### Total vegetation cover soil protection Region:LGA Wellington\_(S) VIC

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: May 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









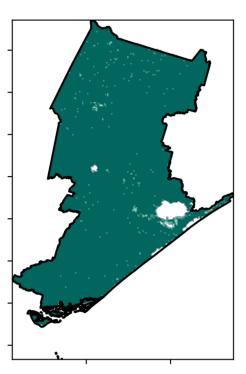
### **Vegetation Cover May 2025**

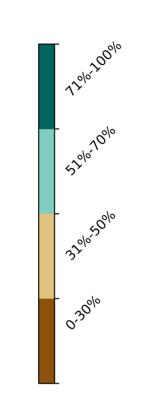
### Land use and forest cover

### 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 4 Agriculture - Grazing - Non-forest 5 Agriculture - Grazing - Woodland forest 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 13 Other uses

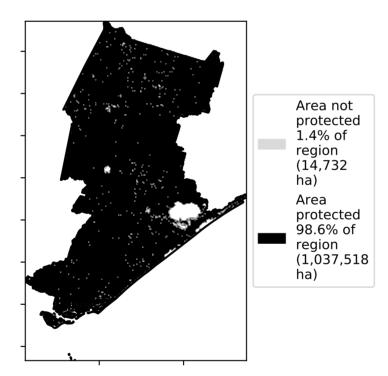
### Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

### **Total Vegetation Cover [%]**



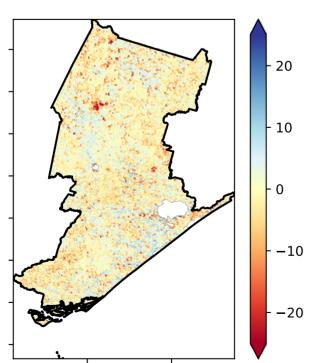


### % Area protected from water erosion (>70%)



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.

### **Total Vegetation Cover Anomaly [%]**



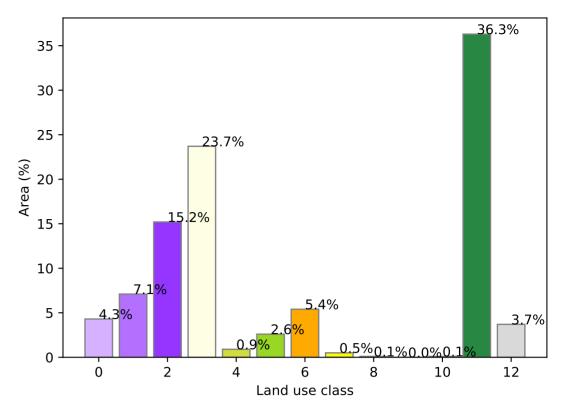
pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

### Deciles show where the

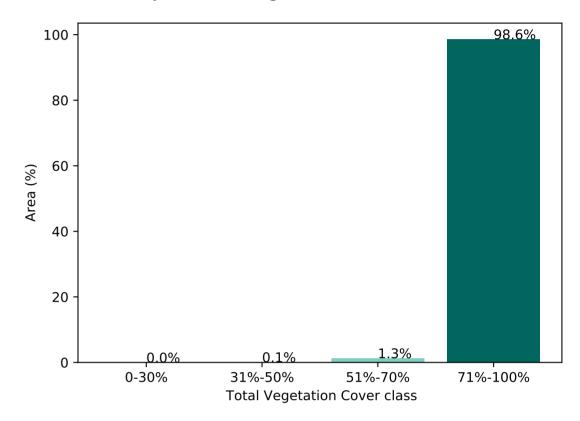




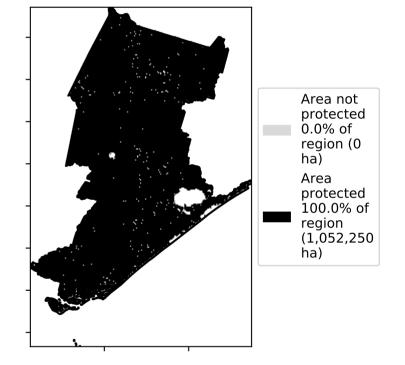
### Proportion of each land class in area

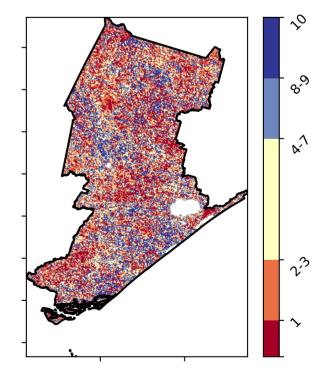


### Proportion of vegetation cover class in area



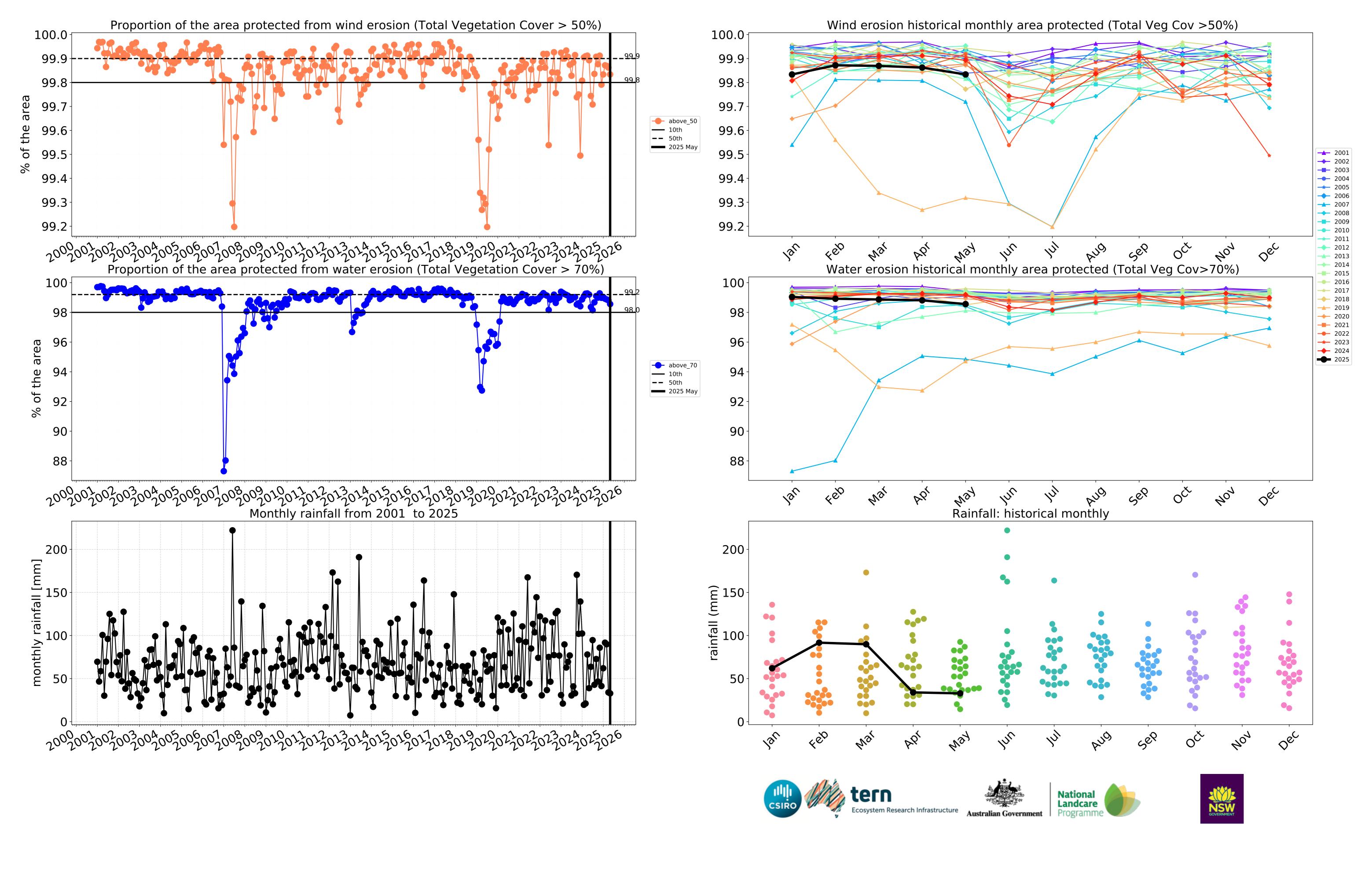
### % Area protected from wind erosion (>50%)

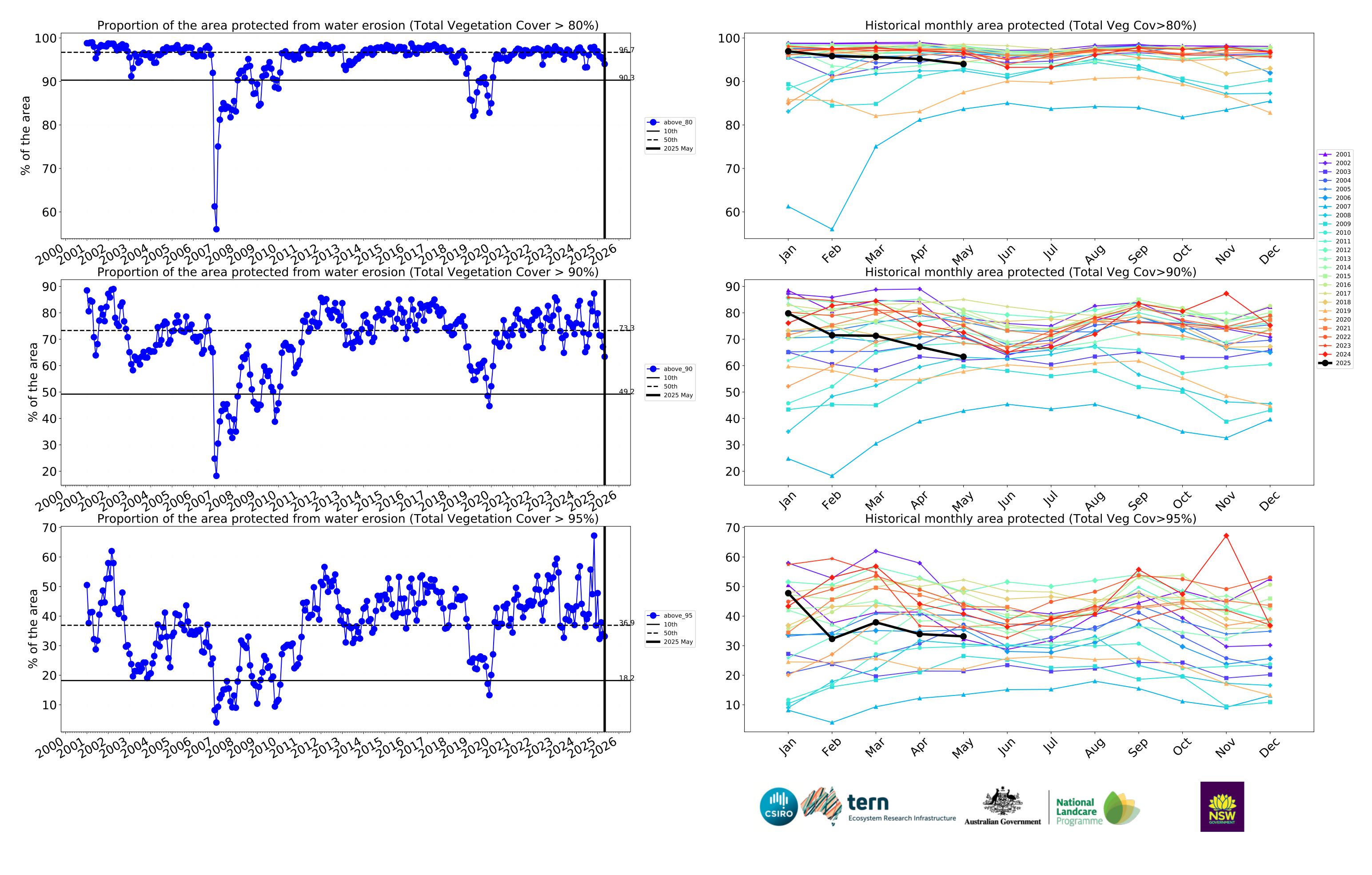










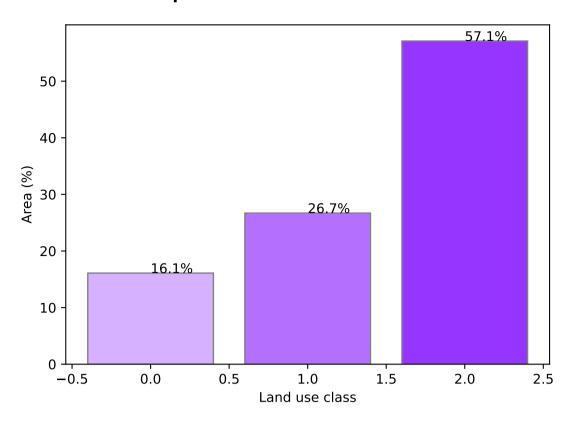


### **Conservation and natural environments**

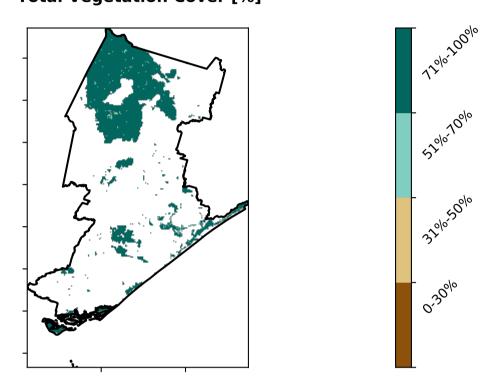
### Land use and forest cover

## 1 Conservation and natural environments - Nonforest 2 Conservation and natural environments - Woodland forest 3 Conservation and natural environments - Nonwoodland forest

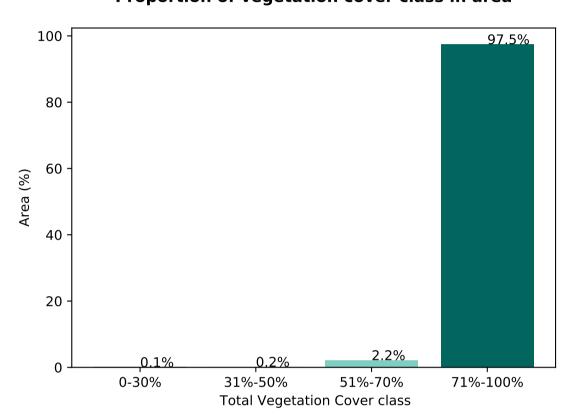
### Proportion of each land class in area



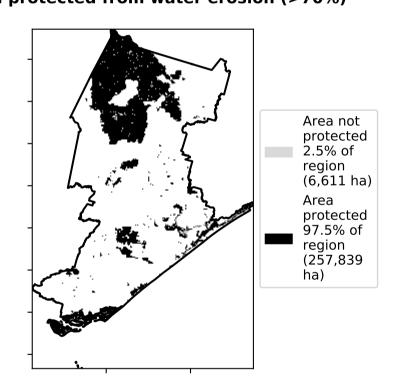
**Total Vegetation Cover [%]** 



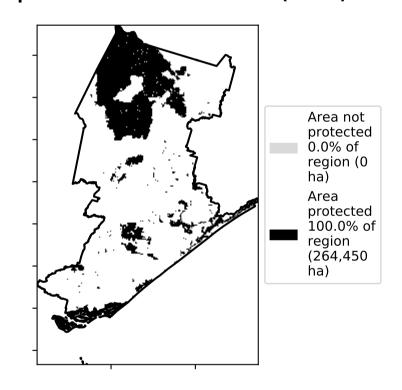
Proportion of vegetation cover class in area



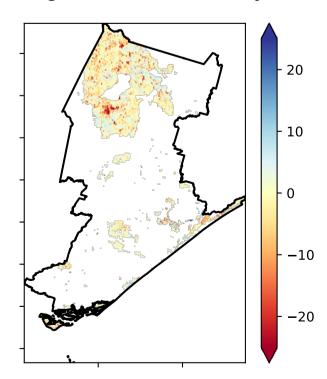
### % Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

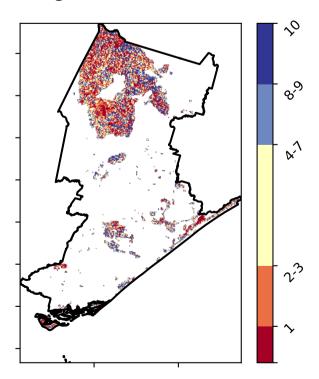


### **Total Vegetation Cover Anomaly [%]**



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 [%]



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.

Catchment Scale Land Use and Forests

of Australia (2018)

(2018) and Forests of Australia (2018)

