Total vegetation cover soil protection Region:LGA Whitsunday (R) QLD

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:

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









Date: November 2025

Vegetation Cover Nov 2025

Land use and forest cover

Catchment Scale

of Australia (2018)

Derived from

Use of Australia

(2018) and Forests

of Australia (2018)

Anomaly show how many percetage points each

pixel is from

is, red pixels are about 20% lower than the

mean of that pixel. The mean is only for the month of the map

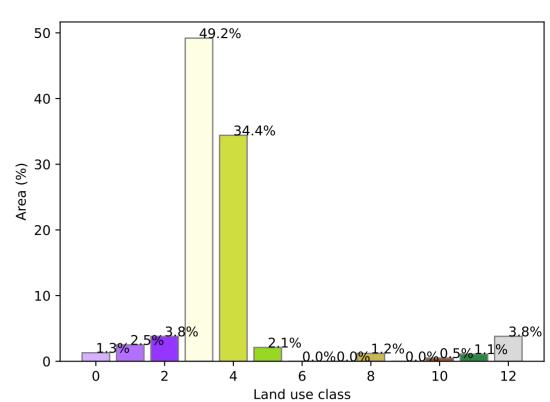
using baseline from 2001 to

2019.

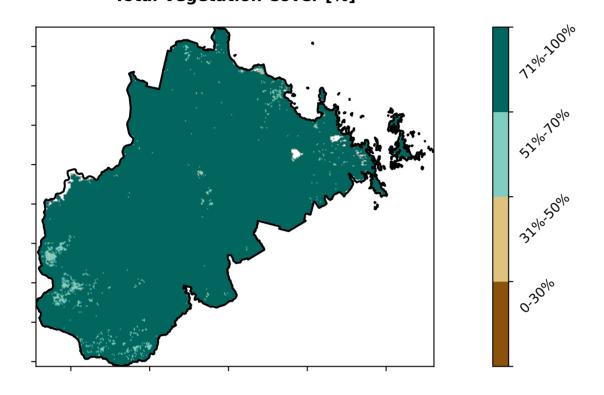
the mean. That

Legend with land class forest cover and number, i.e. Forests is 12 1 Conservation and natural environments - Non-forest 2 Conservation and natural environments - Woodland forest 3 Conservation and natural environments - Non-Woodland forest Land Use and Forests 4 Agriculture - Grazing - Non-forest 5 Agriculture - Grazing - Woodland forest Catchment Scale Land 6 Agriculture - Grazing - Non-woodland forest 7 Agriculture - Grazing - Irrigated 8 Agriculture - Cropping - Non-irrigated 9 Agriculture - Cropping - Irrigated 10 Agriculture - Horticulture - Non-irrigated 11 Agriculture - Horticulture - Irrigated 12 Production native forests and plantation forests 13 Other uses

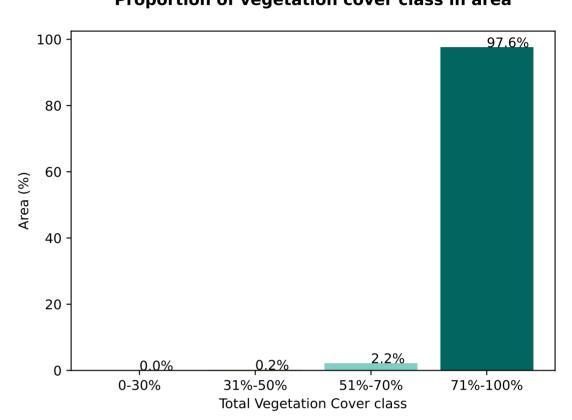
Proportion of each land class in area

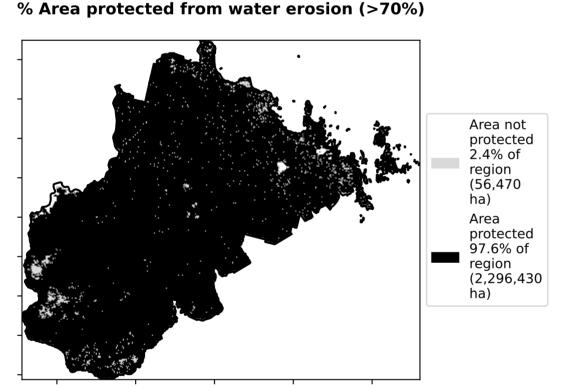


Total Vegetation Cover [%]

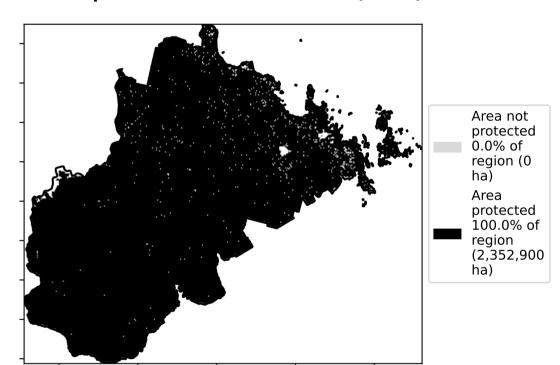


Proportion of vegetation cover class in area

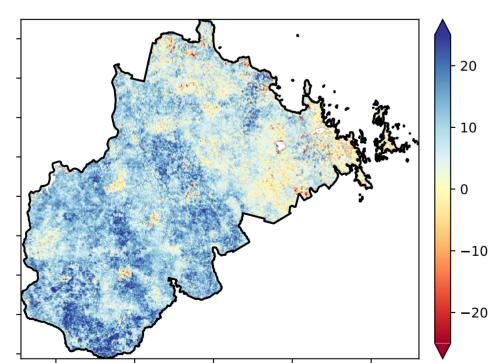




% Area protected from wind erosion (>50%)

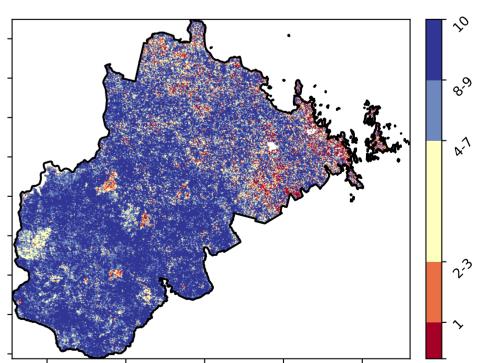


Total Vegetation Cover Anomaly [%]



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 [%]

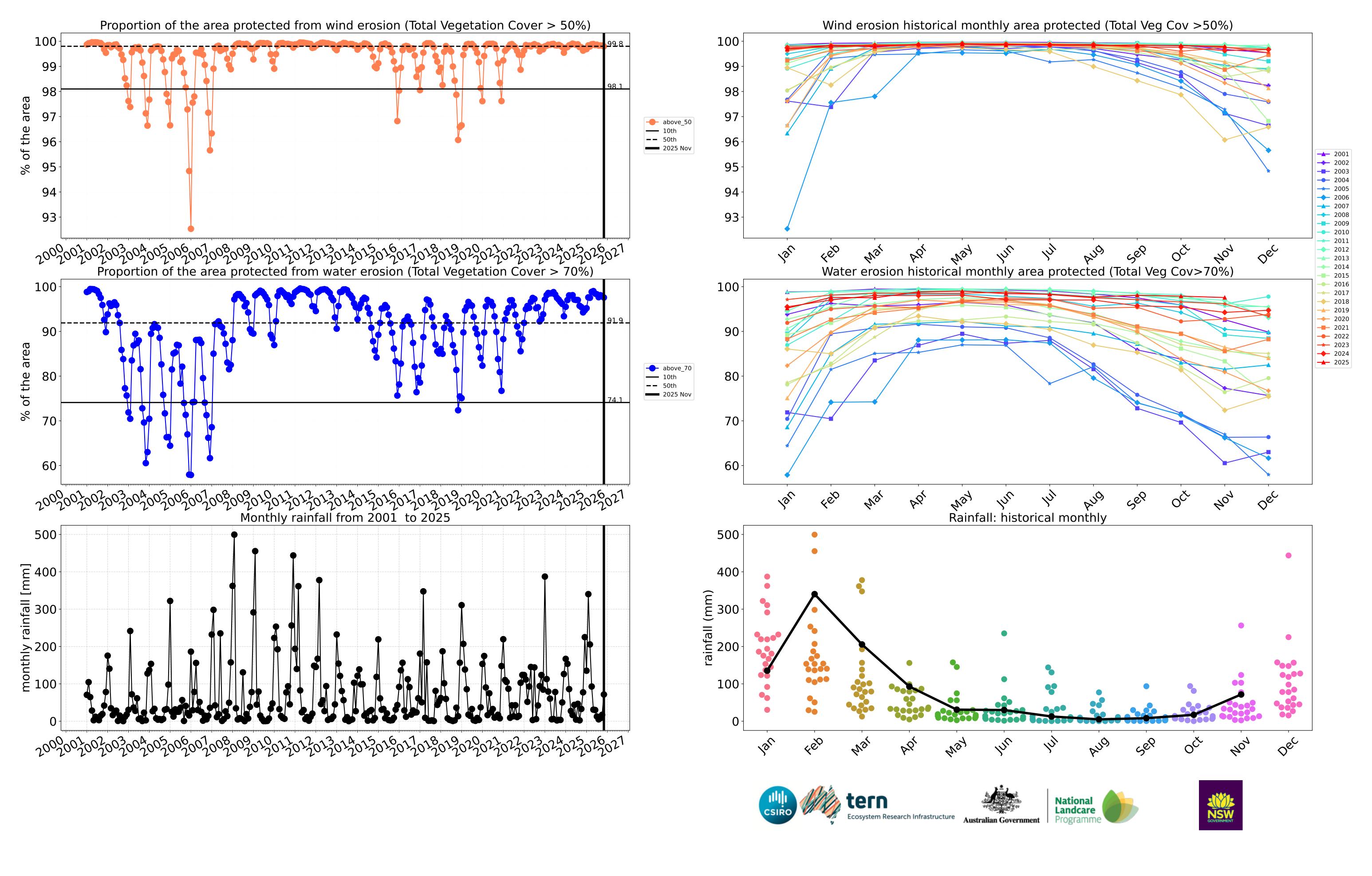








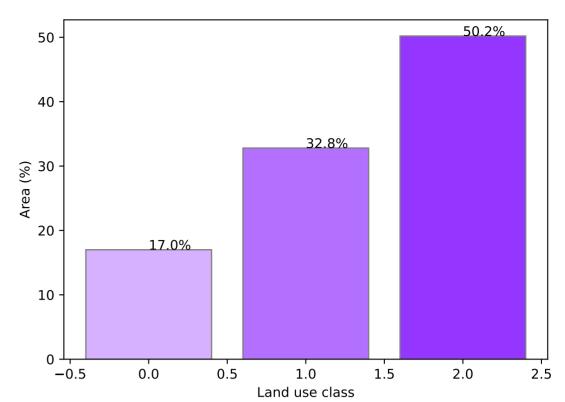




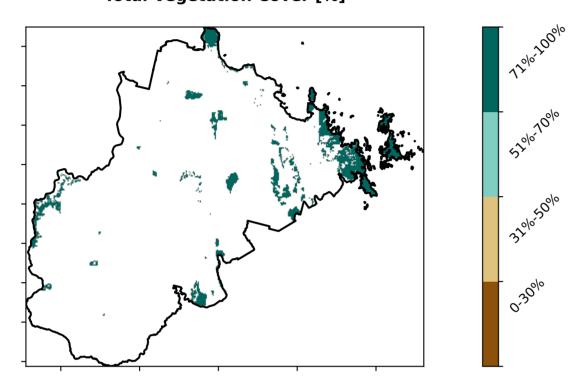
Conservation and natural environments

Land use and forest cover Catchment Scale Land Use and Forests 1 Conservation and natural environments - Nonof Australia (2018) Derived from 2 Conservation and natural environments - Woodland Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) 3 Conservation and natural environments - Non-

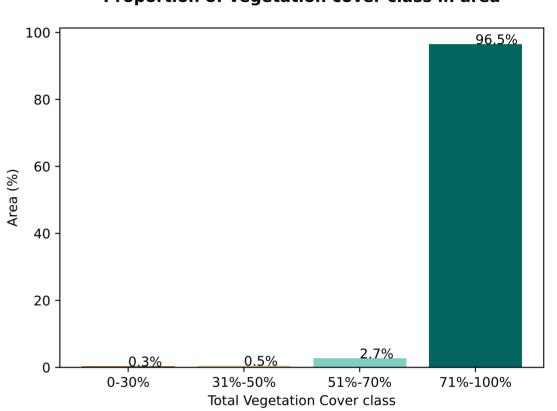
Proportion of each land class in area



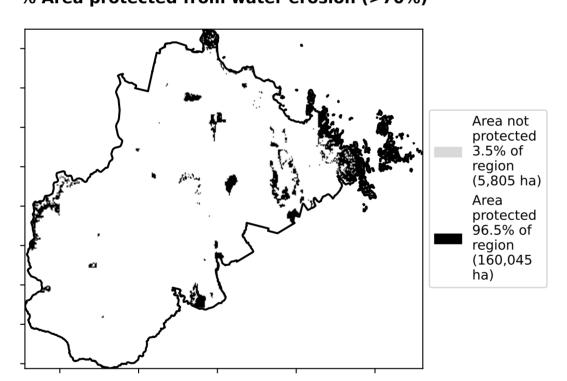
Total Vegetation Cover [%]



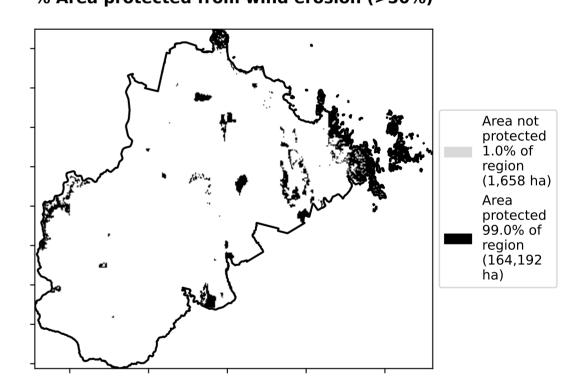
Proportion of vegetation cover class in area



% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]

Anomaly show how many percetage points each

pixel is from

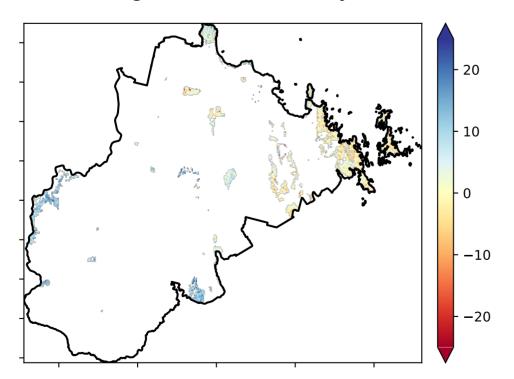
the mean. That is, red pixels

are about 20% lower than the mean of that

pixel. The mean

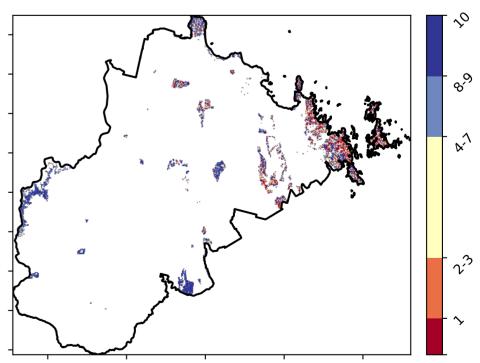
using baseline from 2001 to 2019.

is only for the month of the map



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 [%]



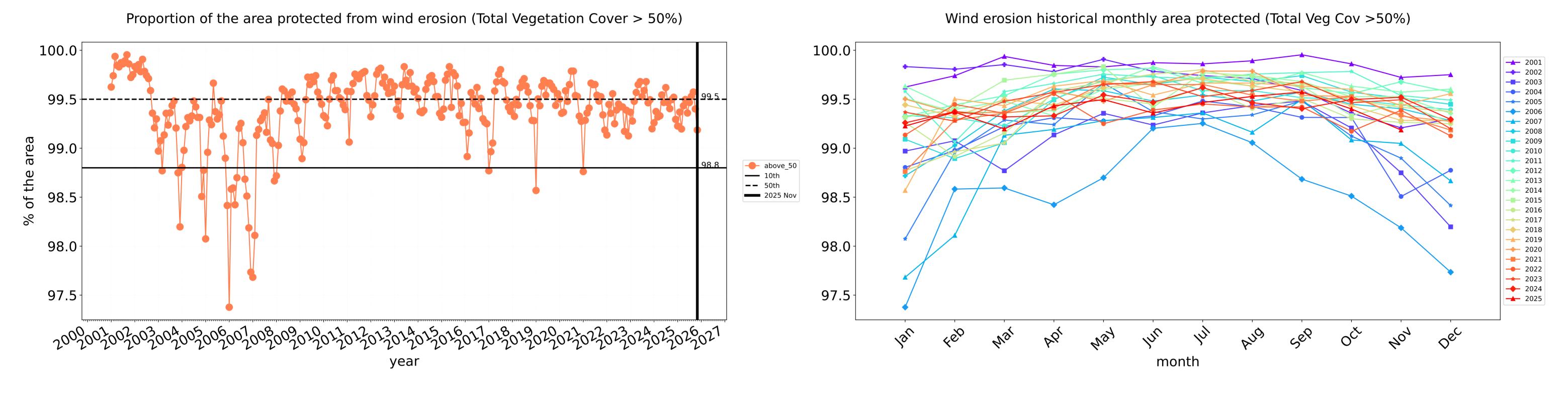


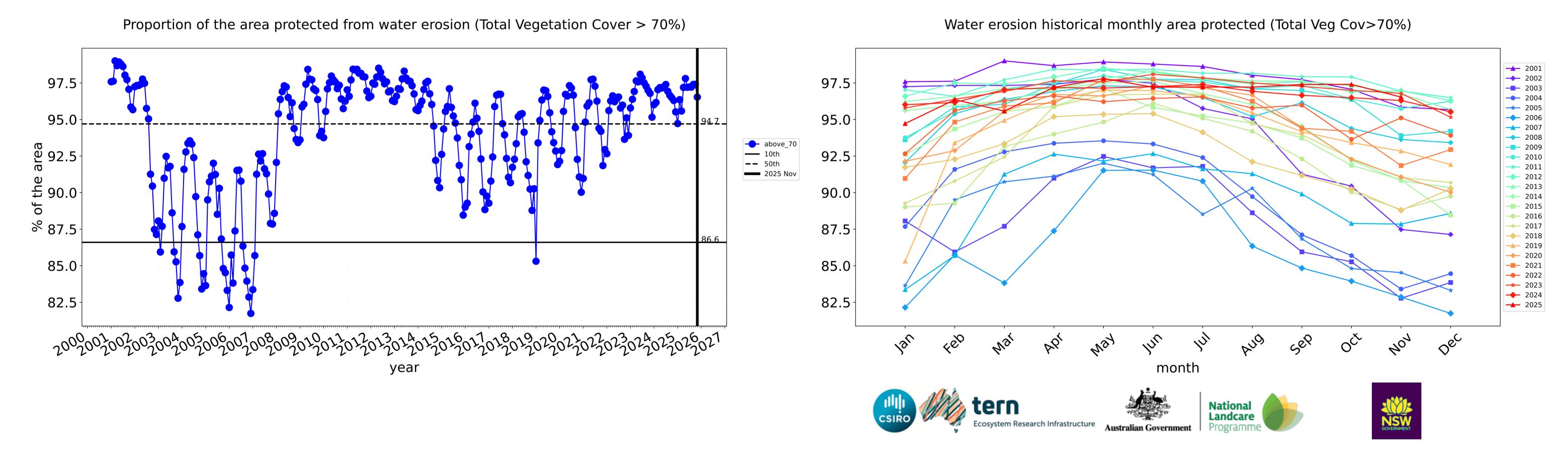






Conservation and natural environments timeseries

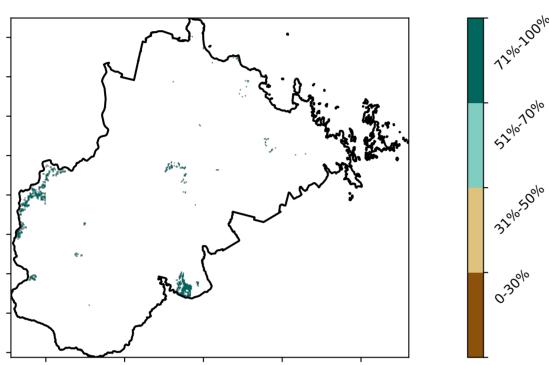




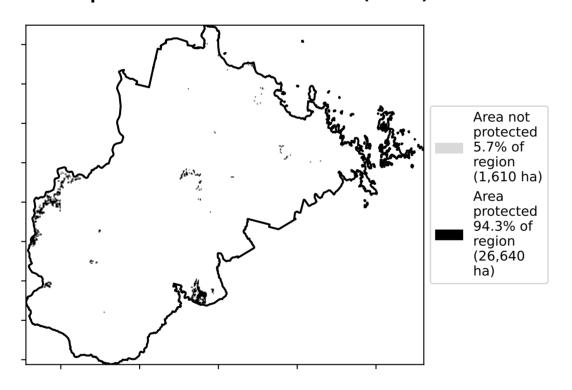
Conservation and natural environments non forest

Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) 1 Conservation and natural environments - Nonforest

Total Vegetation Cover [%]



% Area protected from water erosion (>70%)



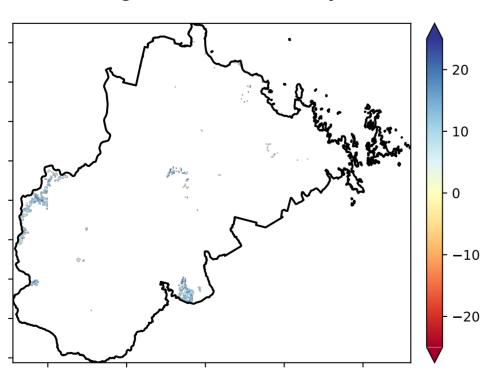
Total Vegetation Cover Anomaly [%]

Anomaly show how many percetage points each pixel is from the mean. That

is, red pixels

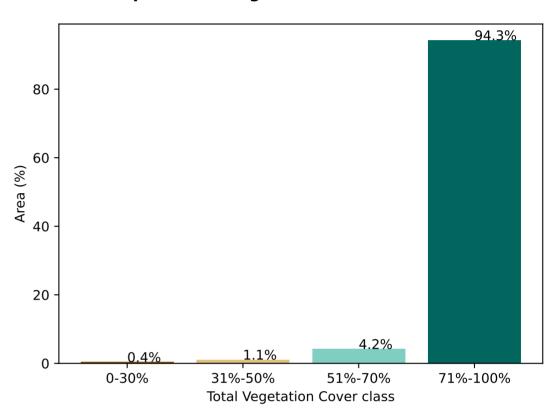
are about 20% lower than the mean of that pixel. The mean is only for the month of the map

using baseline from 2001 to 2019.

