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: April 2025

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



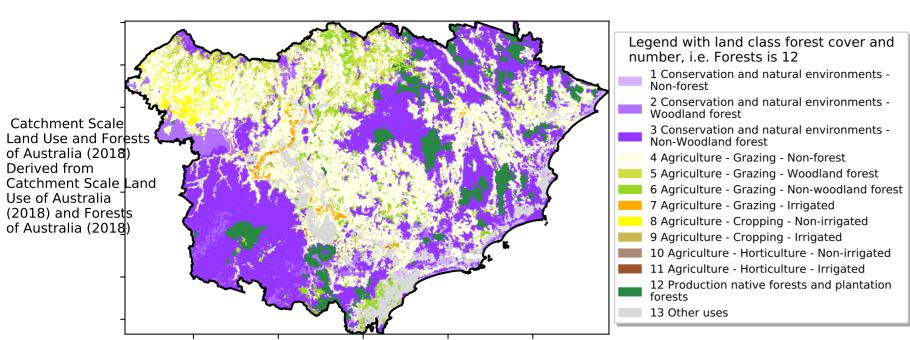




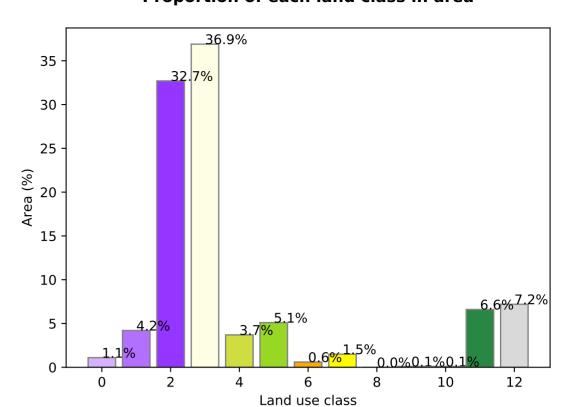


Vegetation Cover Apr 2025

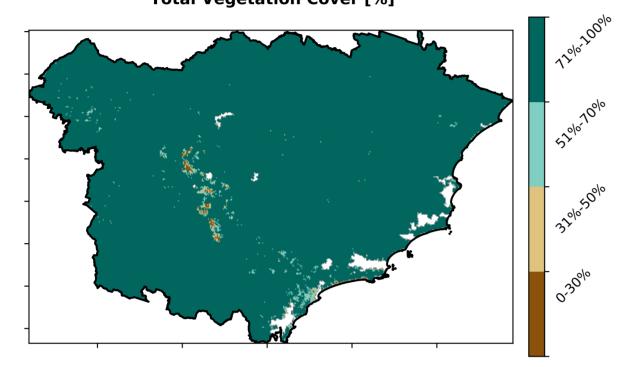
Land use and forest cover



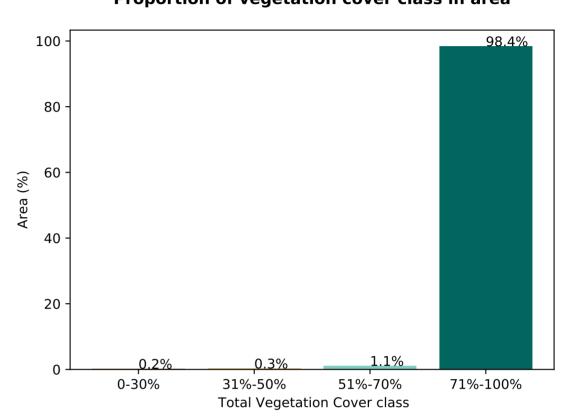
Proportion of each land class in area



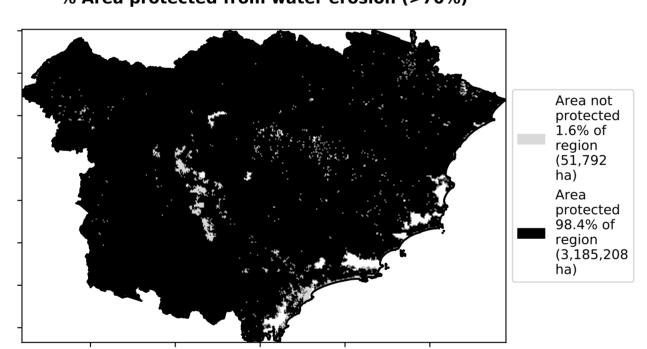
Total Vegetation Cover [%]



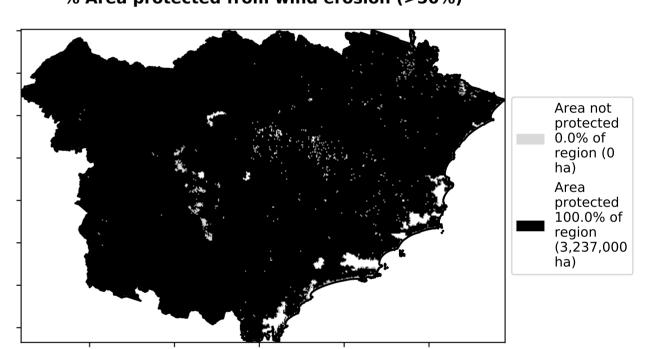
Proportion of vegetation cover class in area



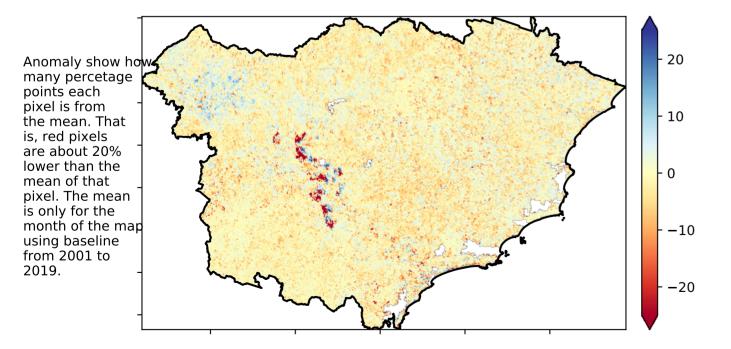
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

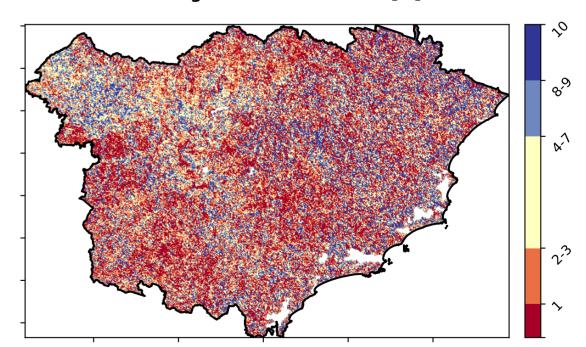


Total Vegetation Cover Anomaly [%]



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 [%]

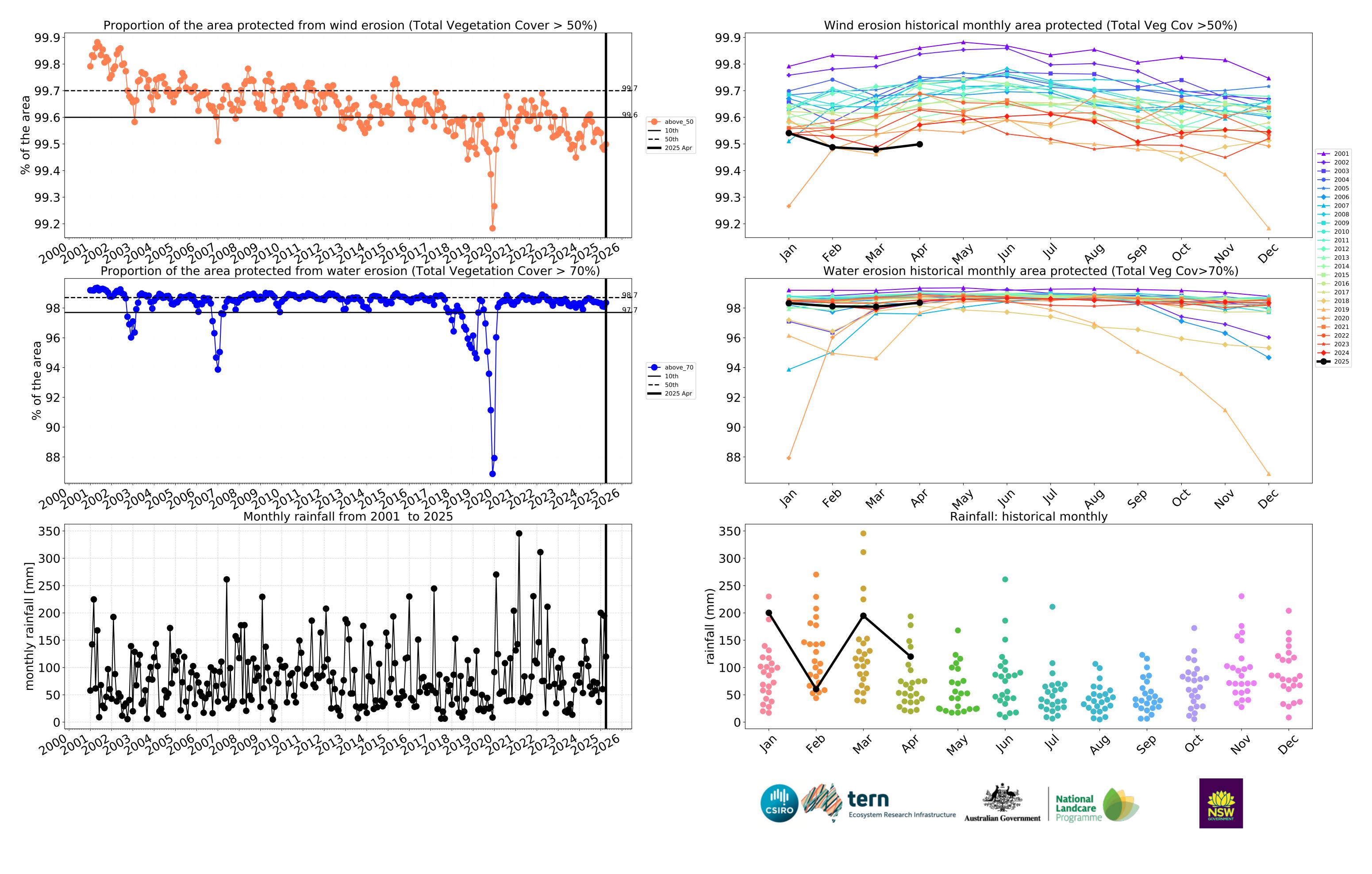




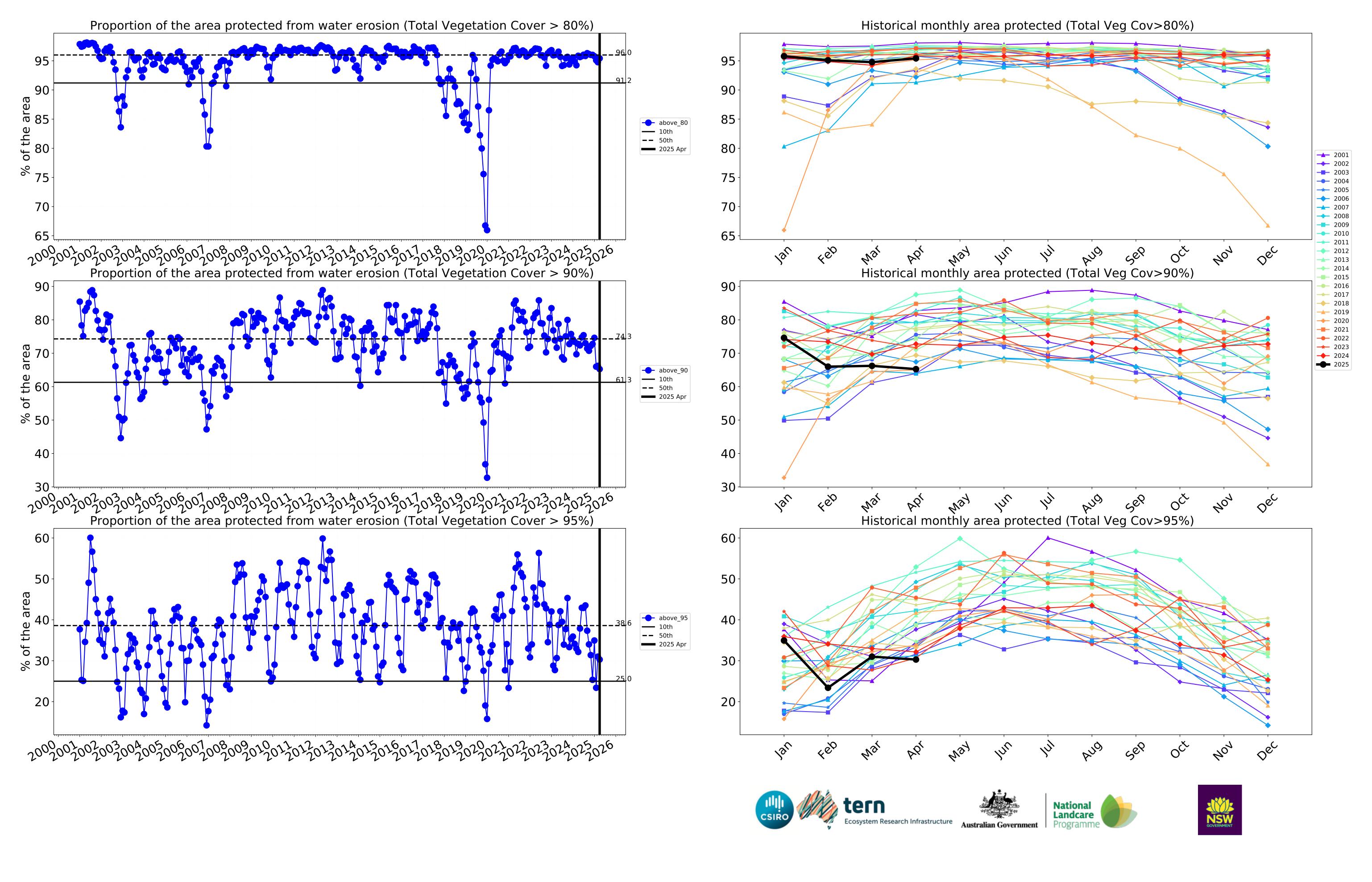




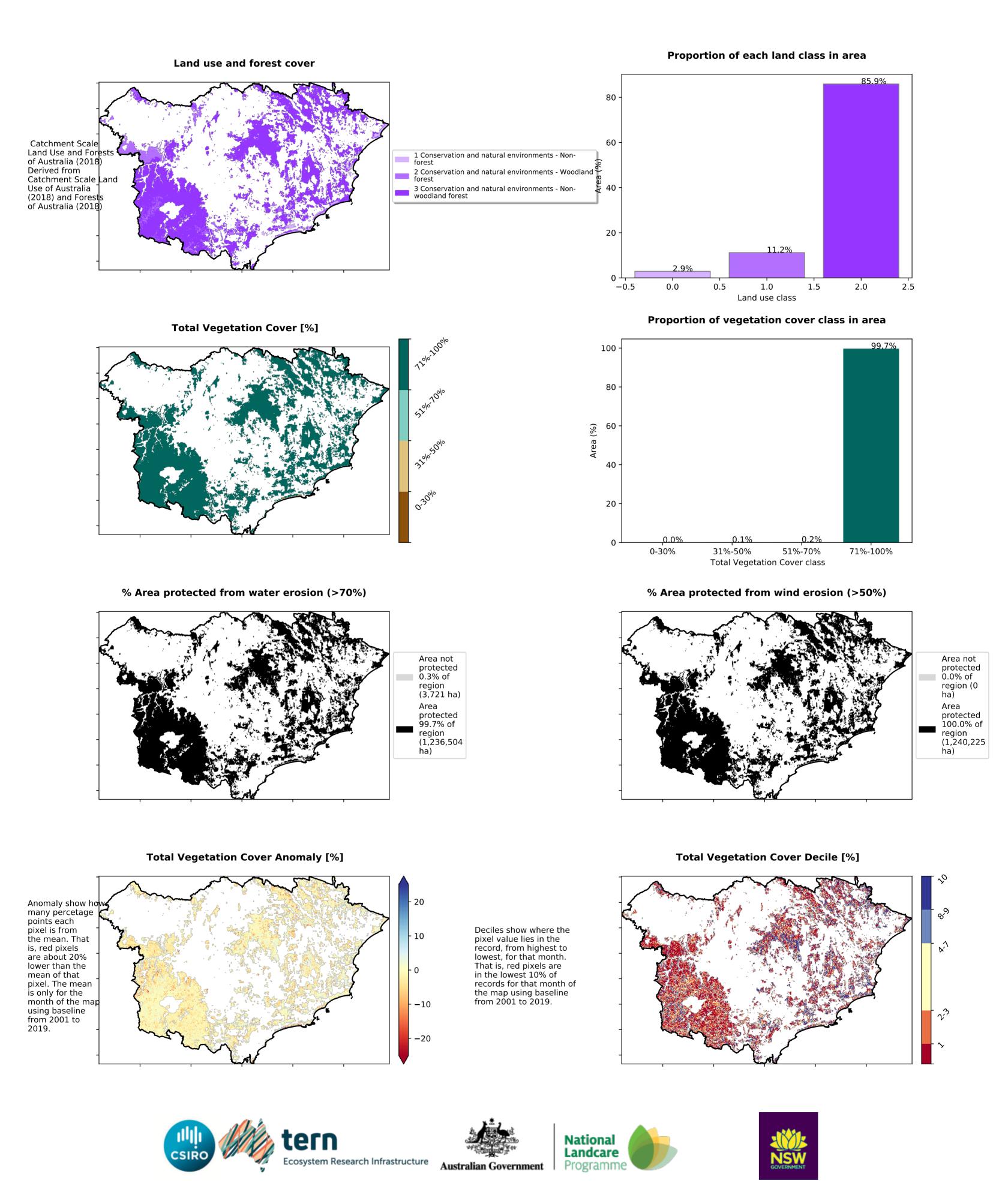




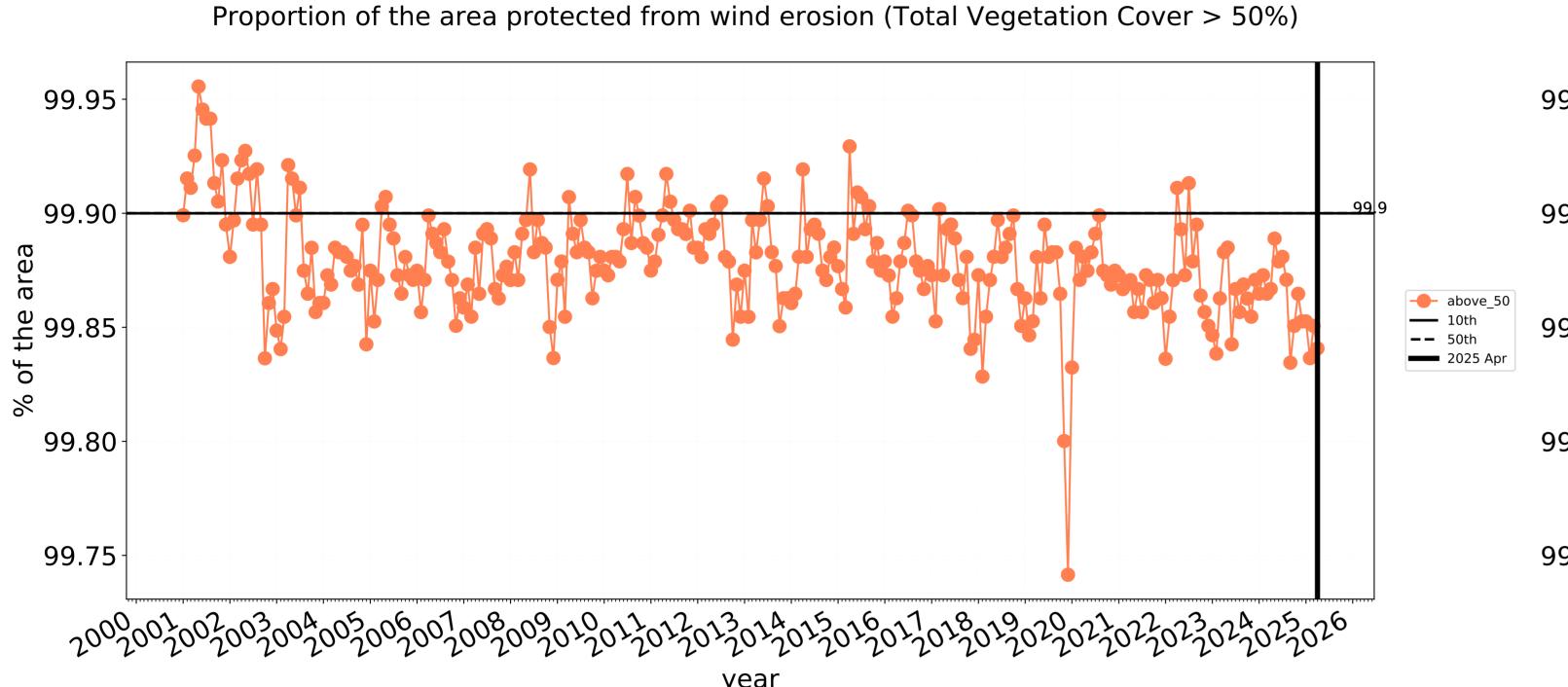
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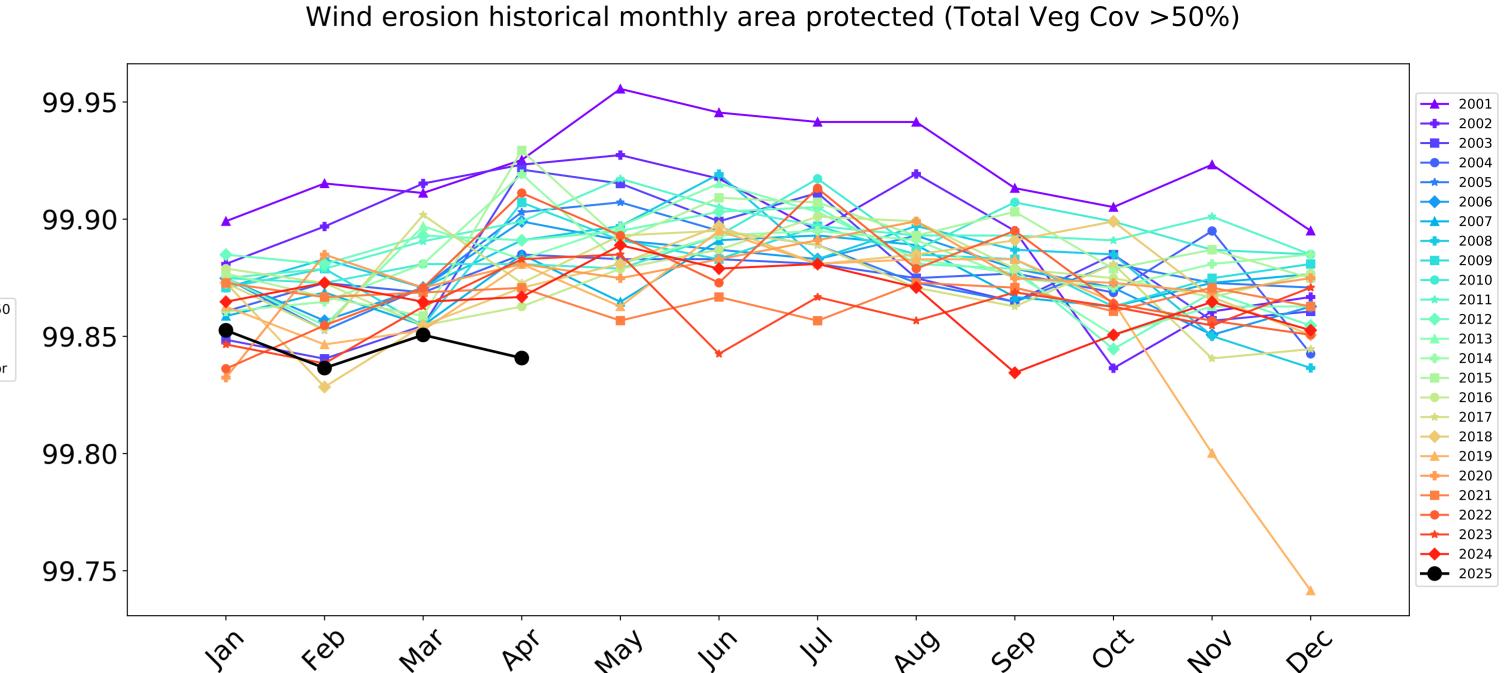


