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: October 2003

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









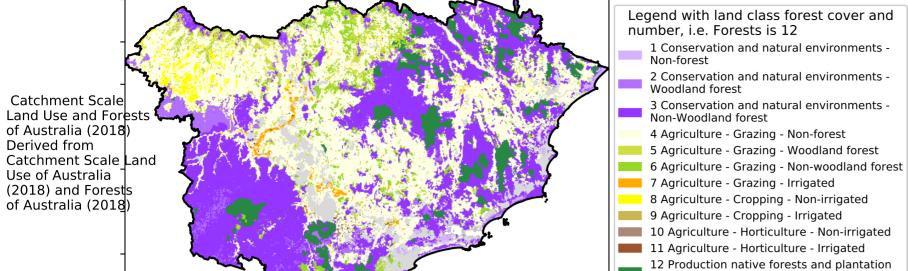




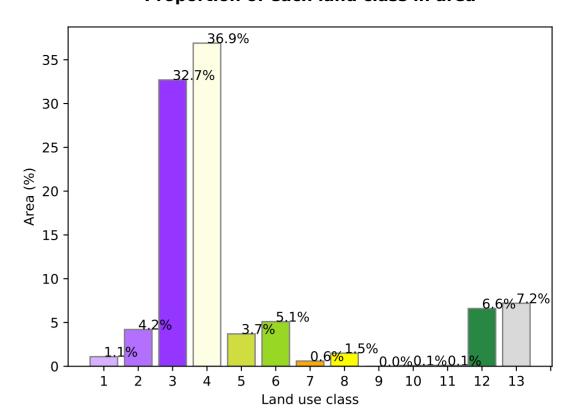
Vegetation Cover Oct 2003

Land use and forest cover number, i.e. Forests is 12 Non-Woodland forest

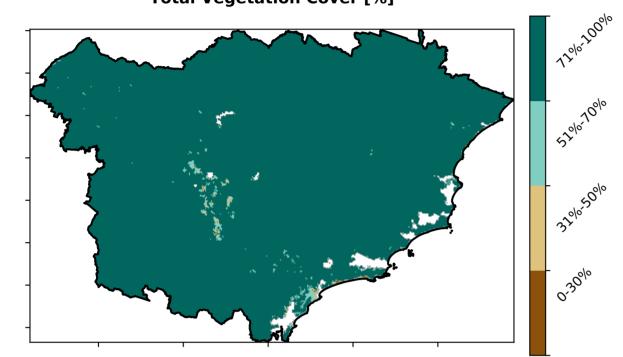
13 Other uses



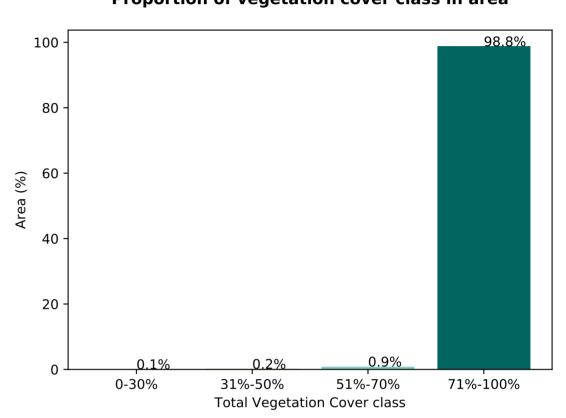
Proportion of each land class in area



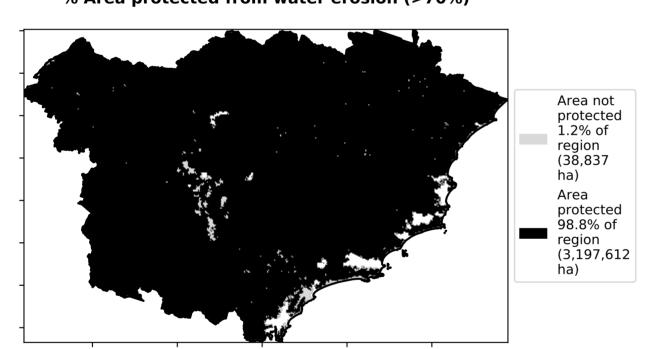
Total Vegetation Cover [%]



Proportion of vegetation cover class in area



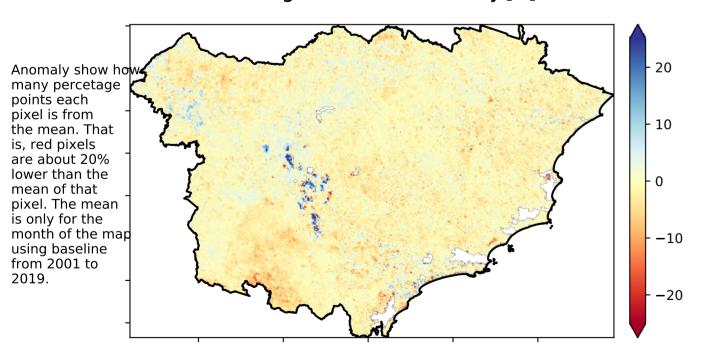
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

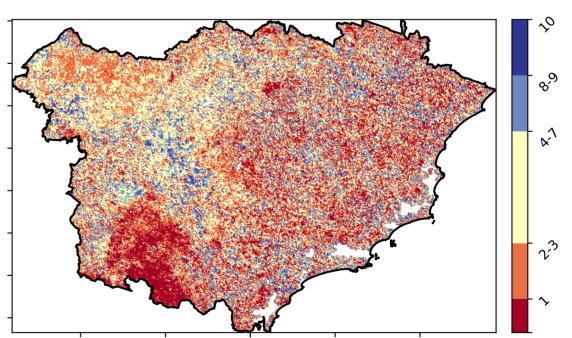


Total Vegetation Cover Anomaly [%]



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 [%]





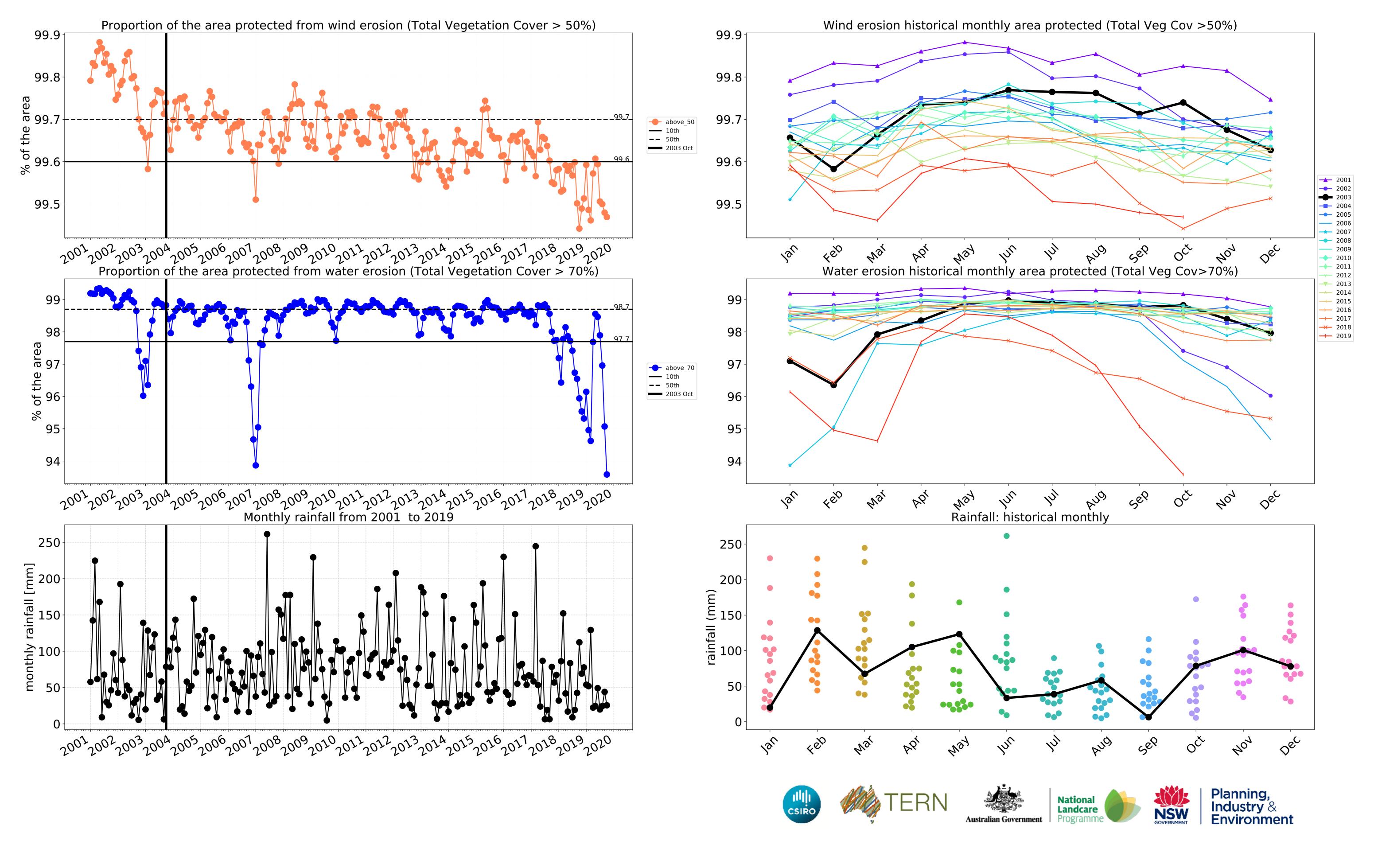


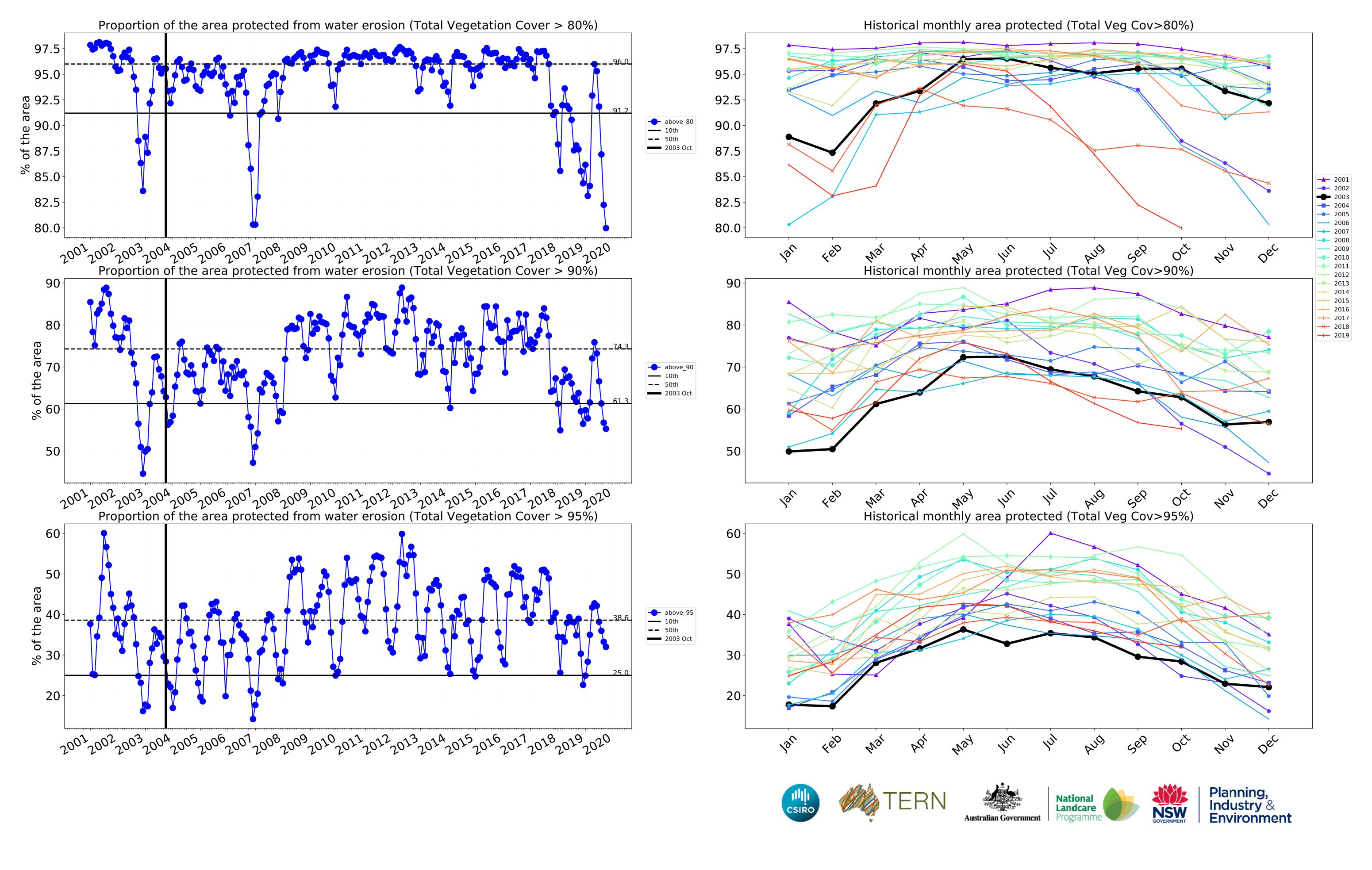






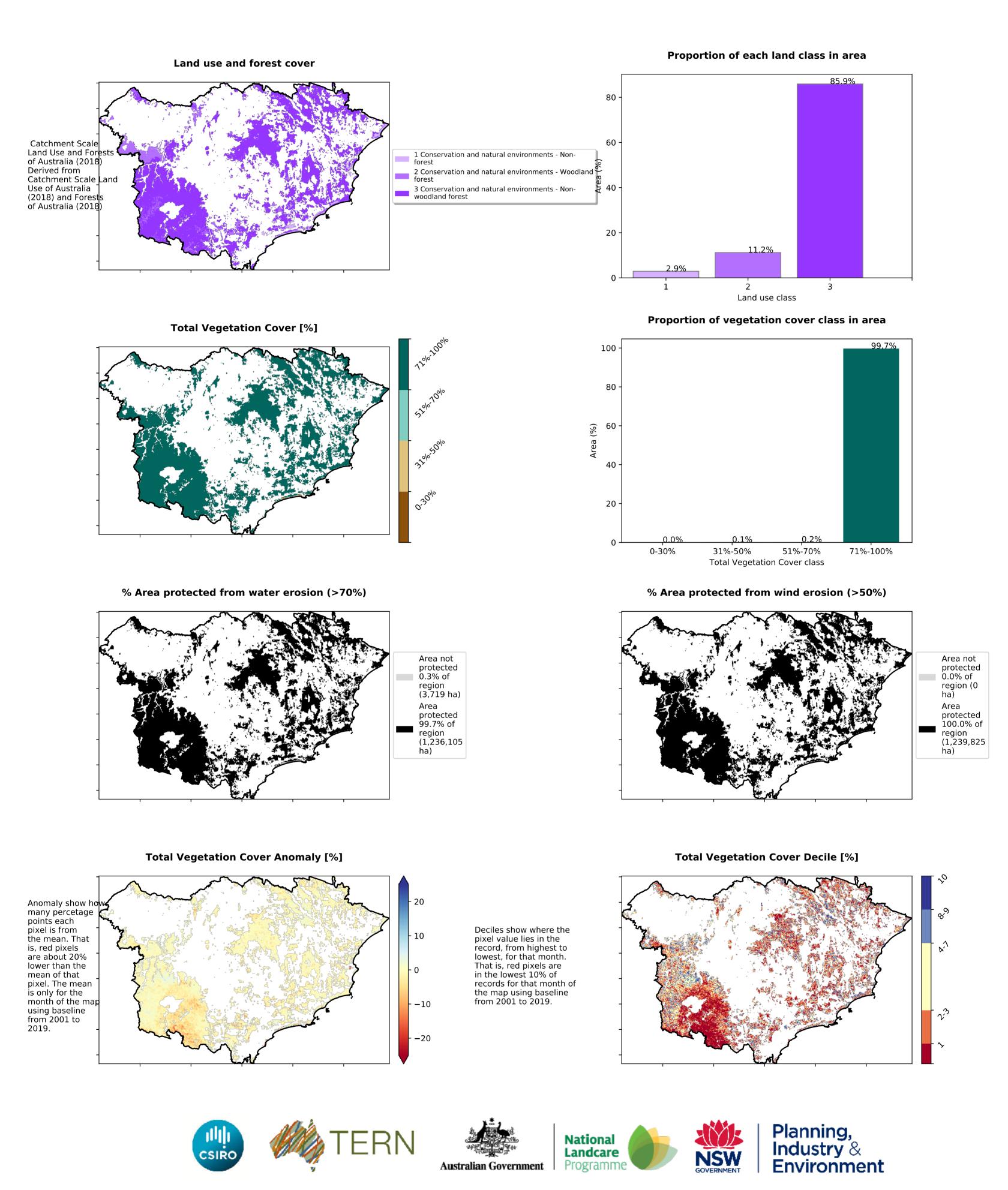




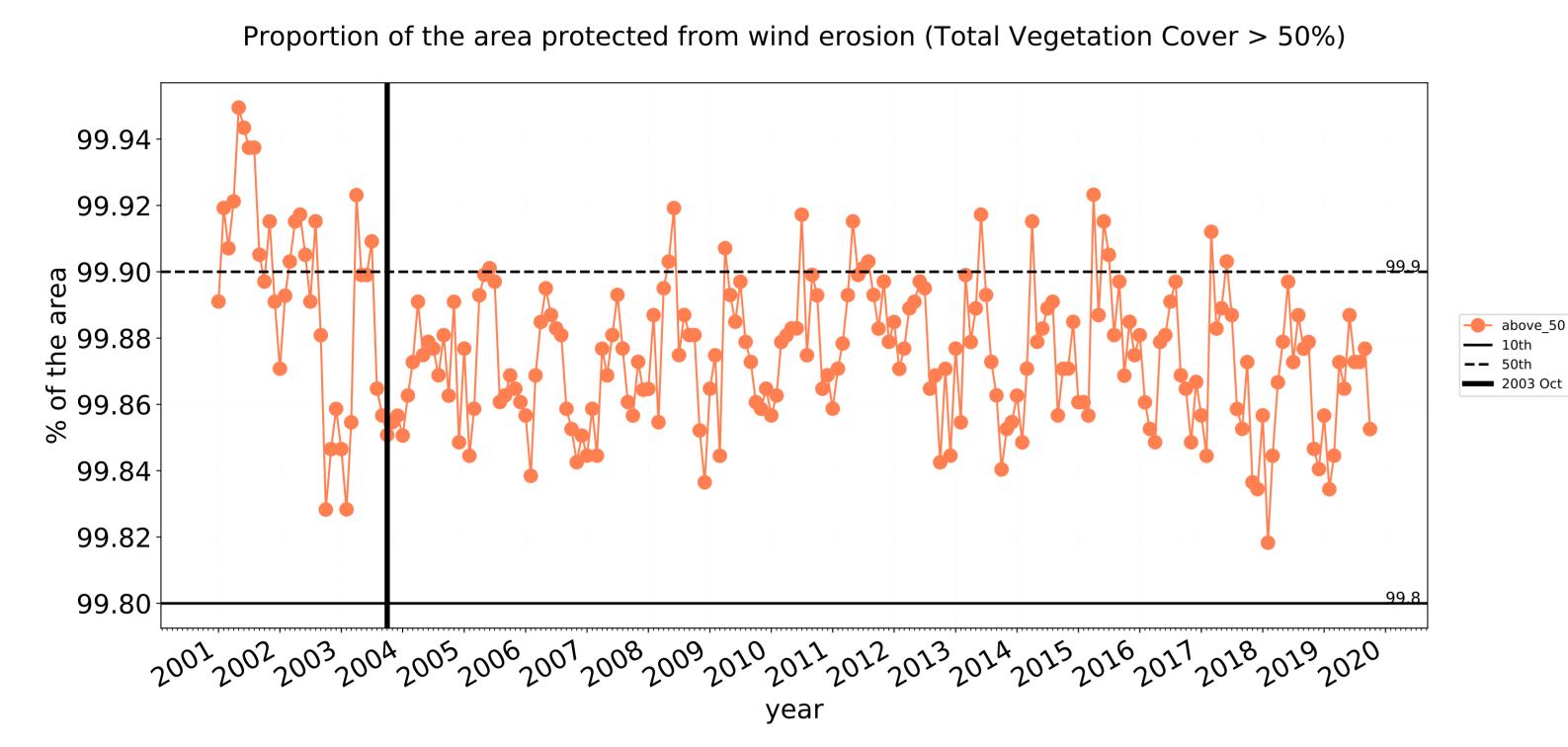


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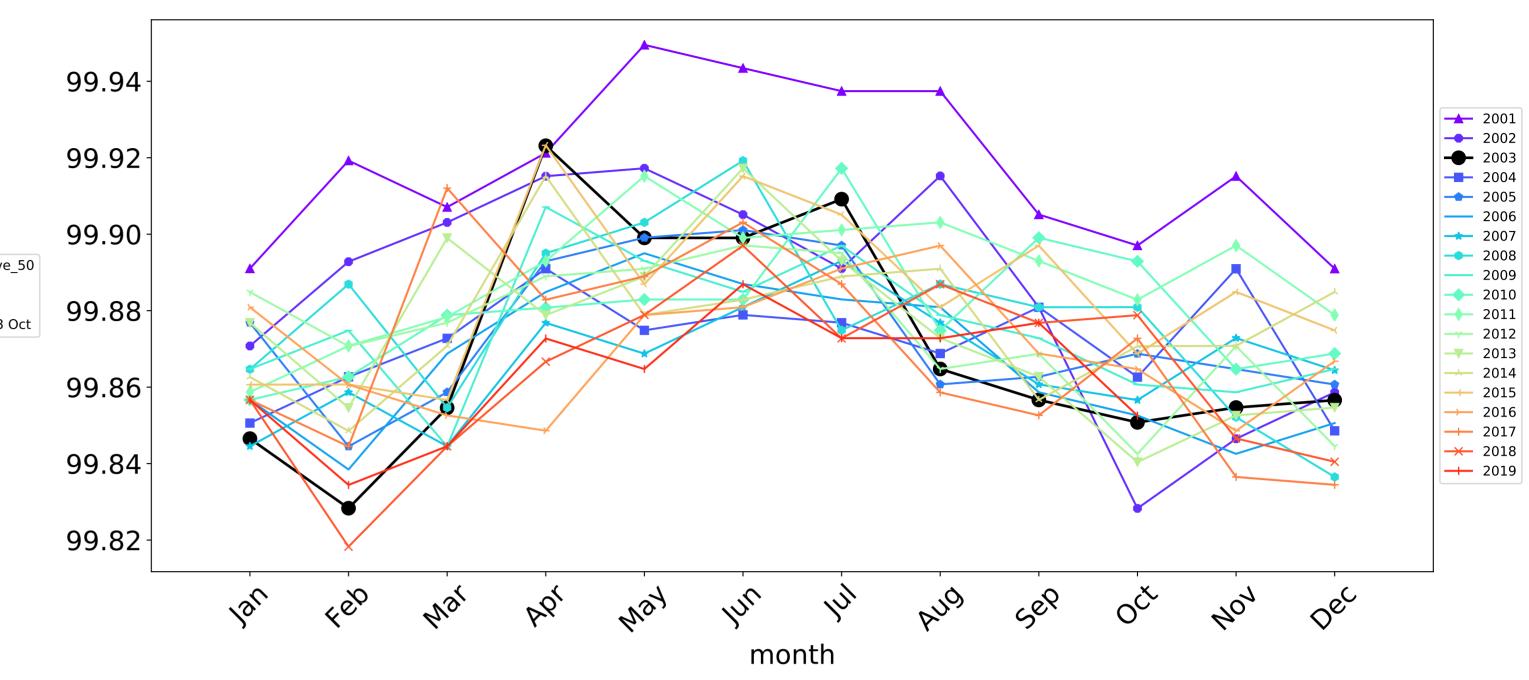
Conservation and natural environments

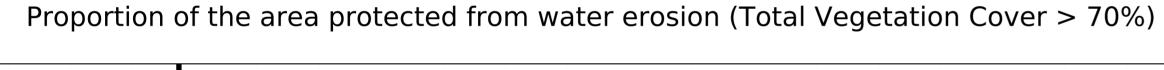


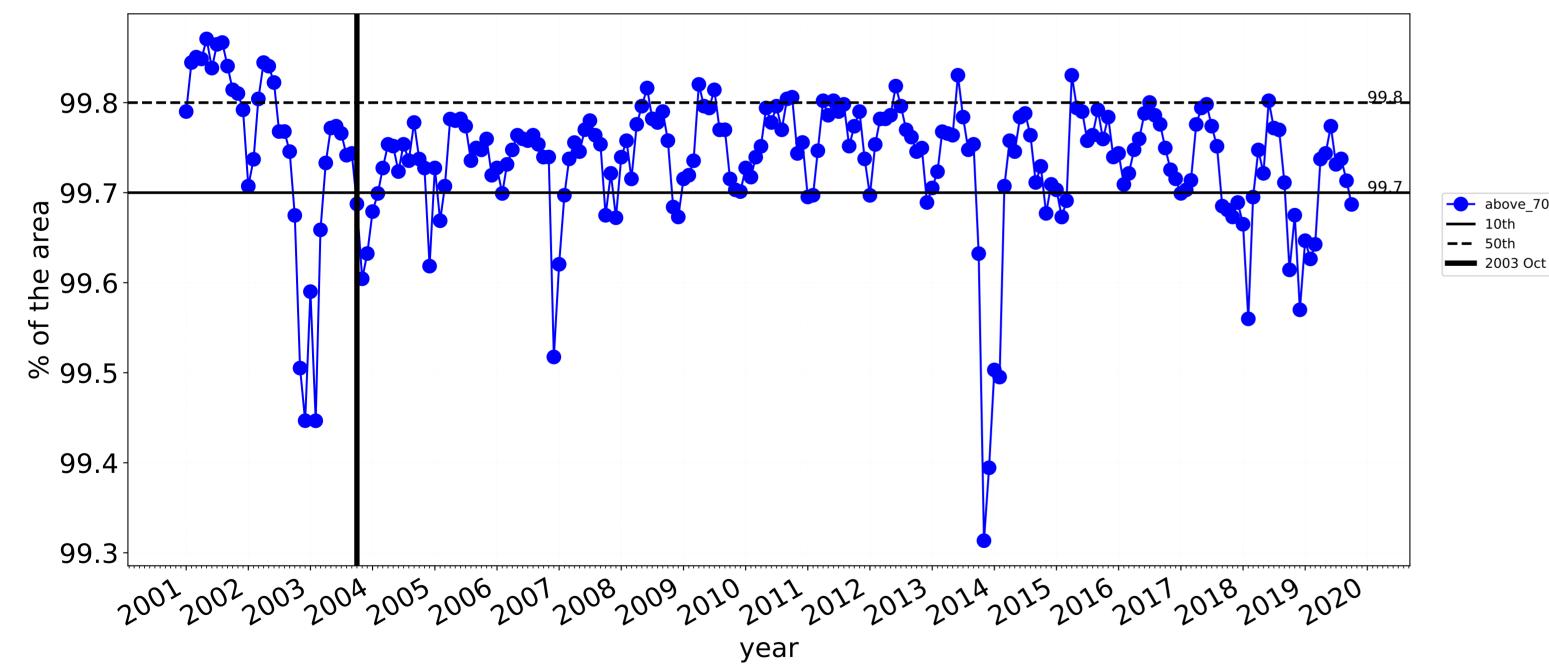
Conservation and natural environments timeseries



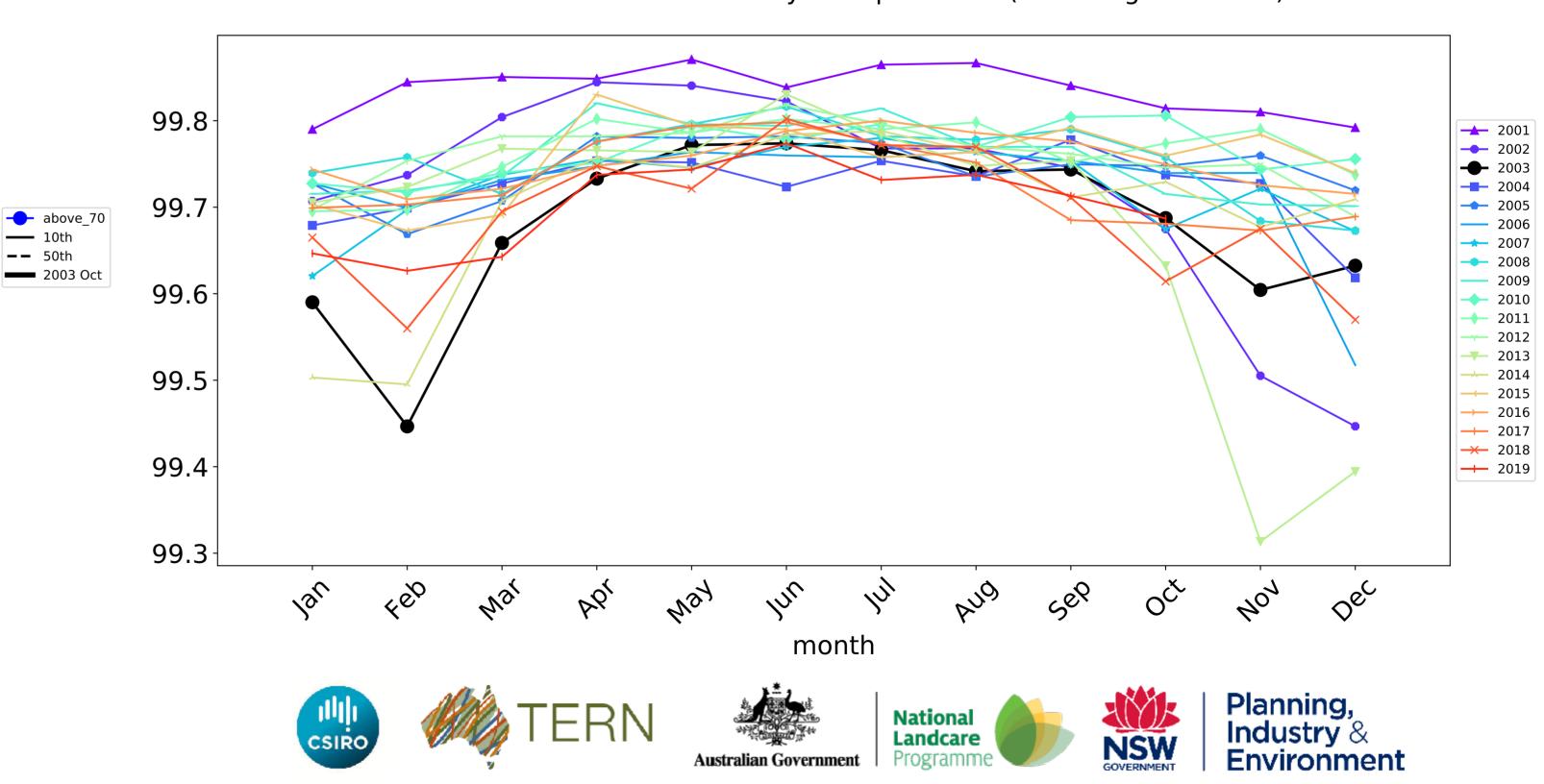
Wind erosion historical monthly area protected (Total Veg Cov >50%)