Catchment Scale Land

Derived from

Use of Australia

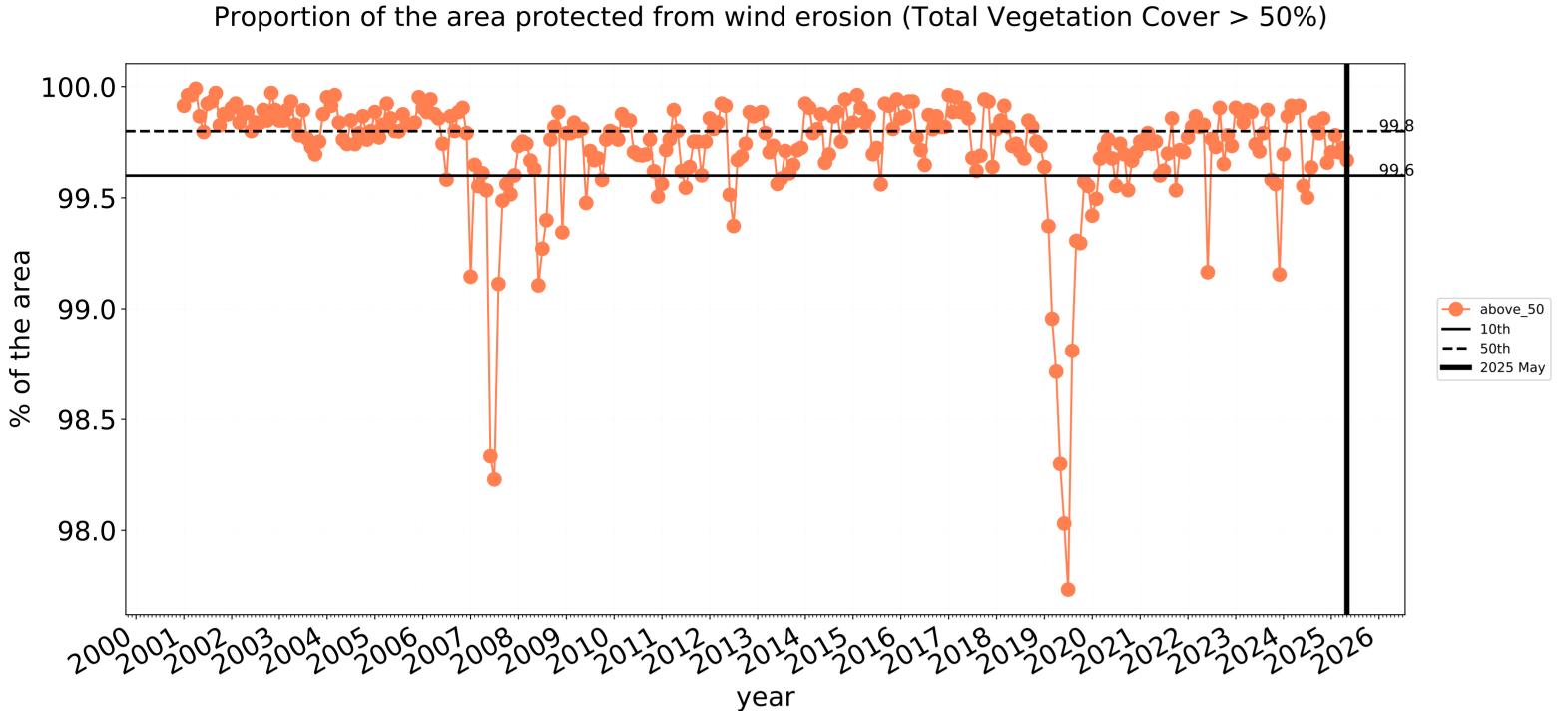


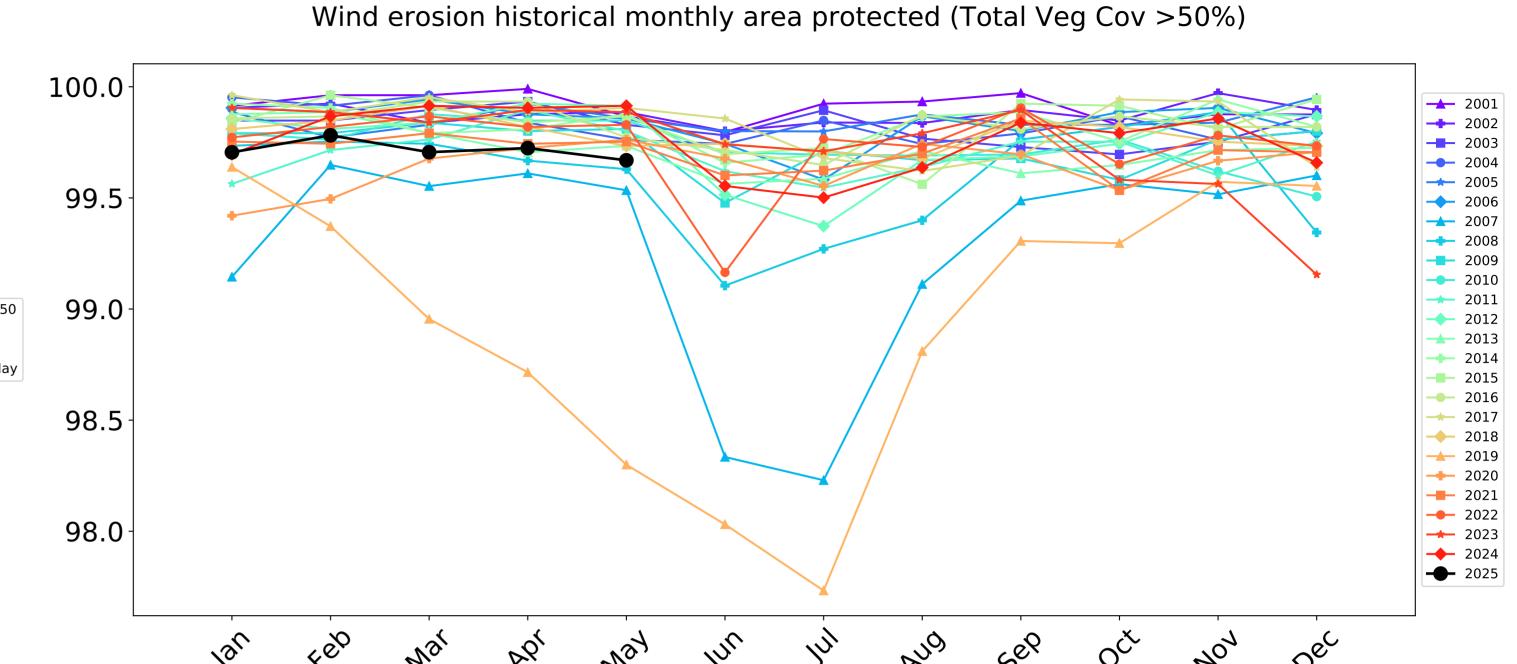


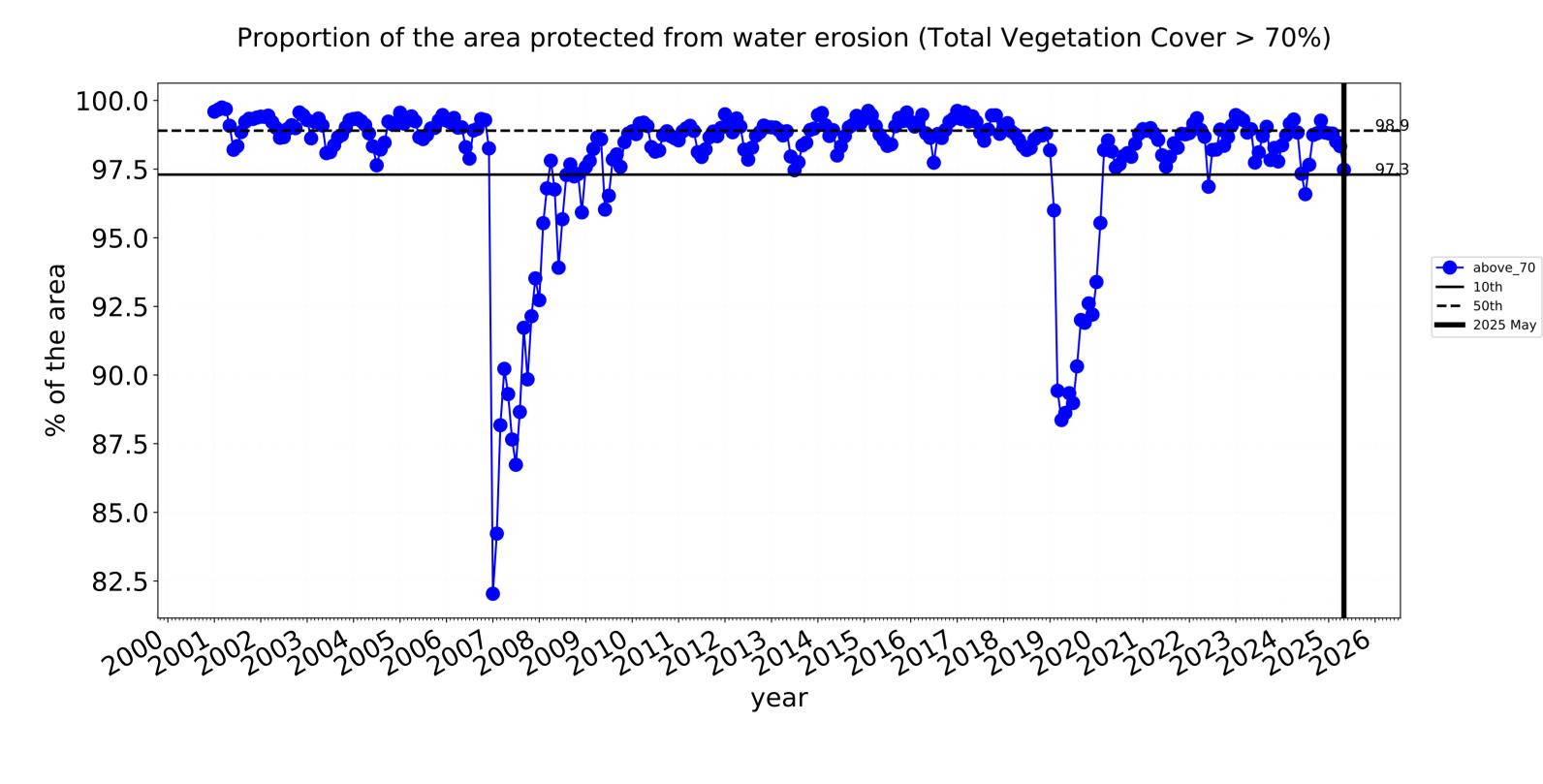


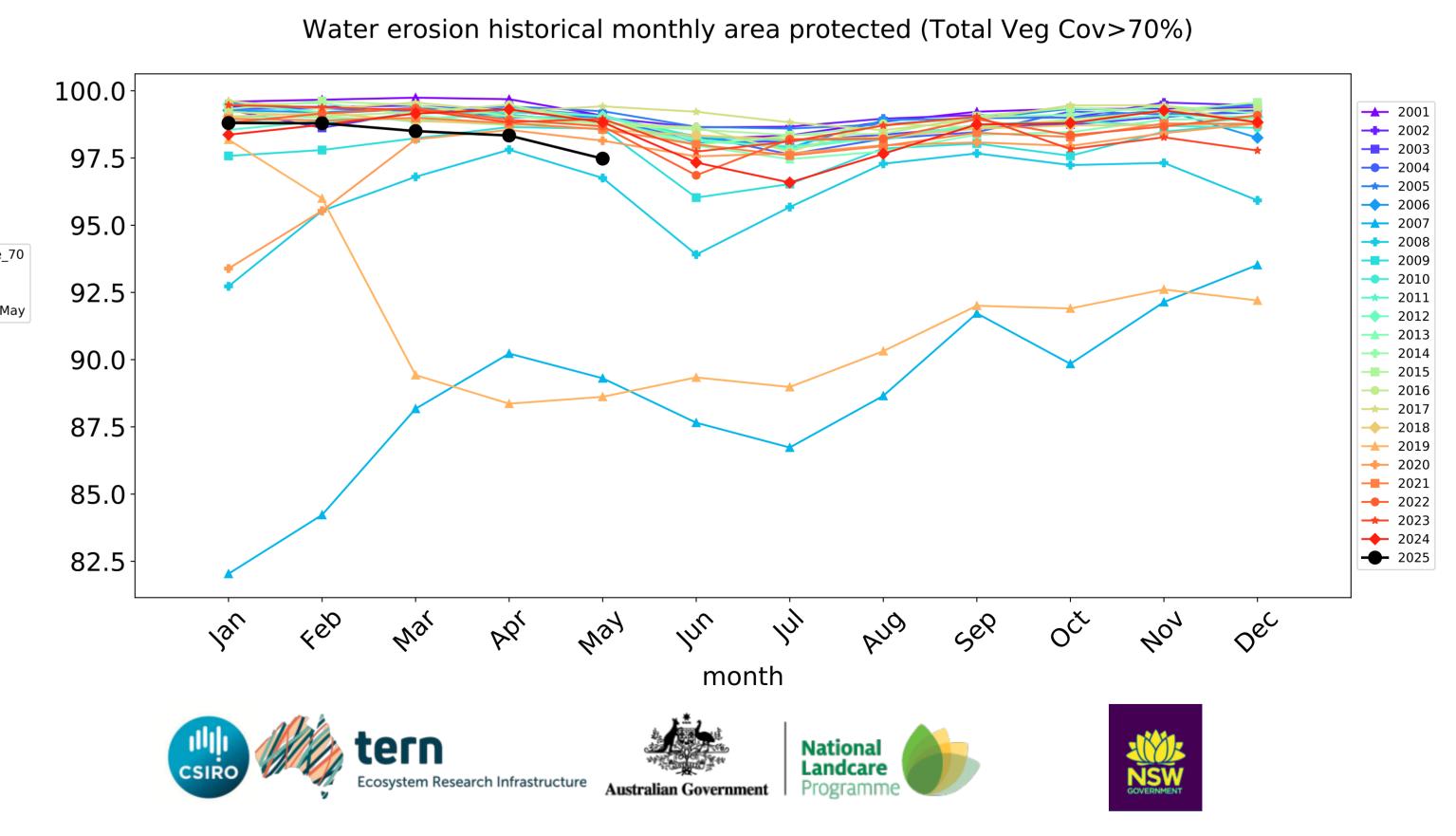


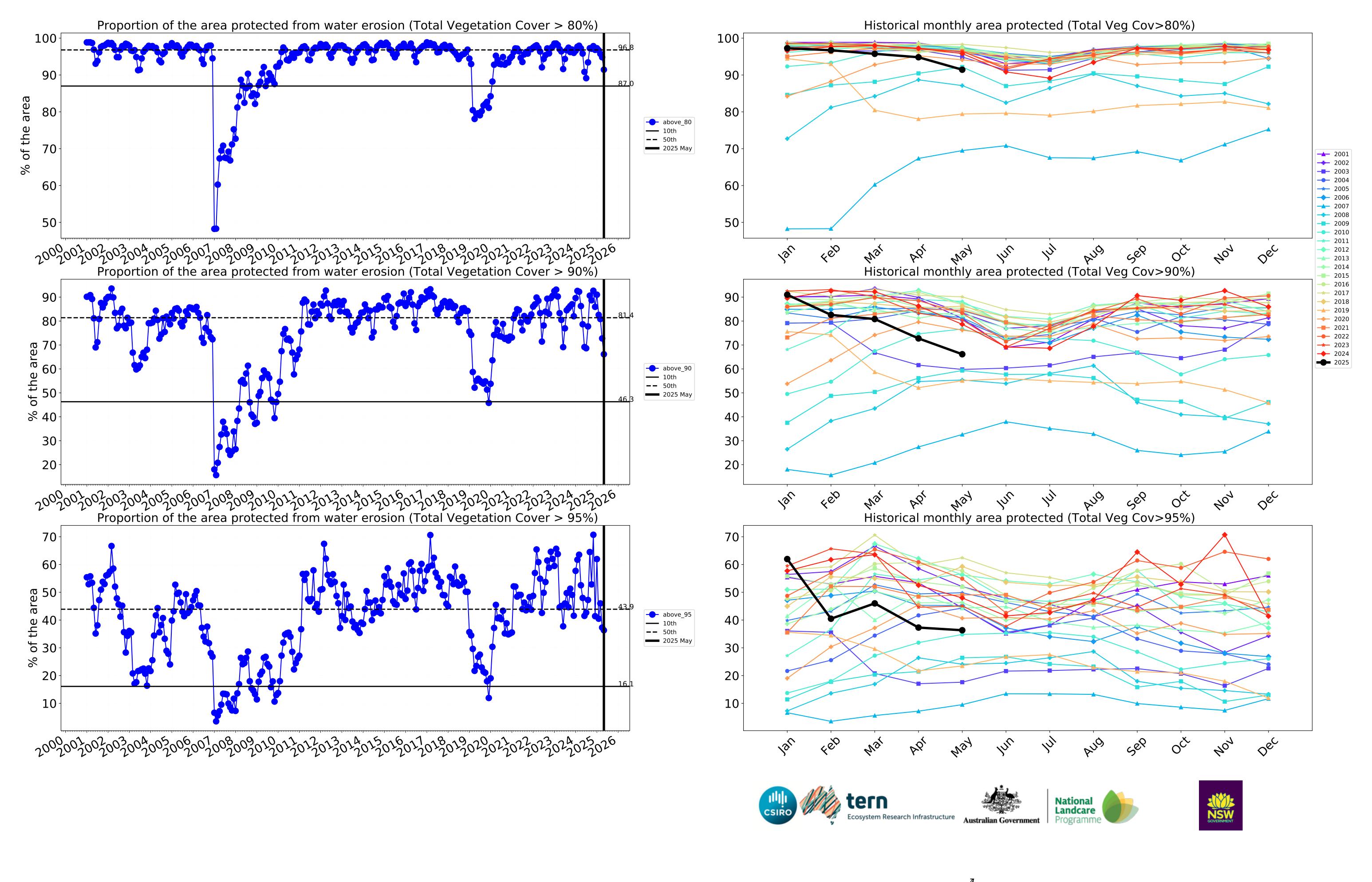
### **Conservation and natural environments timeseries**











### **Conservation and natural environments 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)

Anomaly show how many percetage points each

pixel is from the mean. That

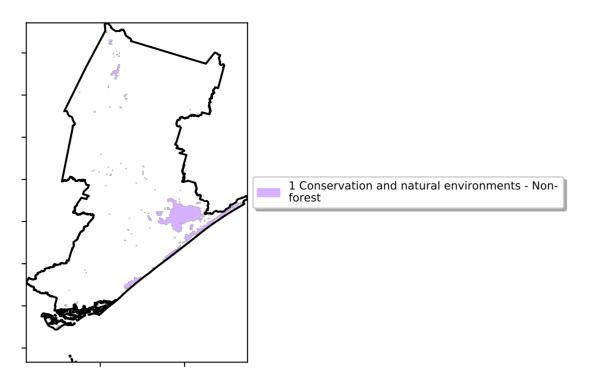
is, red pixels

are about 20% lower than the mean of that

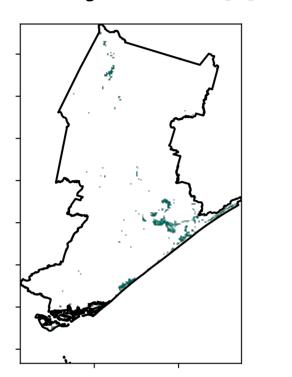
pixel. The mean

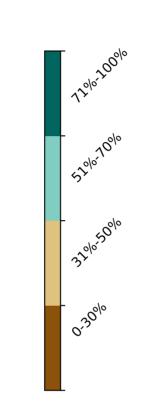
using baseline from 2001 to 2019.

is only for the month of the map

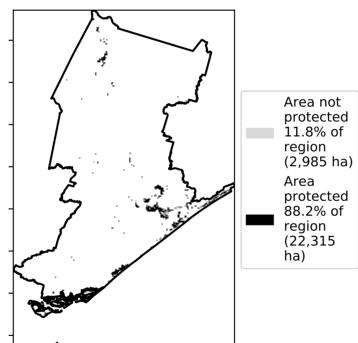


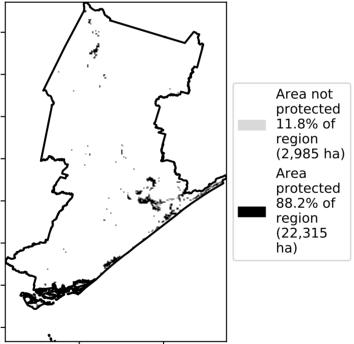
### **Total Vegetation Cover [%]**



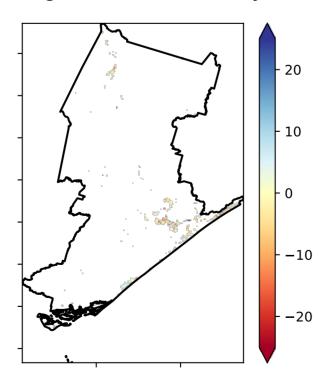


### % Area protected from water erosion (>70%)



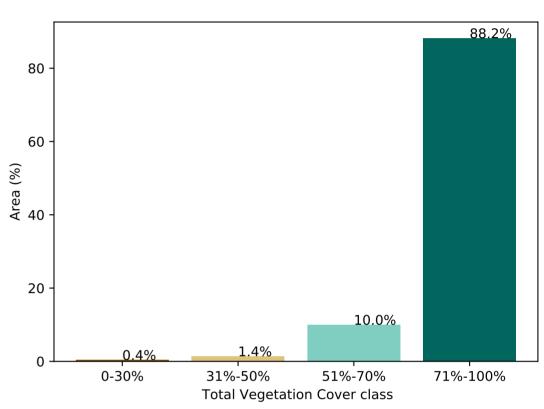


### **Total Vegetation Cover Anomaly [%]**

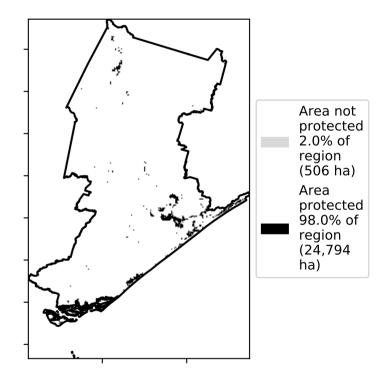


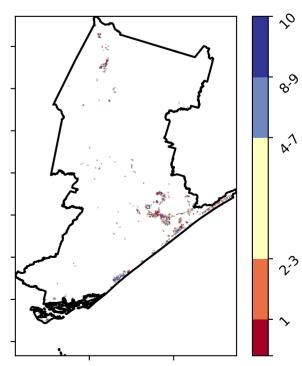
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### Proportion of vegetation cover class in area



### % Area protected from wind erosion (>50%)





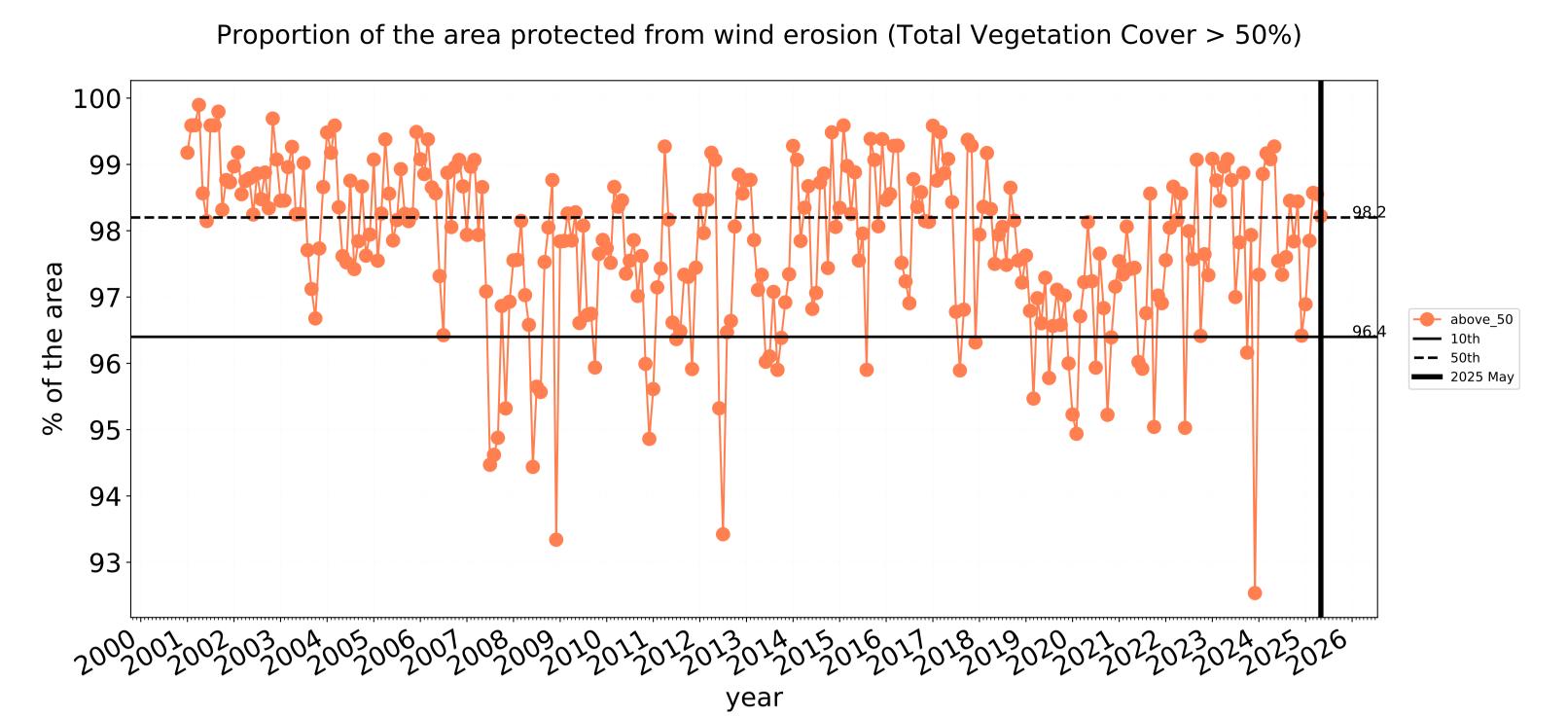


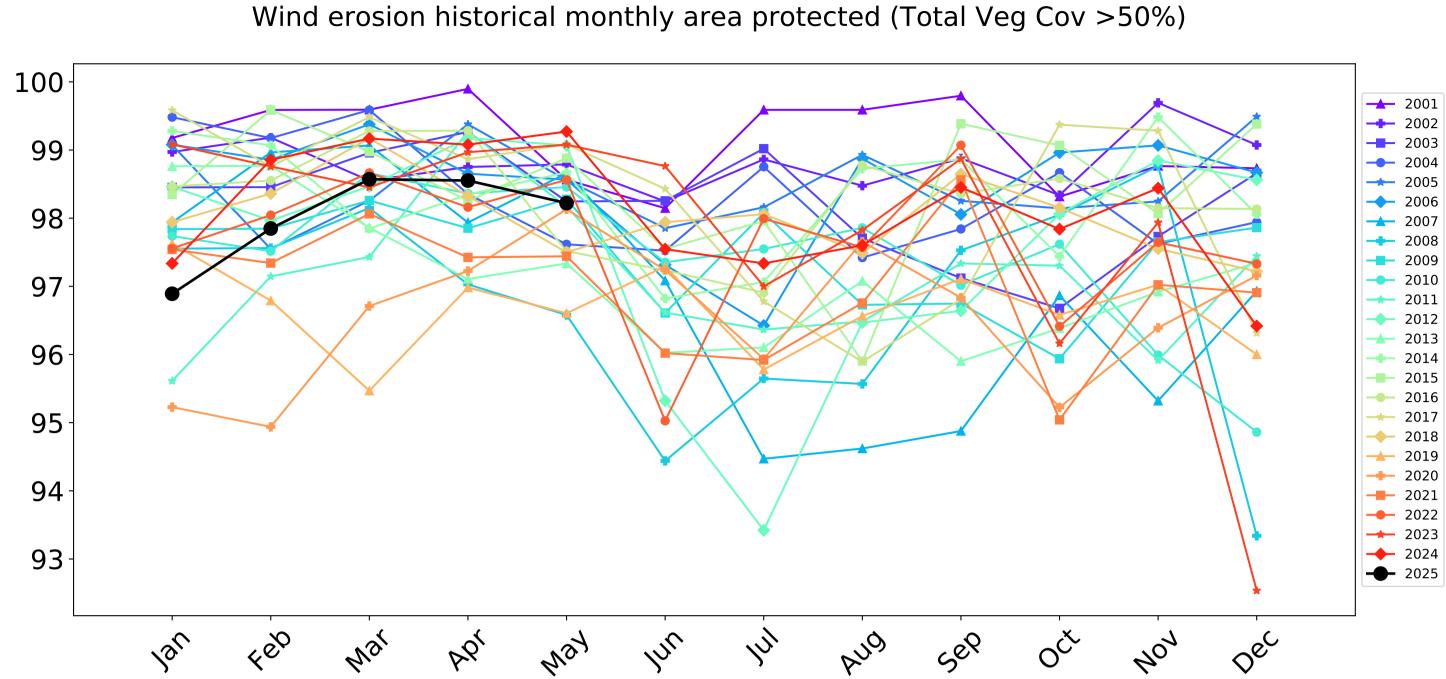


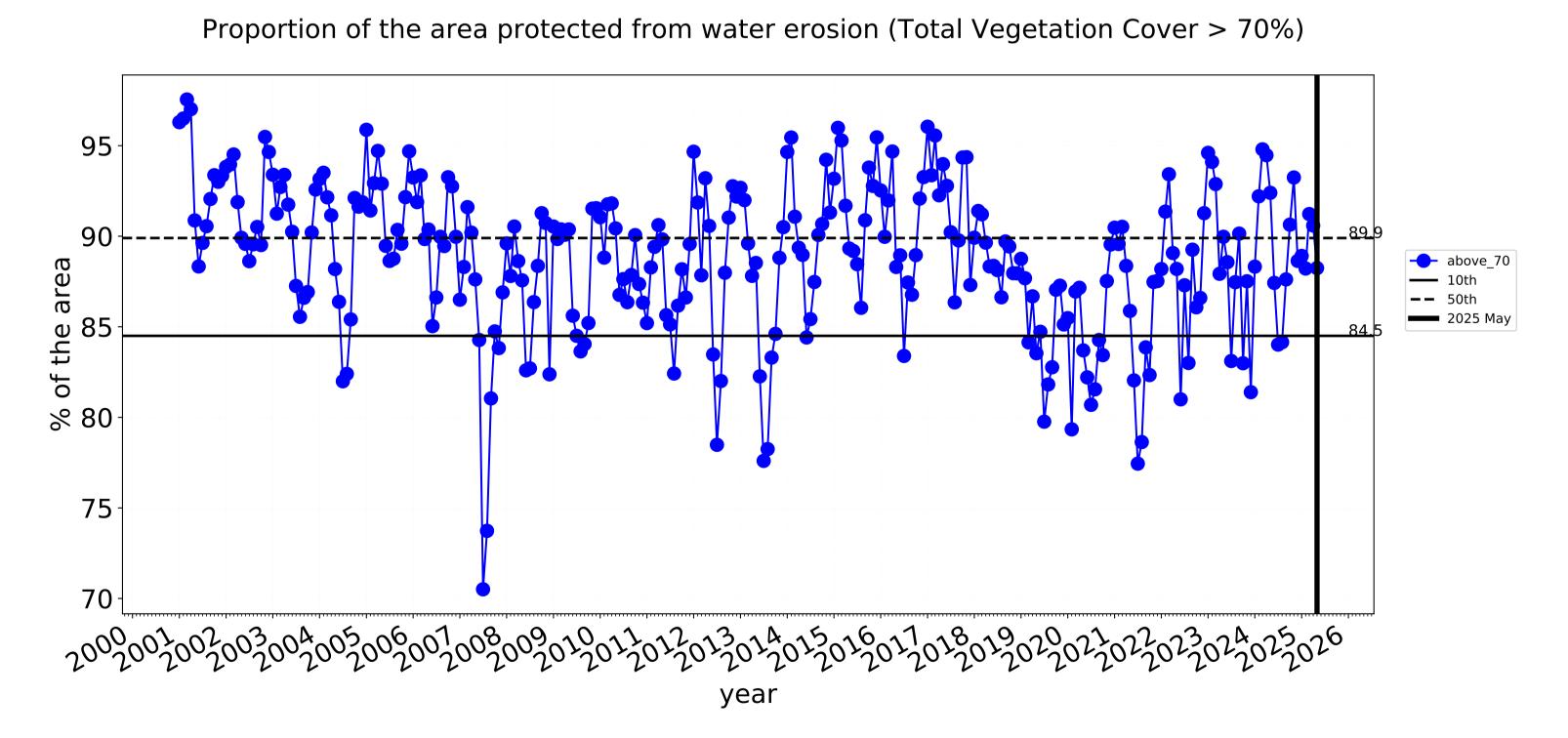


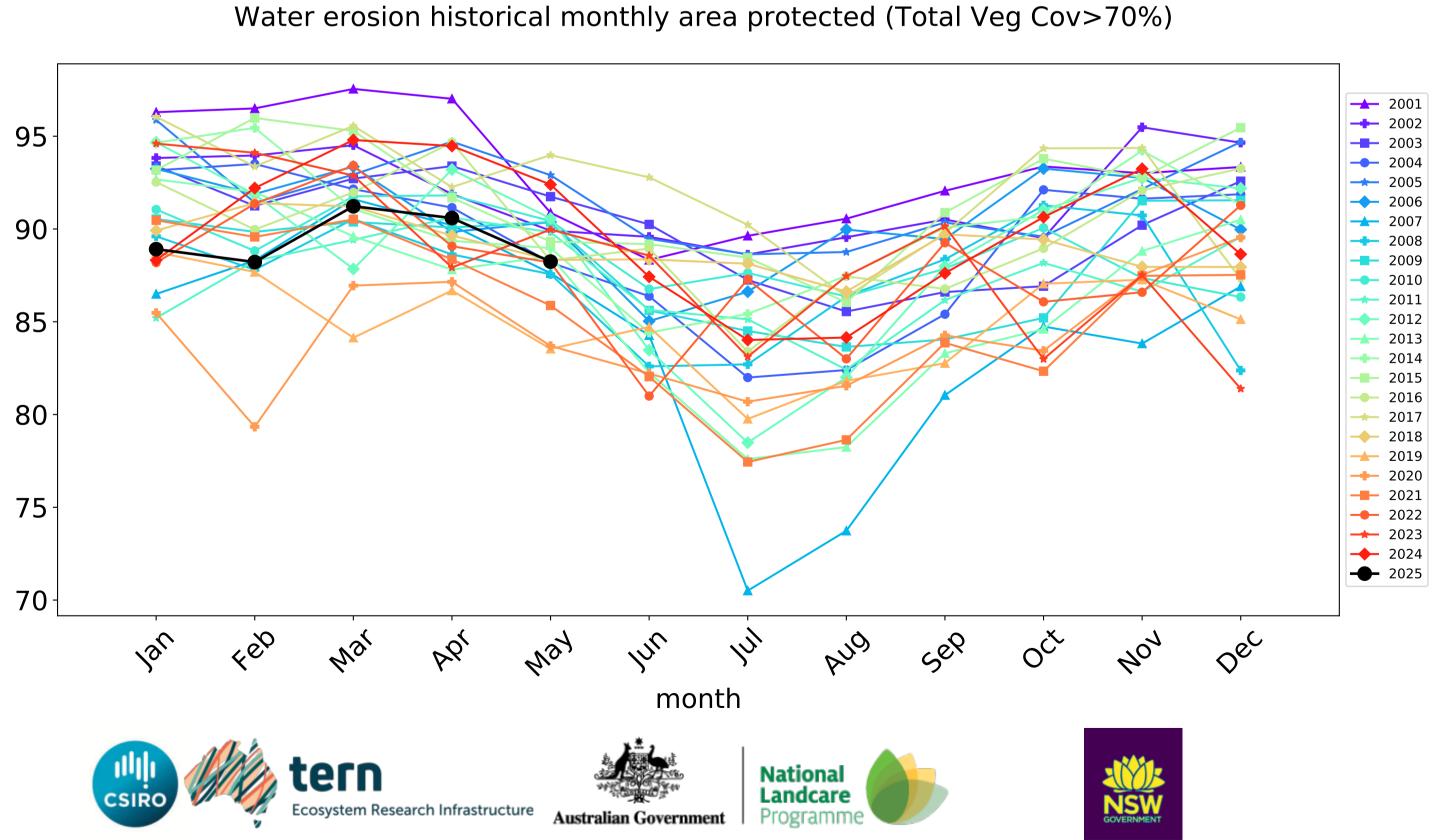


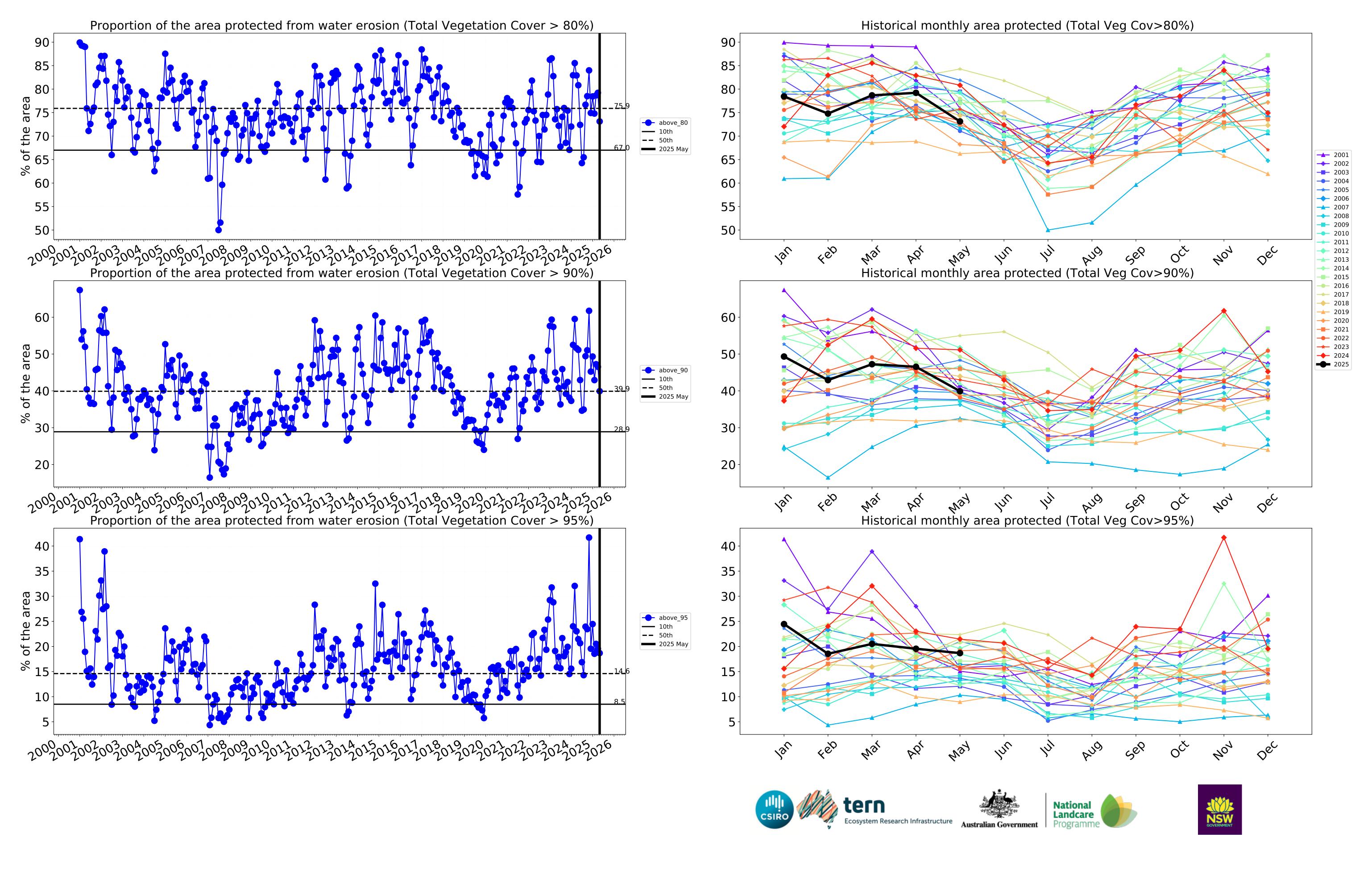
### **Conservation and natural environments non forest timeseries**











### **Conservation and natural environments Woodland 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)

Anomaly show how many percetage points each

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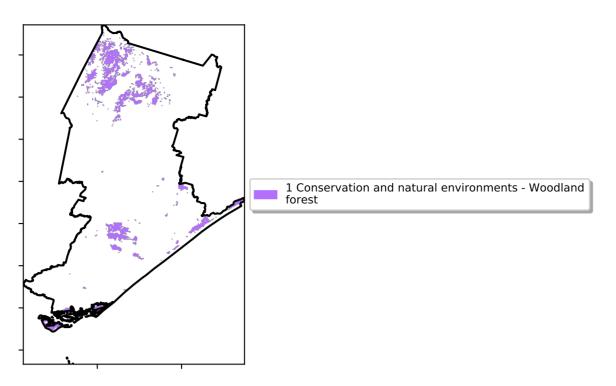
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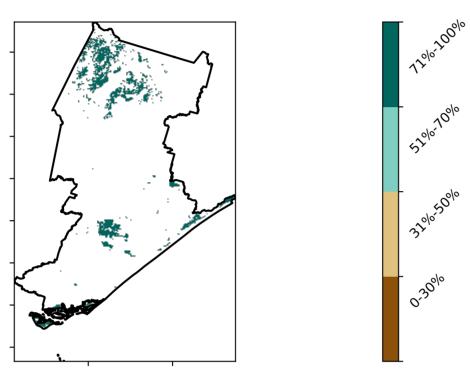
pixel. The mean

using baseline from 2001 to 2019.

