Total vegetation cover soil protection Region:LGA Ipswich_(C) 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:

Date: July 2022

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



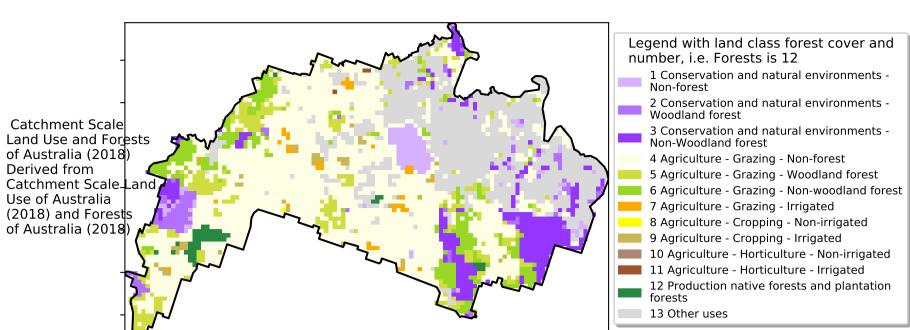




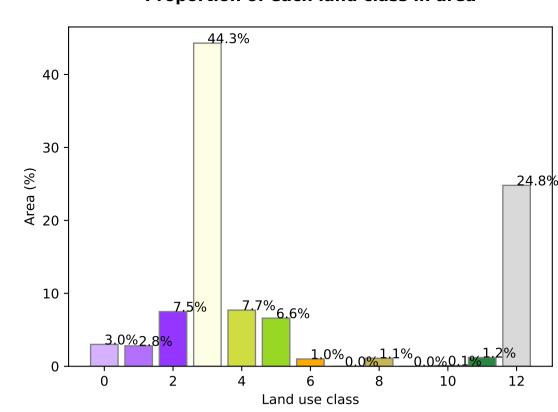


Vegetation Cover Jul 2022

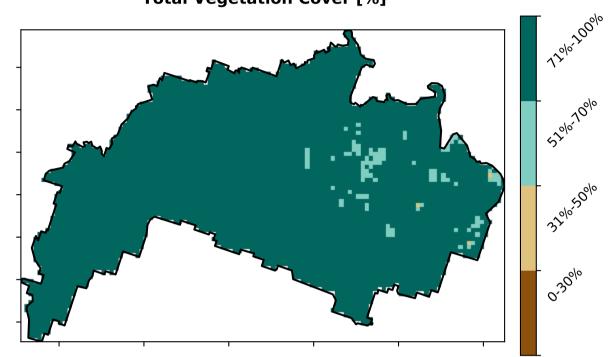
Land use and forest cover



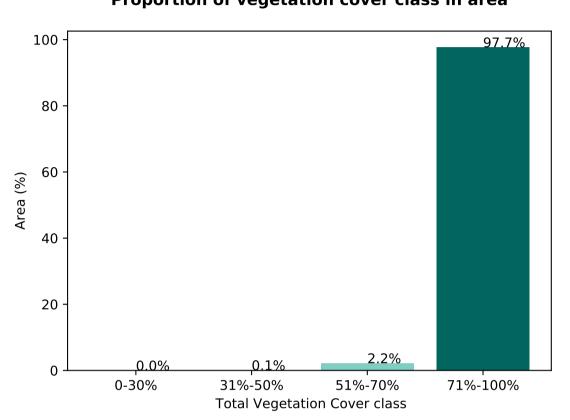
Proportion of each land class in area



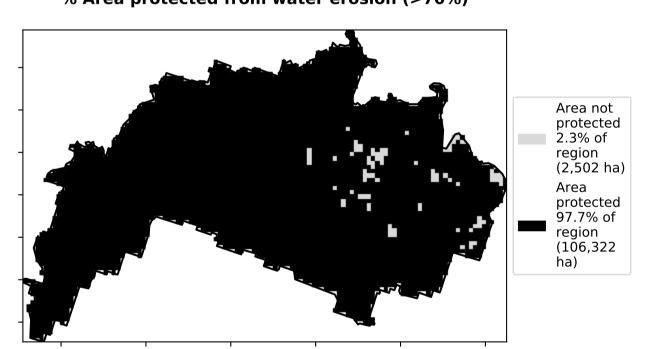
Total Vegetation Cover [%]



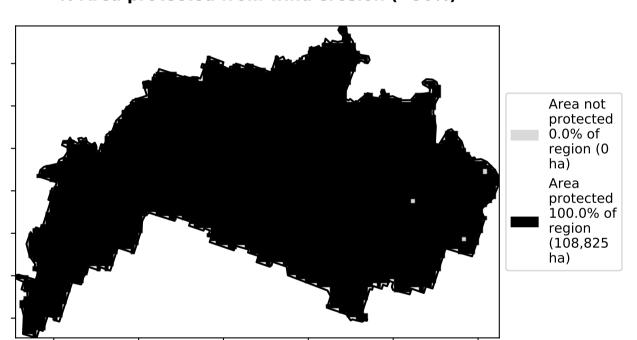
Proportion of vegetation cover class in area



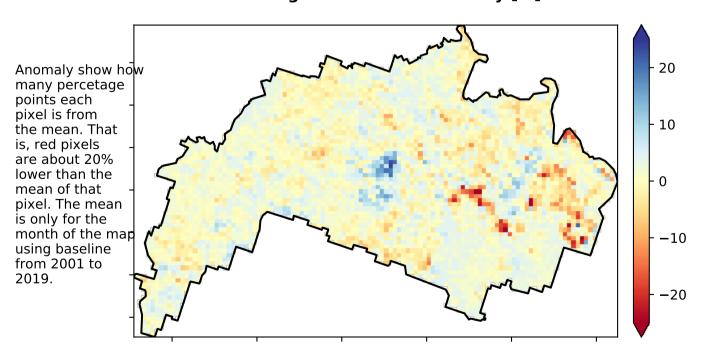
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

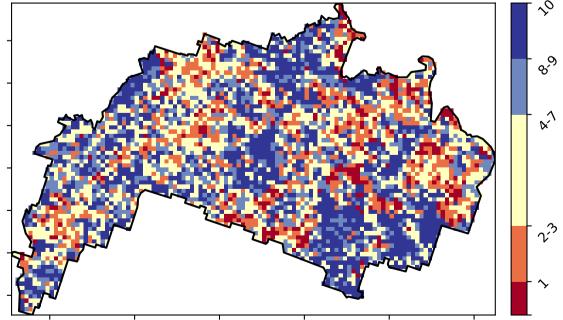


Total Vegetation Cover Anomaly [%]



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

Total Vegetation Cover Decile [%]

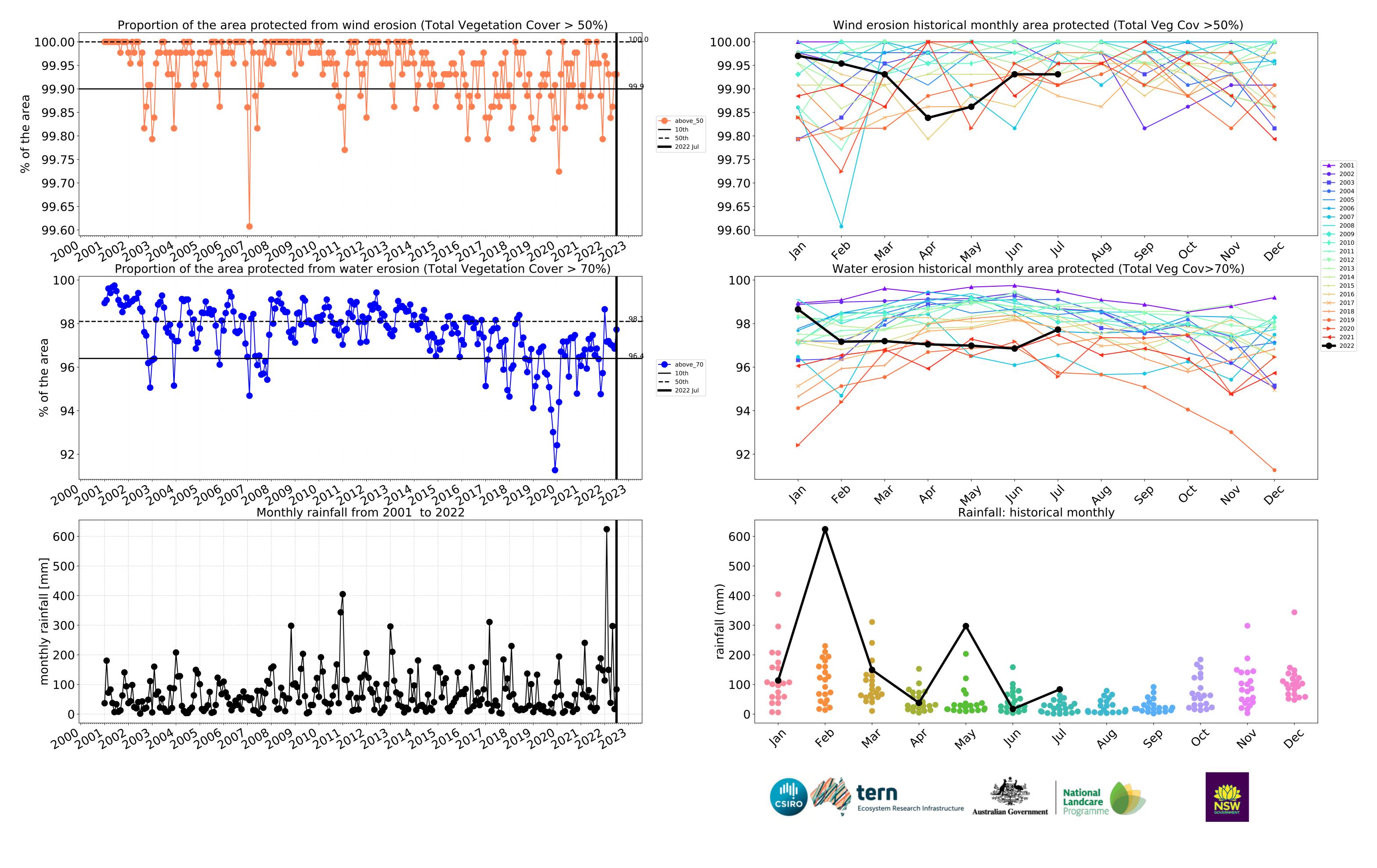


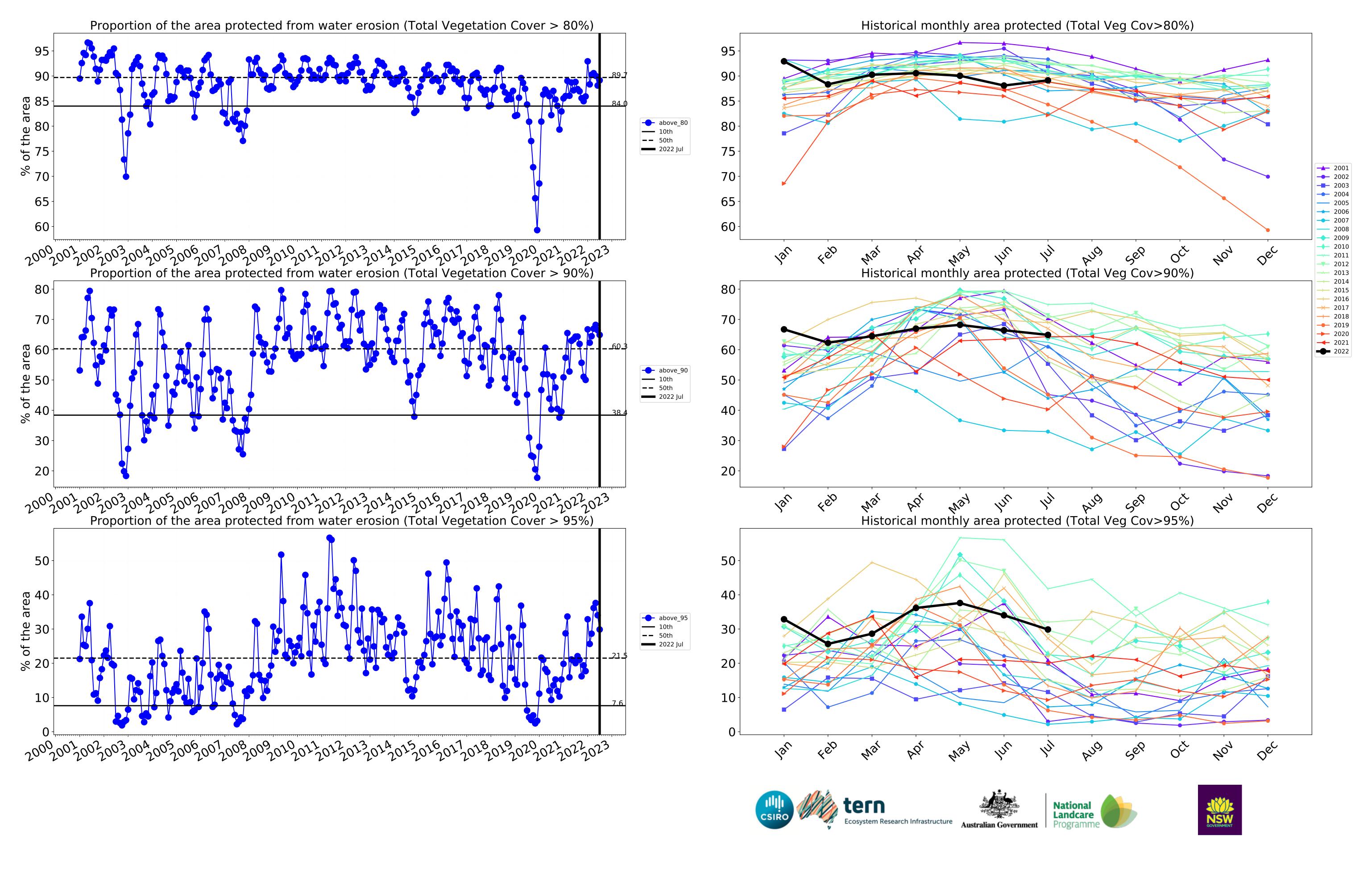




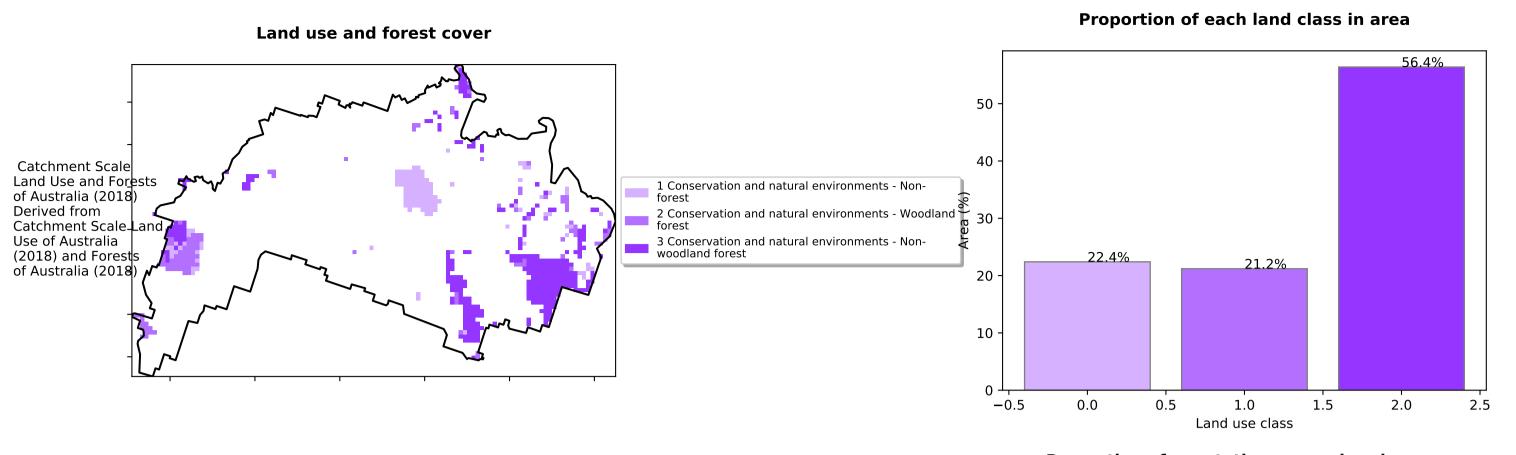


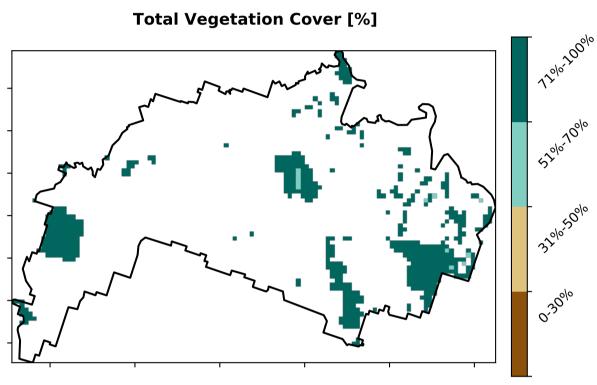


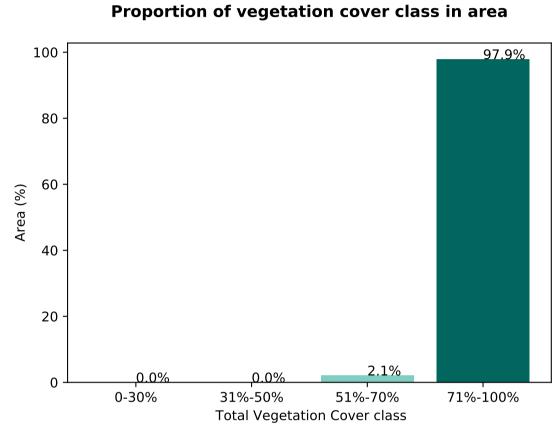


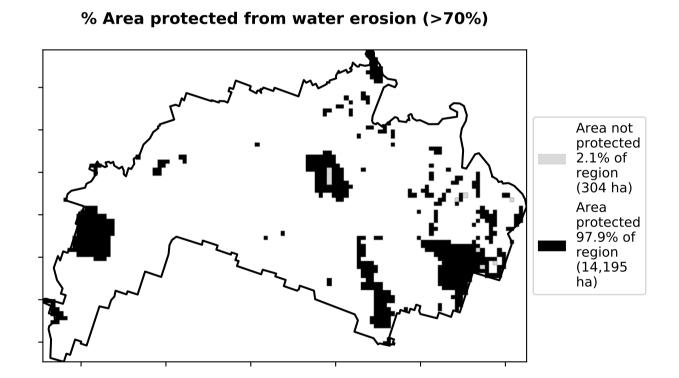


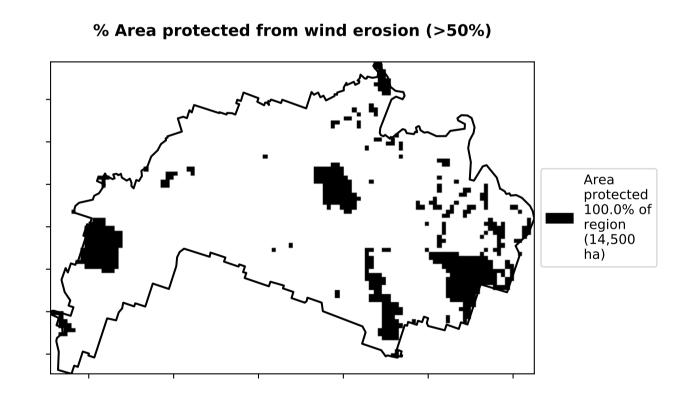
Conservation and natural environments

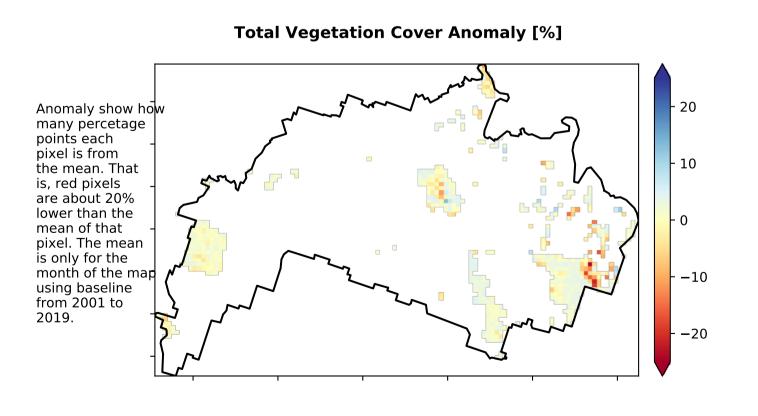




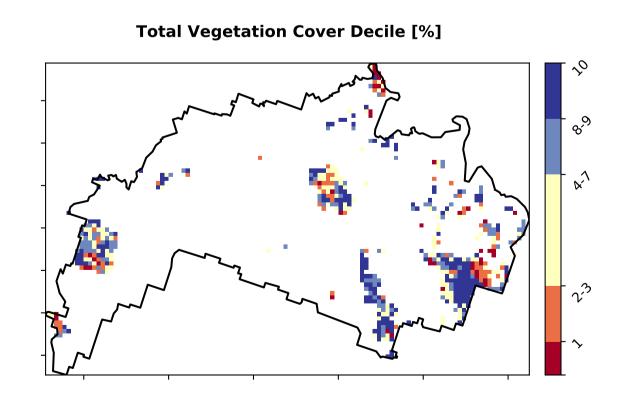








Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.



