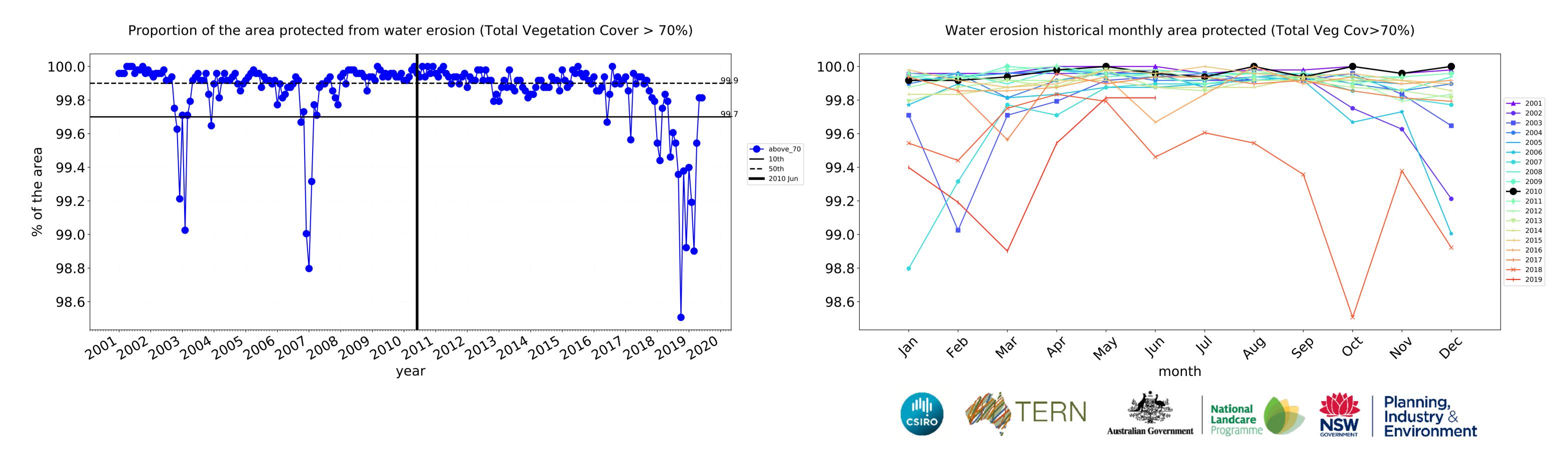


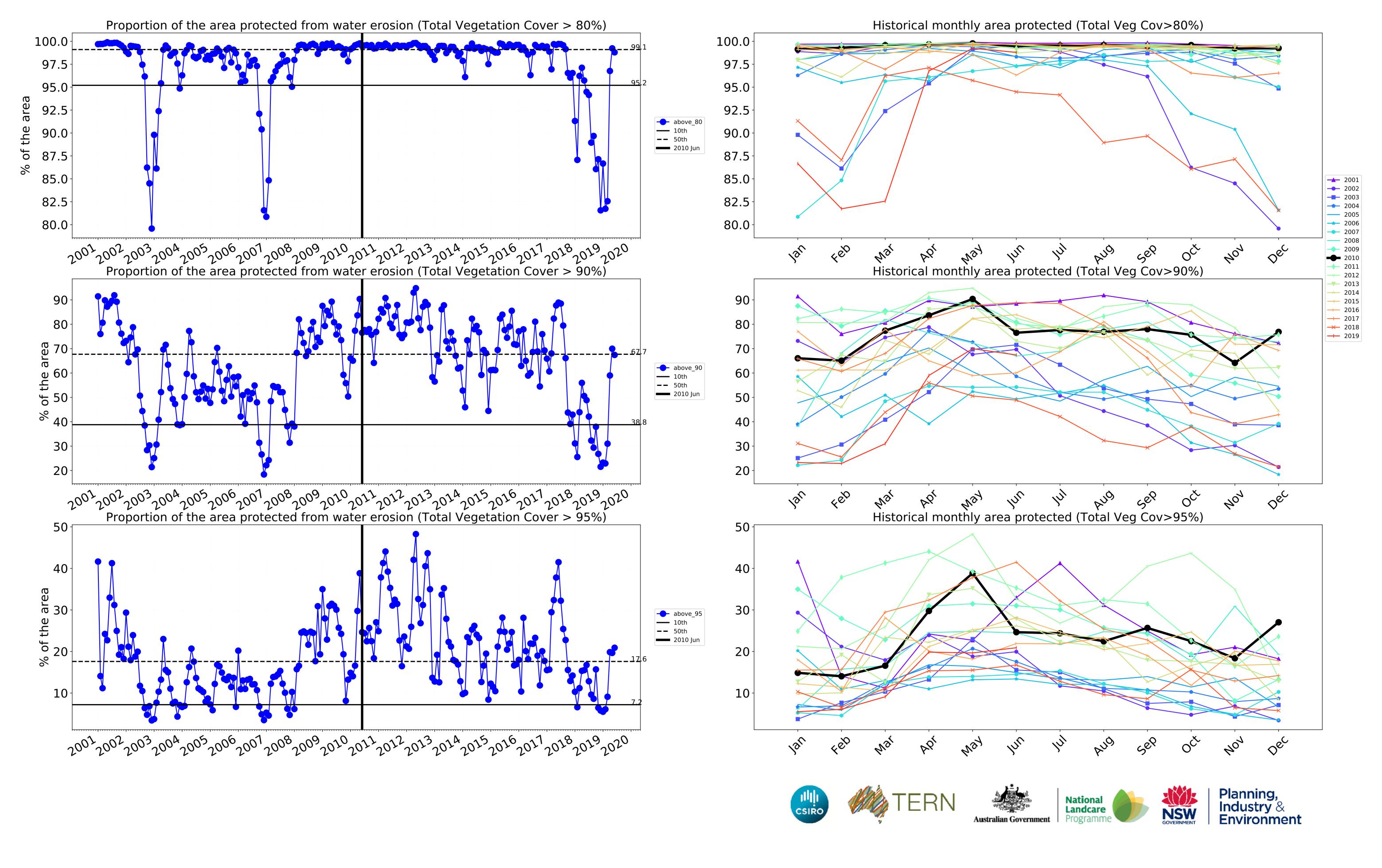




Grazing Woodland forest timeseries



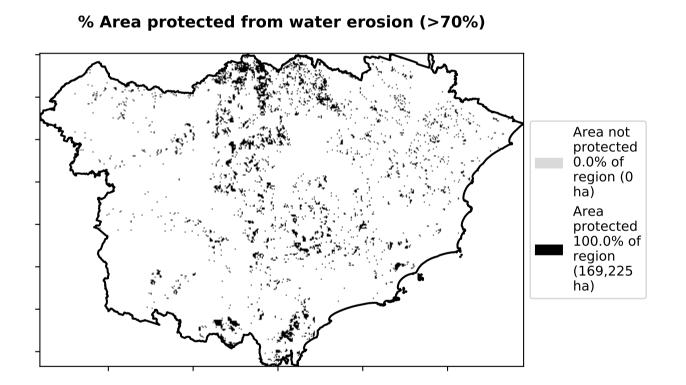


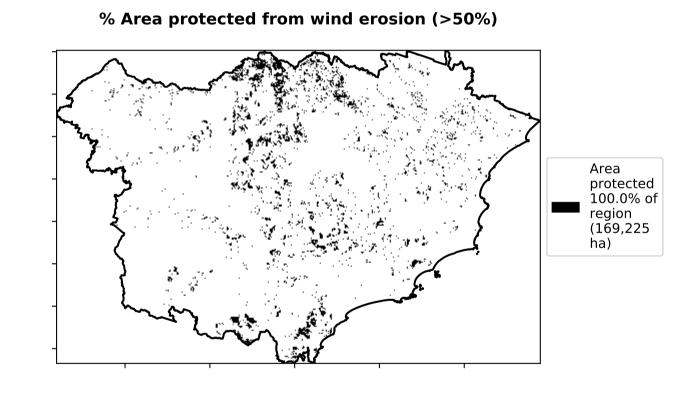


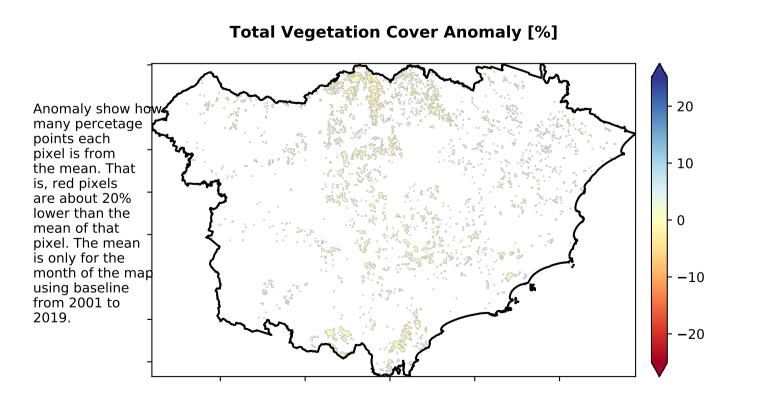
Grazing - Forest (non woodland)

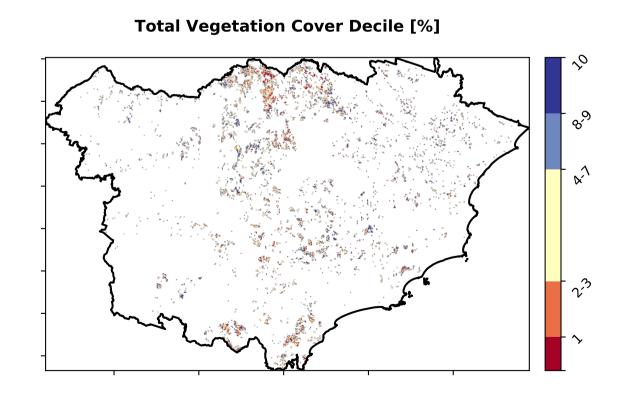
Total Vegetation Cover [%]

Proportion of vegetation cover class in area 100 - 100.0% 80 - 100.0% 80 - 100.0% 30 60 - 100.0% 40 - 100.0% 71%-100% Total Vegetation Cover class