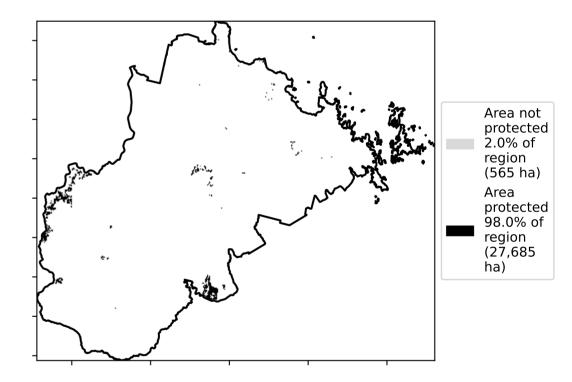


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

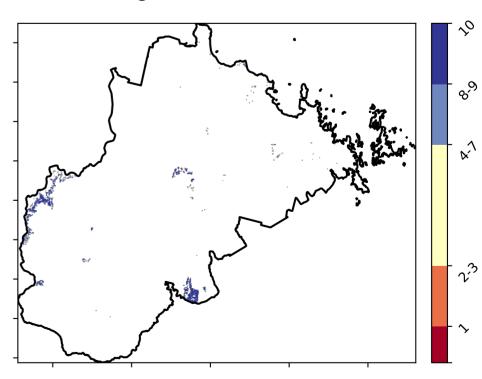
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



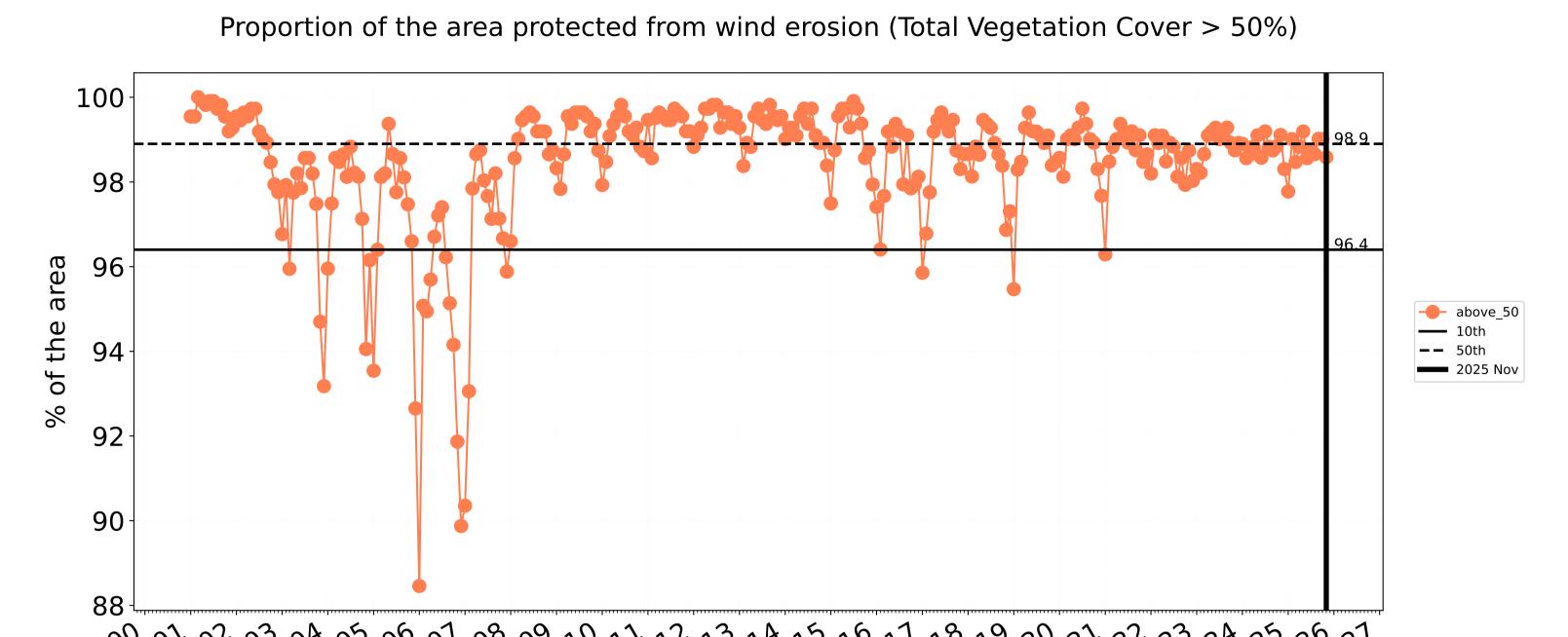


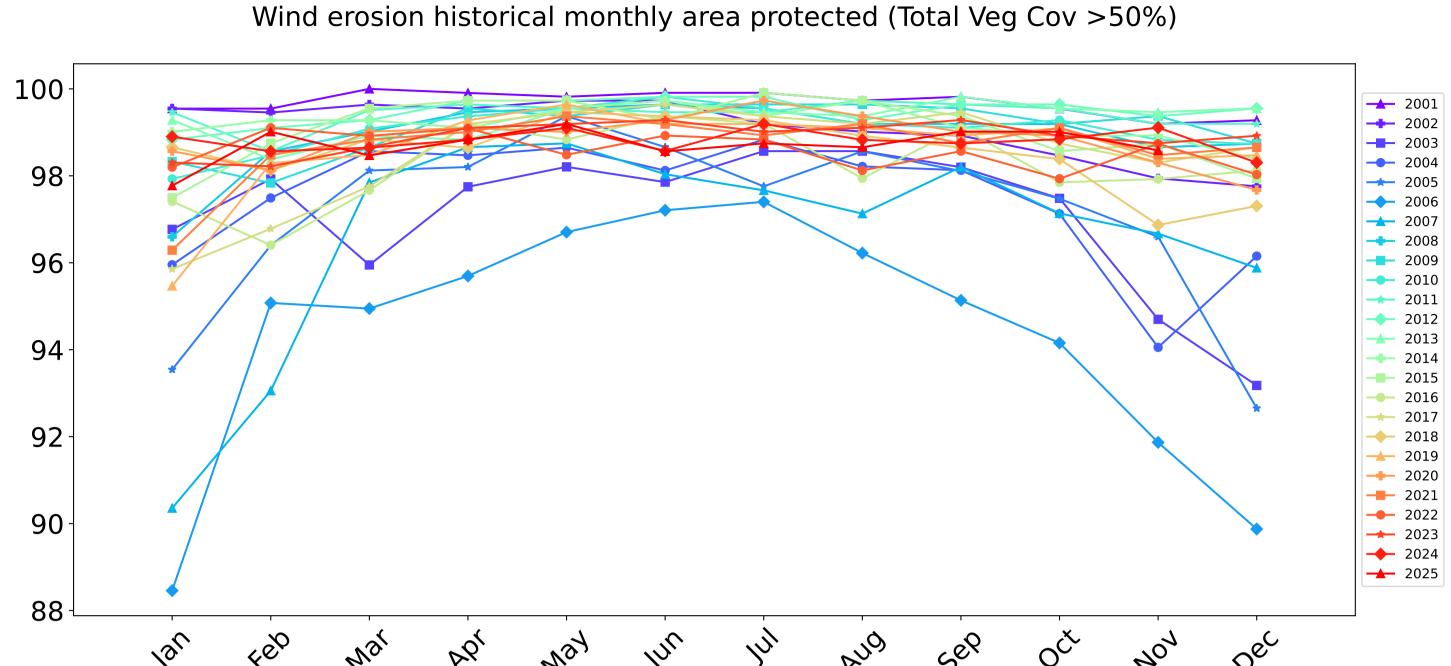




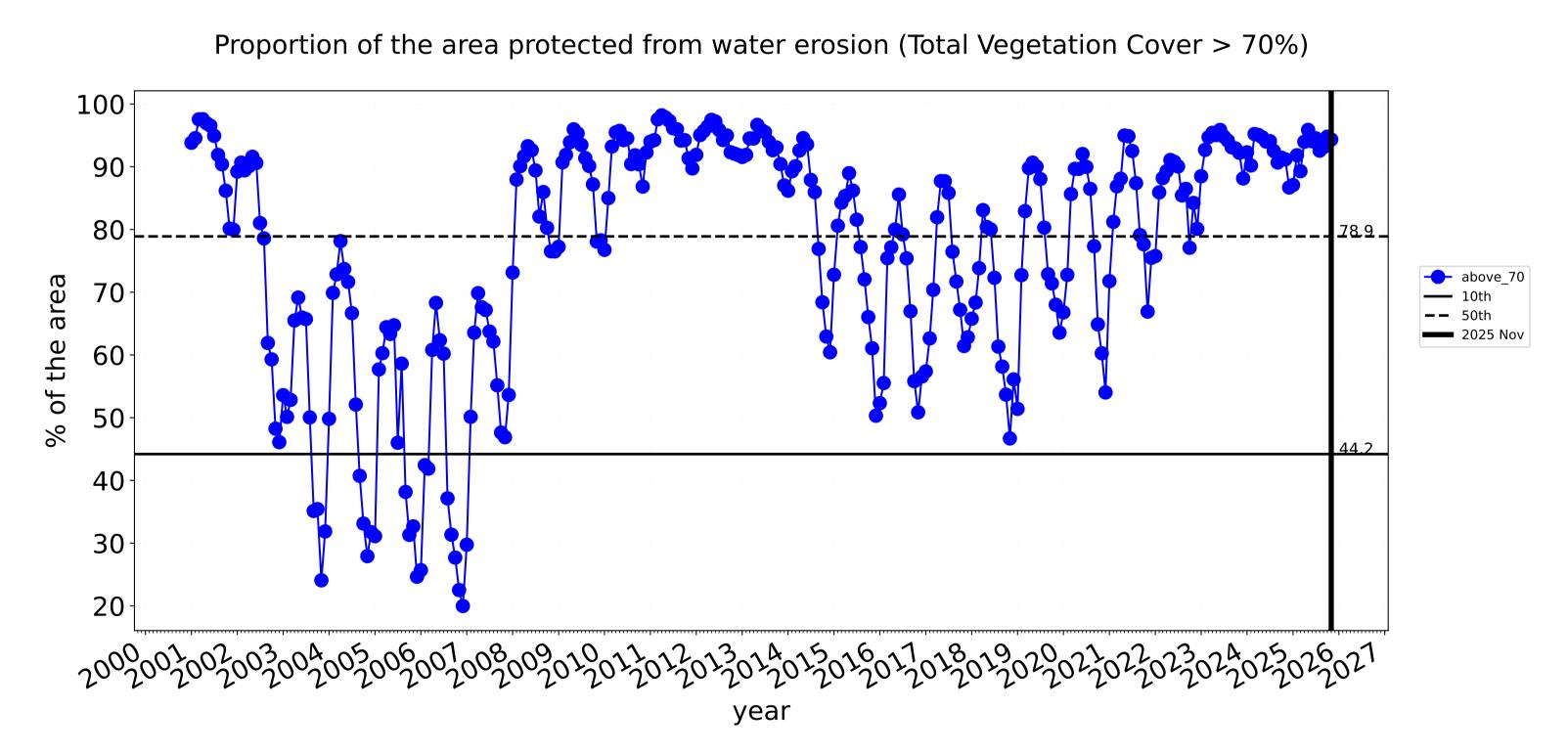


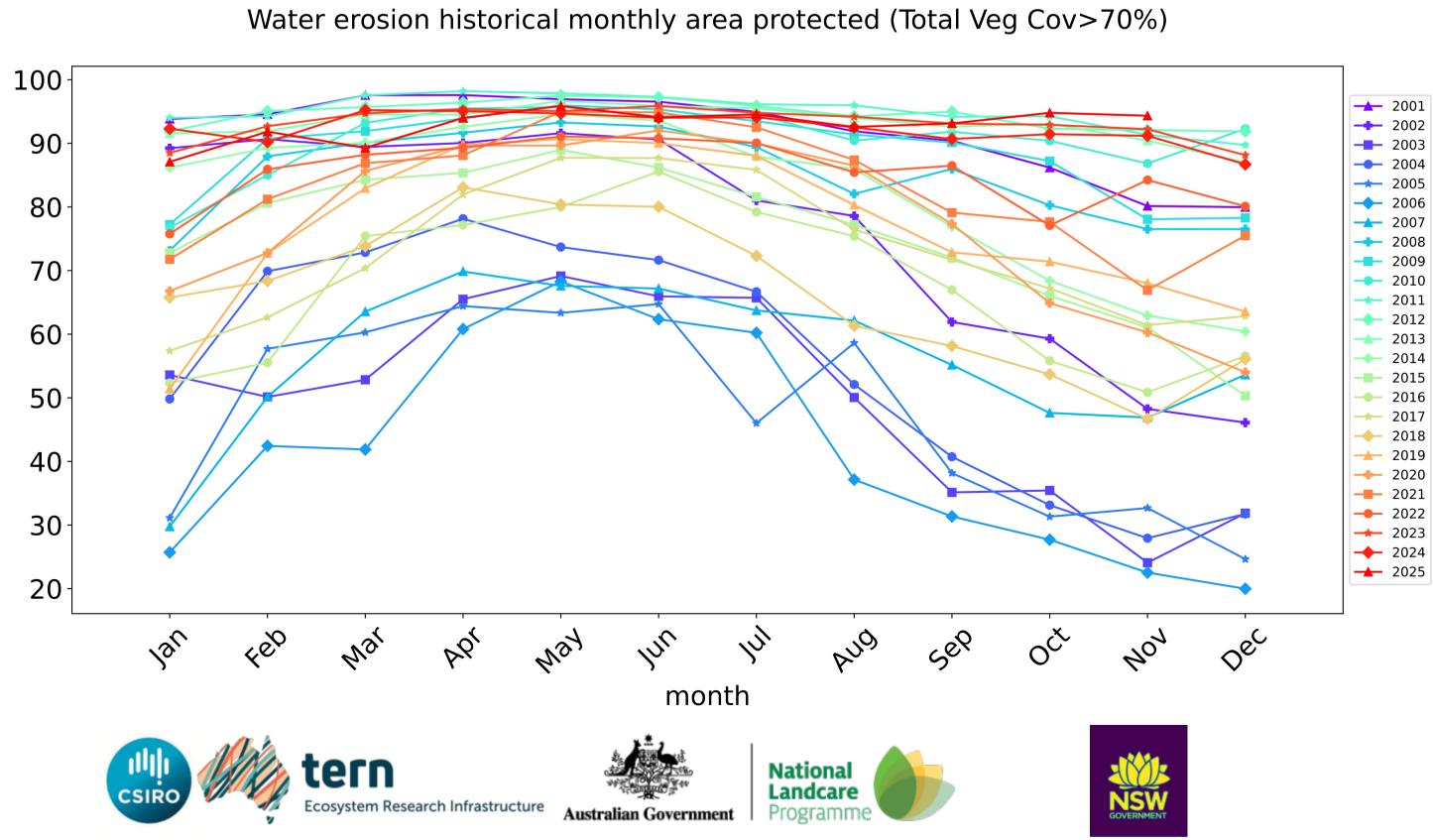
Conservation and natural environments non forest timeseries





month

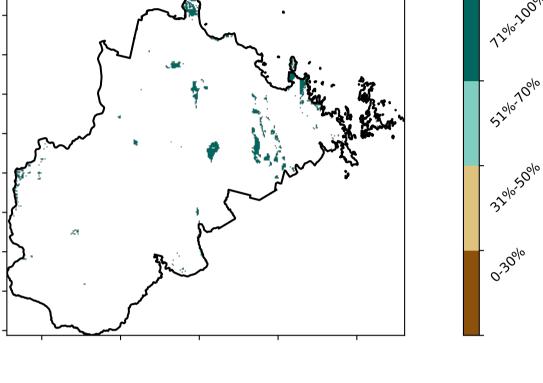




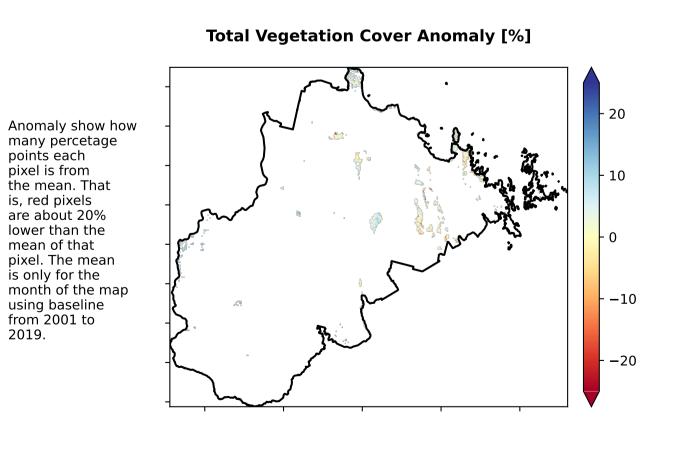
Conservation and natural environments Woodland forest

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

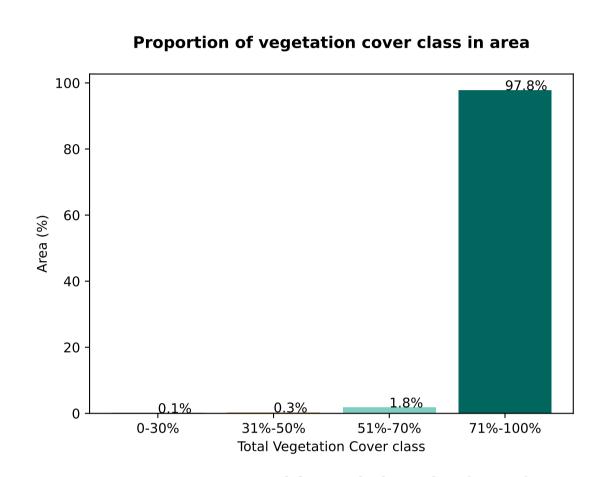
Total Vegetation Cover [%]



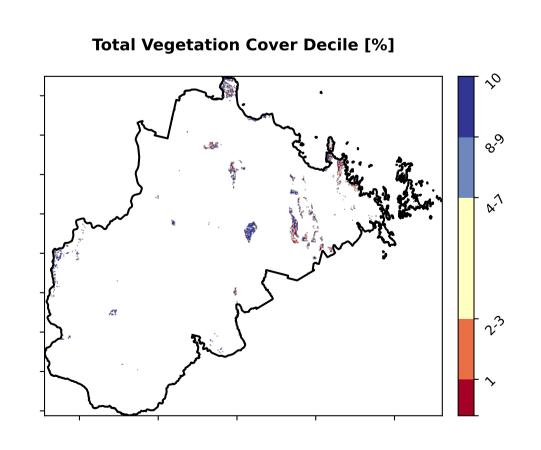
% Area protected from water erosion (>70%) Area not protected 2.2% of region (1,257 ha) Area protected 97.8% of region (55,893 ĥа)



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% Area protected from wind erosion (>50%) Area not protected 0.0% of region (0 ha) Area protected 100.0% of region (57,150 ha)



