Total vegetation cover soil protection Region:NRM Hunter NSW

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: December 2002

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





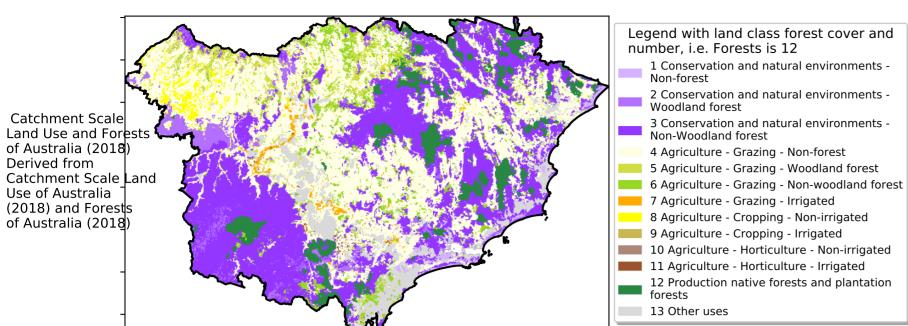




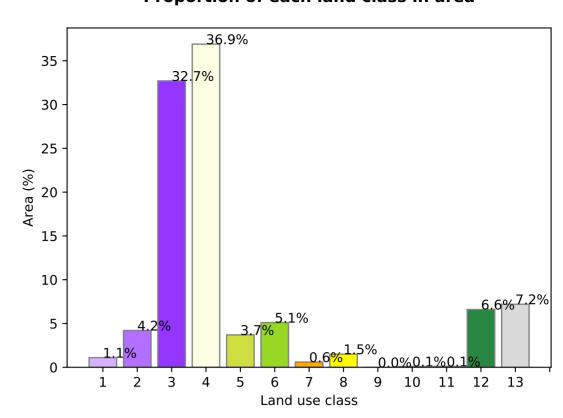


Vegetation Cover Dec 2002

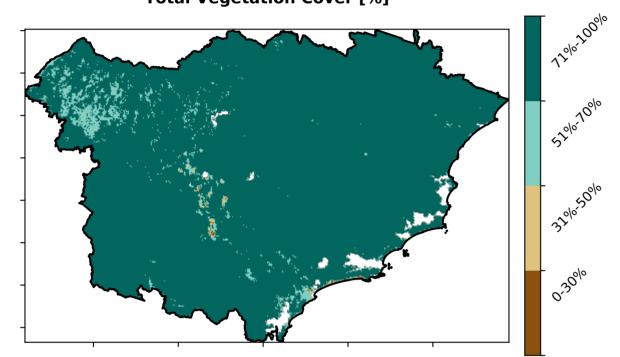
Land use and forest cover



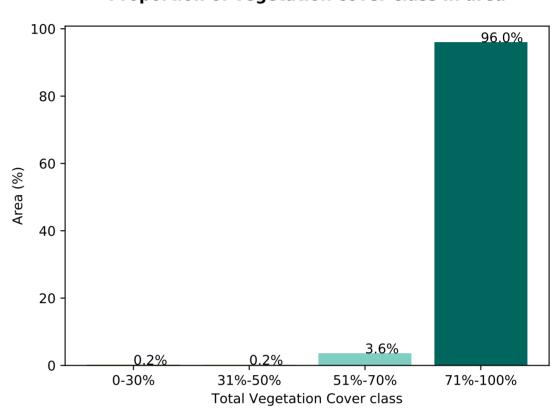
Proportion of each land class in area



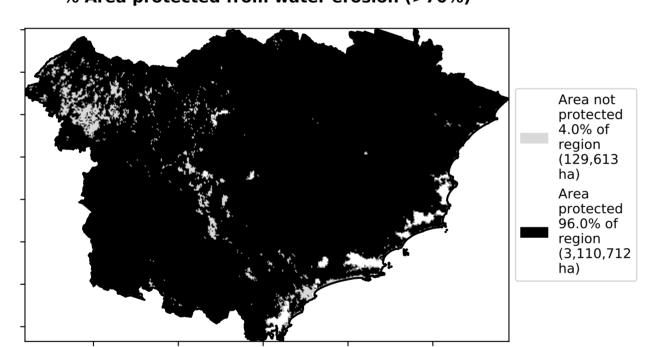
Total Vegetation Cover [%]



Proportion of vegetation cover class in area



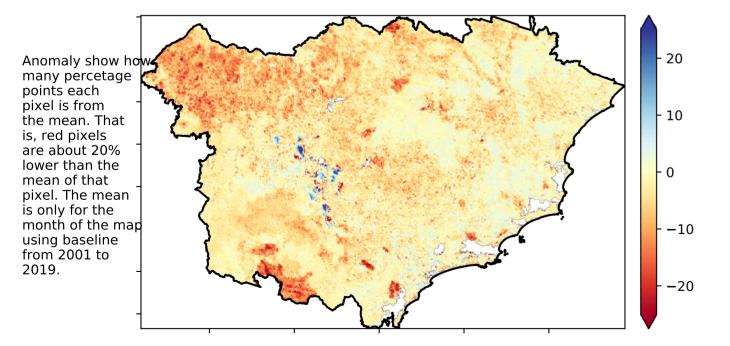
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

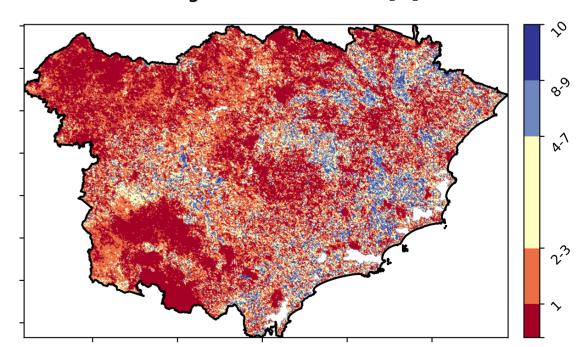


Total Vegetation Cover Anomaly [%]



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 [%]