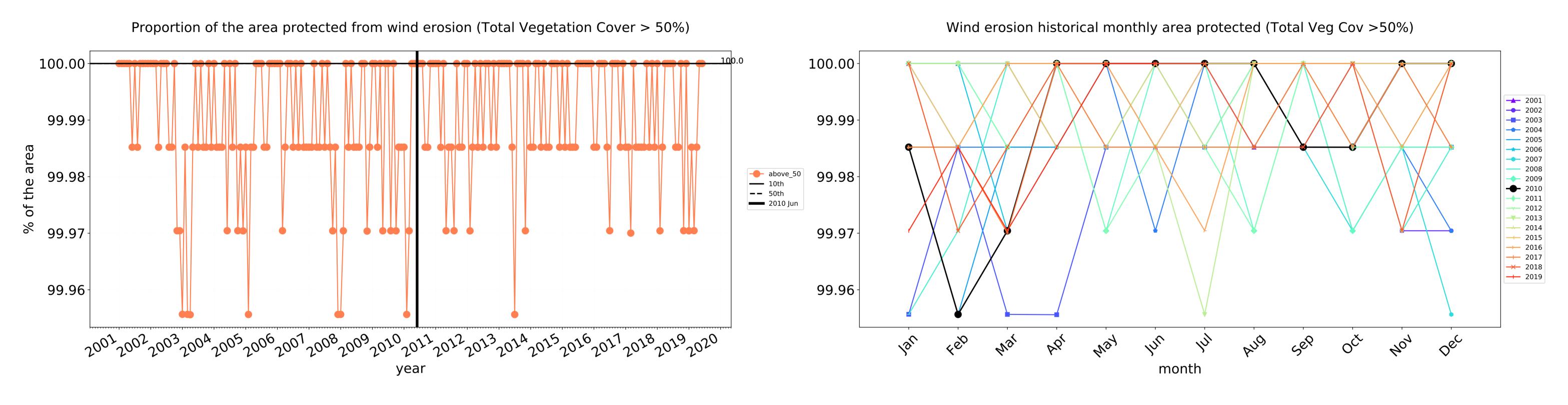


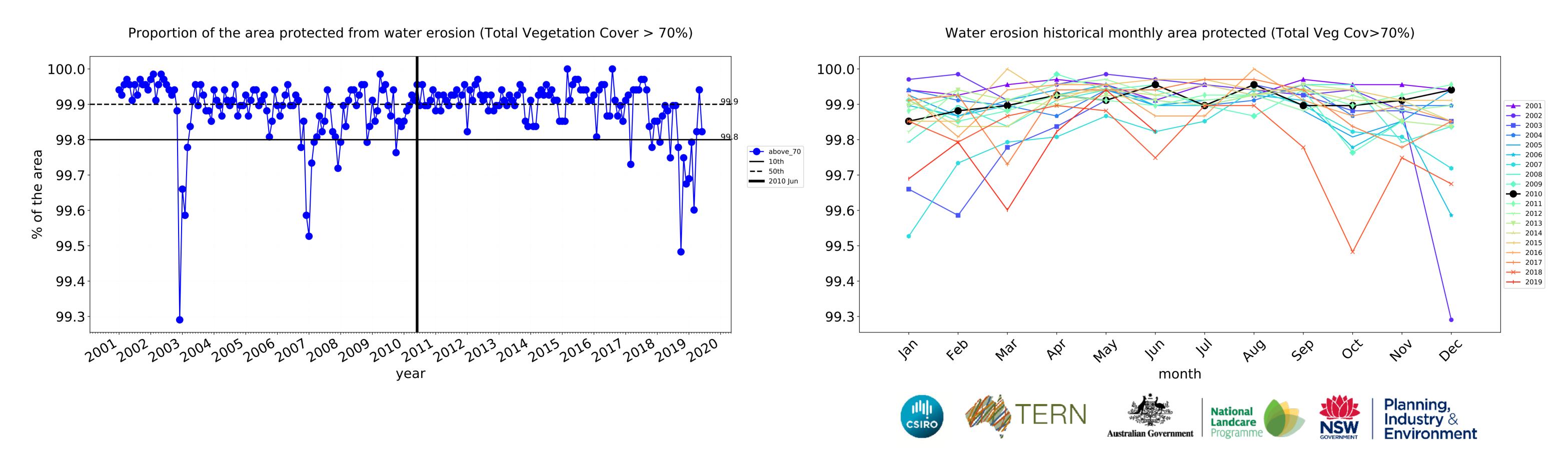


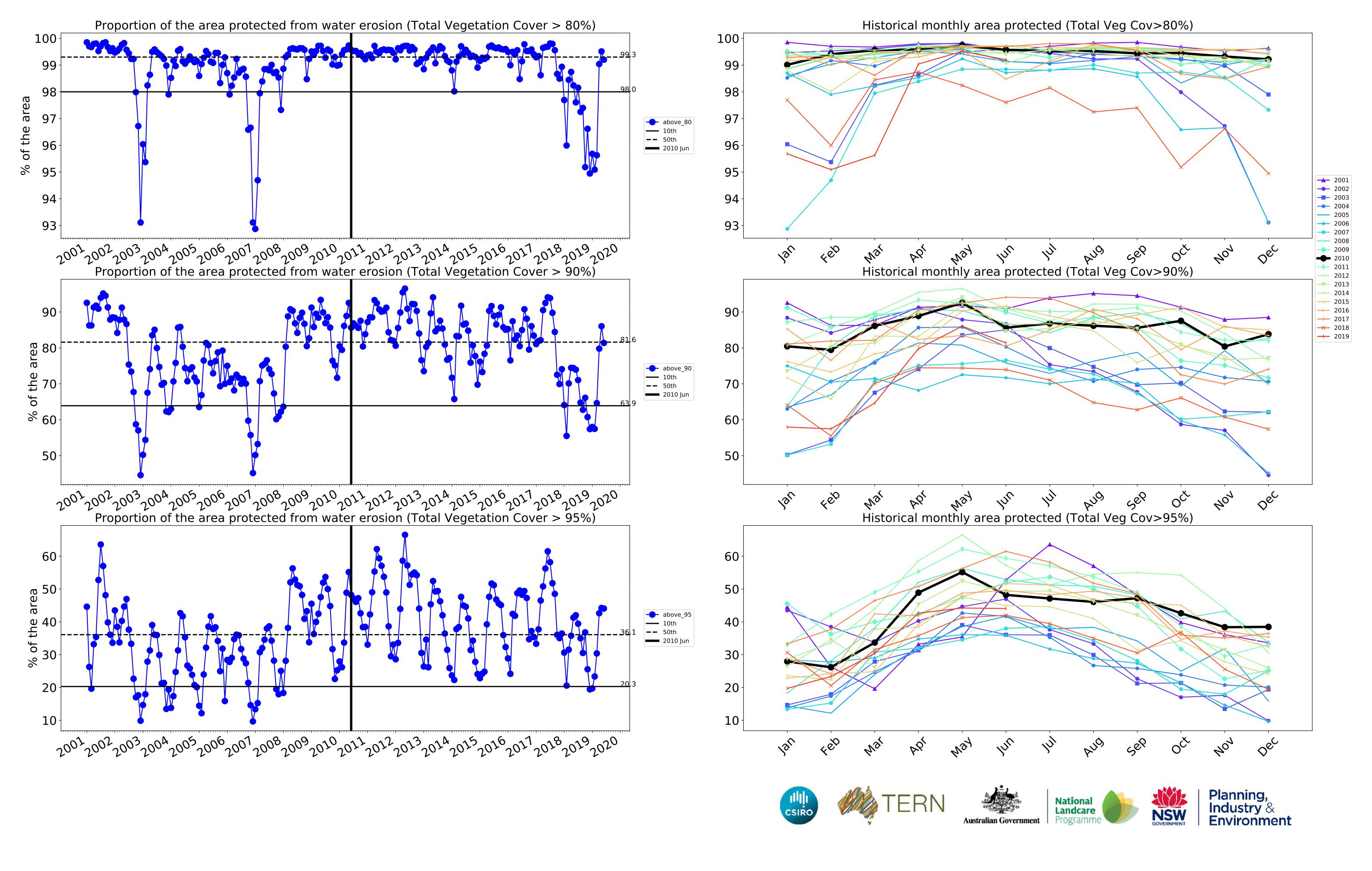






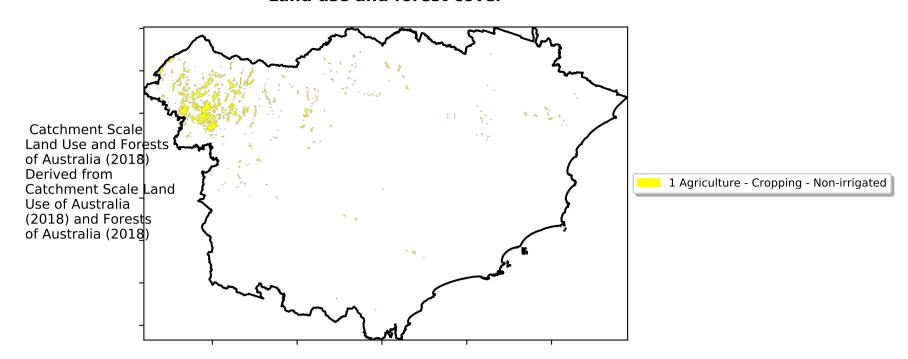




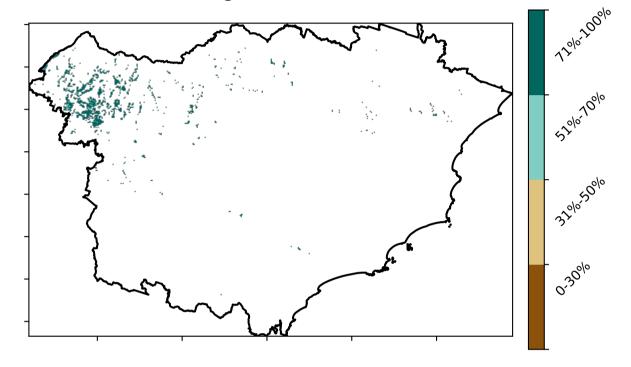


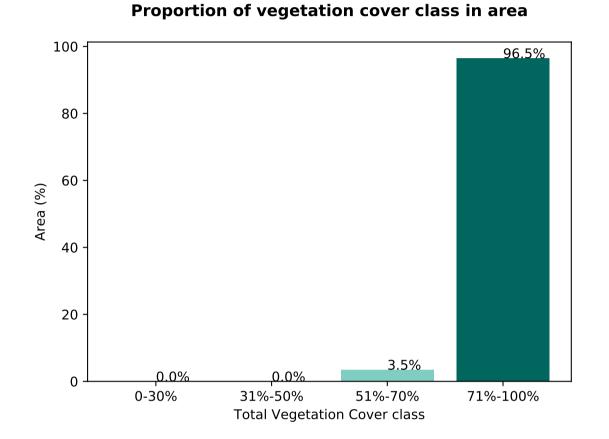