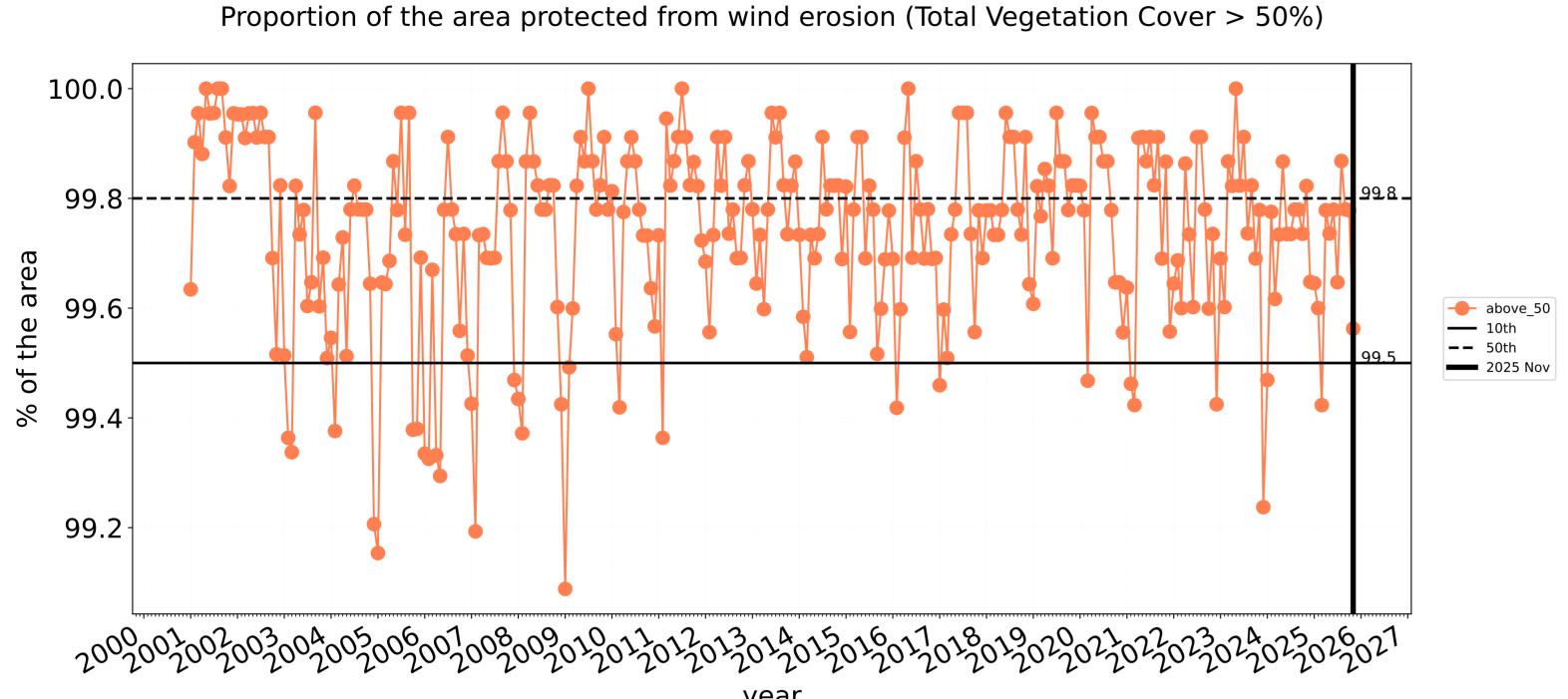


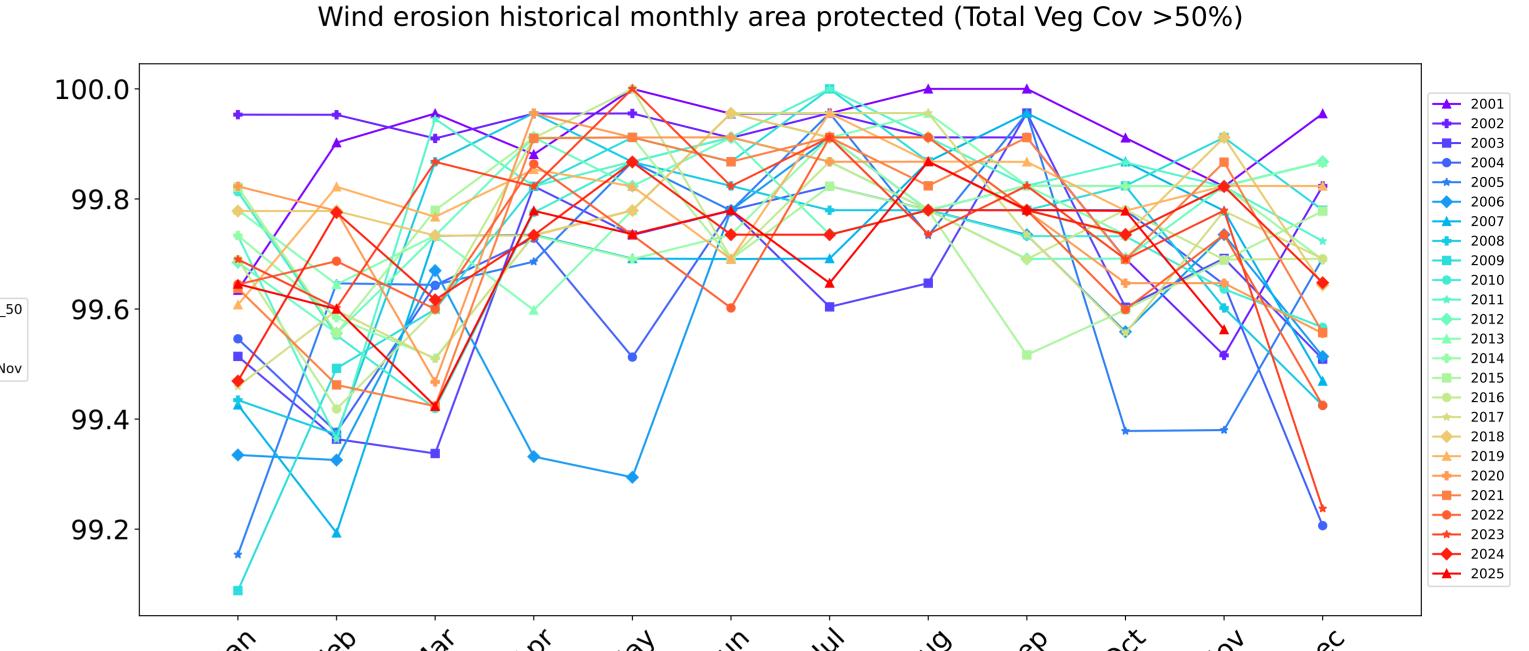




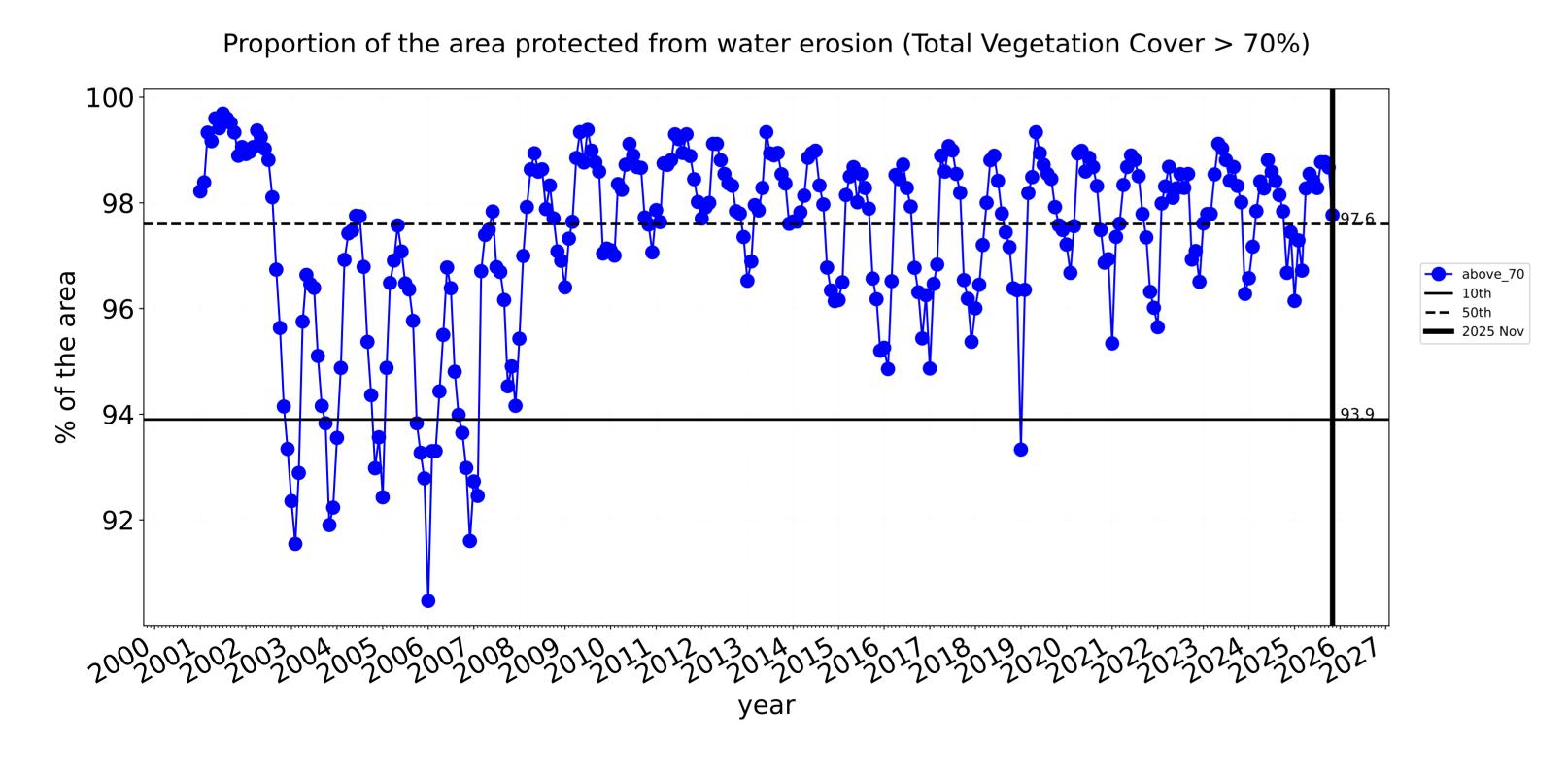


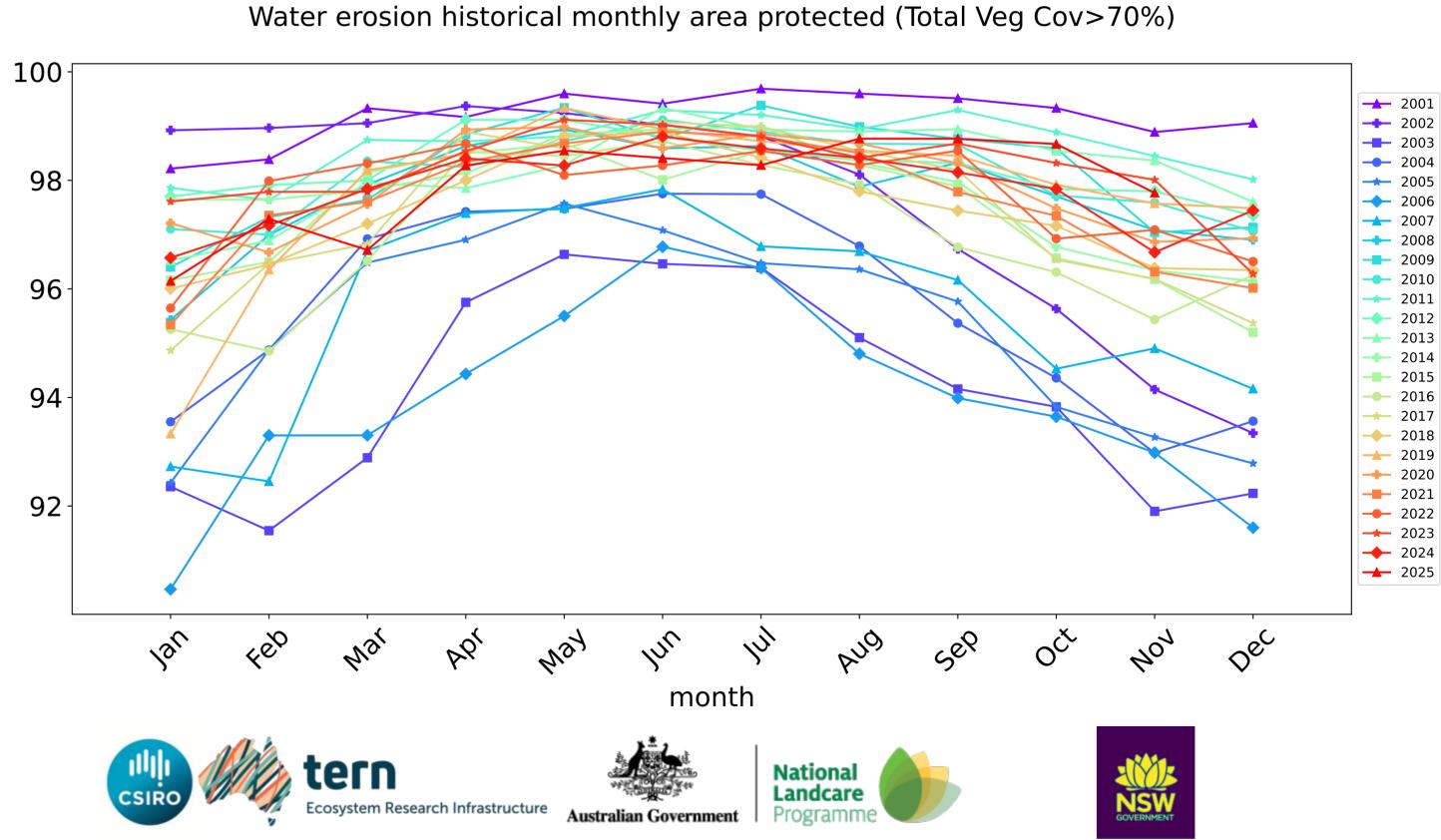
Conservation and natural environments Woodland forest timeseries





month



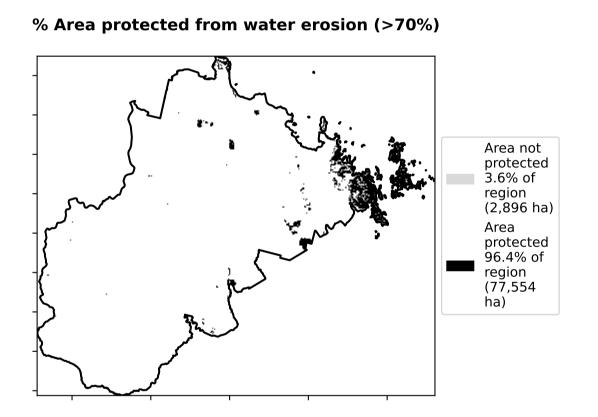


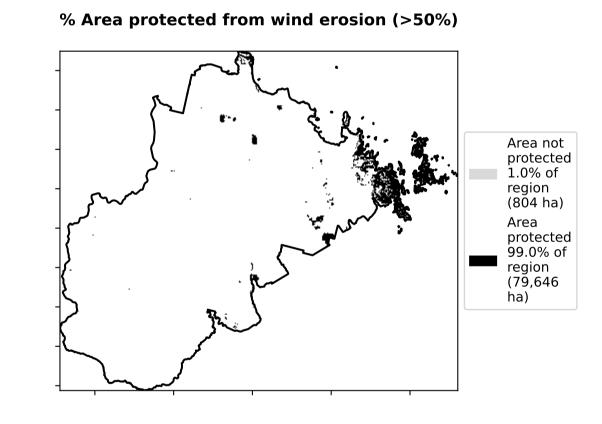
Conservation and natural environments Forest (non woodland)

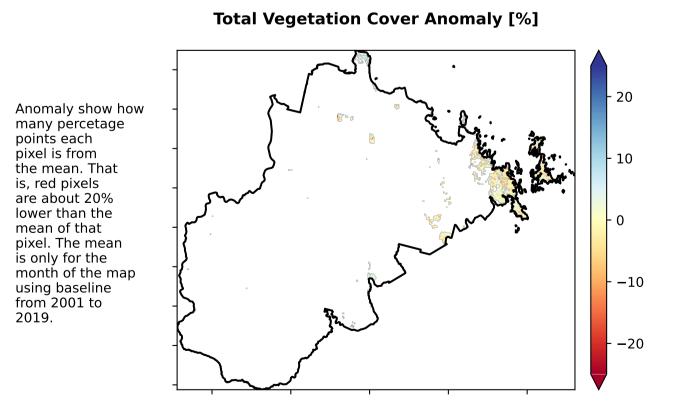
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

Total Vegetation Cover [%]

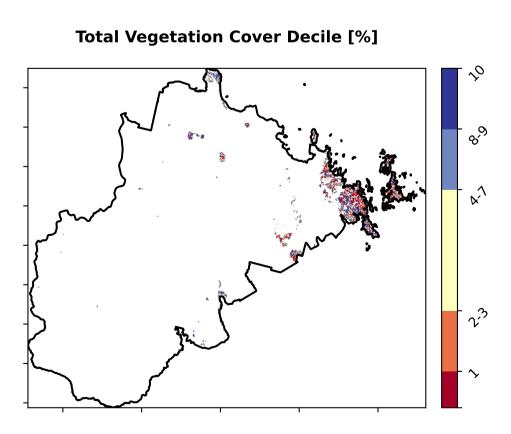
Proportion of vegetation cover class in area 100 80 60 20 0-30% 31%-50% 51%-70% Total Vegetation Cover class







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.

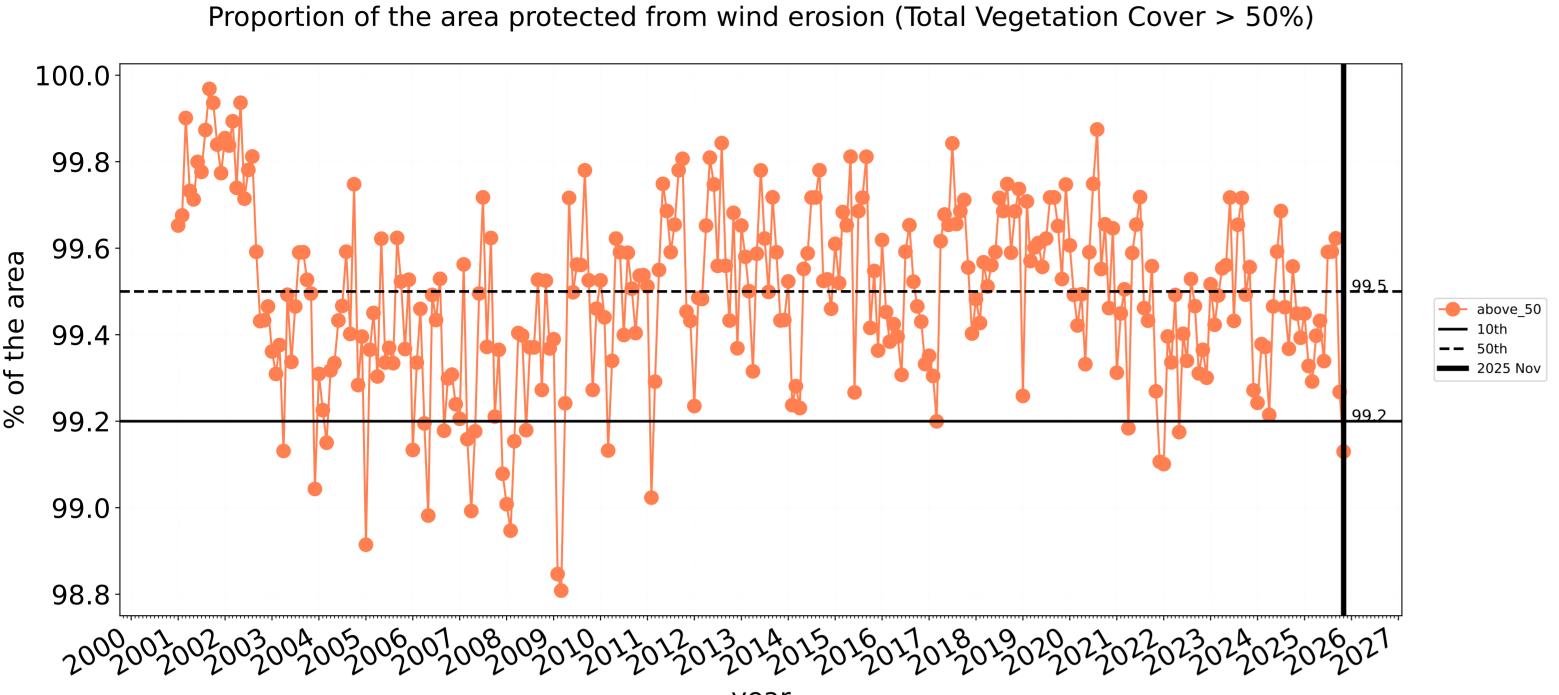


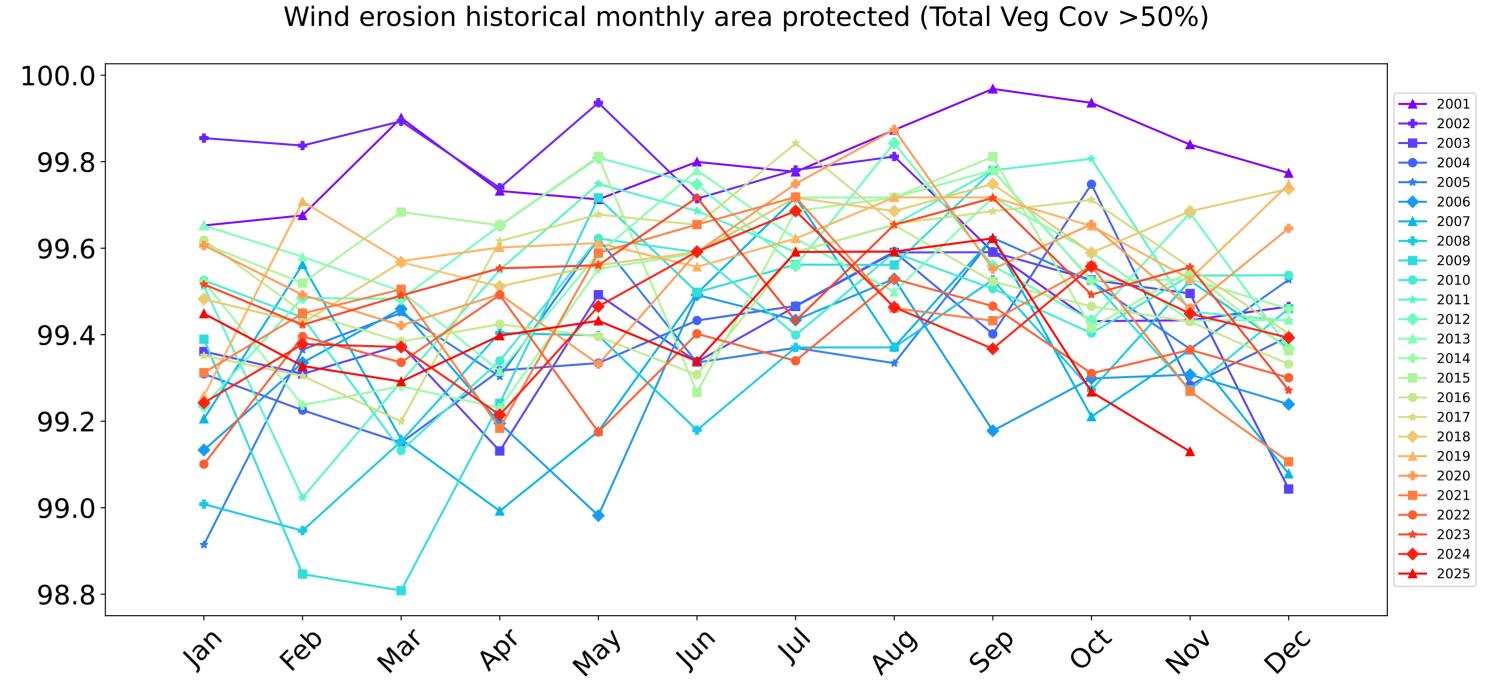




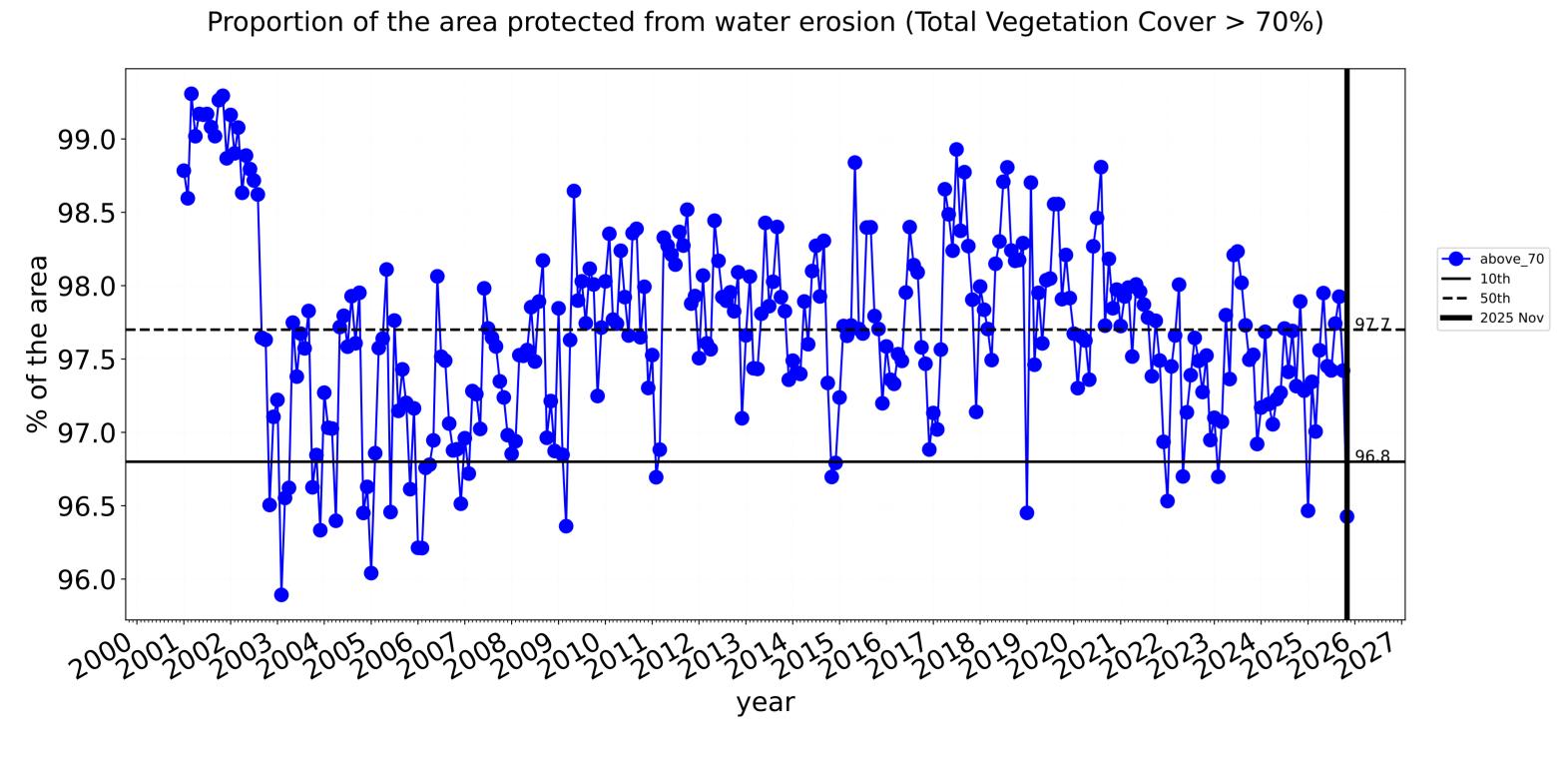


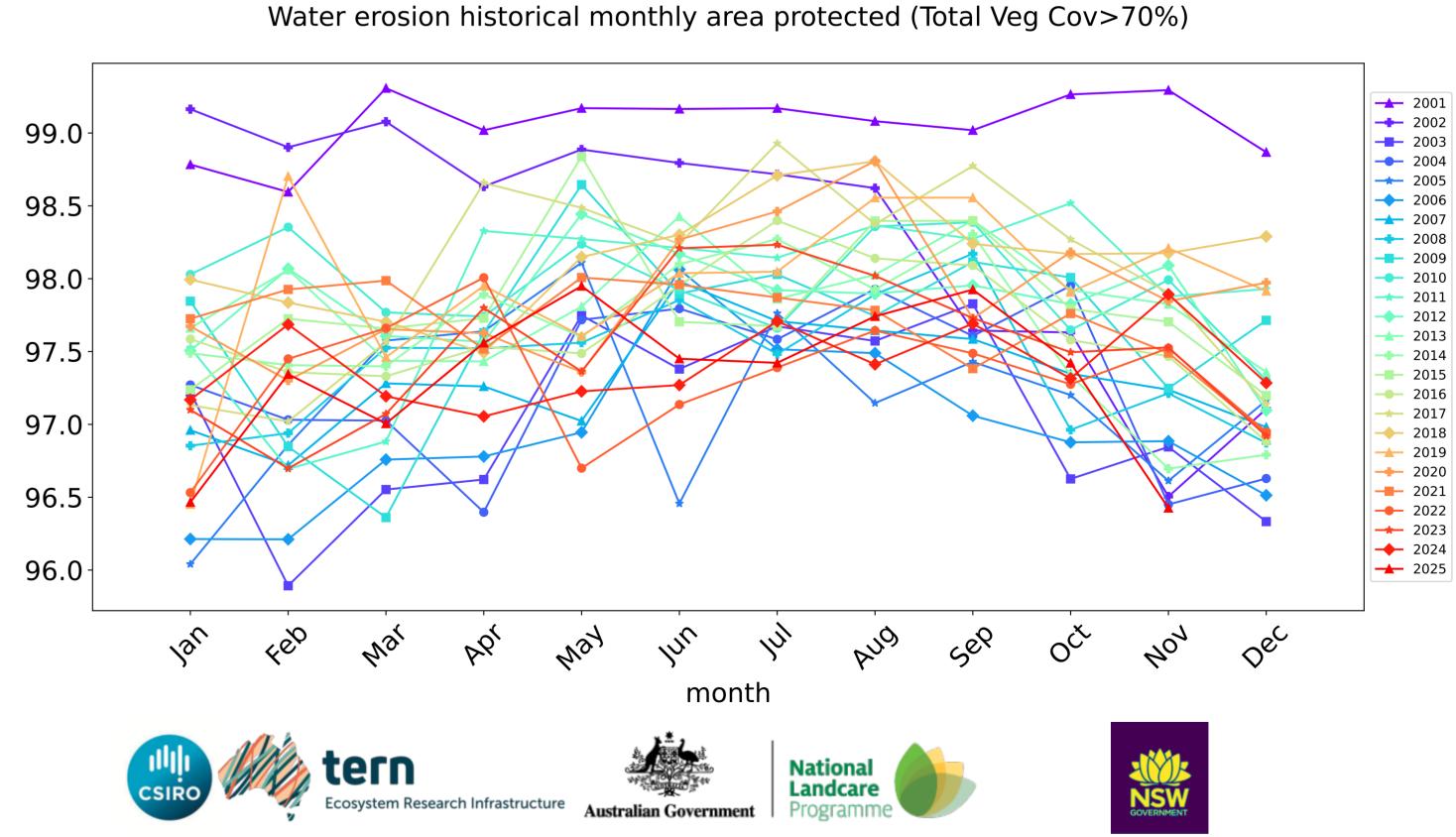






month





Agriculture

Land use and forest cover

Derived from

Use of Australia

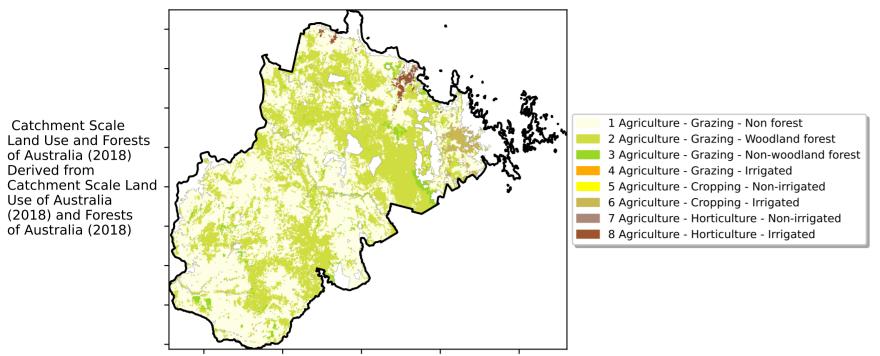
the mean. That

pixel. The mean

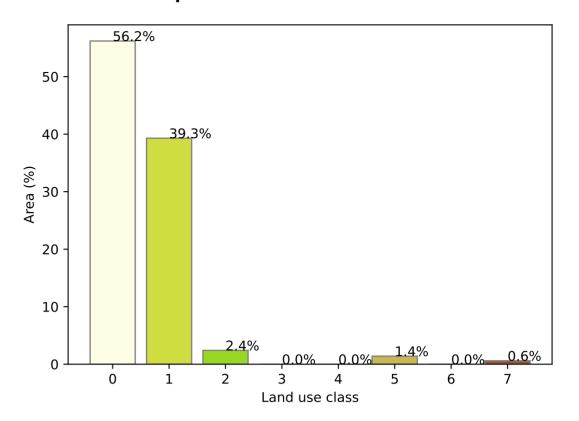
using baseline from 2001 to 2019.