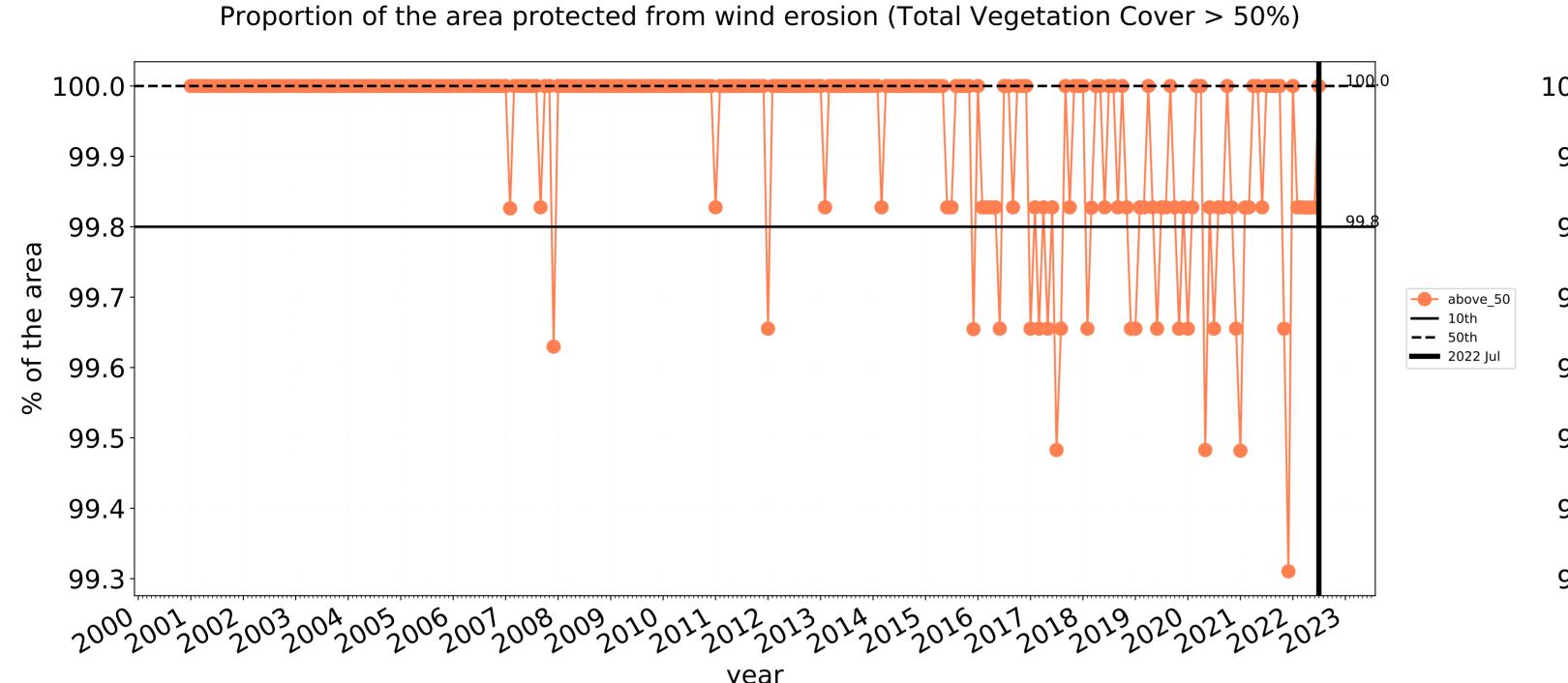


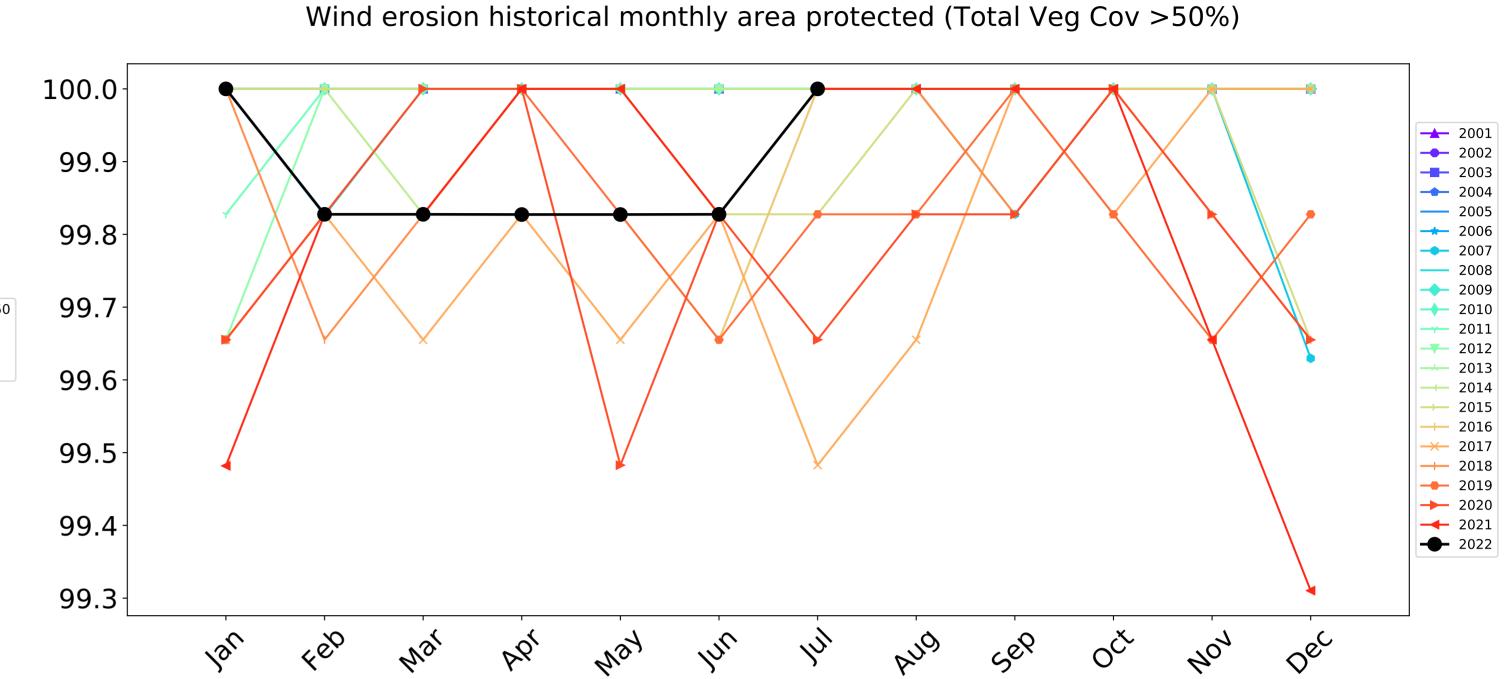




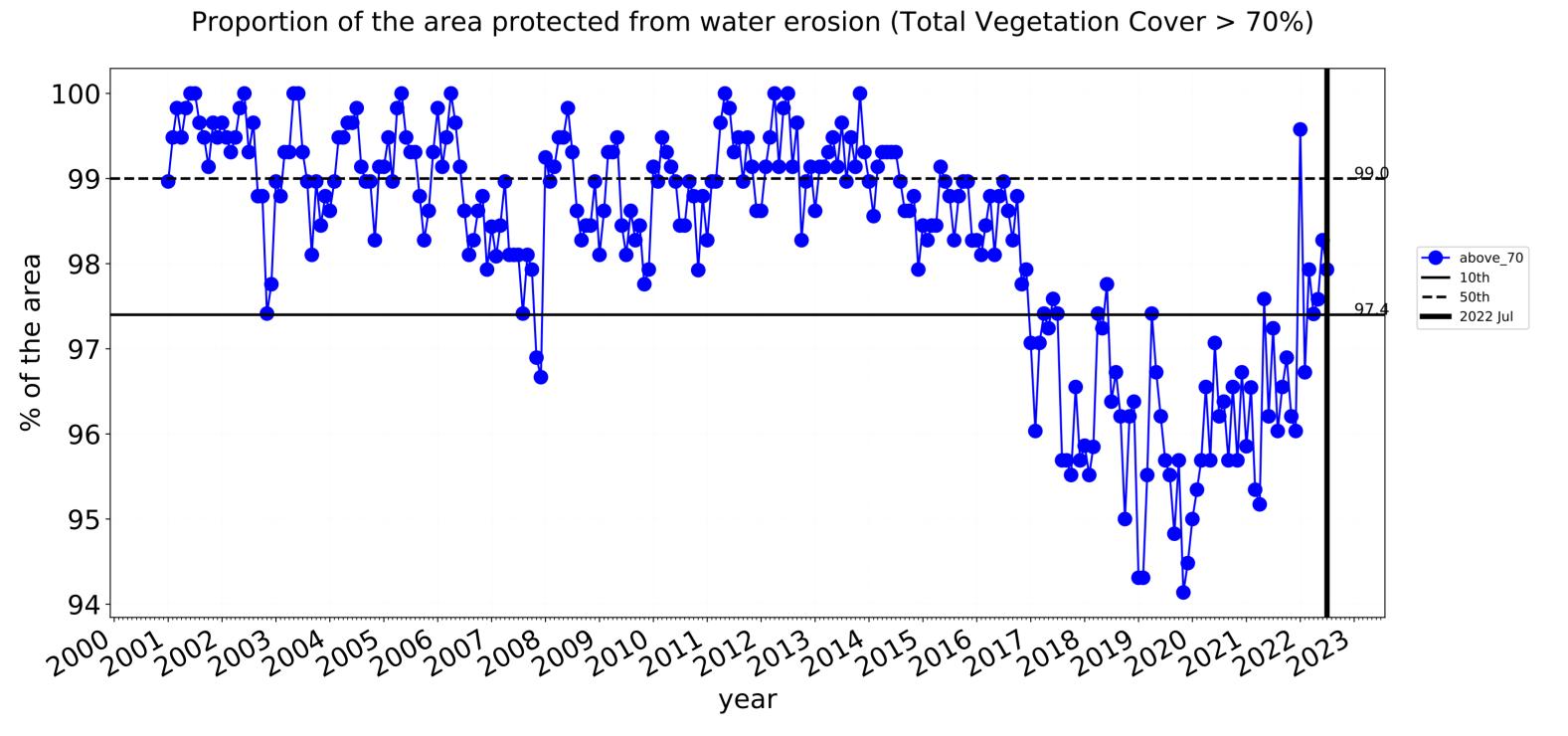


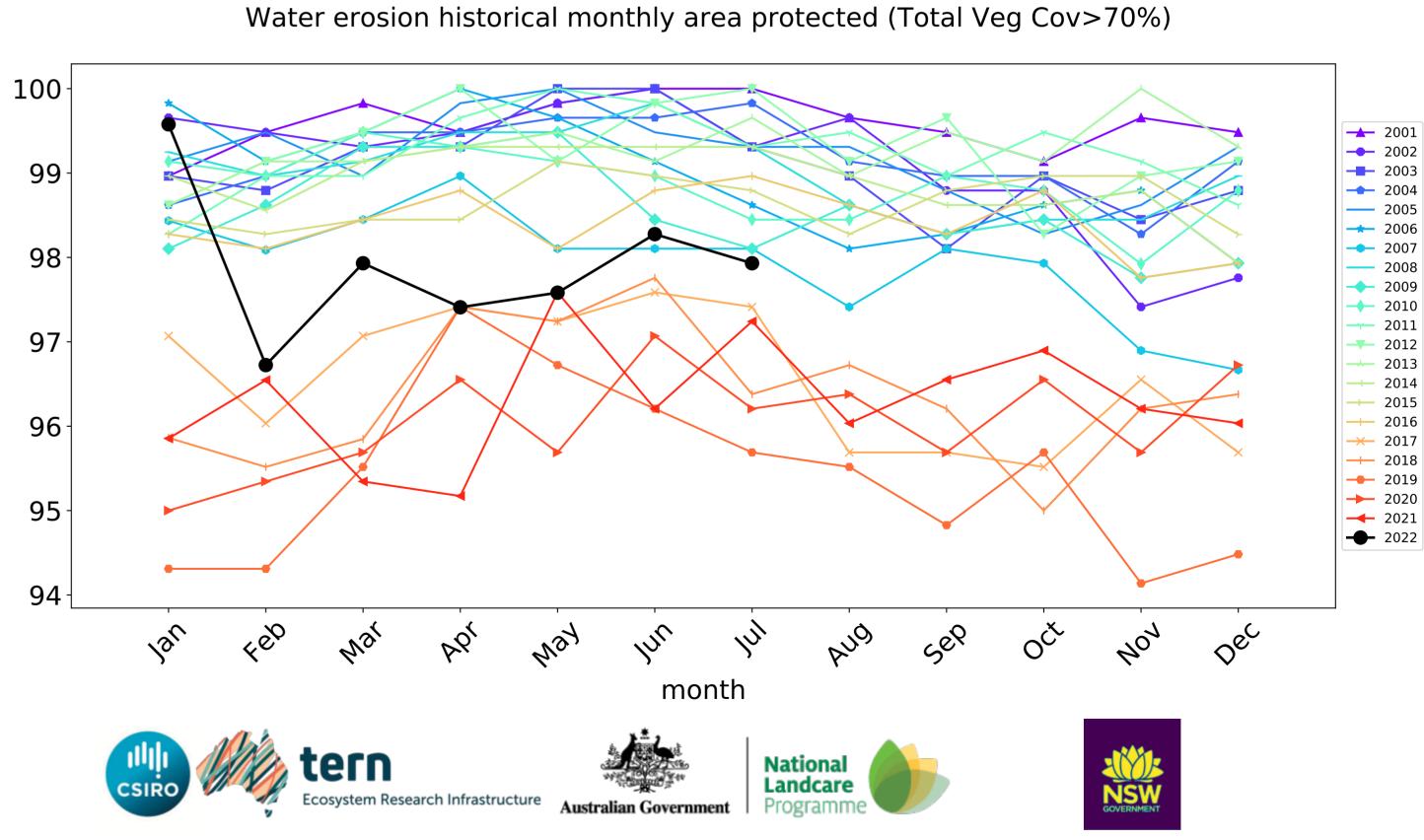
Conservation and natural environments timeseries

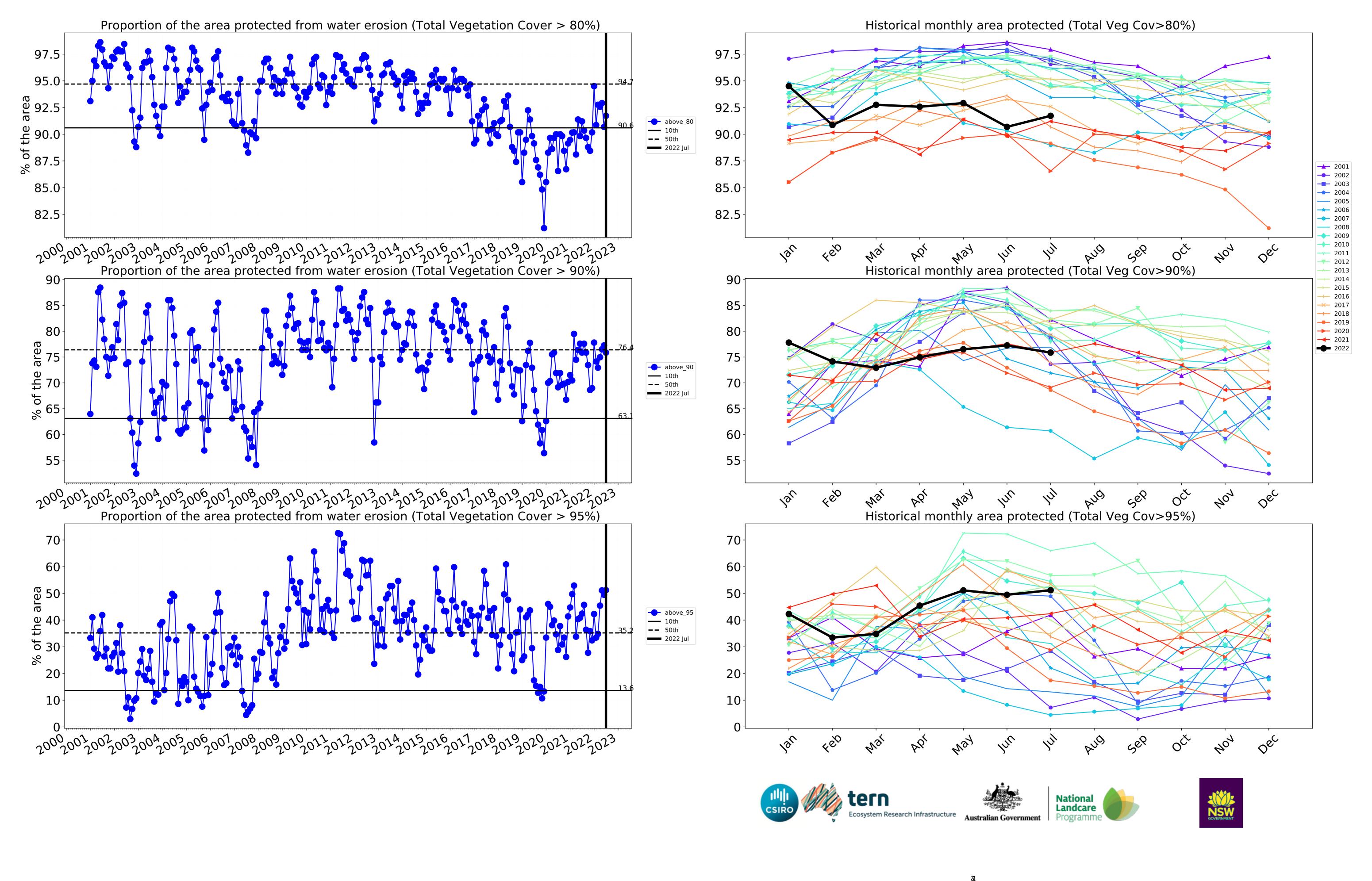




month





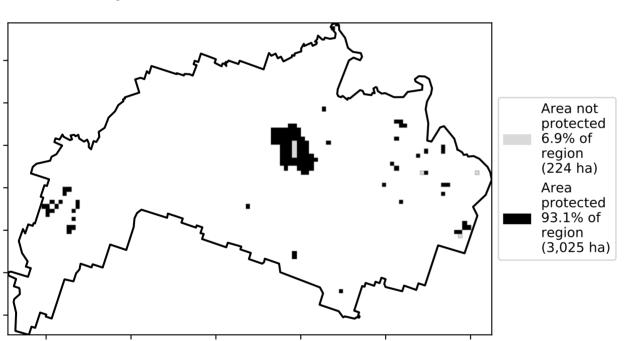


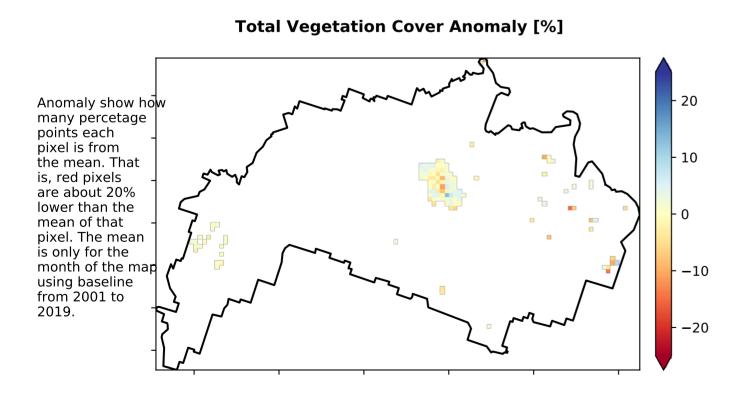
Conservation and natural environments non forest

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

Total Vegetation Cover [%]

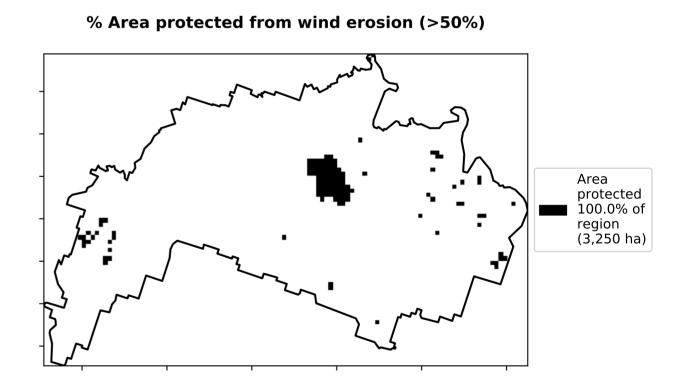
% Area protected from water erosion (>70%)

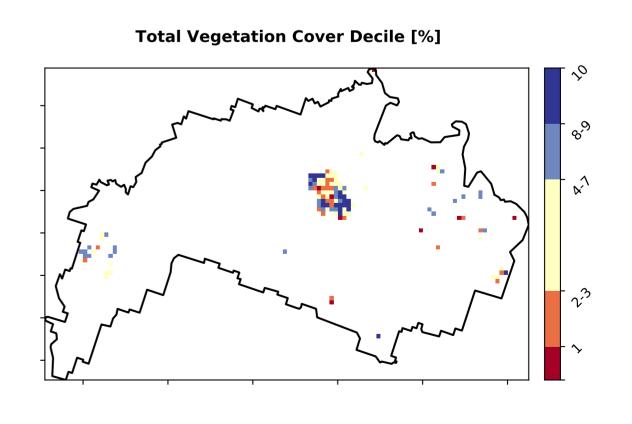




Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the man using baseling. the map using baseline from 2001 to 2019.

Proportion of vegetation cover class in area 93.1% 80 60 Area (%) 20 6.9% 0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**