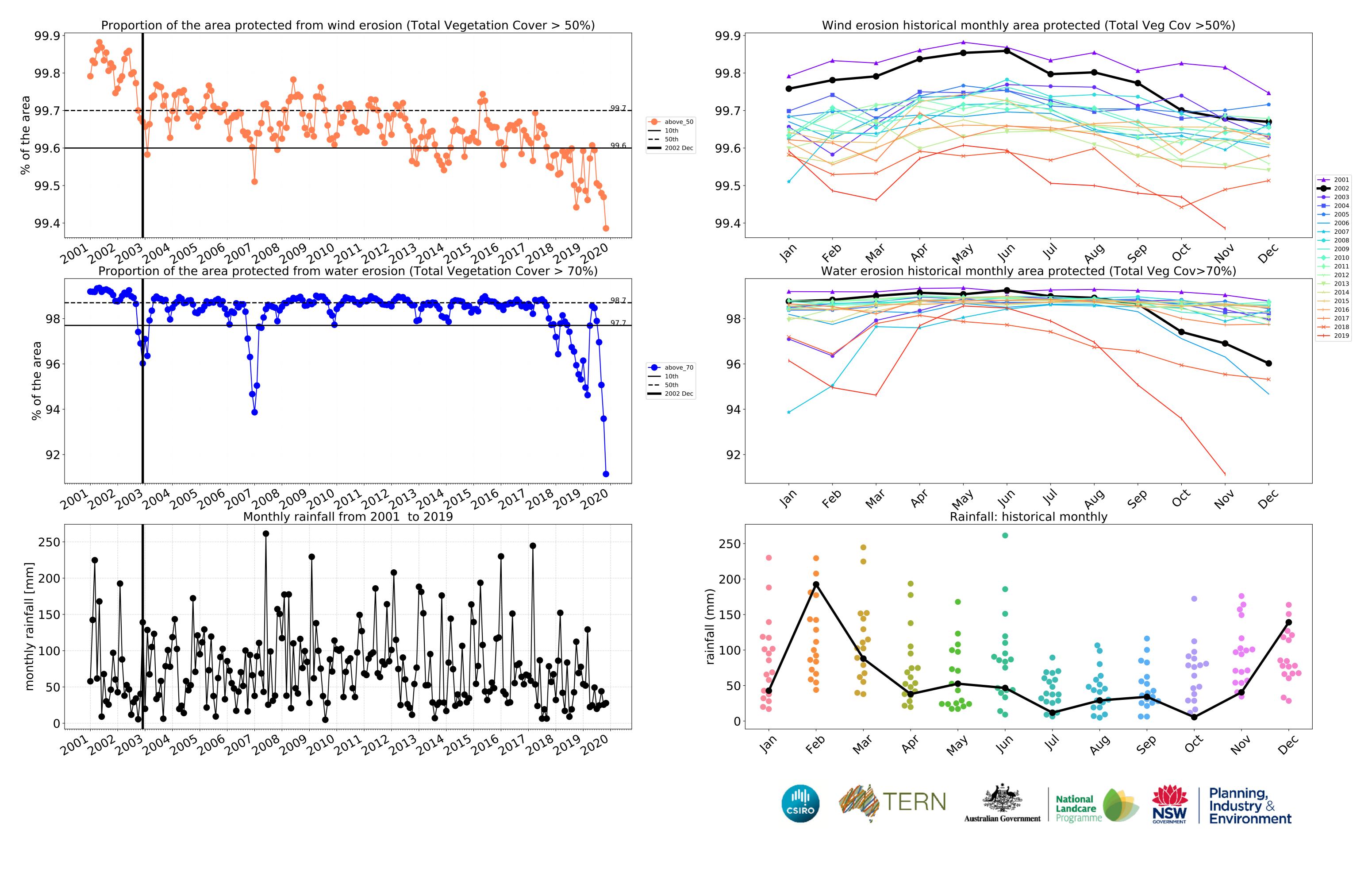


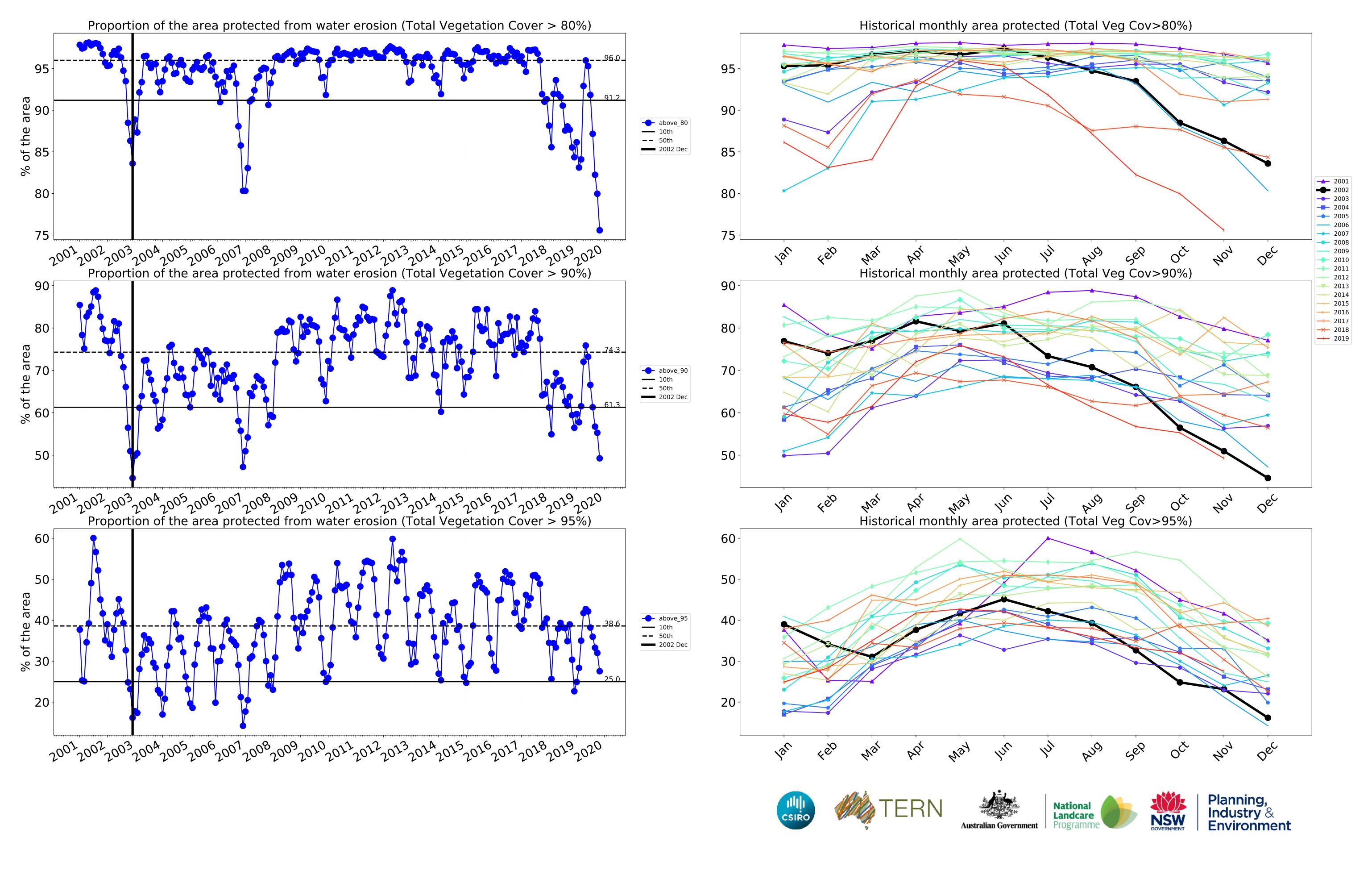




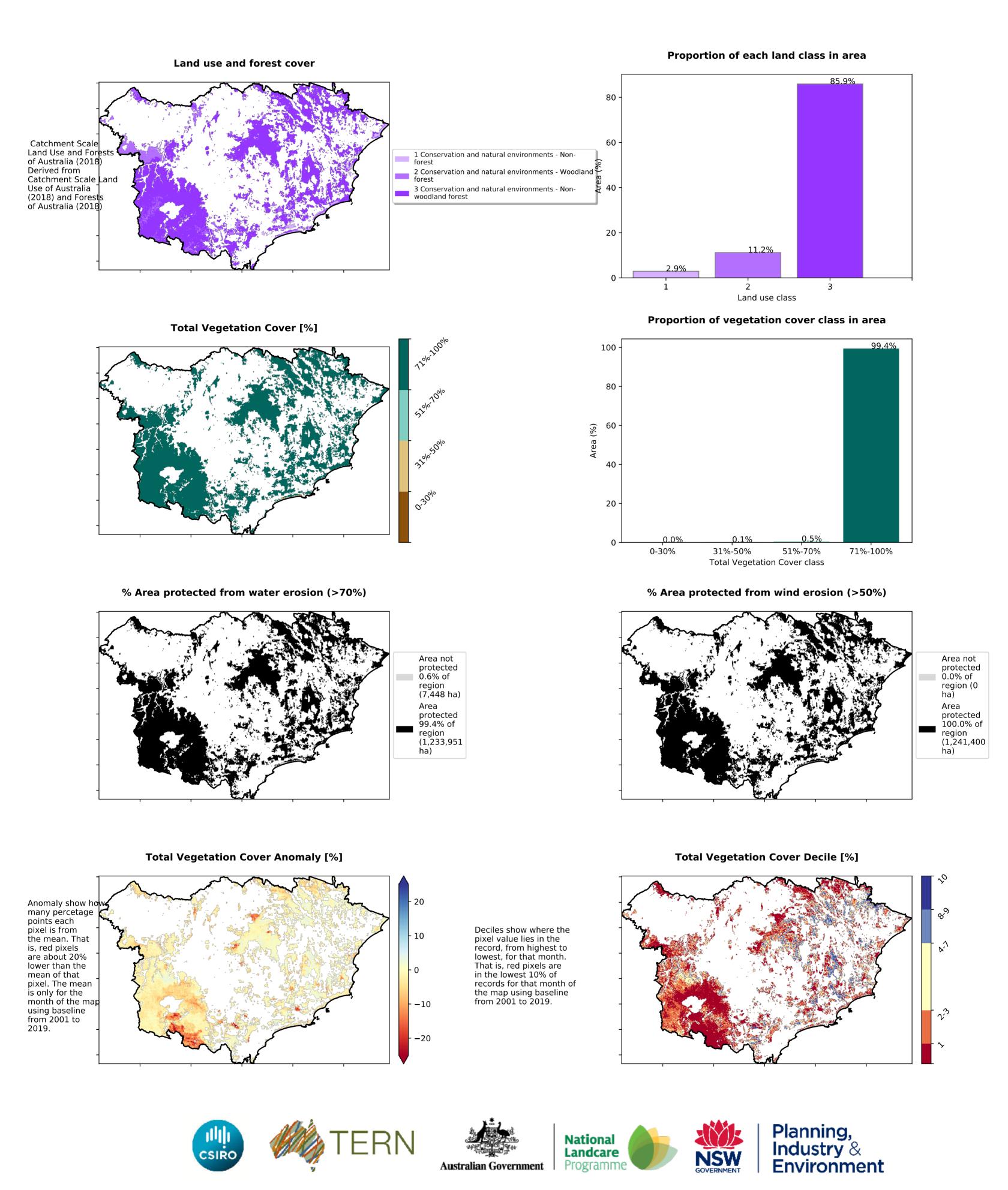




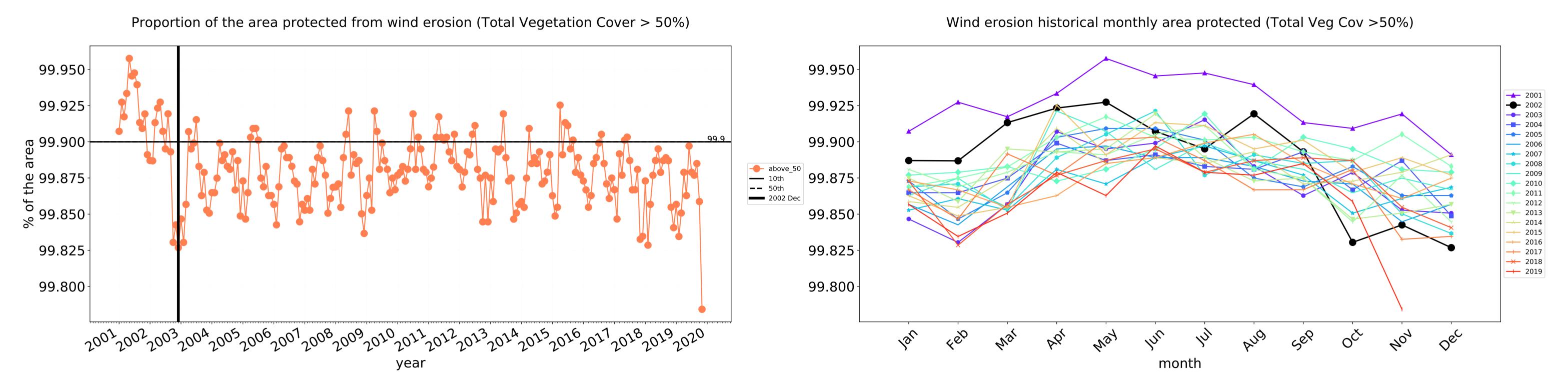


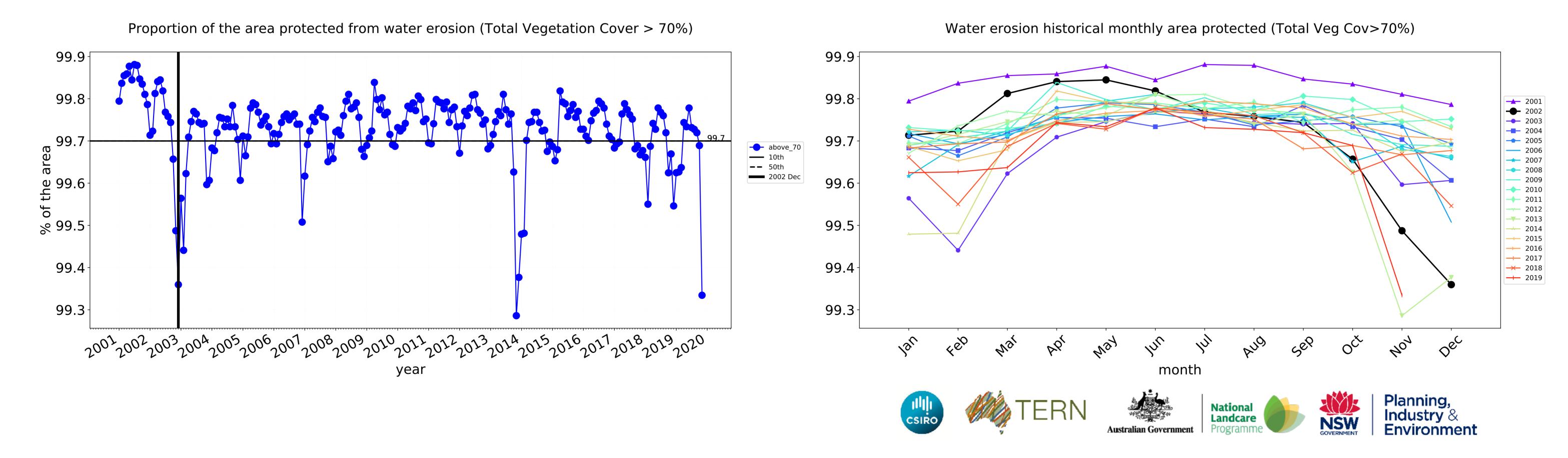


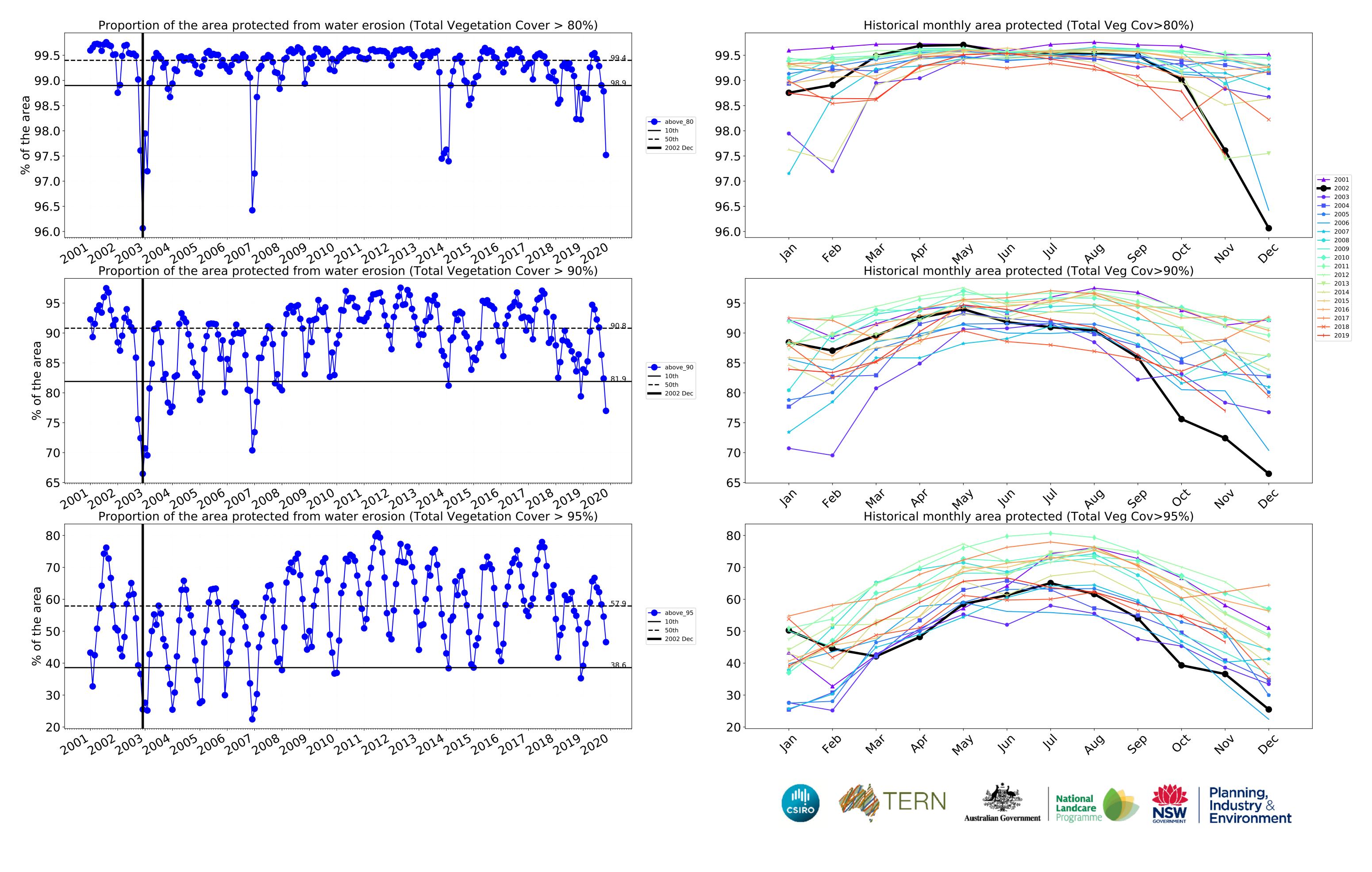
Conservation and natural environments



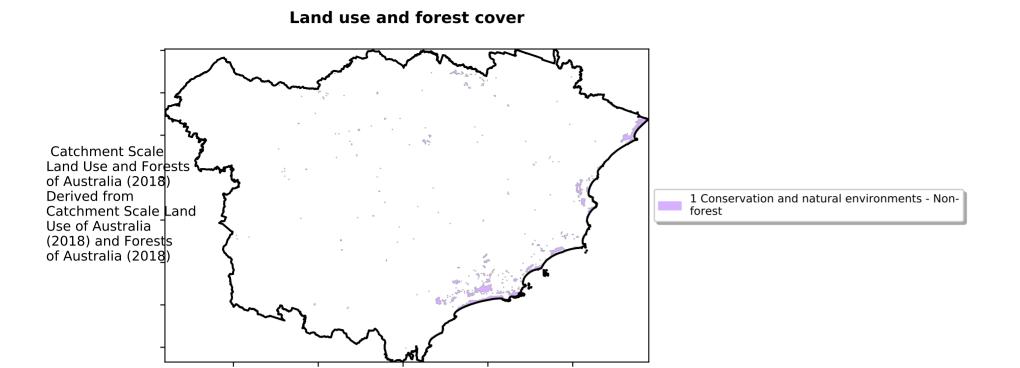
Conservation and natural environments timeseries



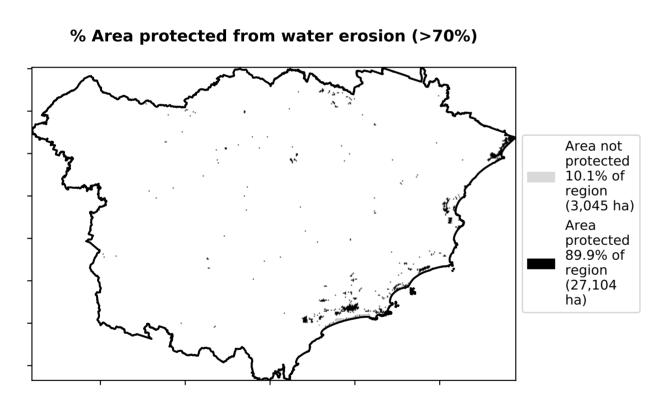


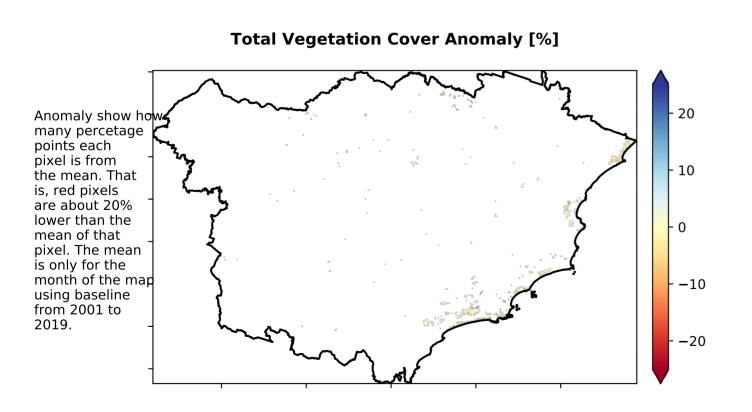


Conservation and natural environments non forest



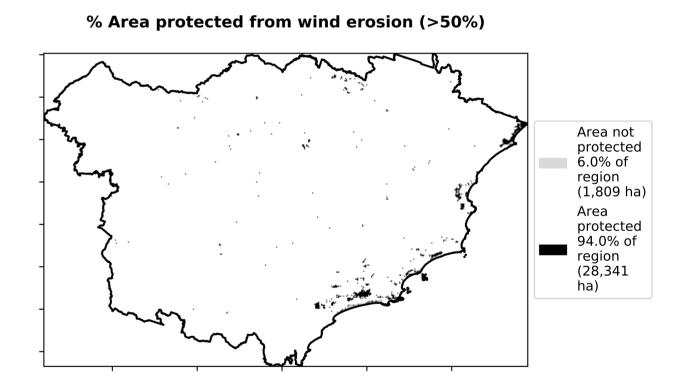
Total Vegetation Cover [%] Tipological and the state of the state of