is only for the month of the map

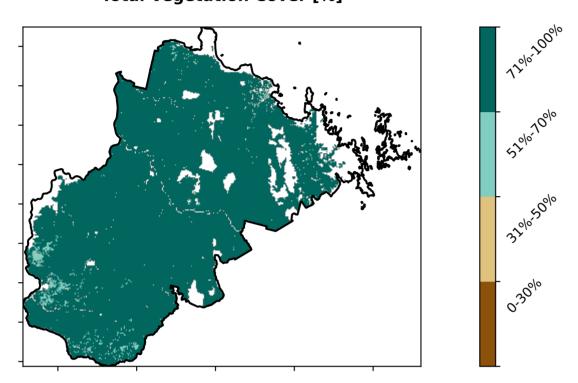
is, red pixels are about 20% lower than the mean of that



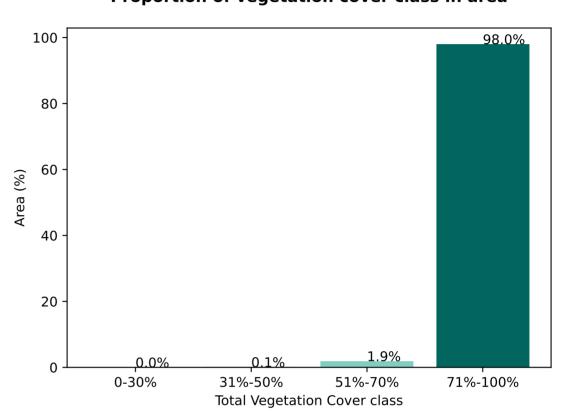
Proportion of each land class in area



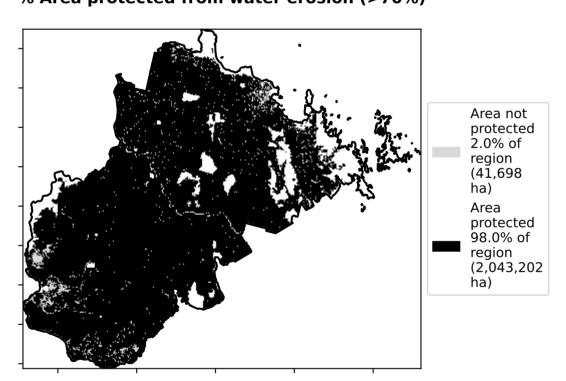
Total Vegetation Cover [%]



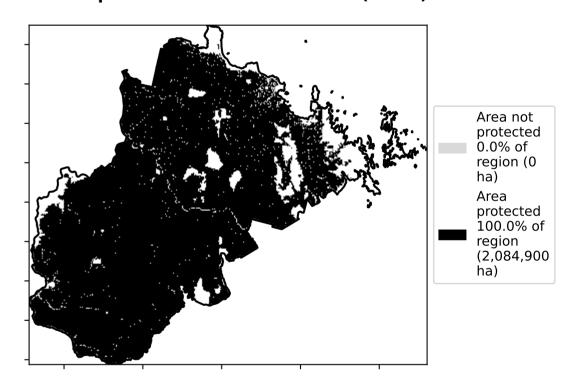
Proportion of vegetation cover class in area



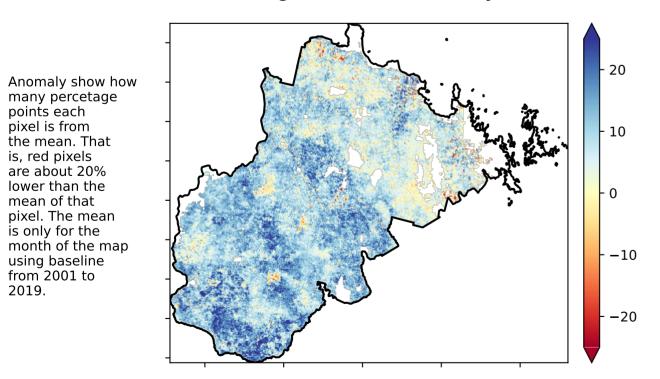
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

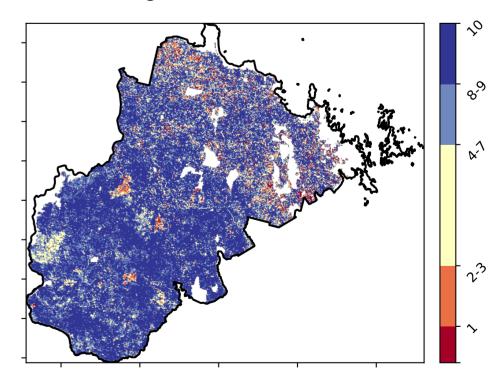


Total Vegetation Cover Anomaly [%]



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 [%]







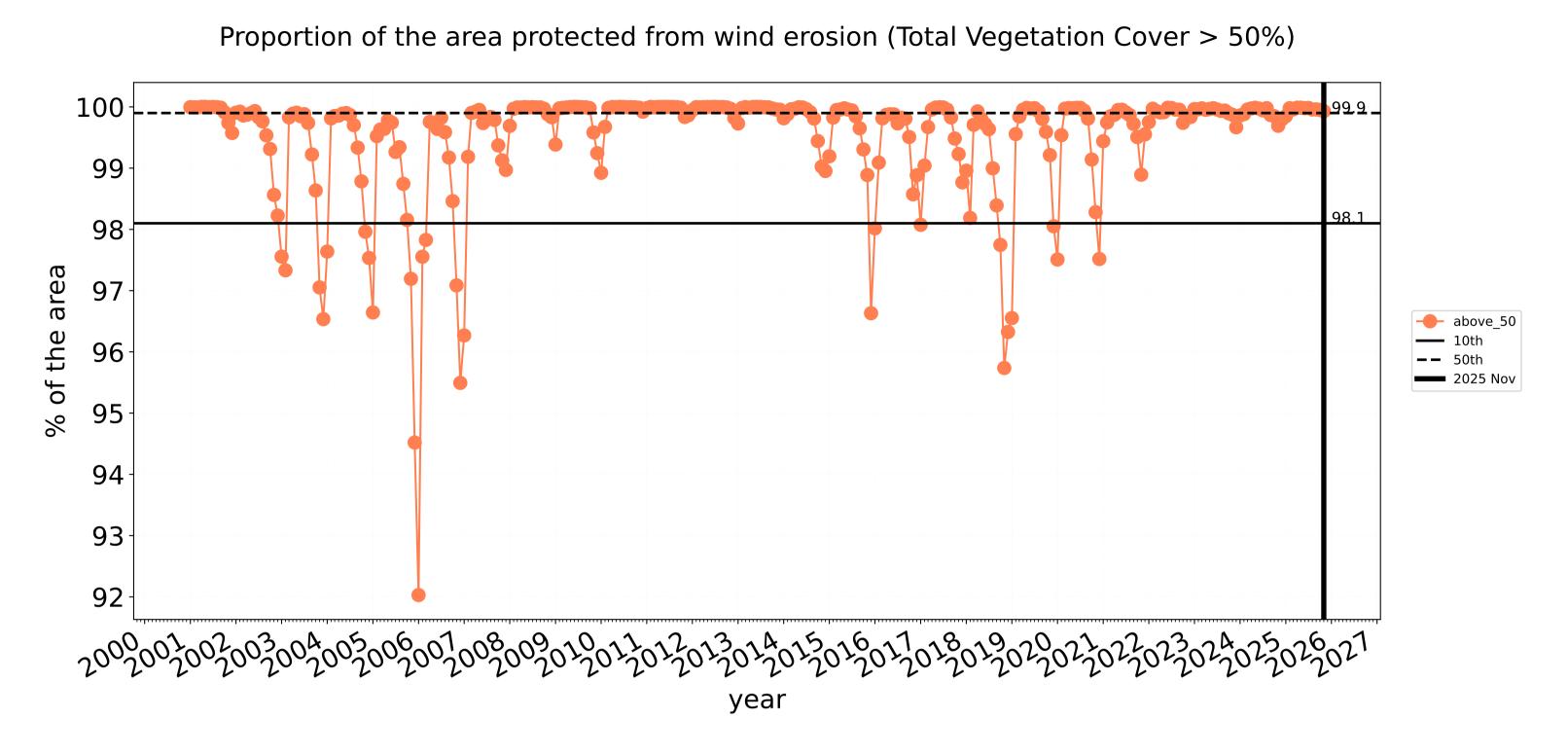
Ecosystem Research Infrastructure

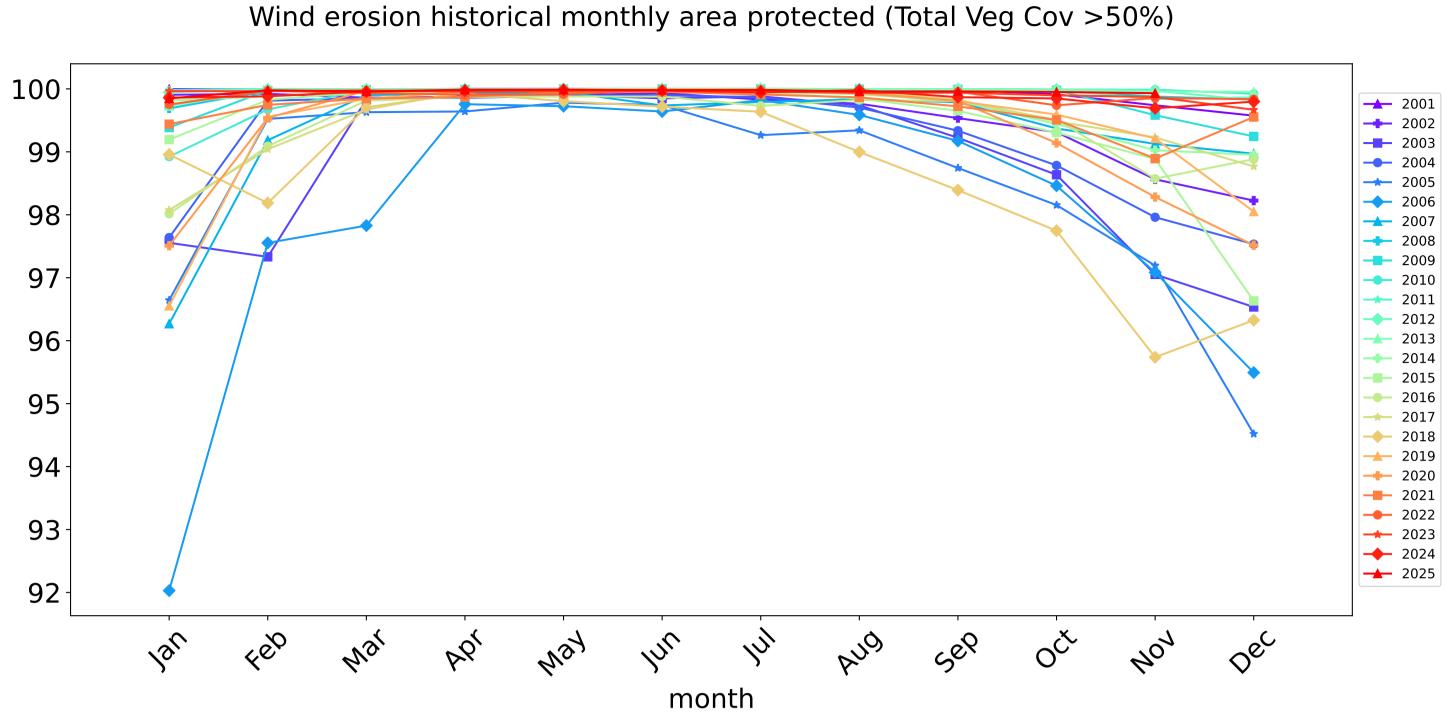


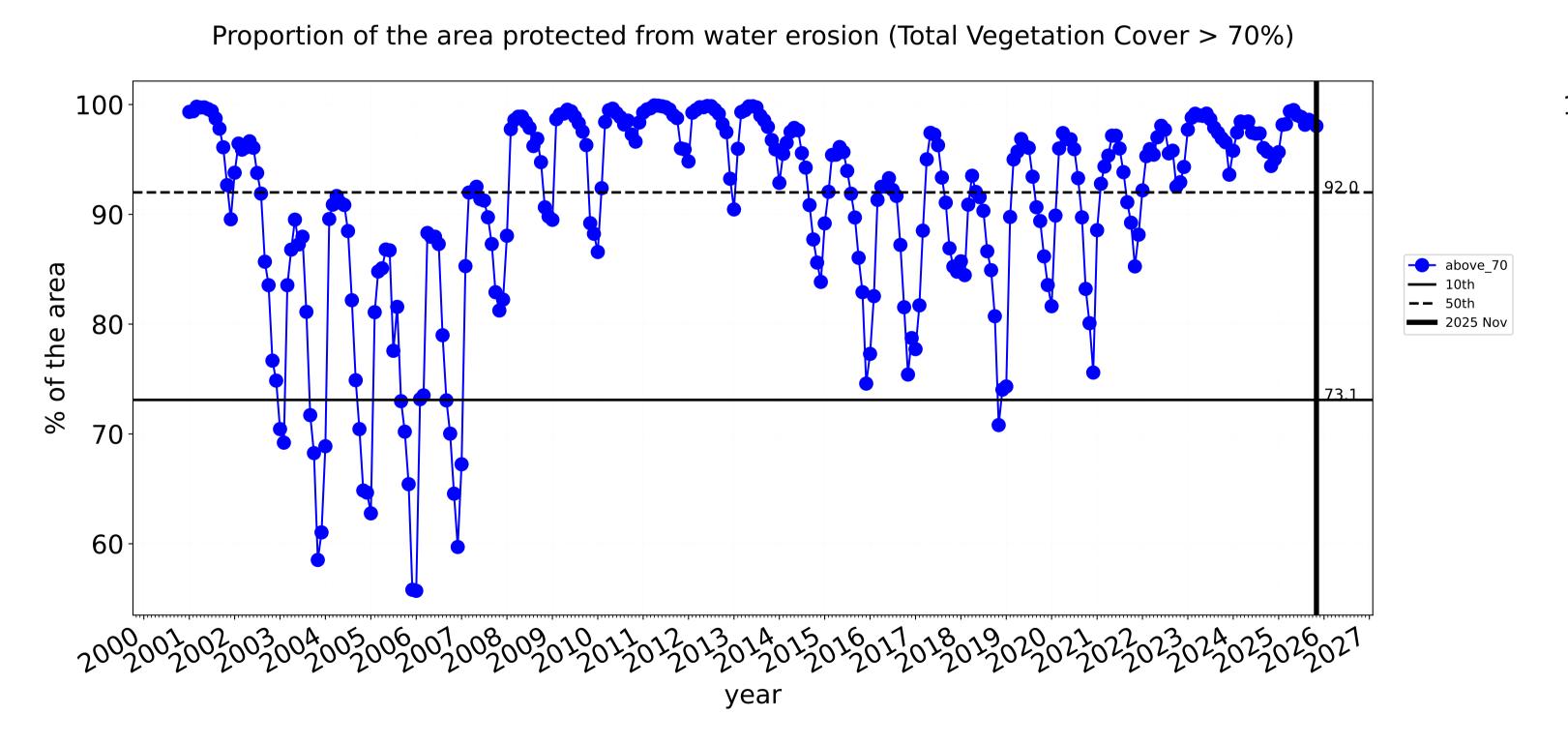


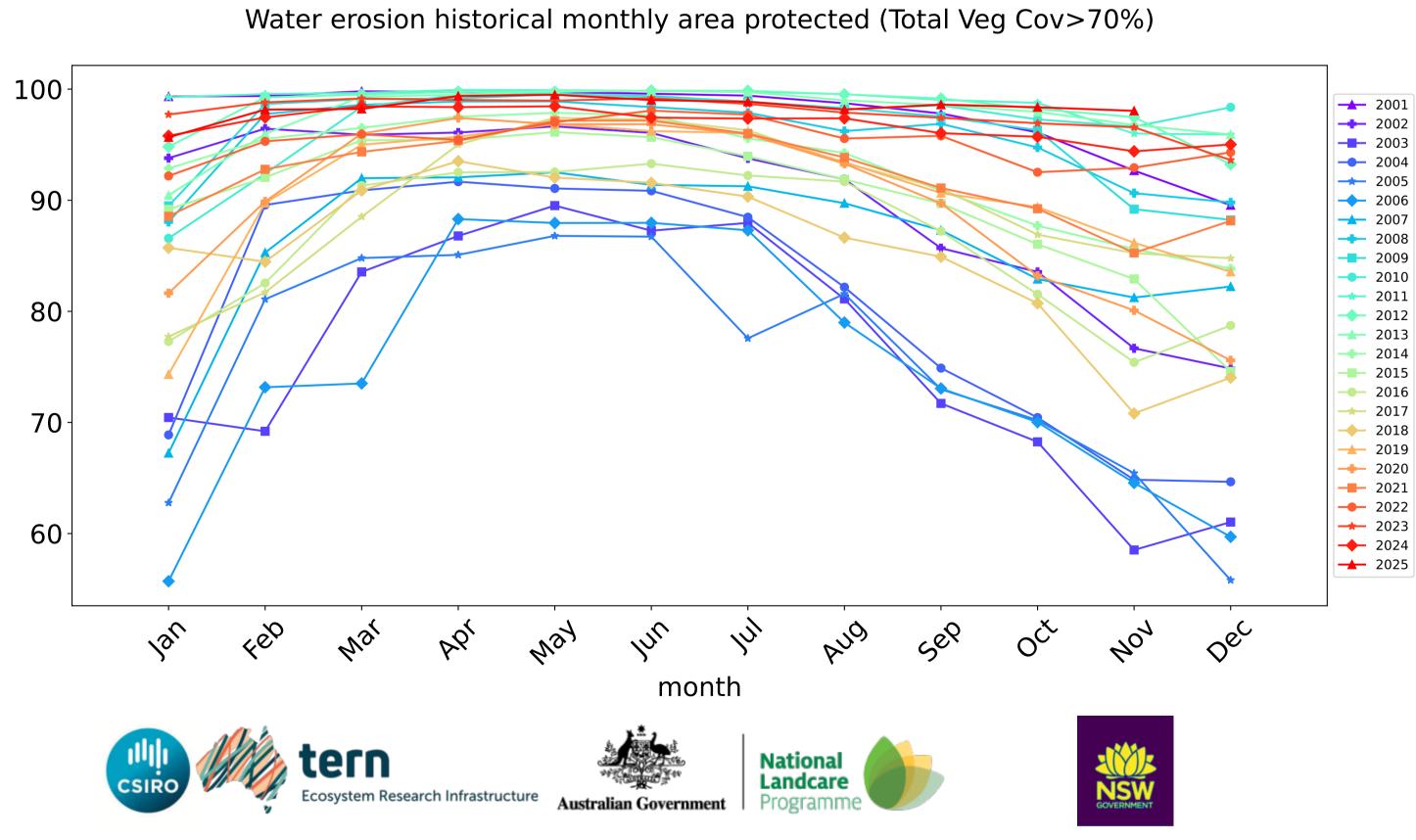


Agriculture timeseries









Grazing

Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Agriculture - Grazing - Non forest 2 Agriculture - Grazing - Woodland forest Catchment Scale Land 3 Agriculture - Grazing - Non-woodland forest Use of Australia (2018) and Forests of Australia (2018)

60 -57.4% 50 40.1% 40 Area (%) 20 10 0.5 1.0 -0.5 1.5 0.0 2.0 2.5 Land use class

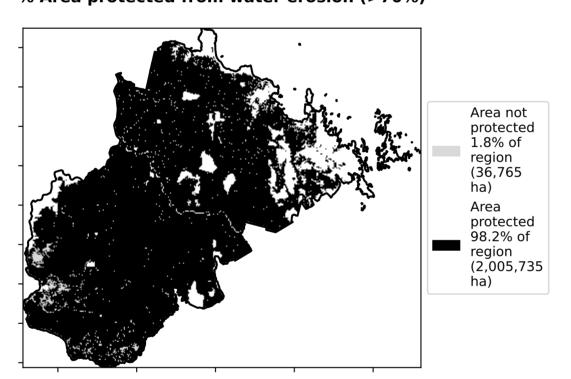
Proportion of each land class in area

Total Vegetation Cover [%]

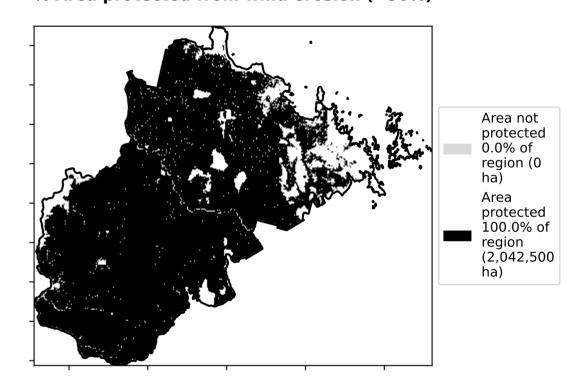
Proportion of vegetation cover class in area

100 98.2% 80 60 40 20 0.1% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**

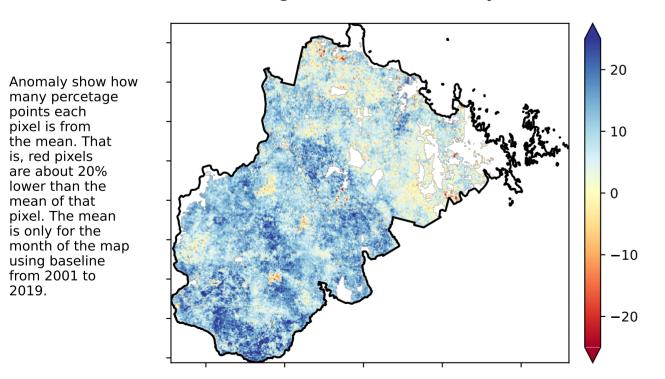
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

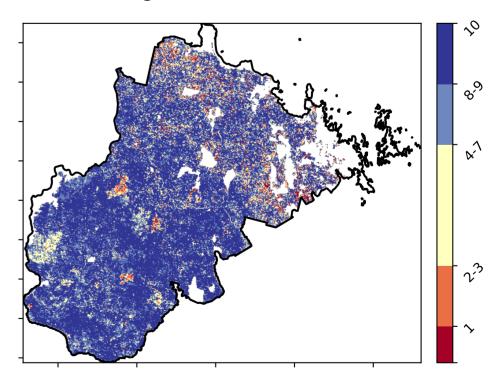


Total Vegetation Cover Anomaly [%]



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 [%]





is, red pixels are about 20% lower than the mean of that pixel. The mean

is only for the month of the map

using baseline from 2001 to 2019.