Conservation and natural environments

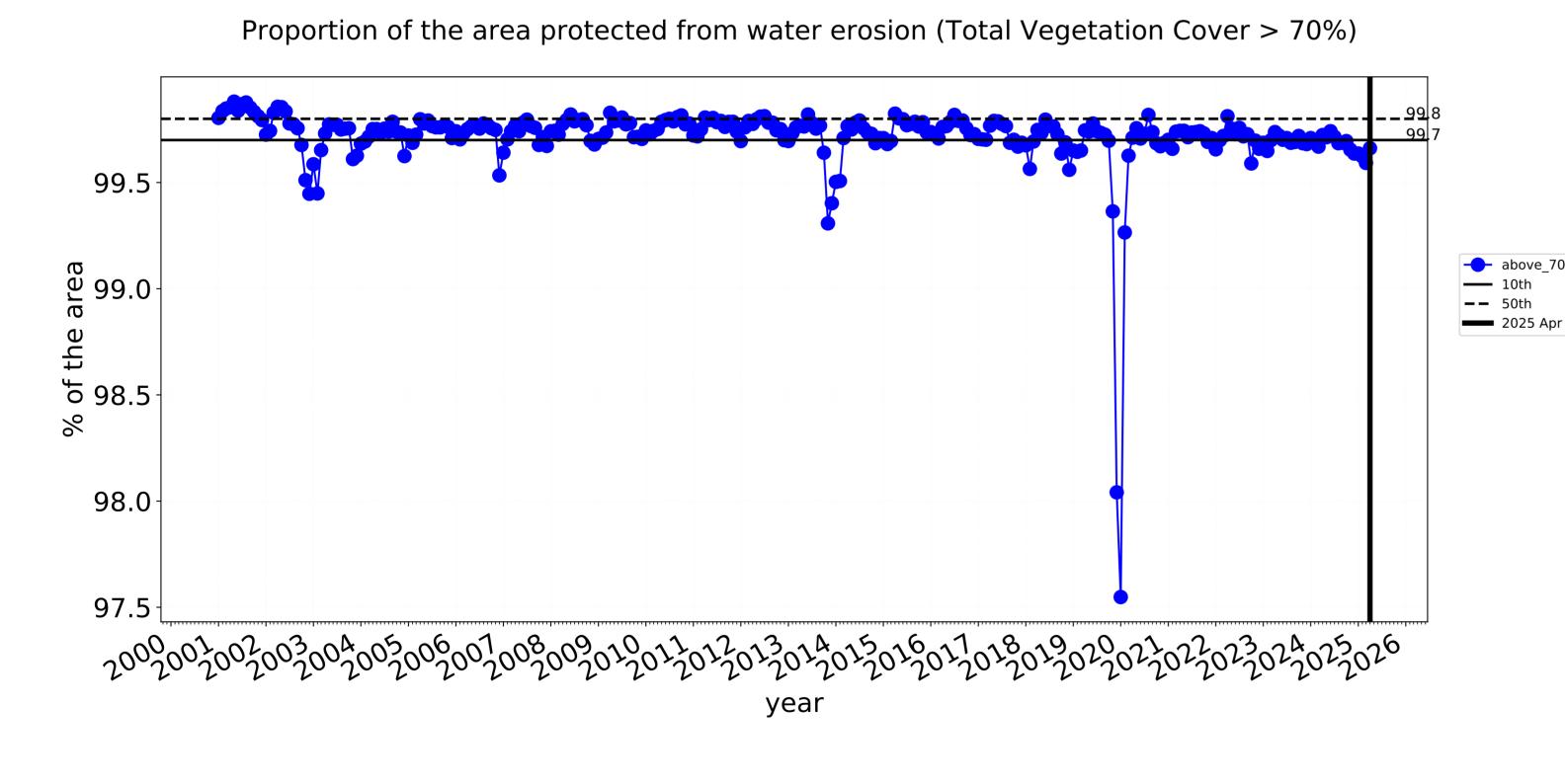


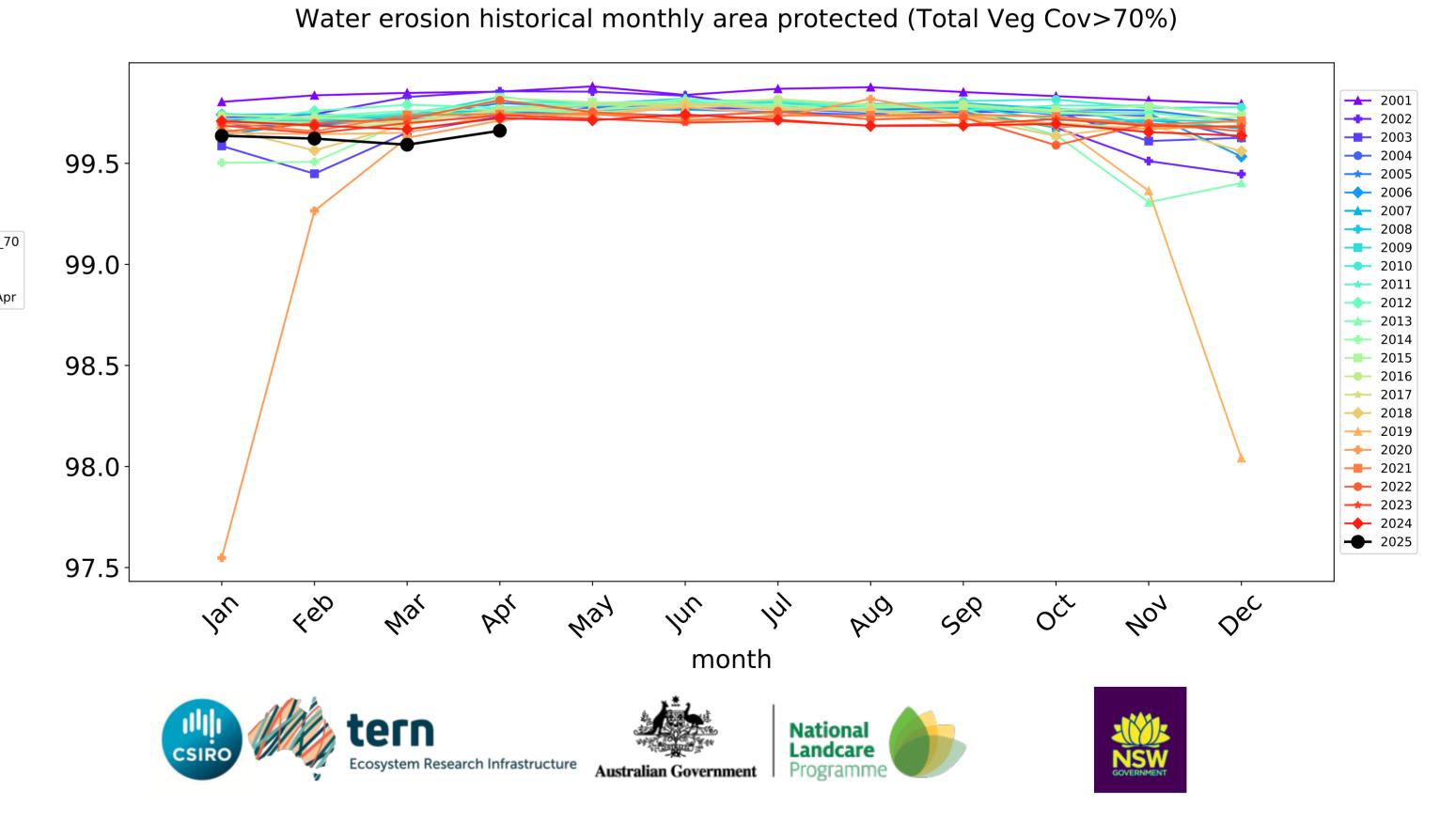
Conservation and natural environments timeseries

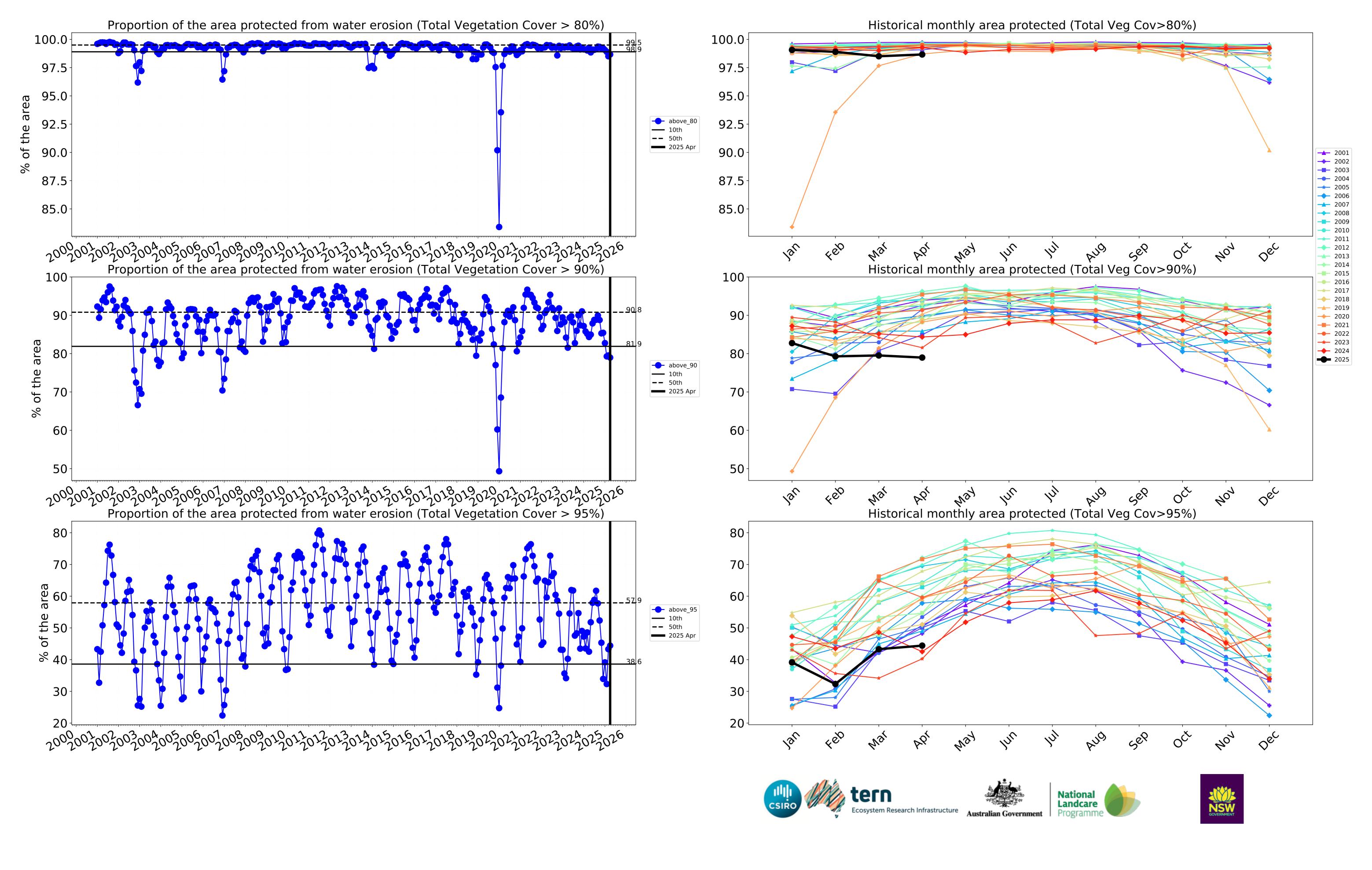




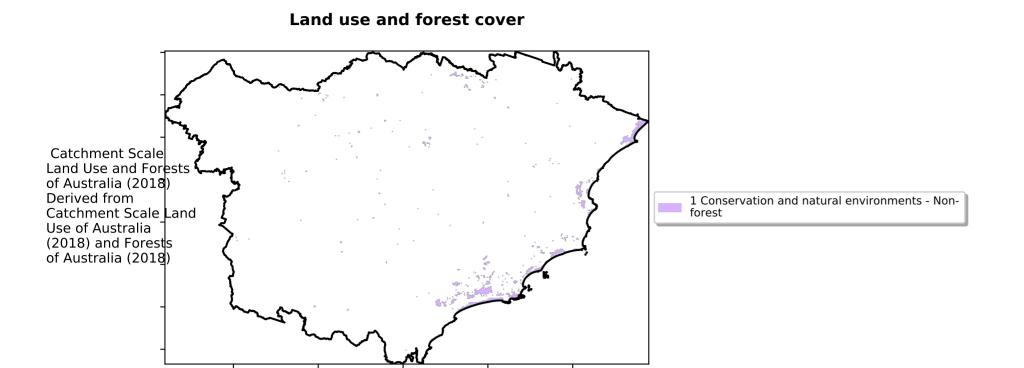
month



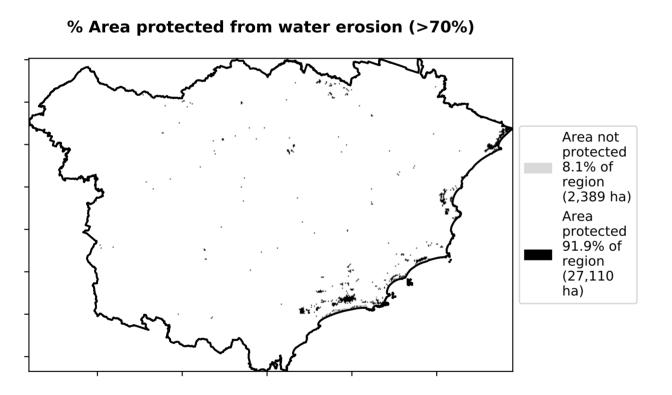


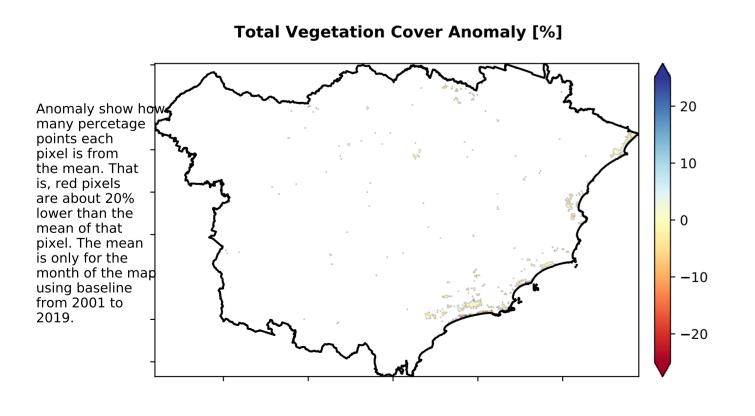


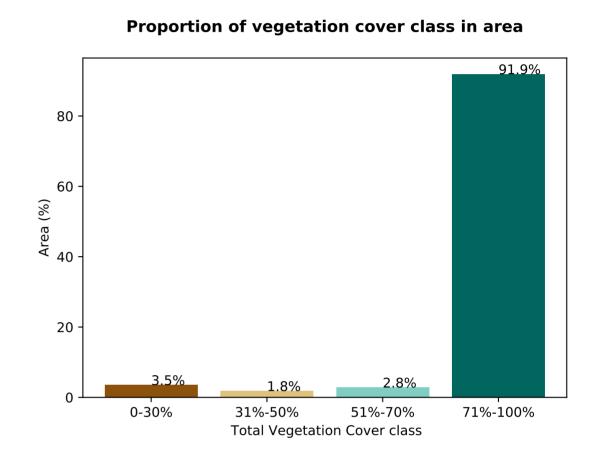
Conservation and natural environments non forest

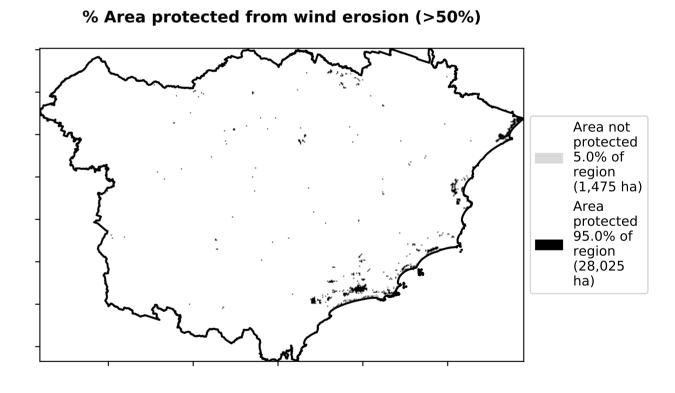


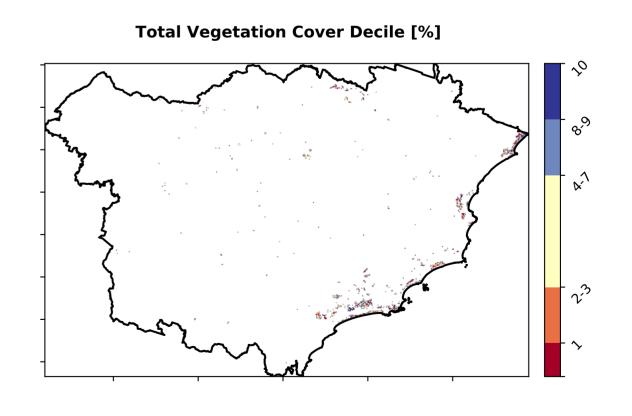
Total Vegetation Cover [%]











