Total vegetation cover soil protection Region:LGA Yankalilla (DC) SA

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: September 2024

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



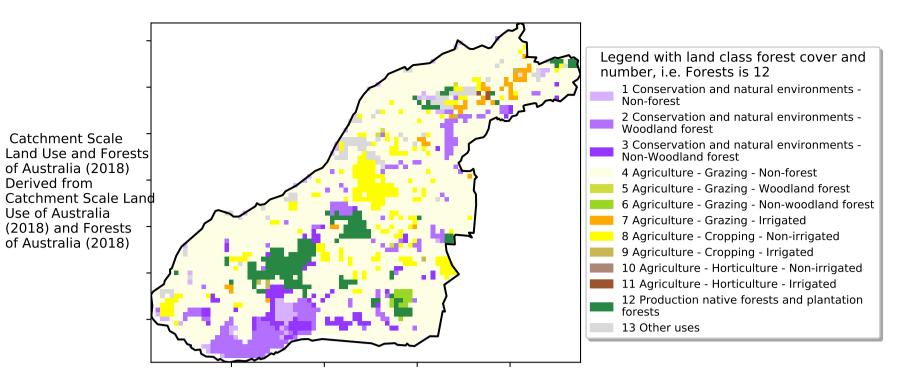




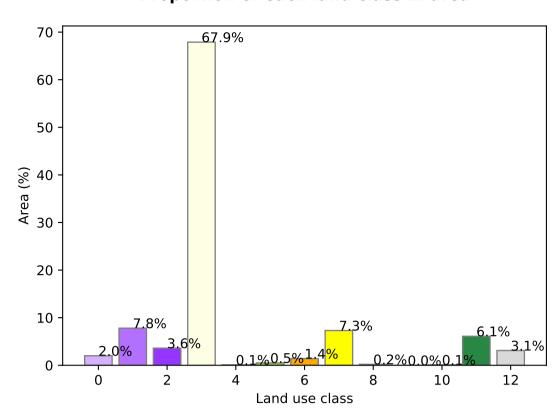


Vegetation Cover Sep 2024

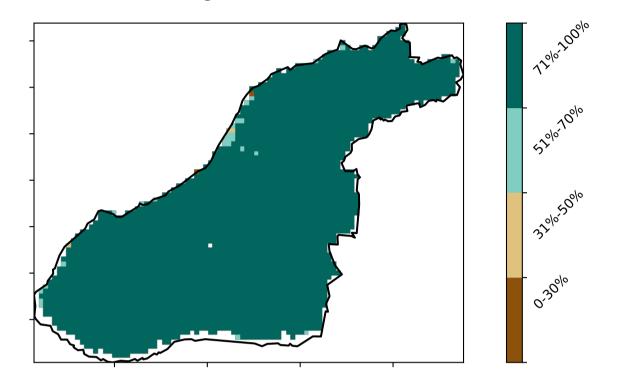
Land use and forest cover



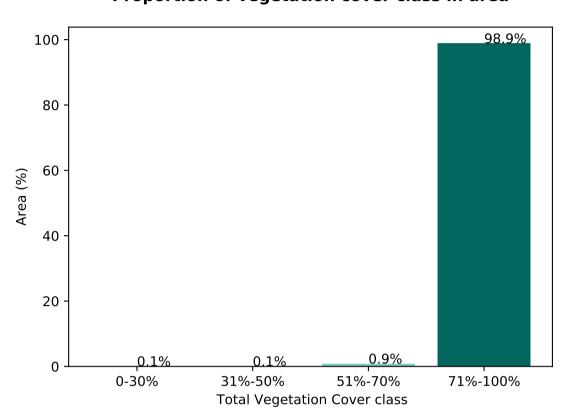
Proportion of each land class in area



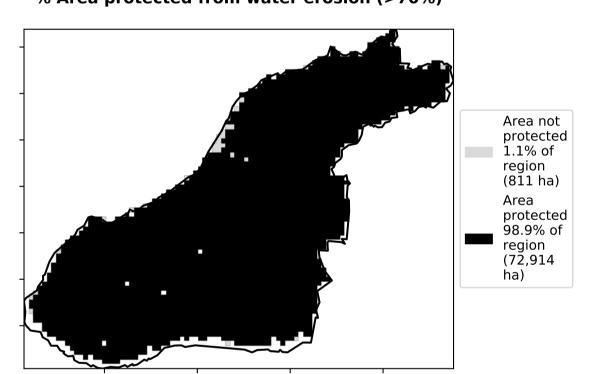
Total Vegetation Cover [%]



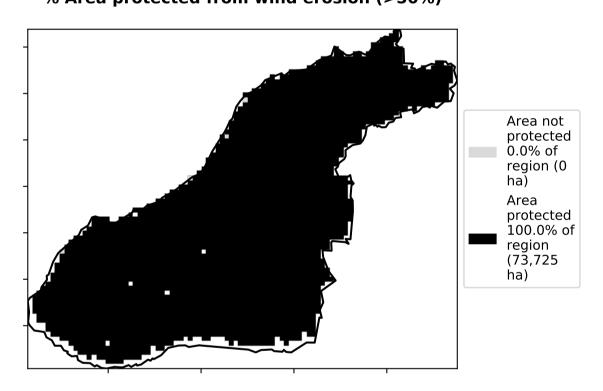
Proportion of vegetation cover class in area



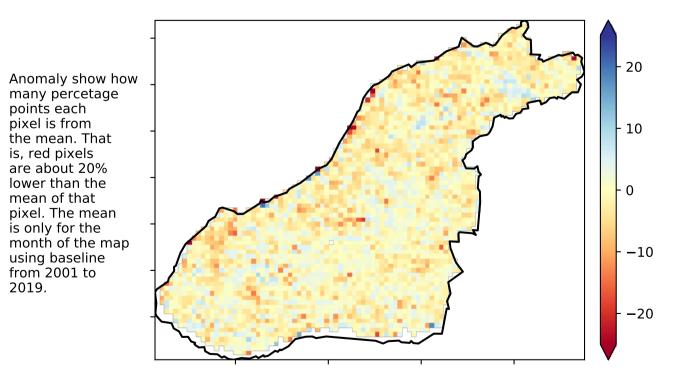
% Area protected from water erosion (>70%)



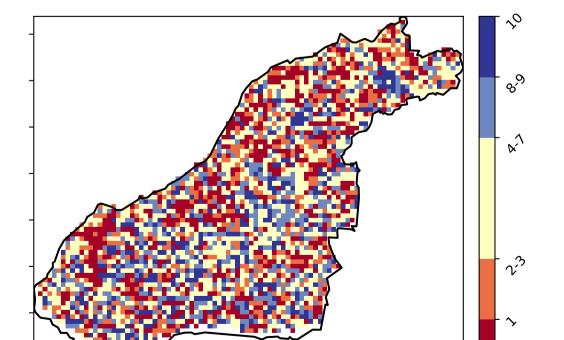
% Area protected from wind erosion (>50%)



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.



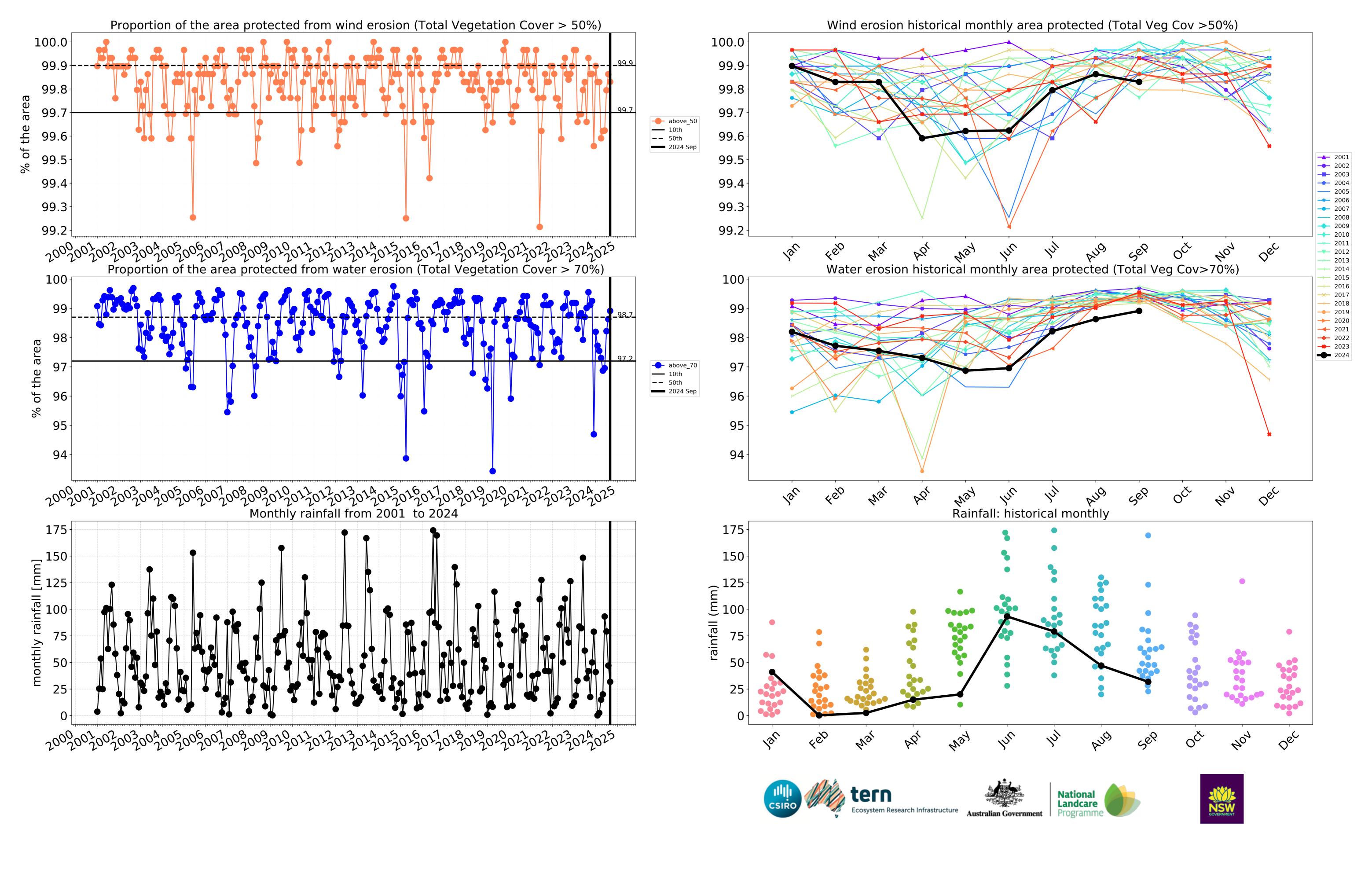
Total Vegetation Cover Decile [%]

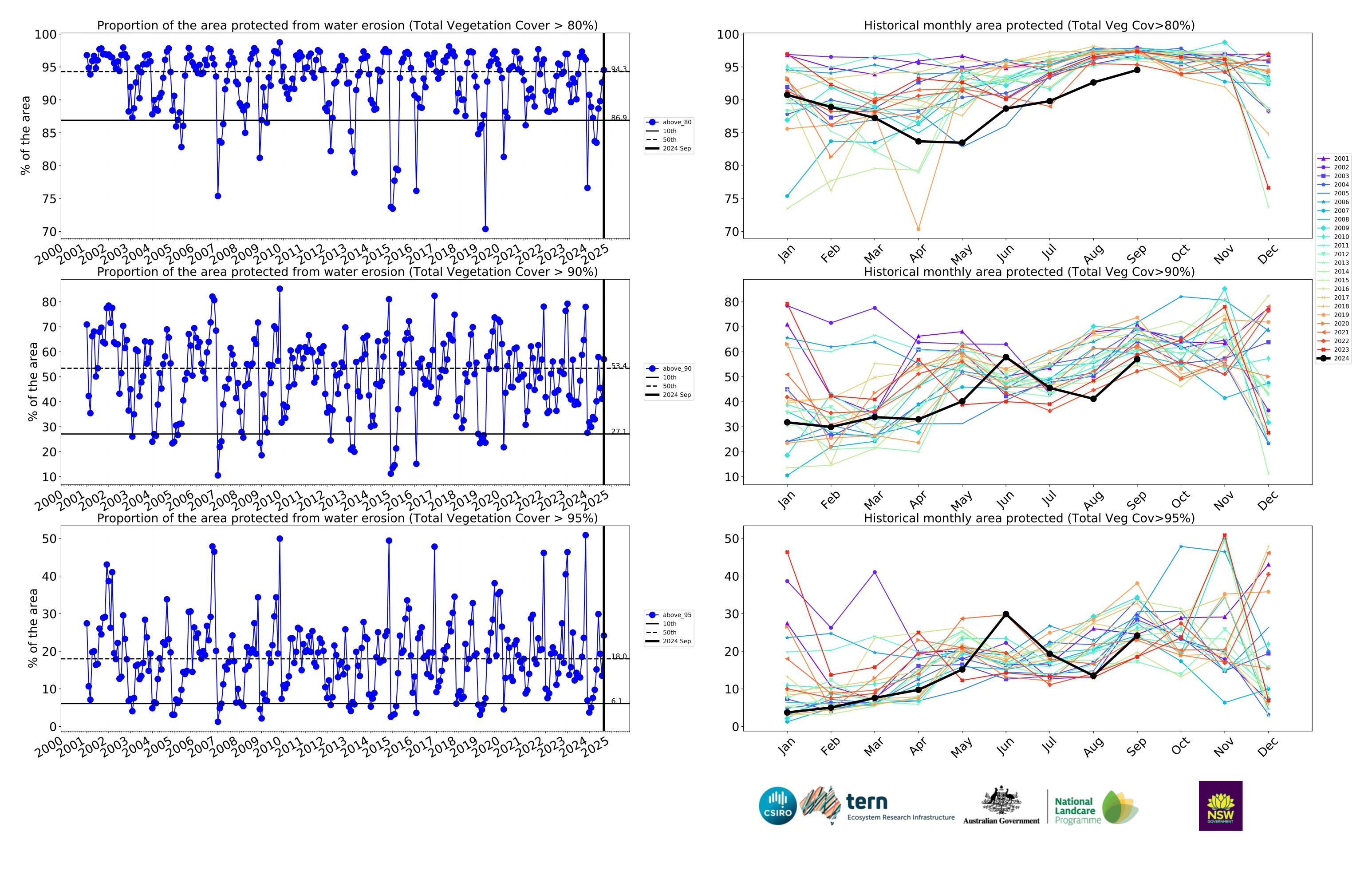
tern Ecosystem Research Infrastructure











Conservation and natural environments

Land use and forest cover **Proportion of each land class in area** 60 58.2% 50 Catchment Scale 40 Land Use and Forests of Australia (2018) 1 Conservation and natural environments - Nonforest Area (%) 6 0 Derived from 2 Conservation and natural environments - Woodland forest Catchment Scale Land 26.8% Use of Australia 3 Conservation and natural environments - Non-woodland forest (2018) and Forests of Australia (2018) 20 15.0% 10 0.5 1.0 1.5 2.0 2.5 -0.50.0 Land use class Proportion of vegetation cover class in area **Total Vegetation Cover [%]** 99.2% 100 80 40 20 0.0% 31%-50% 0-30% 51%-70% 71%-100% **Total Vegetation Cover class** % Area protected from wind erosion (>50%) % Area protected from water erosion (>70%) Area not Area not protected 0.8% of protected 0.0% of region (76 region (0 ha) ha) Area Area protected 100.0% of protected 99.2% of region (9,424 ha) region (9,500 ha) **Total Vegetation Cover Anomaly [%] Total Vegetation Cover Decile [%]** - 20 Anomaly show how many percetage points each pixel is from Deciles show where the - 10 pixel value lies in the the mean. That is, red pixels record, from highest to lowest, for that month. That is, red pixels are are about 20% lower than the mean of that in the lowest 10% of pixel. The mean records for that month of is only for the month of the map the map using baseline from 2001 to 2019. using baseline from 2001 to 2019. -10 **-**20 **National**

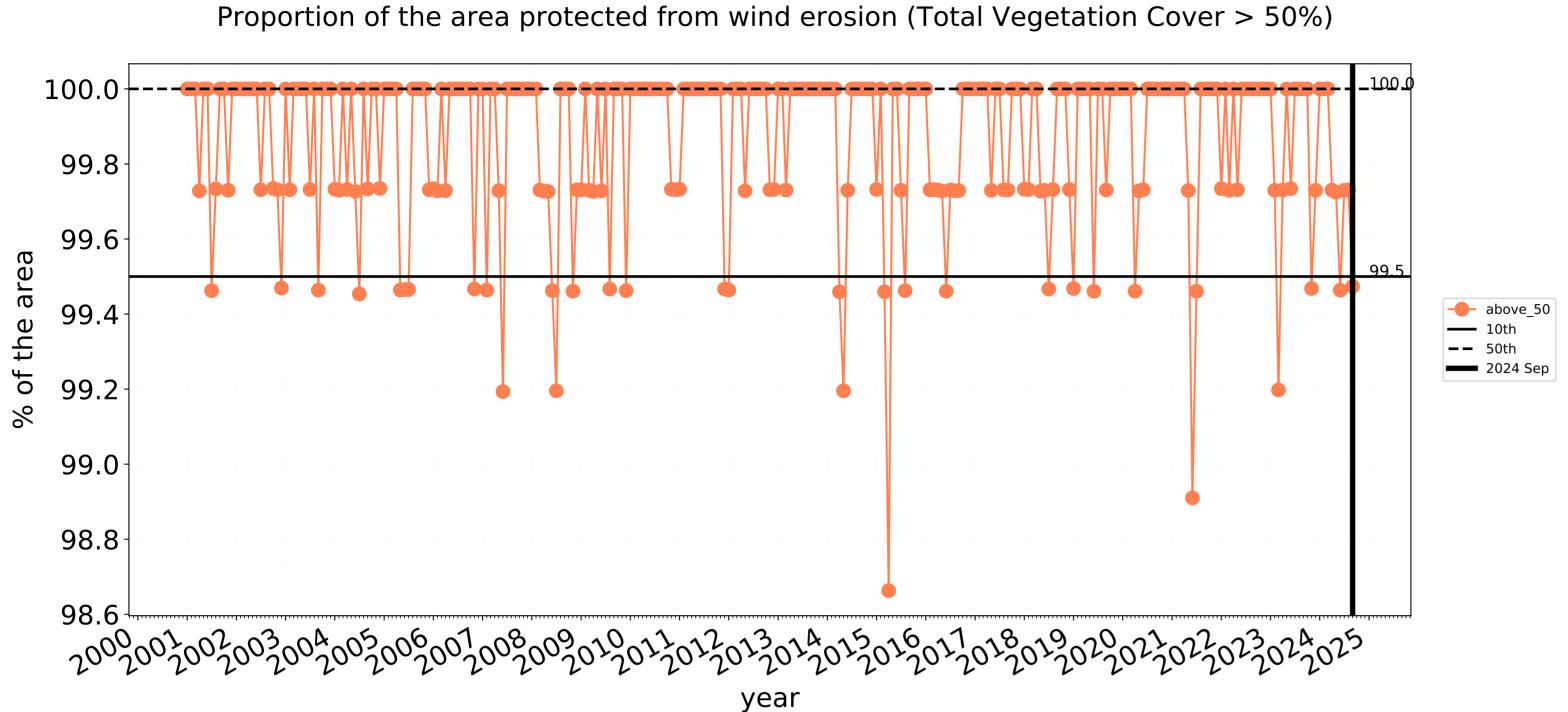
Australian Government

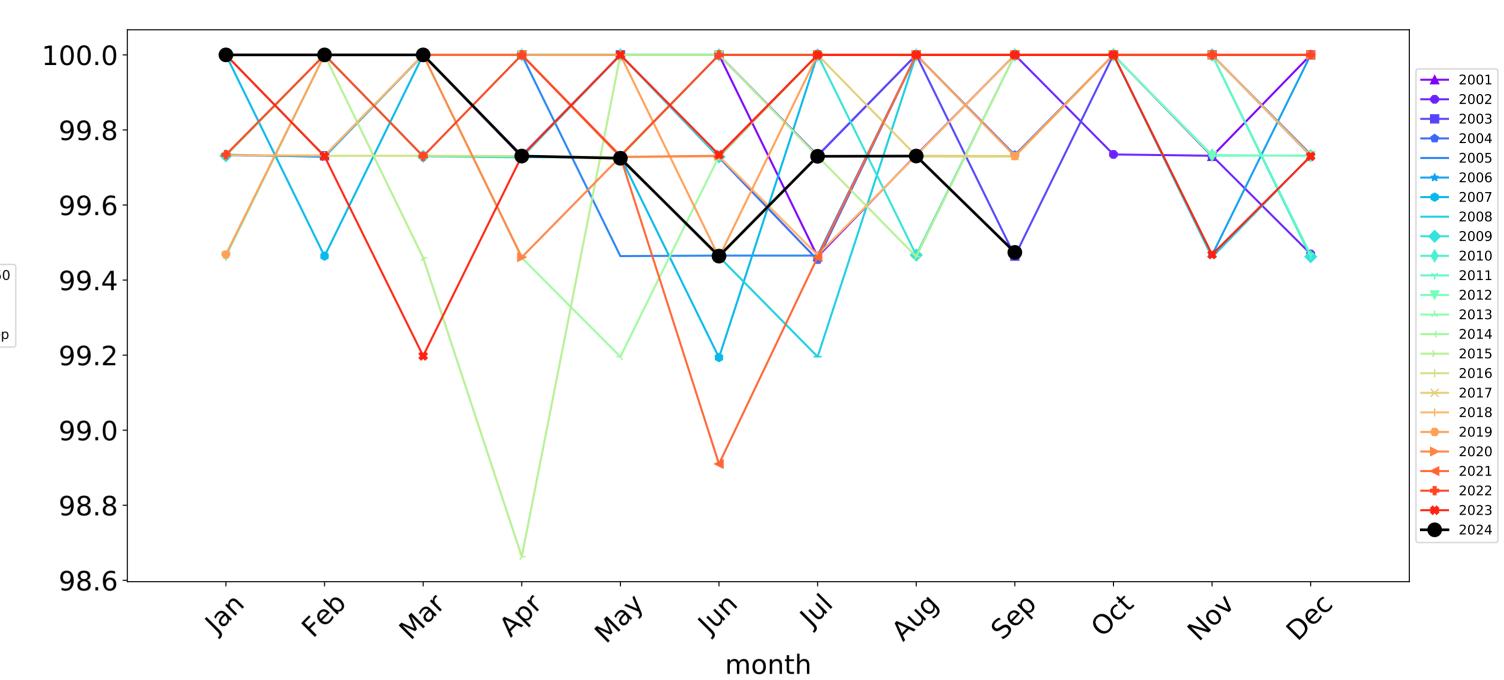
Ecosystem Research Infrastructure

Landcare

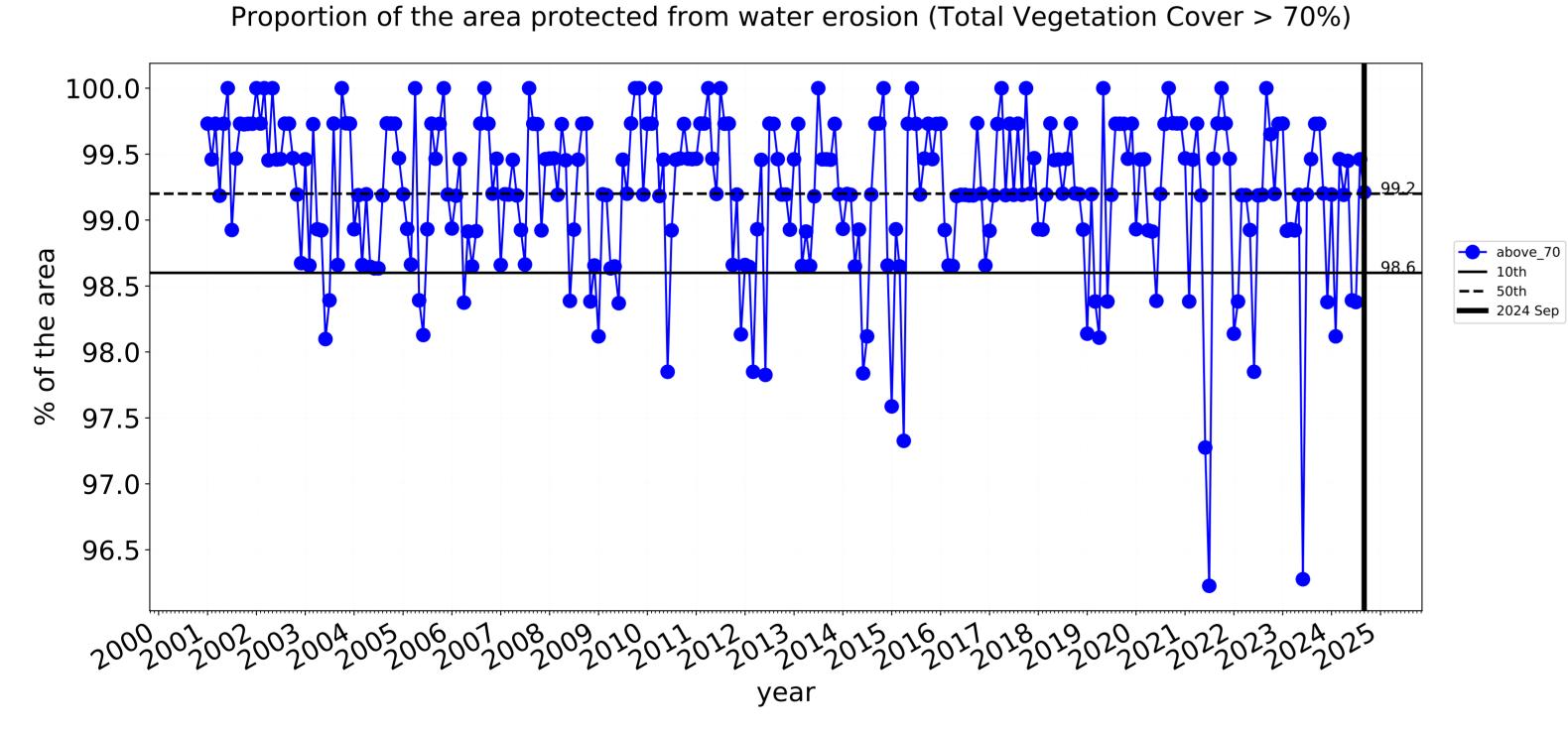
Programme

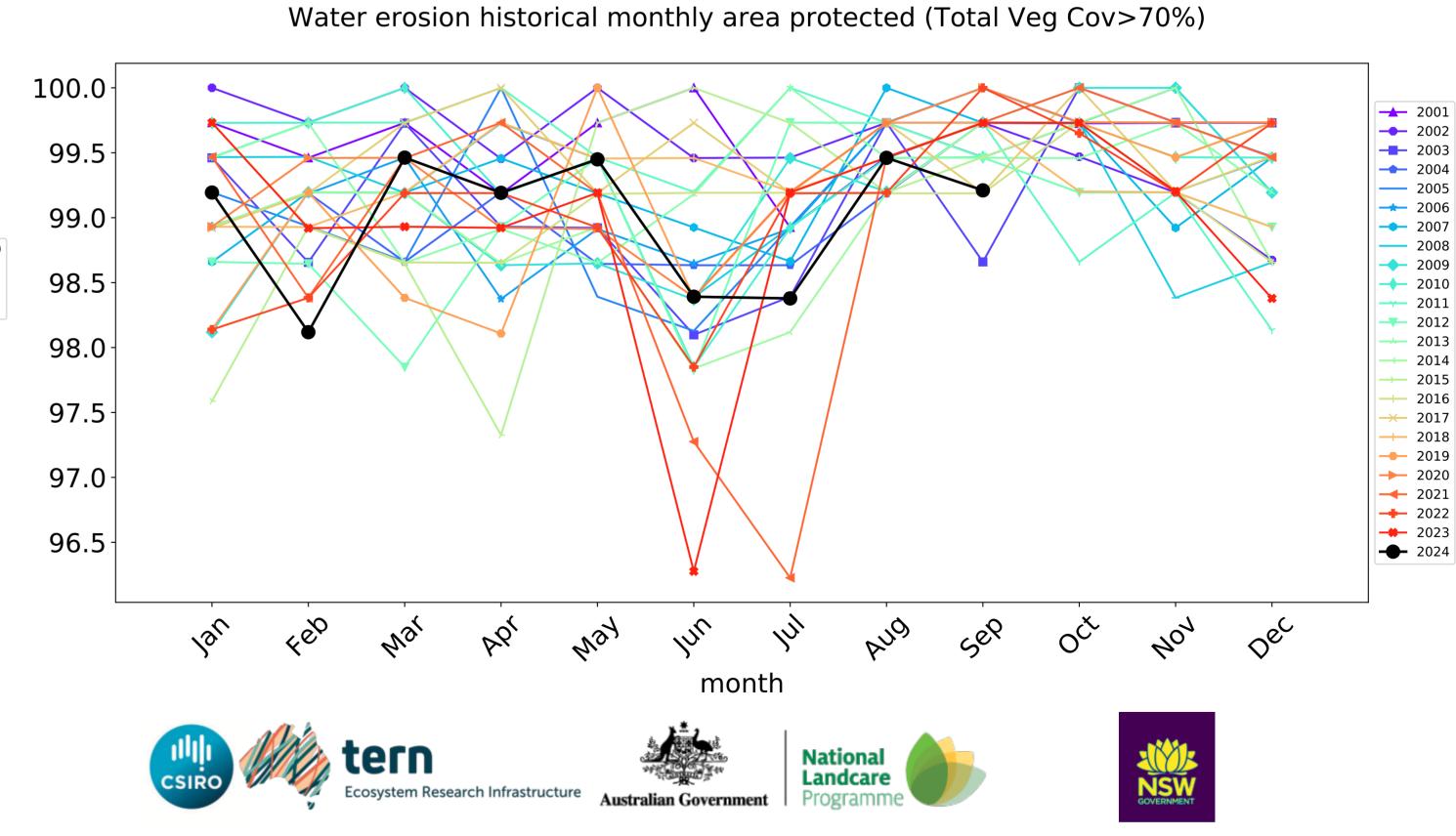
Conservation and natural environments timeseries