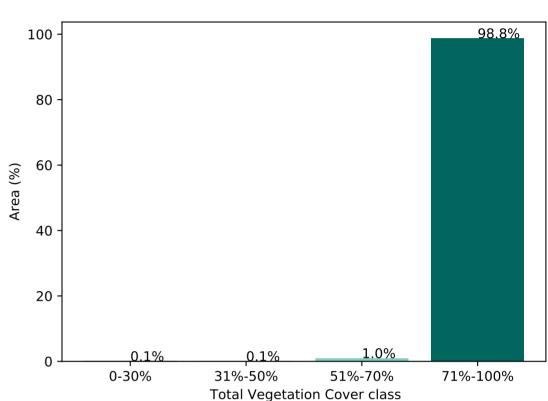
is only for the month of the map



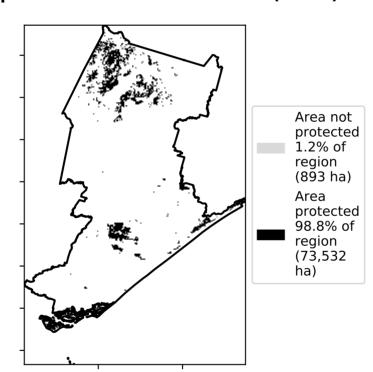
### **Total Vegetation Cover [%]**



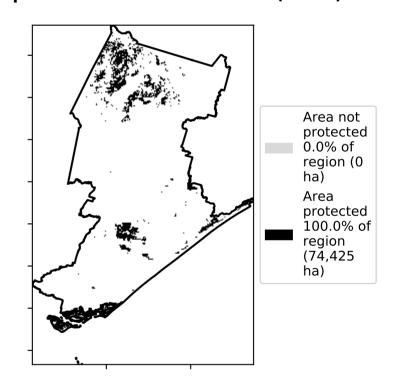
### Proportion of vegetation cover class in area



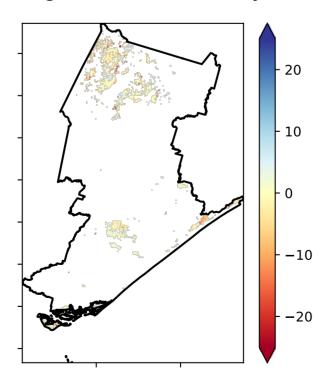
### % Area protected from water erosion (>70%)



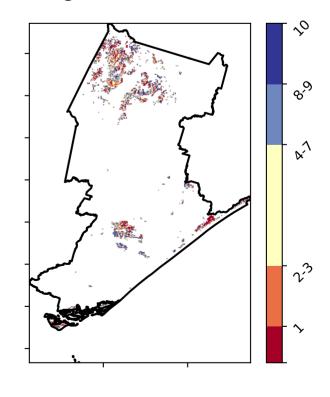
% Area protected from wind erosion (>50%)



### **Total Vegetation Cover Anomaly [%]**



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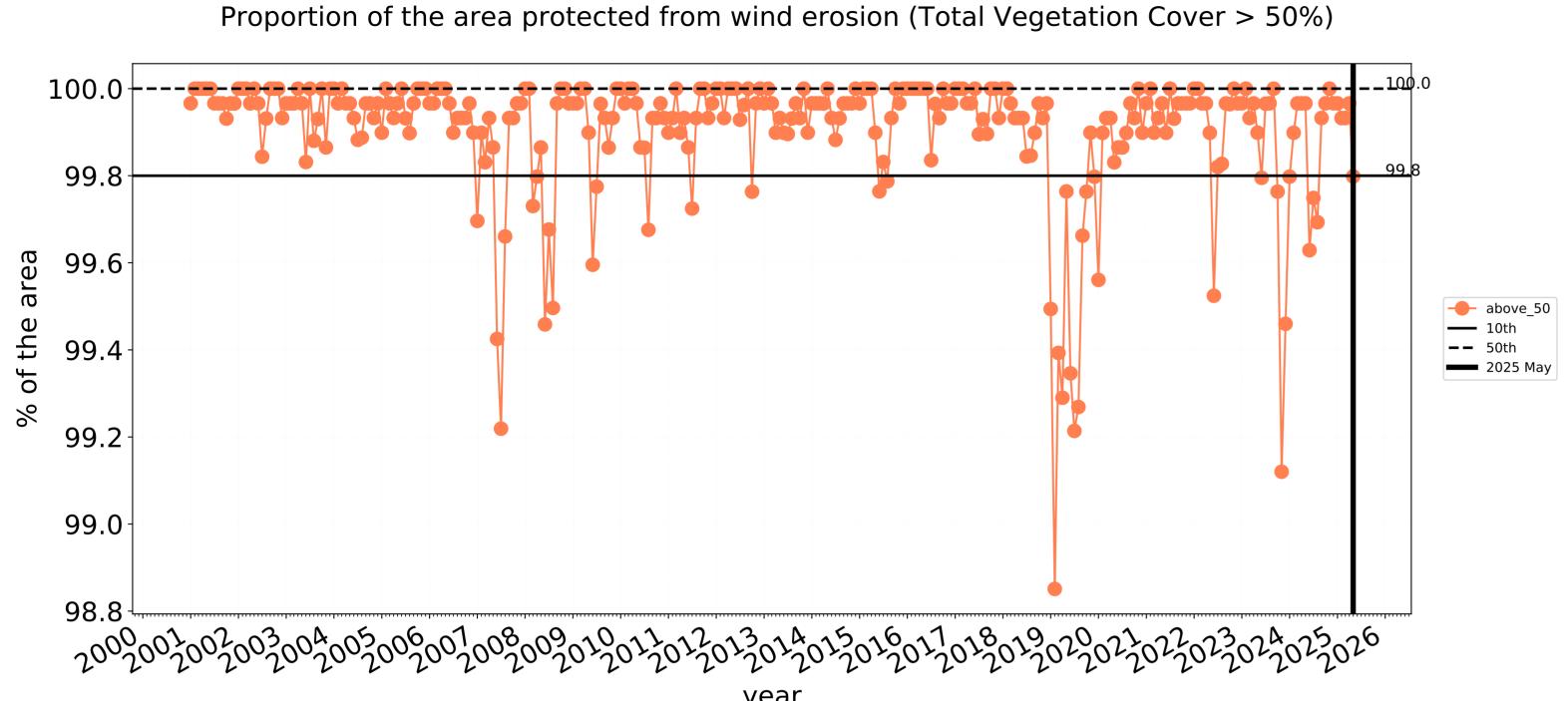


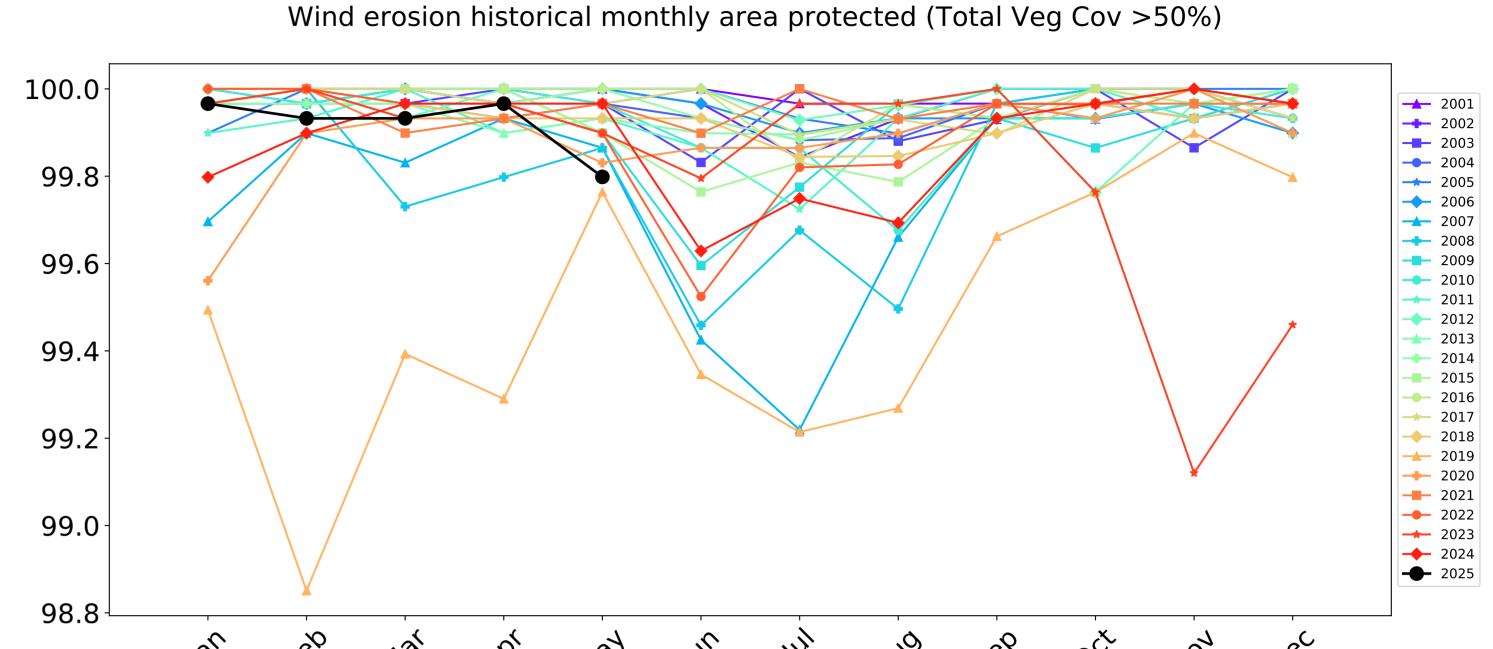






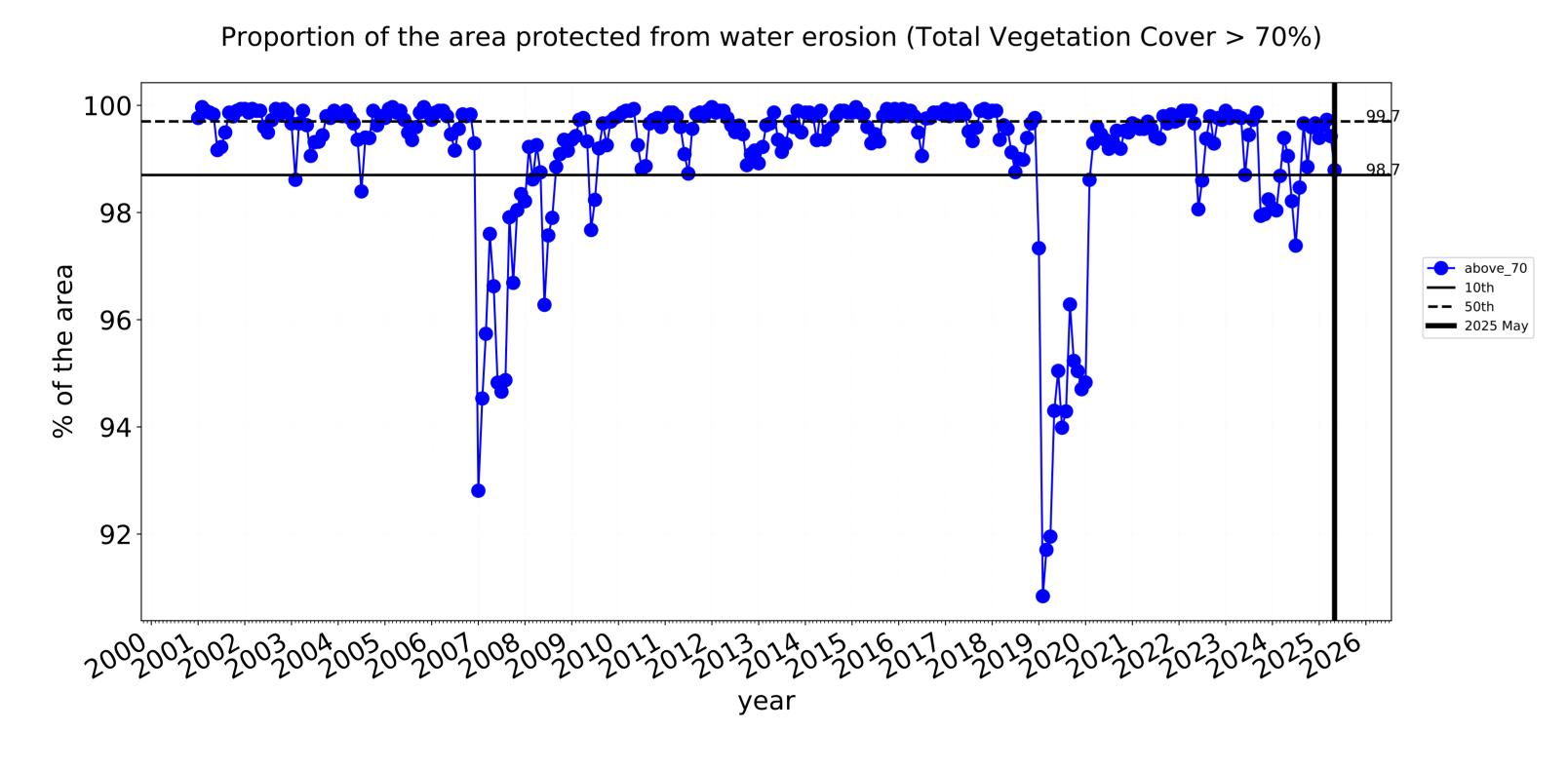
### **Conservation and natural environments Woodland forest timeseries**

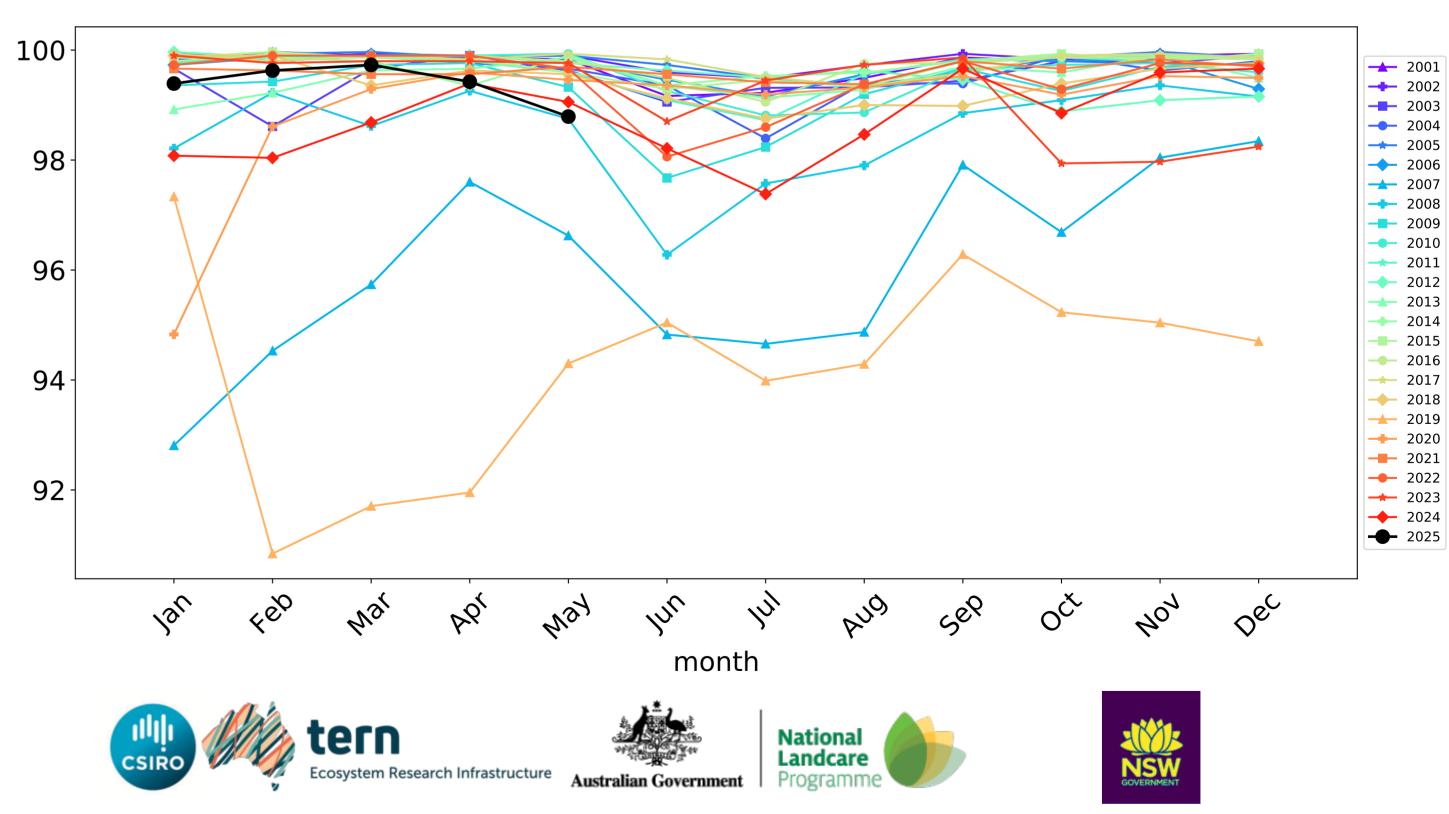


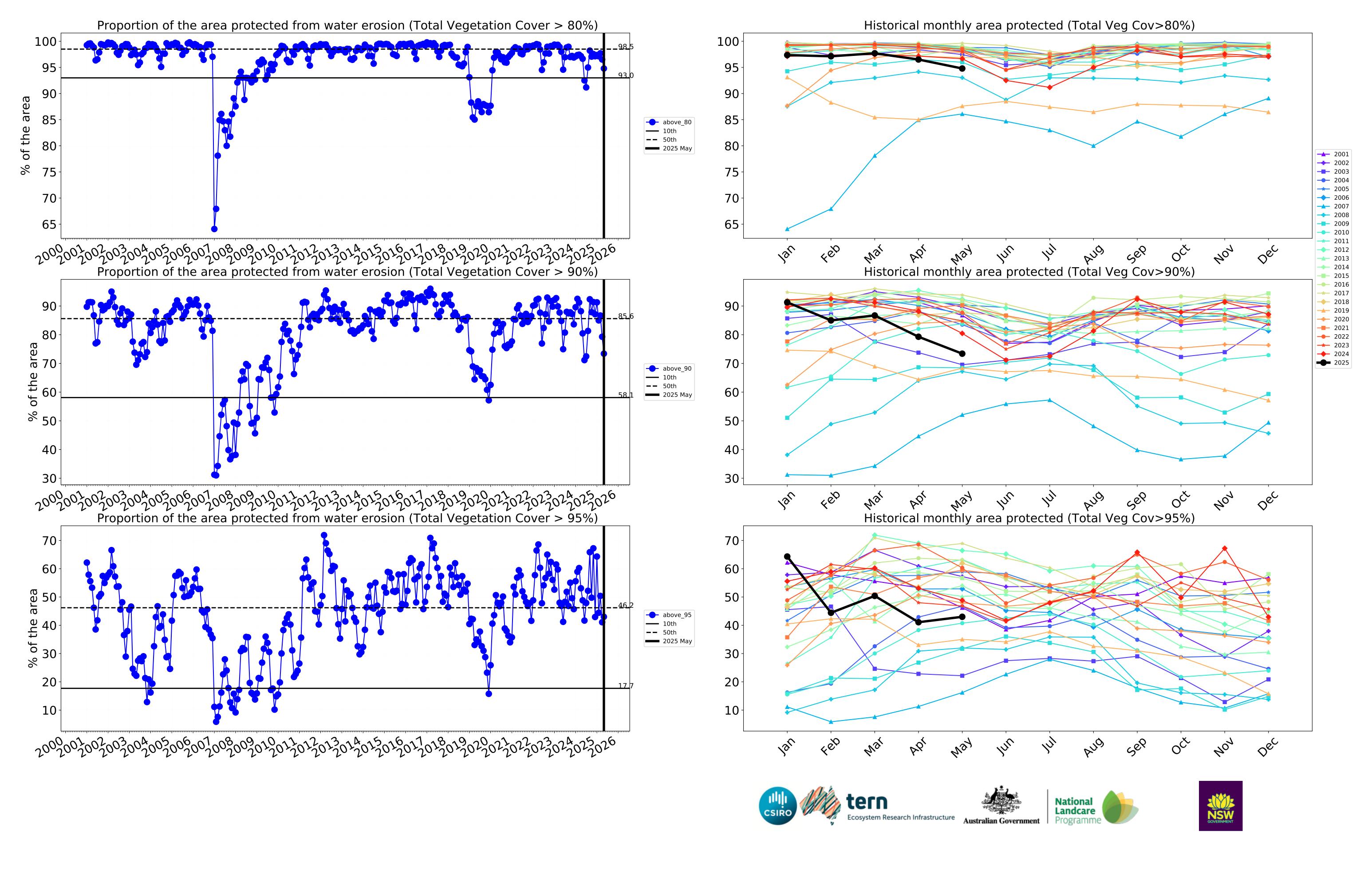


month

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

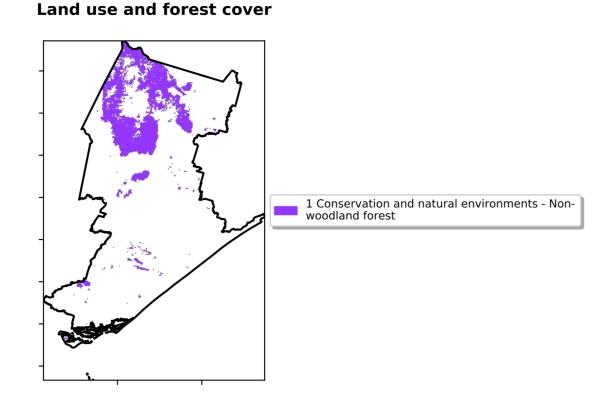




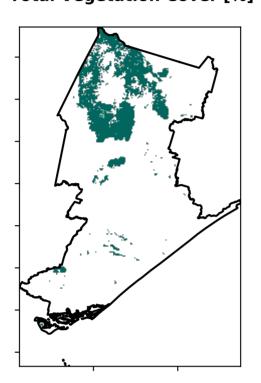


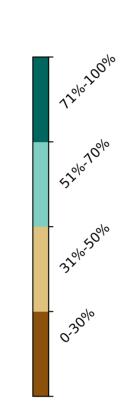
### **Conservation and natural environments Forest (non woodland)**