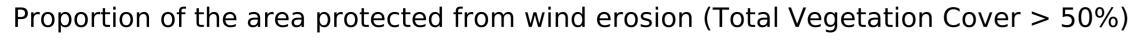


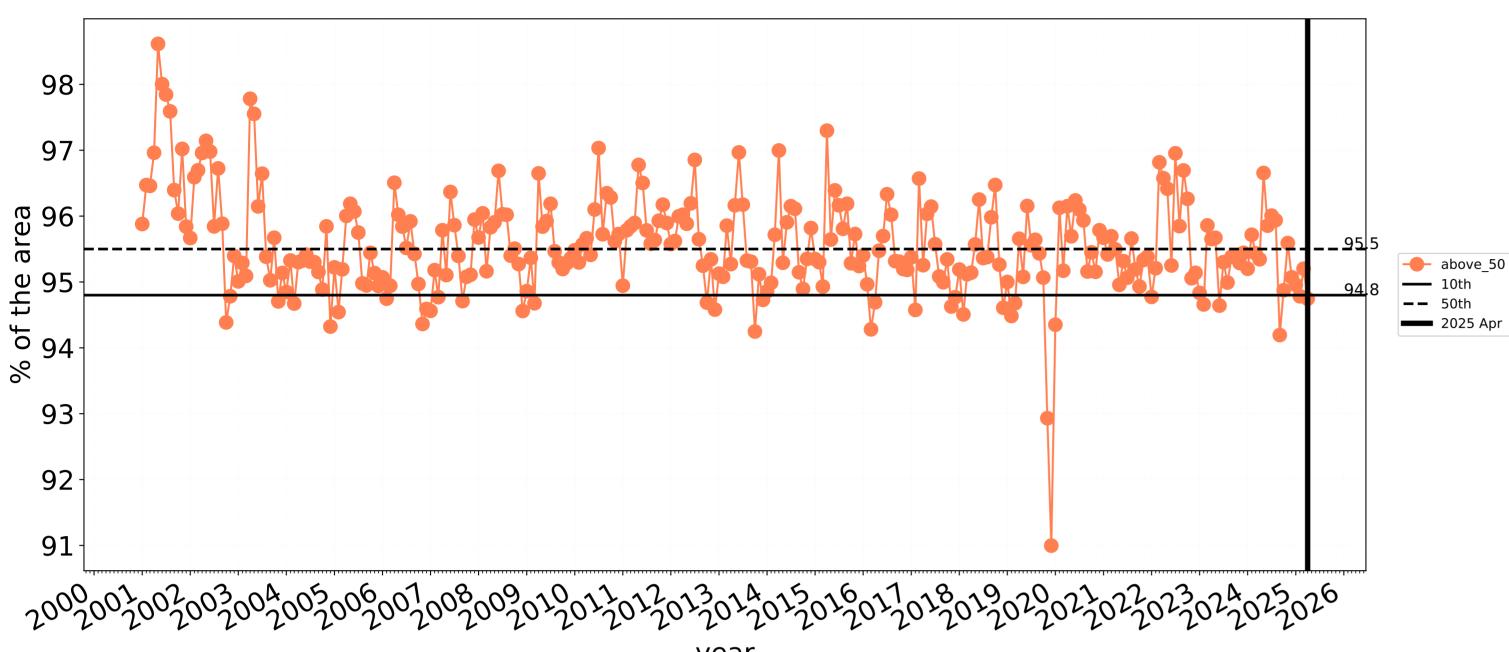




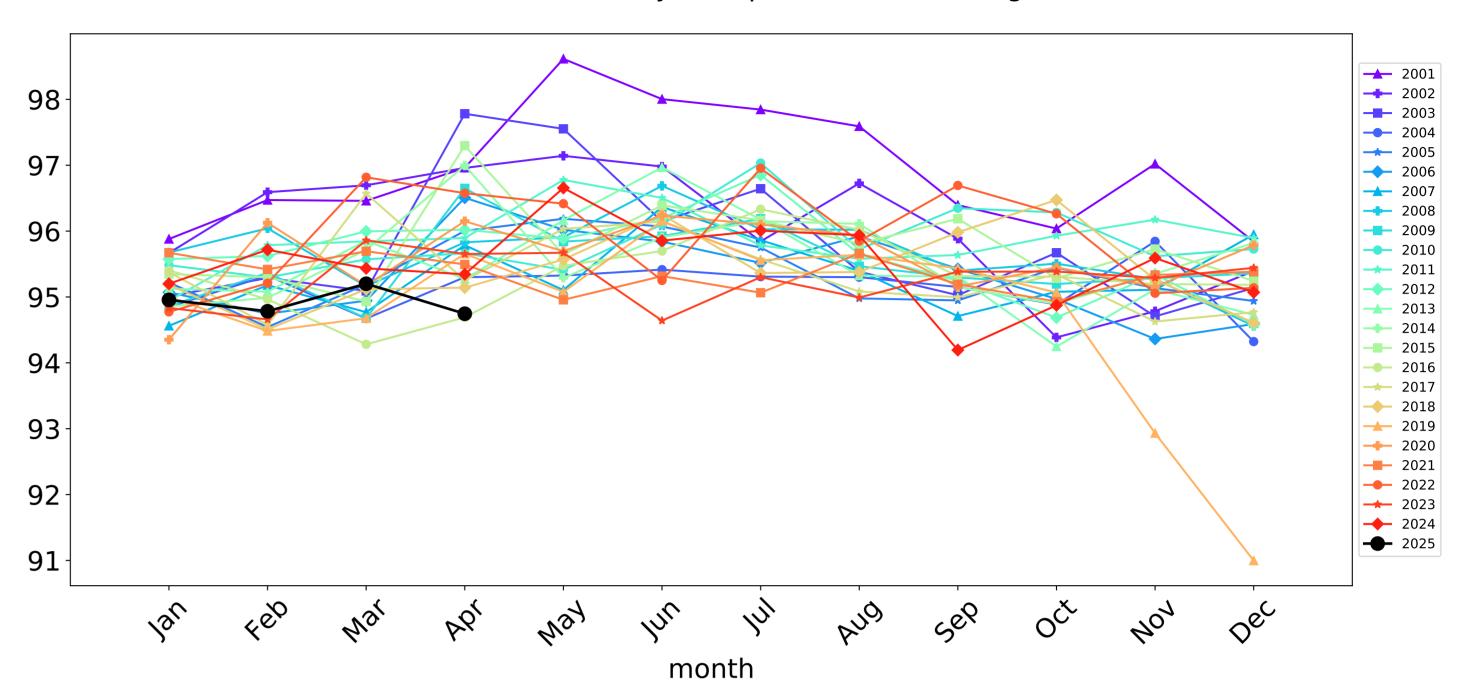


Conservation and natural environments non forest timeseries

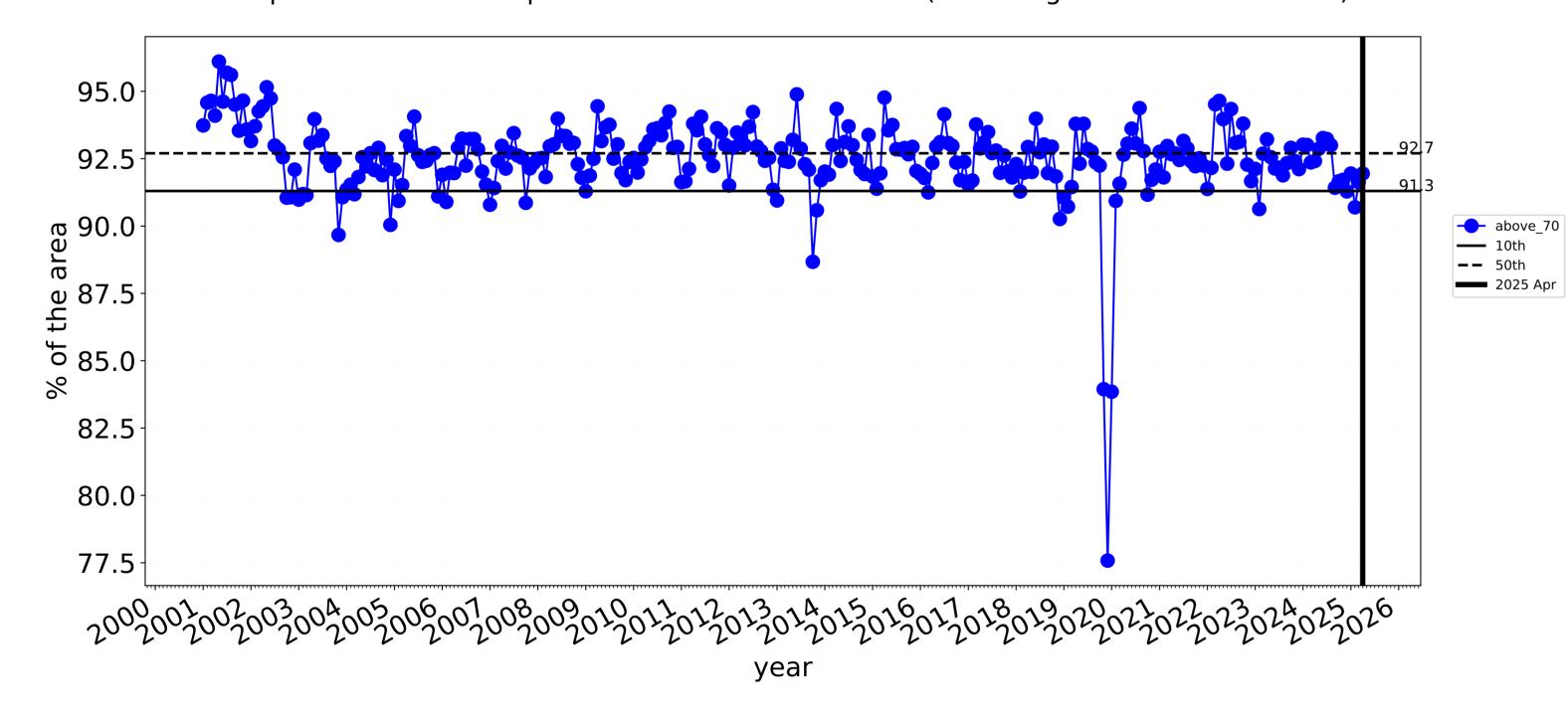




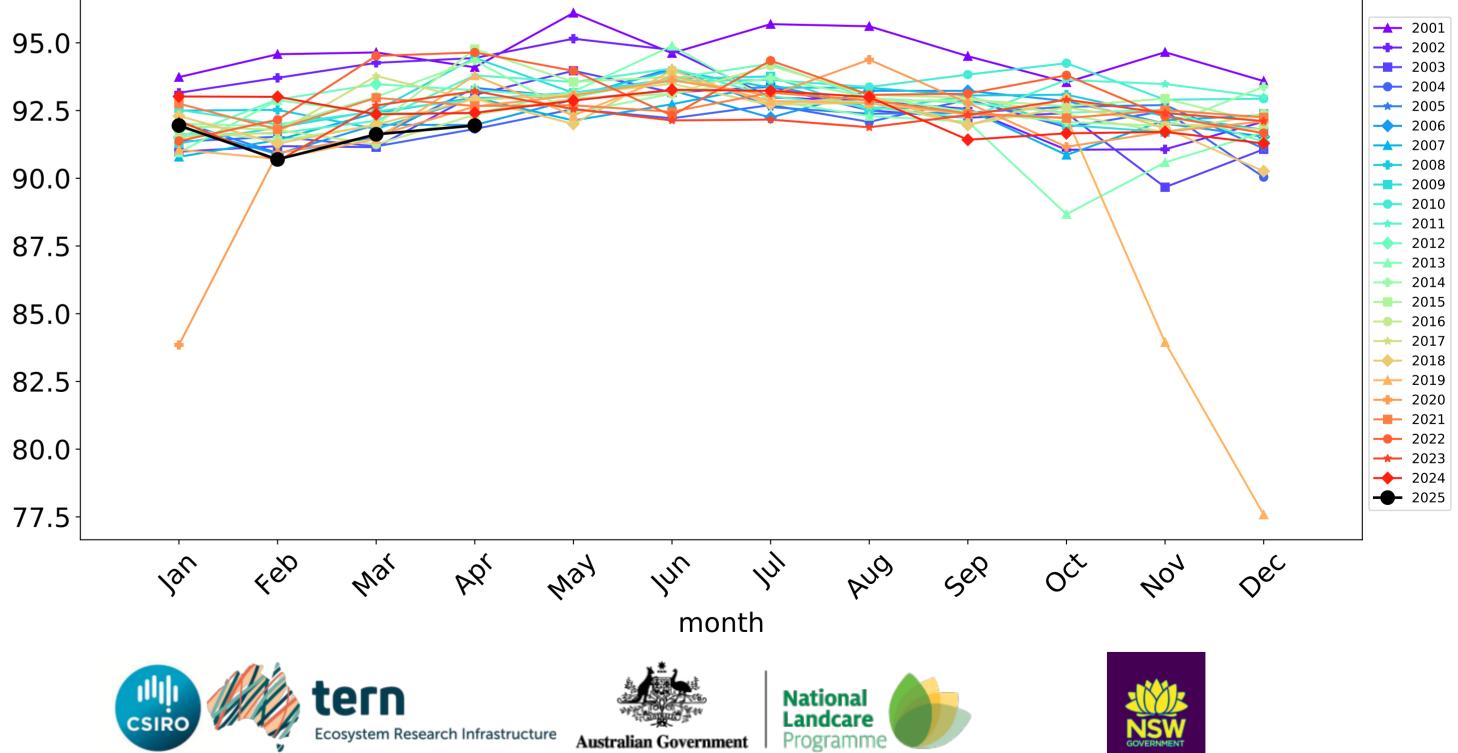
Wind erosion historical monthly area protected (Total Veg Cov >50%)



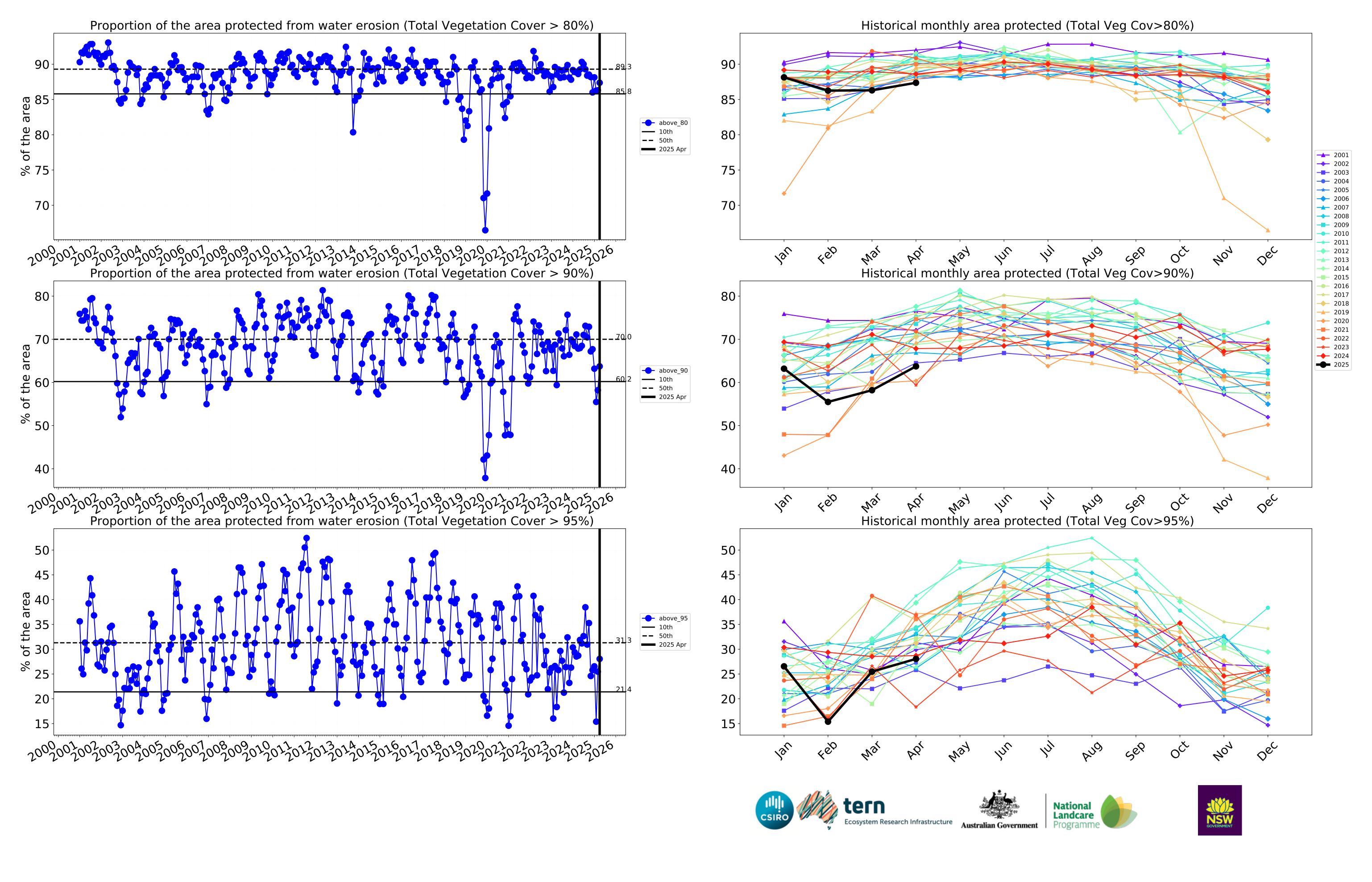
Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



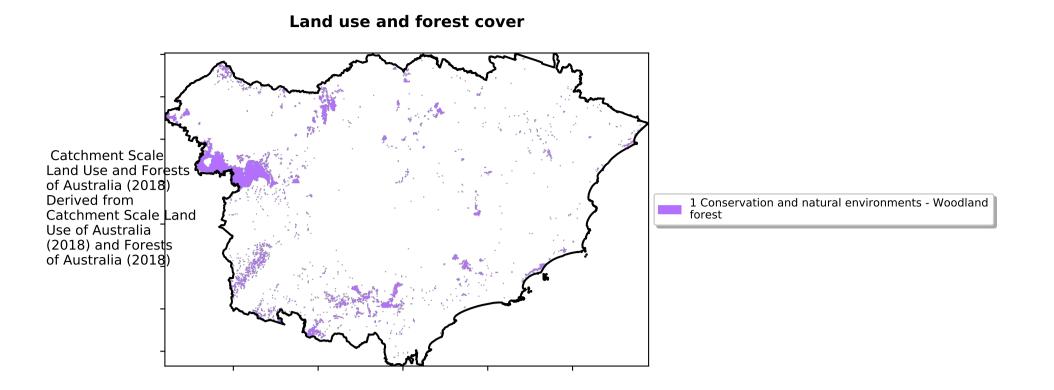
Water erosion historical monthly area protected (Total Veg Cov>70%)

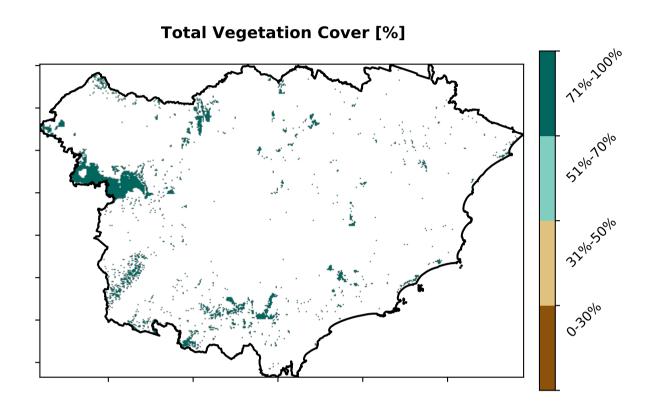


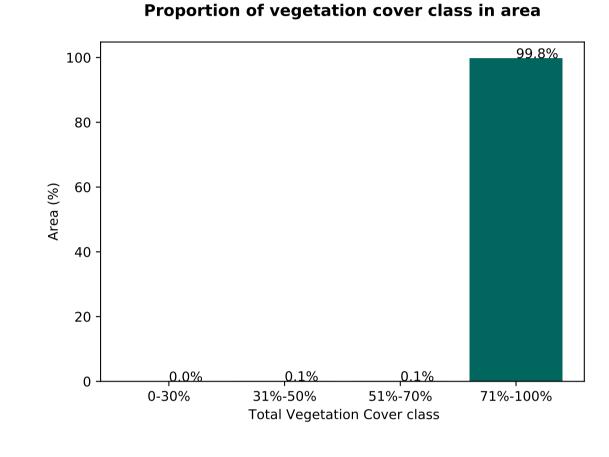


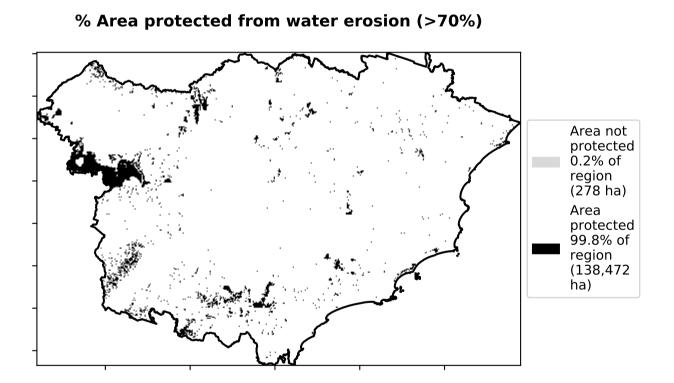


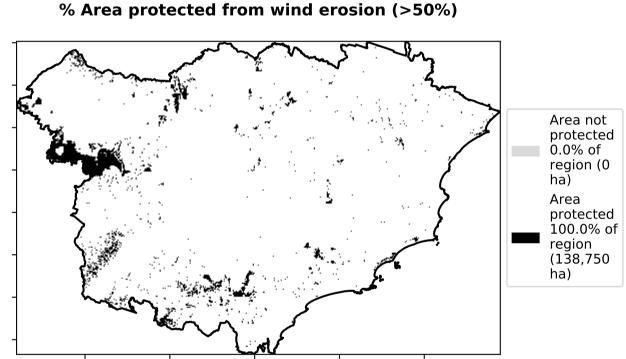
Conservation and natural environments Woodland forest

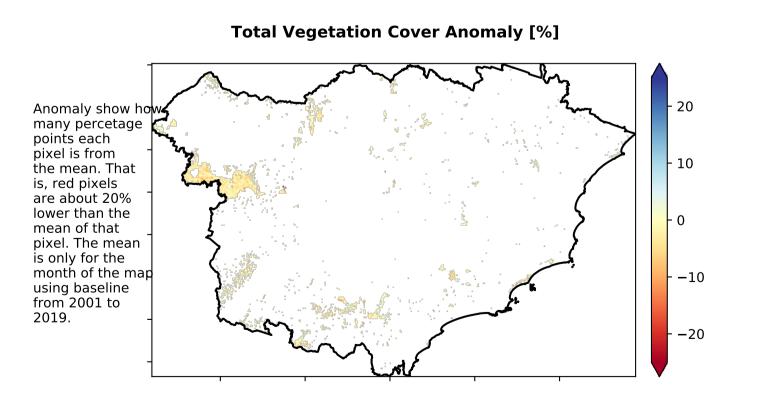


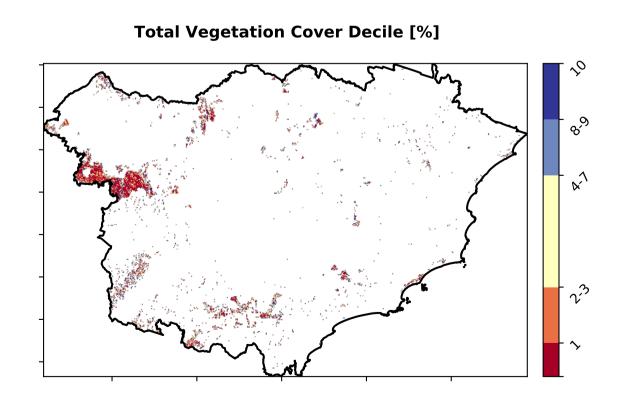










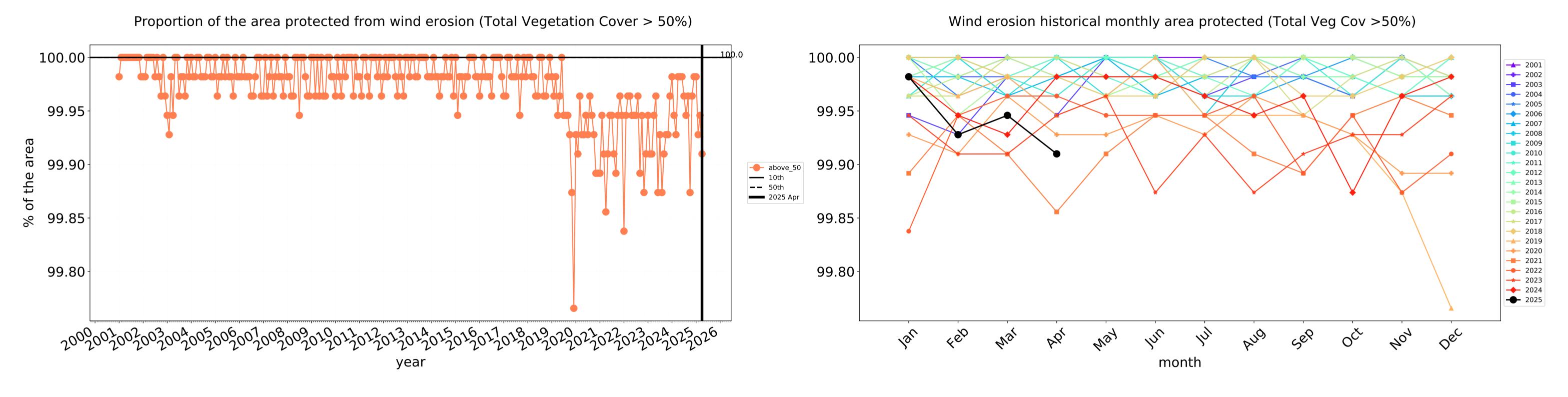


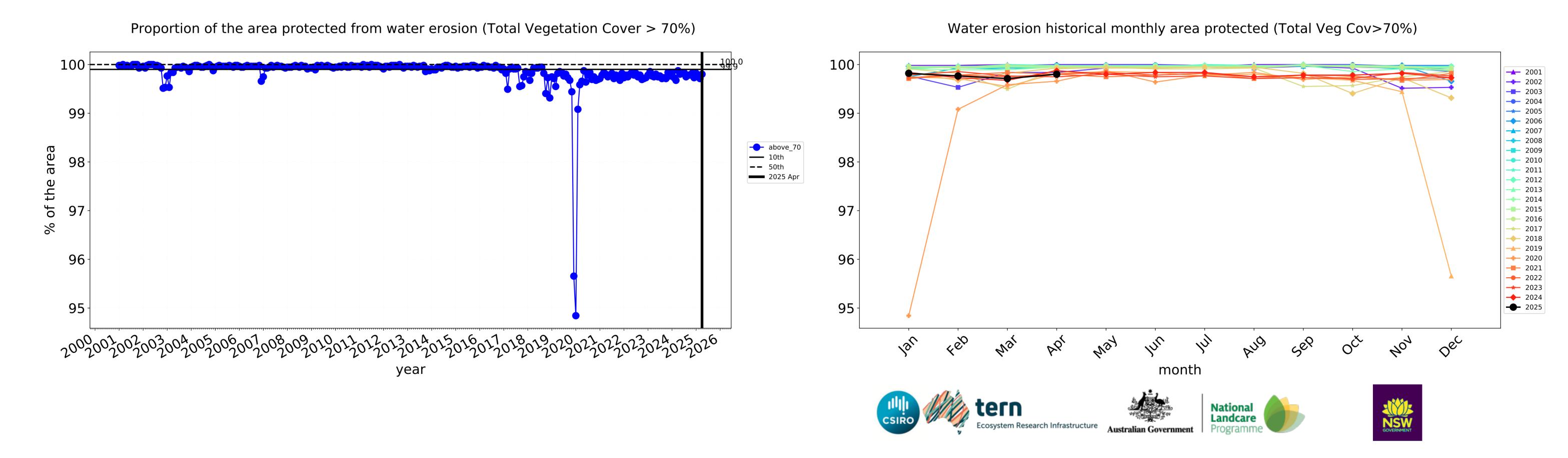


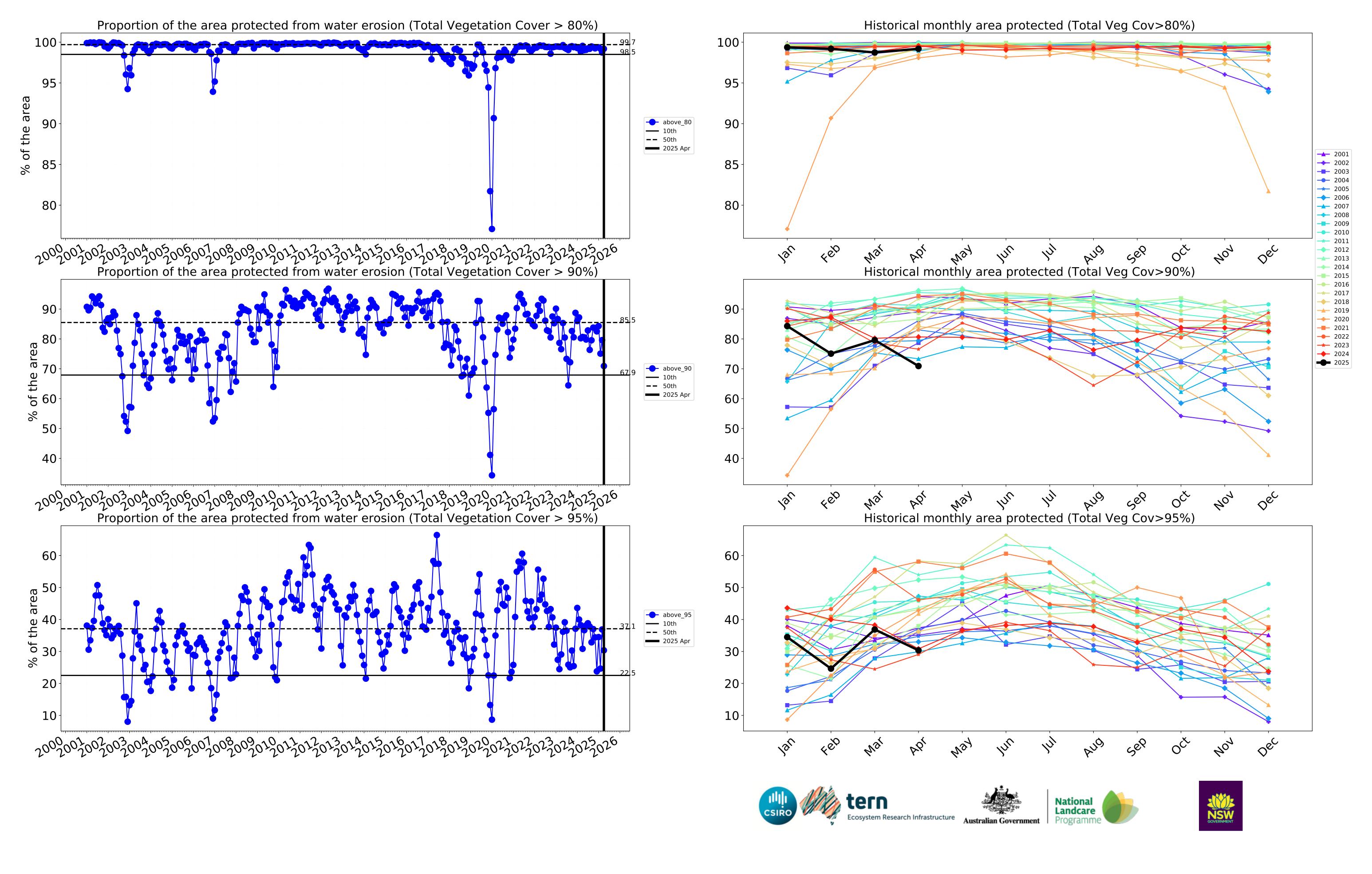




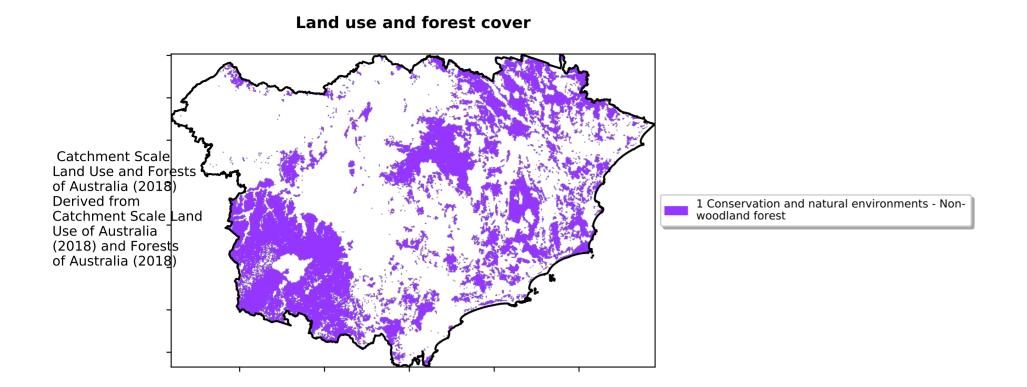




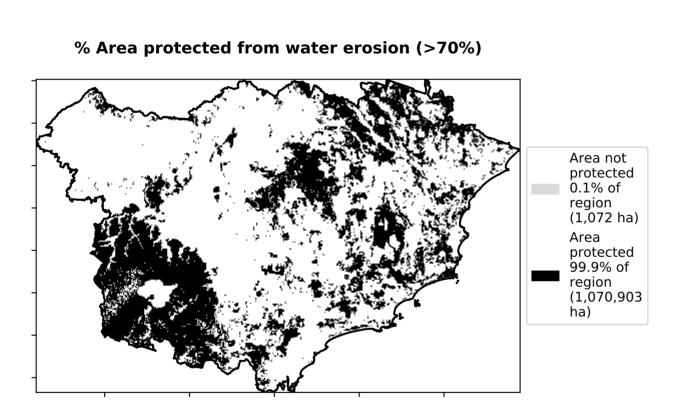


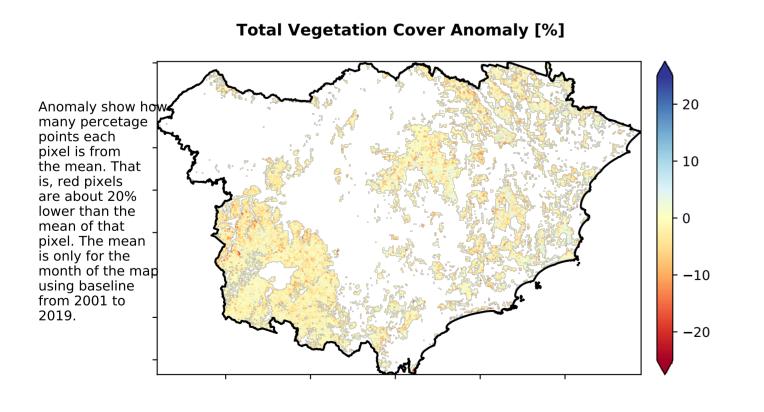


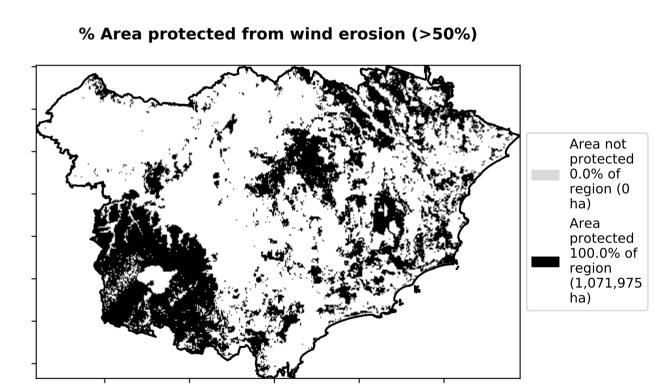
Conservation and natural environments Forest (non woodland)