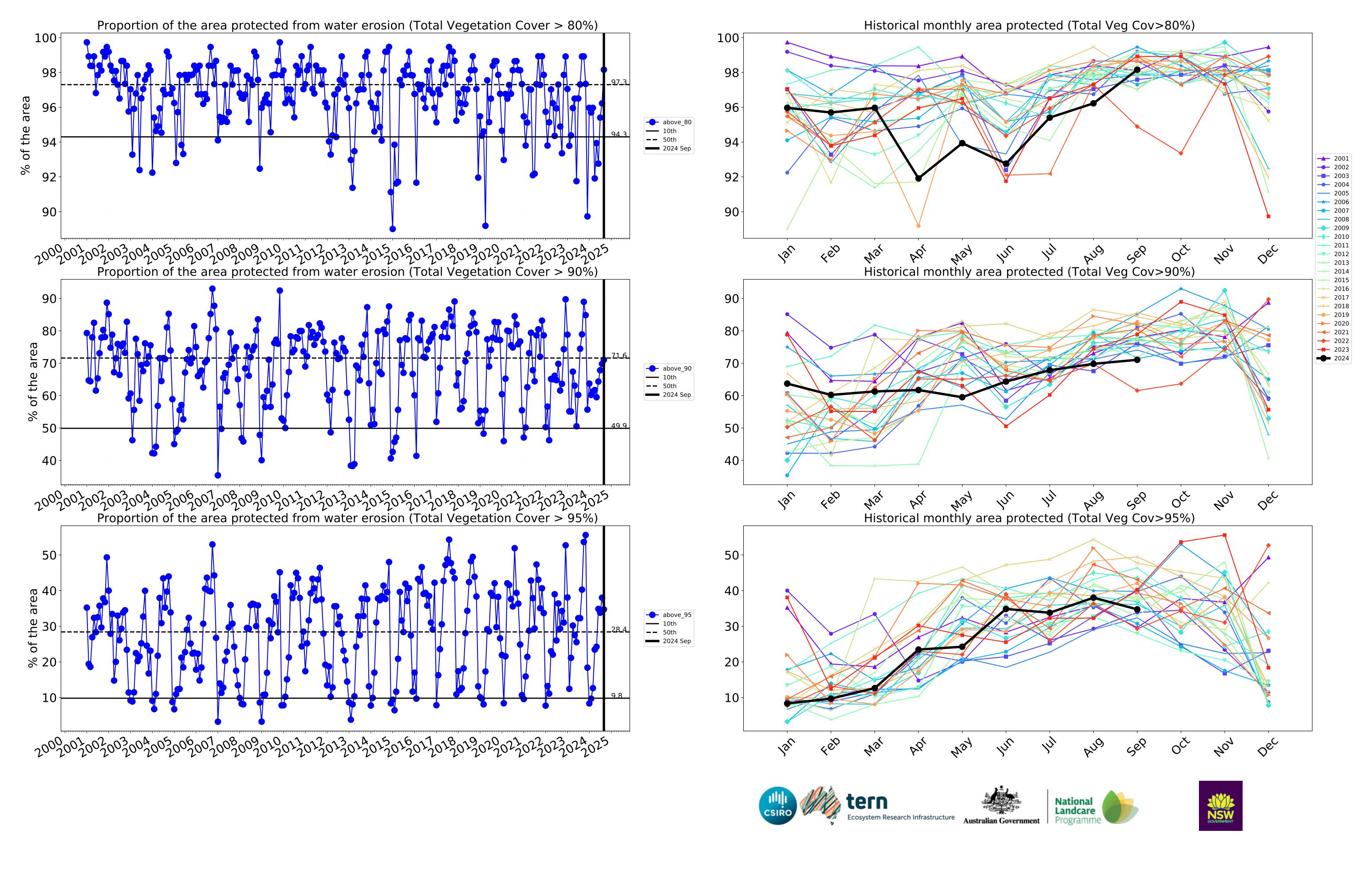




Wind erosion historical monthly area protected (Total Veg Cov >50%)

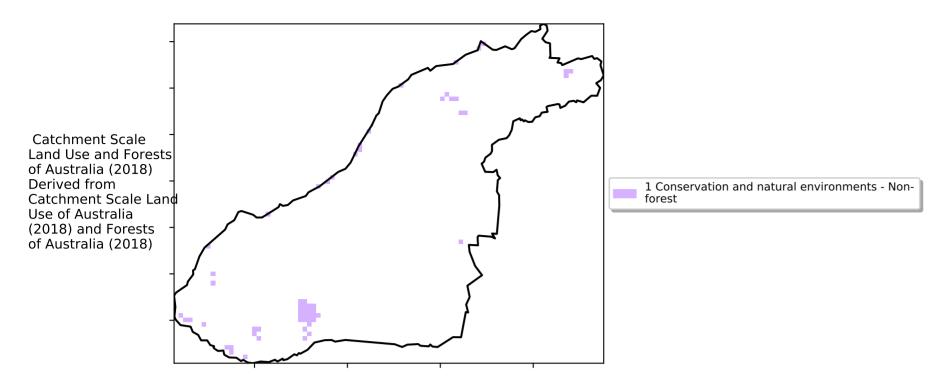




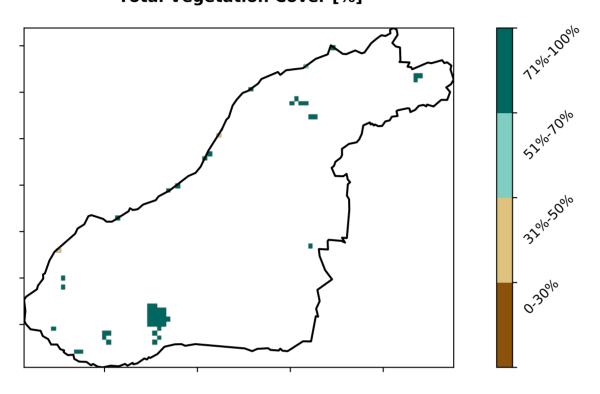


Conservation and natural environments non forest

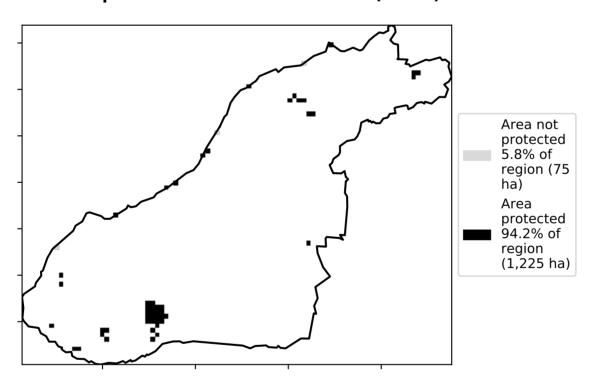
Land use and forest cover



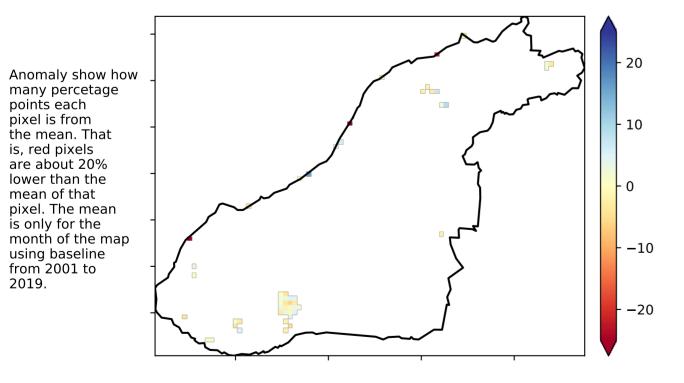
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

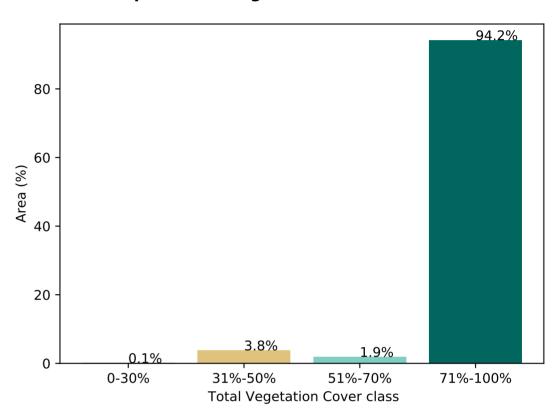


Total Vegetation Cover Anomaly [%]

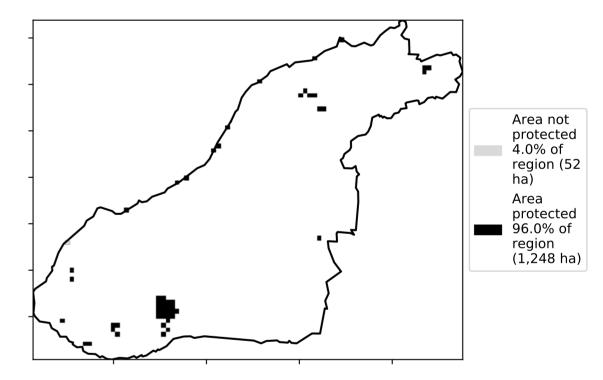


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

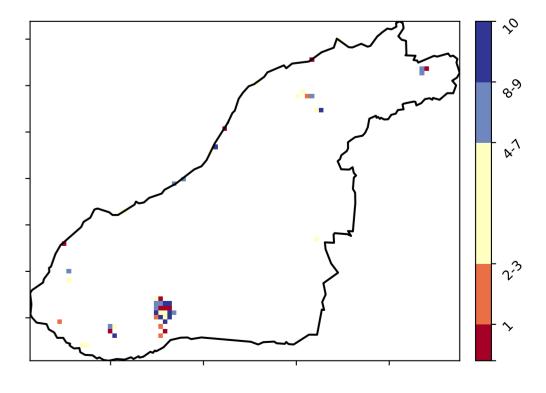
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



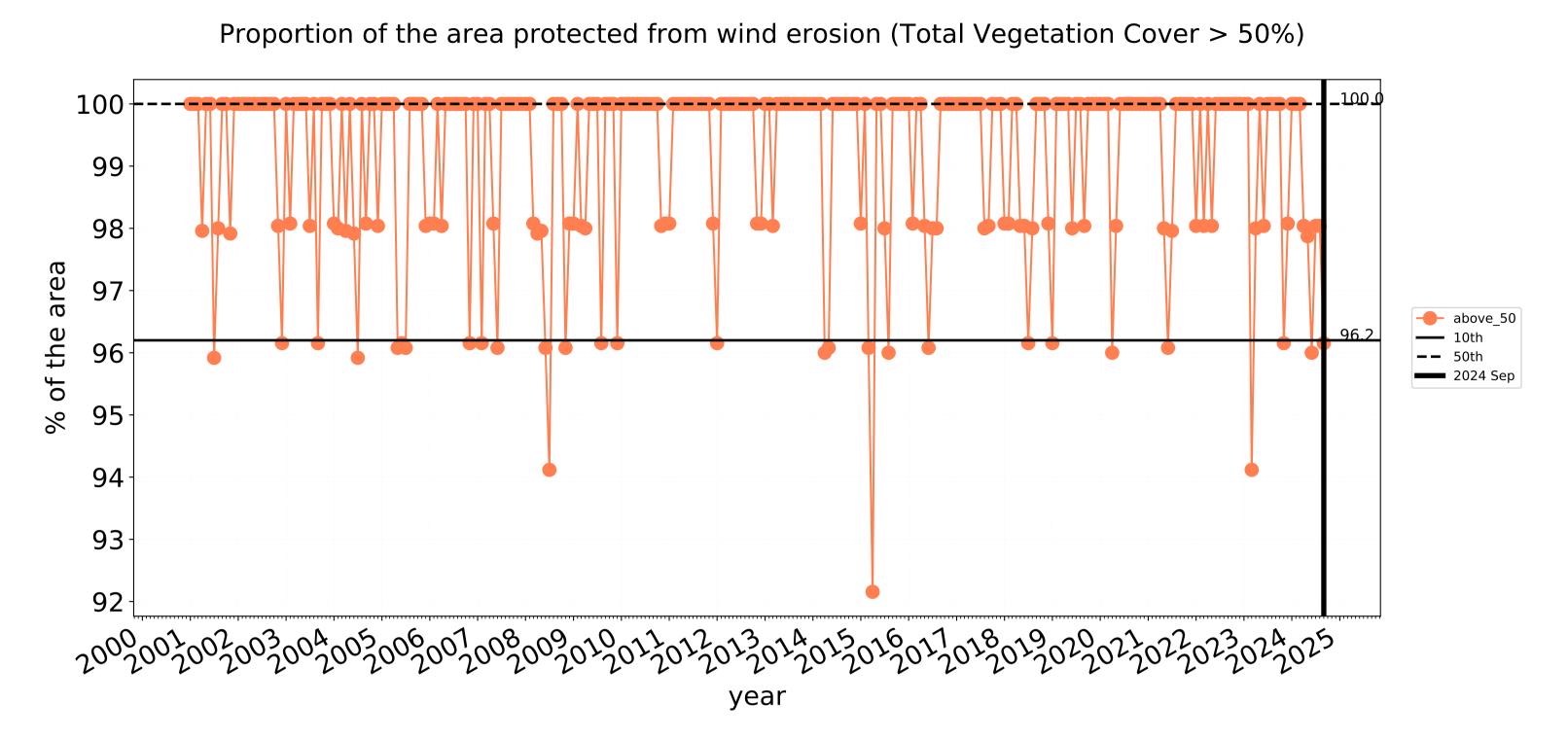


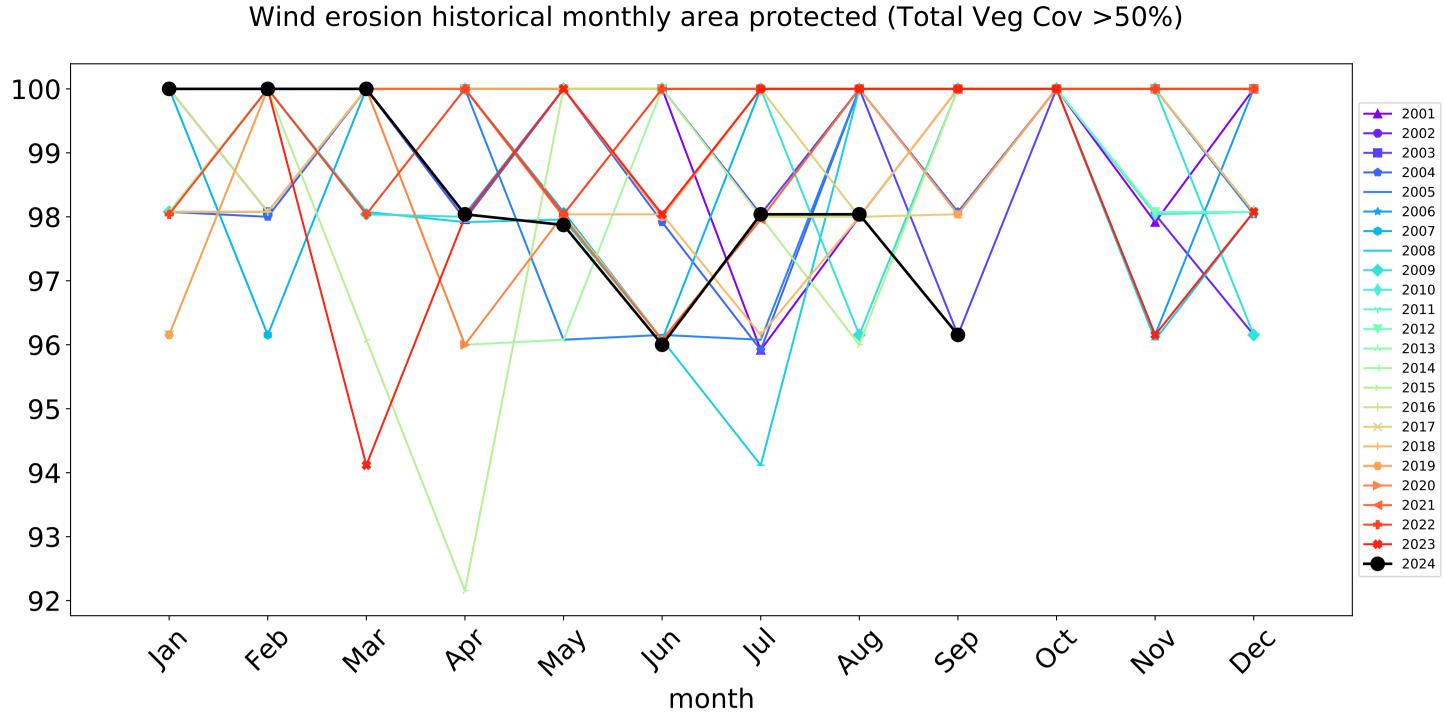


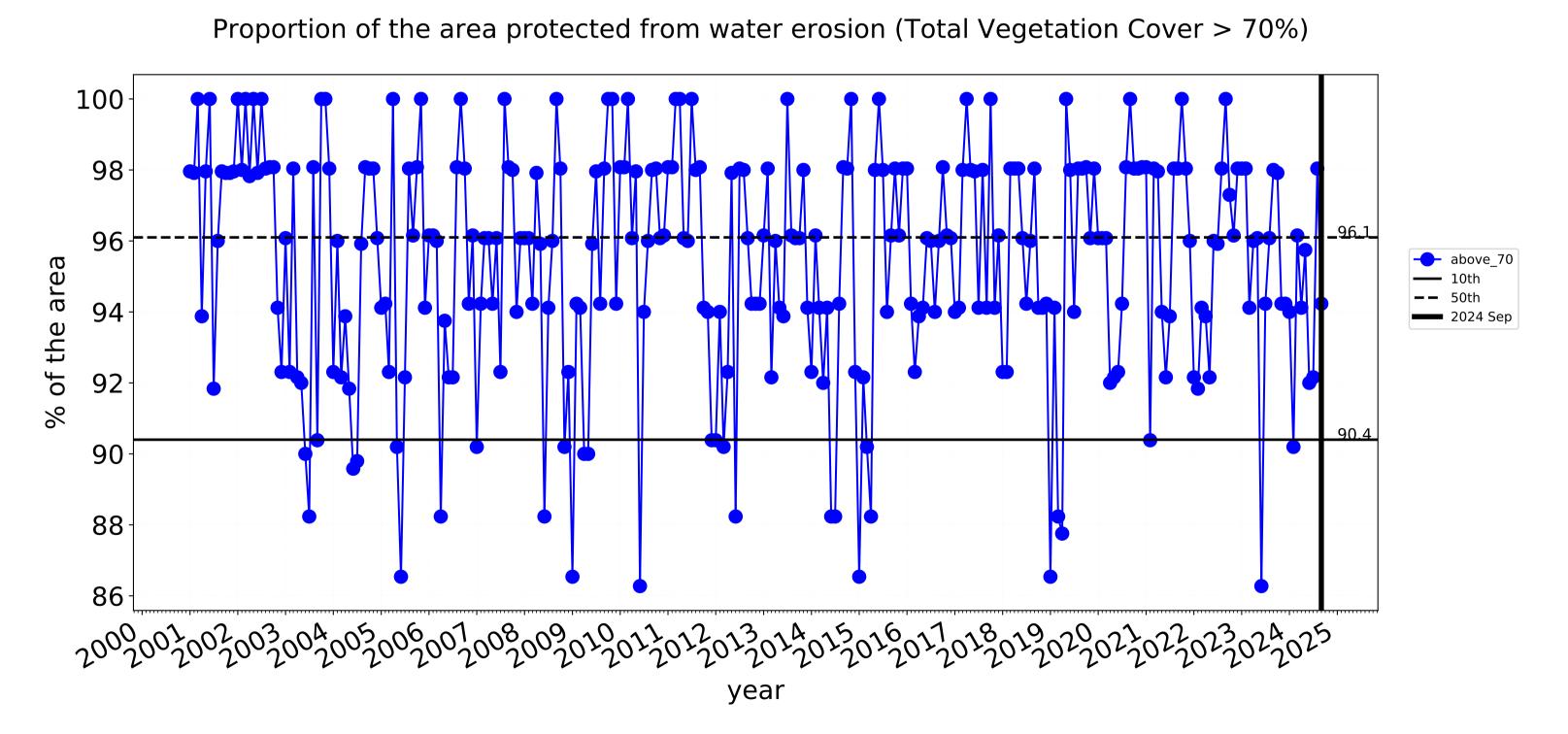


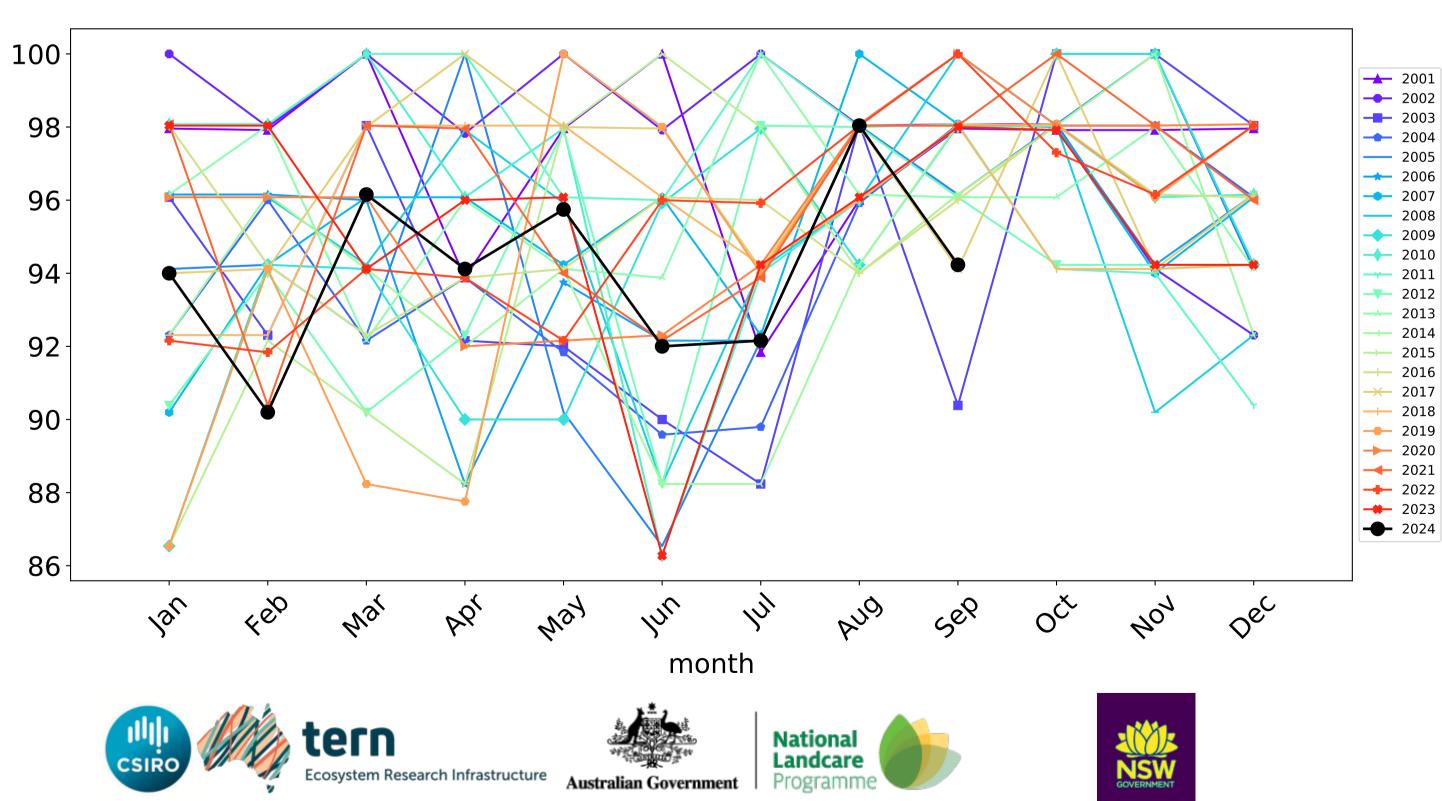


Conservation and natural environments non forest timeseries

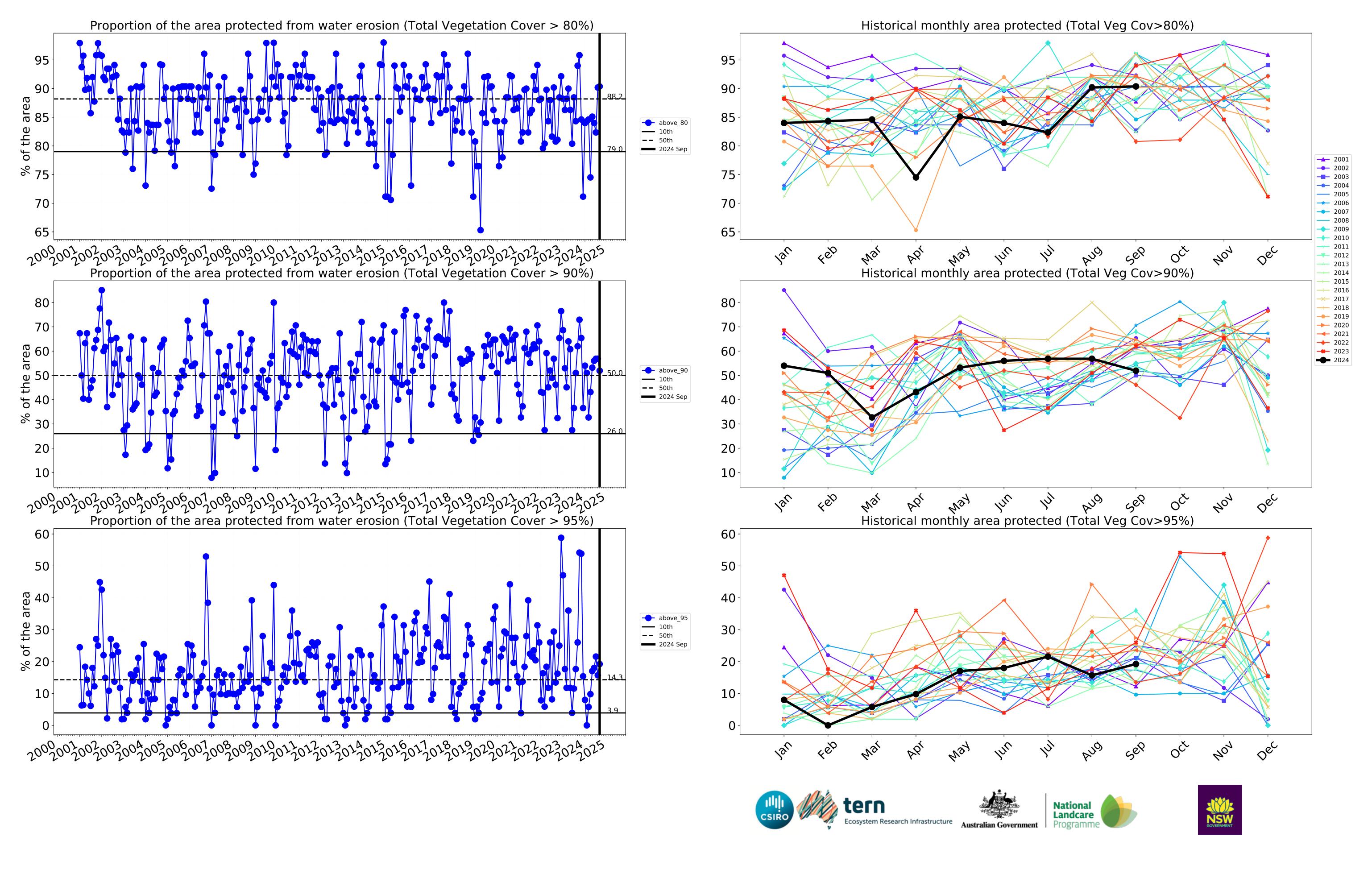








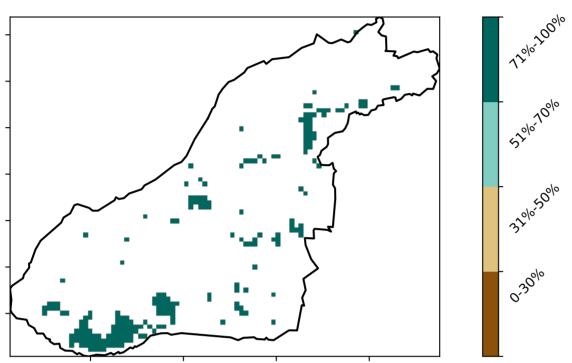
Water erosion historical monthly area protected (Total Veg Cov>70%)