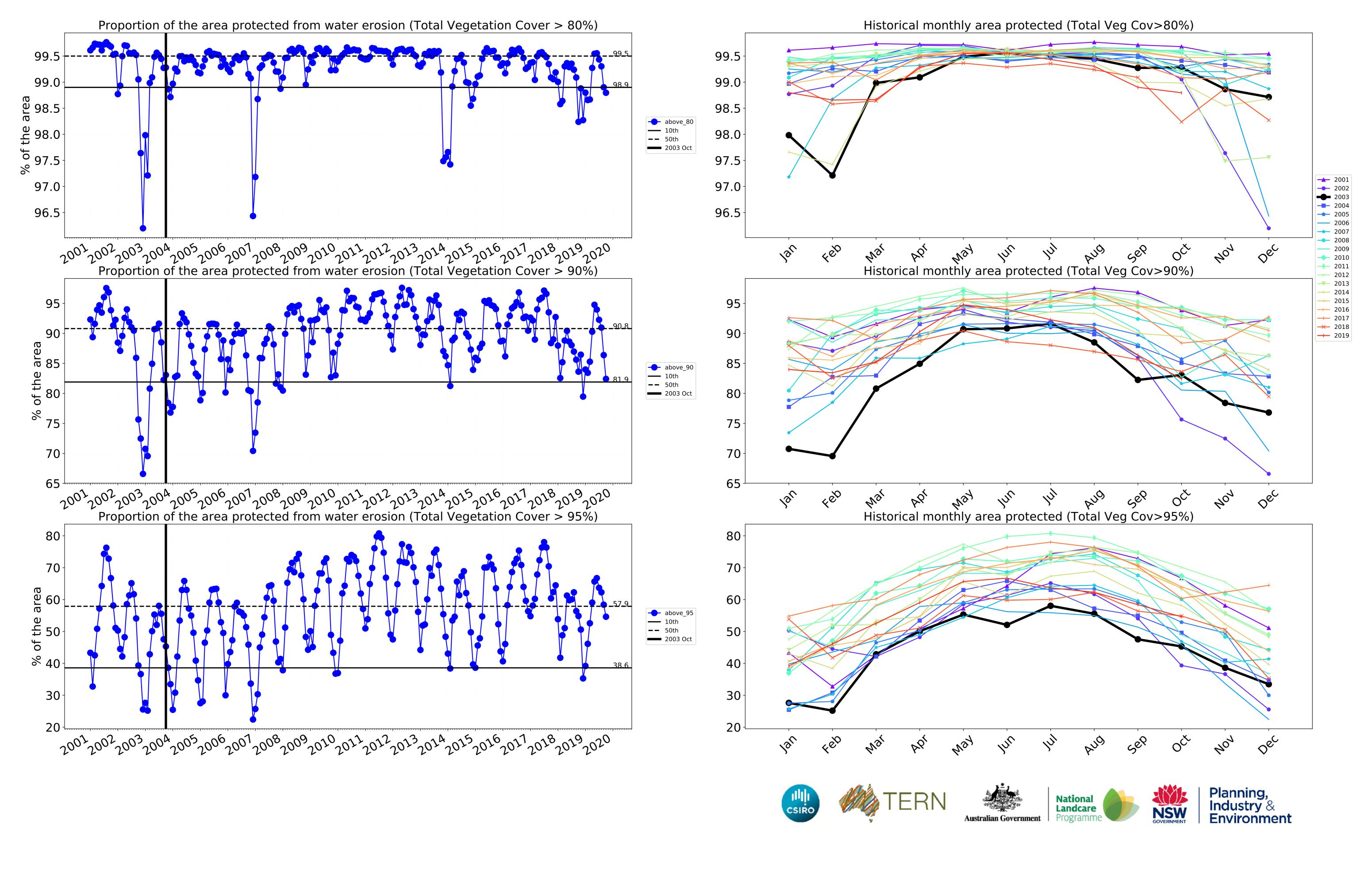




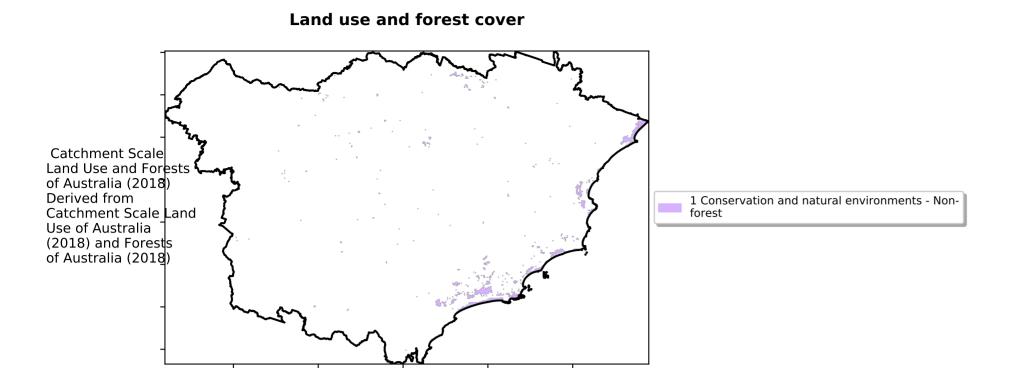


Water erosion historical monthly area protected (Total Veg Cov>70%)

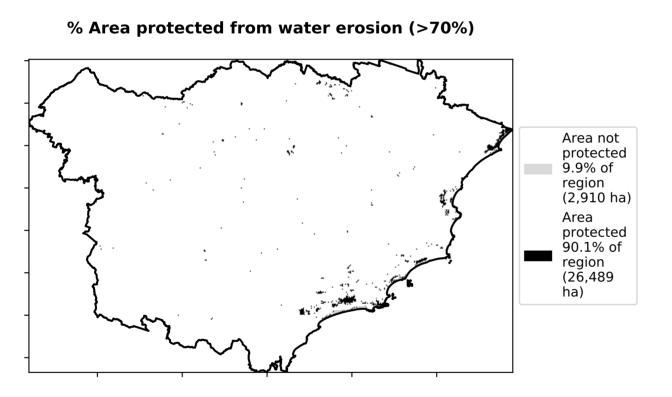


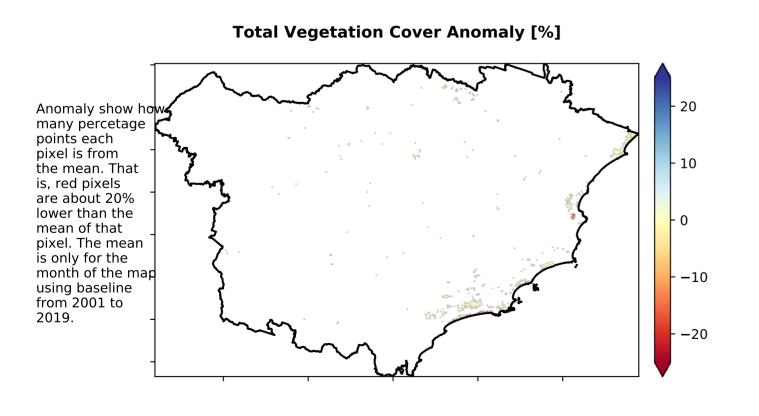


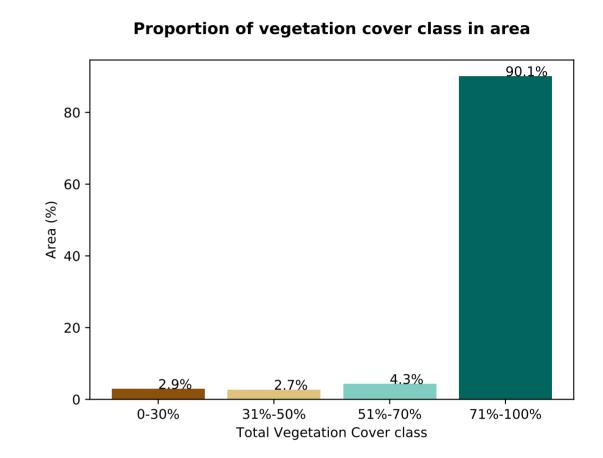
Conservation and natural environments non forest

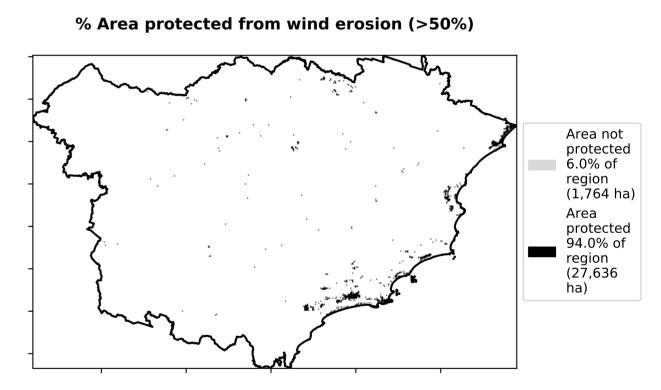


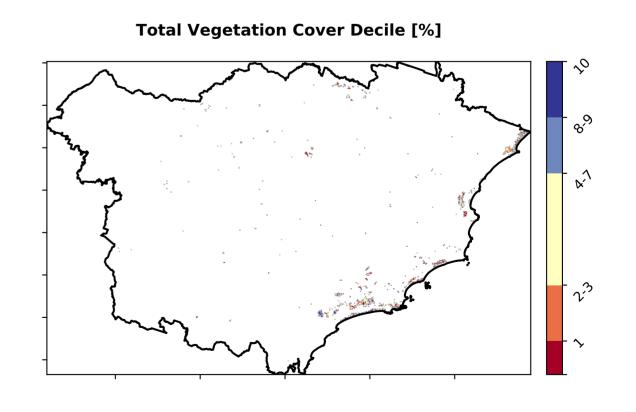
Total Vegetation Cover [%] Talestadolo Tal















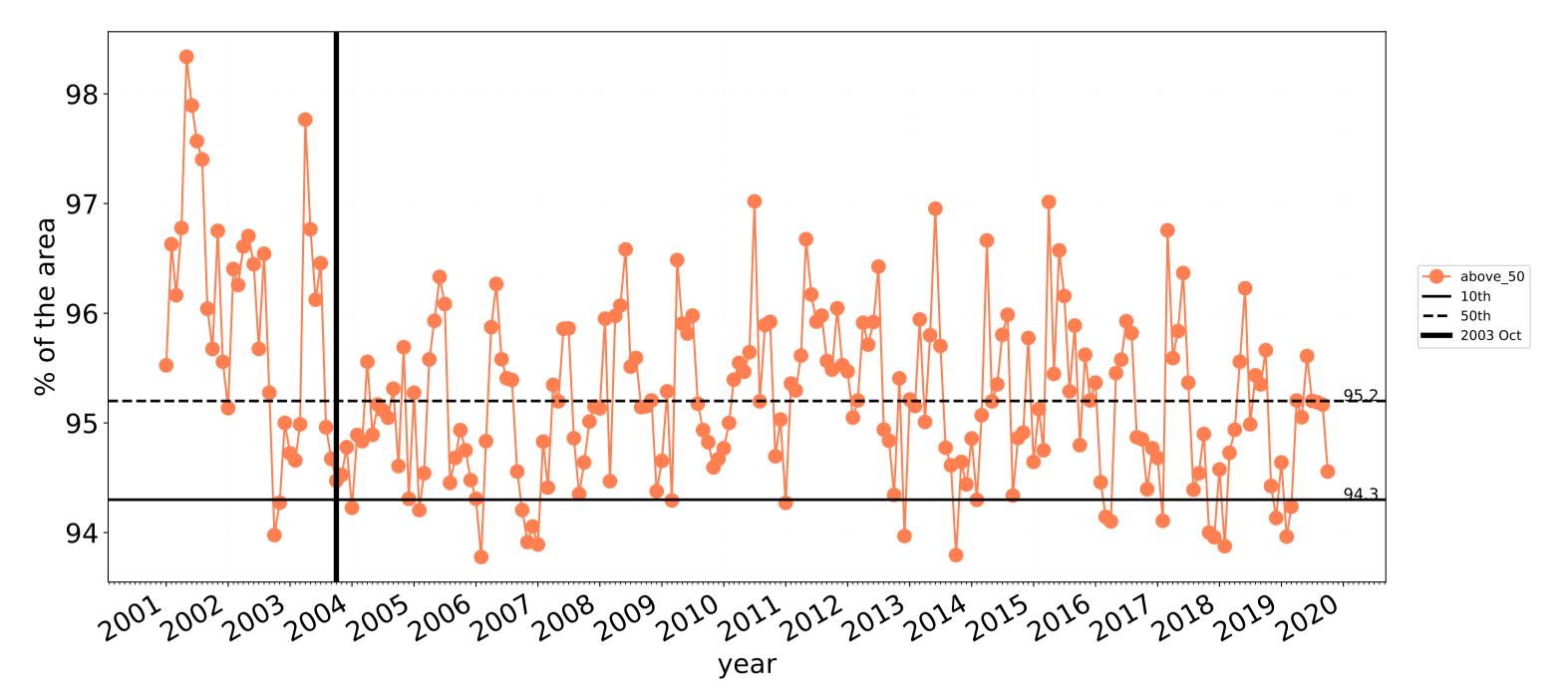




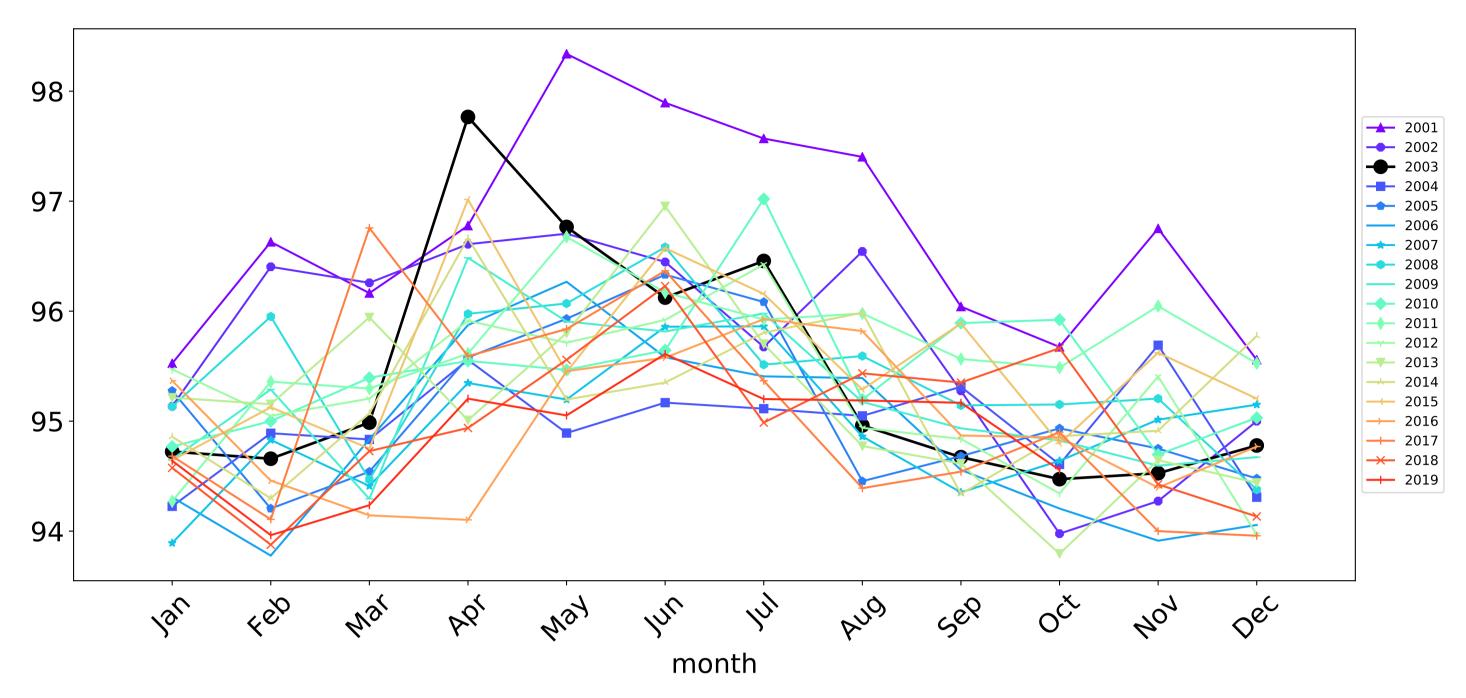




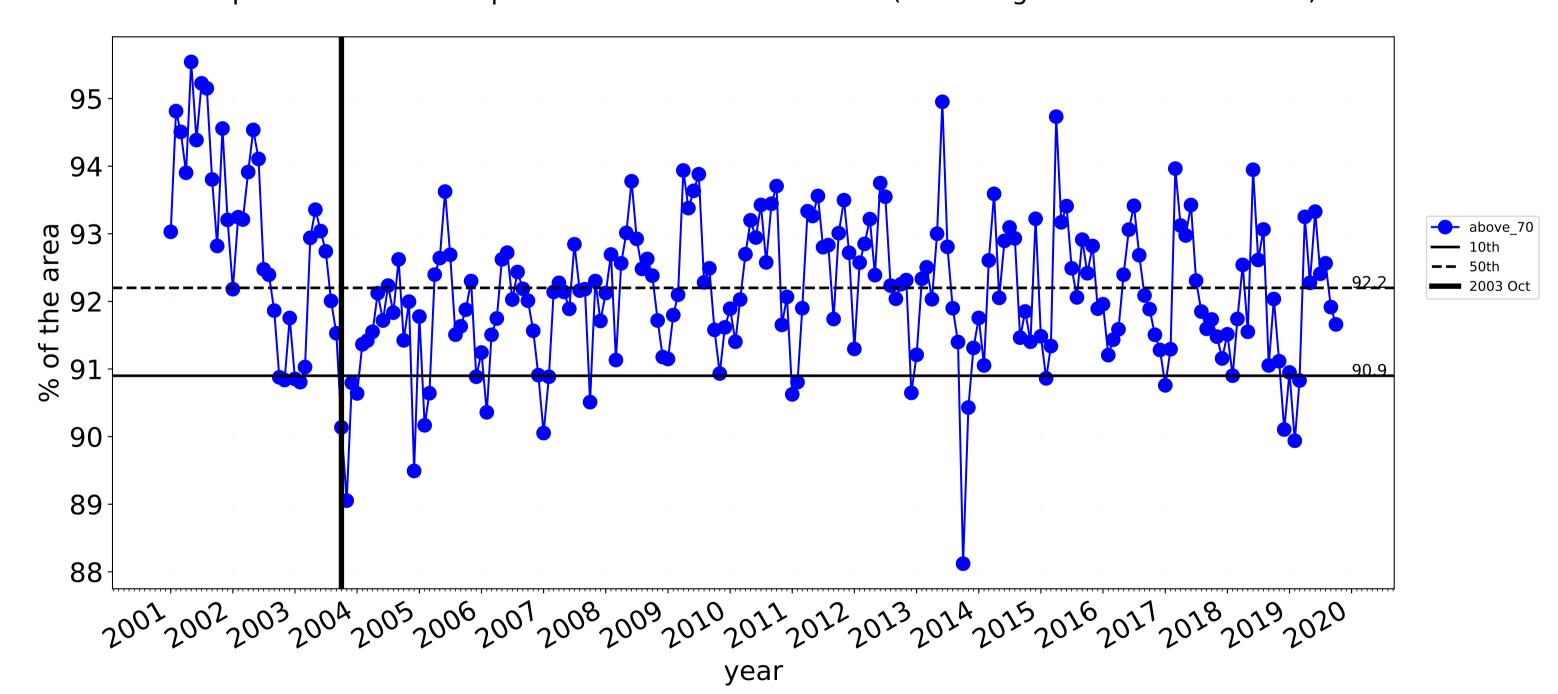




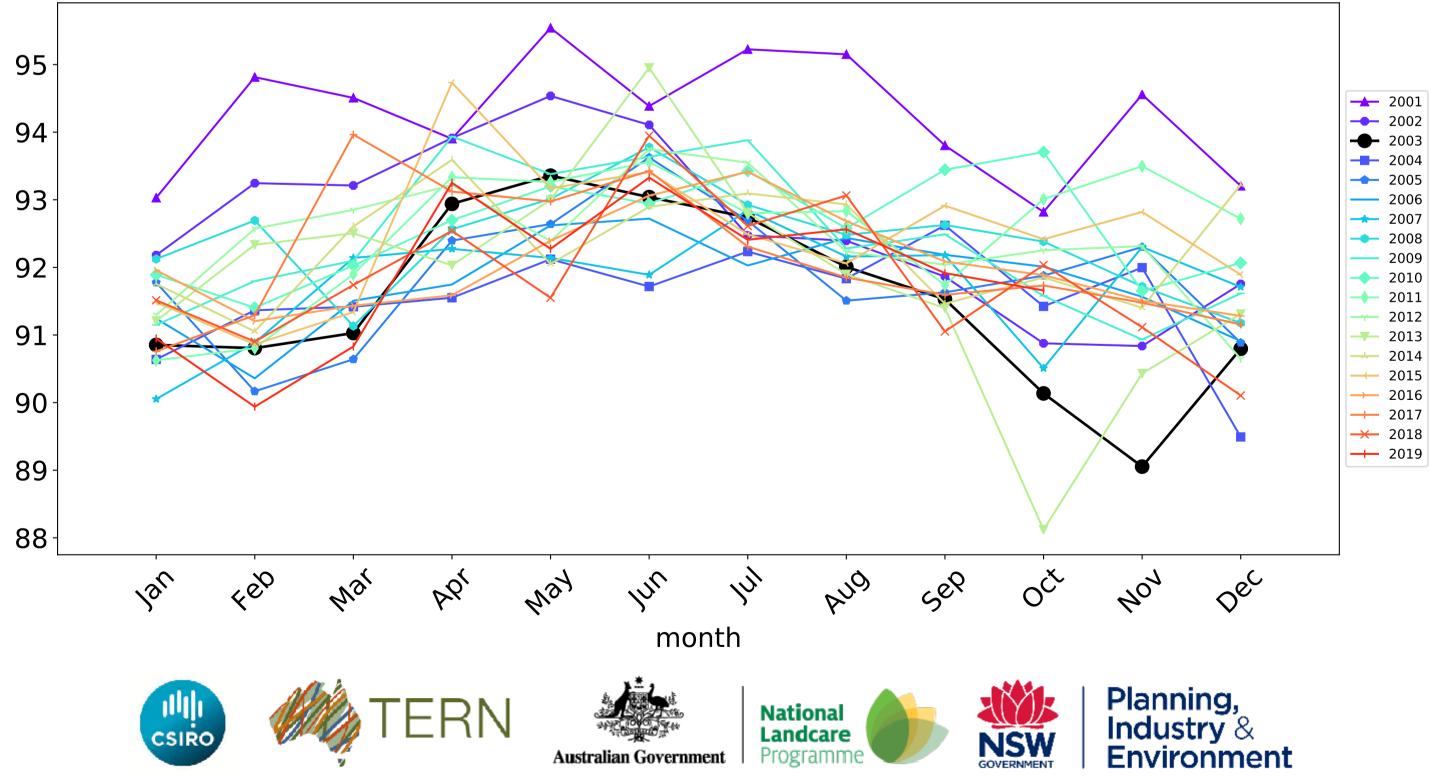
Wind erosion historical monthly area protected (Total Veg Cov >50%)



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

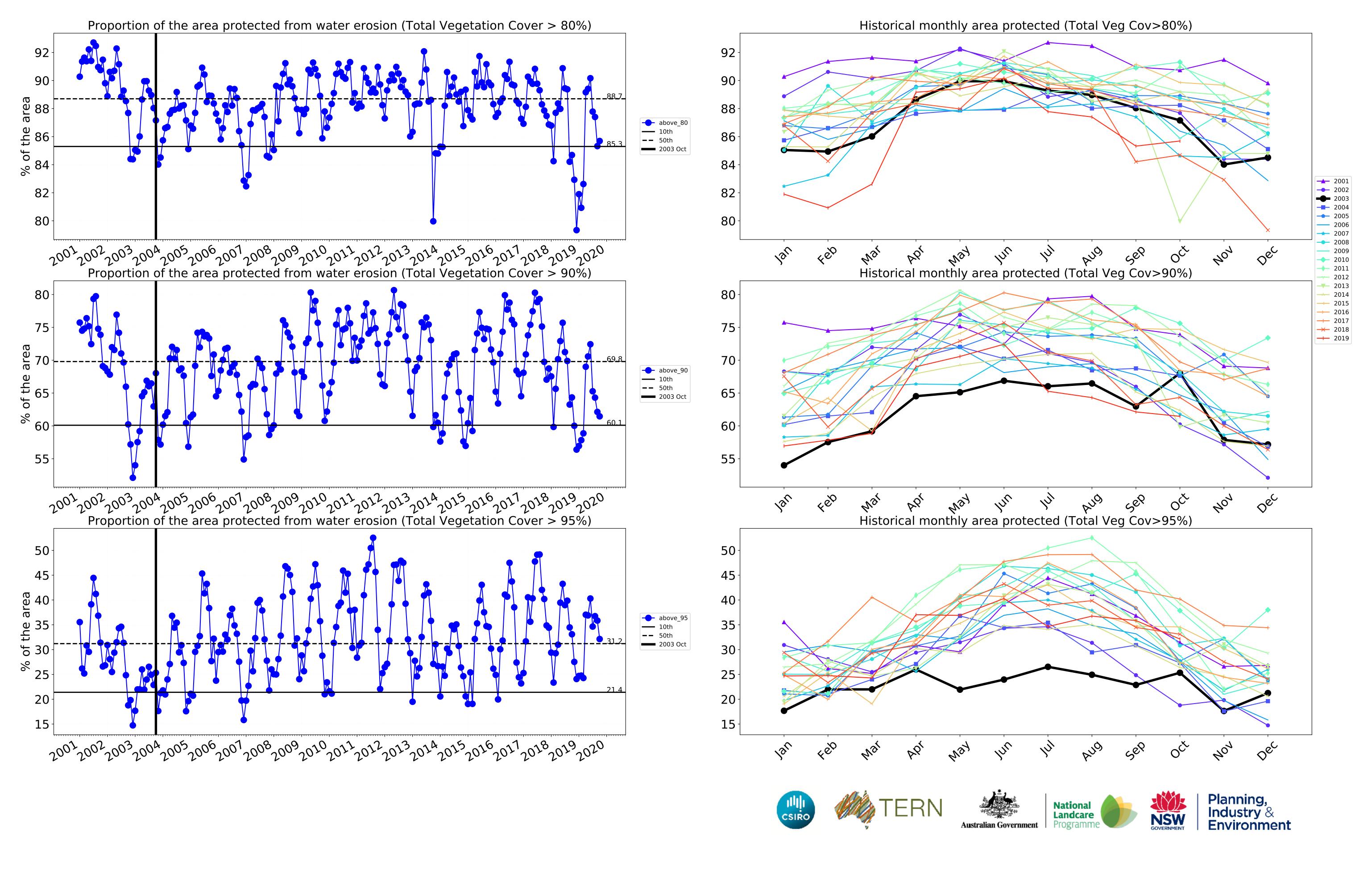


Water erosion historical monthly area protected (Total Veg Cov>70%)

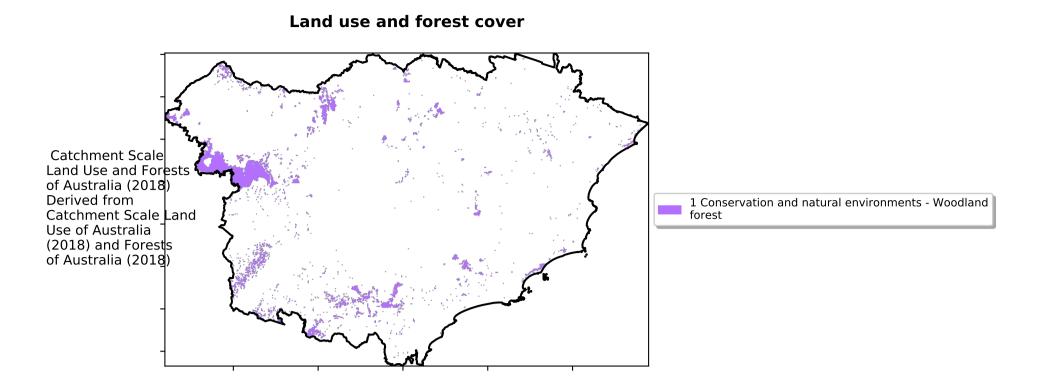


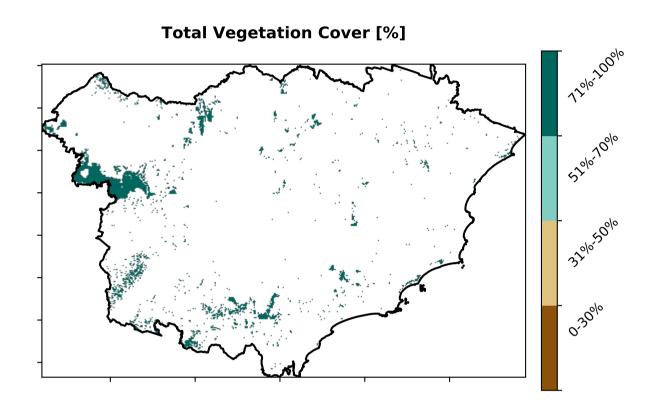


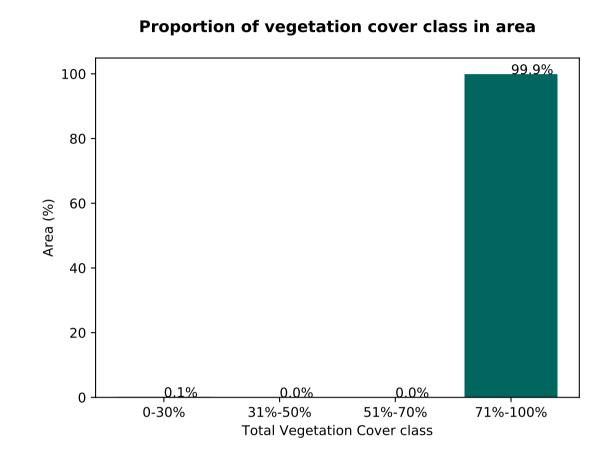


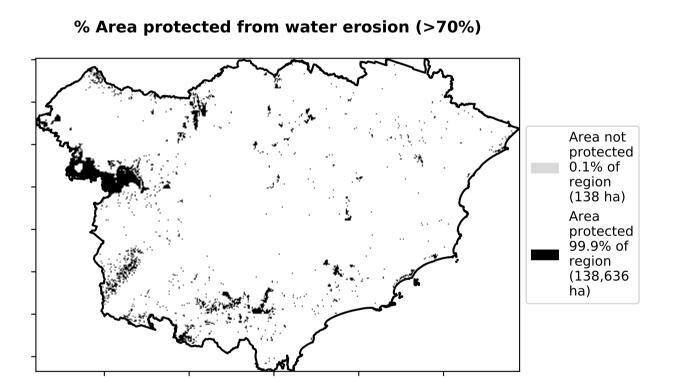


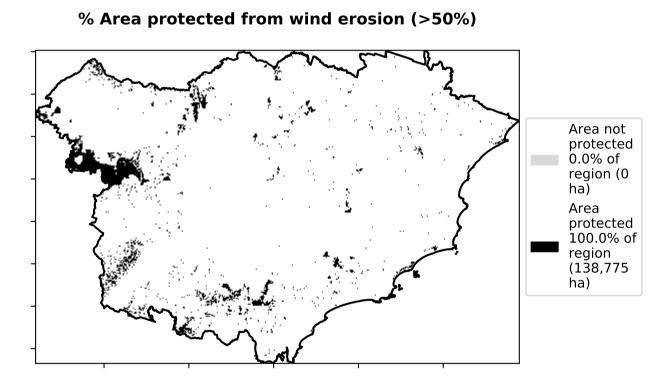
Conservation and natural environments Woodland forest

