## Total vegetation cover soil protection Region:LGA Sunshine\_Coast\_(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: May 2025** 

## **Vegetation Cover May 2025**

#### Land use and forest cover

Catchment Scale

of Australia (2018)

(2018) and Forests

of Australia (2018)

Anomaly show how many percetage points each pixel is from

the mean. That

is, red pixels

mean of that pixel. The mean is only for the

month of the map

using baseline from 2001 to 2019.

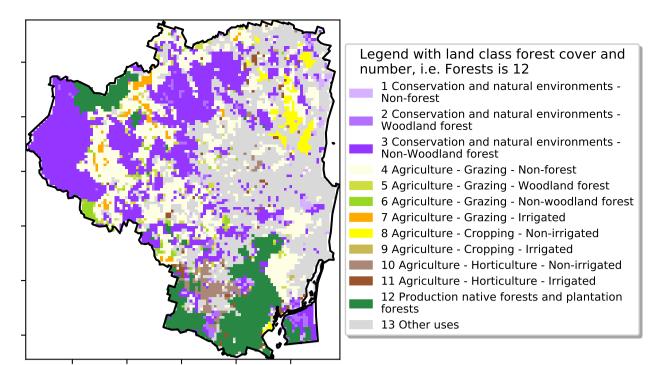
are about 20% lower than the

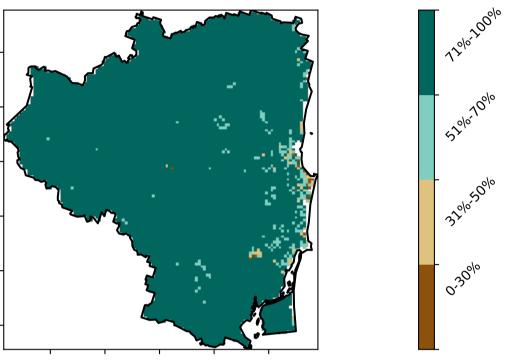
Derived from

Use of Australia

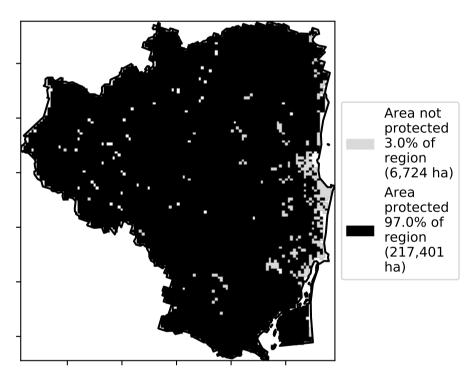
Land Use and Forests

Catchment Scale Land

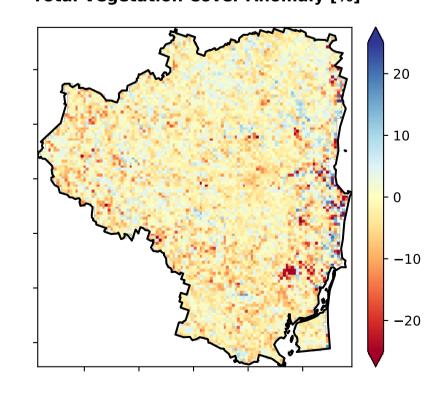




#### % Area protected from water erosion (>70%)

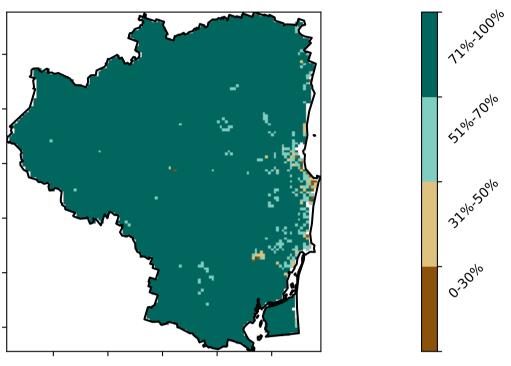


## **Total Vegetation Cover Anomaly [%]**

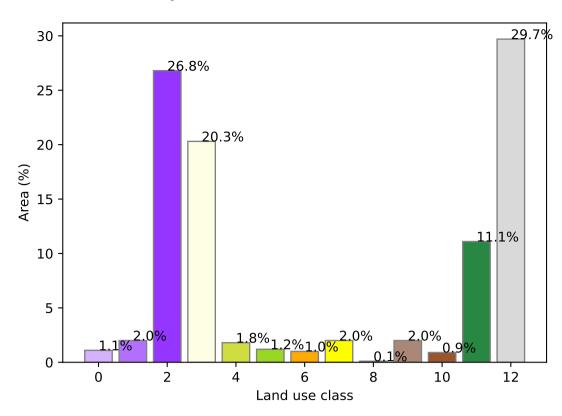


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

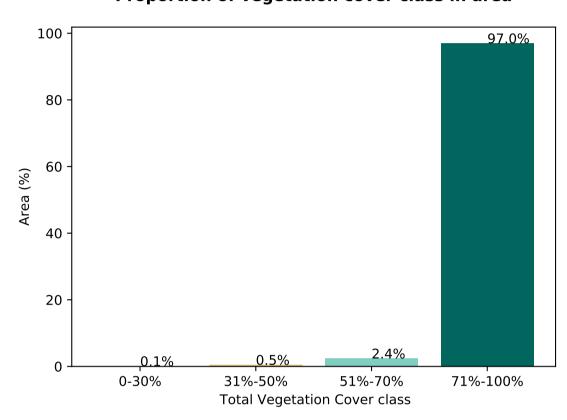
## **Total Vegetation Cover [%]**



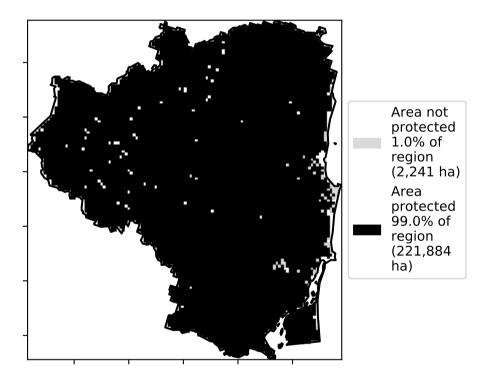
#### Proportion of each land class in area

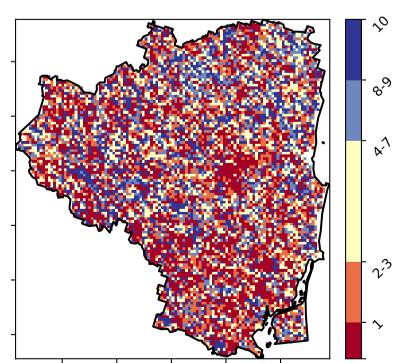


#### **Proportion of vegetation cover class in area**



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



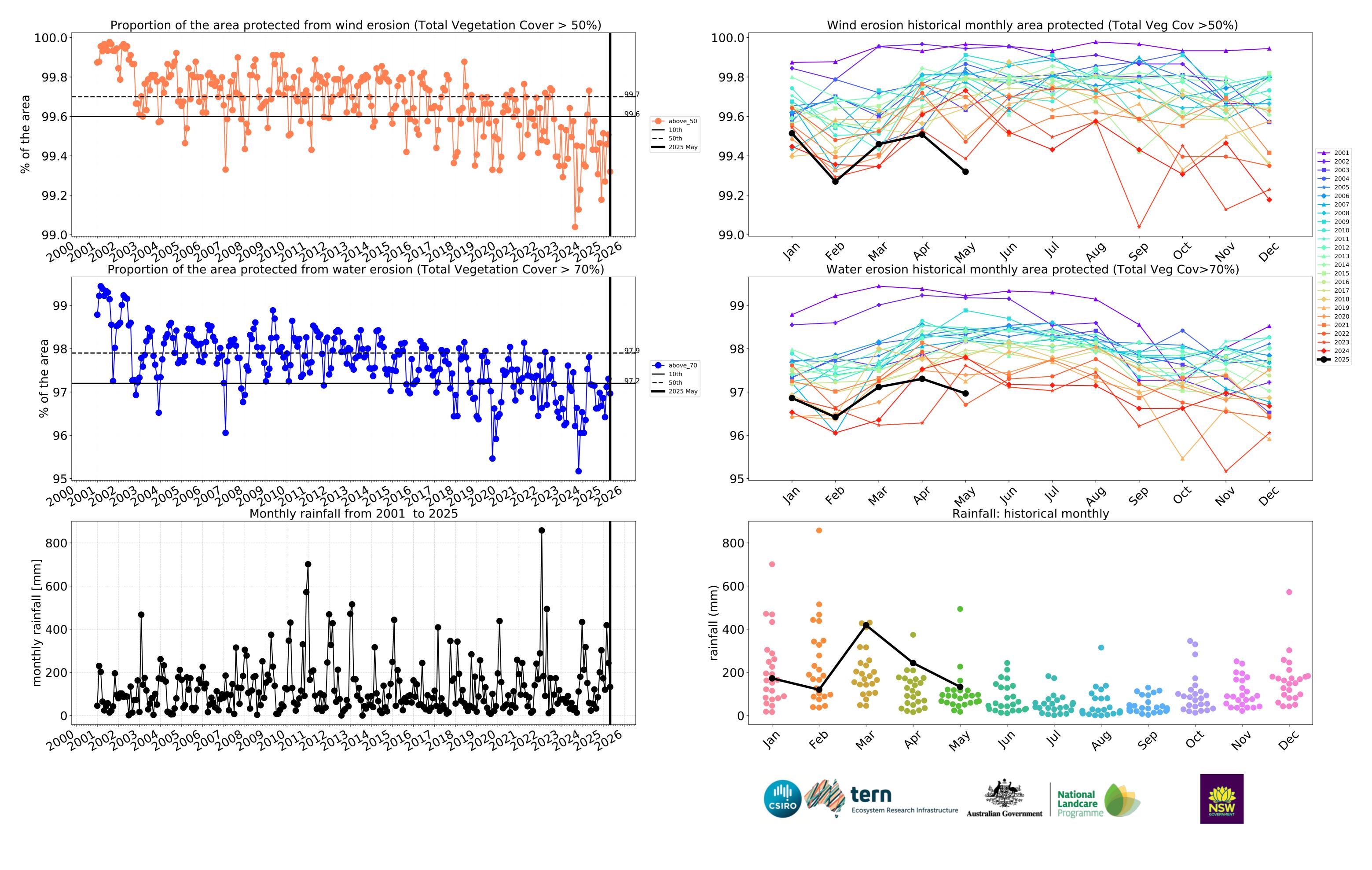


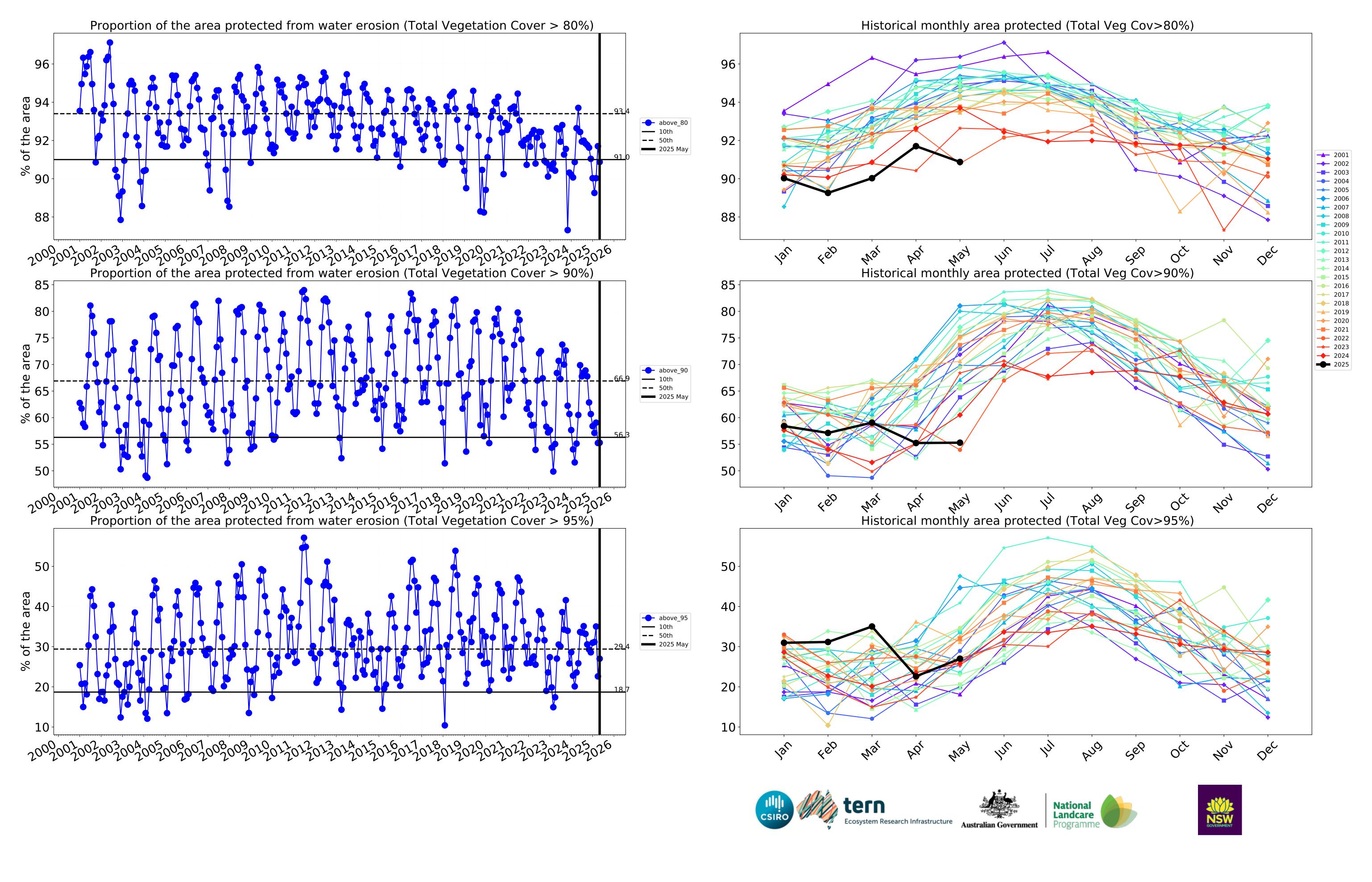












## **Conservation and natural environments**

#### 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

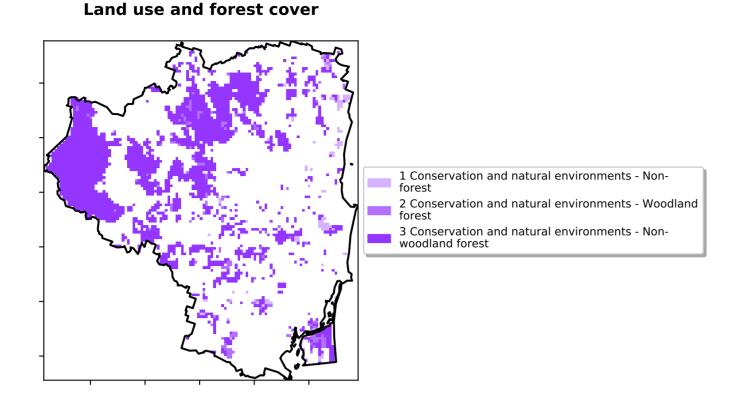
the mean. That

pixel. The mean

using baseline from 2001 to 2019.

is only for the month of the map

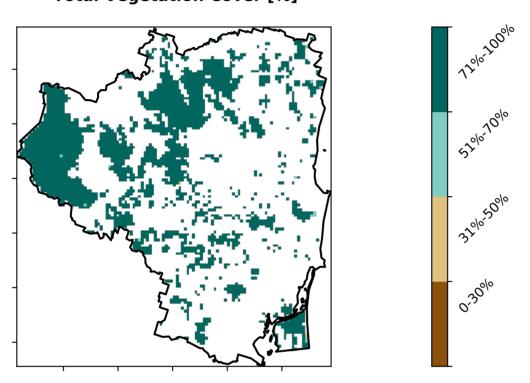
is, red pixels are about 20% lower than the mean of that



# 80 - 89.6% 60 - (%) 89.6% 20 - 3.8%

Proportion of each land class in area

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



Proportion of vegetation cover class in area

1.0

Land use class

0.5

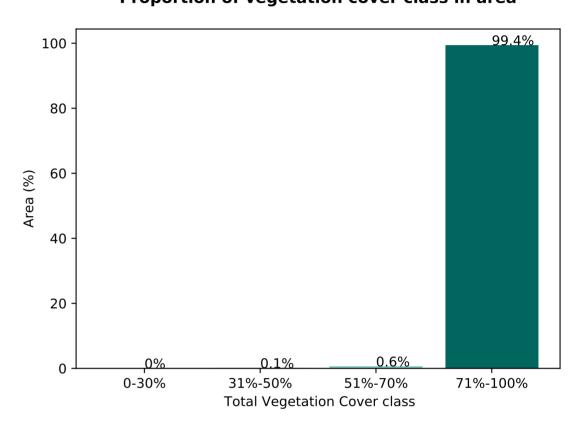
-0.5

0.0

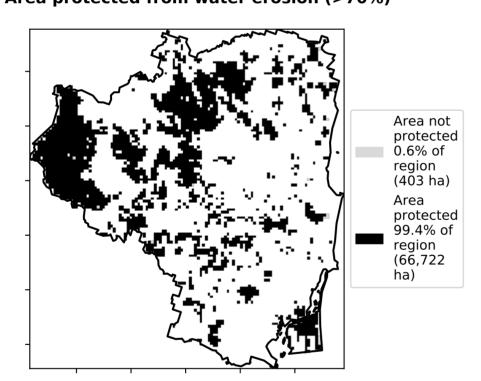
1.5

2.0

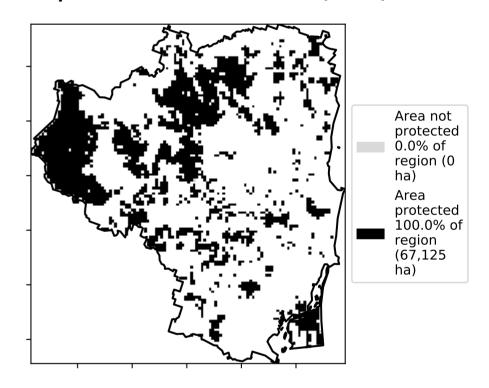
2.5



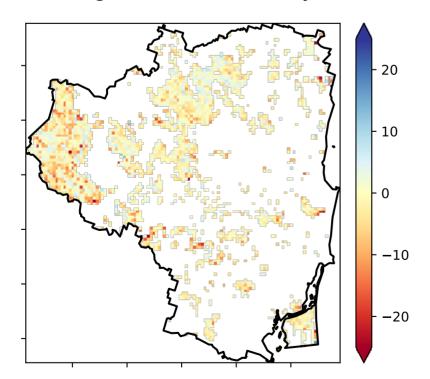
## % Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

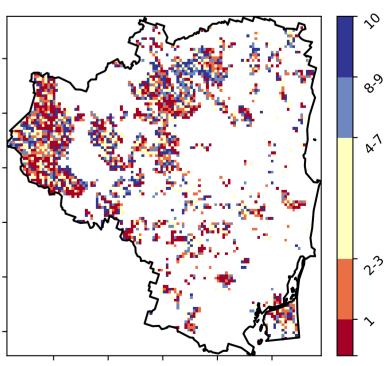


#### **Total Vegetation Cover Anomaly [%]**



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 [%]** 





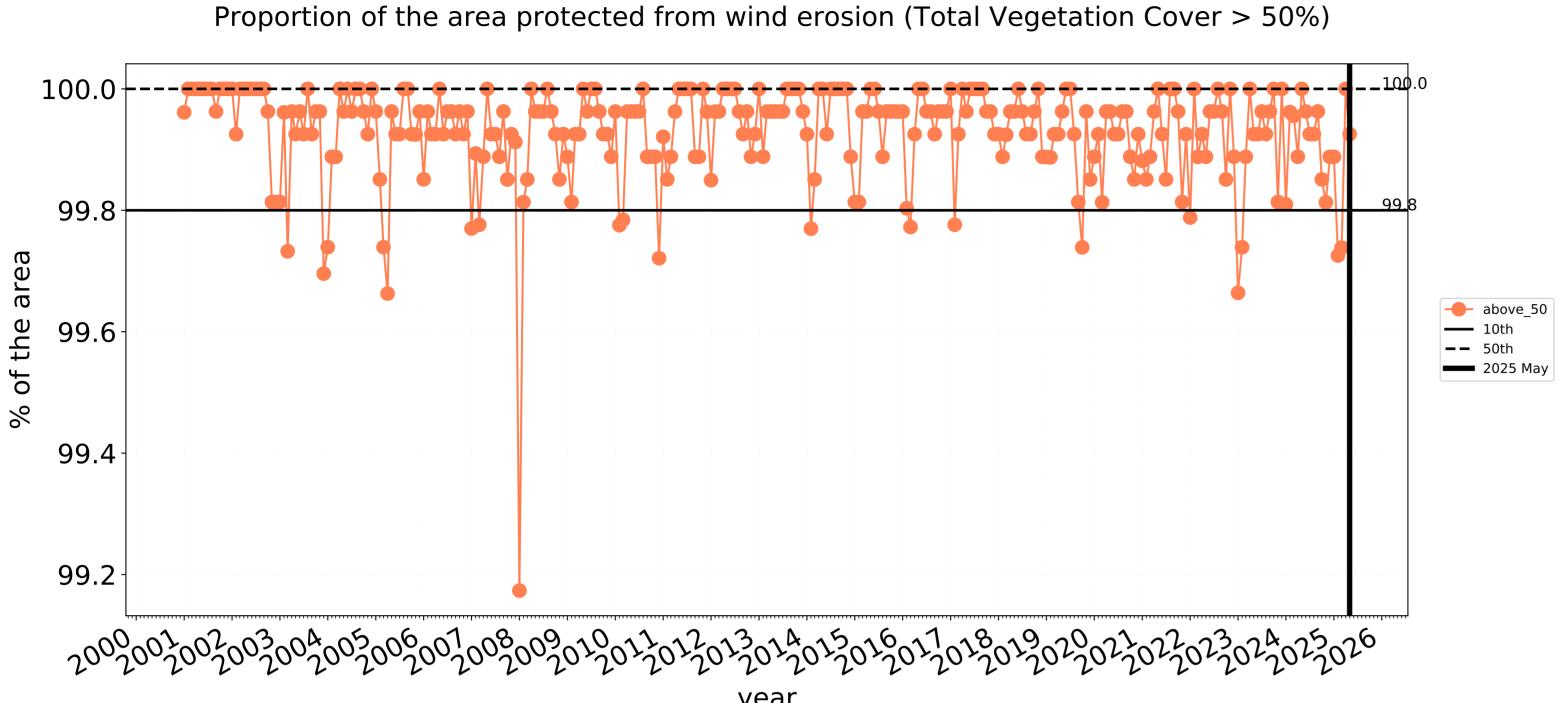


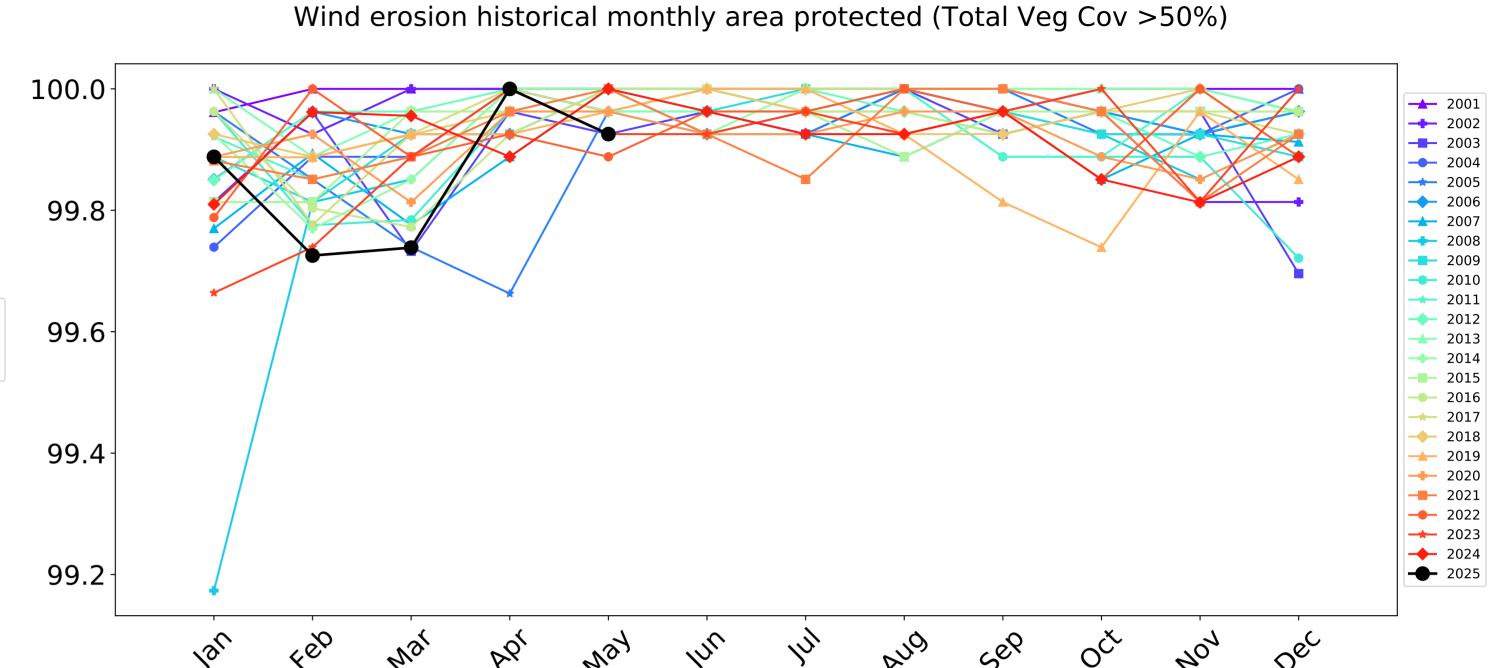




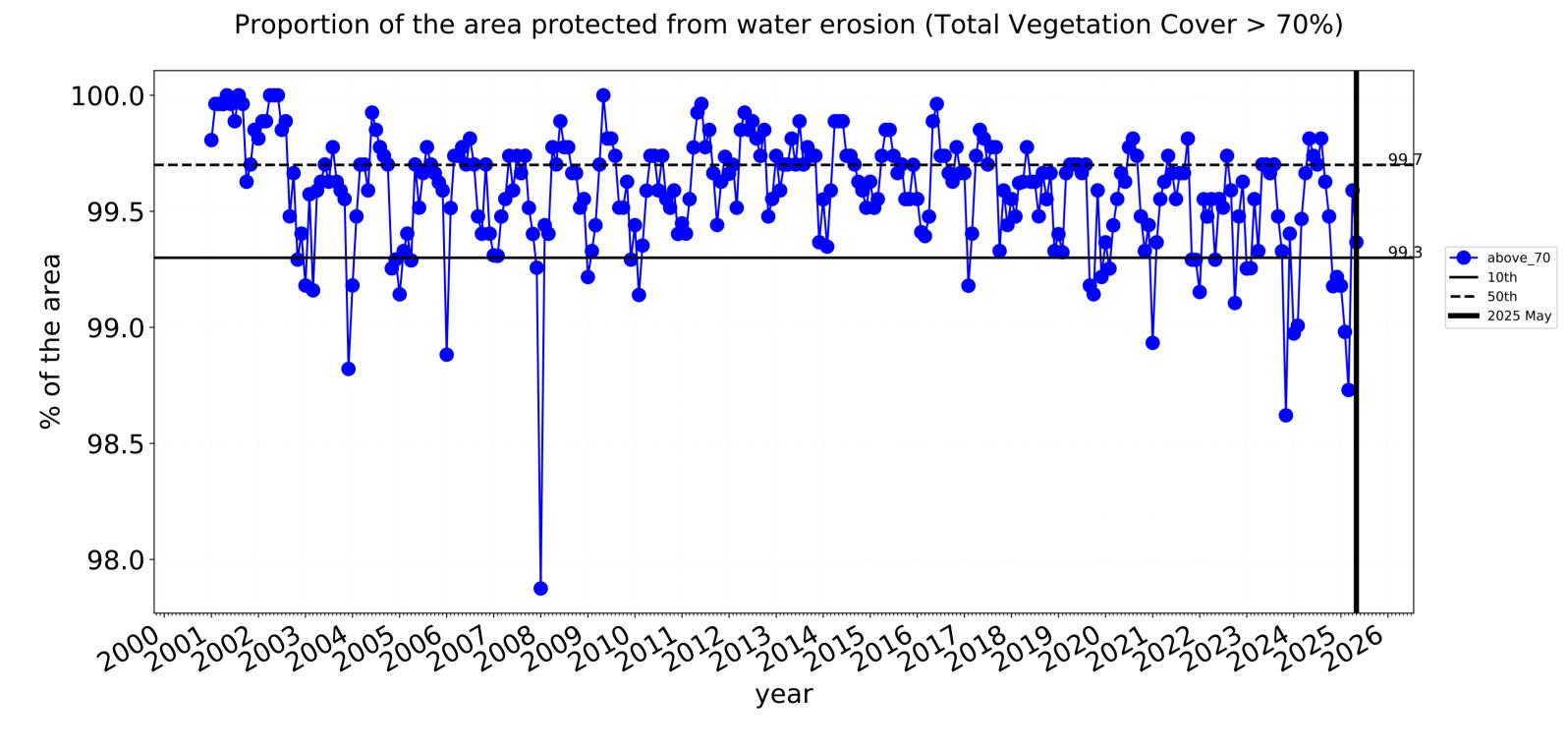


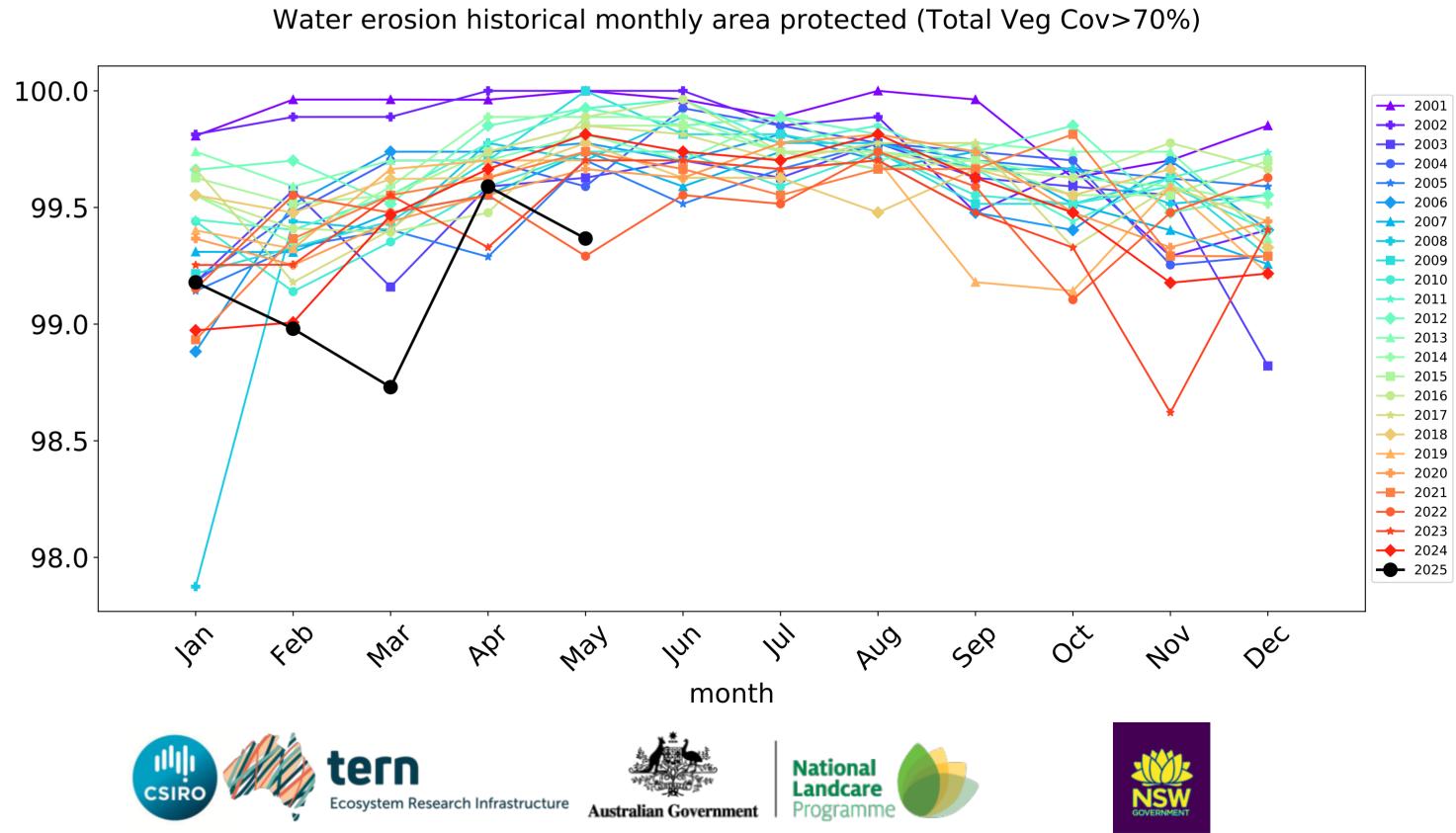
## **Conservation and natural environments timeseries**

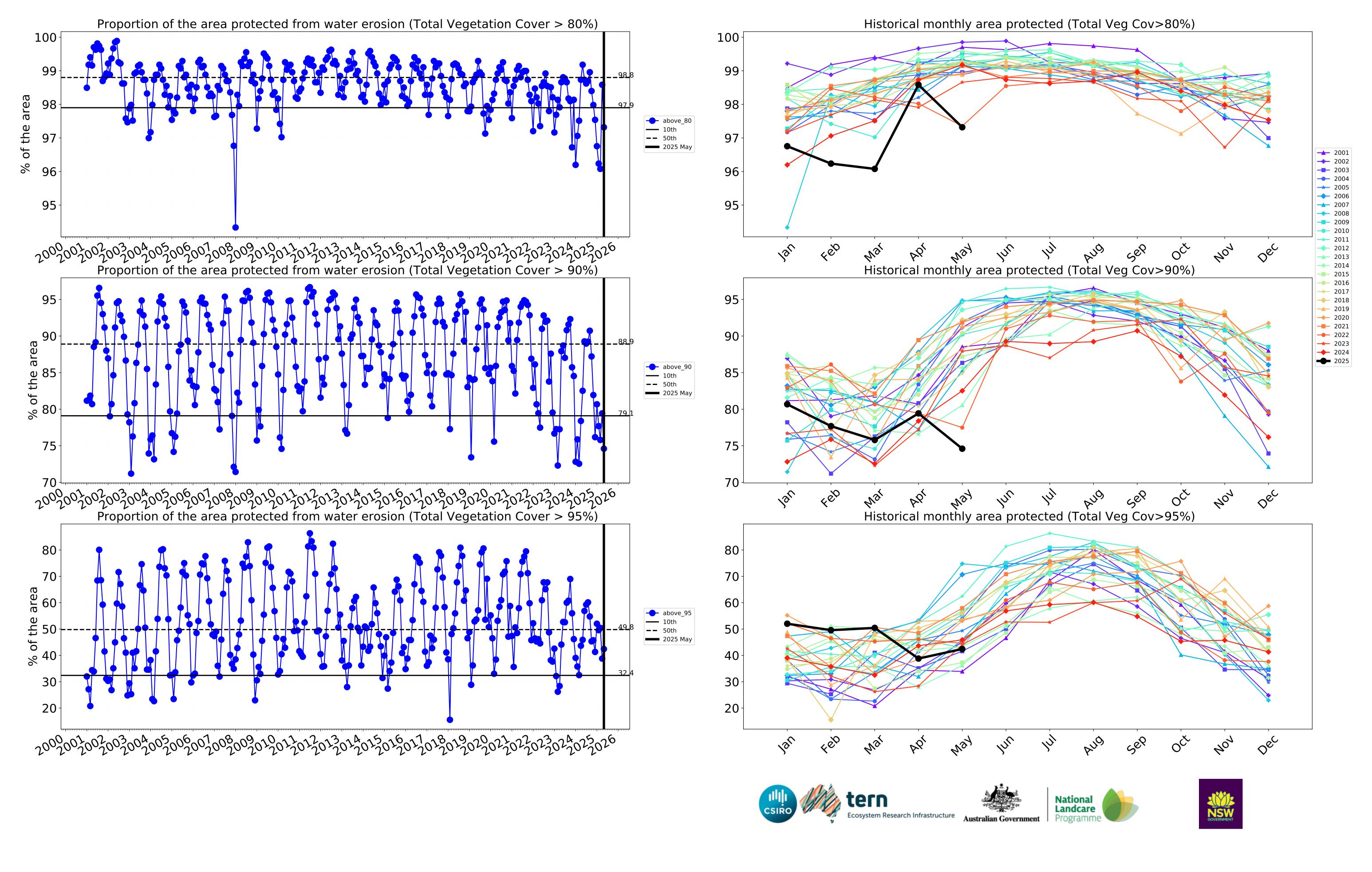




month







## **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)

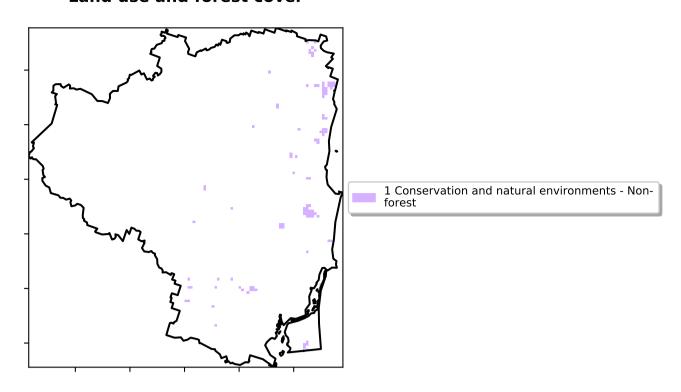
Anomaly show how many percetage points each pixel is from

the mean. That is, red pixels

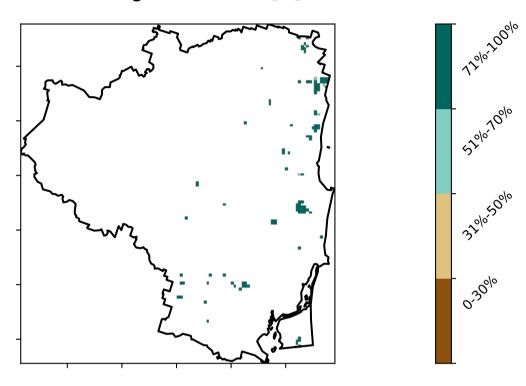
are about 20% lower than the mean of that pixel. The mean

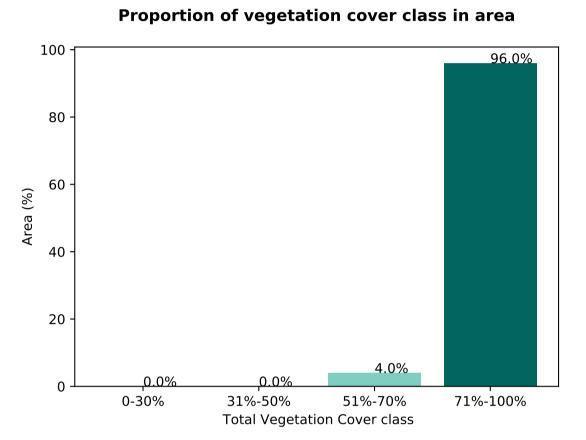
is only for the month of the map

using baseline from 2001 to 2019.