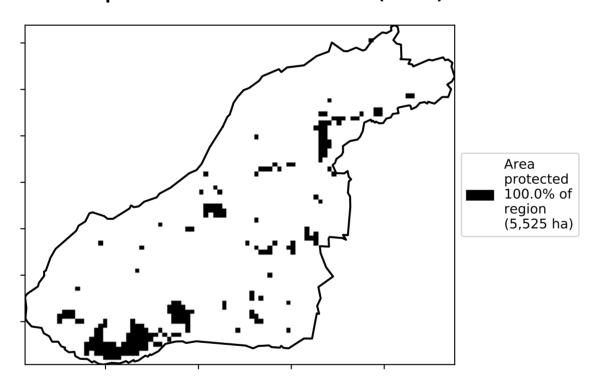
Conservation and natural environments Woodland forest

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

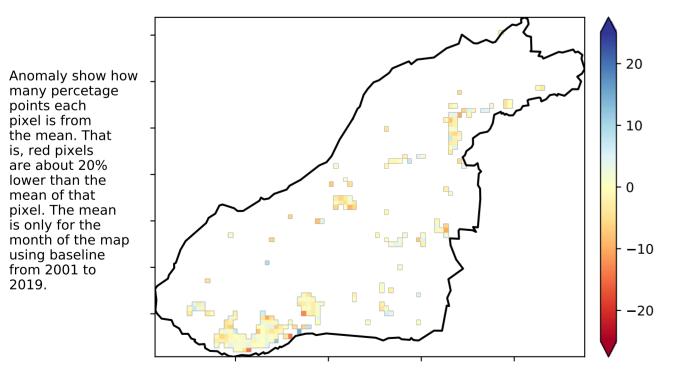
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

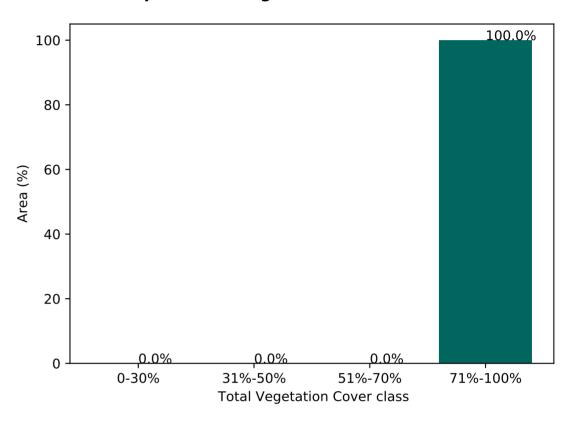


Total Vegetation Cover Anomaly [%]

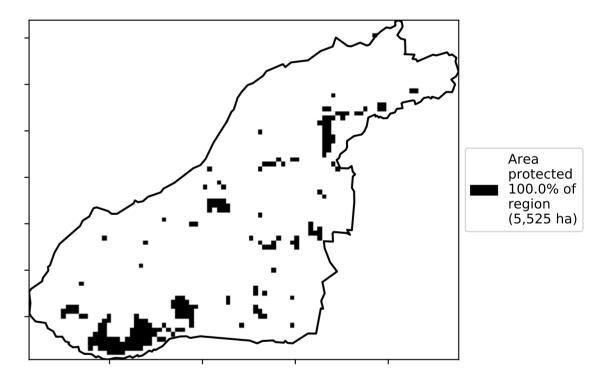


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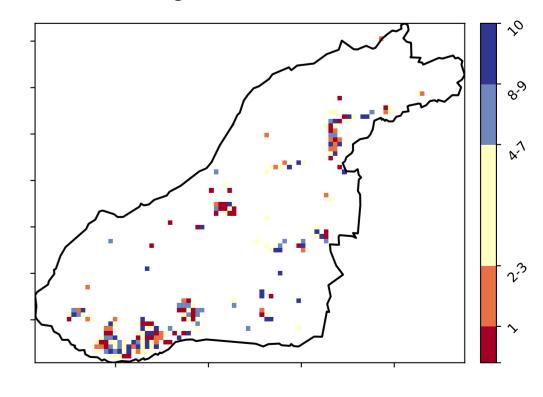
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



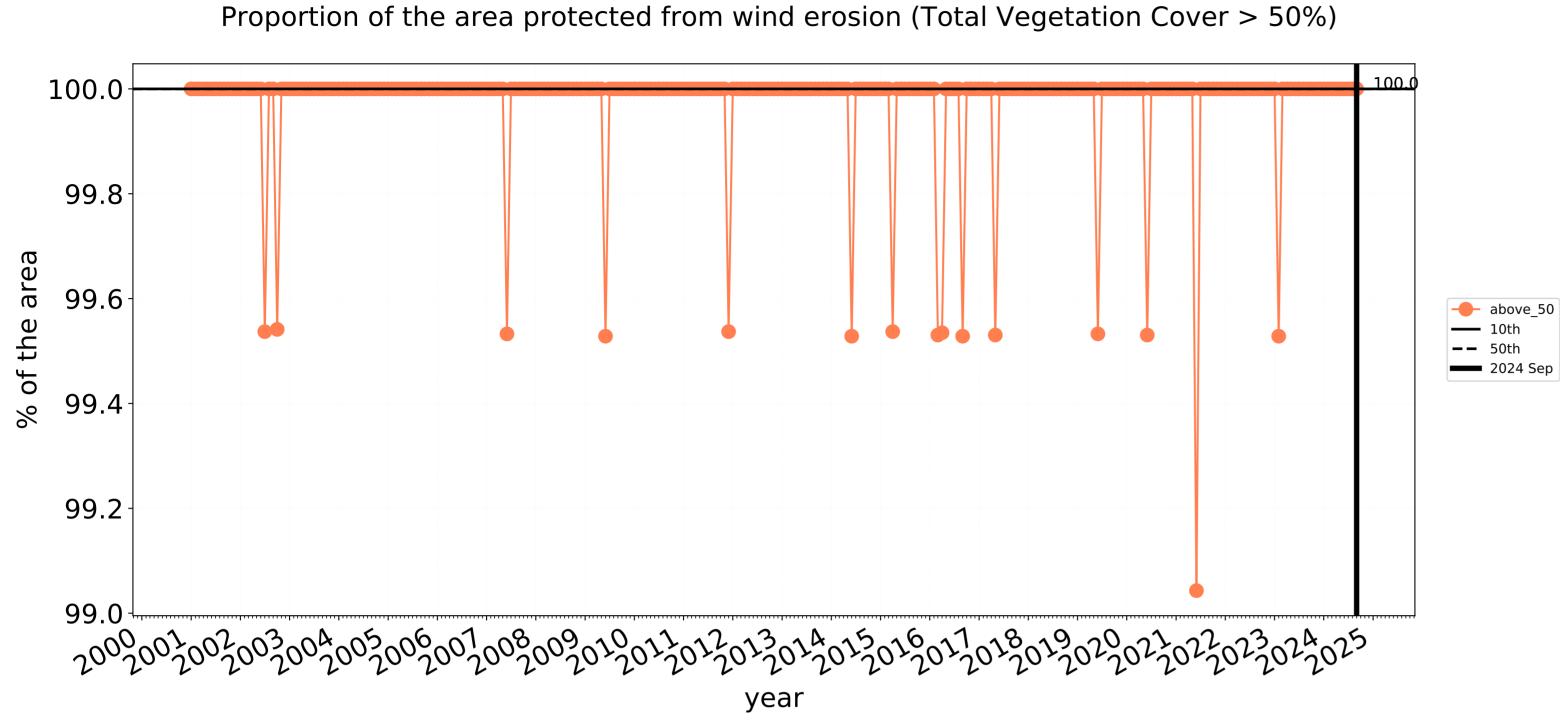


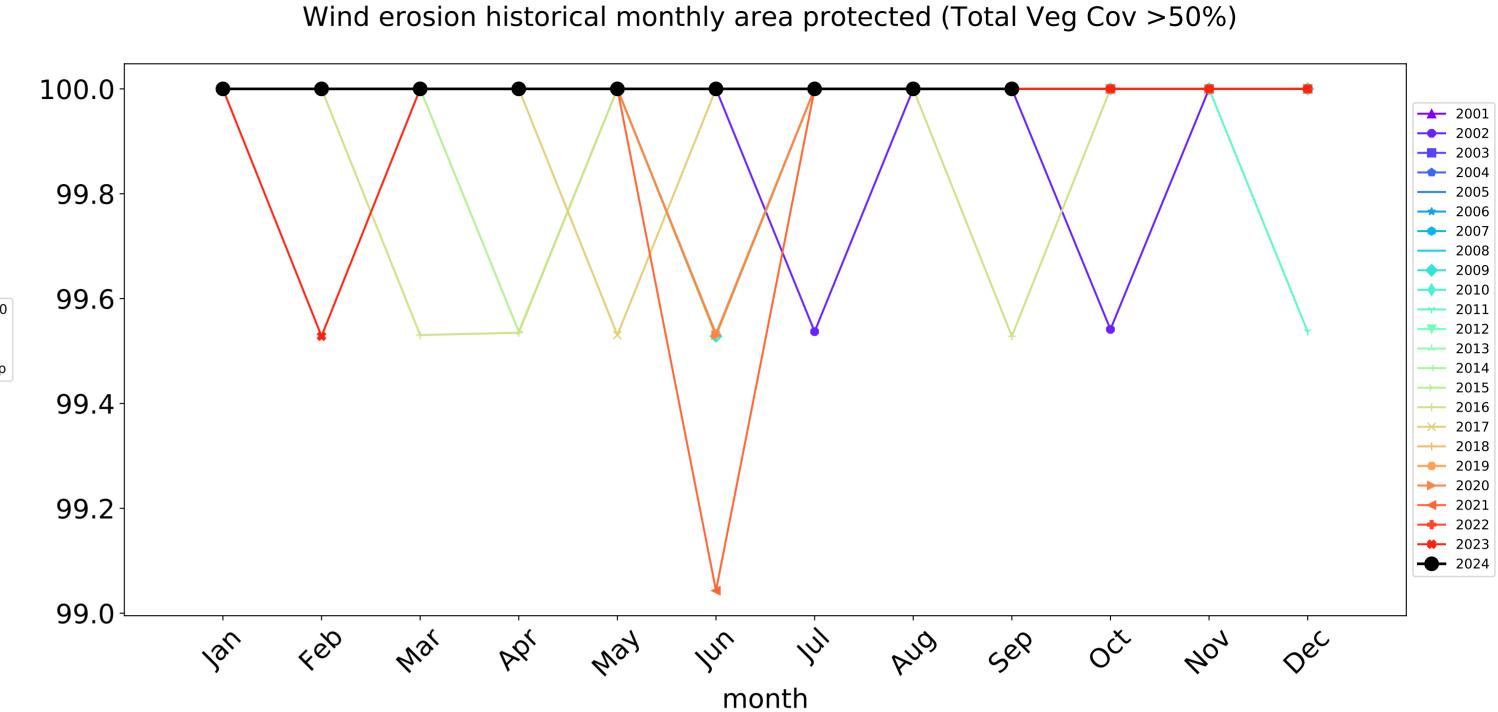


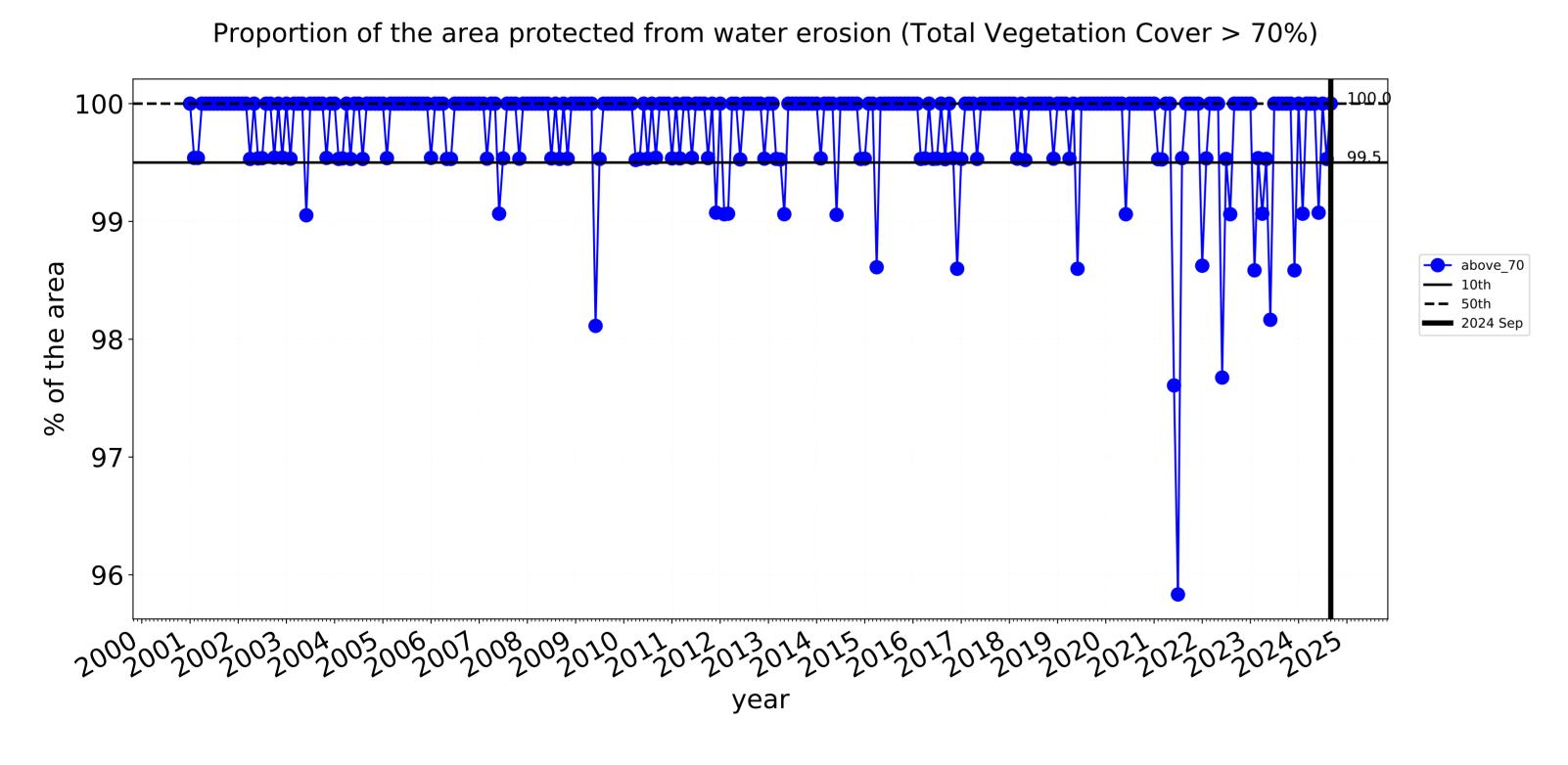


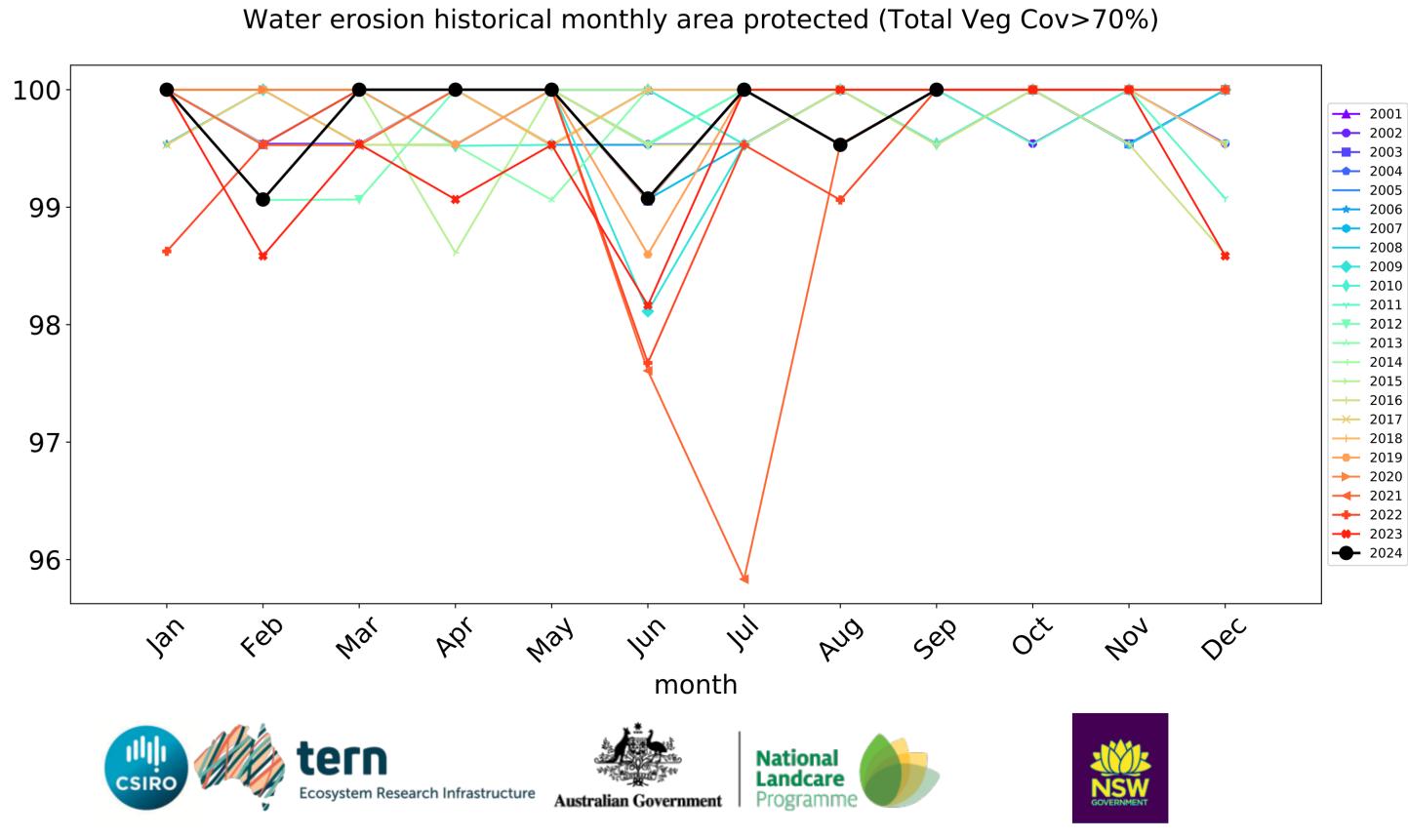


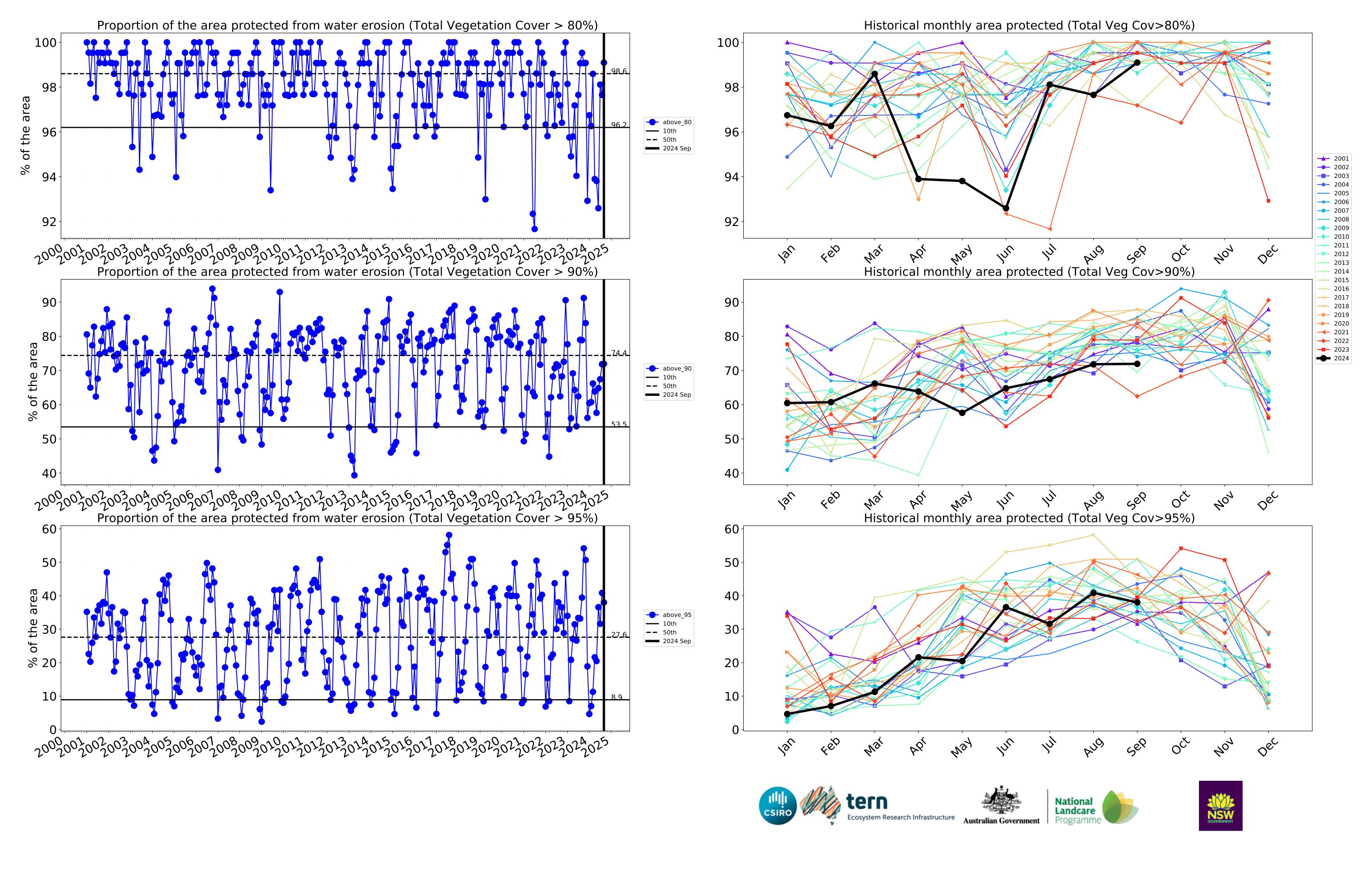
Conservation and natural environments Woodland forest timeseries







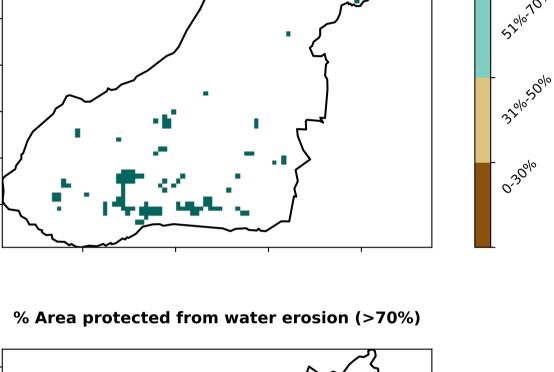


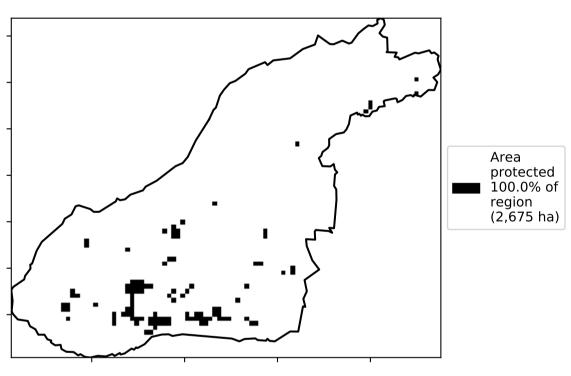


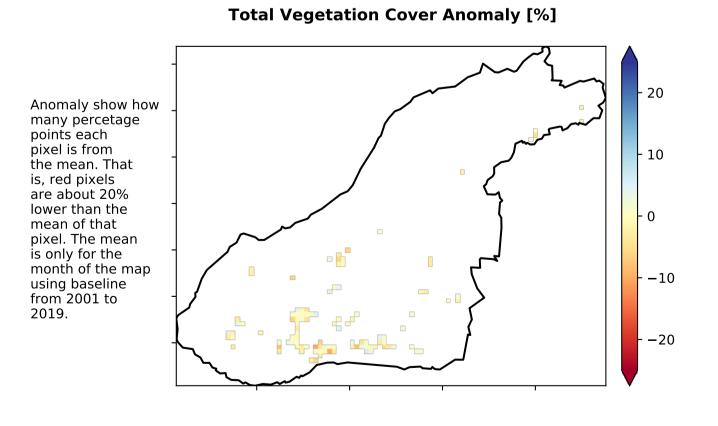
Conservation and natural environments Forest (non woodland)

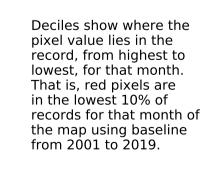
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Conservation and natural environments - Non-woodland forest Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

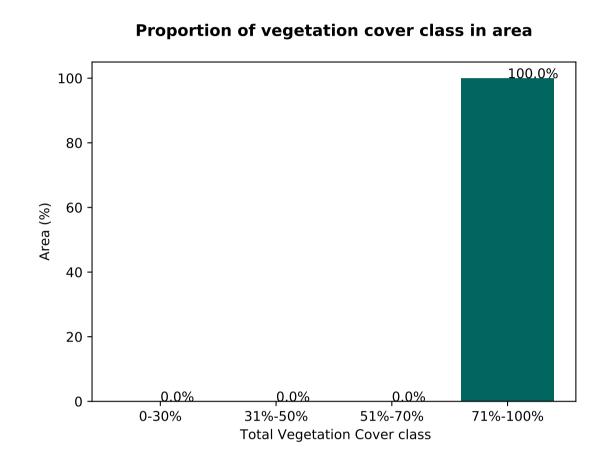
Total Vegetation Cover [%]