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

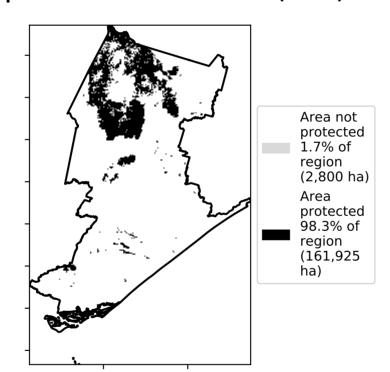


### **Total Vegetation Cover [%]**

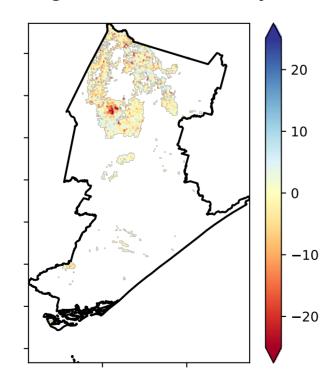




### % Area protected from water erosion (>70%)

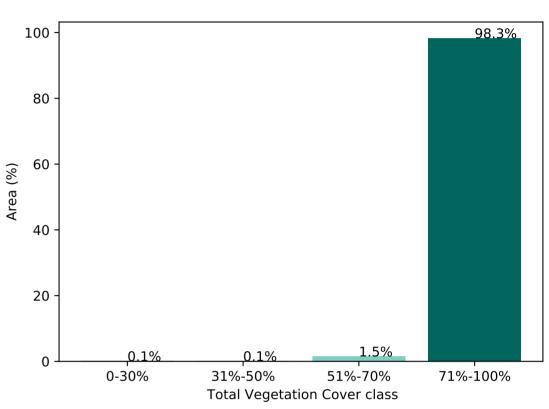


### **Total Vegetation Cover Anomaly [%]**

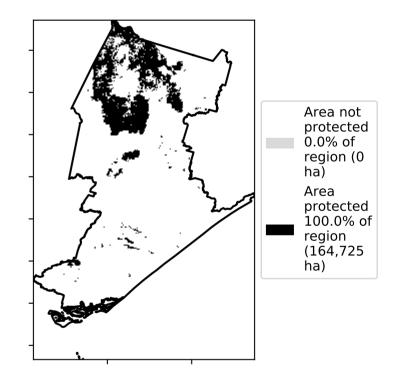


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

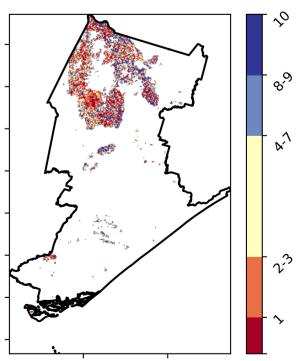
### Proportion of vegetation cover class in area



### % Area protected from wind erosion (>50%)



### Total Vegetation Cover Decile [%]



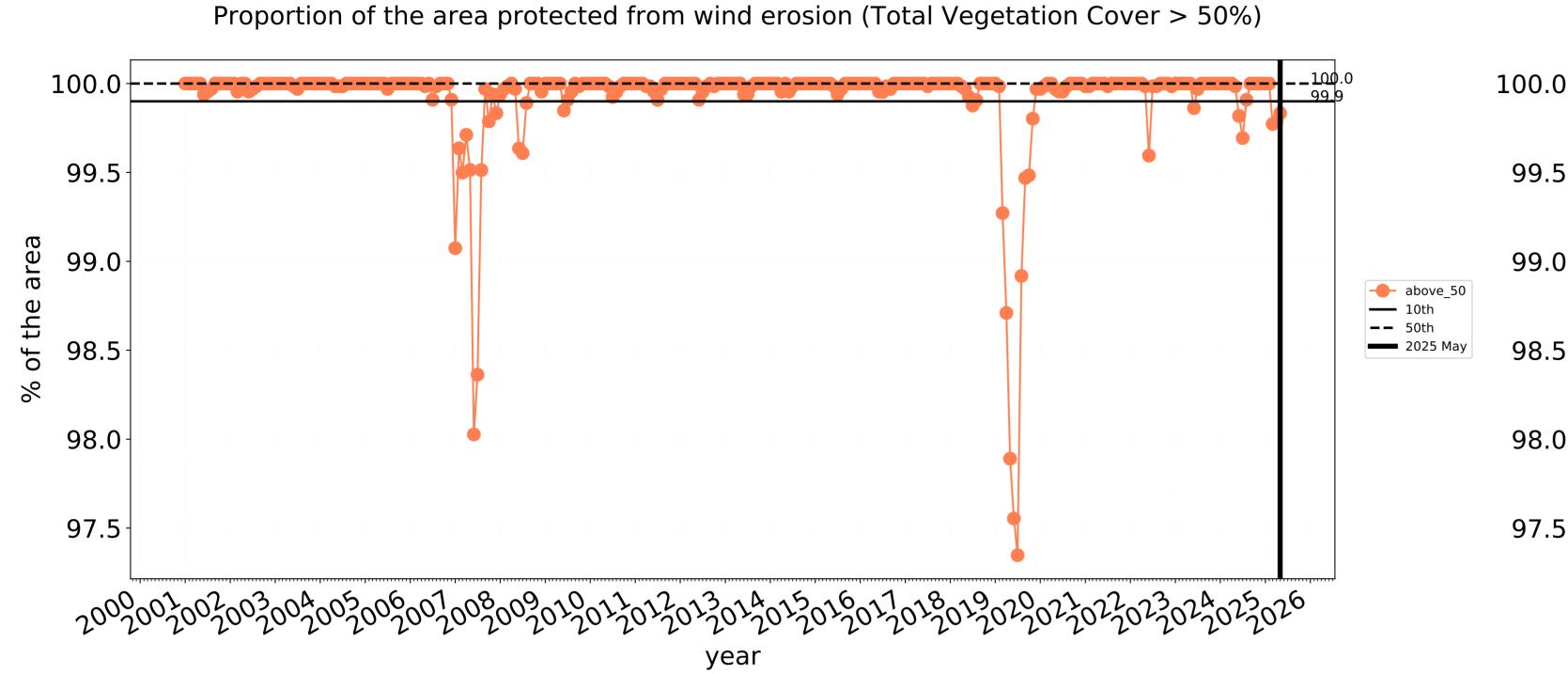
Anomaly show how many percetage points each pixel is from the mean. That is, red pixels are about 20% lower than the mean of that pixel. The mean is only for the month of the map using baseline from 2001 to 2019.

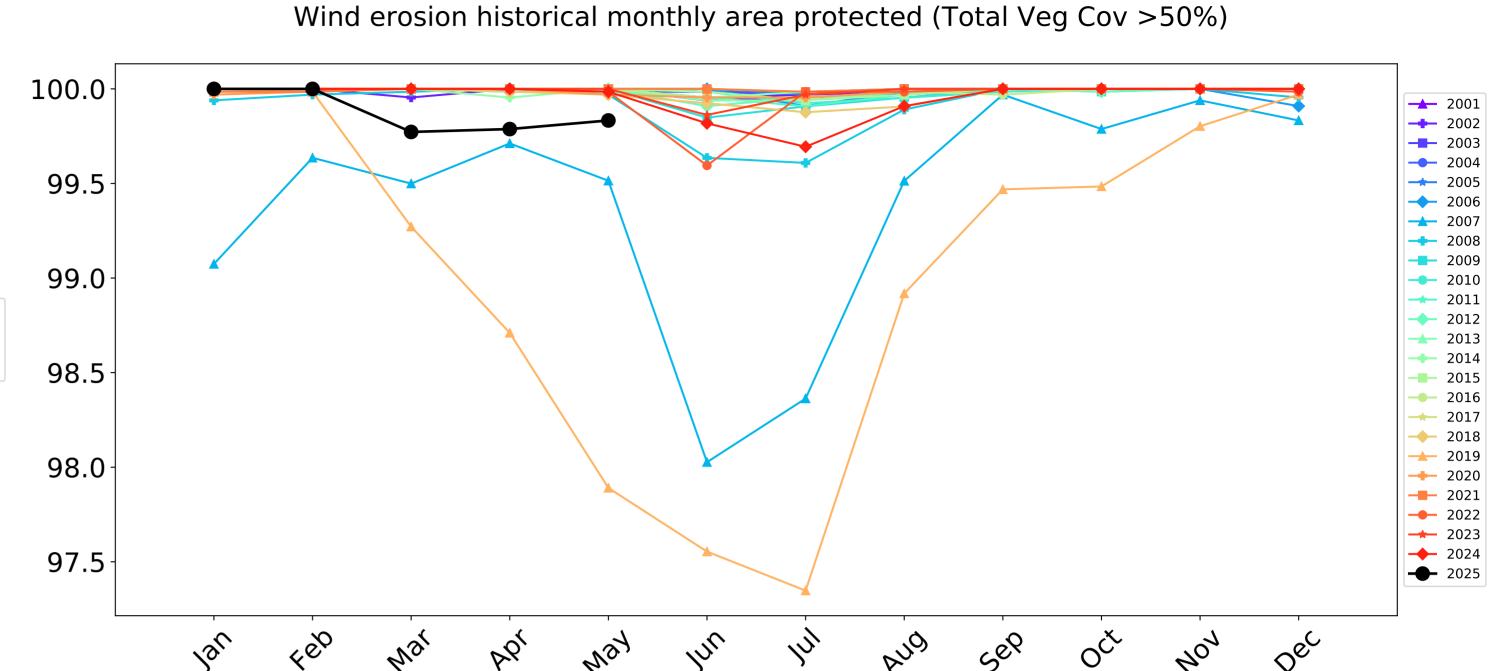


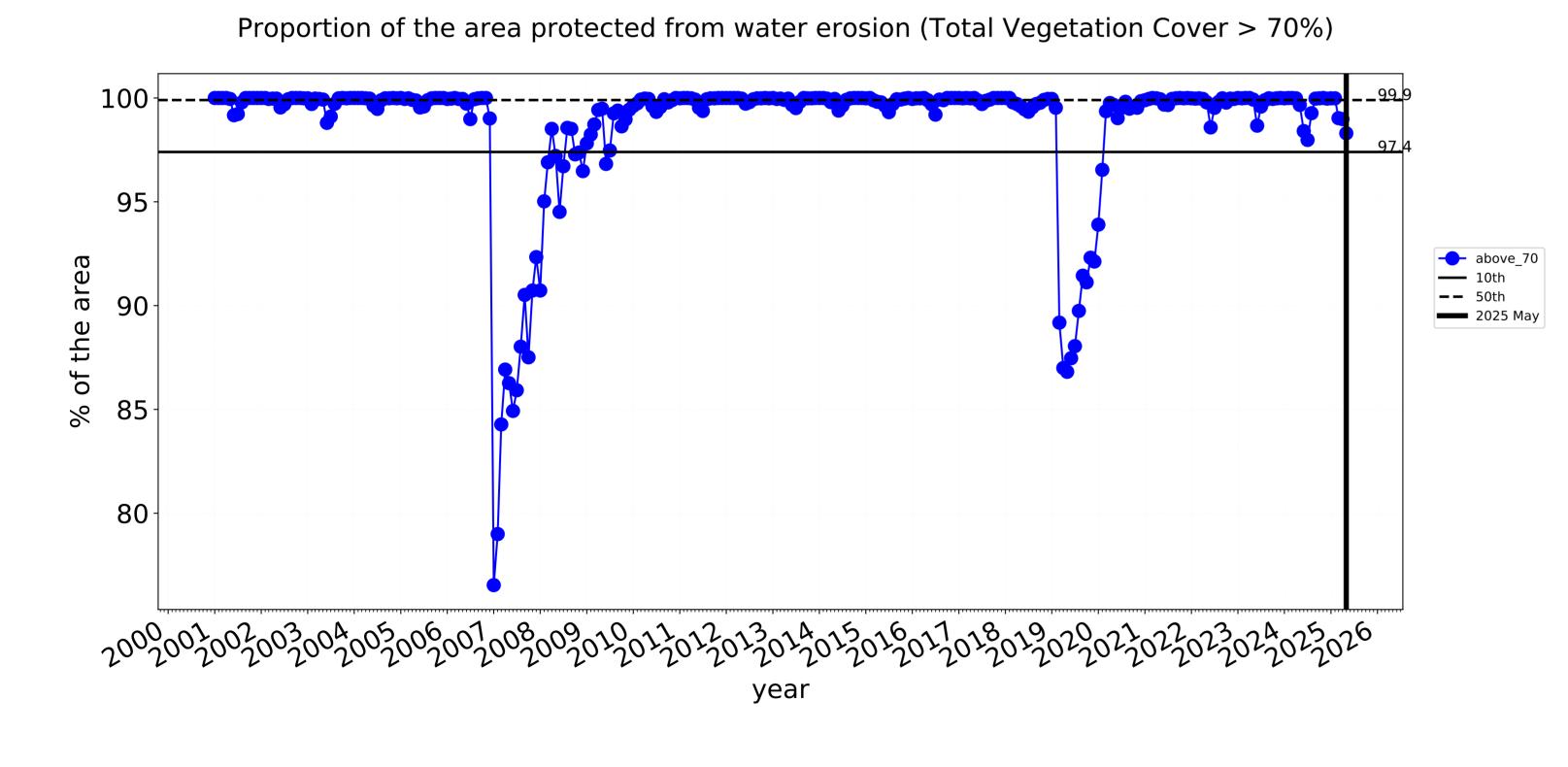


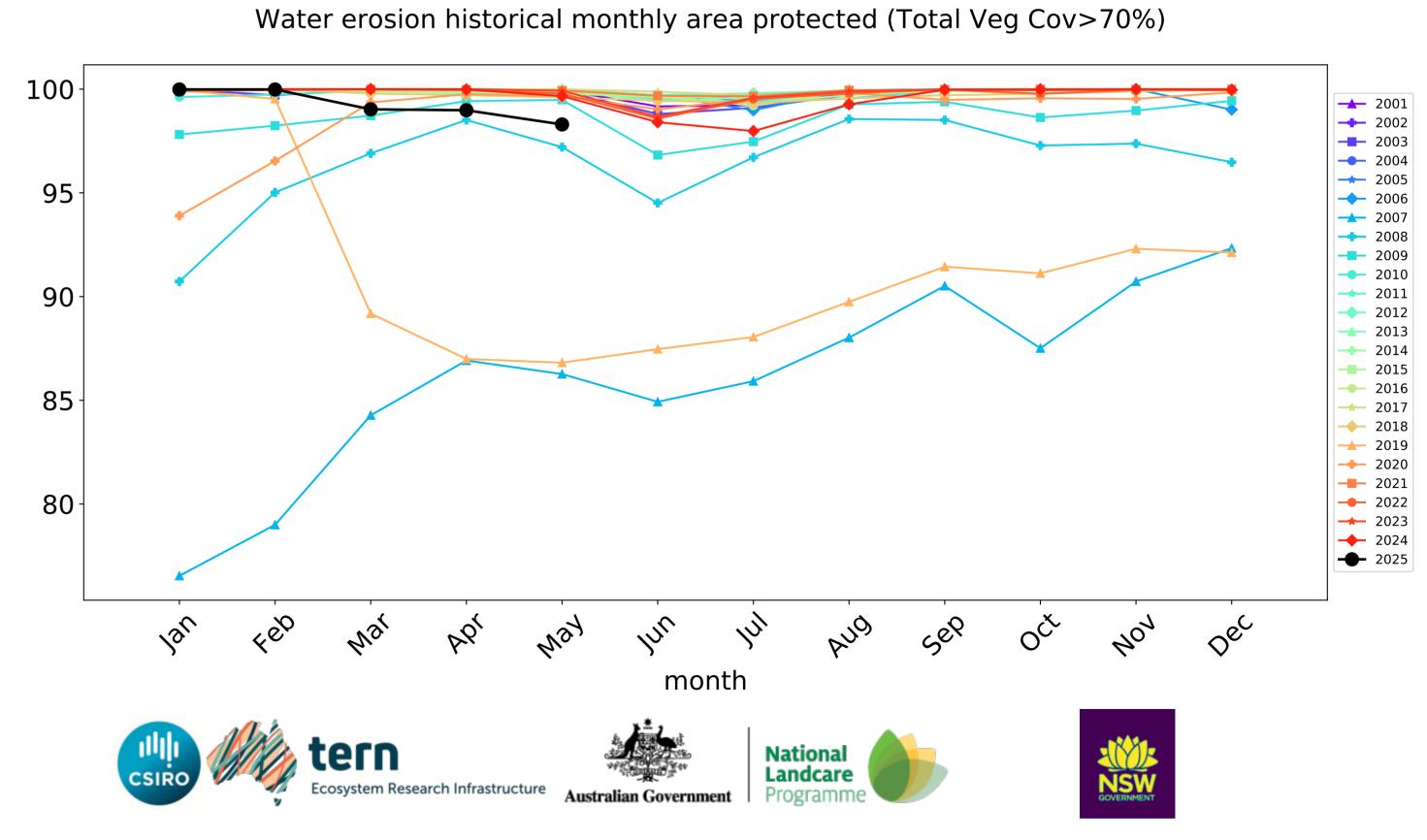


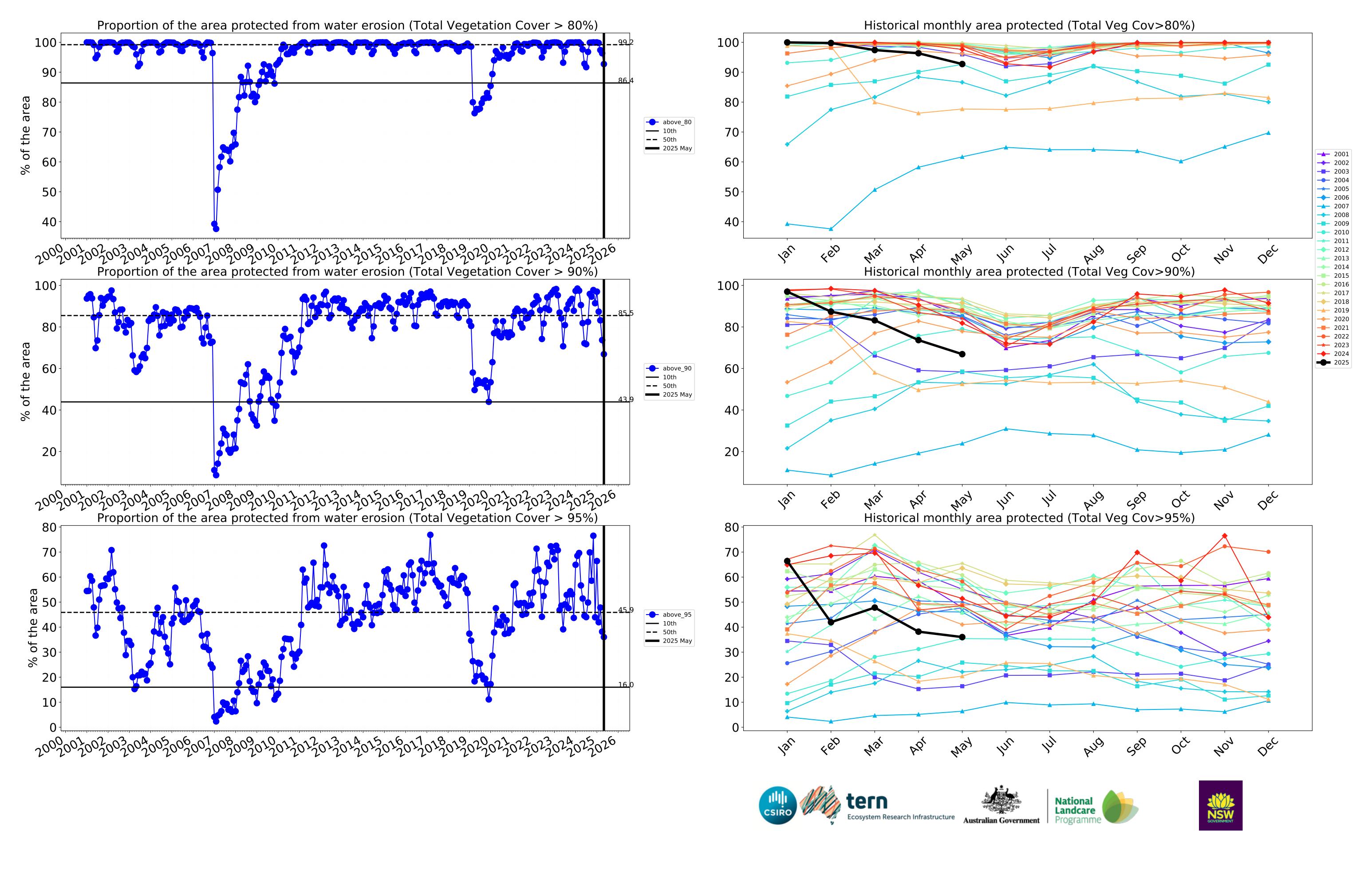








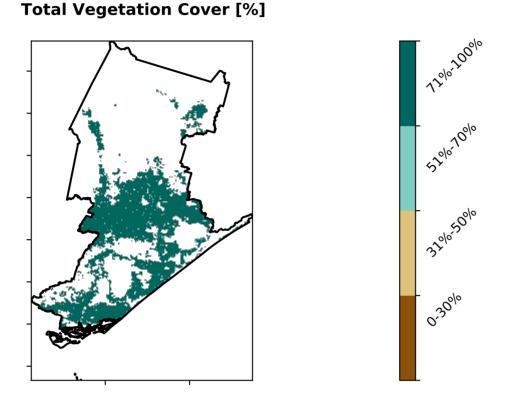




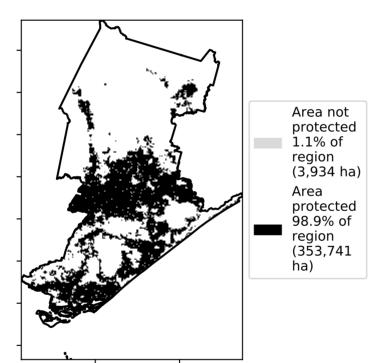
### **Agriculture**

### Land use and forest cover

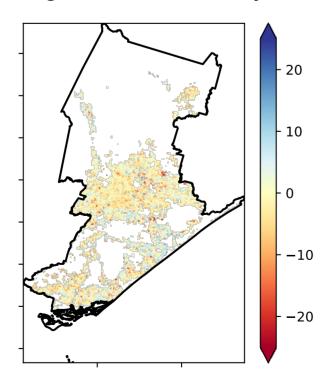
### Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)



### % Area protected from water erosion (>70%)

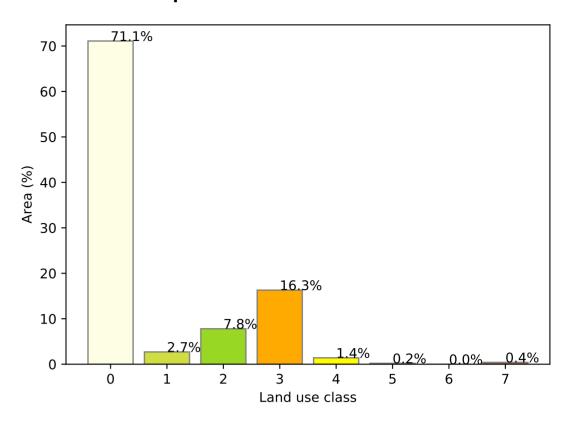


### **Total Vegetation Cover Anomaly [%]**

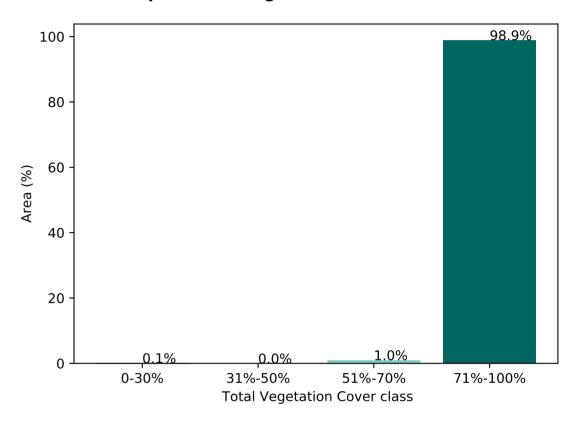


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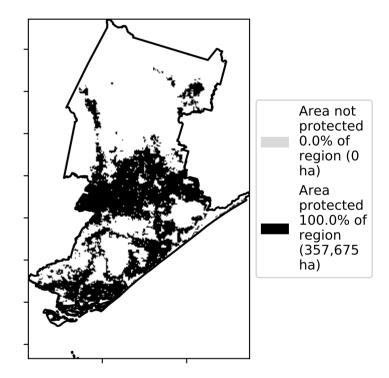
### Proportion of each land class in area



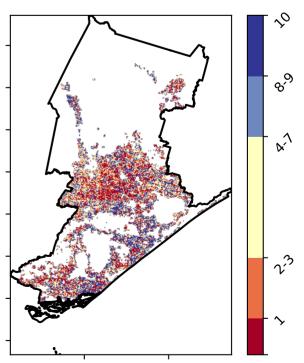
### Proportion of vegetation cover class in area



### % Area protected from wind erosion (>50%)



### Total Vegetation Cover Decile [%]





Anomaly show how many percetage points each

pixel is from the mean. That

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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