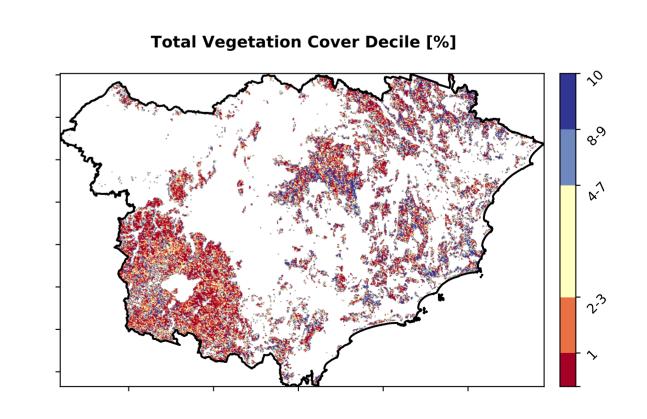


Total Vegetation Cover [%] Total Vegetation Cover [%] Total Vegetation Cover [%]







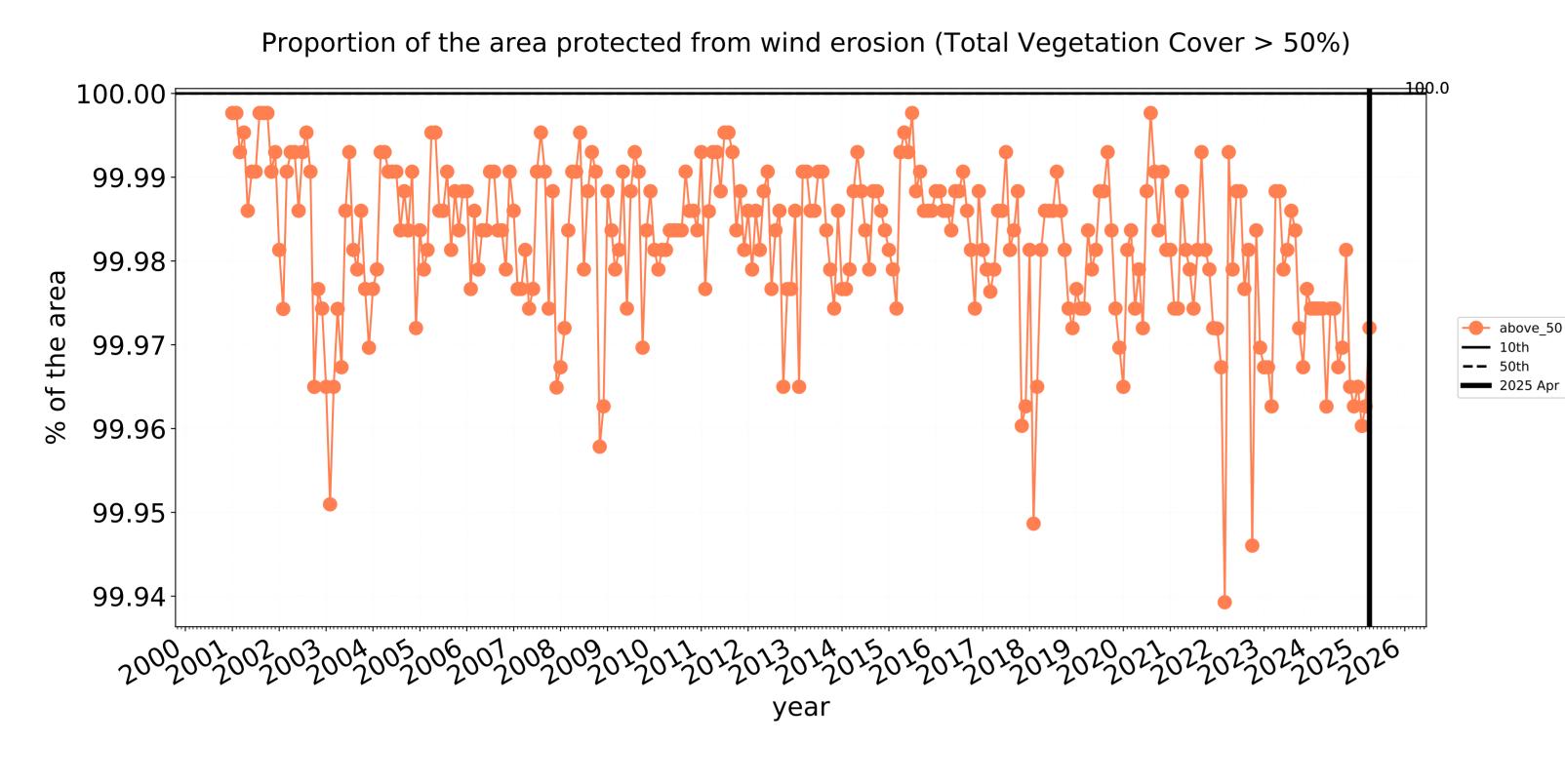


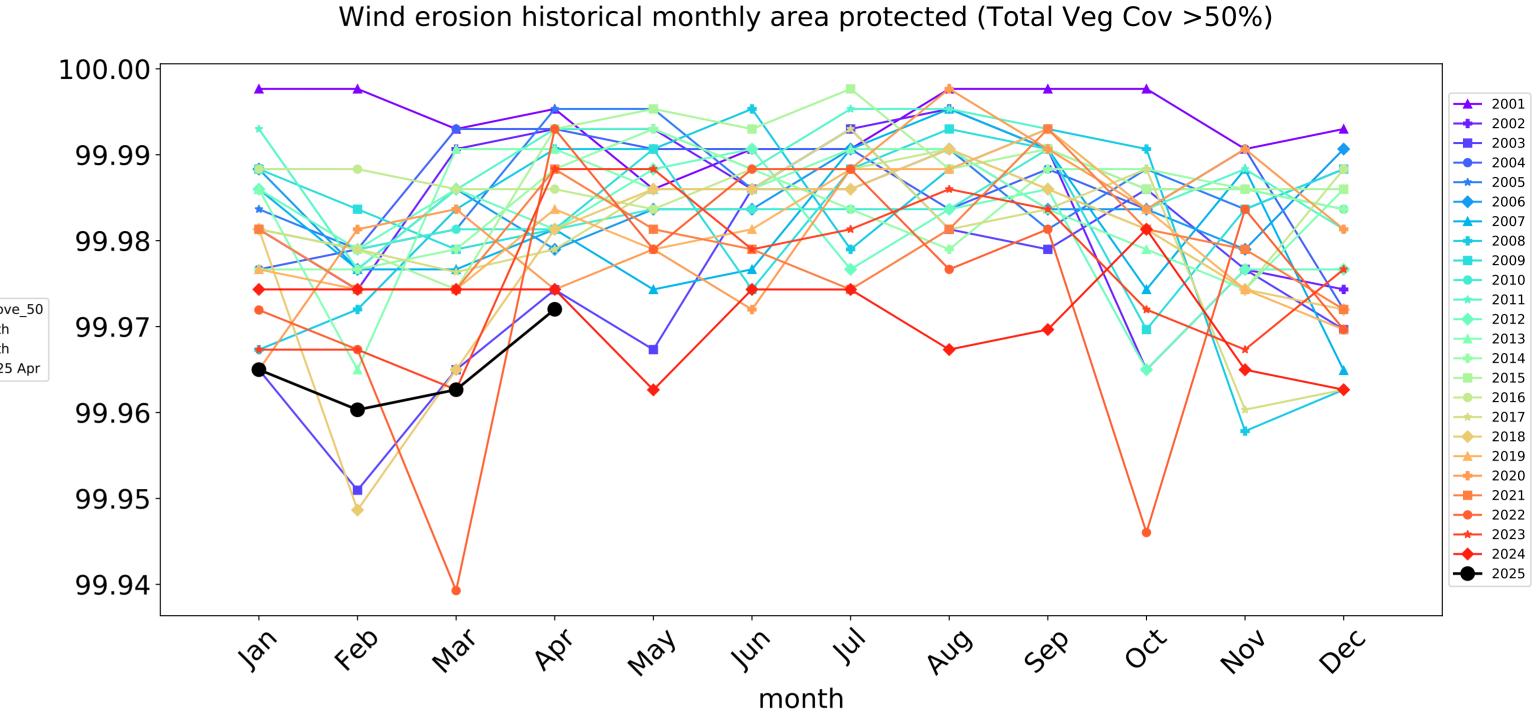


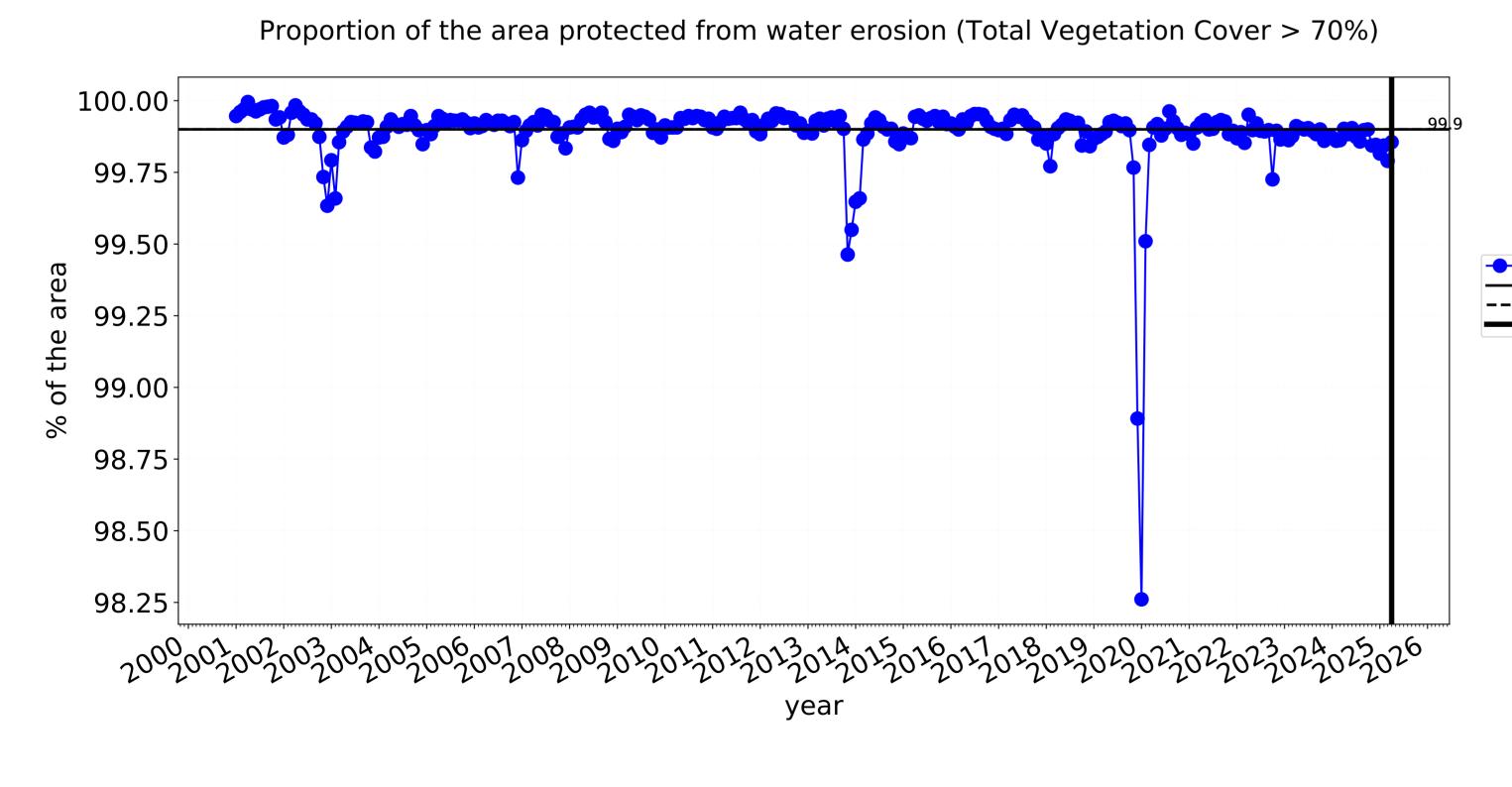


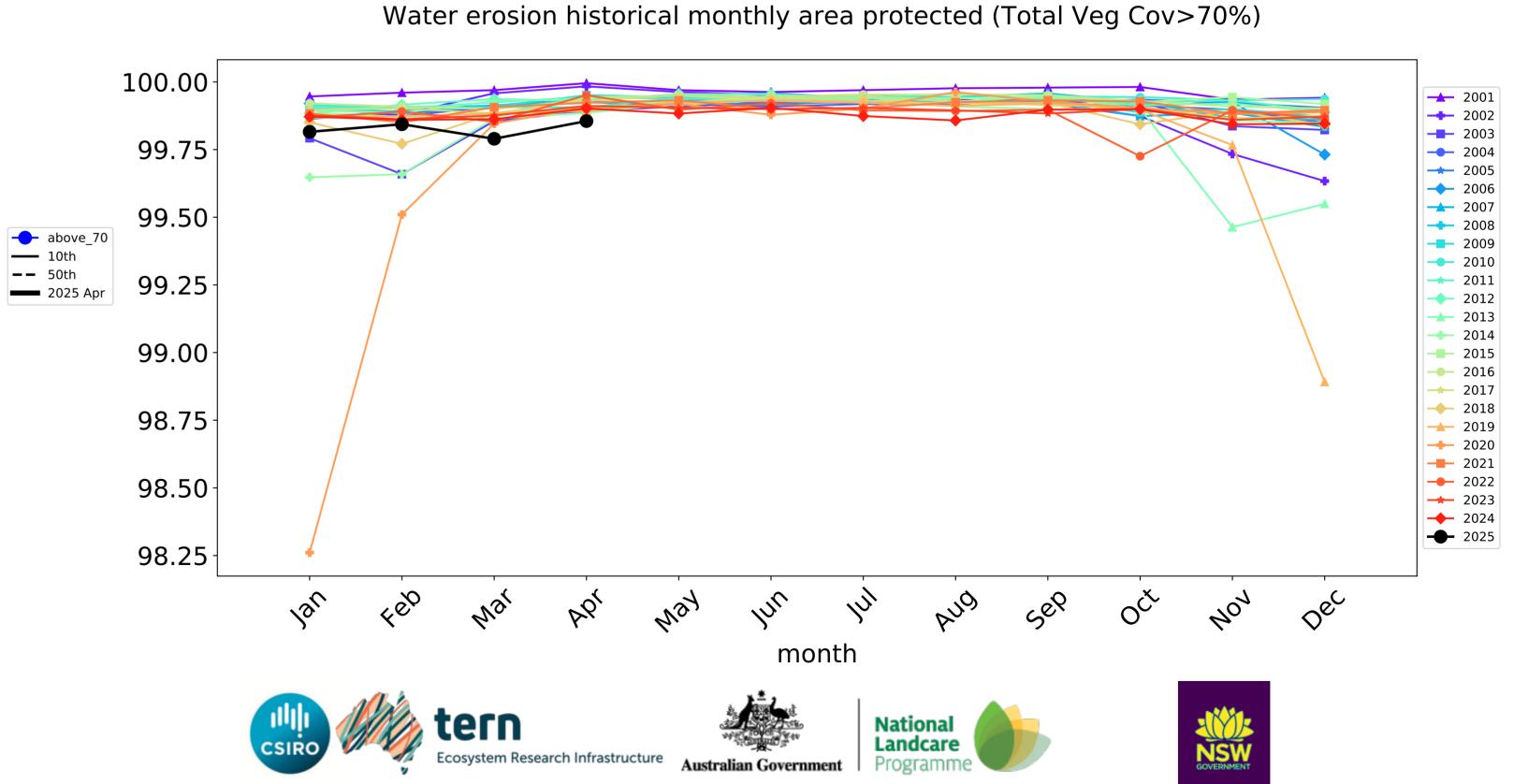


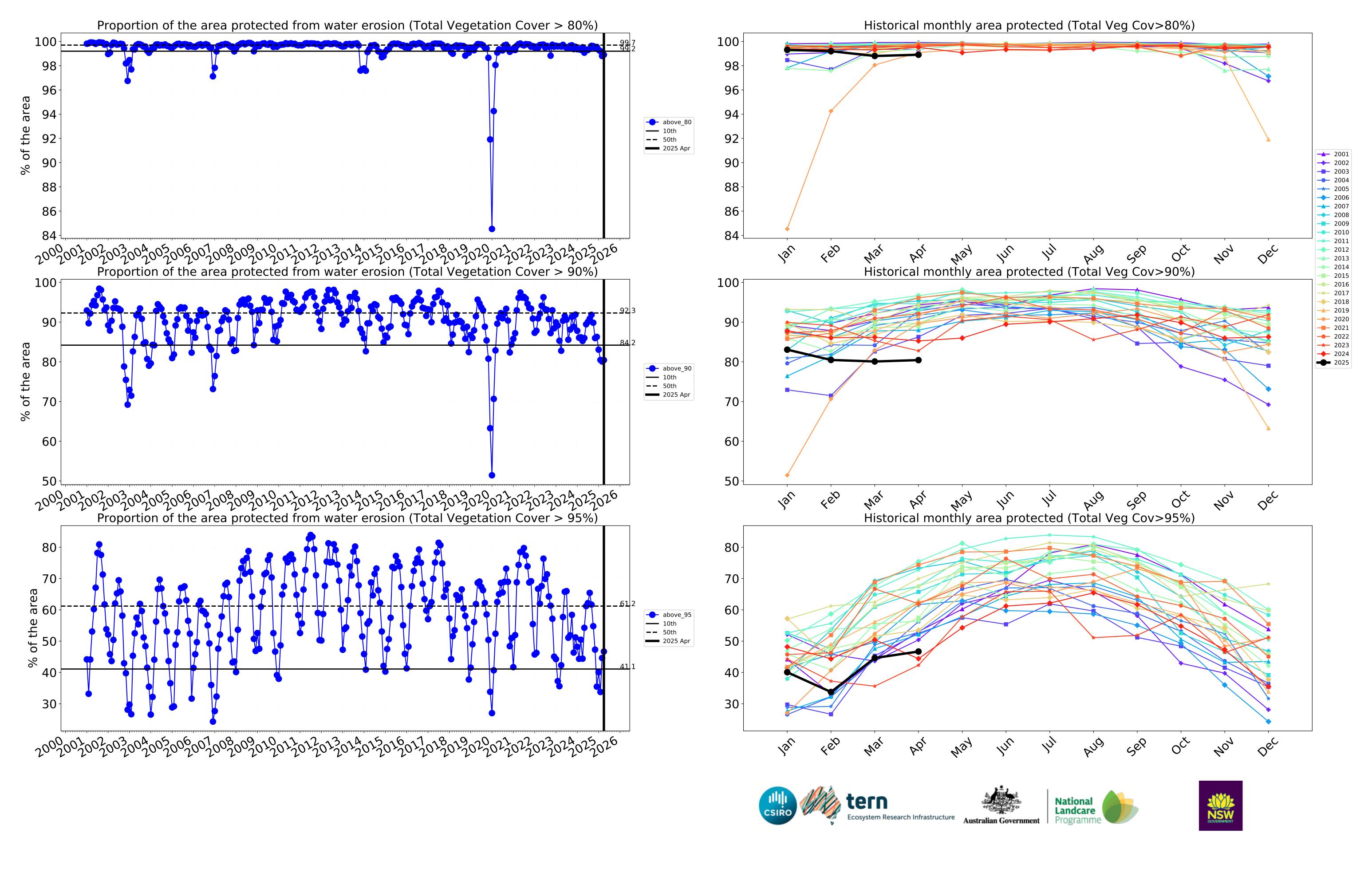
Conservation and natural environments Forest (non woodland) timeseries