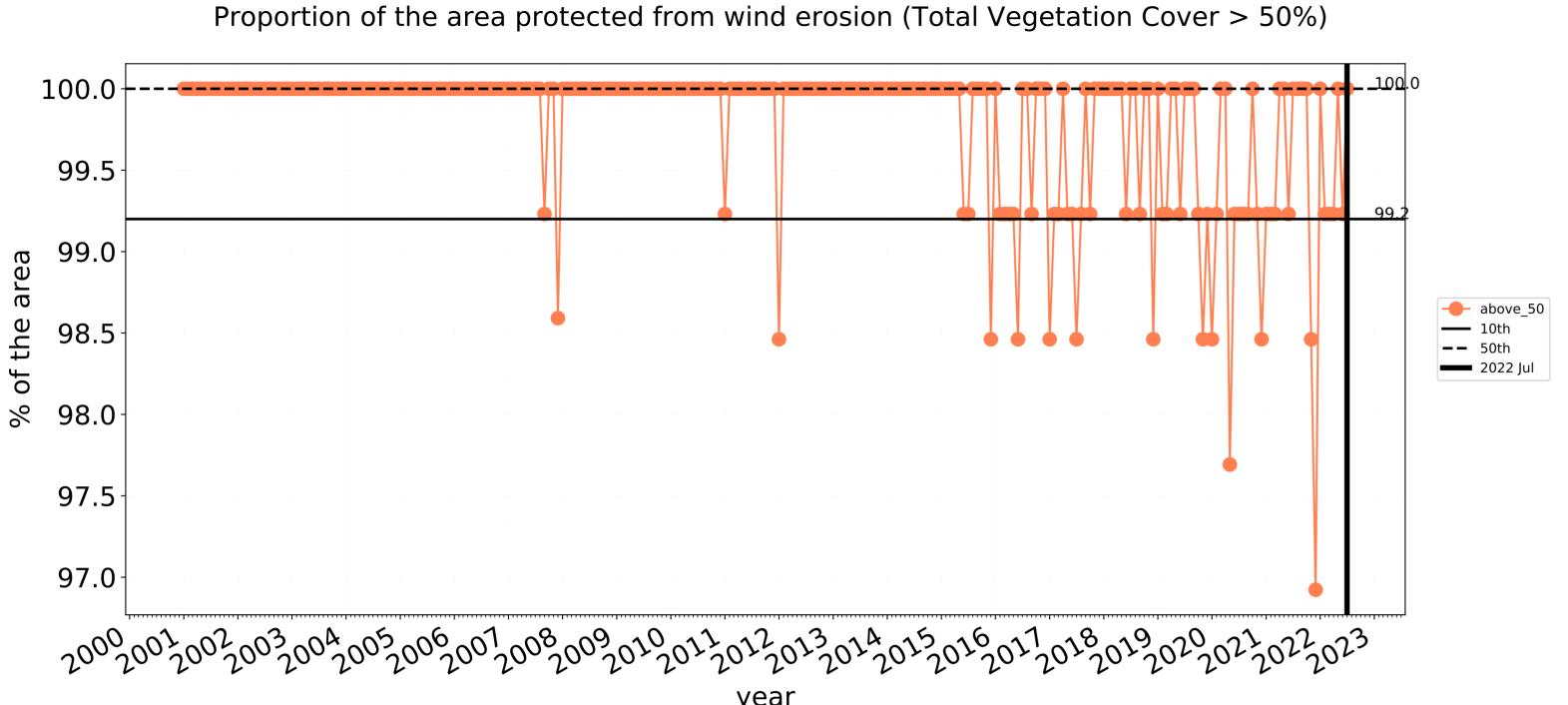


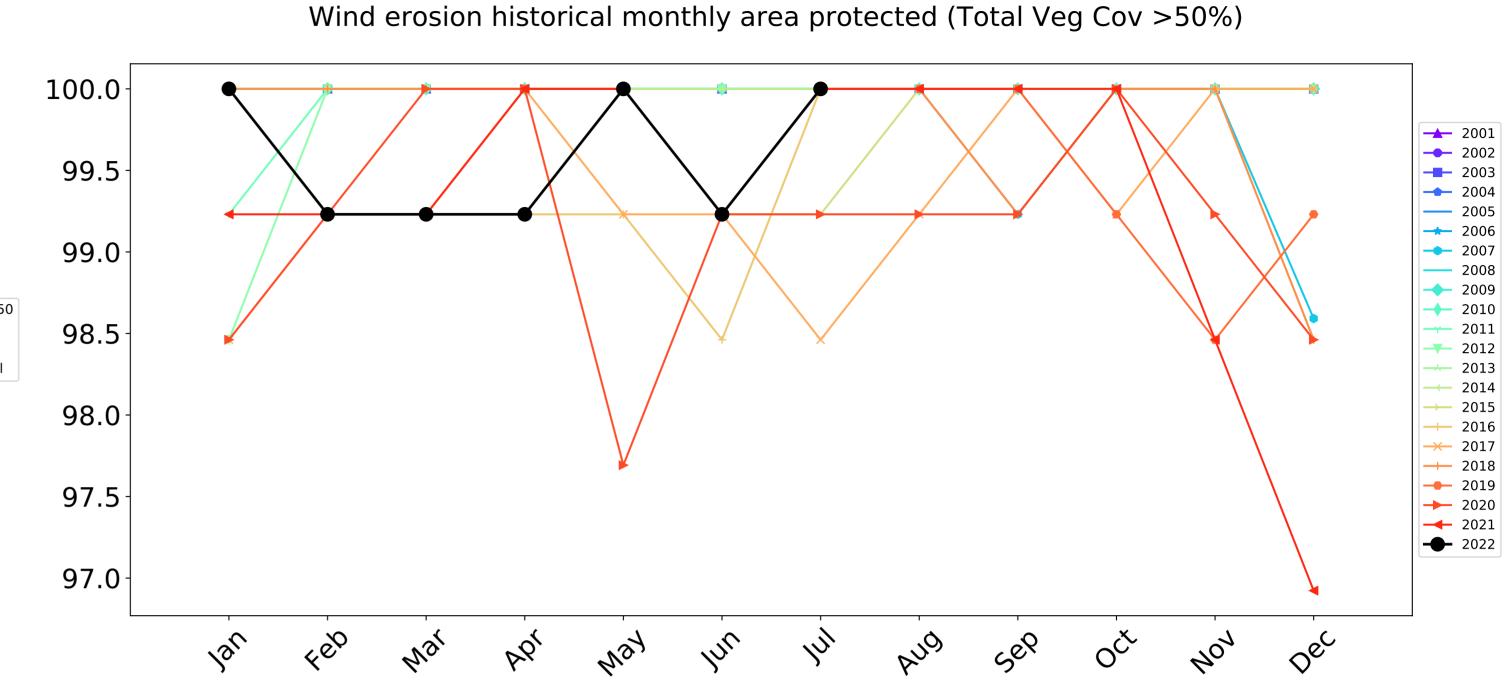




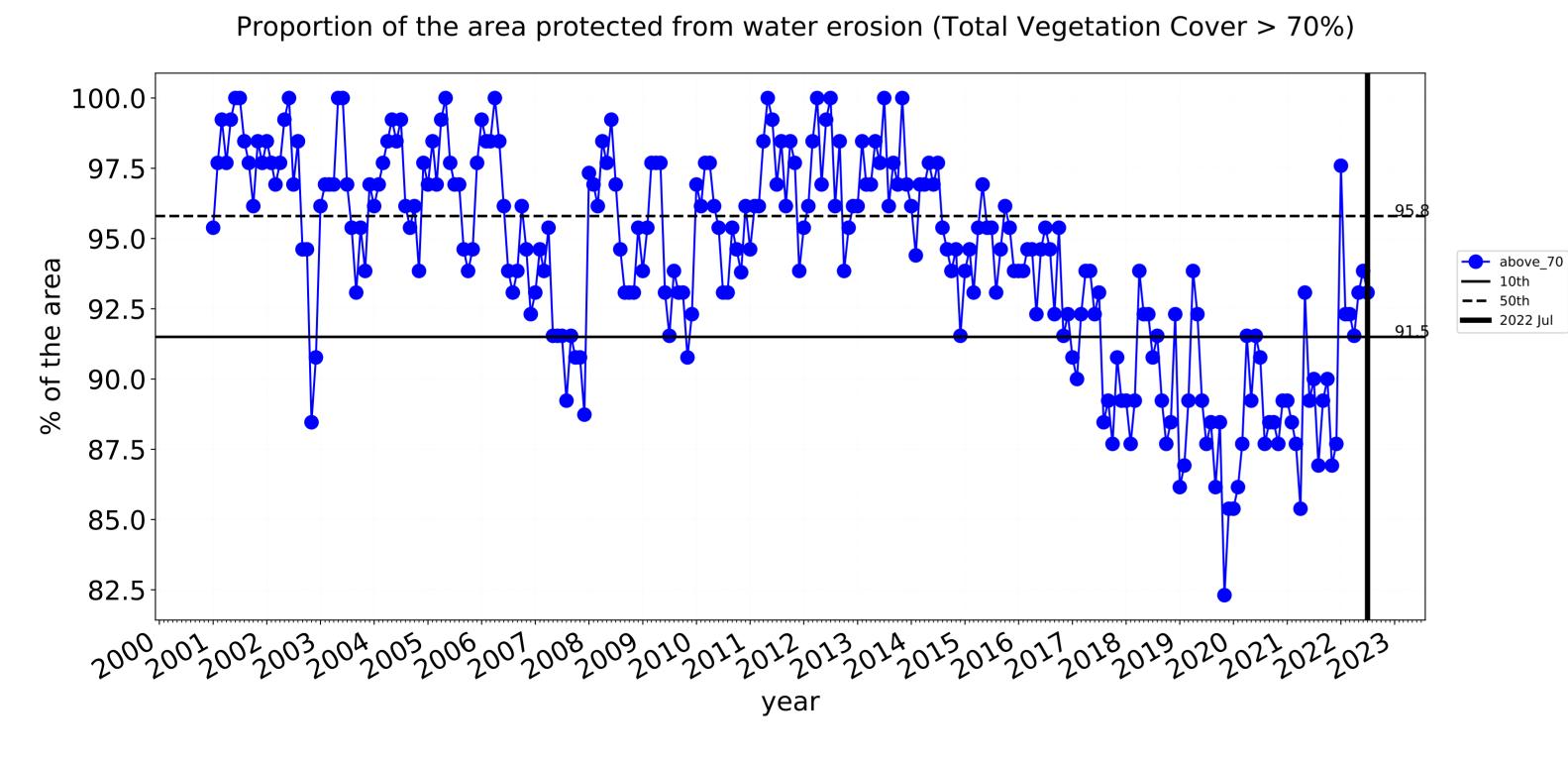


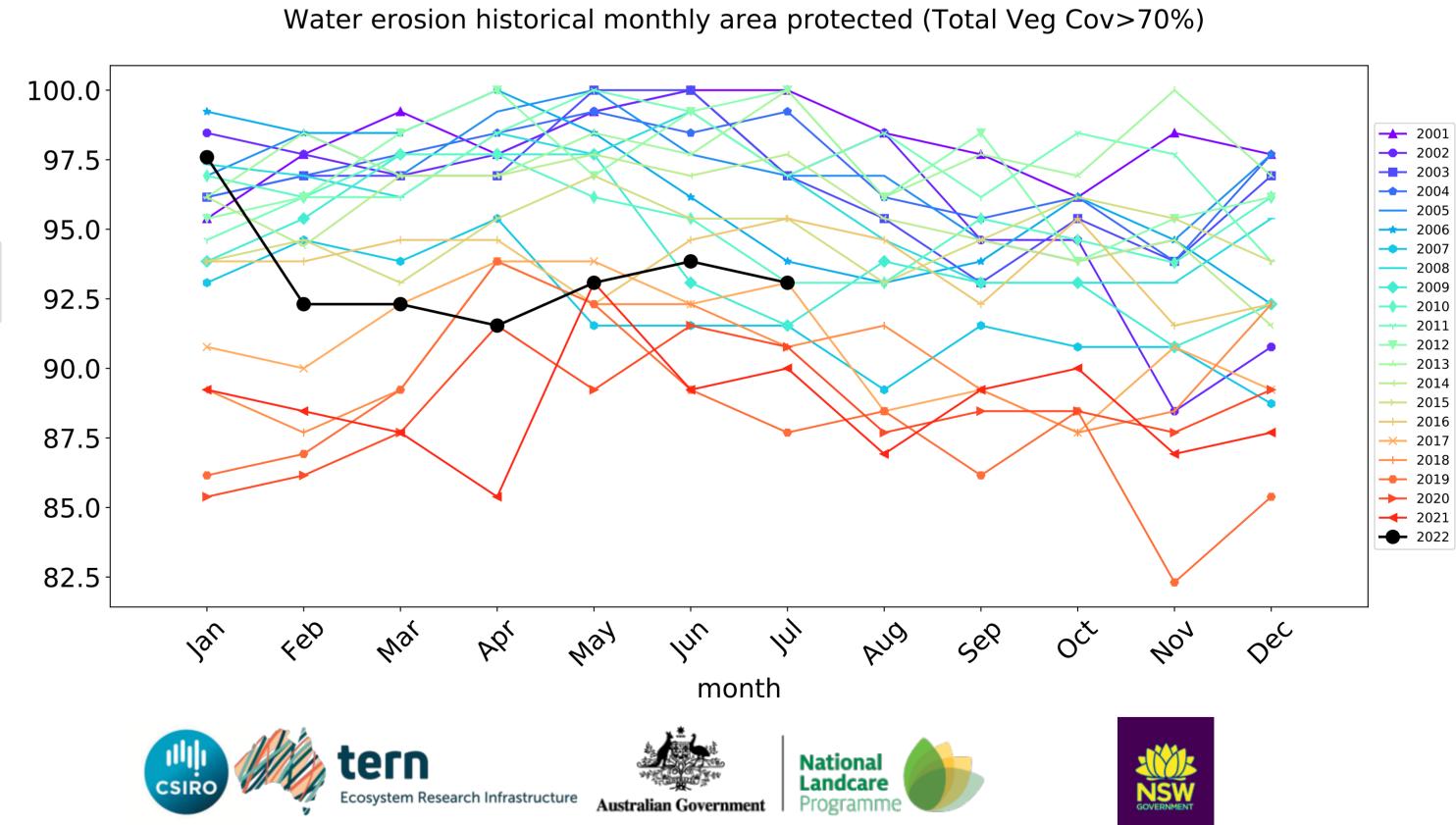
Conservation and natural environments non forest timeseries

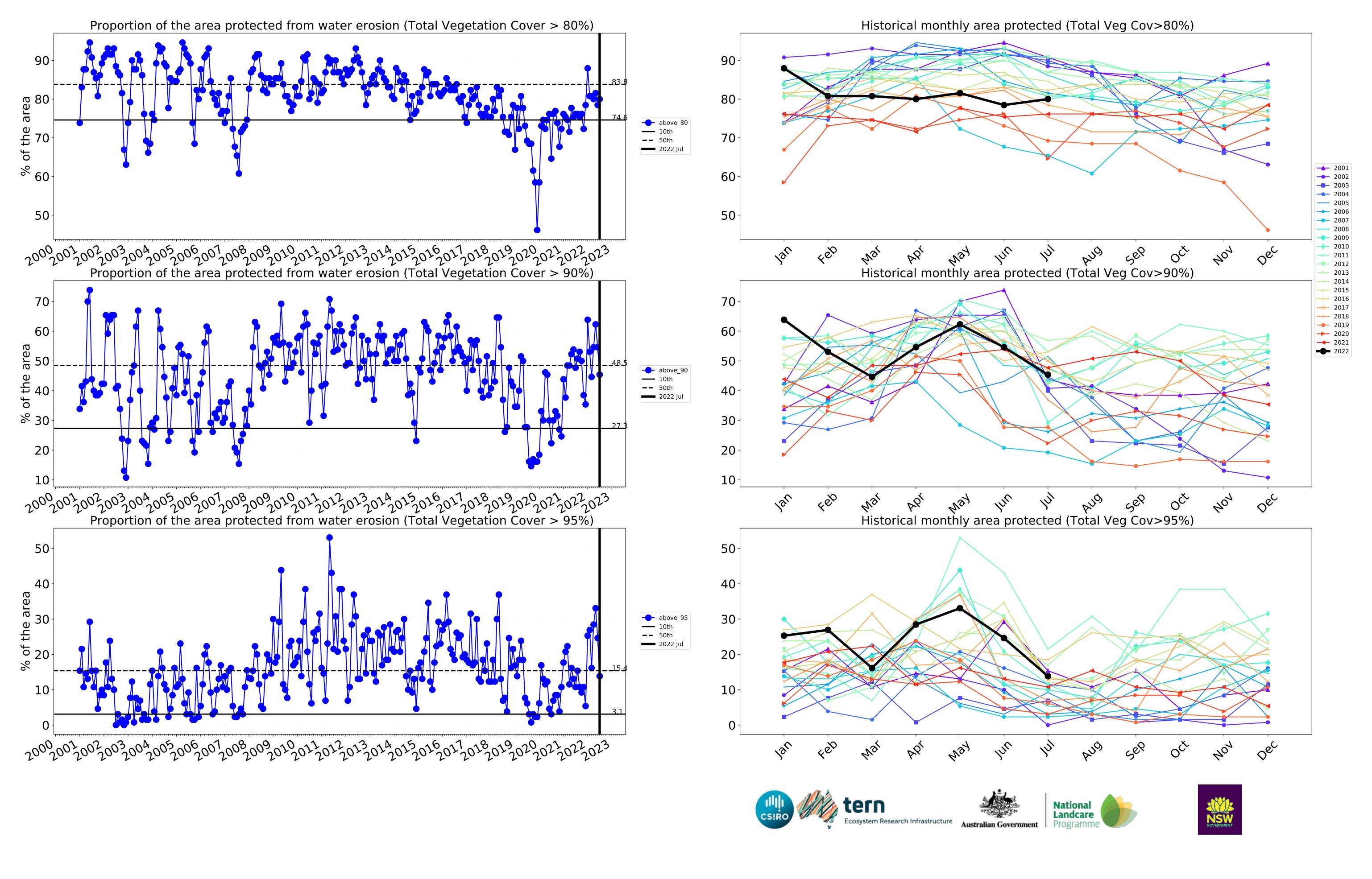




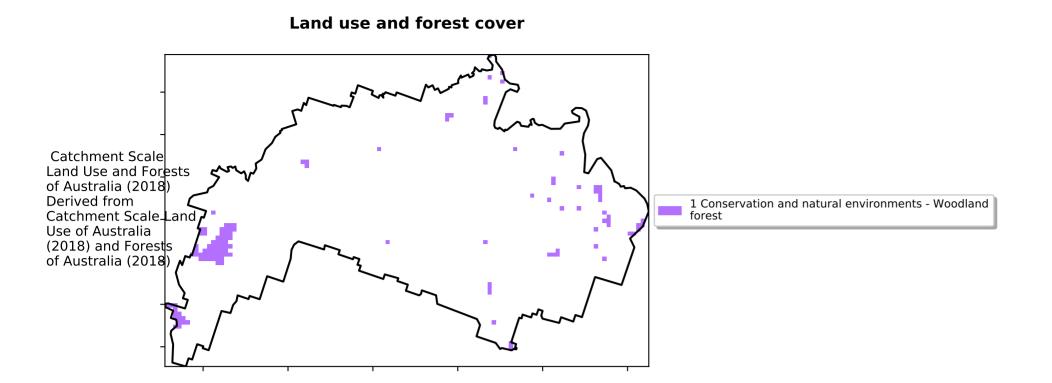
month







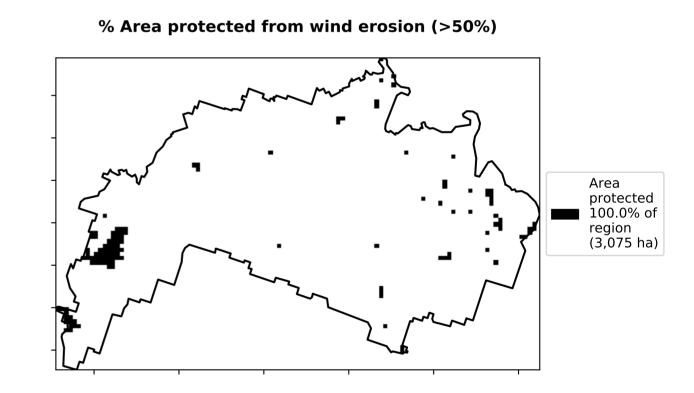
Conservation and natural environments Woodland forest

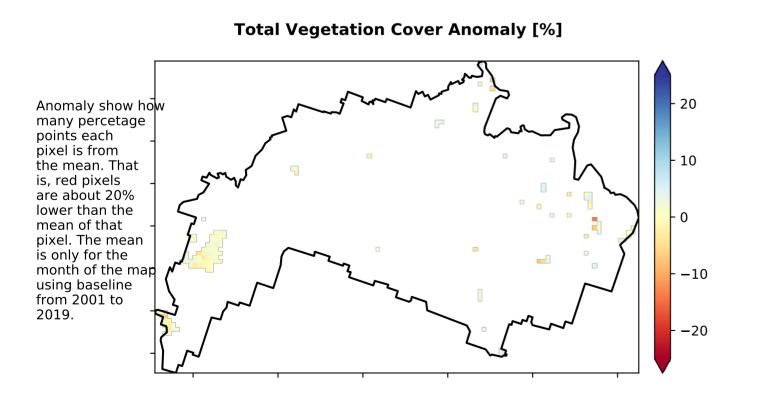


Total Vegetation Cover [%] Tiple Indele Ti

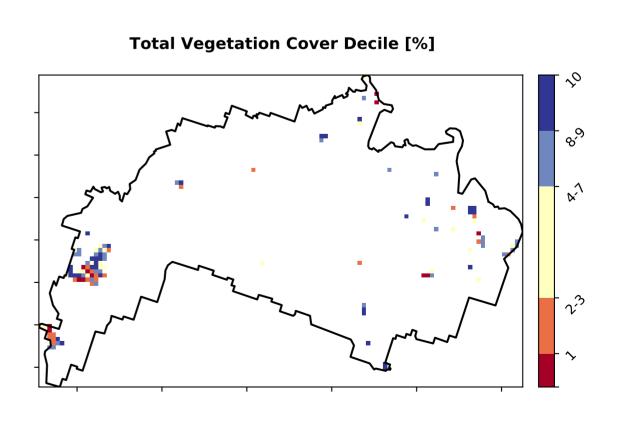
Proportion of vegetation cover class in area 100 - 100.0% 80 - 20 - 20 - 0.0% 0-30% 31%-50% 51%-70% Total Vegetation Cover class

Area protected from water erosion (>70%) Area protected 100.0% of region (3,075 ha)





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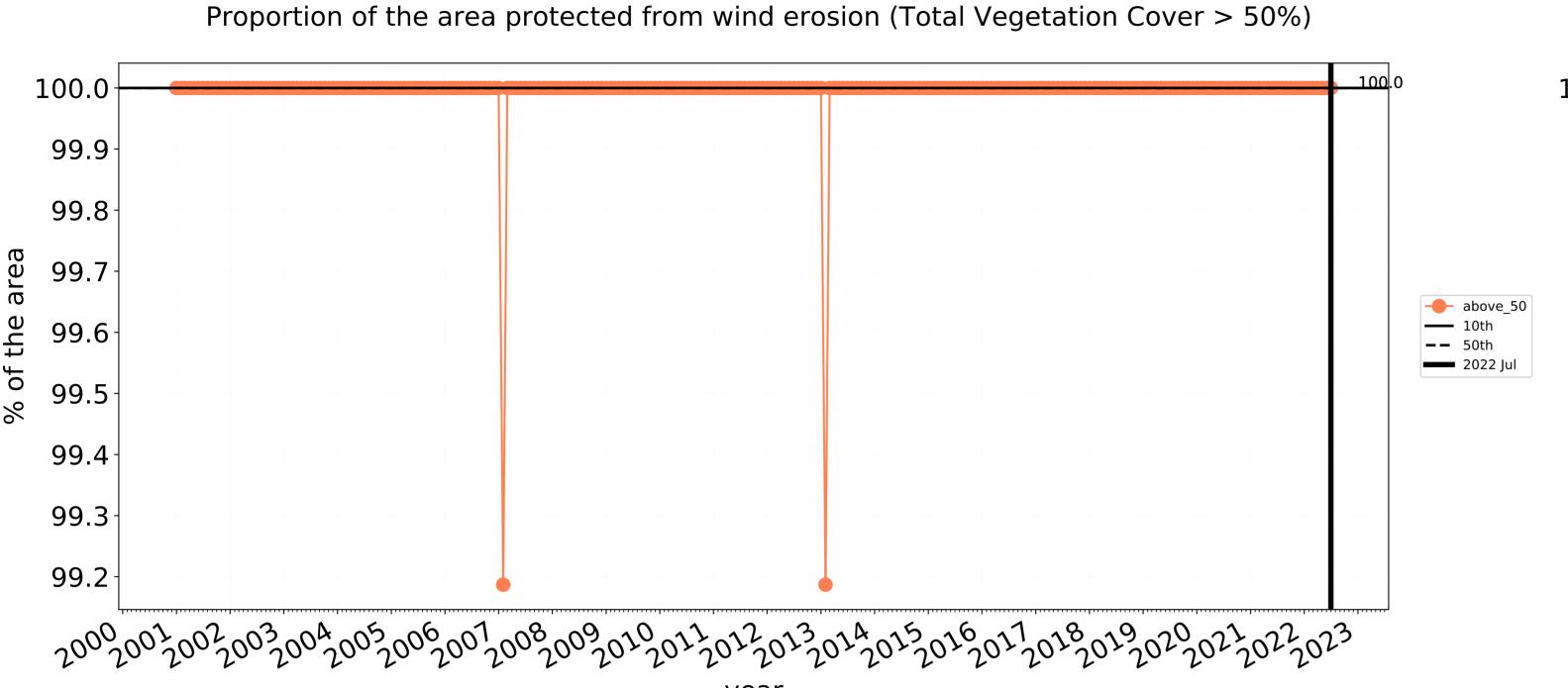