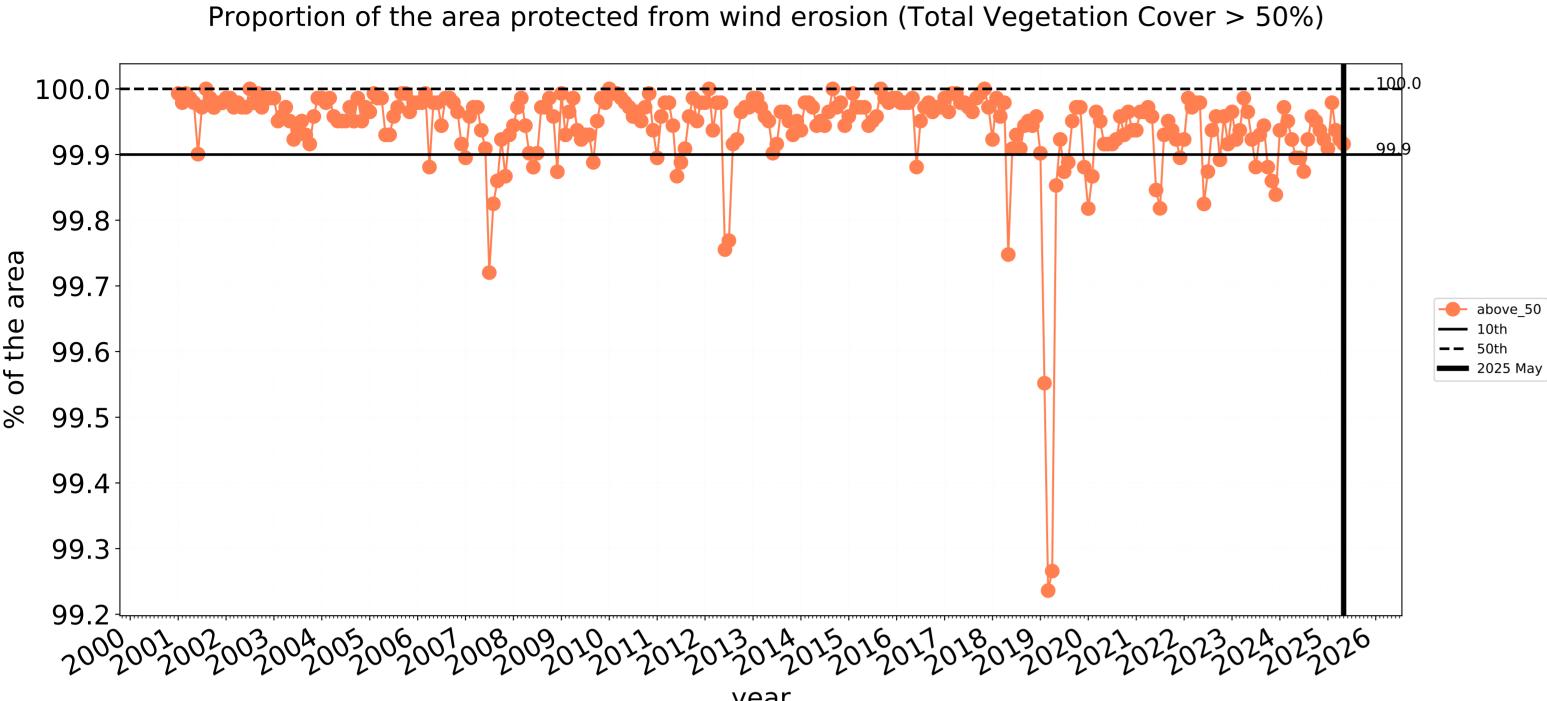
tern
Ecosystem Research Infrastructure

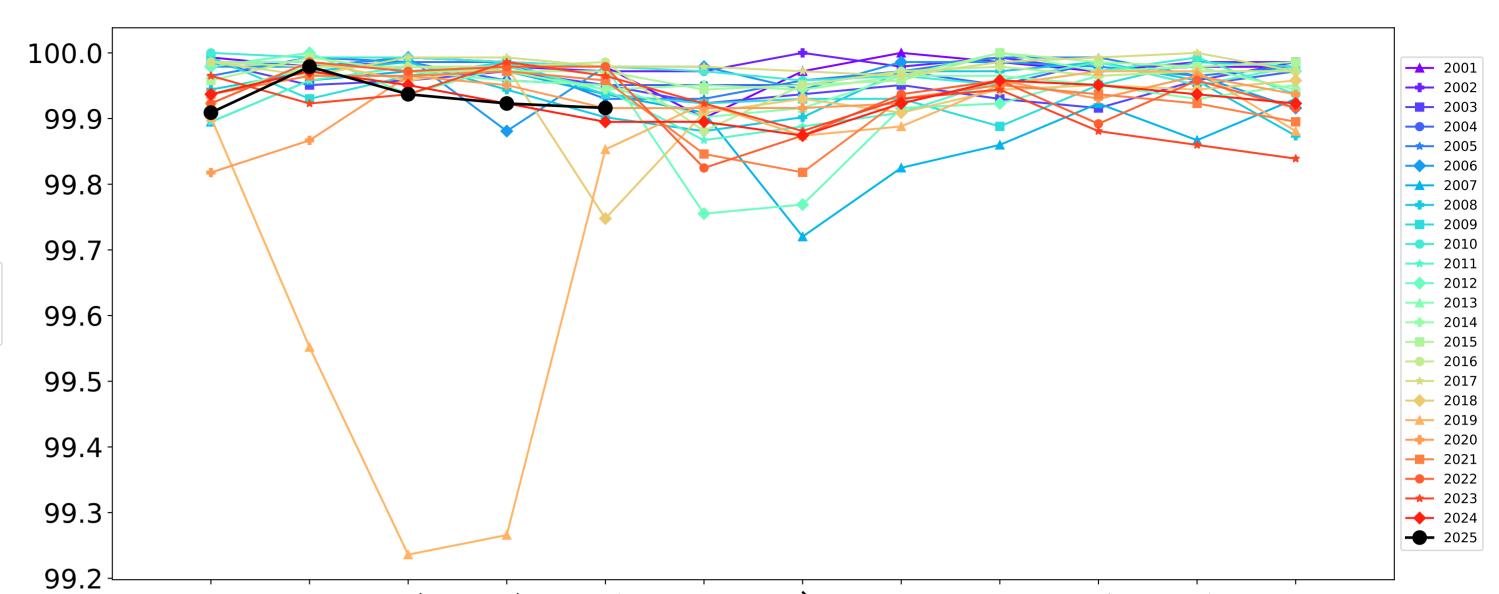






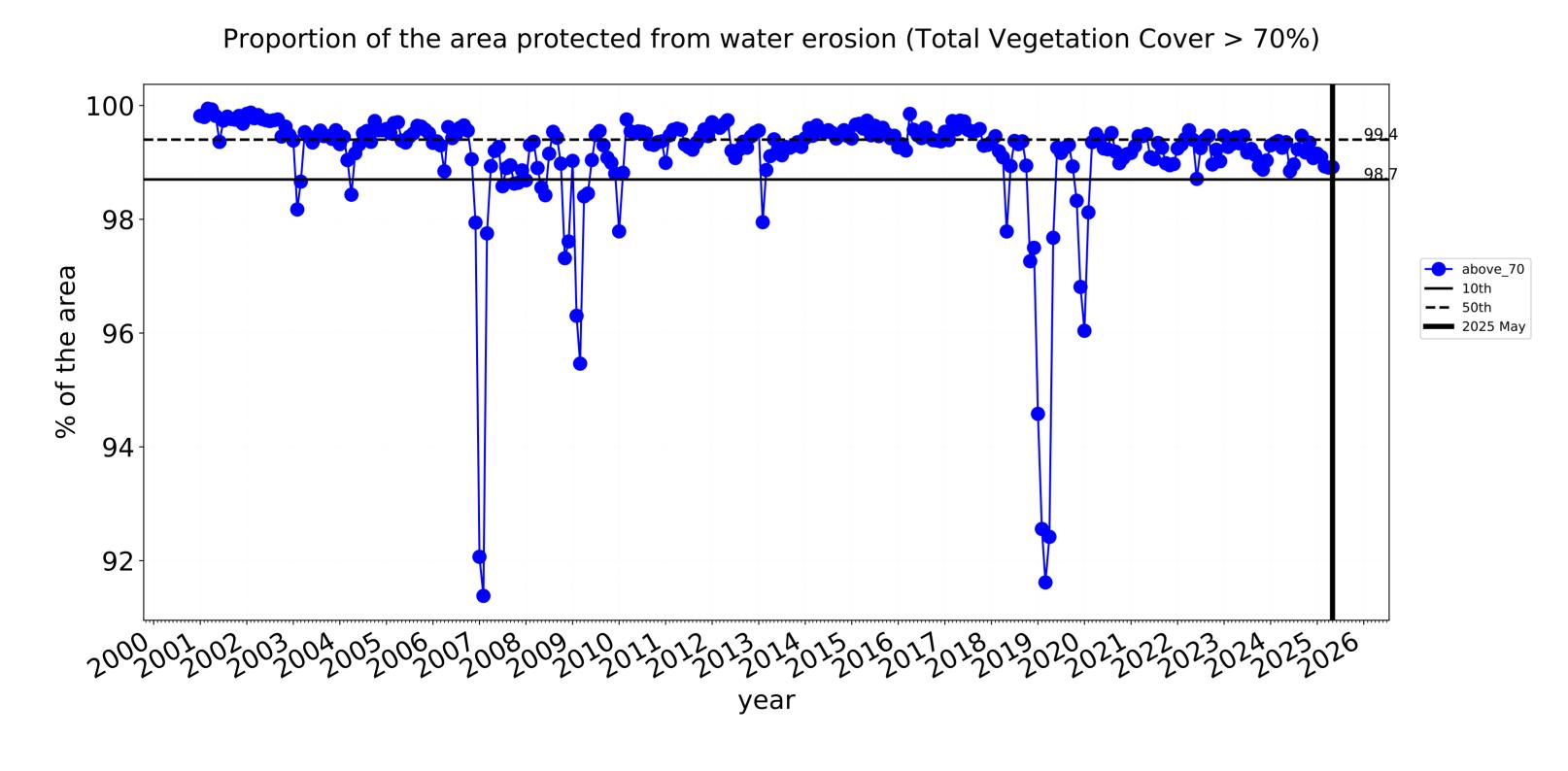
### **Agriculture timeseries**

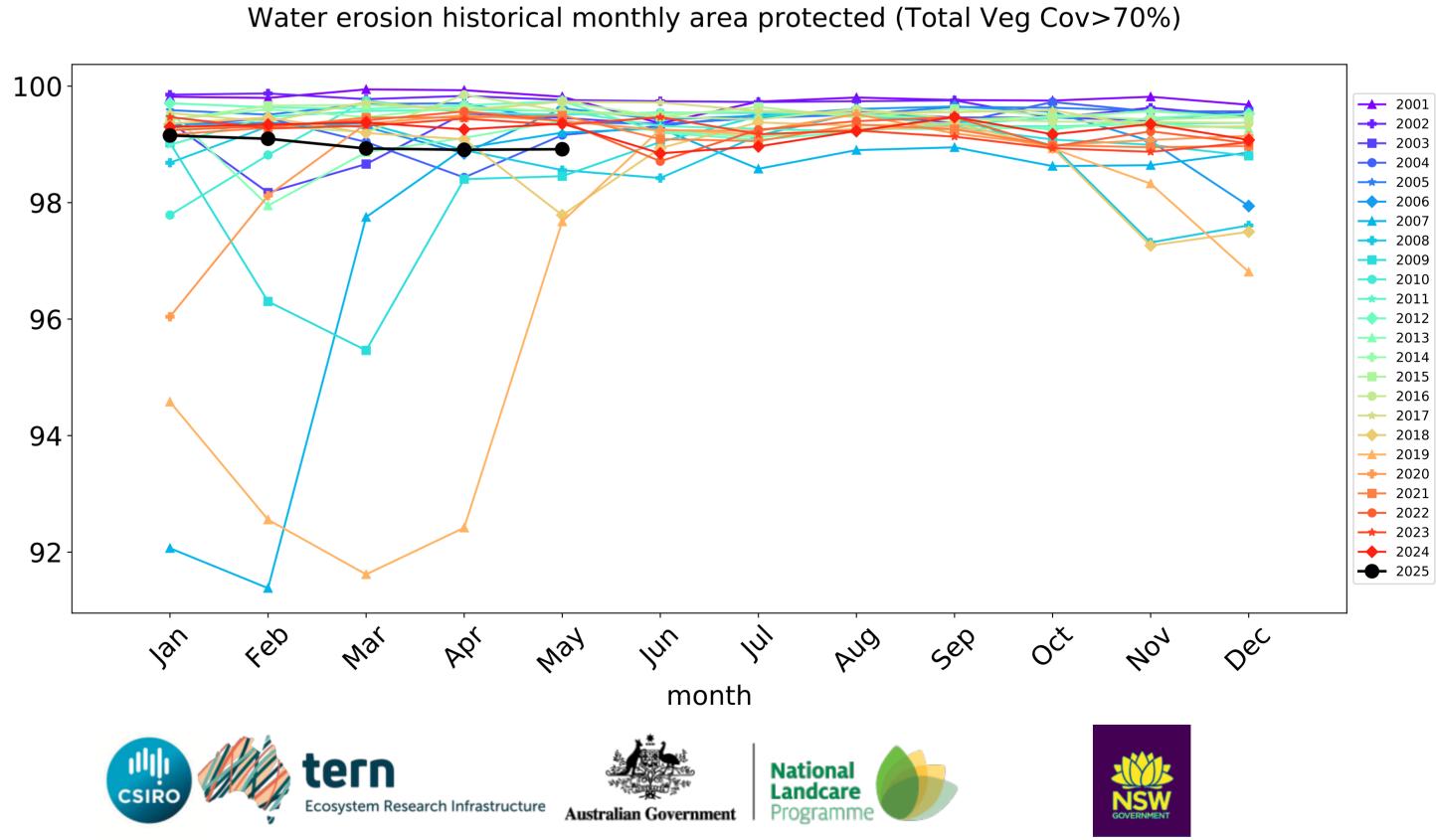


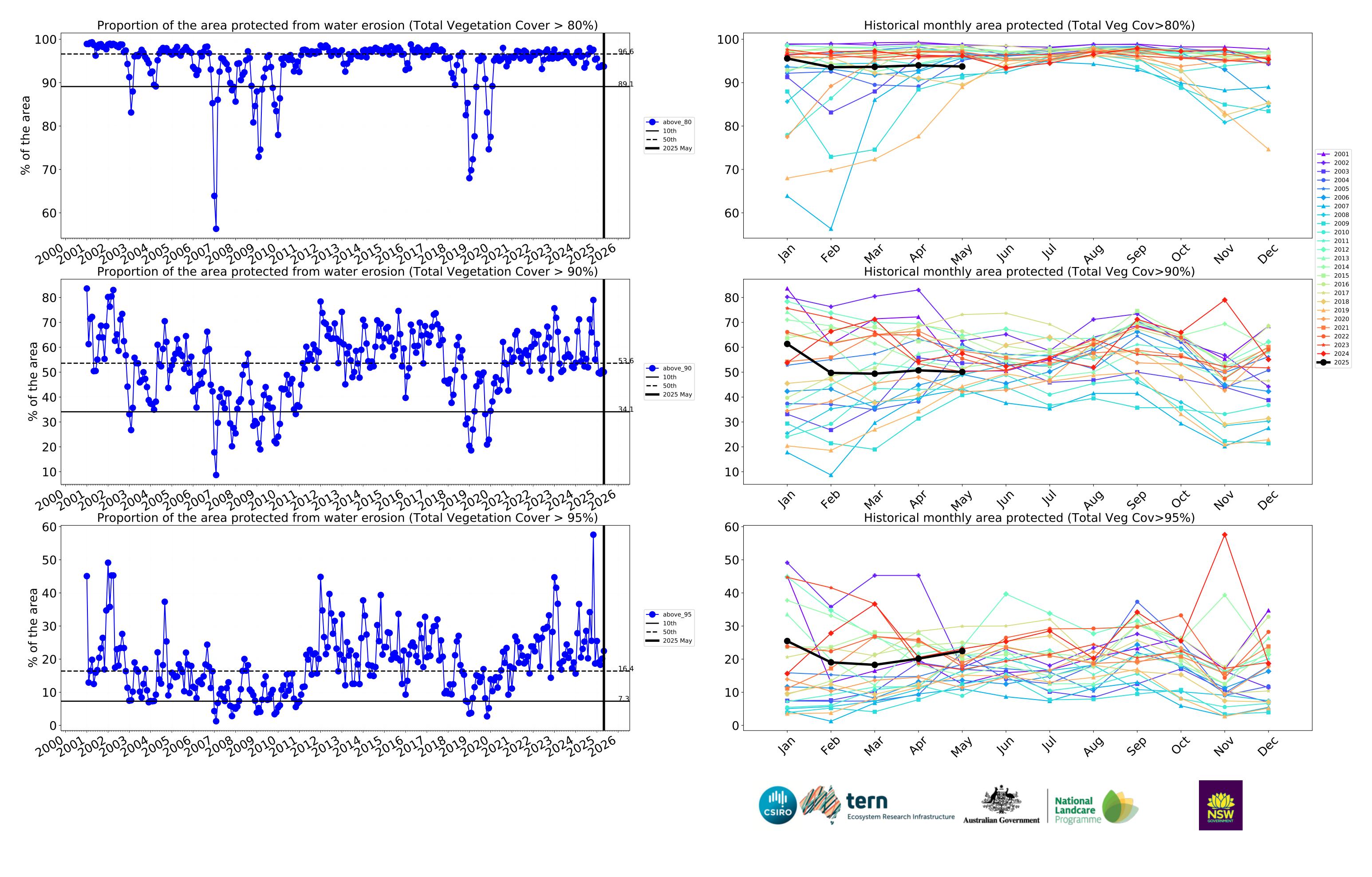


month

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







### **Grazing**

### Land use and forest cover

# 1 Agriculture - Grazing - Non forest 2 Agriculture - Grazing - Woodland forest 3 Agriculture - Grazing - Non-woodland forest

Catchment Scale Land Use and Forests of Australia (2018)

Catchment Scale Land

Derived from

Use of Australia (2018) and Forests of Australia (2018)

Anomaly show how many percetage points each

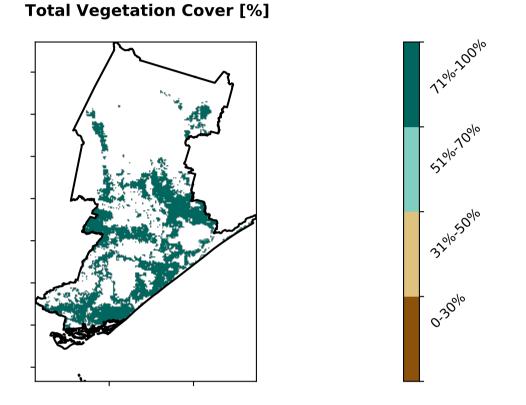
pixel is from the mean. That

is, red pixels are about 20% lower than the

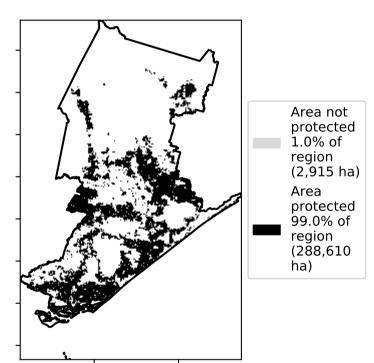
mean of that

pixel. The mean

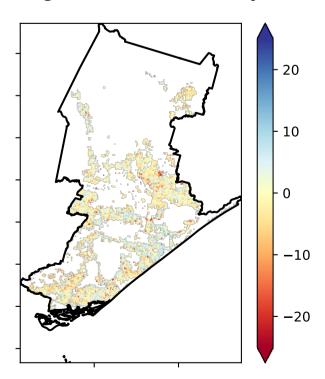
is only for the month of the map using baseline from 2001 to 2019.



### % Area protected from water erosion (>70%)

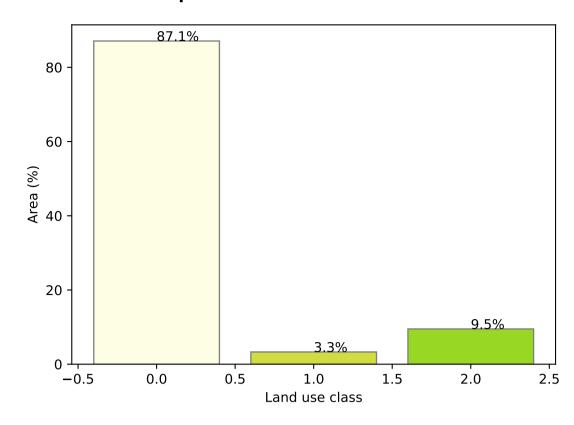


### **Total Vegetation Cover Anomaly [%]**

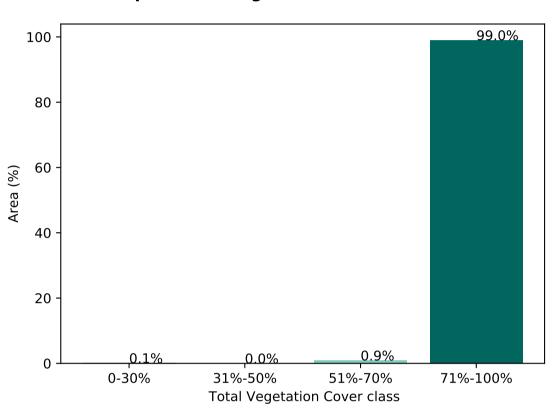


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

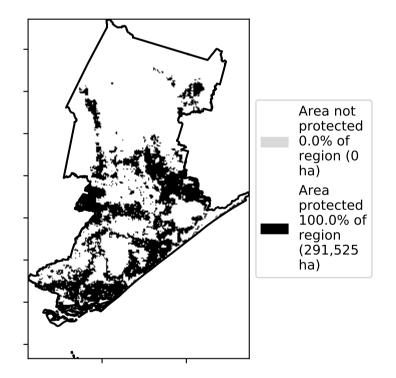
### Proportion of each land class in area