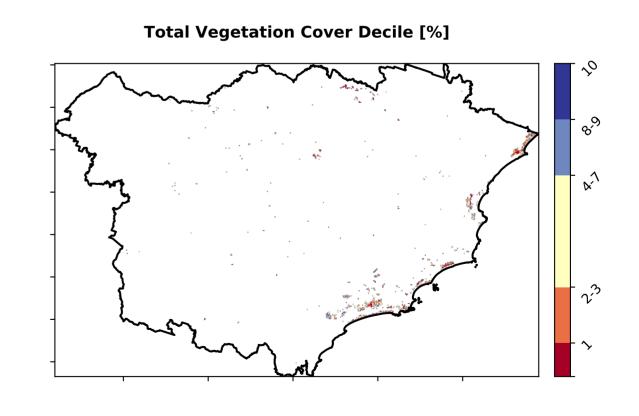




Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

89.9% 80 60 60 20 0-30% 31%-50% 51%-70% Total Vegetation Cover class in area









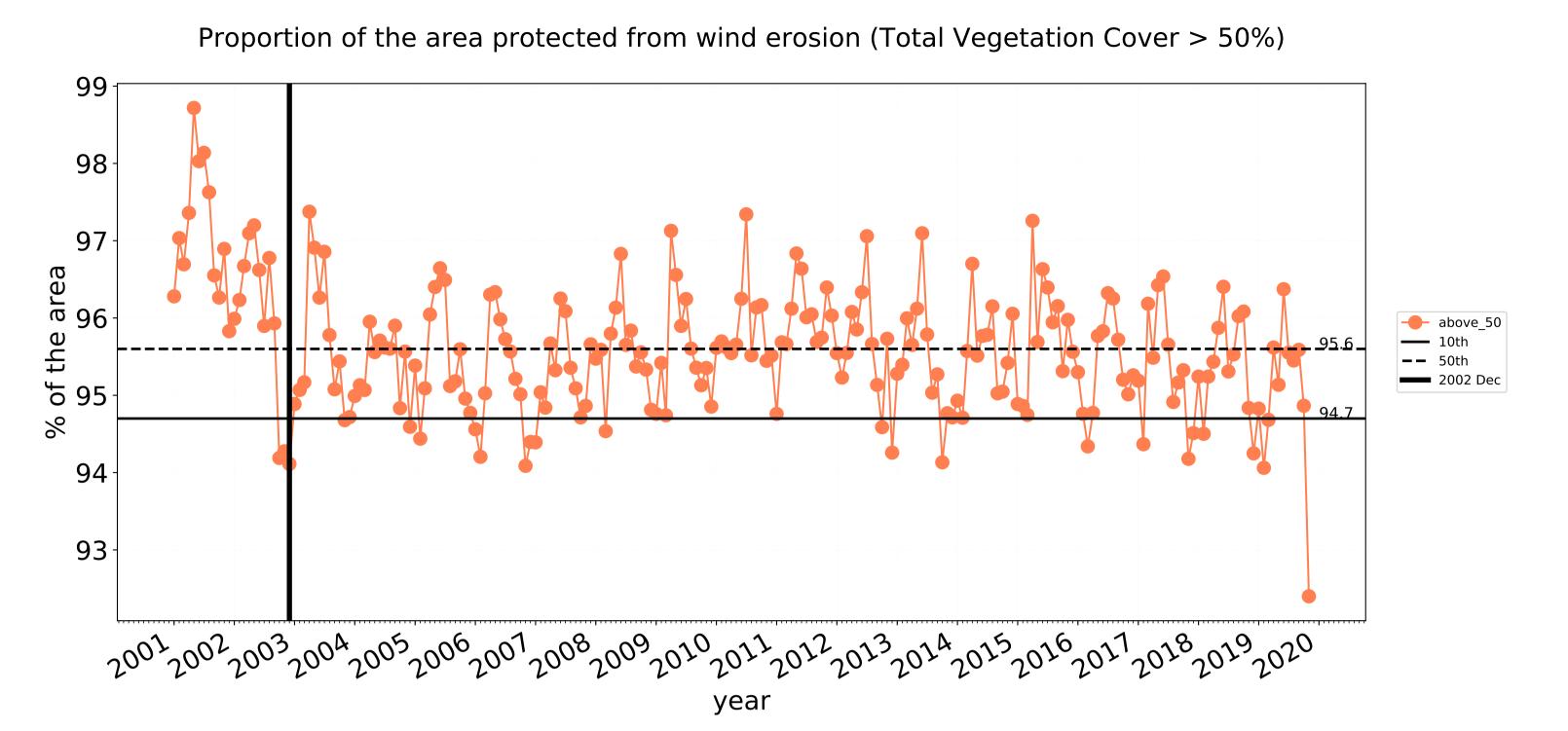


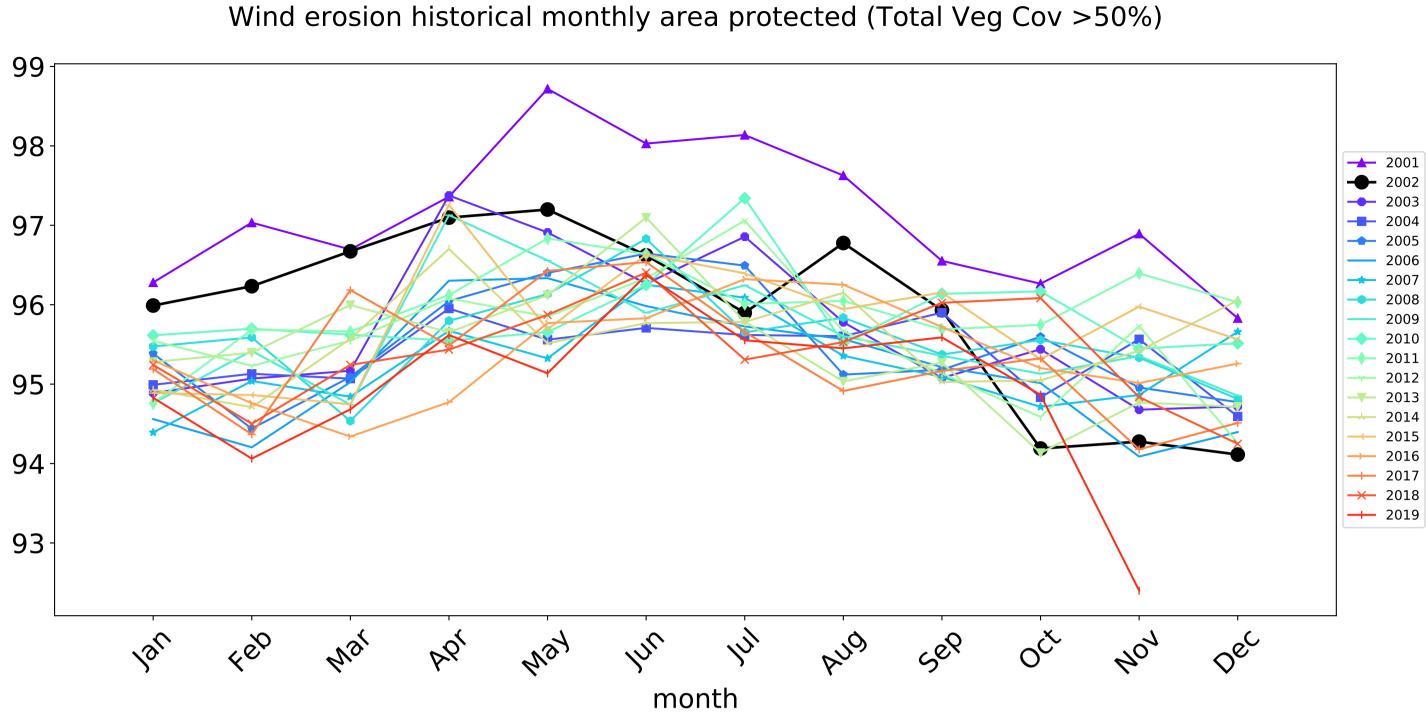


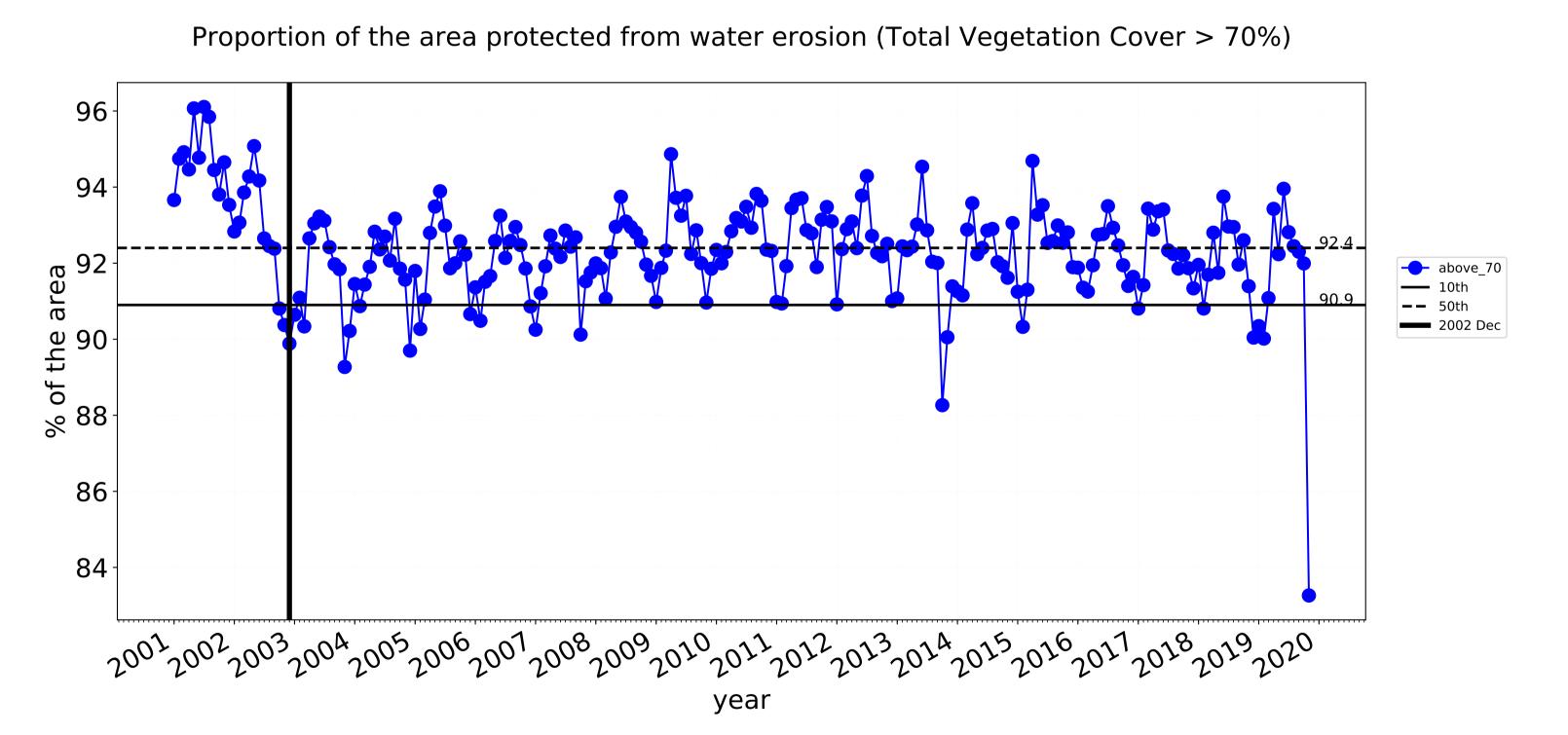


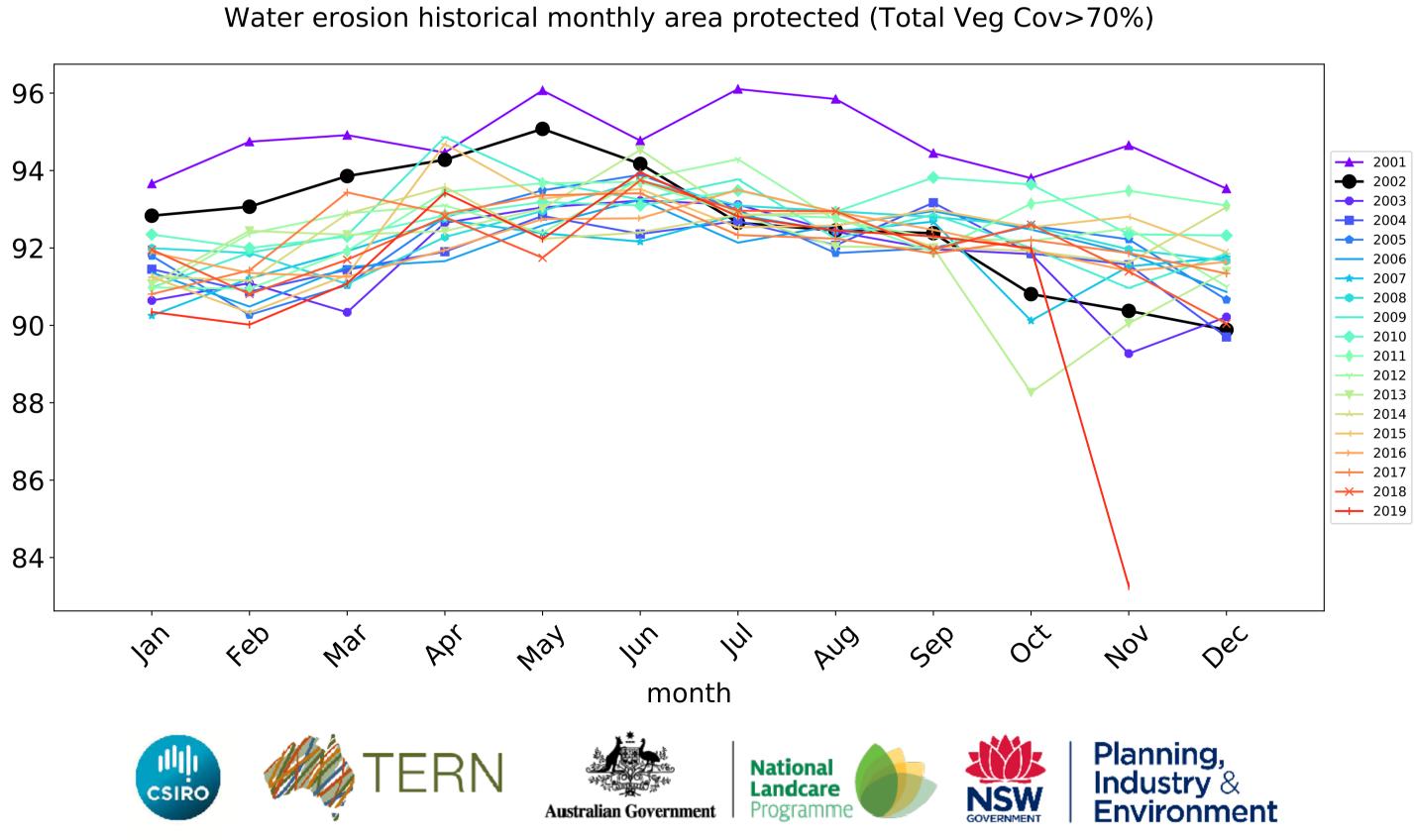


Conservation and natural environments non forest timeseries

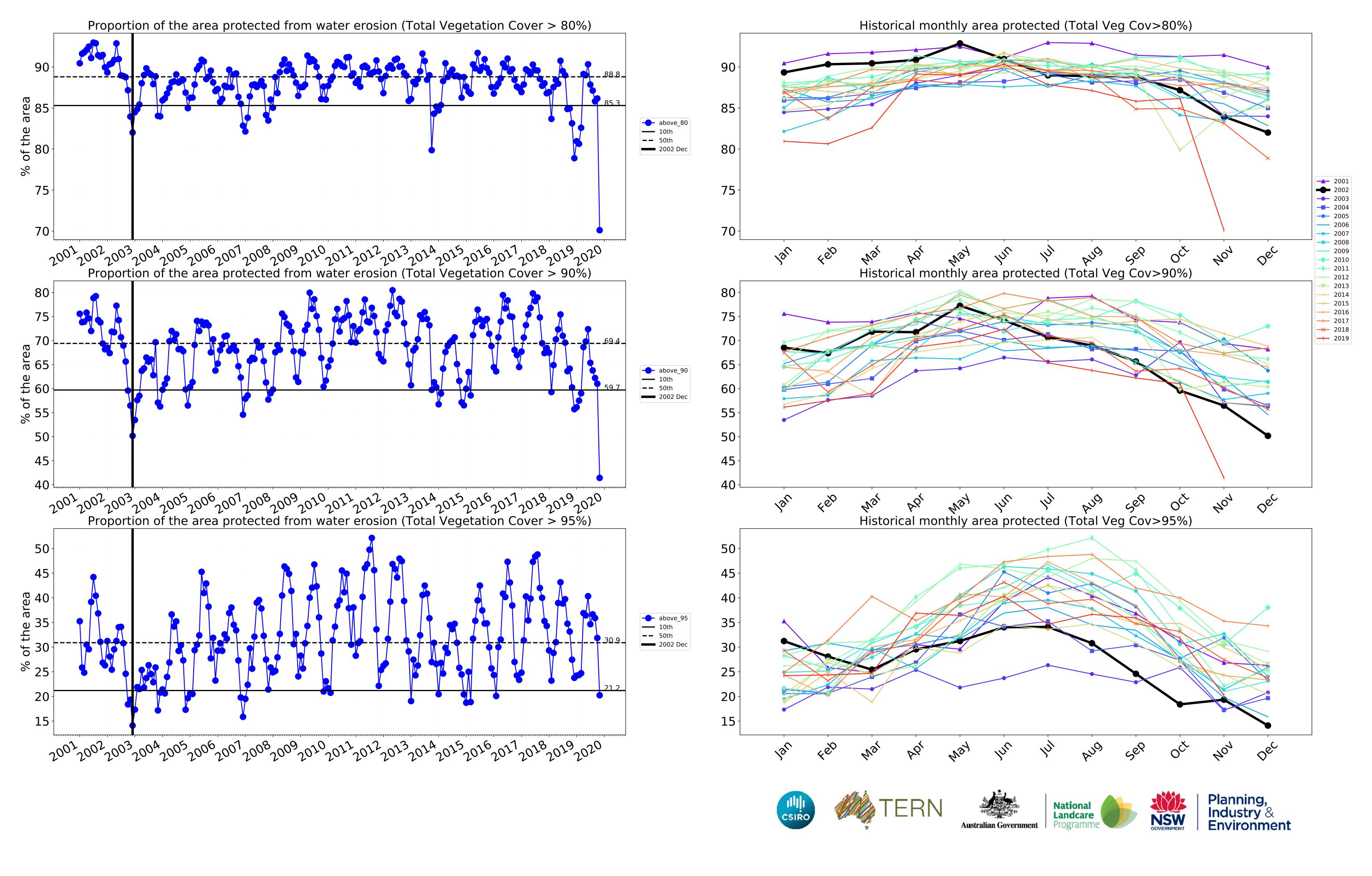




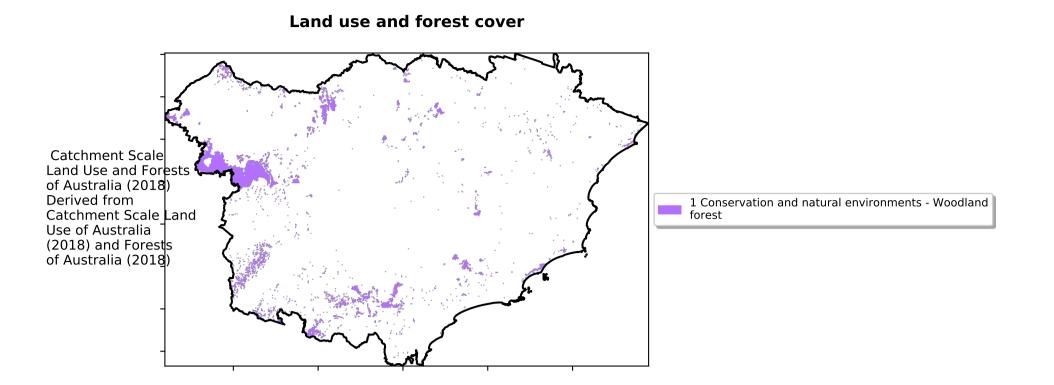


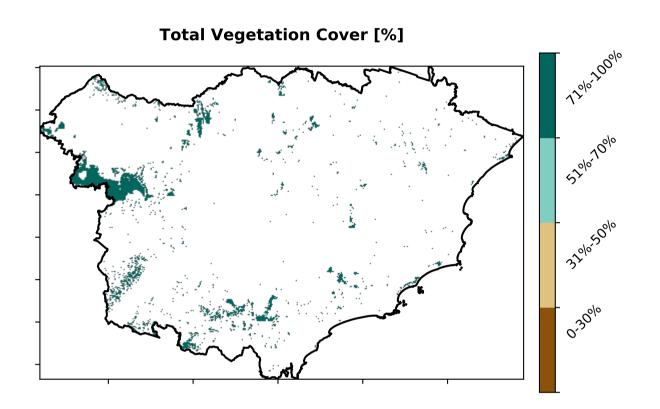


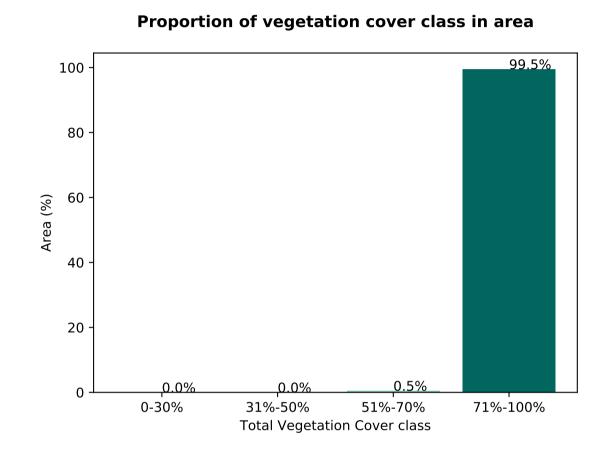
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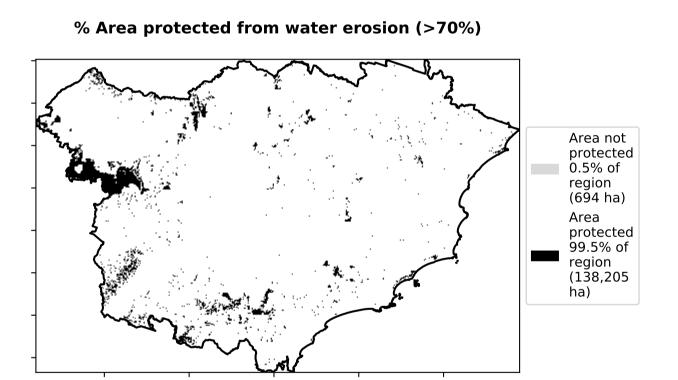


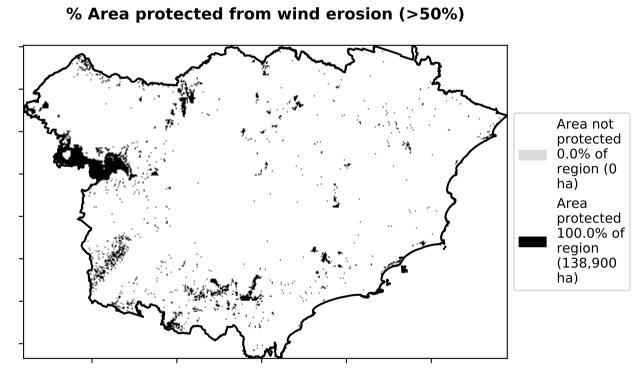
Conservation and natural environments Woodland forest

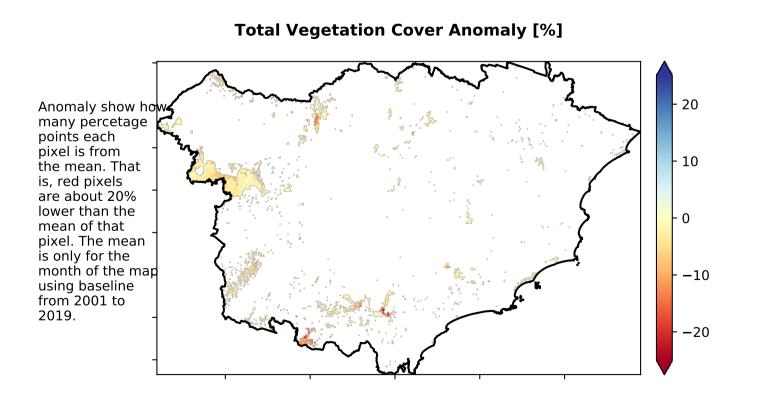




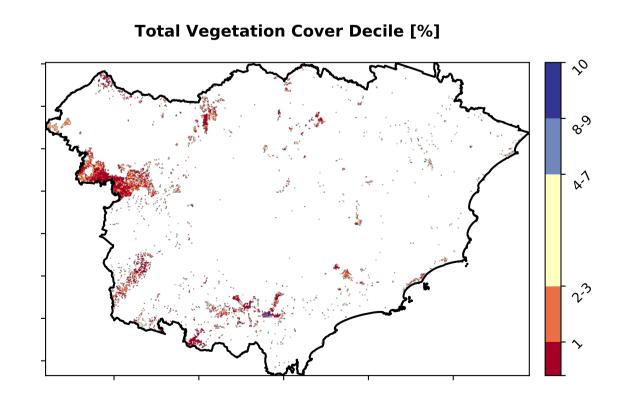








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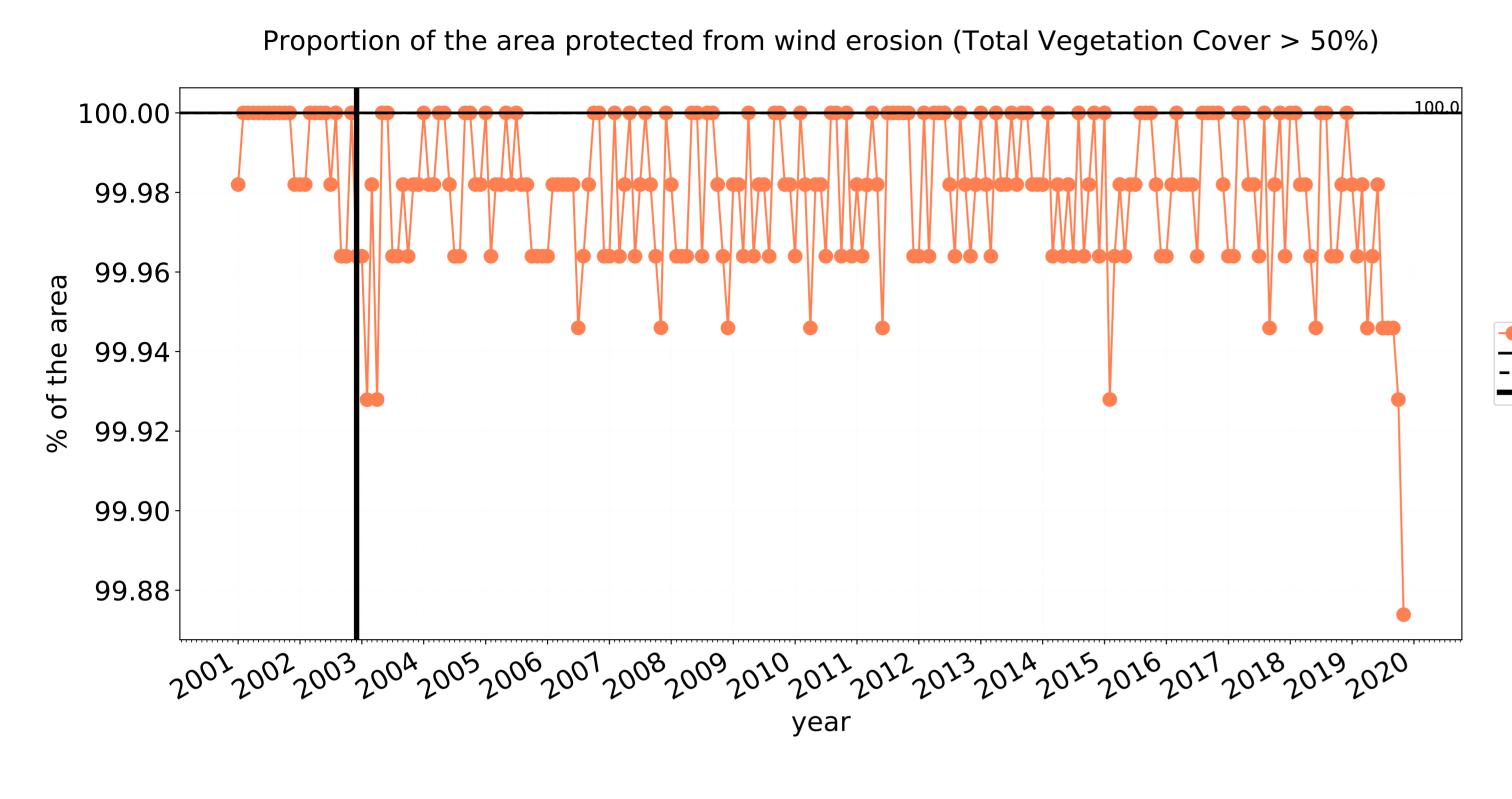