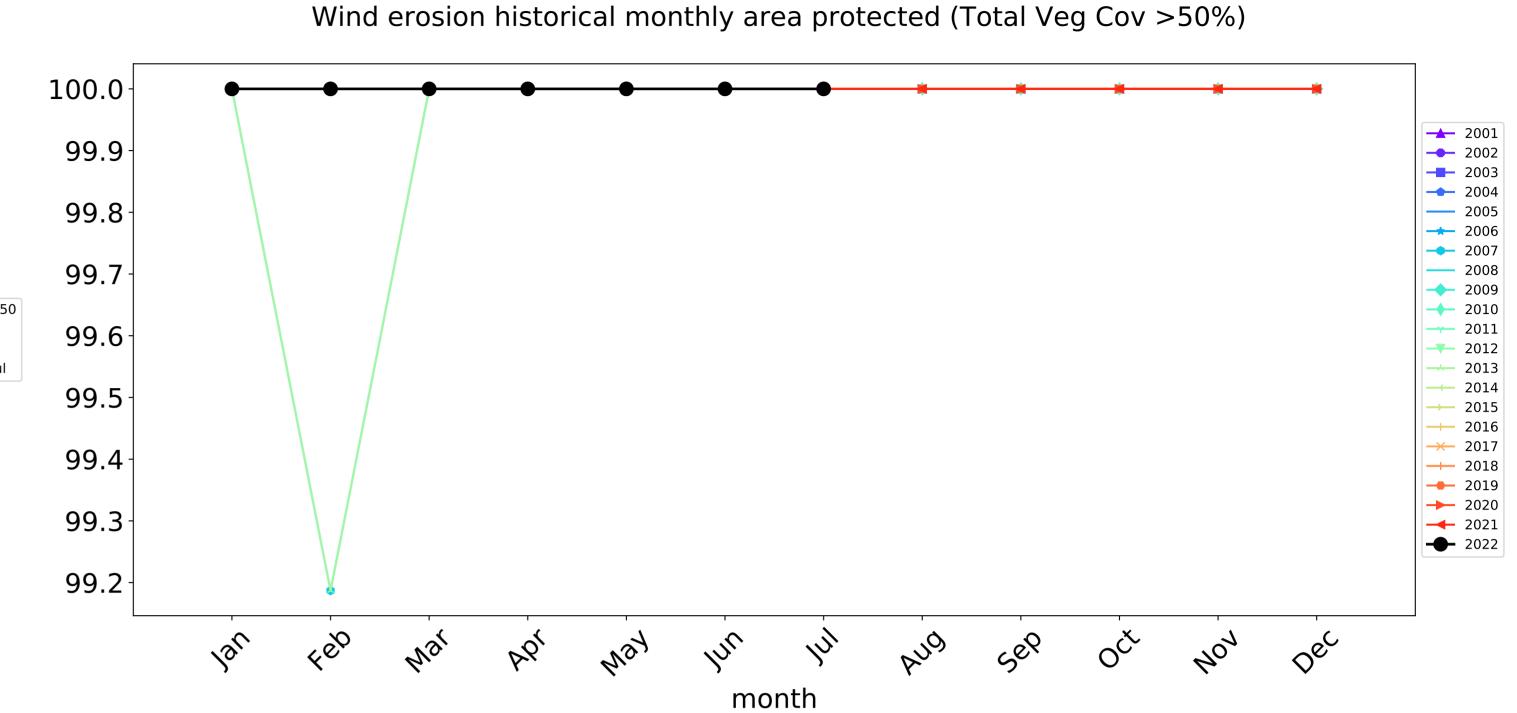


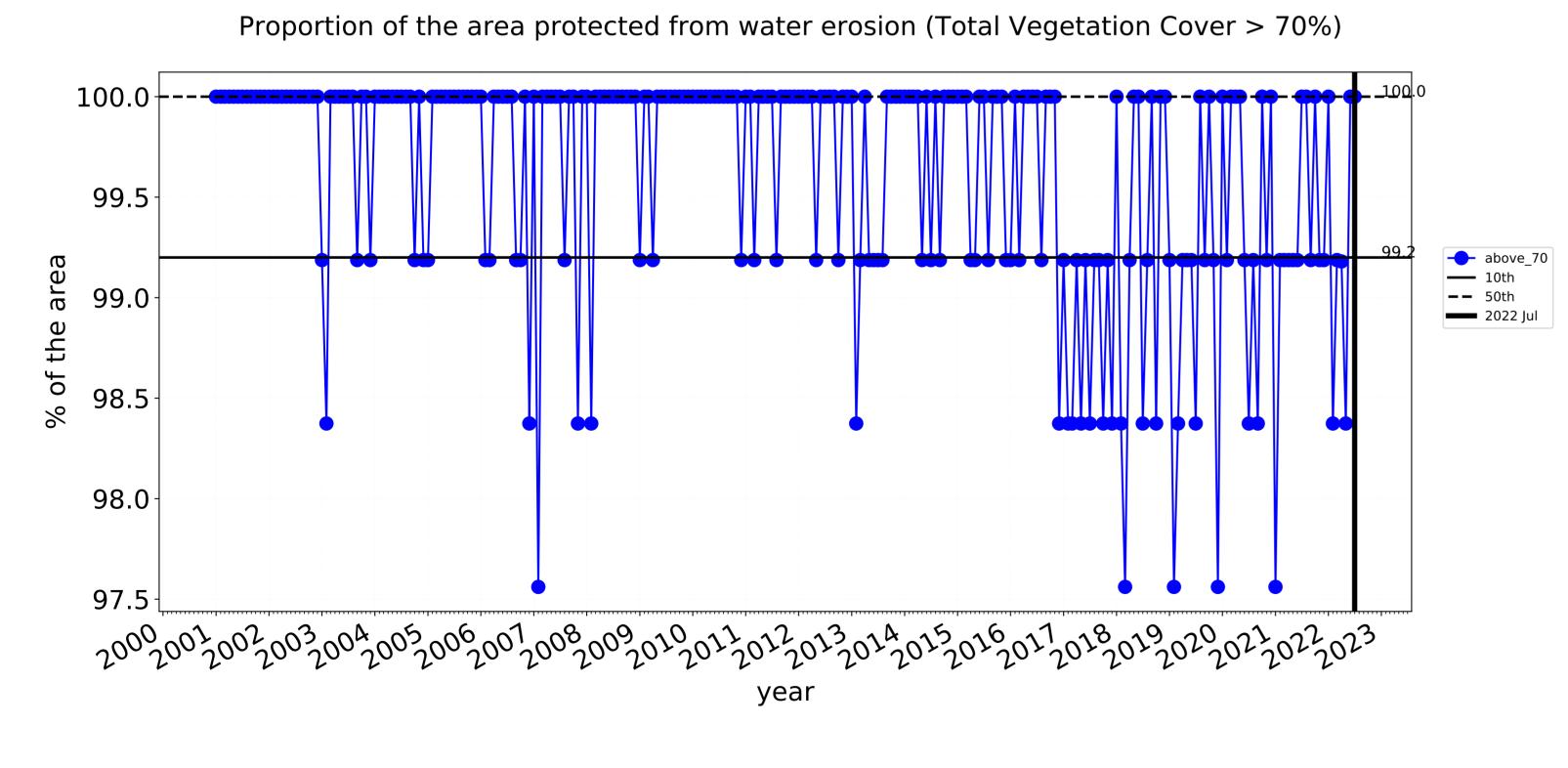


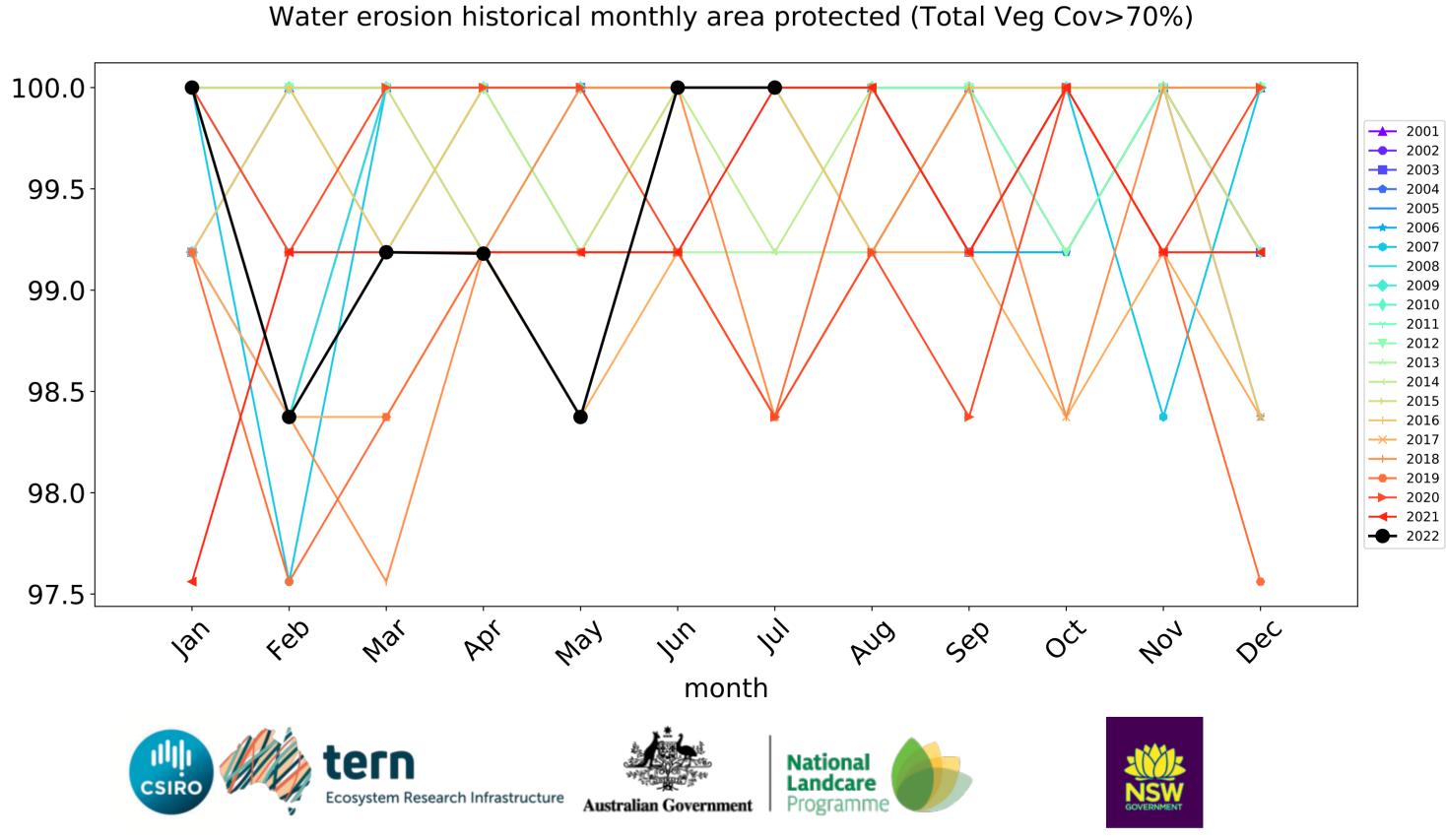


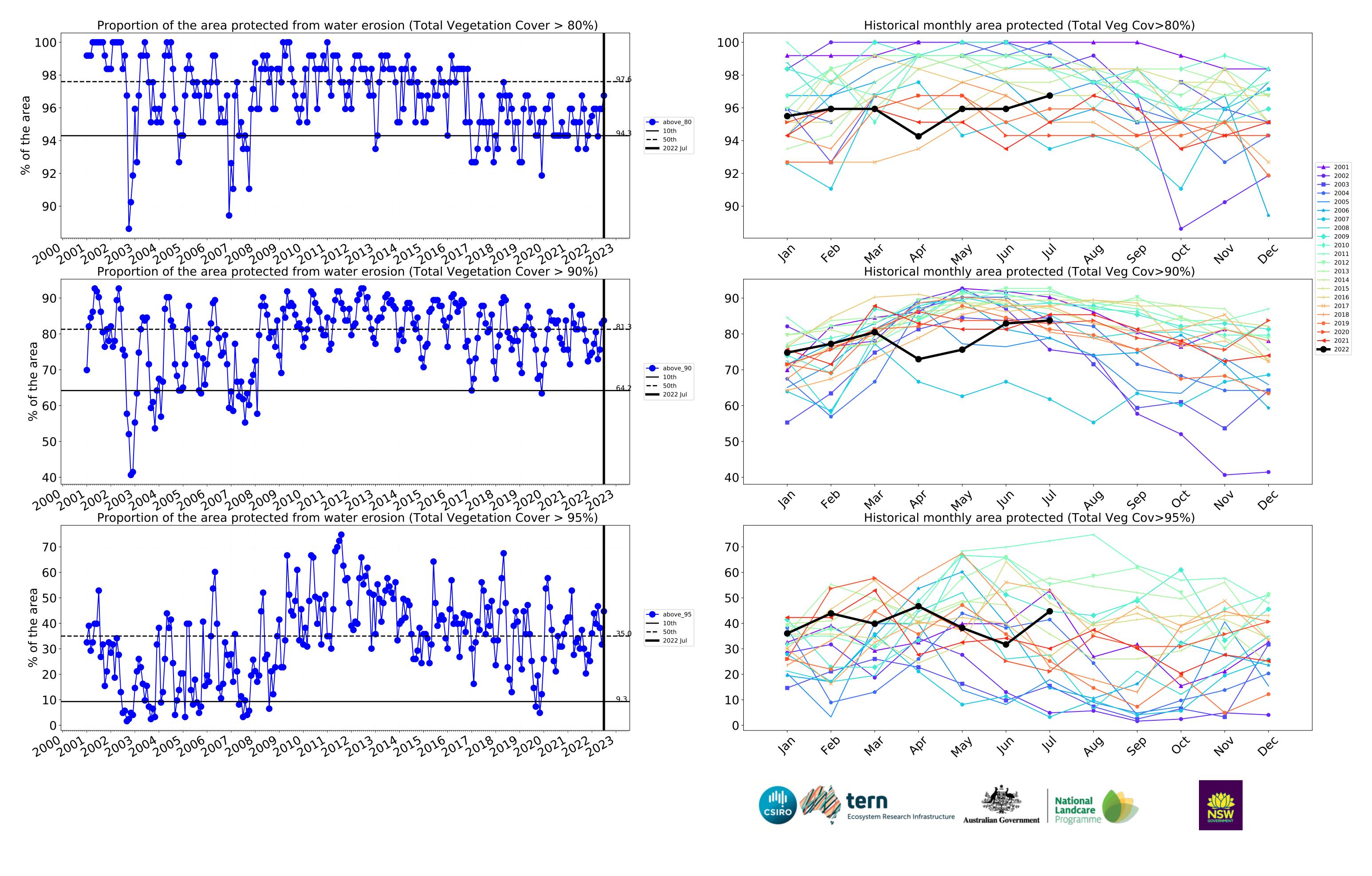
Conservation and natural environments Woodland forest timeseries



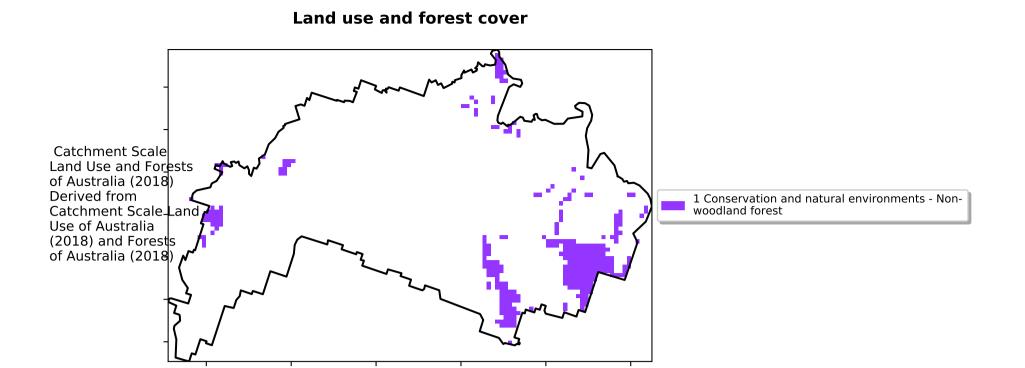




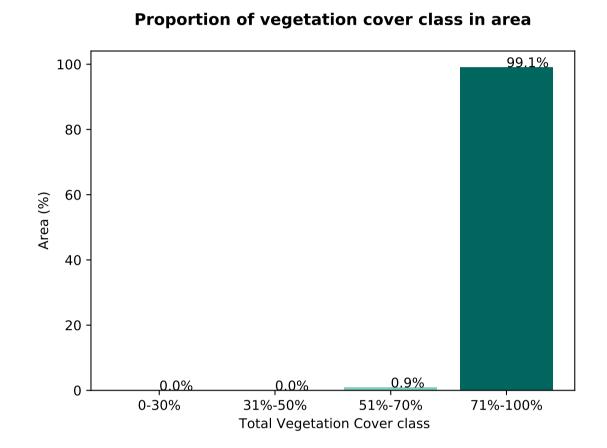


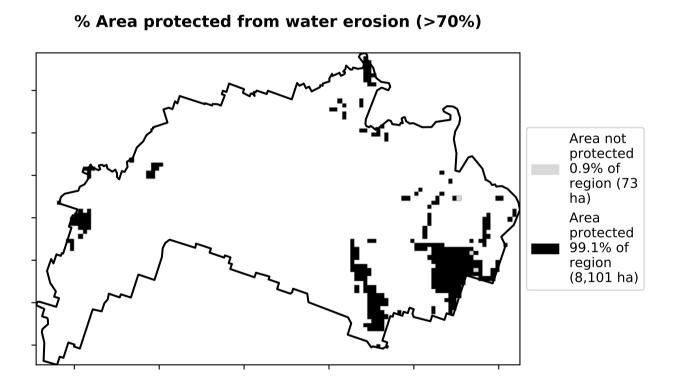


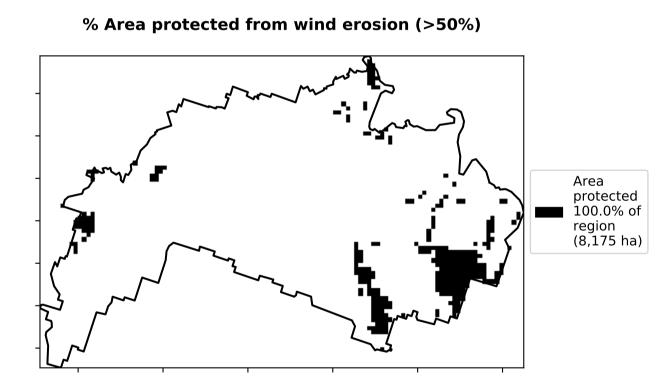
Conservation and natural environments Forest (non woodland)

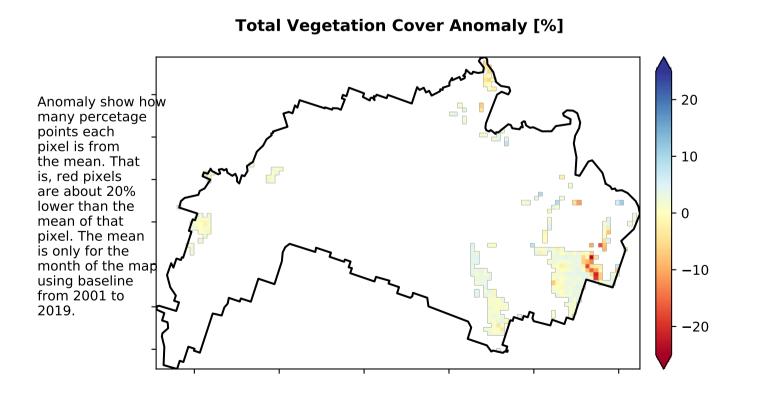


Total Vegetation Cover [%]

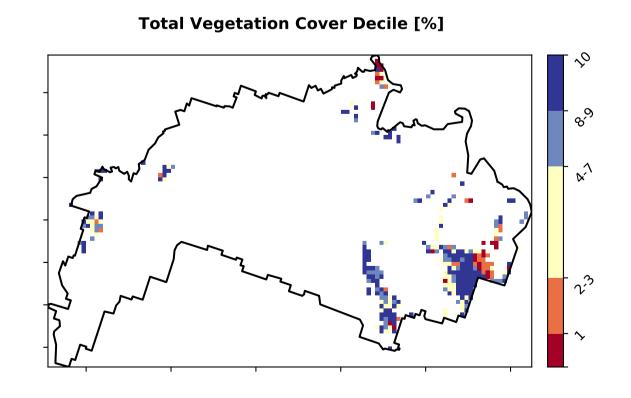








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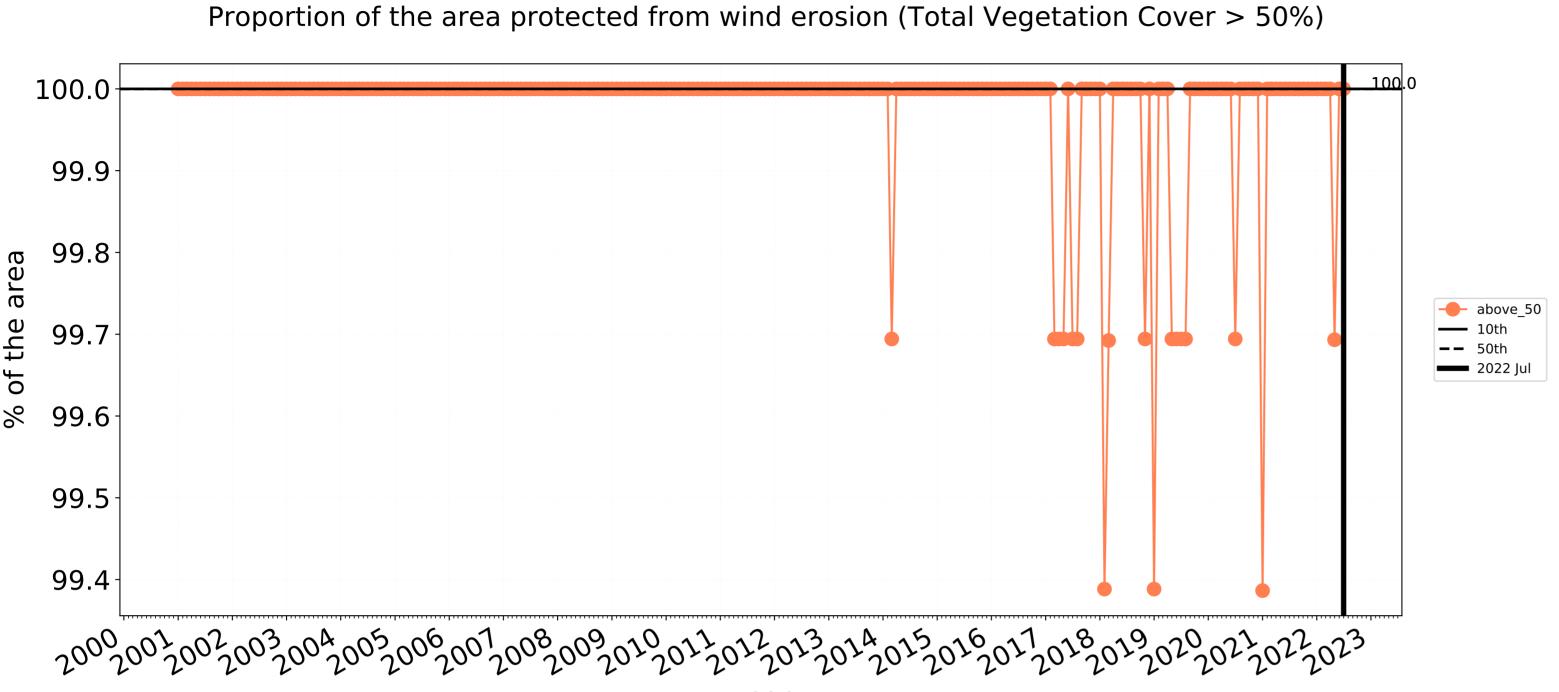