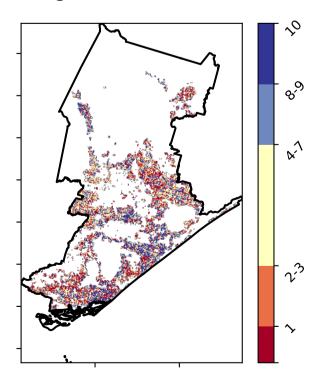


### Proportion of vegetation cover class in area



### % Area protected from wind erosion (>50%)





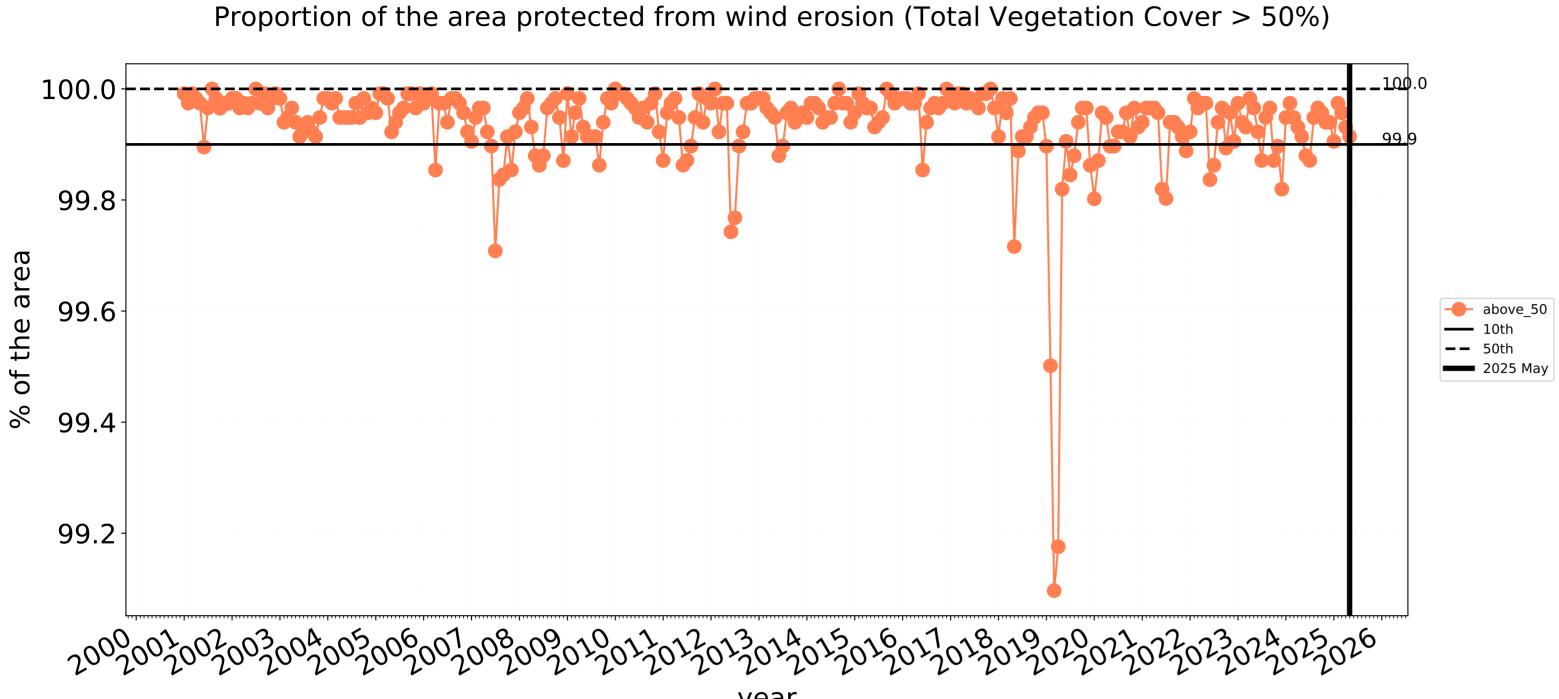


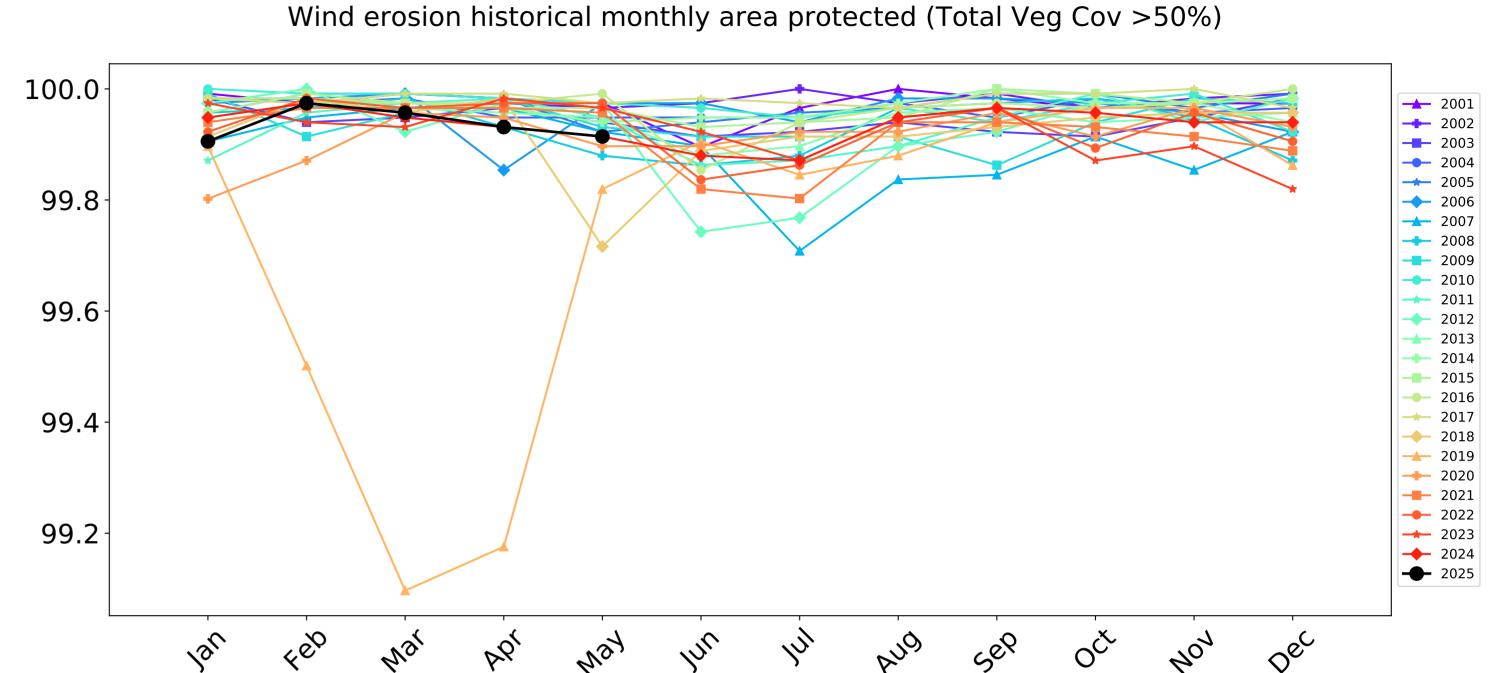


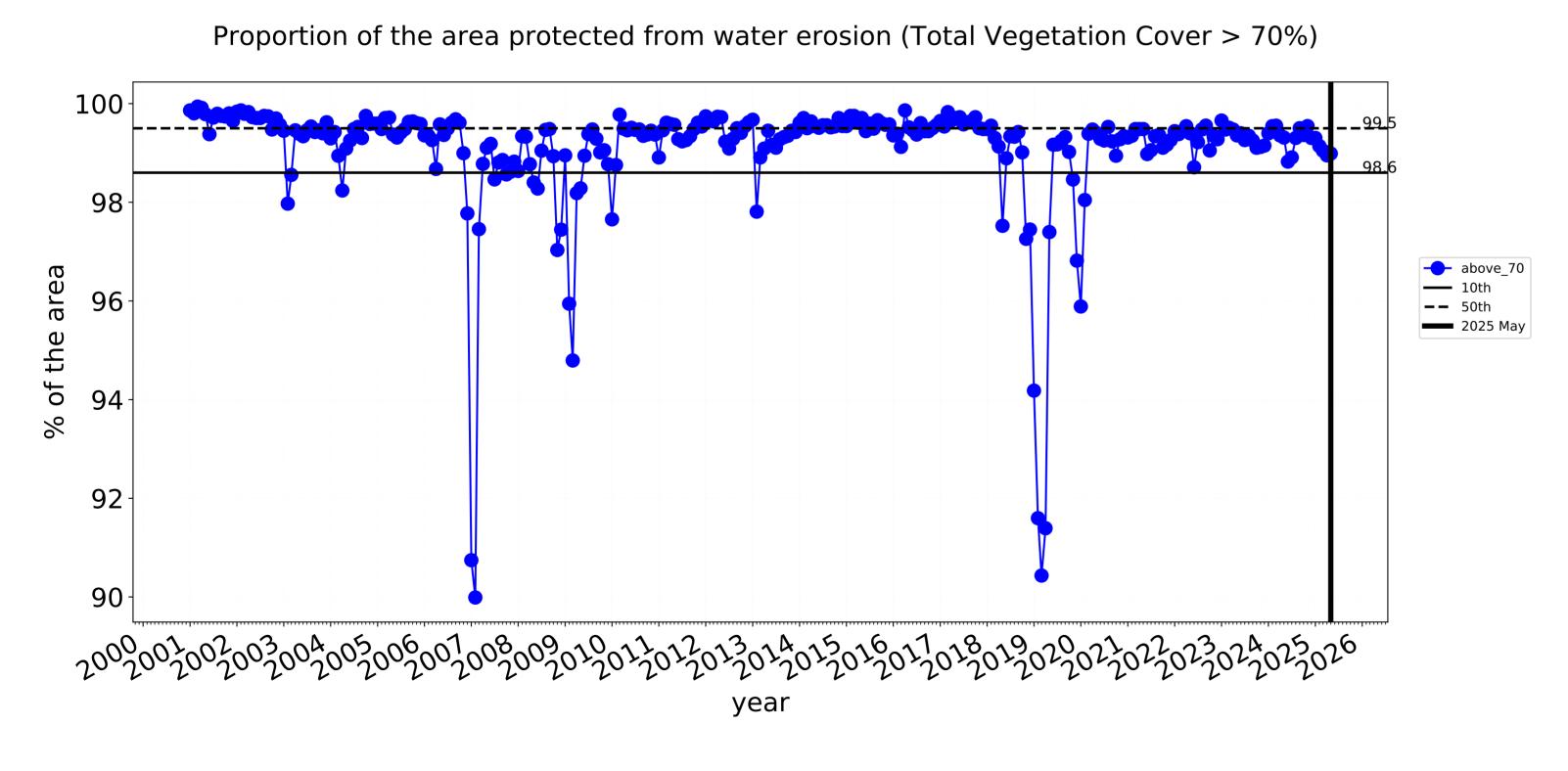


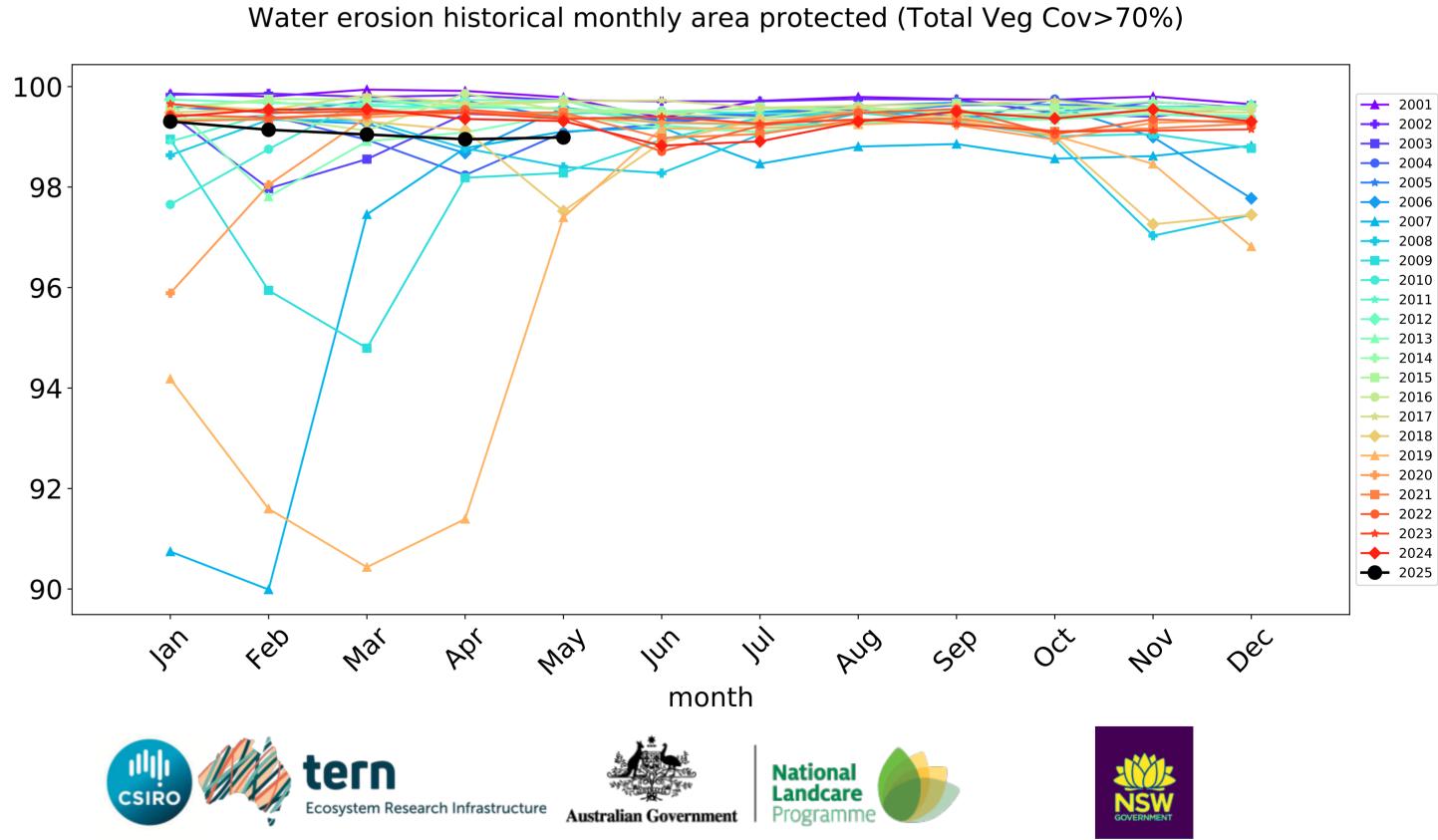


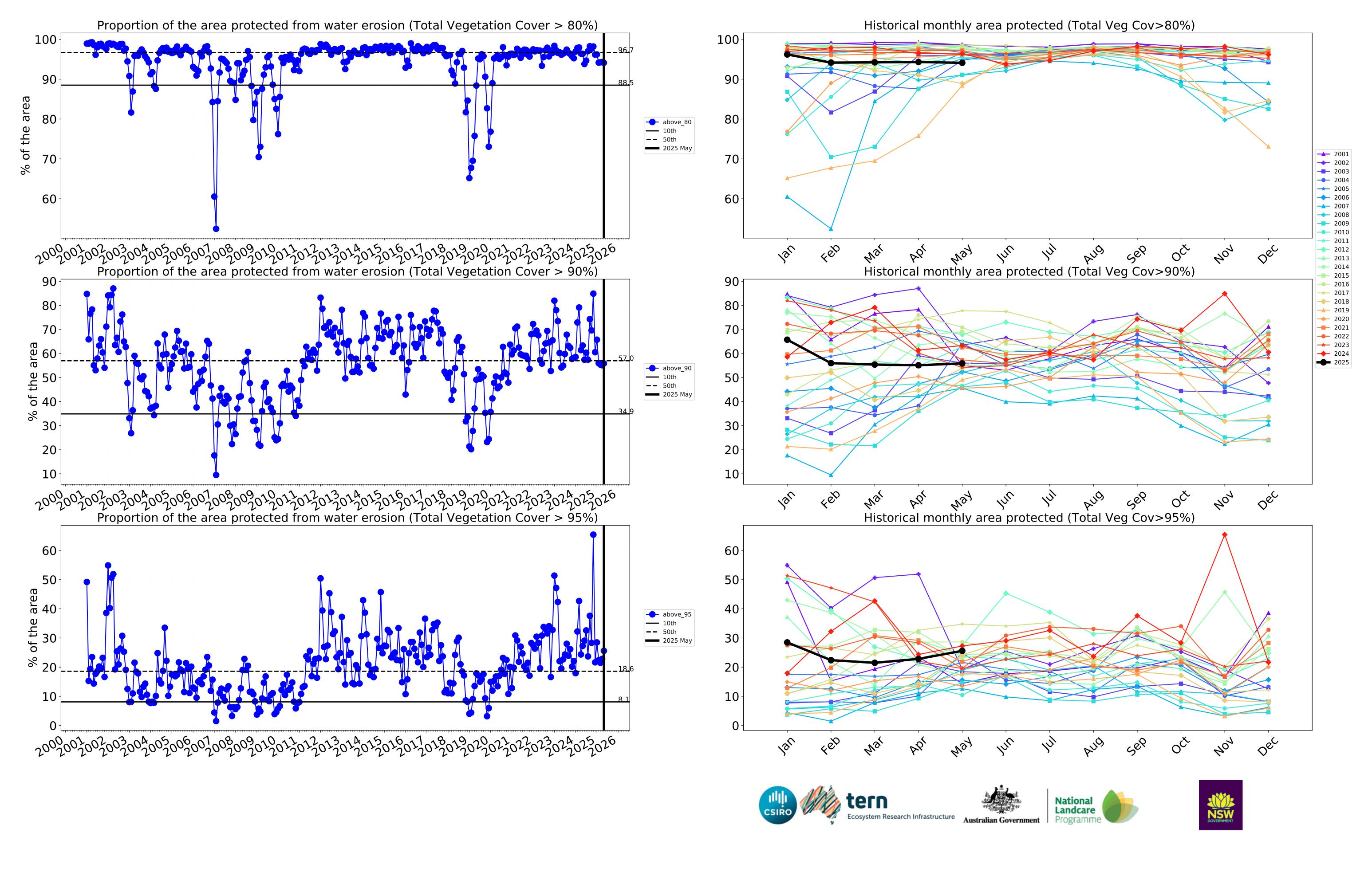
### **Grazing timeseries**











### **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)

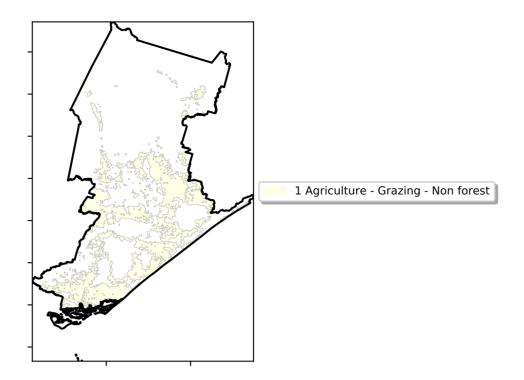
Anomaly show how many percetage points each

pixel is from the mean. That

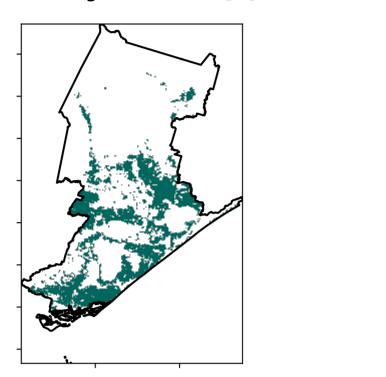
pixel. The mean

is only for the month of the map using baseline from 2001 to 2019.

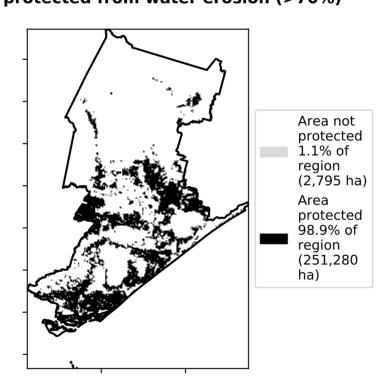
is, red pixels are about 20% lower than the mean of that



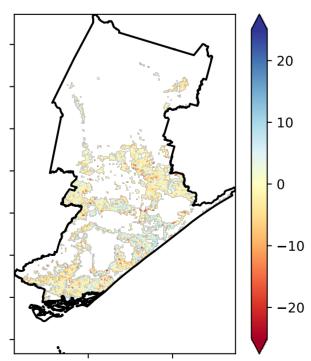
### **Total Vegetation Cover [%]**



### % Area protected from water erosion (>70%)

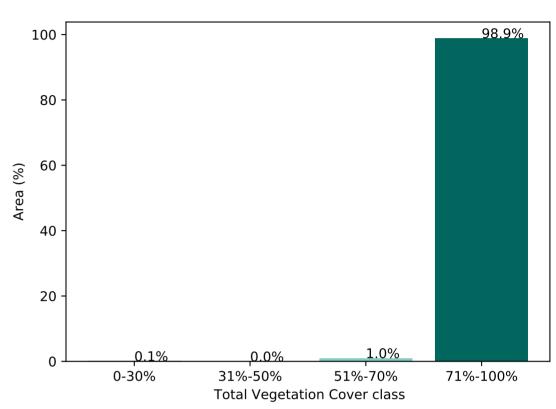


### **Total Vegetation Cover Anomaly [%]**

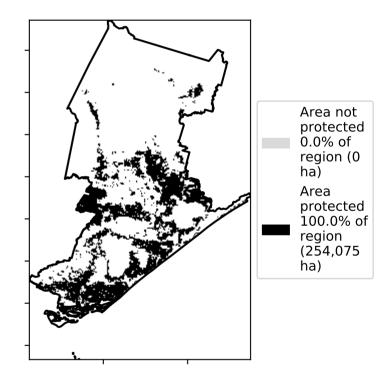


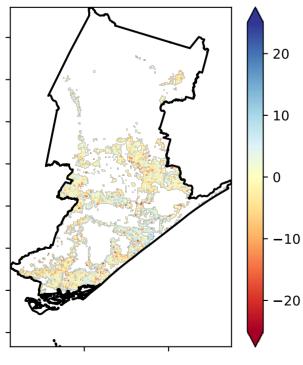
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of the map using baseline from 2001 to 2019.