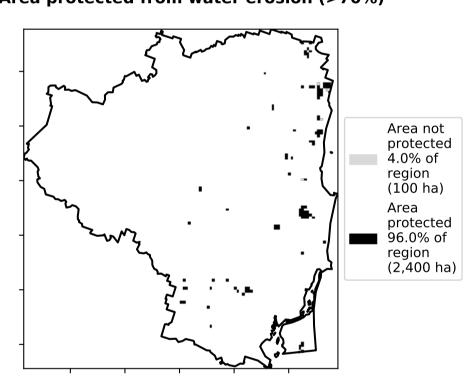


#### **Total Vegetation Cover [%]**

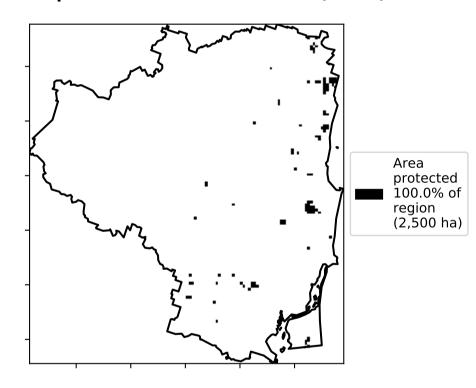




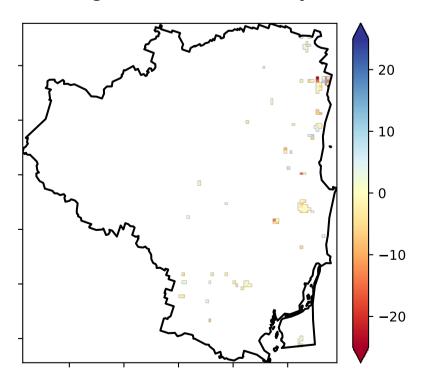
## % Area protected from water erosion (>70%)



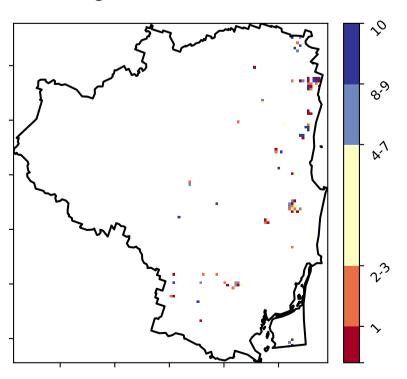
% Area protected from wind erosion (>50%)



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



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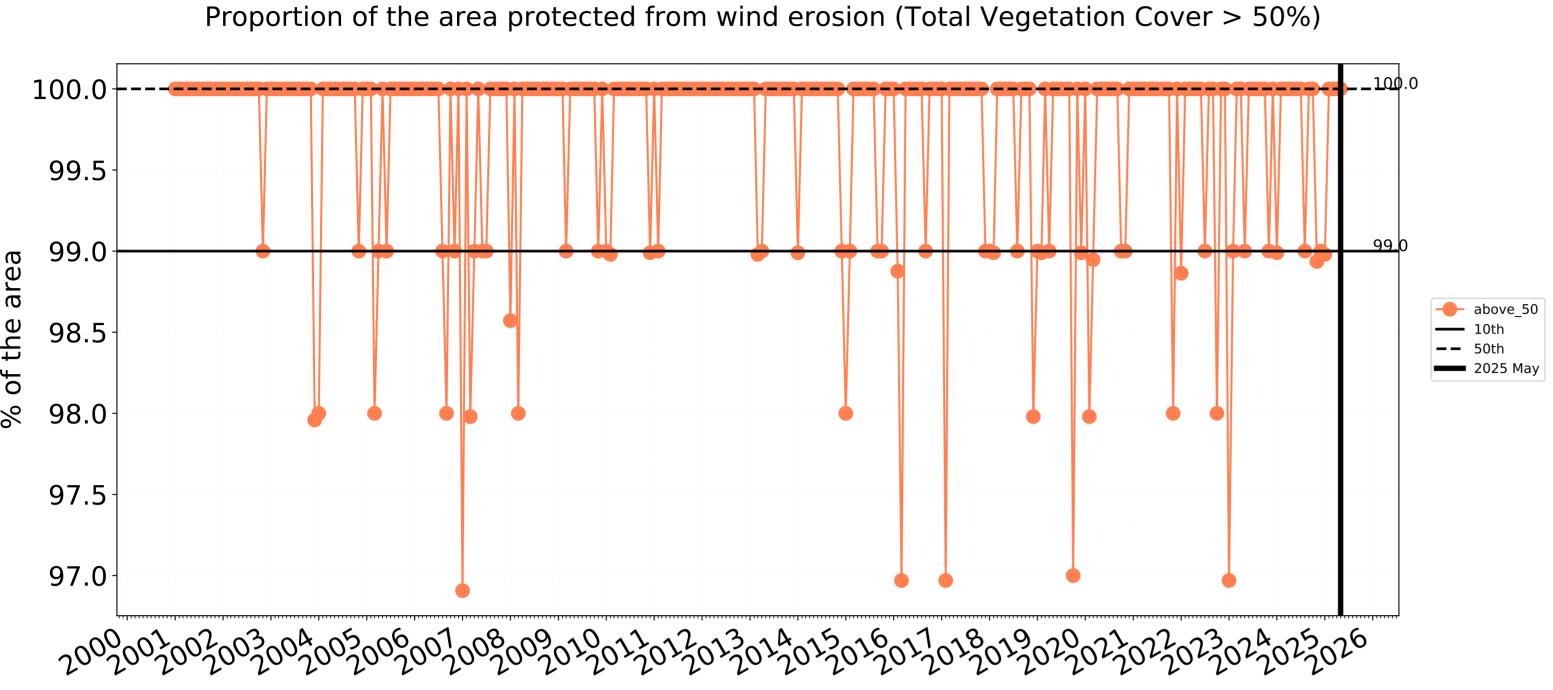


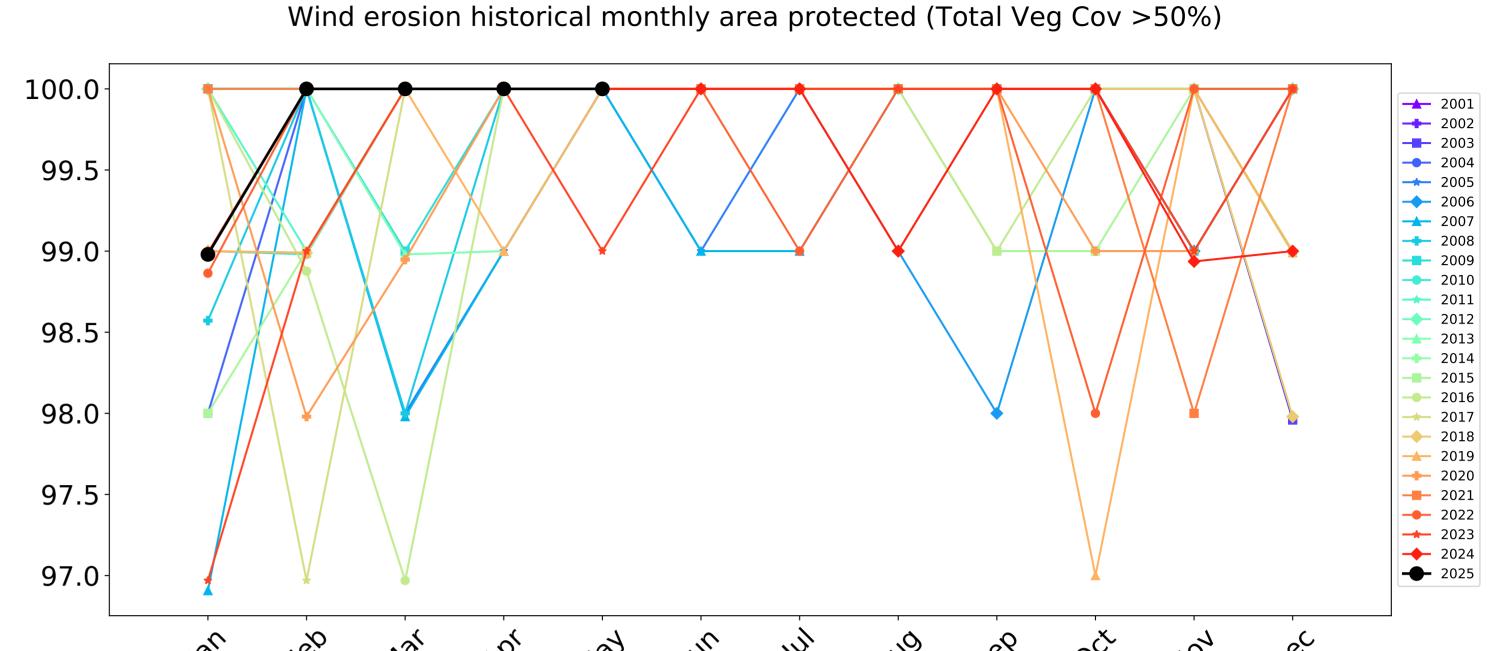




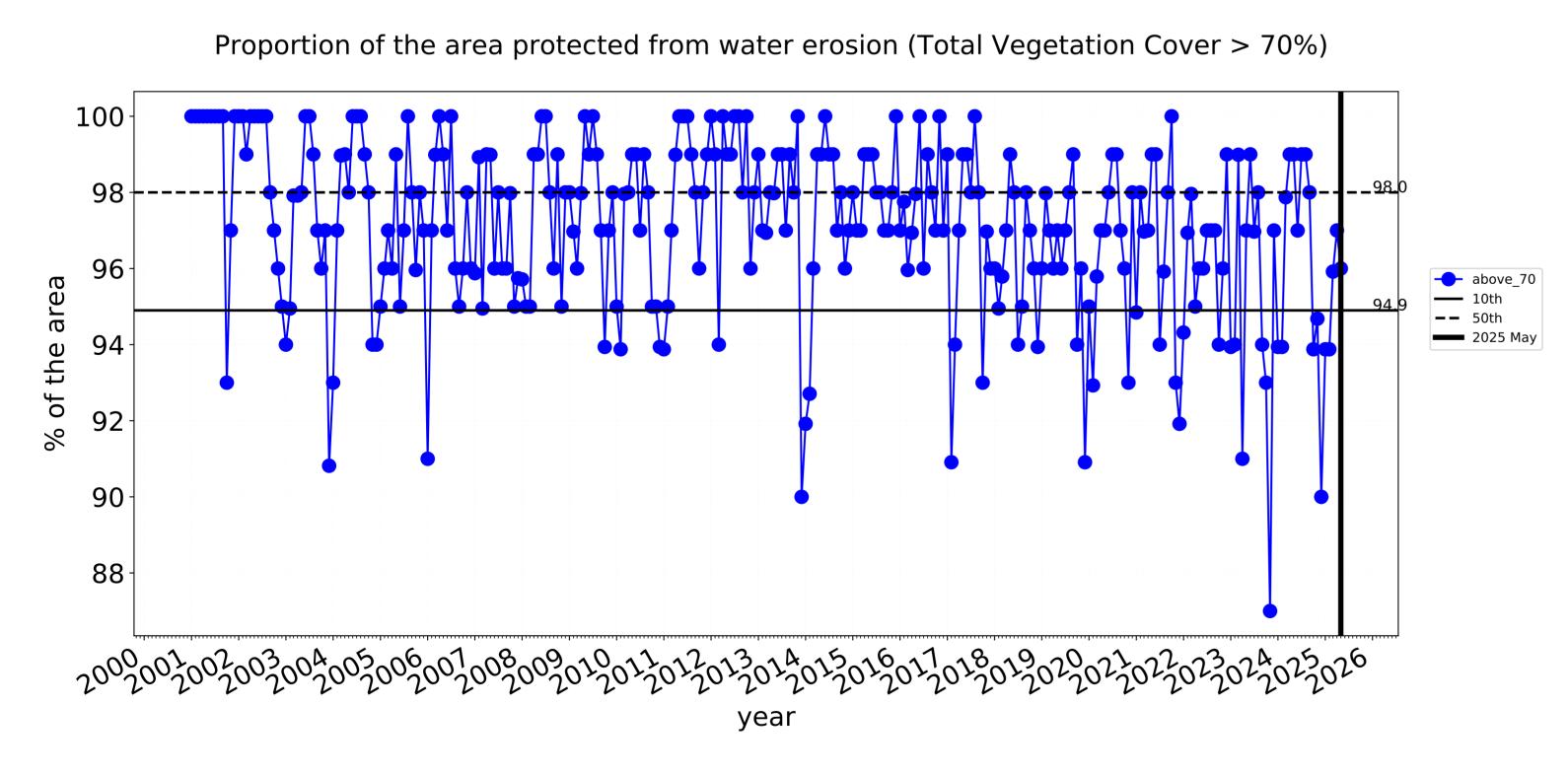


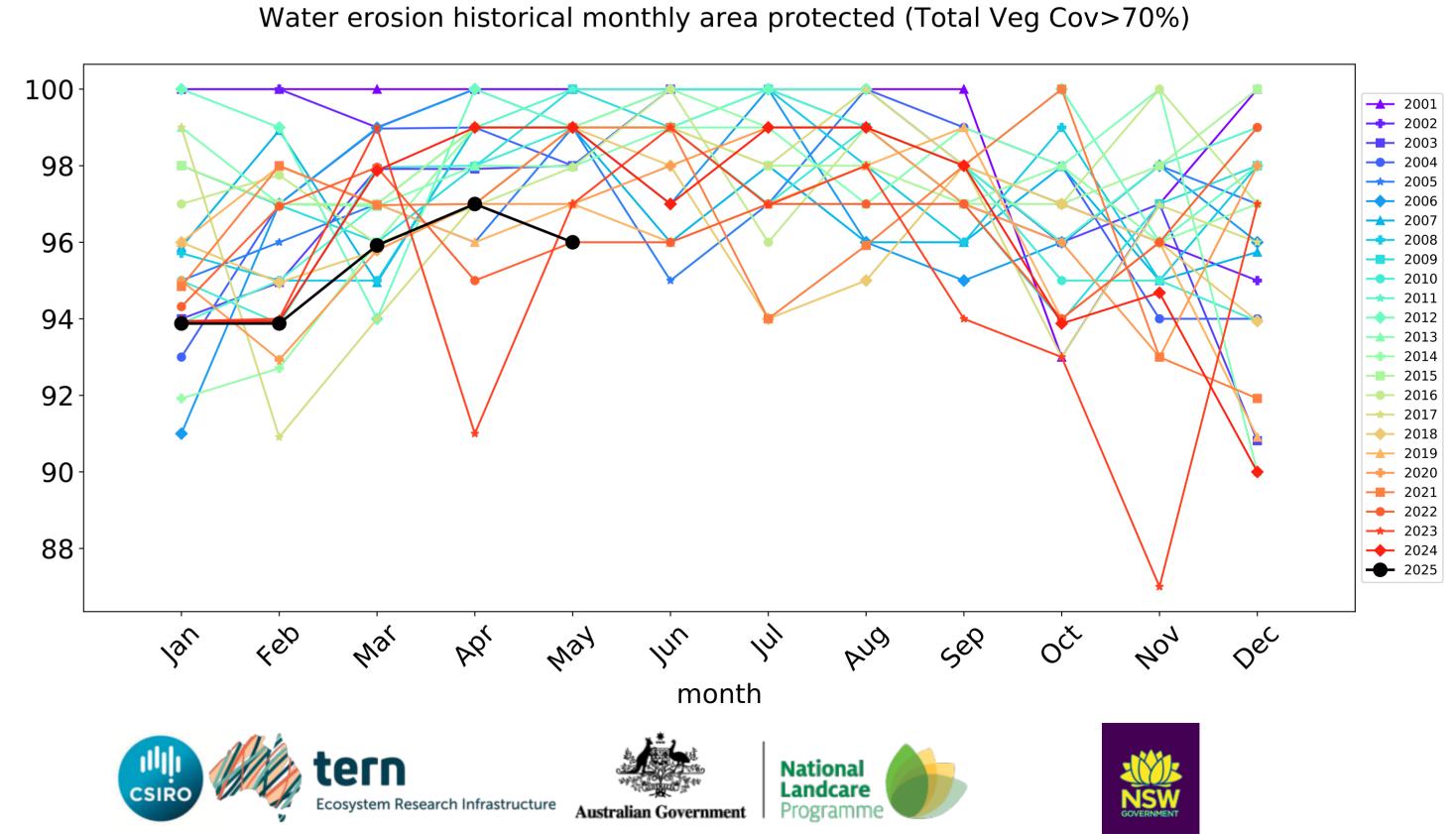
## **Conservation and natural environments non forest timeseries**

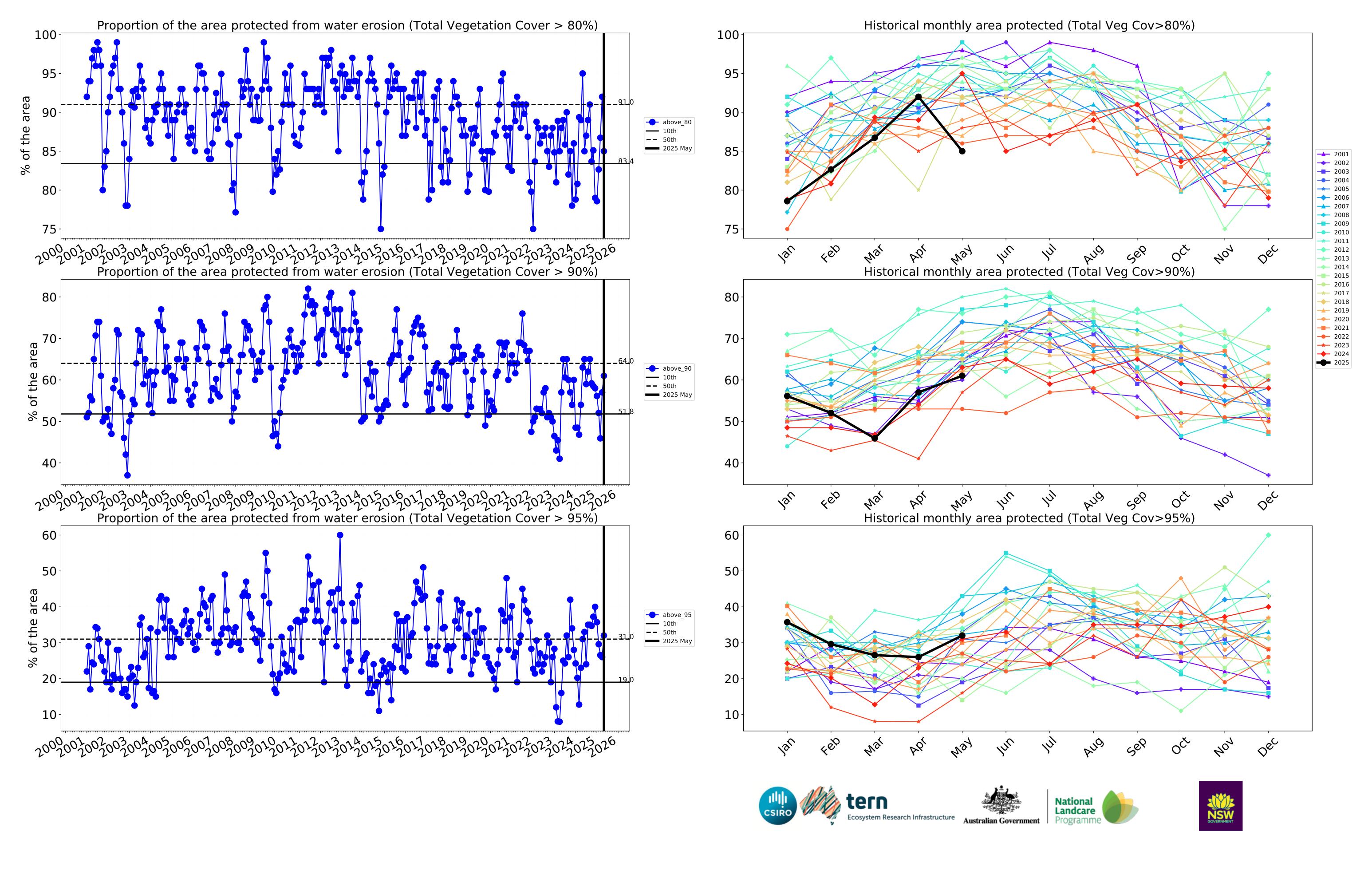




month



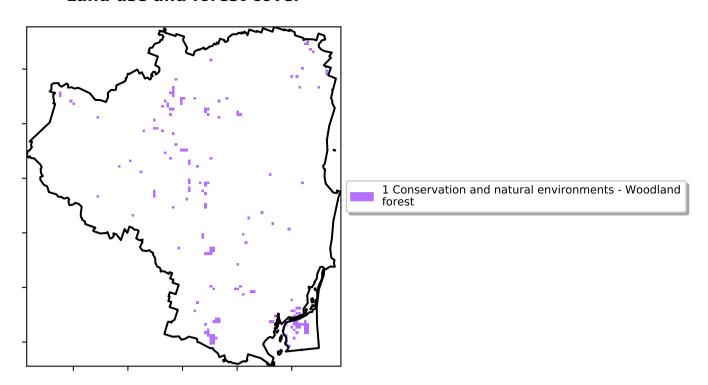




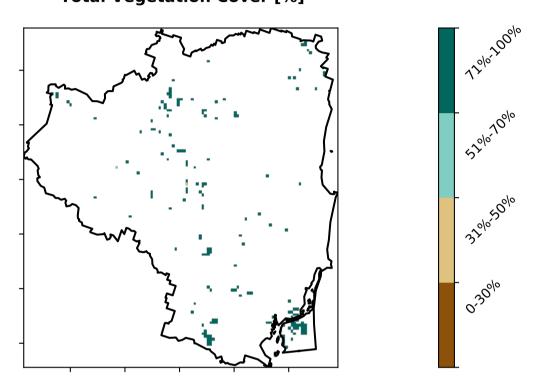
## **Conservation and natural environments Woodland forest**

#### Land use and forest cover

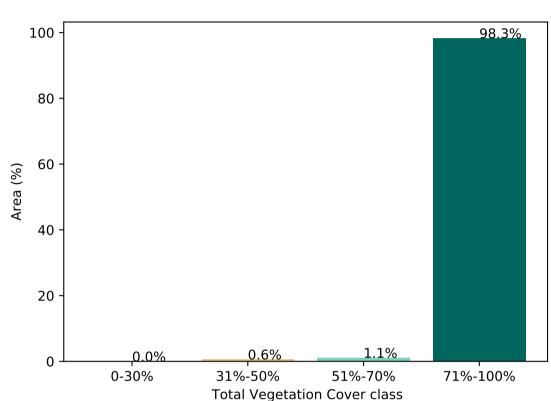
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)



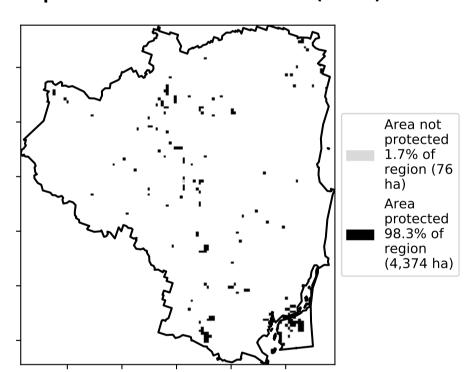
#### **Total Vegetation Cover [%]**



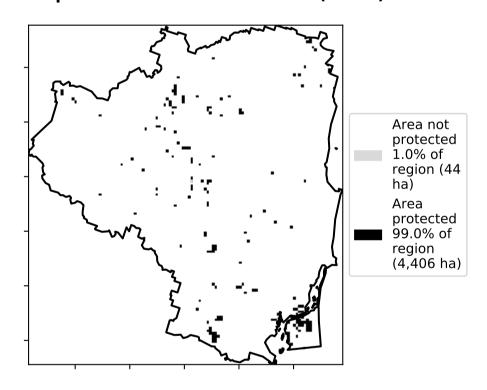
## Proportion of vegetation cover class in area



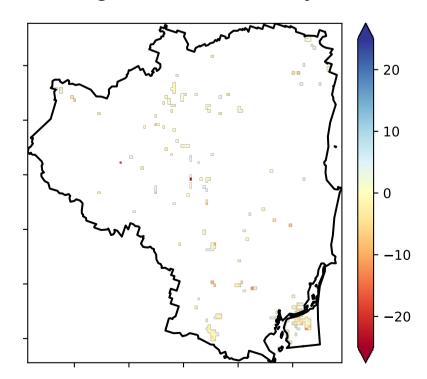
#### % Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

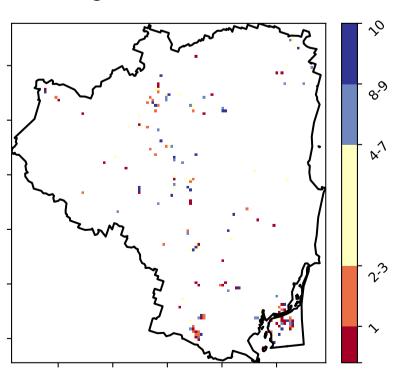


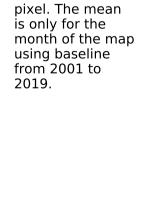
## **Total Vegetation Cover Anomaly [%]**



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#### Total Vegetation Cover Decile [%]