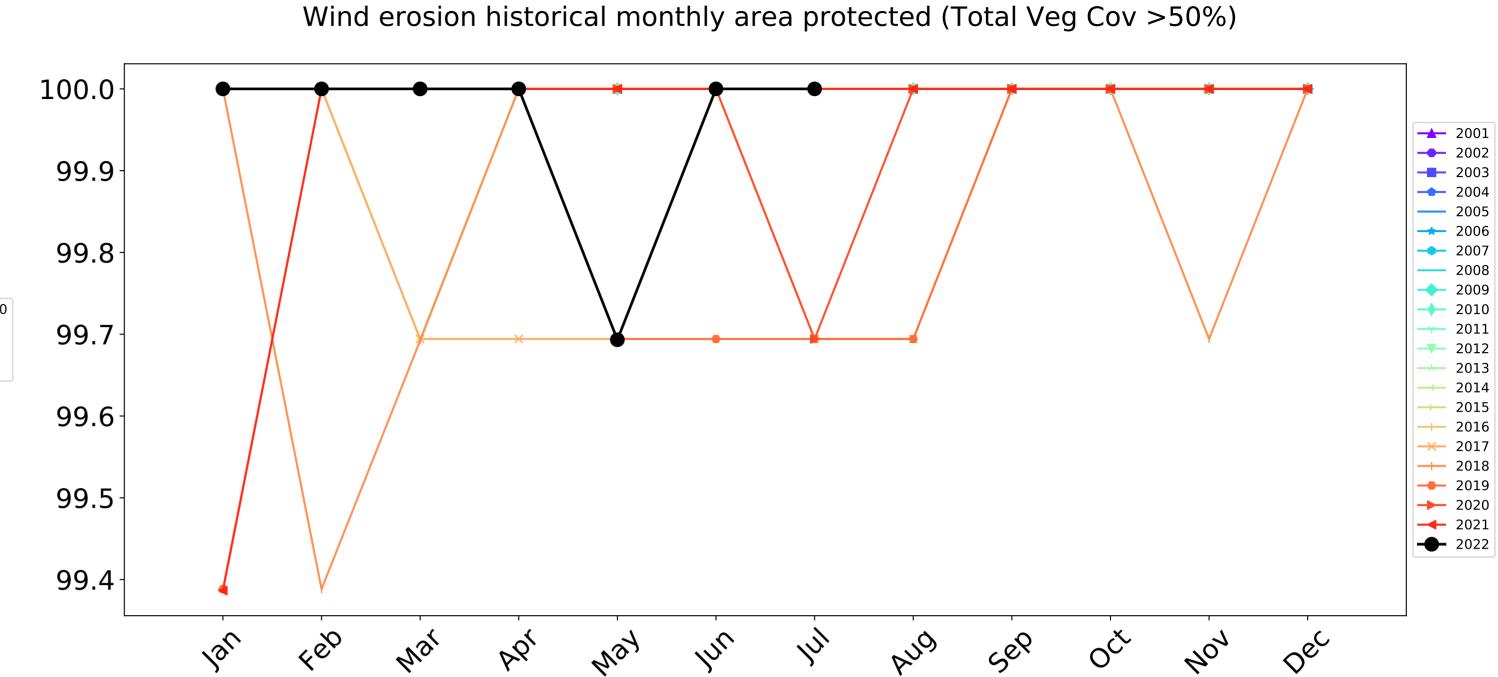




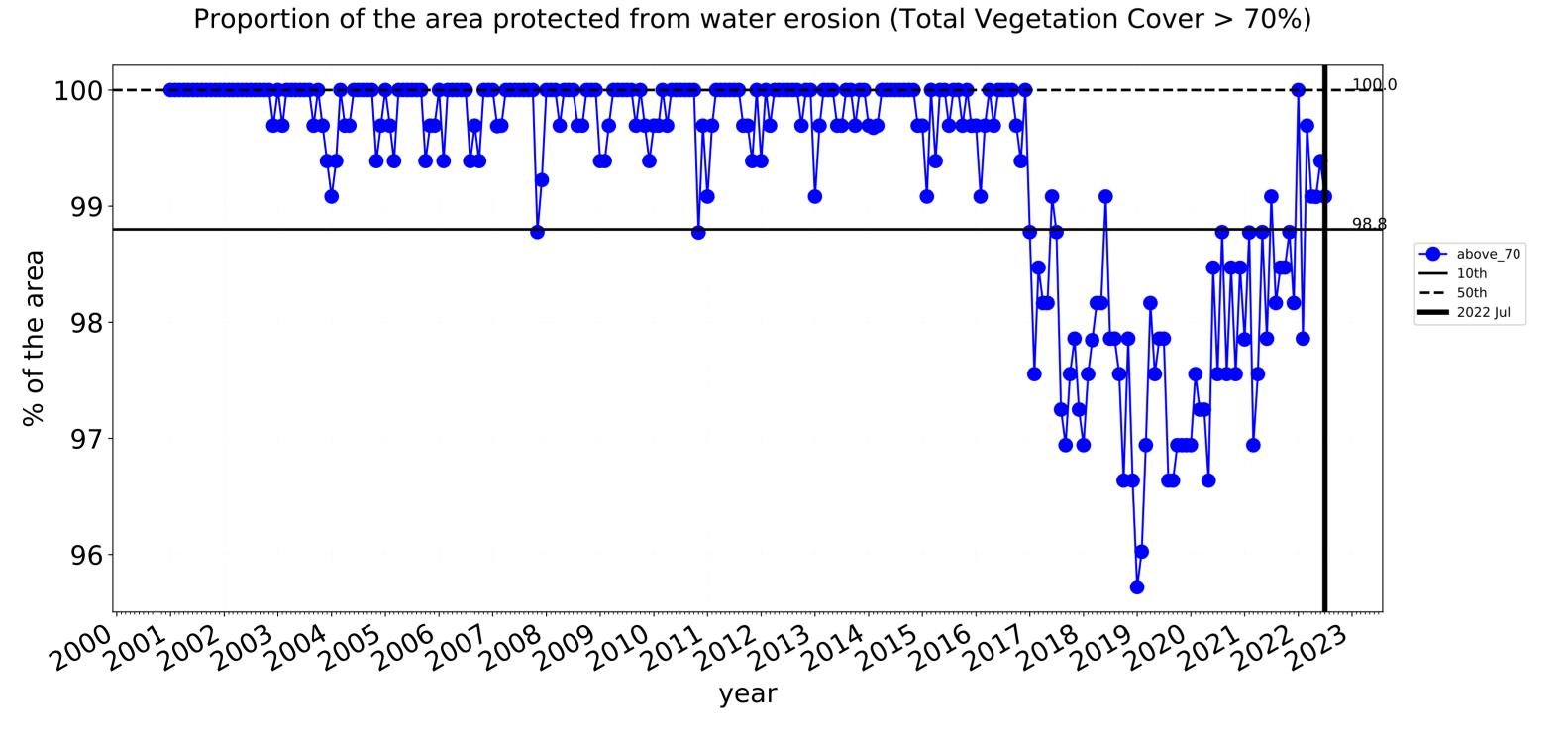


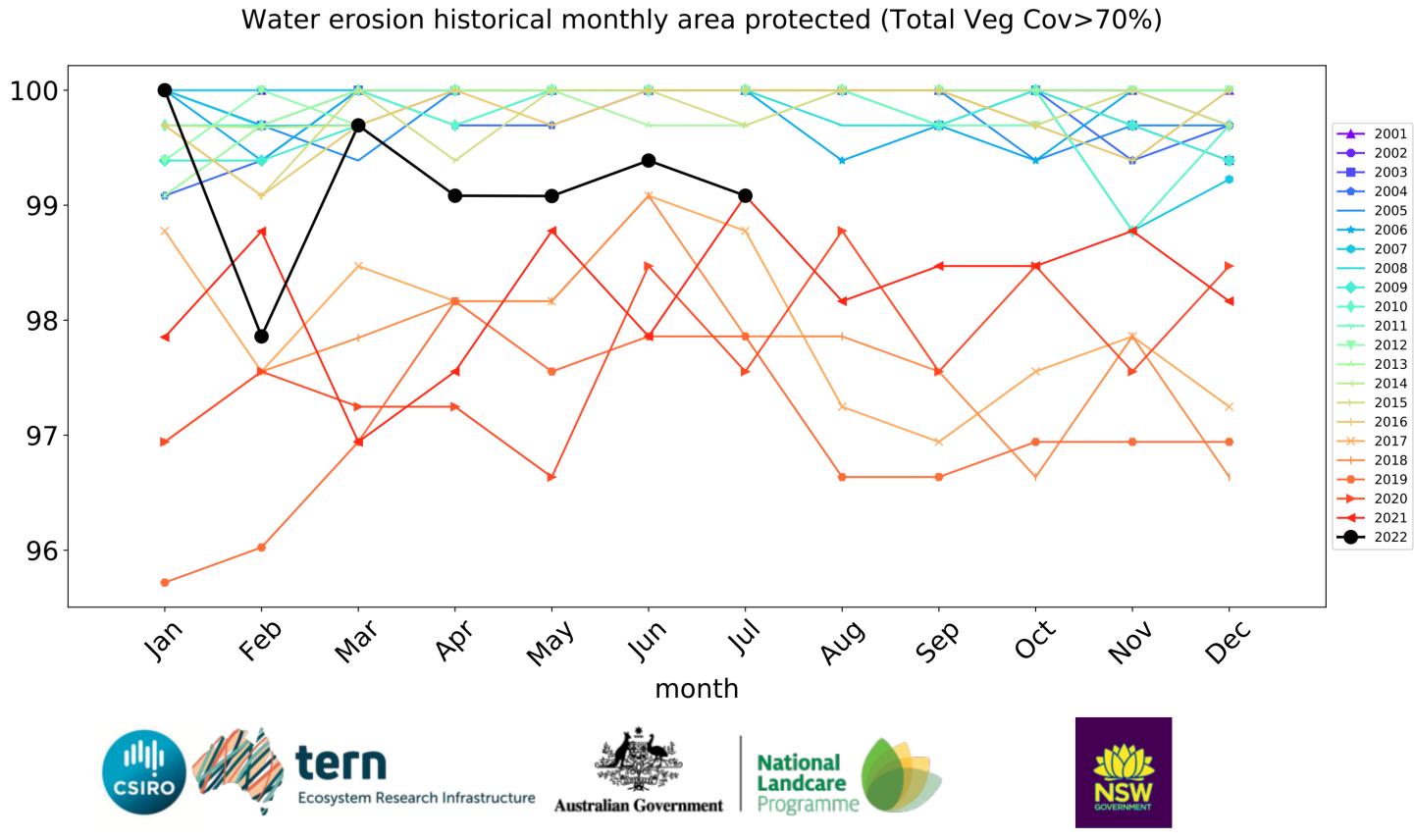


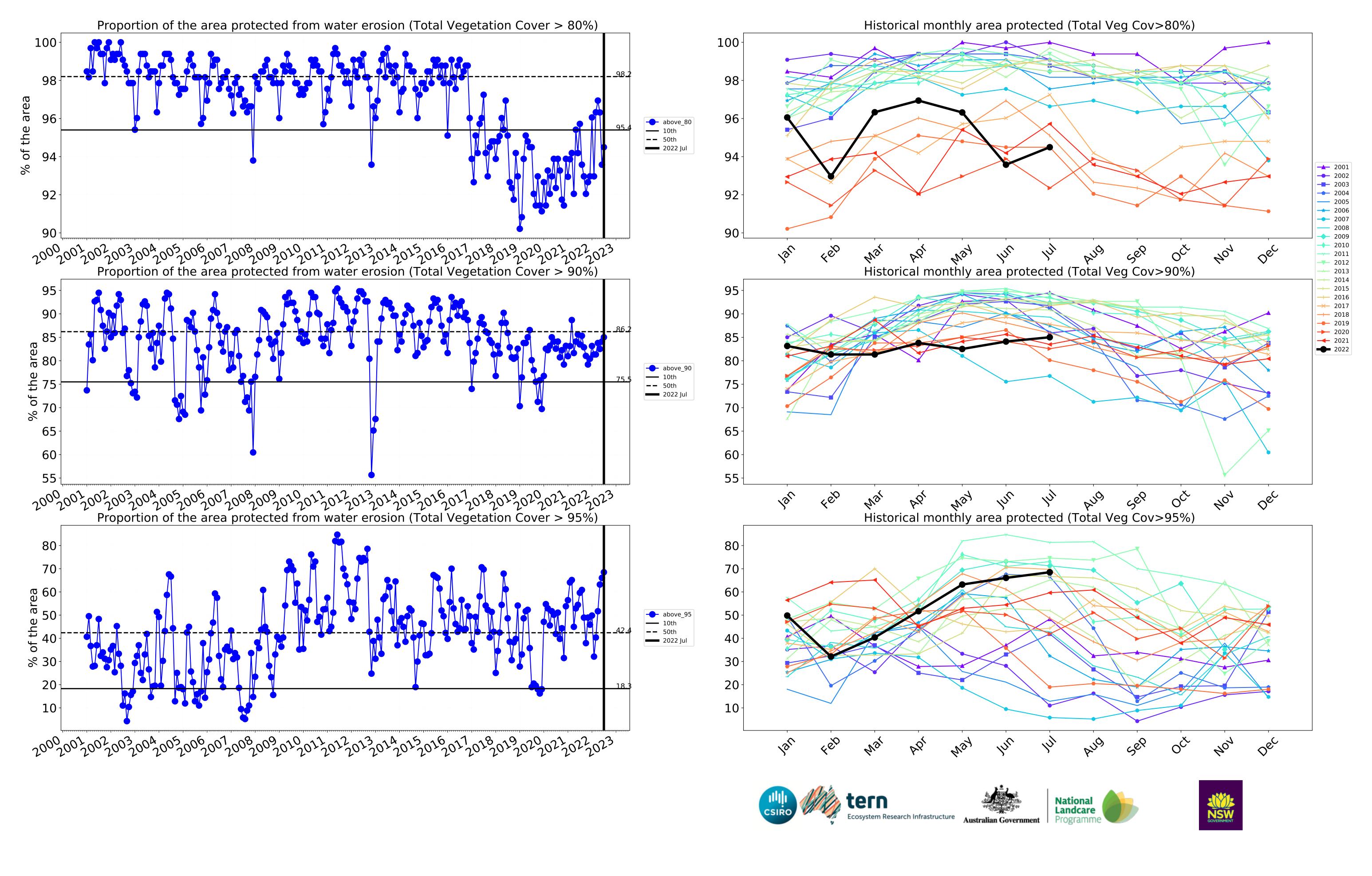




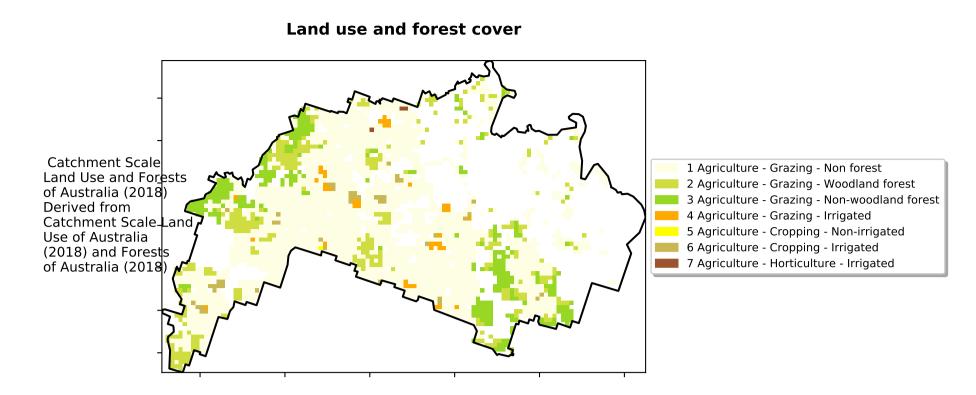
month



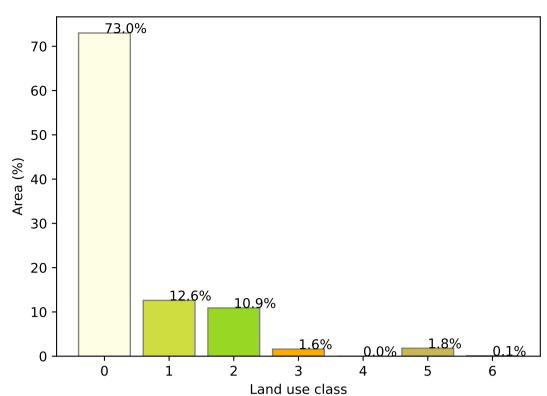




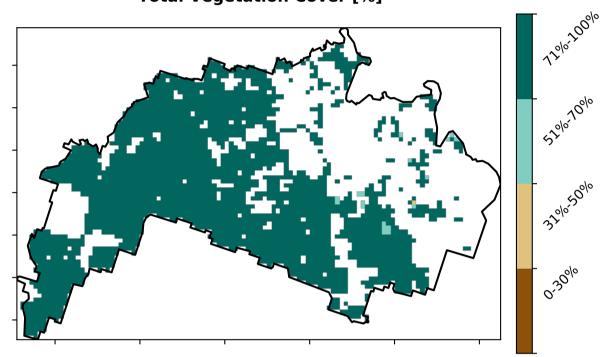
Agriculture



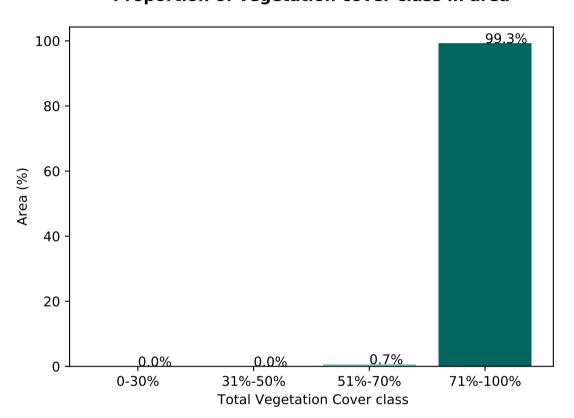
Proportion of each land class in area



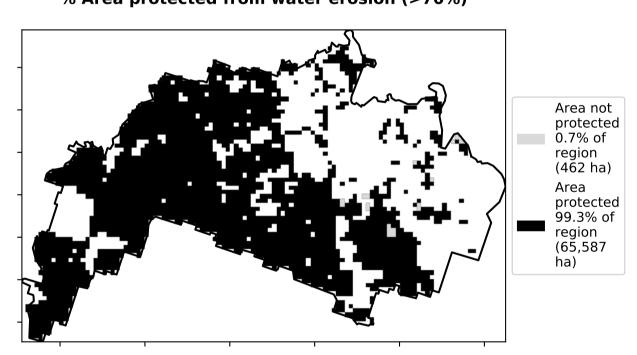
Total Vegetation Cover [%]



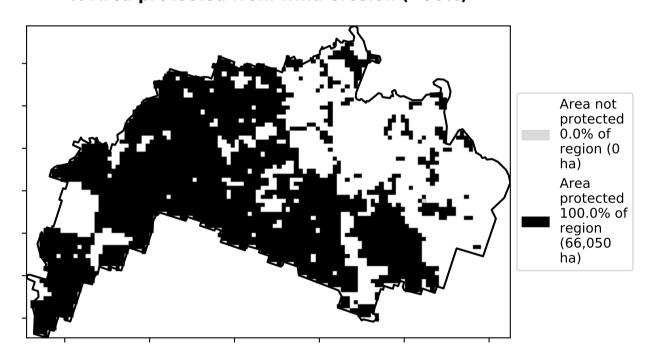
Proportion of vegetation cover class in area



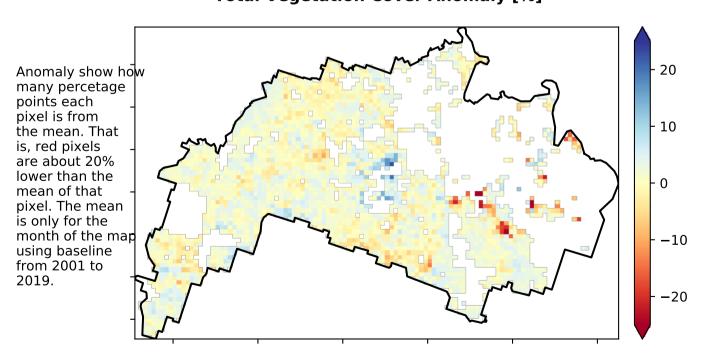
% Area protected from water erosion (>70%)



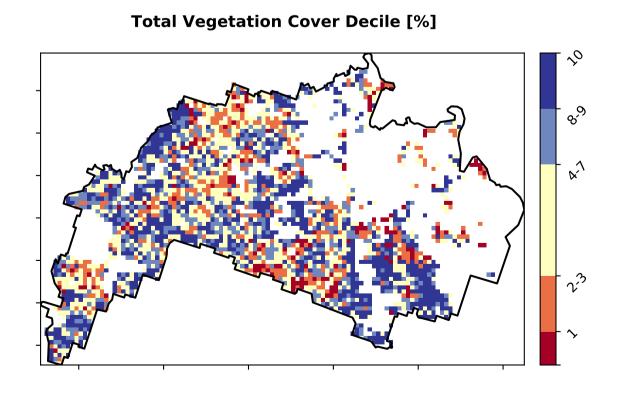
% Area protected from wind erosion (>50%)



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.





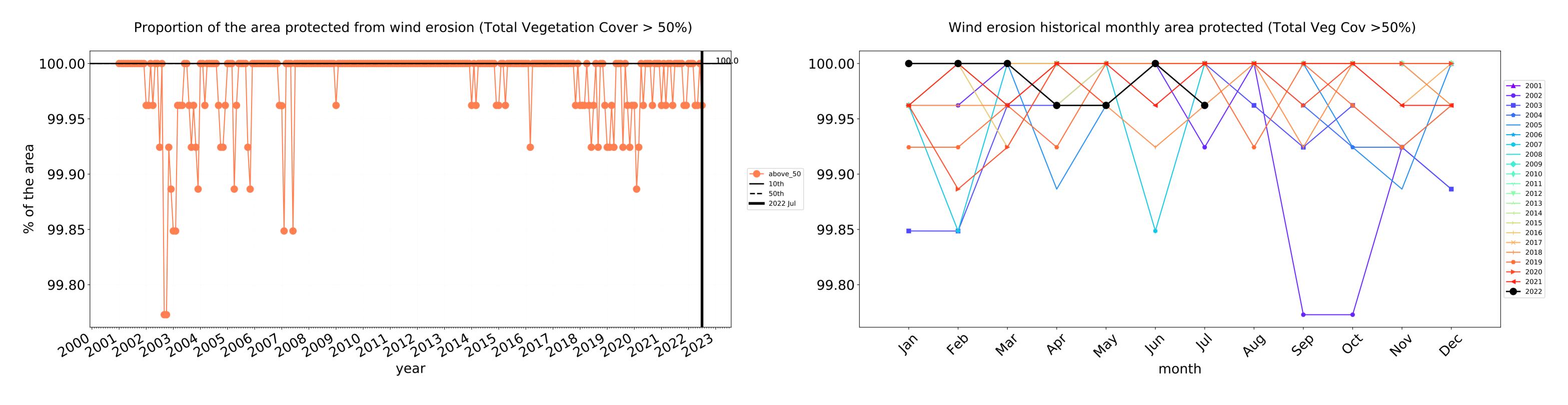


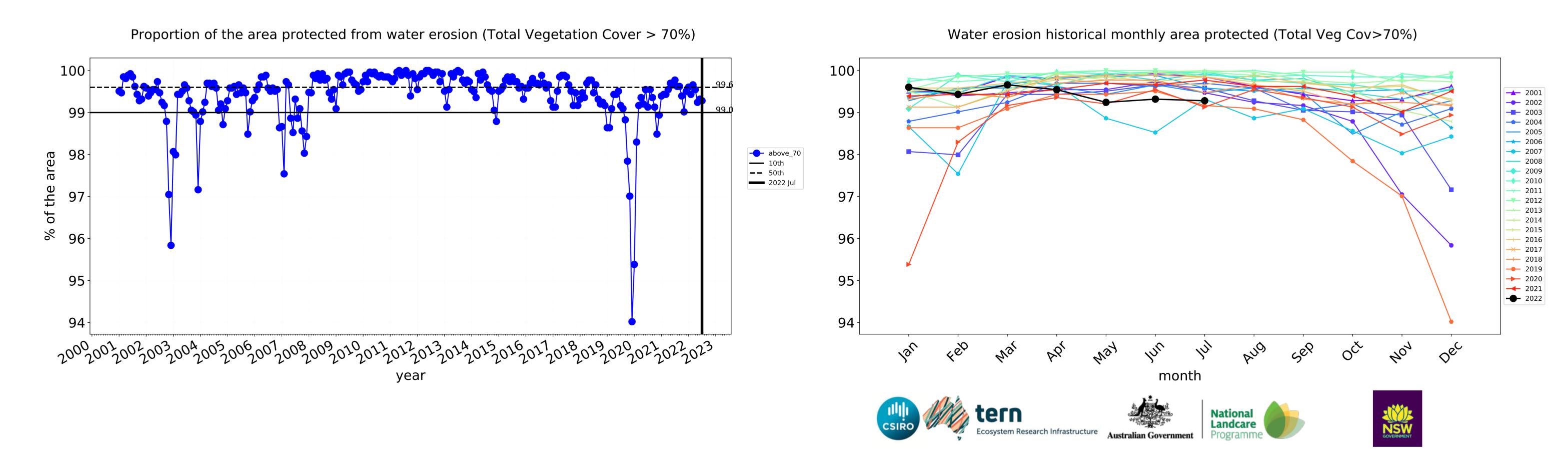


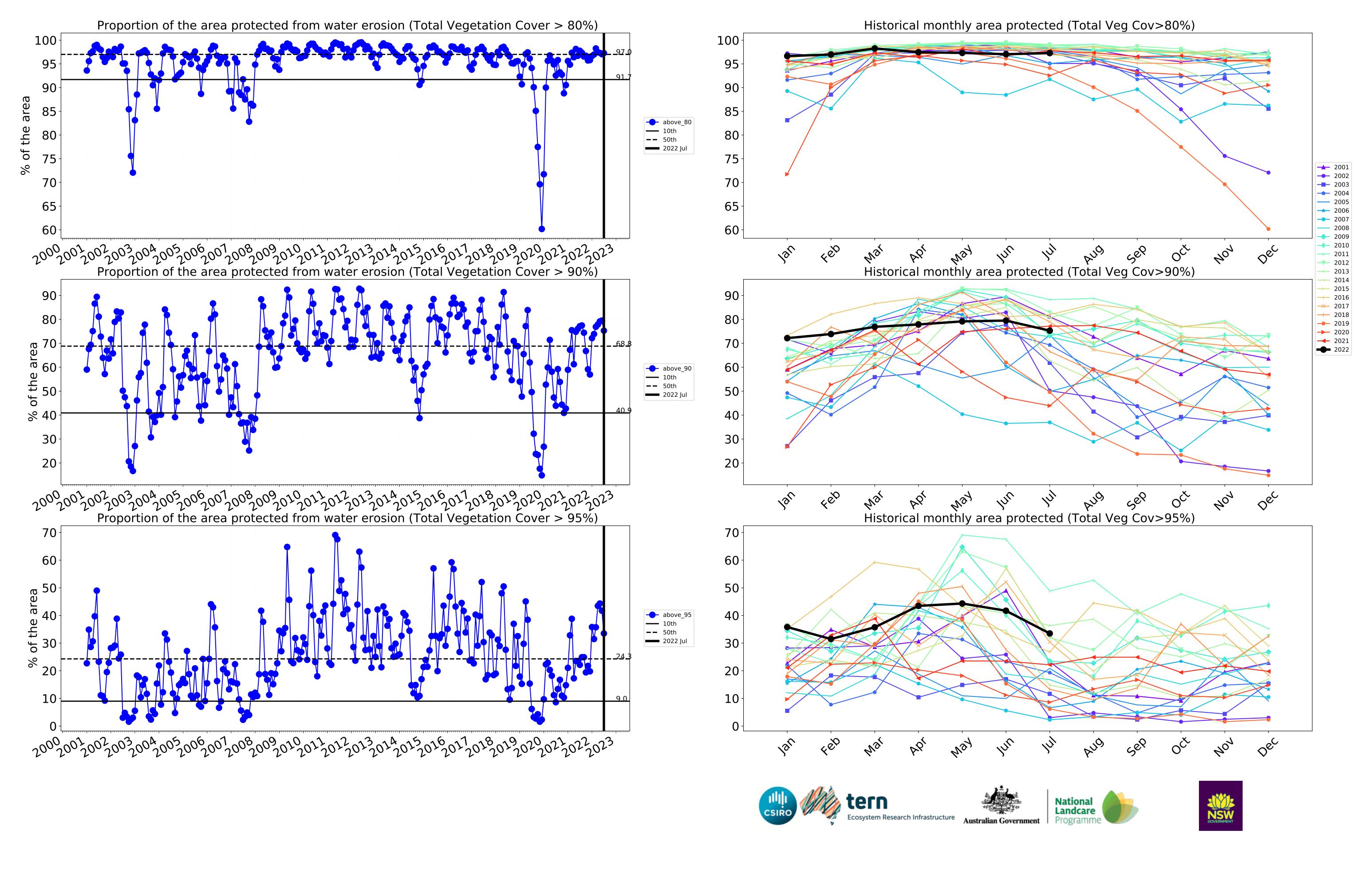




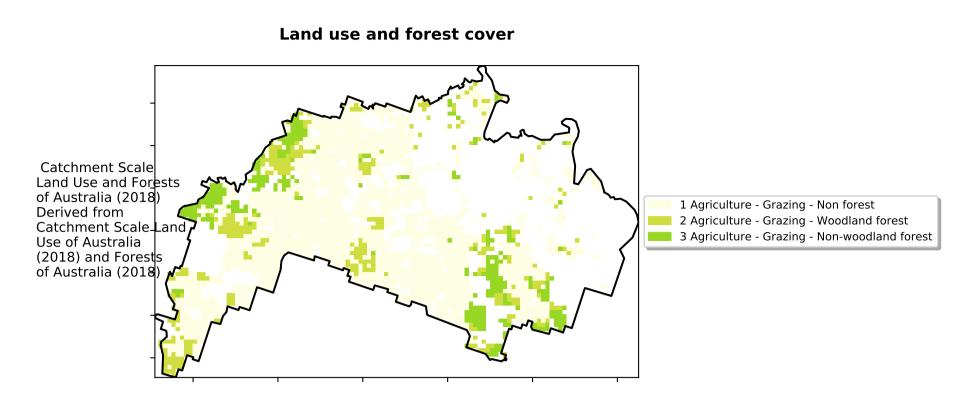
Agriculture timeseries



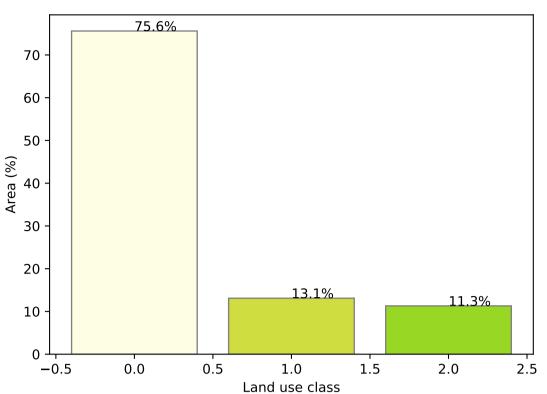




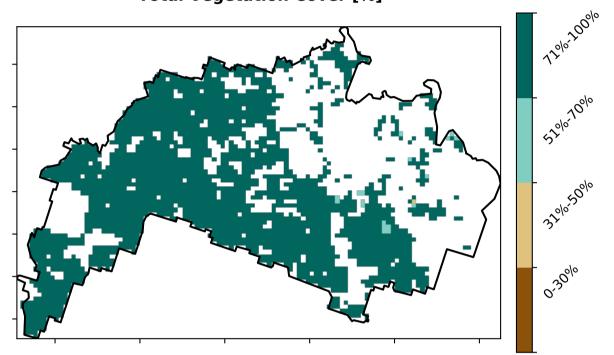
Grazing



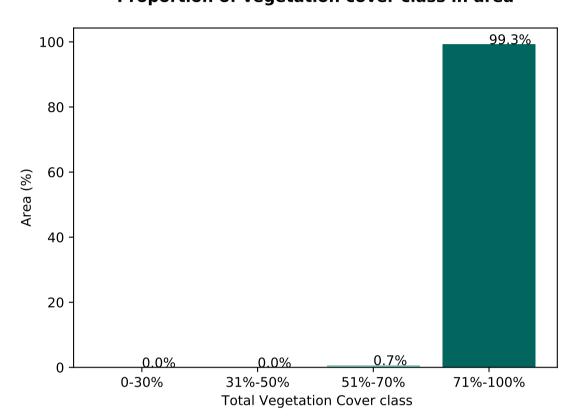
Proportion of each land class in area



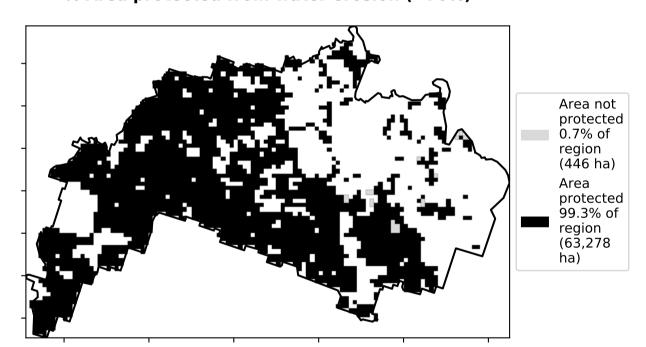




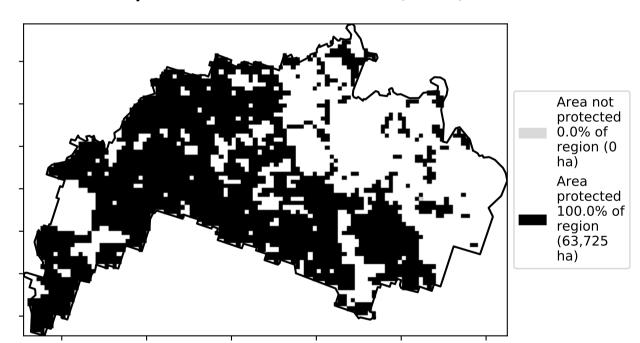
Proportion of vegetation cover class in area



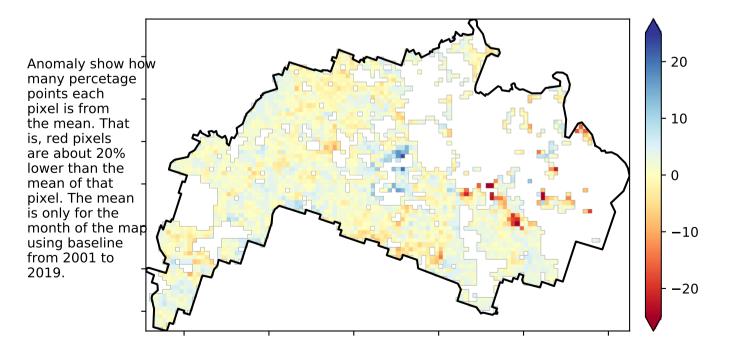
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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Total Vegetation Cover Decile [%]