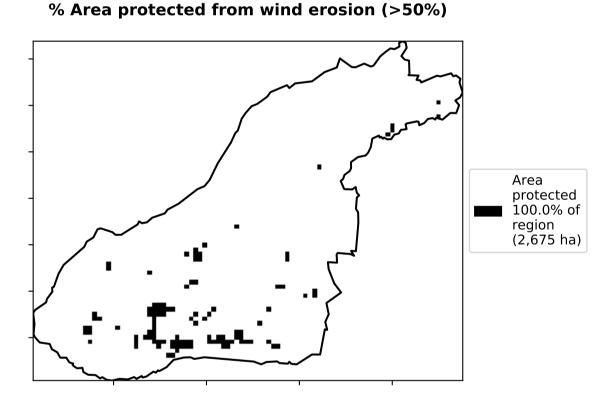


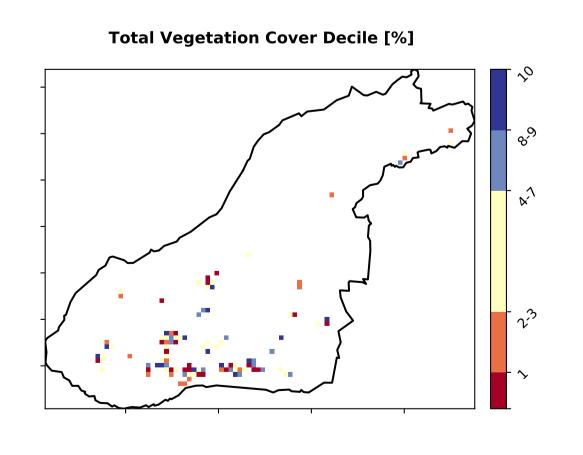










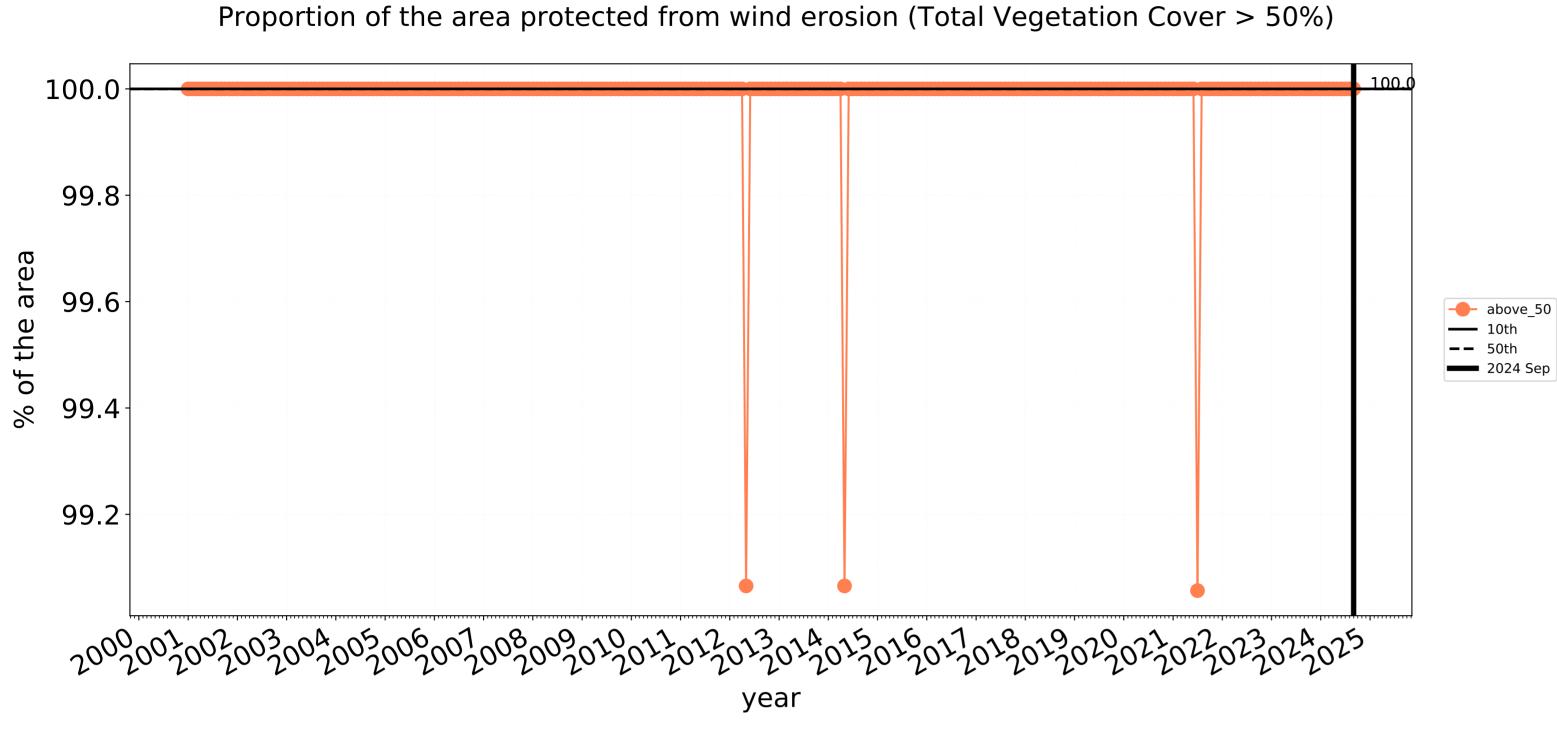


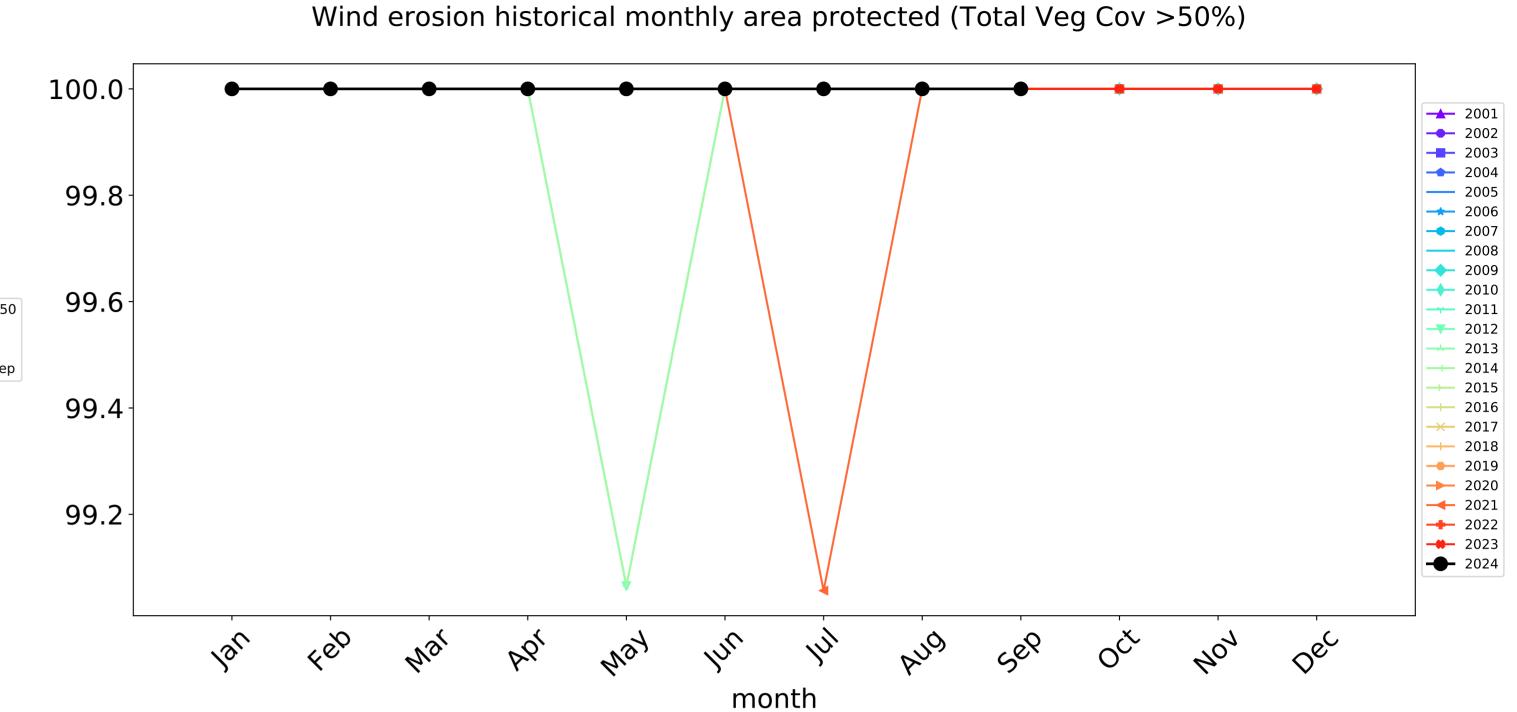


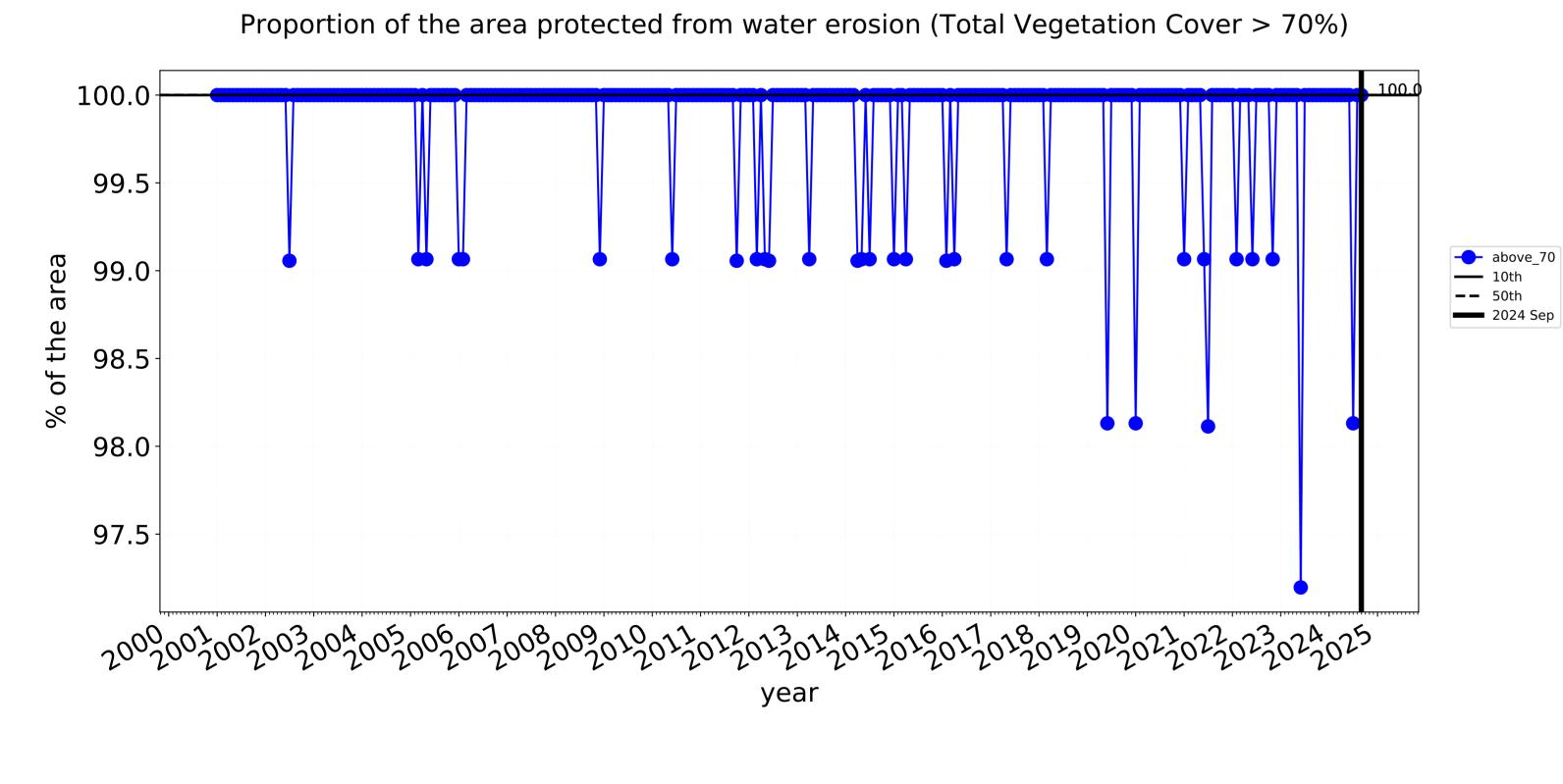


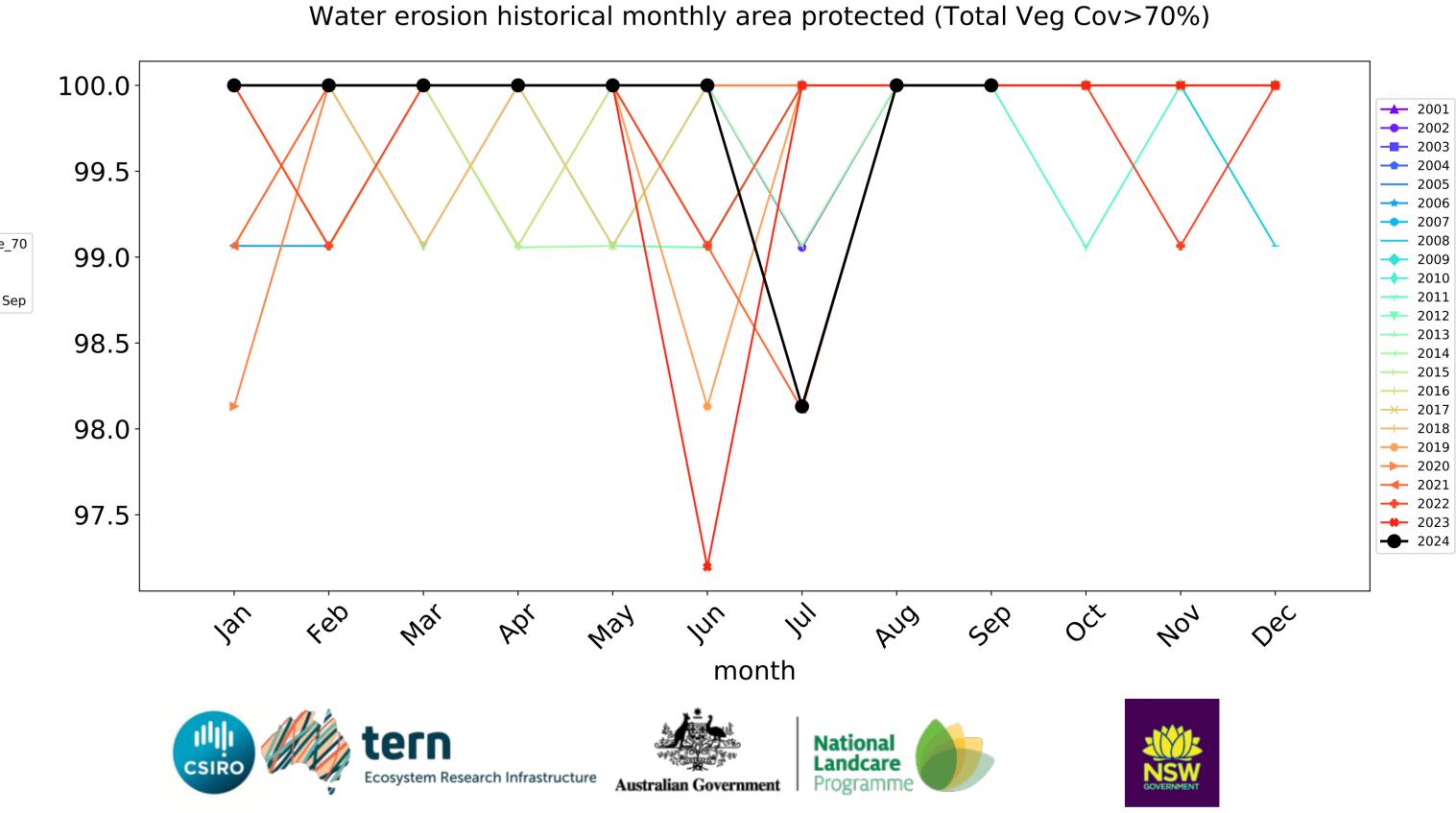


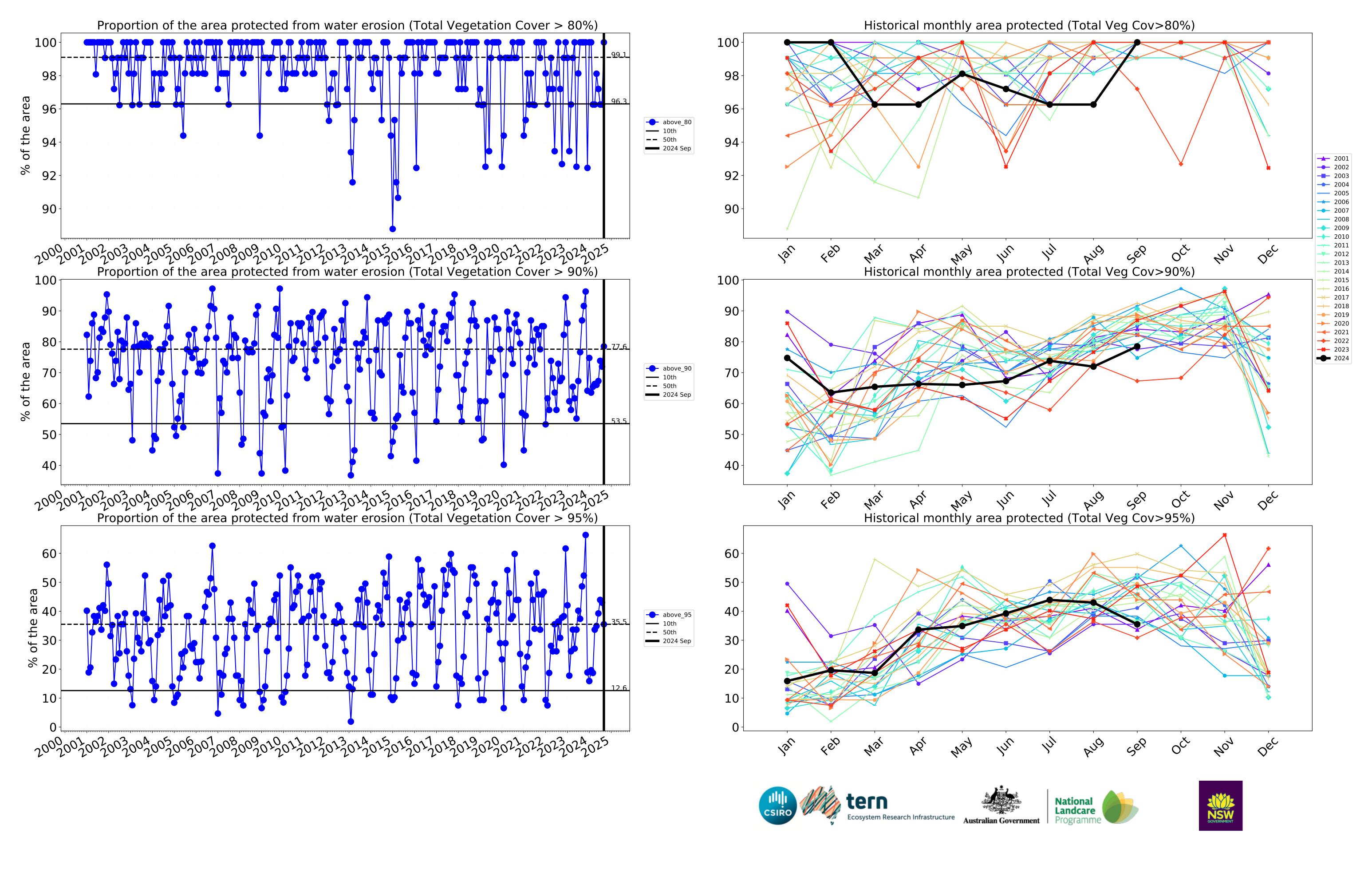












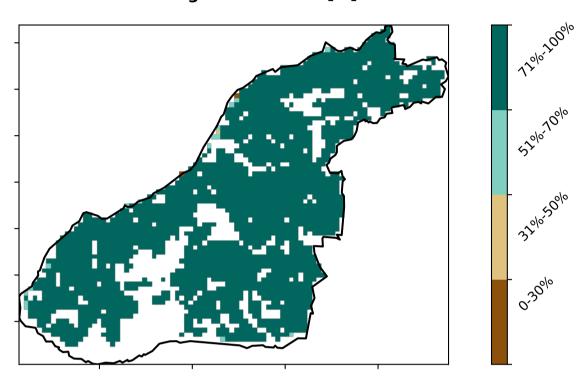
Agriculture

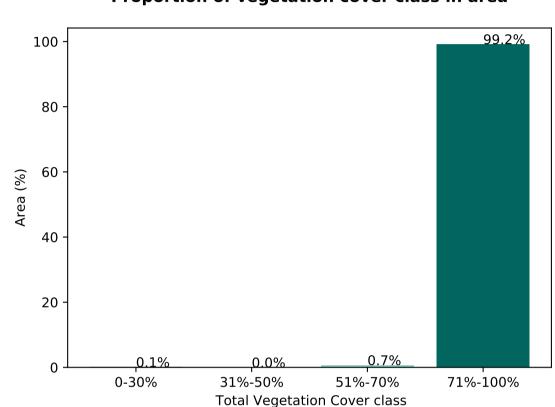
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) Agriculture - Grazing - Non forest 2 Agriculture - Grazing - Woodland forest 3 Agriculture - Grazing - Non-woodland forest 4 Agriculture - Grazing - Irrigated 5 Agriculture - Grazing - Non-woodland forest 6 Agriculture - Grazing - Non-woodland forest 7 Agriculture - Grazing - Non-woodland forest 9 Agriculture - Grazing - Non forest 9 Agriculture - Grazing - Non-woodland forest 9 Agriculture - Grazing - Non-woodla

Proportion of each land class in area

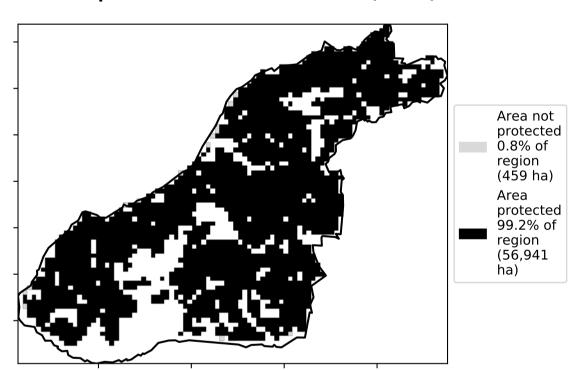
Total Vegetation Cover [%]

Proportion of vegetation cover class in area

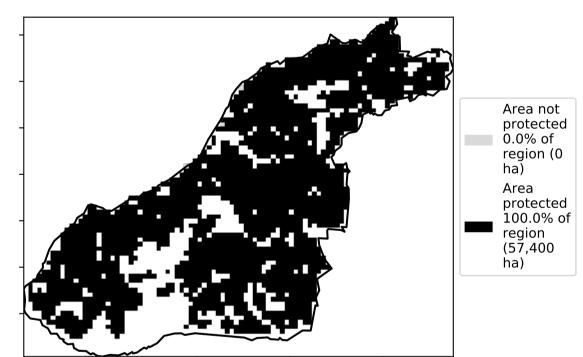




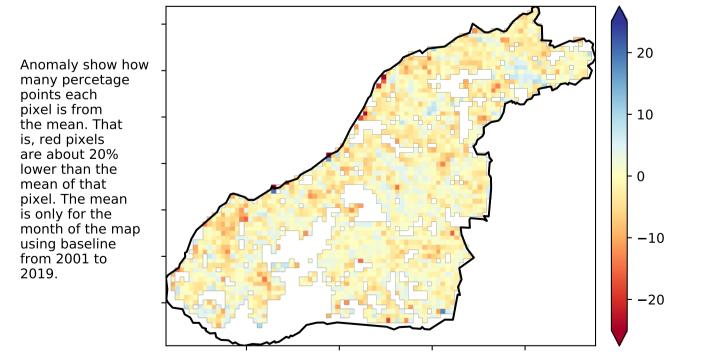




% Area protected from wind erosion (>50%)

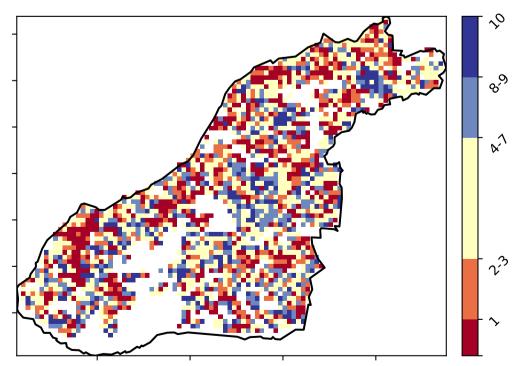


Total Vegetation Cover Anomaly [%]



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 [%]