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

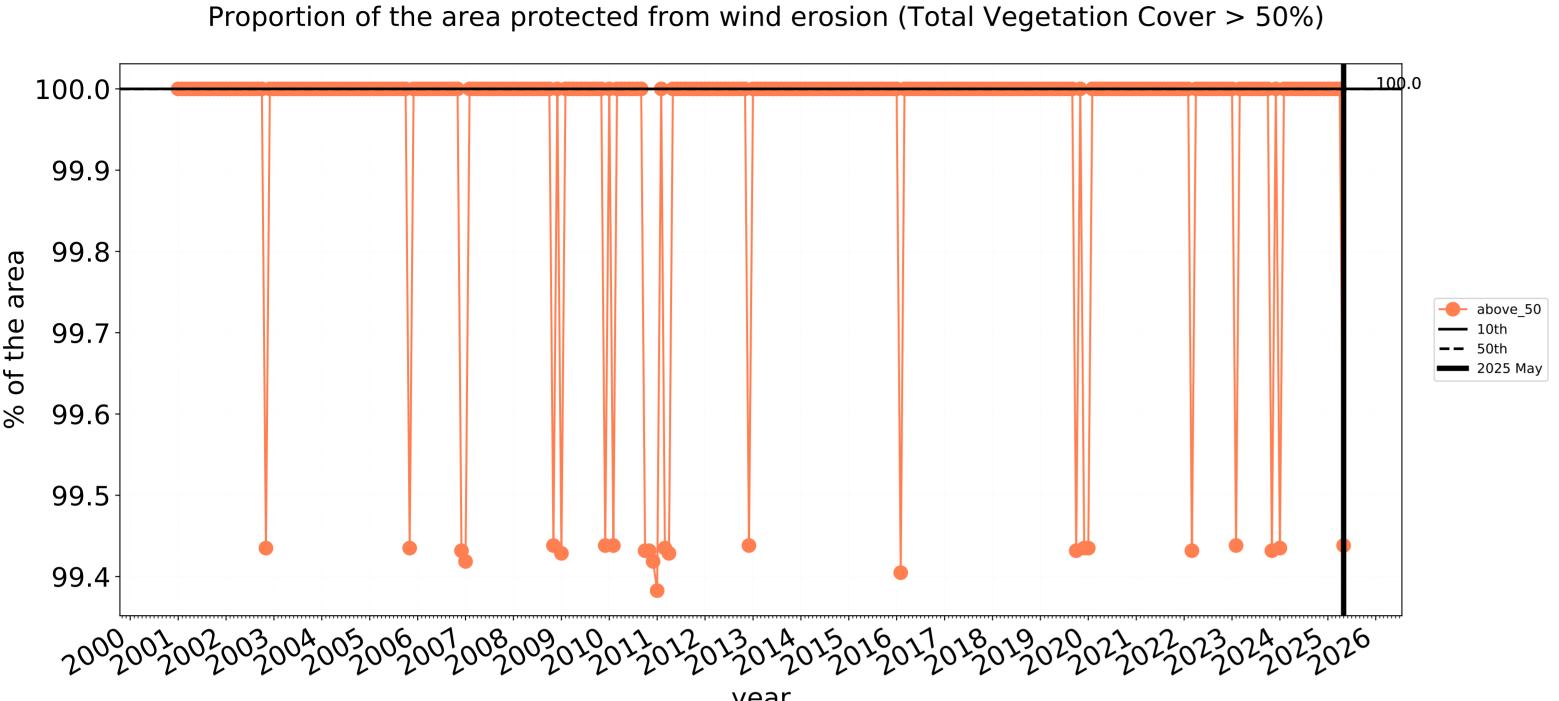




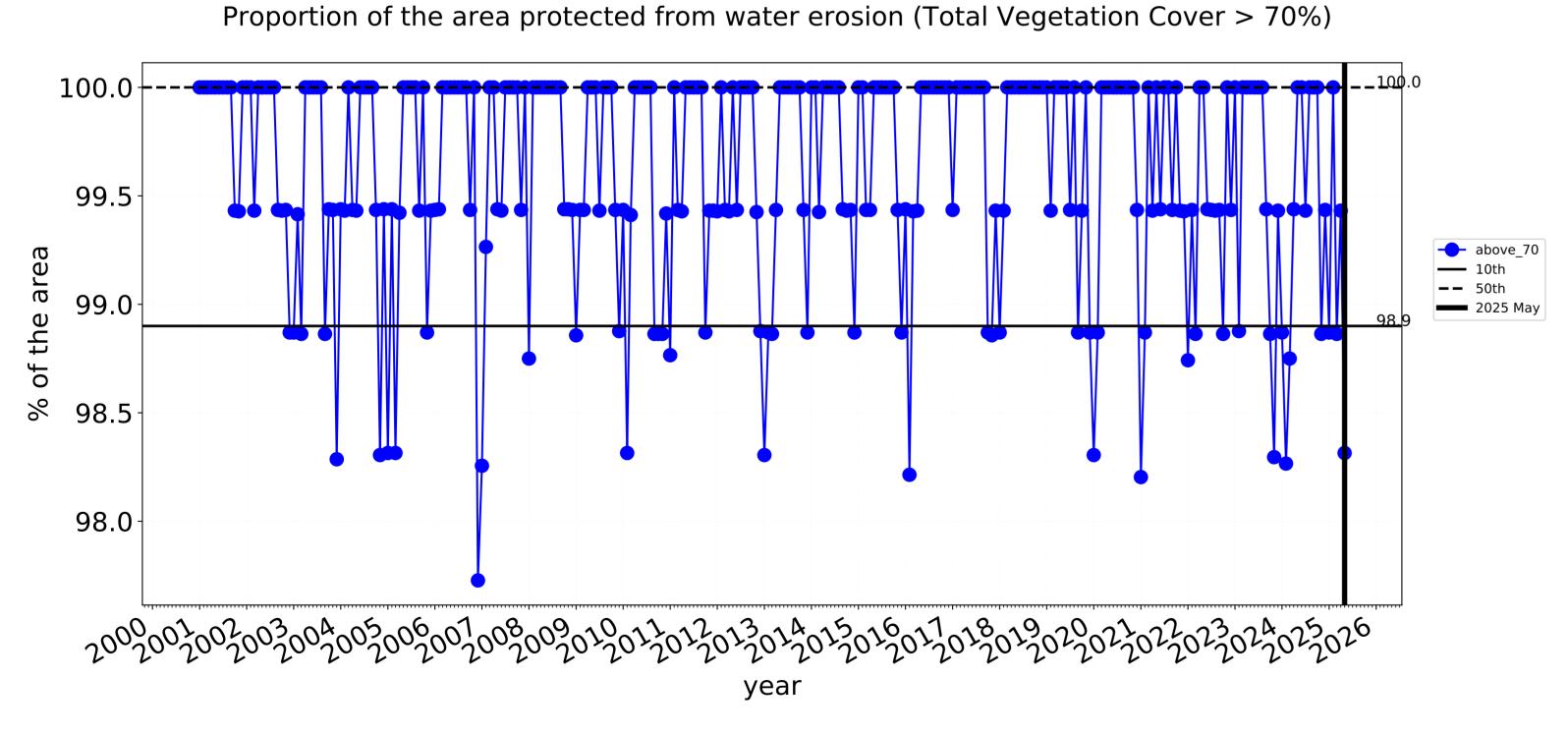


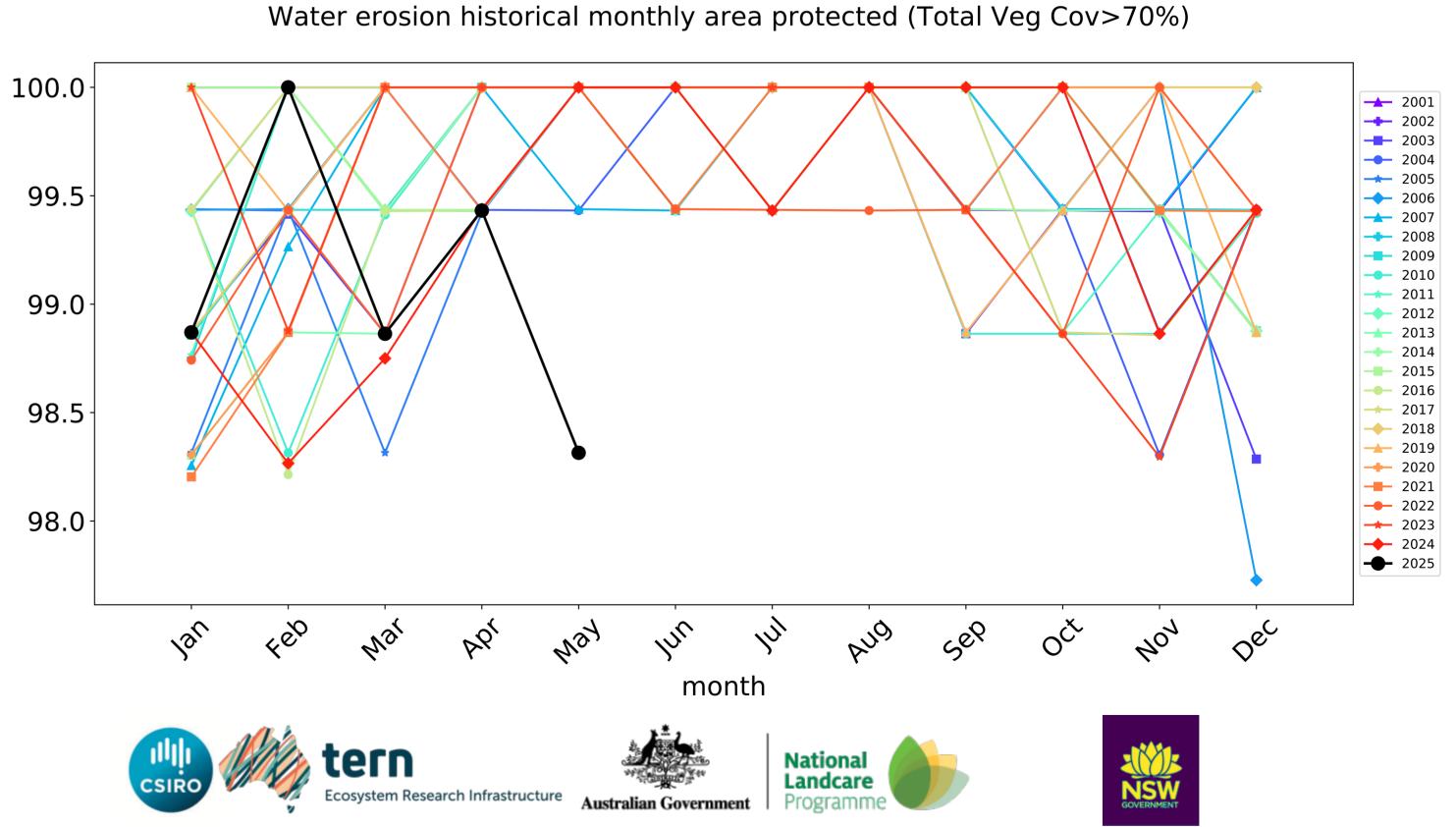


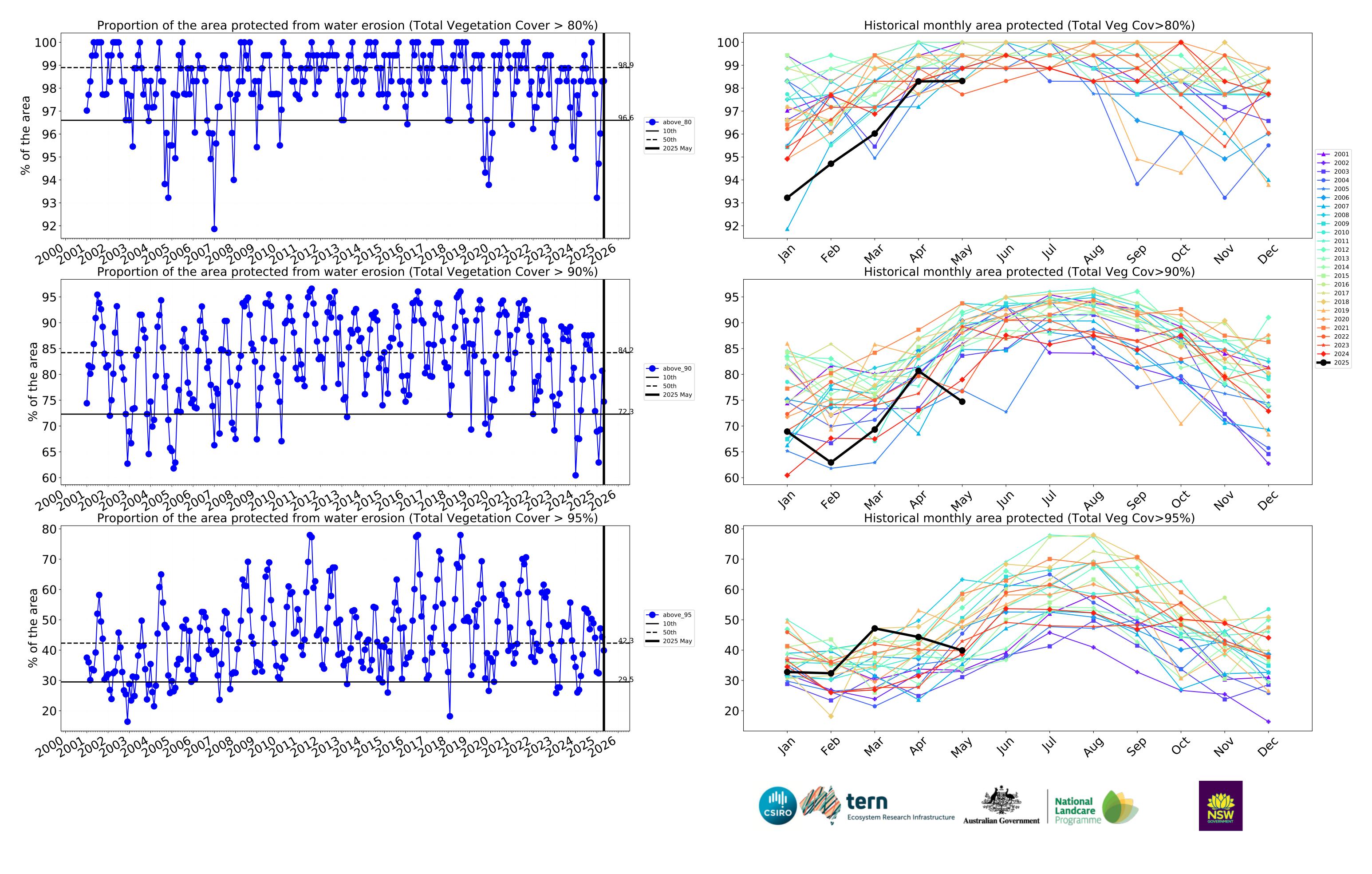
## **Conservation and natural environments Woodland forest timeseries**











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

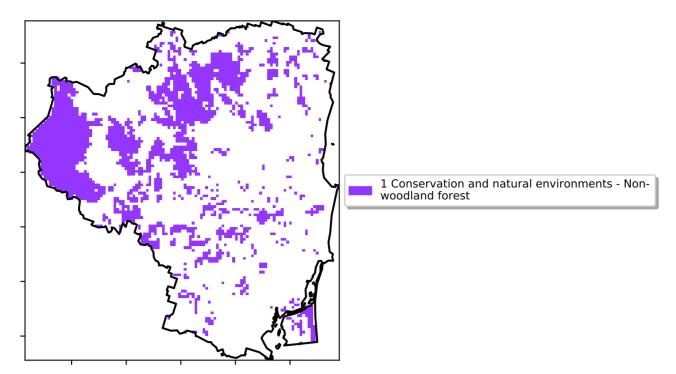
#### Land use and forest cover

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

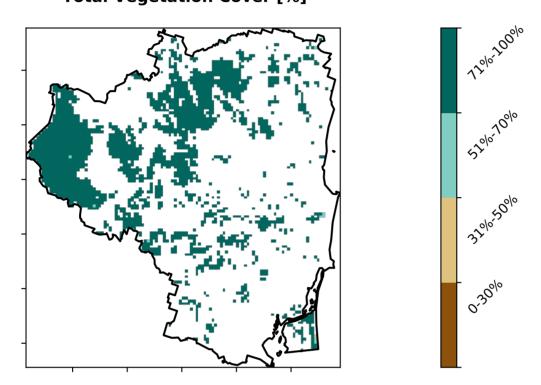
Anomaly show how many percetage points each pixel is from the mean. That

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

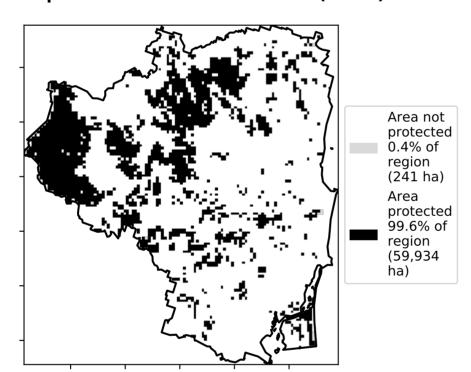
is, red pixels are about 20% lower than the mean of that pixel. The mean



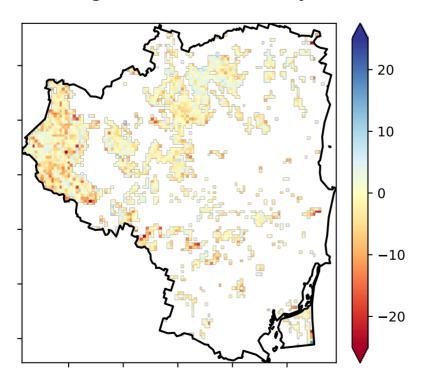
#### **Total Vegetation Cover [%]**



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

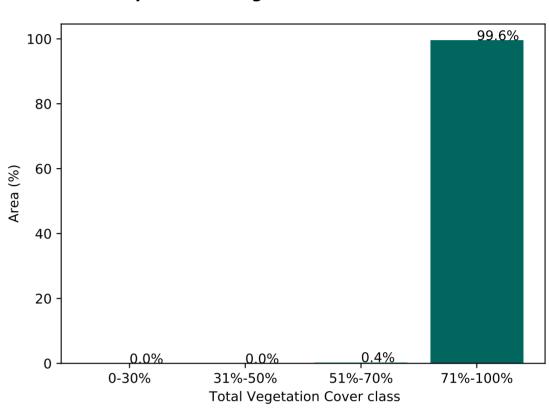


#### **Total Vegetation Cover Anomaly [%]**

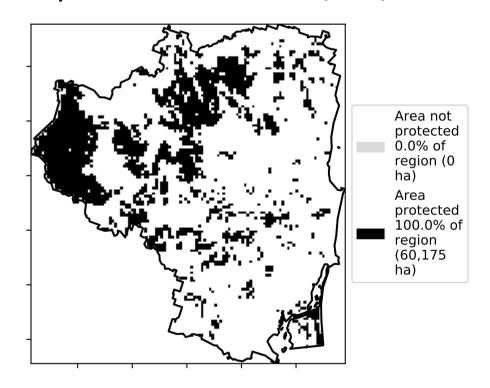


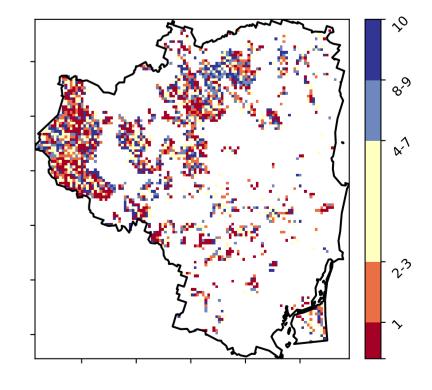
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

#### **Proportion of vegetation cover class in area**



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







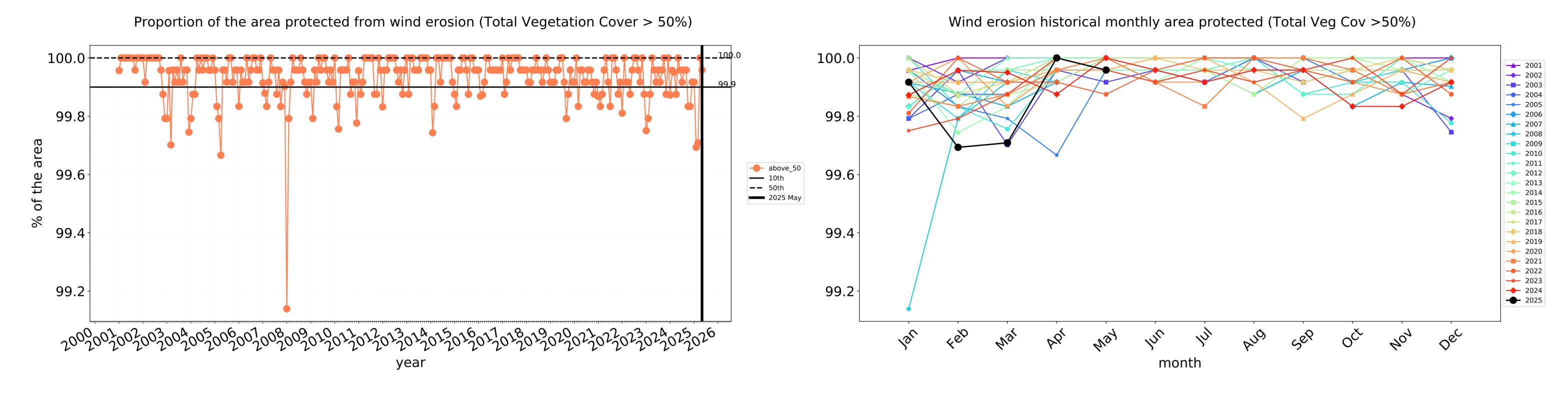


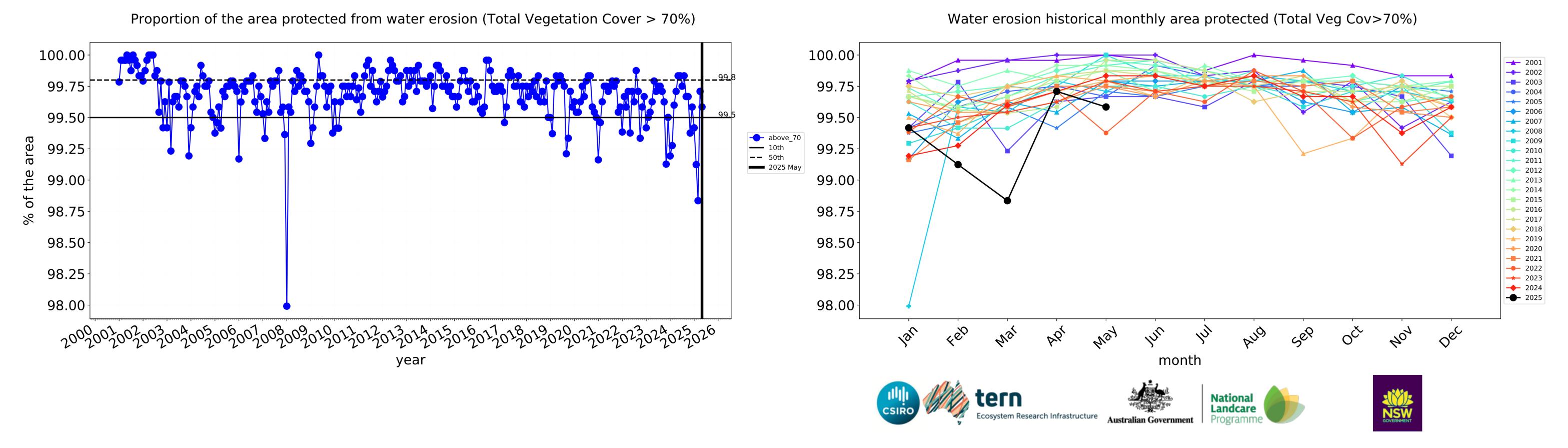


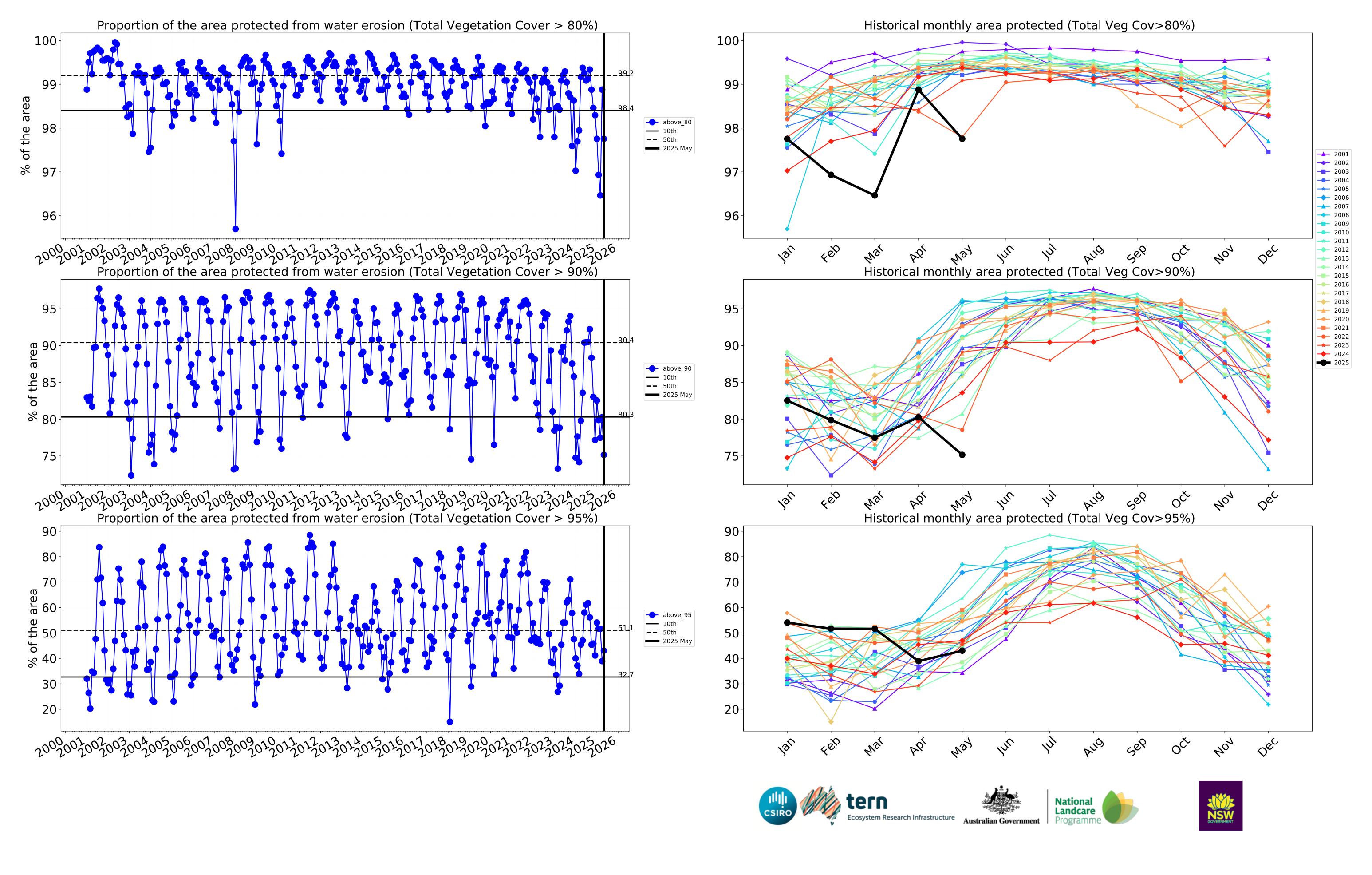












## **Agriculture**

## 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)

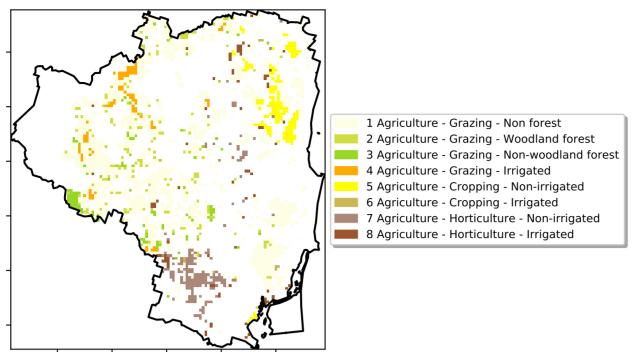
Anomaly show how many percetage points each pixel is from

the mean. That

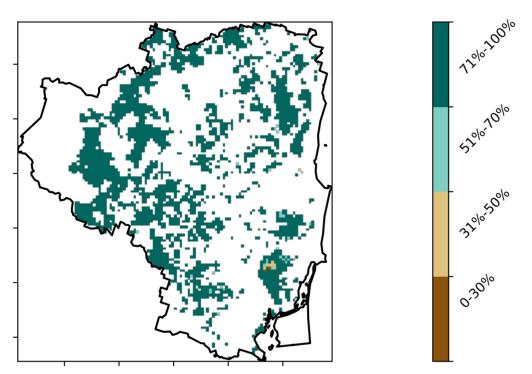
is only for the month of the map

using baseline from 2001 to 2019.

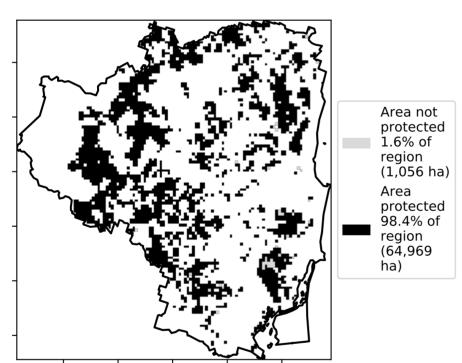
is, red pixels are about 20% lower than the mean of that pixel. The mean



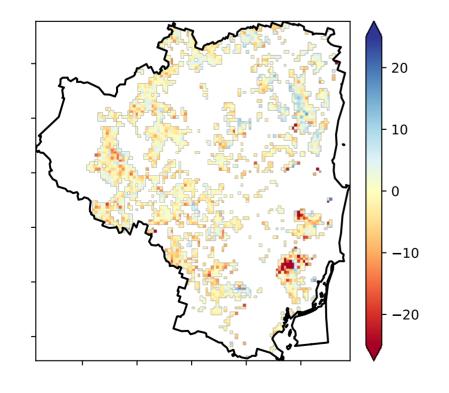
#### **Total Vegetation Cover [%]**



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

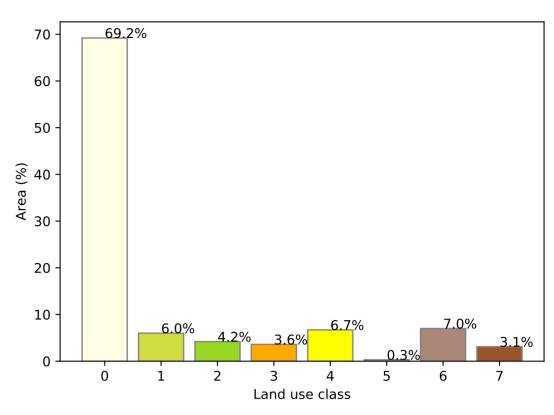


#### **Total Vegetation Cover Anomaly [%]**

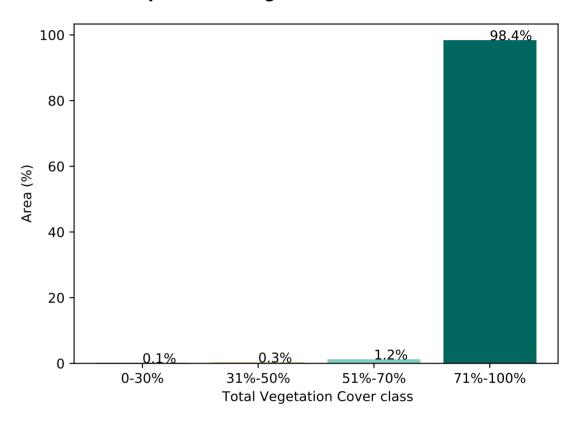


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

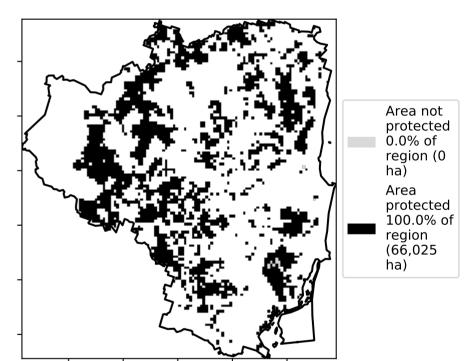
#### Proportion of each land class in area