Cropping

Land use and forest cover

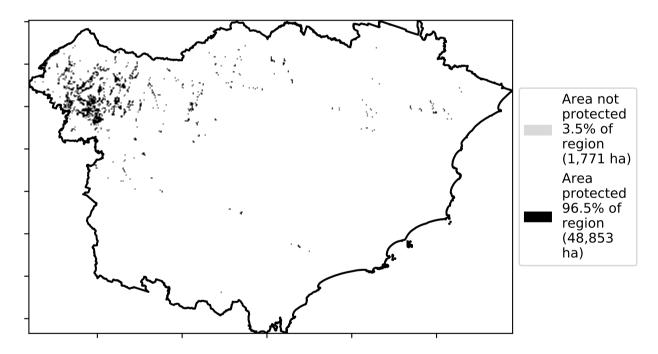


Total Vegetation Cover [%]

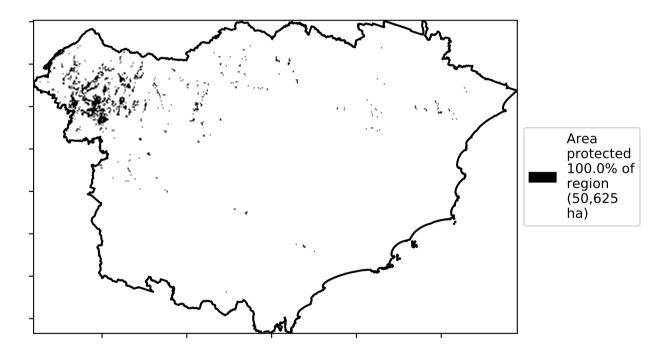




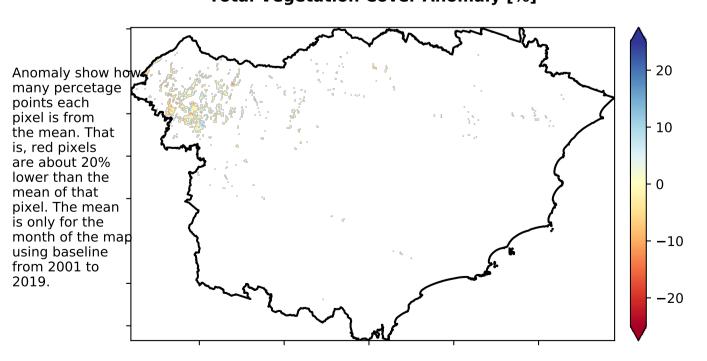
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