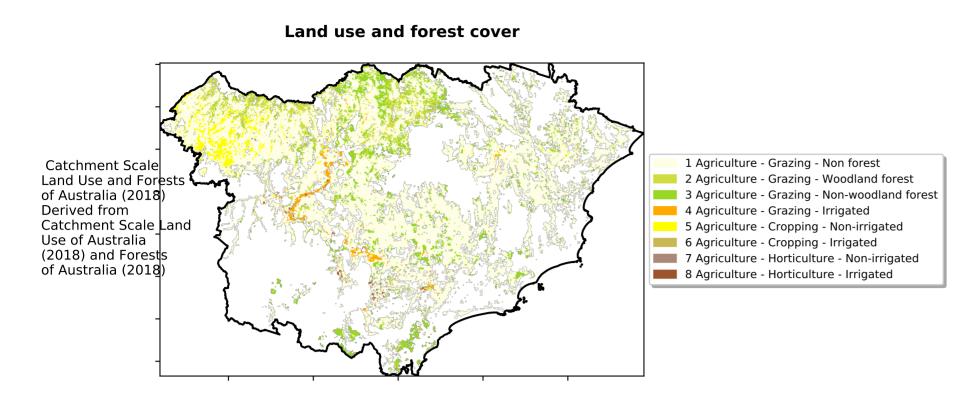


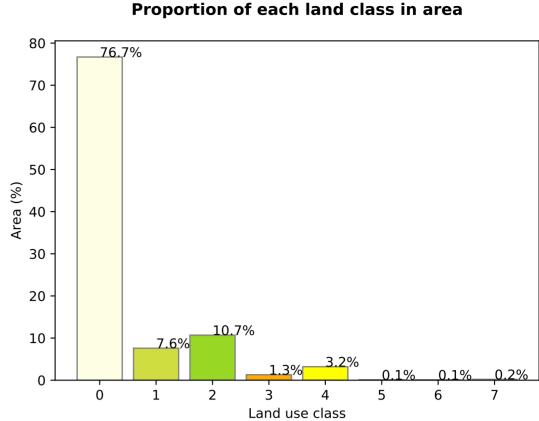


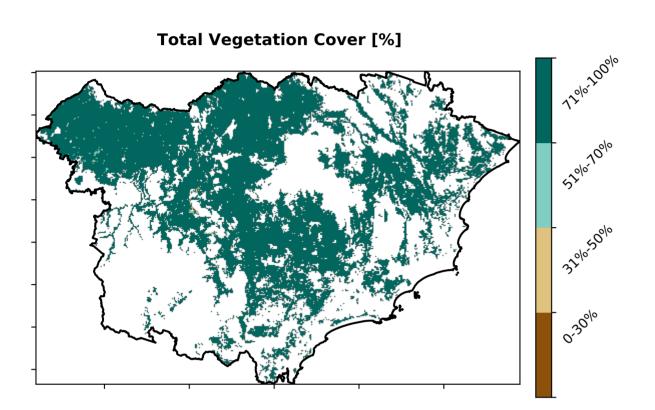


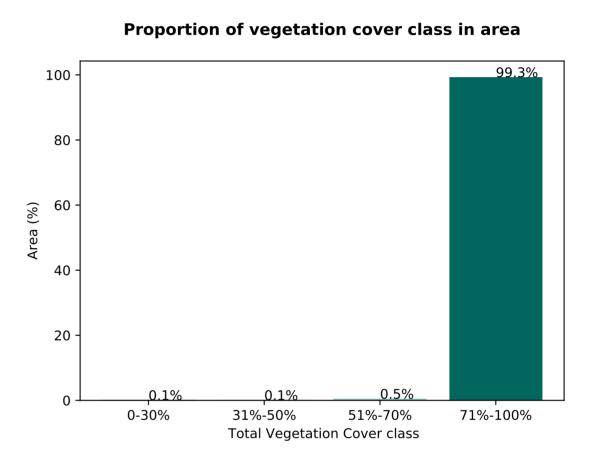


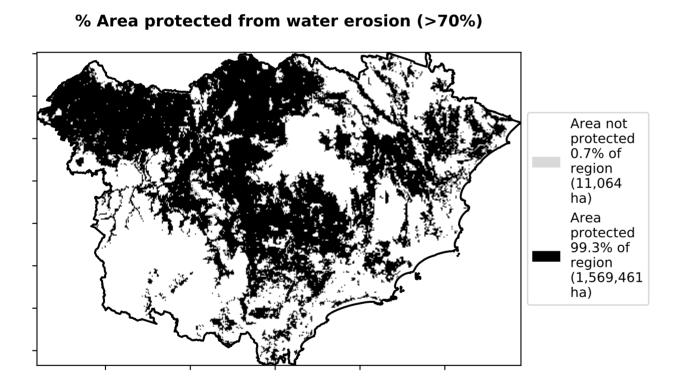
Agriculture

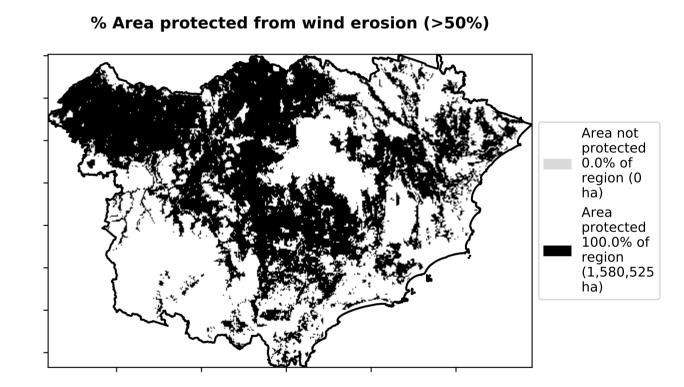


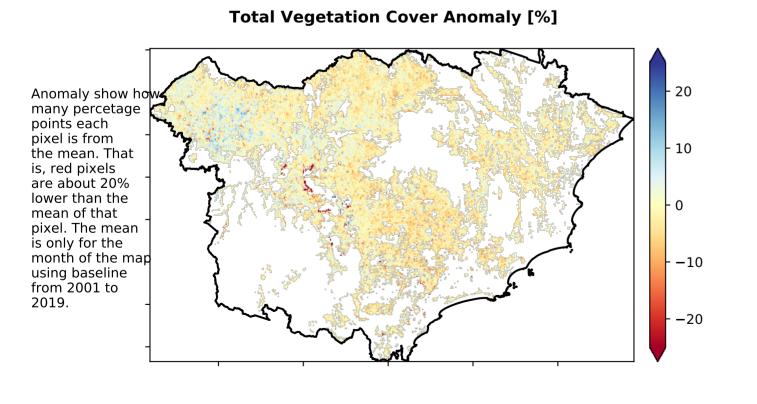


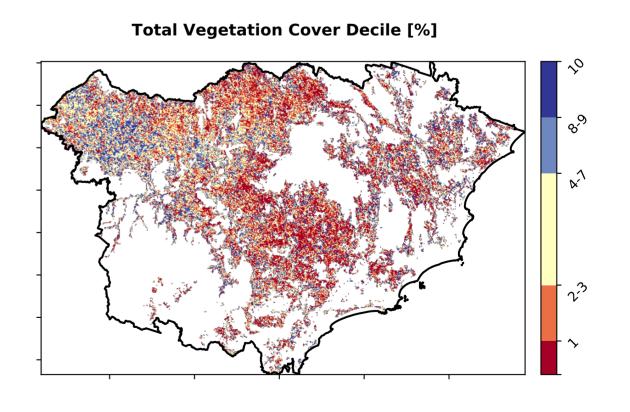












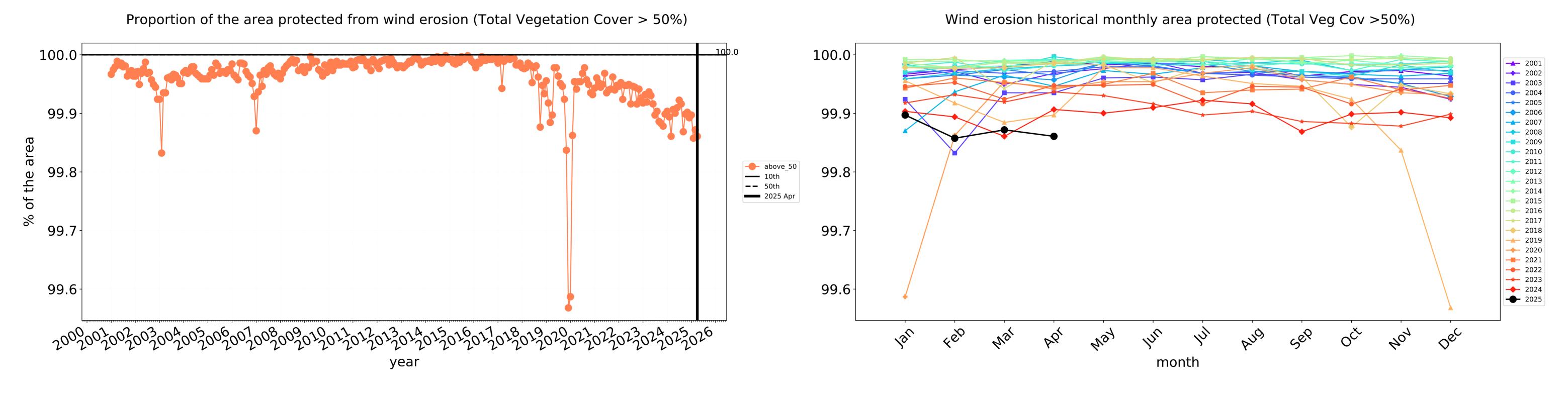


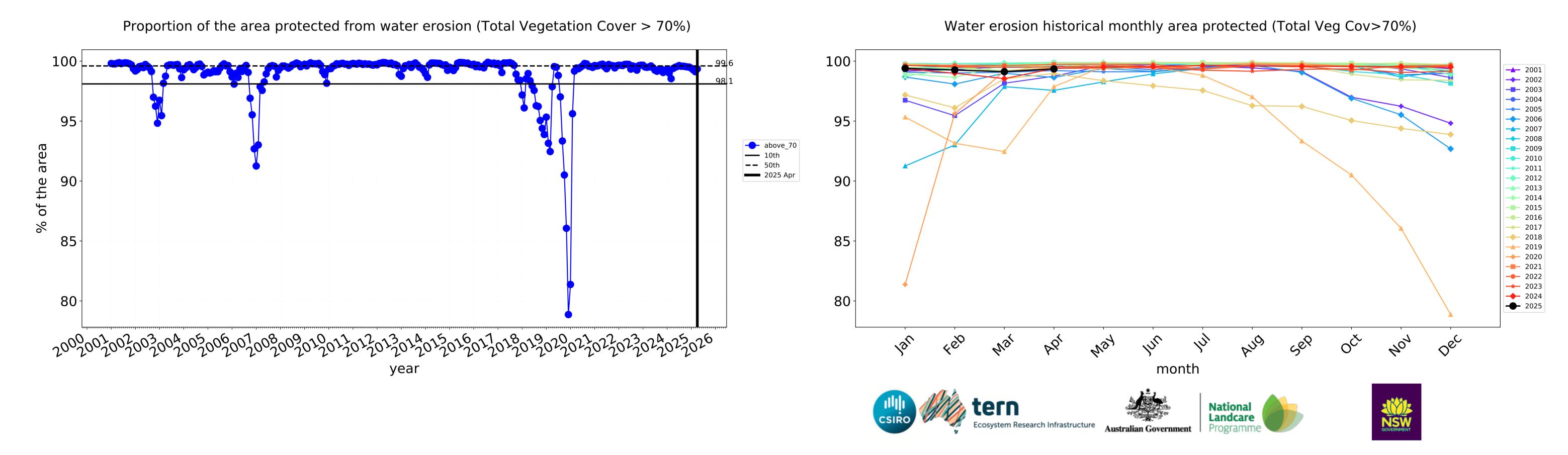


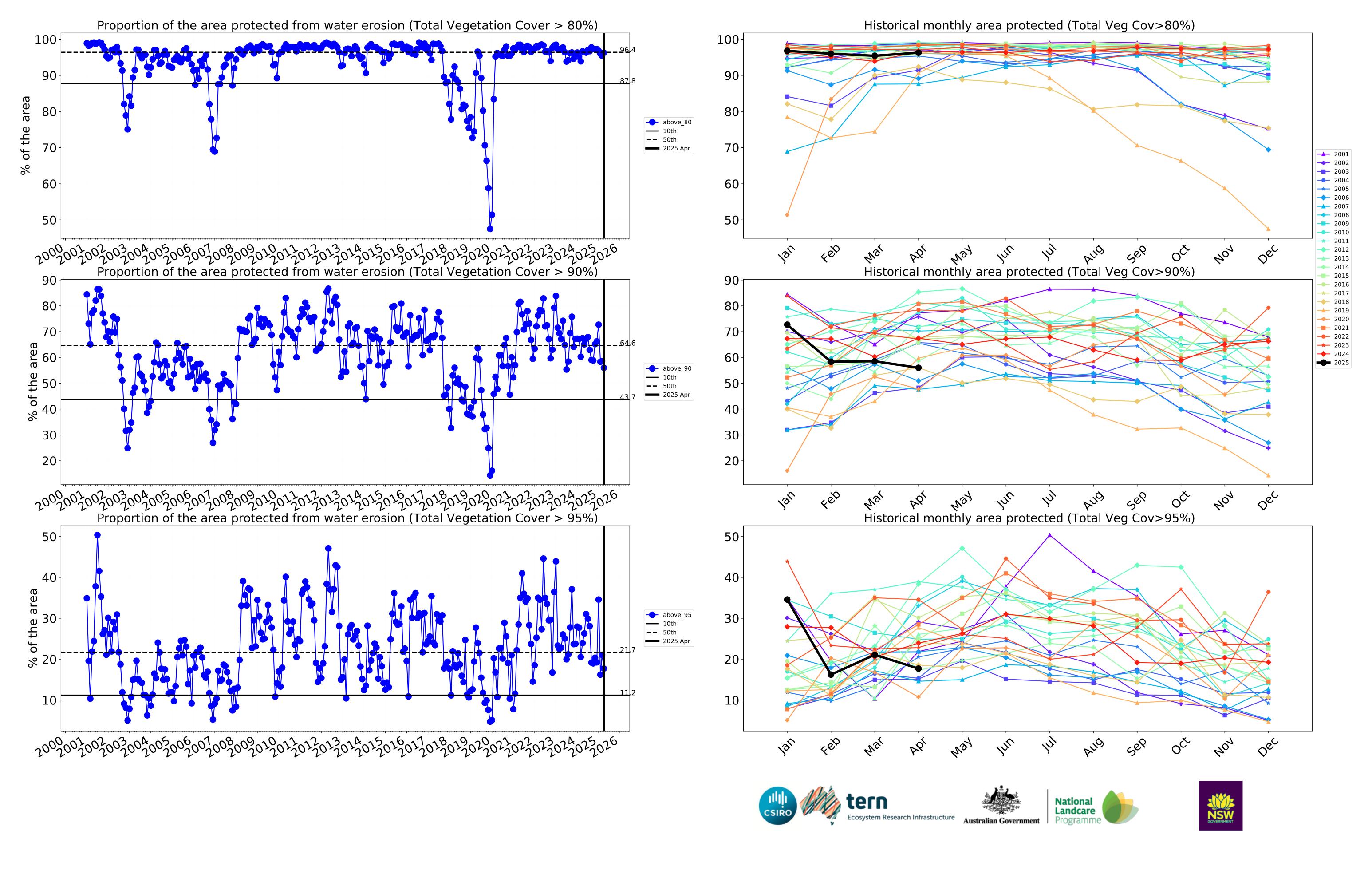




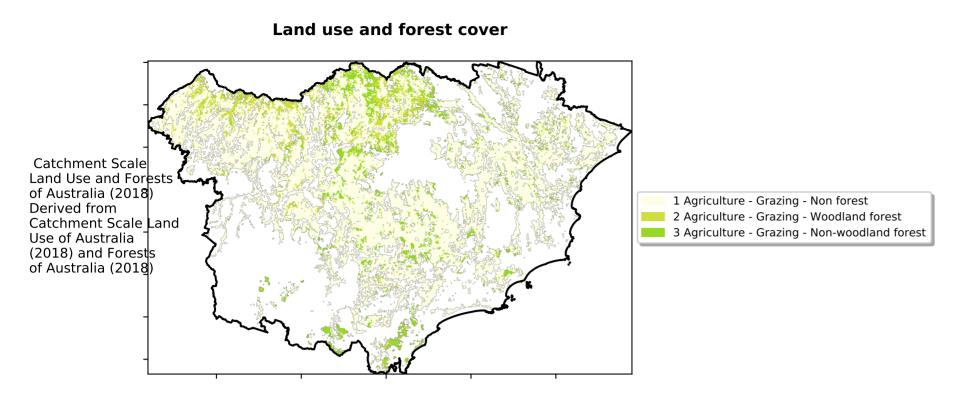
Agriculture timeseries



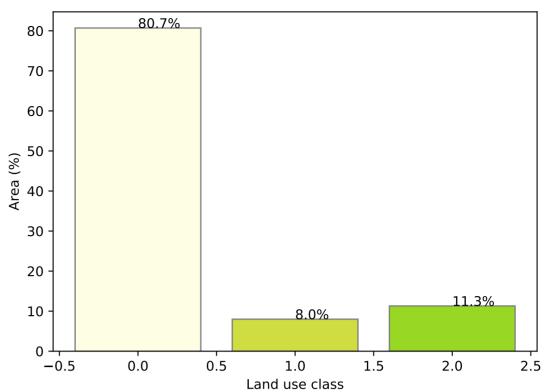




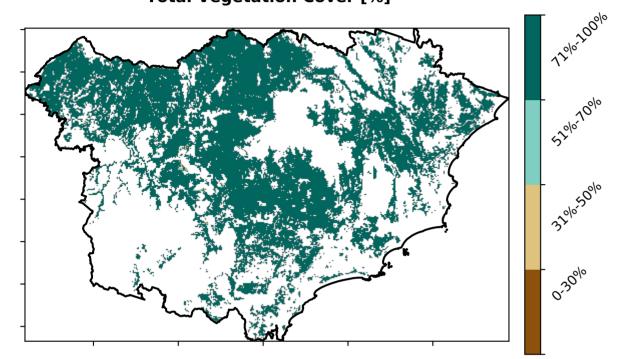
Grazing



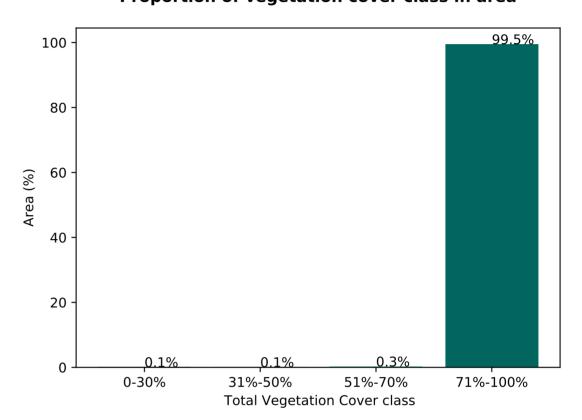
Proportion of each land class in area



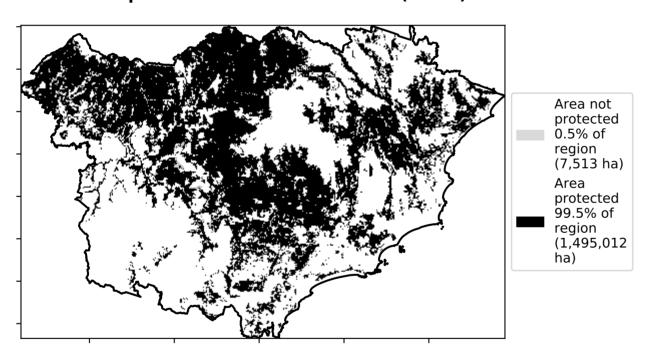
Total Vegetation Cover [%]



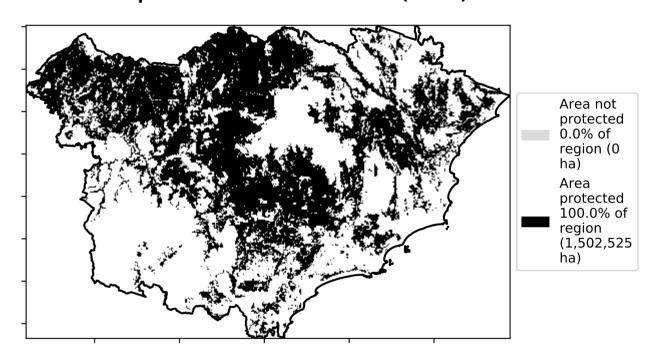
Proportion of vegetation cover class in area



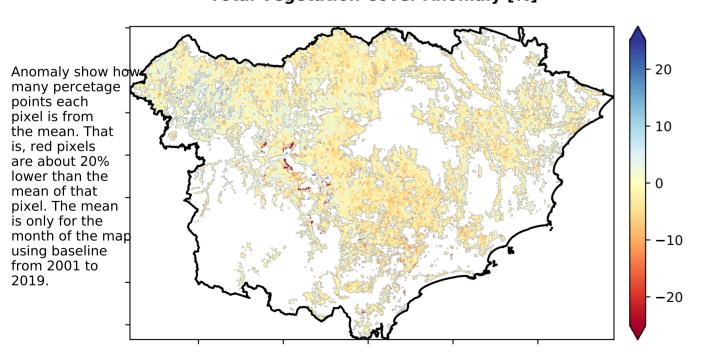
% Area protected from water erosion (>70%)



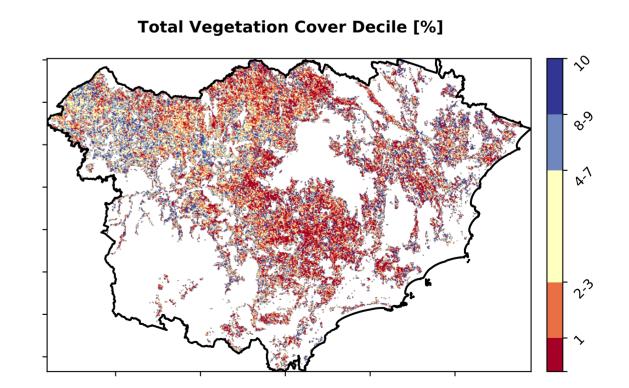
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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.





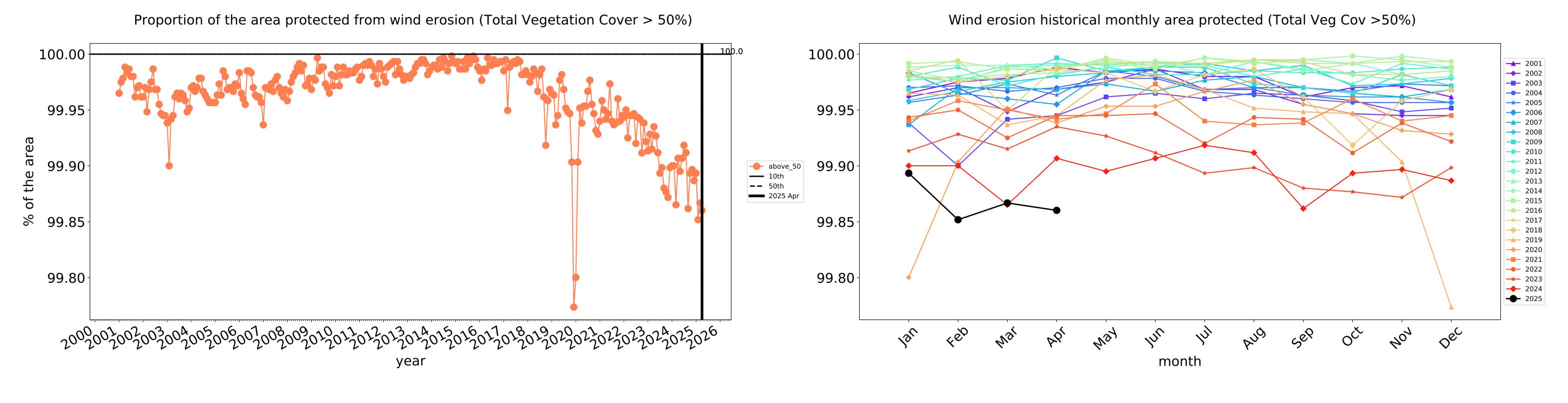


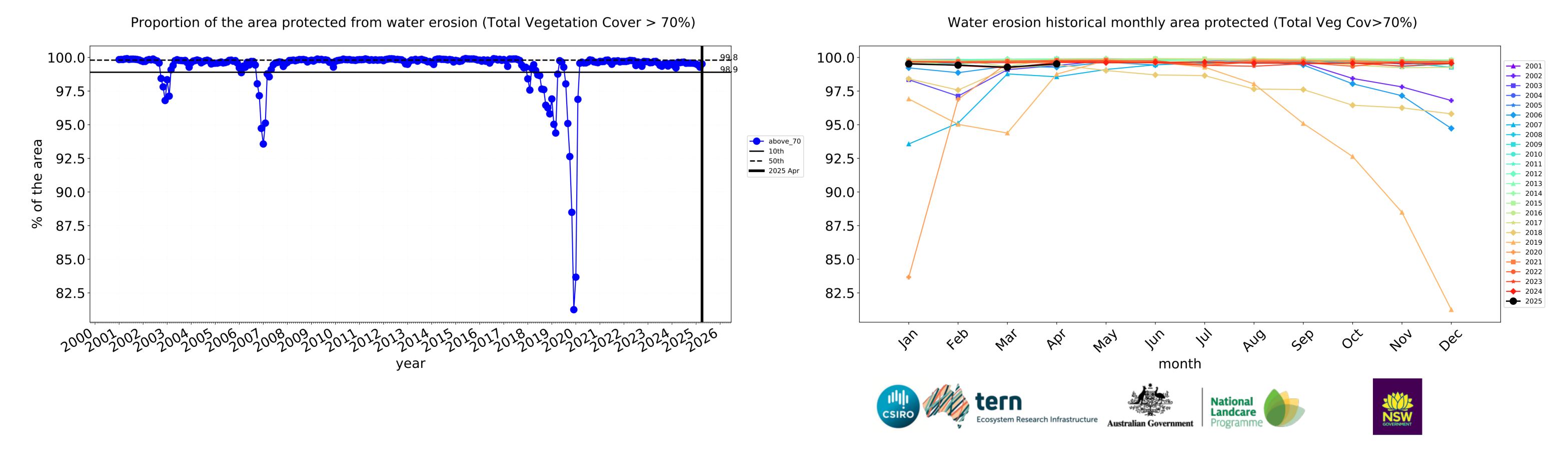


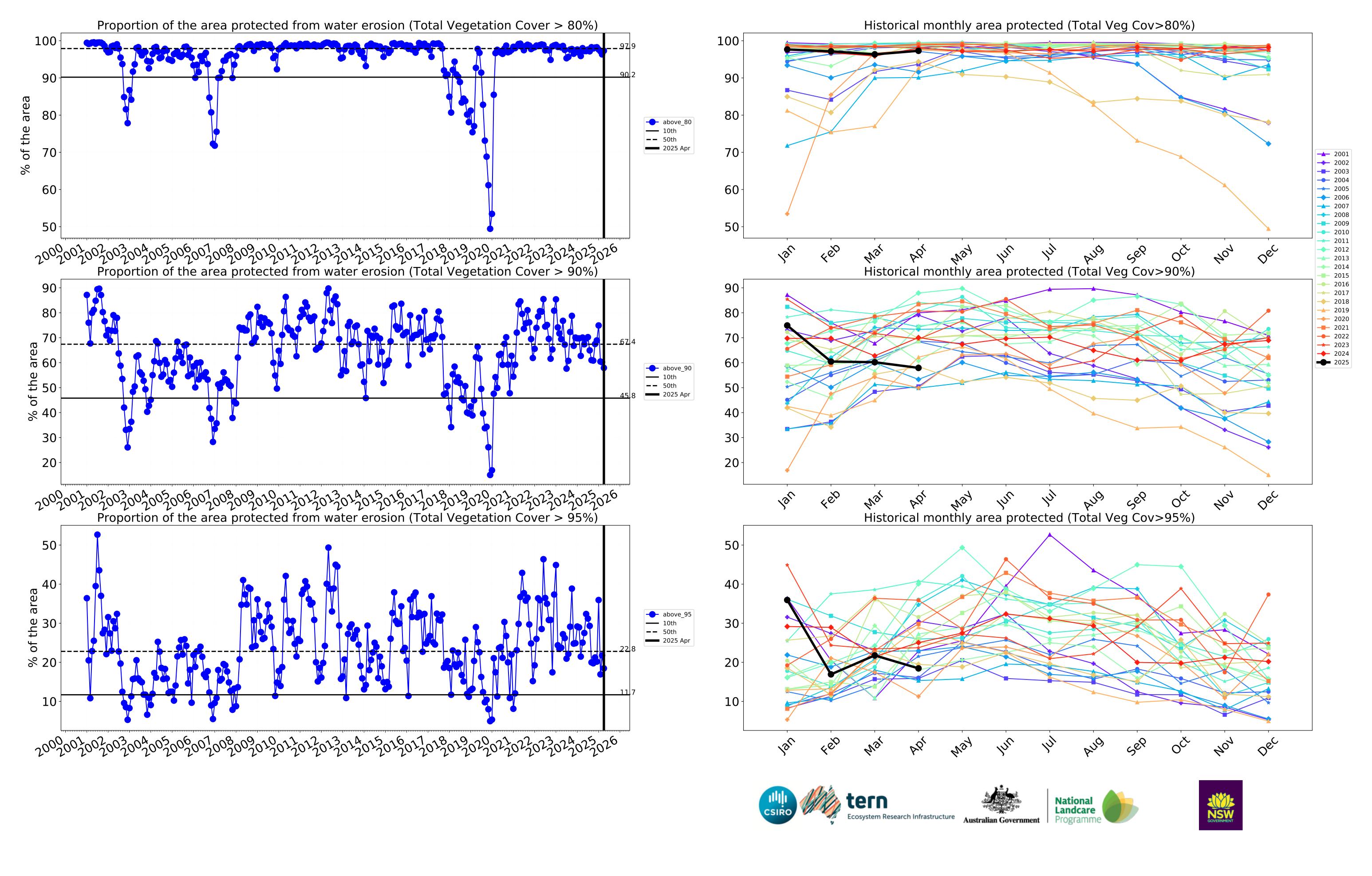




Grazing timeseries

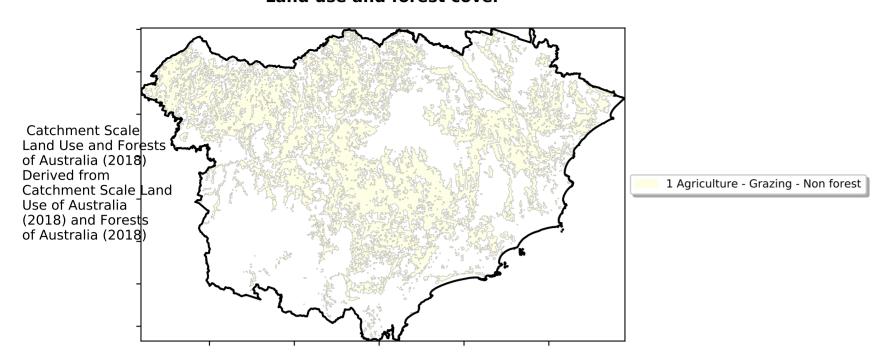




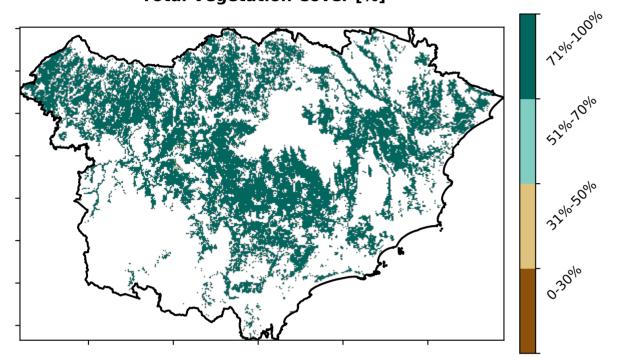


Grazing non forest

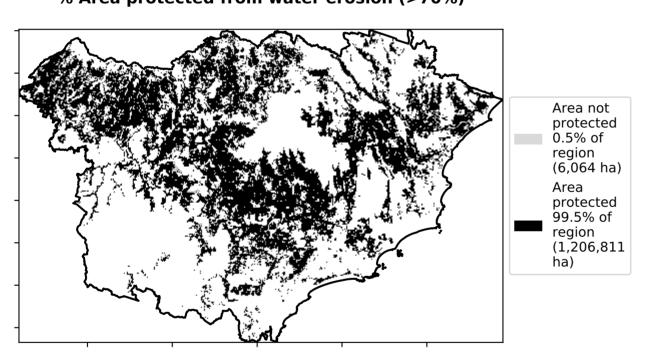
Land use and forest cover



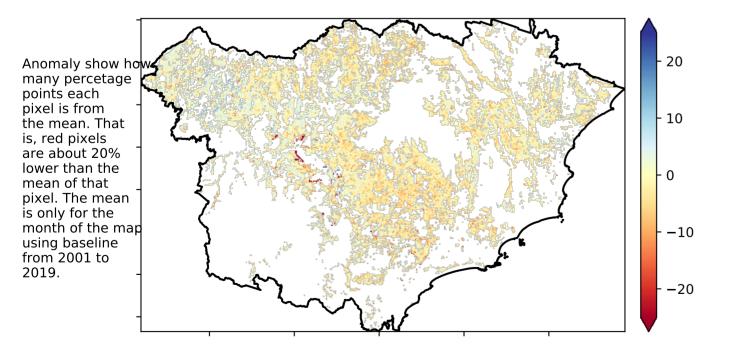
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