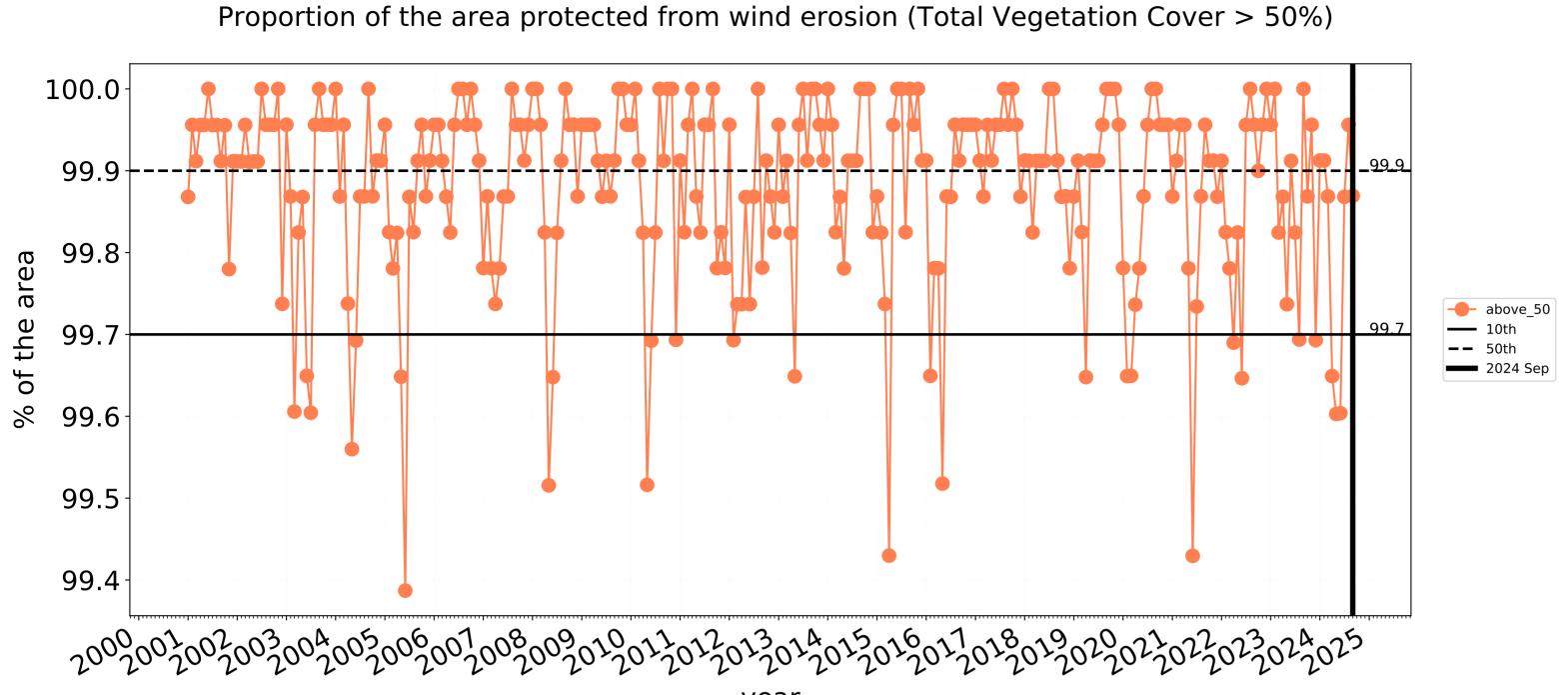


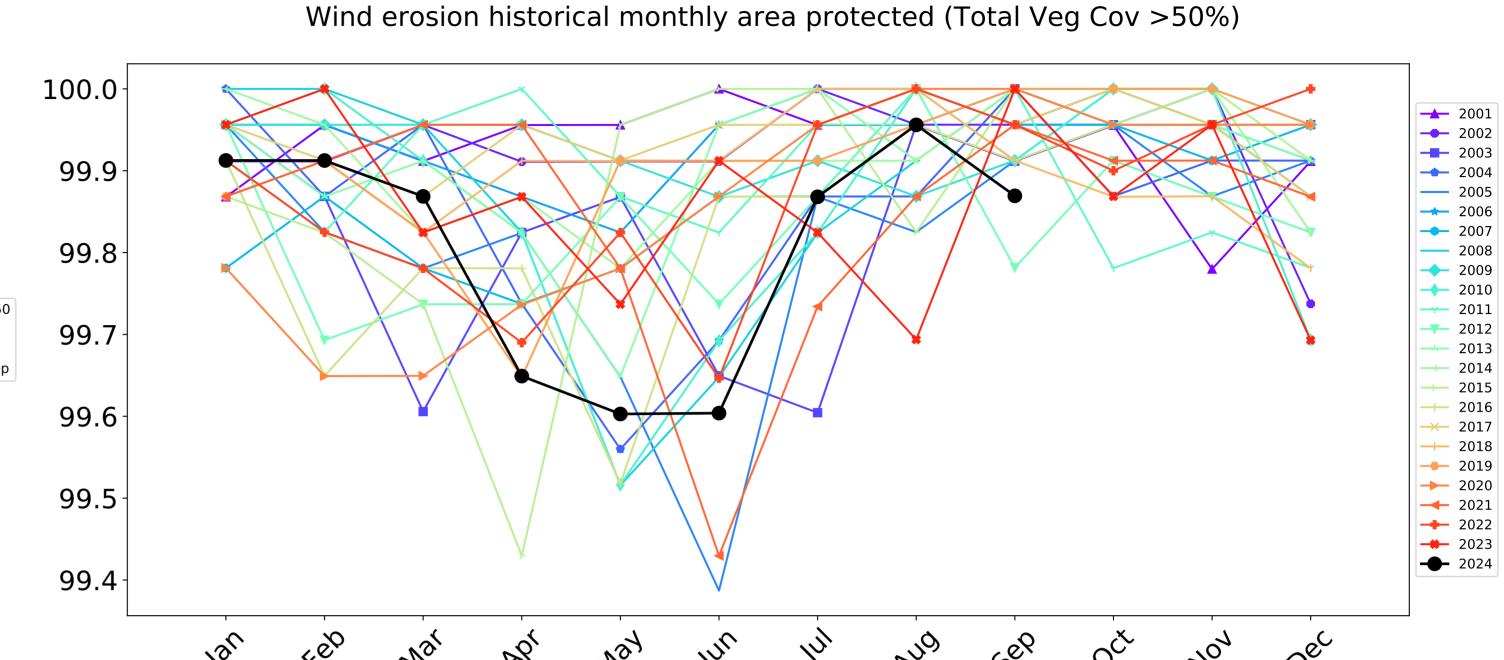




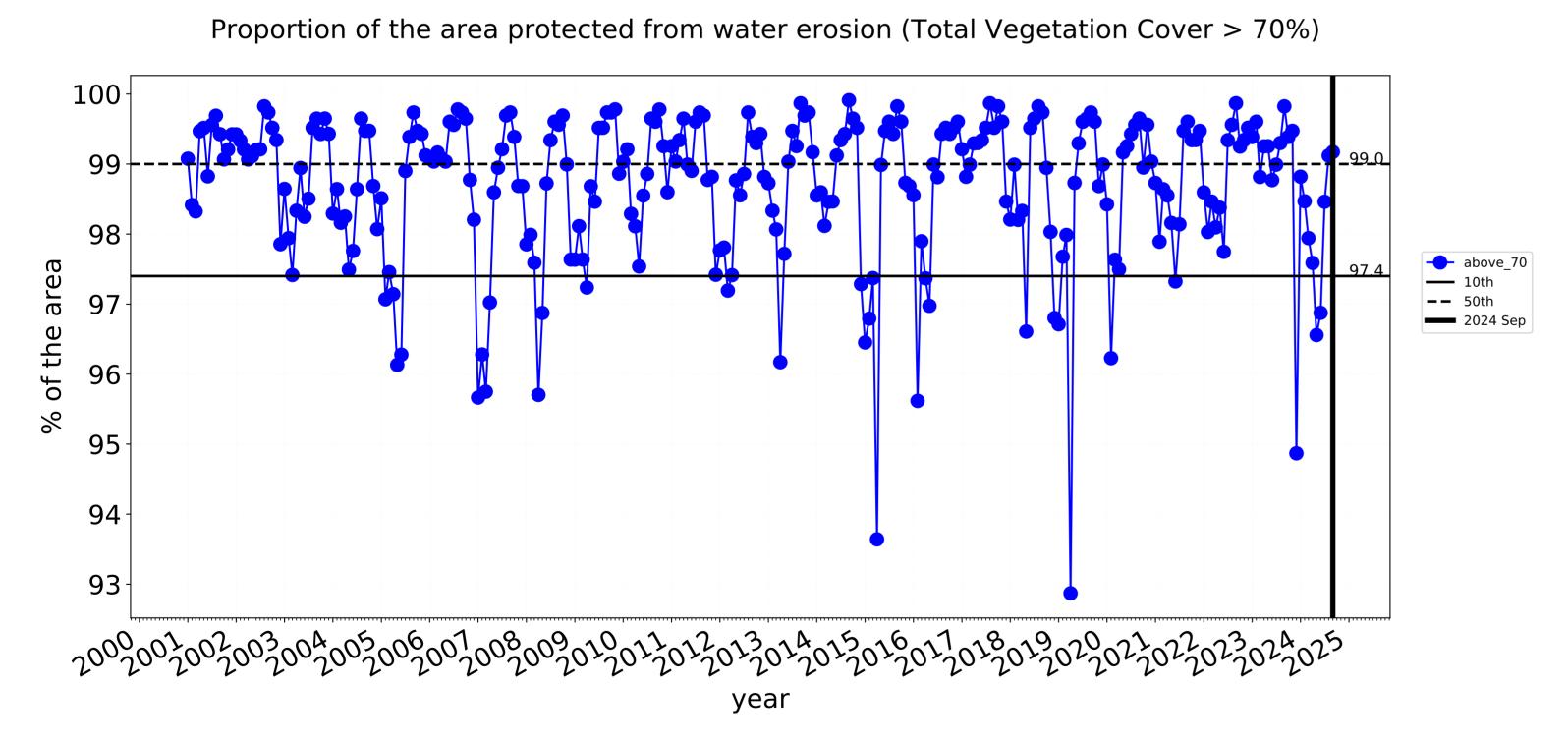


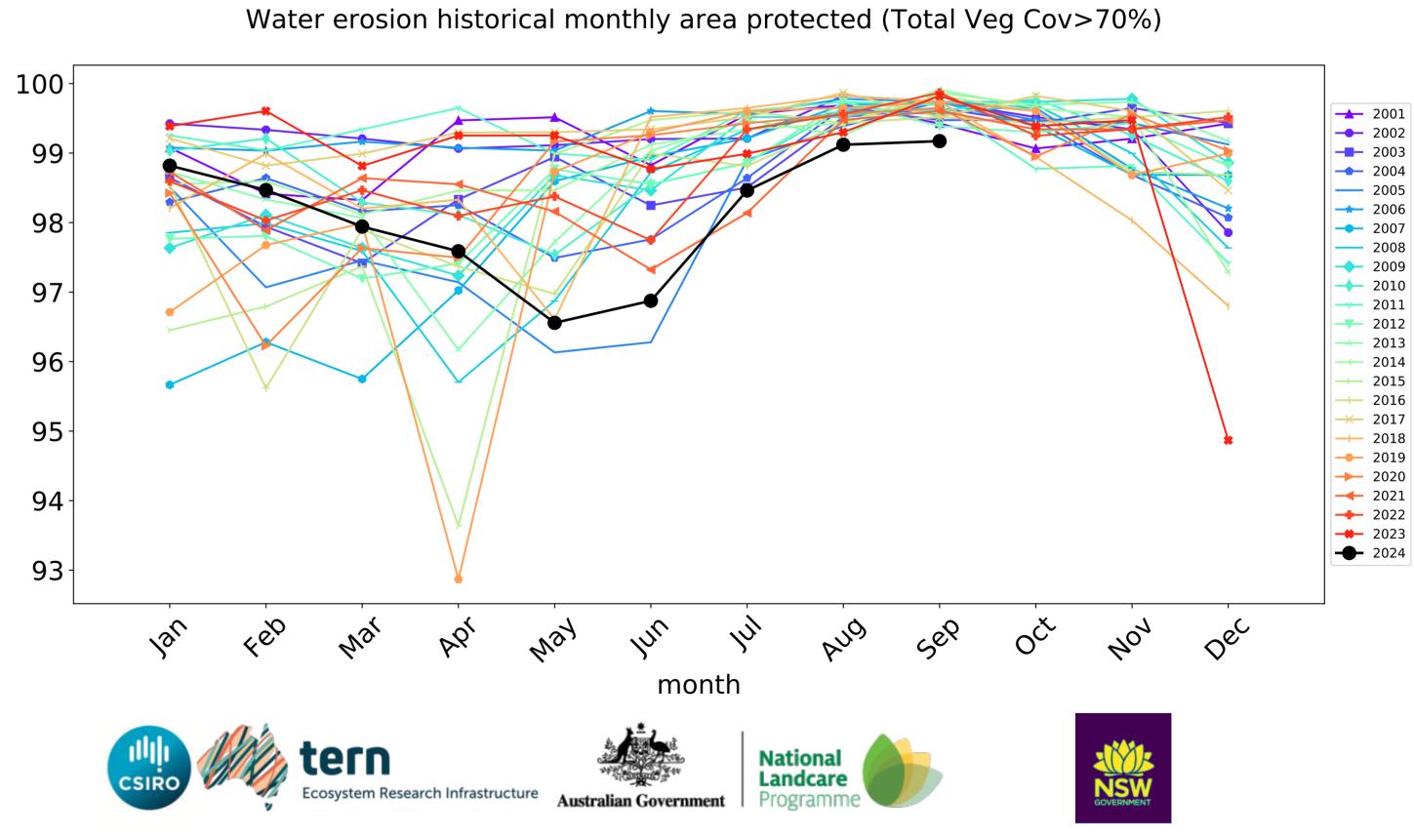
Agriculture timeseries

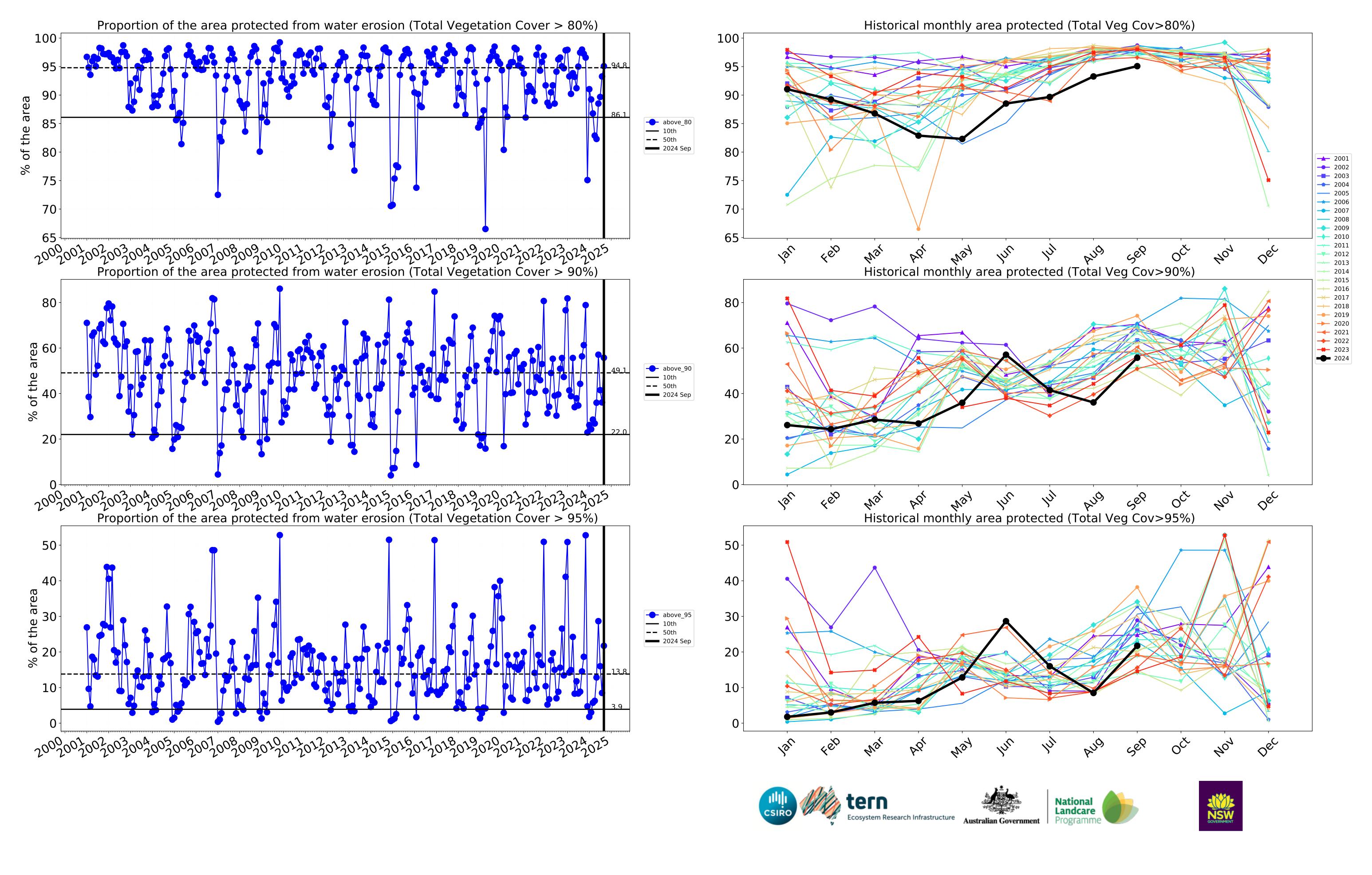




month



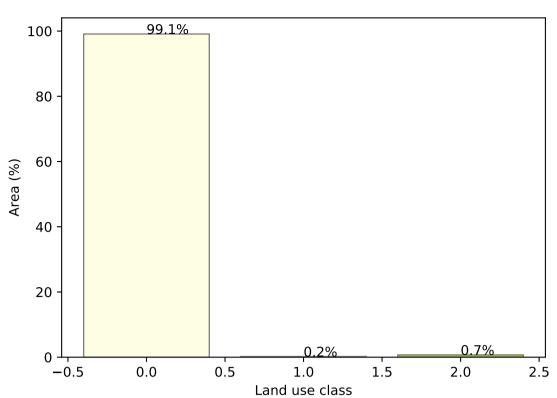




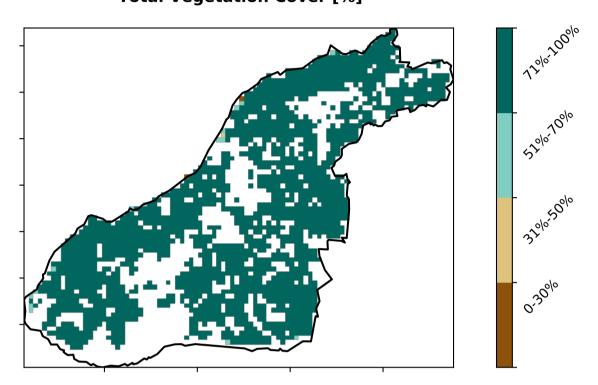
Grazing

Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) Australia (2018) Agriculture - Grazing - Non forest 2 Agriculture - Grazing - Woodland forest 3 Agriculture - Grazing - Non-woodland forest of Australia (2018)

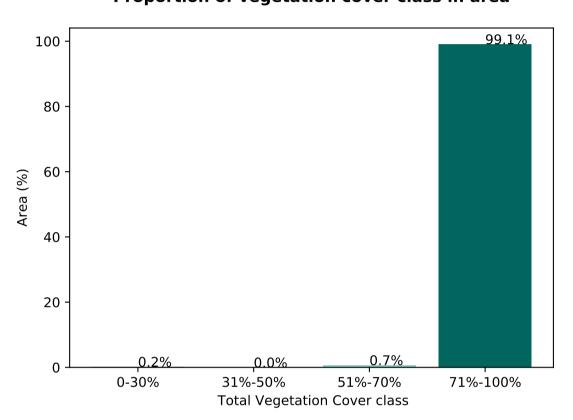
Proportion of each land class in area



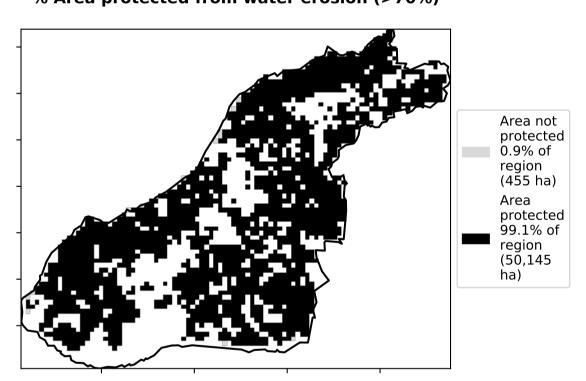
Total Vegetation Cover [%]



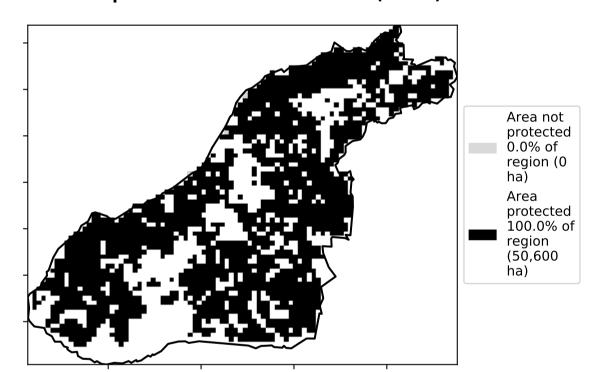
Proportion of vegetation cover class in area



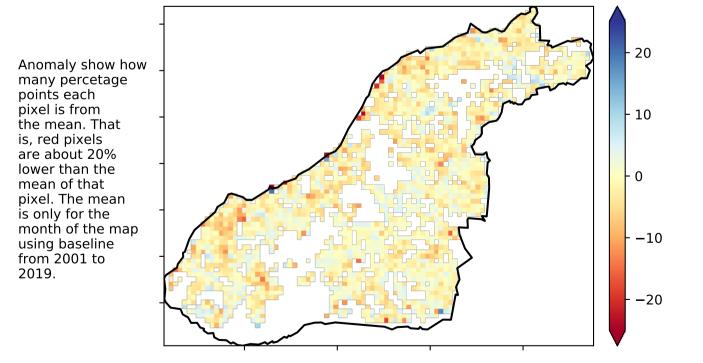
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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Total Vegetation Cover Decile [%]