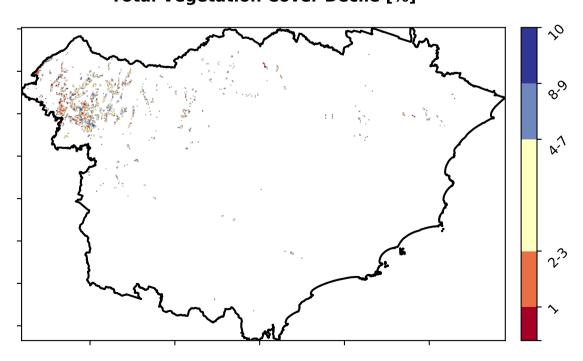


Total Vegetation Cover Anomaly [%]



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 [%]







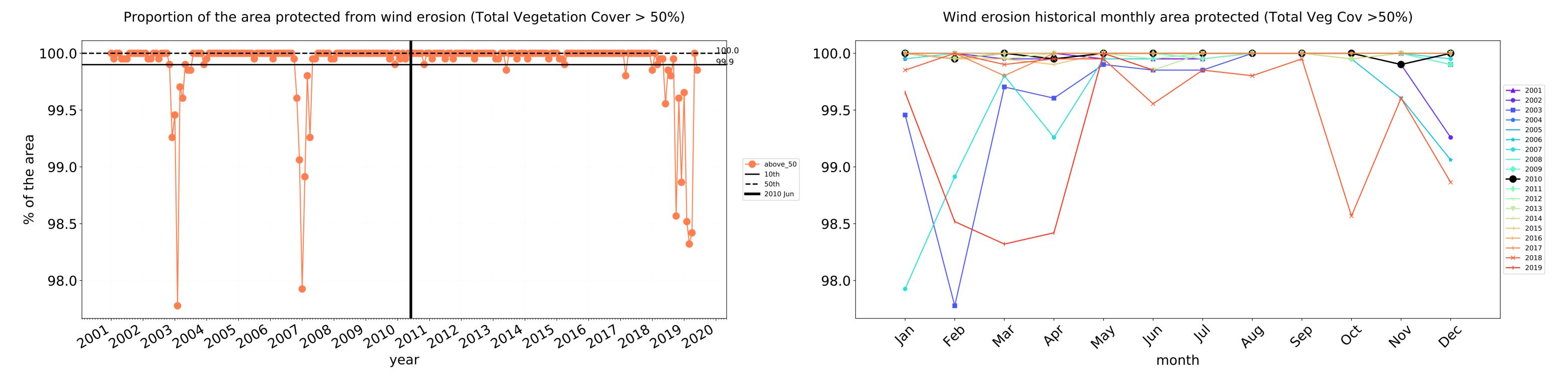