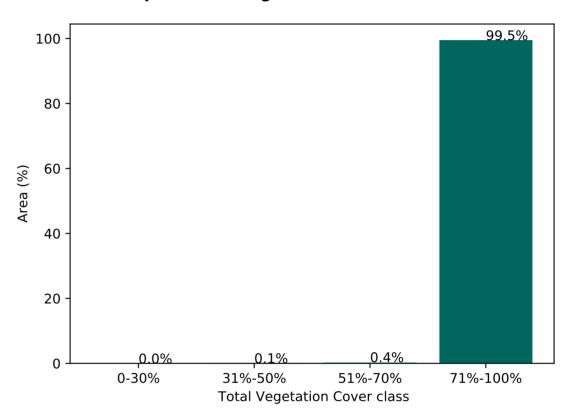


Total Vegetation Cover Anomaly [%]

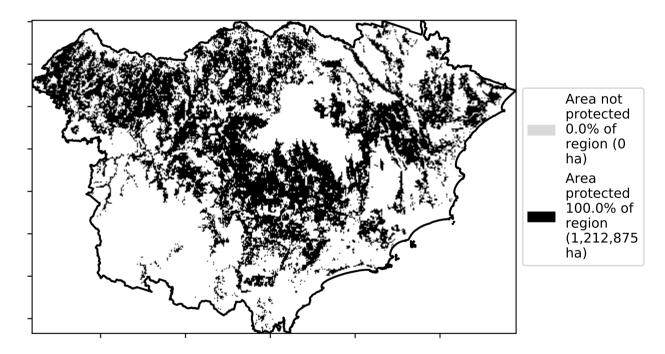


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

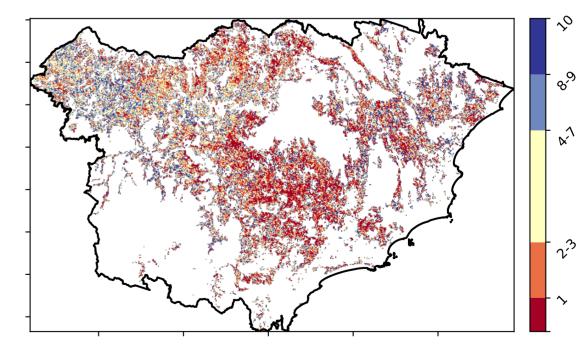
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



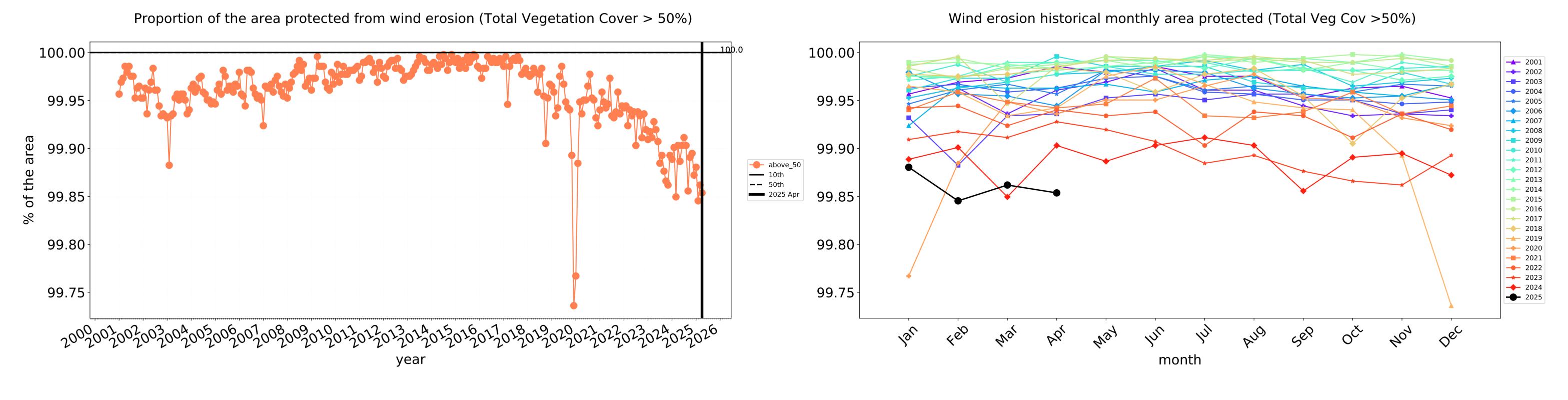


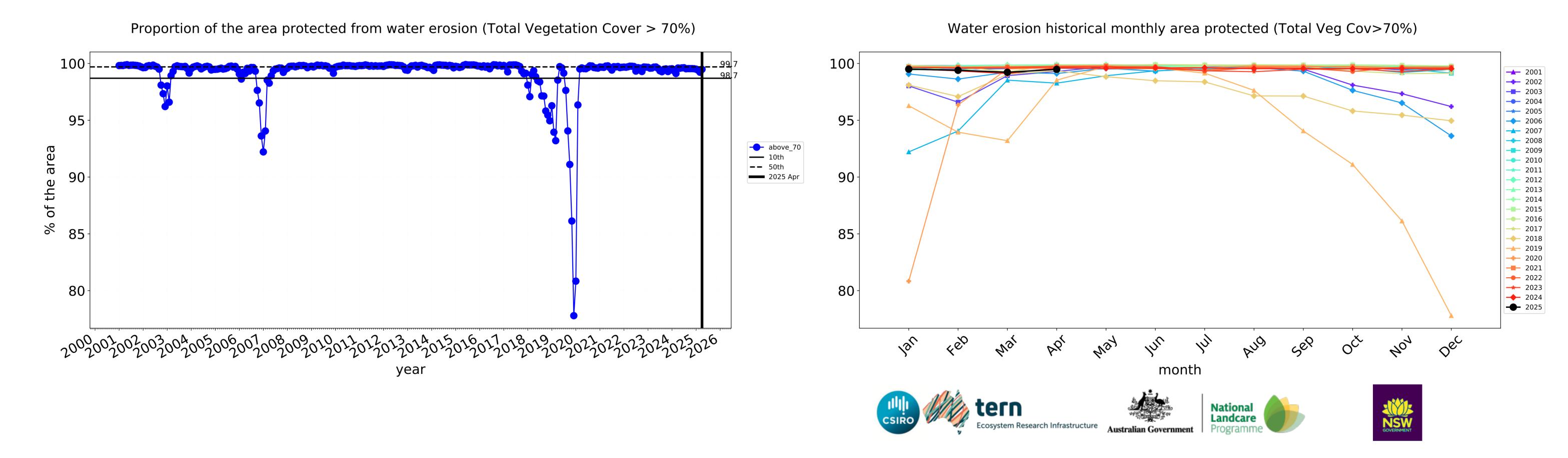


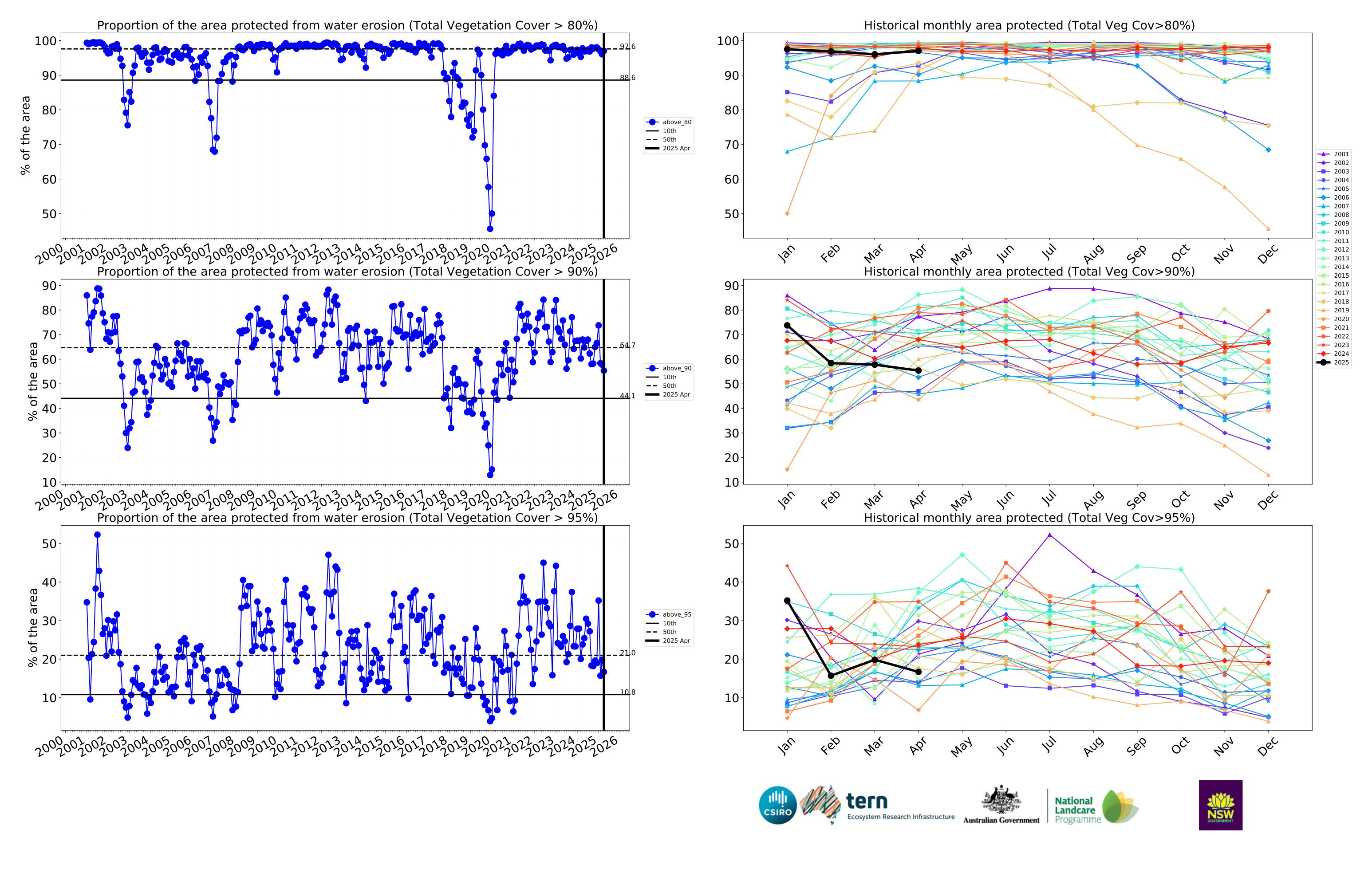




Grazing non forest timeseries



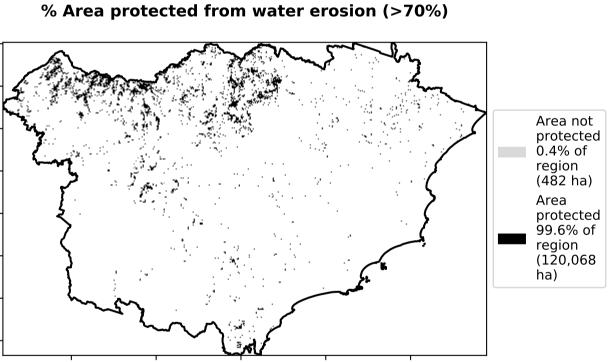


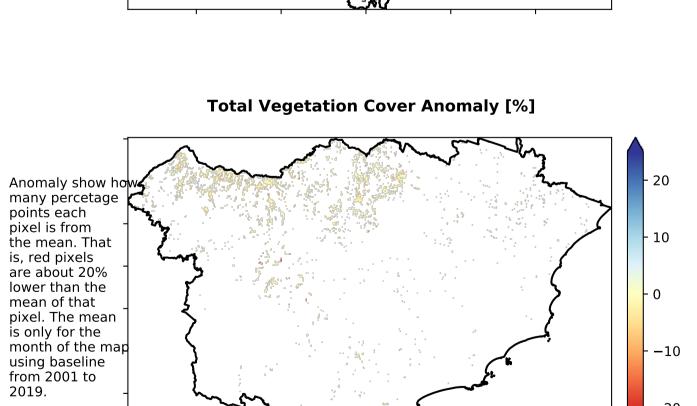


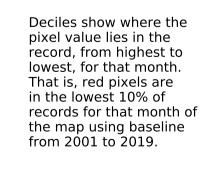
Grazing Woodland forest

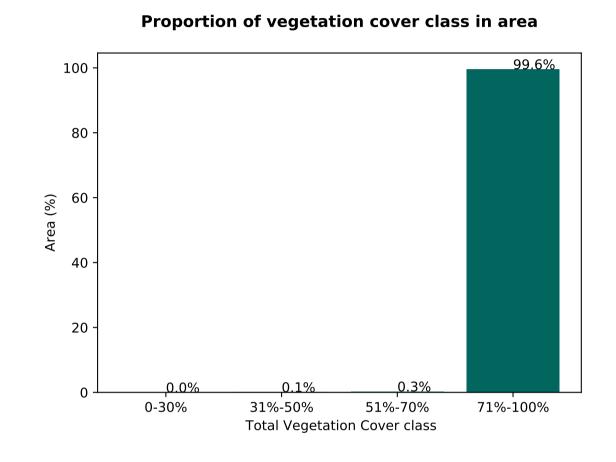
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Agriculture - Grazing - Woodland forest Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

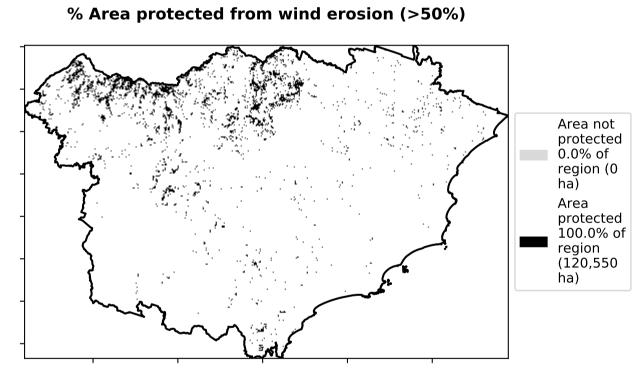
Total Vegetation Cover [%]

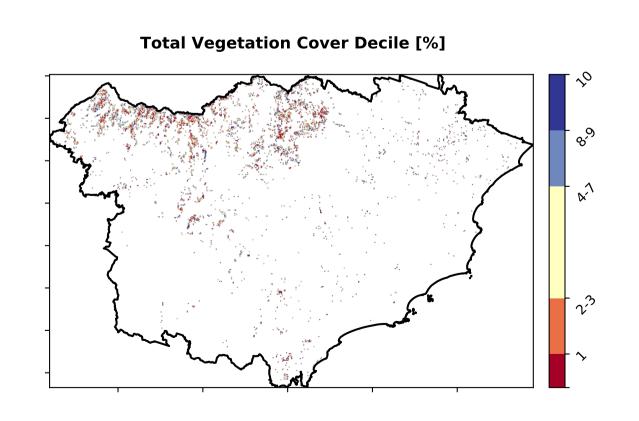














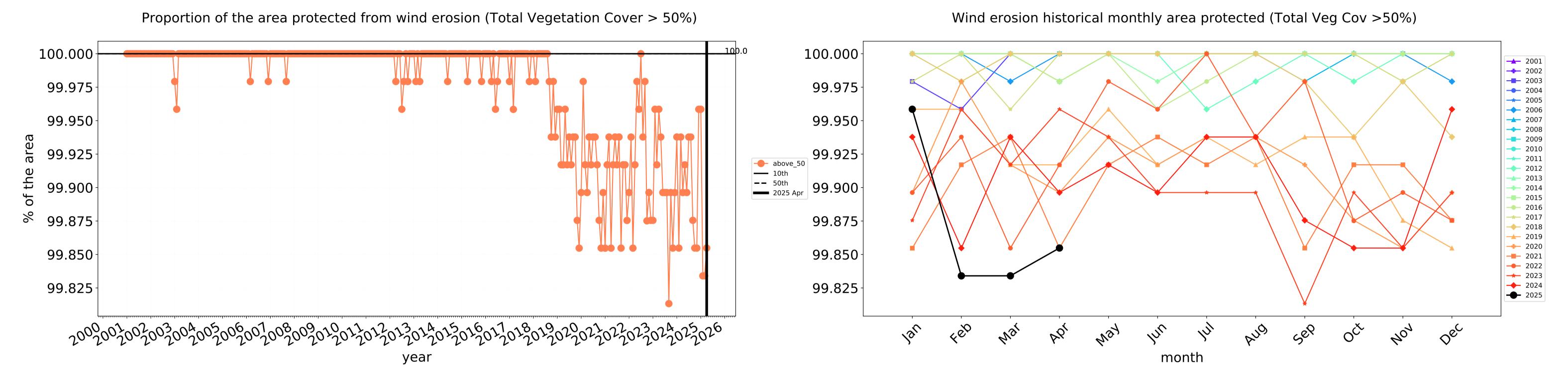


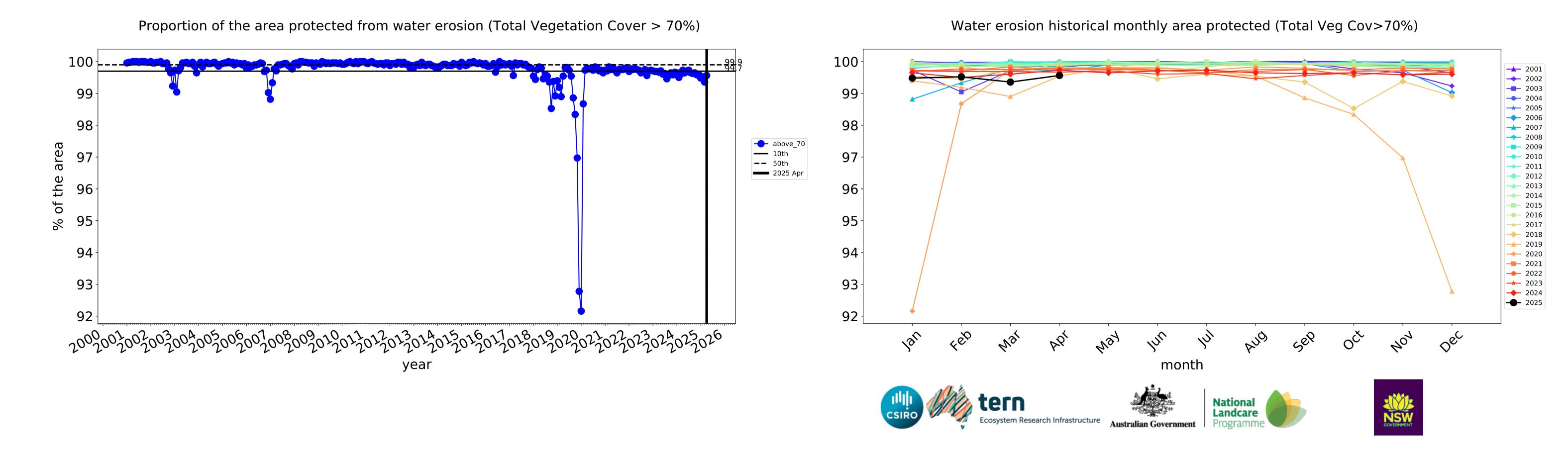


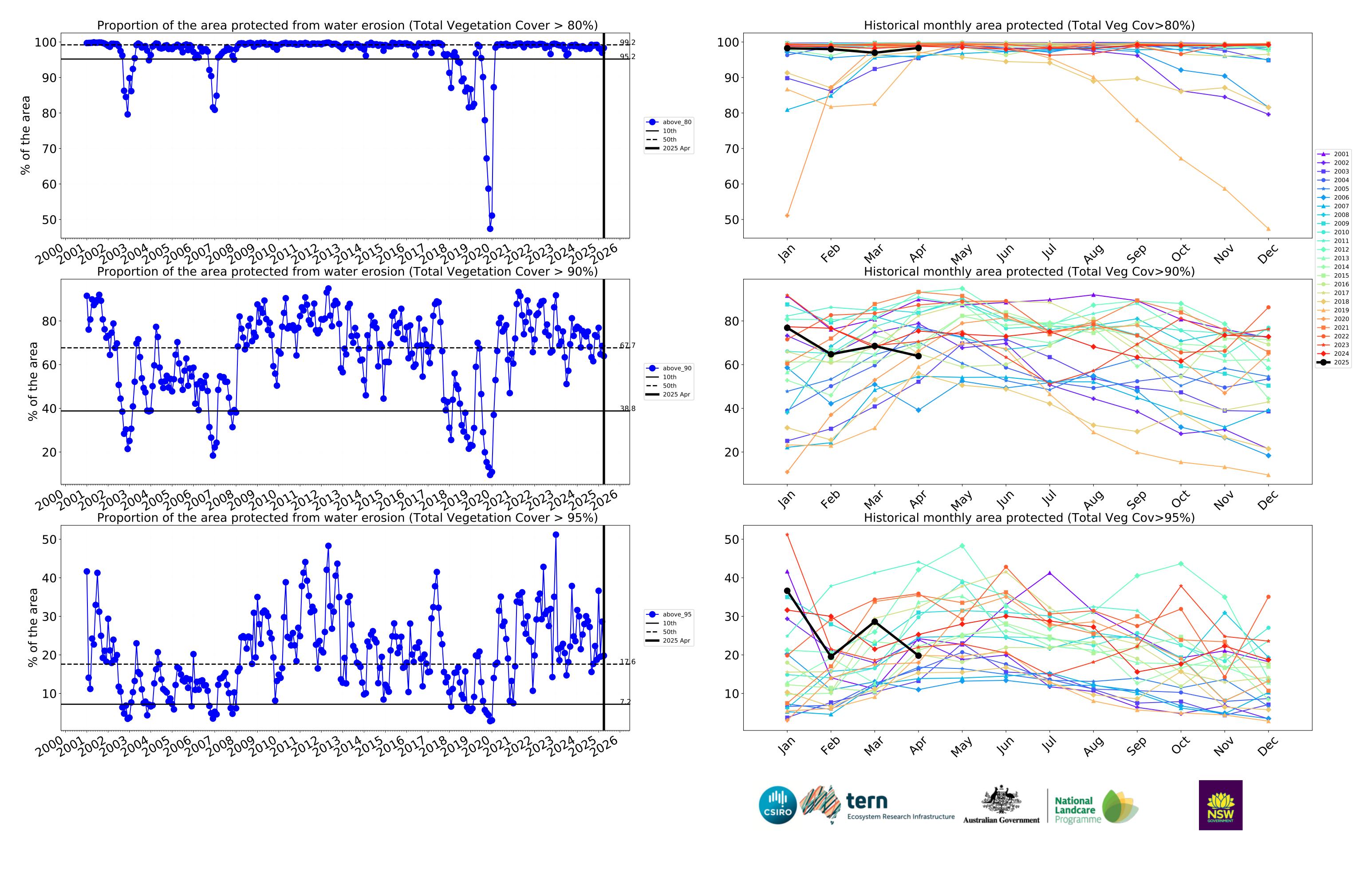


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Grazing Woodland forest timeseries