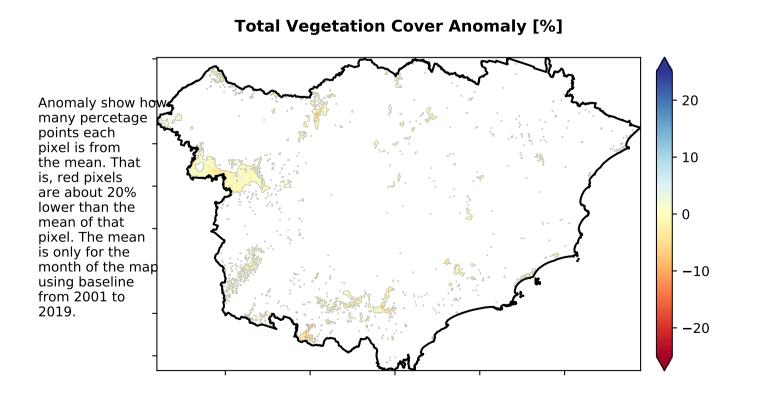


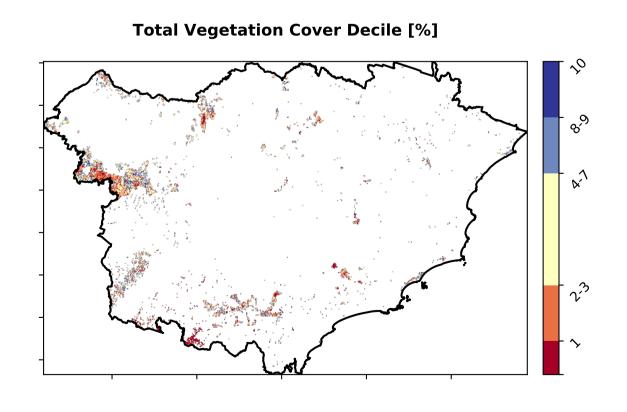
















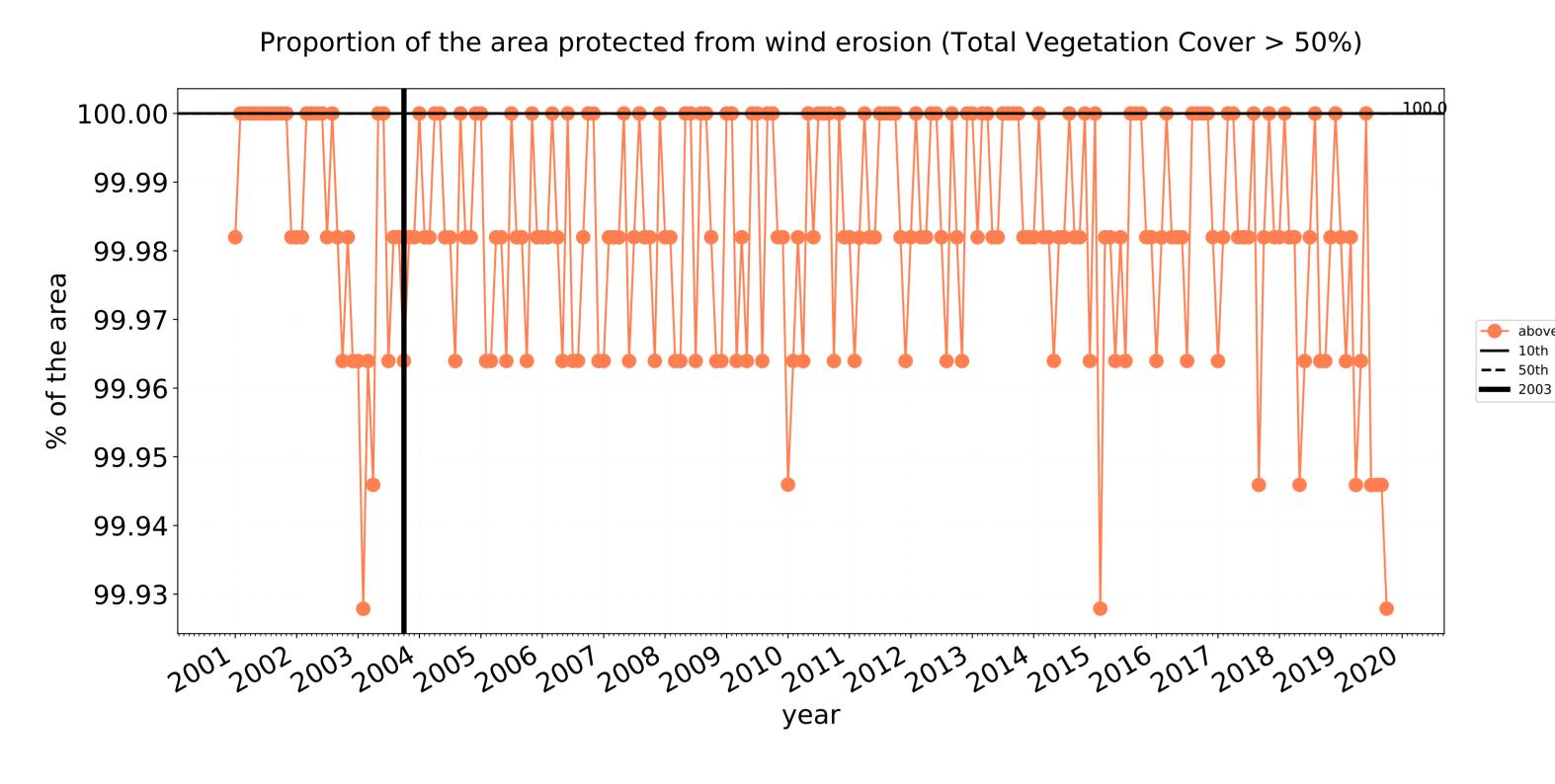


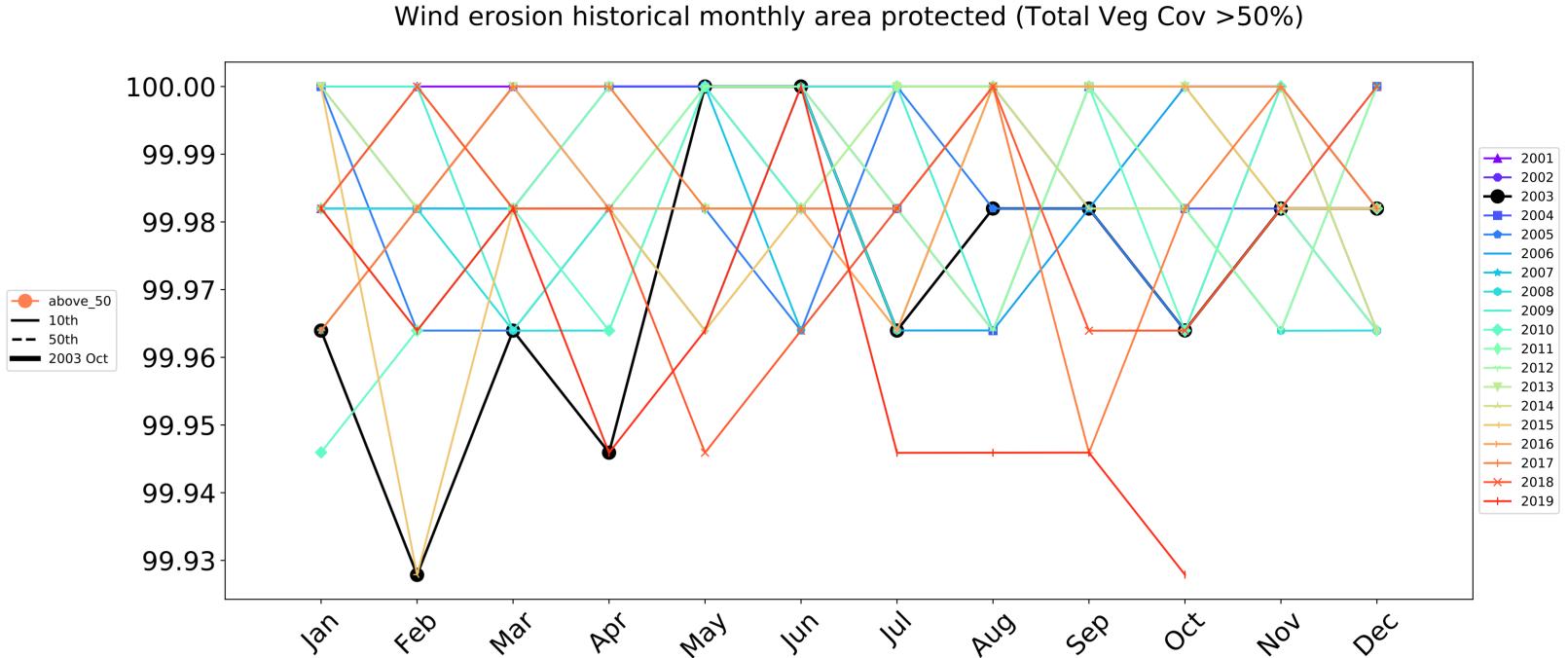




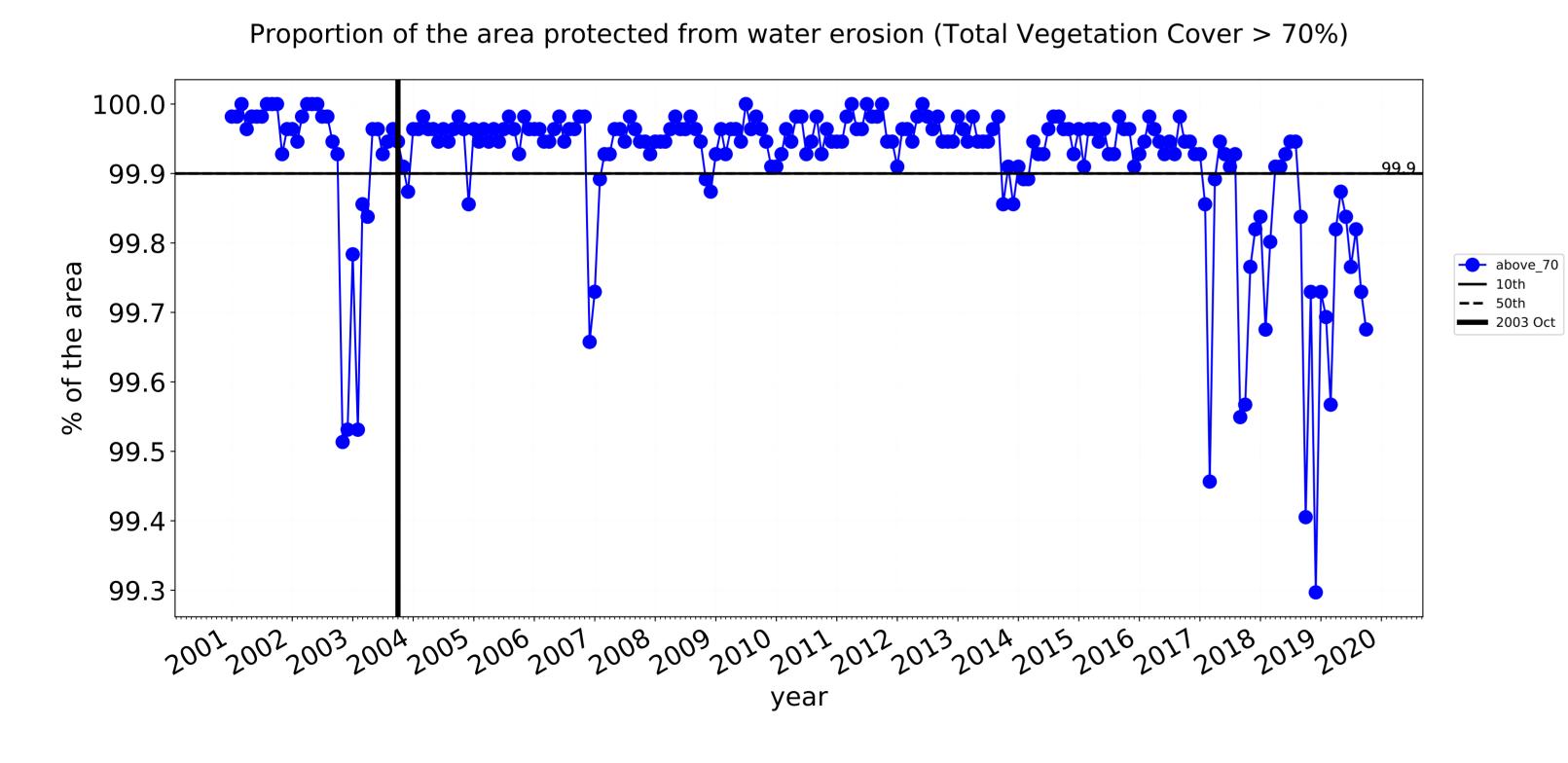


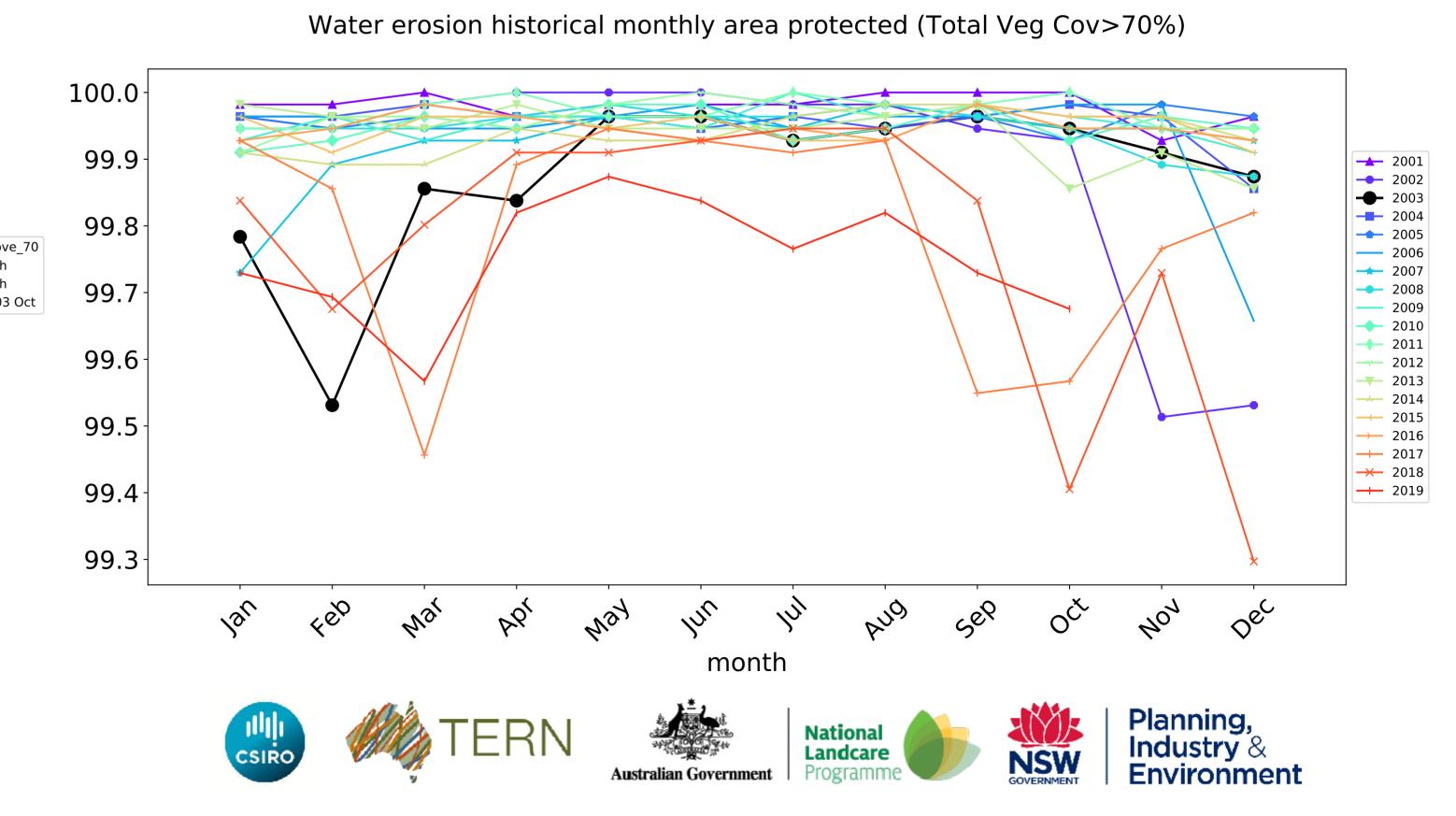
Conservation and natural environments Woodland forest timeseries

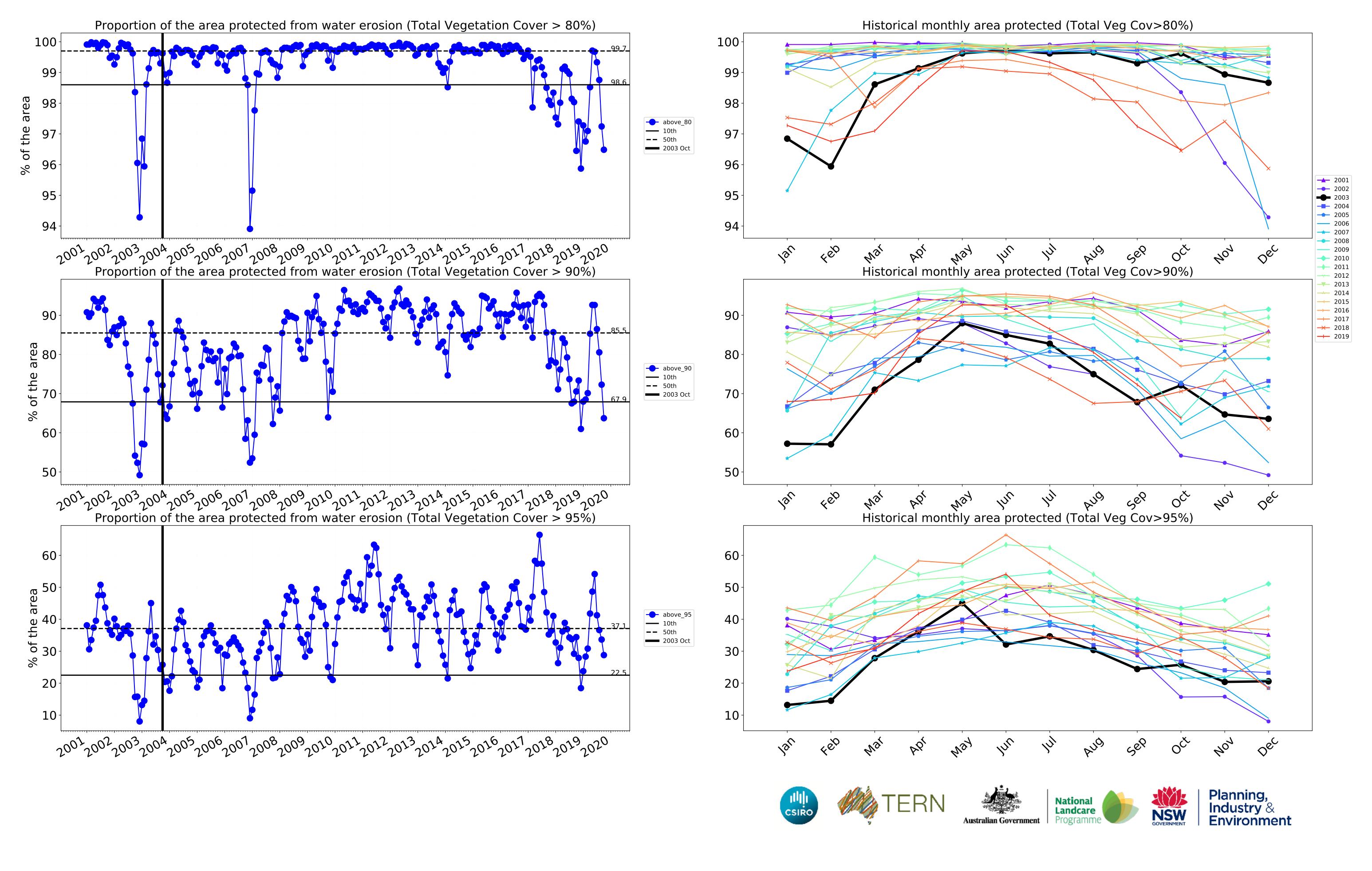




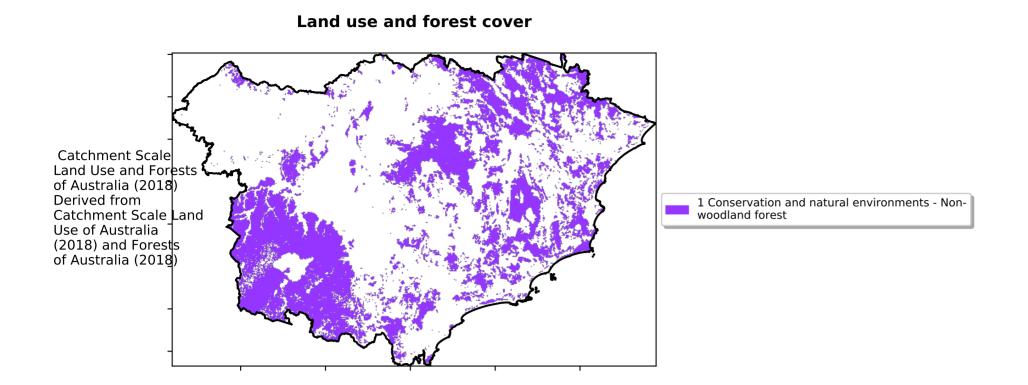
month



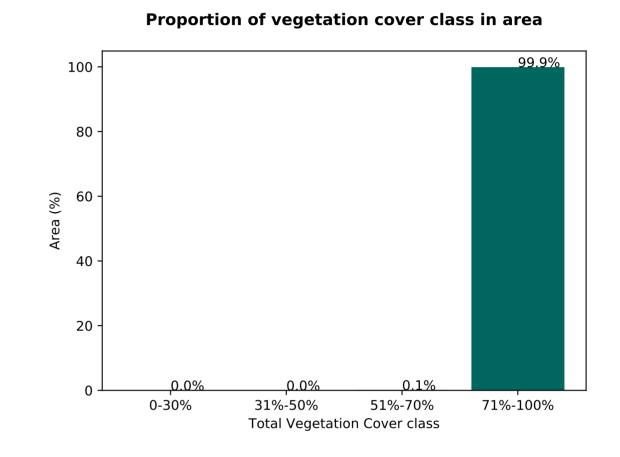


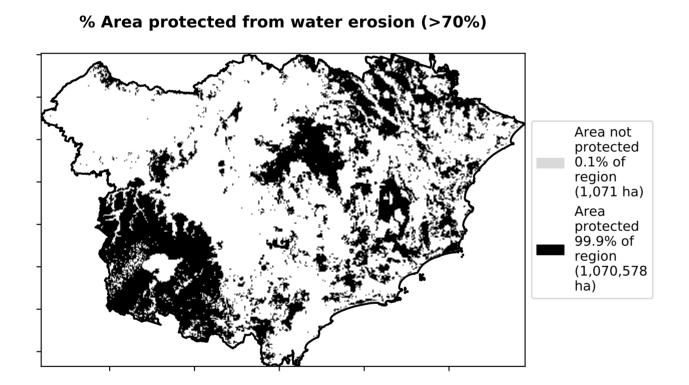


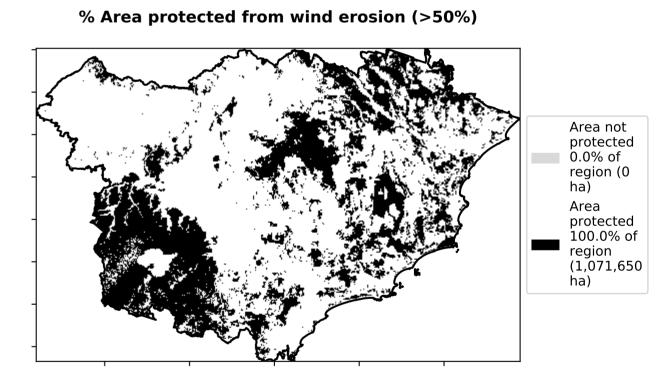
Conservation and natural environments Forest (non woodland)

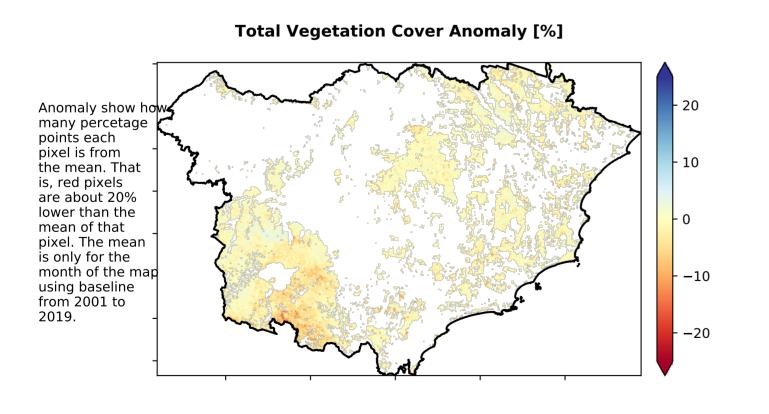


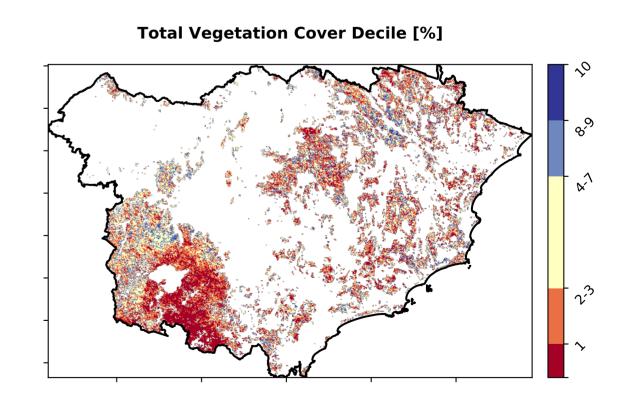
Total Vegetation Cover [%] Total Vegetation Cover [%] Total Vegetation Cover [%]