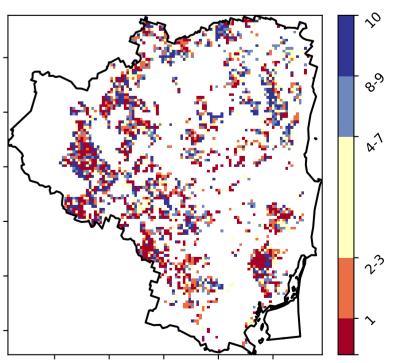


#### Proportion of vegetation cover class in area



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





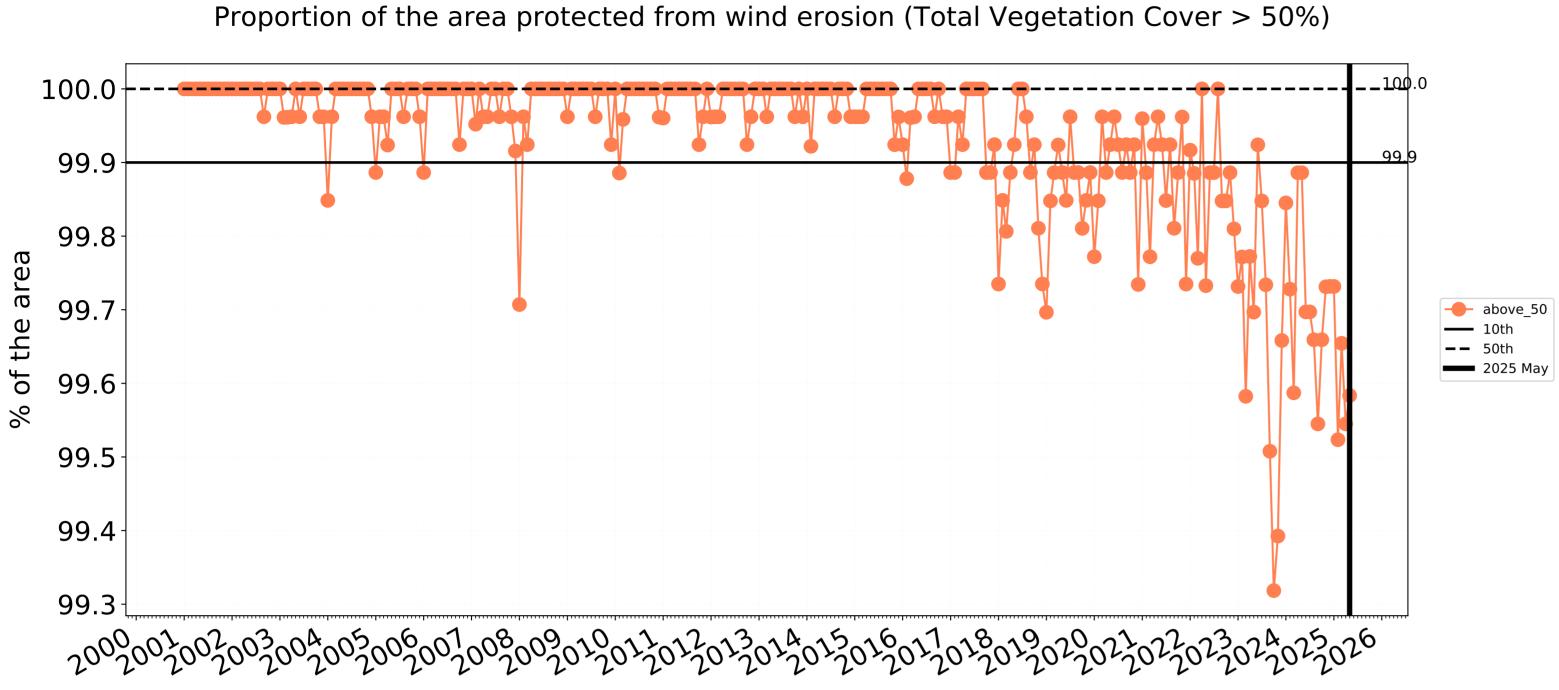


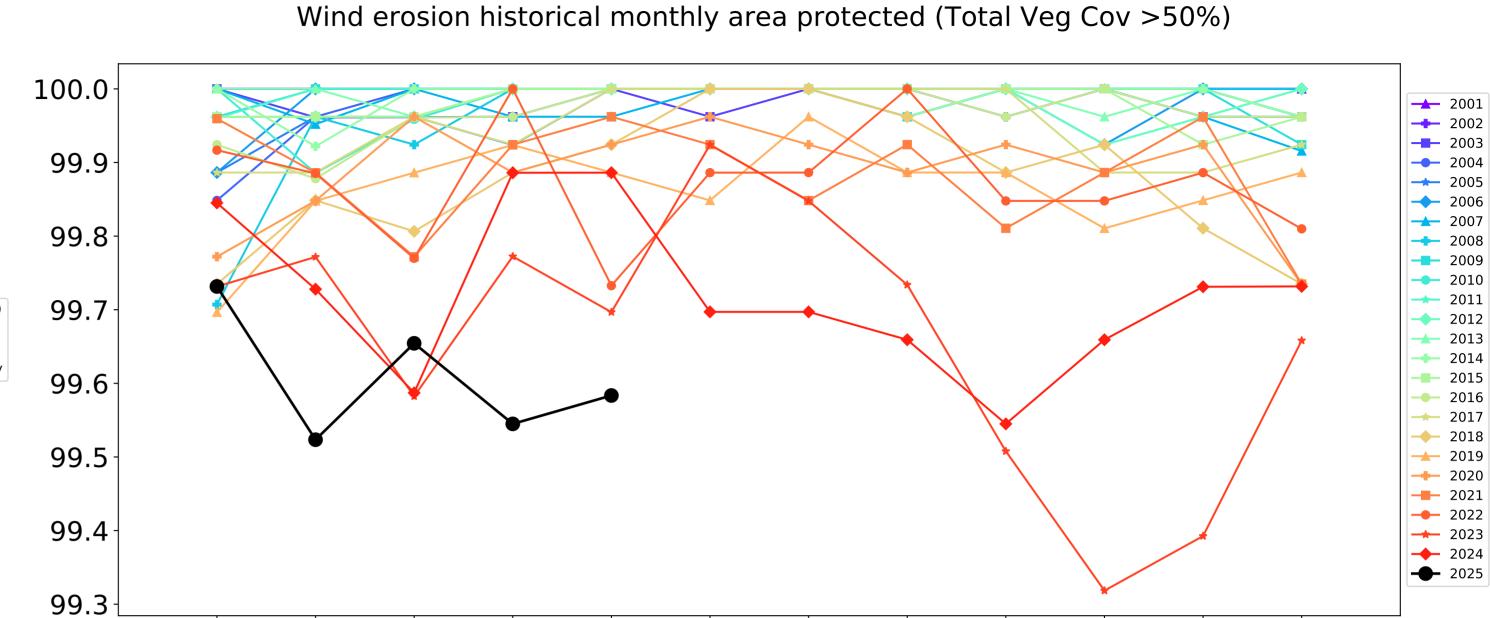




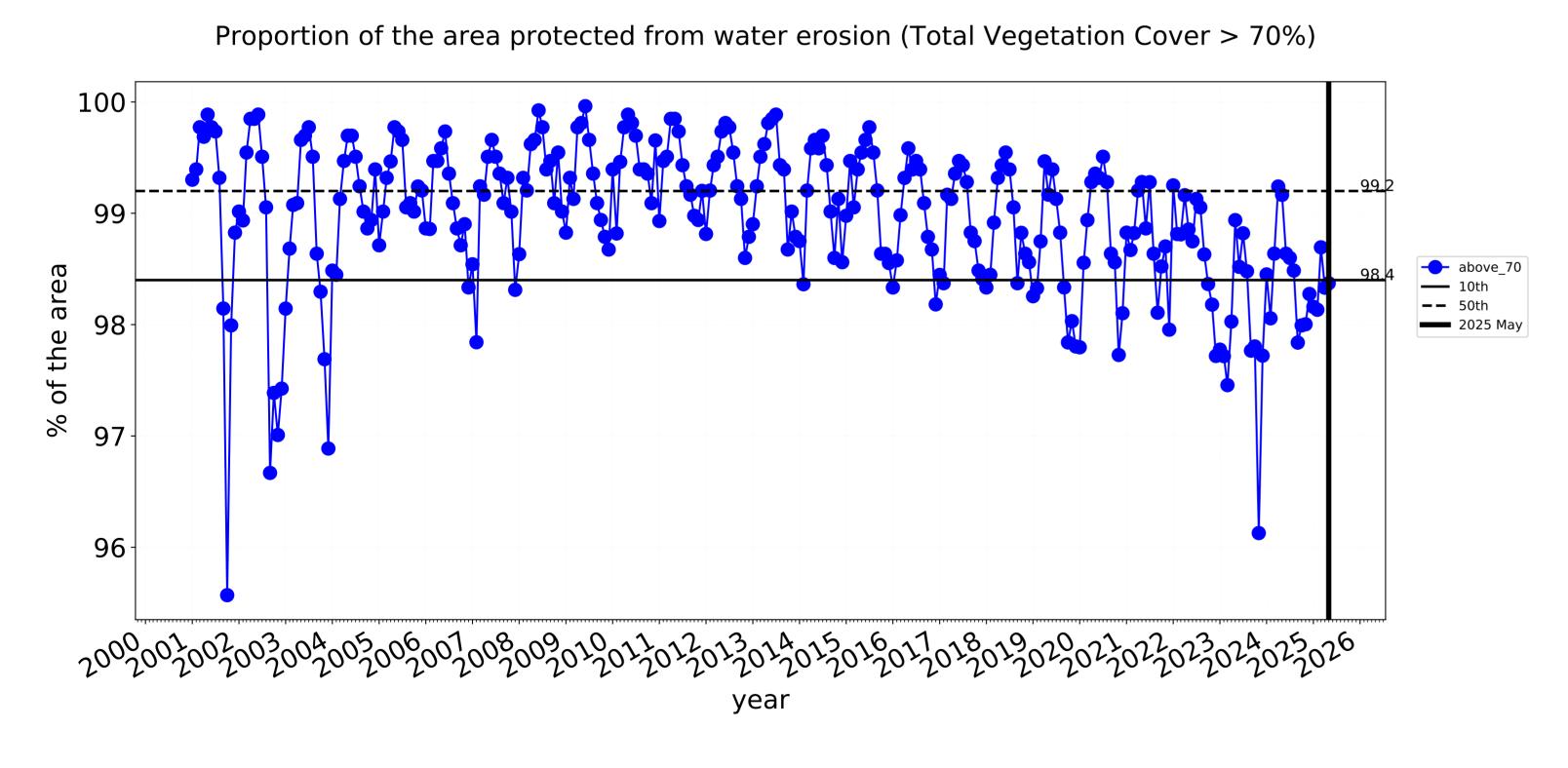


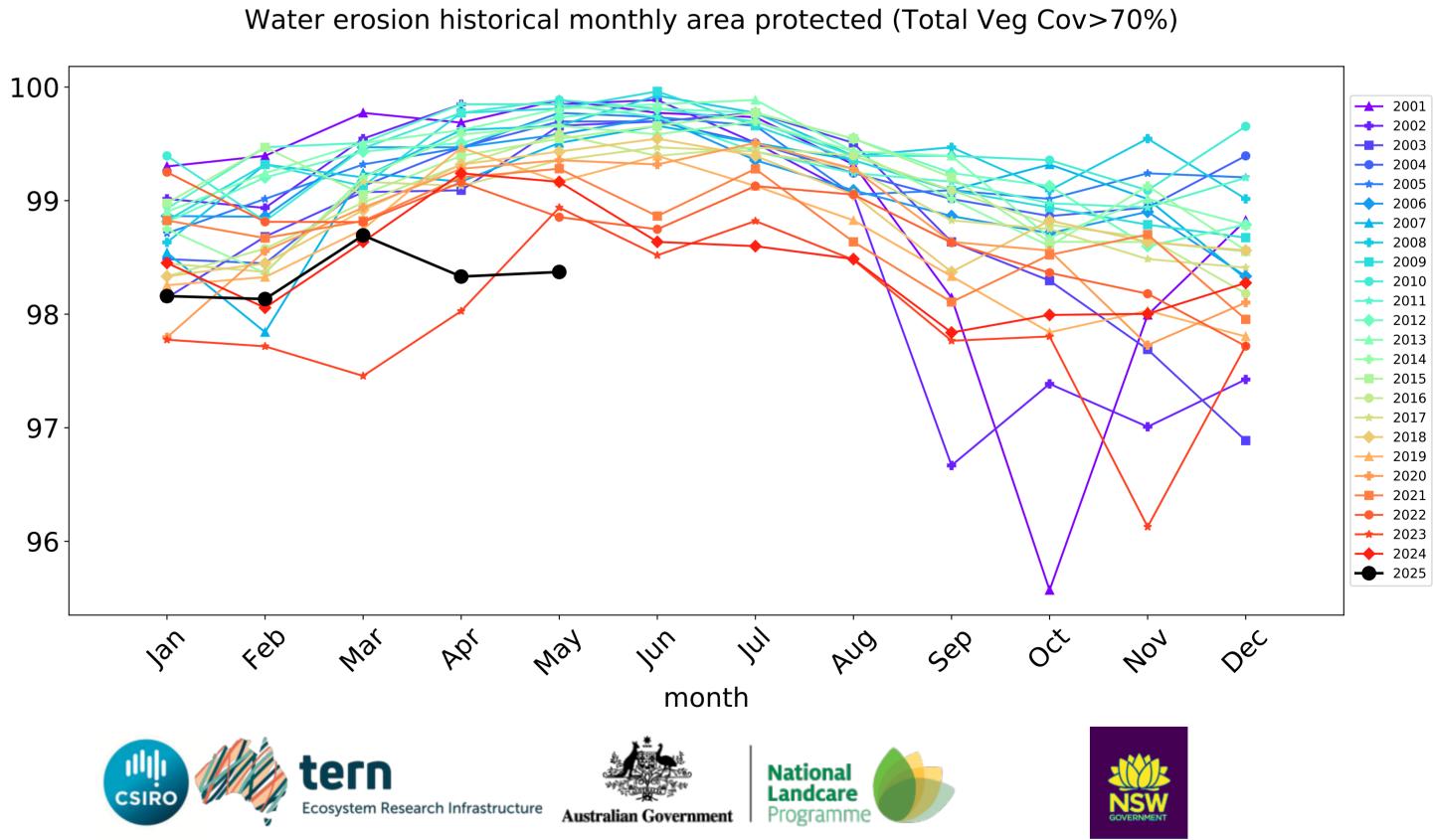
## **Agriculture timeseries**

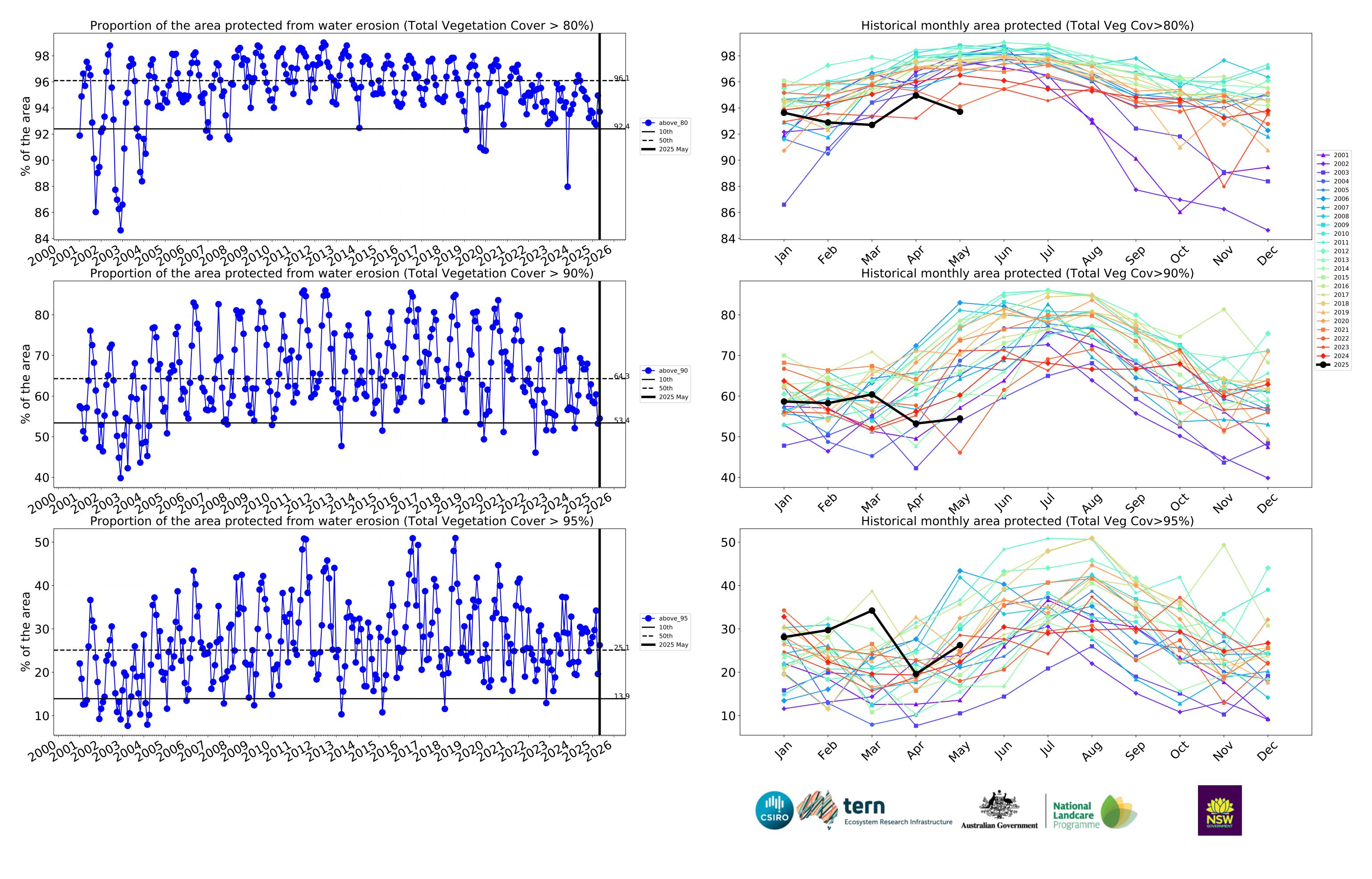




month







## **Grazing**

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

of Australia (2018)

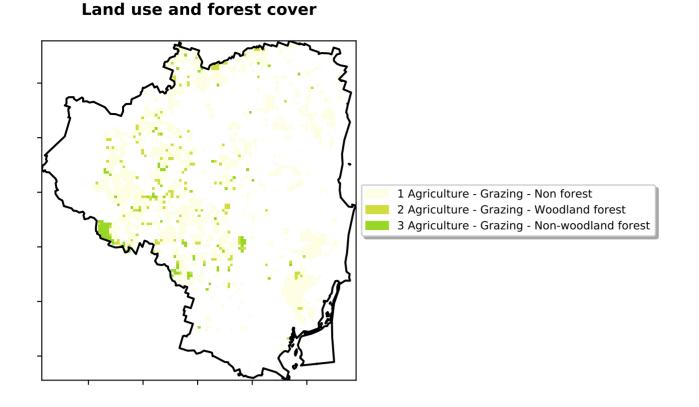
Anomaly show how many percetage points each pixel is from

the mean. That

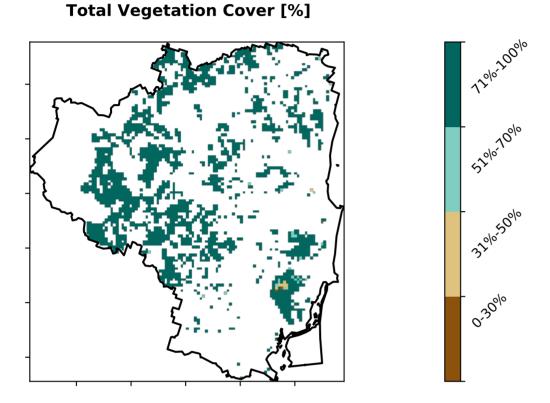
pixel. The mean is only for the month of the map

using baseline from 2001 to 2019.

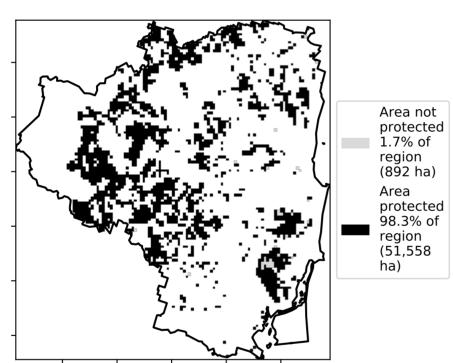
is, red pixels are about 20% lower than the mean of that



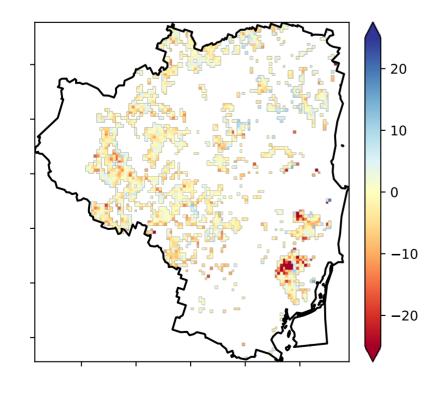
#### Talal Manager 1 and 1 and 2 and 1 50/1



% Area protected from water erosion (>70%)

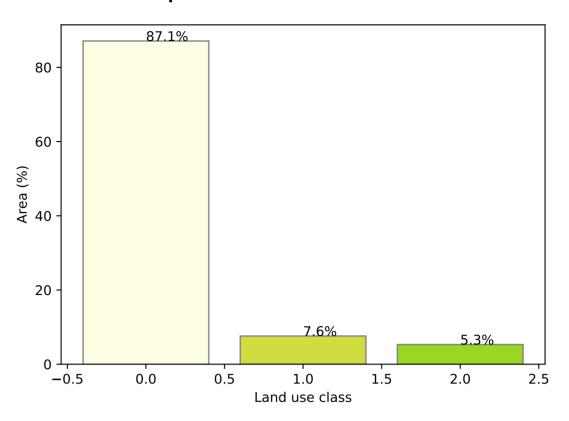


**Total Vegetation Cover Anomaly [%]** 

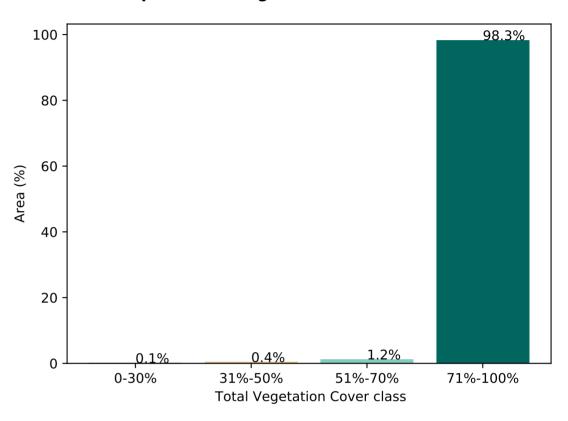


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

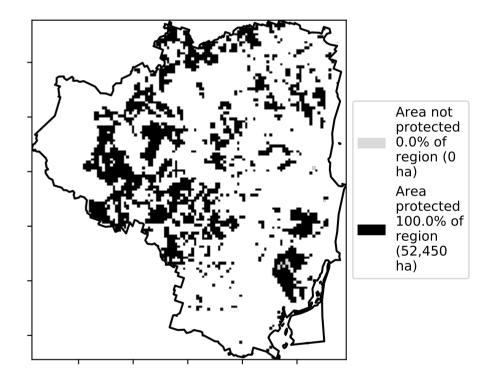
#### Proportion of each land class in area



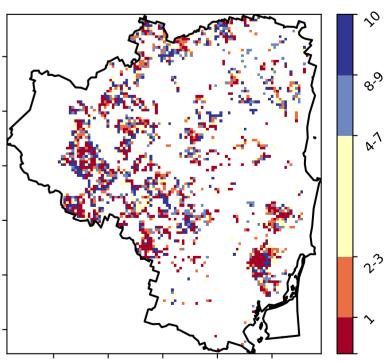
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



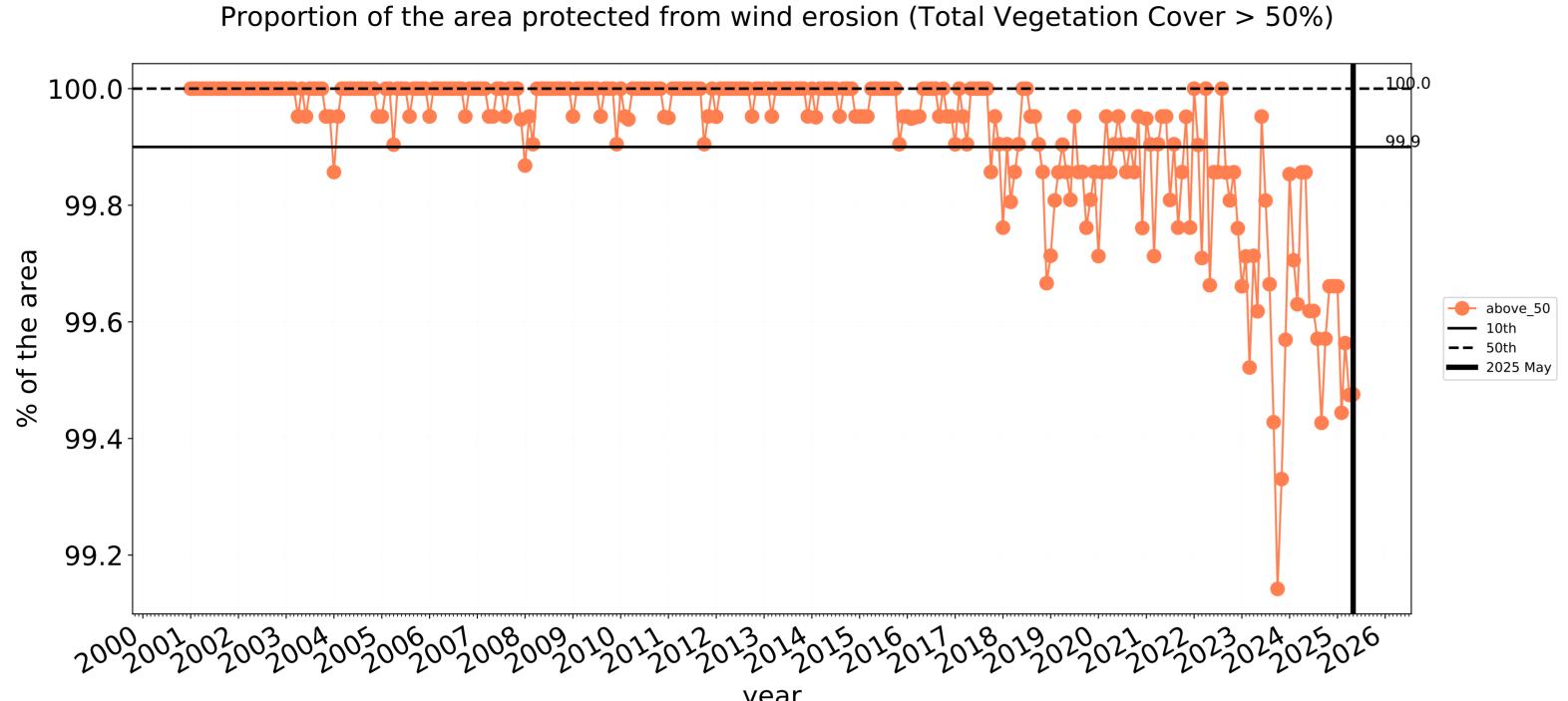


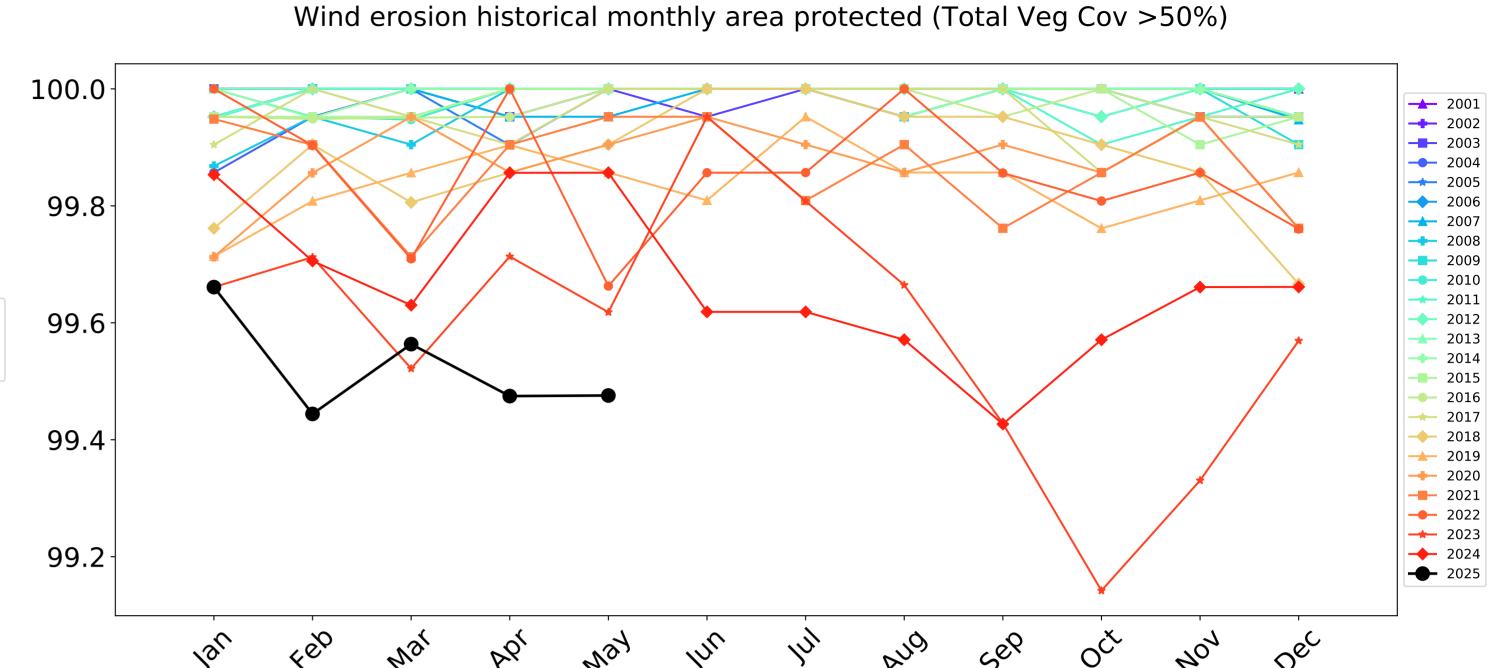




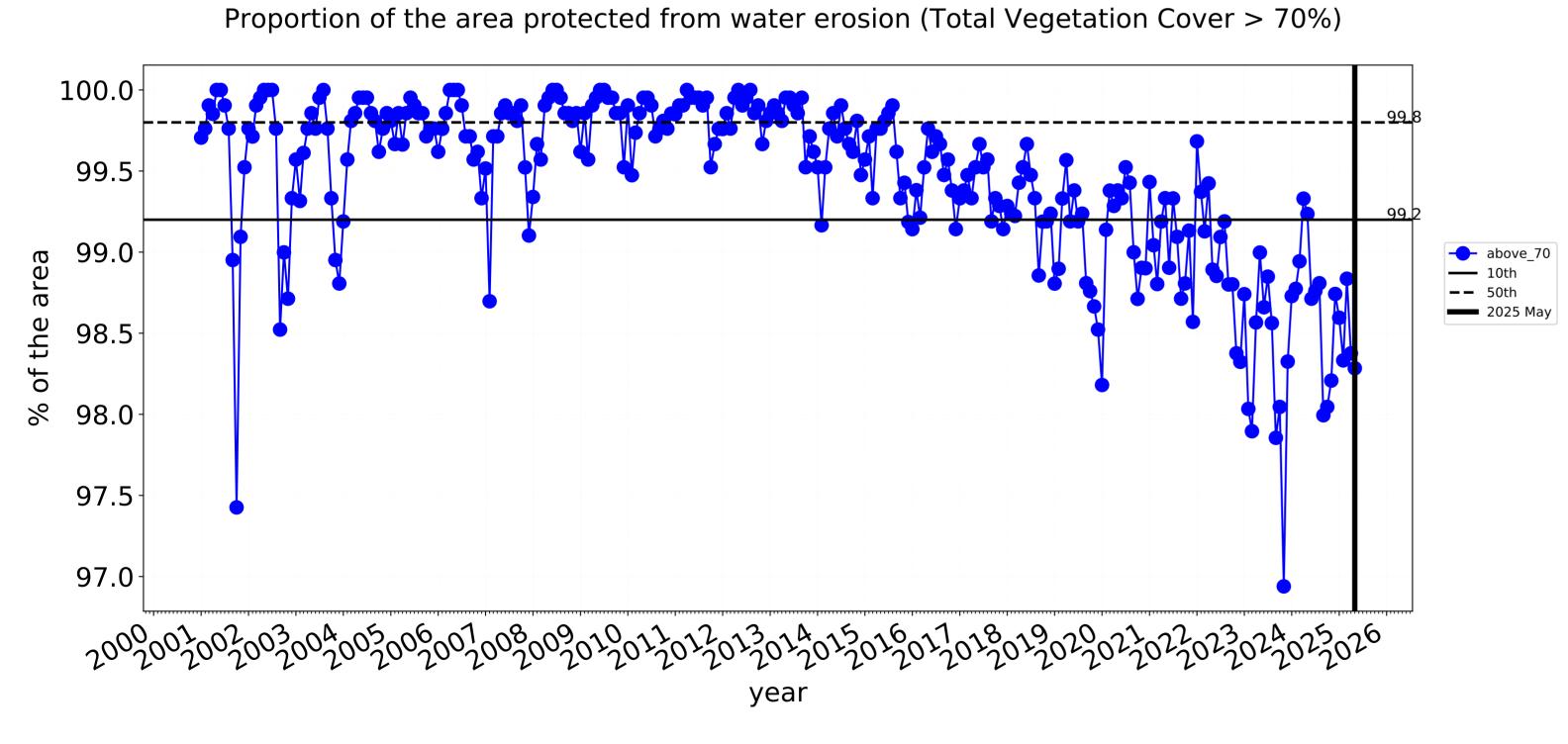


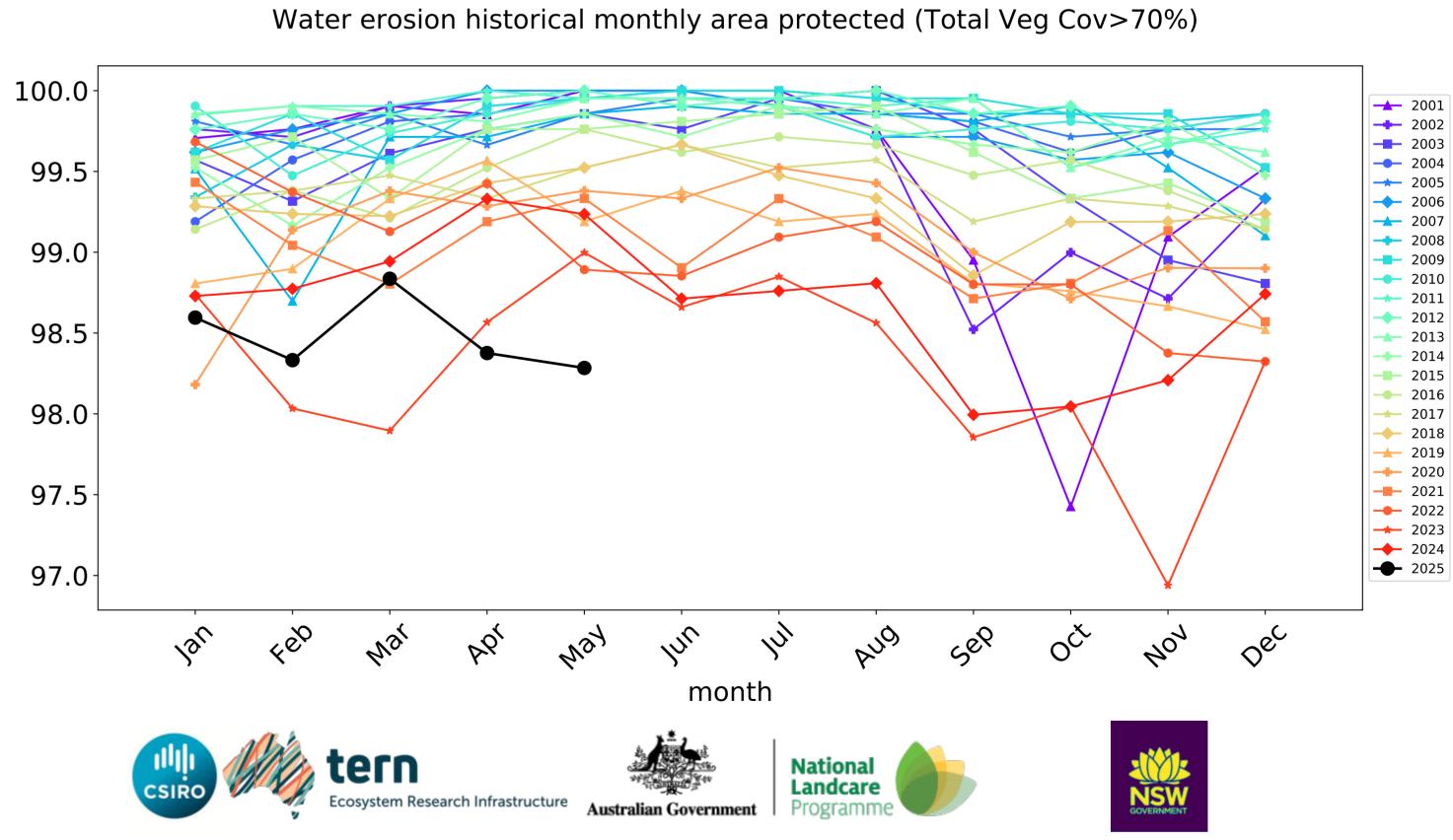
## **Grazing timeseries**

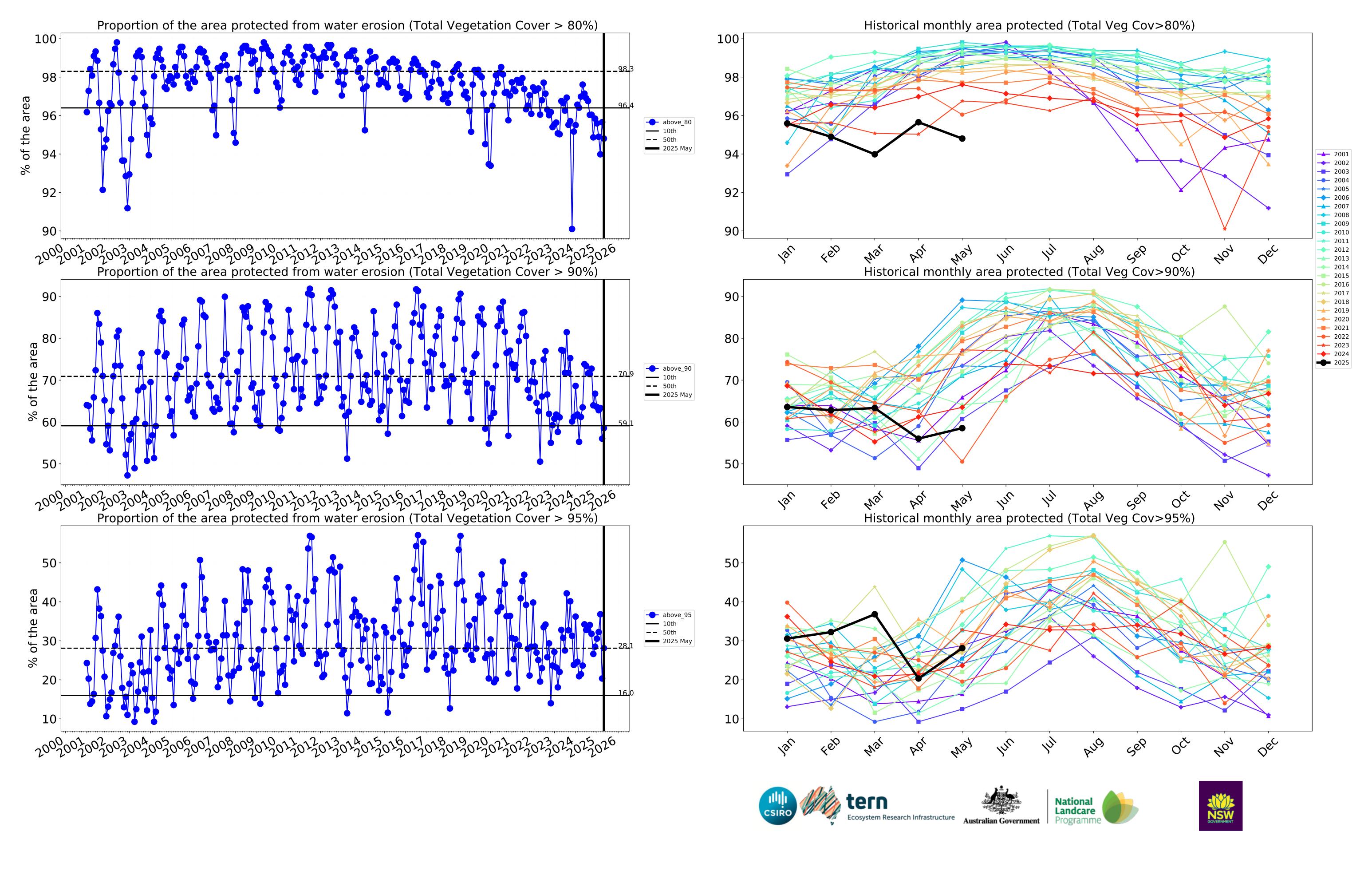




month







## **Grazing non forest**

#### Land use and forest cover

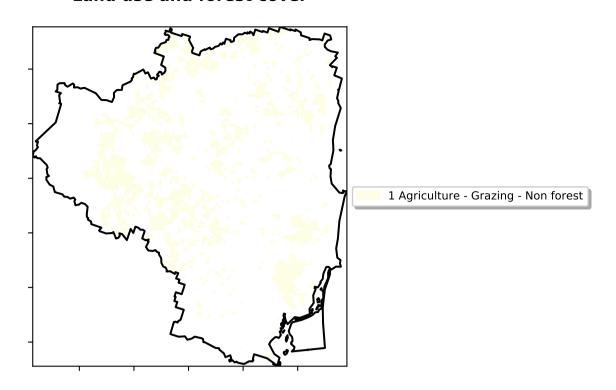
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

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

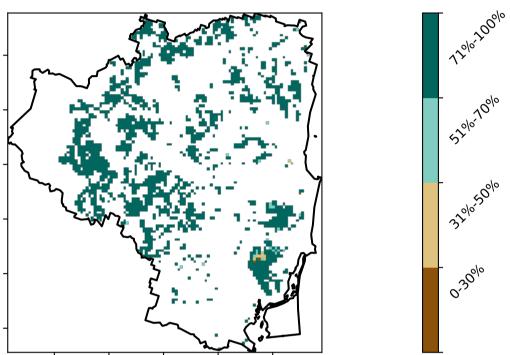
is, red pixels are about 20% lower than the mean of that

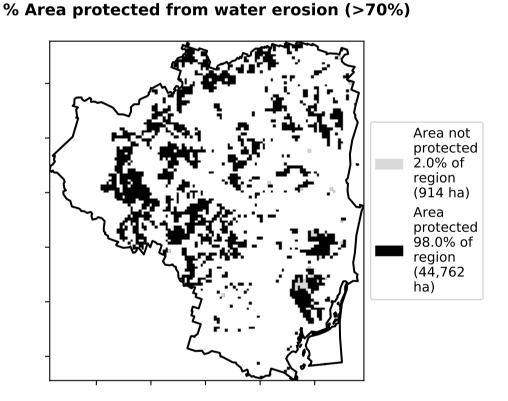
pixel. The mean is only for the month of the map

using baseline from 2001 to 2019.