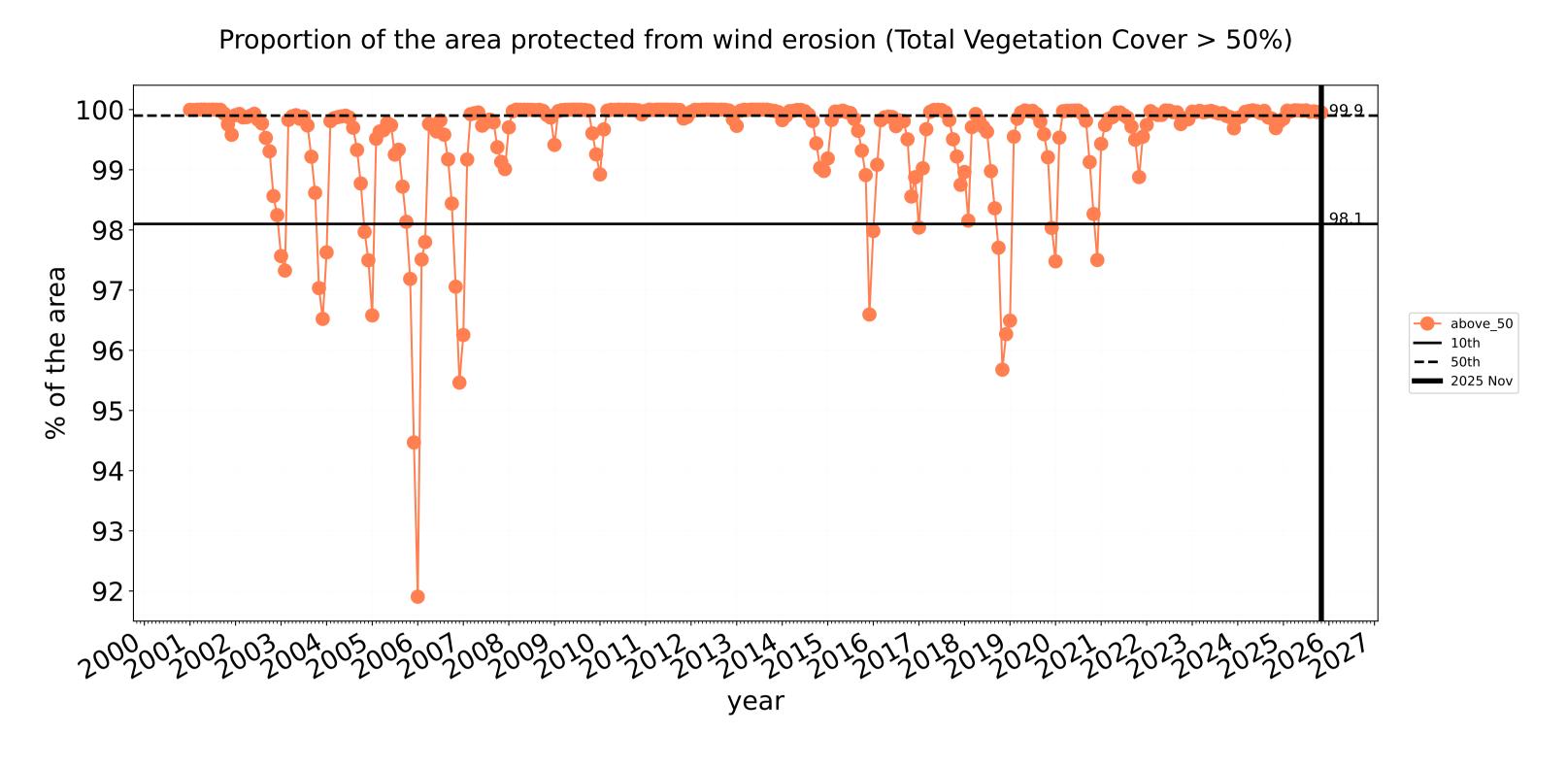


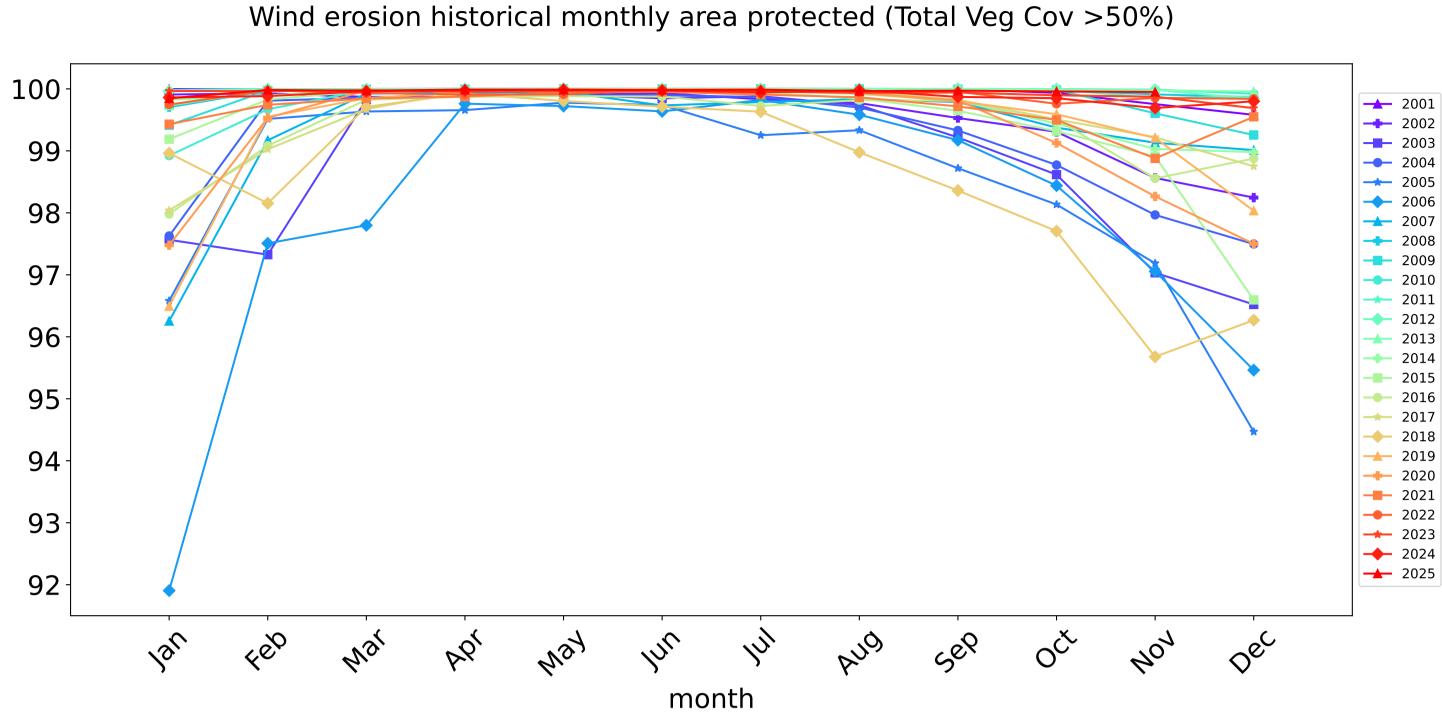


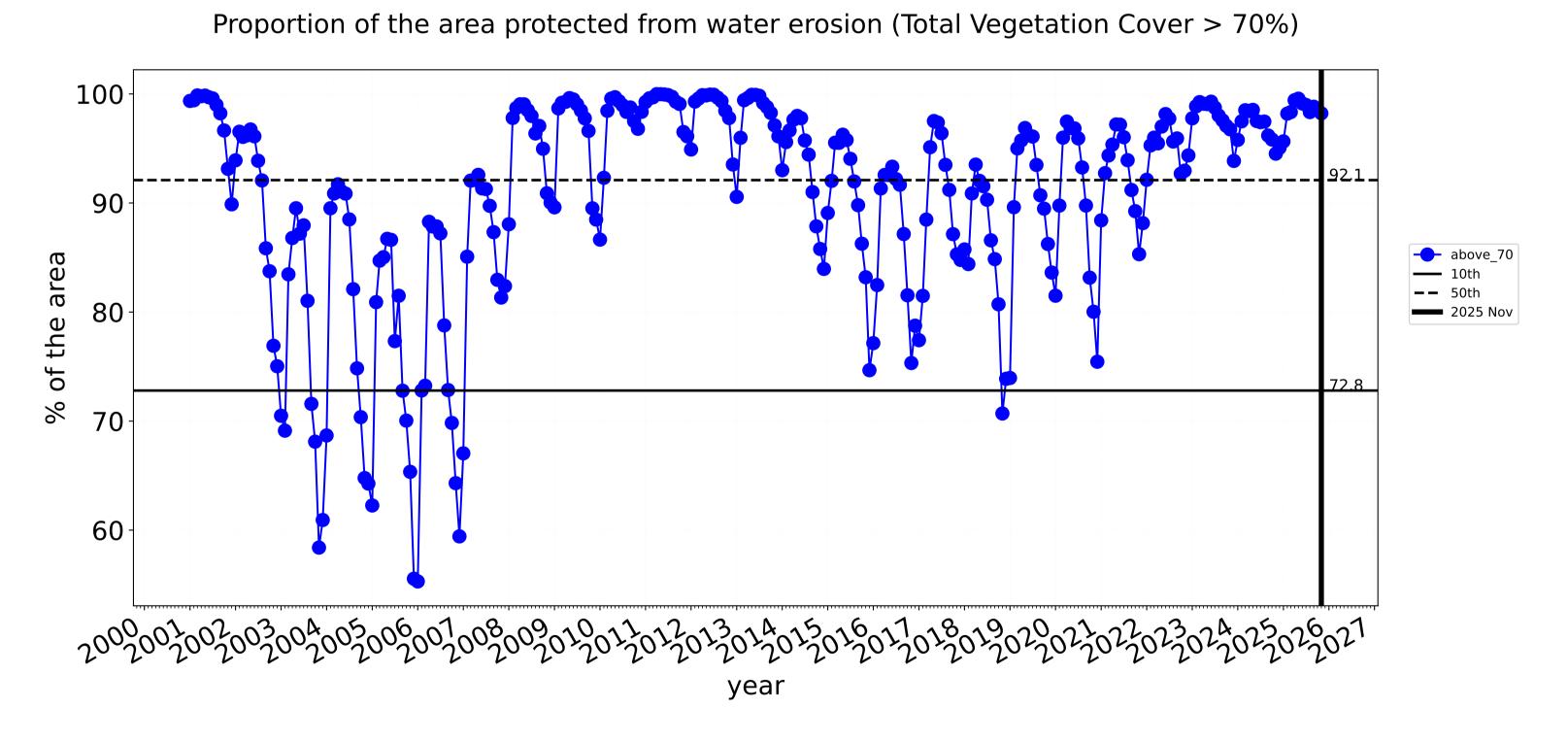


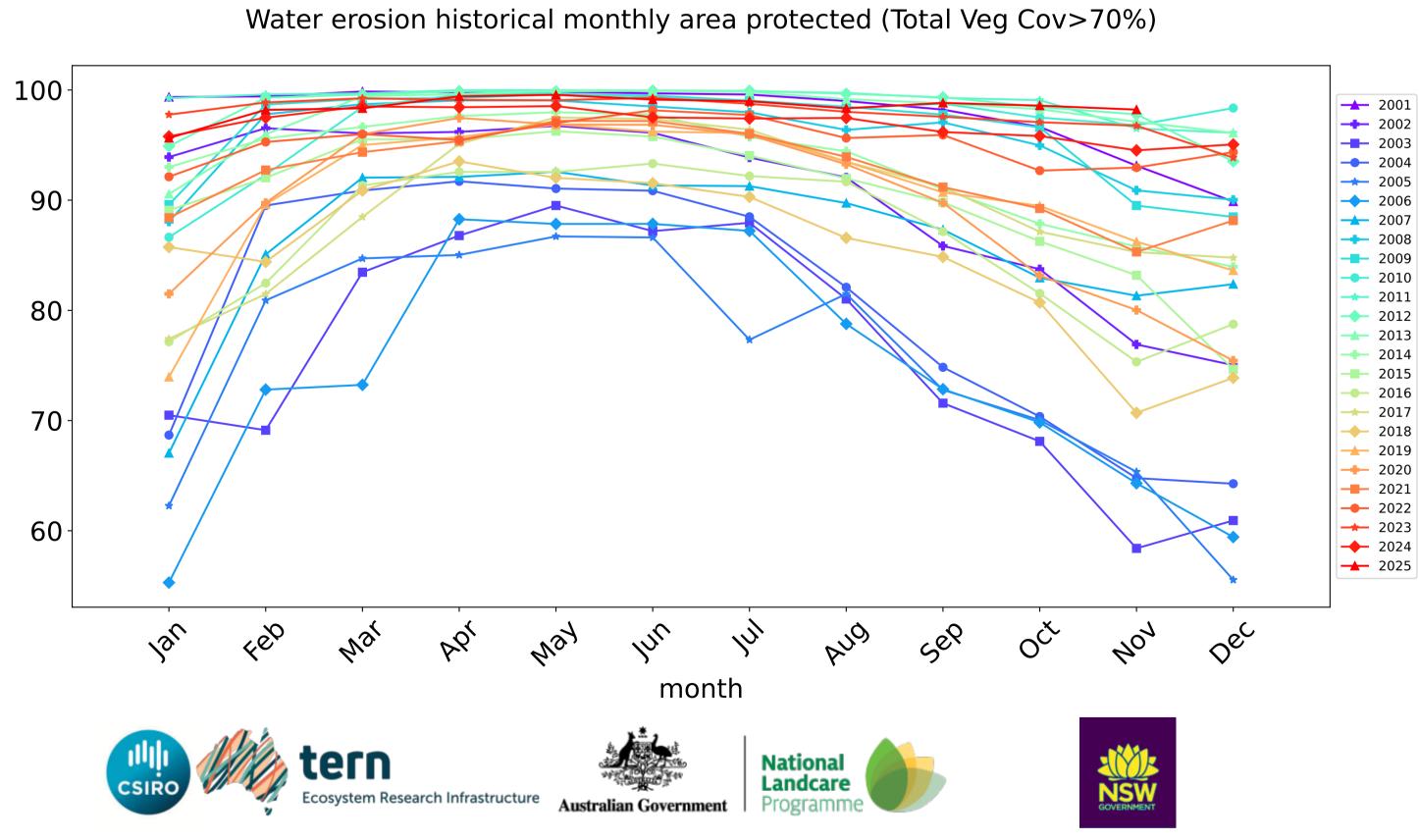


Grazing timeseries





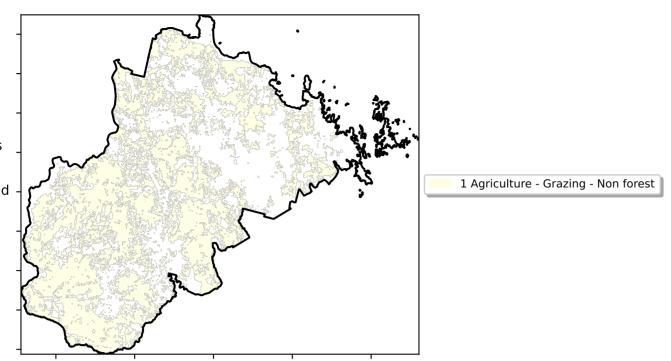




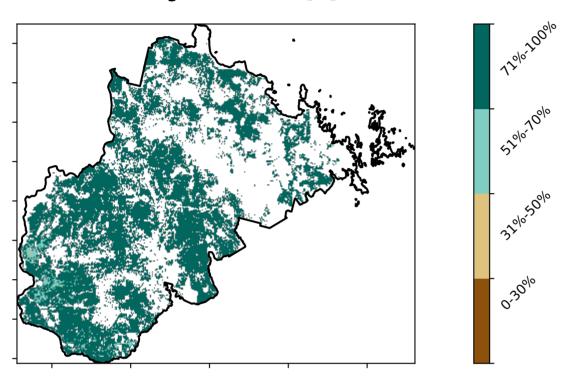
Grazing non forest

Land use and forest cover

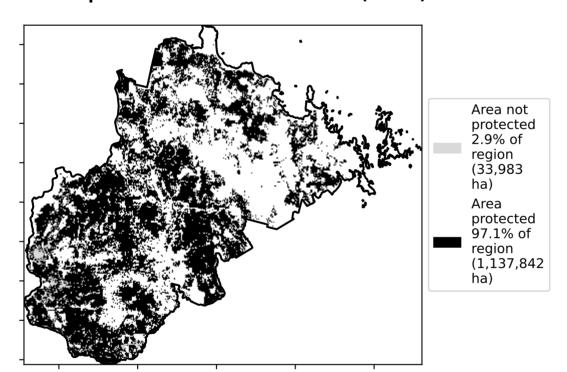
Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
Catchment Scale Land
Use of Australia
(2018) and Forests
of Australia (2018)



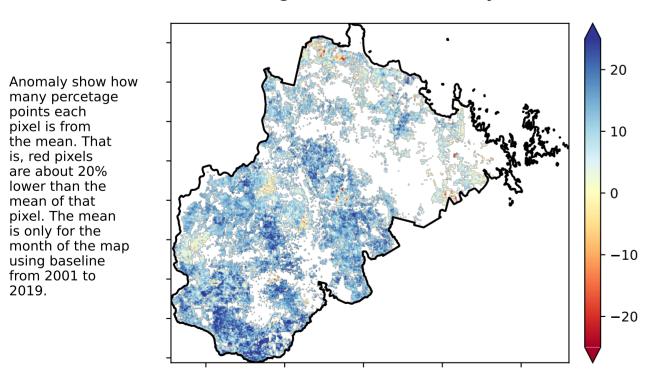
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

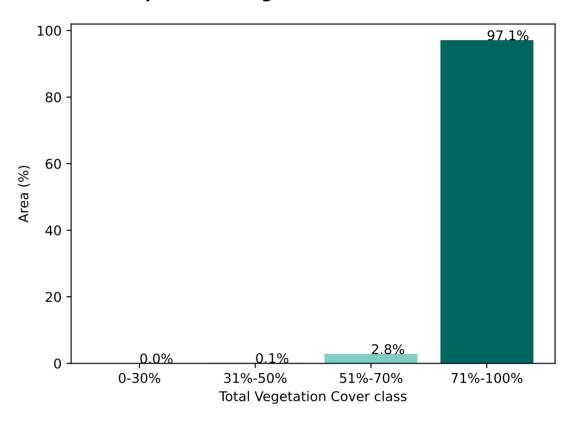


Total Vegetation Cover Anomaly [%]

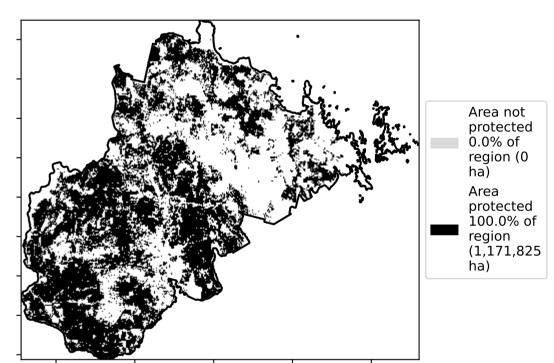


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the man using baseline. the map using baseline from 2001 to 2019.

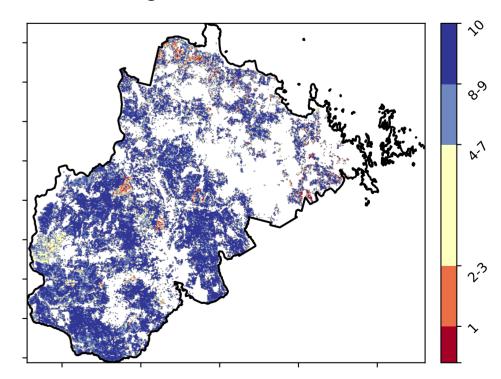
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]





using baseline from 2001 to 2019.