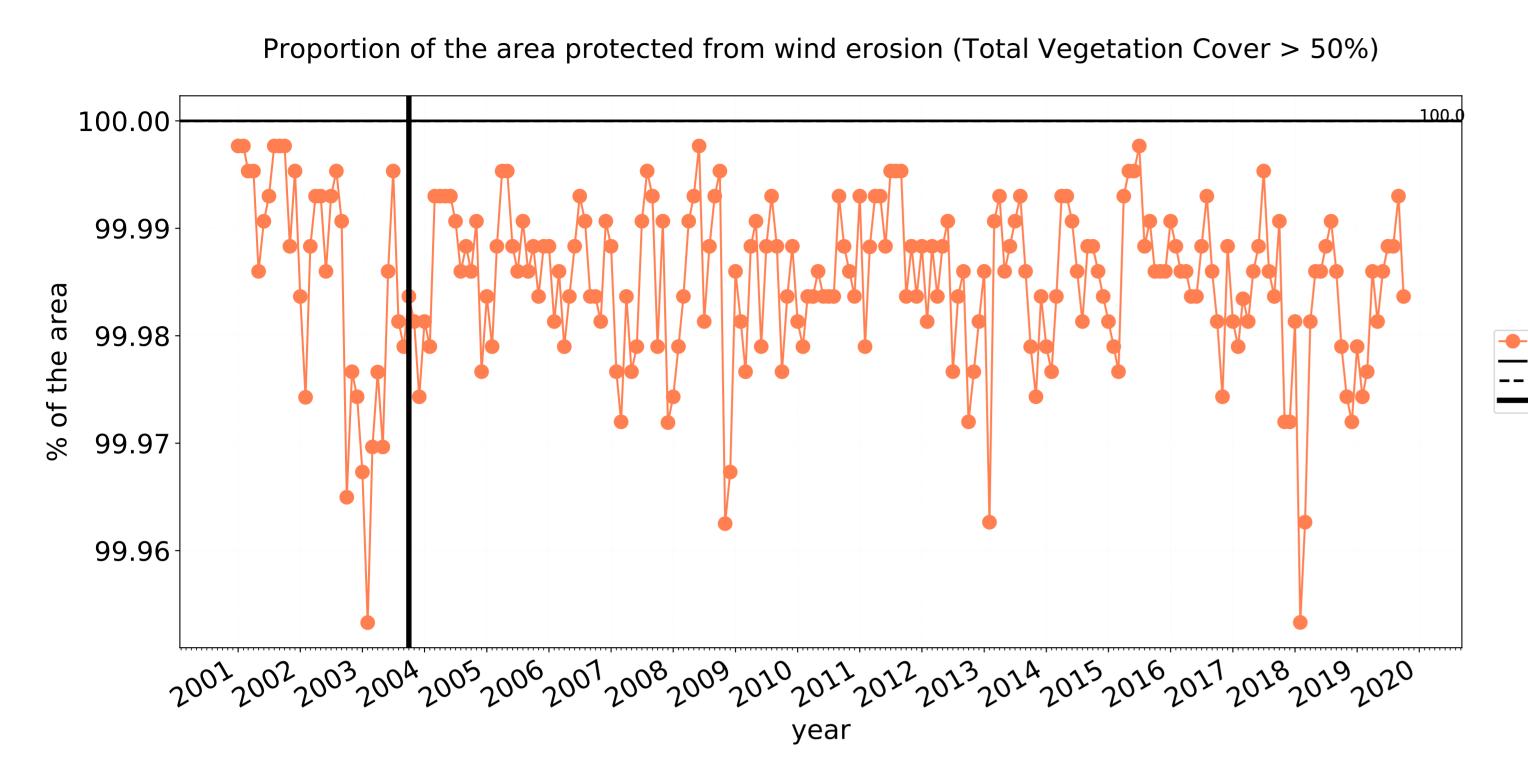




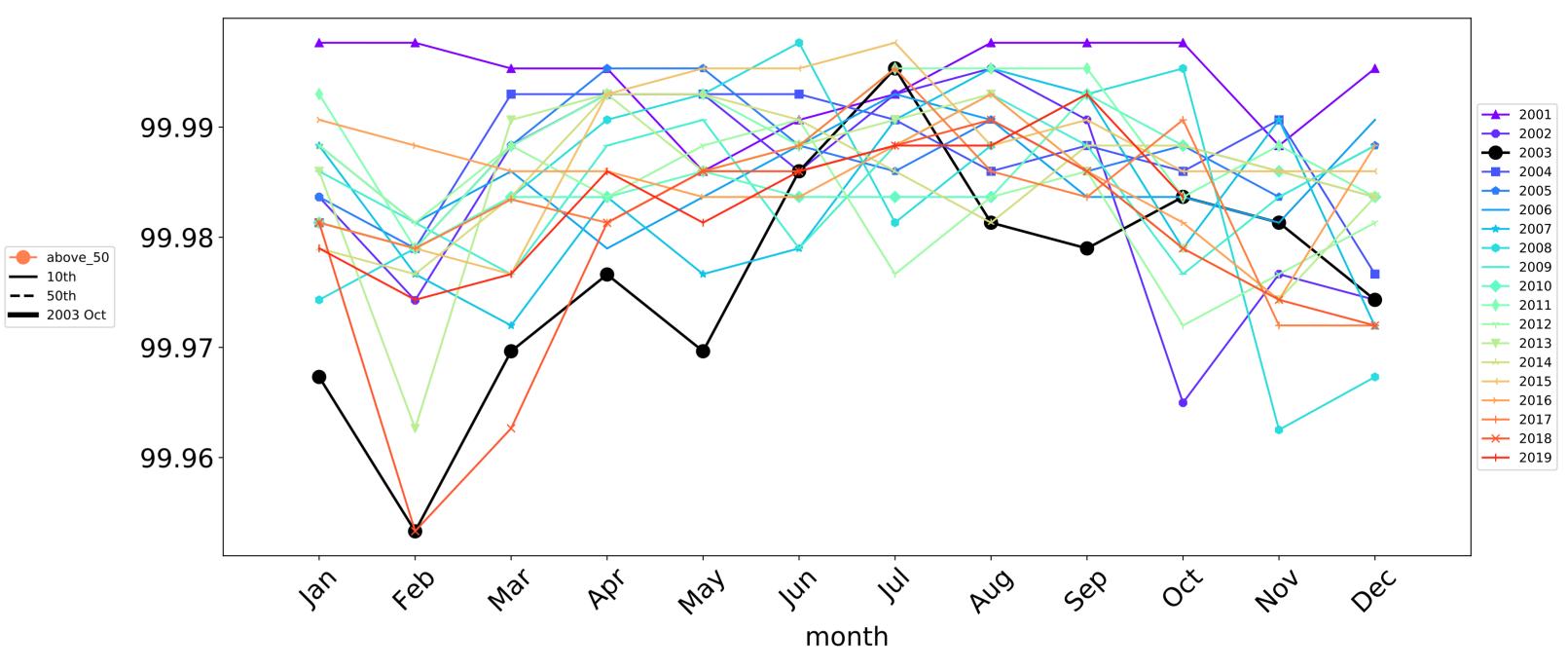


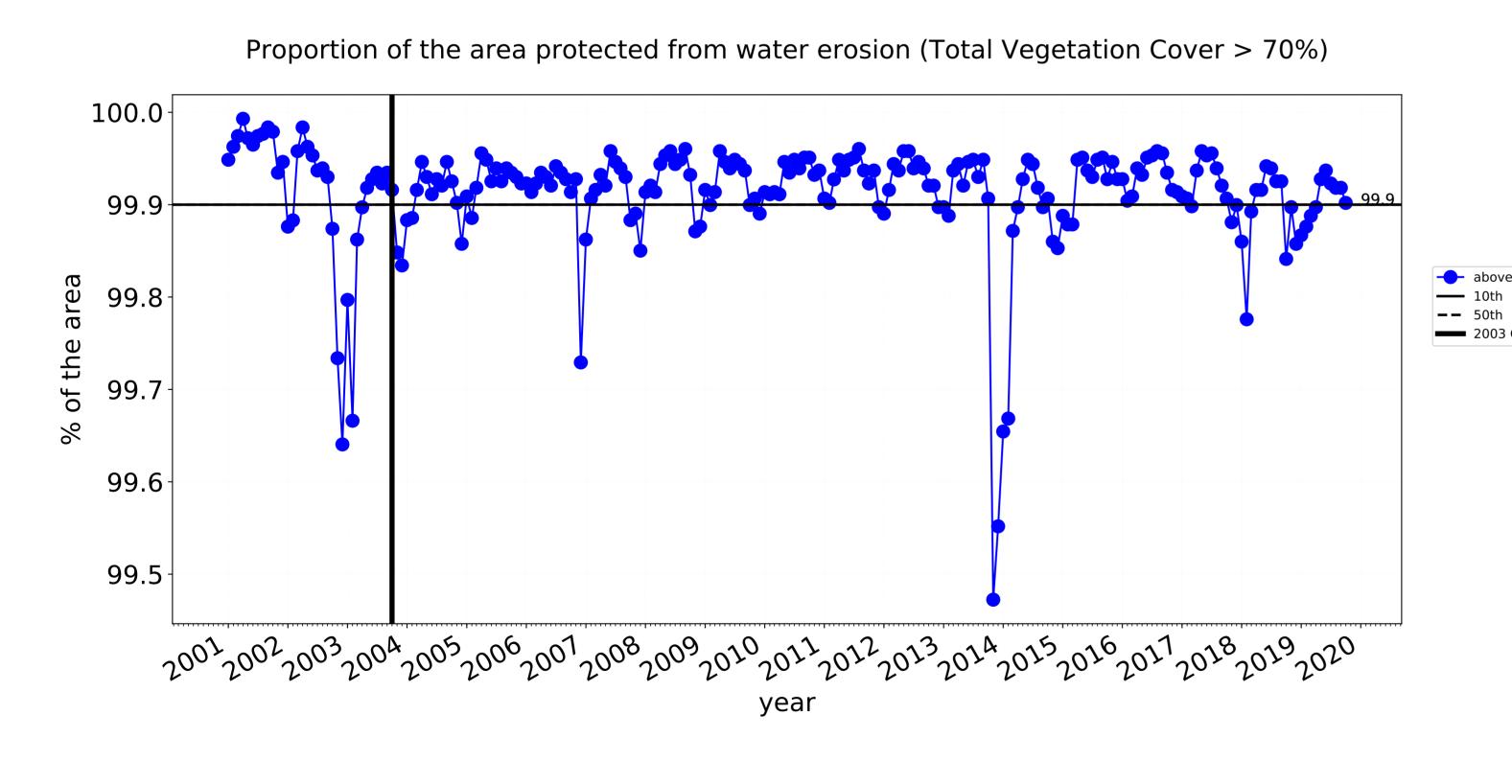


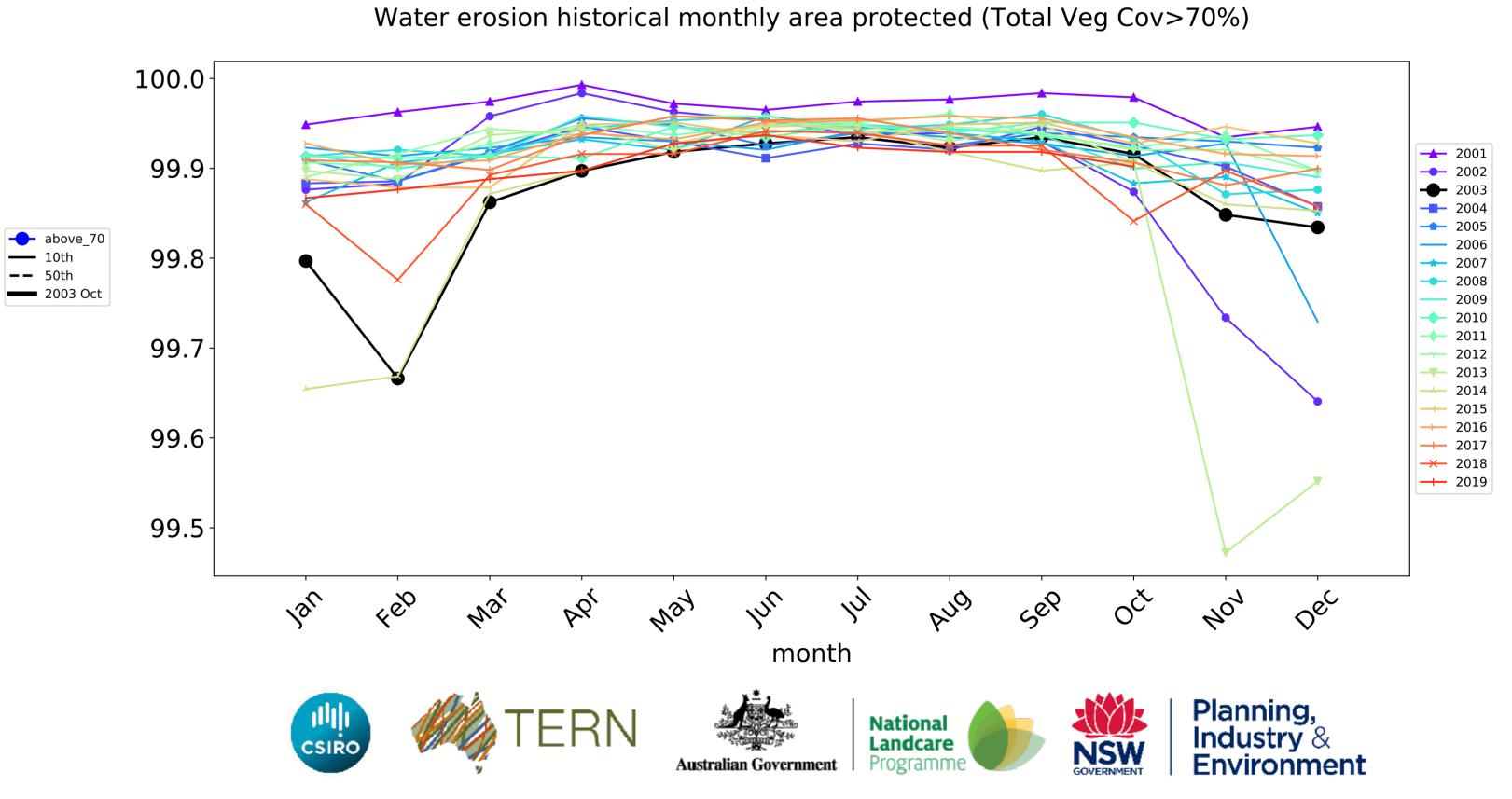


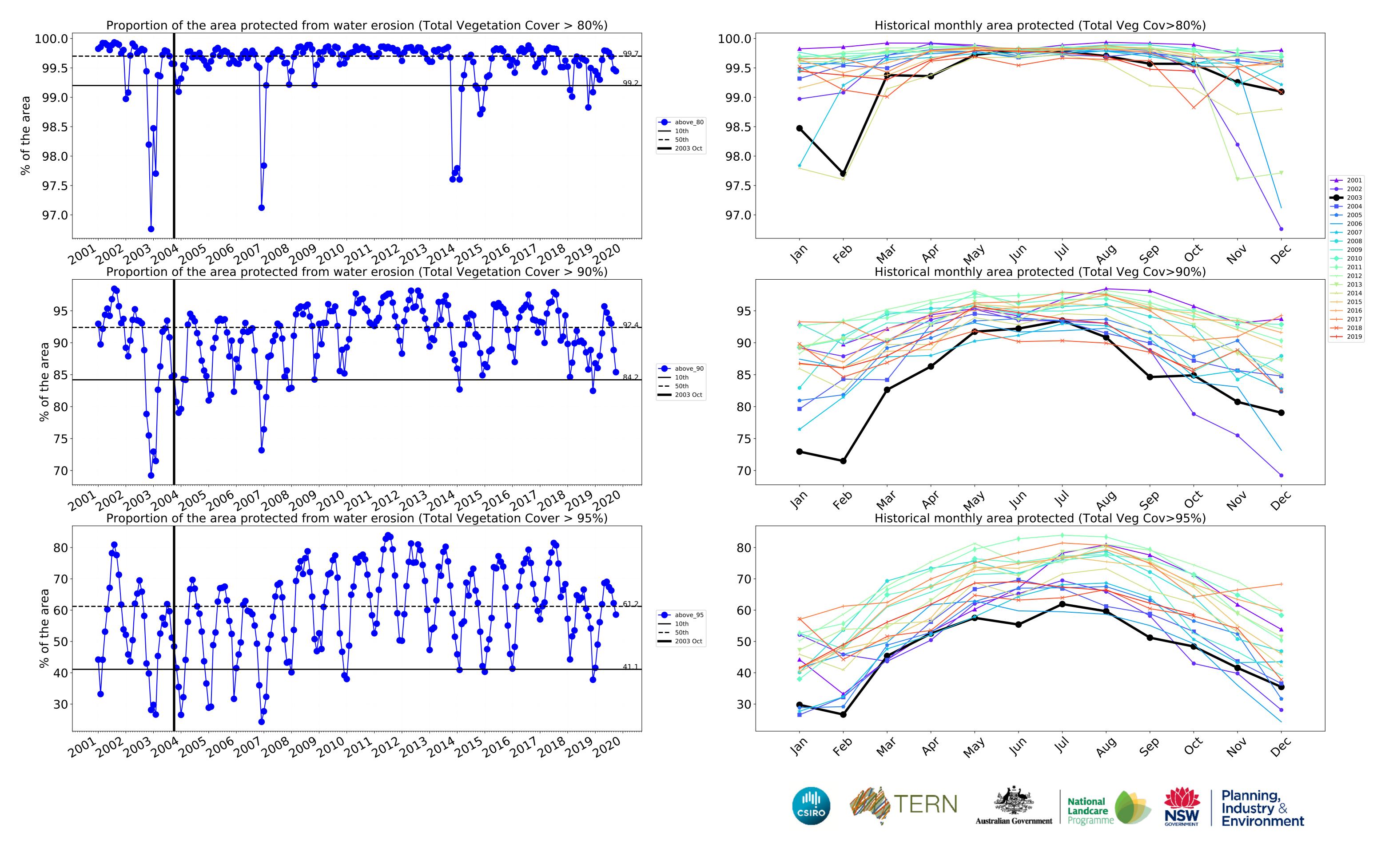


Wind erosion historical monthly area protected (Total Veg Cov >50%)

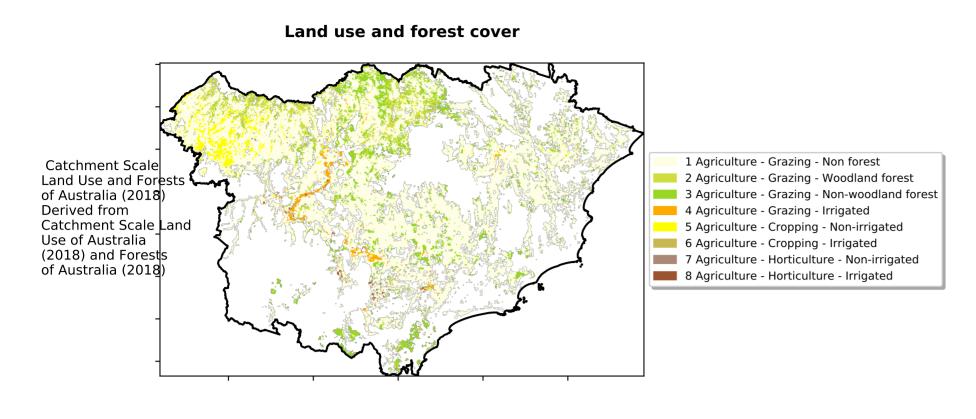


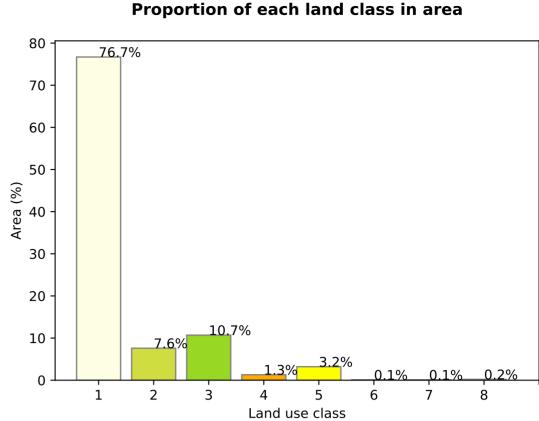




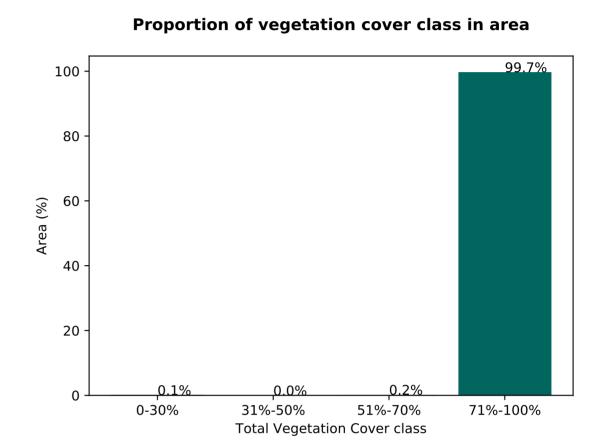


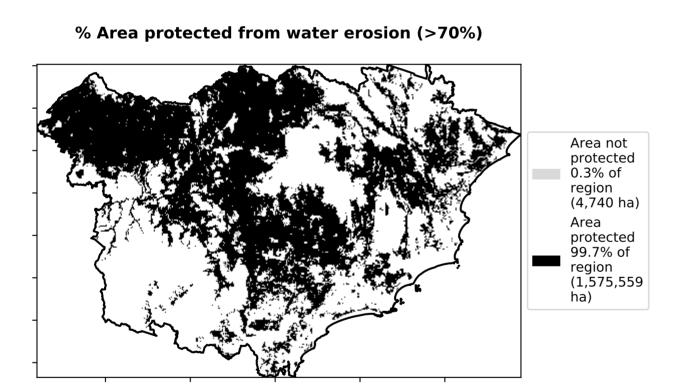
Agriculture

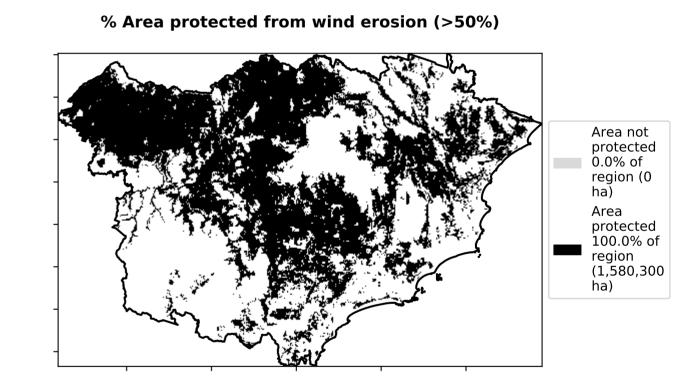


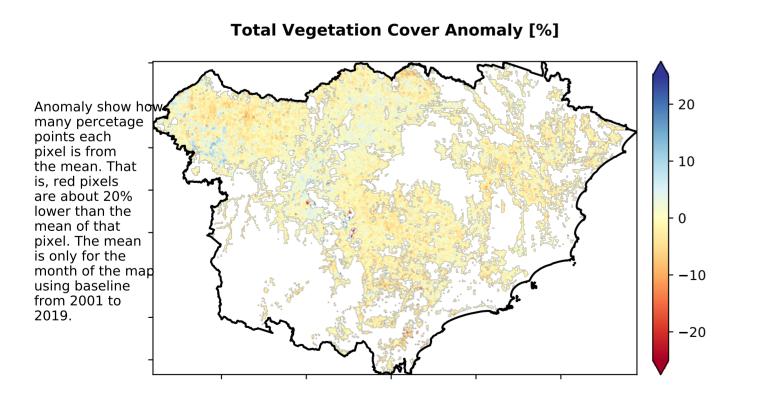


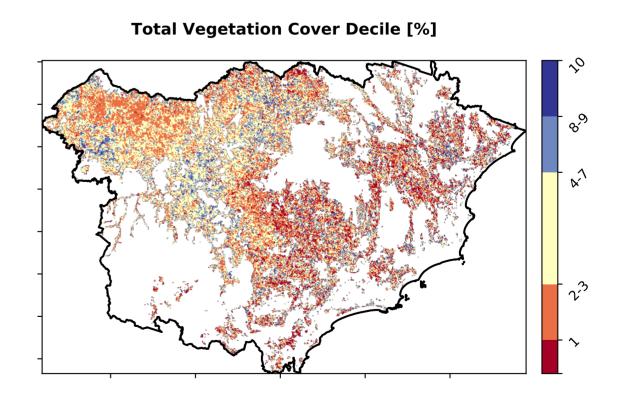
Total Vegetation Cover [%]















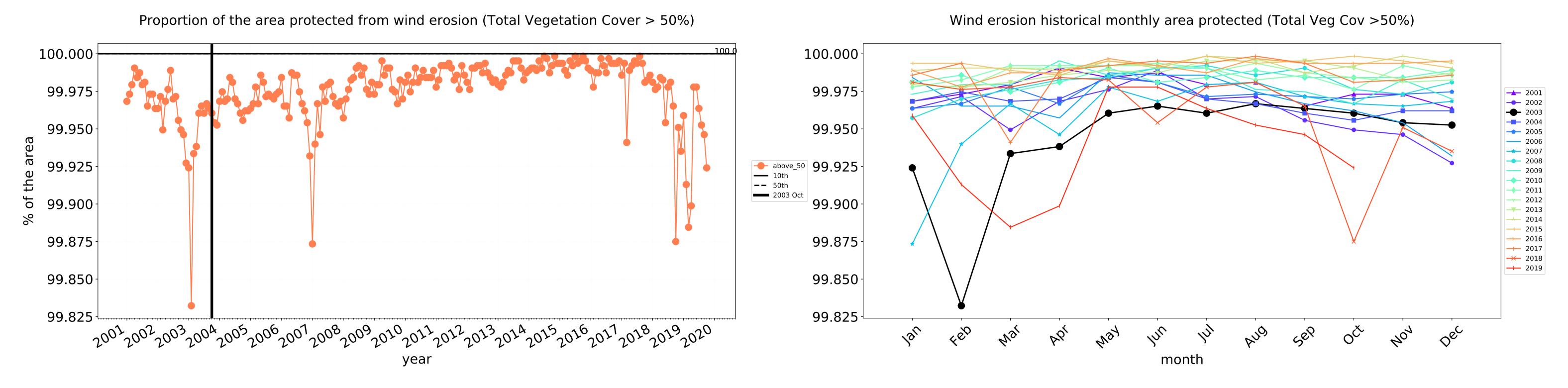


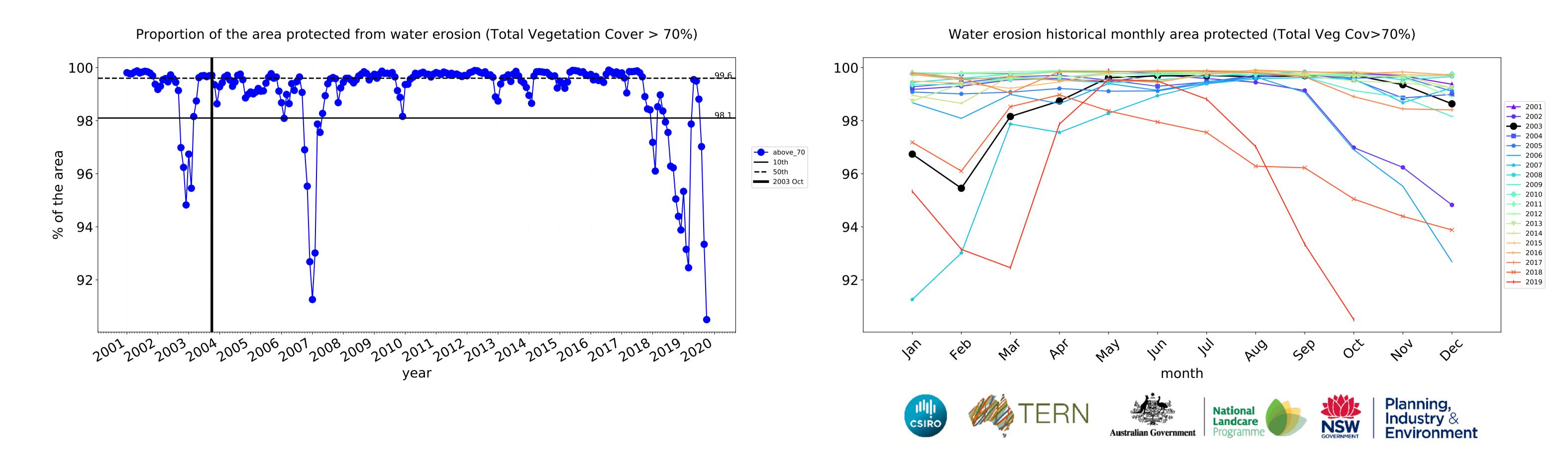


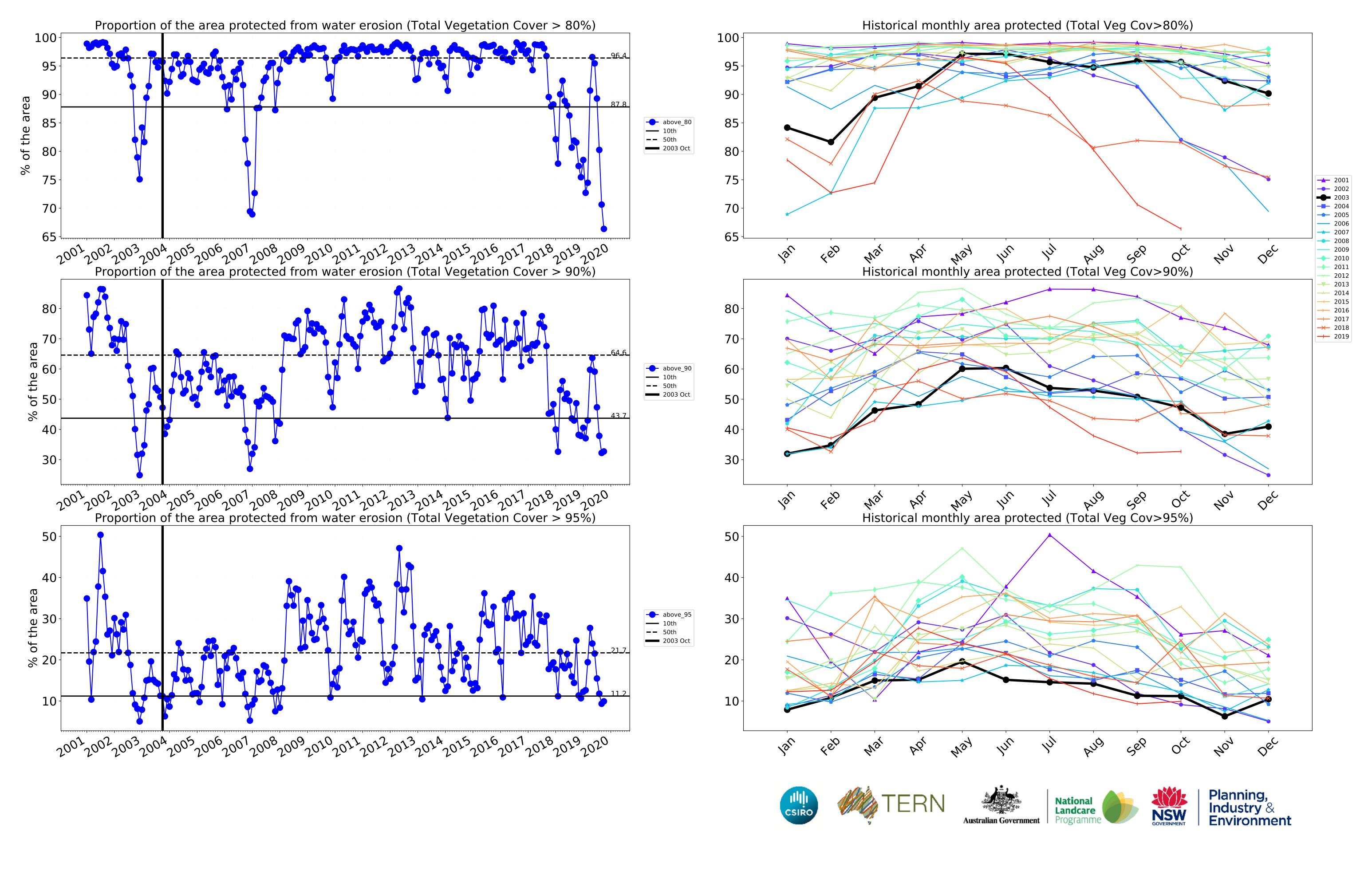




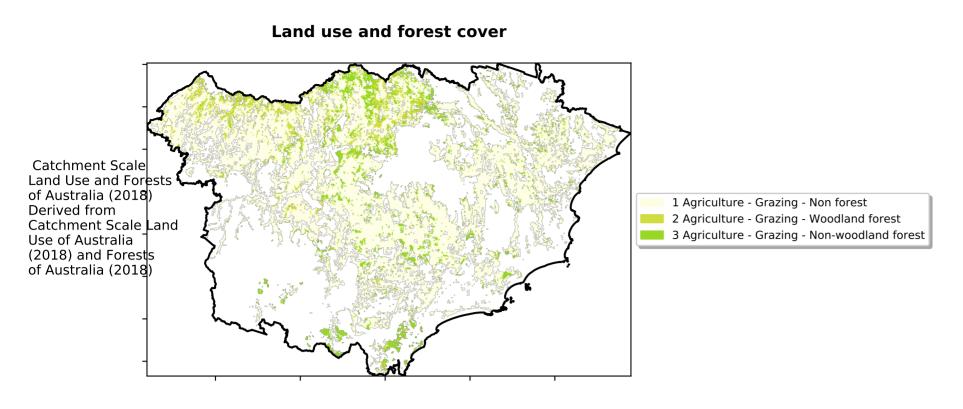
Agriculture timeseries



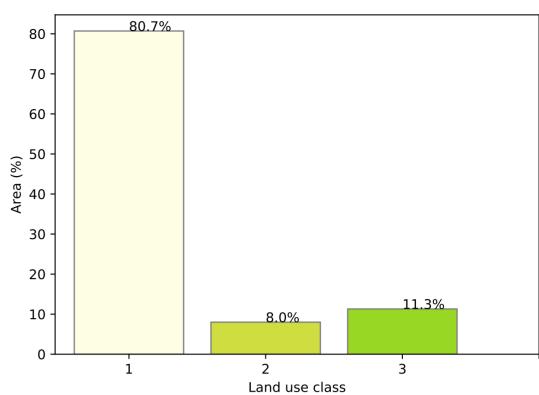




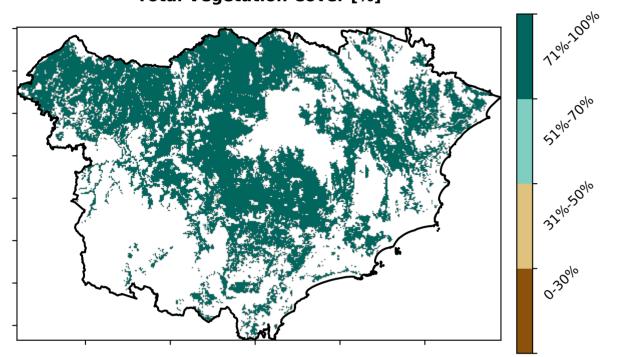
Grazing



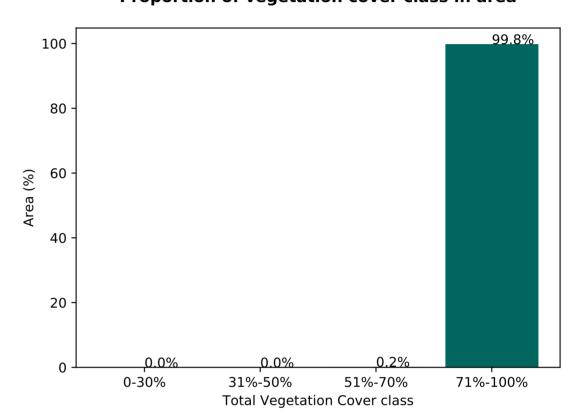
Proportion of each land class in area



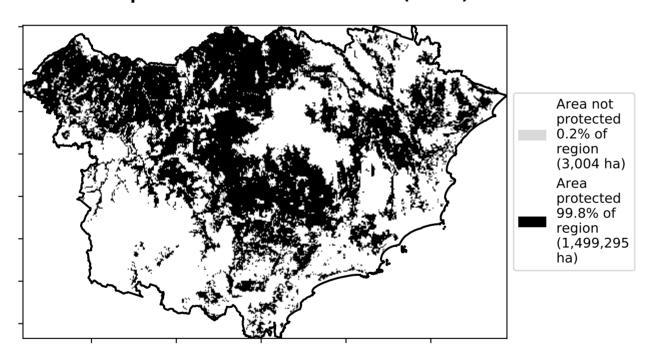
Total Vegetation Cover [%]