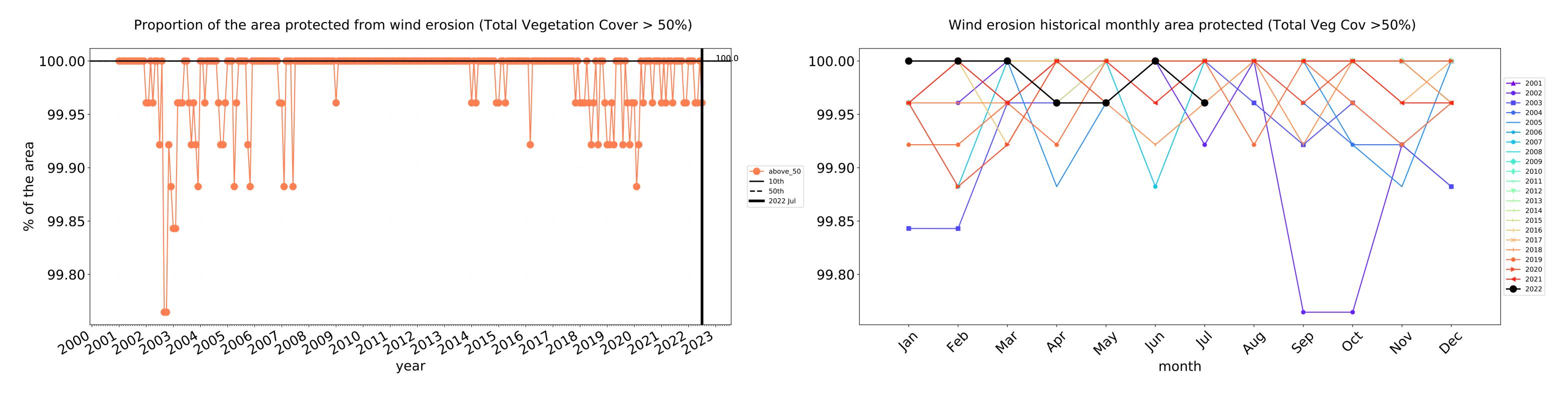


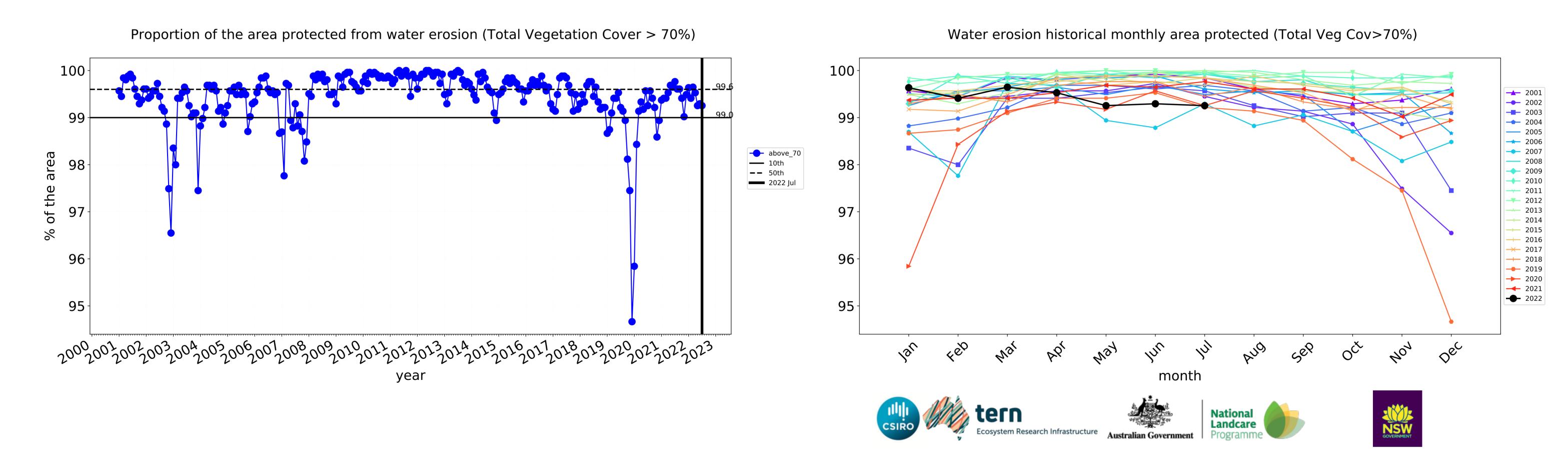


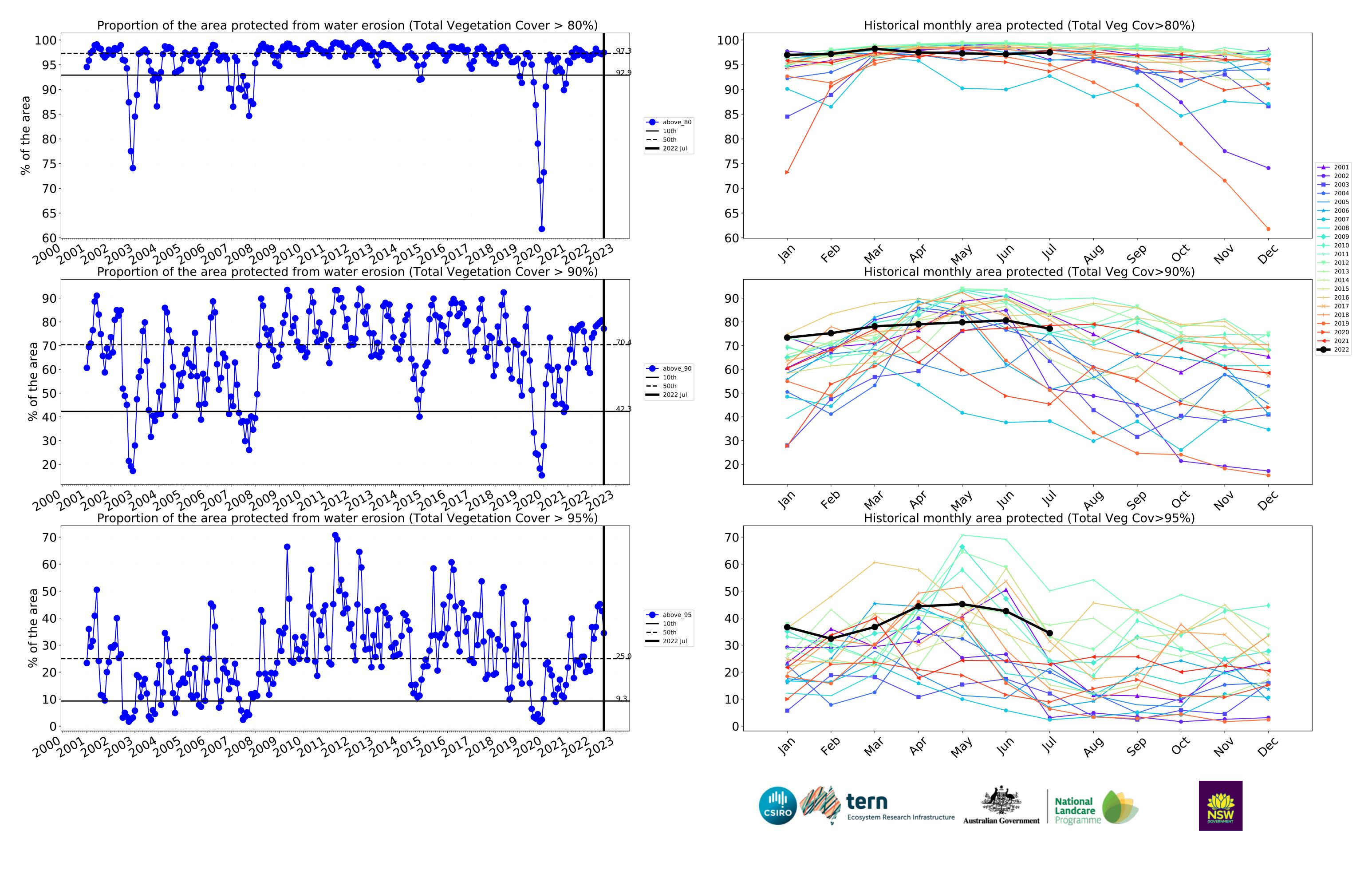




Grazing timeseries

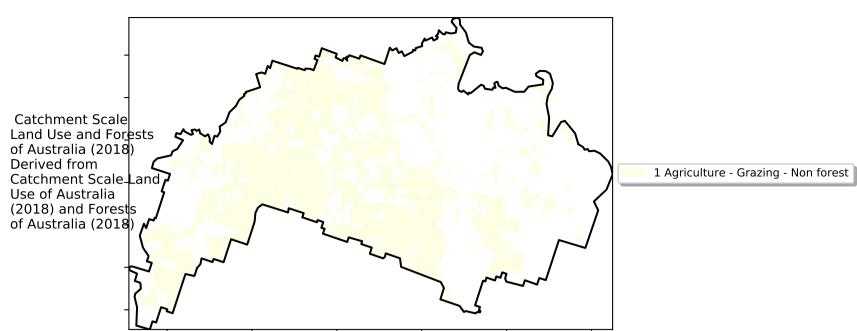




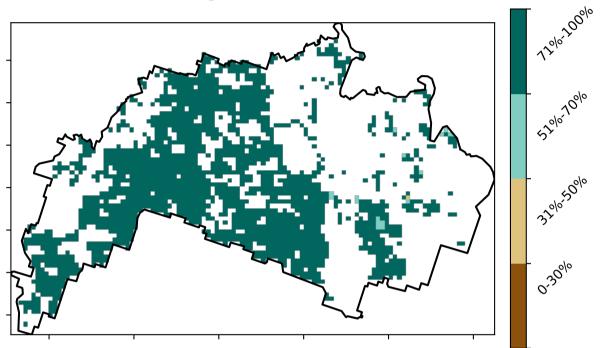


Grazing non forest

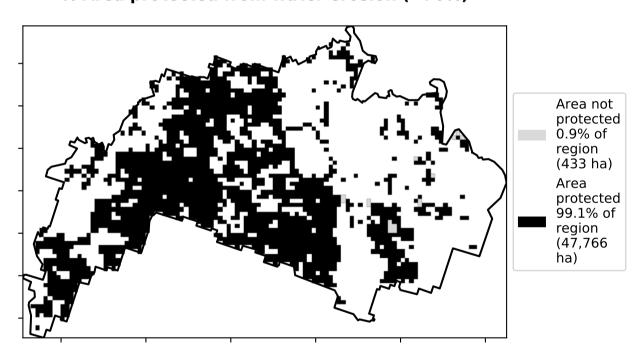
Land use and forest cover



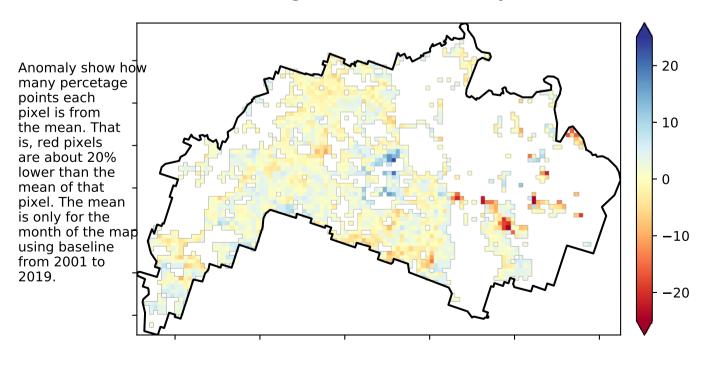
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

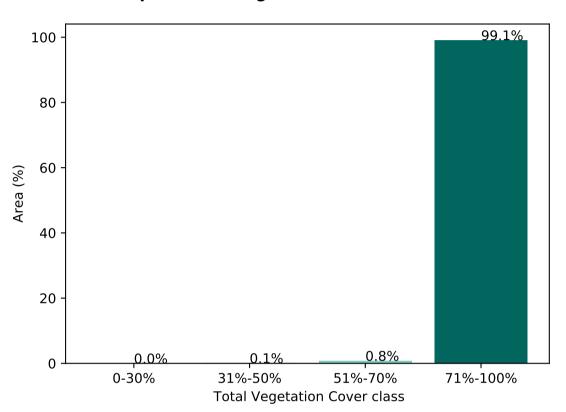


Total Vegetation Cover Anomaly [%]

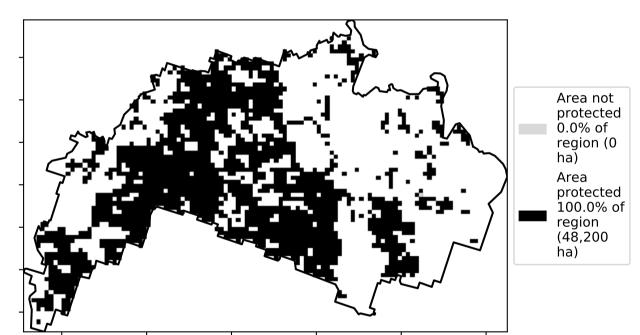


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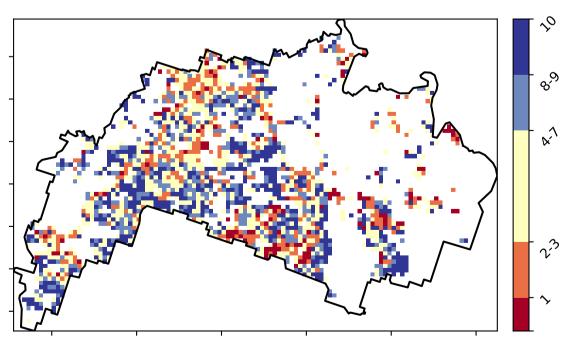
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]



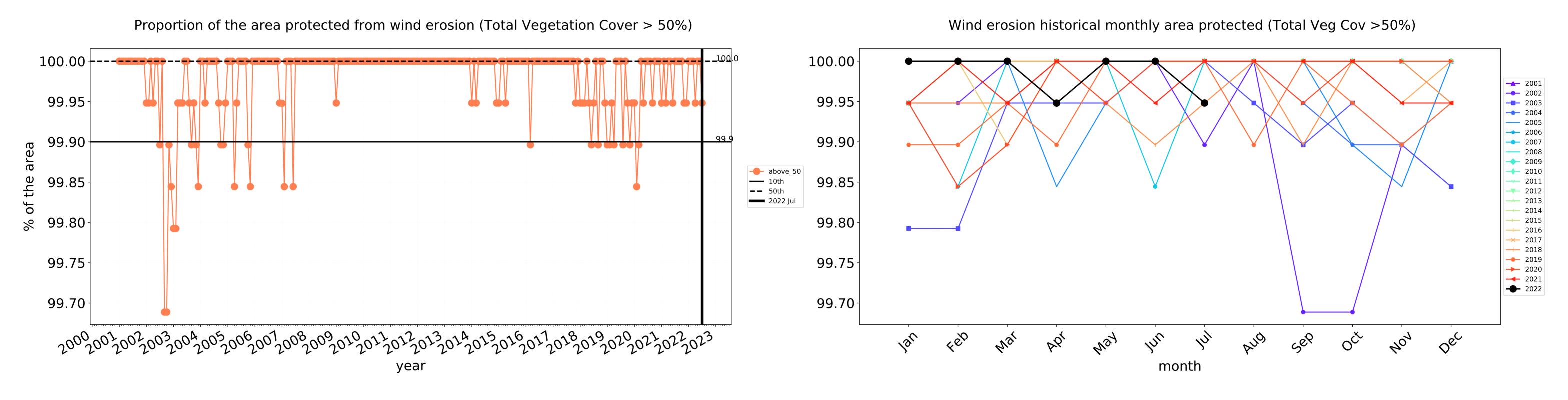


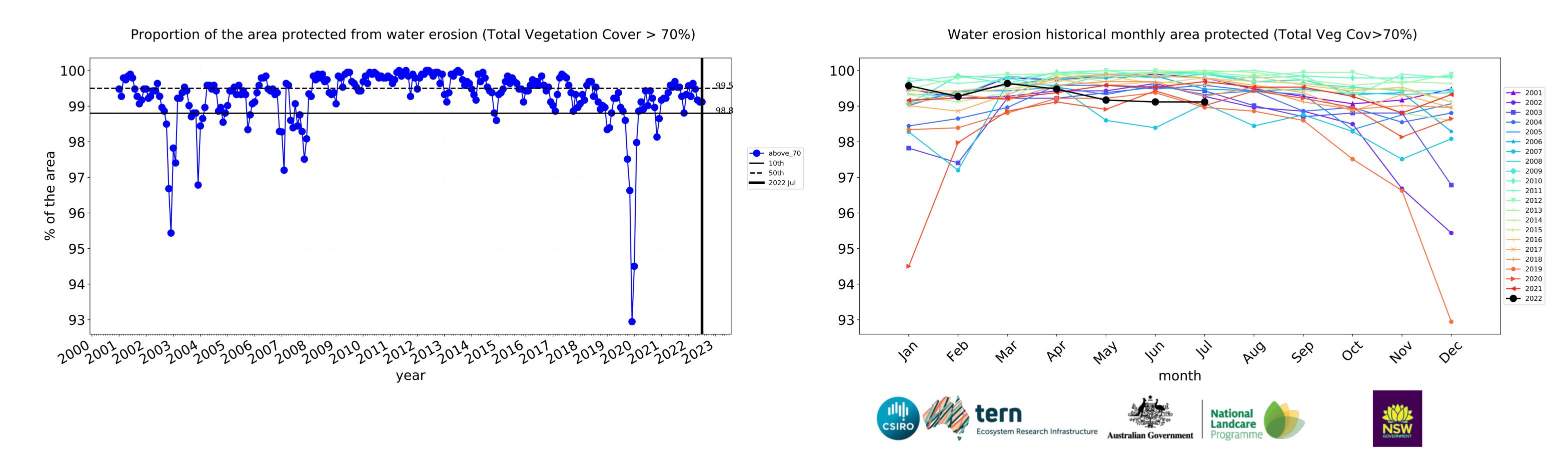


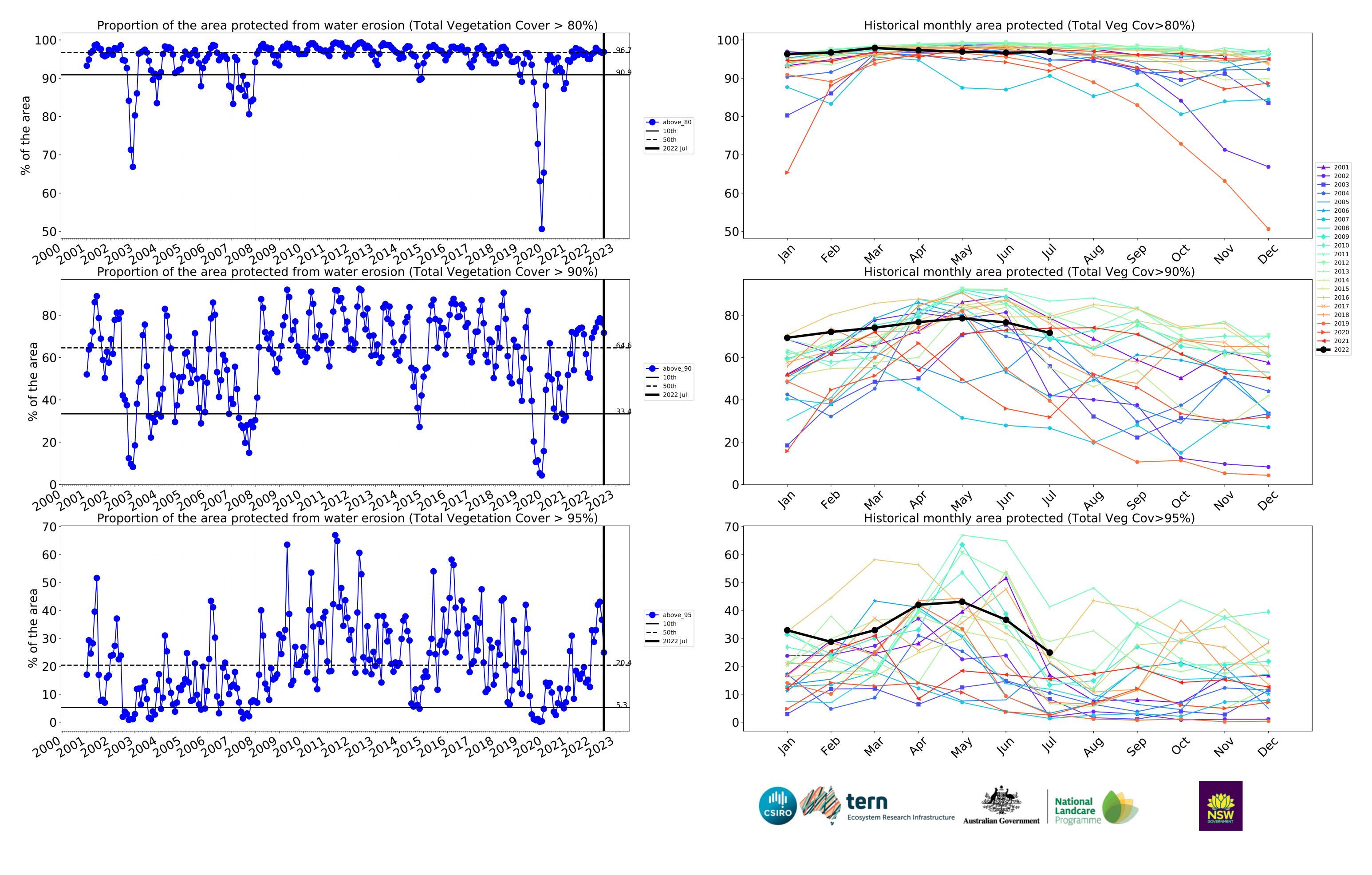




Grazing non forest timeseries





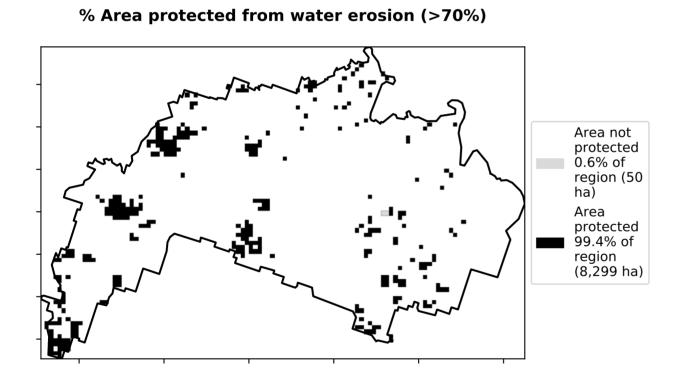


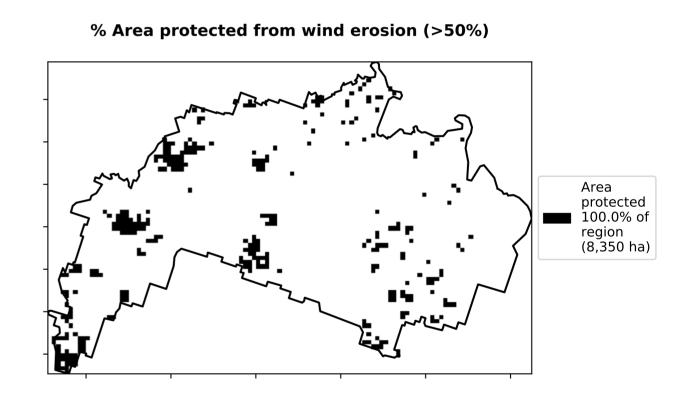
Grazing Woodland forest

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

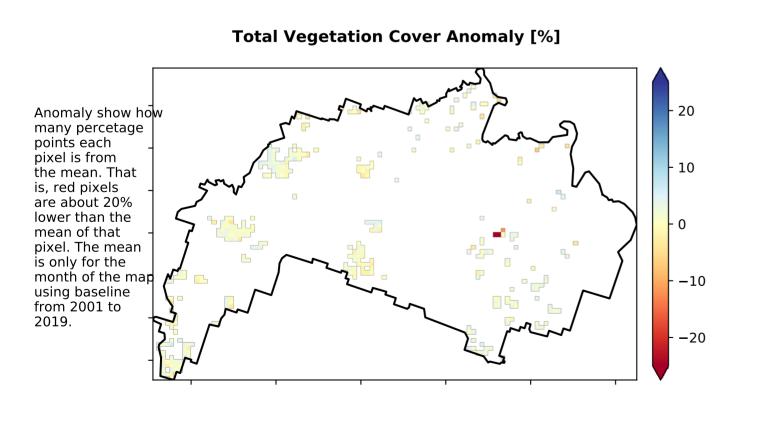
Total Vegetation Cover [%]

99.4% 100 80 Area (%) 40 20 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**