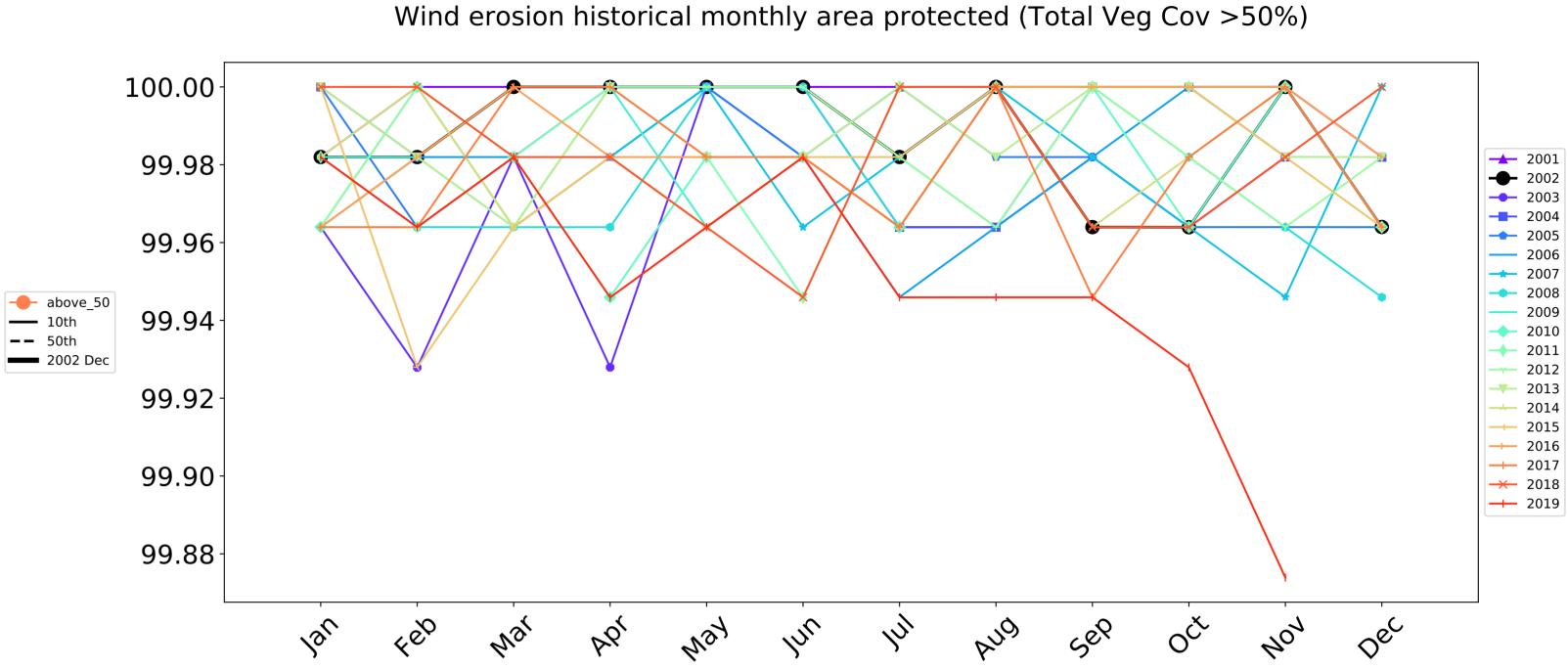




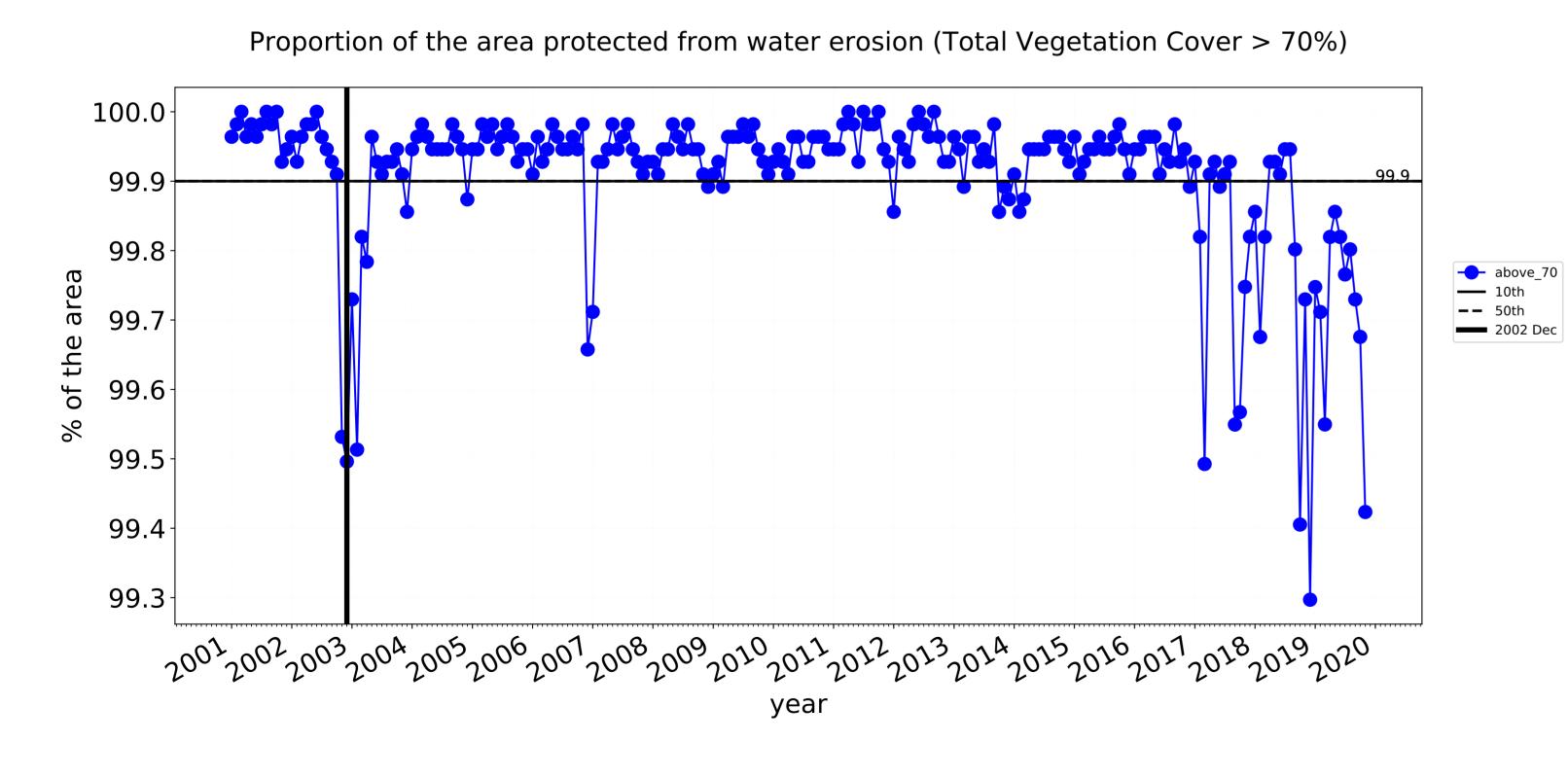


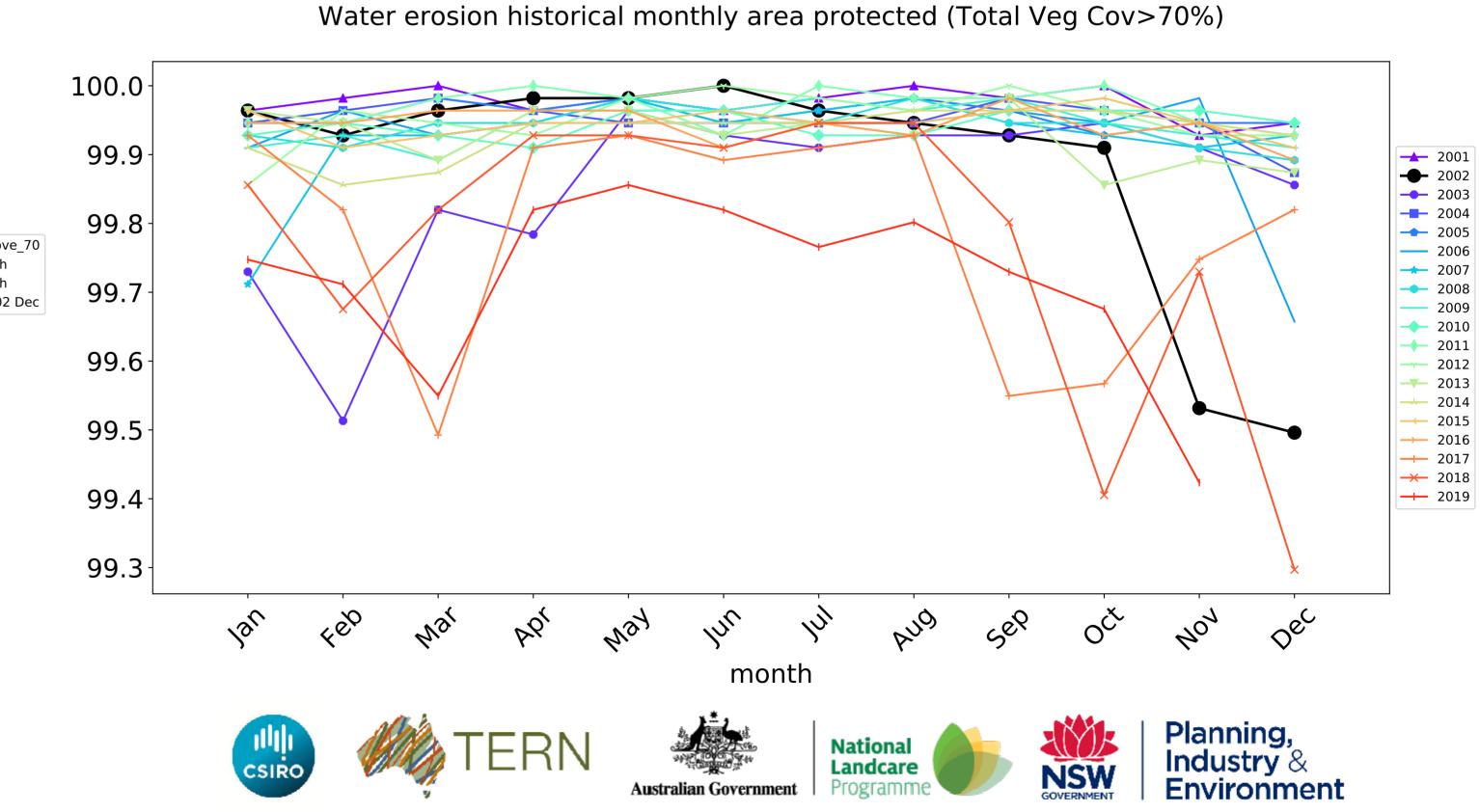
Conservation and natural environments Woodland forest timeseries

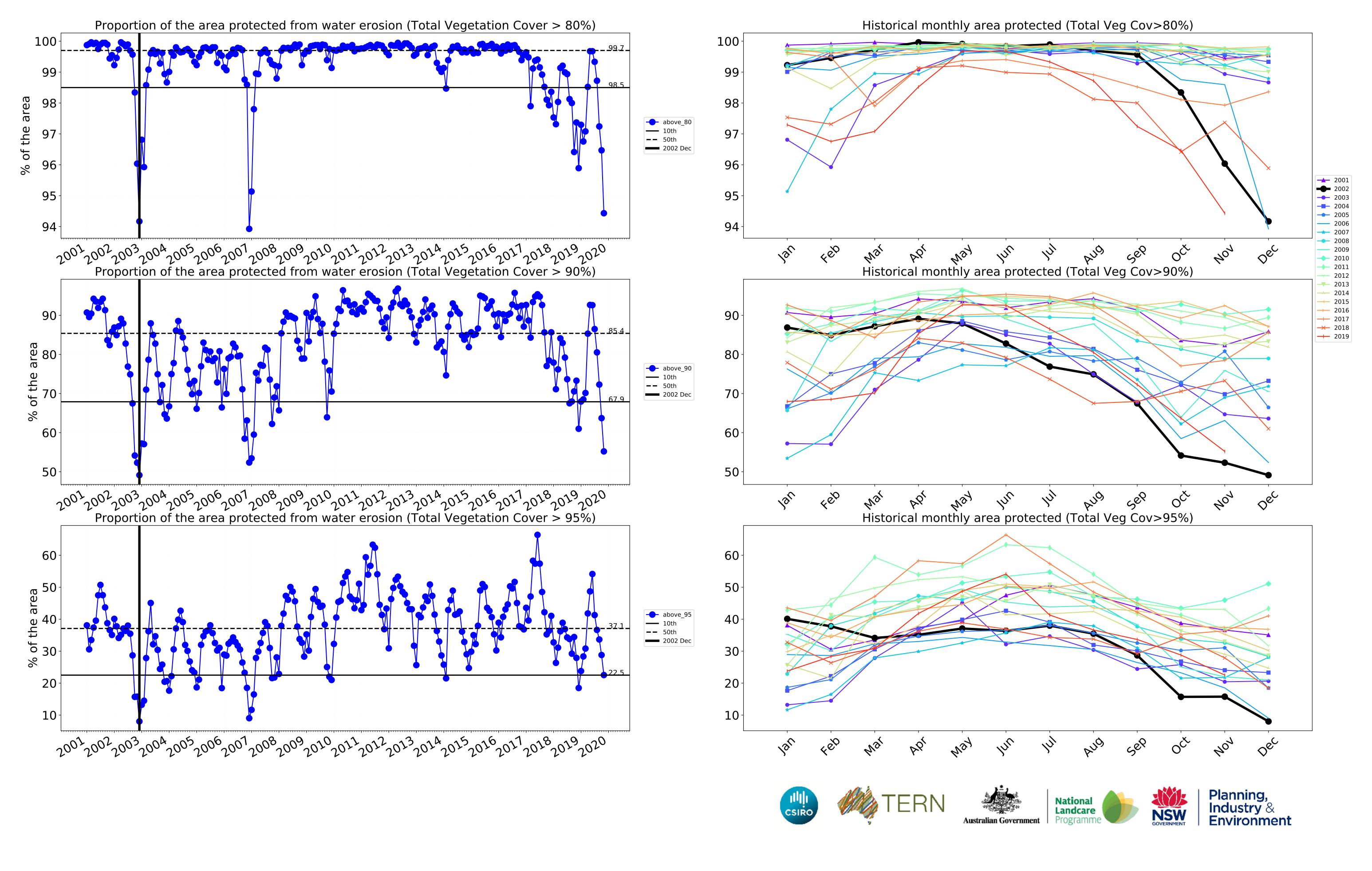




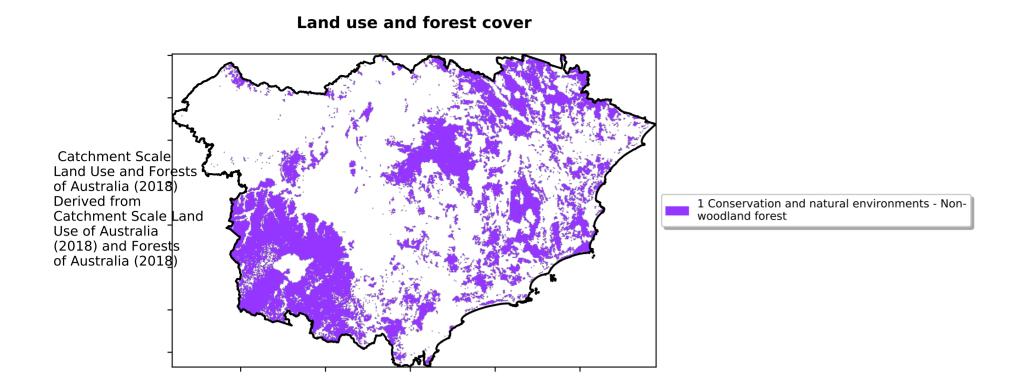
month



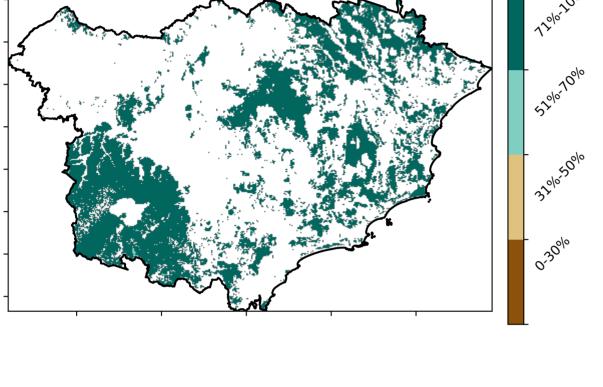


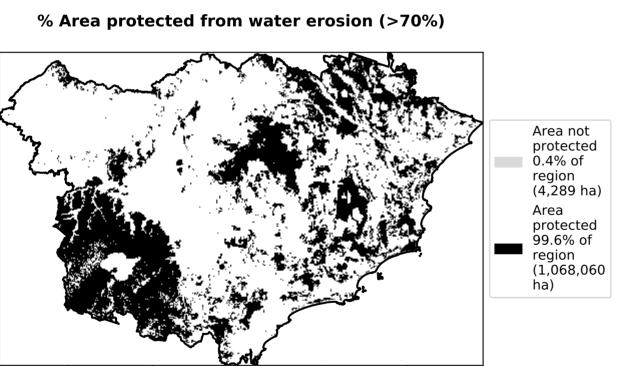


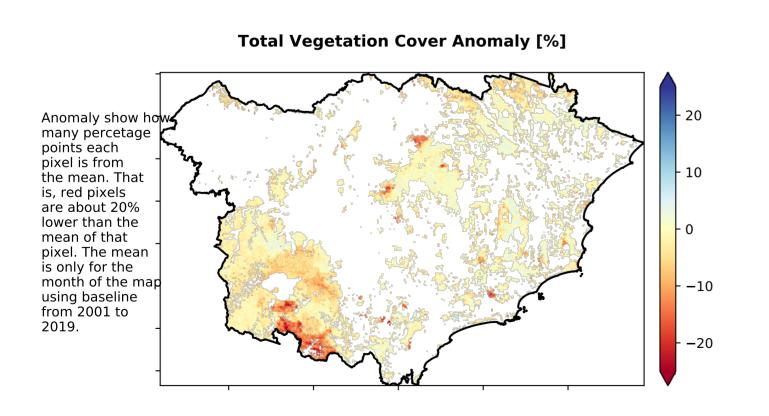
Conservation and natural environments Forest (non woodland)



Total Vegetation Cover [%]

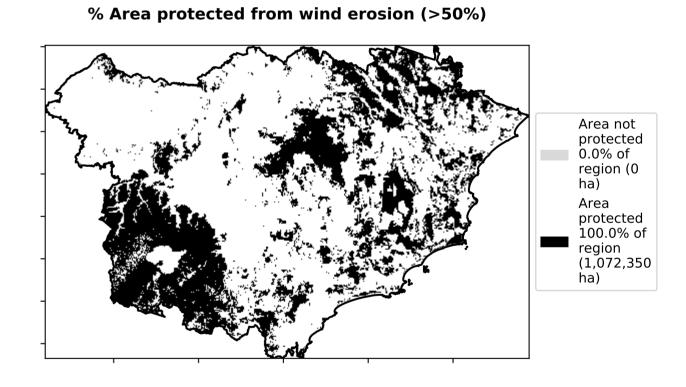


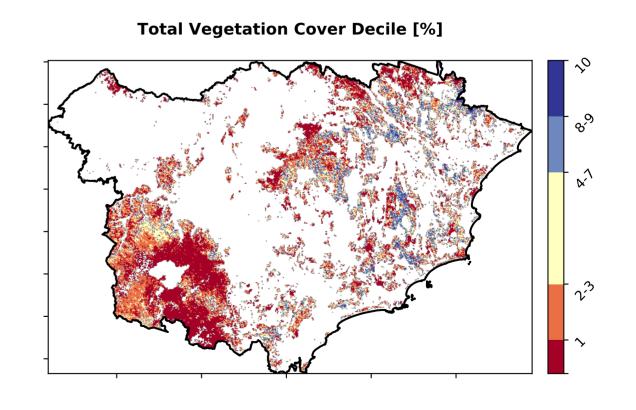




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Proportion of vegetation cover class in area 99.6% 100 80 20 0.0%0-30% 51%-70% 31%-50% 71%-100% **Total Vegetation Cover class**