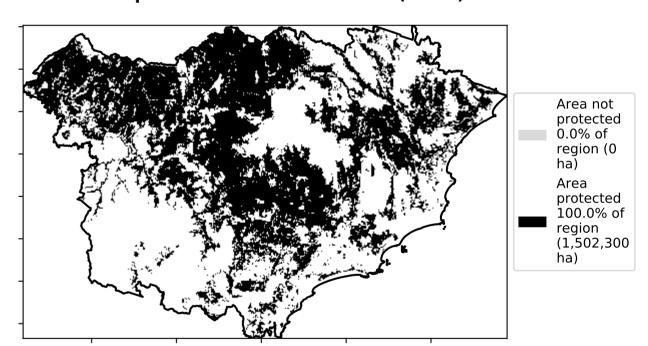
Proportion of vegetation cover class in area



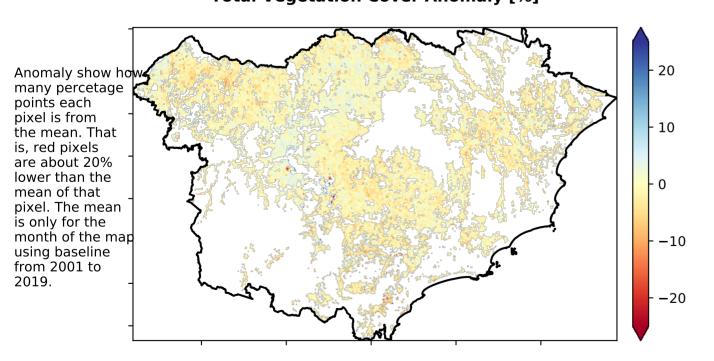
% Area protected from water erosion (>70%)

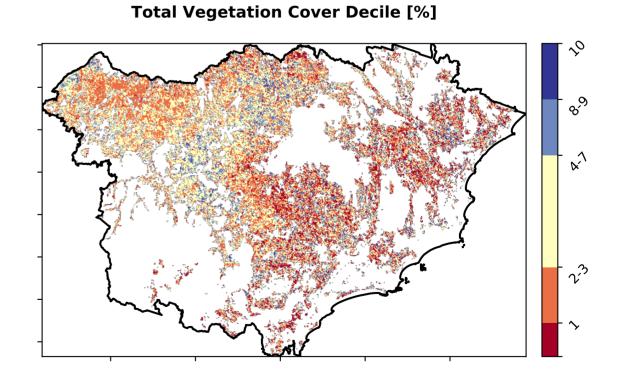


% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]









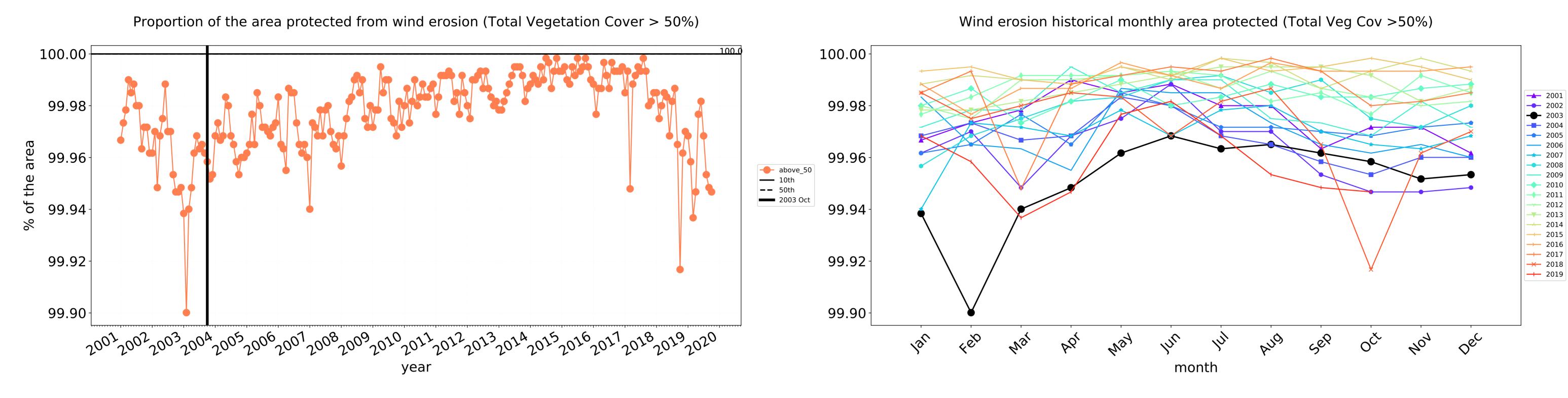


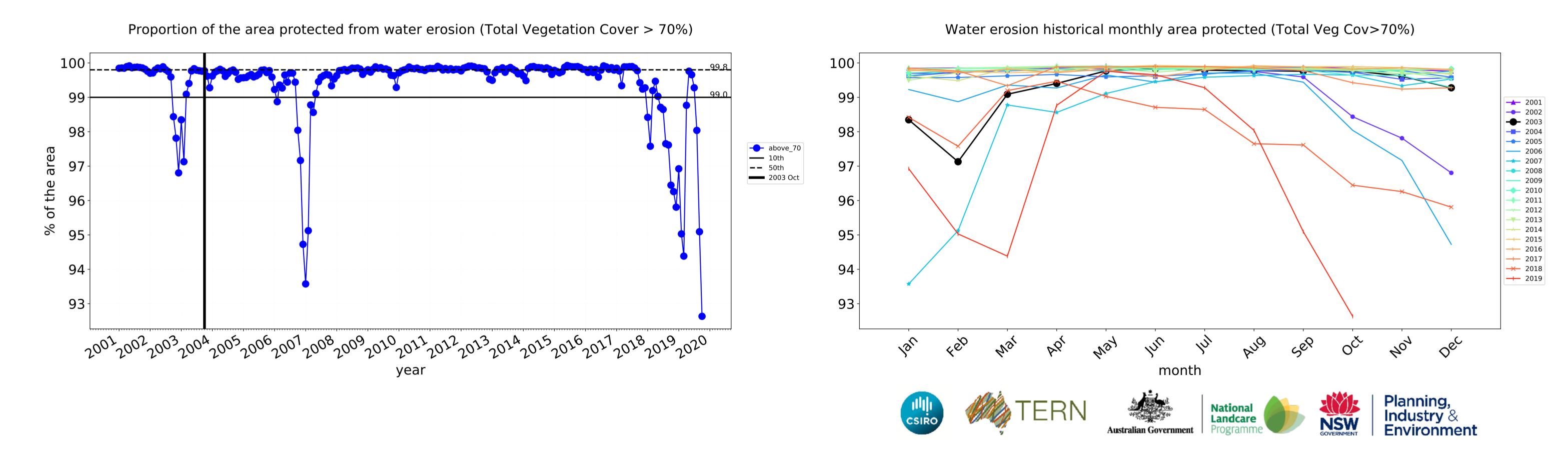


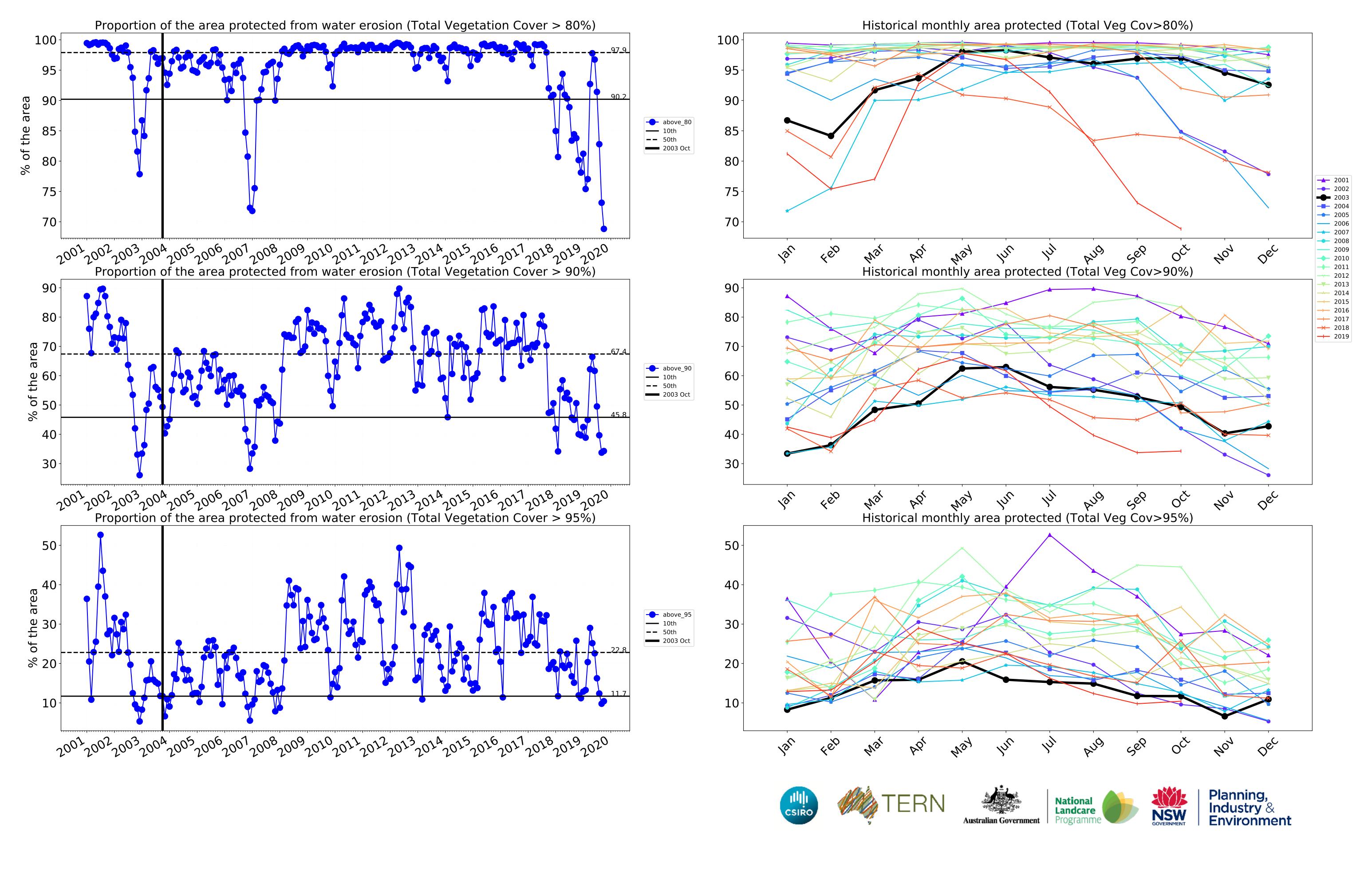




Grazing timeseries

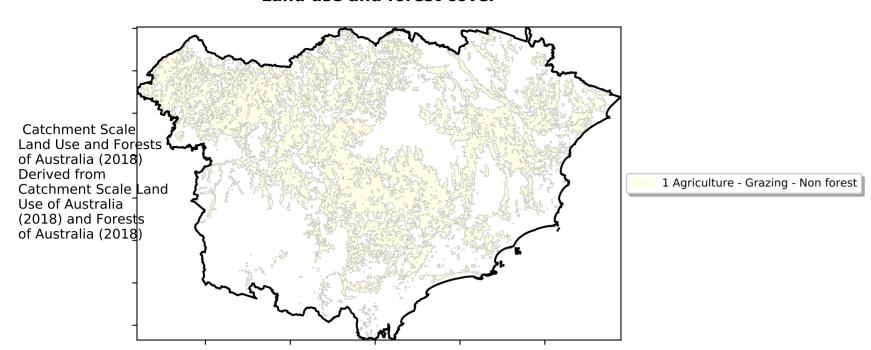




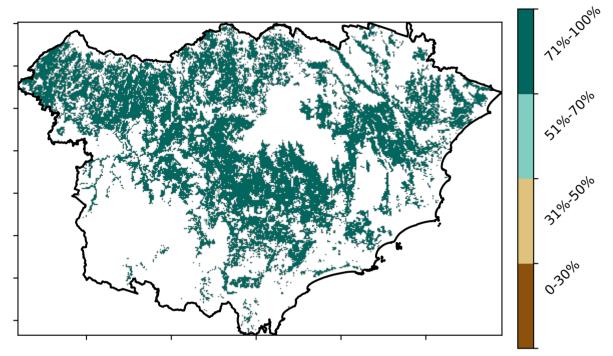


Grazing non forest

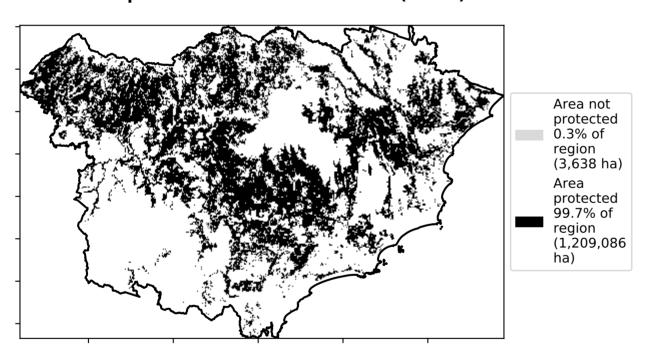
Land use and forest cover



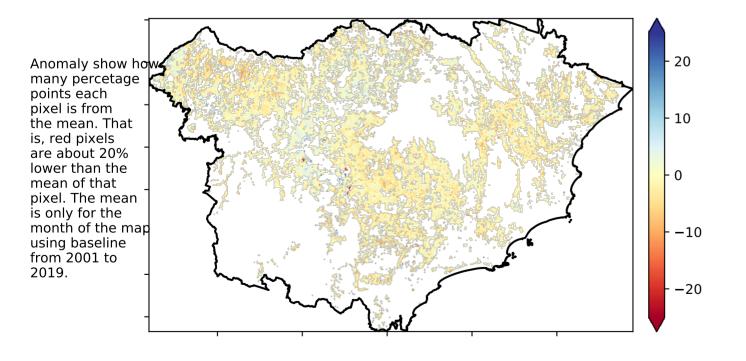
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

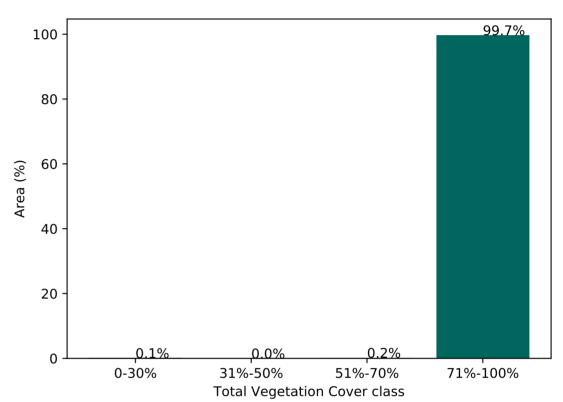


Total Vegetation Cover Anomaly [%]

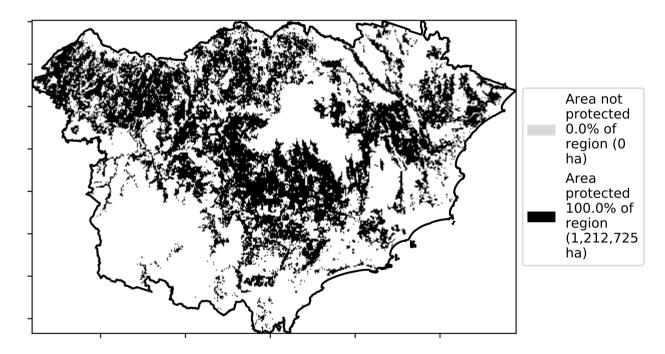


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

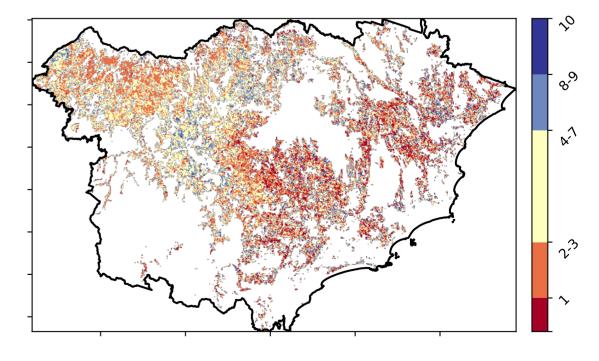
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







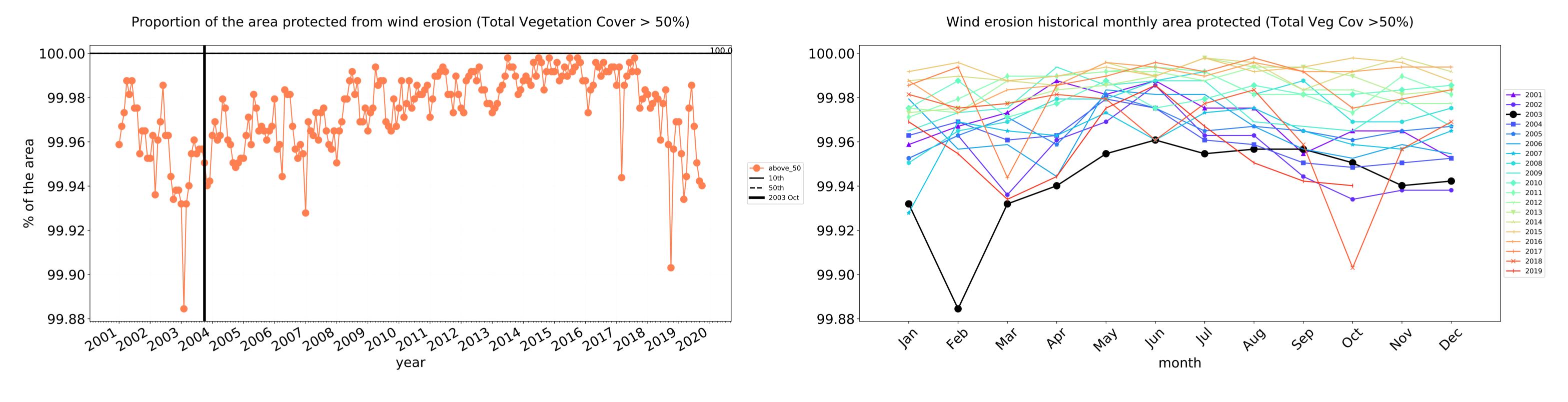


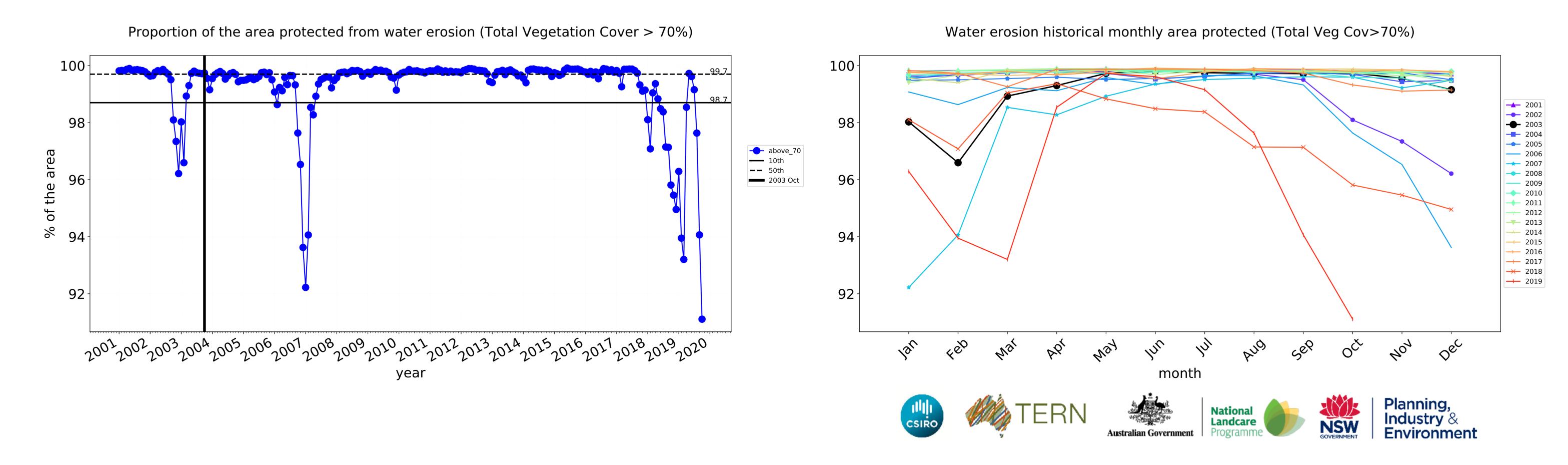


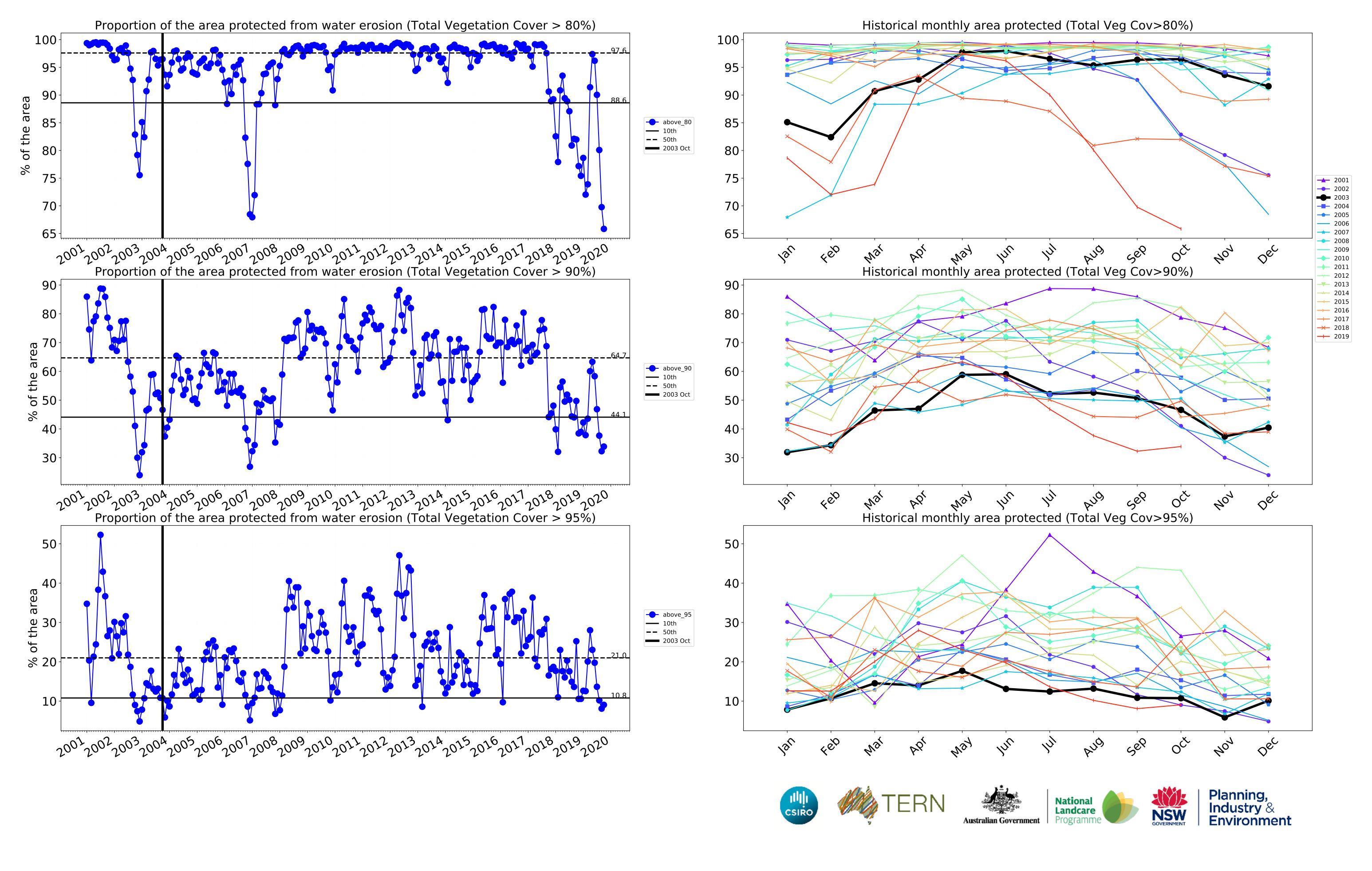




Grazing non forest timeseries



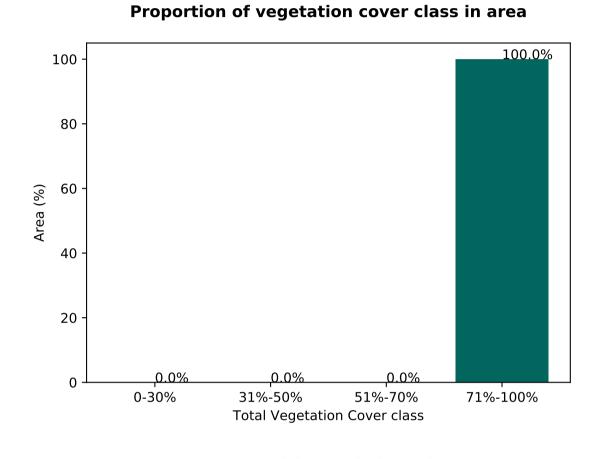


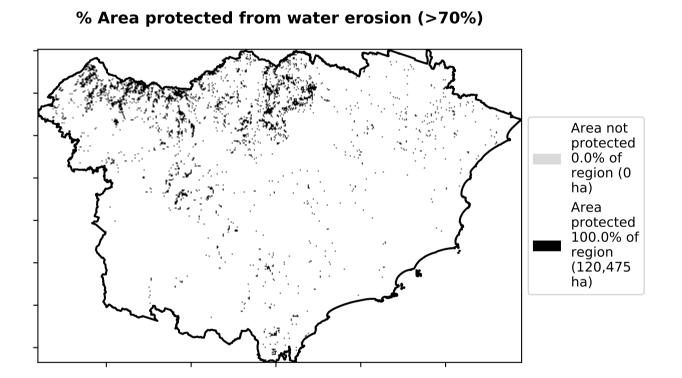


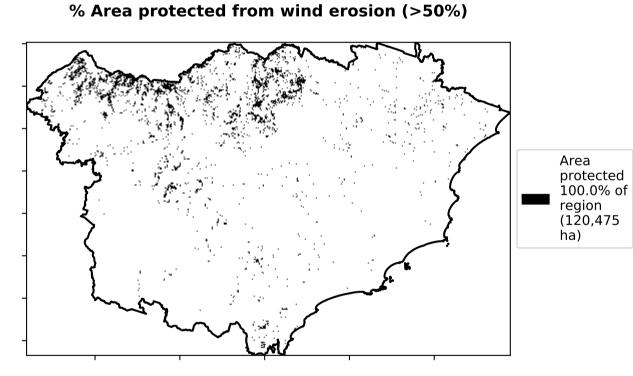
Grazing Woodland forest

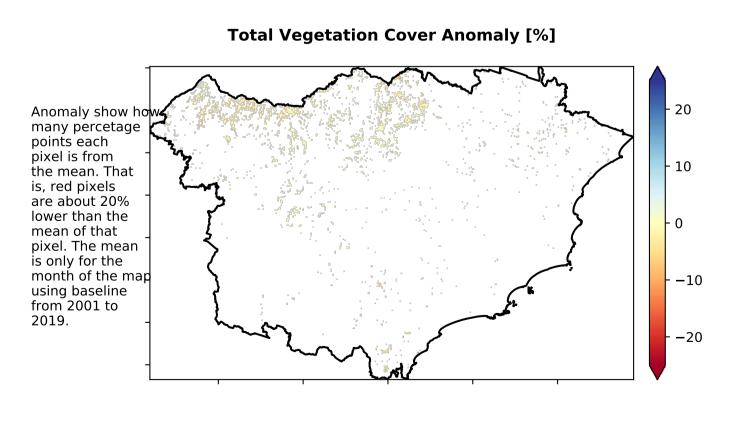
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Agriculture - Grazing - Woodland forest Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