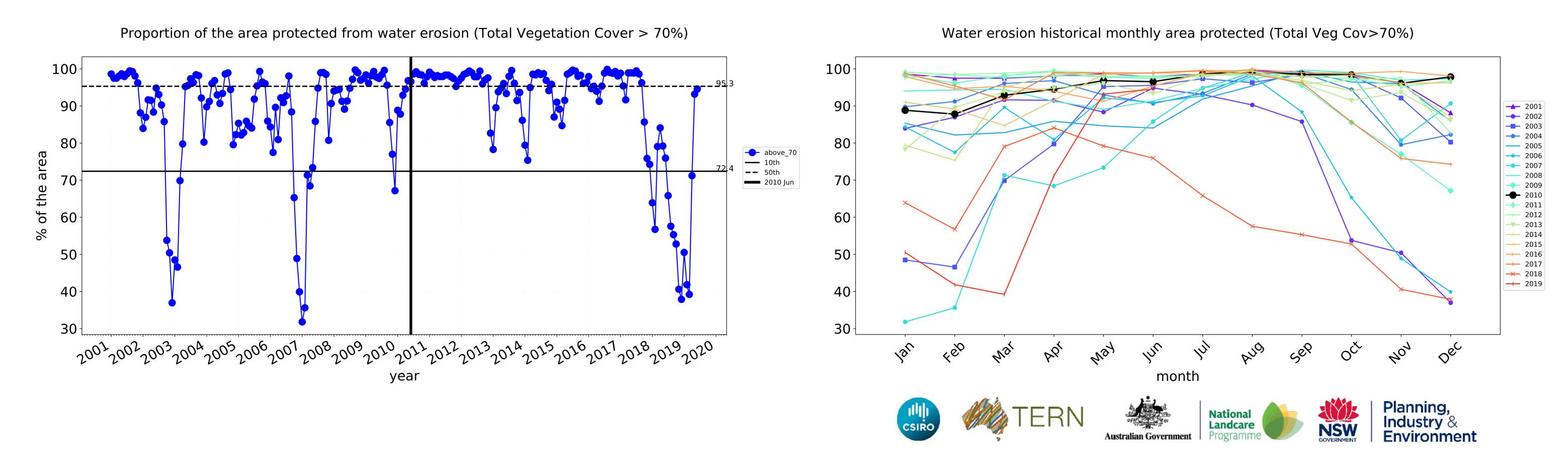


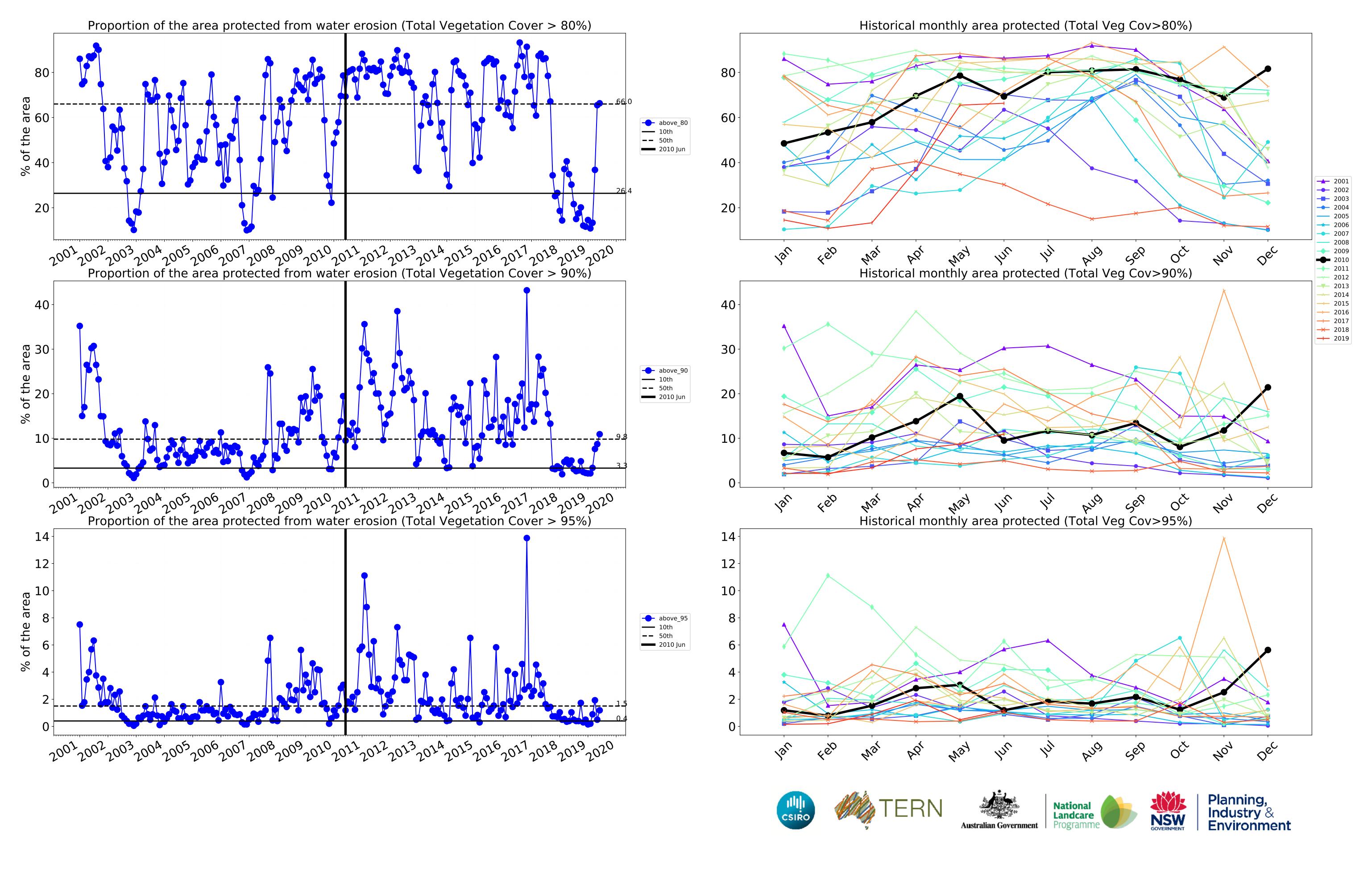




Cropping timeseries







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) Of Australia (2018)

Total Vegetation Cover [%]