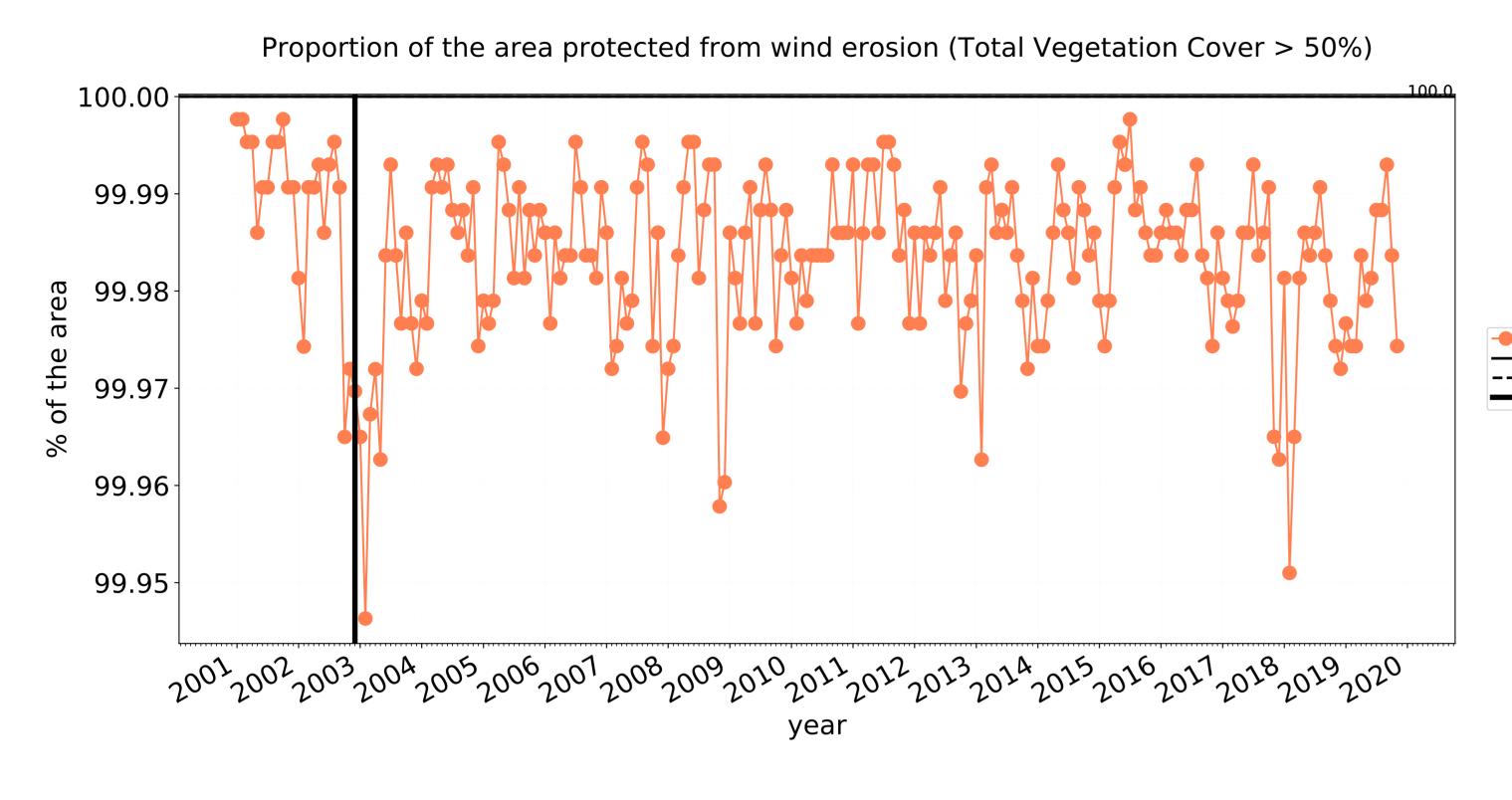


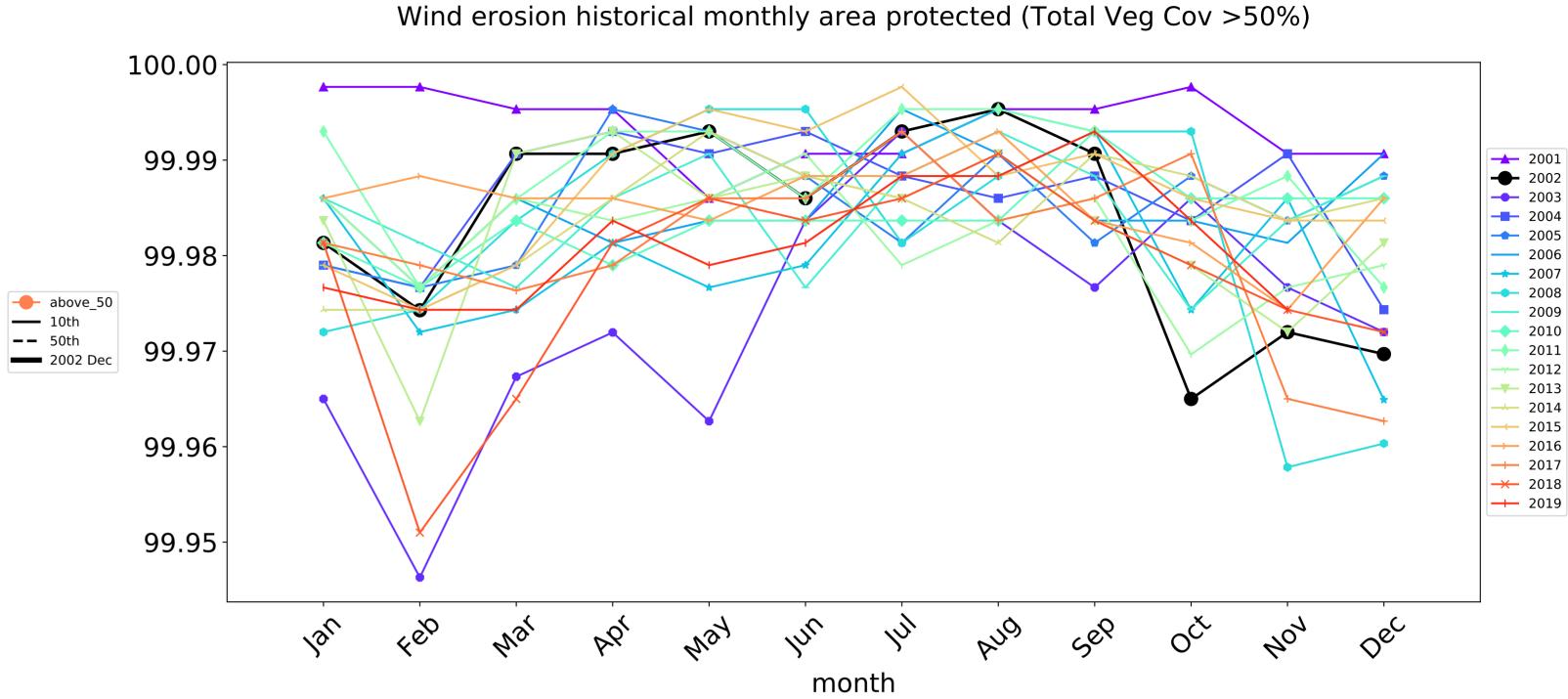


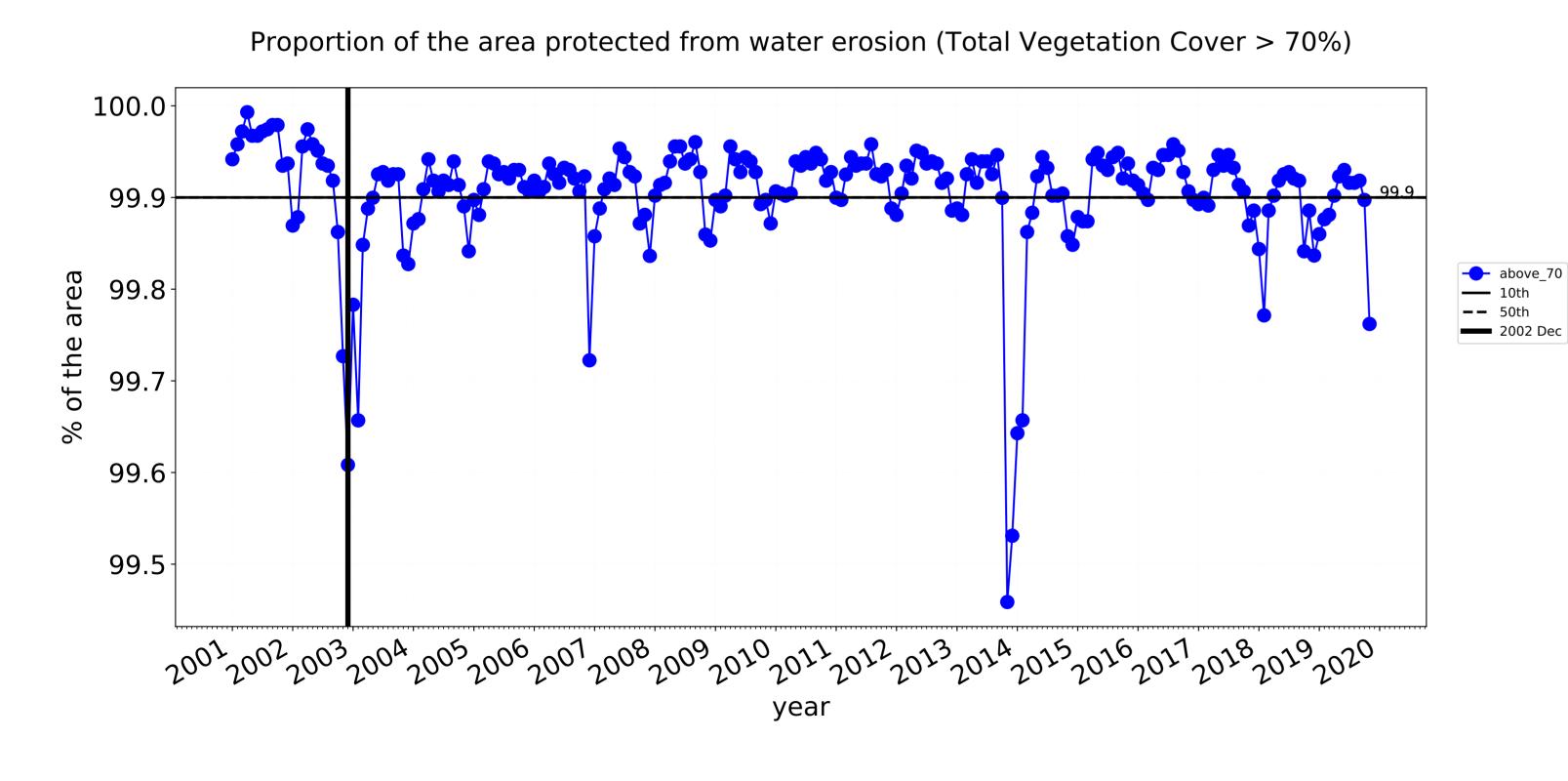


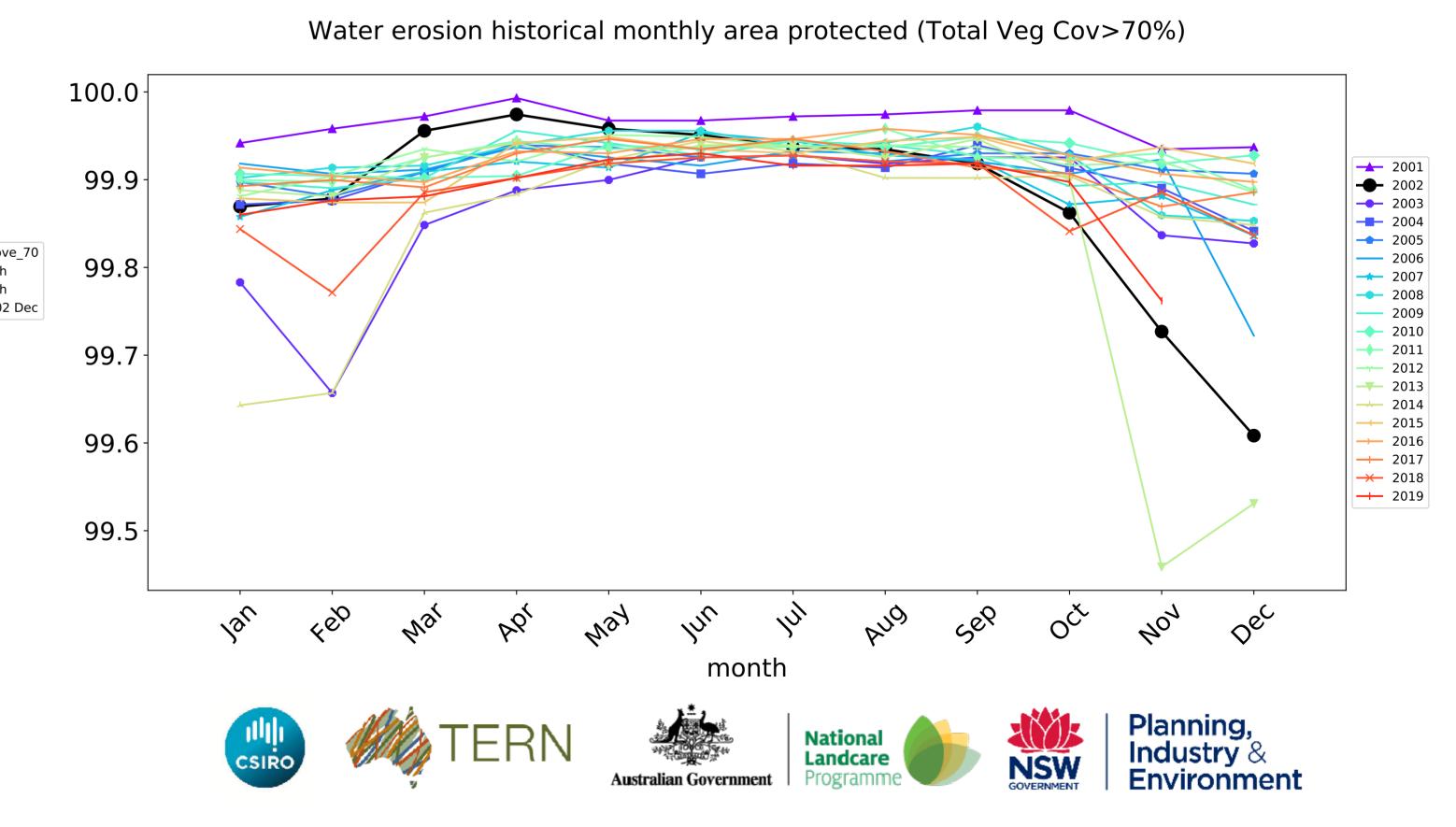


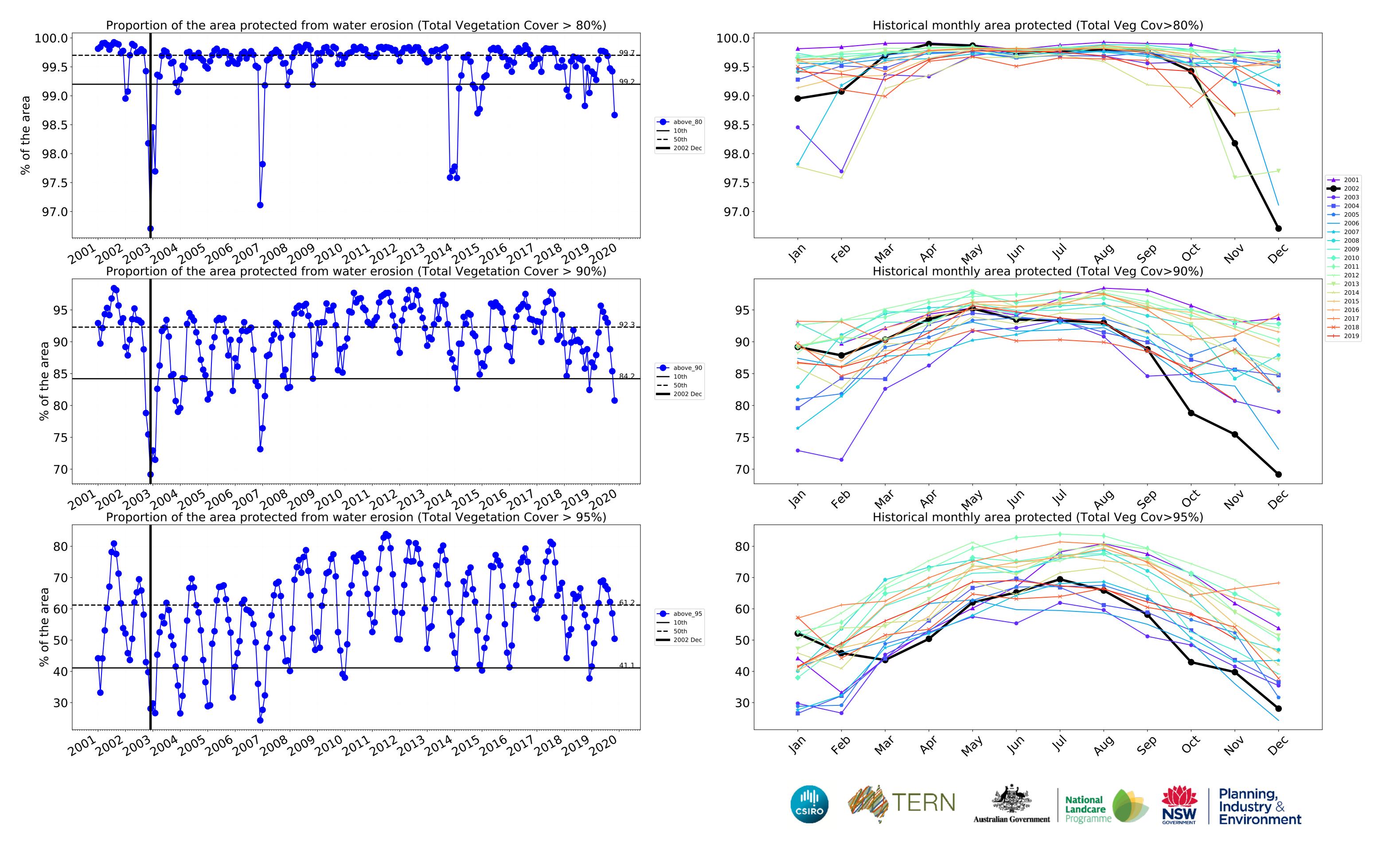
Conservation and natural environments Forest (non woodland) timeseries



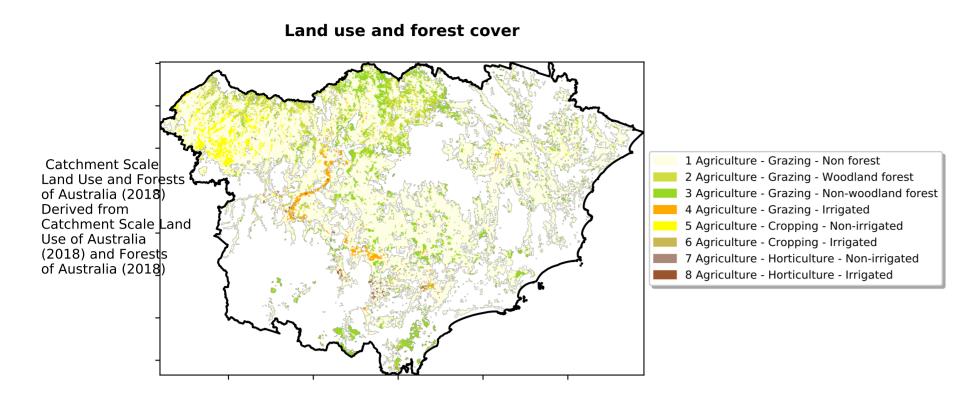




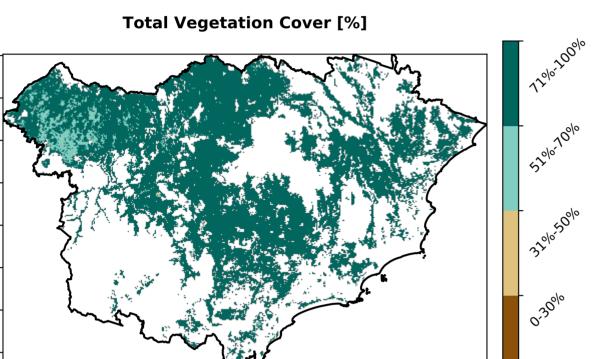


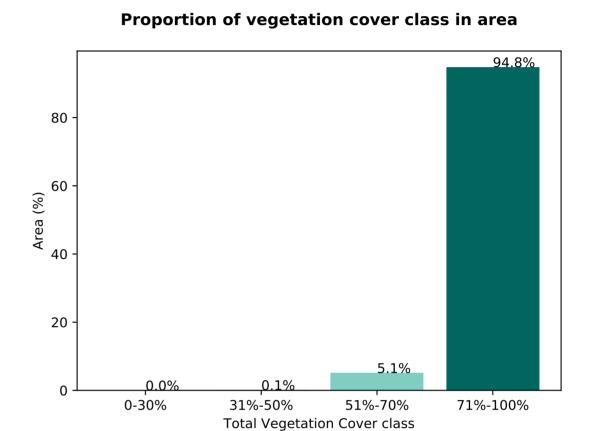


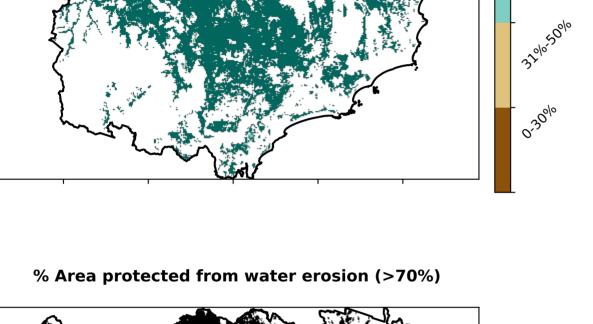
Agriculture

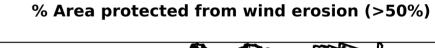


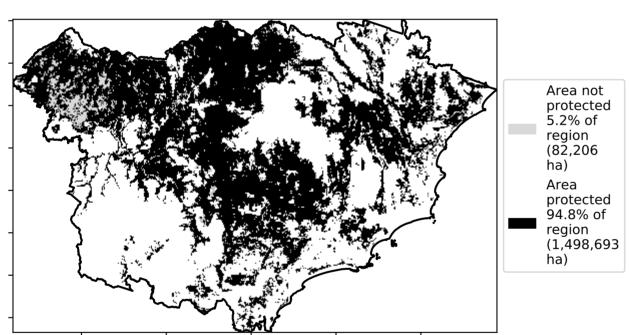
Proportion of each land class in area 80 -76.7% 70 -60 50 Area (%) 30 20 10 Land use class