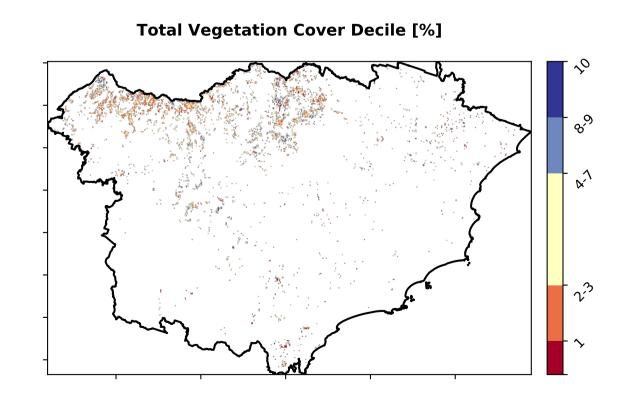
Total Vegetation Cover [%]















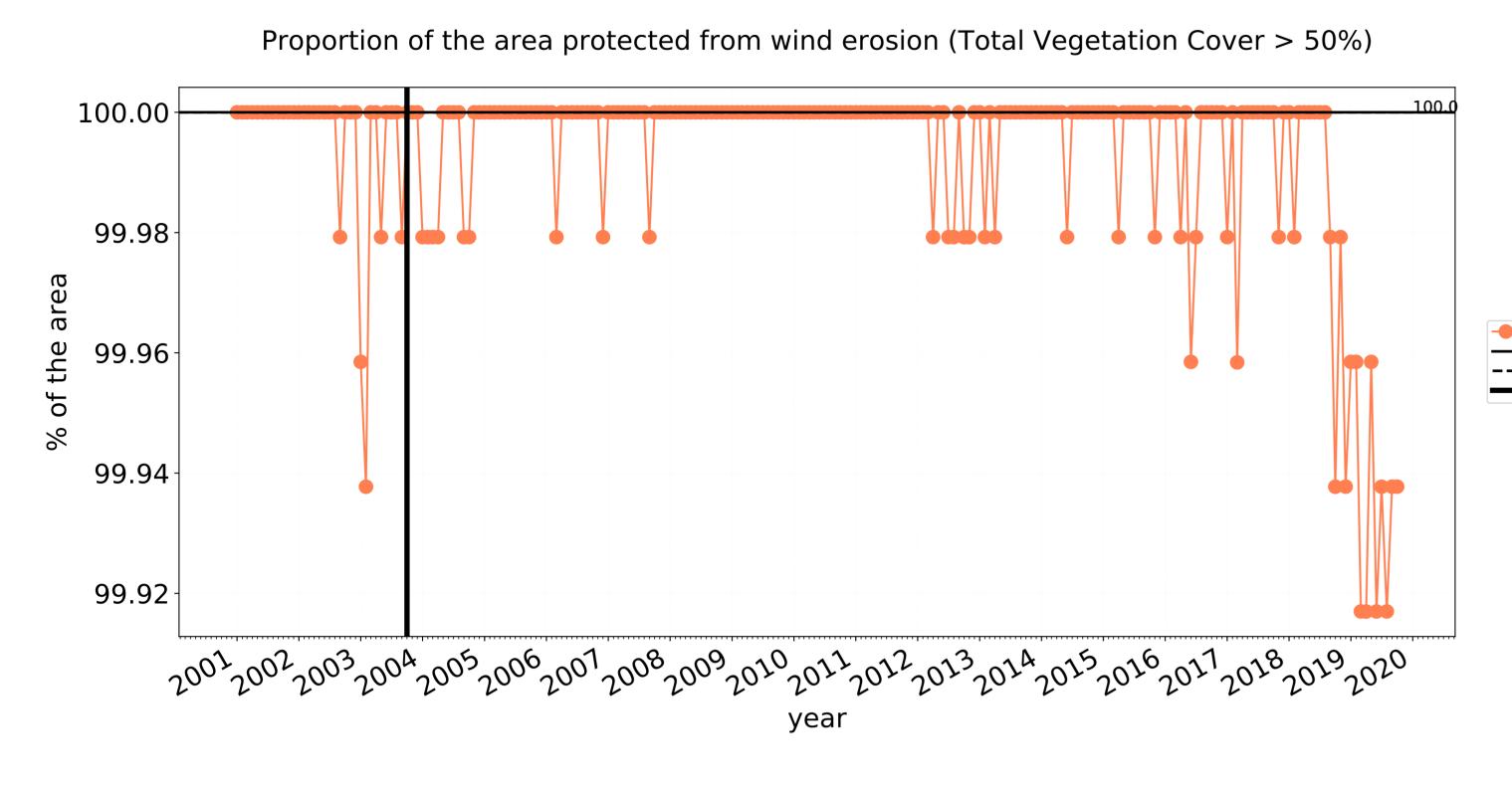


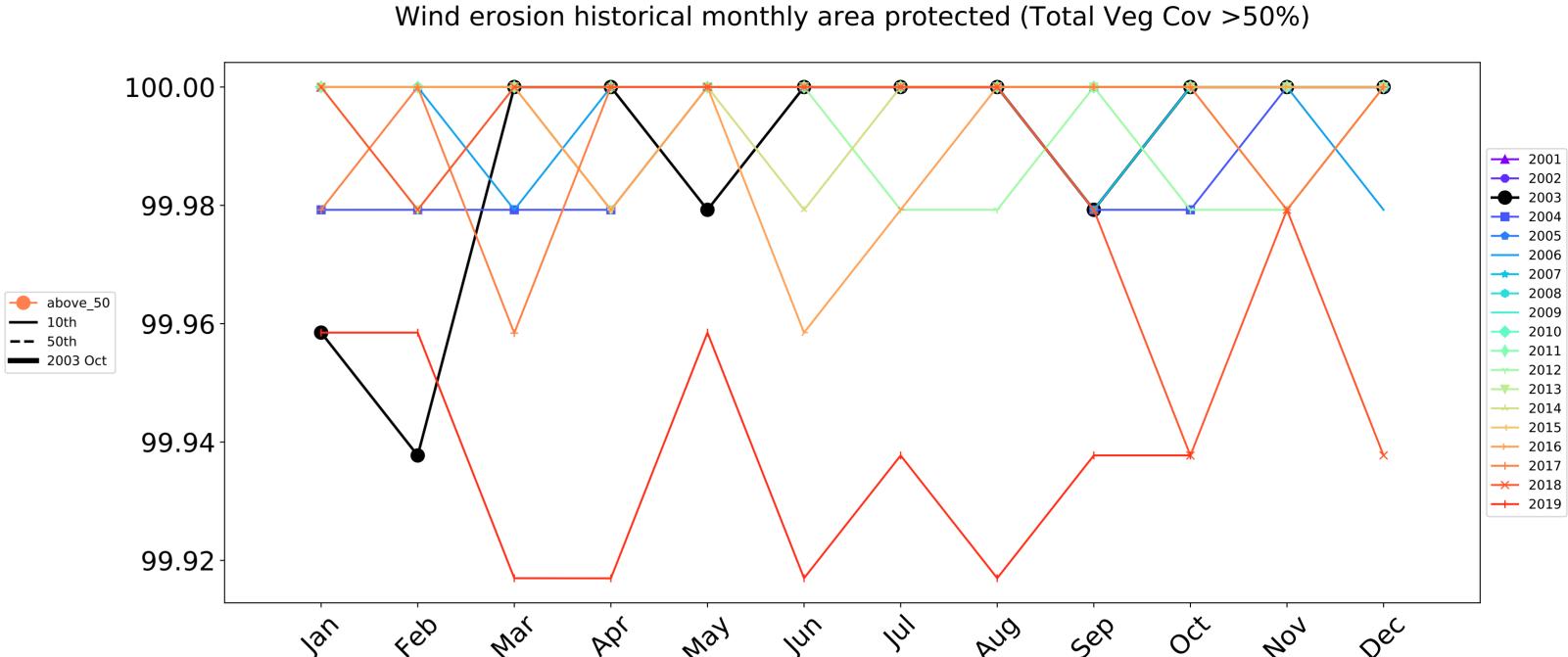






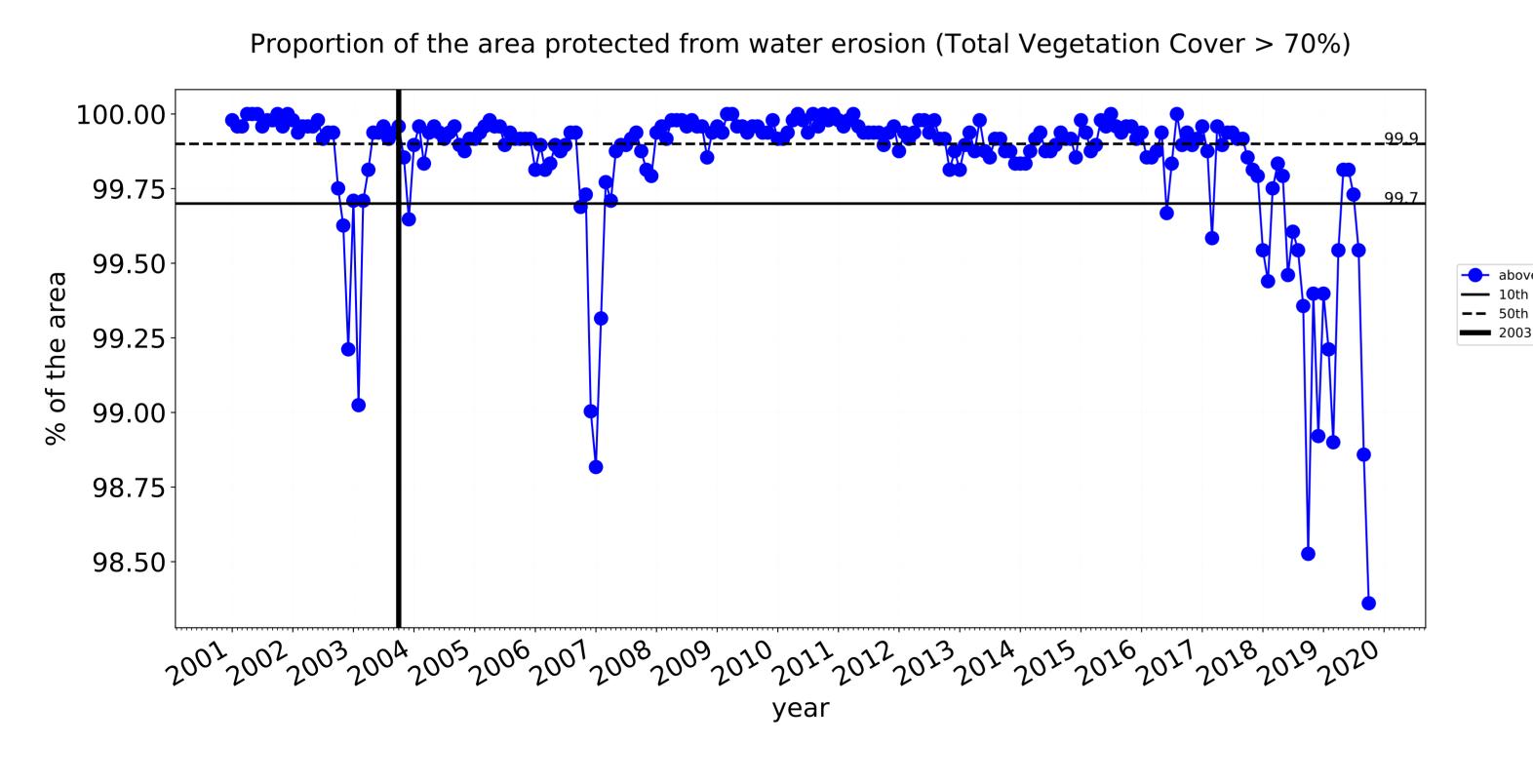
Grazing Woodland forest timeseries

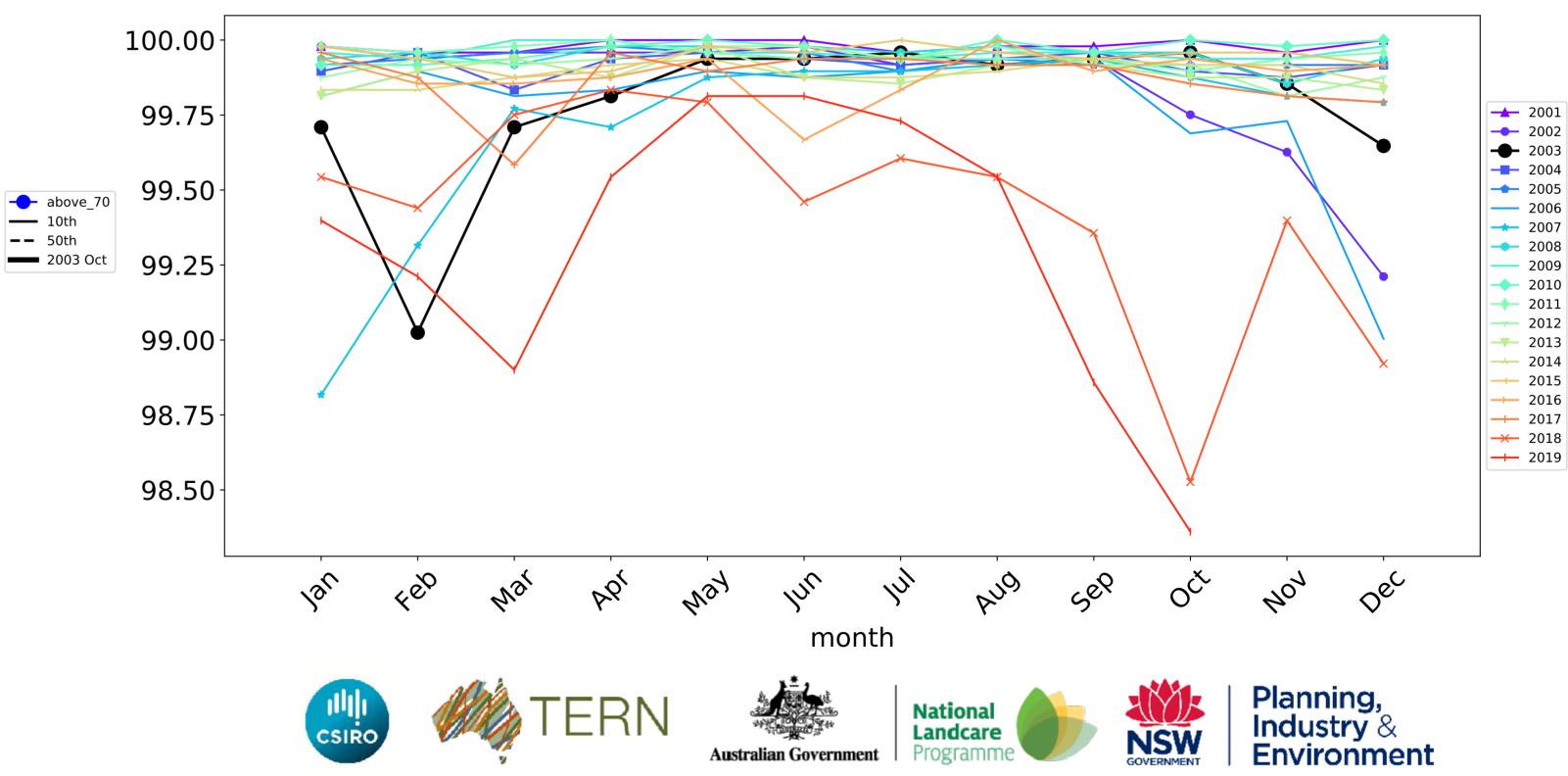


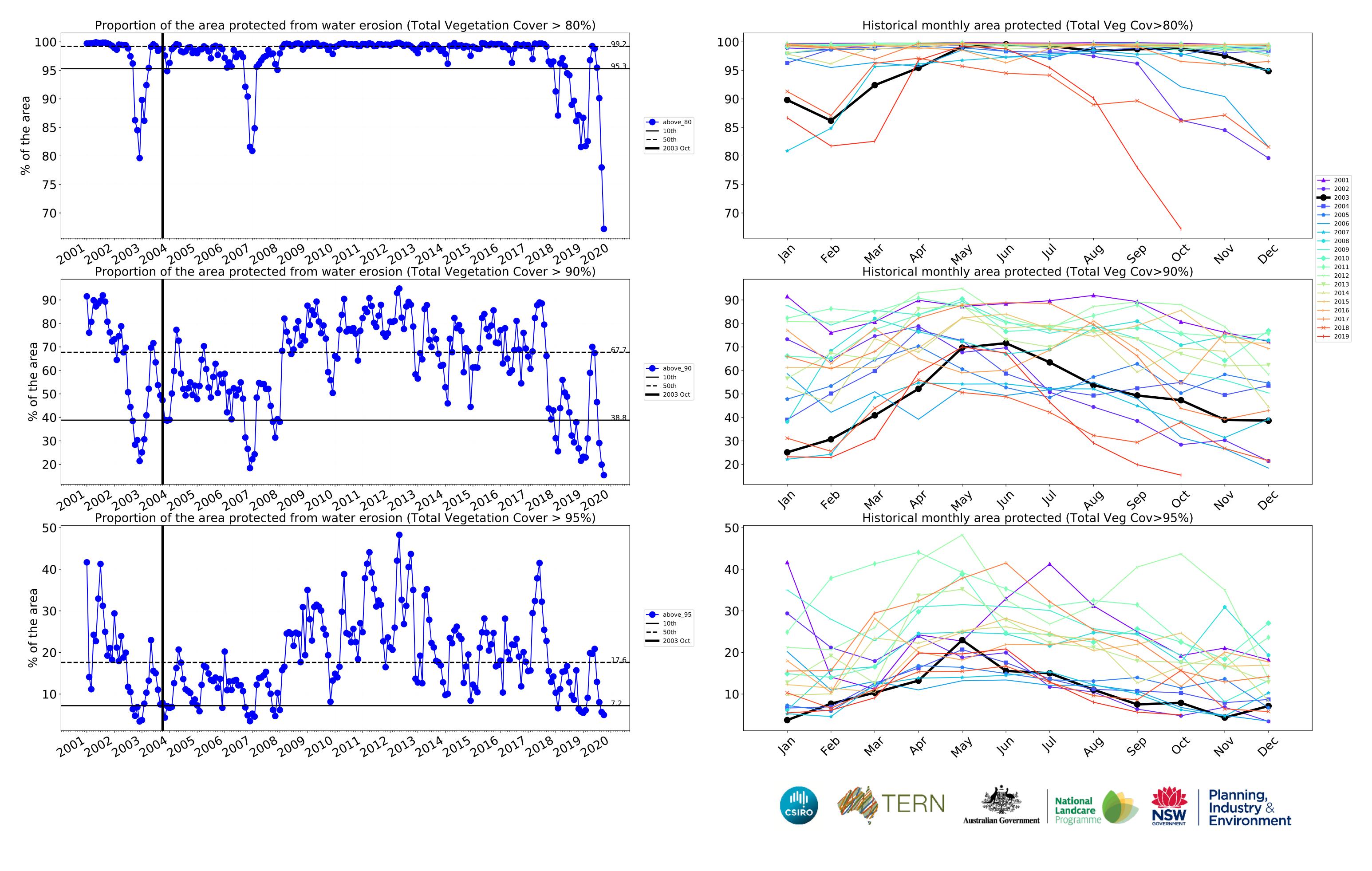


month

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





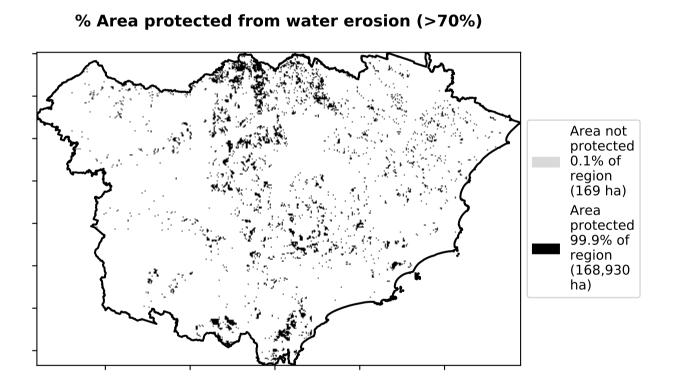


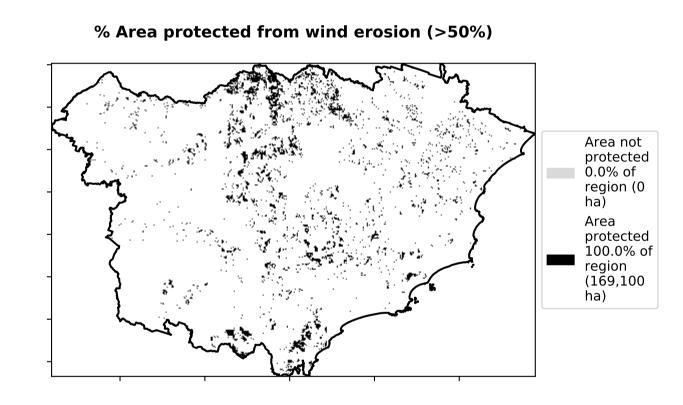
Grazing - Forest (non woodland)

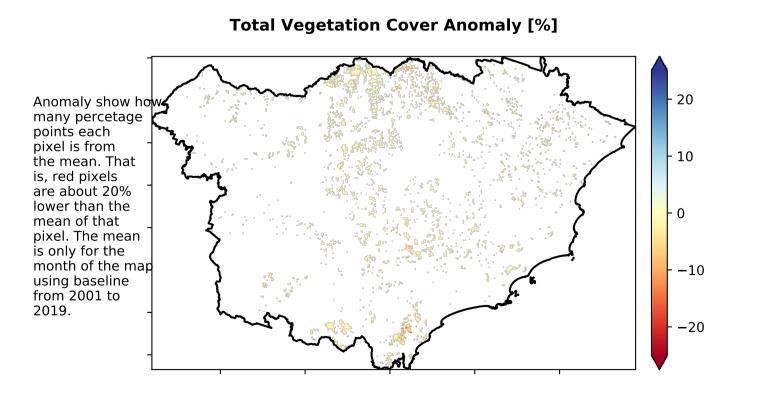
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Agriculture - Grazing - Non-woodland forest Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

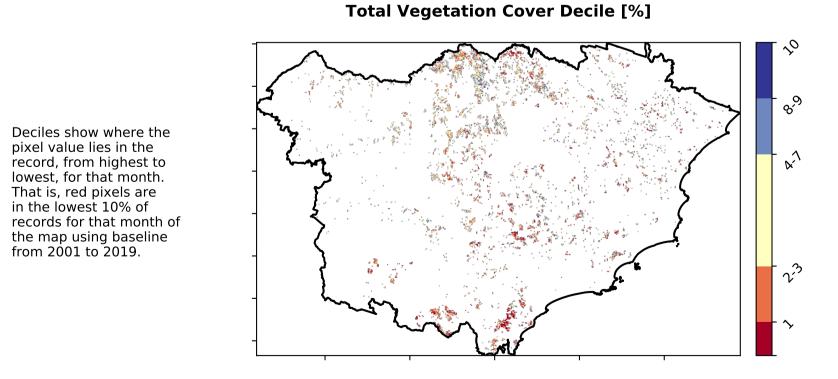
Total Vegetation Cover [%]