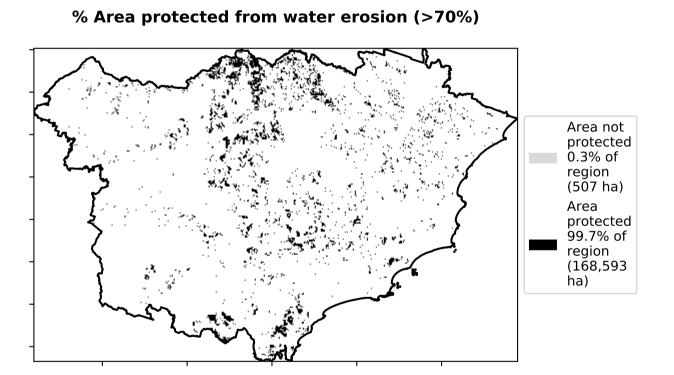


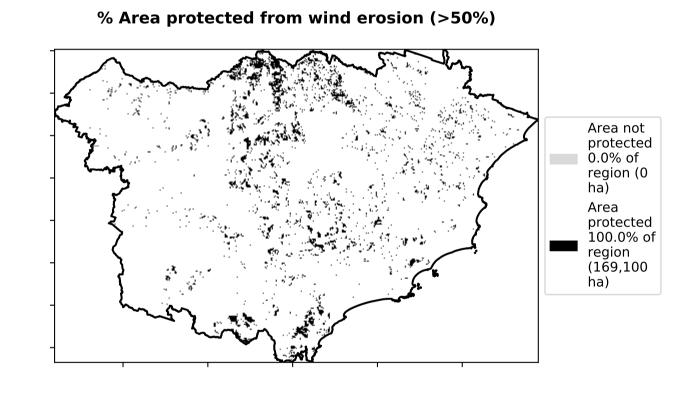
Grazing - Forest (non woodland)

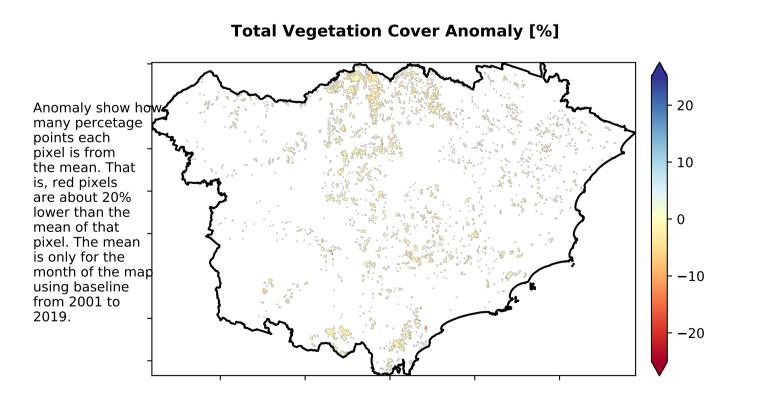
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

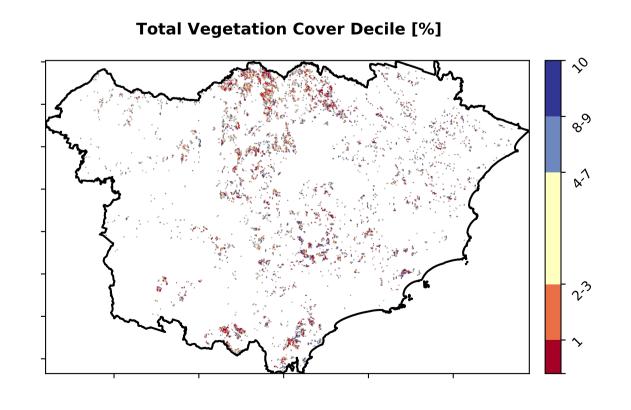
Total Vegetation Cover [%]

Proportion of vegetation cover class in area 100 - 99.7% 80 - 60 - 99.7% 40 - 20 - 0.1% 0.2% 0-30% 31%-50% 51%-70% 71%-100% Total Vegetation Cover class







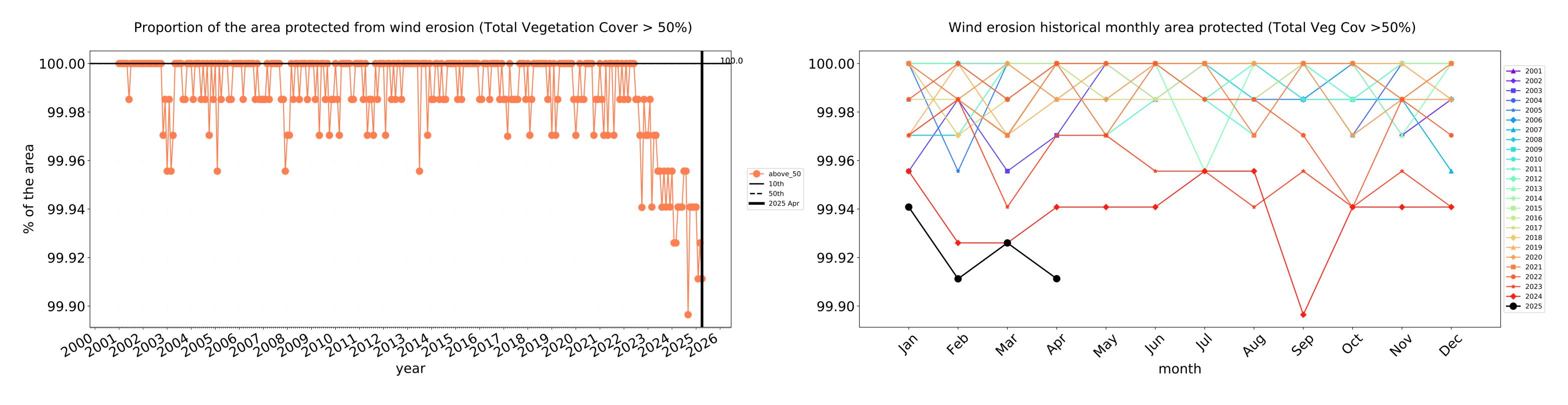


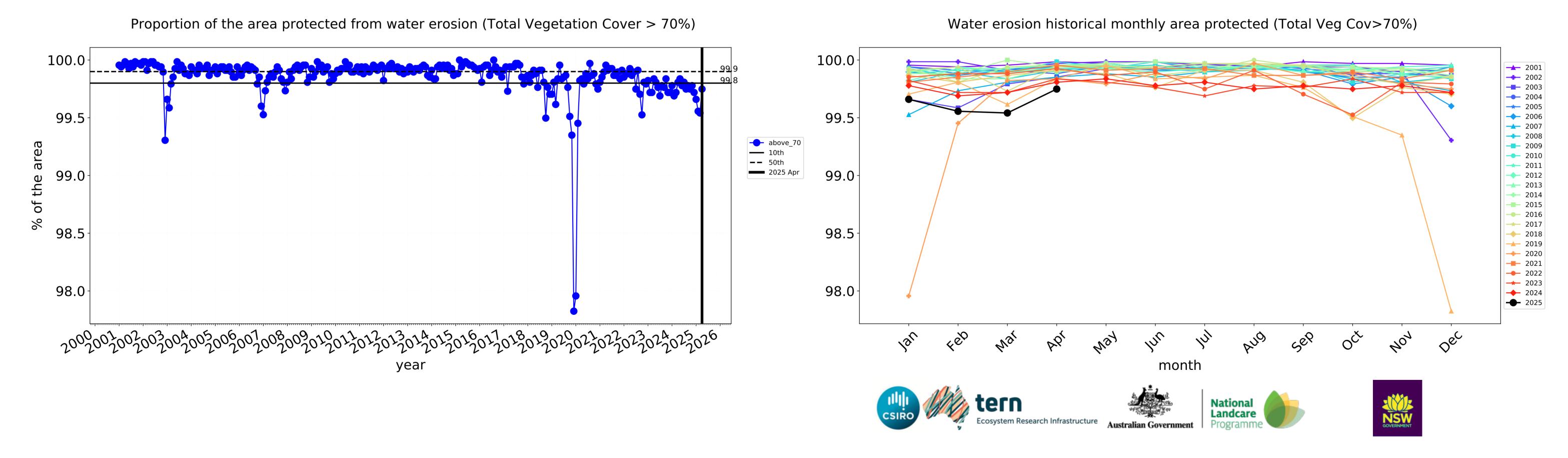


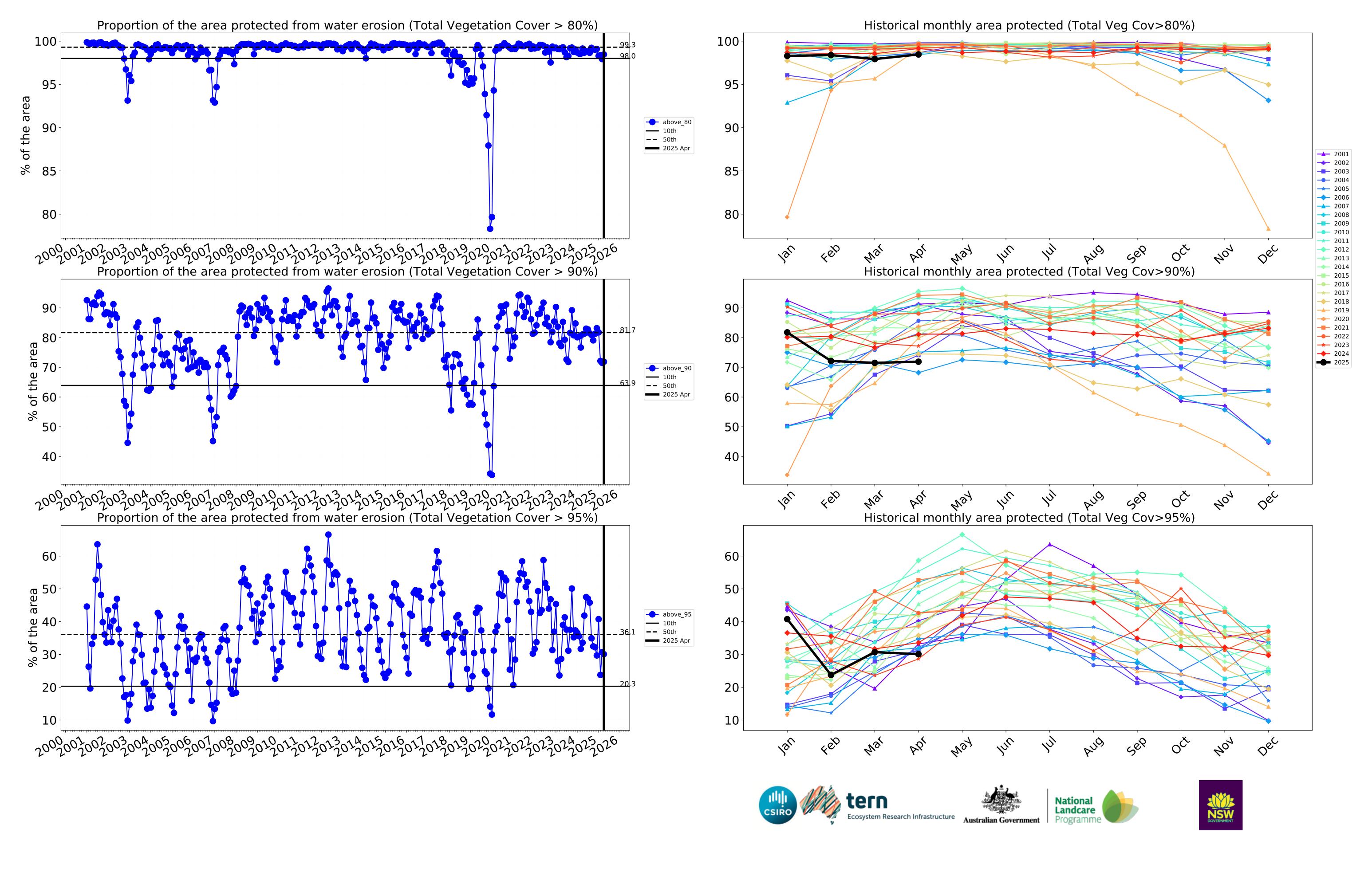






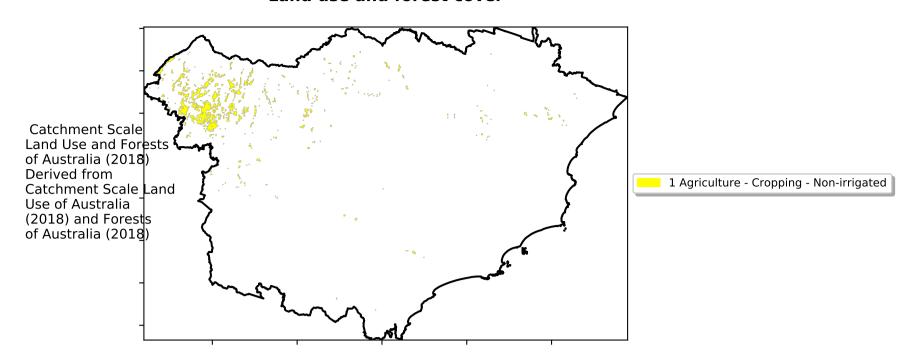




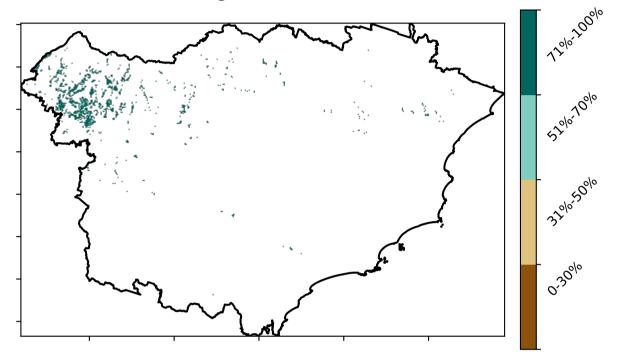


Cropping

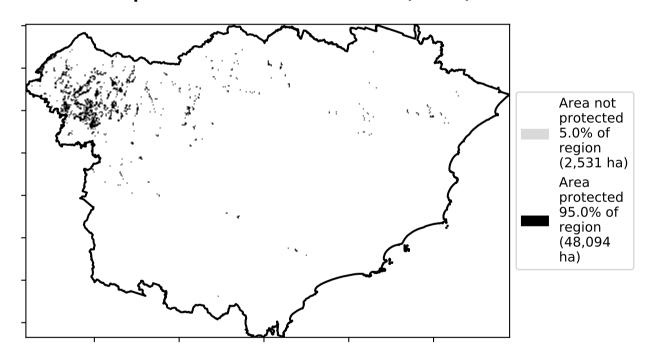
Land use and forest cover



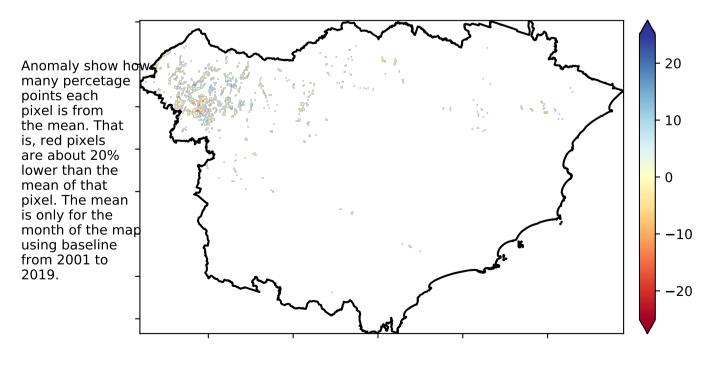
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

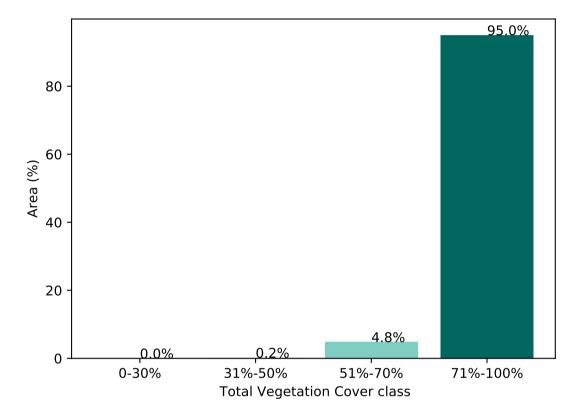


Total Vegetation Cover Anomaly [%]

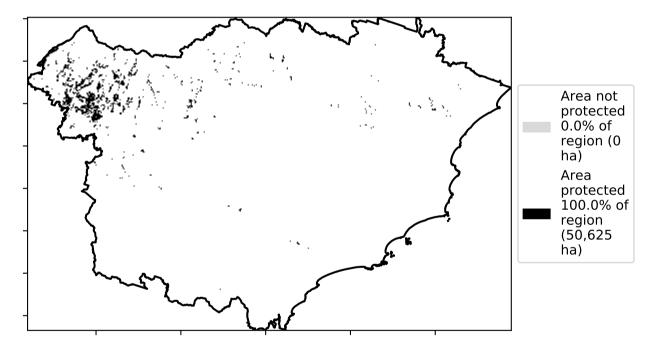


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

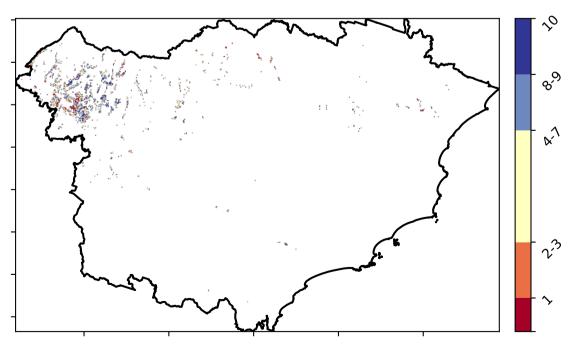
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