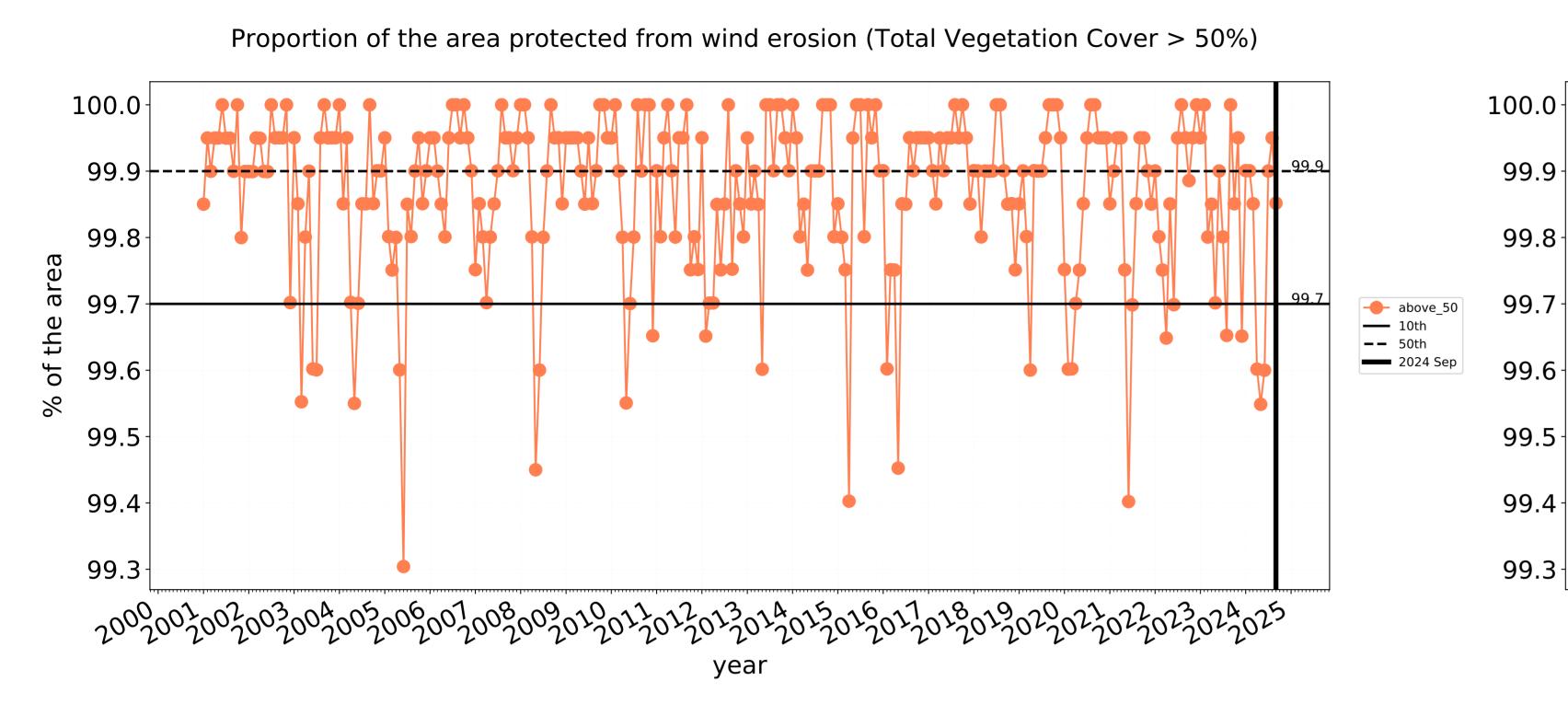


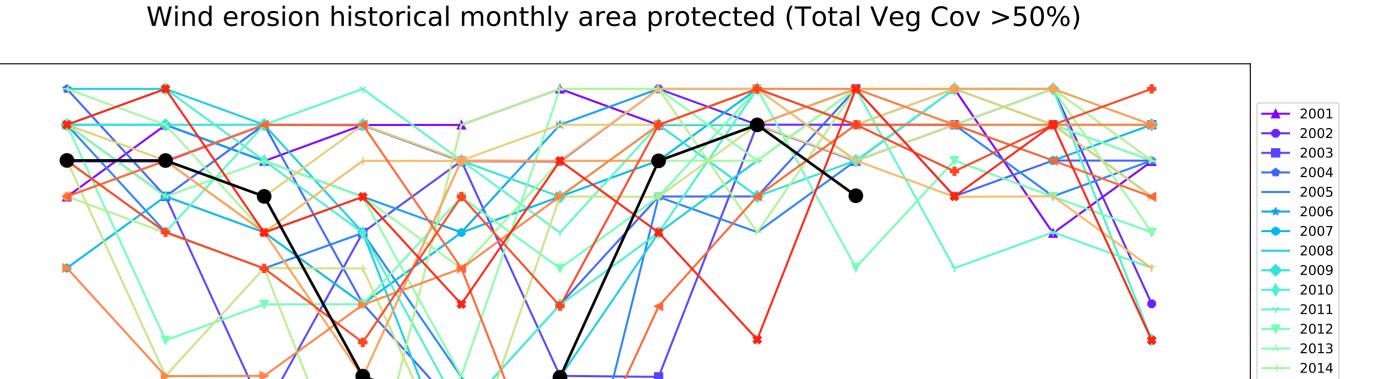






Grazing timeseries



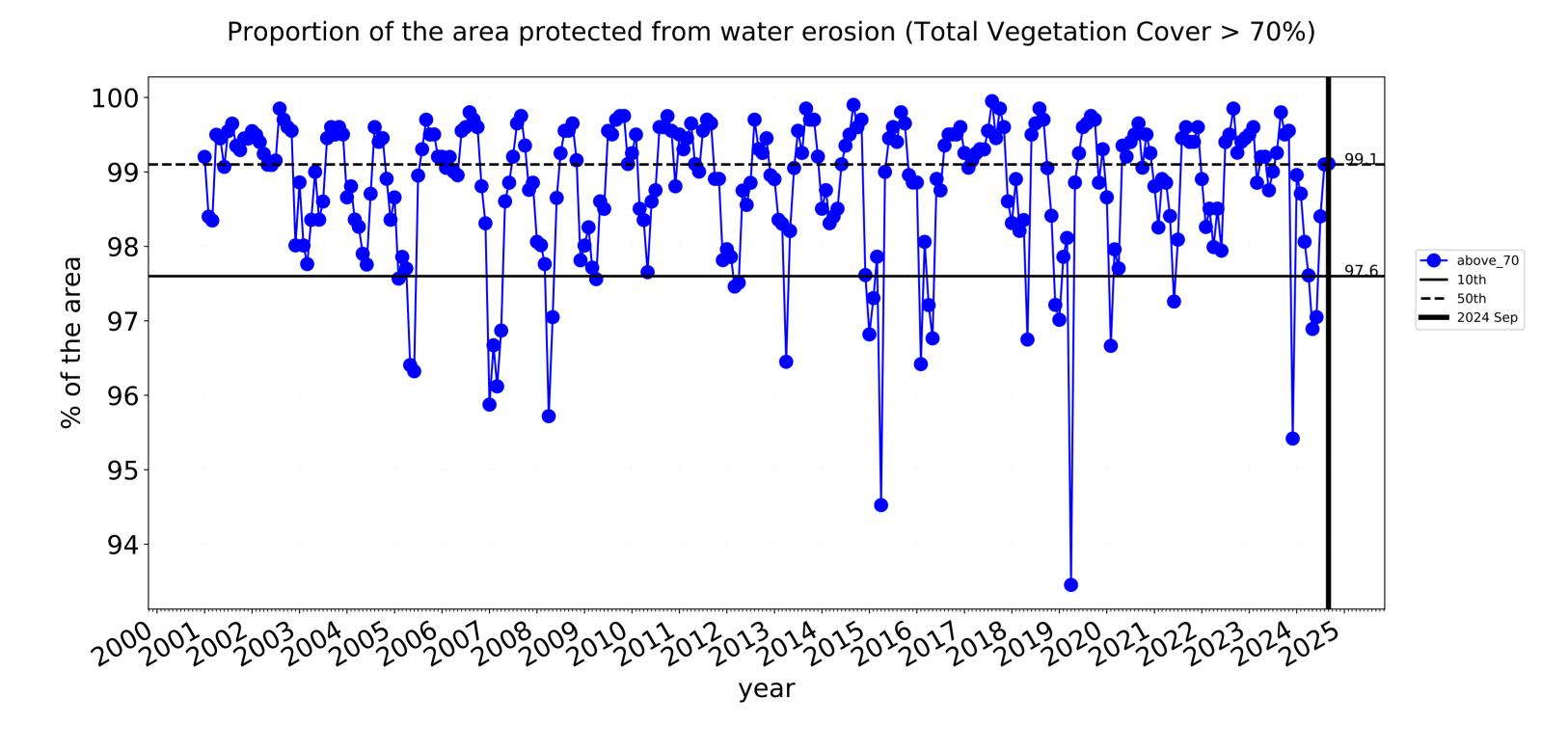


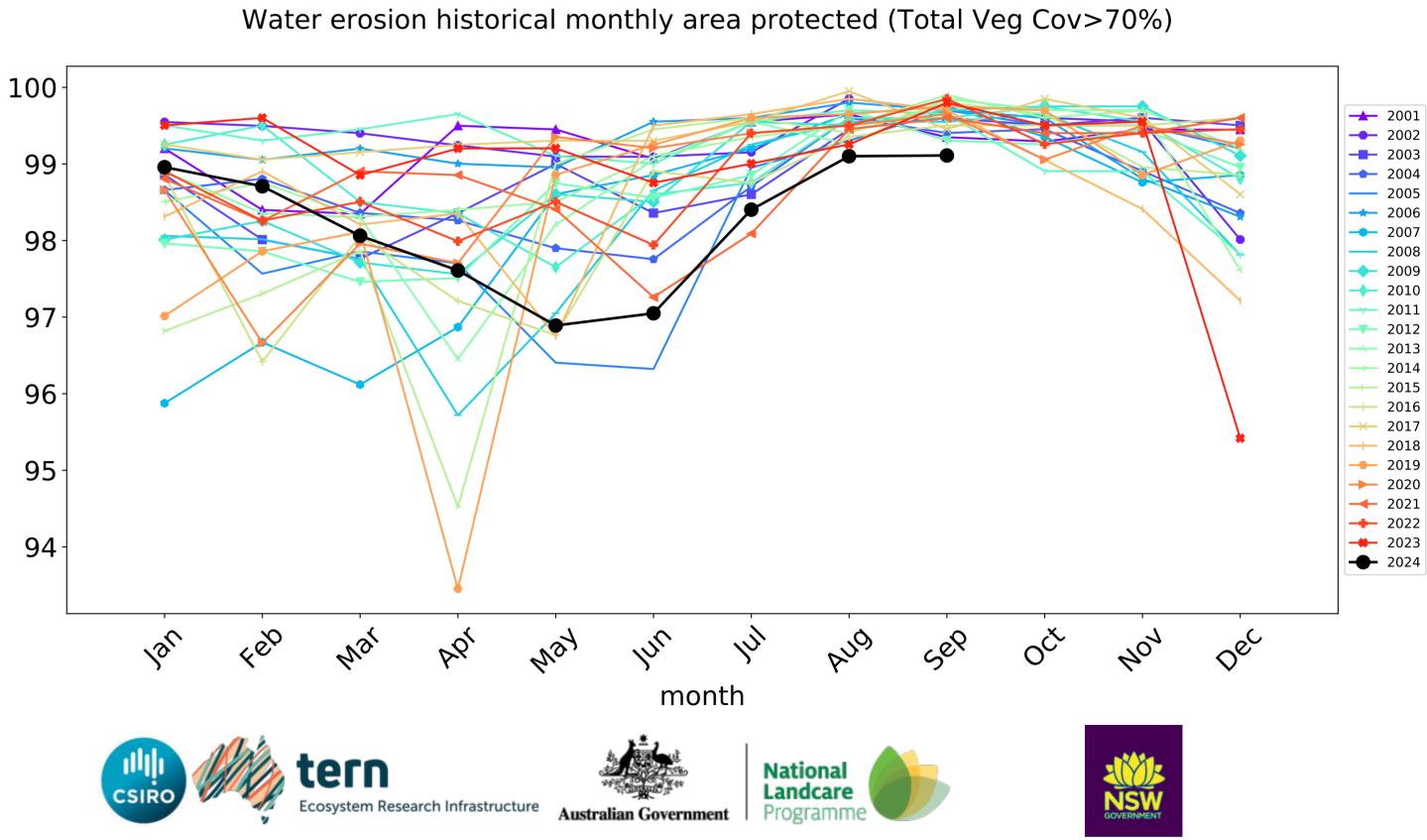
→ 2015→ 2016→ 2017

2019

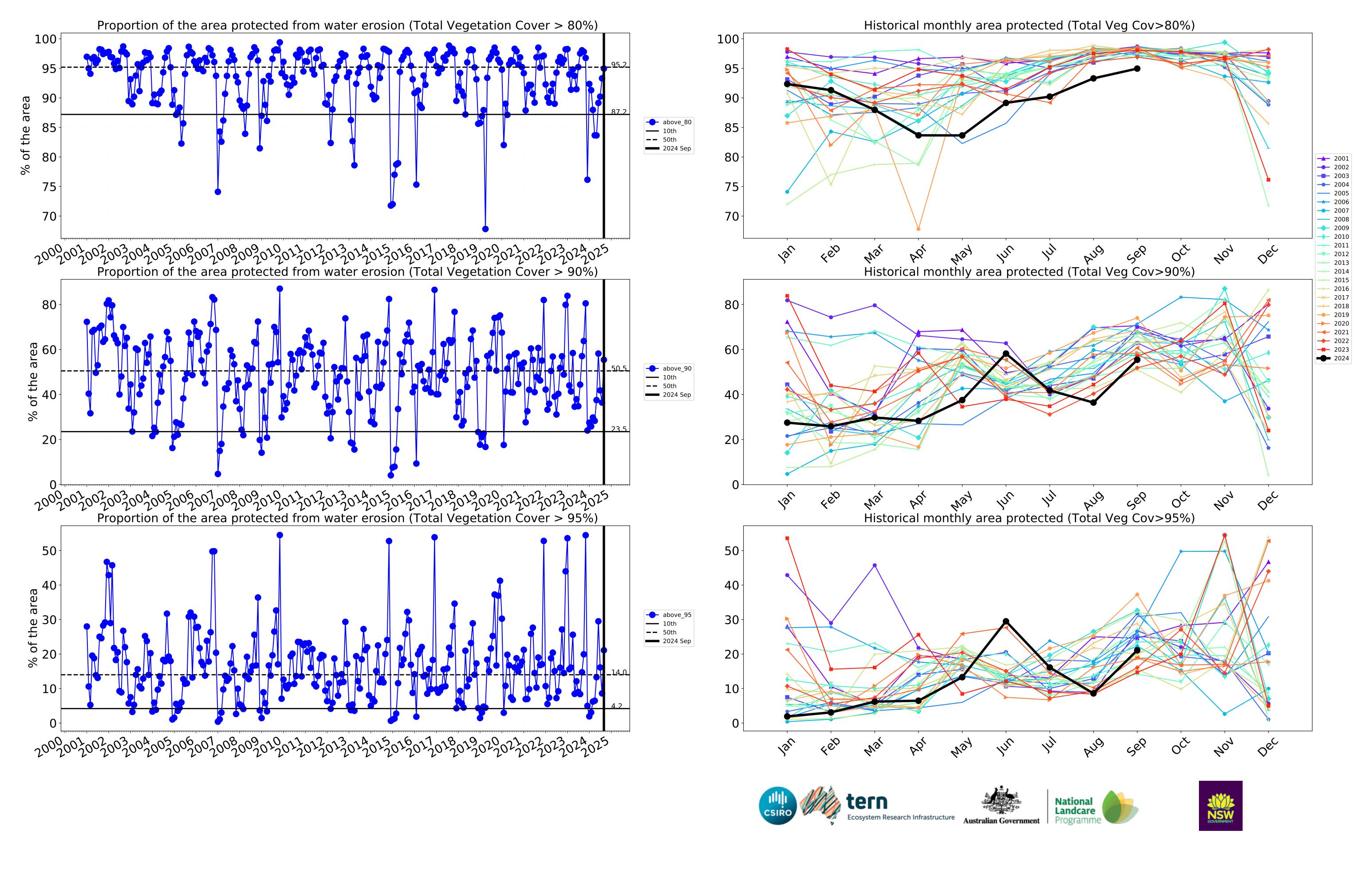
→ 2021

2022 2023 2024



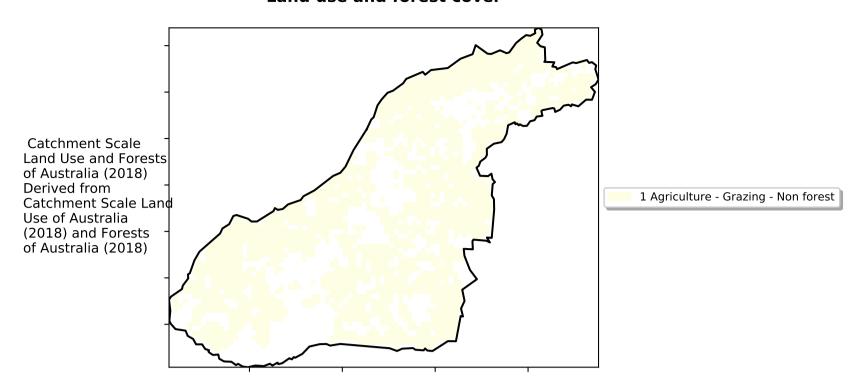


month

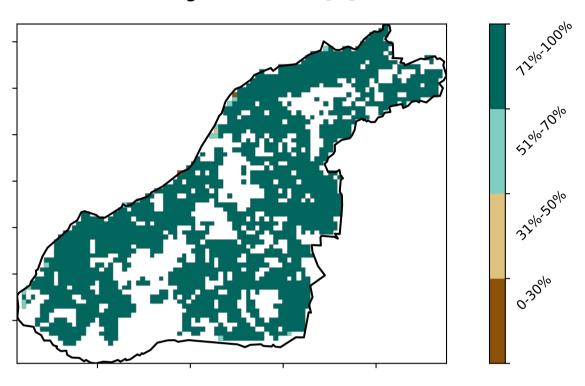


Grazing non forest

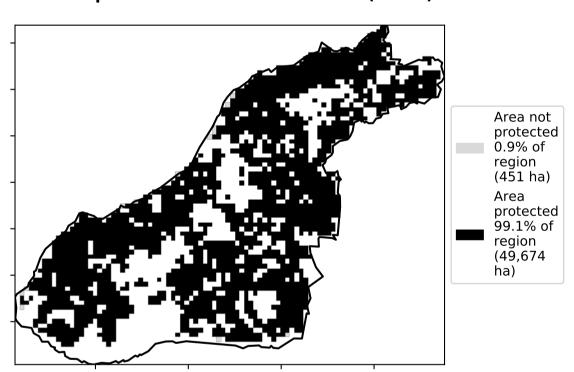
Land use and forest cover



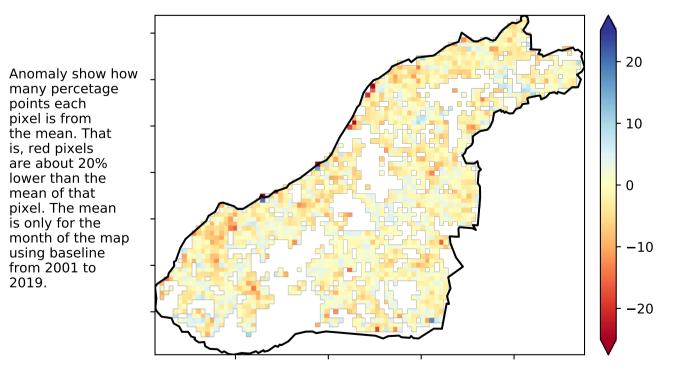
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

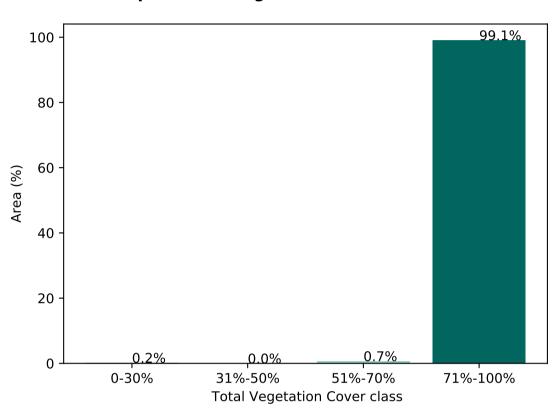


Total Vegetation Cover Anomaly [%]

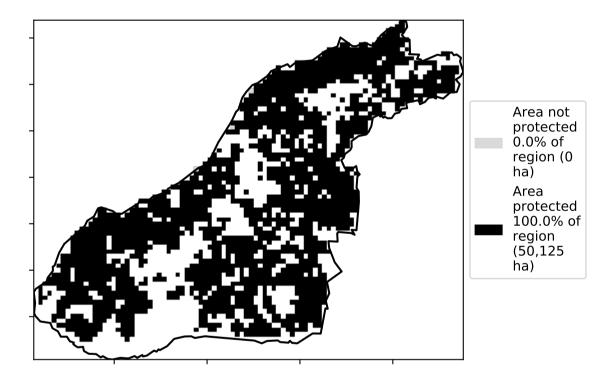


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

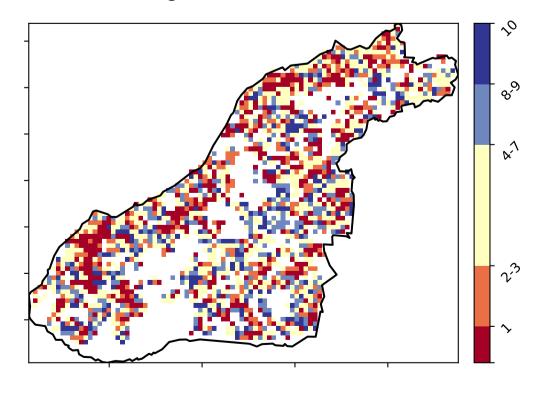
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







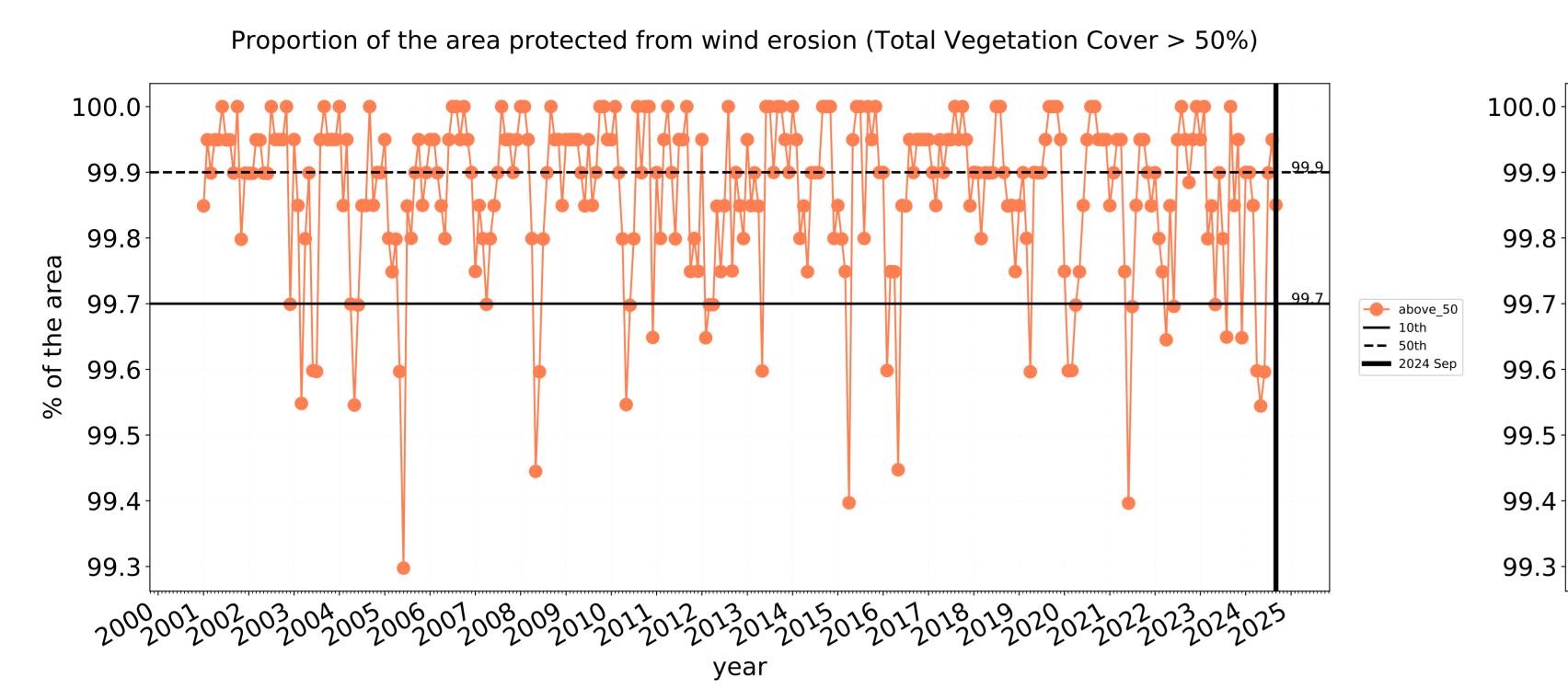


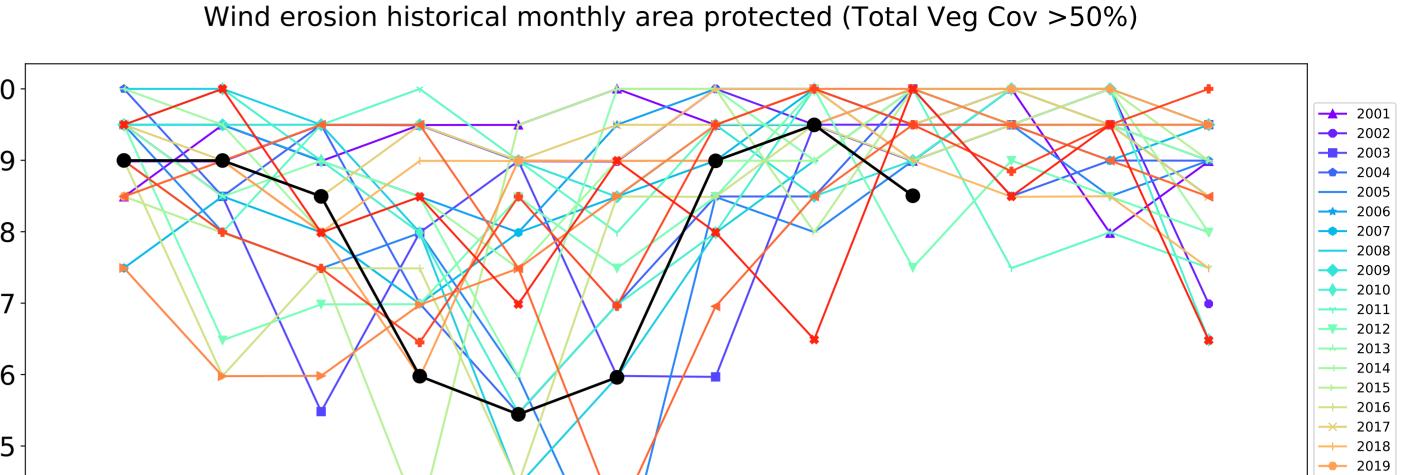




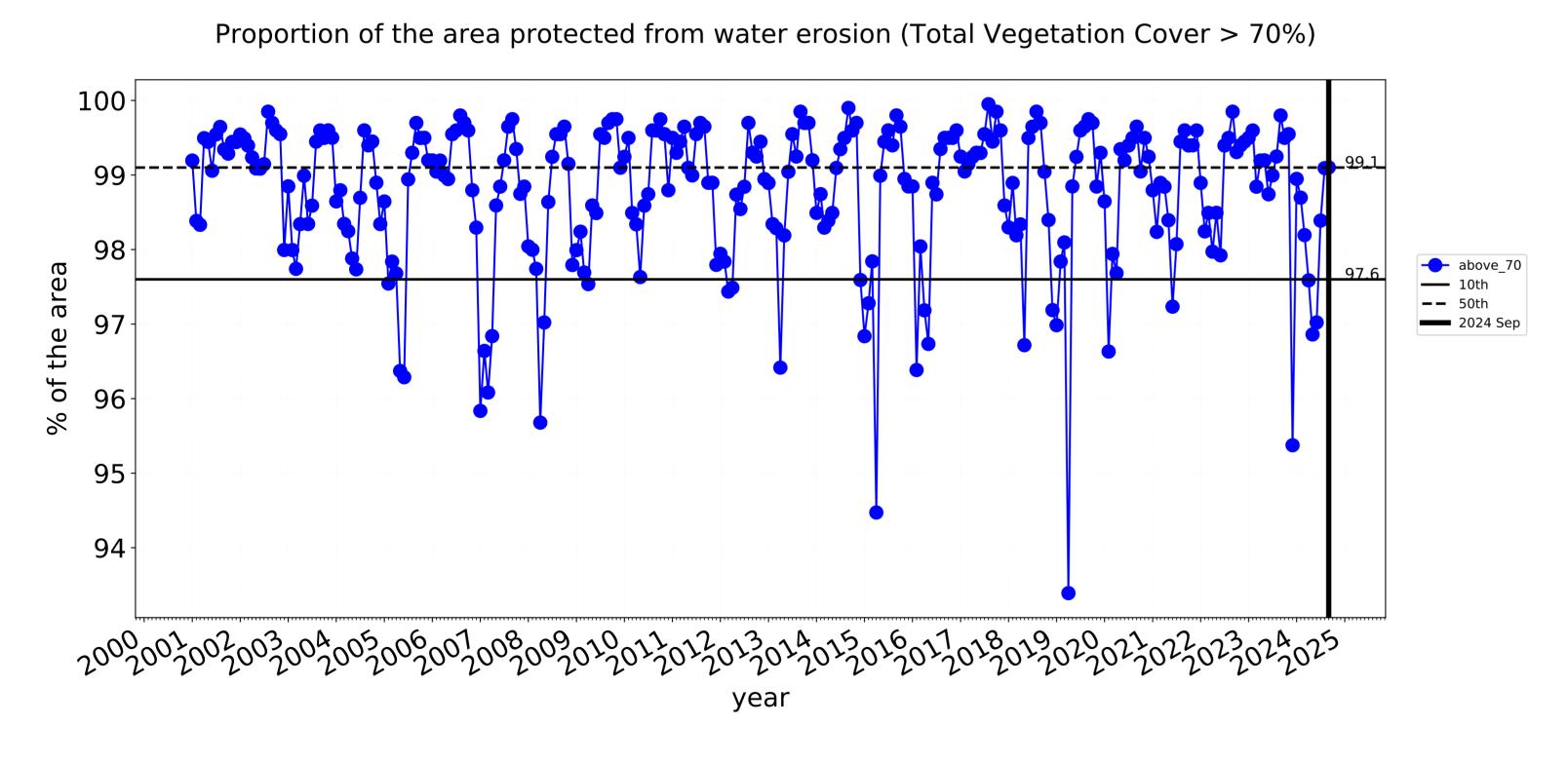


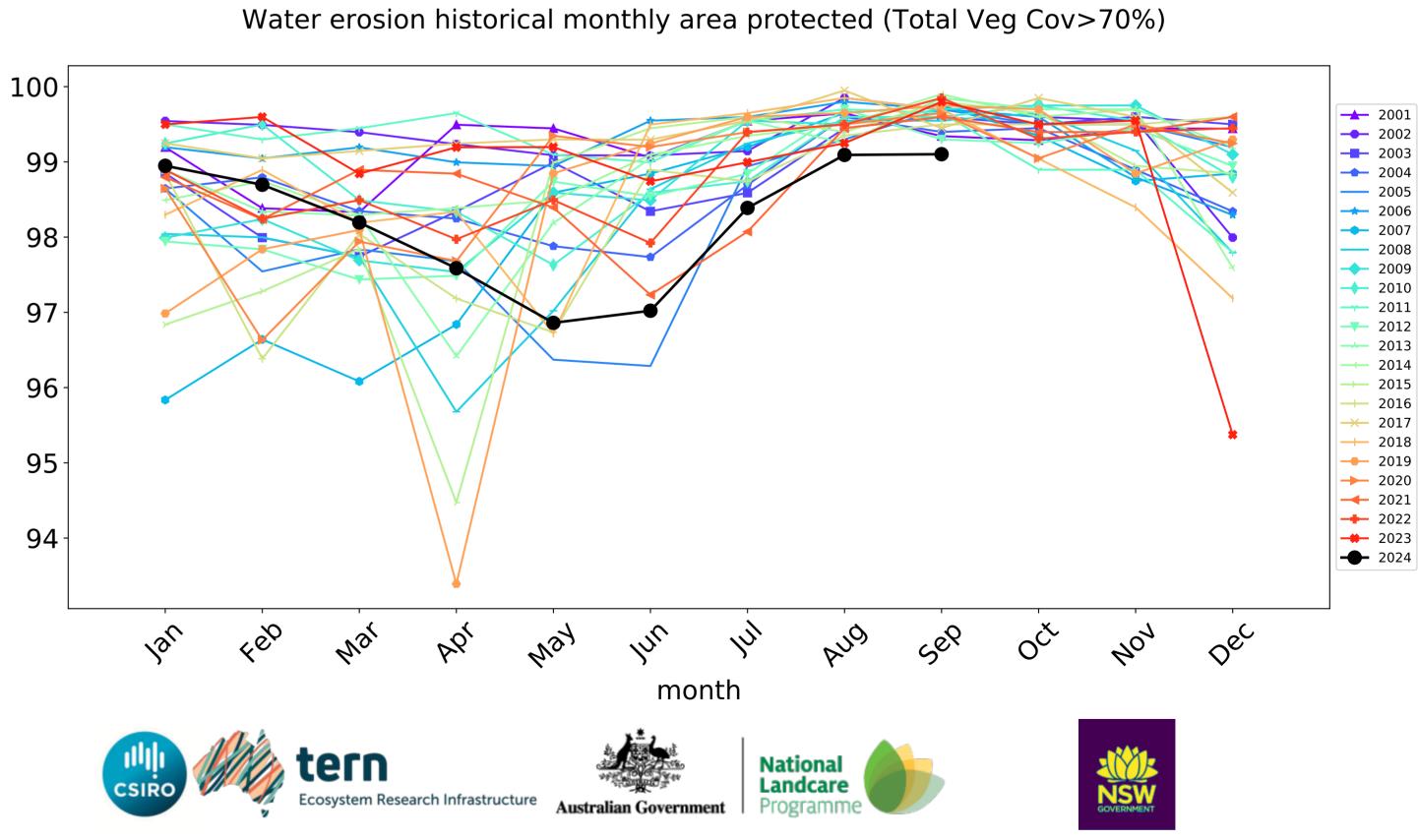
Grazing non forest timeseries

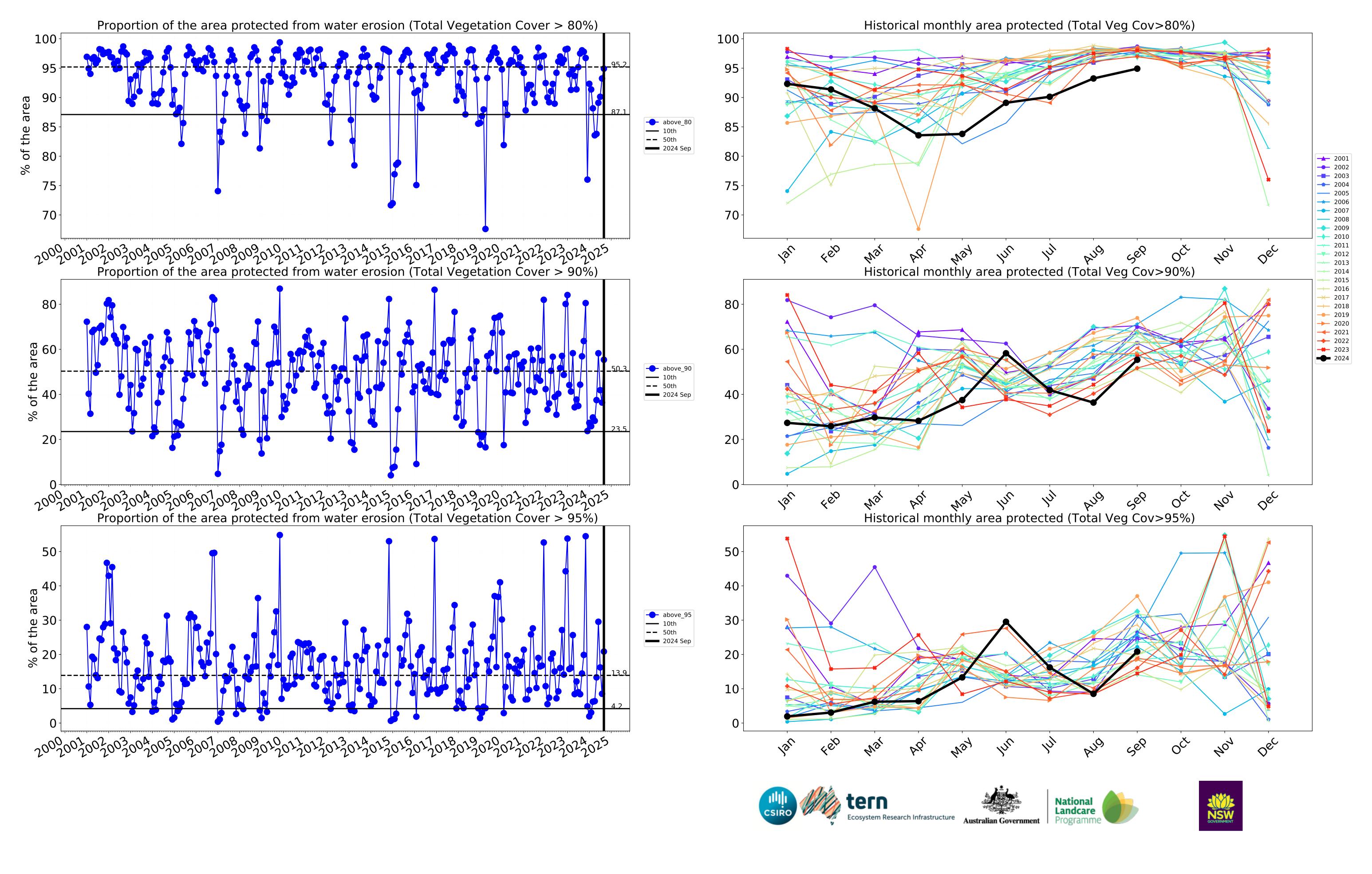




month

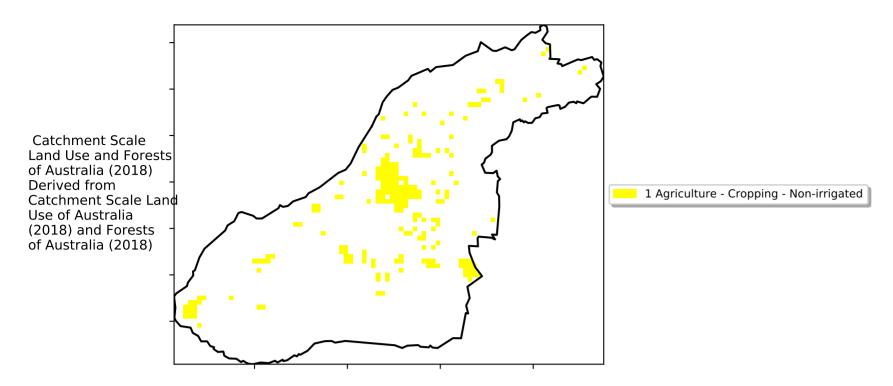




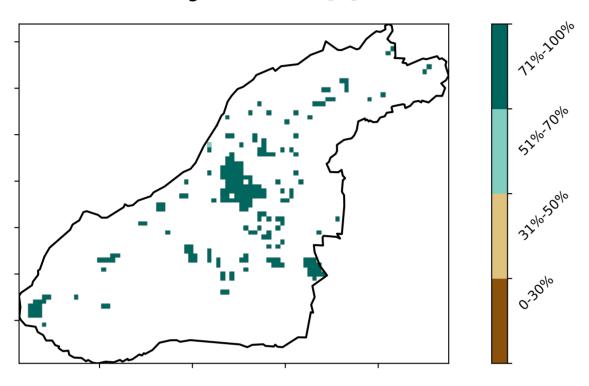


Cropping

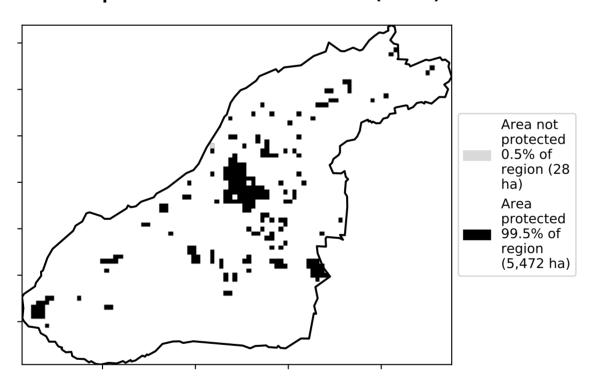
Land use and forest cover



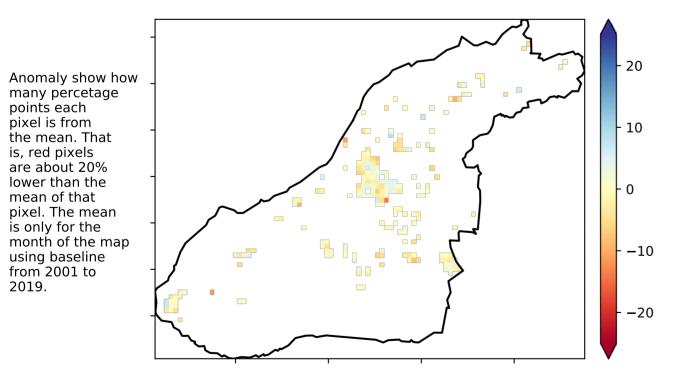
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