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







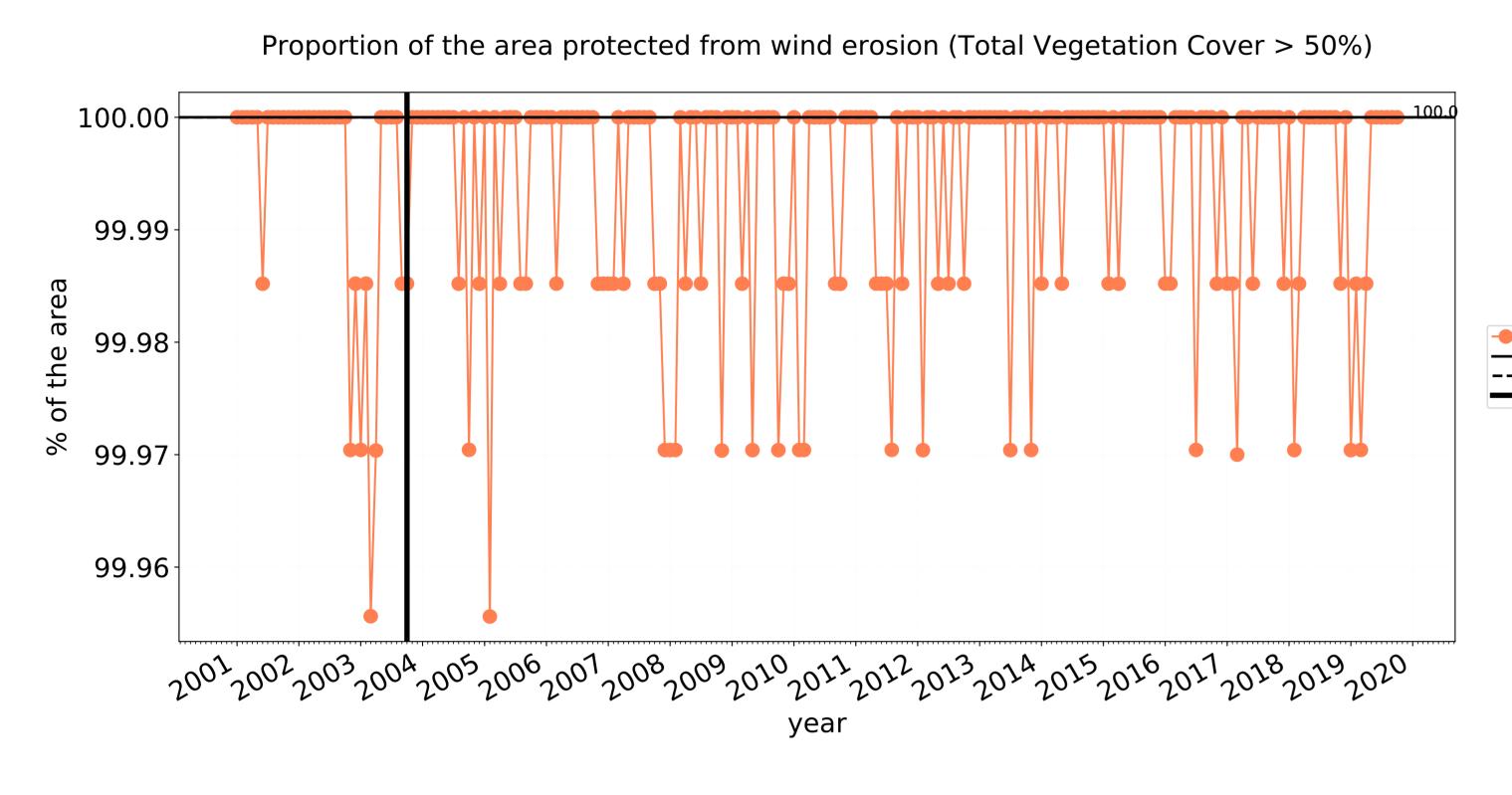


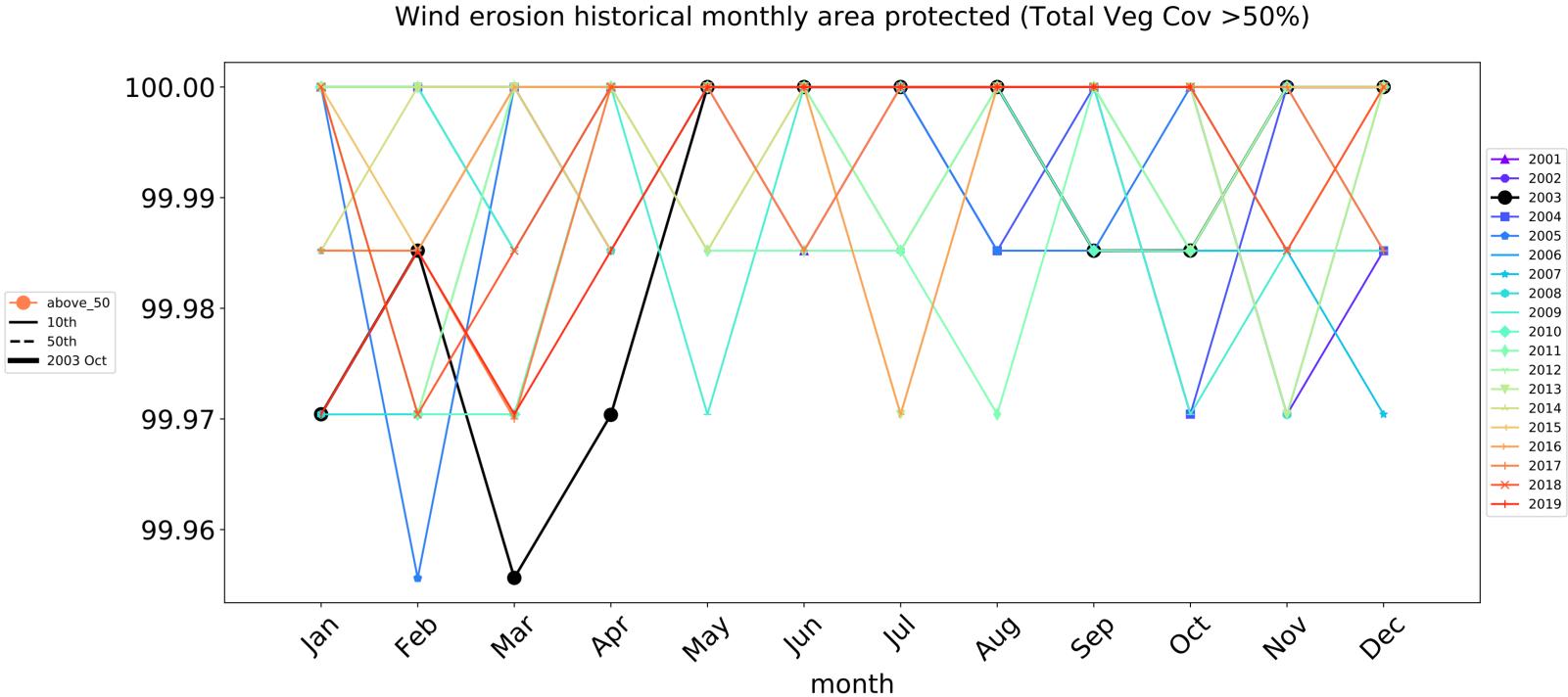


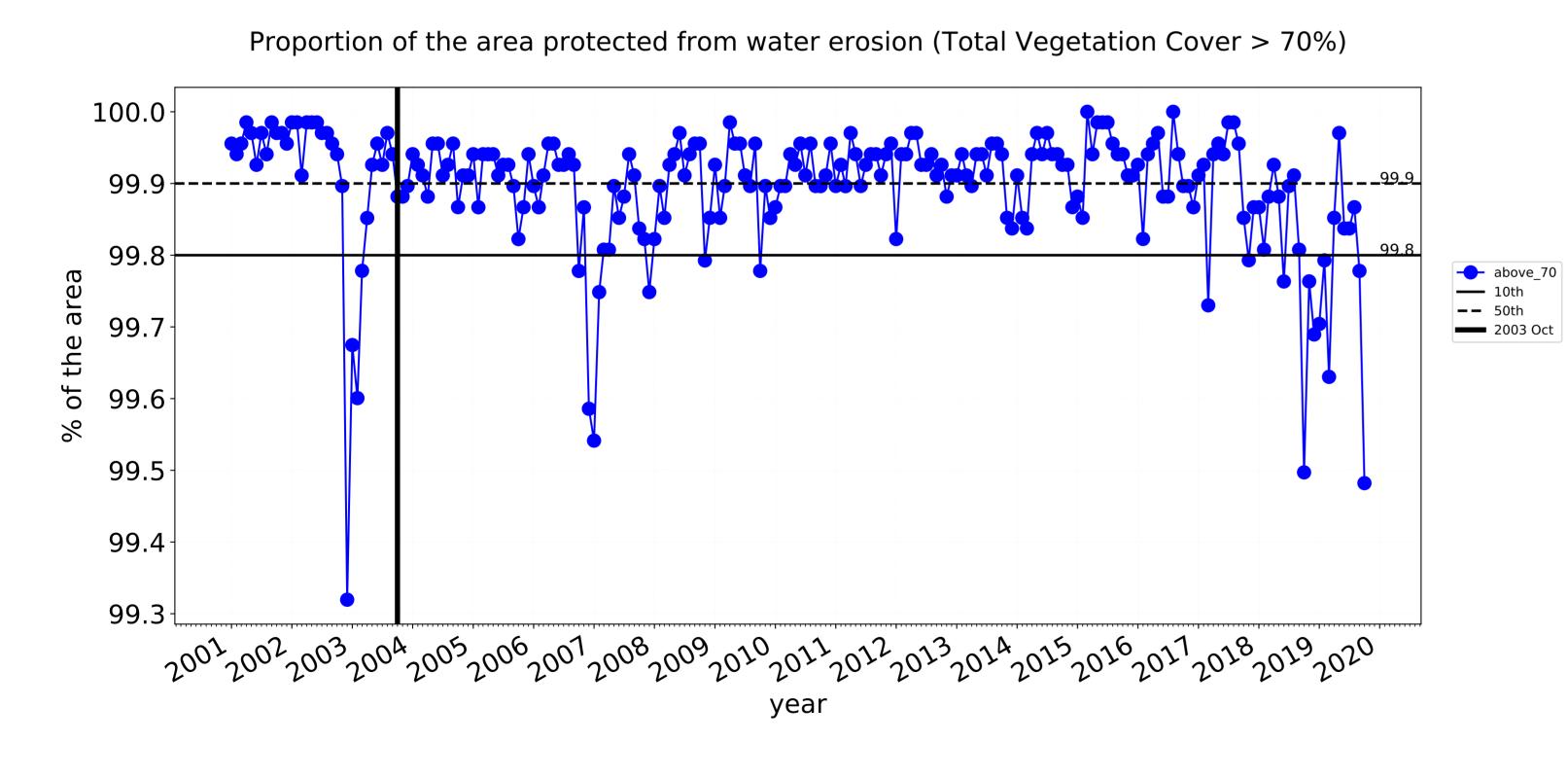


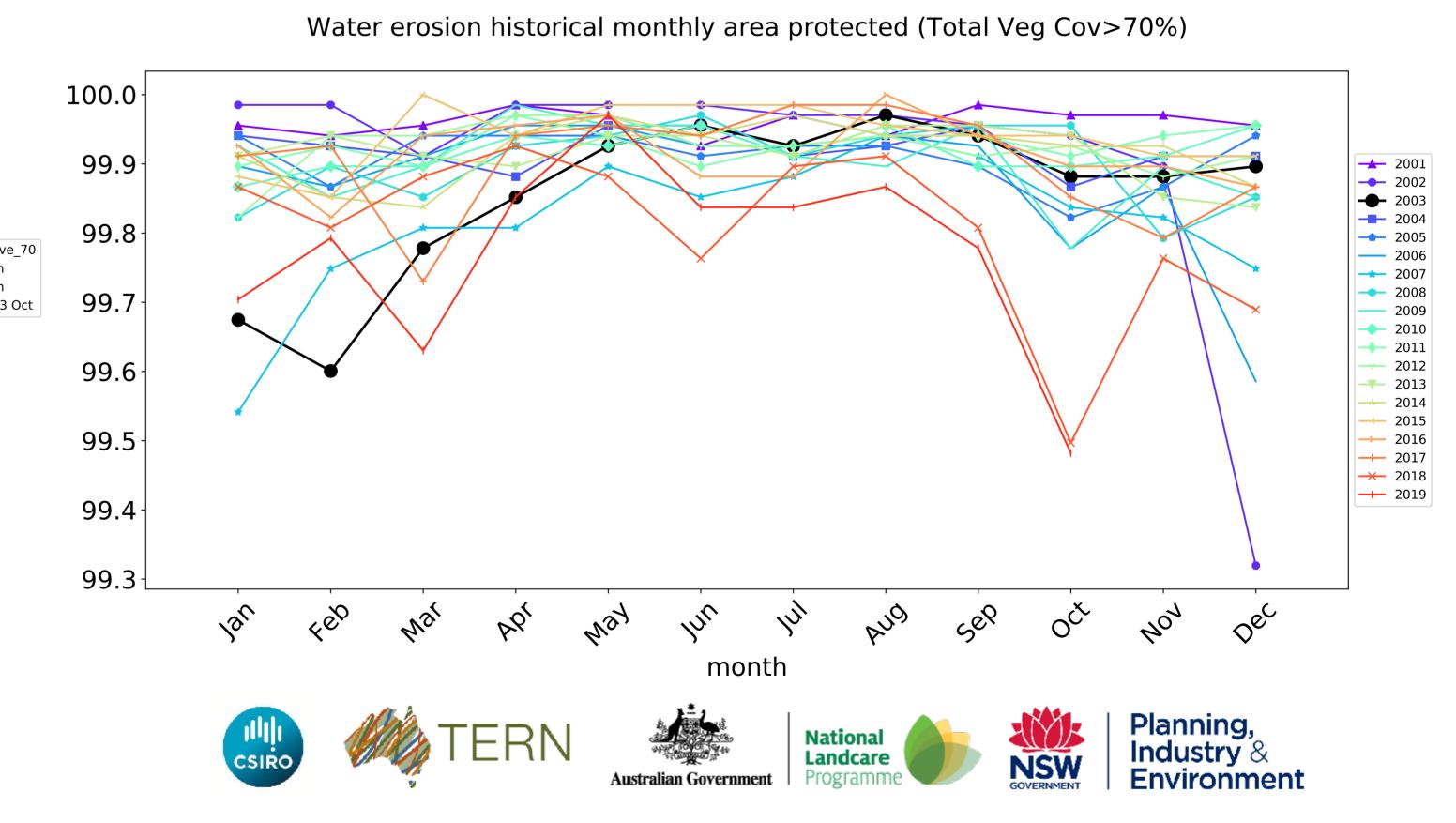


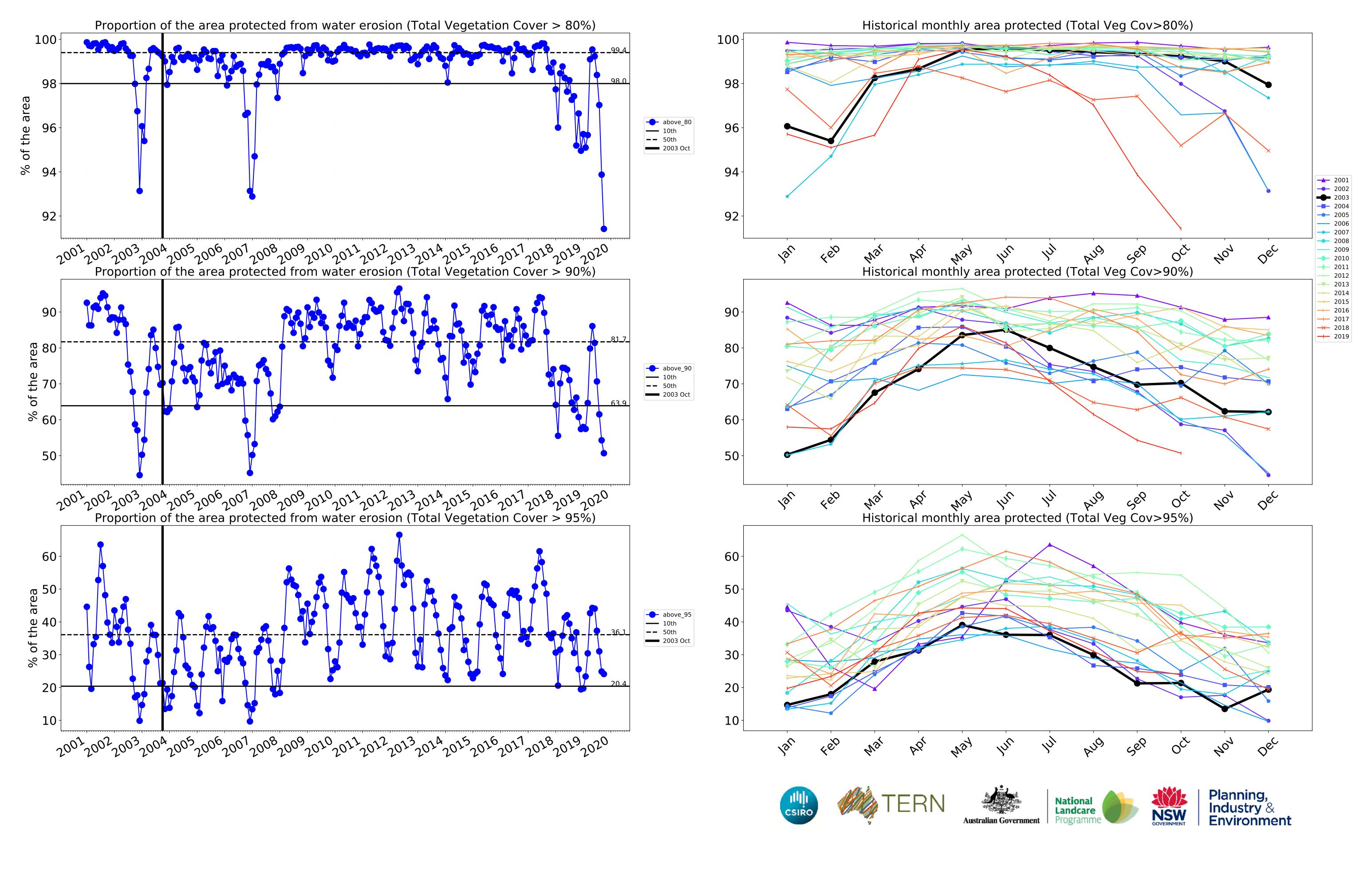






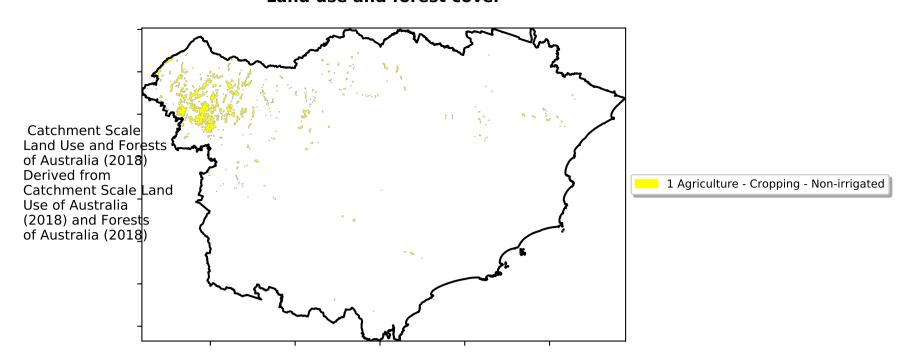




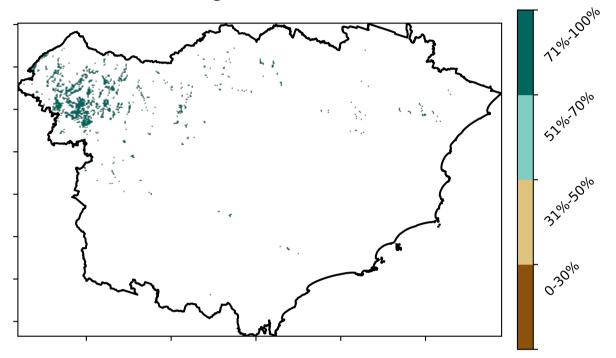


Cropping

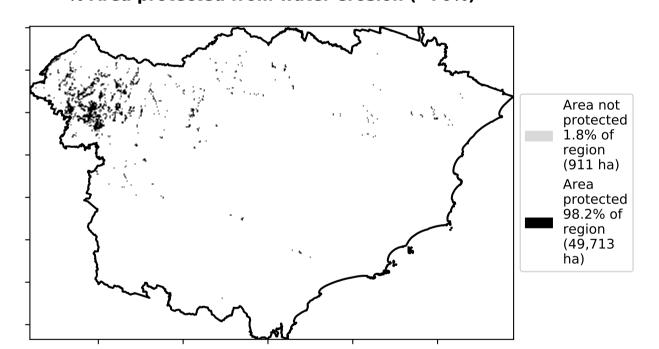
Land use and forest cover



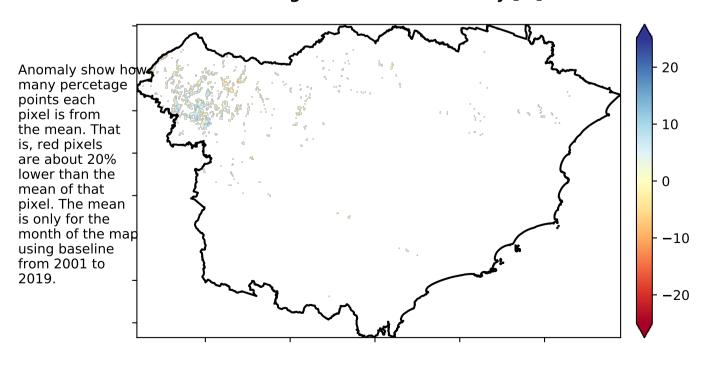
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

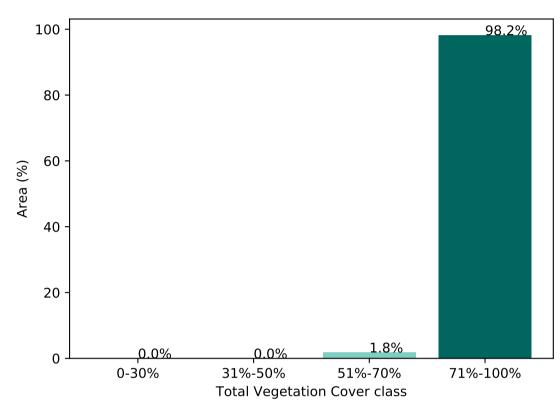


Total Vegetation Cover Anomaly [%]

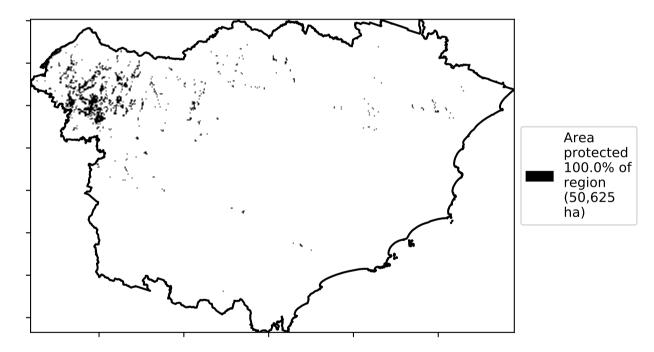


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

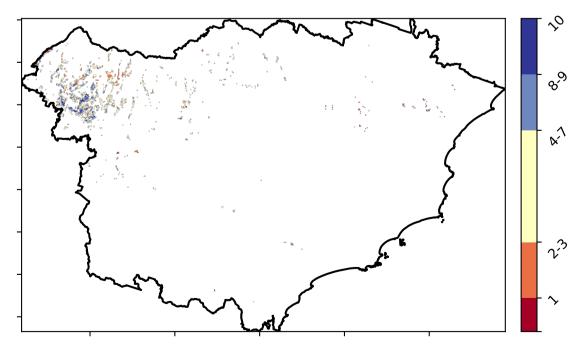
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