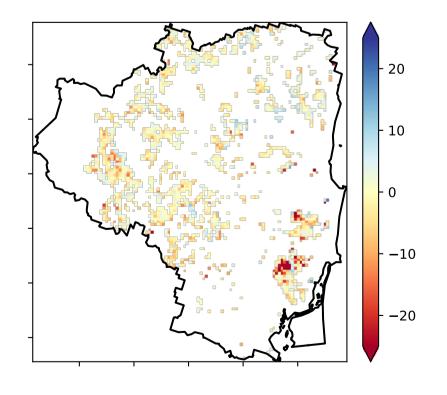


#### **Total Vegetation Cover [%]**



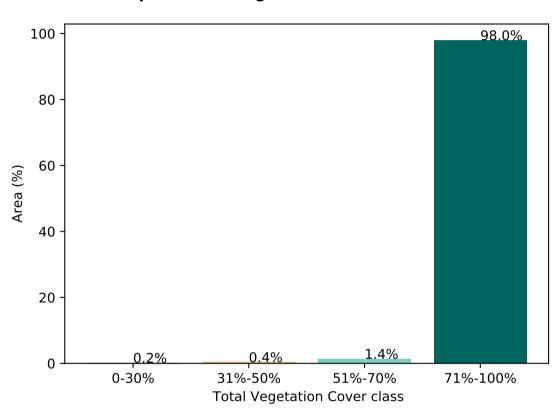


#### **Total Vegetation Cover Anomaly [%]**

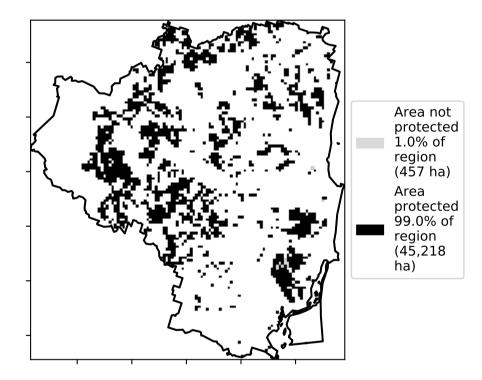


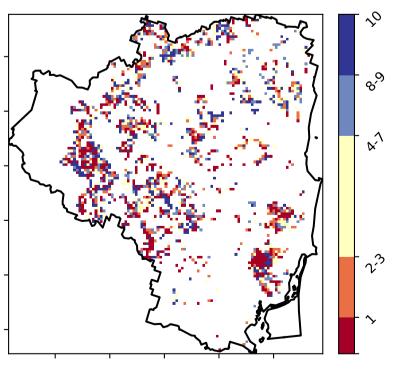
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

#### Proportion of vegetation cover class in area



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





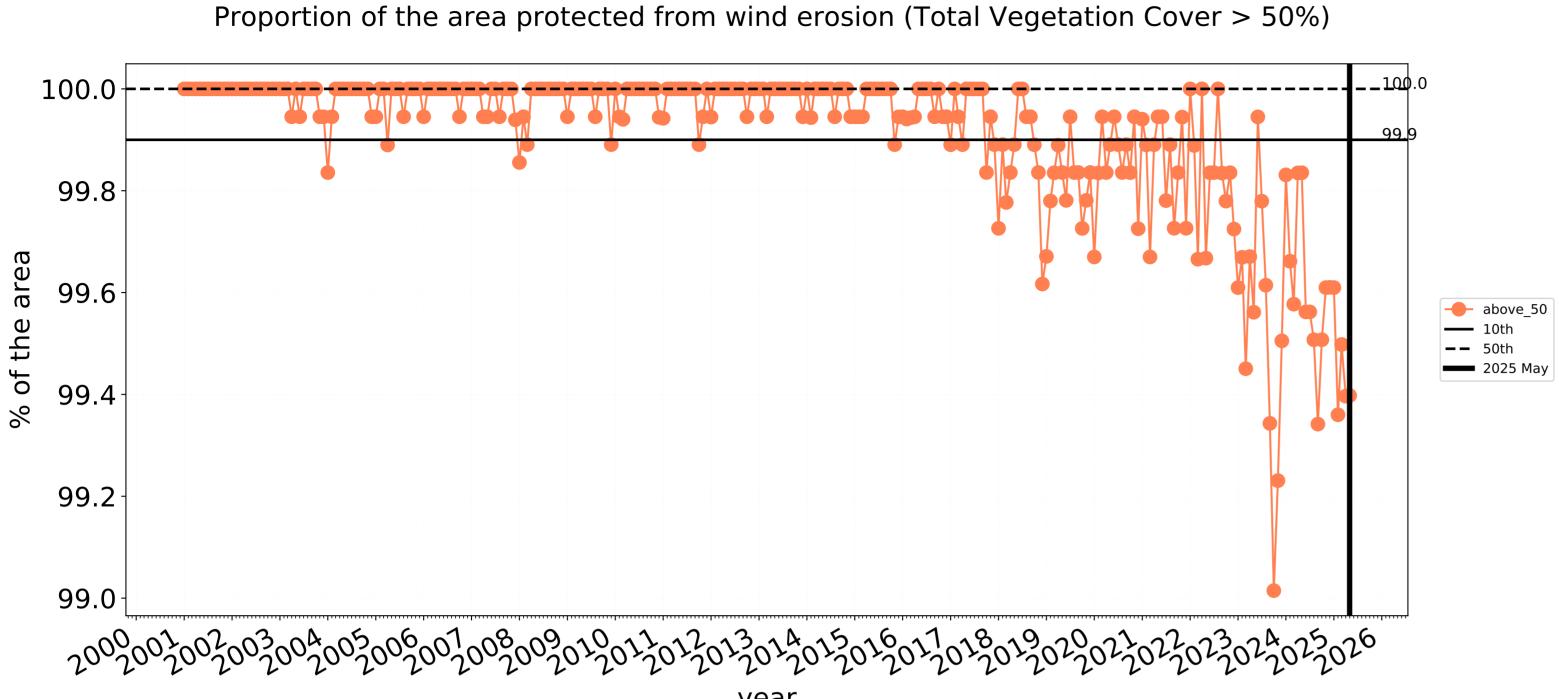


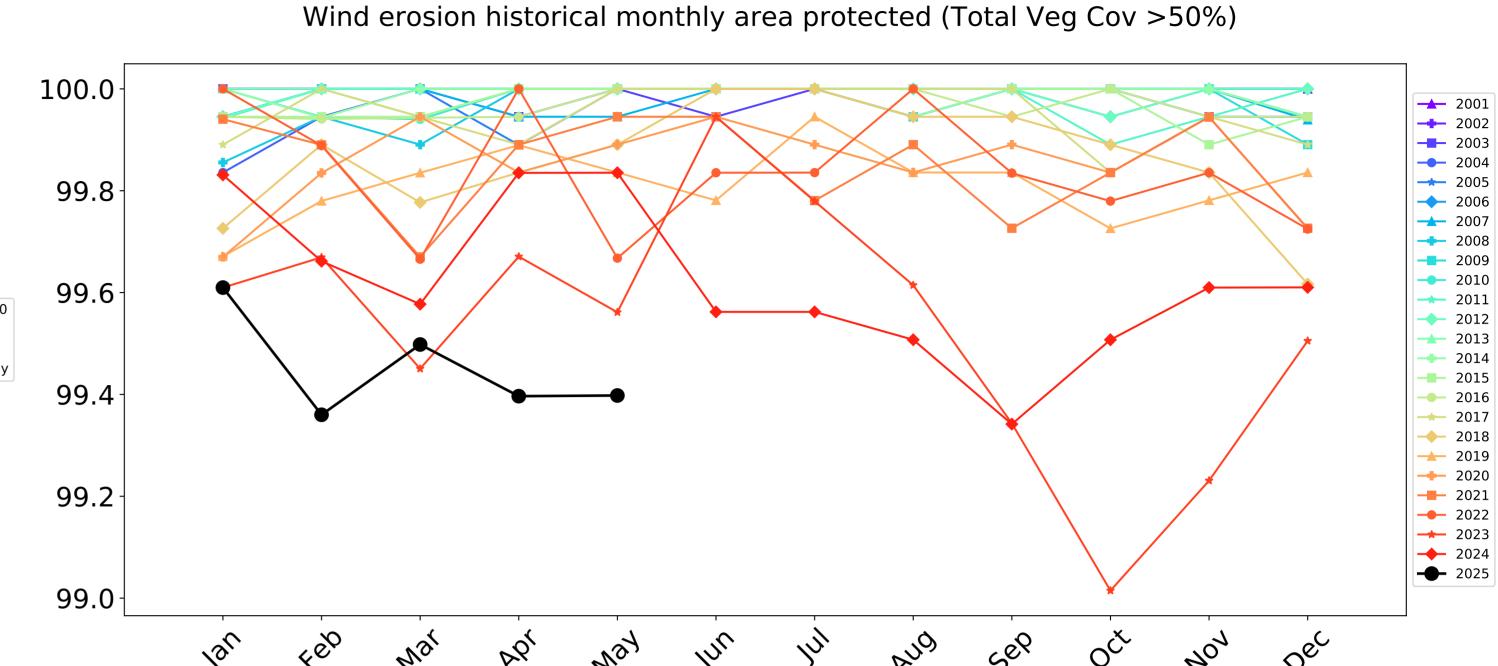




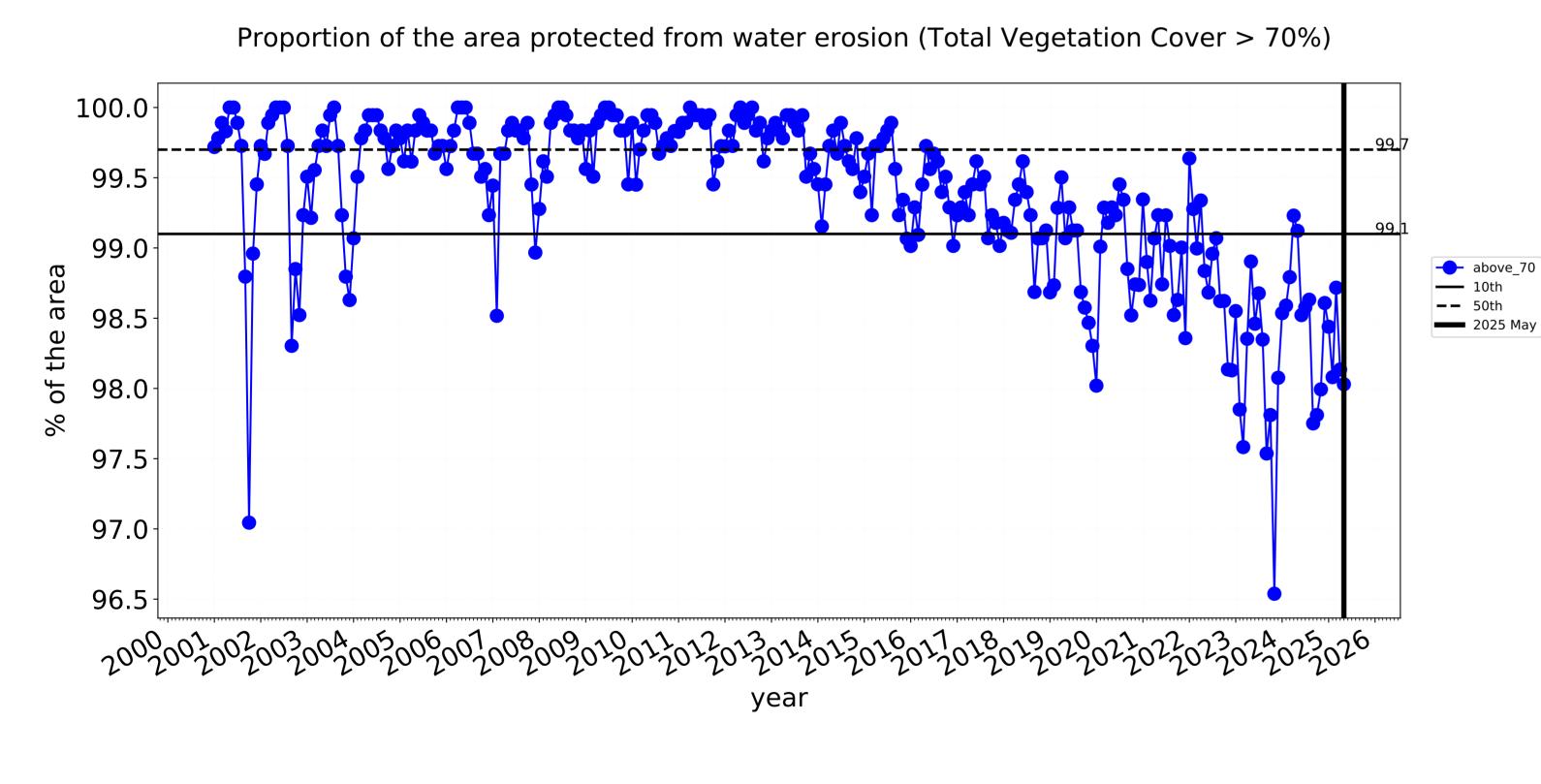


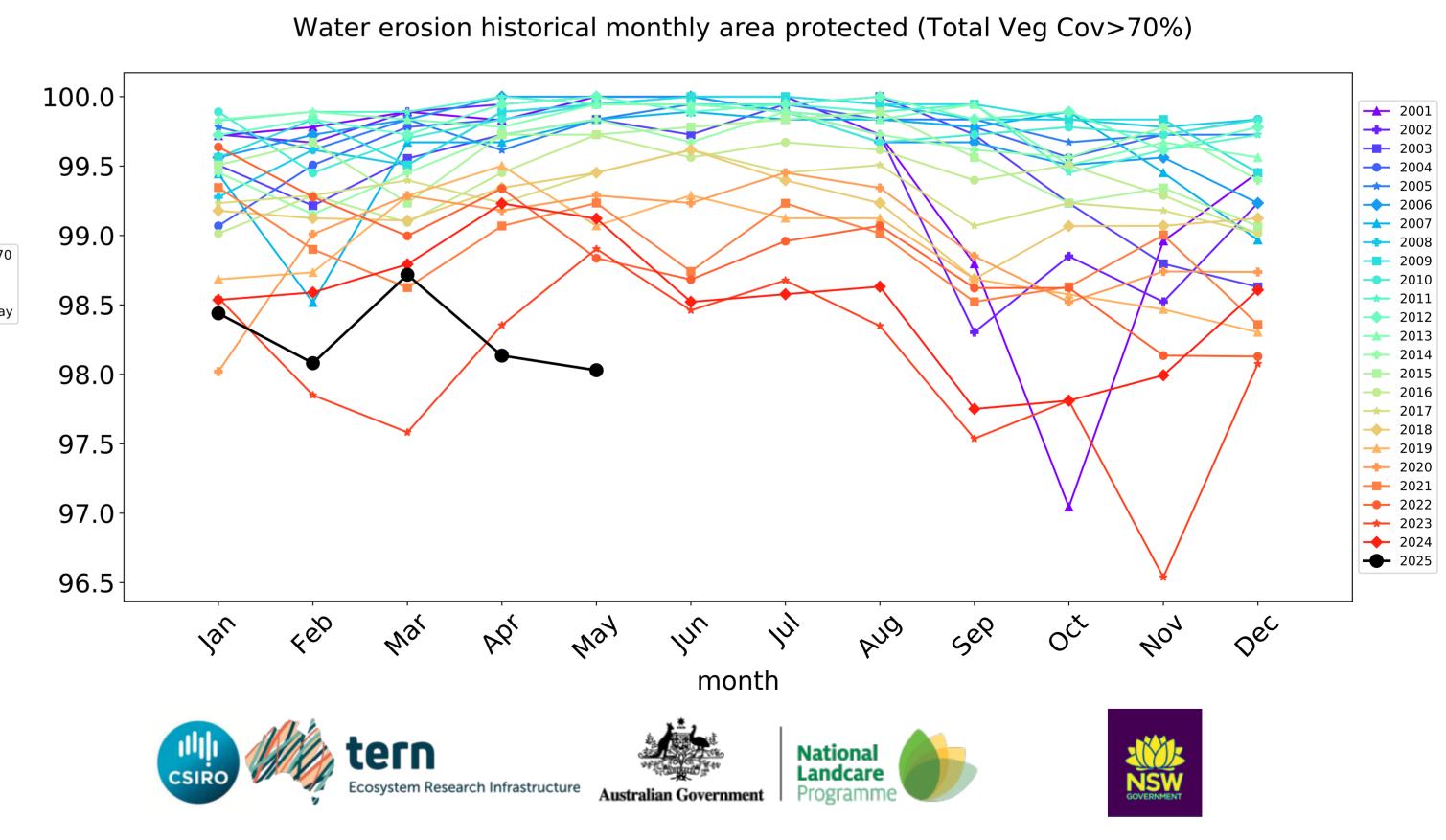
## **Grazing non forest timeseries**

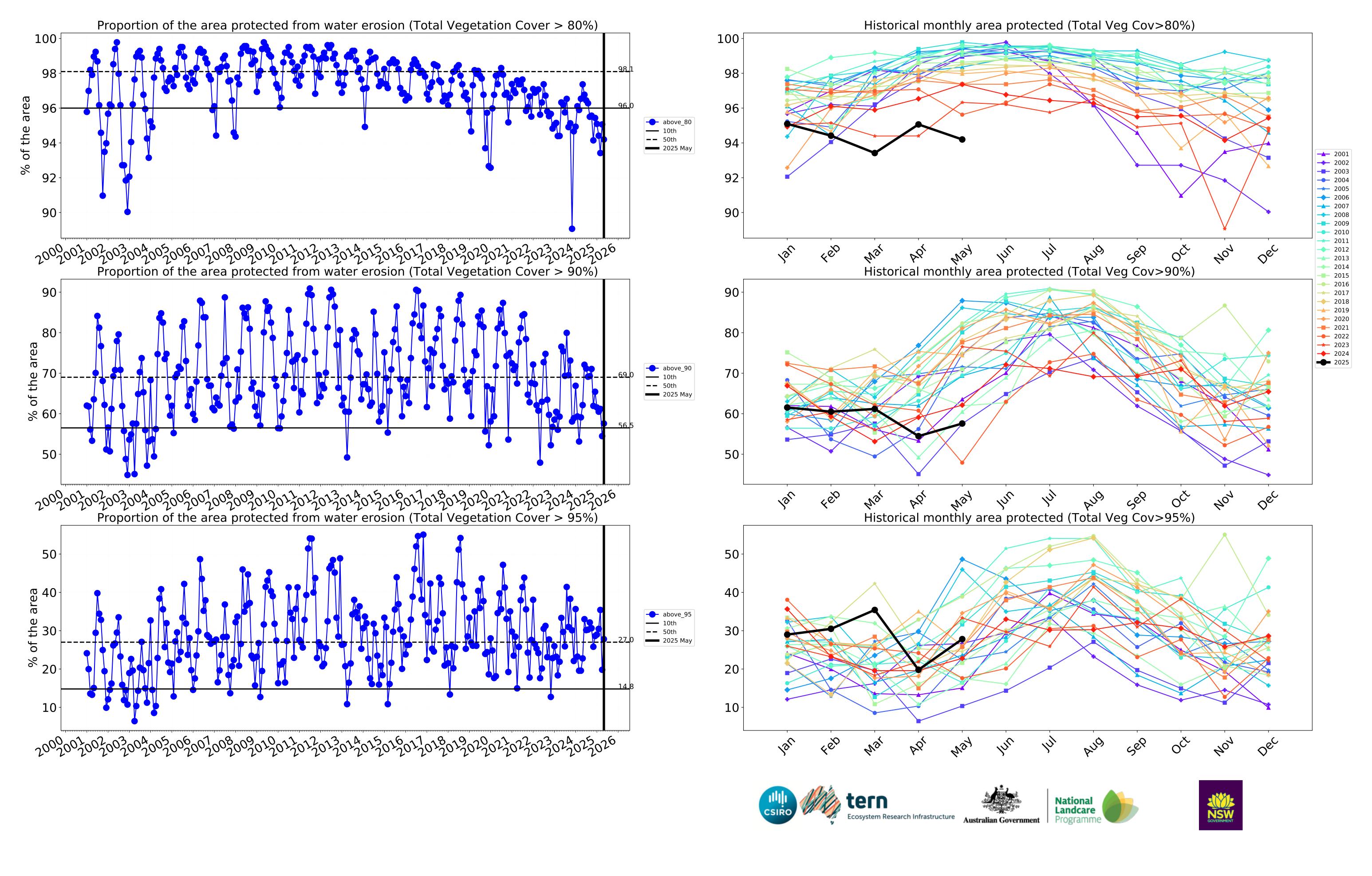




month







## **Grazing 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)

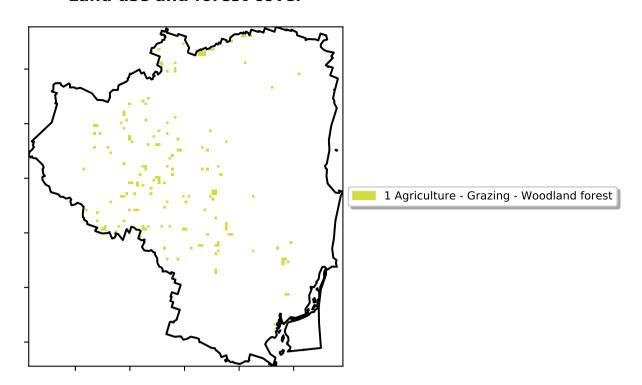
Anomaly show how many percetage points each pixel is from

the mean. That is, red pixels

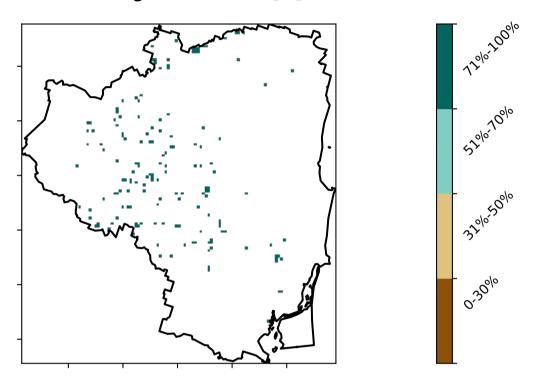
are about 20% lower than the mean of that pixel. The mean

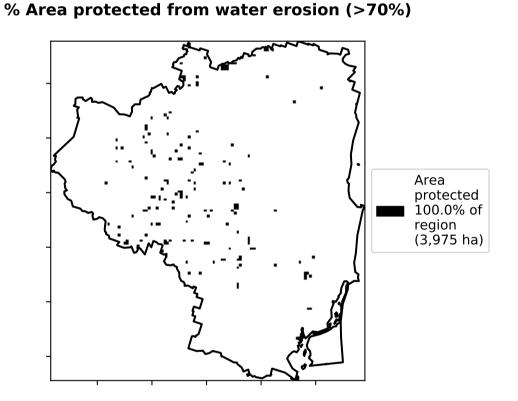
is only for the month of the map

using baseline from 2001 to 2019.

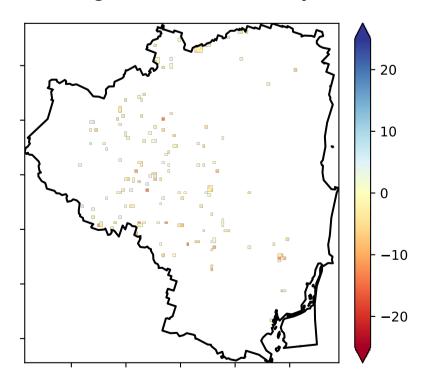


#### **Total Vegetation Cover [%]**



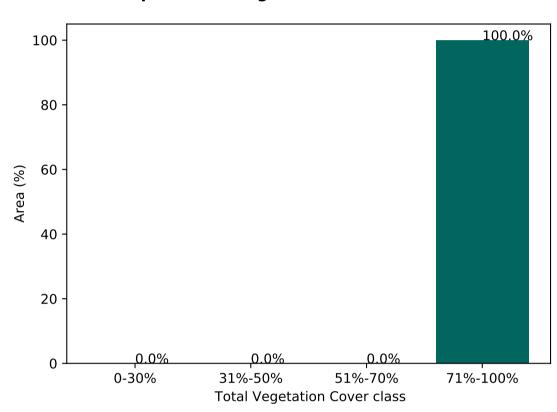


#### **Total Vegetation Cover Anomaly [%]**

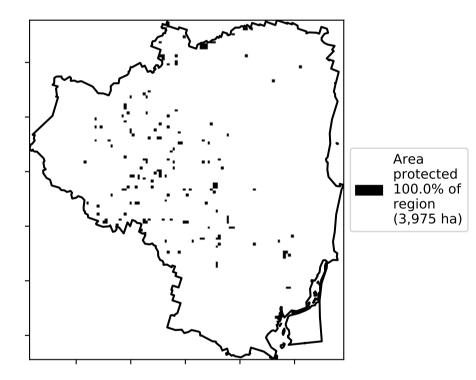


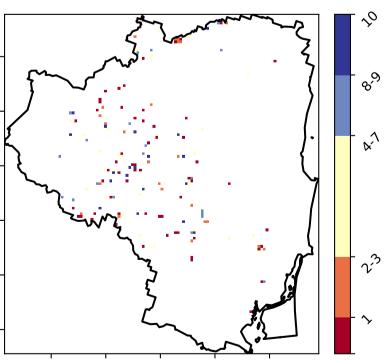
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