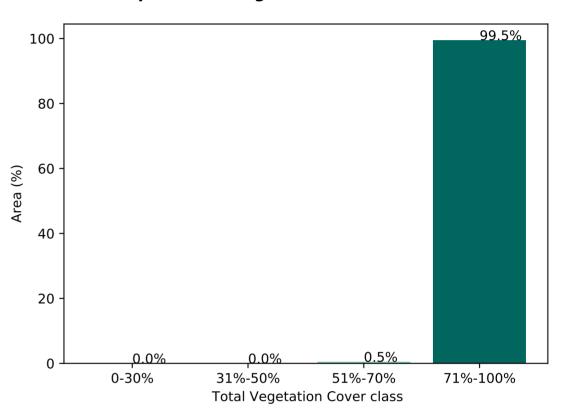


Total Vegetation Cover Anomaly [%]

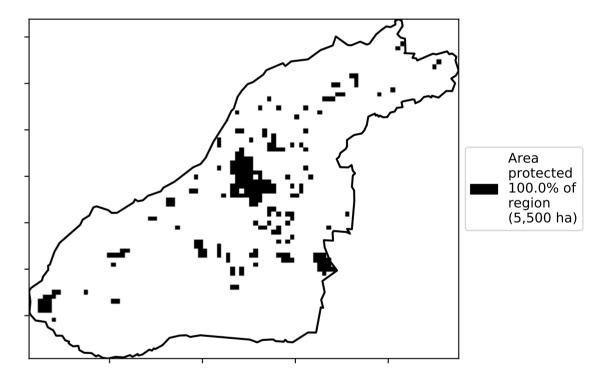


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

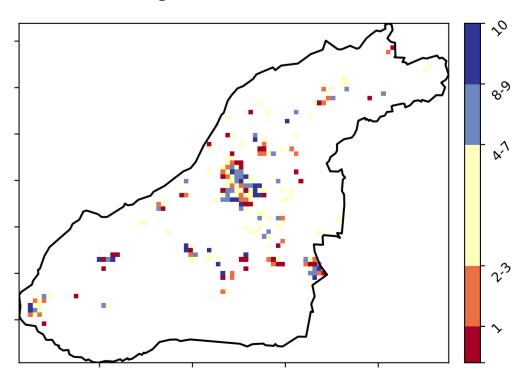
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







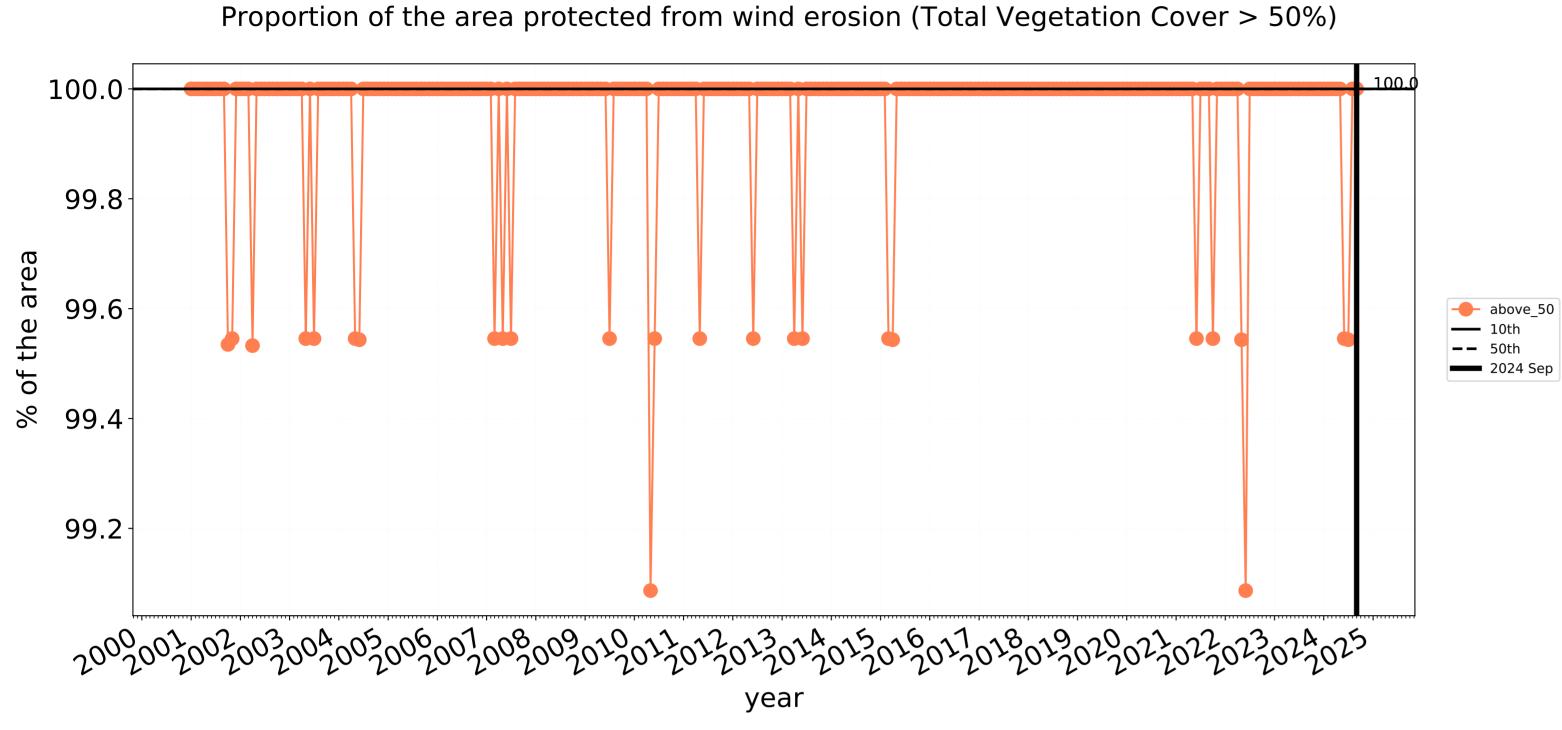


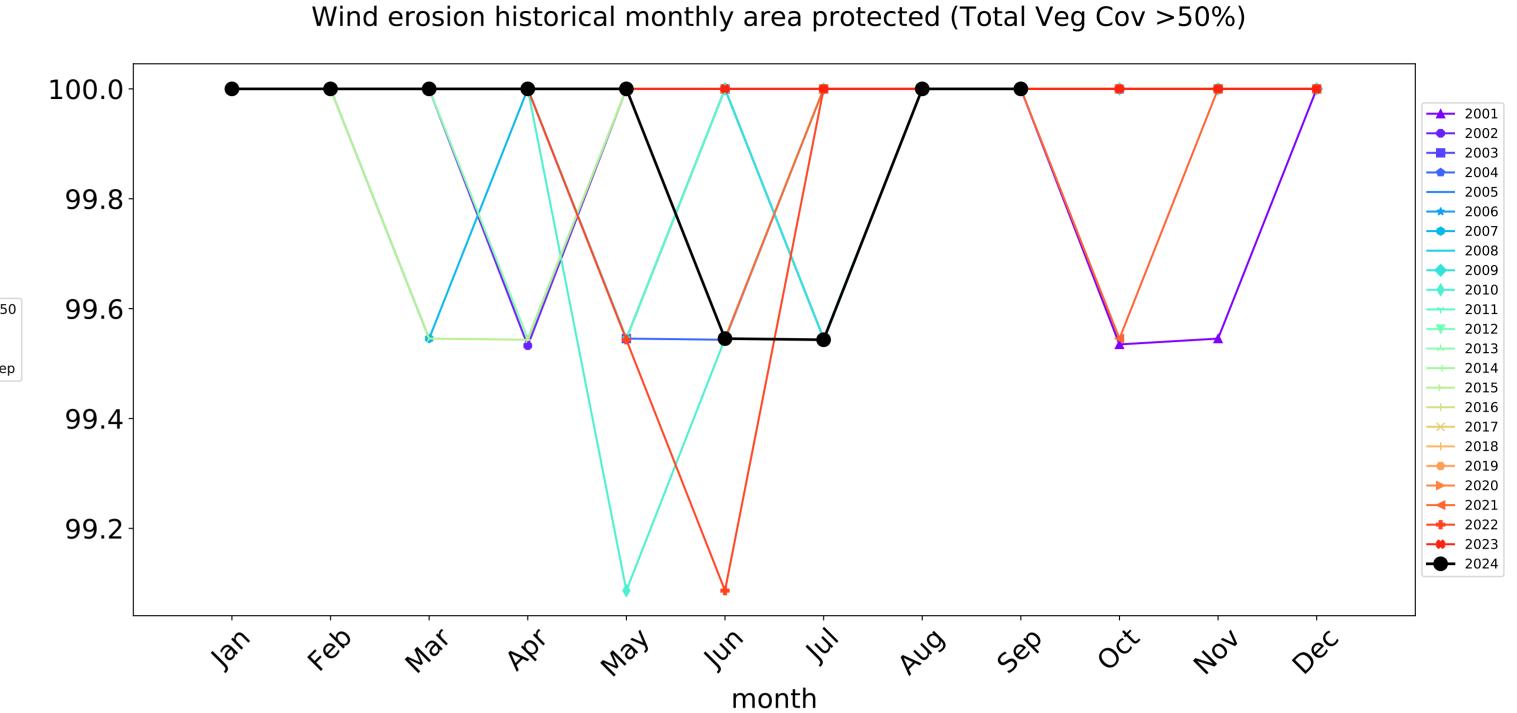


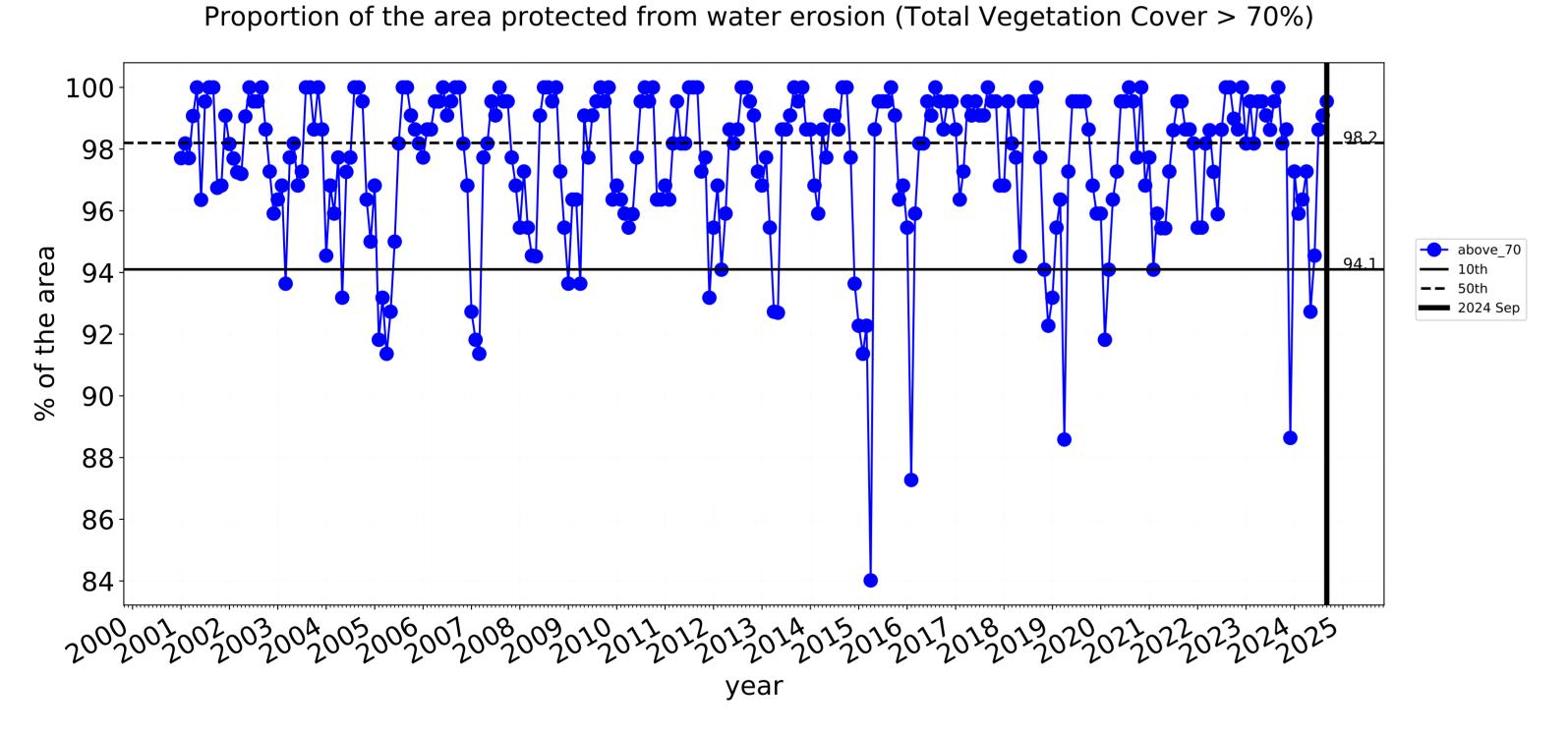


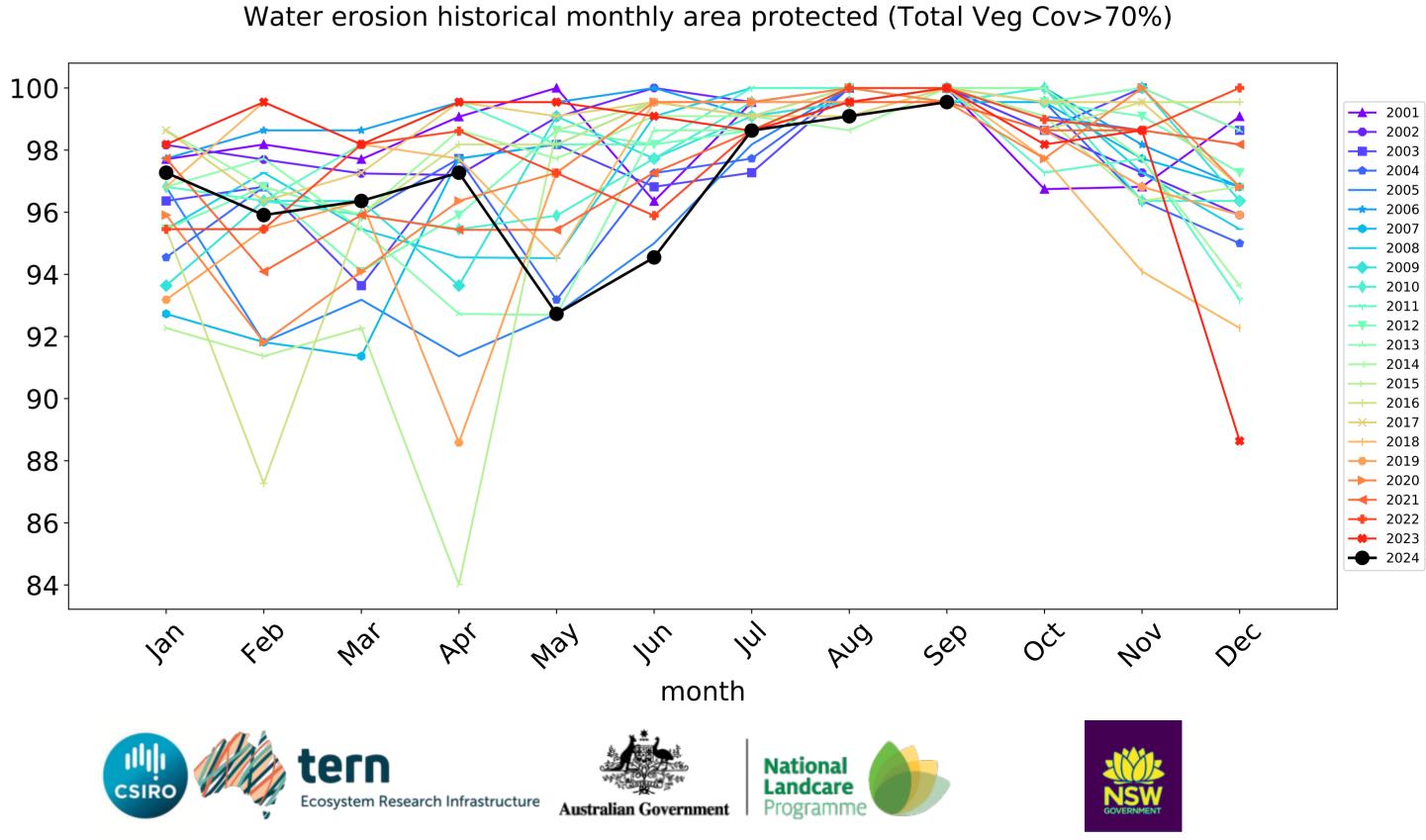


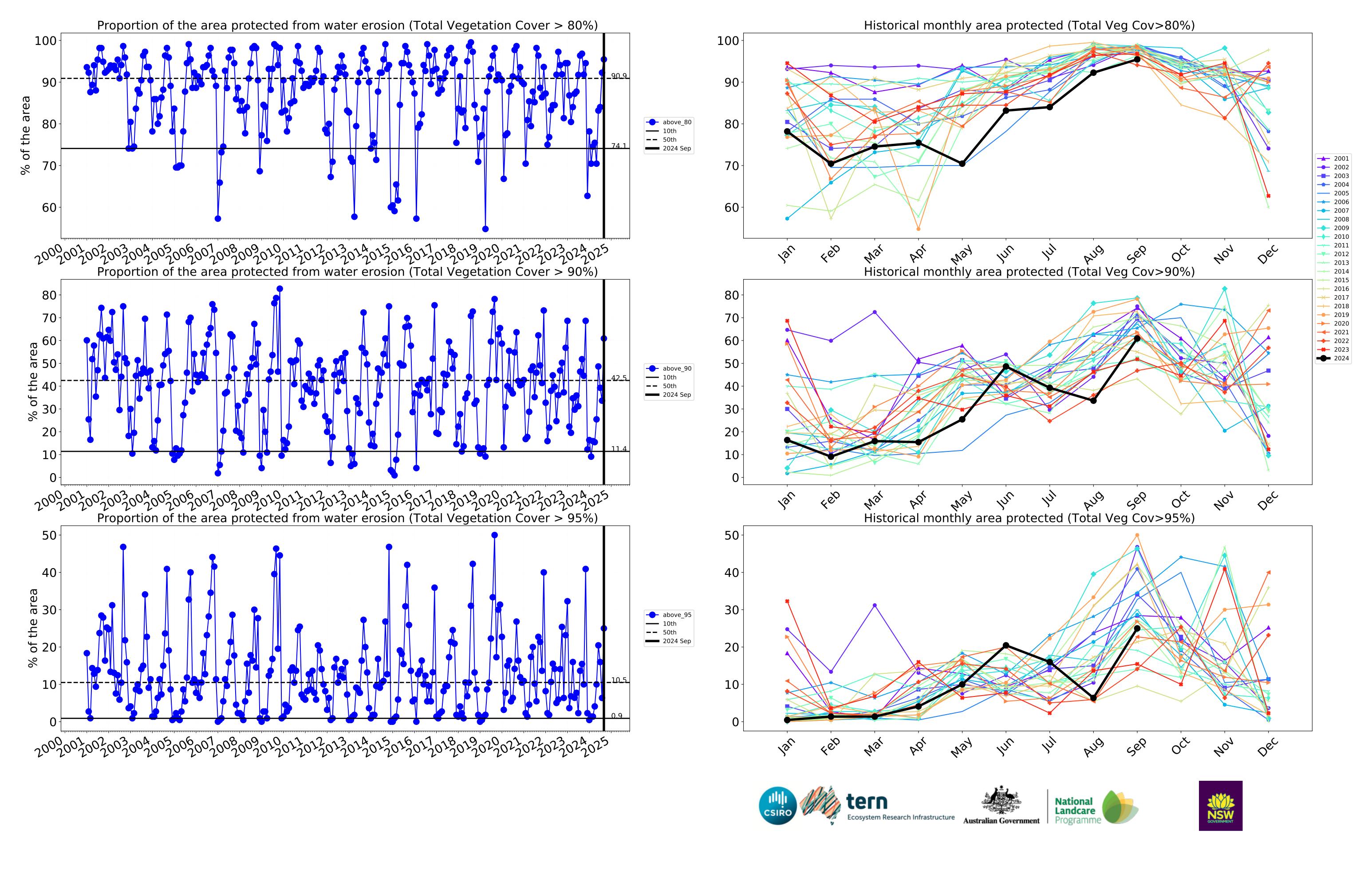
Cropping timeseries











Irrigation

80

70

60

Area (%)

30

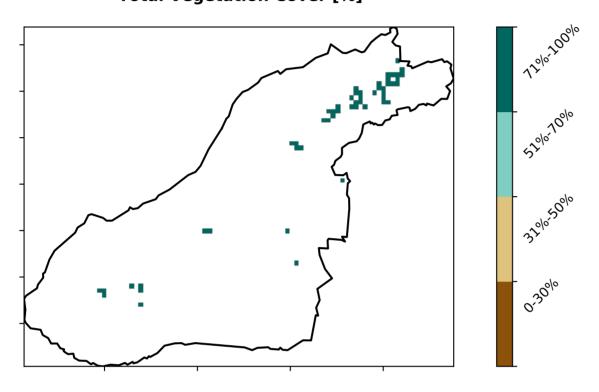
20

10

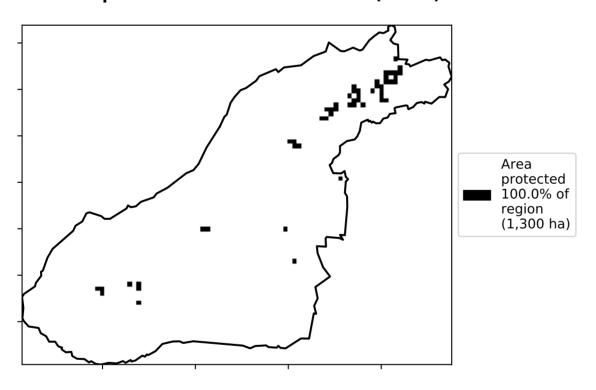
-0.5

Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) 1 Agriculture - Grazing - Irrigated 2 Agriculture - Cropping - Irrigated 3 Agriculture - Horticulture - Irrigated

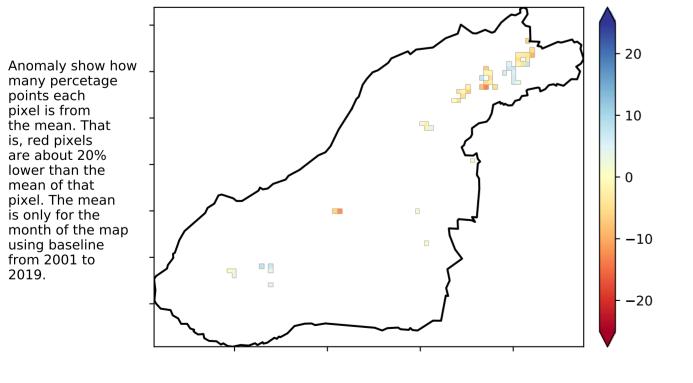
Total Vegetation Cover [%]



% 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.

82.7%

11.5%

1.5

2.0

2.5

Proportion of each land class in area

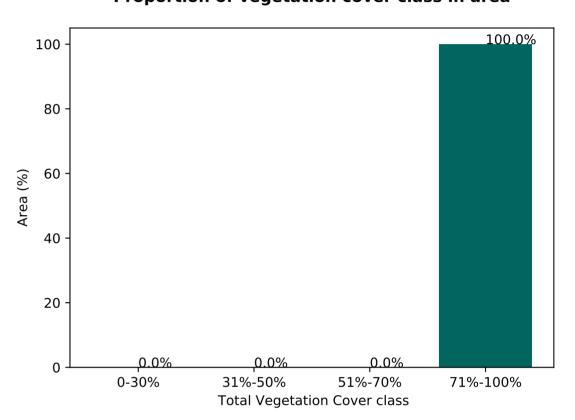
Proportion of vegetation cover class in area

1.0

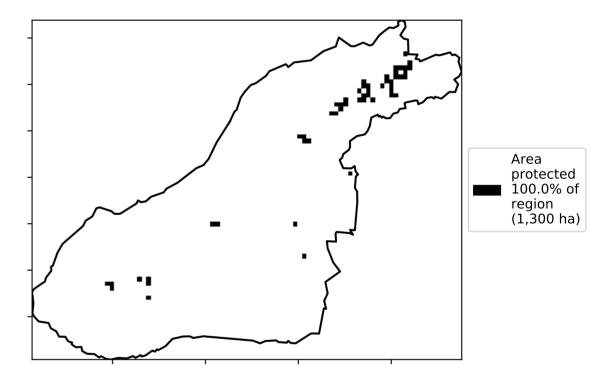
Land use class

0.5

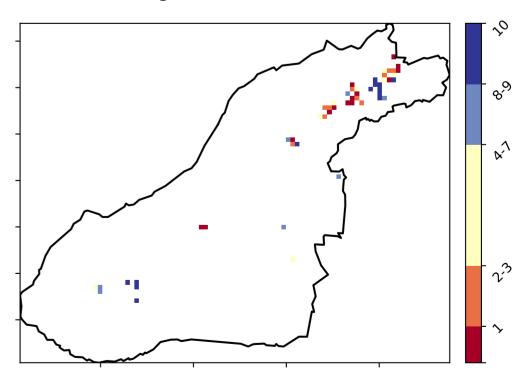
0.0



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]