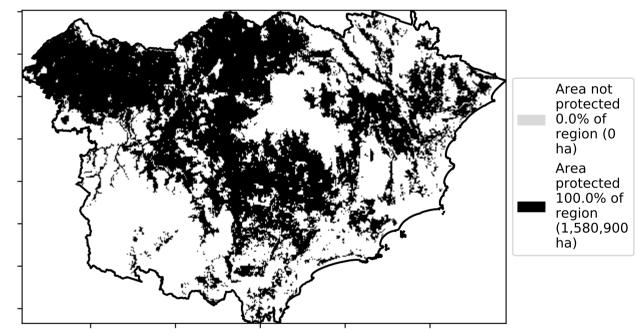


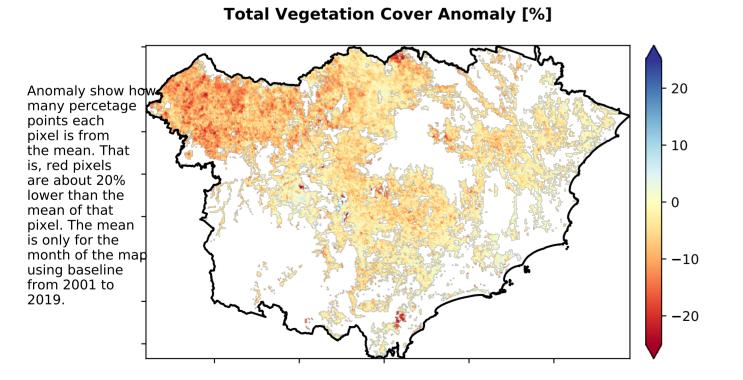




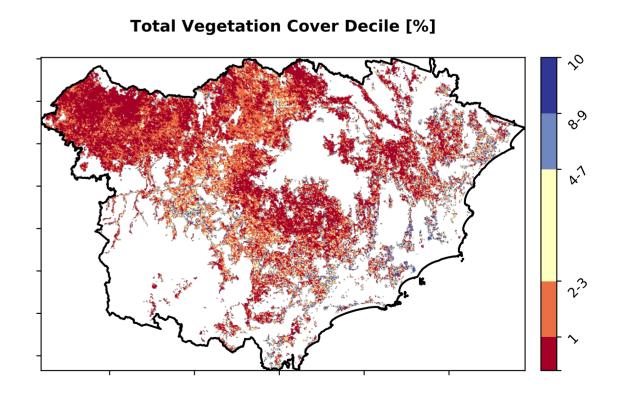








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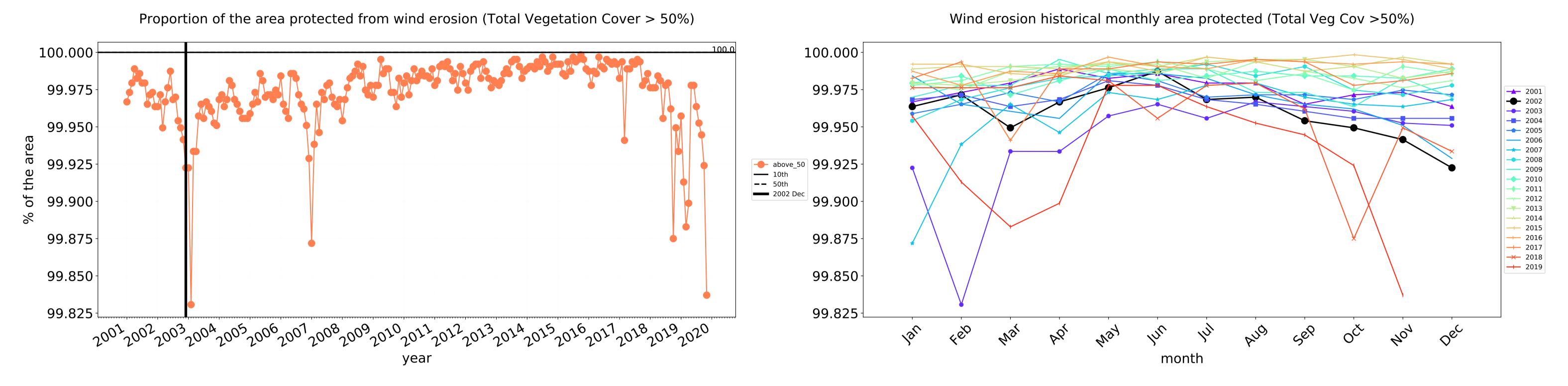


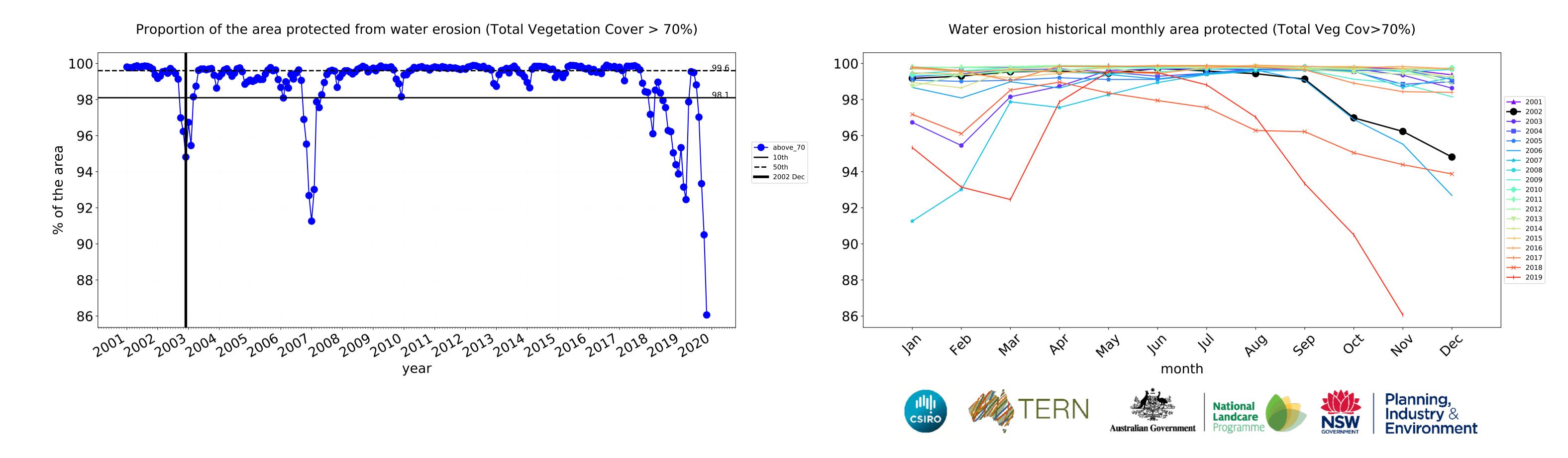


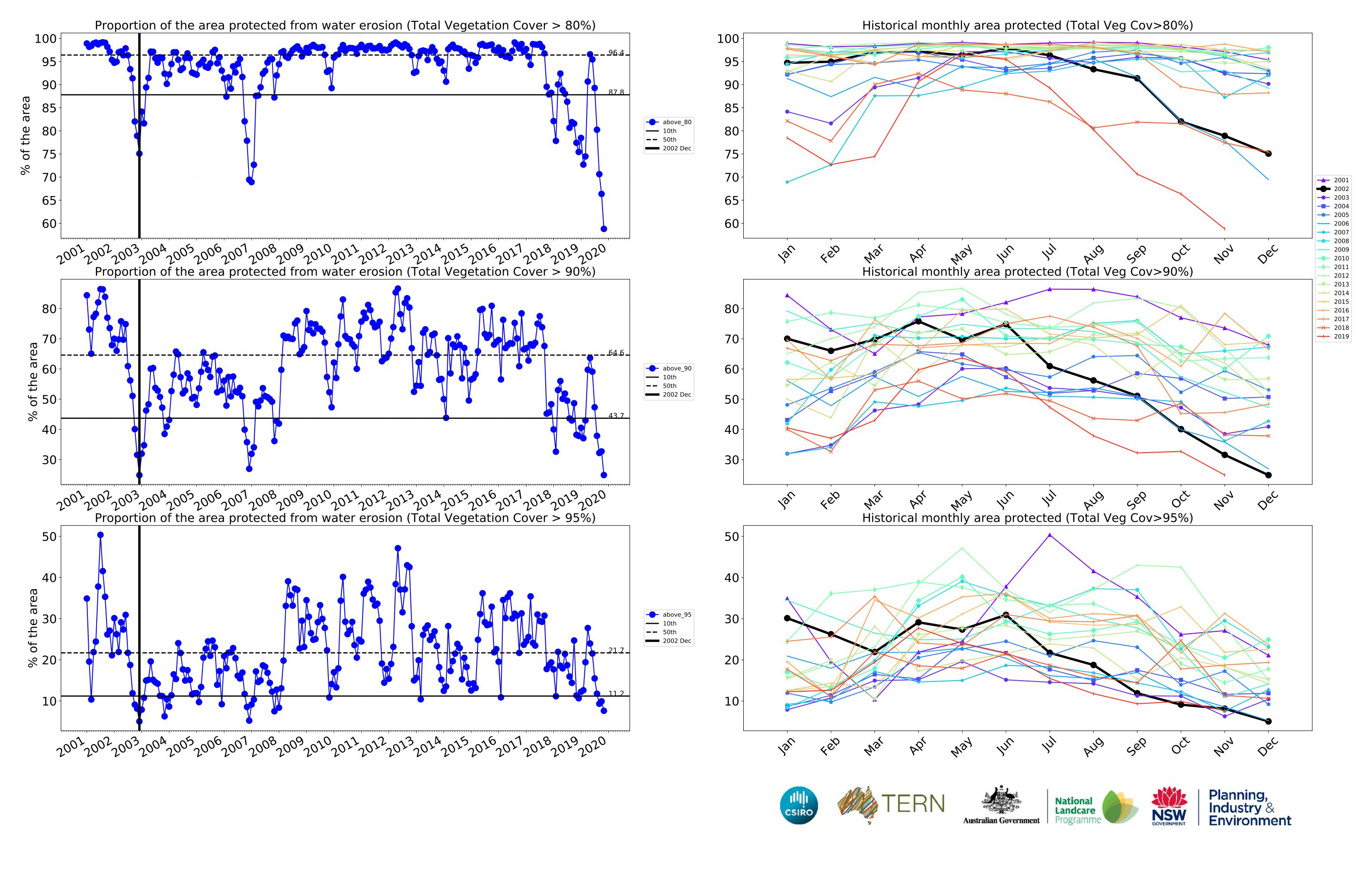




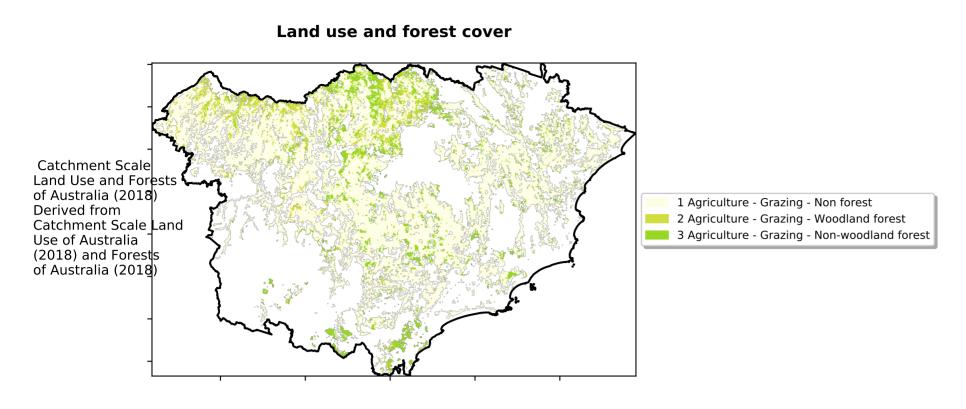
Agriculture timeseries



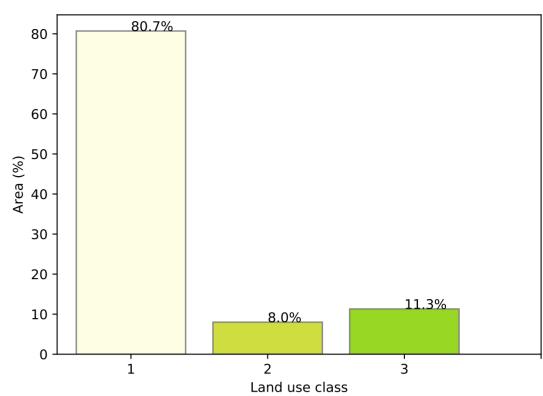




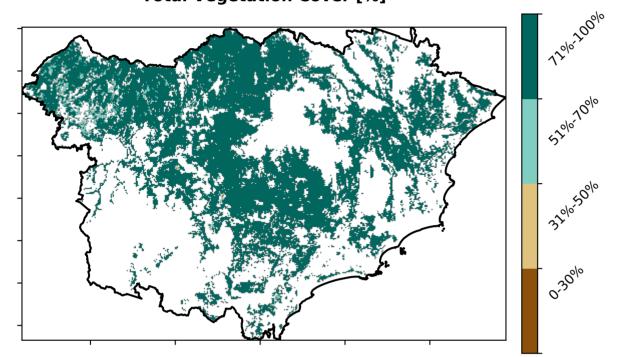
Grazing



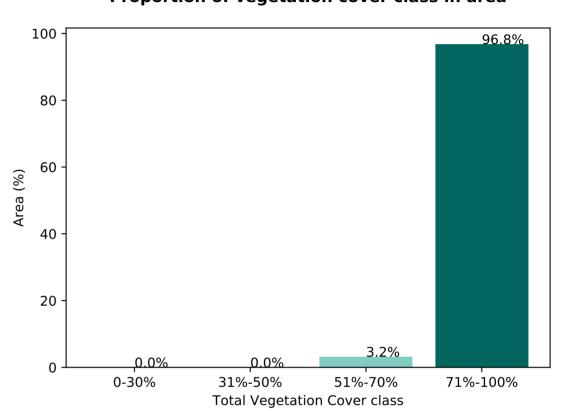
Proportion of each land class in area



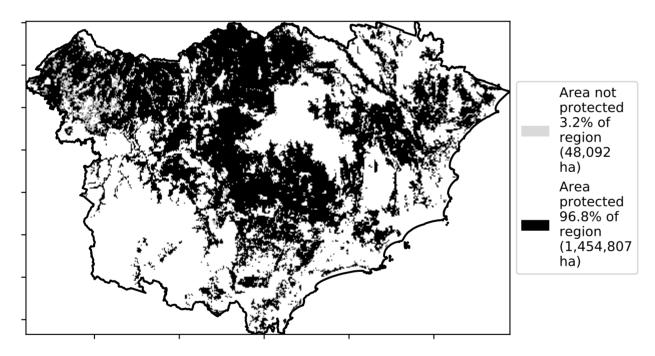
Total Vegetation Cover [%]



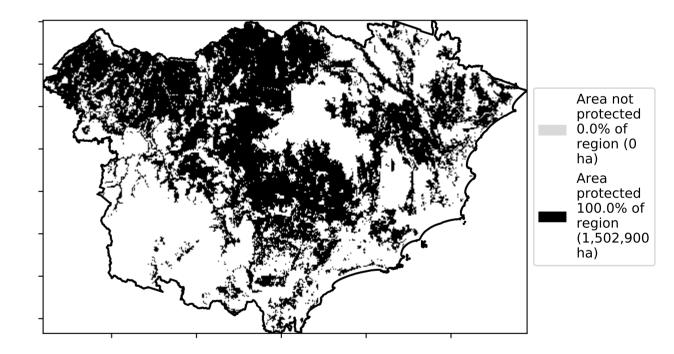
Proportion of vegetation cover class in area



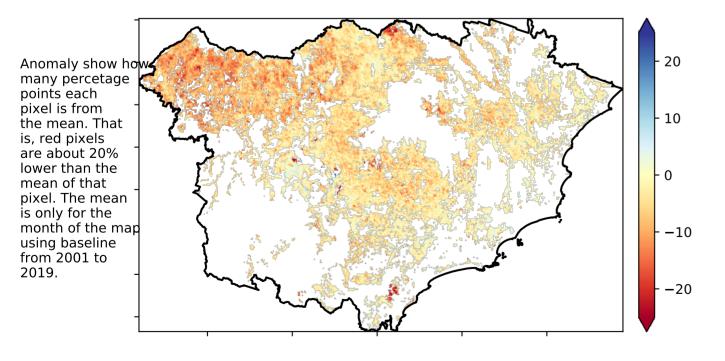
% Area protected from water erosion (>70%)



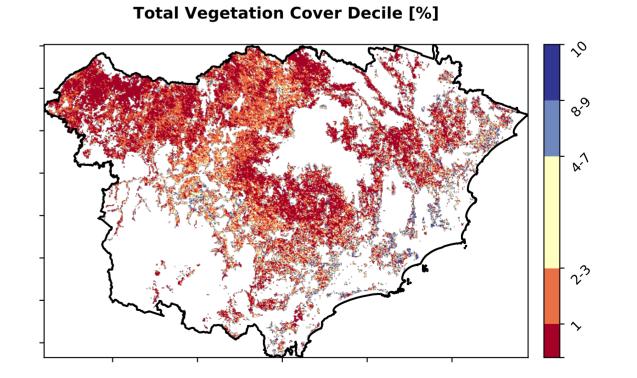
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



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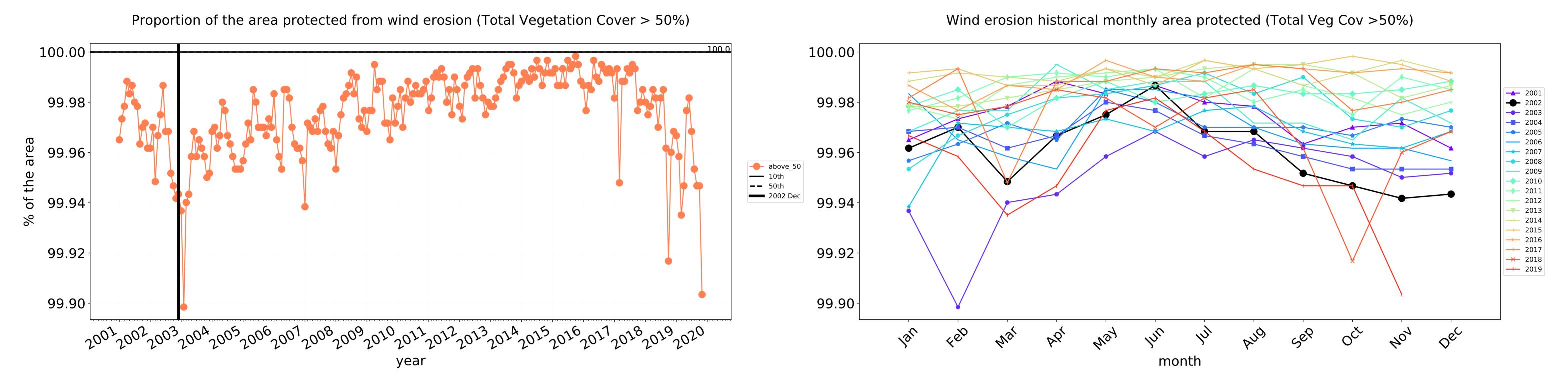