Proportion of vegetation cover class in area

100

80

80

9

90

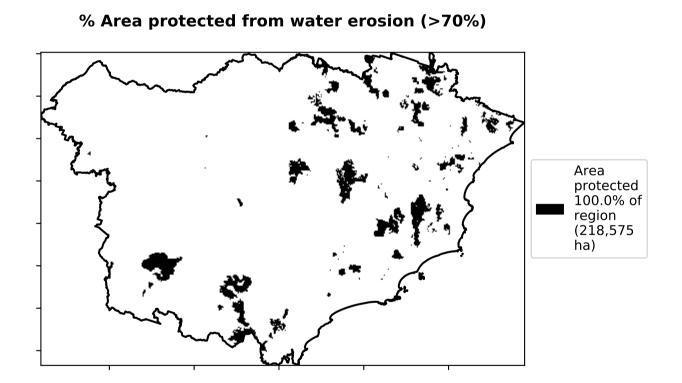
0-30%

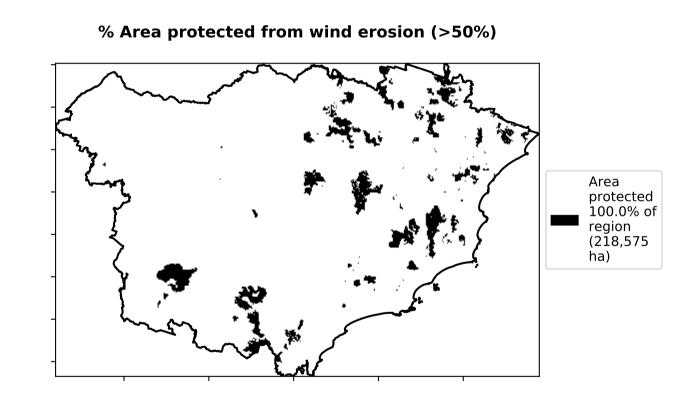
31%-50%

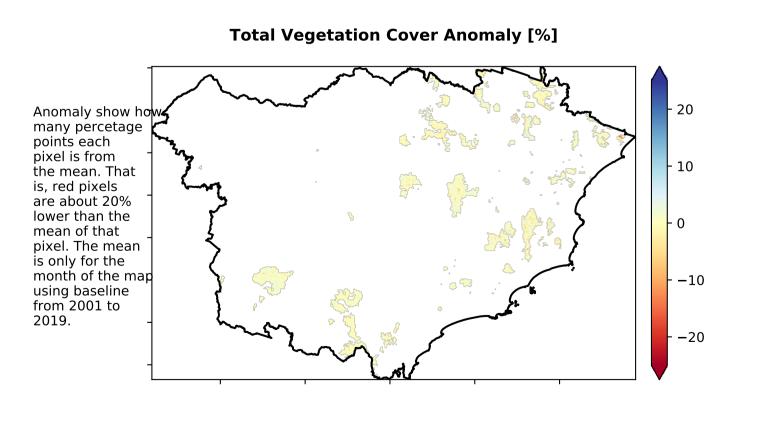
51%-70%

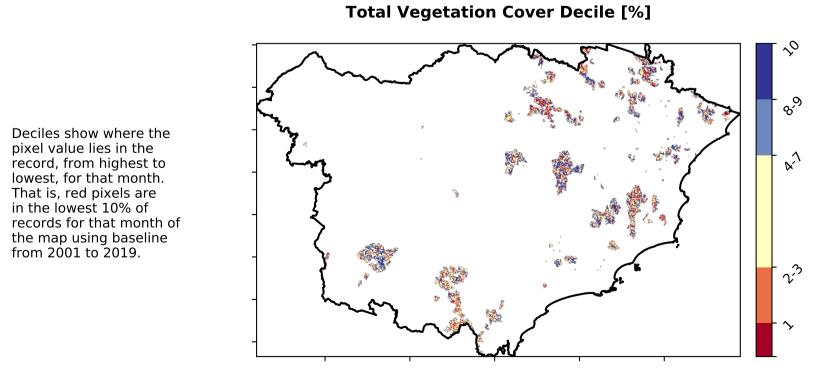
71%-100%

Total Vegetation Cover class











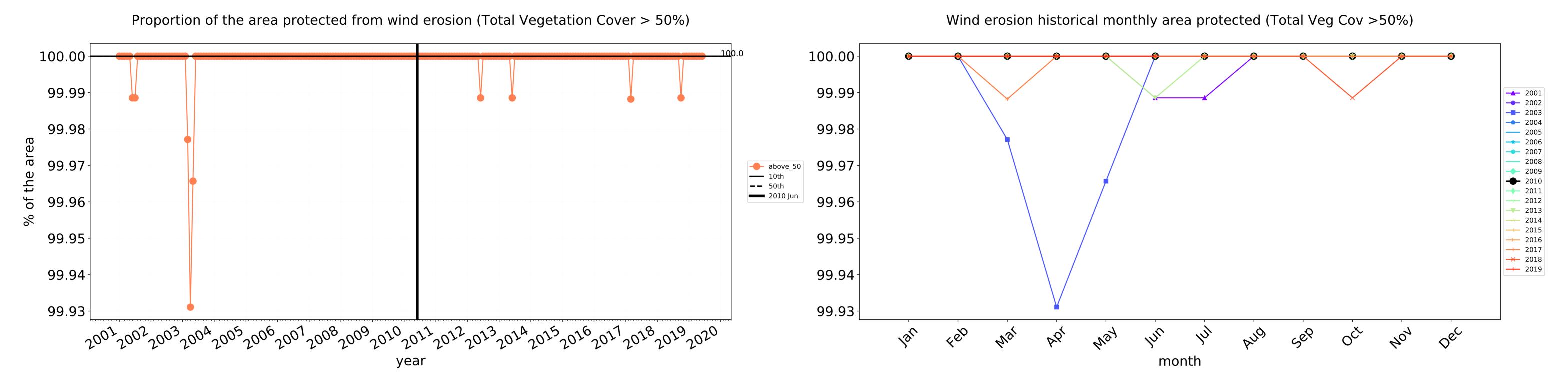


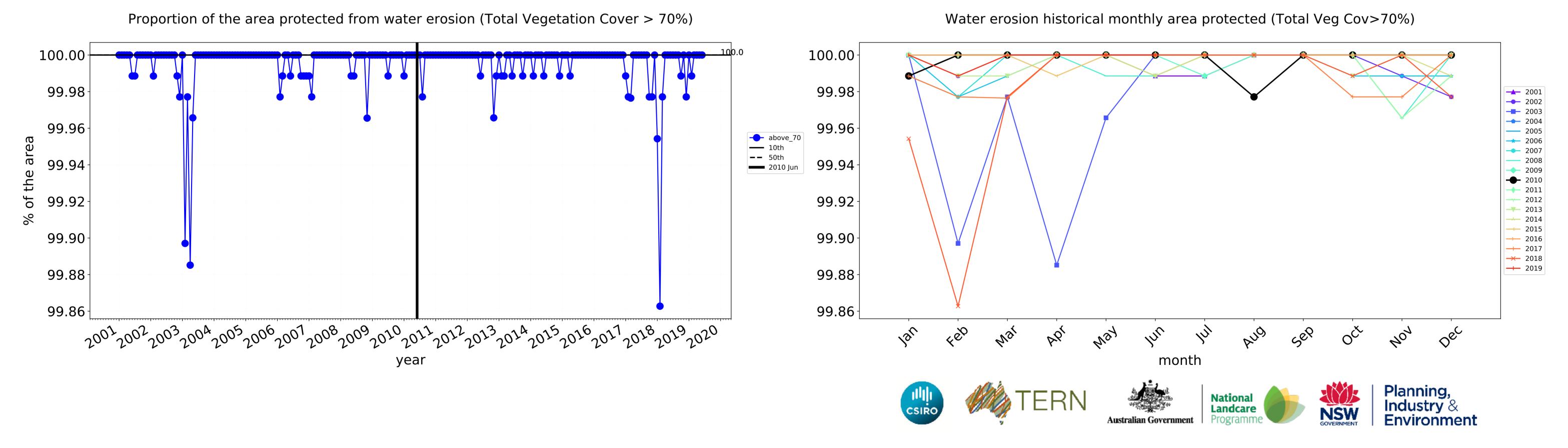


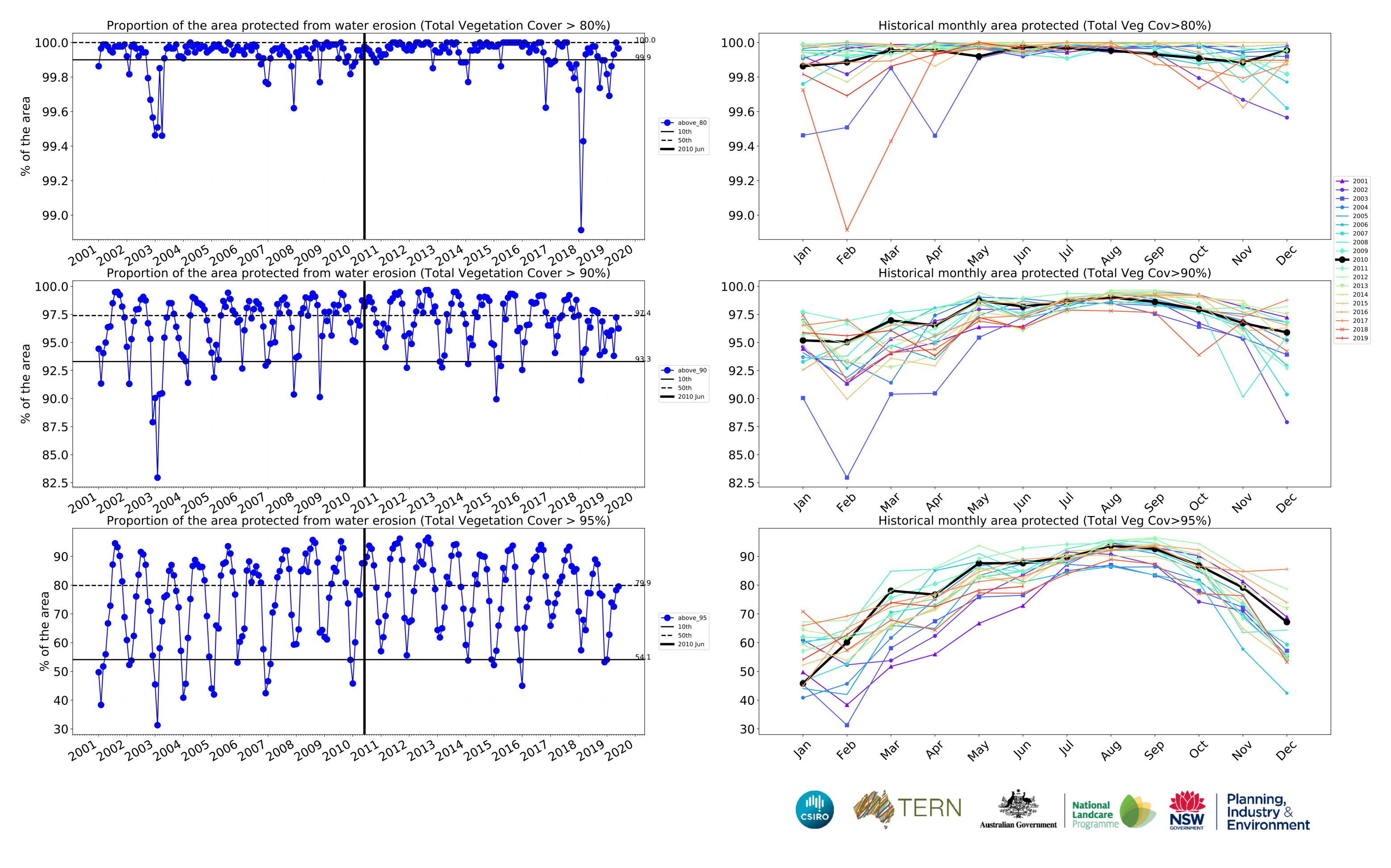




Production native forests and plantation forests timeseries







Hunter (3,239,800 ha and no data 60,625 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	3,239,800	99.9% 3,236,900	99.7% 3,230,177	98.9% 3,204,083	96.6% 3,130,876	79.9% 2,590,030	48.4% 1,568,574
Conservation and natural environments	1,241,925	99.9% 1,240,800	99.8% 1,240,025	99.7% 1,238,375	99.5% 1,235,750	95.2% 1,182,475	71.8% 891,950
Conservation and natural environments non forest	30,500	96.6% 29,450	94.5% 28,825	91.1% 27,800	88.5% 27,000	70.1% 21,375	38.5% 11,750
Conservation and natural environments Woodland forest	138,950	100.0% 138,950	100.0% 138,925	99.9% 138,875	99.8% 138,625	93.5% 129,975	53.3% 74,075