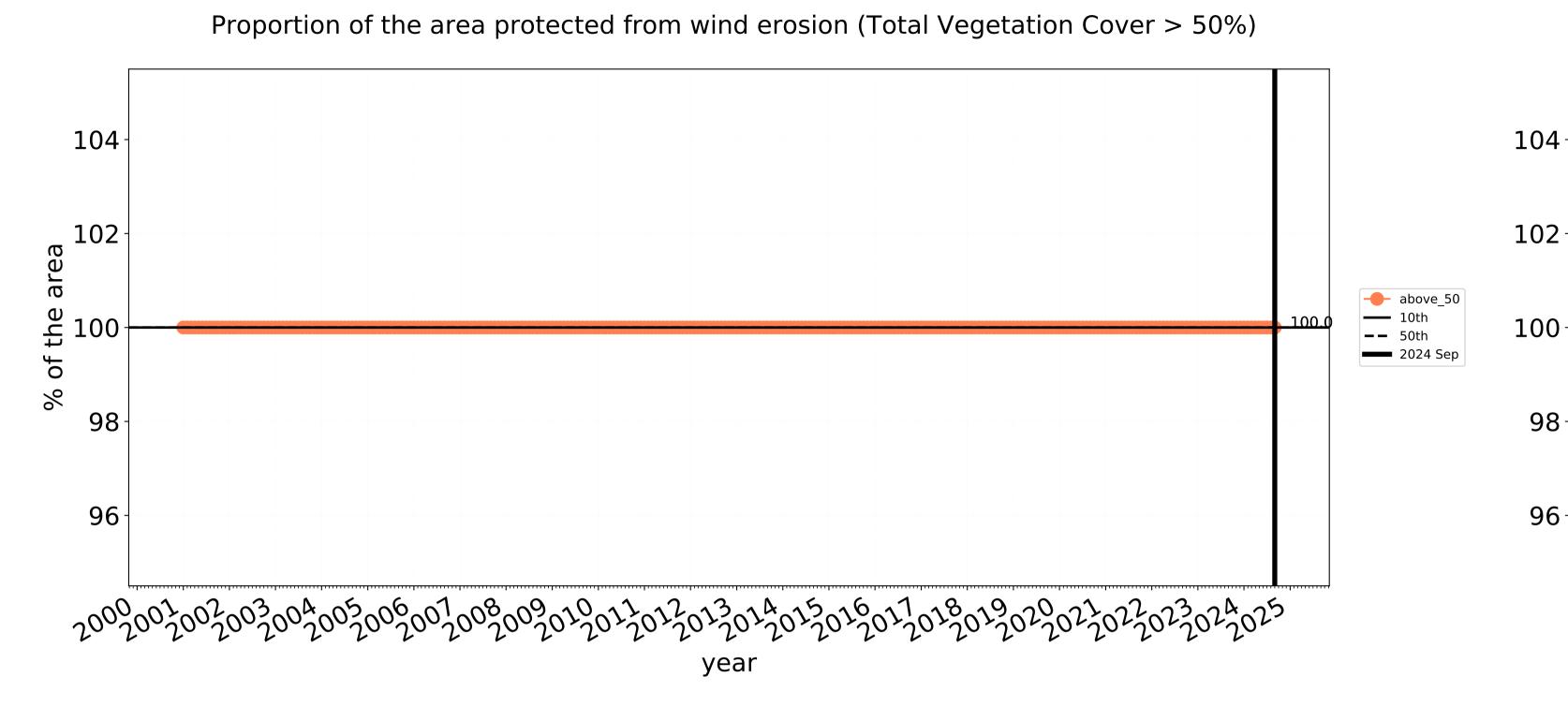


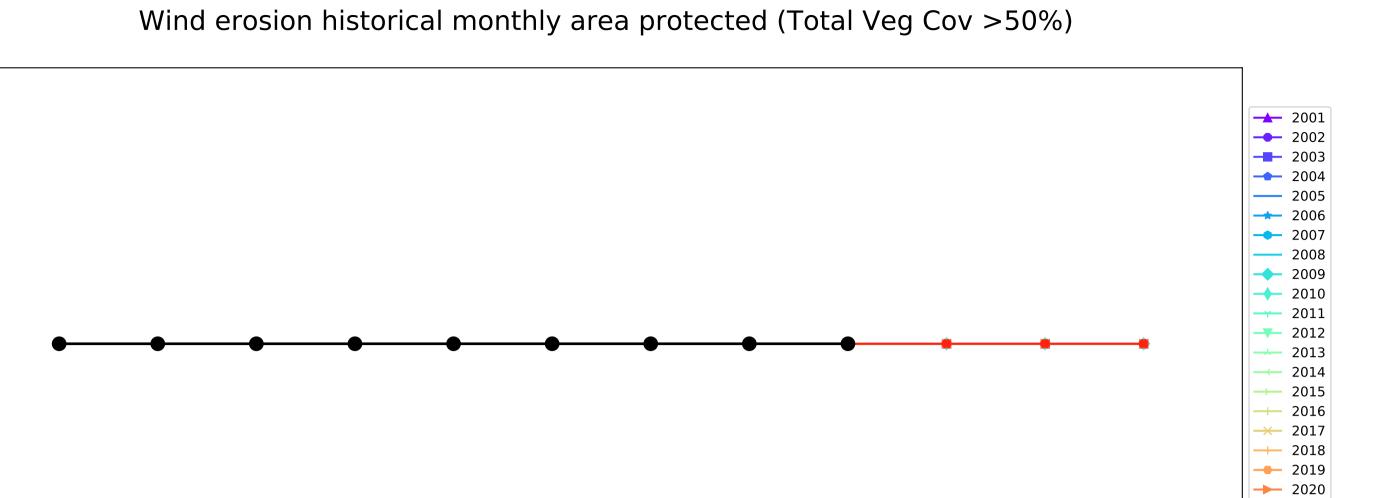








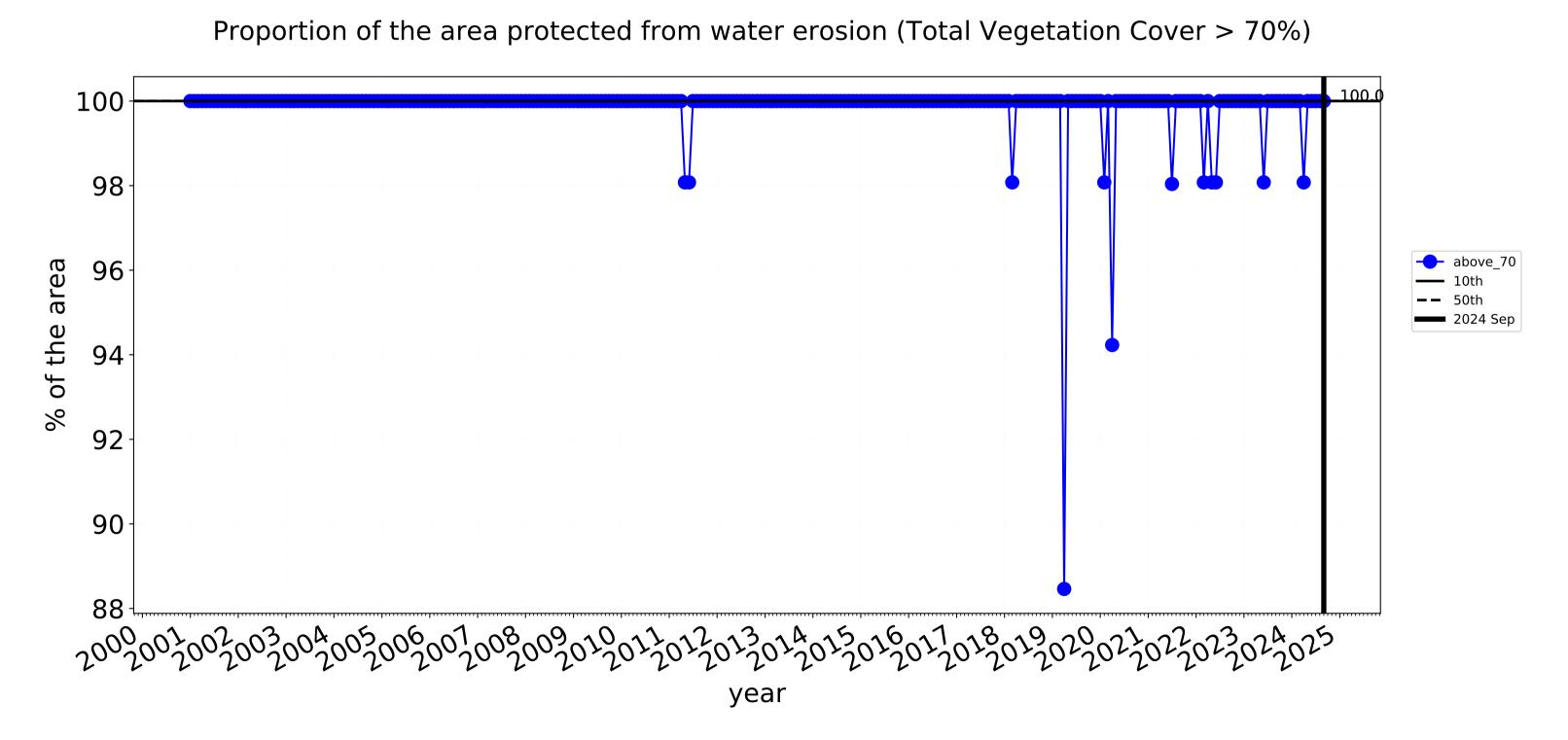


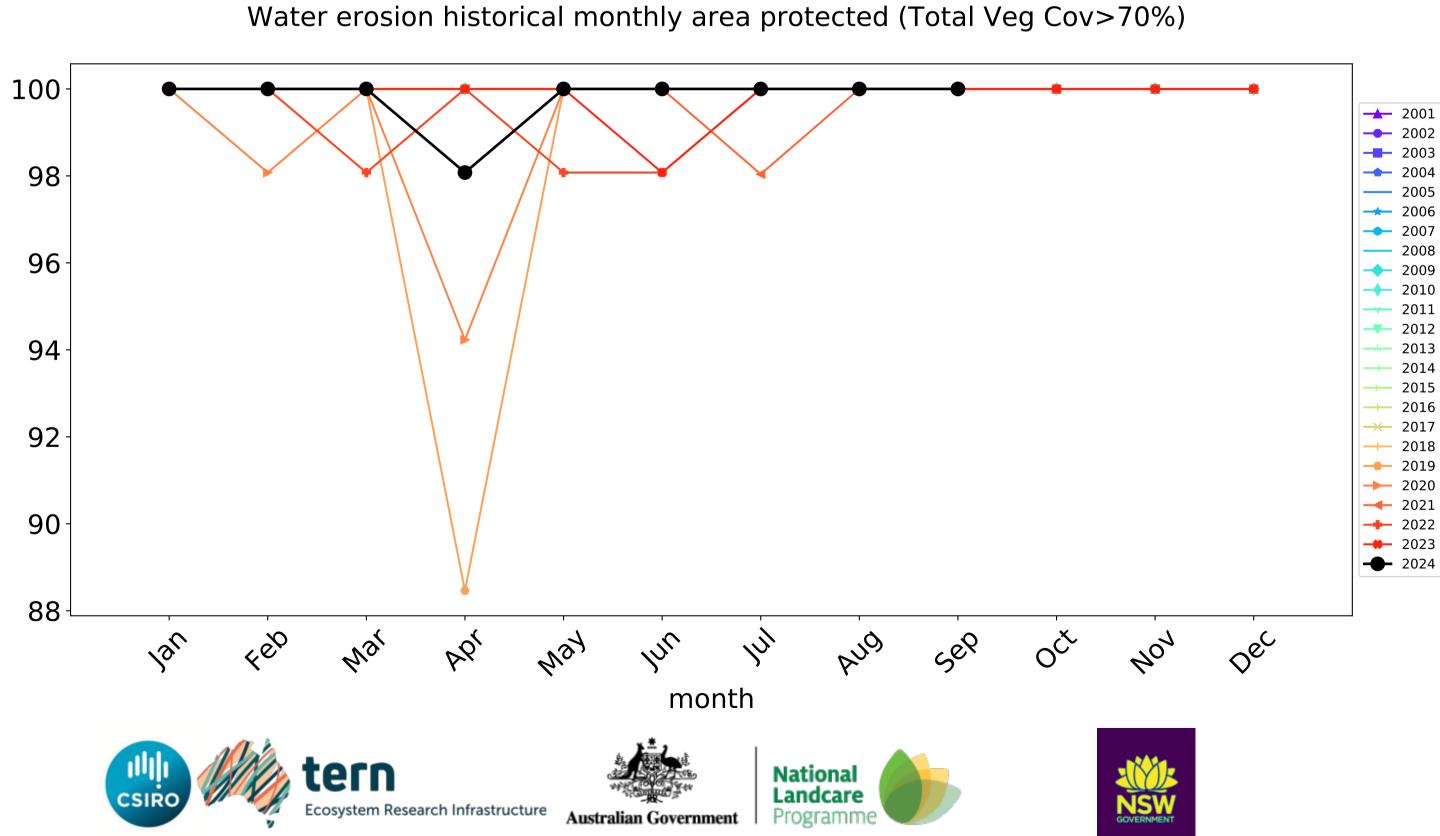


→ 2021 **→** 2022

2023 **2**024

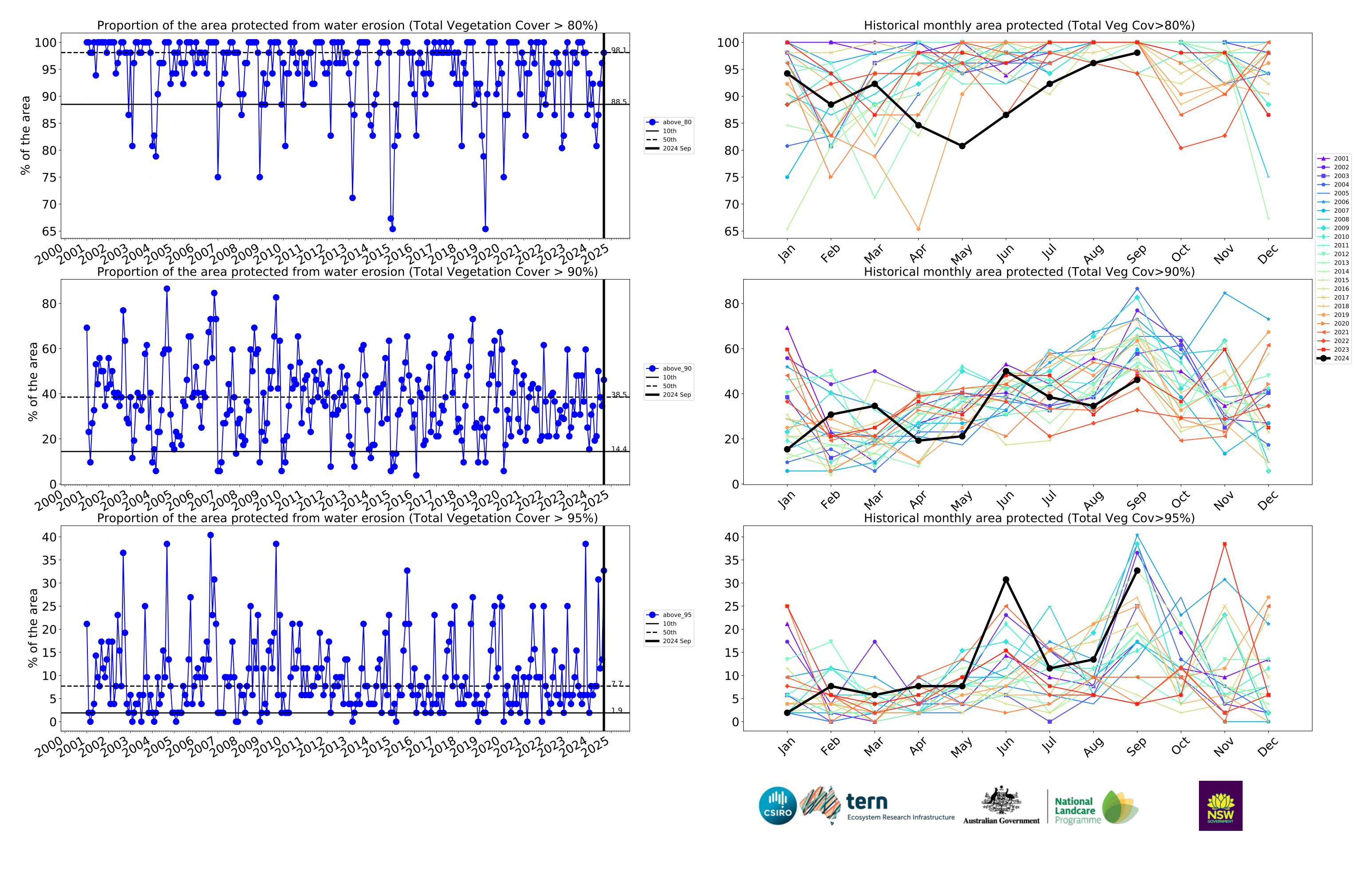
404





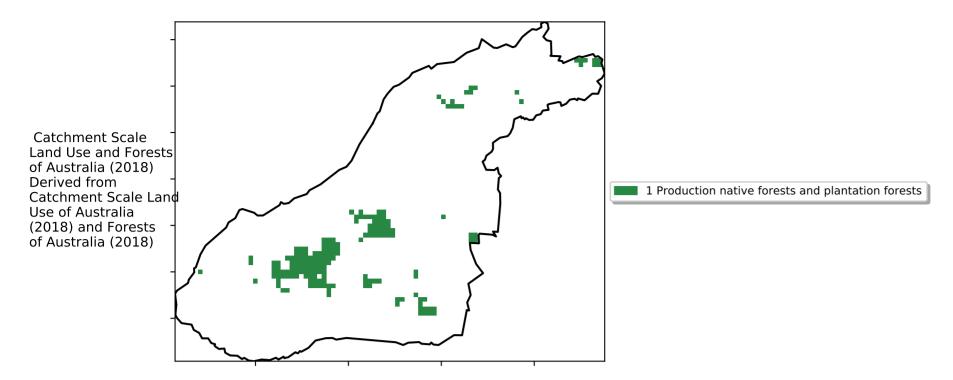
month

Nay

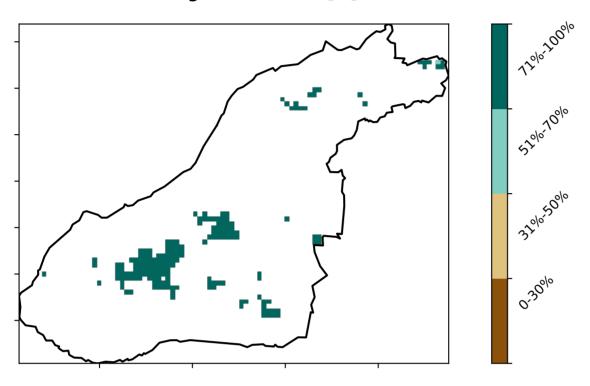


Production native forests and plantation forests

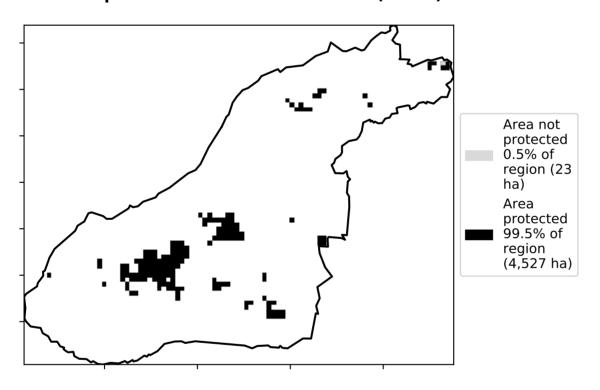
Land use and forest cover



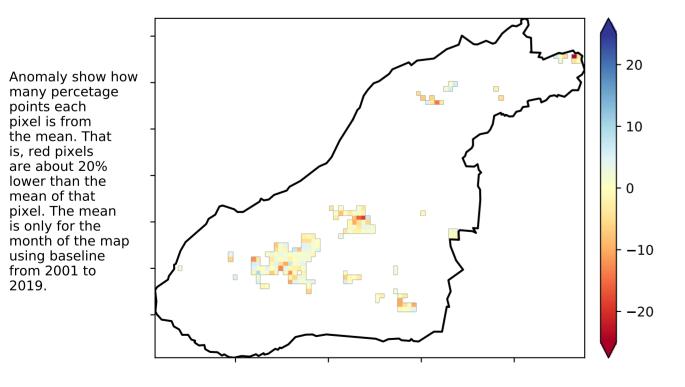
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

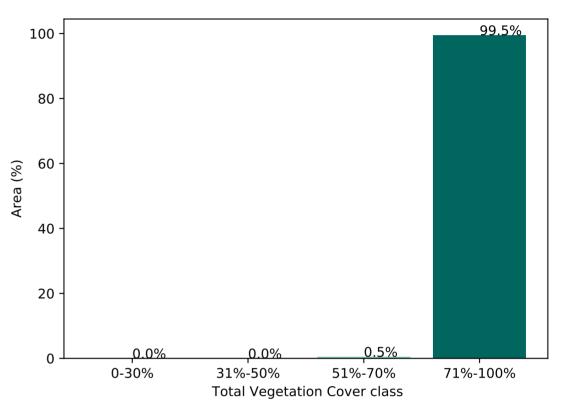


Total Vegetation Cover Anomaly [%]

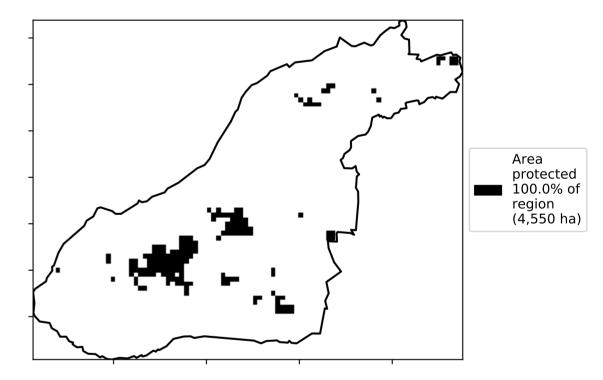


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

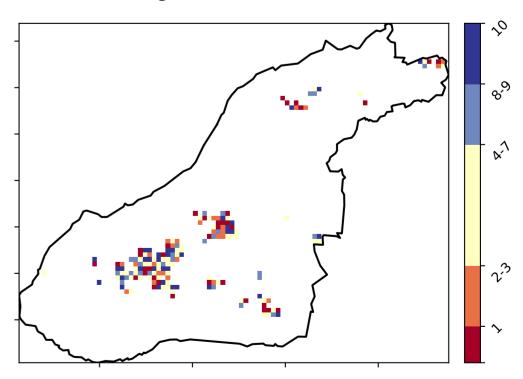
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]





pixel is from



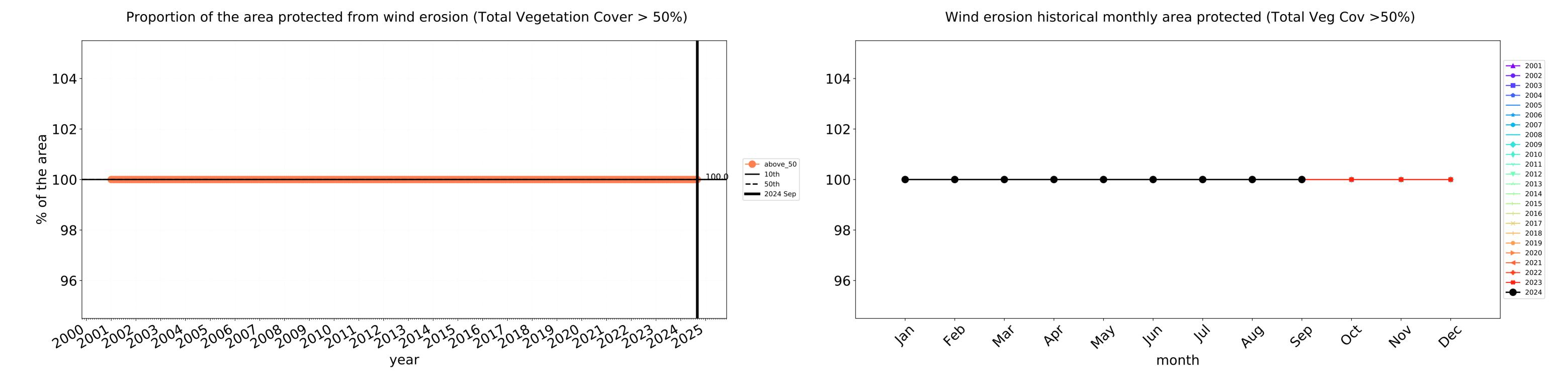


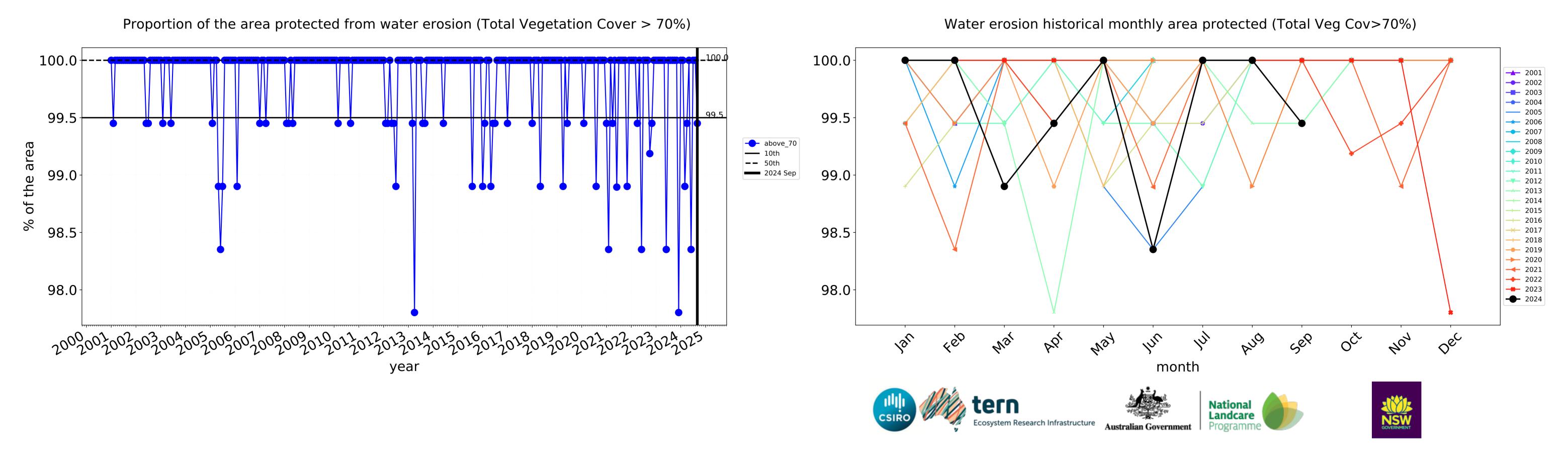


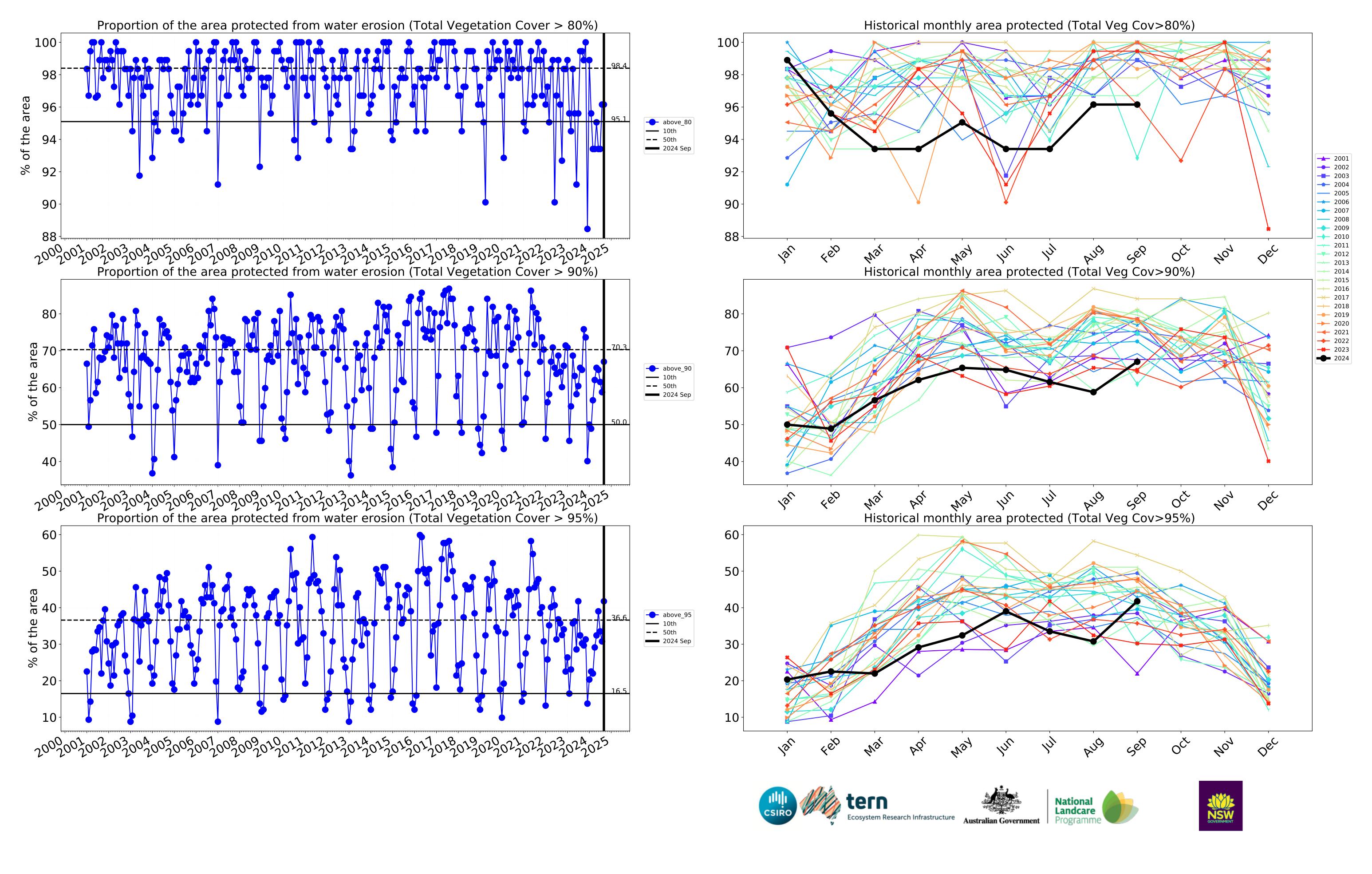




Production native forests and plantation forests timeseries







Yankalilla_(DC) (73,725 ha and no data 1,412 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	73,725	99.9% 73,675	99.8% 73,600	98.9% 72,925	94.5% 69,700	57.0% 42,050	24.2% 17,825
Conservation and natural environments	9,500	100.0% 9,500	99.5% 9,450	99.2% 9,425	98.2% 9,325	71.1% 6,750	34.7% 3,300
Conservation and natural environments non forest	1,300	100.0% 1,300	96.2% 1,250	94.2% 1,225	90.4% 1,175	51.9% 675	19.2% 250
Conservation and natural environments Woodland forest	5,525	100.0% 5,525	100.0% 5,525	100.0% 5,525	99.1% 5,475	71.9% 3,975	38.0% 2,100
Conservation and natural environments Forest (non woodland)	2,675	100.0% 2,675	100.0% 2,675	100.0% 2,675	100.0% 2,675	78.5% 2,100	35.5% 950
Agriculture	57,400	99.9% 57,350	99.9% 57,325	99.2% 56,925	95.1% 54,575	55.7% 32,000	21.7% 12,475
Grazing	50,600	99.9% 50,550	99.9% 50,525	99.1% 50,150	95.0% 48,050	55.4% 28,050	21.1% 10,675
Grazing non forest	50,125	99.9% 50,075	99.9% 50,050	99.1% 49,675	94.9% 47,575	55.4% 27,750	20.8% 10,450
Cropping	5,500	100.0% 5,500	100.0% 5,500	99.5% 5,475	95.5% 5,250	60.9% 3,350	25.0% 1,375
Irrigation	1,300	100.0% 1,300	100.0% 1,300	100.0% 1,300	98.1% 1,275	46.2% 600	32.7% 425
Production native forests and plantation forests	4,550	100.0% 4,550	100.0% 4,550	99.5% 4,525	96.2% 4,375	67.0% 3,050	41.8% 1,900