### Proportion of vegetation cover class in area

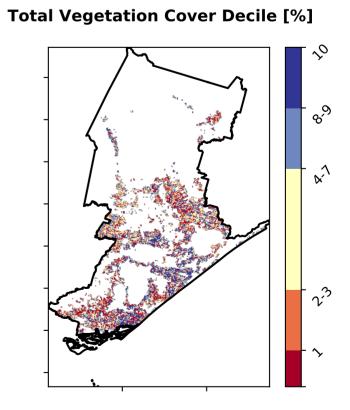


### % Area protected from wind erosion (>50%)





records for that month of







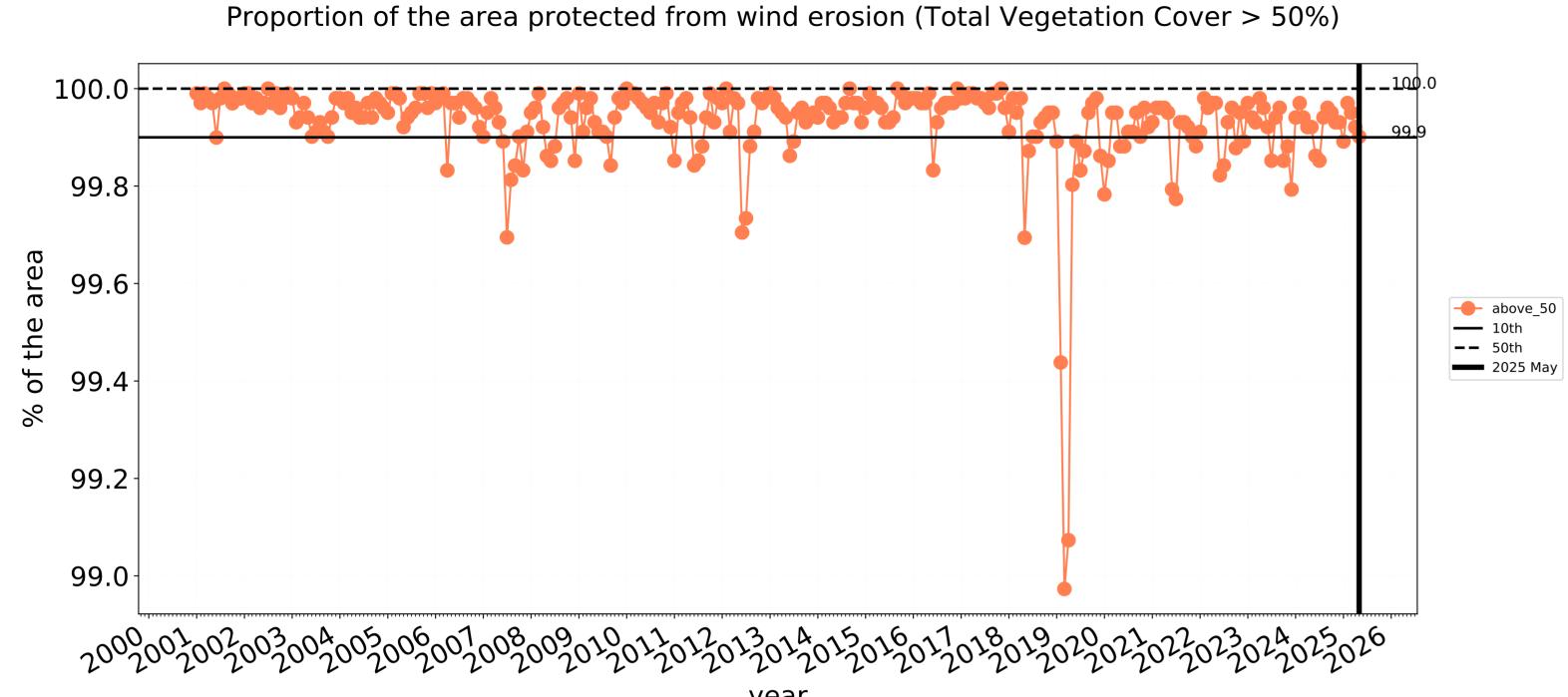


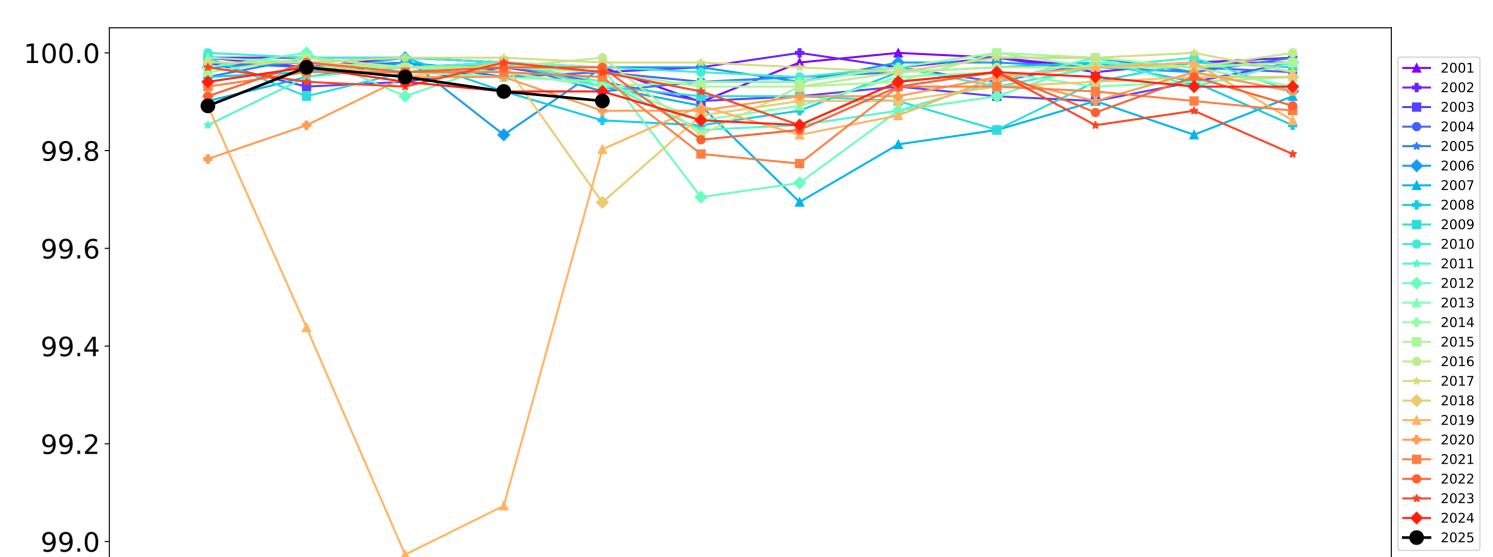






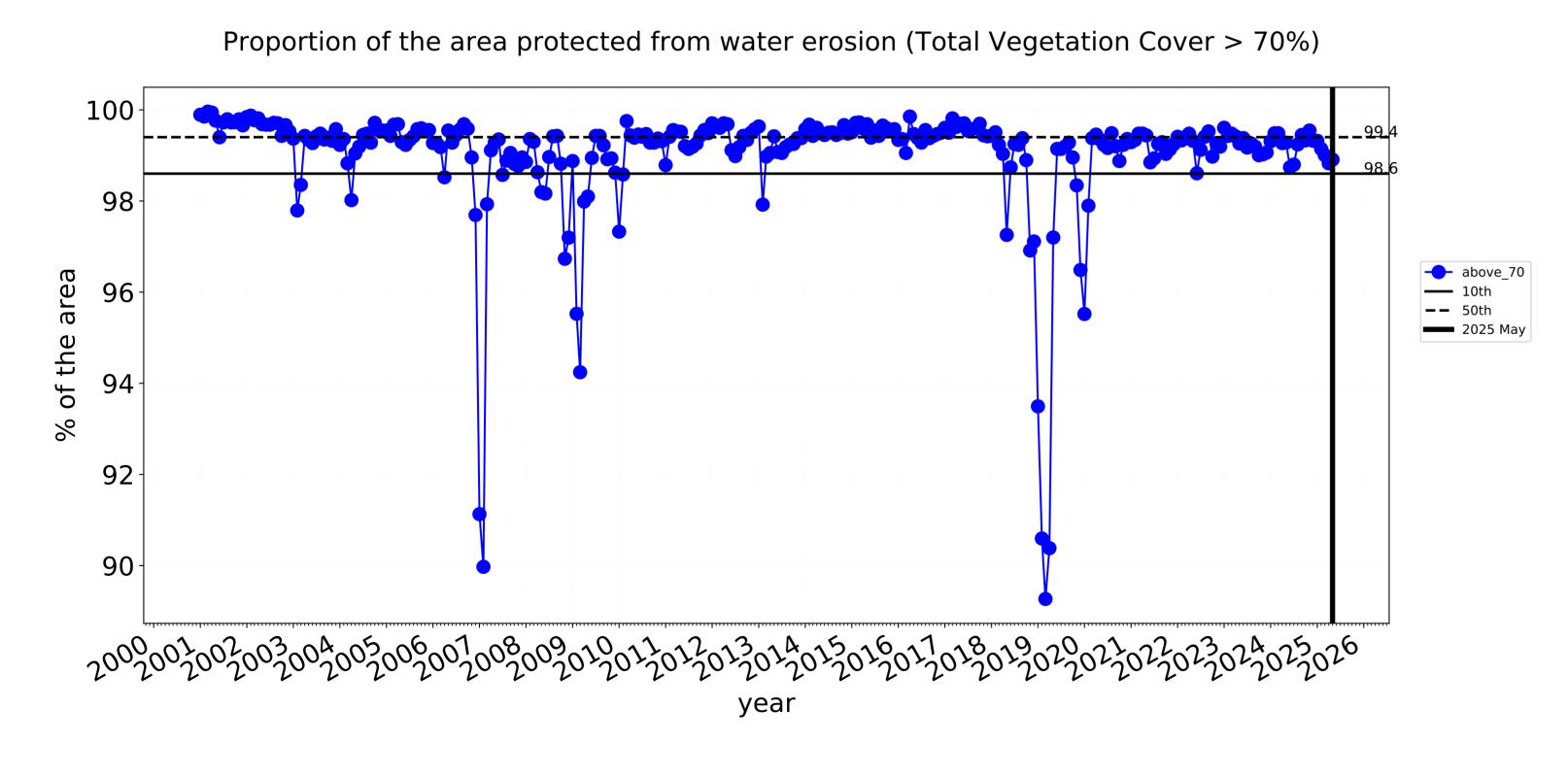
### **Grazing non forest timeseries**

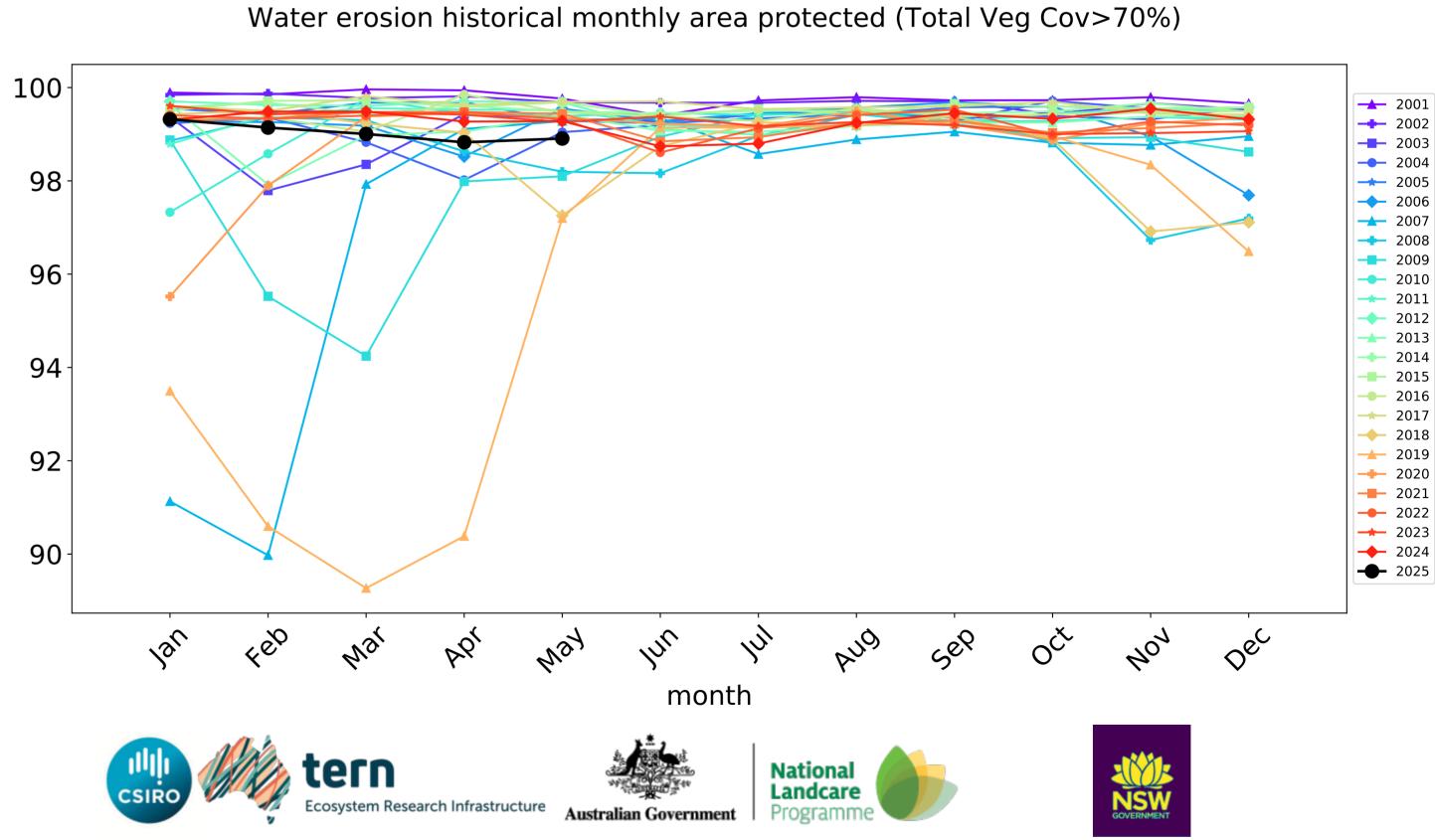


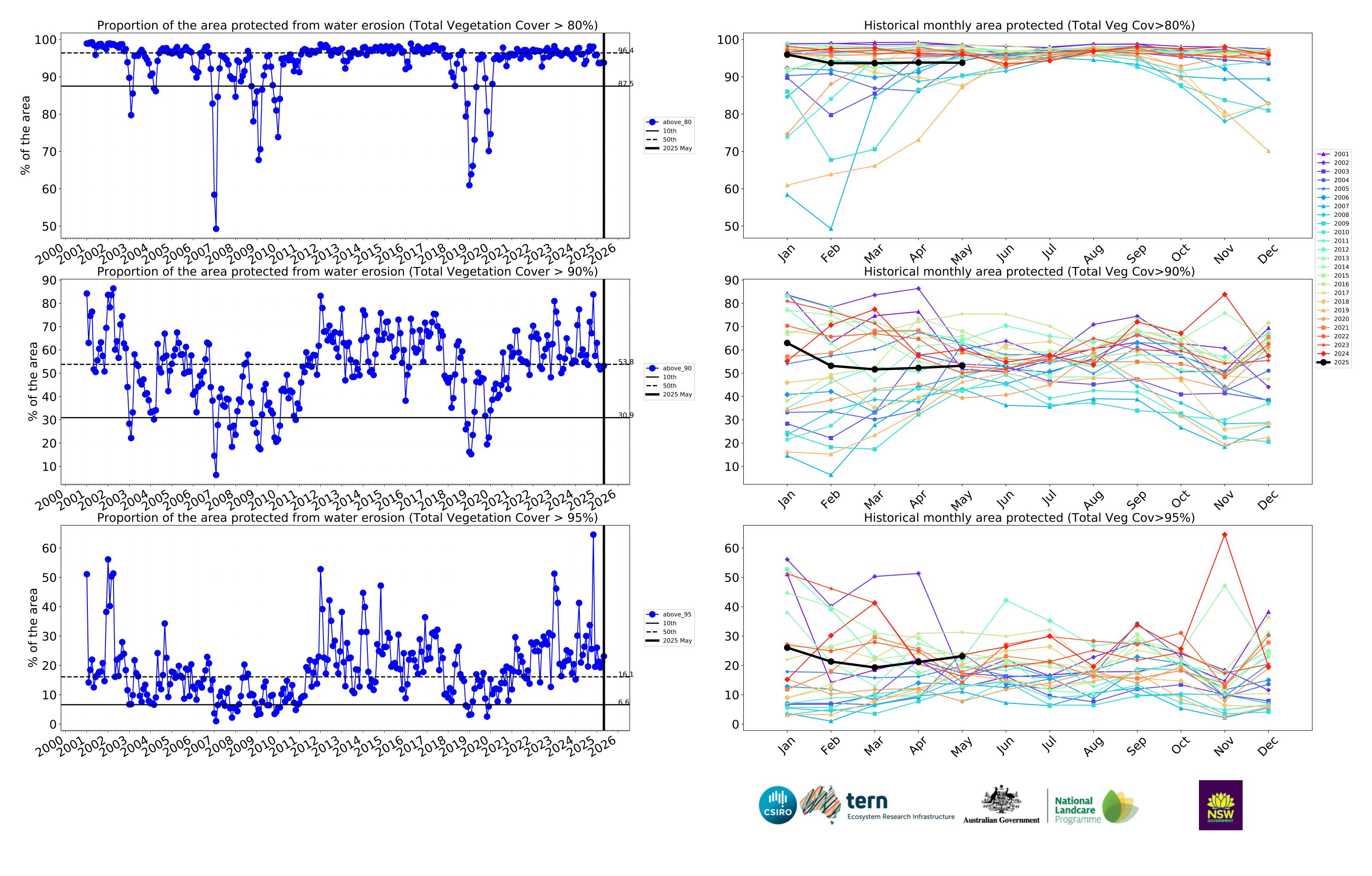


month

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







### **Grazing - Forest (non woodland)**

### 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)

Anomaly show how many percetage points each

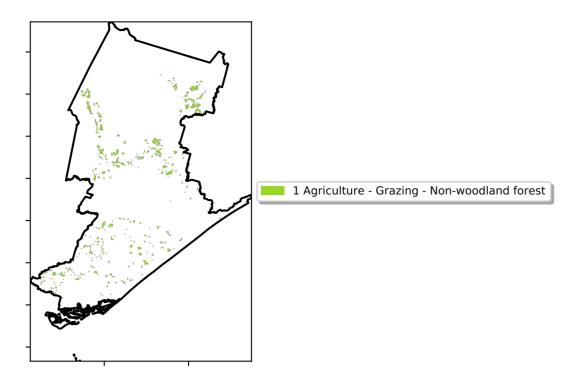
pixel is from the mean. That

is, red pixels

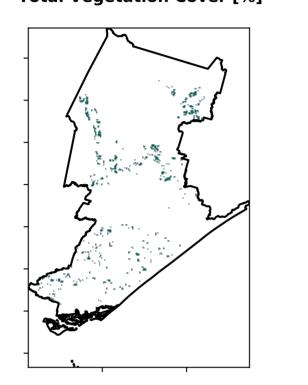
are about 20% lower than the mean of that

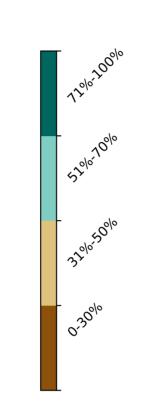
pixel. The mean

is only for the month of the map using baseline from 2001 to 2019.

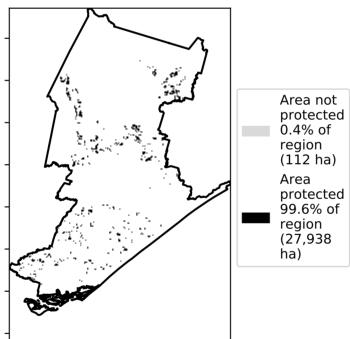


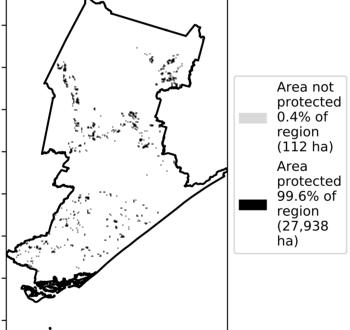
### **Total Vegetation Cover [%]**



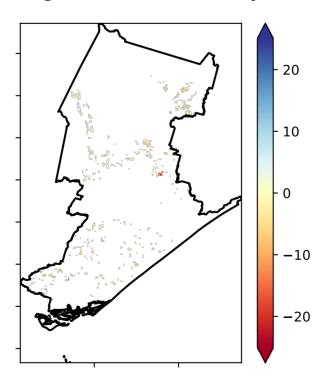


### % Area protected from water erosion (>70%)



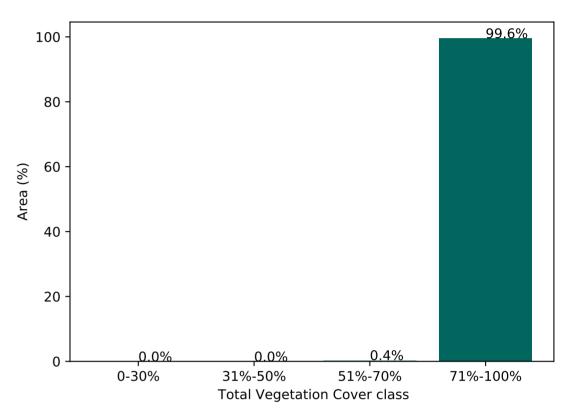


### **Total Vegetation Cover Anomaly [%]**

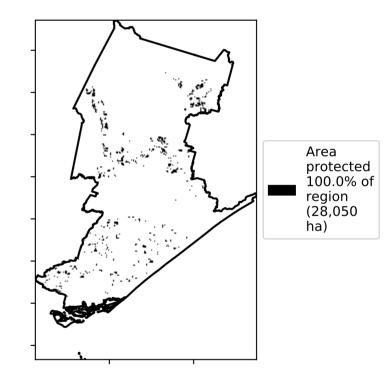


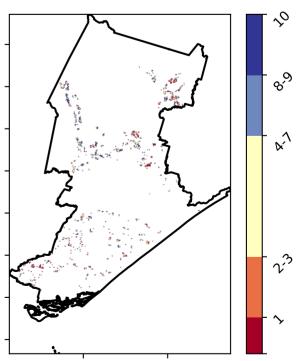
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

### Proportion of vegetation cover class in area



### % Area protected from wind erosion (>50%)



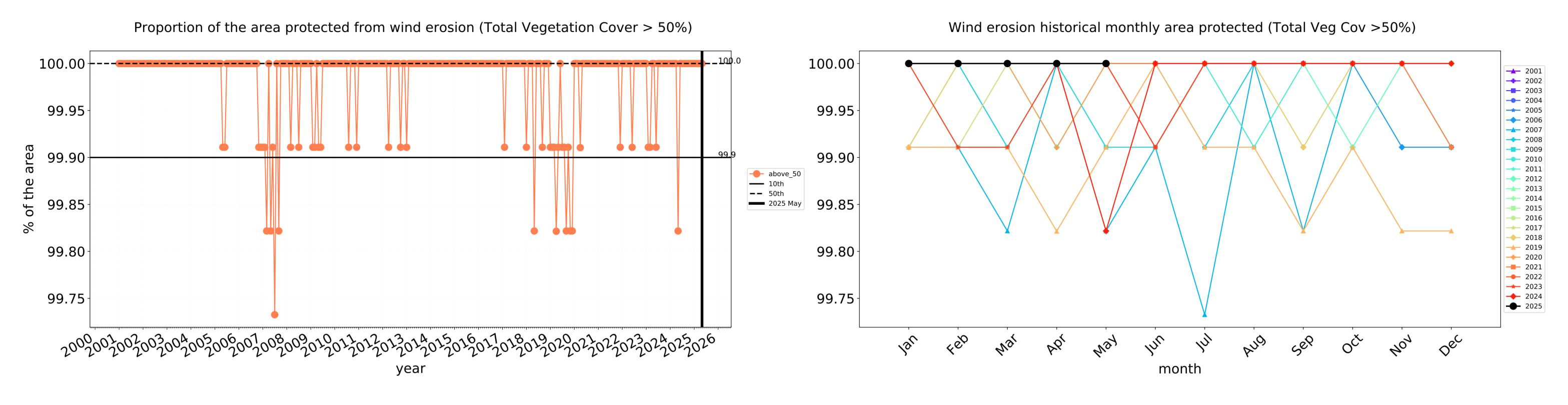


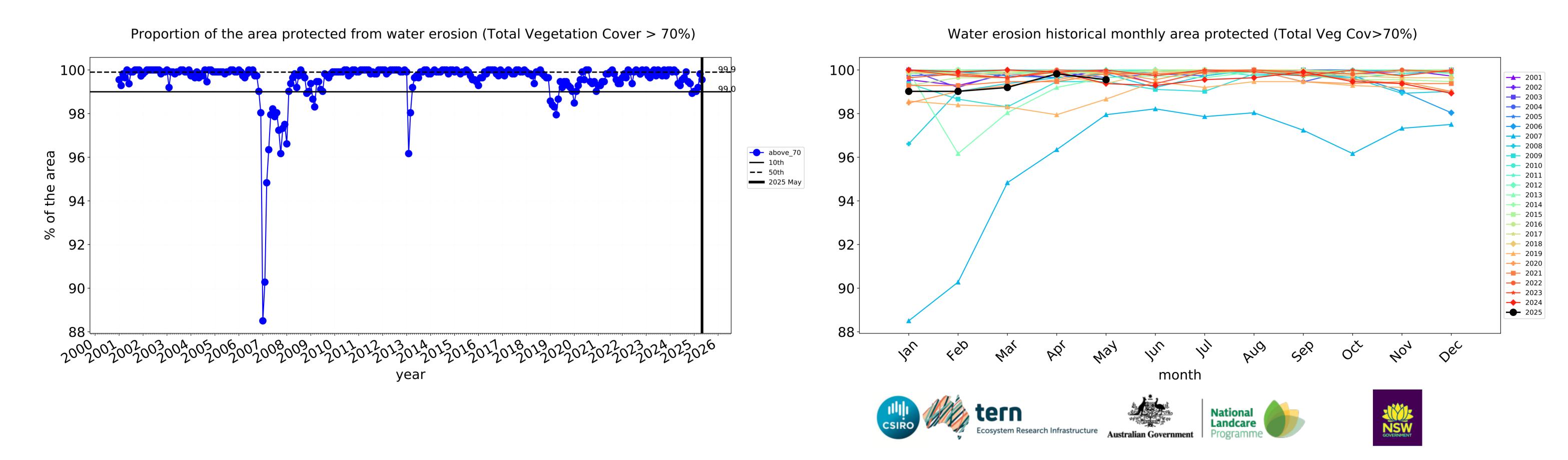


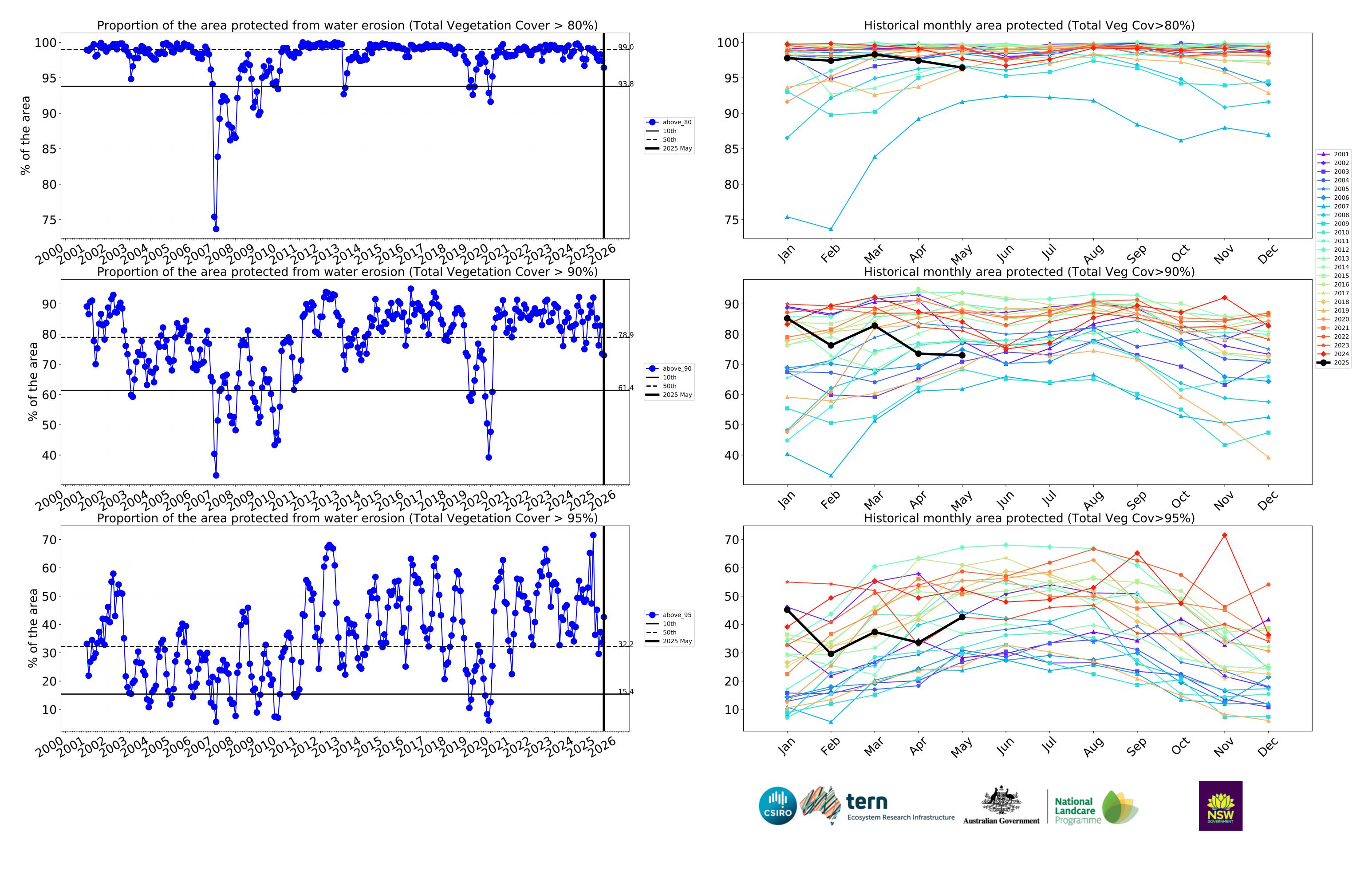












### **Irrigation**

### Land use and forest cover

Catchment Scale Land Use and Forests

of Australia (2018)

Catchment Scale Land

Derived from

Use of Australia (2018) and Forests

of Australia (2018)

Anomaly show how many percetage points each

pixel is from the mean. That

is, red pixels are about 20% lower than the

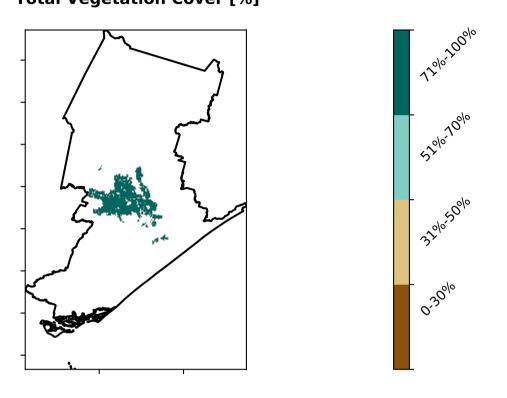
mean of that

pixel. The mean

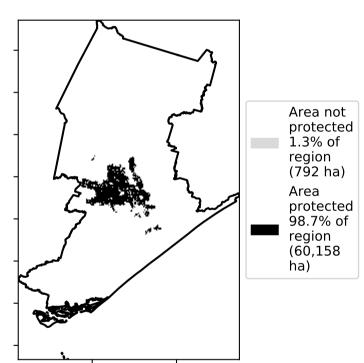
is only for the month of the map using baseline from 2001 to 2019.

# 1 Agriculture - Grazing - Irrigated 2 Agriculture - Cropping - Irrigated 3 Agriculture - Horticulture - Irrigated

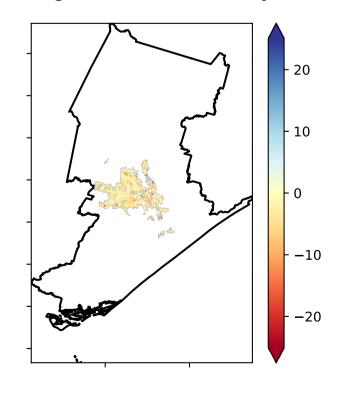
### Total Vegetation Cover [%]



### % Area protected from water erosion (>70%)

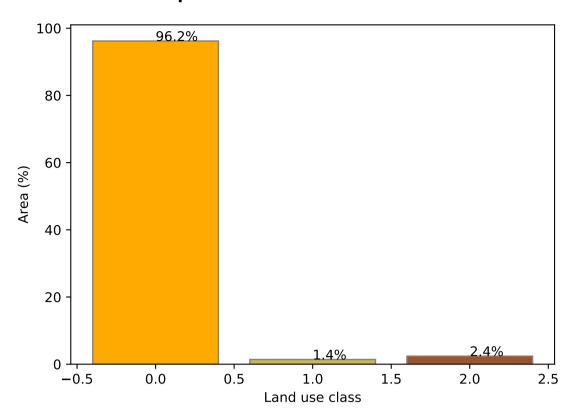


### **Total Vegetation Cover Anomaly [%]**

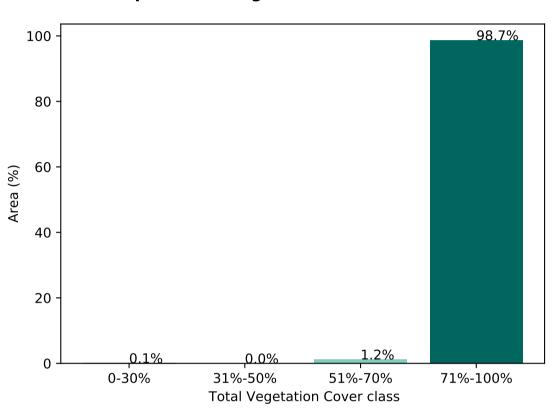


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

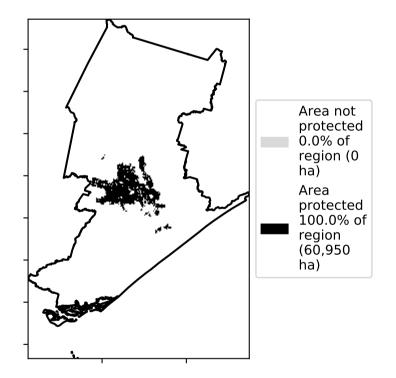
### Proportion of each land class in area