#### Proportion of vegetation cover class in area



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





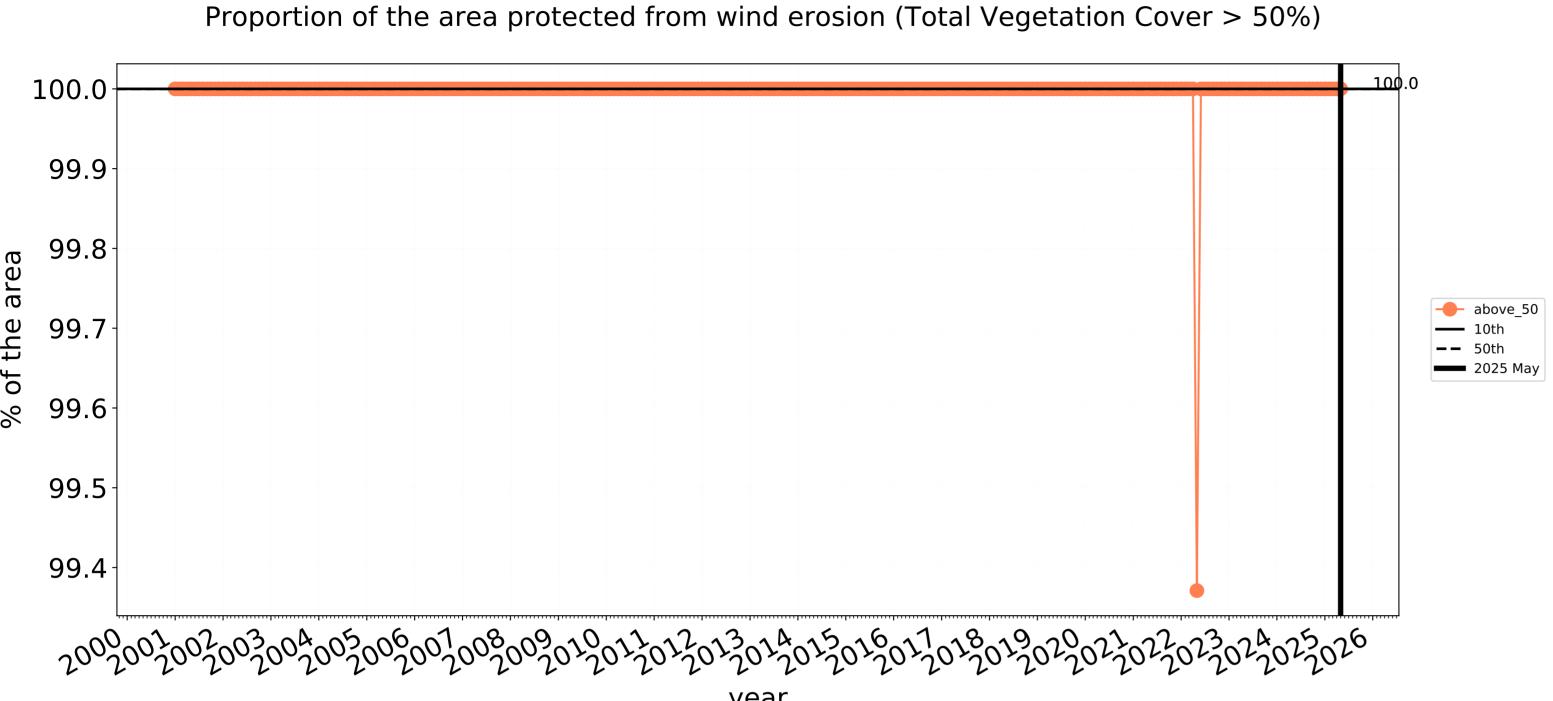


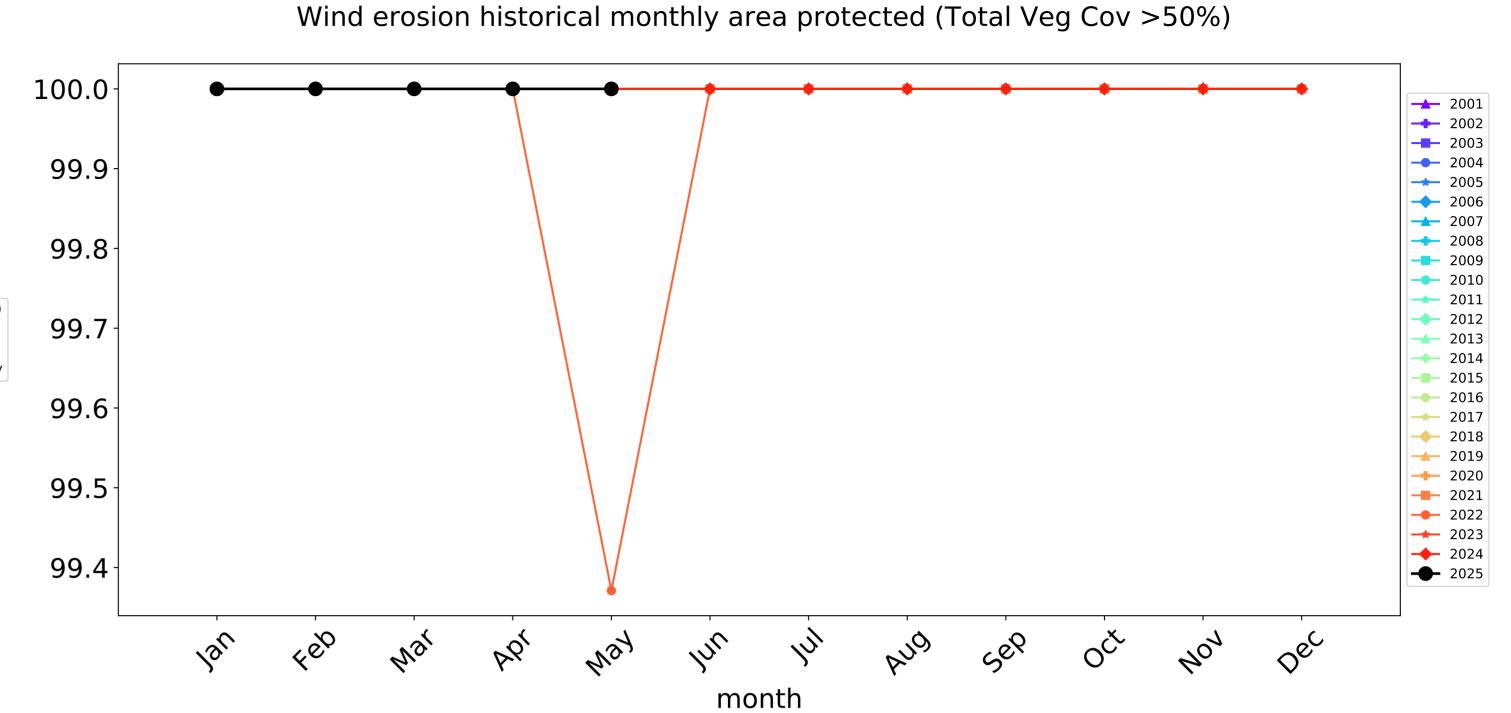


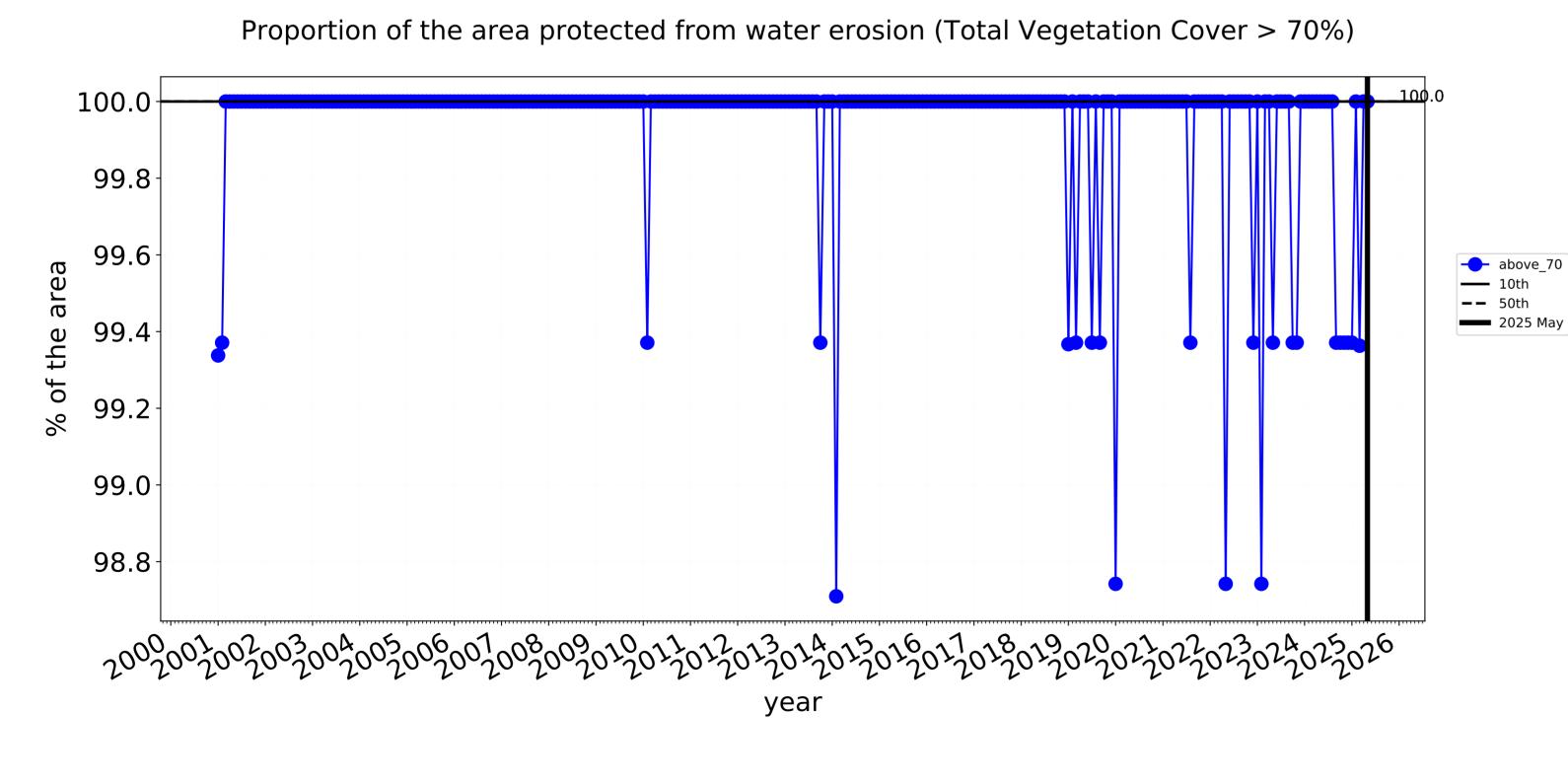


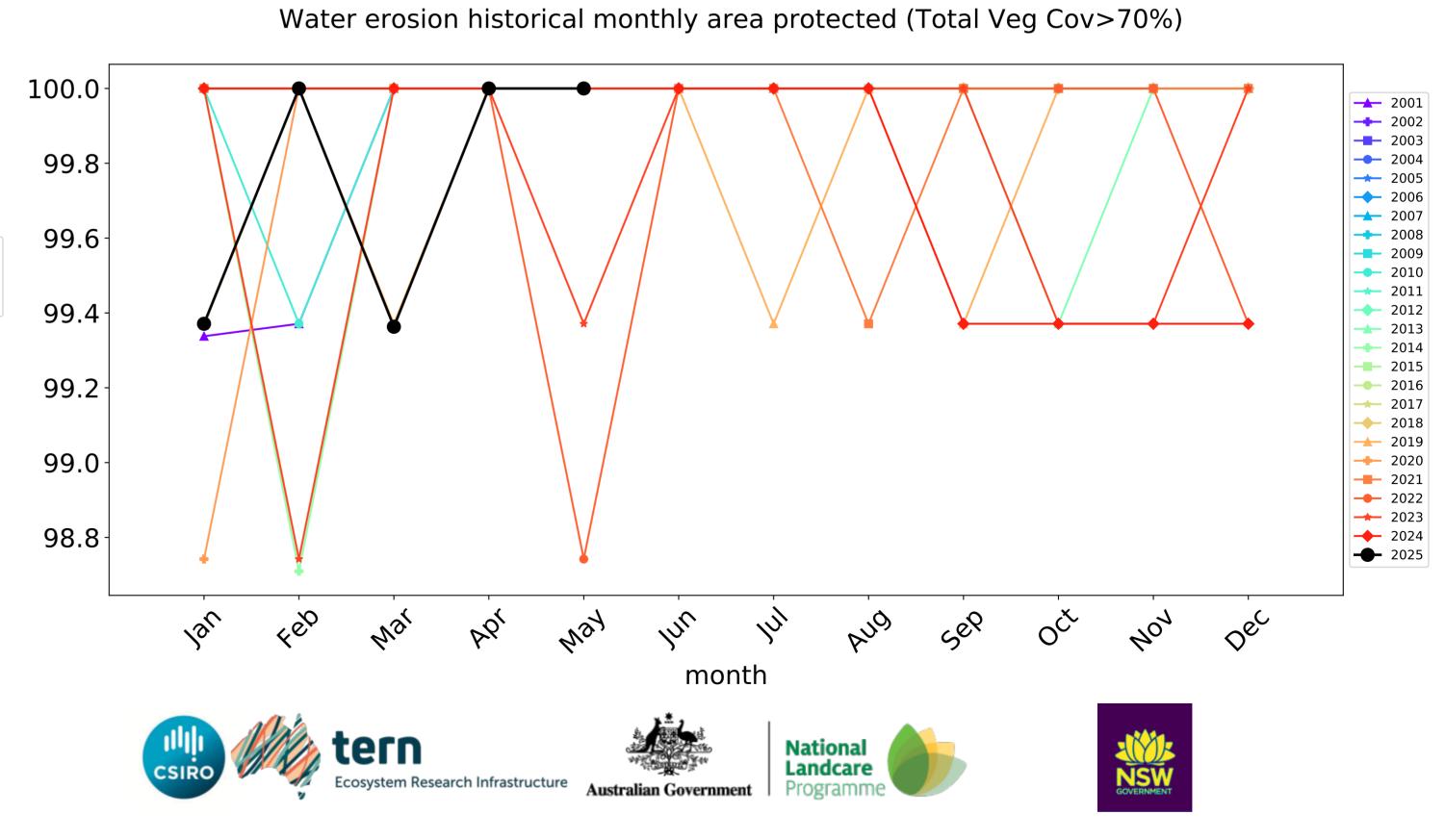


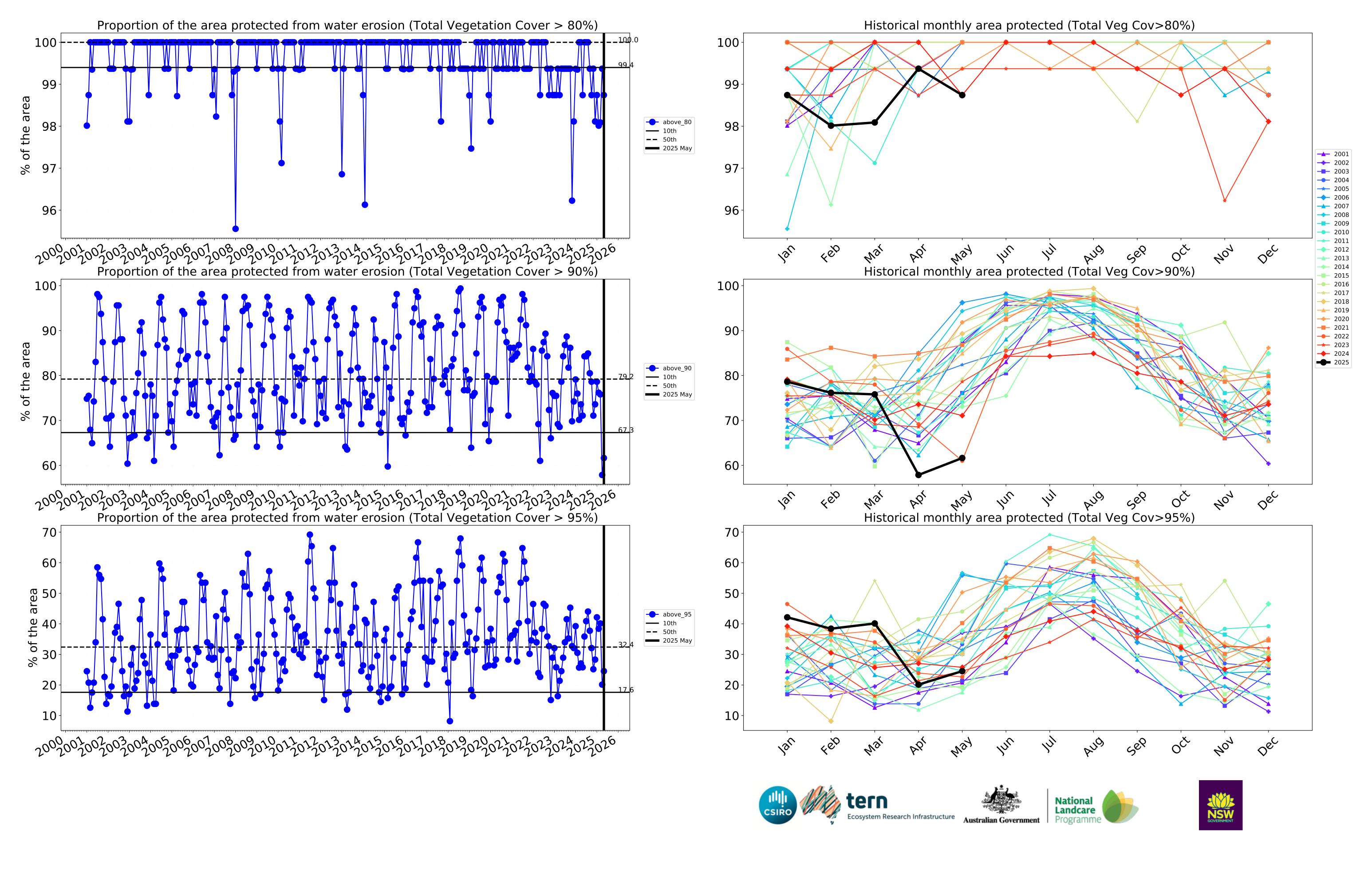
## **Grazing Woodland forest timeseries**











## **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

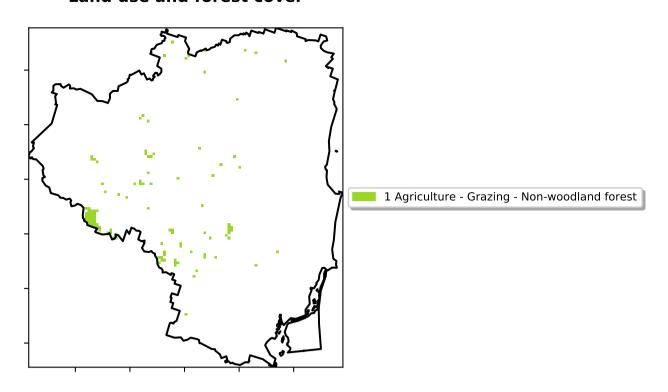
pixel is from

the mean. That is, red pixels

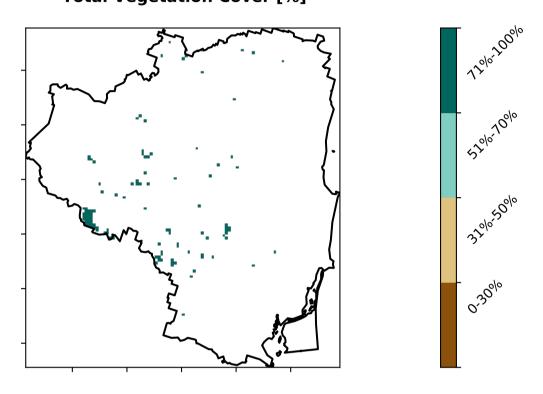
are about 20% lower than the mean of that pixel. The mean

is only for the month of the map

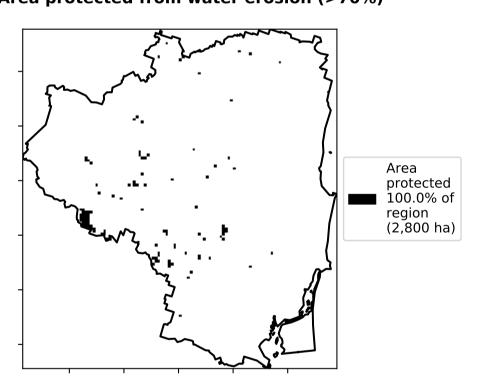
using baseline from 2001 to 2019.



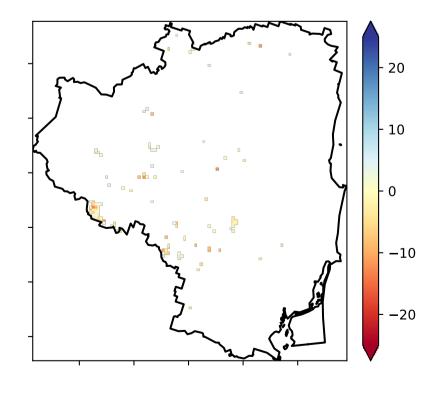
#### **Total Vegetation Cover [%]**



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

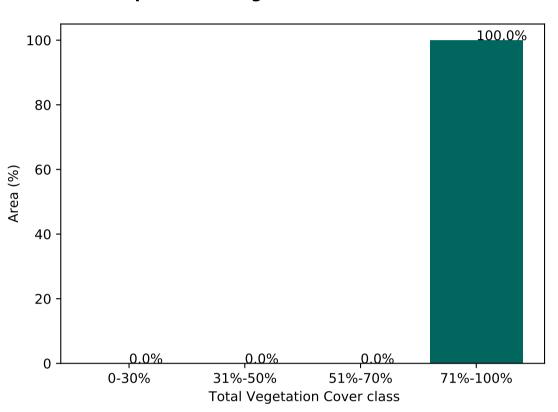


#### **Total Vegetation Cover Anomaly [%]**

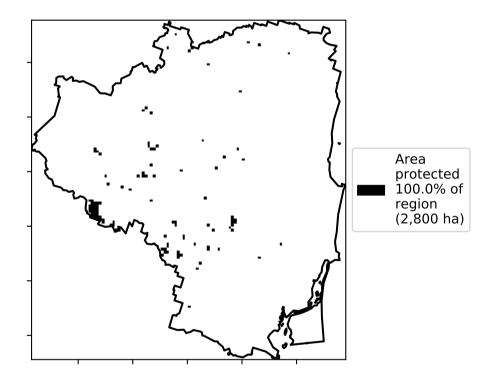


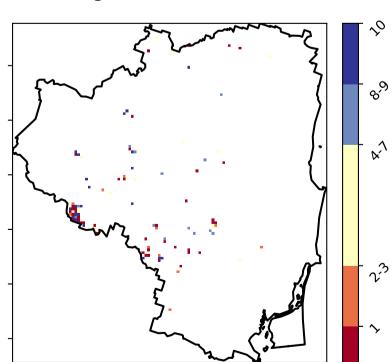
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

#### Proportion of vegetation cover class in area



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



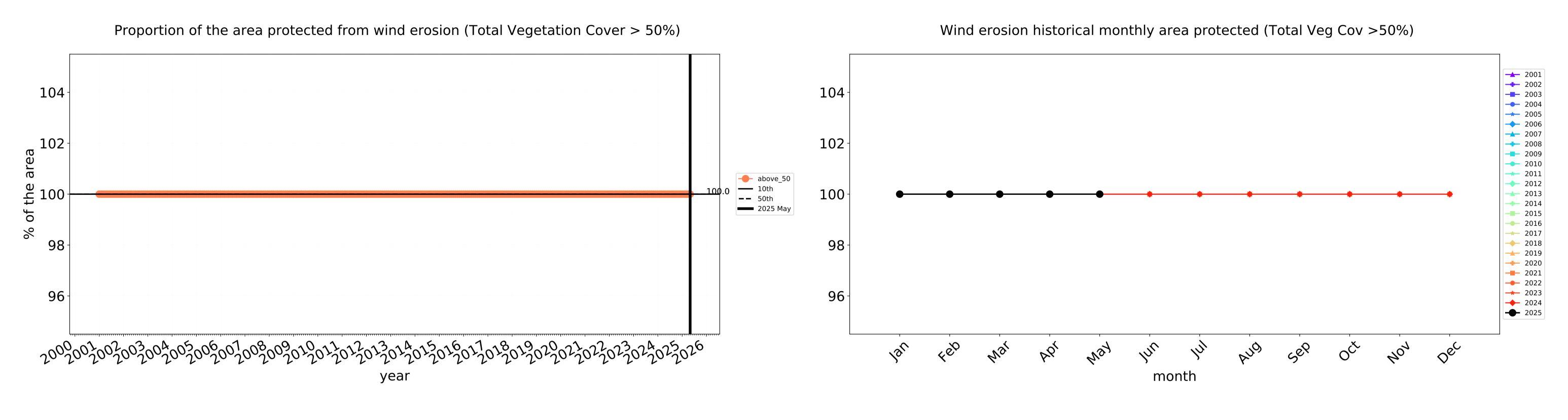


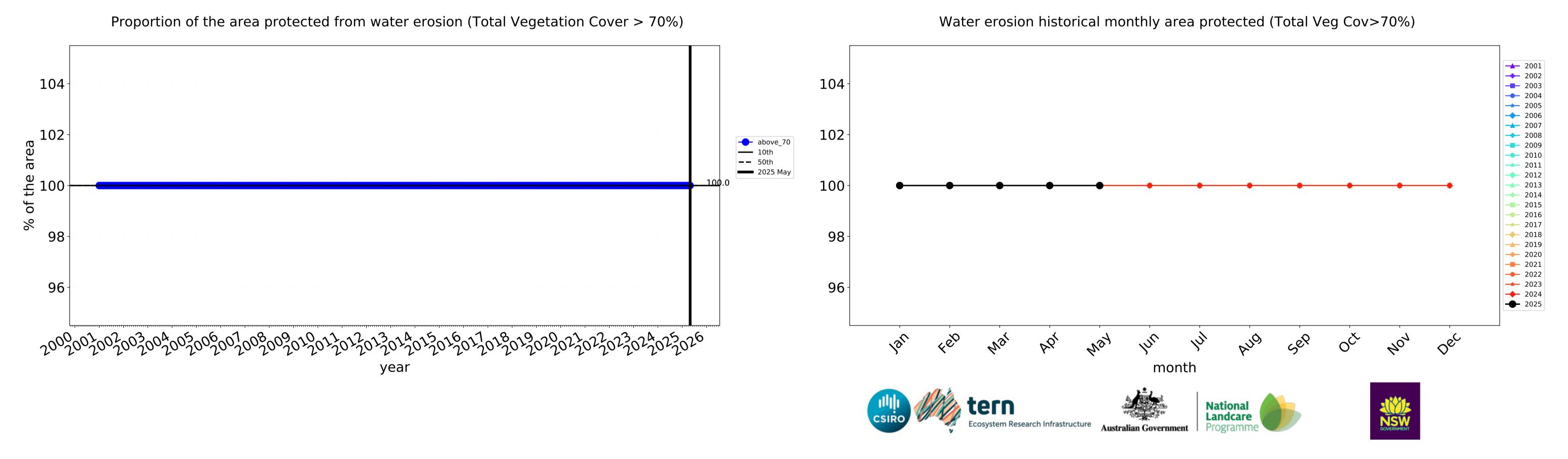


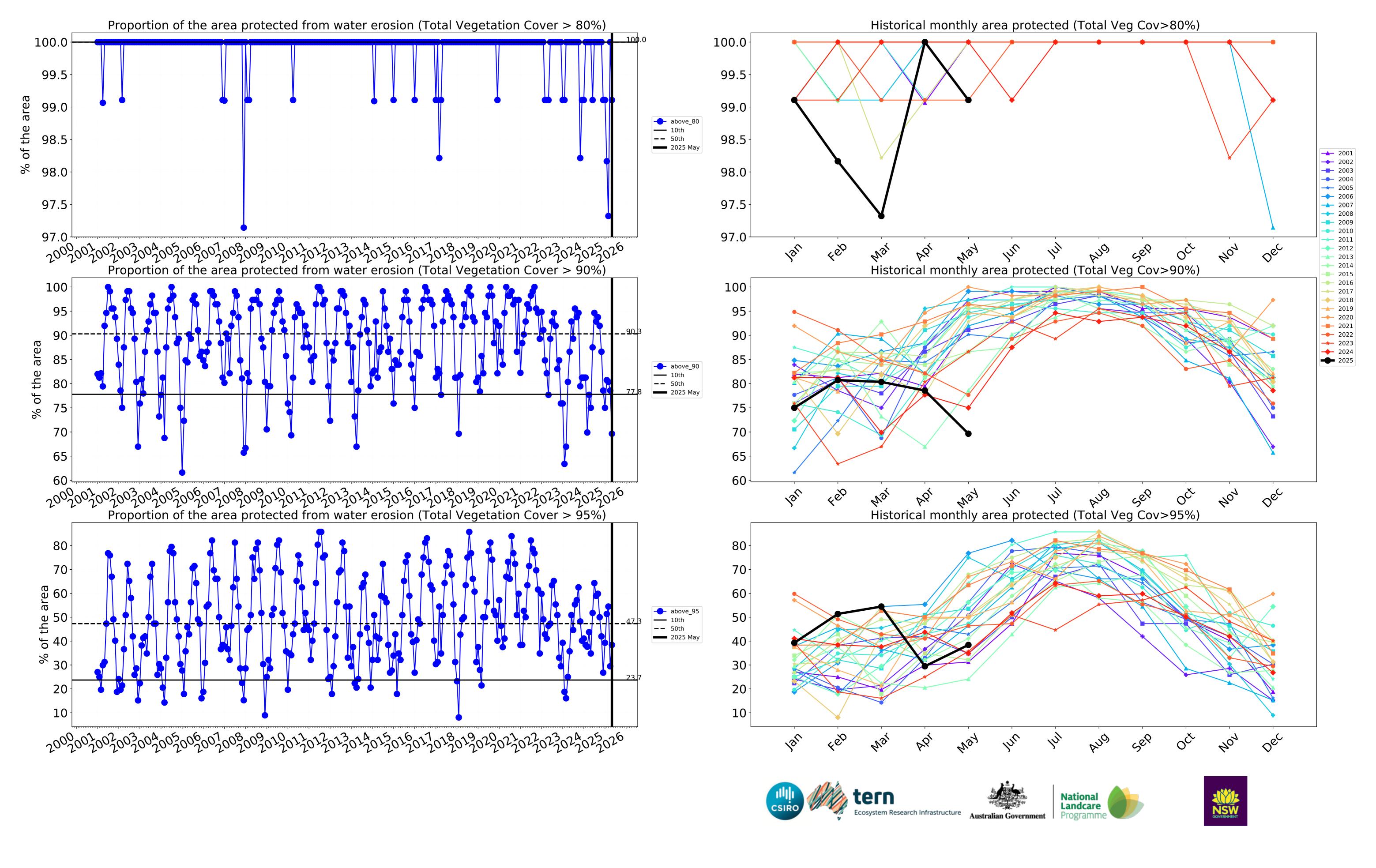








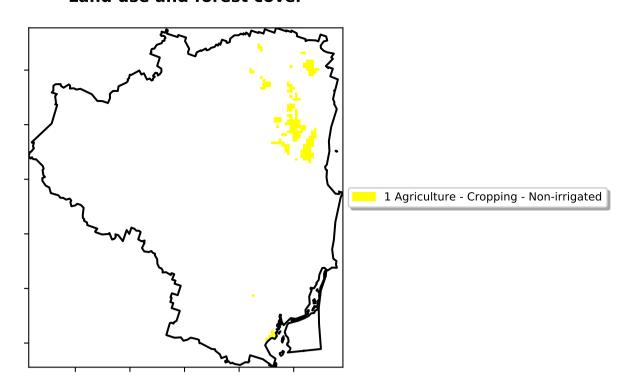




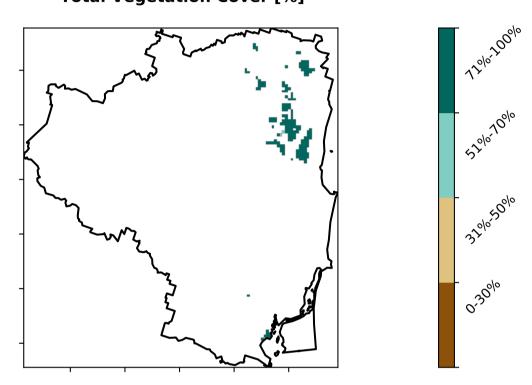
## **Cropping**

#### Land use and forest cover

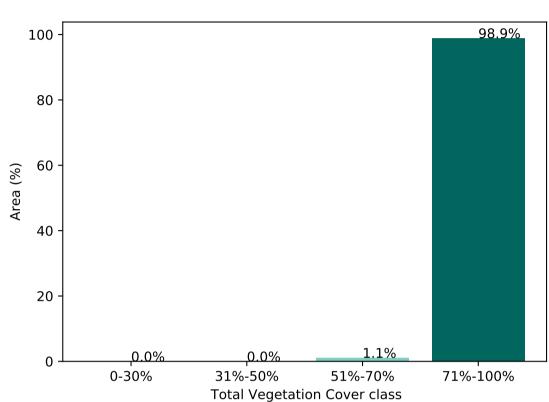
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)



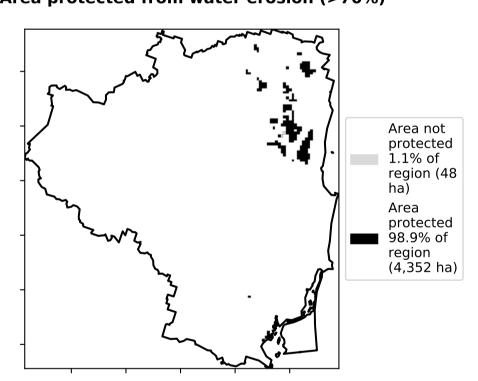
#### **Total Vegetation Cover [%]**



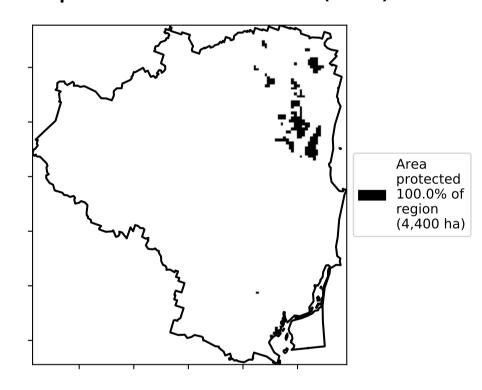
## Proportion of vegetation cover class in area



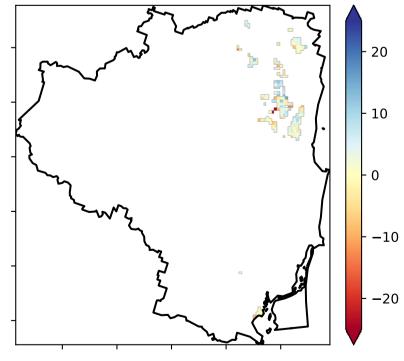
## % Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

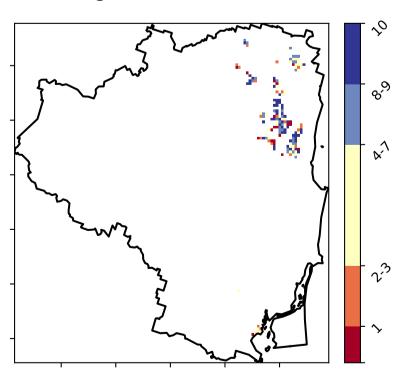


#### **Total Vegetation Cover Anomaly [%]**



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 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 pixel. The mean