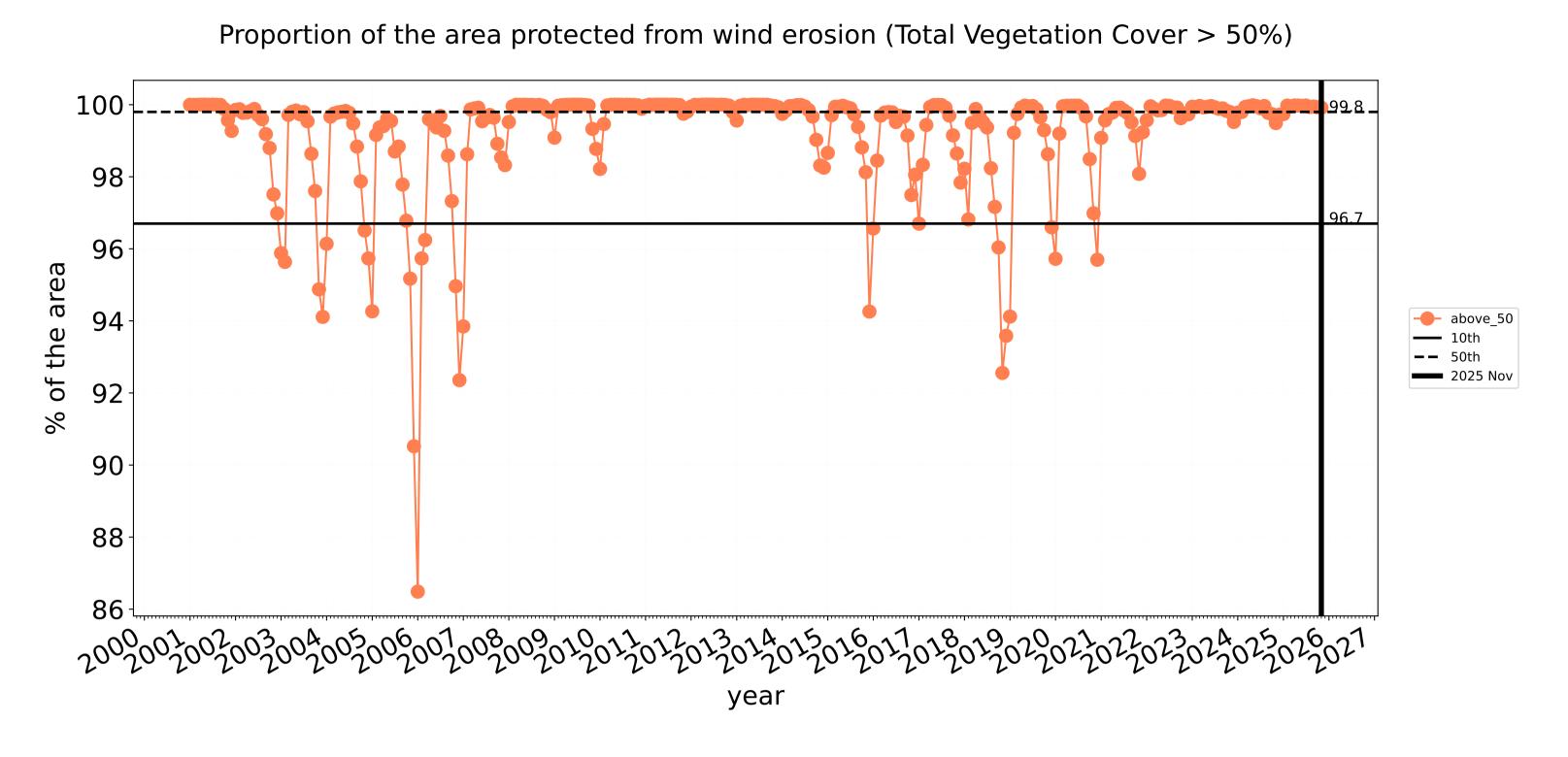


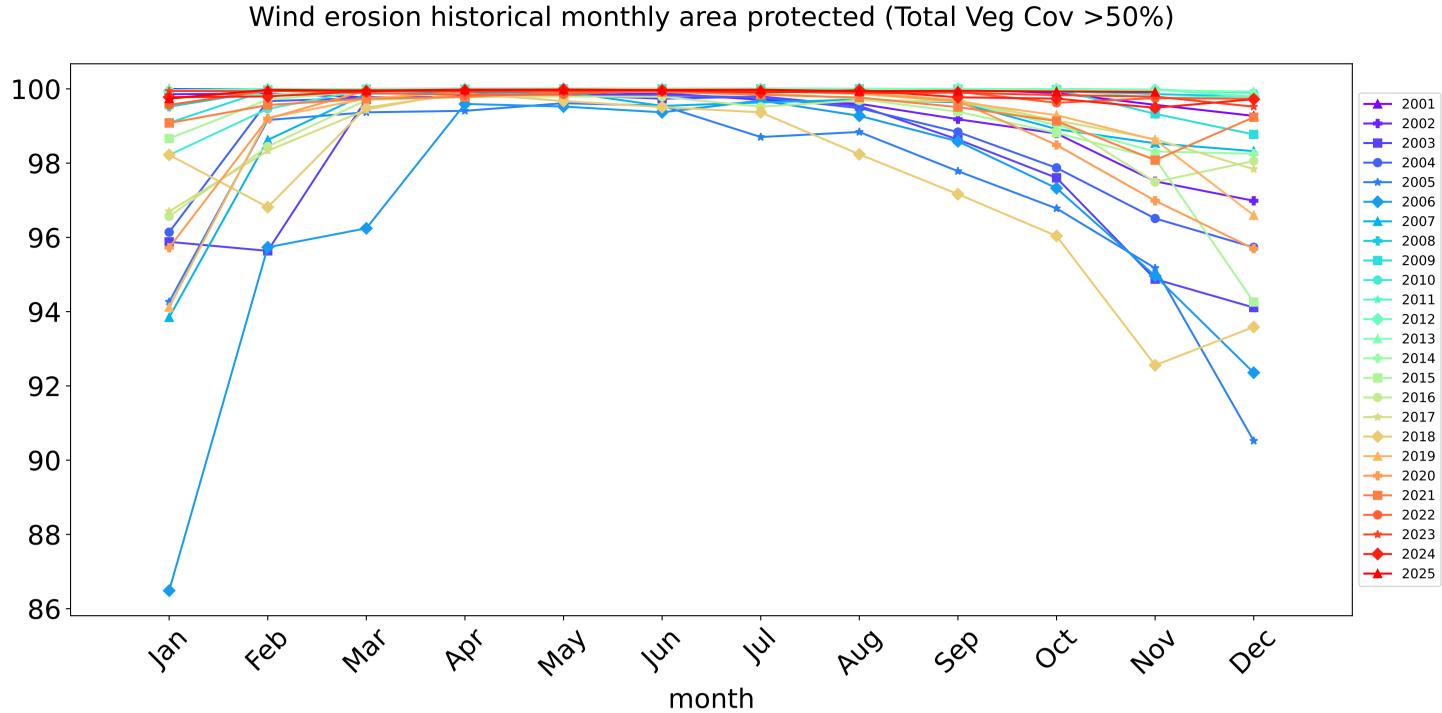


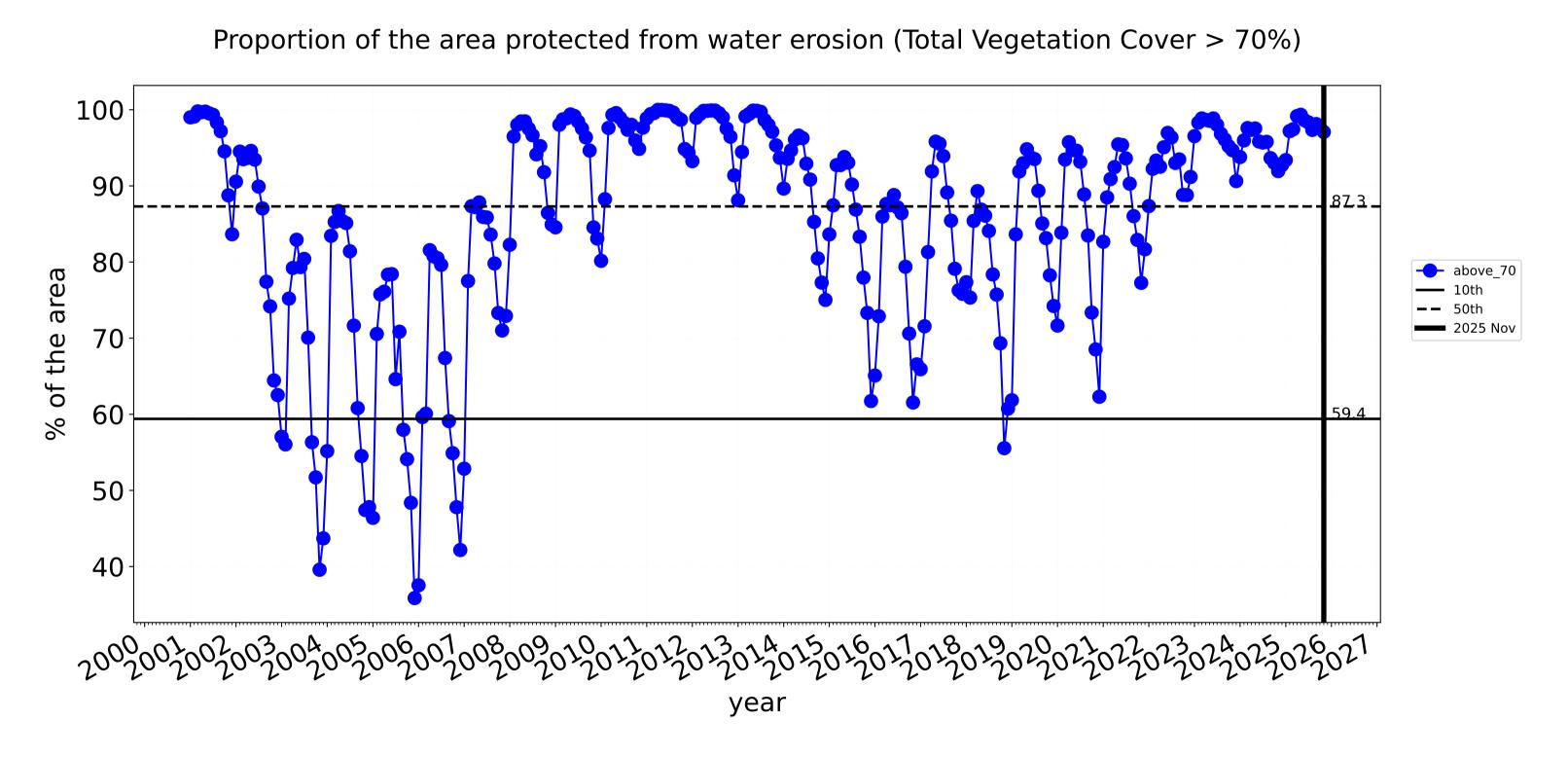


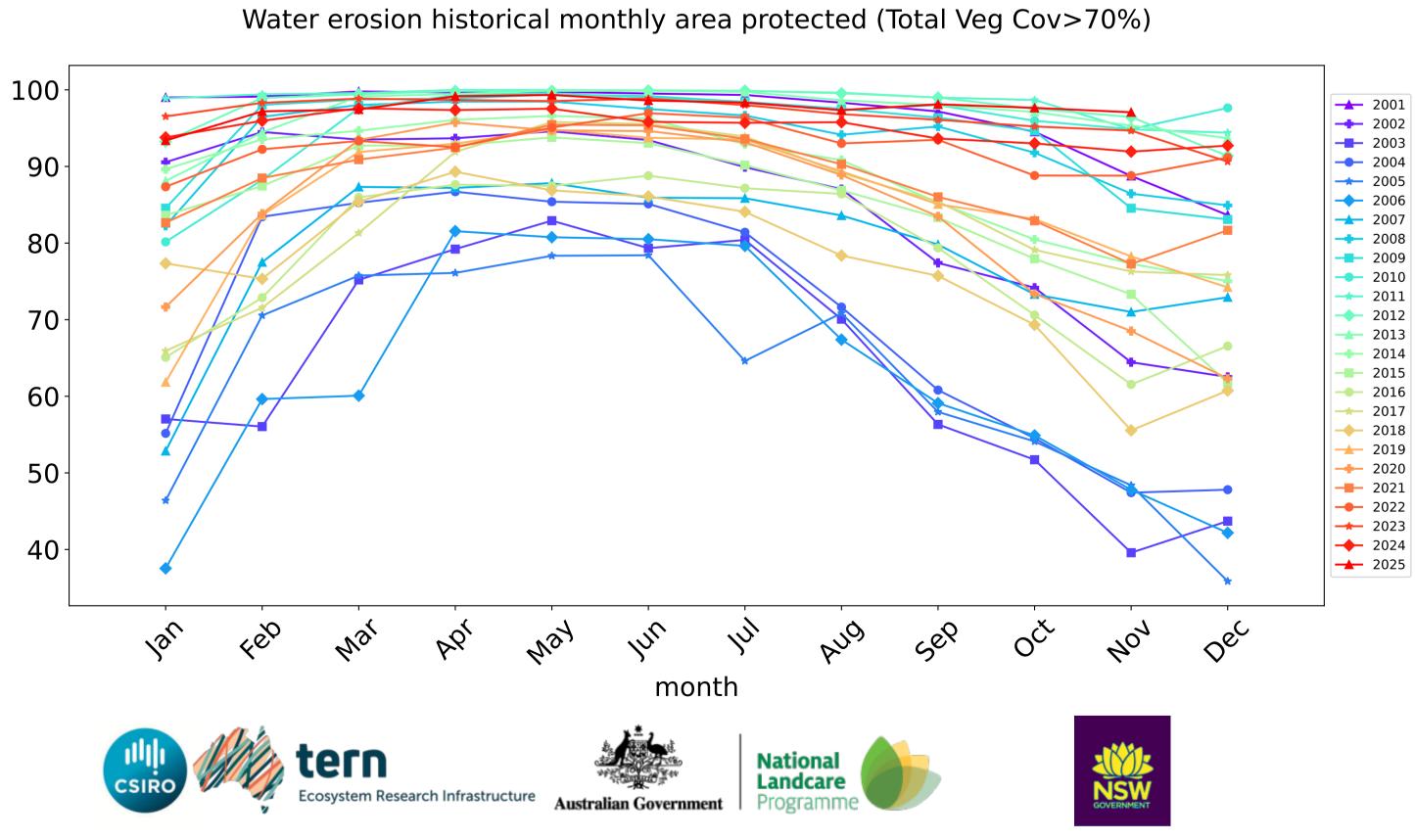


Grazing non forest timeseries









Grazing Woodland forest

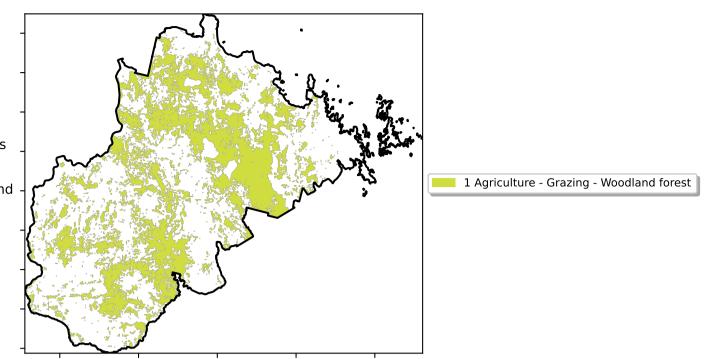
Land use and forest cover



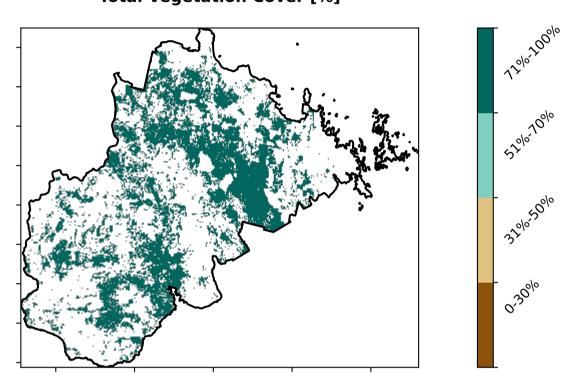
are about 20% lower than the mean of that

pixel. The mean is only for the month of the map

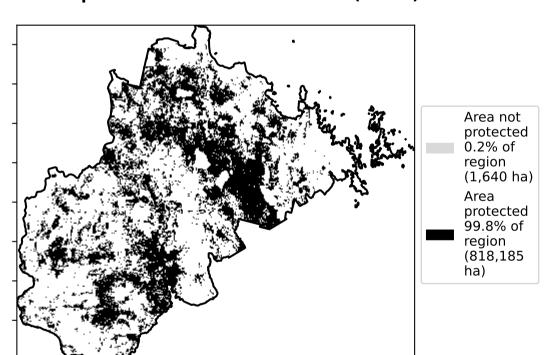
using baseline from 2001 to 2019.



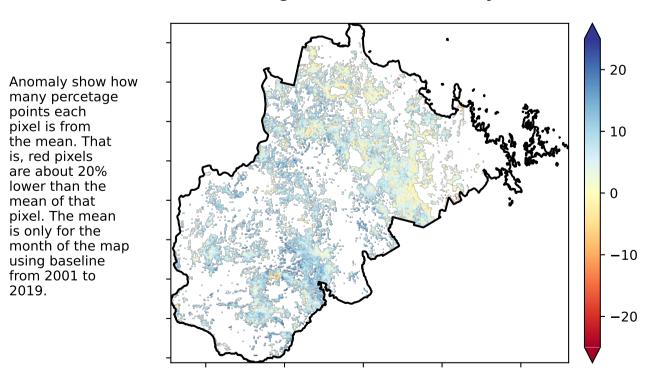
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

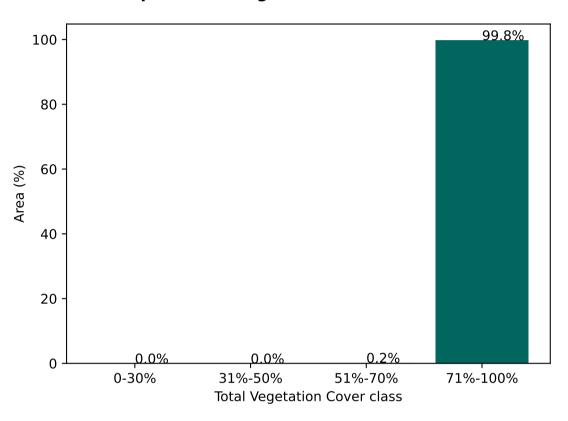


Total Vegetation Cover Anomaly [%]

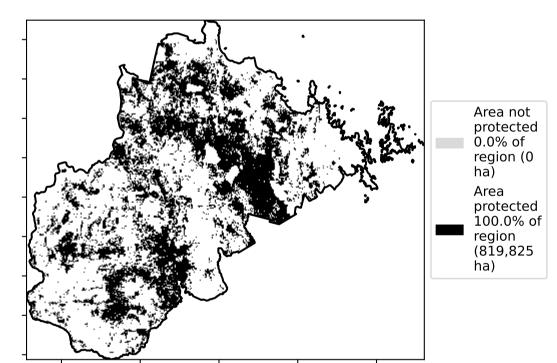


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the man using baseline. the map using baseline from 2001 to 2019.

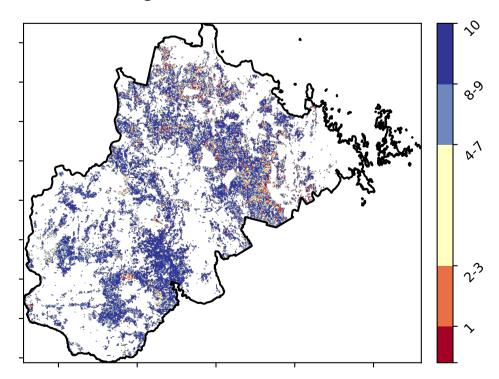
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