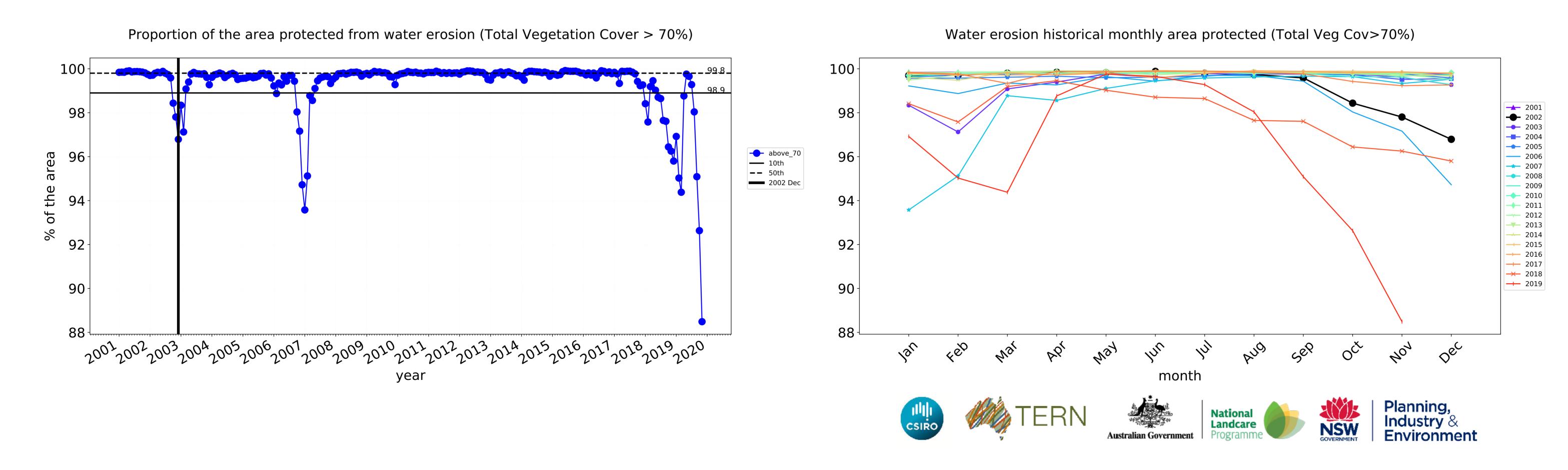


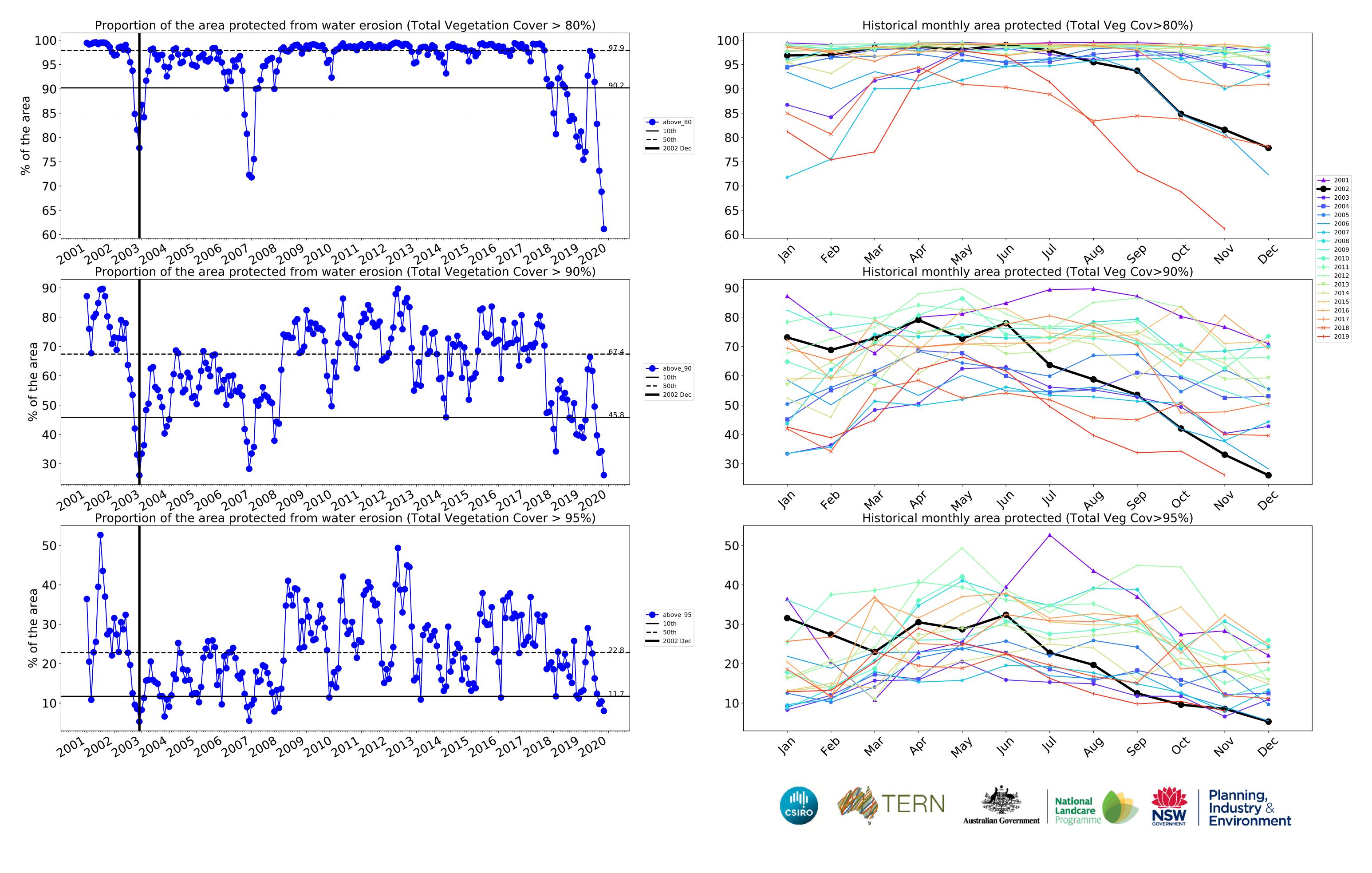




Grazing timeseries

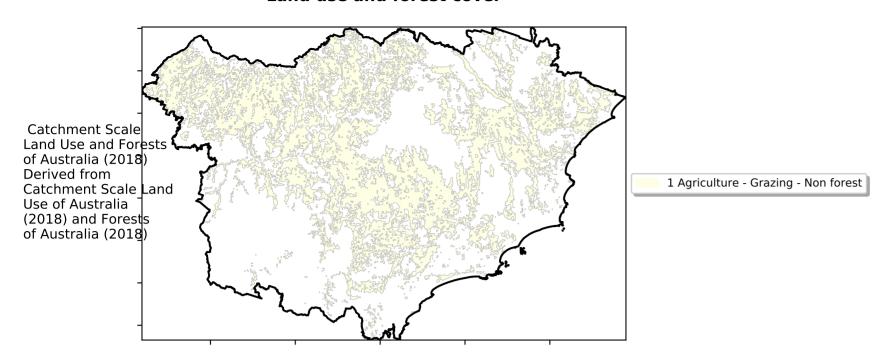




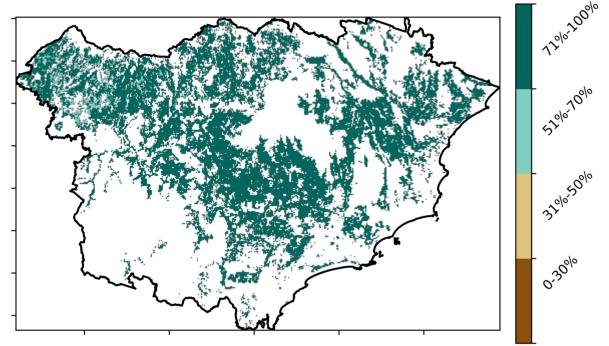


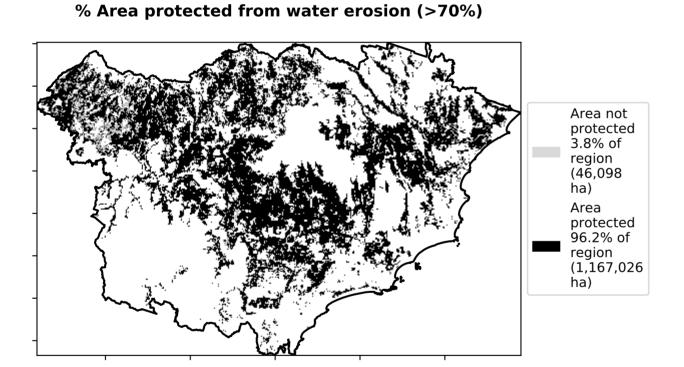
Grazing non forest

Land use and forest cover

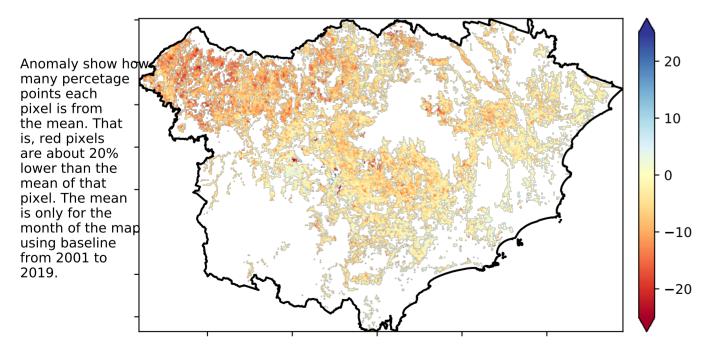


Total Vegetation Cover [%]



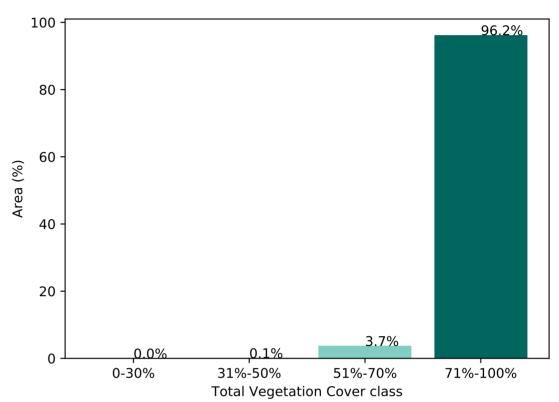


Total Vegetation Cover Anomaly [%]

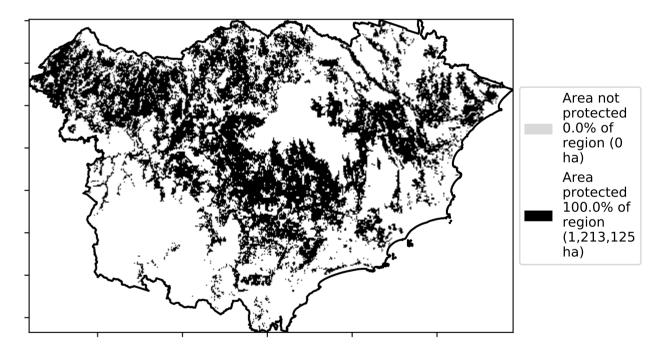


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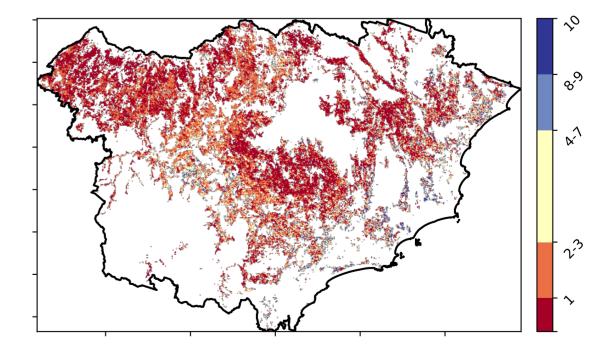
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







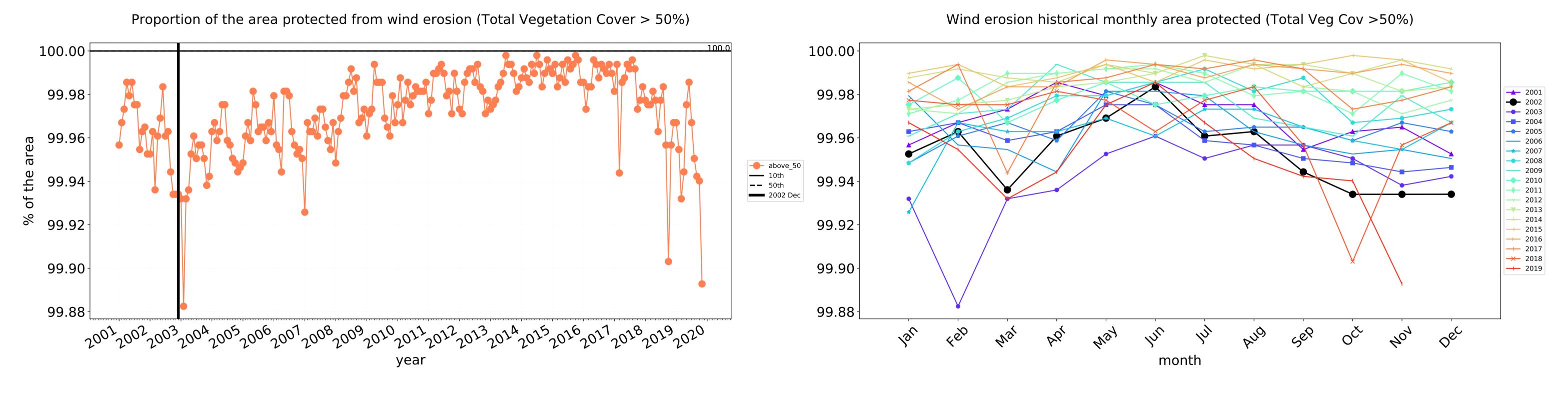


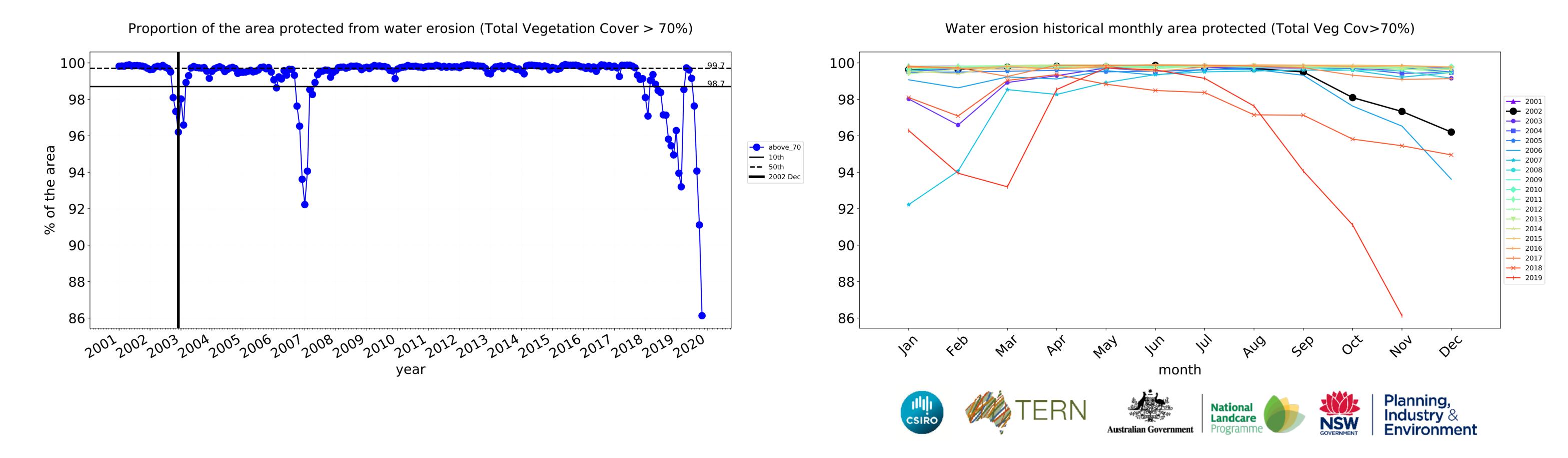


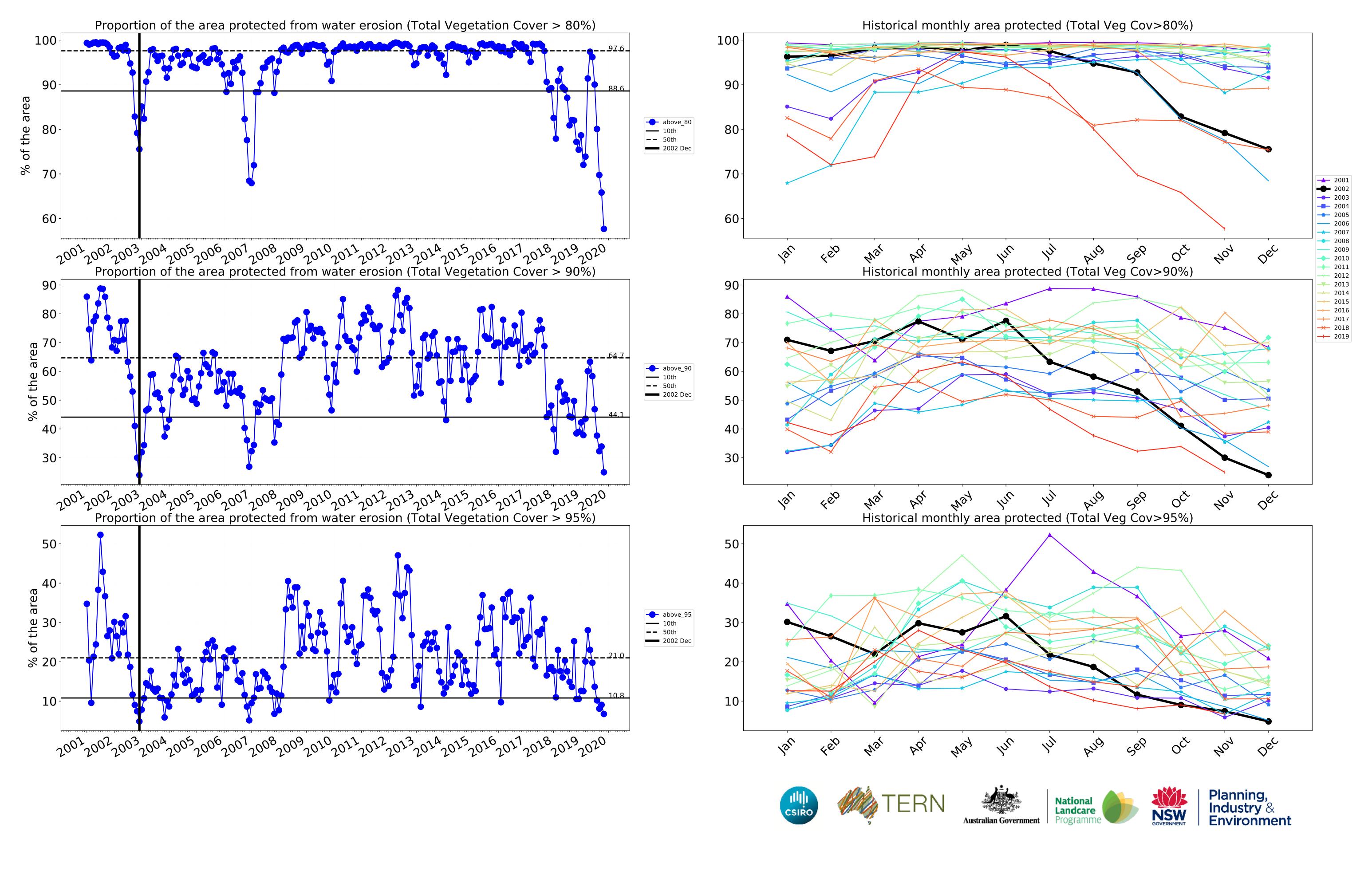




Grazing non forest timeseries





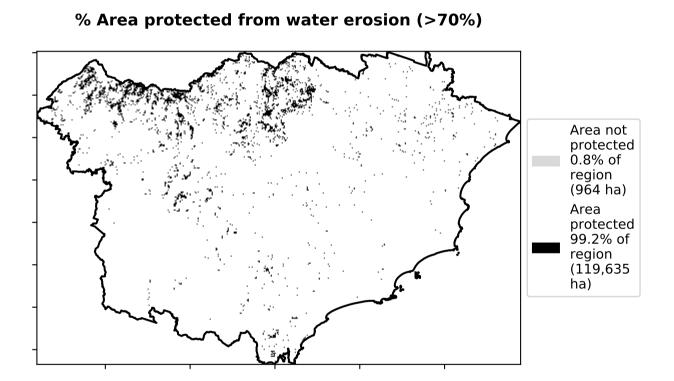


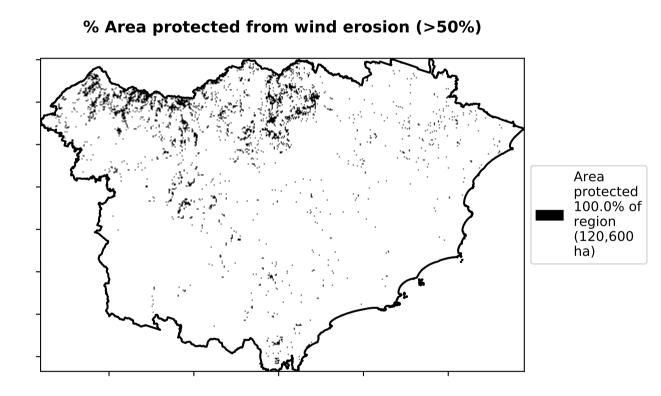
Grazing Woodland forest

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)

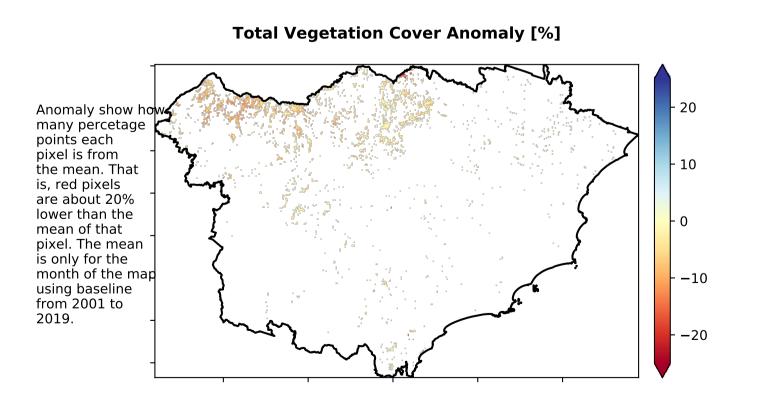
Total Vegetation Cover [%]

99.2% 100 80 Area (%) 20 -31%-50% 51%-70% 0-30% 71%-100% **Total Vegetation Cover class**