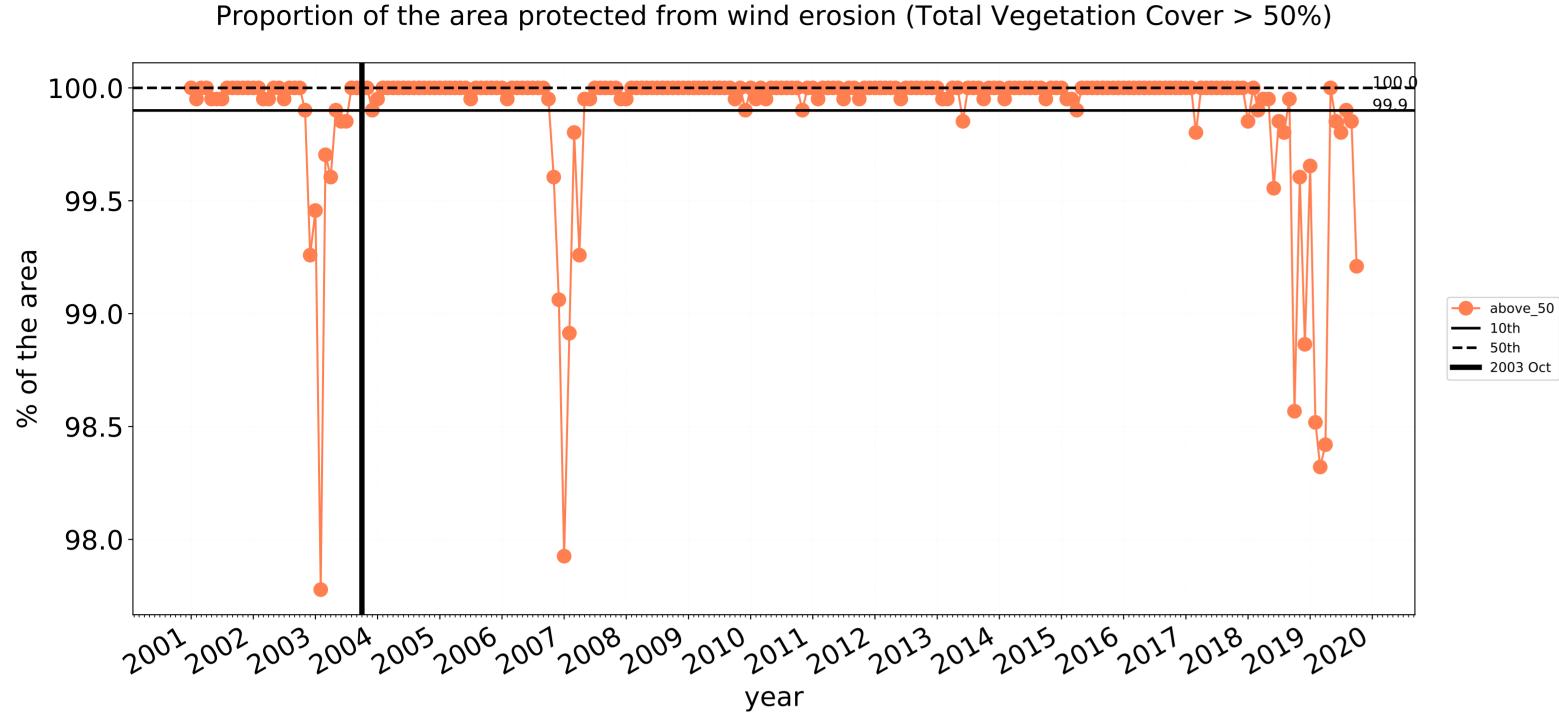


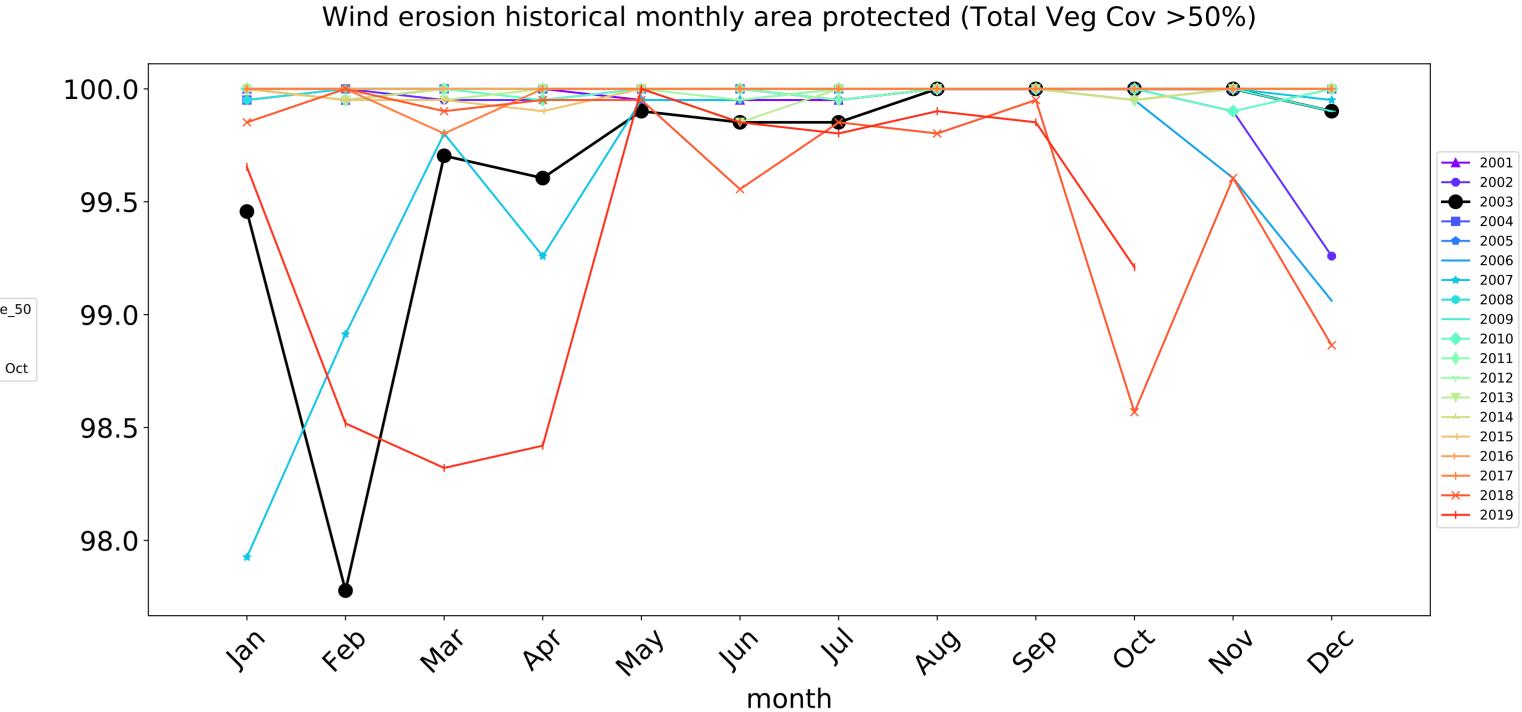


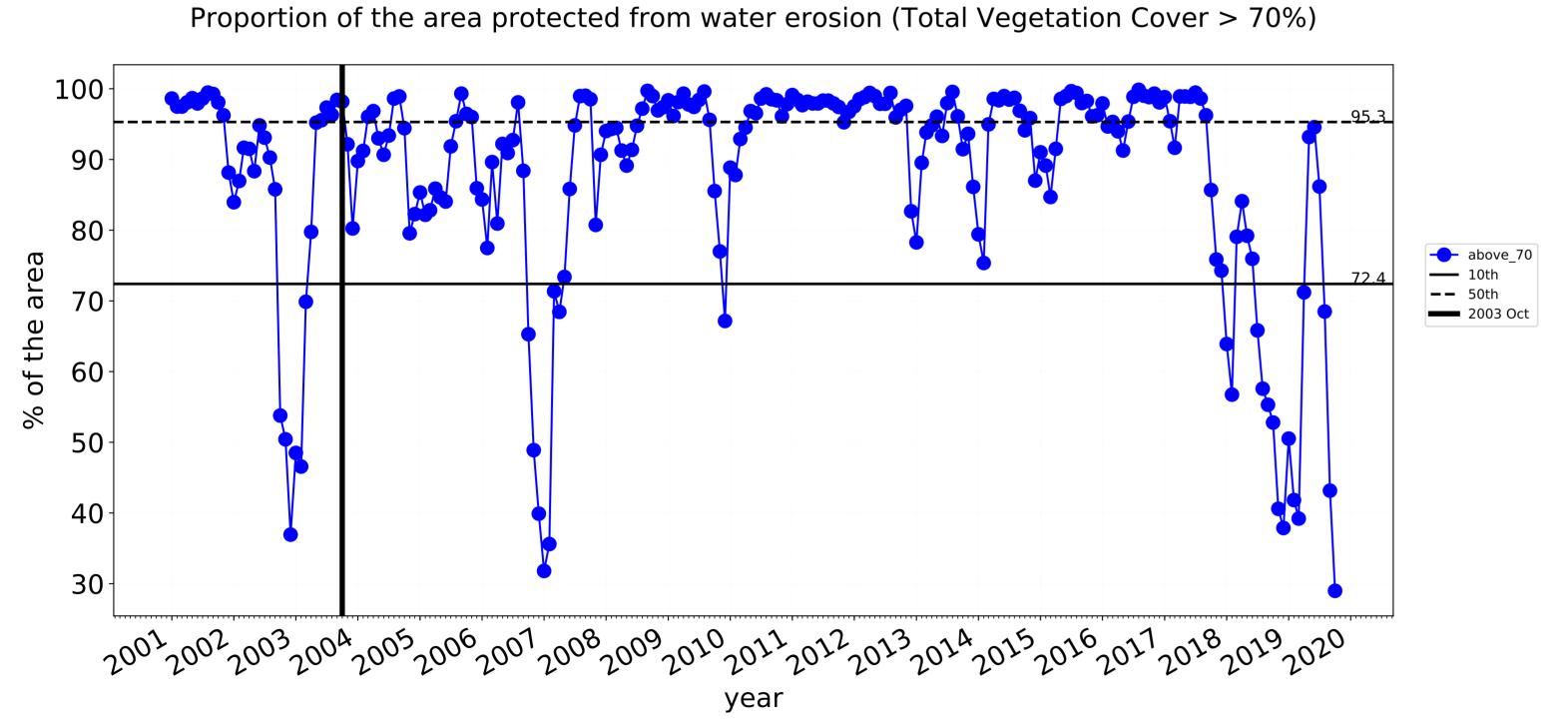


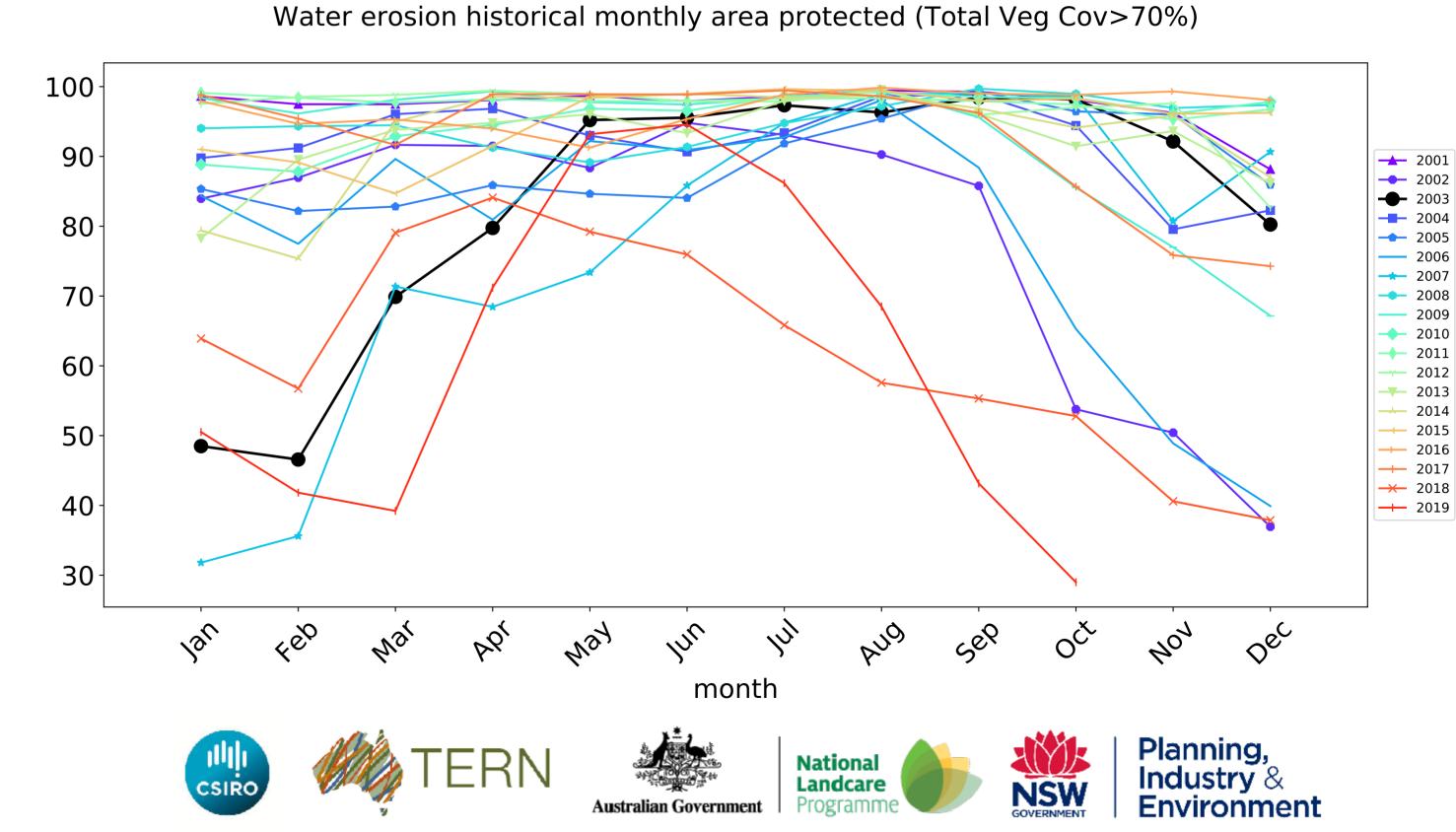


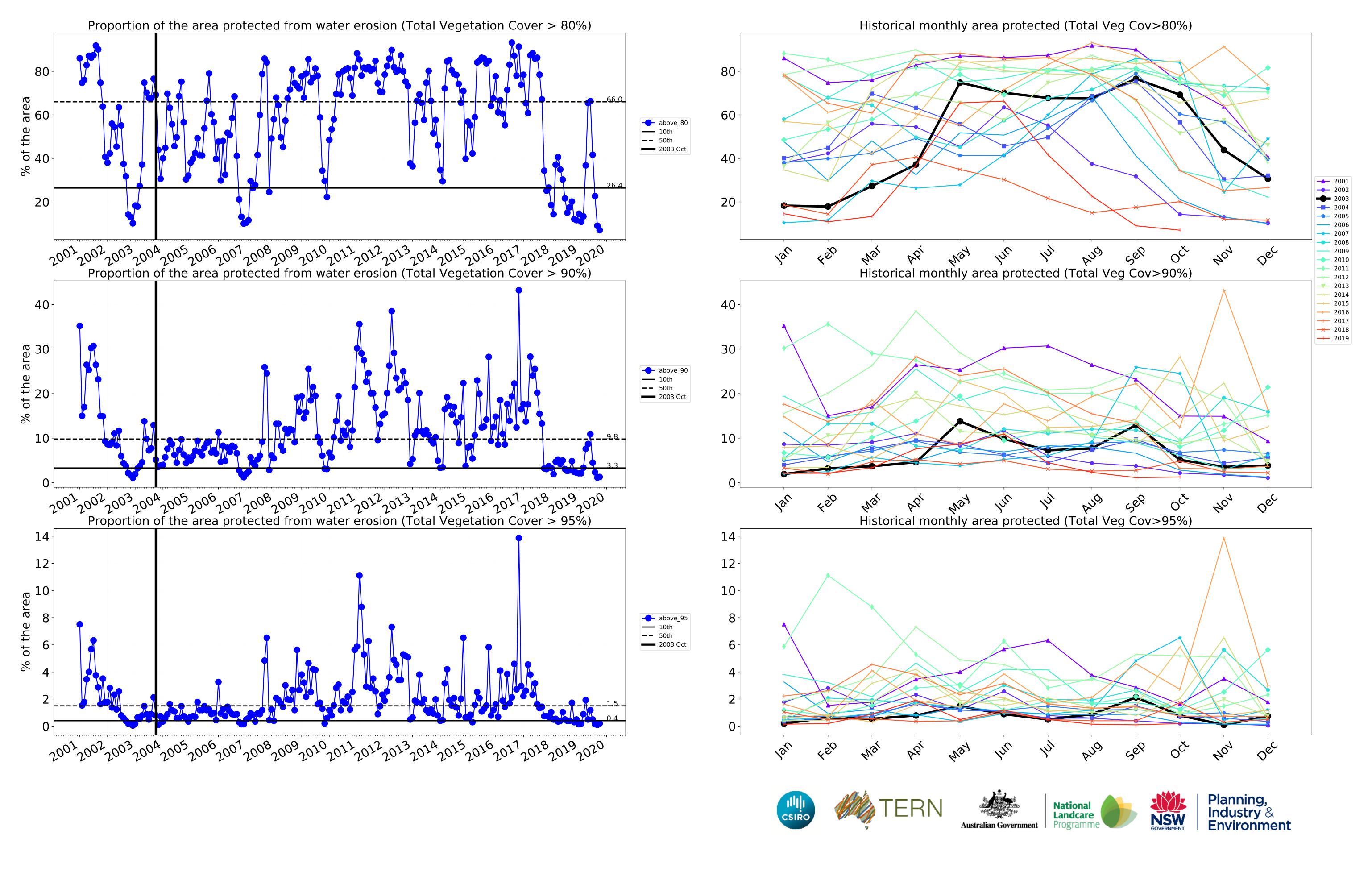
Cropping timeseries









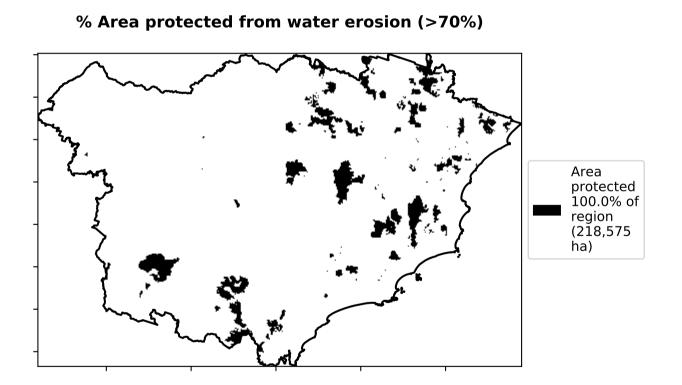


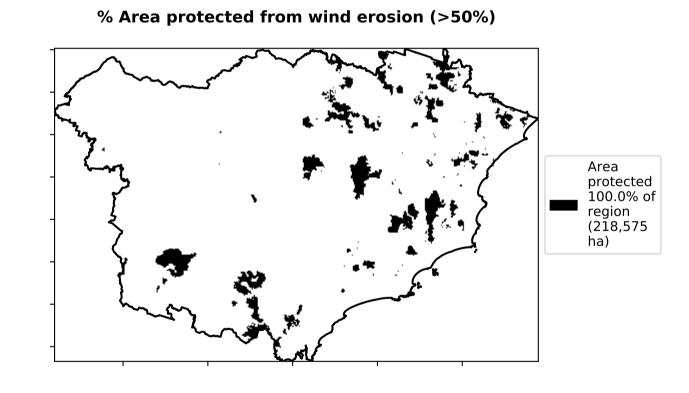
Production native forests and plantation forests

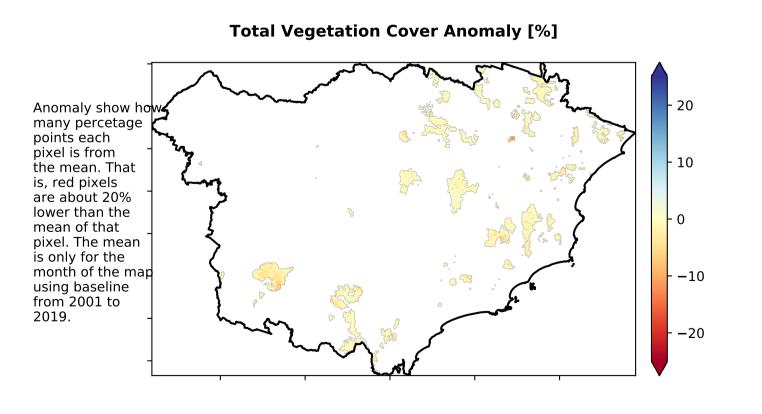
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) See of Australia (2018) See of Australia (2018)

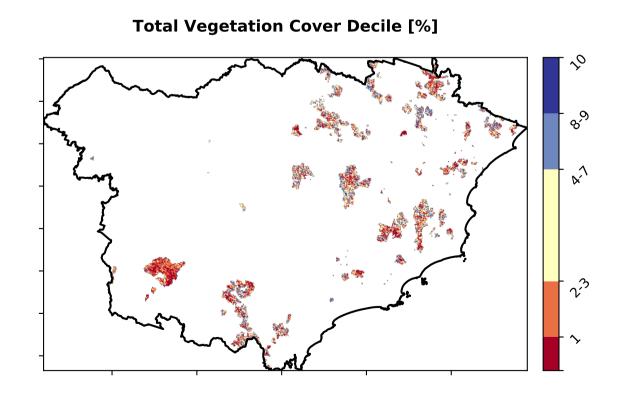
Total Vegetation Cover [%] Total Vegetation Cover [%] Tiple to the state of the s

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













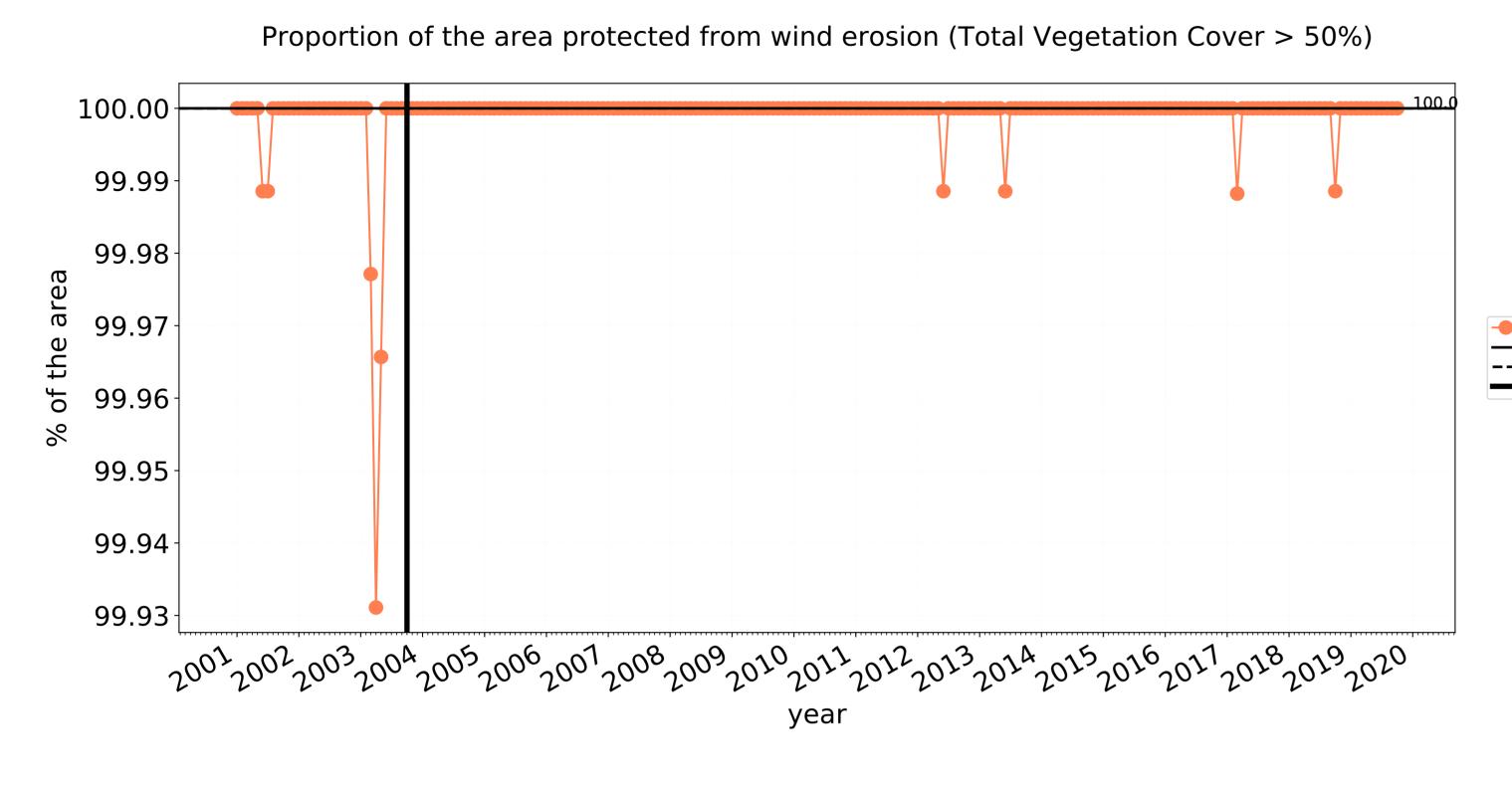


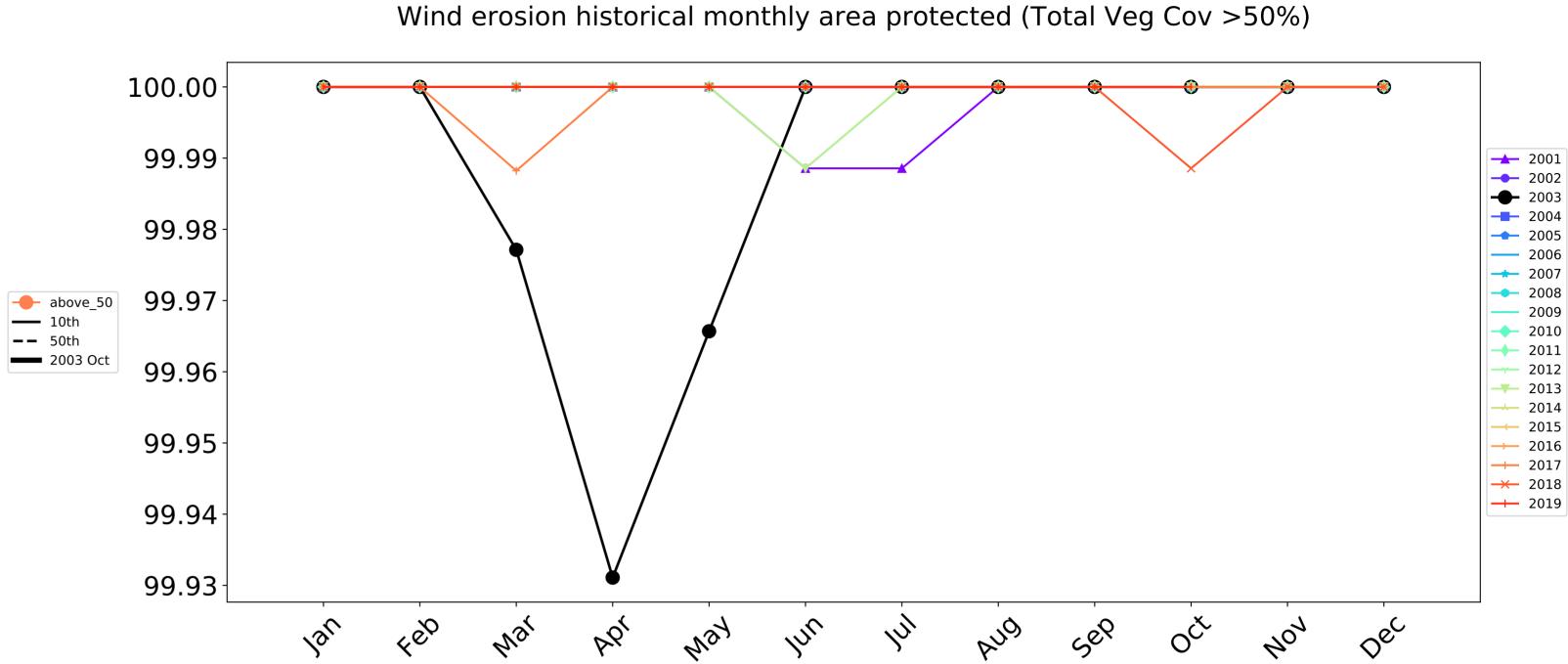




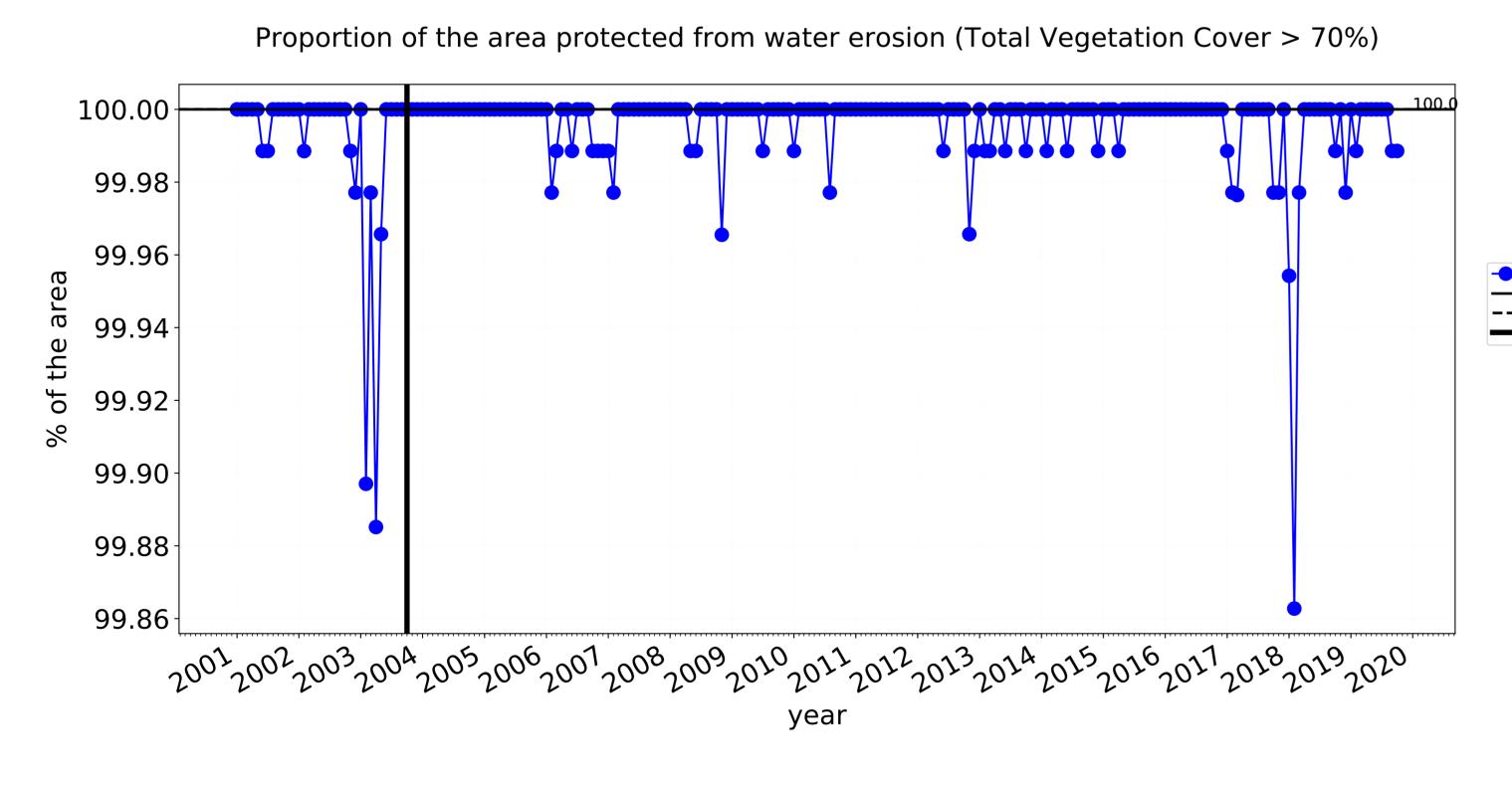


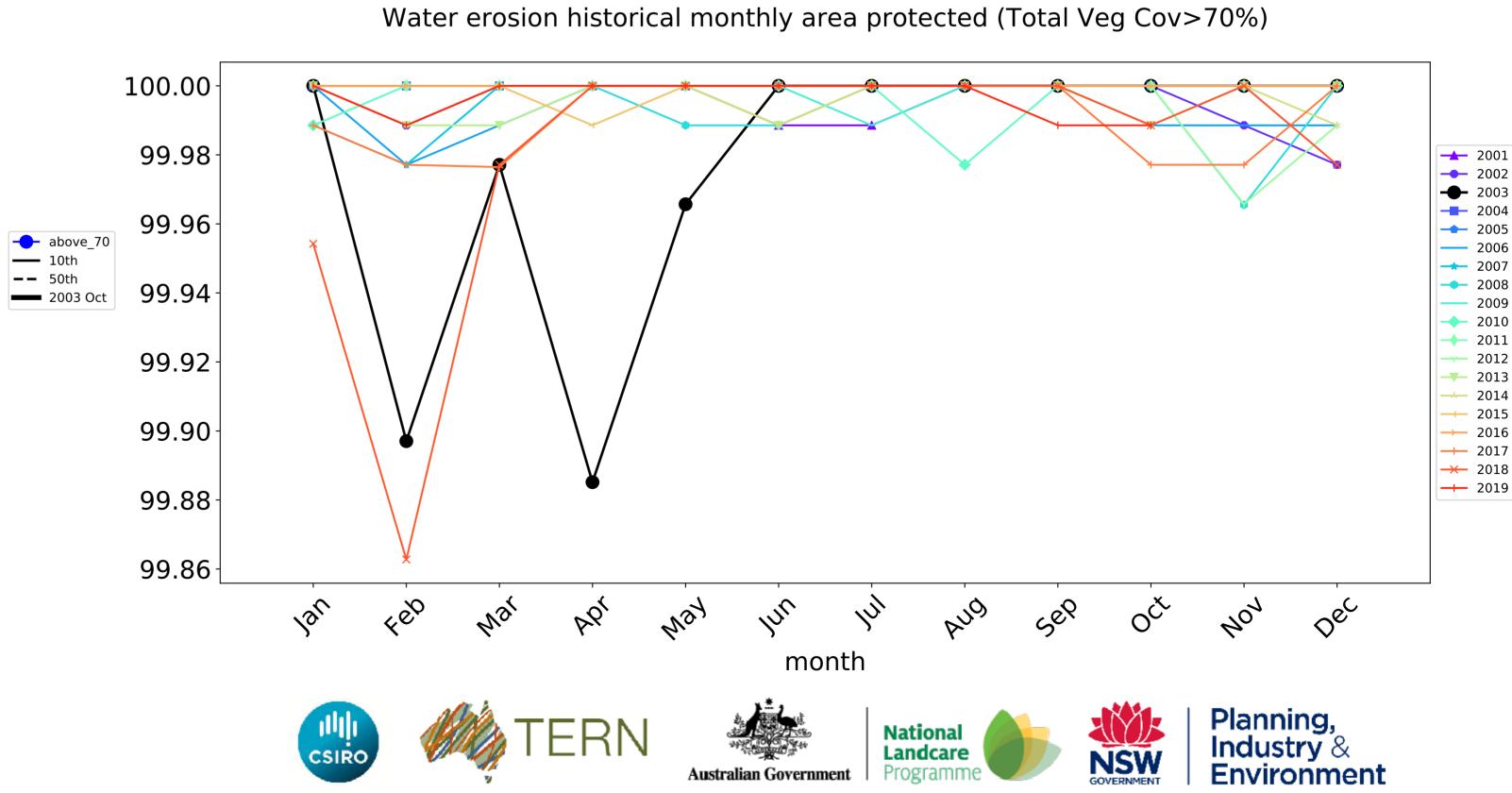
Production native forests and plantation forests timeseries

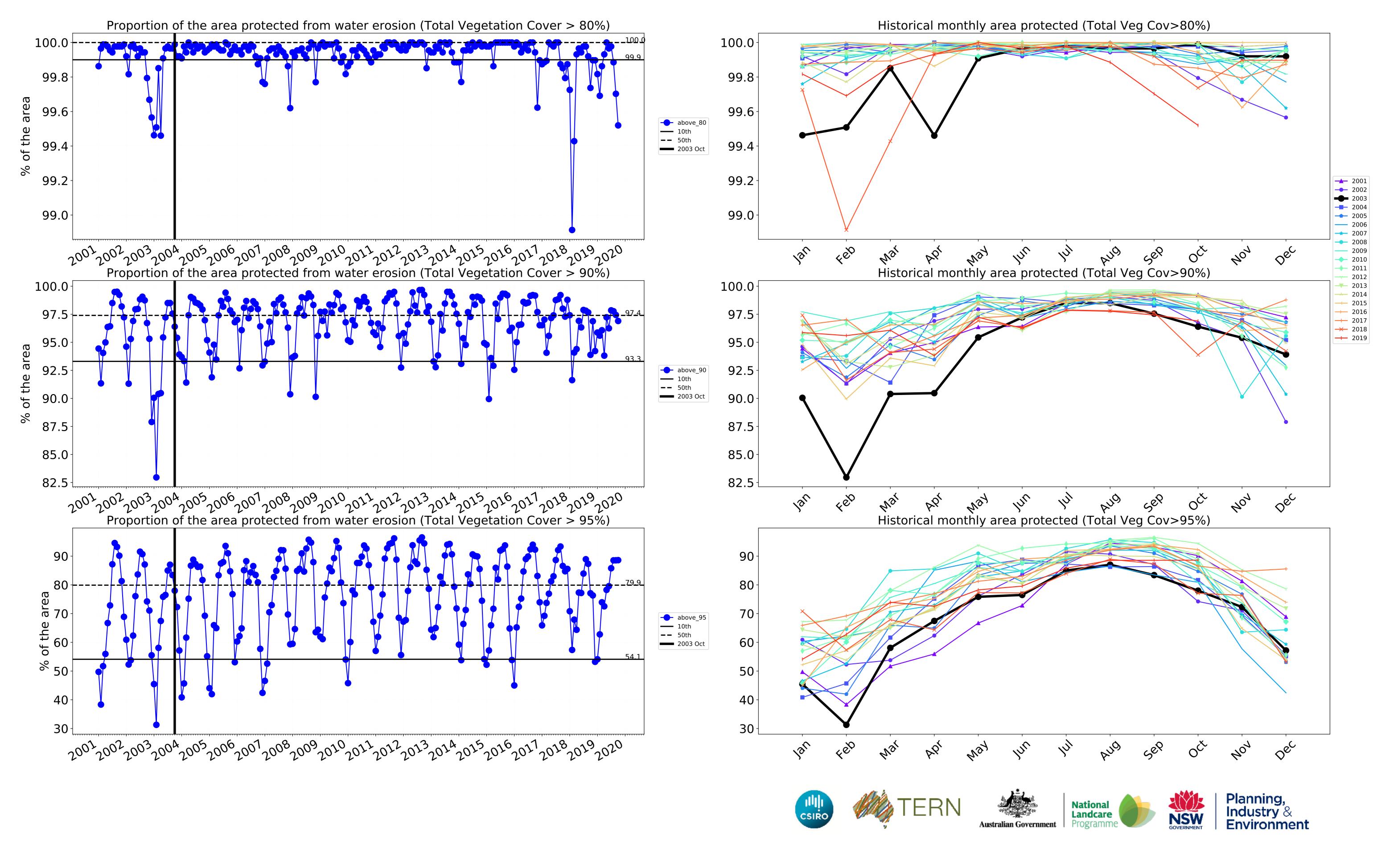




month







Hunter (3,236,450 ha and no data 63,975 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	3,236,450	99.9% 3,234,725	99.7% 3,228,026	98.8% 3,198,432	95.5% 3,092,026	62.8% 2,031,723	28.4% 919,454
Conservation and natural environments	1,239,825	99.9% 1,238,950	99.9% 1,237,975	99.7% 1,235,950	99.3% 1,230,900	83.1% 1,029,900	45.3% 561,800
Conservation and natural environments non forest	29,400	97.2% 28,575	94.5% 27,775	90.1% 26,500	87.2% 25,625	68.0% 20,000	25.3% 7,450
Conservation and natural environments Woodland forest	138,775	100.0% 138,750	100.0% 138,725	99.9% 138,700	99.6% 138,250	72.1% 100,100	25.8% 35,775
Conservation and natural environments Forest (non woodland)	1,071,650	100.0% 1,071,625	100.0% 1,071,475	99.9% 1,070,750	99.6% 1,067,025	84.9% 909,800	48.4% 518,575
Agriculture	1,580,300	100.0% 1,580,300	100.0% 1,579,675	99.7% 1,575,800	95.7% 1,512,575	47.2% 746,100	11.2% 176,800
Grazing	1,502,300	100.0% 1,502,300	100.0% 1,501,675	99.8% 1,498,900	97.0% 1,457,050	49.3% 741,200	11.7% 175,975
Grazing non forest	1,212,725	100.0% 1,212,725	100.0% 1,212,125	99.7% 1,209,575	96.5% 1,170,200	46.6% 565,450	10.7% 130,325
Grazing Woodland forest	120,475	100.0% 120,475	100.0% 120,475	100.0% 120,425	98.8% 119,050	47.3% 57,000	7.9% 9,500
Grazing - Forest (non woodland)	169,100	100.0% 169,100	100.0% 169,075	99.9% 168,900	99.2% 167,800	70.2% 118,750	21.4% 36,150
Cropping	50,625	100.0% 50,625	100.0% 50,625	98.2% 49,700	69.2% 35,050	5.1% 2,600	0.8% 400
Production native forests and plantation forests	218,575	100.0% 218,575	100.0% 218,575	100.0% 218,575	100.0% 218,550	96.4% 210,700	78.0% 170,450