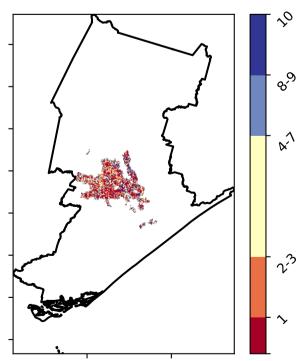


### Proportion of vegetation cover class in area



### % Area protected from wind erosion (>50%)





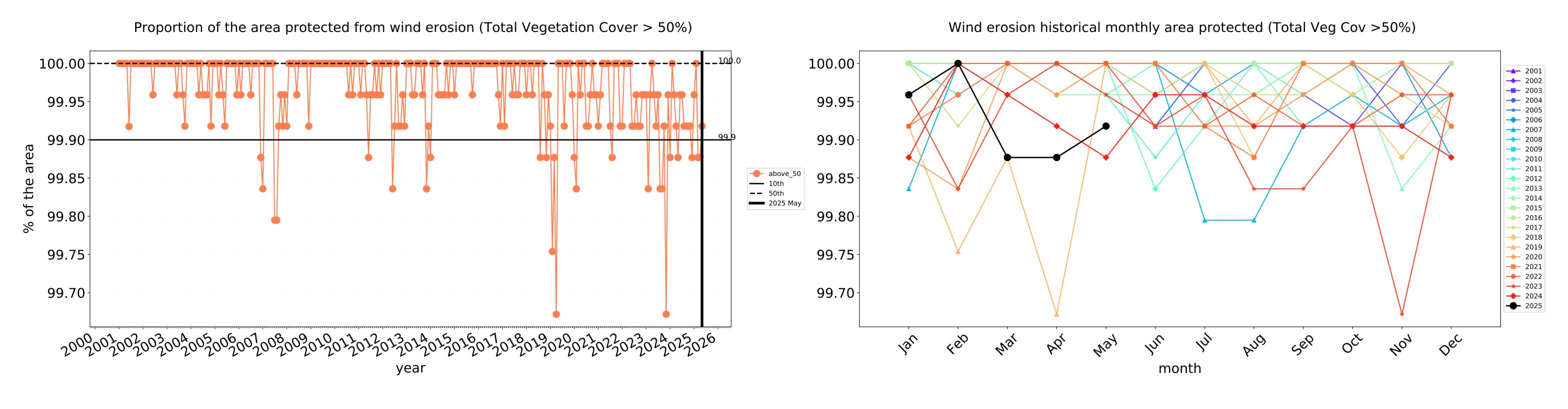


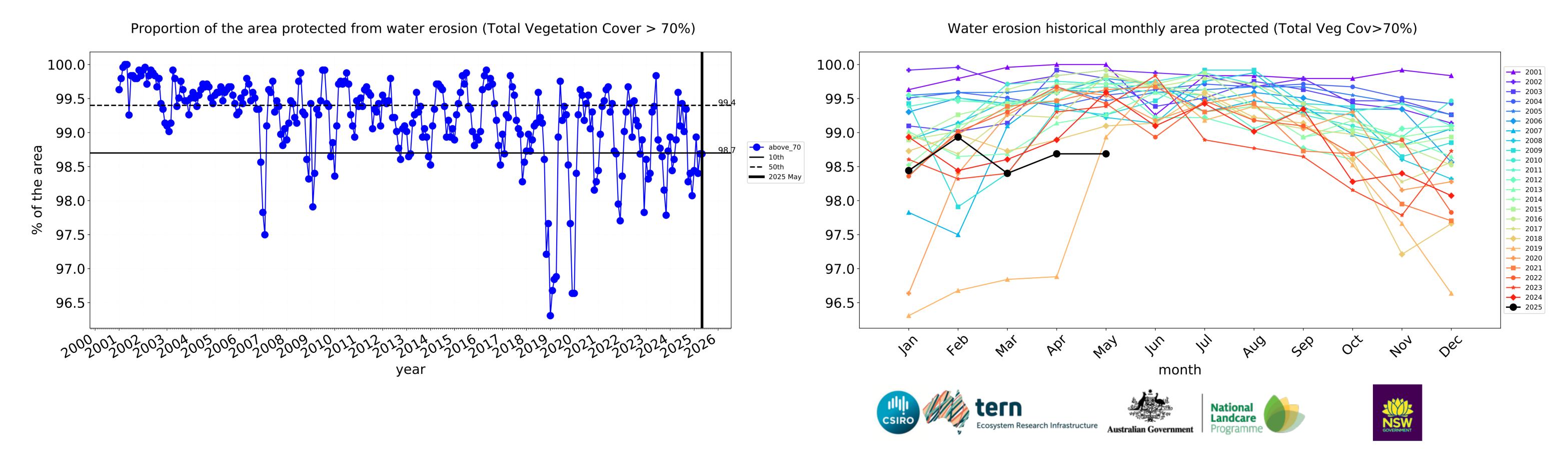


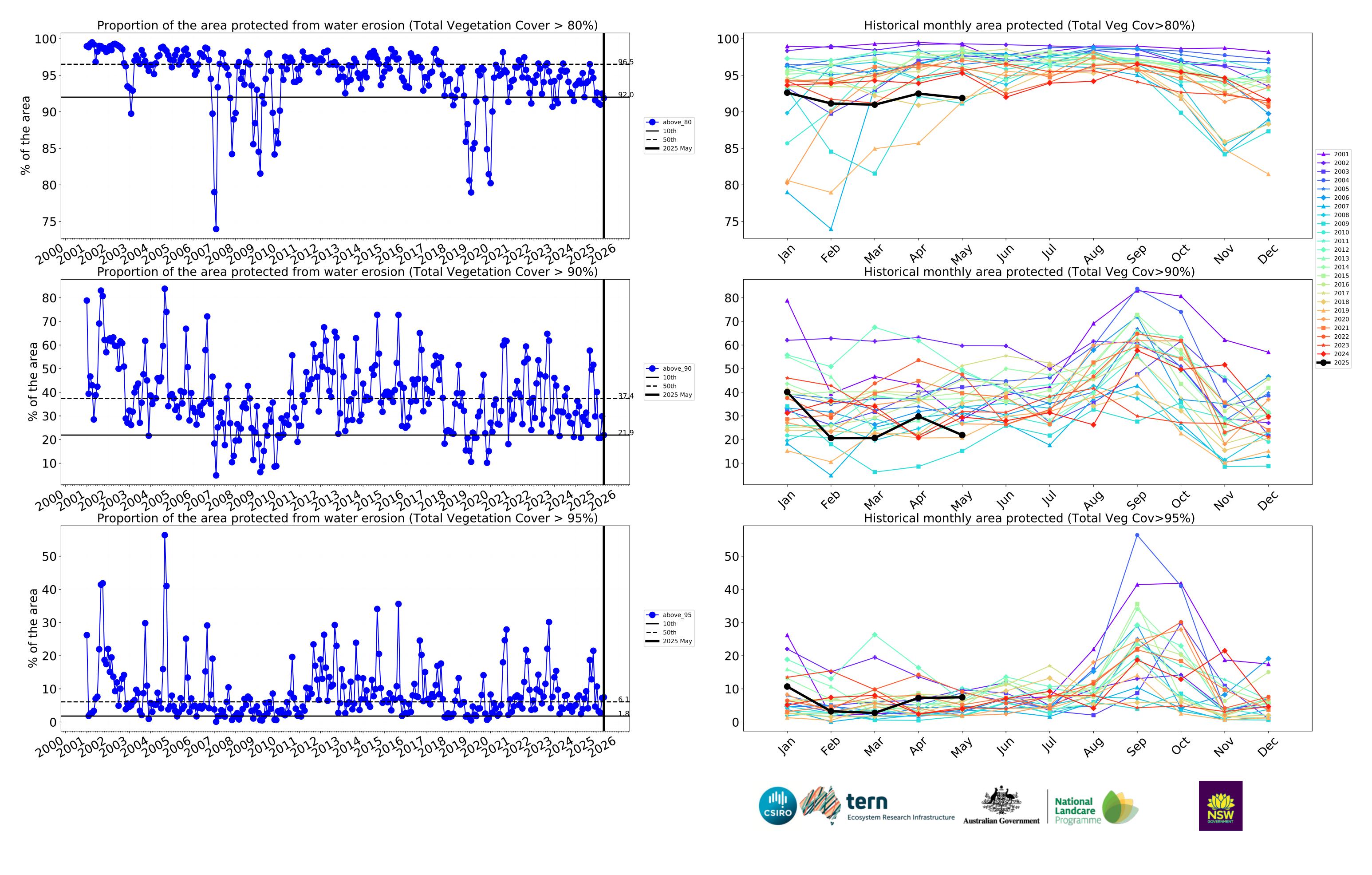




### **Irrigation timeseries**







### **Production native forests and plantation forests**

### 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)

Anomaly show how many percetage points each

pixel is from the mean. That

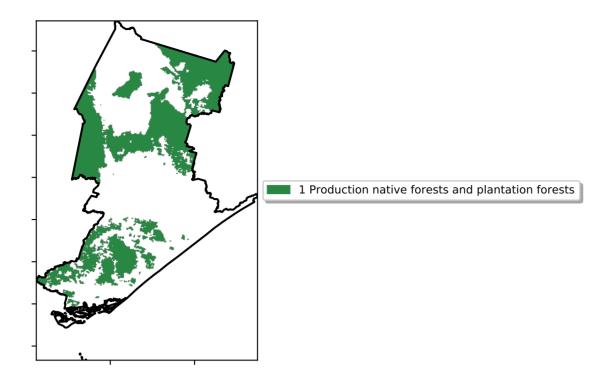
is, red pixels

are about 20% lower than the mean of that

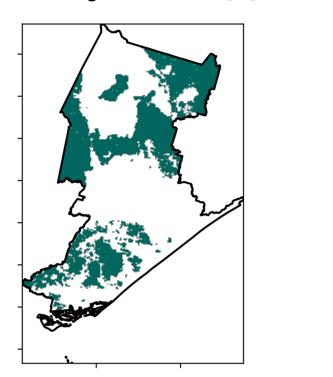
pixel. The mean

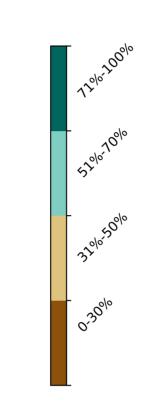
using baseline from 2001 to 2019.

is only for the month of the map

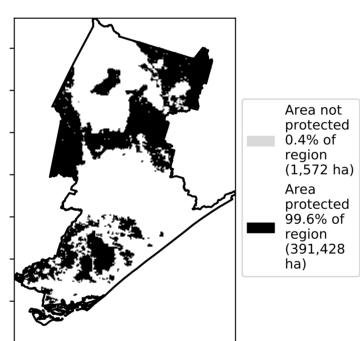


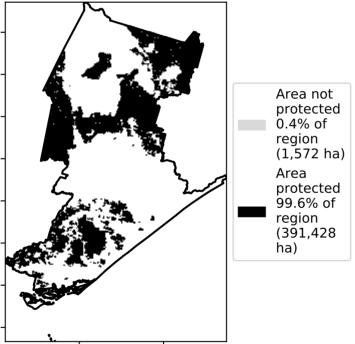
### **Total Vegetation Cover [%]**



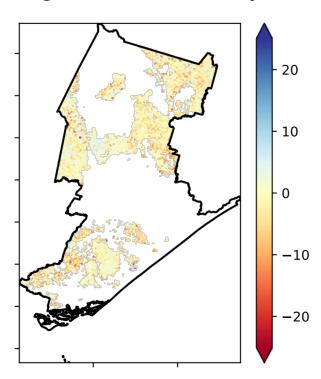


### % Area protected from water erosion (>70%)



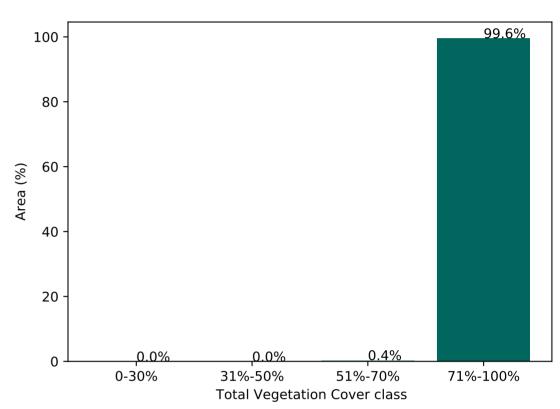


### **Total Vegetation Cover Anomaly [%]**

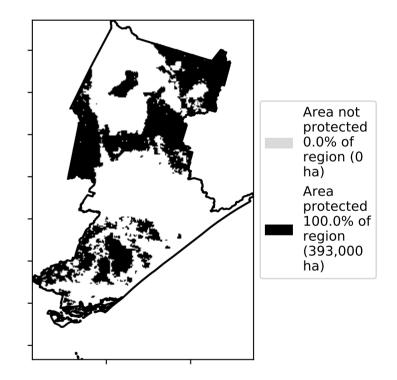


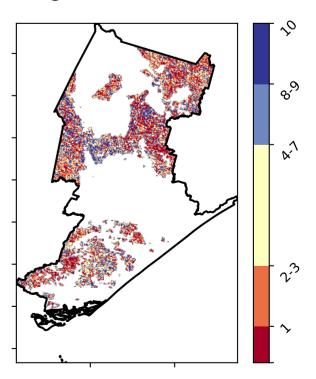
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

### Proportion of vegetation cover class in area



### % Area protected from wind erosion (>50%)





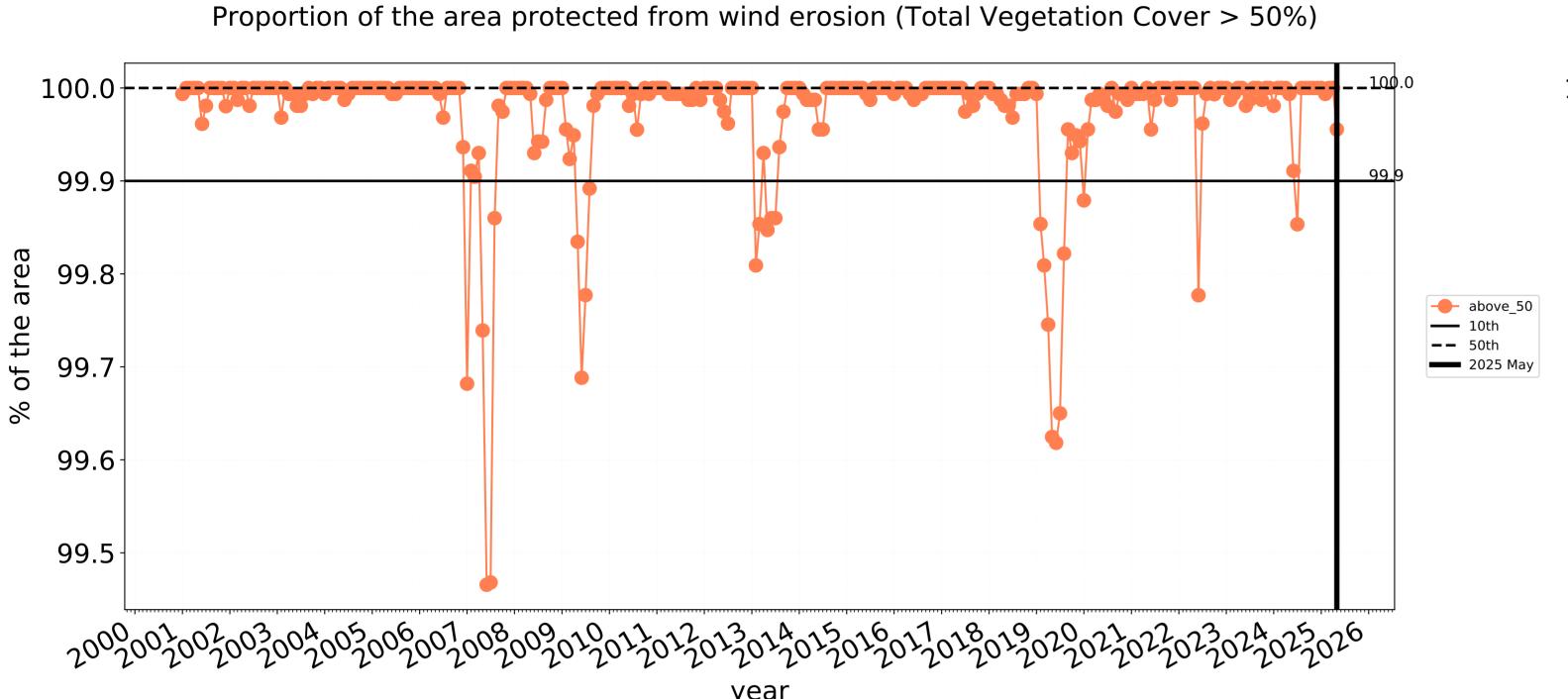


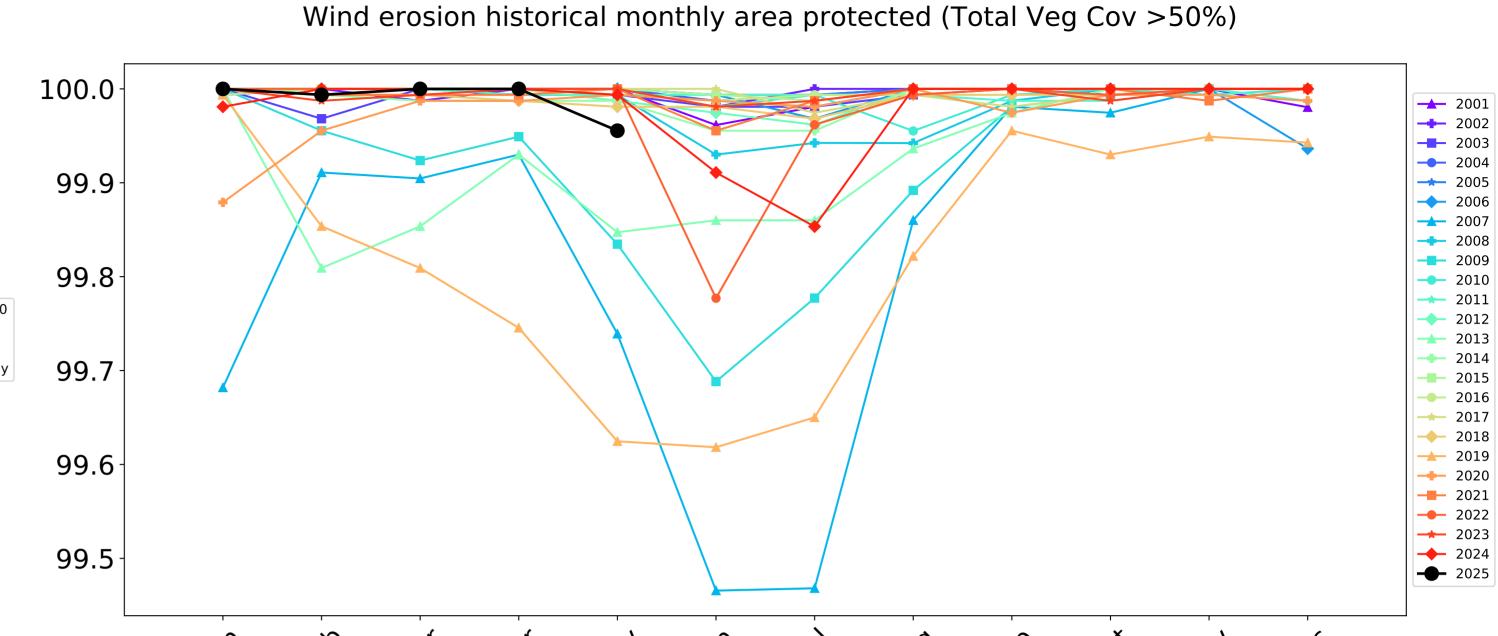


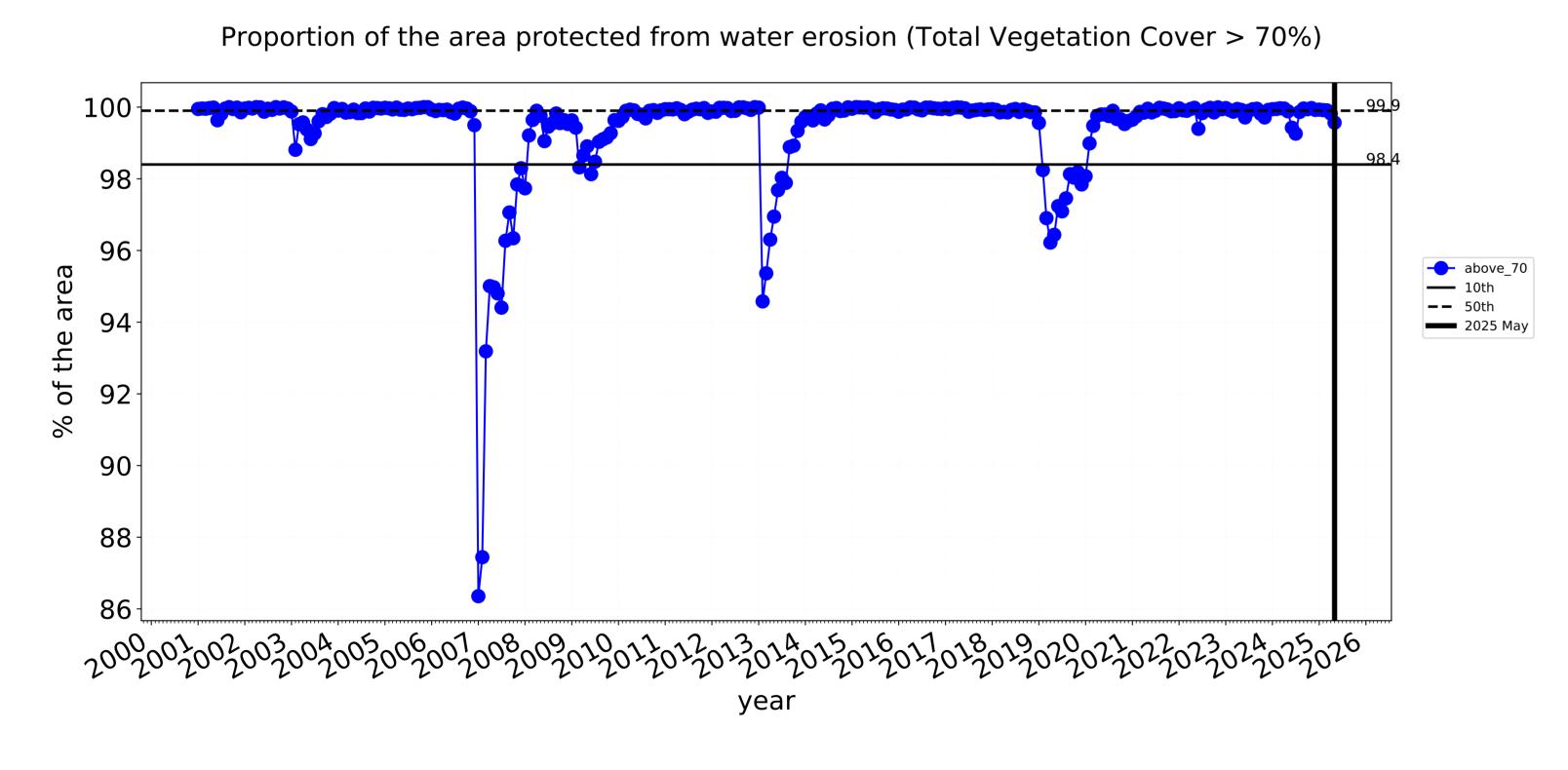


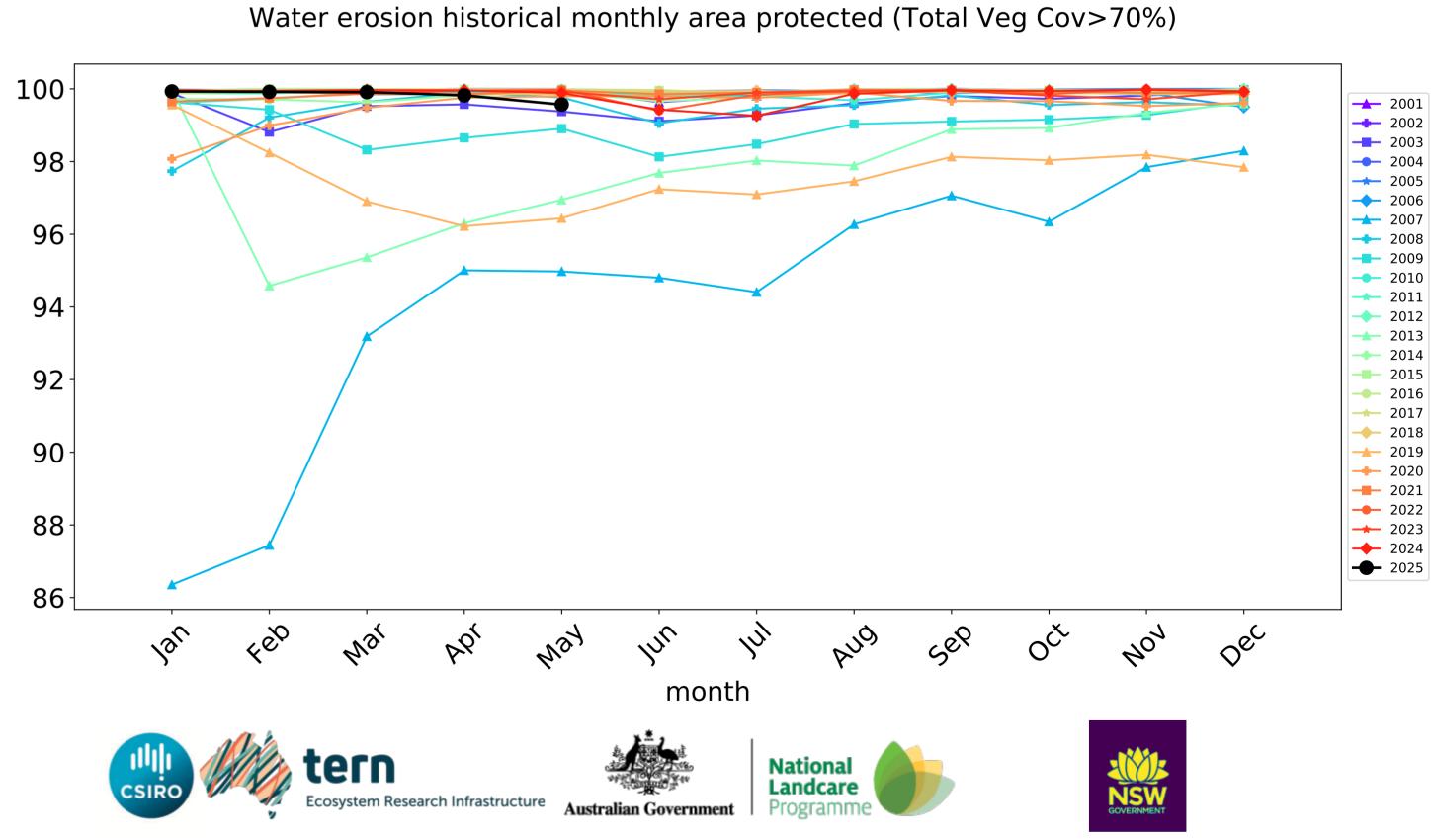


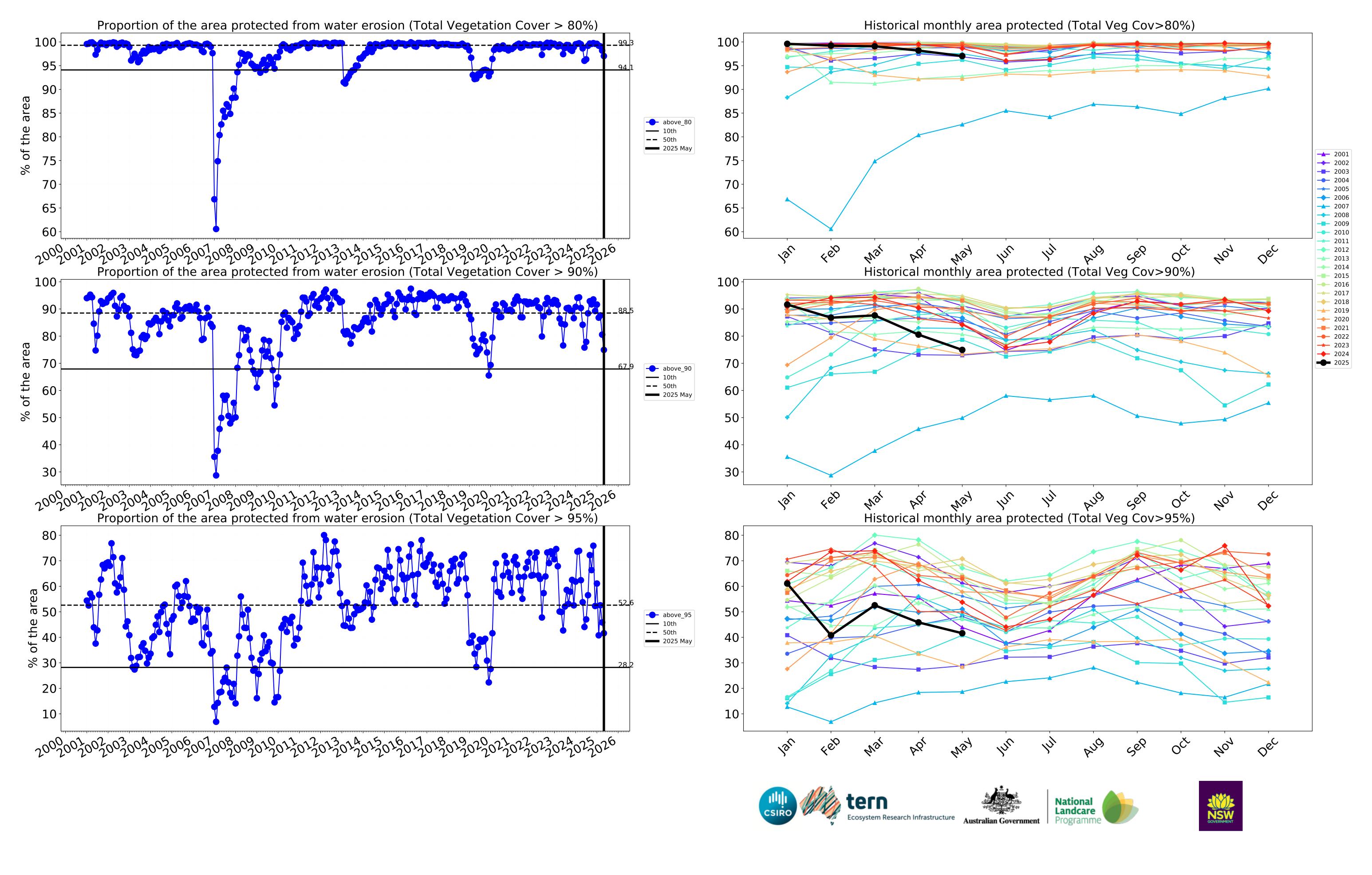
### **Production native forests and plantation forests timeseries**











### Wellington\_(S) (1,052,250 ha and no data 29,555 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	1,052,250	99.9% 1,051,650	99.8% 1,050,500	98.6% 1,037,100	94.0% 989,200	63.4% 666,950	33.2% 348,875
Conservation and natural environments	264,450	99.9% 264,200	99.7% 263,575	97.5% 257,775	91.4% 241,800	66.1% 174,925	36.3% 96,075
Conservation and natural environments non forest	25,300	99.6% 25,200	98.2% 24,850	88.2% 22,325	73.1% 18,500	39.9% 10,100	18.7% 4,725
Conservation and natural environments Woodland forest	74,425	99.9% 74,325	99.8% 74,275	98.8% 73,525	94.8% 70,550	73.4% 54,625	43.0% 32,000
Conservation and natural environments Forest (non woodland)	164,725	100.0% 164,675	99.8% 164,450	98.3% 161,925	92.7% 152,750	66.9% 110,200	36.0% 59,350
Agriculture	357,675	100.0% 357,525	99.9% 357,375	98.9% 353,800	93.7% 335,200	50.1% 179,150	22.5% 80,300
Grazing	291,525	100.0% 291,400	99.9% 291,275	99.0% 288,575	94.1% 274,350	55.9% 162,900	25.6% 74,625
Grazing non forest	254,075	100.0% 253,950	99.9% 253,825	98.9% 251,300	93.8% 238,225	53.2% 135,100	23.1% 58,725
Grazing - Forest (non woodland)	28,050	100.0% 28,050	100.0% 28,050	99.6% 27,925	96.4% 27,050	73.0% 20,475	42.6% 11,950
Irrigation	60,950	100.0% 60,925	99.9% 60,900	98.7% 60,150	91.9% 56,000	21.9% 13,350	7.5% 4,550
Production native forests and plantation forests	393,000	100.0% 392,850	100.0% 392,825	99.6% 391,300	97.0% 381,325	74.9% 294,475	41.6% 163,500