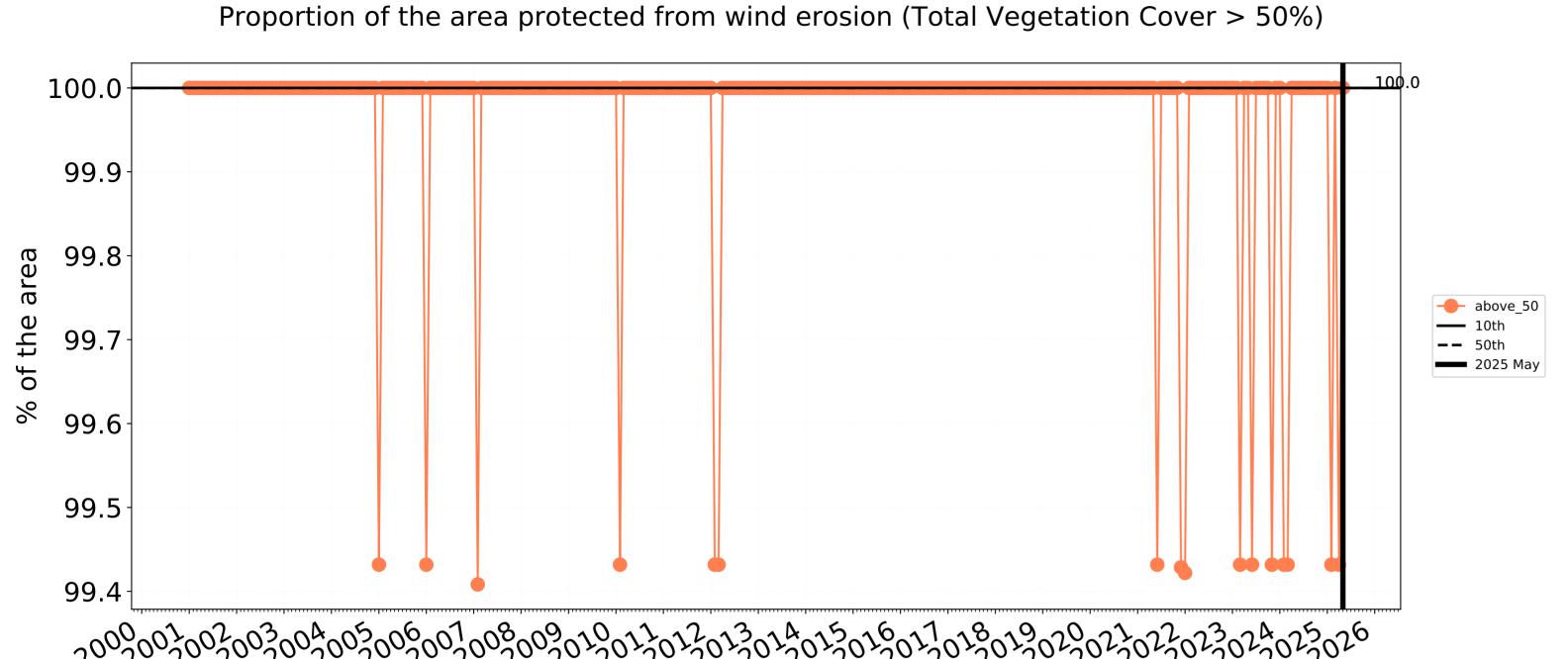


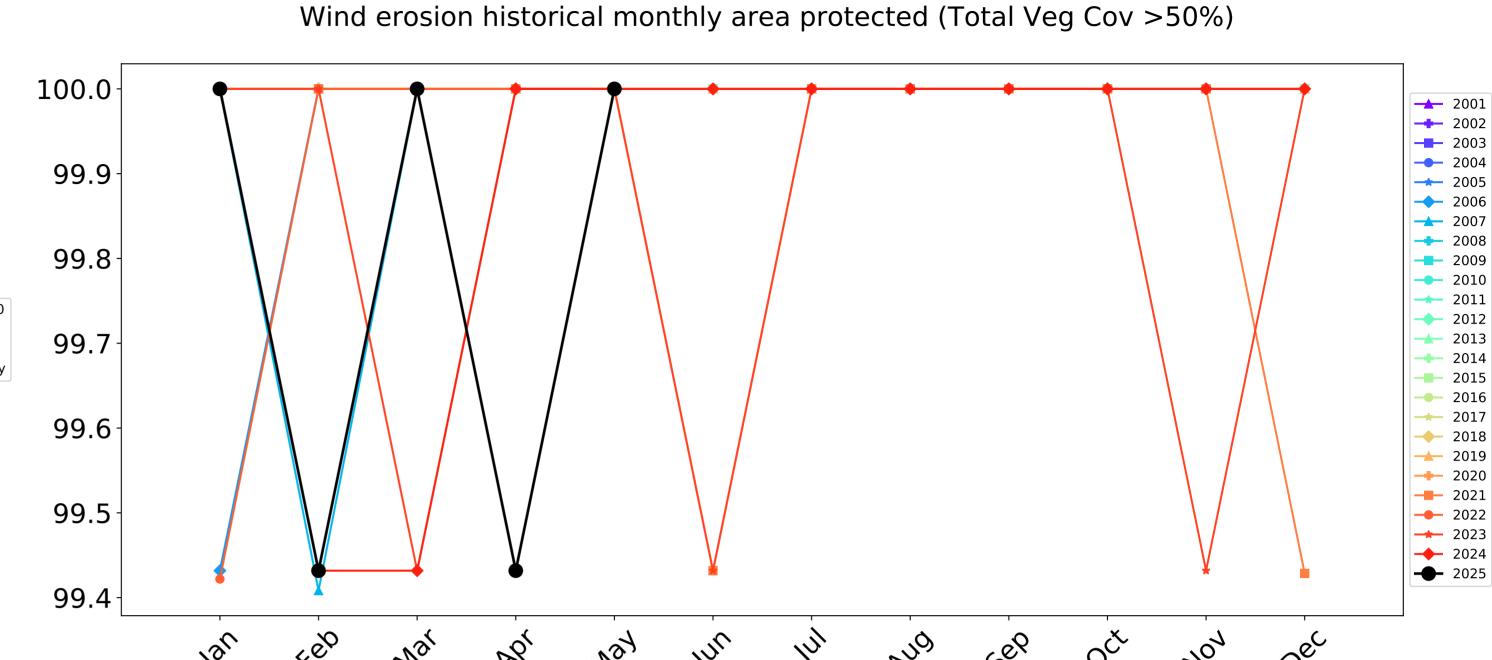






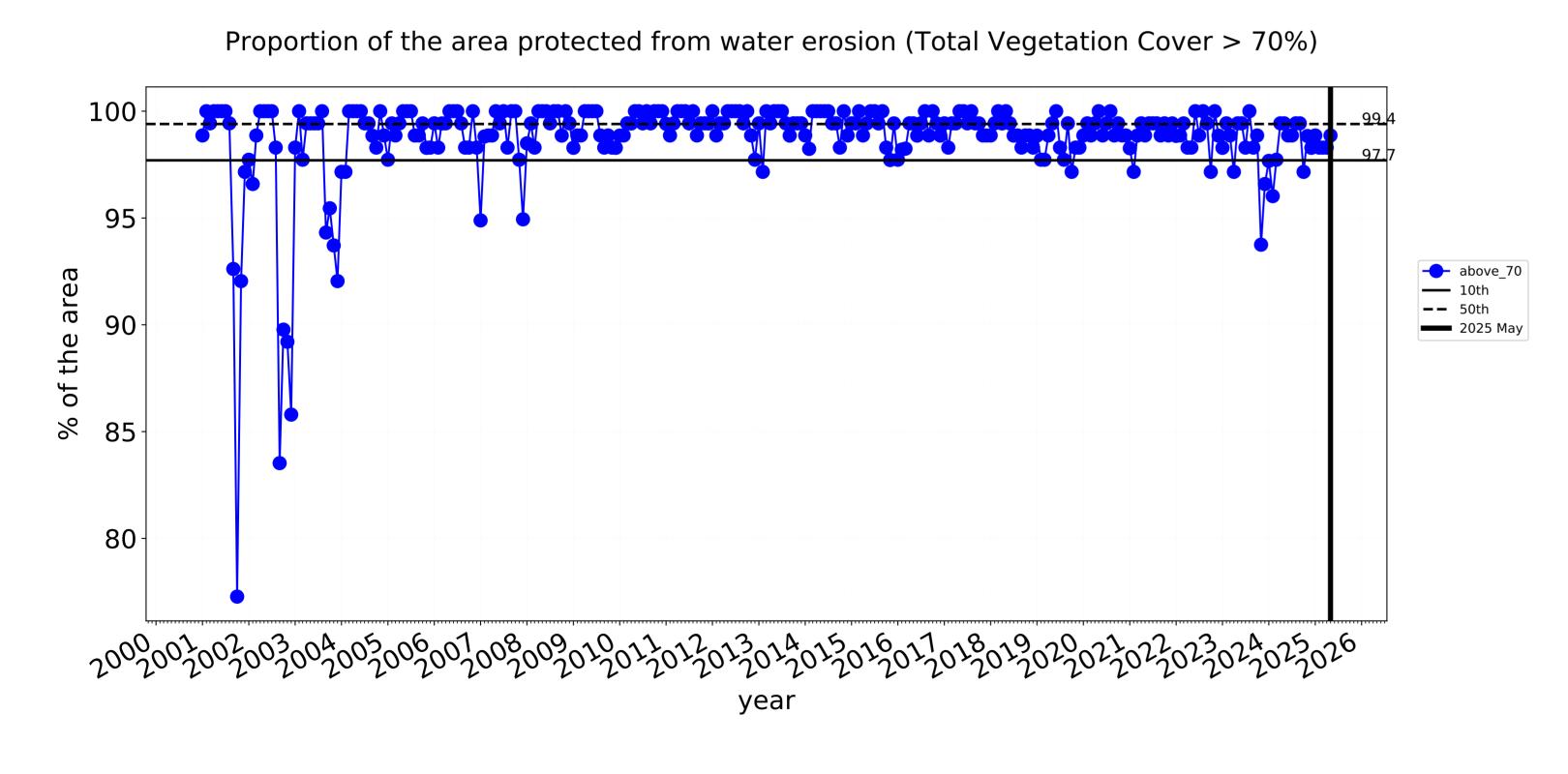
## **Cropping timeseries**

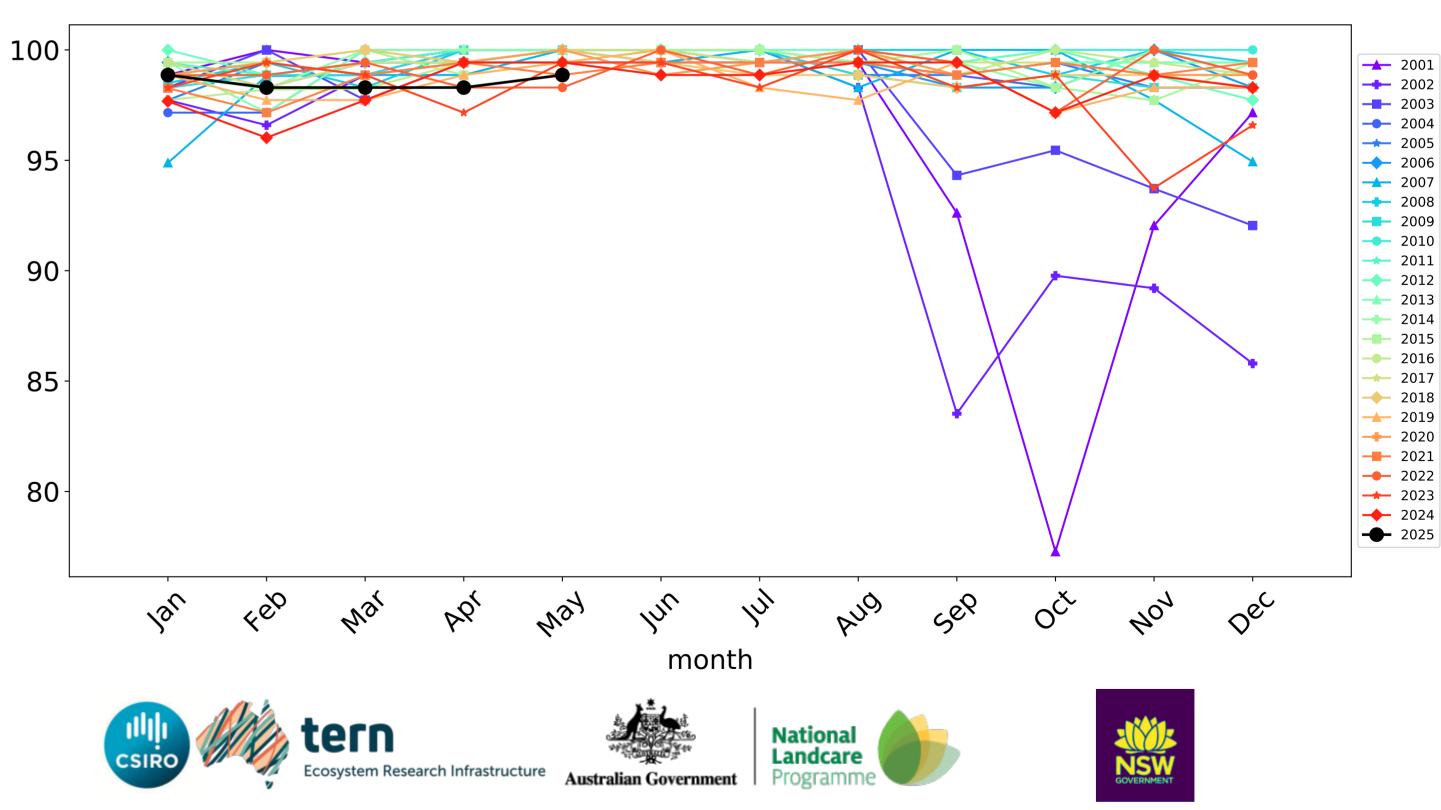


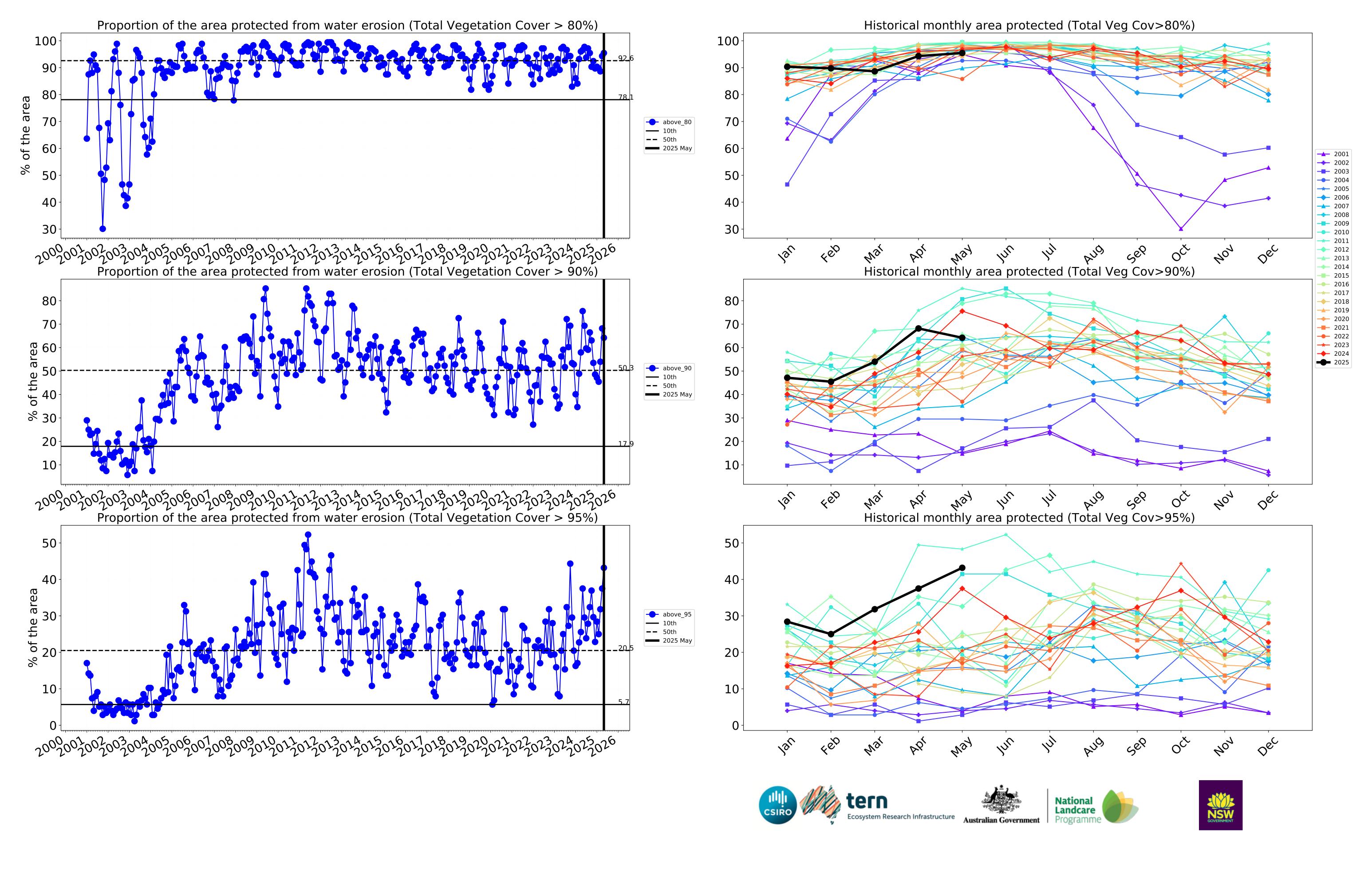


month

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







## **Horticulture**

#### Land use and forest cover

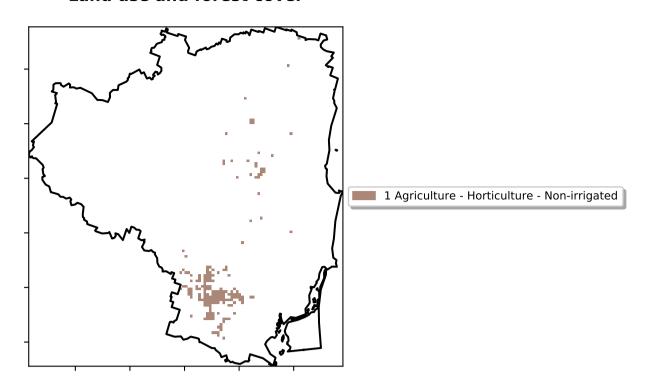
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

Anomaly show how many percetage points each pixel is from

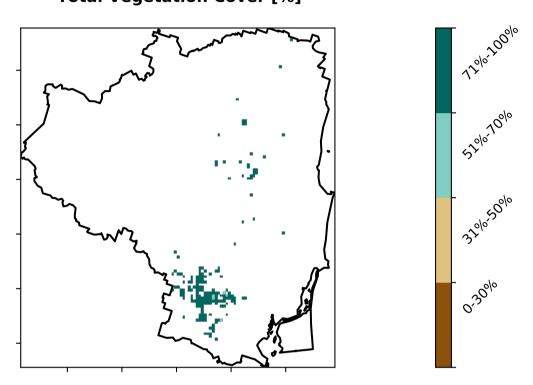
the mean. That

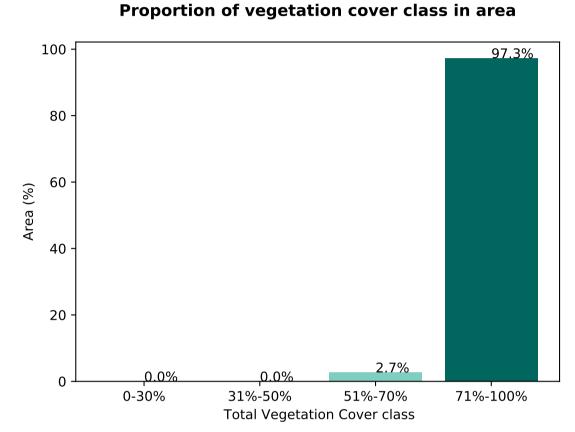
is, red pixels are about 20% lower than the mean of that pixel. The mean is only for the month of the map

using baseline from 2001 to 2019.

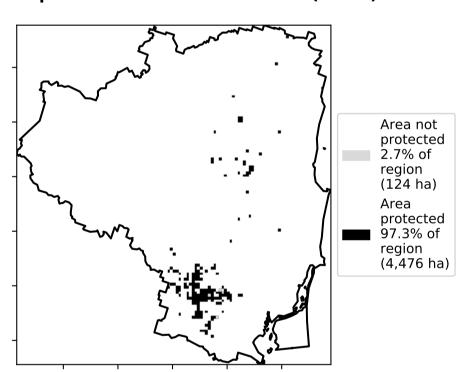


#### **Total Vegetation Cover [%]**

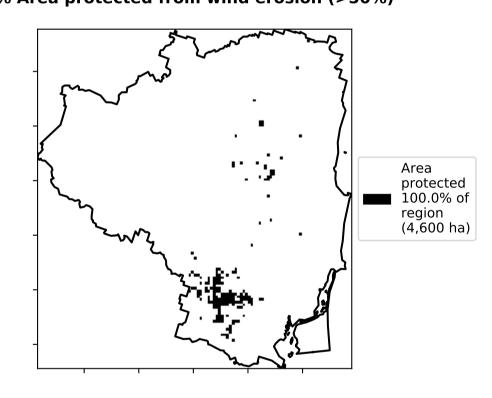




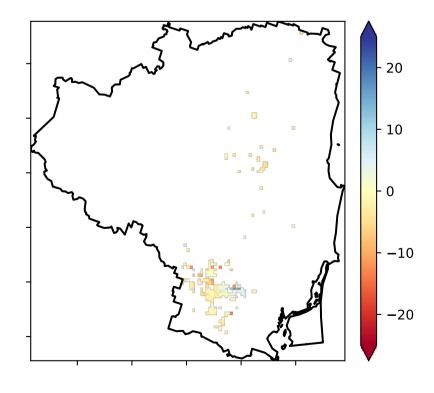
#### % Area protected from water erosion (>70%)



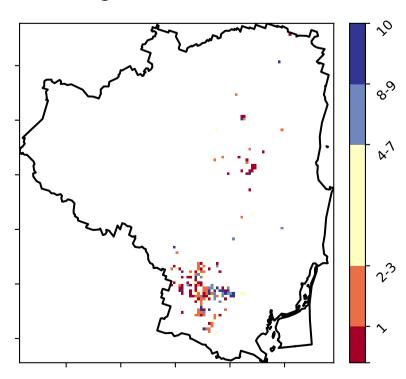
% Area protected from wind erosion (>50%)



#### **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.





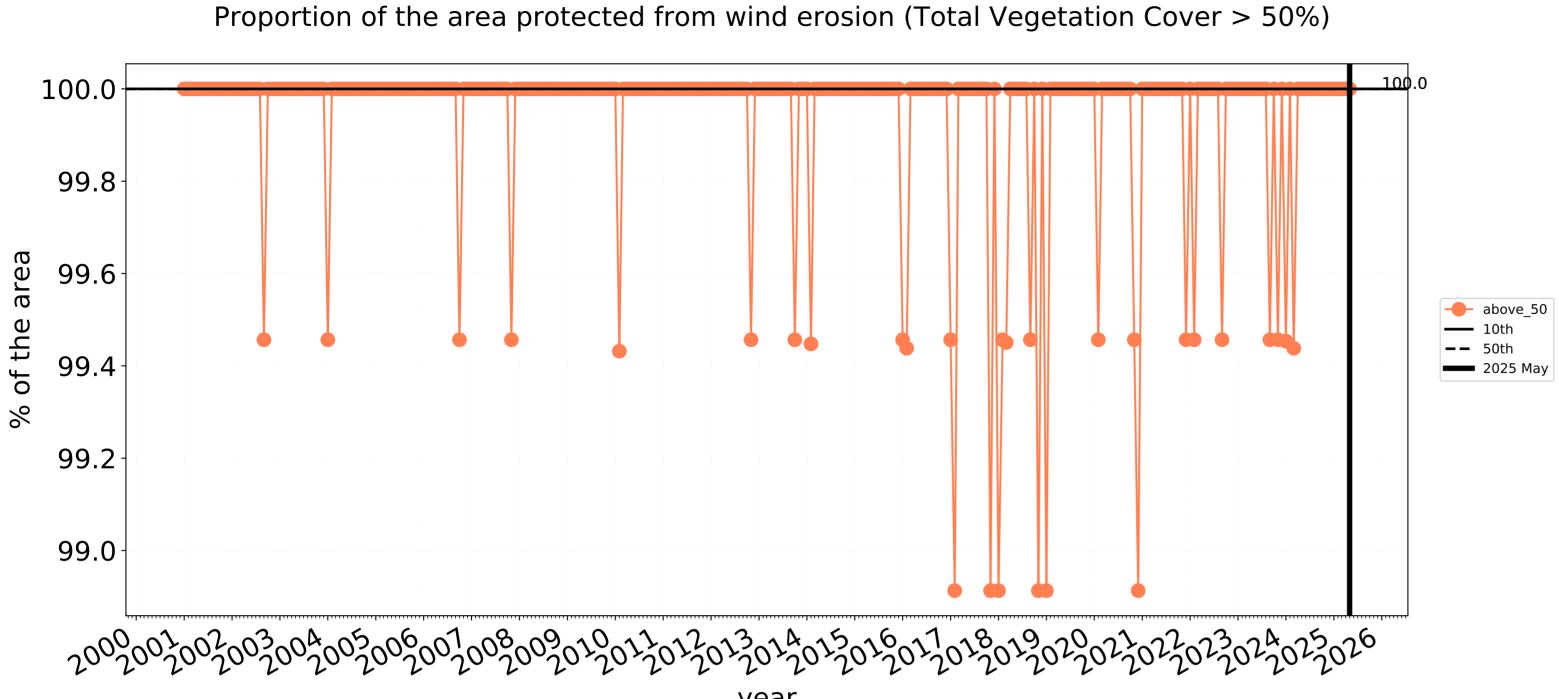


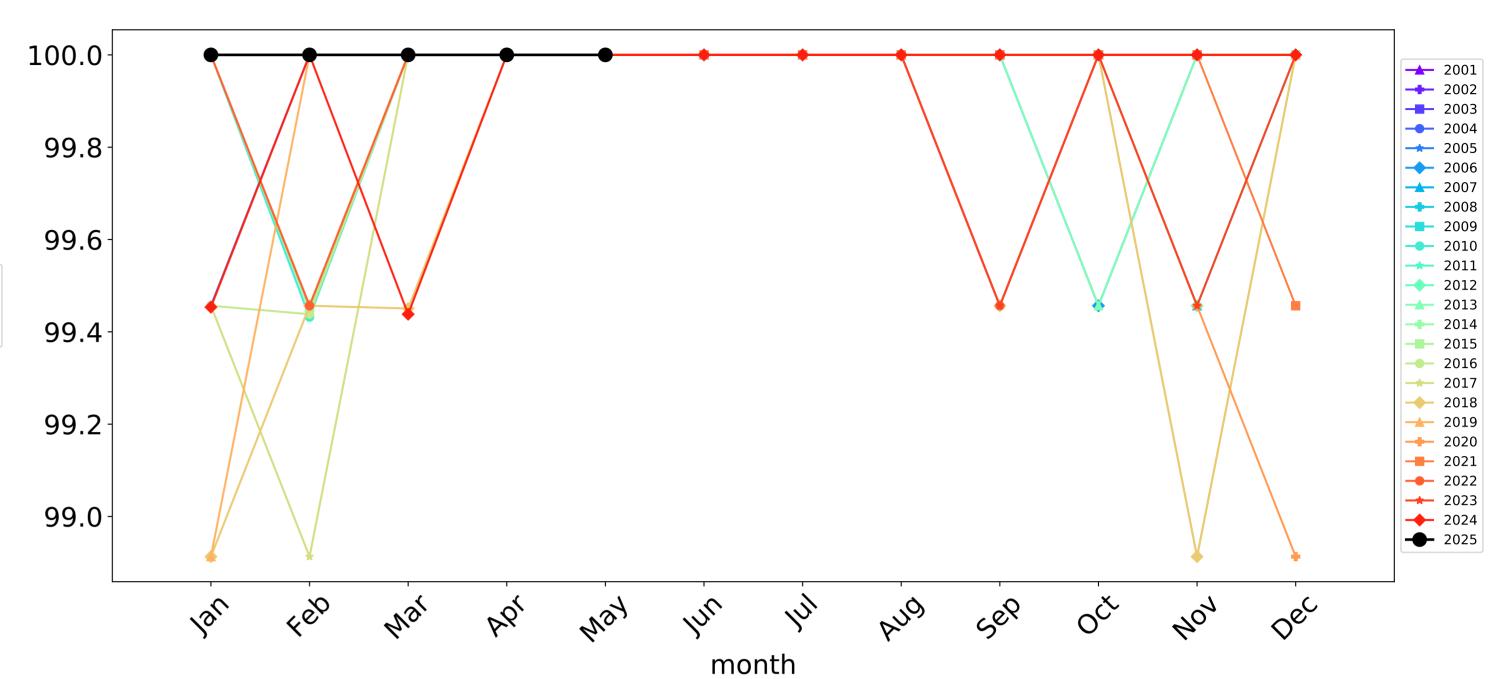




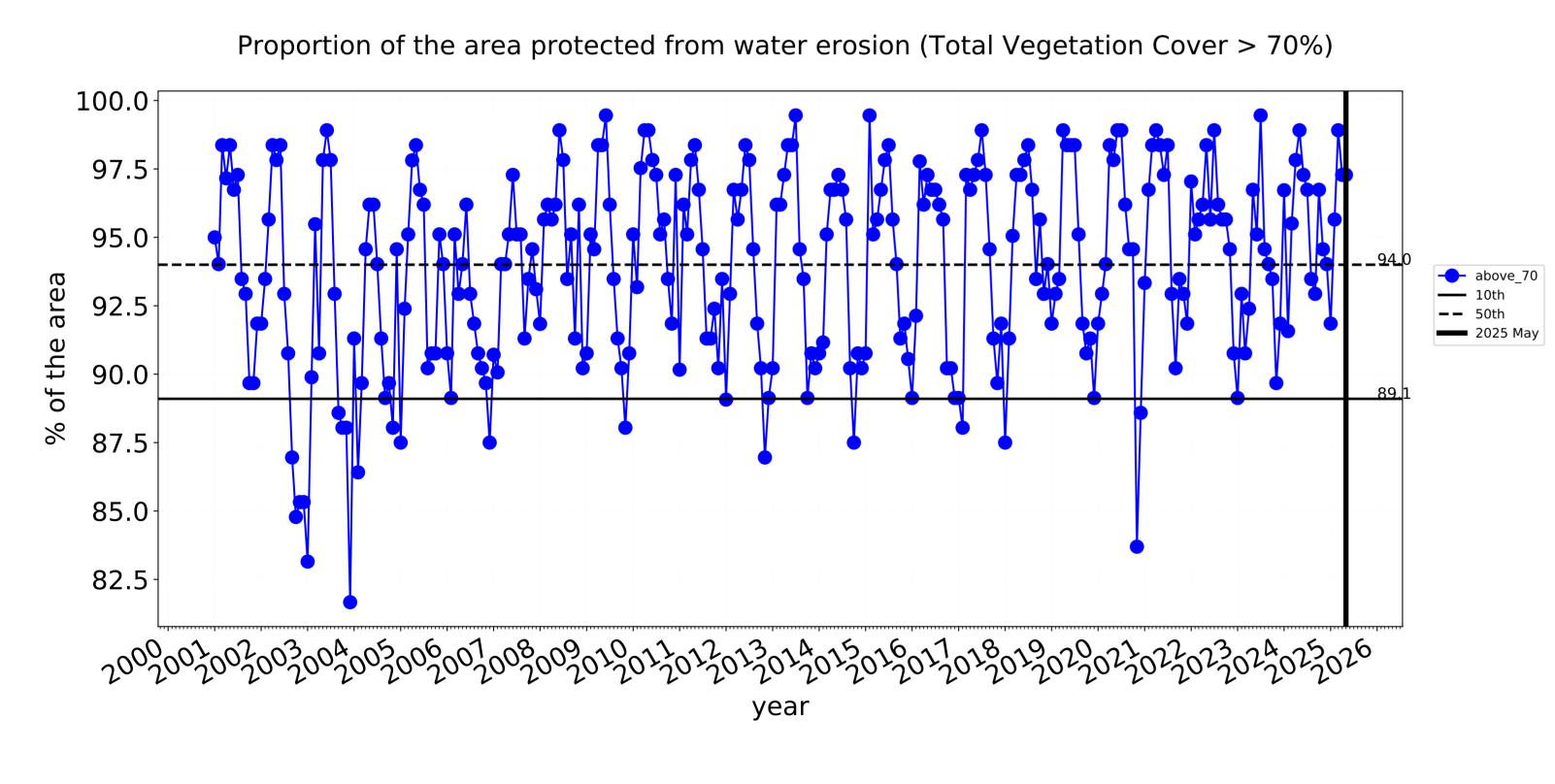


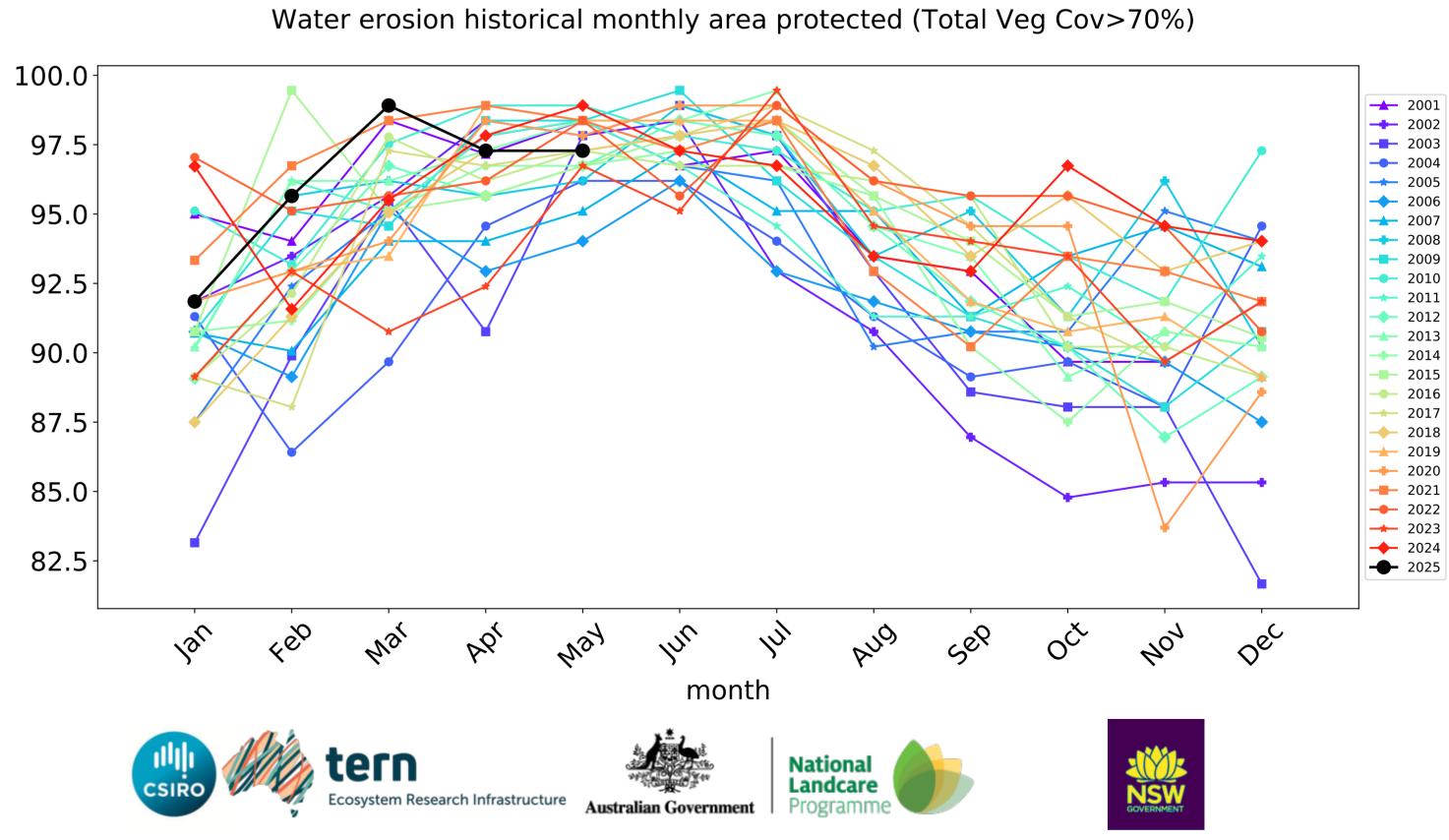
## **Horticulture timeseries**

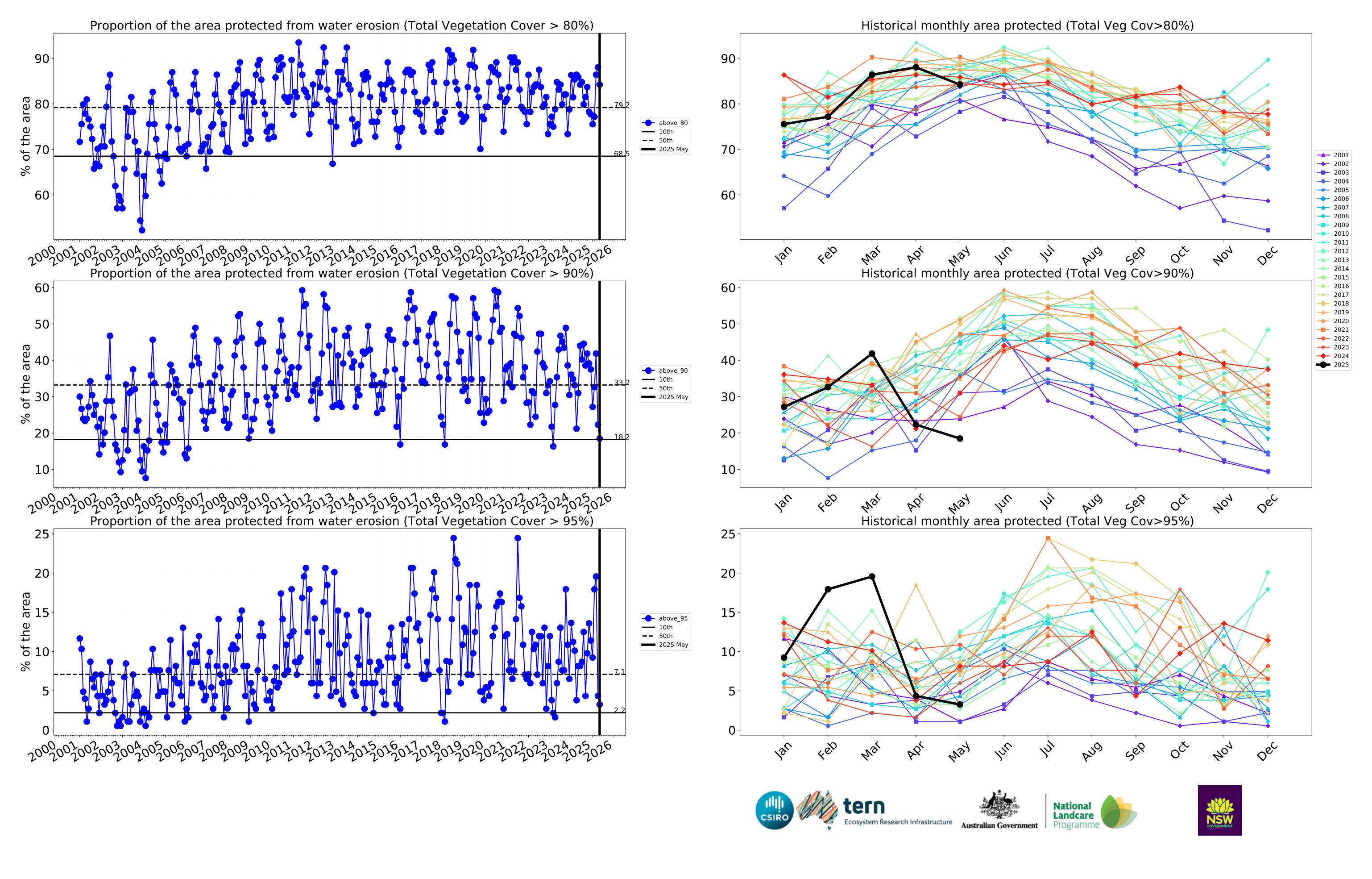




Wind erosion historical monthly area protected (Total Veg Cov >50%)







## Irrigation

#### 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

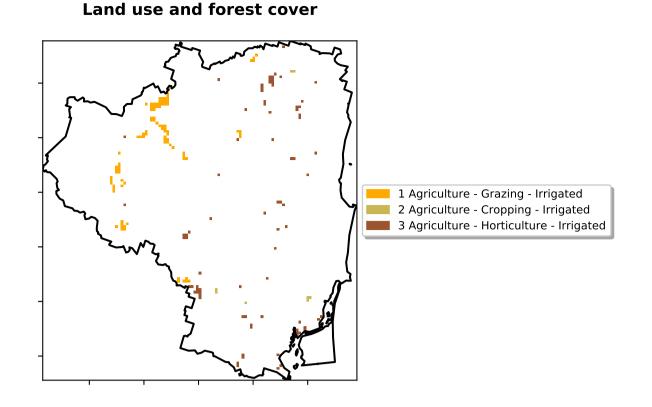
pixel is from

the mean. That is, red pixels

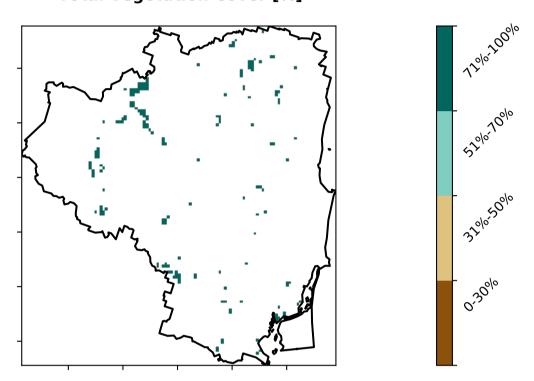
are about 20% lower than the mean of that pixel. The mean

is only for the month of the map

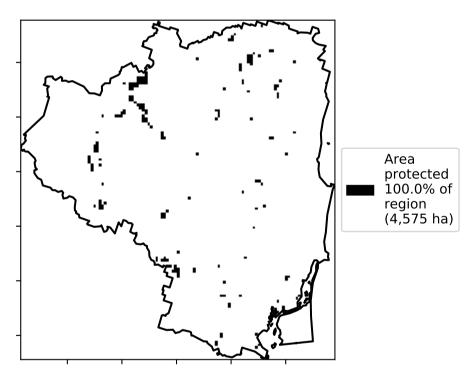
using baseline from 2001 to 2019.