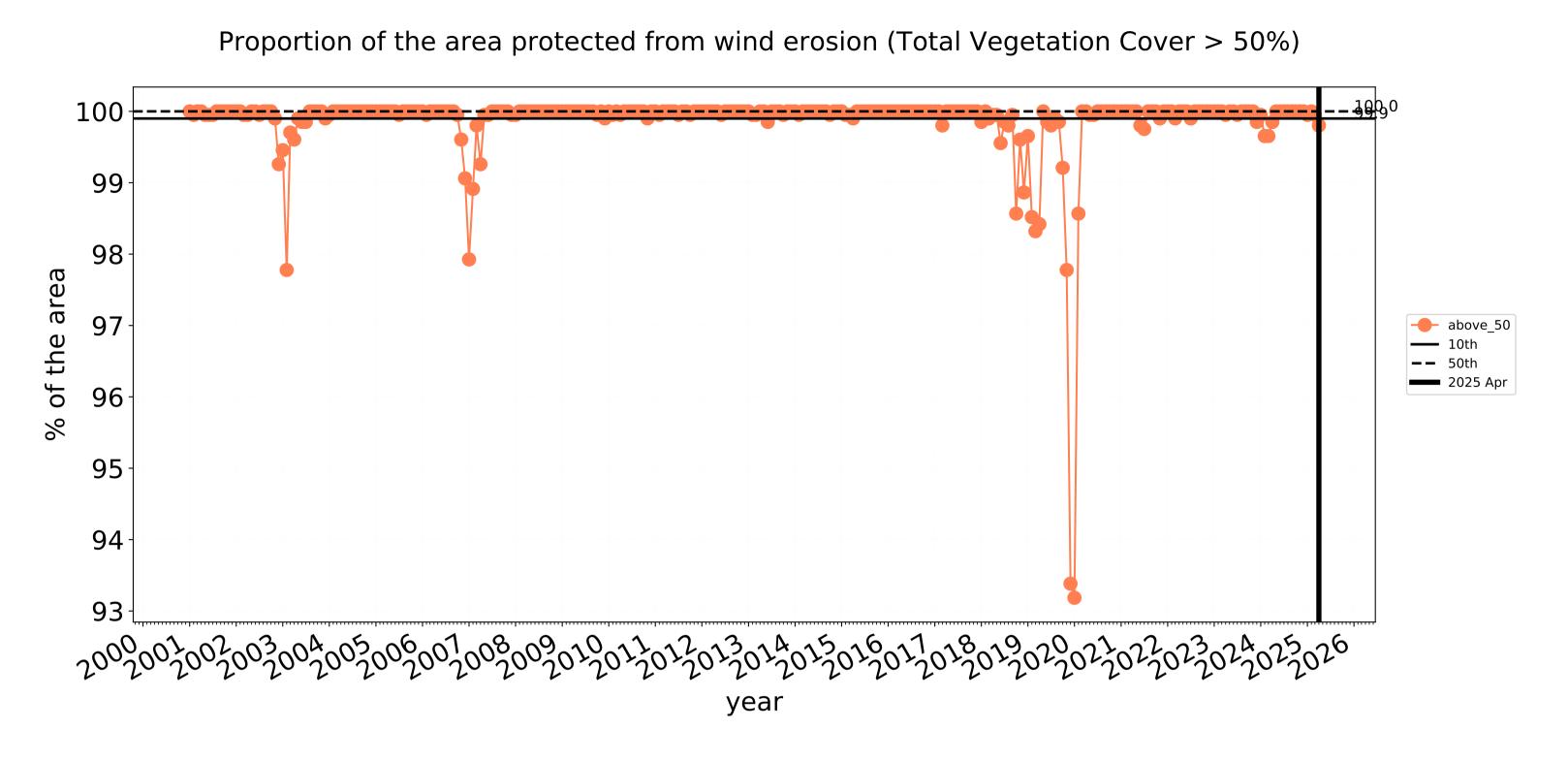


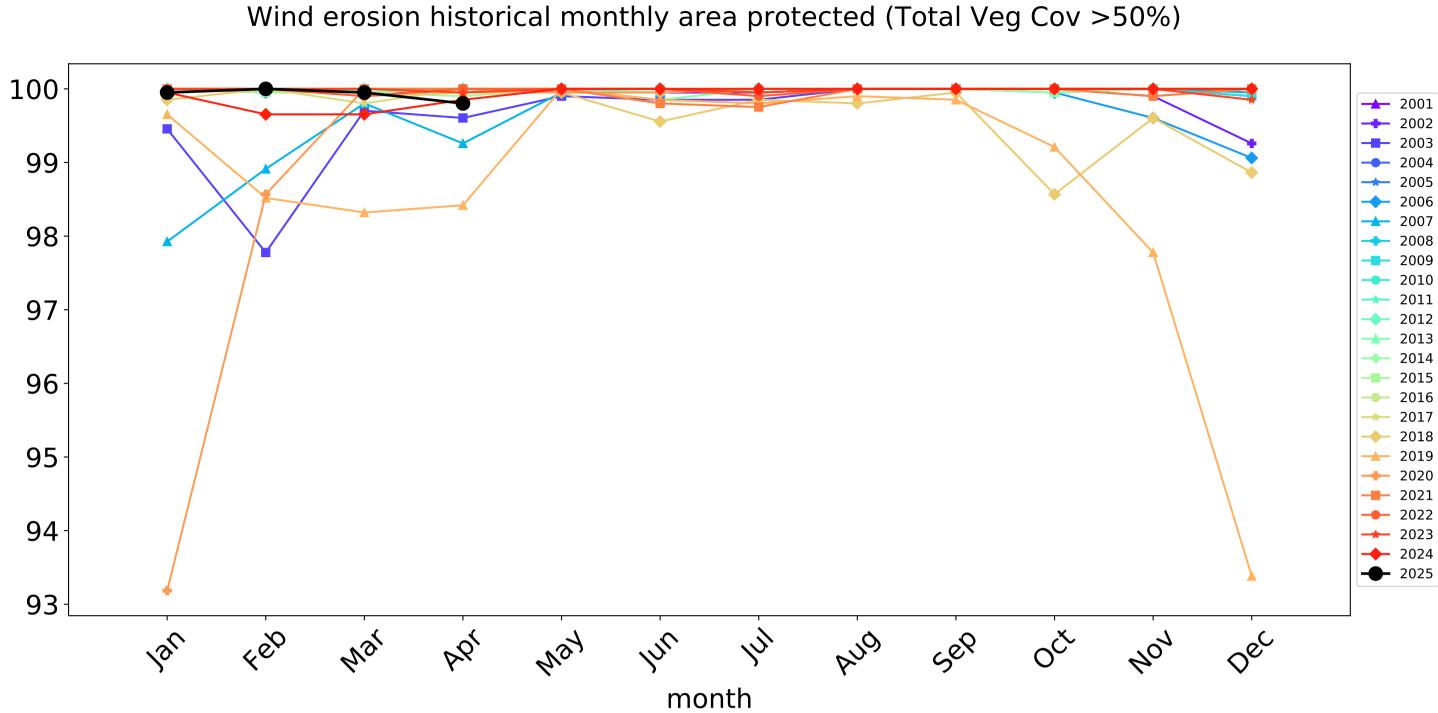


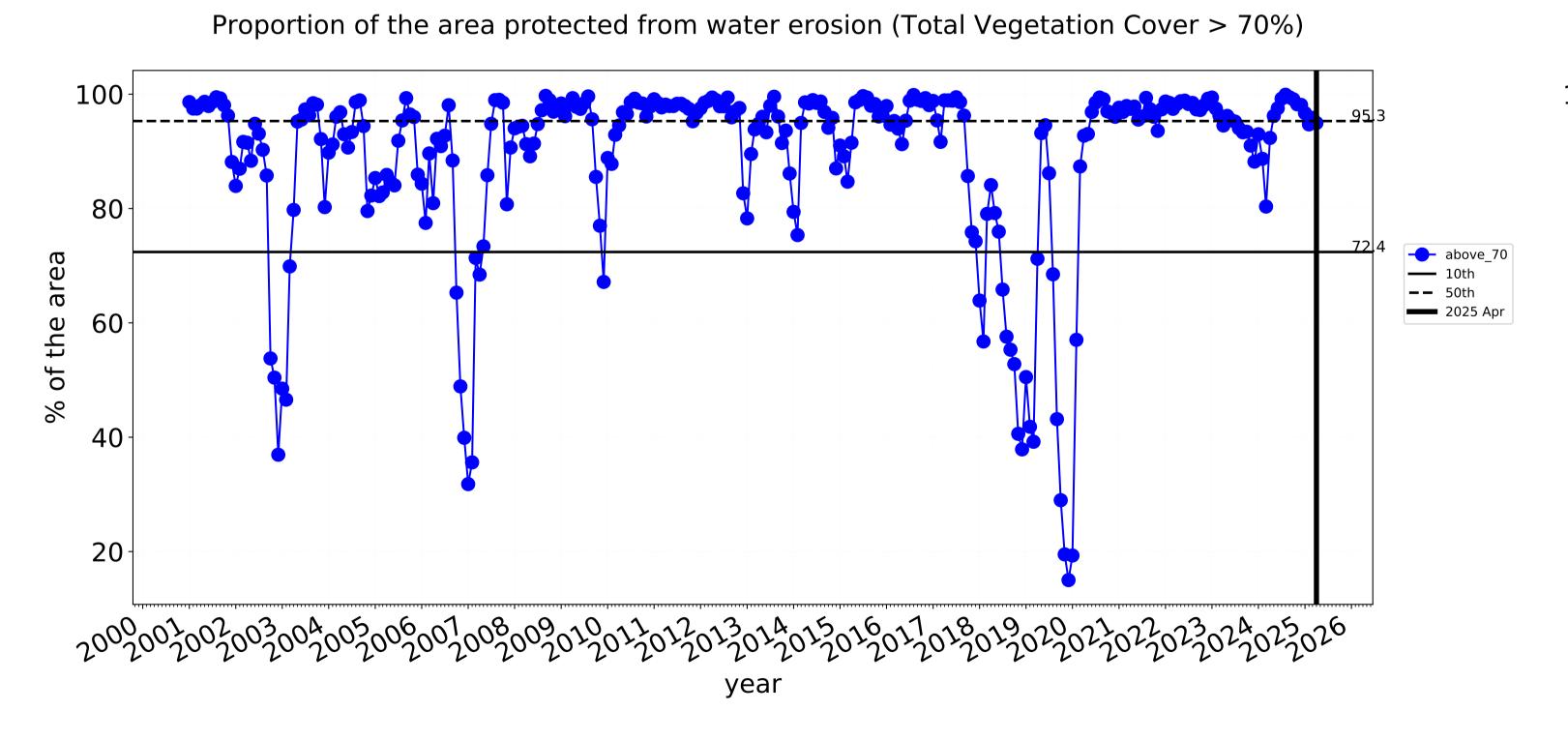


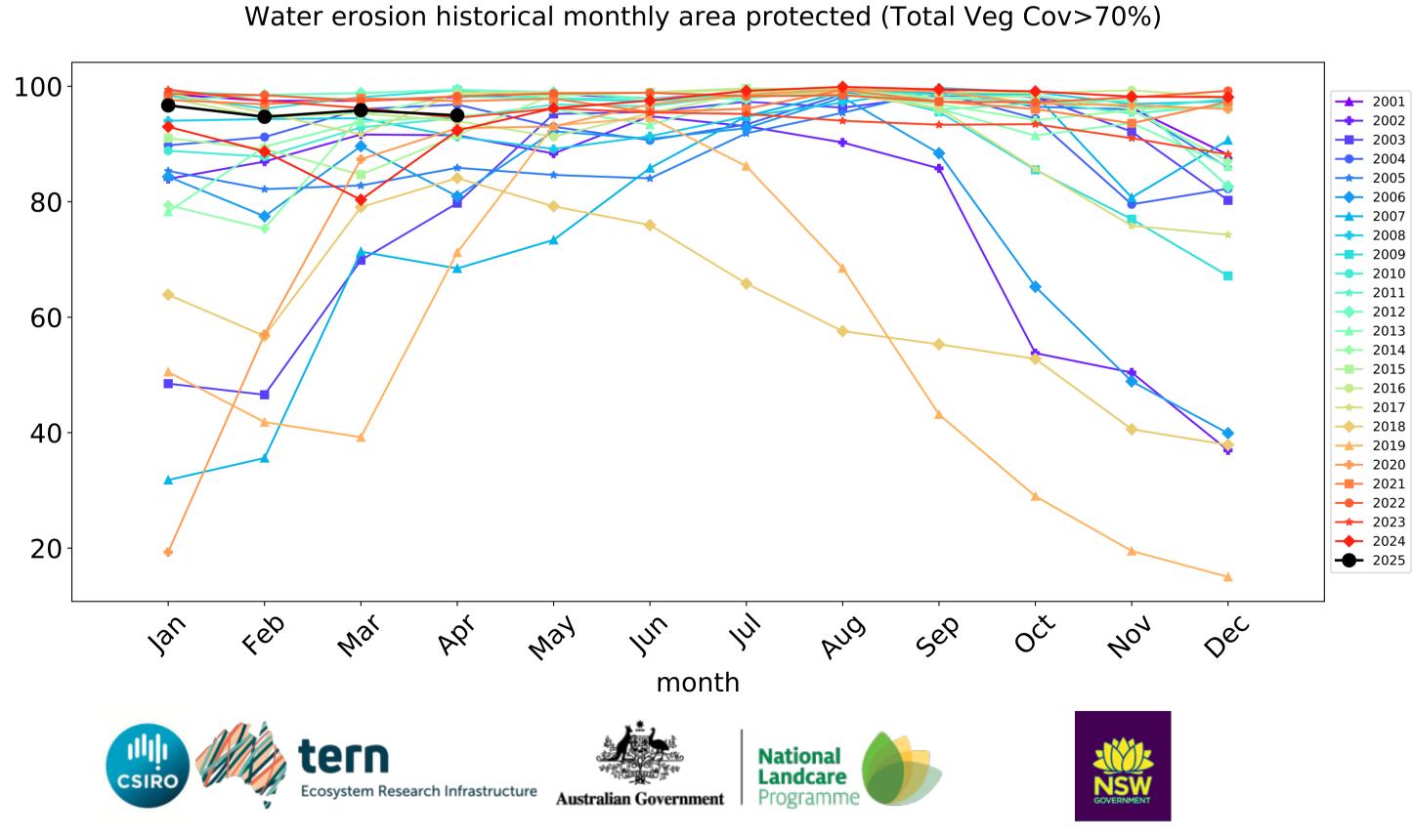


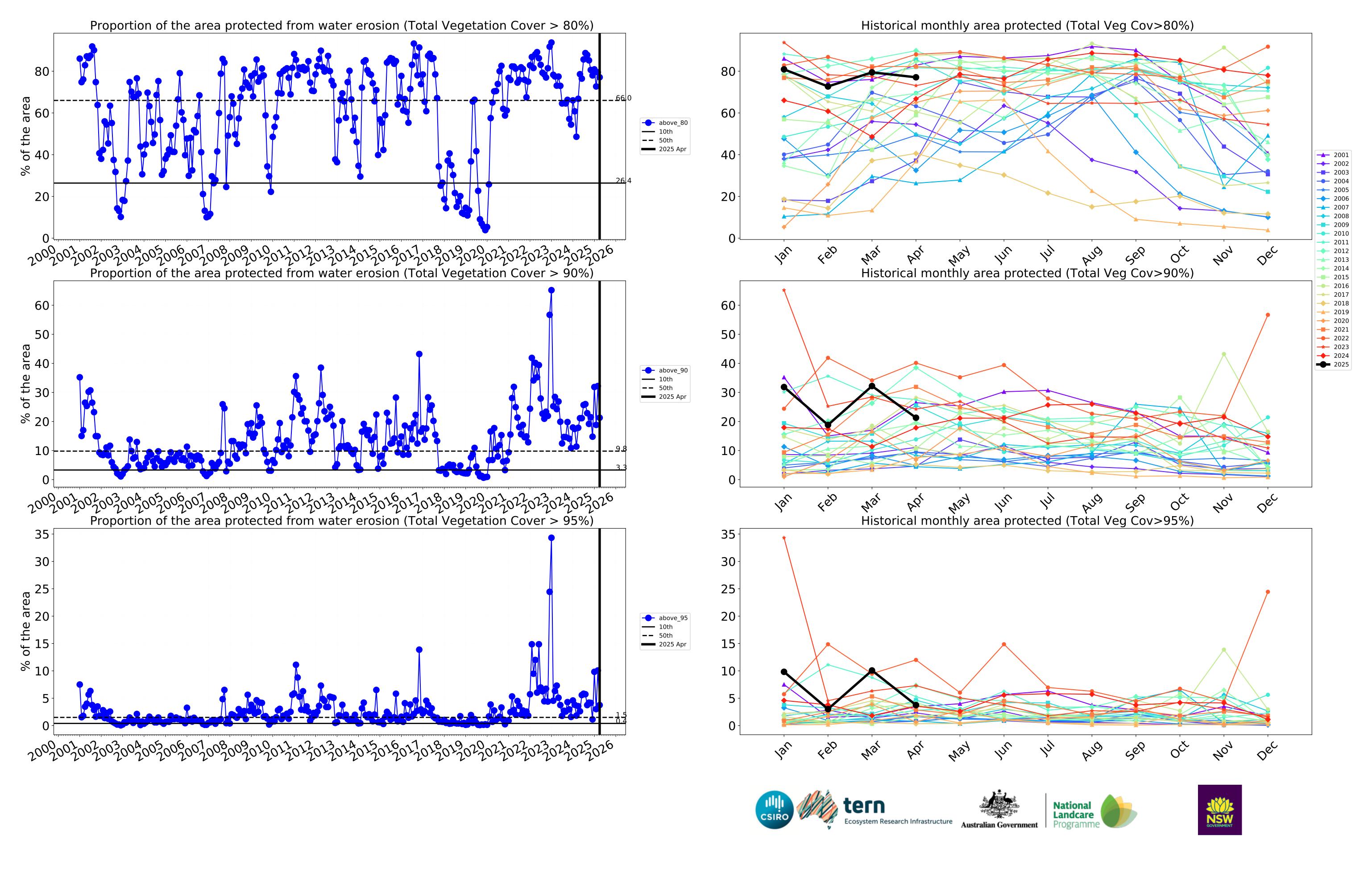
Cropping timeseries







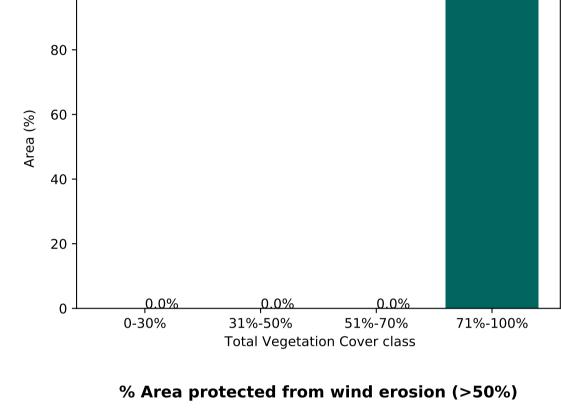




Production native forests and plantation forests

Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Production native forests and plantation forests Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

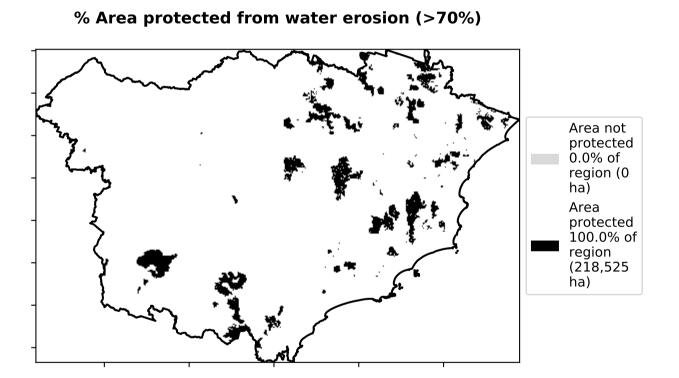
Total Vegetation Cover [%]

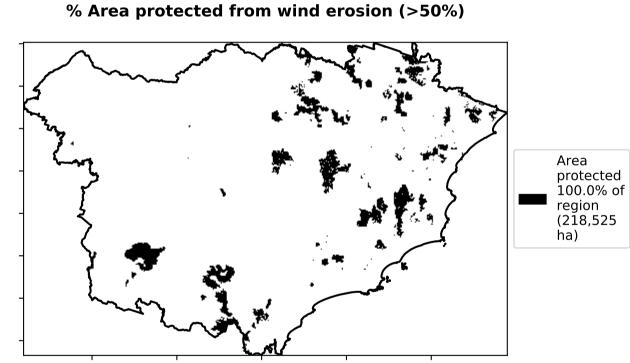


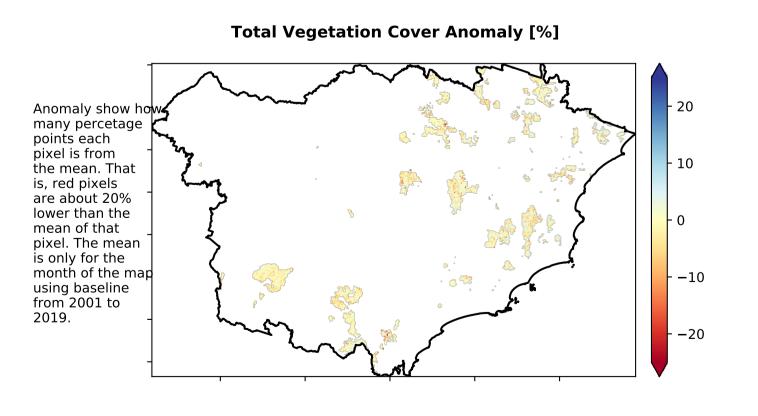
100

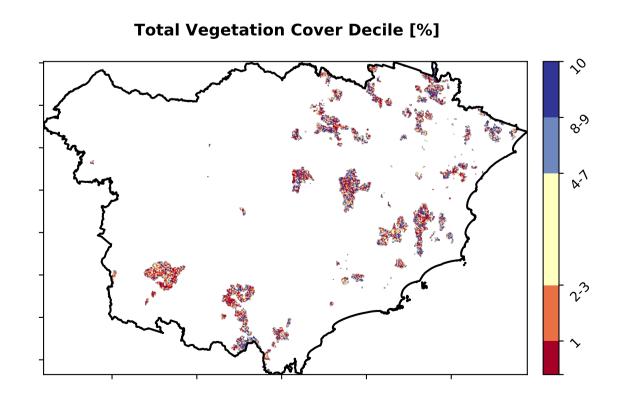
Proportion of vegetation cover class in area

100.0%









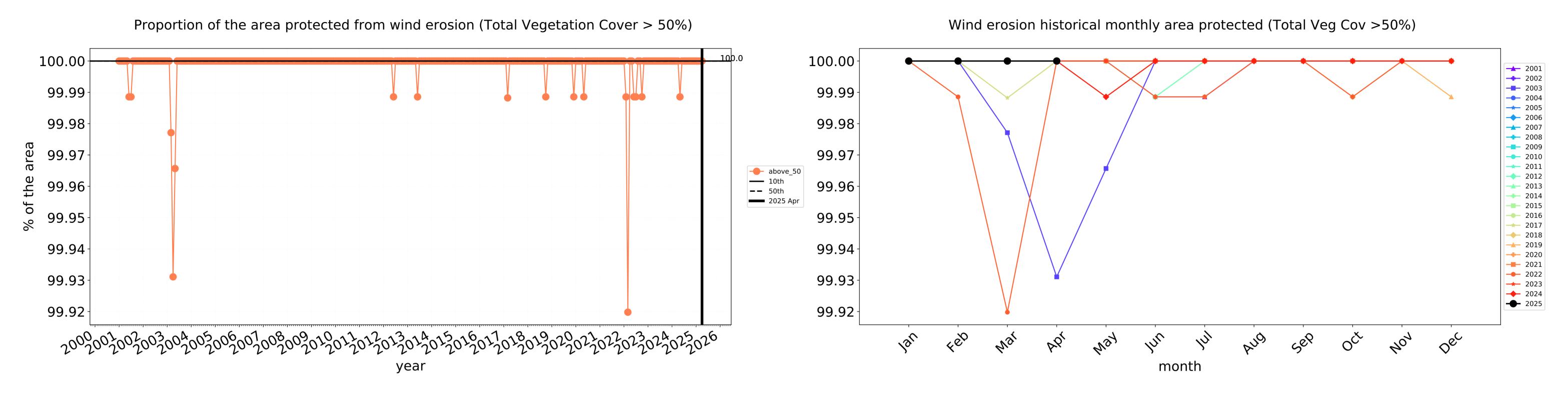


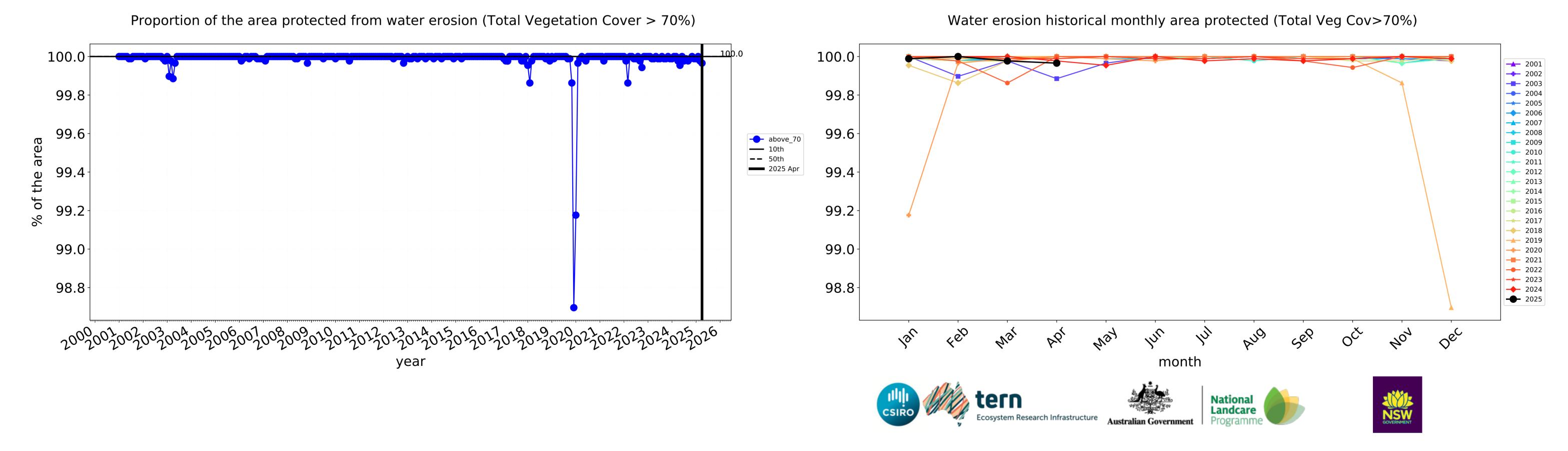


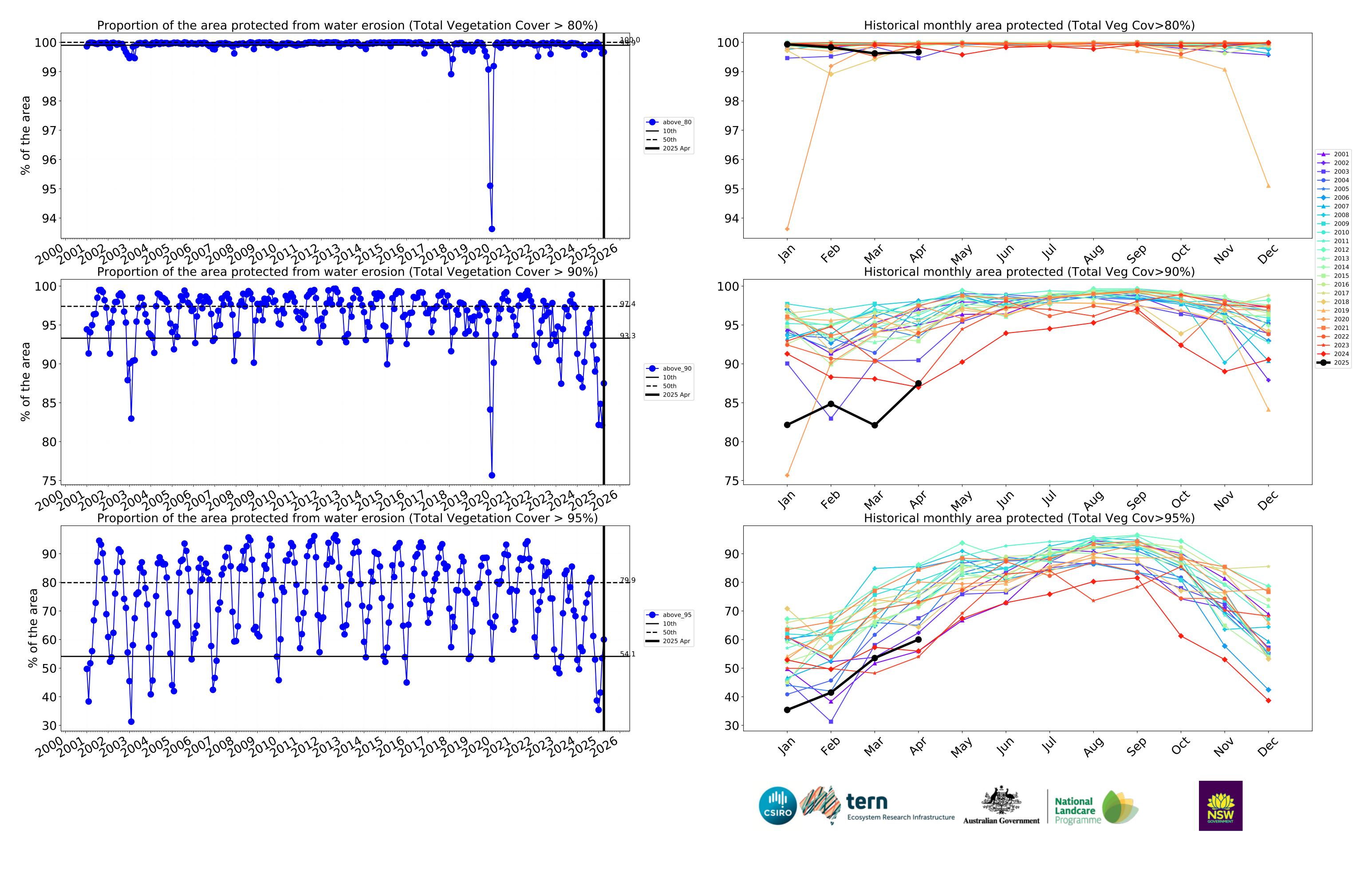




Production native forests and plantation forests timeseries







Hunter (3,237,000 ha and no data 63,425 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	3,237,000	99.8% 3,230,300	99.5% 3,220,775	98.4% 3,183,725	95.4% 3,088,900	65.3% 2,112,375	30.3% 980,600
Conservation and natural environments	1,240,225	99.9% 1,239,075	99.8% 1,238,250	99.7% 1,236,025	98.7% 1,223,650	79.0% 979,450	44.4% 550,850
Conservation and natural environments non forest	29,500	96.5% 28,475	94.7% 27,950	91.9% 27,125	87.4% 25,775	63.7% 18,800	28.1% 8,275
Conservation and natural environments Woodland forest	138,750	100.0% 138,700	99.9% 138,625	99.8% 138,475	99.2% 137,625	70.9% 98,400	30.4% 42,125
Conservation and natural environments Forest (non woodland)	1,071,975	100.0% 1,071,900	100.0% 1,071,675	99.9% 1,070,425	98.9% 1,060,250	80.4% 862,250	46.7% 500,450
Agriculture	1,580,525	99.9% 1,579,725	99.9% 1,578,325	99.3% 1,570,225	96.3% 1,521,850	56.0% 885,025	17.7% 279,900
Grazing	1,502,525	99.9% 1,501,725	99.9% 1,500,425	99.5% 1,495,325	97.3% 1,461,825	57.9% 870,300	18.5% 277,300
Grazing non forest	1,212,875	99.9% 1,212,175	99.9% 1,211,100	99.5% 1,206,625	97.0% 1,176,800	55.4% 671,675	16.7% 202,550
Grazing Woodland forest	120,550	100.0% 120,500	99.9% 120,375	99.6% 120,025	98.3% 118,525	63.9% 77,050	19.8% 23,875
Grazing - Forest (non woodland)	169,100	100.0% 169,050	99.9% 168,950	99.7% 168,675	98.5% 166,500	71.9% 121,575	30.1% 50,875
Cropping	50,625	100.0% 50,625	99.8% 50,525	95.0% 48,075	77.1% 39,025	21.3% 10,775	3.8% 1,900
Production native forests and plantation forests	218,525	100.0% 218,525	100.0% 218,525	100.0% 218,450	99.7% 217,800	87.5% 191,200	60.0% 131,125