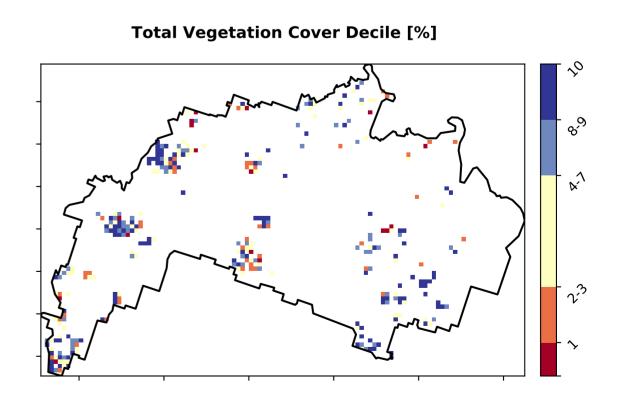




Proportion of vegetation cover class in area



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



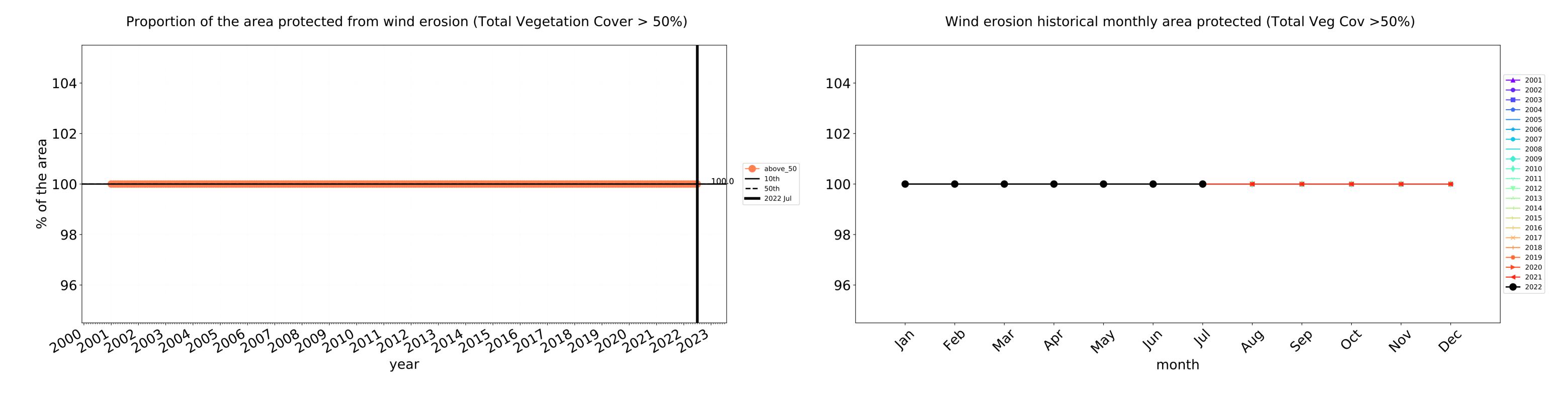


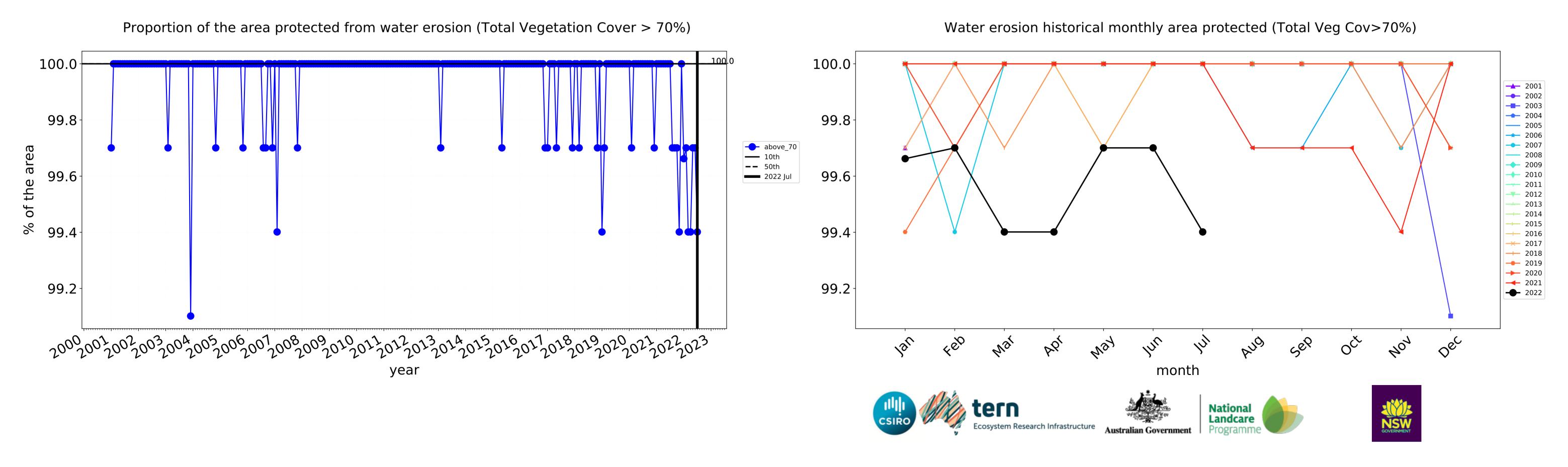


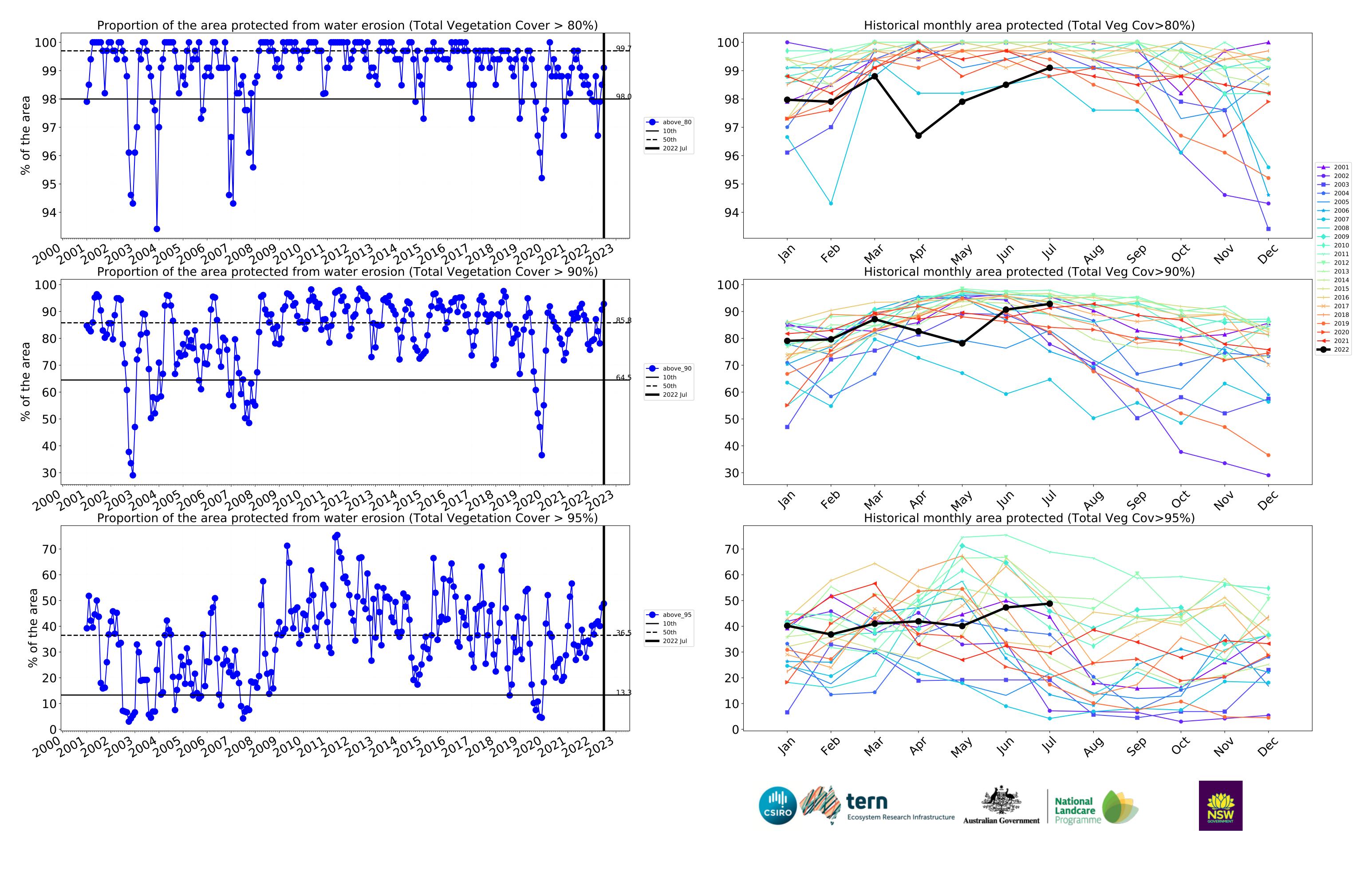




Grazing Woodland forest timeseries





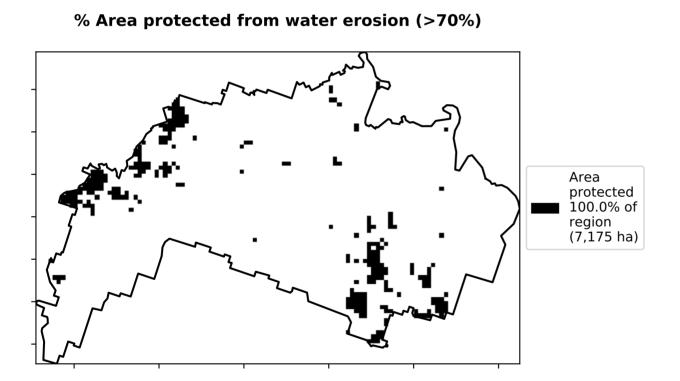


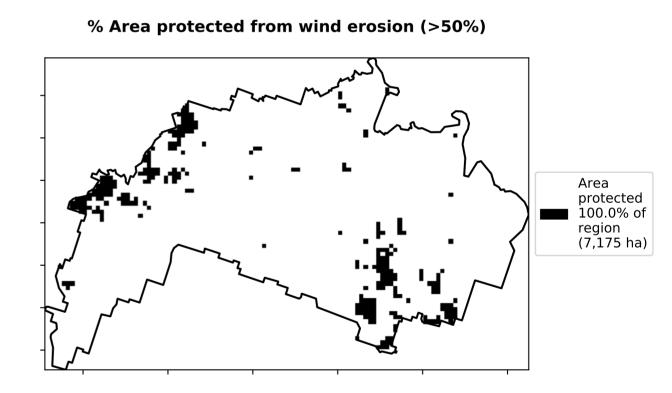
Grazing - Forest (non woodland)

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

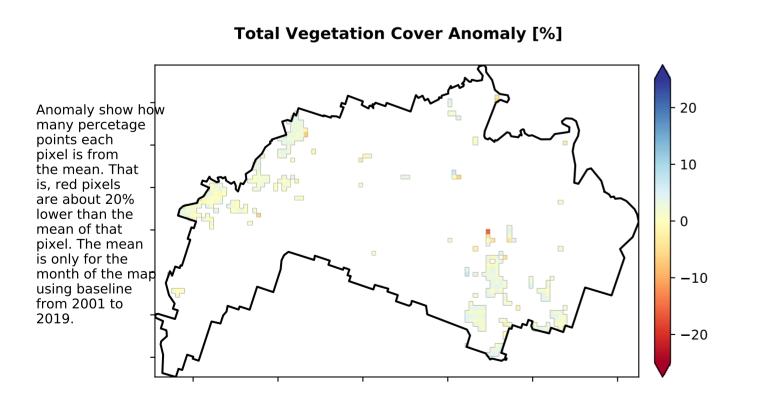
Total Vegetation Cover [%]

100.0% 100 80 Area (%) 60 40 20 0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**

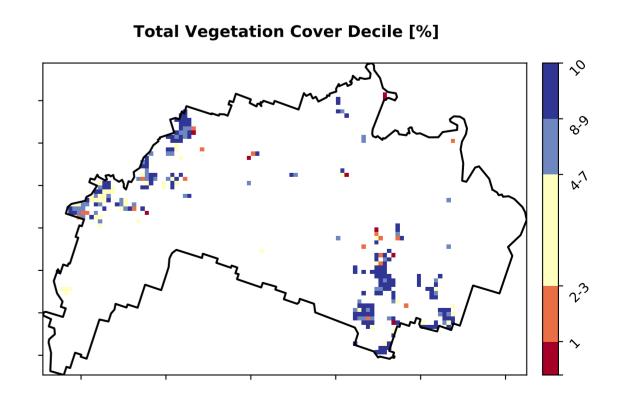




Proportion of vegetation cover class in area



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

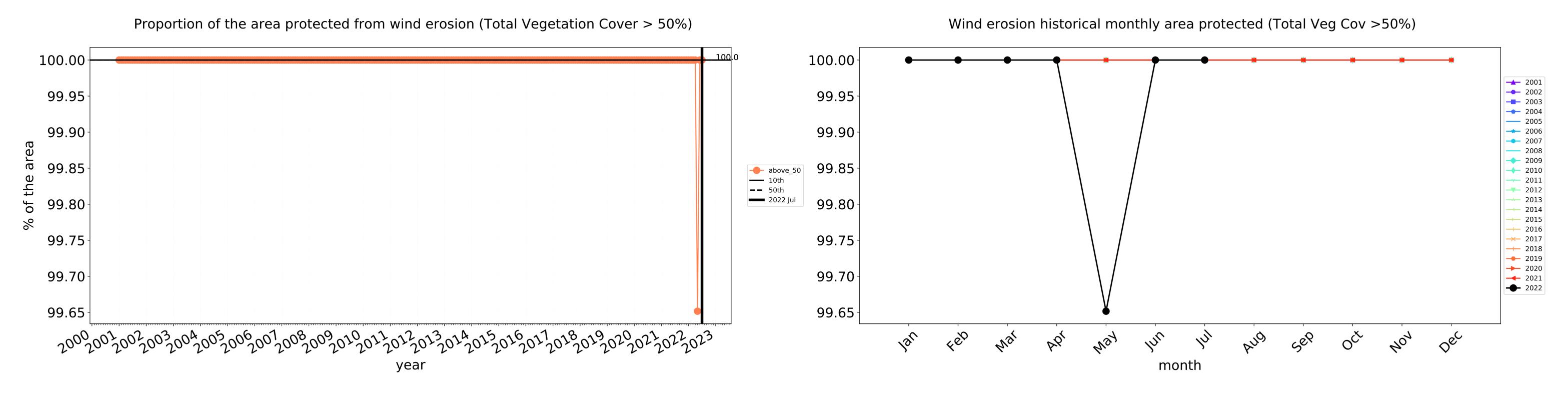


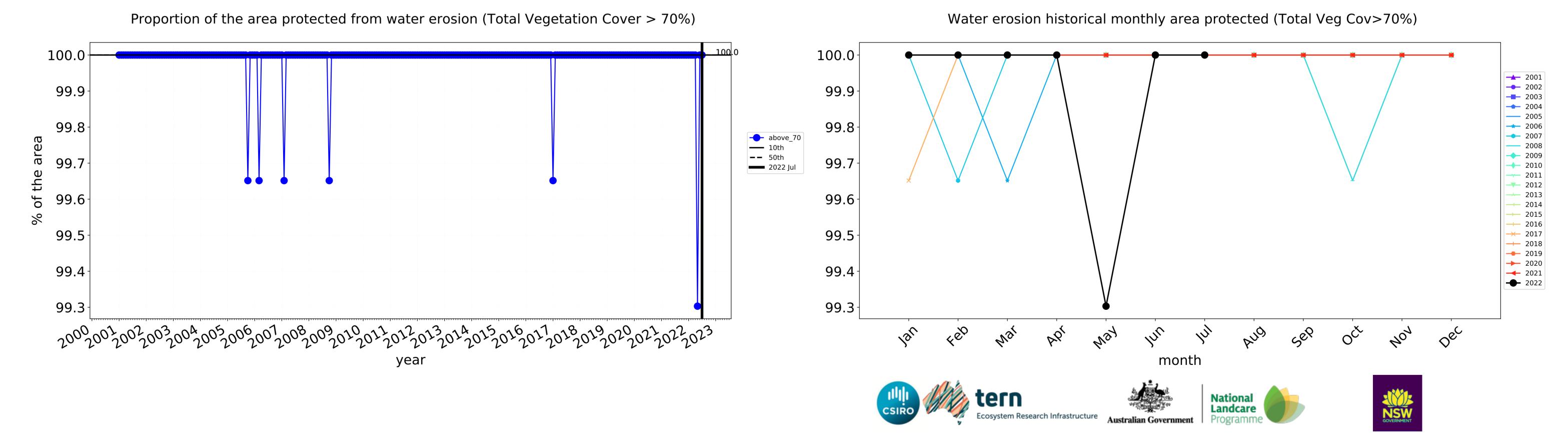


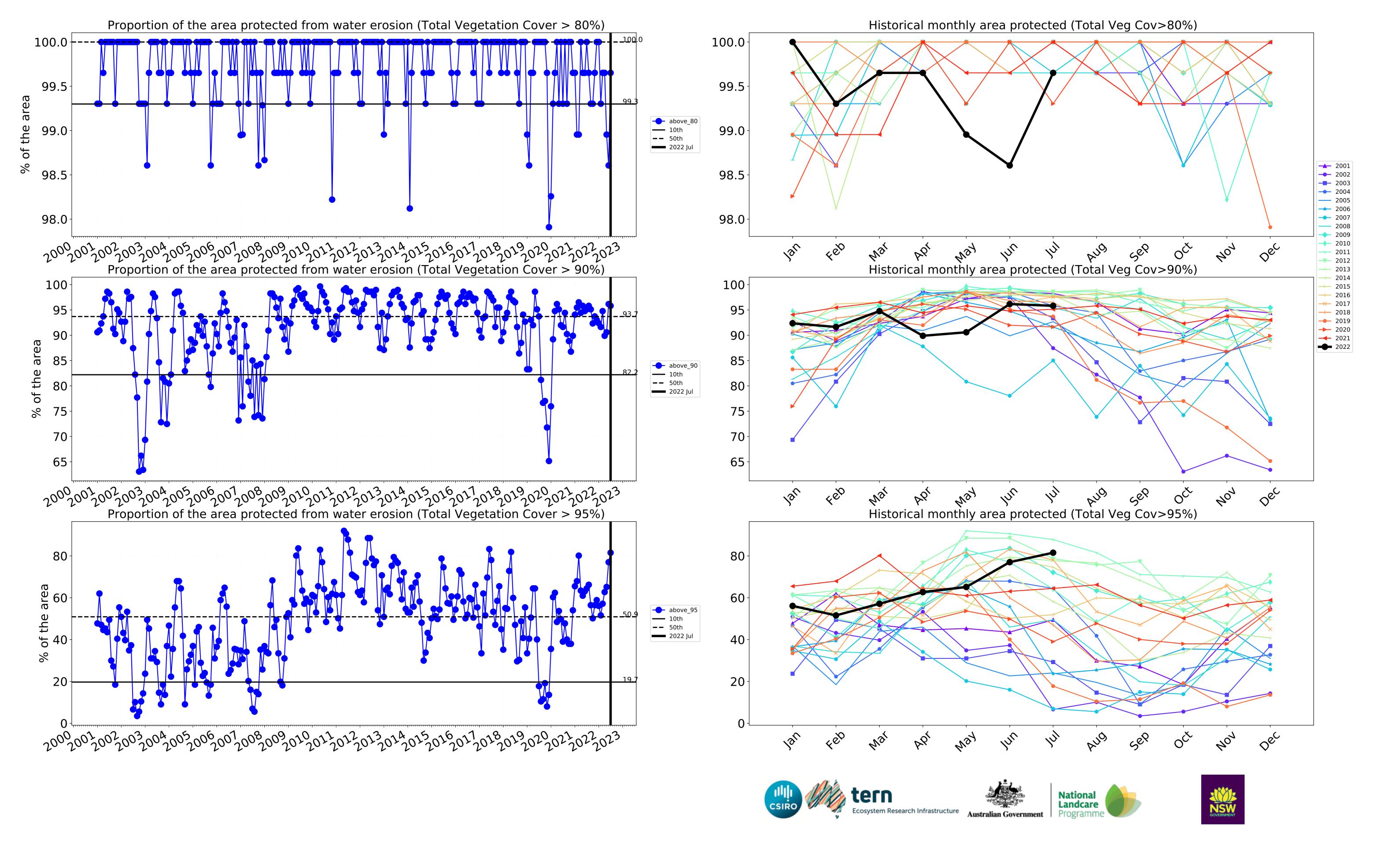




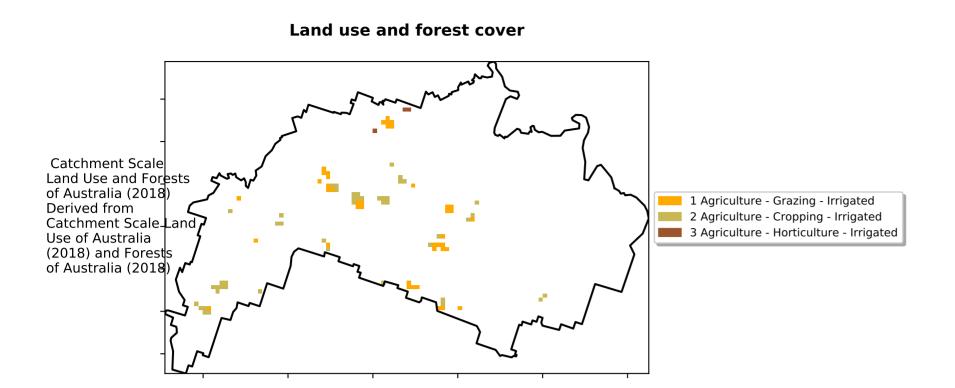






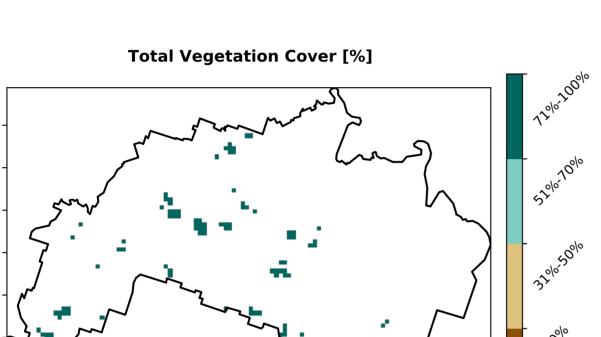


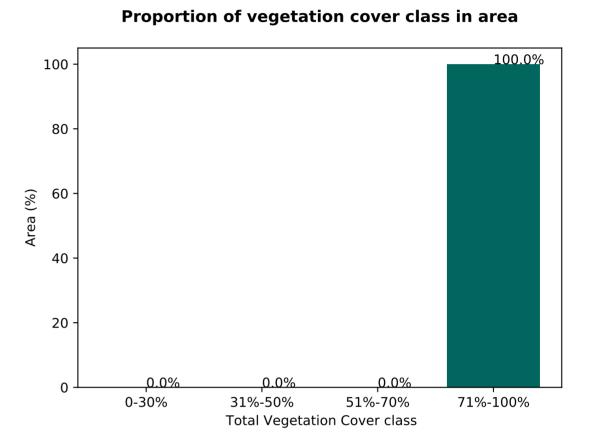
Irrigation

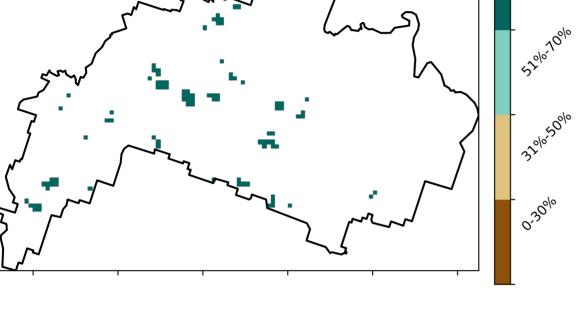


51.1% 50 45.7% 40 Area (%) 0 20 10 -0.5 0.5 1.0 1.5 2.0 0.0 2.5 Land use class

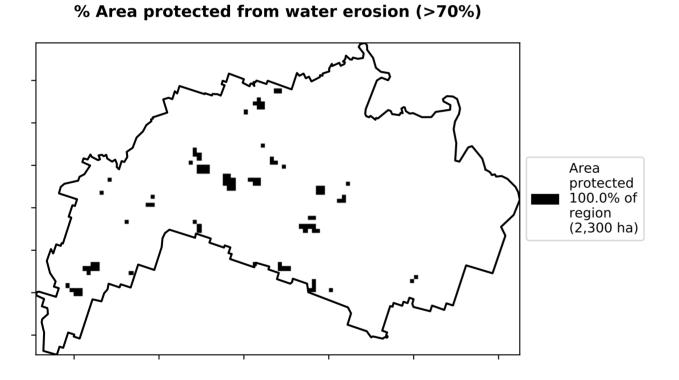
Proportion of each land class in area

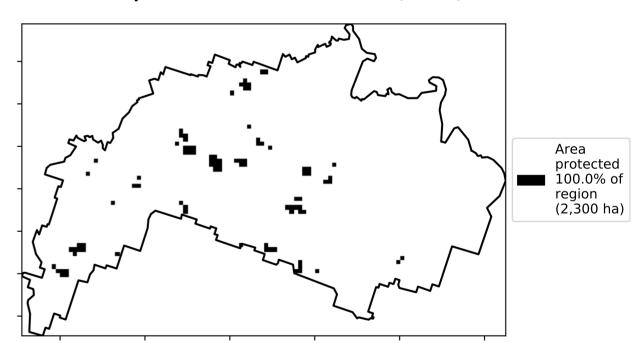


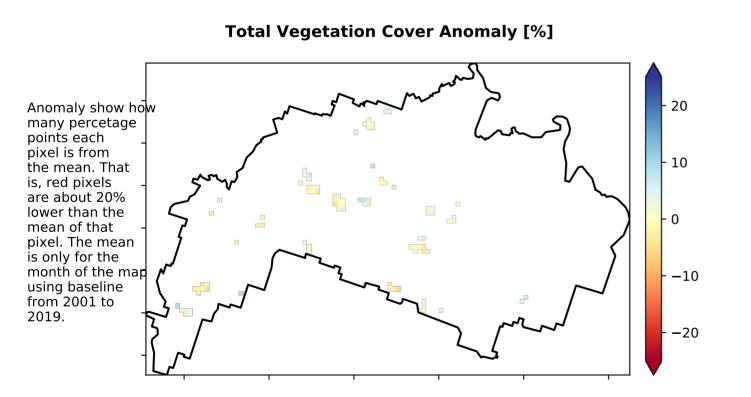




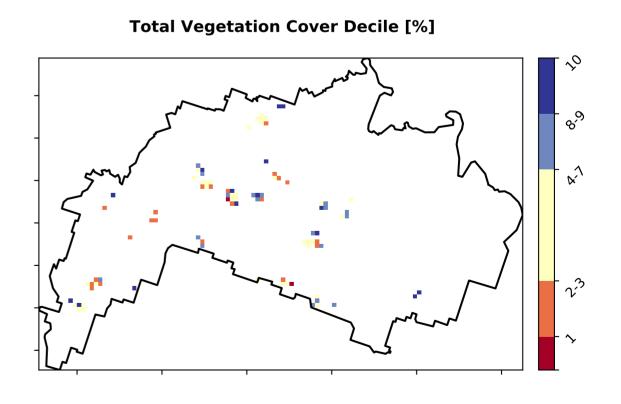
% Area protected from wind erosion (>50%)







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.