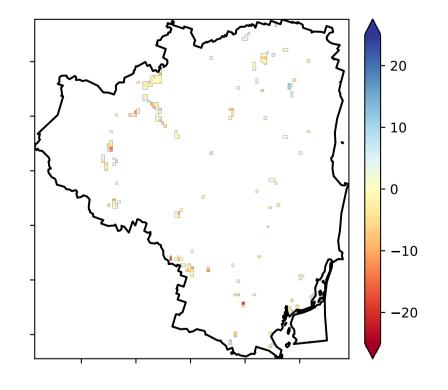
#### **Total Vegetation Cover [%]**



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

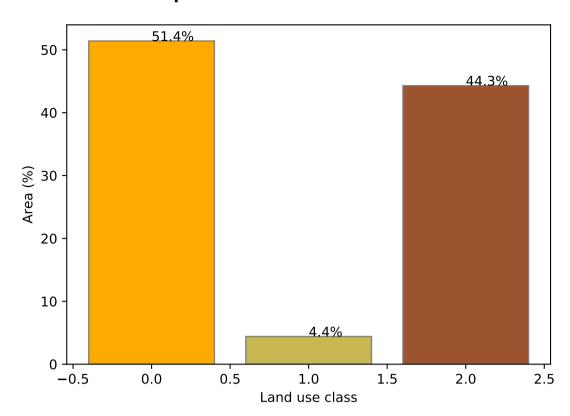


## **Total Vegetation Cover Anomaly [%]**

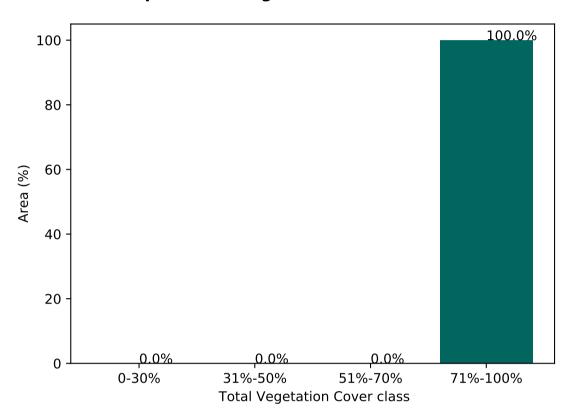


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

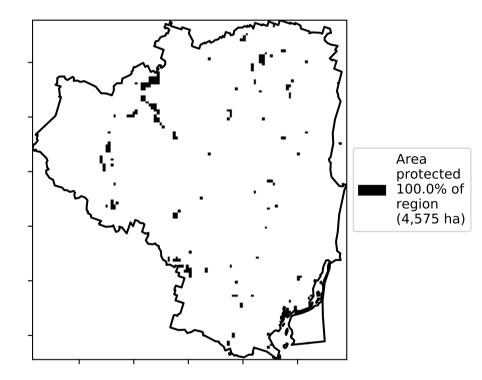
#### Proportion of each land class in area

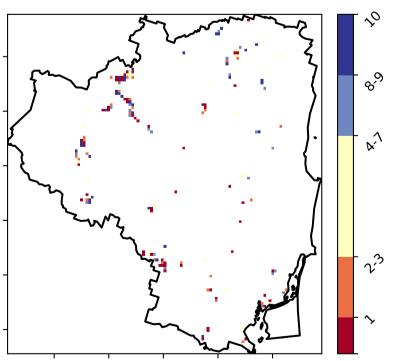


#### Proportion of vegetation cover class in area



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







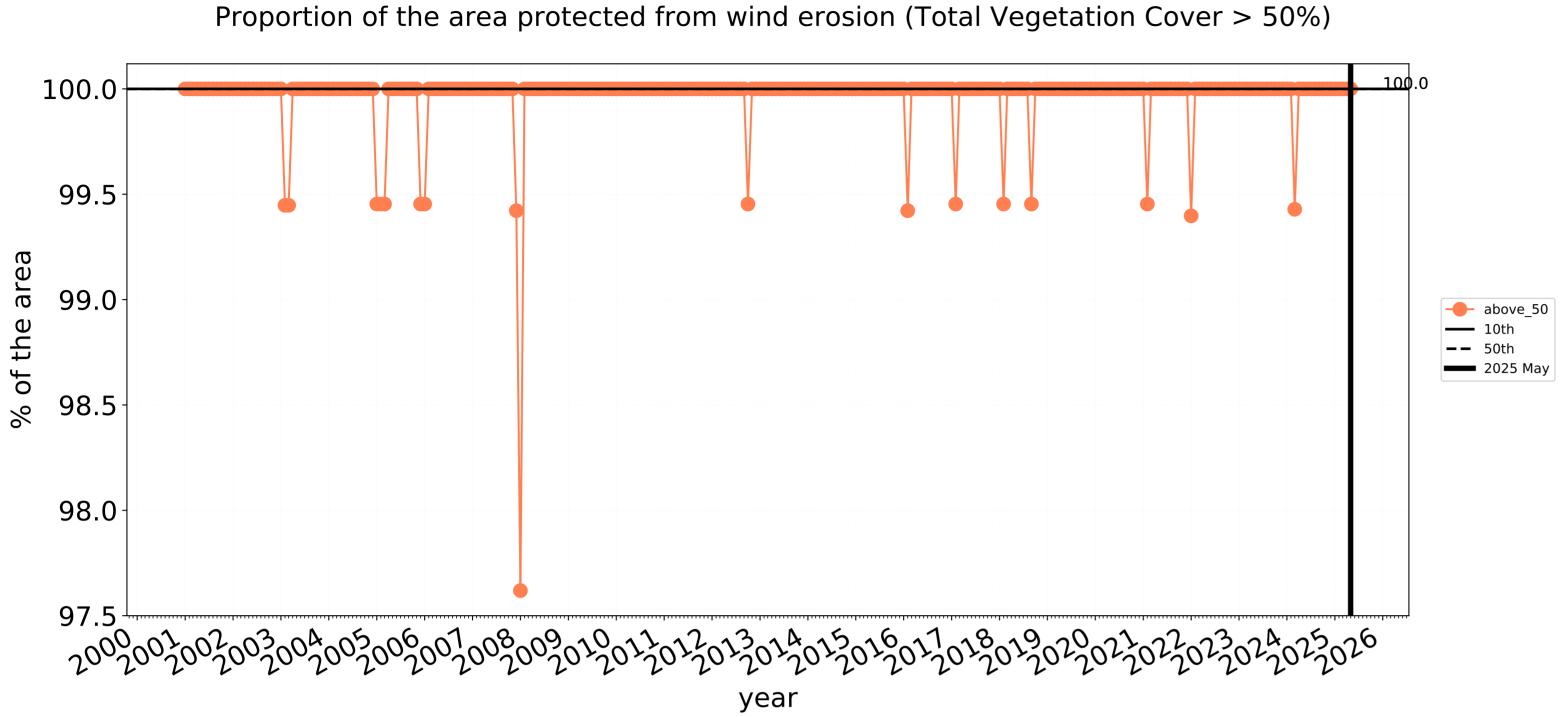


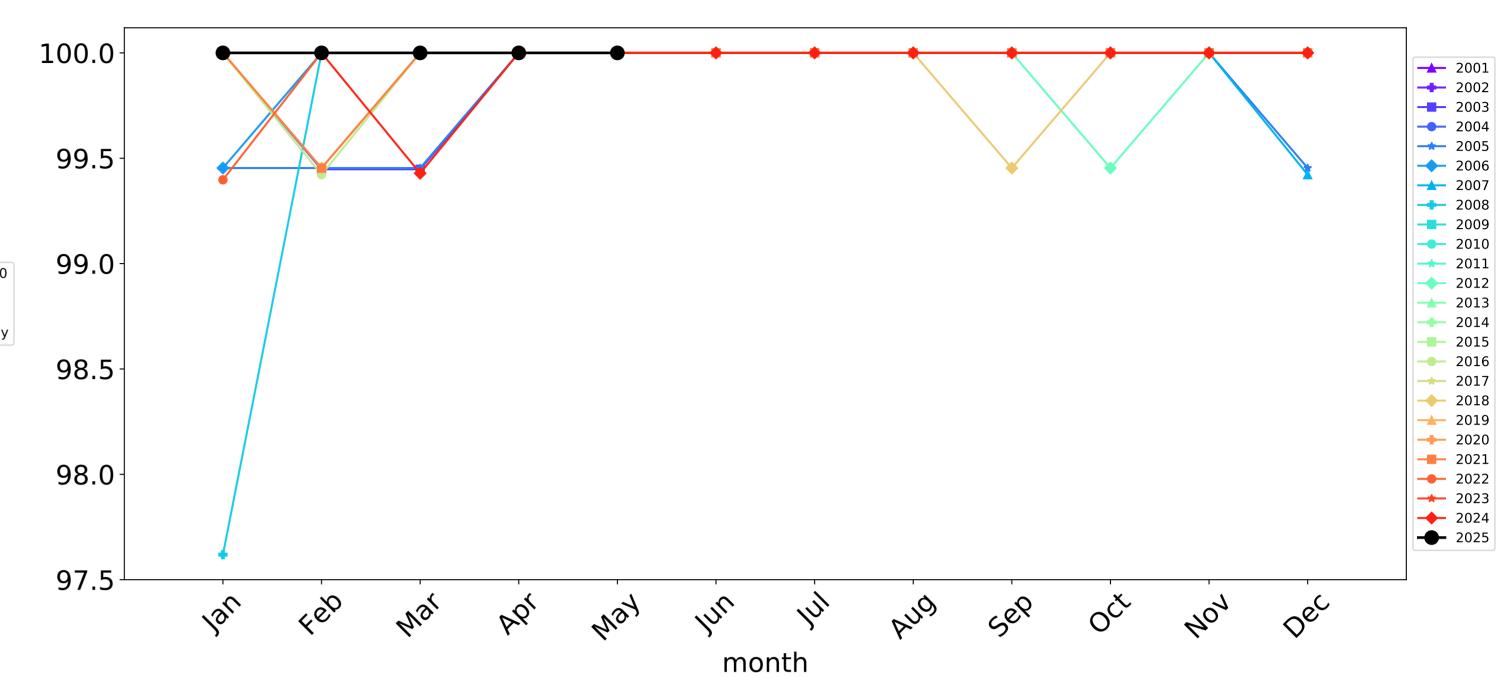




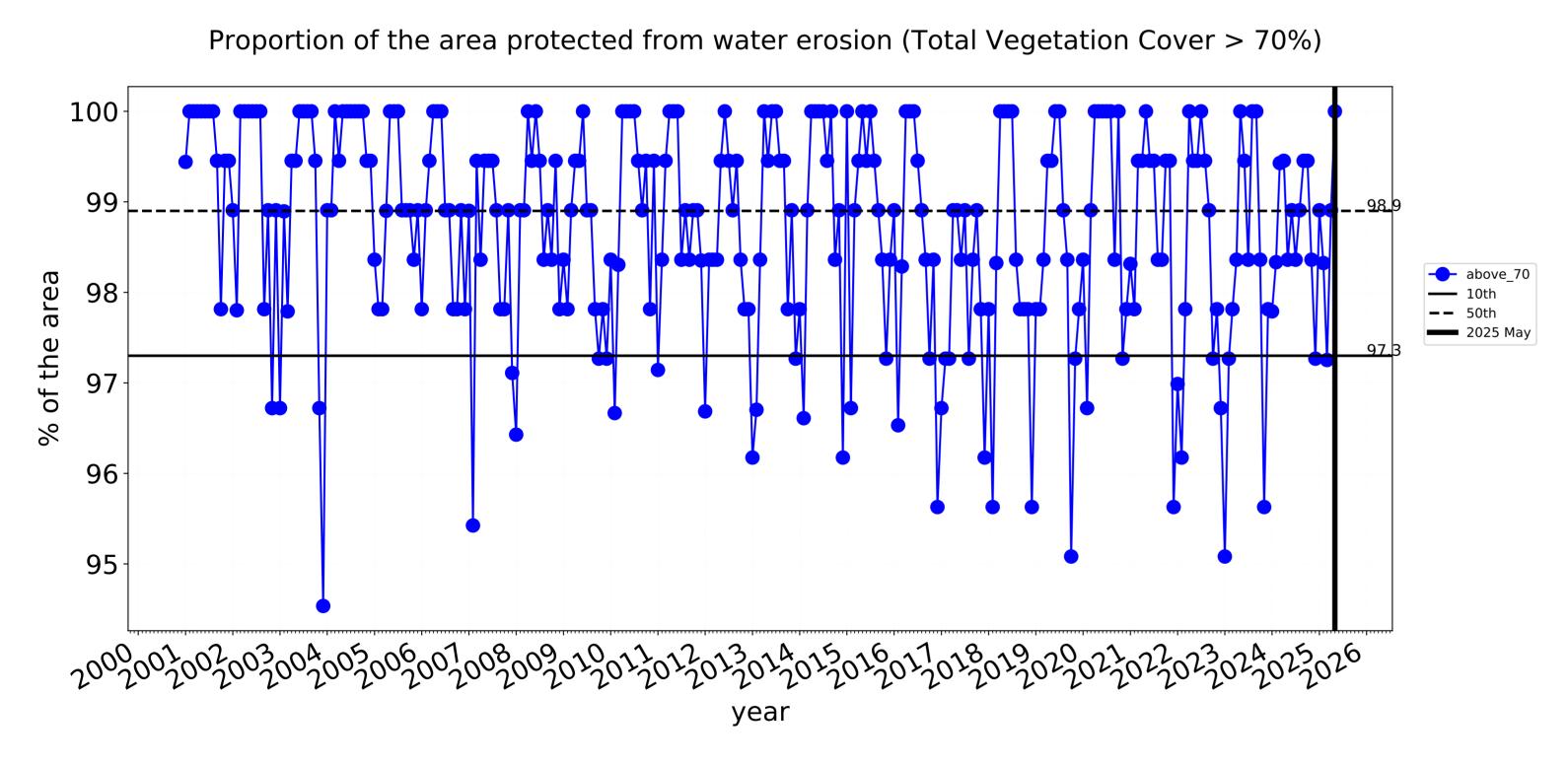


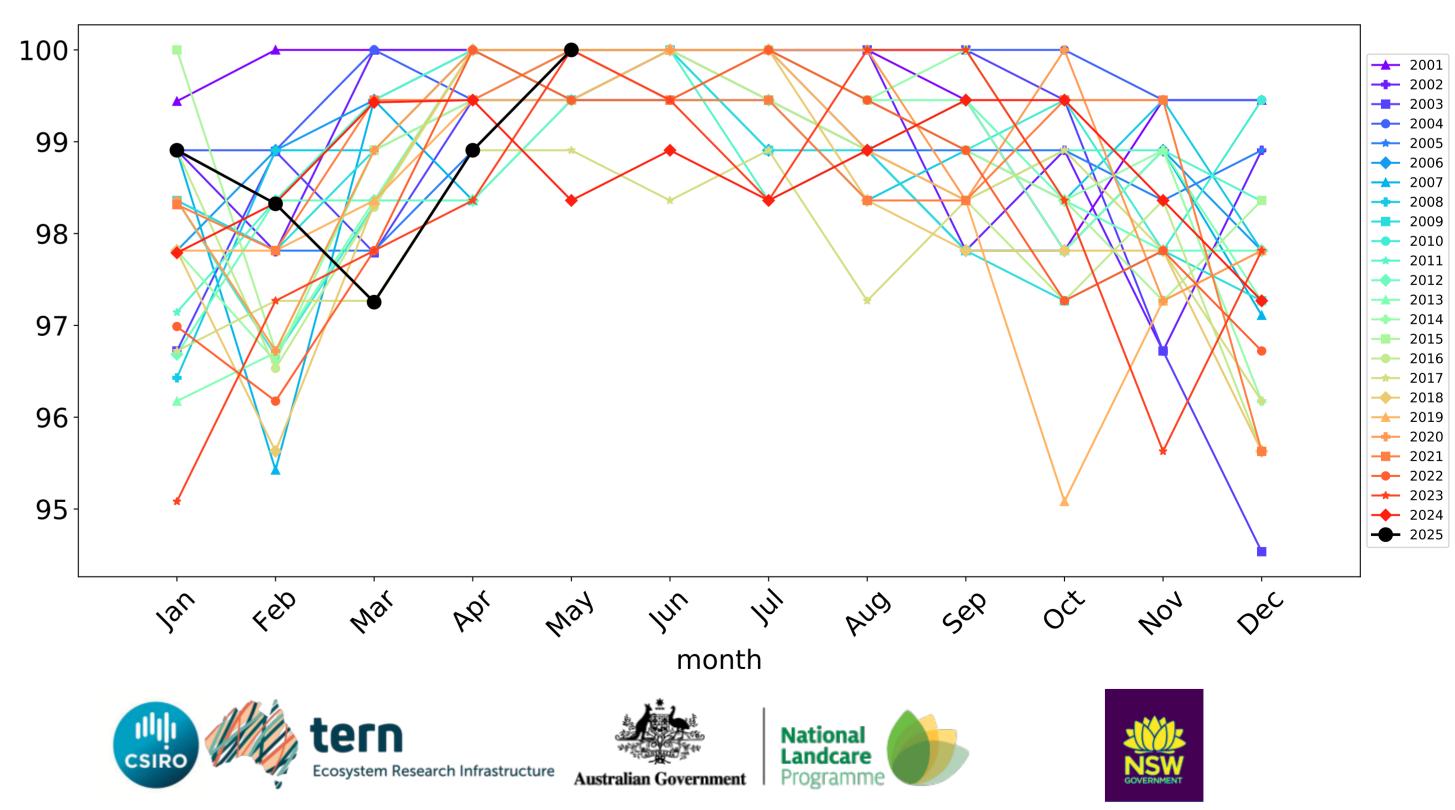
## **Irrigation timeseries**



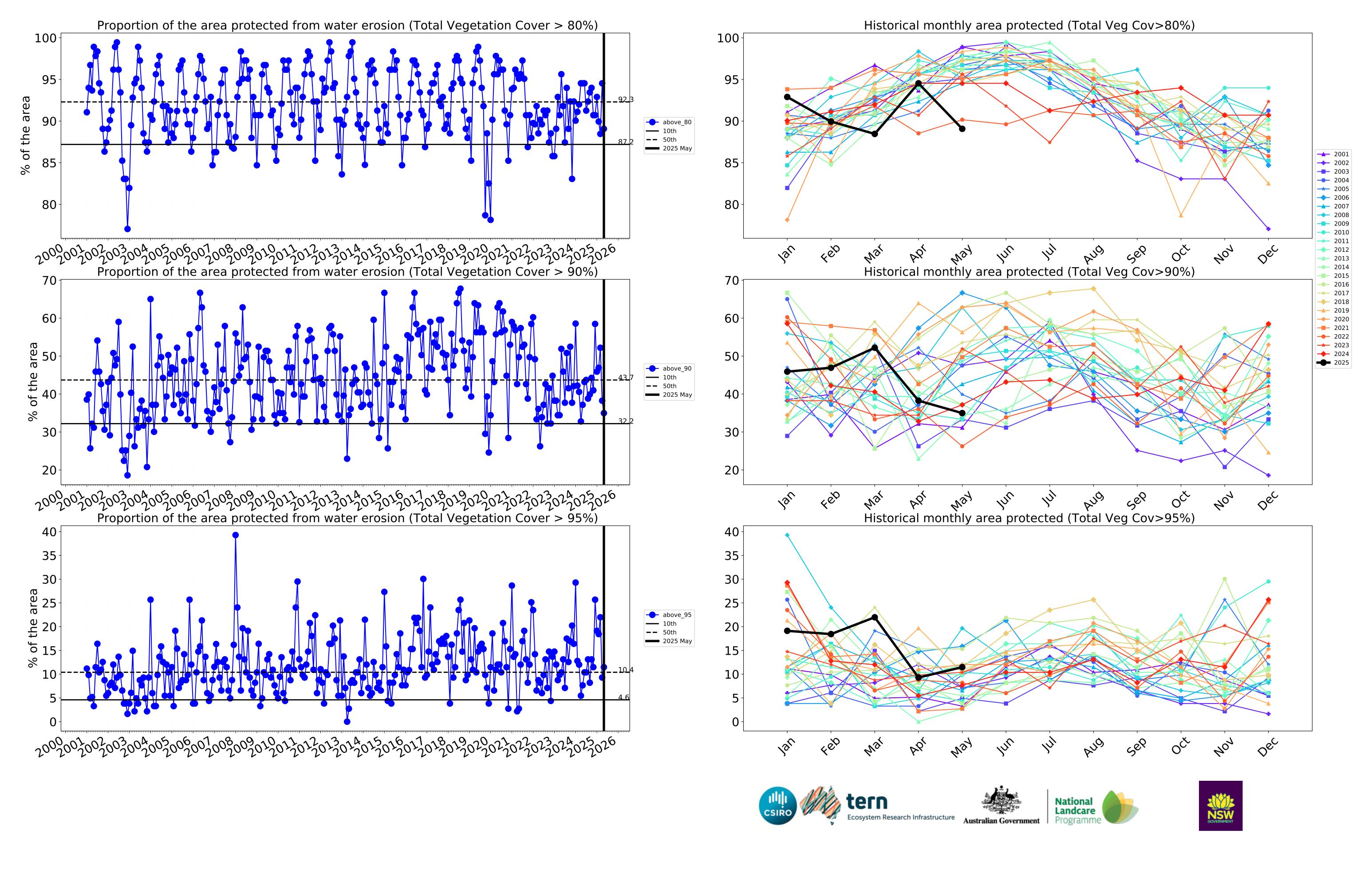


Wind erosion historical monthly area protected (Total Veg Cov >50%)





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



## **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)

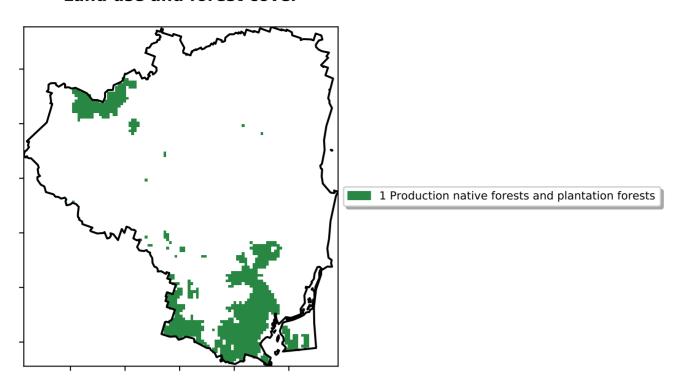
Anomaly show how many percetage points each pixel is from

the mean. That is, red pixels

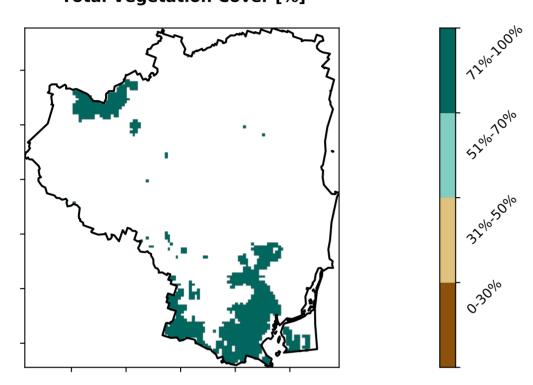
are about 20% lower than the mean of that pixel. The mean

is only for the month of the map

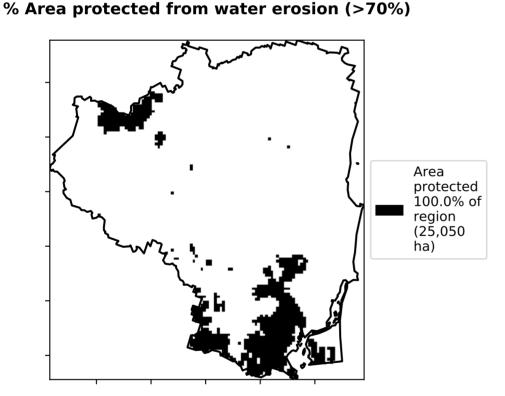
using baseline from 2001 to 2019.



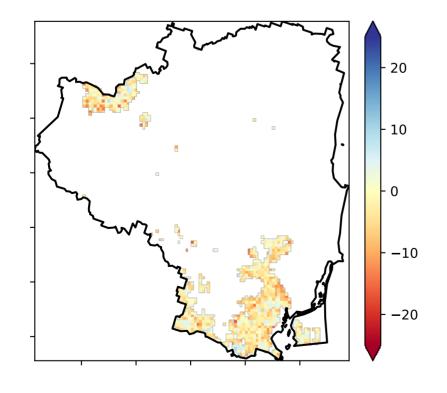
#### **Total Vegetation Cover [%]**



#### 0/ Avec much stad fuero weter evenion (> 700/

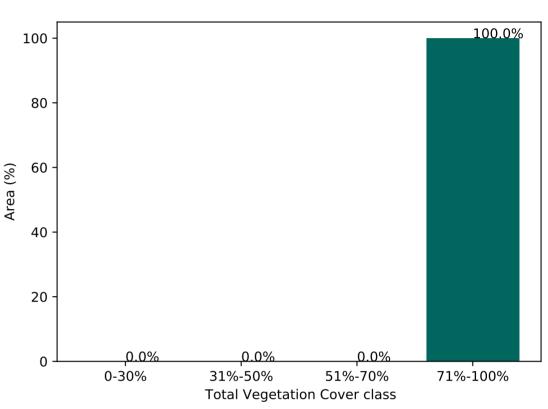


#### **Total Vegetation Cover Anomaly [%]**

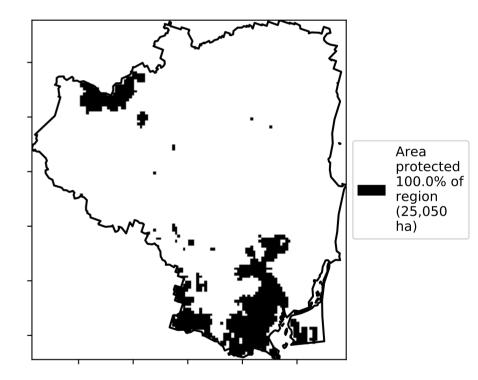


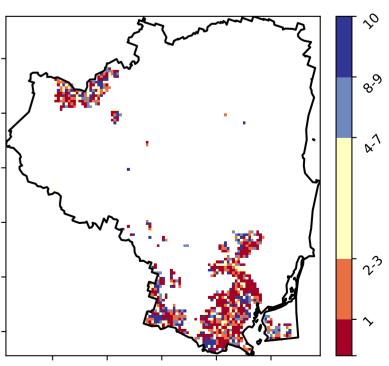
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

#### Proportion of vegetation cover class in area



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





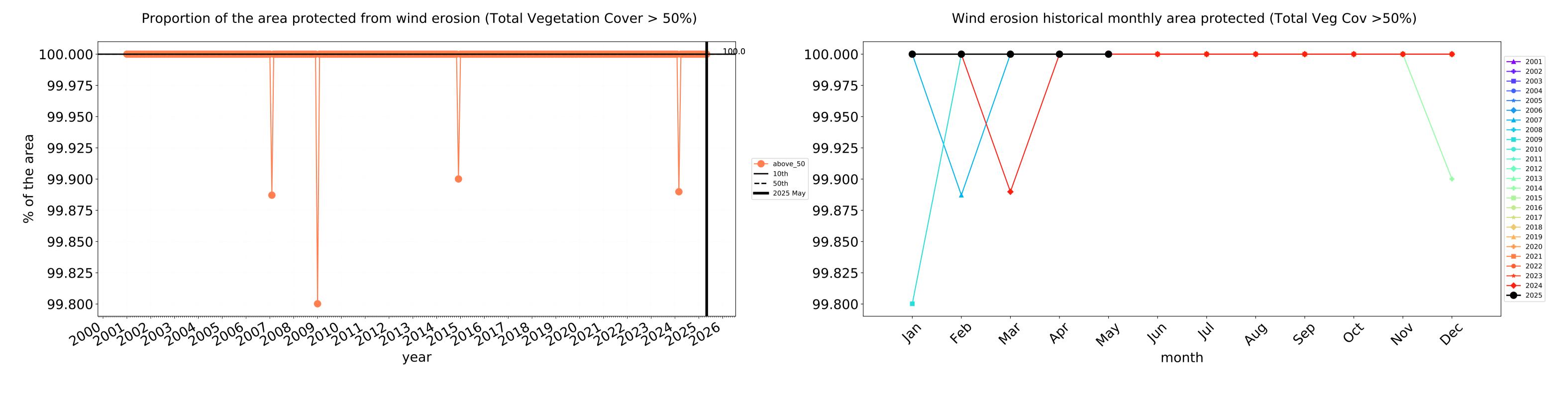


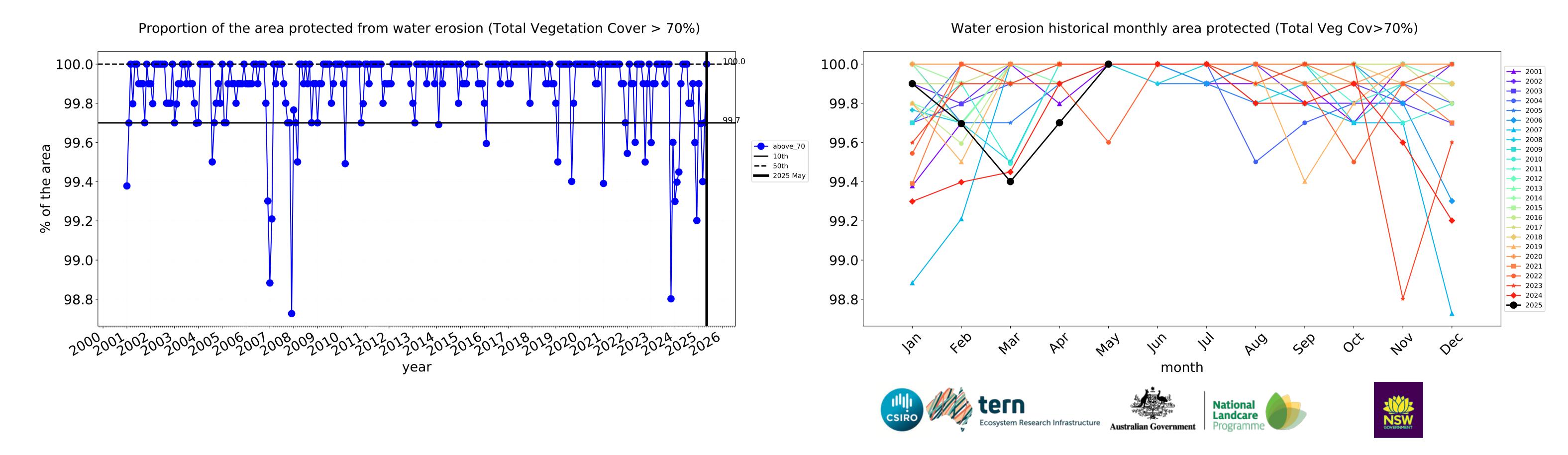


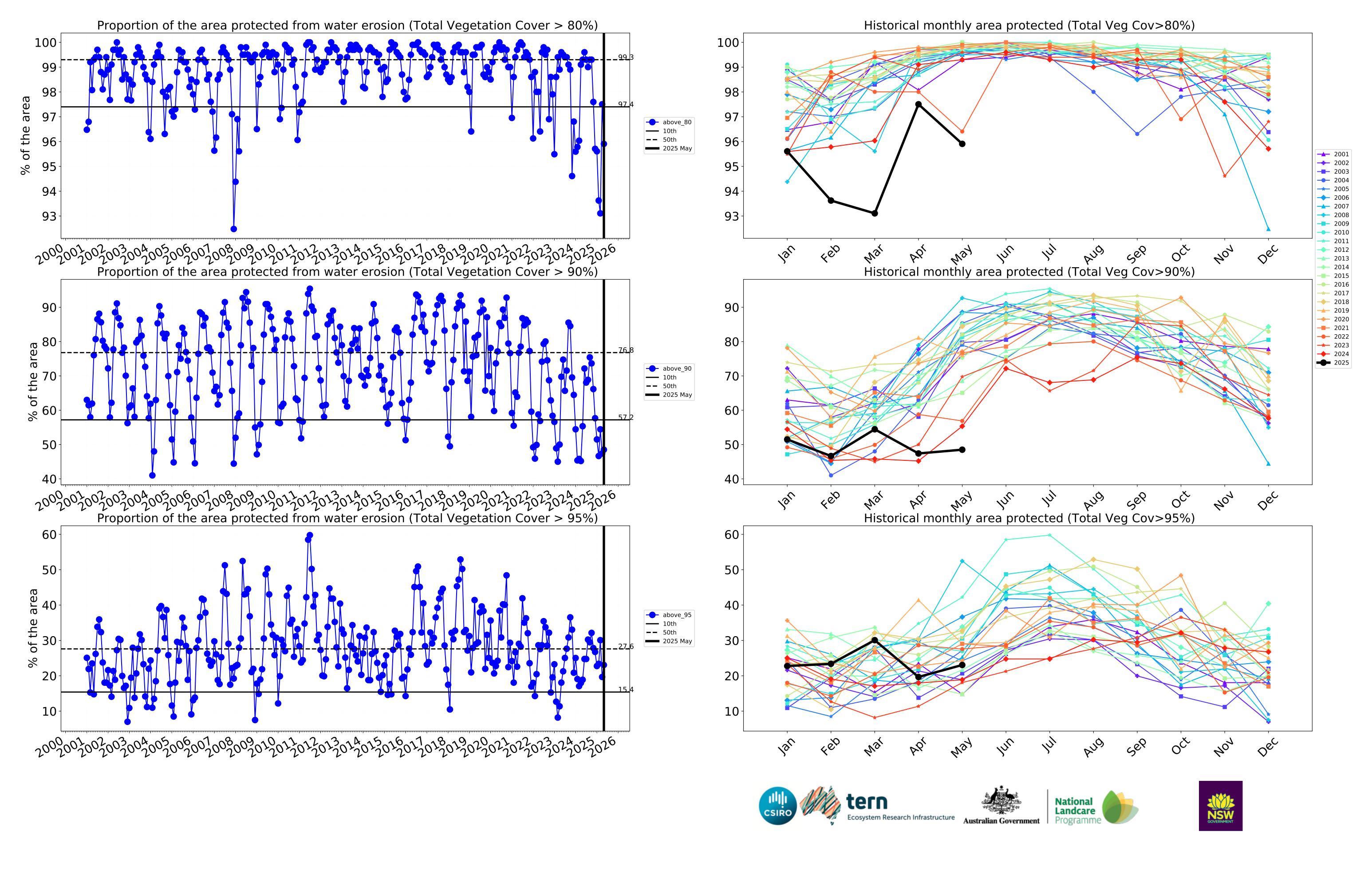




## **Production native forests and plantation forests timeseries**







# Sunshine\_Coast\_(R) (224,125 ha and no data 1,359 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	224,125	99.8% 223,675	99.3% 222,600	97.0% 217,325	90.9% 203,675	55.3% 123,925	27.0% 60,525
Conservation and natural environments	67,125	100.0% 67,125	99.9% 67,075	99.4% 66,700	97.3% 65,325	74.6% 50,075	42.4% 28,475
Conservation and natural environments non forest	2,500	100.0% 2,500	100.0% 2,500	96.0% 2,400	85.0% 2,125	61.0% 1,525	32.0% 800
Conservation and natural environments Woodland forest	4,450	100.0% 4,450	99.4% 4,425	98.3% 4,375	98.3% 4,375	74.7% 3,325	39.9% 1,775
Conservation and natural environments Forest (non woodland)	60,175	100.0% 60,175	100.0% 60,150	99.6% 59,925	97.8% 58,825	75.2% 45,225	43.0% 25,900
Agriculture	66,025	99.9% 65,950	99.6% 65,750	98.4% 64,950	93.7% 61,875	54.5% 35,975	26.2% 17,325
Grazing	52,450	99.9% 52,375	99.5% 52,175	98.3% 51,550	94.8% 49,725	58.5% 30,700	28.1% 14,750
Grazing non forest	45,675	99.8% 45,600	99.4% 45,400	98.0% 44,775	94.2% 43,025	57.6% 26,300	27.8% 12,700
Grazing Woodland forest	3,975	100.0% 3,975	100.0% 3,975	100.0% 3,975	98.7% 3,925	61.6% 2,450	24.5% 975
Grazing - Forest (non woodland)	2,800	100.0% 2,800	100.0% 2,800	100.0% 2,800	99.1% 2,775	69.6% 1,950	38.4% 1,075
Cropping	4,400	100.0% 4,400	100.0% 4,400	98.9% 4,350	95.5% 4,200	64.2% 2,825	43.2% 1,900
Horticulture	4,600	100.0% 4,600	100.0% 4,600	97.3% 4,475	84.2% 3,875	18.5% 850	3.3% 150
Irrigation	4,575	100.0% 4,575	100.0% 4,575	100.0% 4,575	89.1% 4,075	35.0% 1,600	11.5% 525
Production native forests and plantation forests	25,050	100.0% 25,050	100.0% 25,050	100.0% 25,050	95.9% 24,025	48.5% 12,150	23.1% 5,775