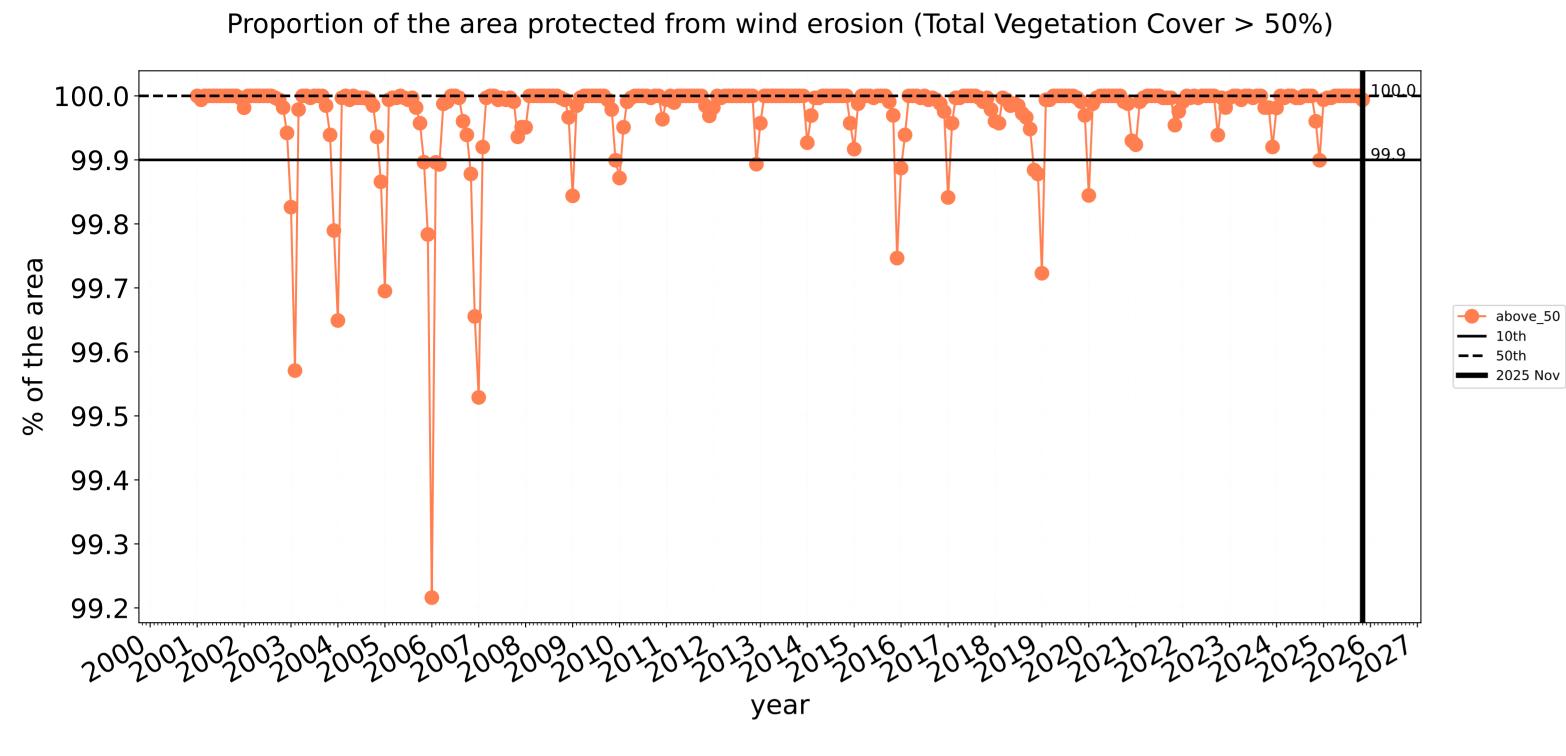


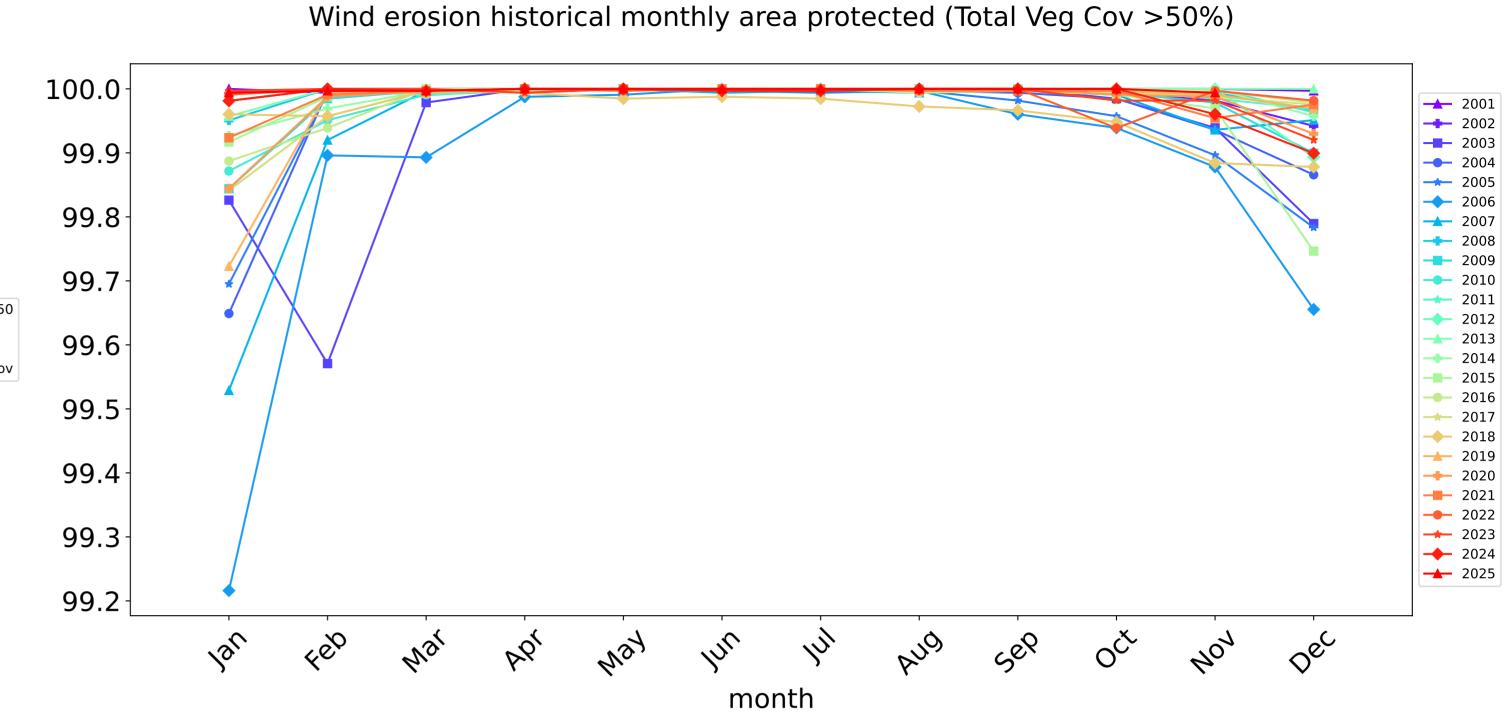


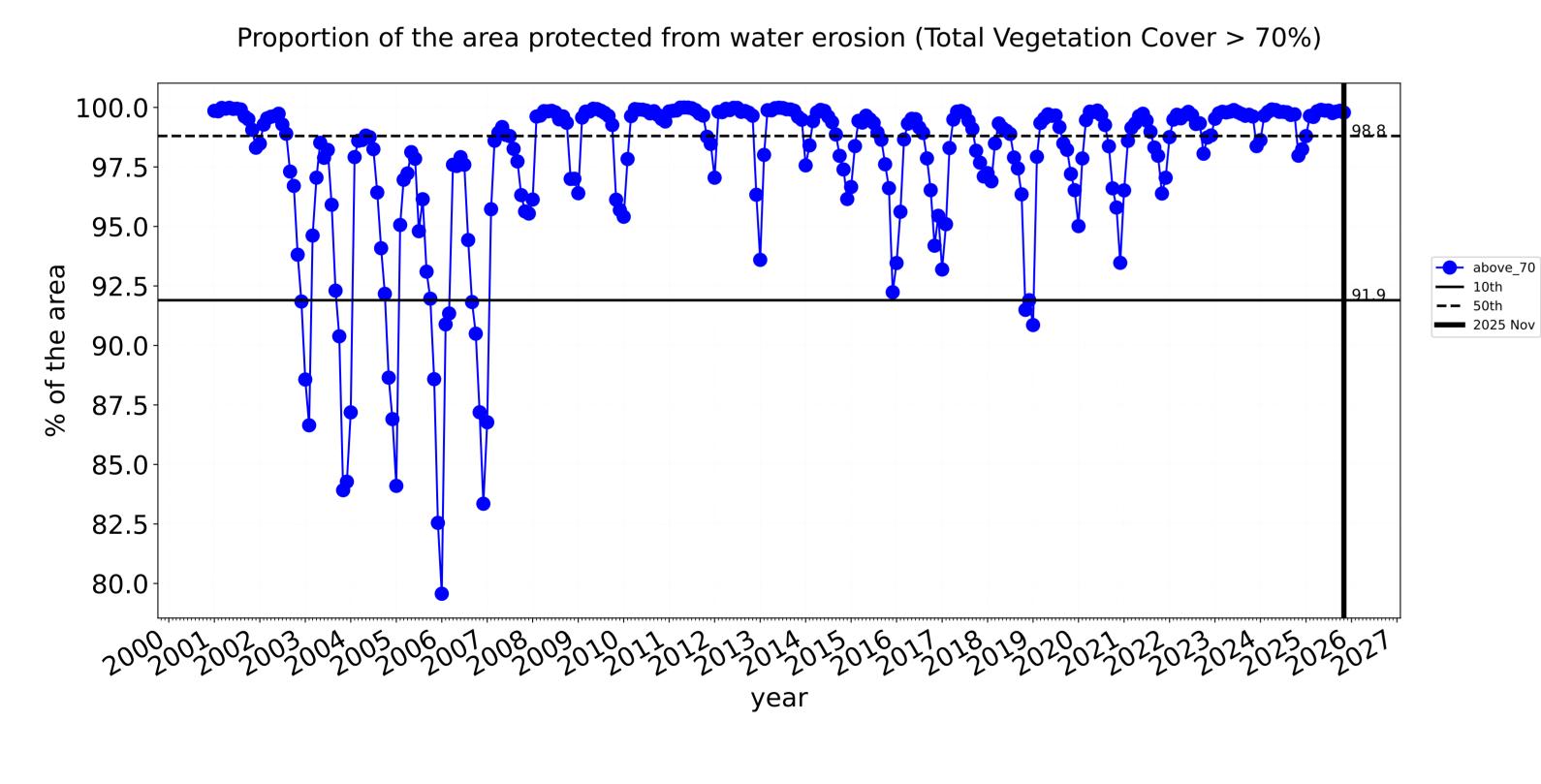


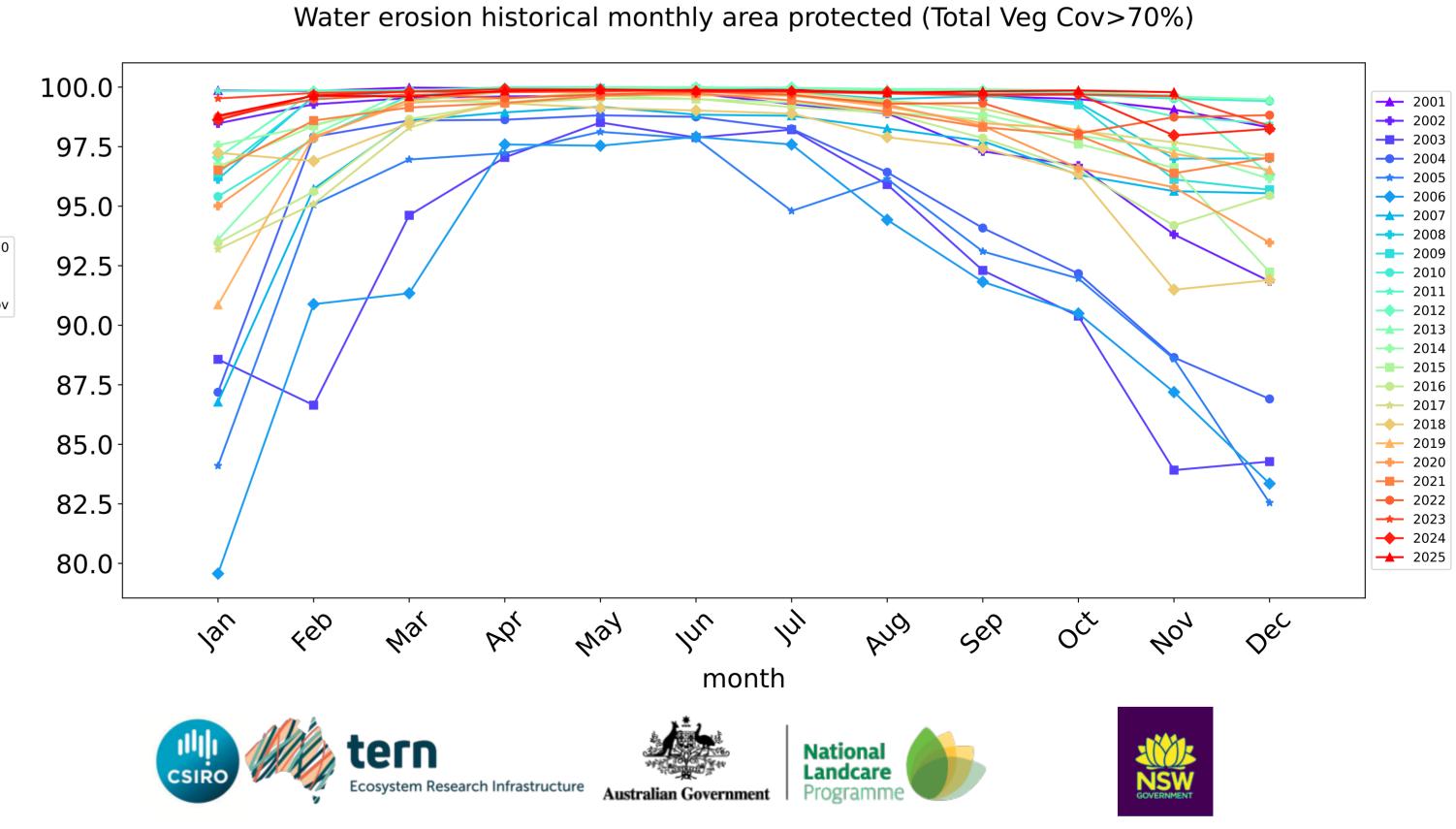


Grazing Woodland forest timeseries







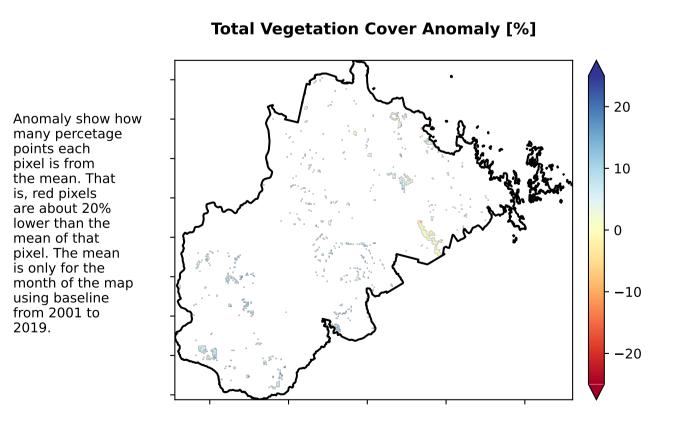


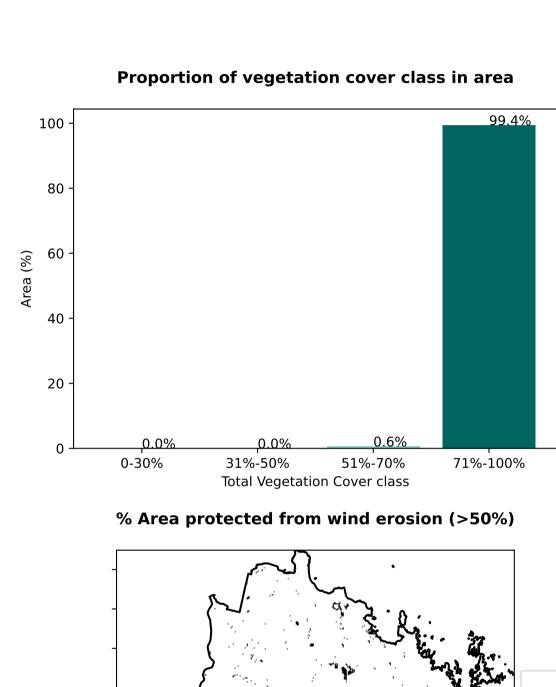
Grazing - Forest (non woodland)

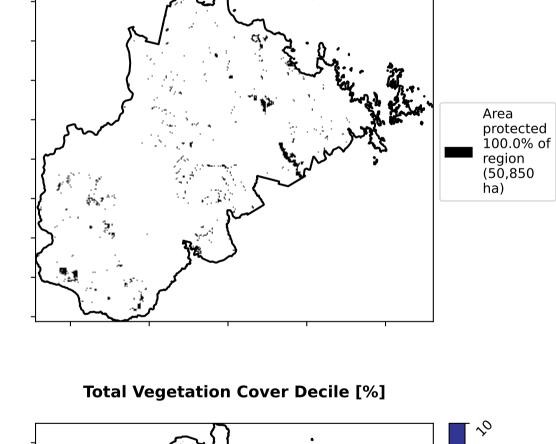
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) Australia (2018) Of Australia (2018)

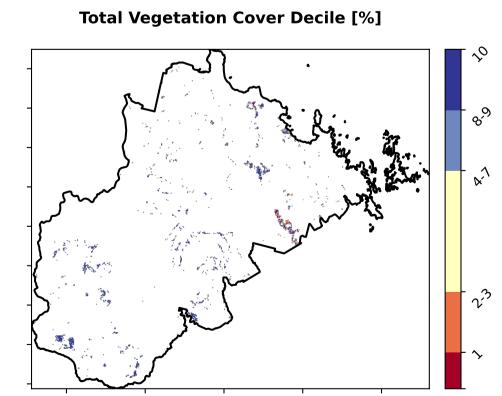
Total Vegetation Cover [%]

Area not protected 0.6% of region (305 ha) Area protected 99.4% of region (50,545 ha)













Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are

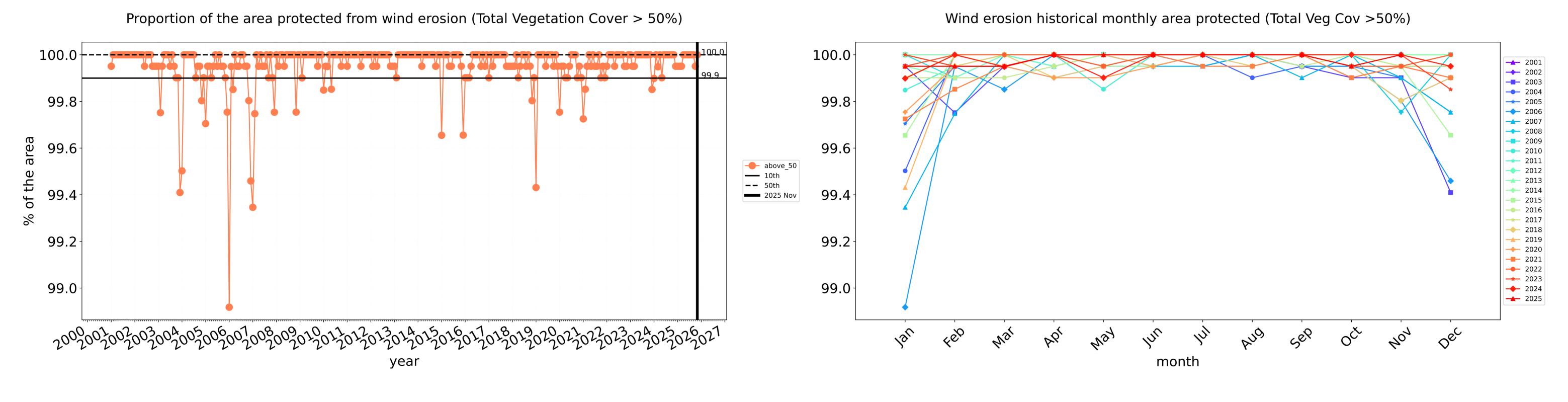
records for that month of

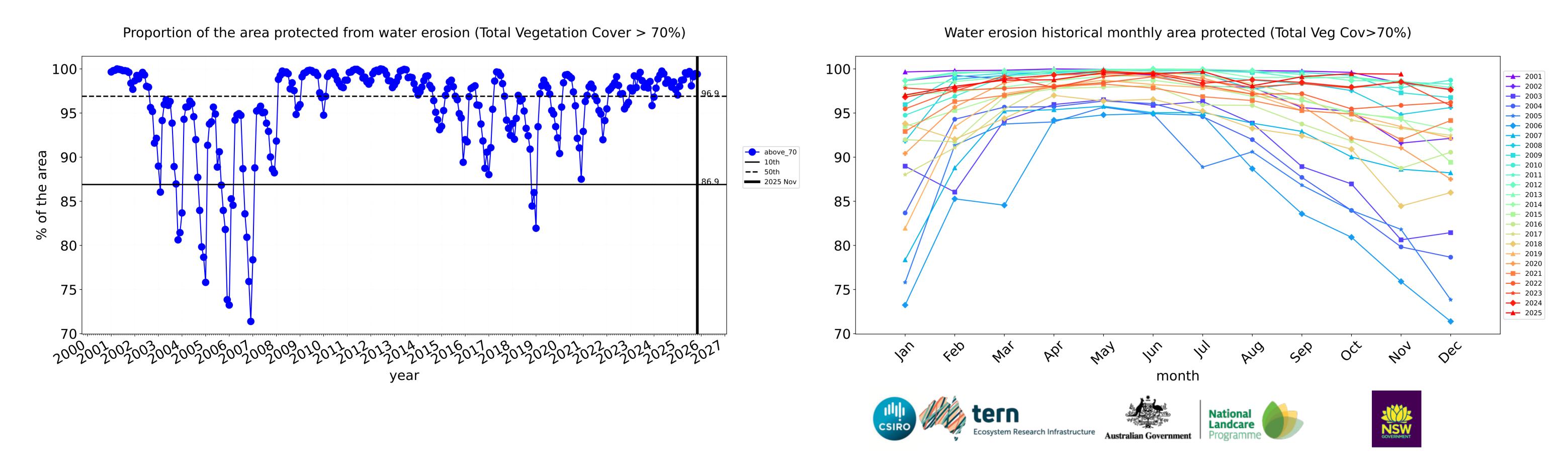
the map using baseline from 2001 to 2019.

in the lowest 10% of





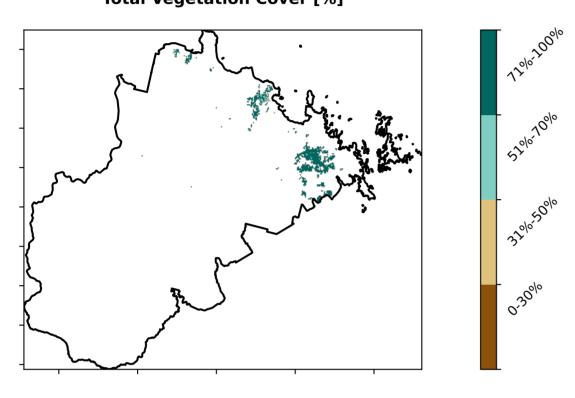




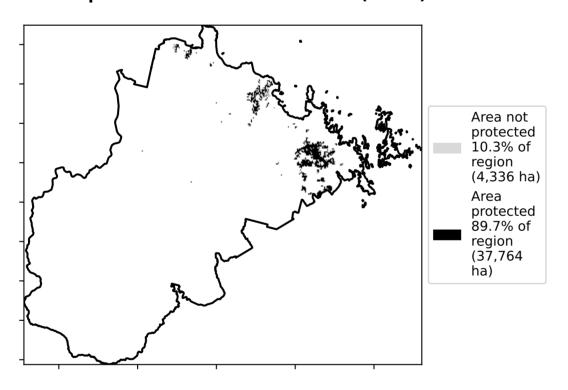
Irrigation

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 [%]

Anomaly show how many percetage points each pixel is from the mean. That

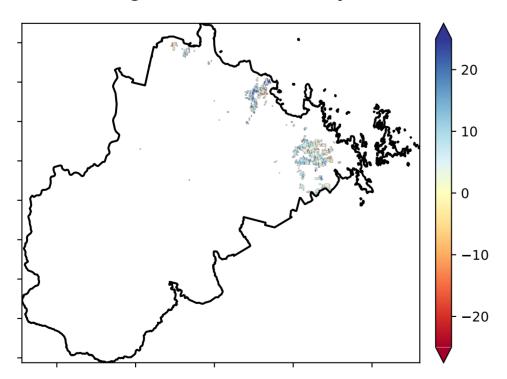
is, red pixels

are about 20% lower than the mean of that

pixel. The mean

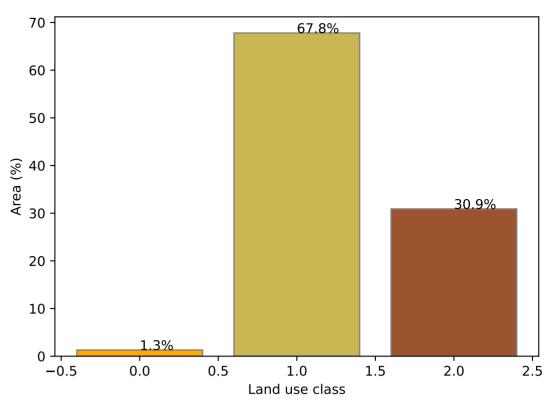
using baseline from 2001 to 2019.

is only for the month of the map

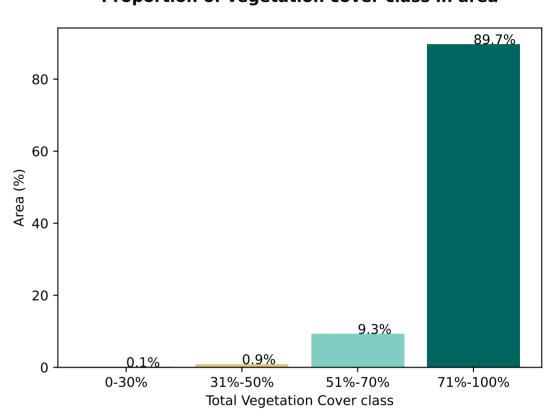


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

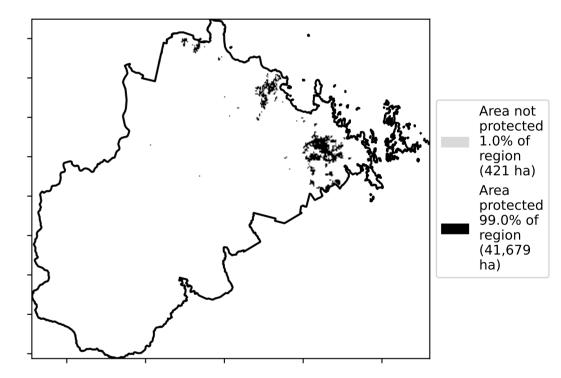
Proportion of each land class in area



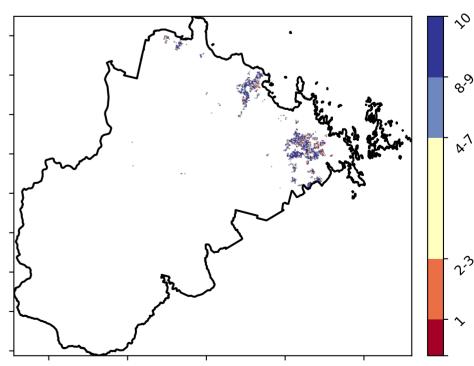
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