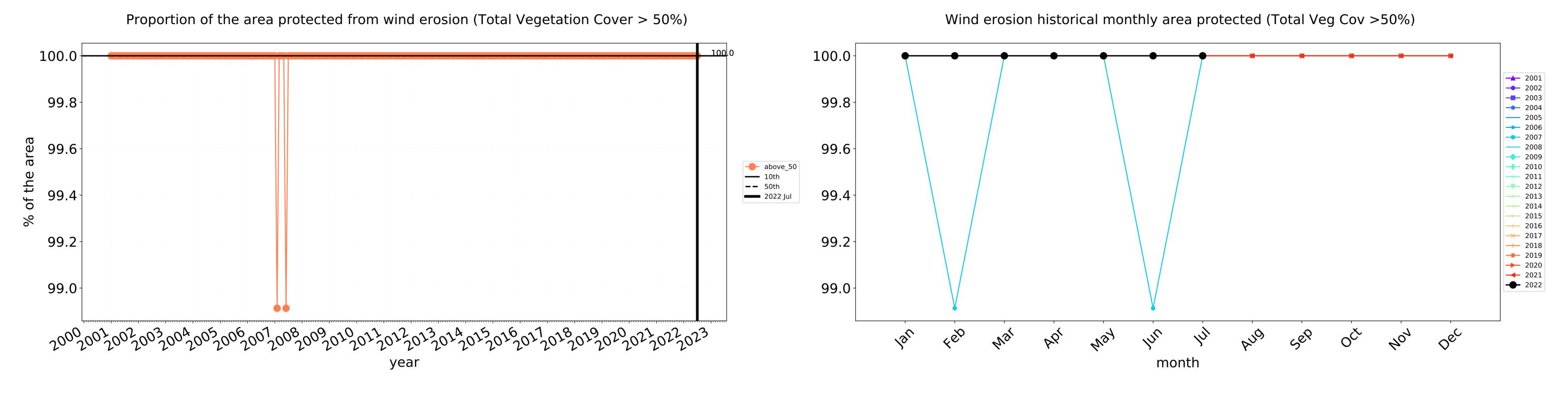


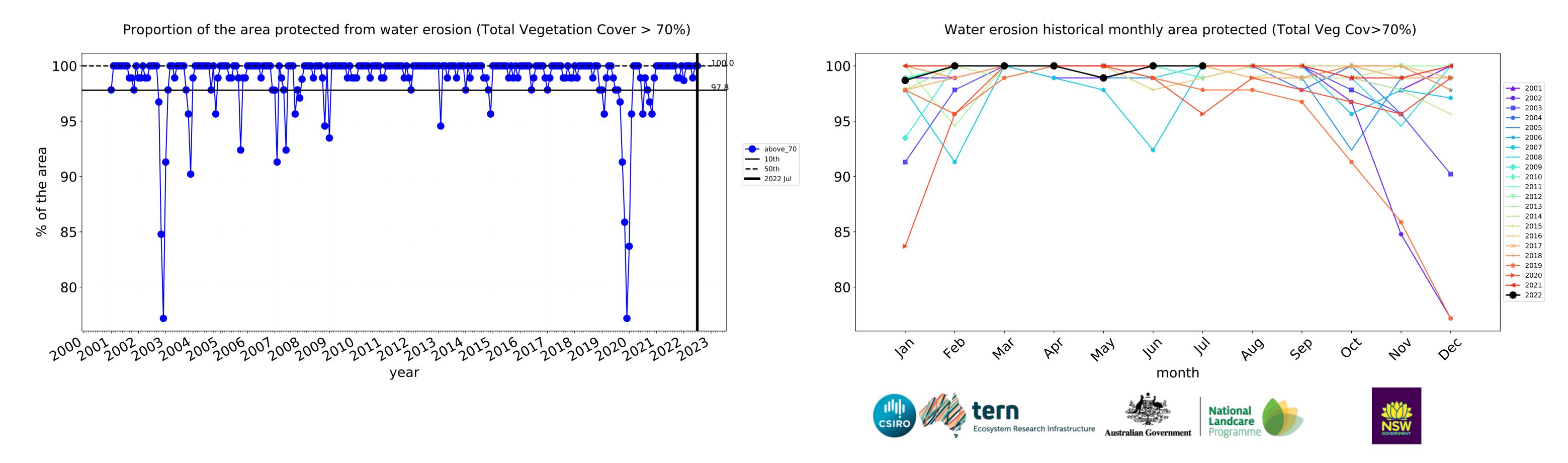


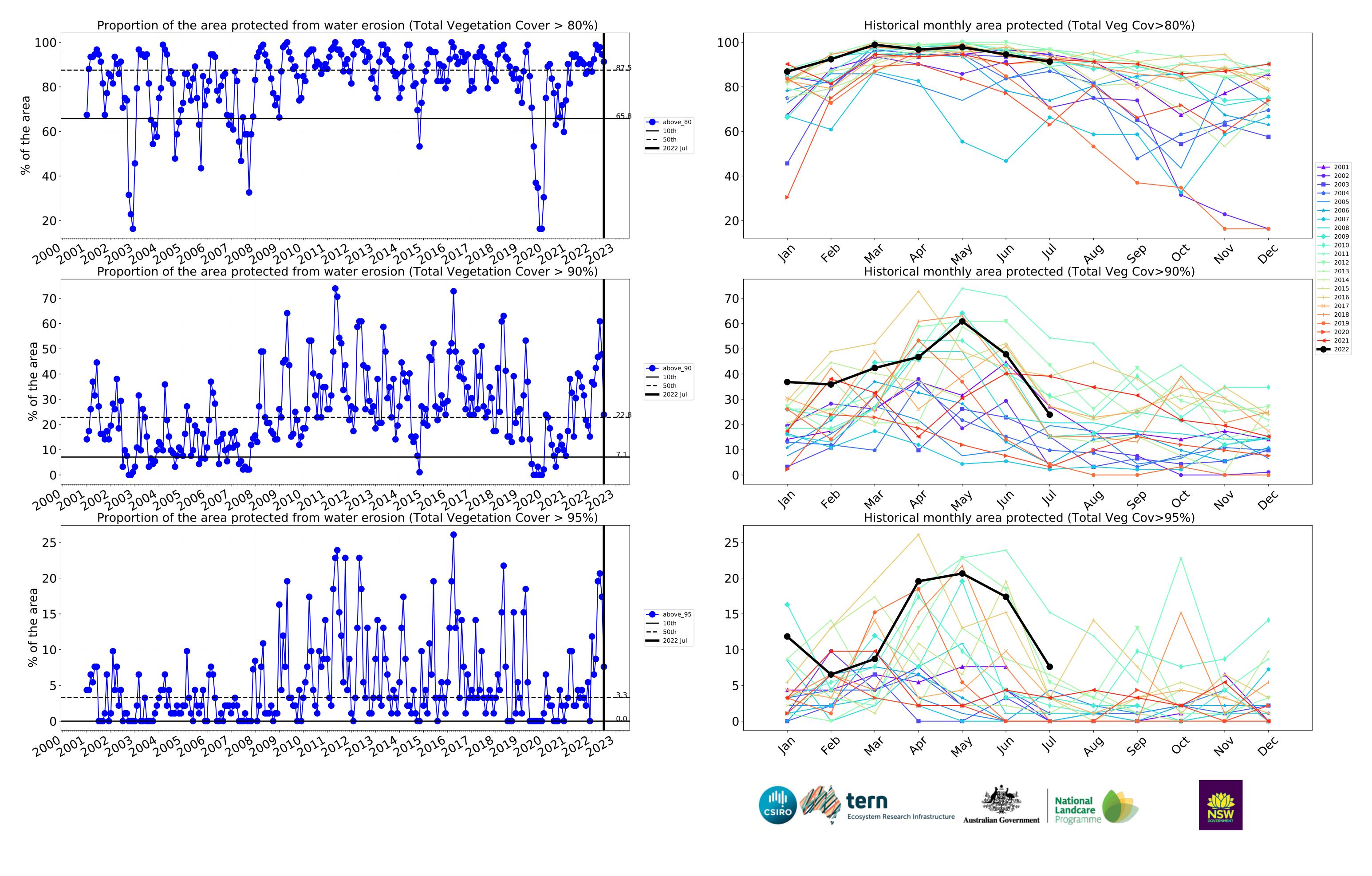




Irrigation timeseries







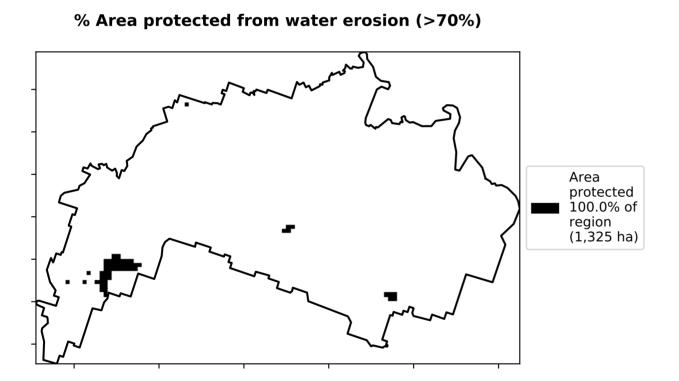
Production native forests and plantation forests

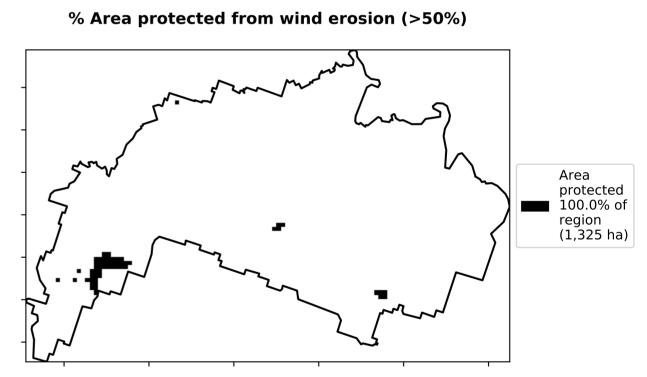
Land use and forest cover Catchment Scale Land Use and Forests of Australia (2018) Derived from 1 Production native forests and plantation forests Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)

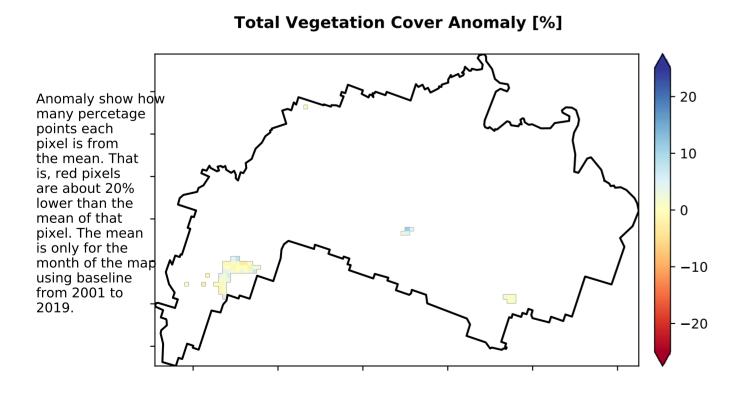
Total Vegetation Cover [%]

100.0% 100 80 Area (%) 40 20 0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**

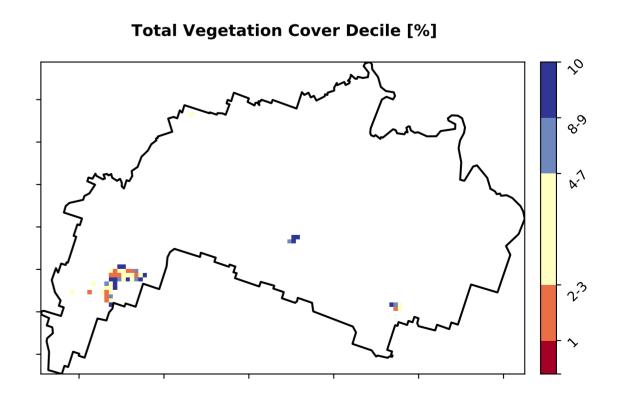
Proportion of vegetation cover class in area







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



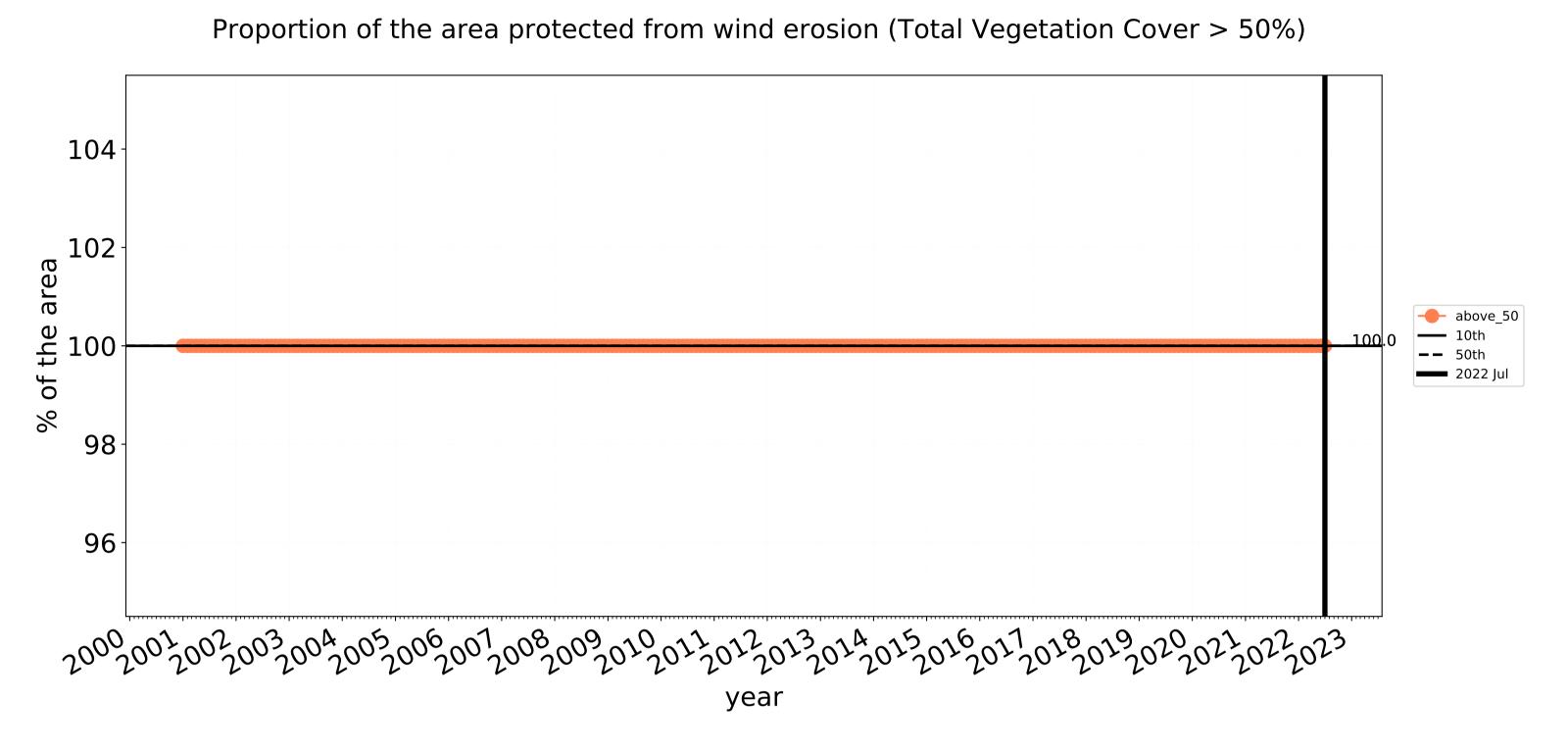




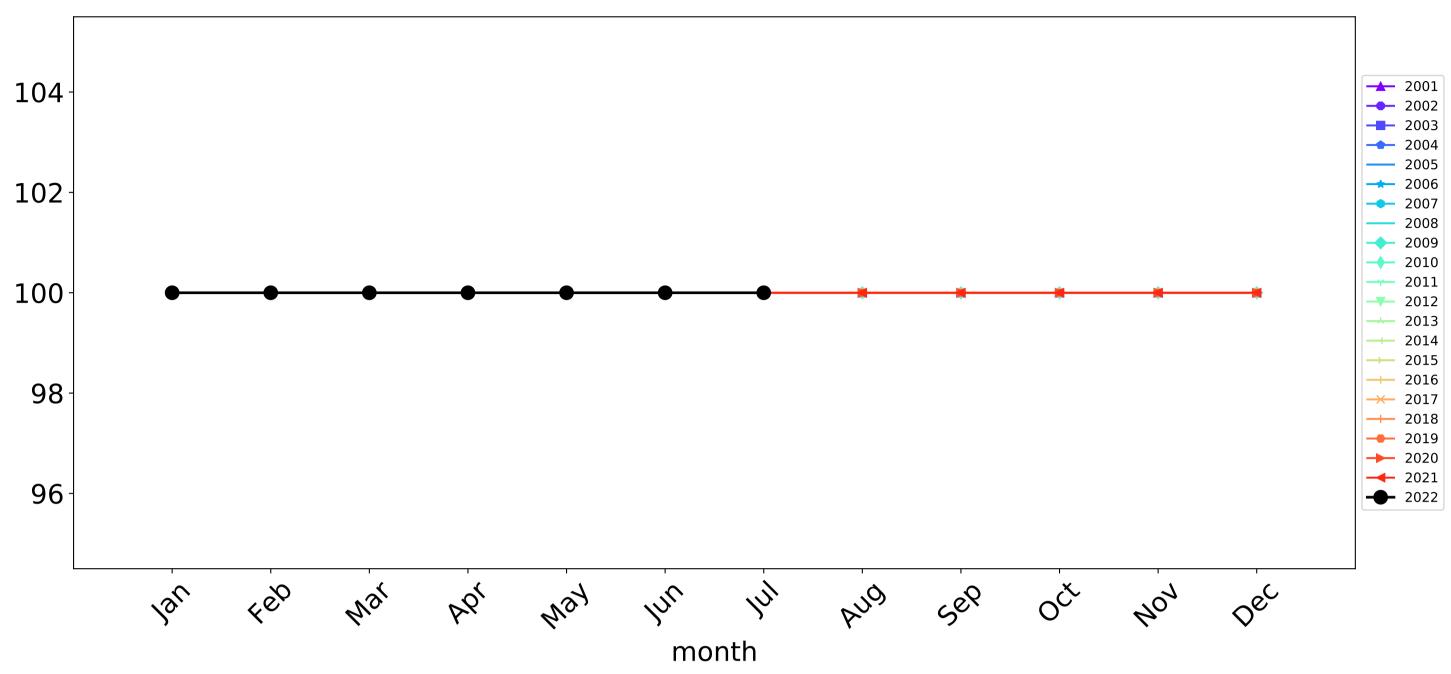


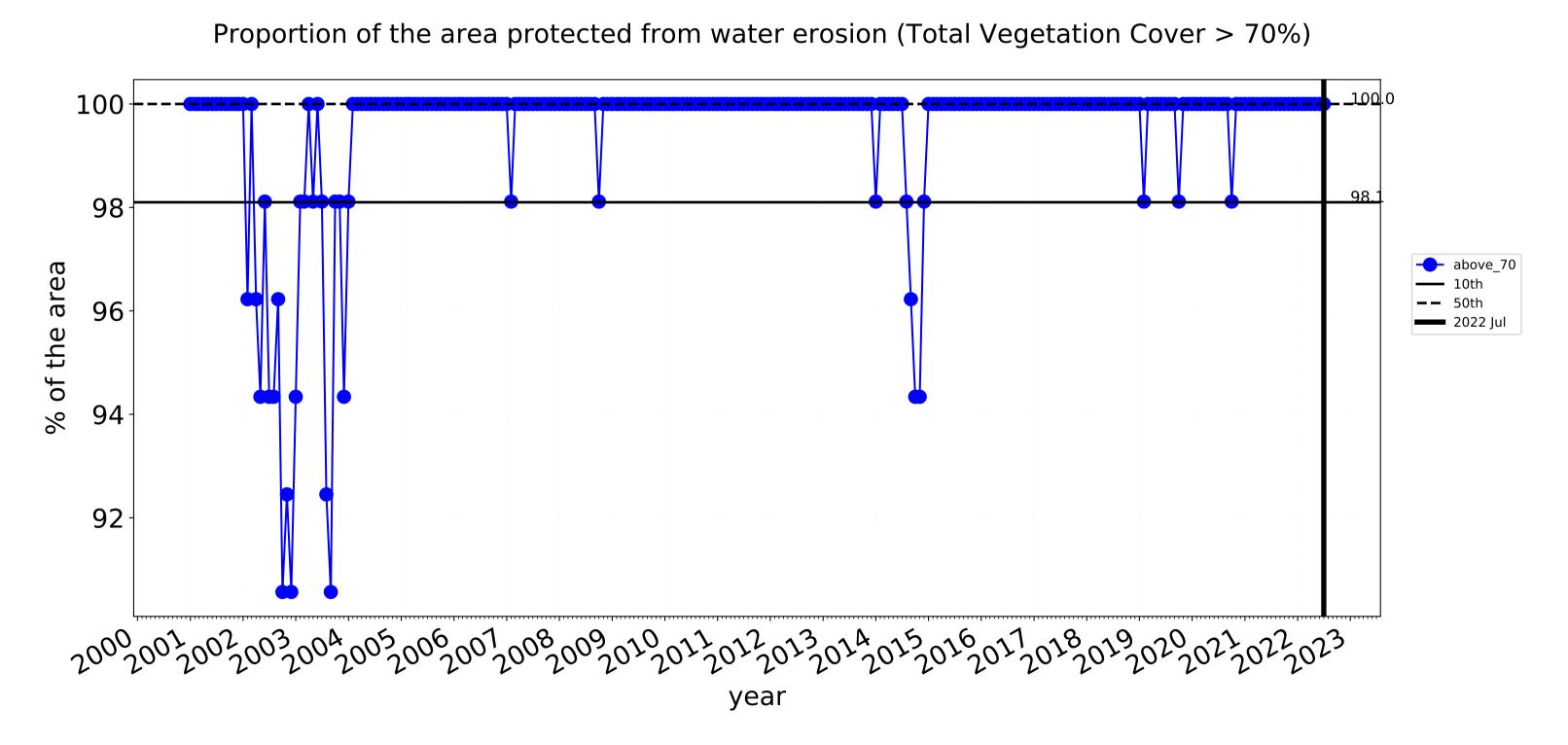


Production native forests and plantation forests timeseries

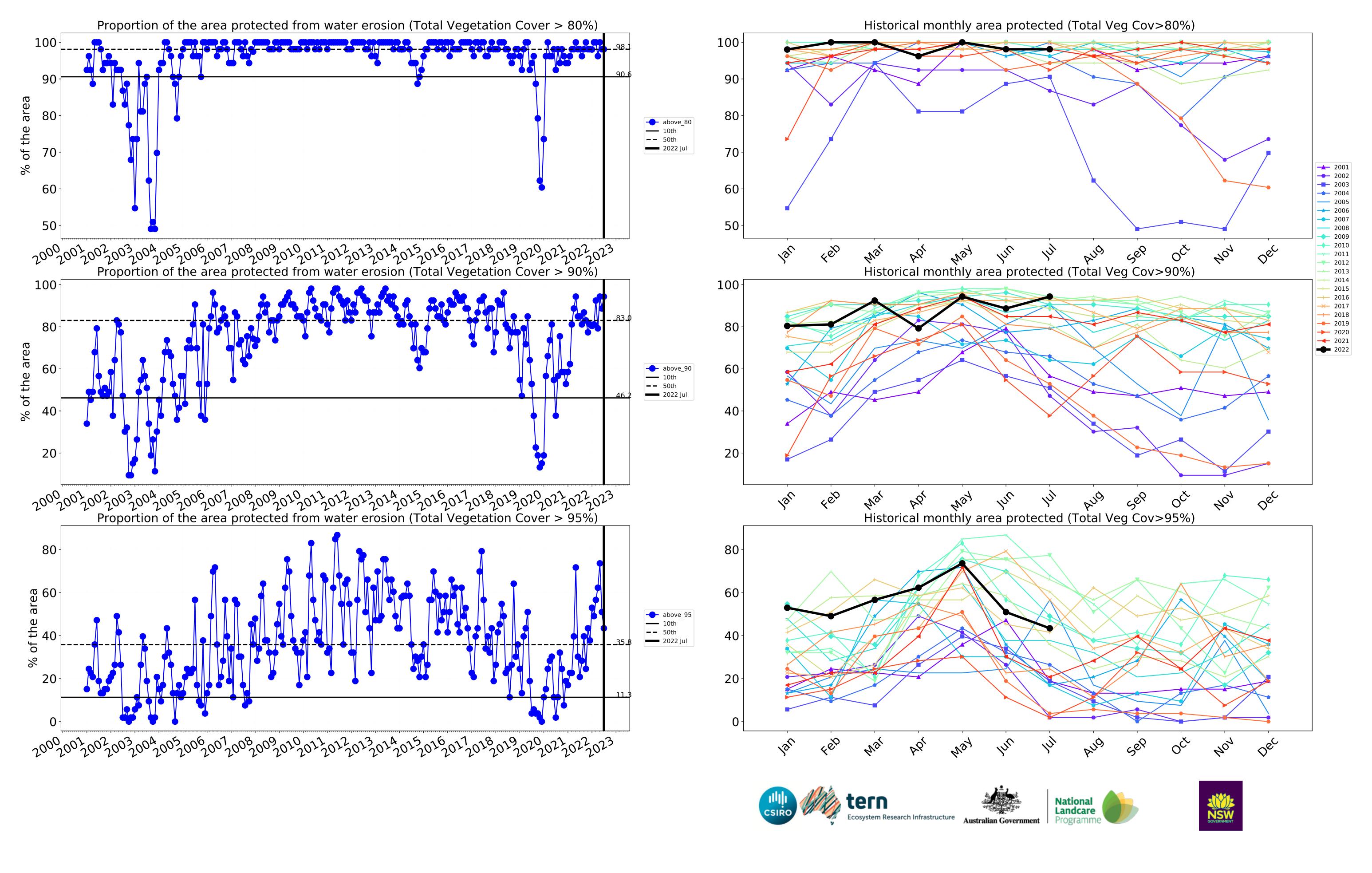








Water erosion historical monthly area protected (Total Veg Cov>70%) 100 ____ 2001 **---** 2002 2003 98-96 ~ 2011 2013 2014 94 **→** 2015 × 2017 2019 → 2020 **→** 2021 **---** 2022 month **National** Landcare



Ipswich_(C) (total 108,825 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	108,825	100.0% 108,825	99.9% 108,750	97.7% 106,350	89.1% 97,000	64.9% 70,625	29.9% 32,500
Conservation and natural environments	14,500	100.0% 14,500	100.0% 14,500	97.9% 14,200	91.7% 13,300	75.9% 11,000	51.2% 7,425
Conservation and natural environments non forest	3,250	100.0% 3,250	100.0% 3,250	93.1% 3,025	80.0% 2,600	45.4% 1,475	13.8% 450
Conservation and natural environments Woodland forest	3,075	100.0% 3,075	100.0% 3,075	100.0% 3,075	96.7% 2,975	83.7% 2,575	44.7% 1,375
Conservation and natural environments Forest (non woodland)	8,175	100.0% 8,175	100.0% 8,175	99.1% 8,100	94.5% 7,725	85.0% 6,950	68.5% 5,600
Agriculture	66,050	100.0% 66,050	100.0% 66,025	99.3% 65,575	97.3% 64,250	75.3% 49,725	33.5% 22,125
Grazing	63,725	100.0% 63,725	100.0% 63,700	99.3% 63,250	97.5% 62,125	77.2% 49,175	34.4% 21,950
Grazing non forest	48,200	100.0% 48,200	99.9% 48,175	99.1% 47,775	96.9% 46,700	71.7% 34,550	24.9% 12,025
Grazing Woodland forest	8,350	100.0% 8,350	100.0% 8,350	99.4% 8,300	99.1% 8,275	92.8% 7,750	48.8% 4,075
Grazing - Forest (non woodland)	7,175	100.0% 7,175	100.0% 7,175	100.0% 7,175	99.7% 7,150	95.8% 6,875	81.5% 5,850
Irrigation	2,300	100.0% 2,300	100.0% 2,300	100.0% 2,300	91.3% 2,100	23.9% 550	7.6% 175
Production native forests and plantation forests	1,325	100.0% 1,325	100.0% 1,325	100.0% 1,325	98.1% 1,300	94.3% 1,250	43.4% 575