Conservation and natural environments Forest (non woodland)	1,072,475	100.0% 1,072,400	100.0% 1,072,275	99.9% 1,071,700	99.8% 1,070,125	96.1% 1,031,125	75.2% 806,125
Agriculture	1,580,925	100.0% 1,580,900	100.0% 1,580,625	99.7% 1,576,600	97.3% 1,537,725	70.9% 1,121,100	29.2% 462,375
Grazing	1,502,925	100.0% 1,502,900	100.0% 1,502,625	99.8% 1,500,425	98.5% 1,480,625	74.0% 1,112,425	30.7% 461,400
Grazing non forest	1,213,100	100.0% 1,213,075	100.0% 1,212,800	99.8% 1,210,725	98.3% 1,192,150	72.1% 875,225	28.9% 350,075
Grazing Woodland forest	120,600	100.0% 120,600	100.0% 120,600	100.0% 120,550	99.5% 119,975	76.5% 92,300	24.6% 29,725
Grazing - Forest (non woodland)	169,225	100.0% 169,225	100.0% 169,225	100.0% 169,150	99.6% 168,500	85.6% 144,900	48.2% 81,600
Cropping	50,625	100.0% 50,625	100.0% 50,625	96.5% 48,875	69.3% 35,100	9.5% 4,800	1.2% 600
Production native forests and plantation forests	218,575	100.0% 218,575	100.0% 218,575	100.0% 218,575	100.0% 218,525	98.2% 214,650	87.6% 191,550