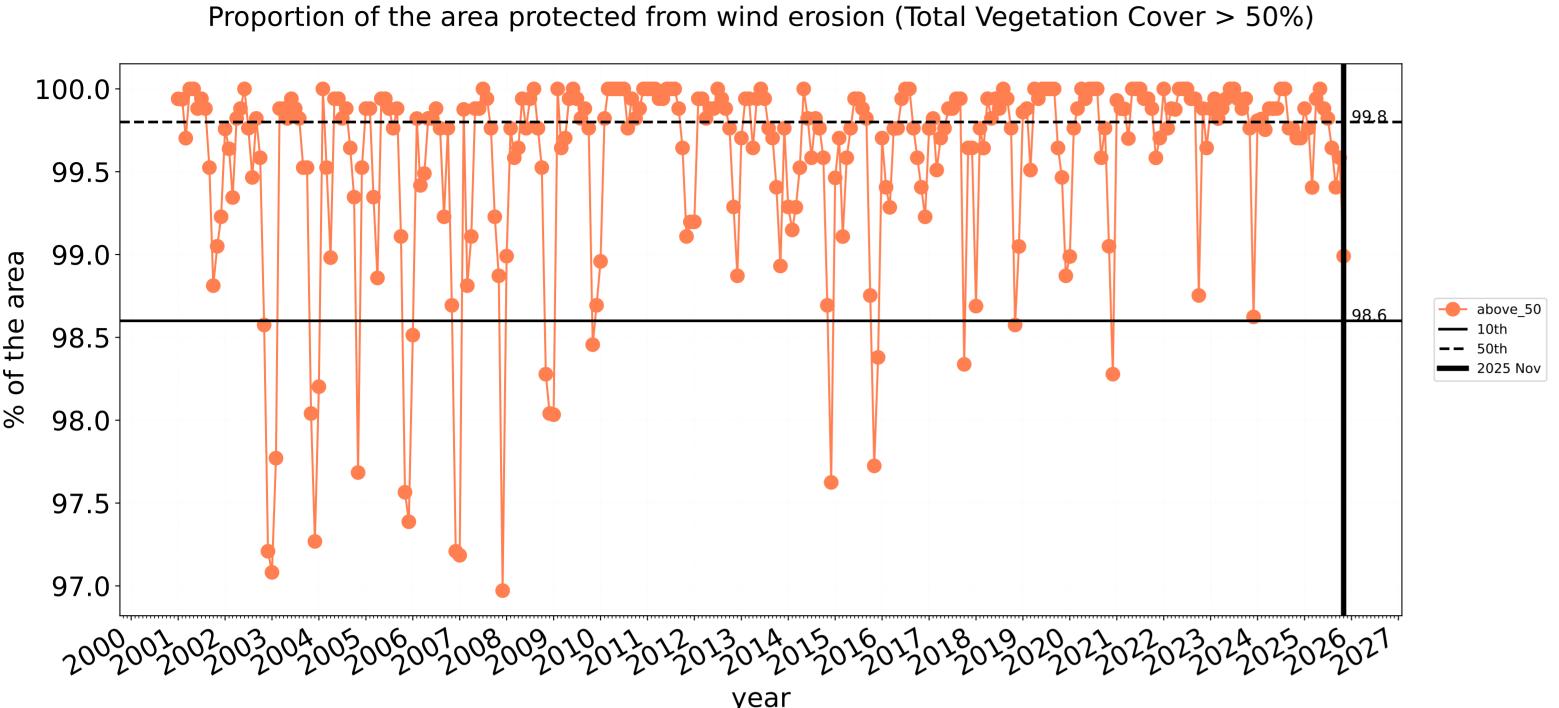


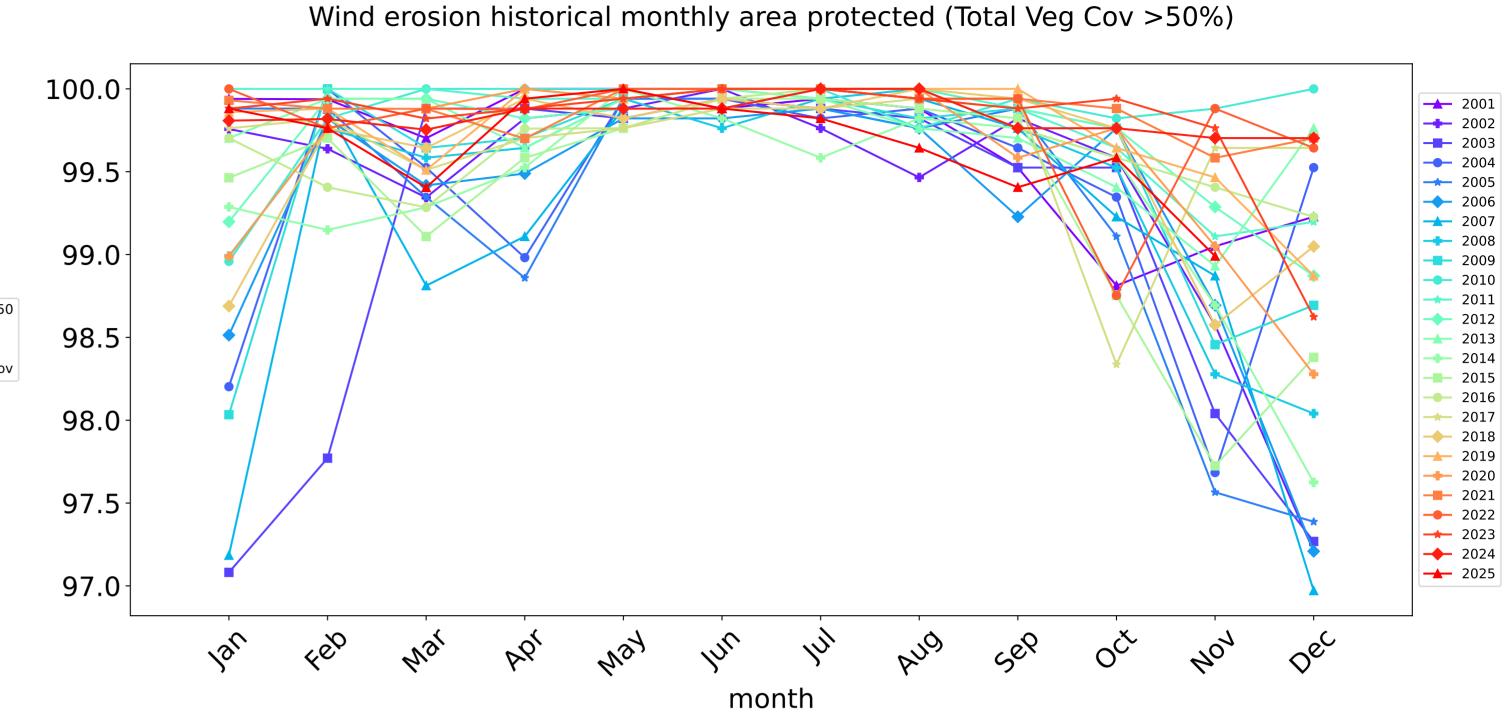


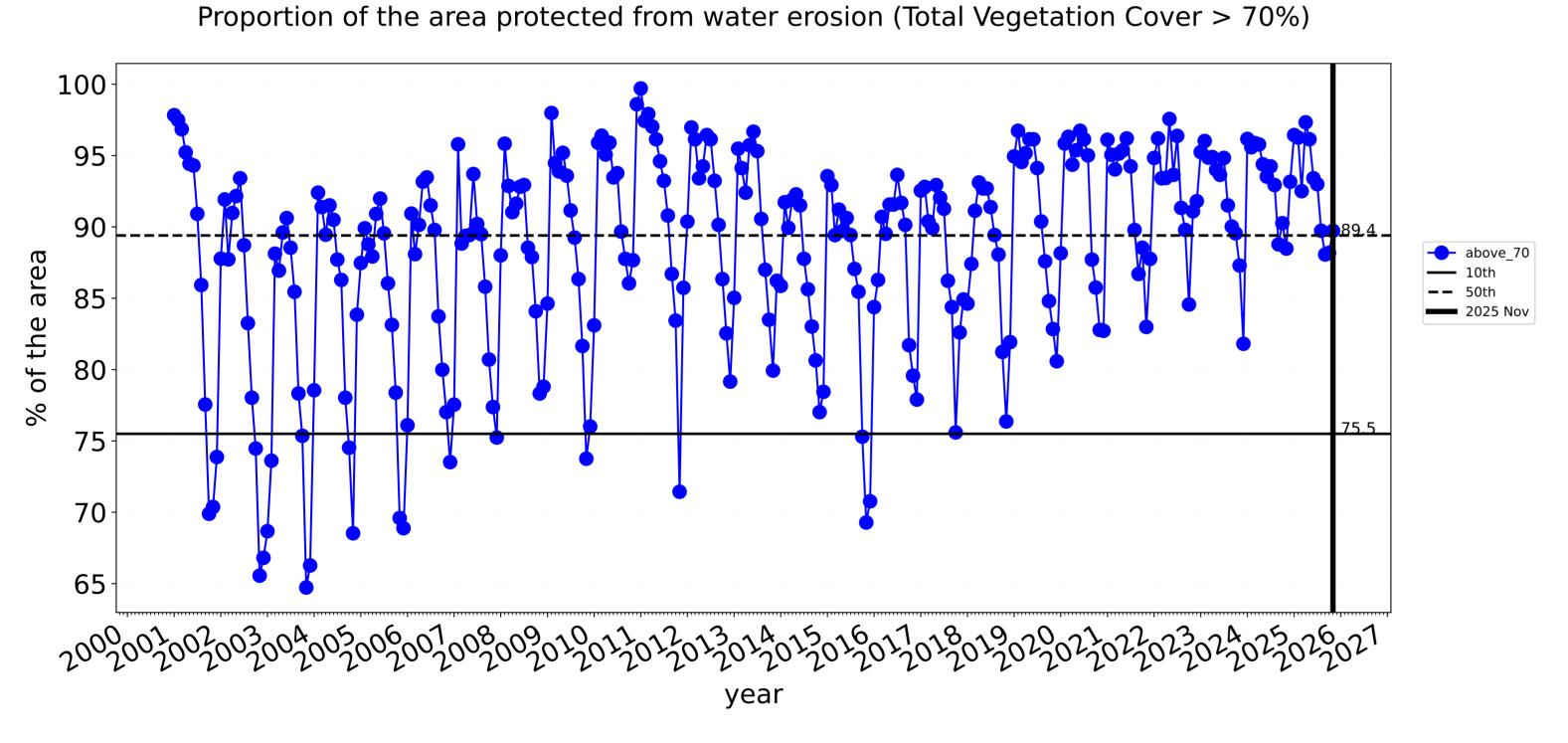


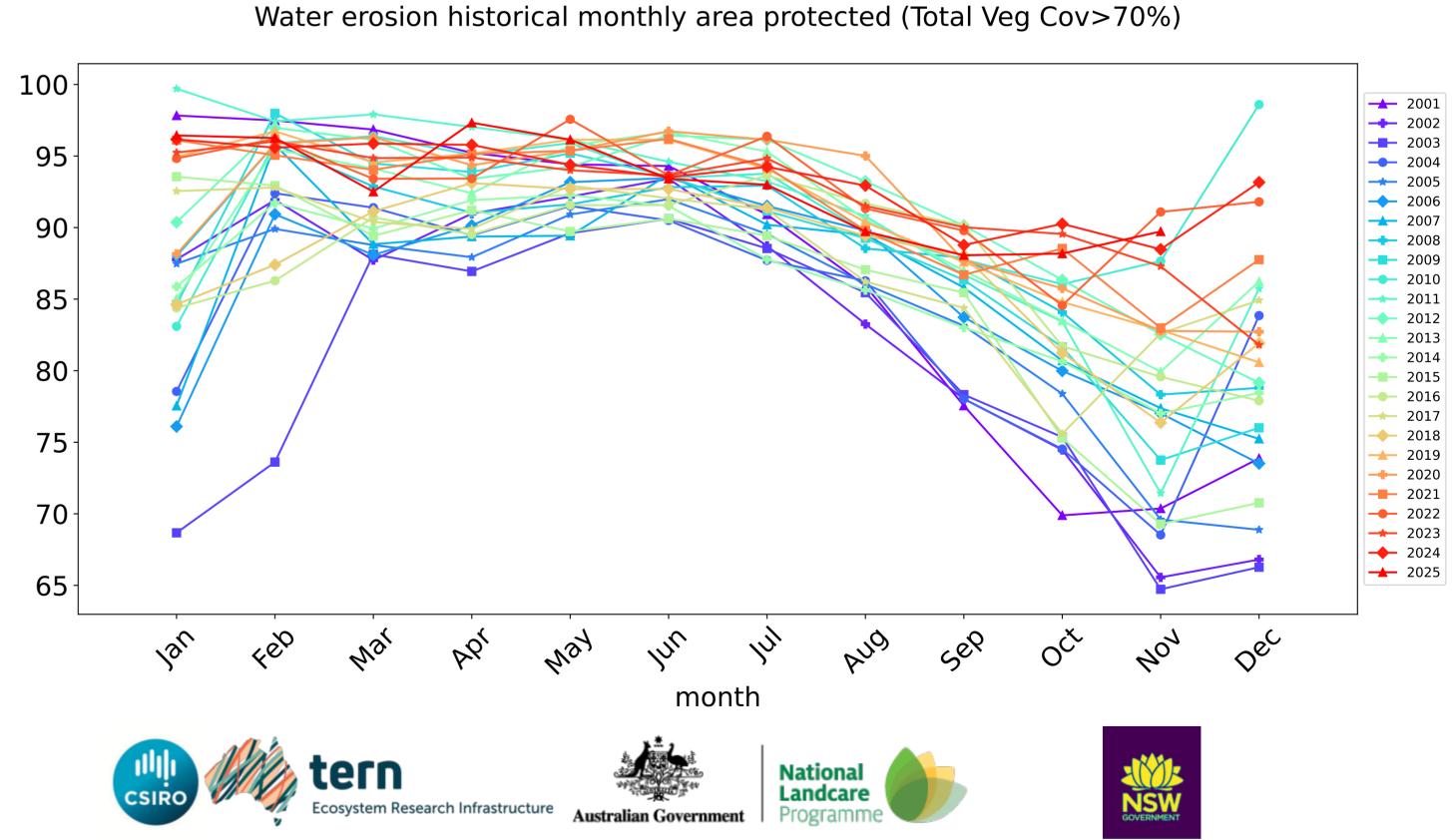


Irrigation timeseries







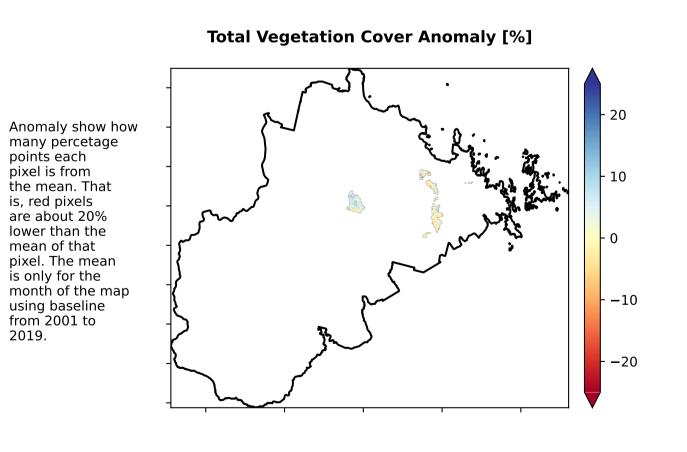


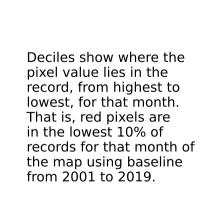
Production native forests and plantation forests

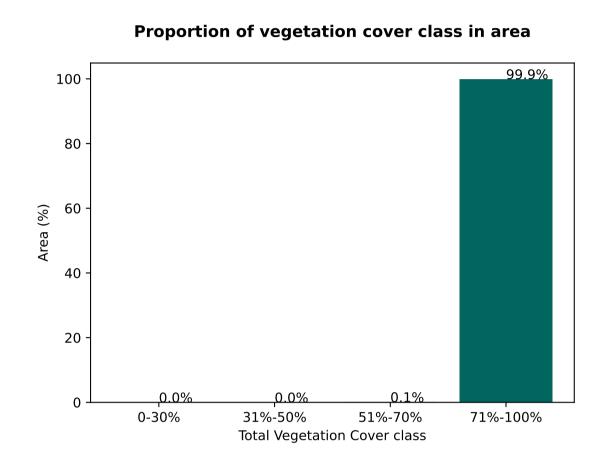
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) (2018) and Forests of Australia (2018)

Total Vegetation Cover [%]

Area protected from water erosion (>70%) Area protected 99.9% of region (24,426 ha)

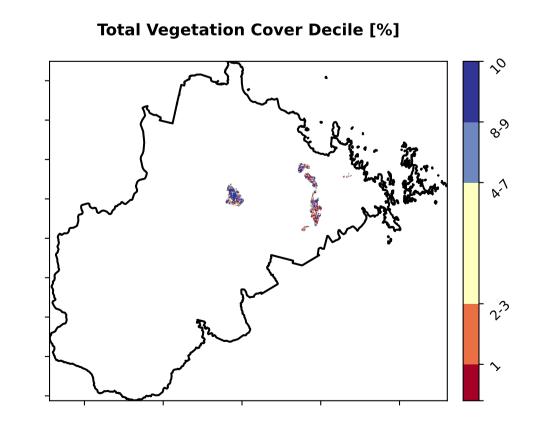






Area protected from wind erosion (>50%)

Area protected 100.0% of region (24,450 ha)



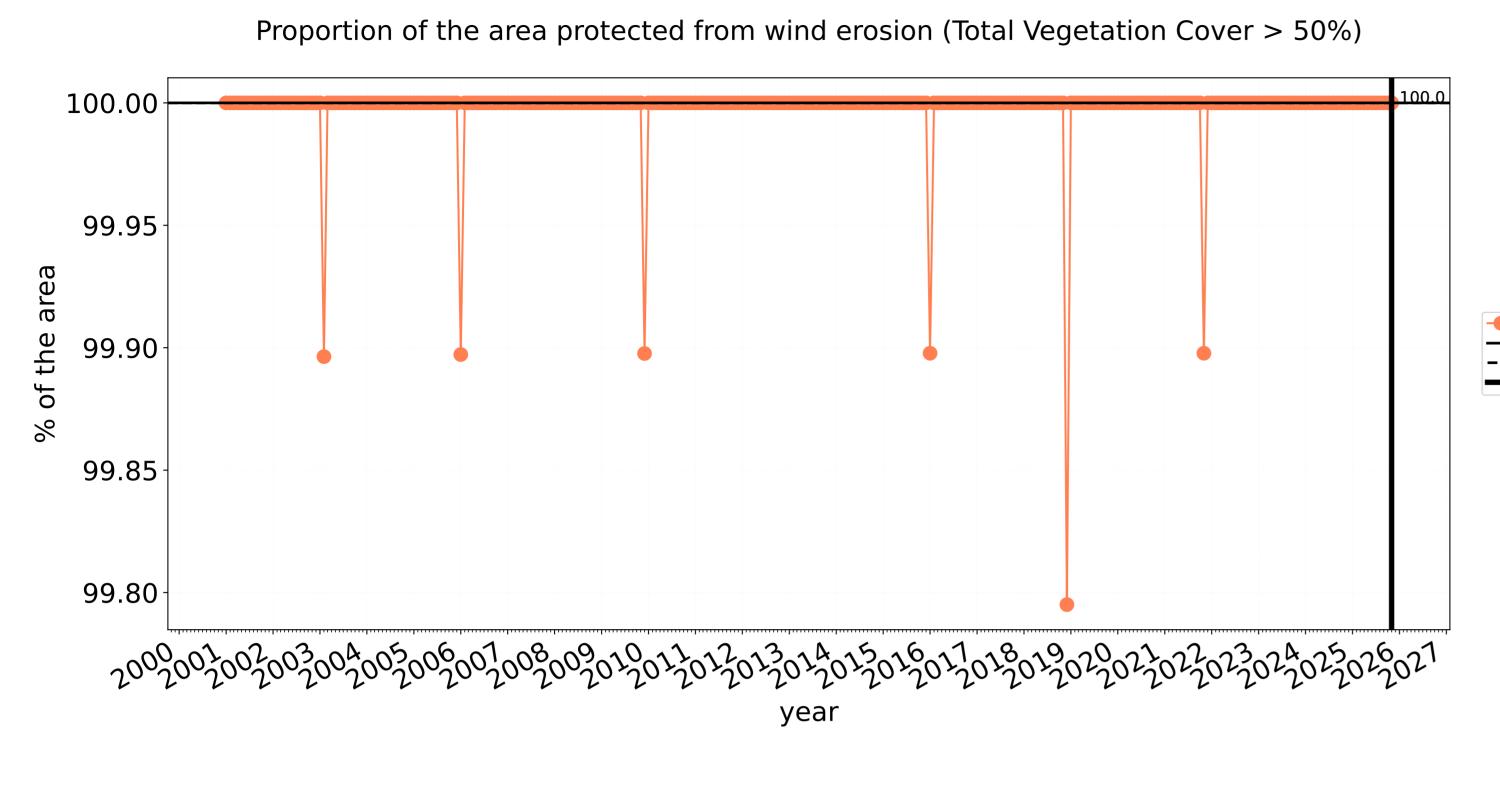


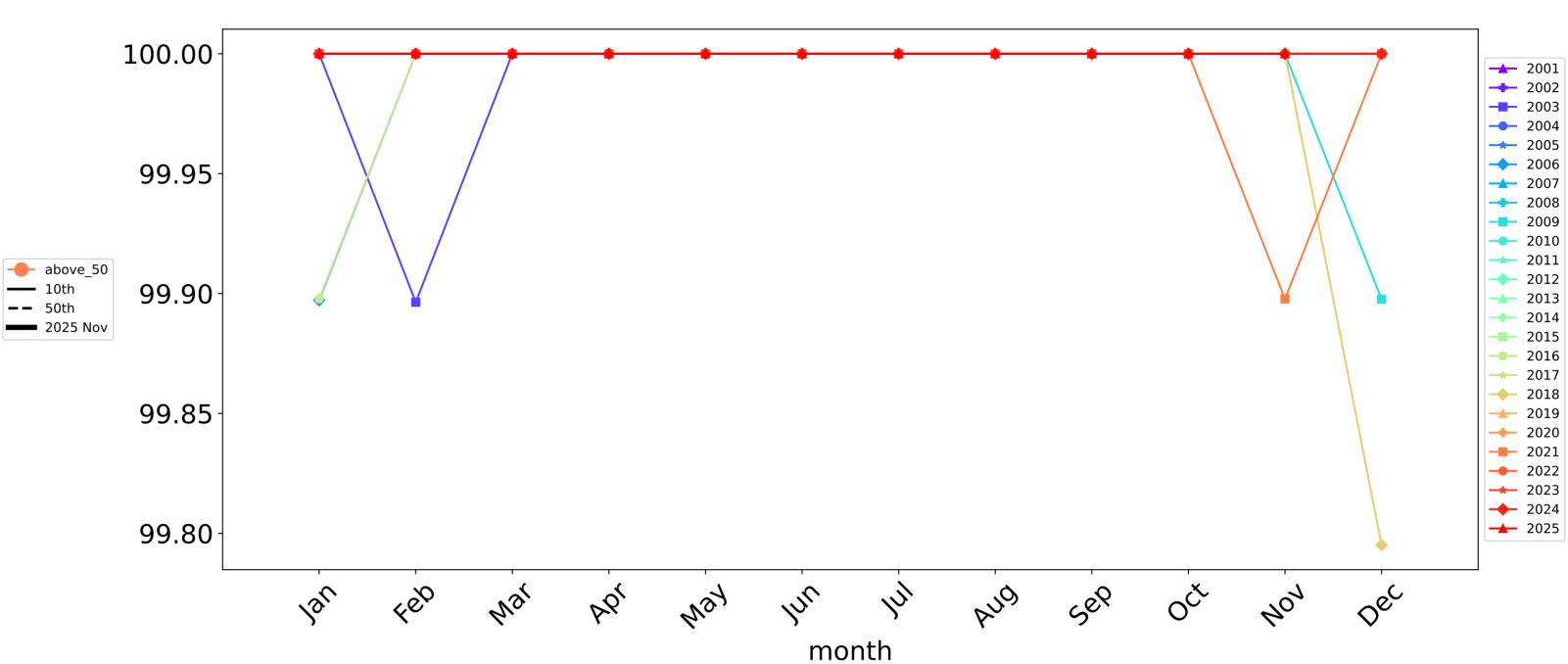




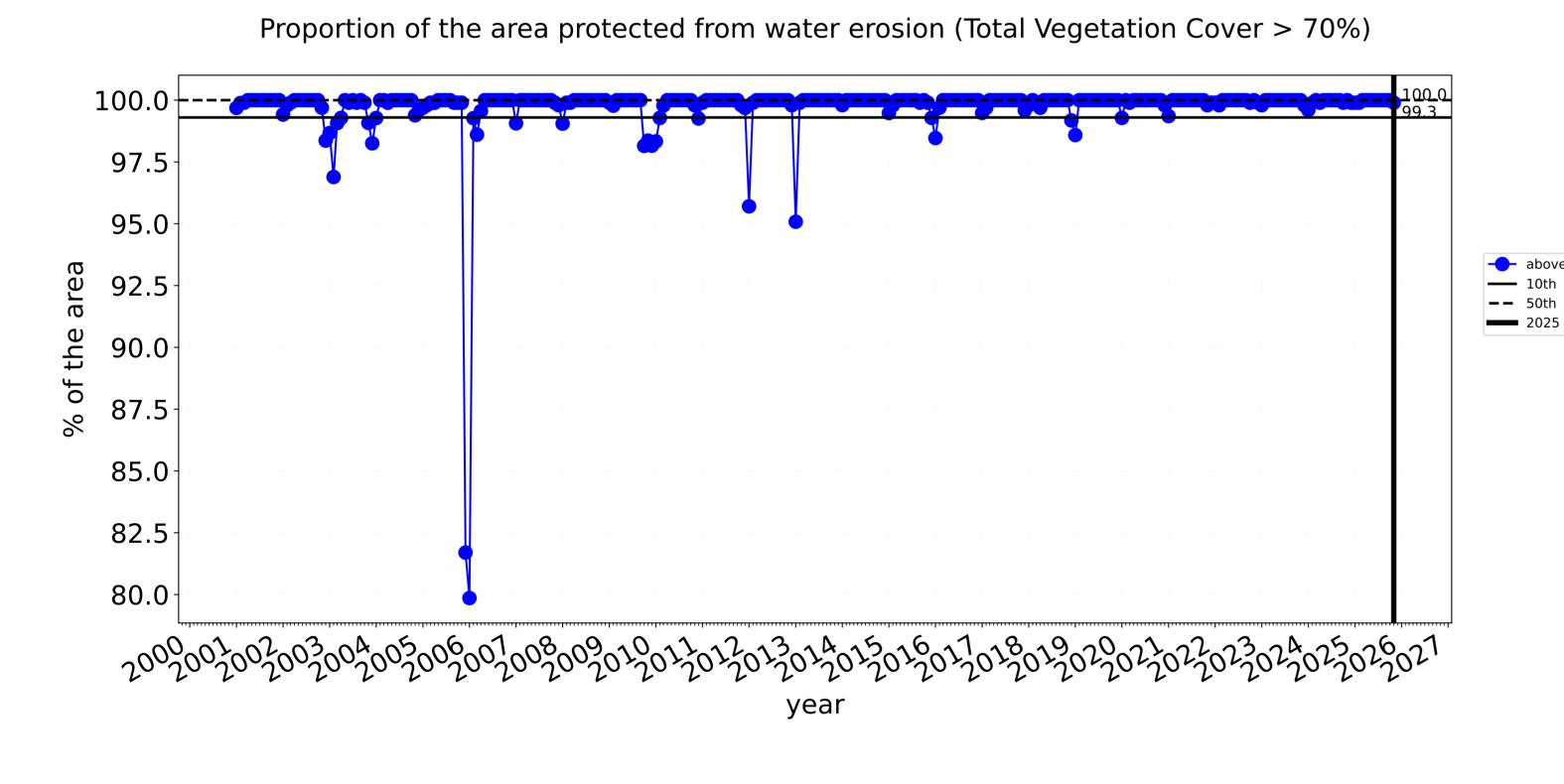


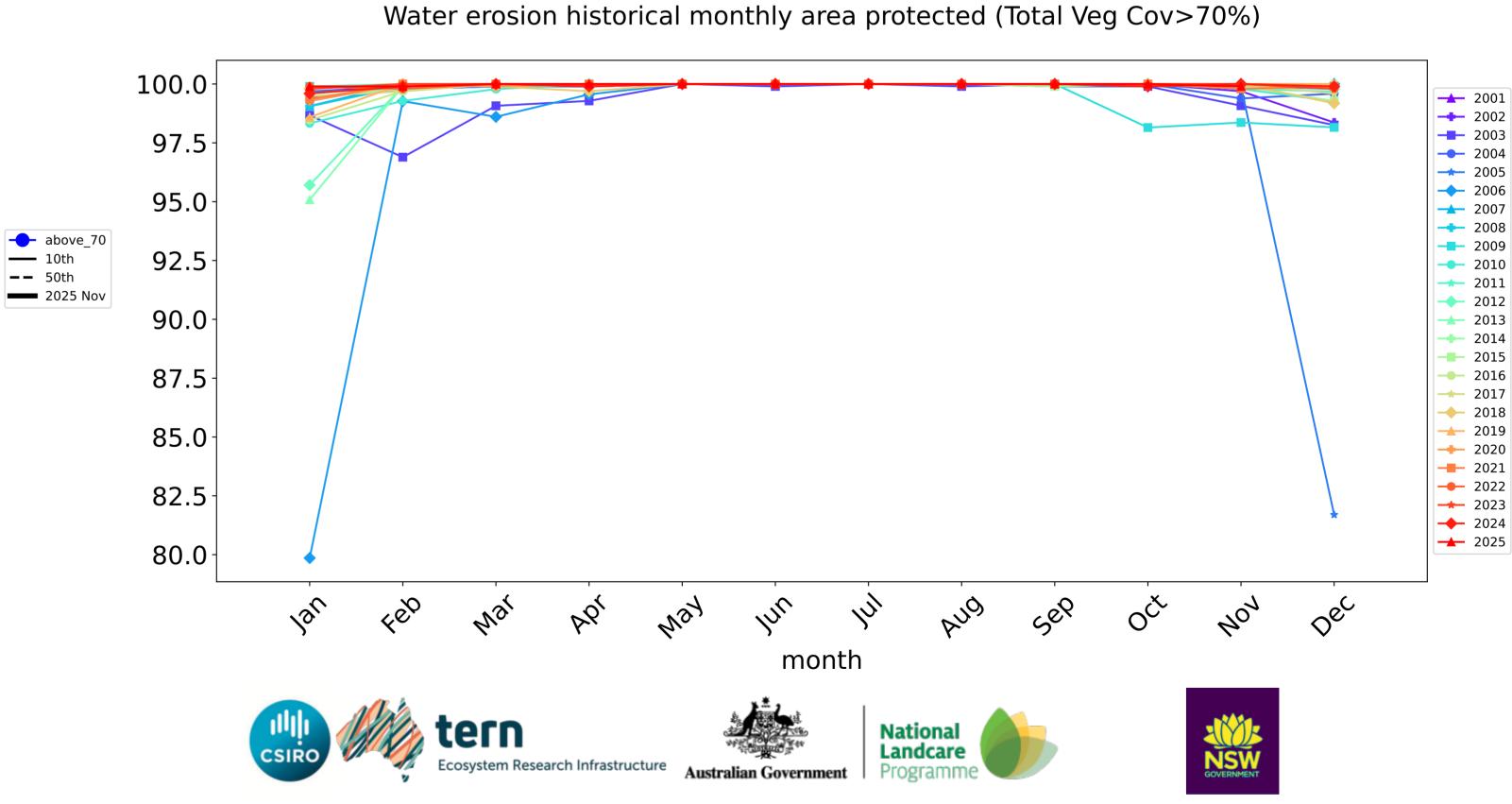
Production native forests and plantation forests timeseries





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





Whitsunday_(R) (2,352,900 ha and no data 28,976 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	2,352,900	100.0% 2,351,850	99.8% 2,348,075	97.6% 2,295,900	91.2% 2,144,850	66.1% 1,555,250	38.8% 913,125
Conservation and natural environments	165,850	99.7% 165,300	99.2% 164,500	96.5% 160,100	90.0% 149,250	63.1% 104,725	34.9% 57,850
Conservation and natural environments non forest	28,250	99.6% 28,150	98.6% 27,850	94.3% 26,650	77.6% 21,925	33.0% 9,325	12.3% 3,475
Conservation and natural environments Woodland forest	57,150	99.8% 57,050	99.6% 56,900	97.8% 55,875	93.3% 53,325	71.7% 41,000	43.8% 25,025
Conservation and natural environments Forest (non woodland)	80,450	99.6% 80,100	99.1% 79,750	96.4% 77,575	92.0% 74,000	67.6% 54,400	36.5% 29,350
Agriculture	2,084,900	100.0% 2,084,850	99.9% 2,083,450	98.0% 2,044,225	92.0% 1,918,550	67.4% 1,404,650	39.9% 831,050
Grazing	2,042,500	100.0% 2,042,500	99.9% 2,041,475	98.2% 2,006,150	92.4% 1,887,775	68.0% 1,388,125	40.2% 821,725
Grazing non forest	1,171,825	100.0% 1,171,825	99.9% 1,170,850	97.1% 1,137,525	88.5% 1,037,325	59.1% 693,000	32.7% 383,750
Grazing Woodland forest	819,825	100.0% 819,825	100.0% 819,775	99.8% 818,075	97.9% 802,225	80.6% 660,950	51.2% 419,400
Grazing - Forest (non woodland)	50,850	100.0% 50,850	100.0% 50,850	99.4% 50,550	94.8% 48,225	67.2% 34,175	36.5% 18,575
Irrigation	42,100	99.9% 42,050	99.0% 41,675	89.7% 37,775	72.4% 30,475	38.9% 16,375	21.9% 9,225
Production native forests and plantation forests	24,450	100.0% 24,450	100.0% 24,450	99.9% 24,425	98.8% 24,150	78.4% 19,175	46.6% 11,400