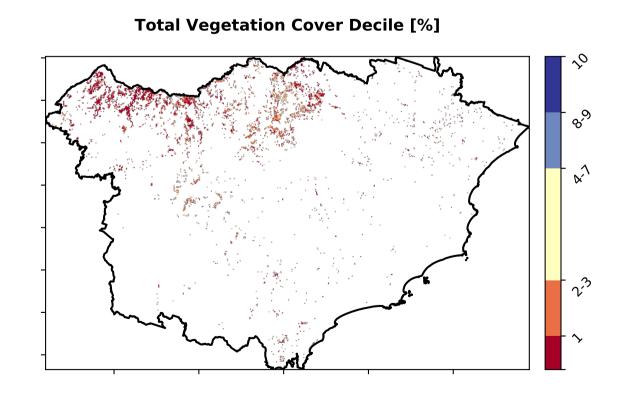




Proportion of vegetation cover class in area



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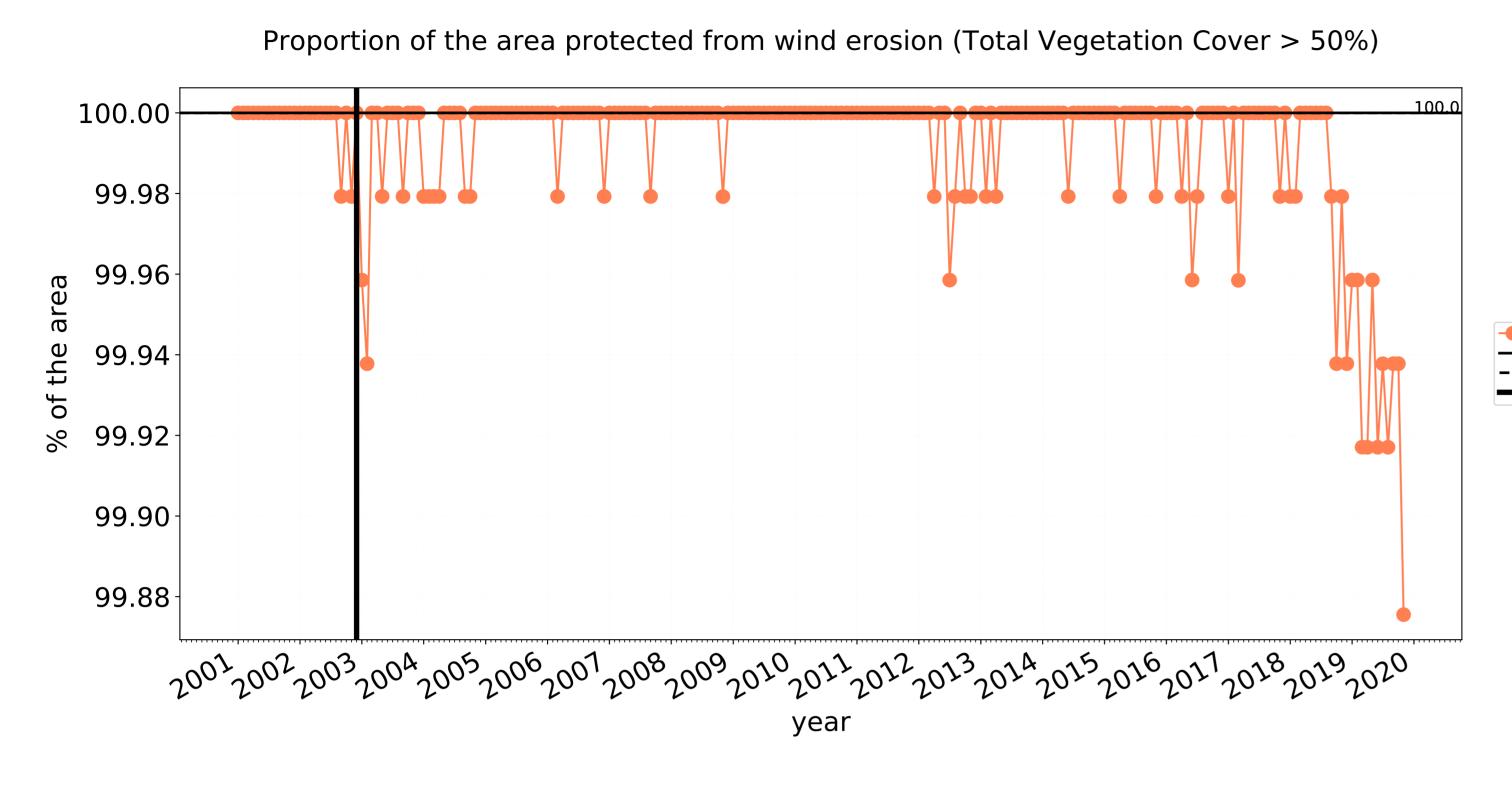






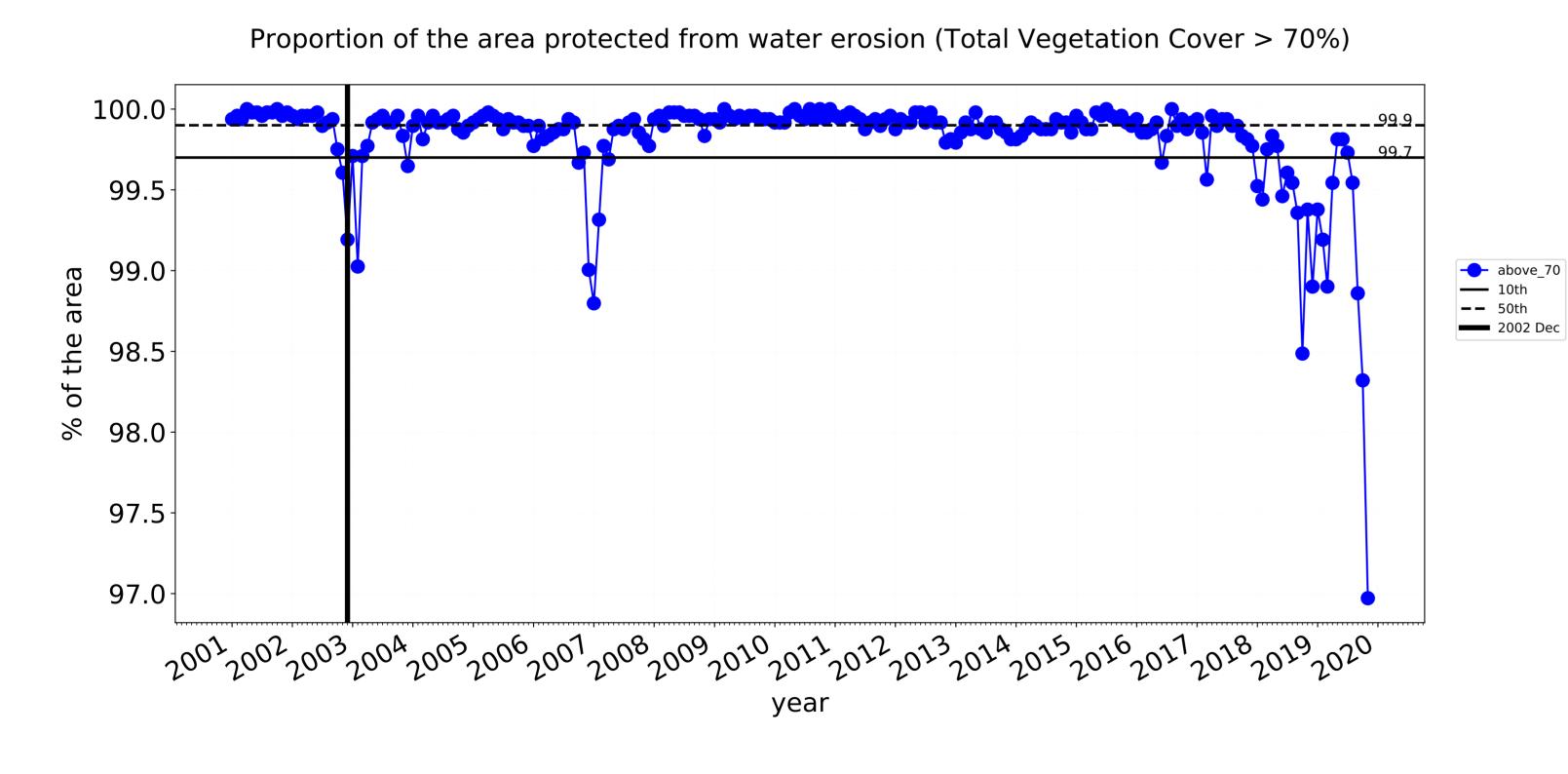


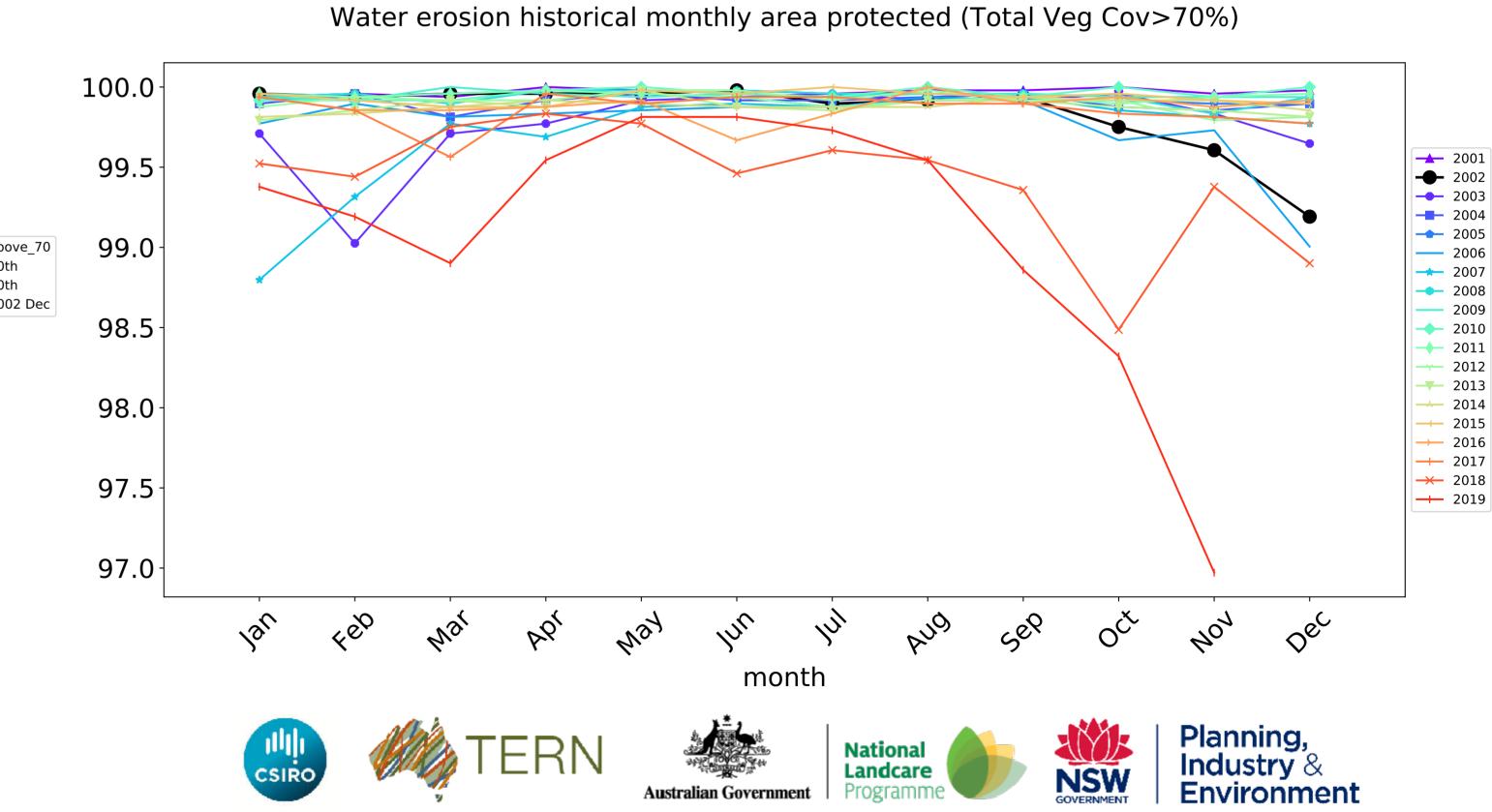
Grazing Woodland forest timeseries

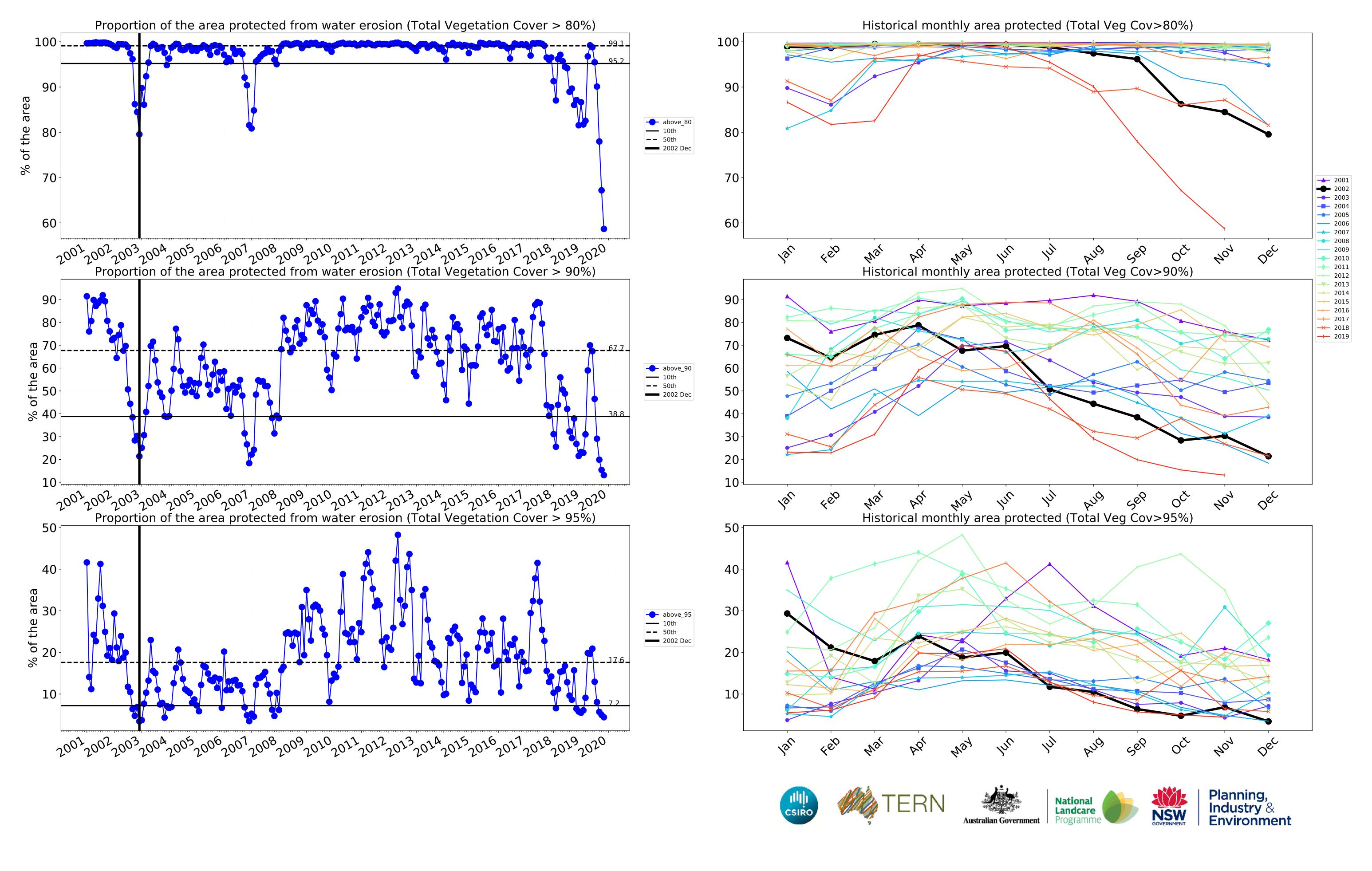




month





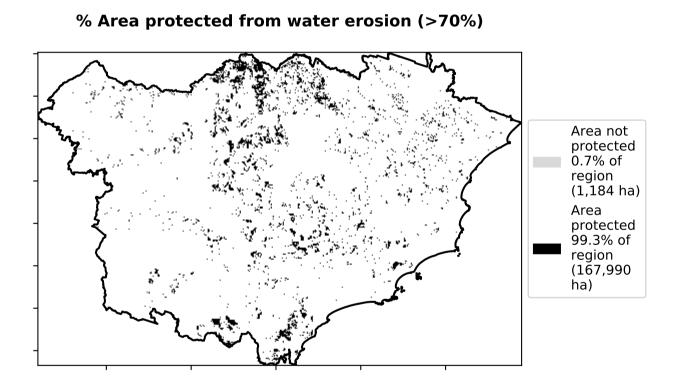


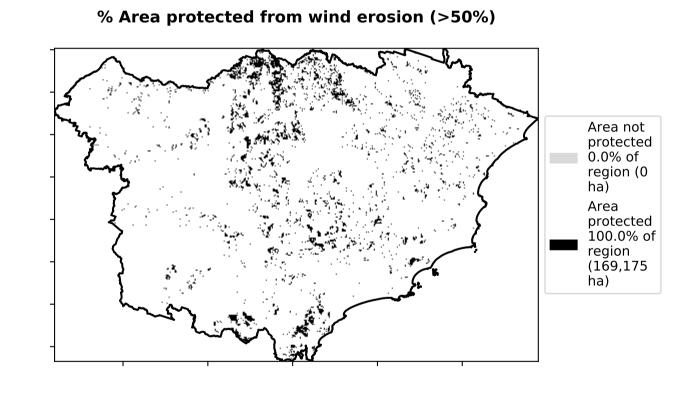
Grazing - Forest (non woodland)

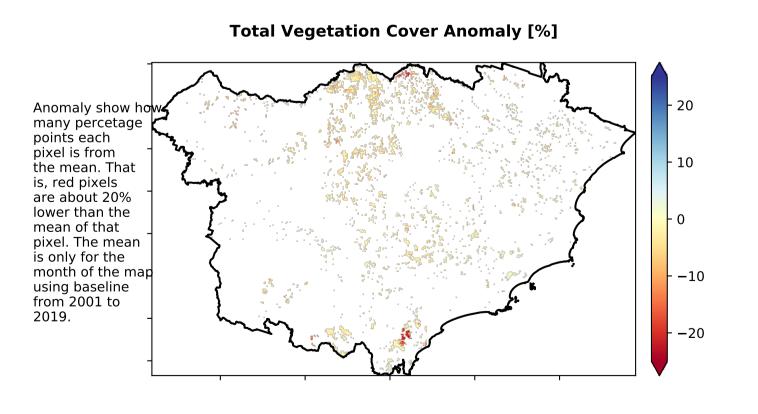
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018) (2018) and Forests of Australia (2018)

Total Vegetation Cover [%]

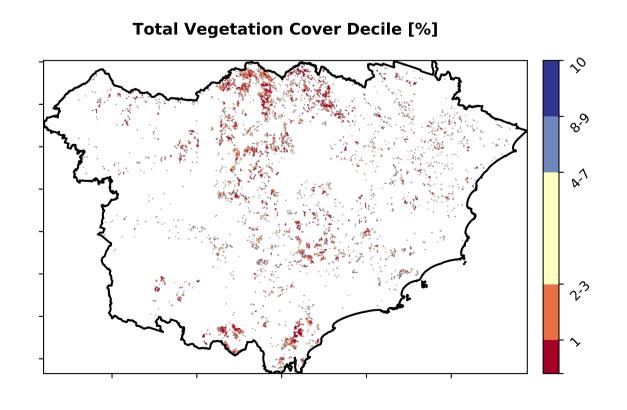
Proportion of vegetation cover class in area 100 - 99.3% 80 - 99.3% 40 - 20 - 0.0% 0.0% 0.7% 0-30% 31%-50% 51%-70% 71%-100% Total Vegetation Cover class







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





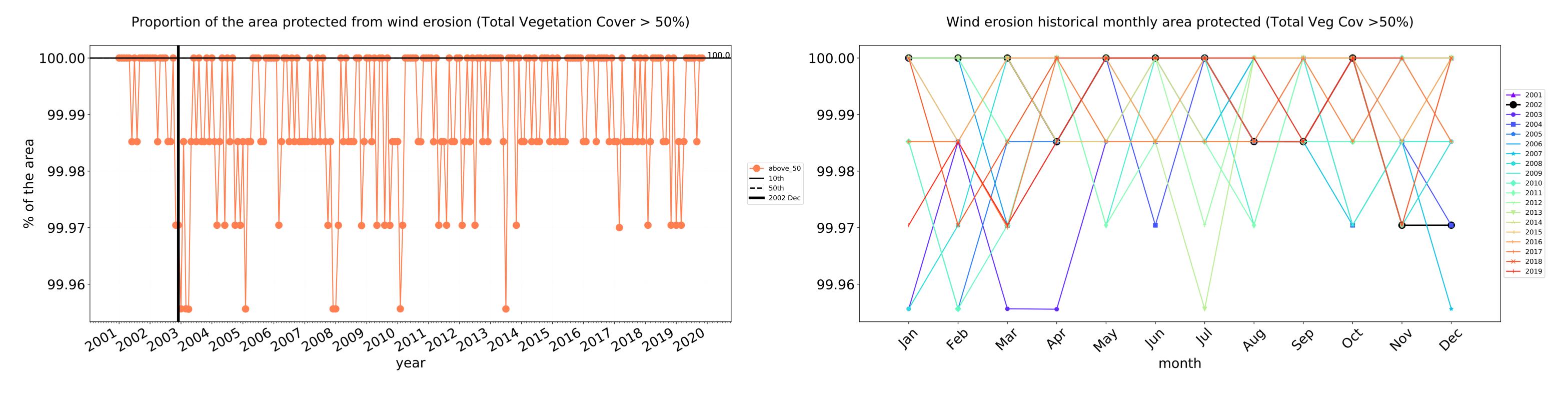


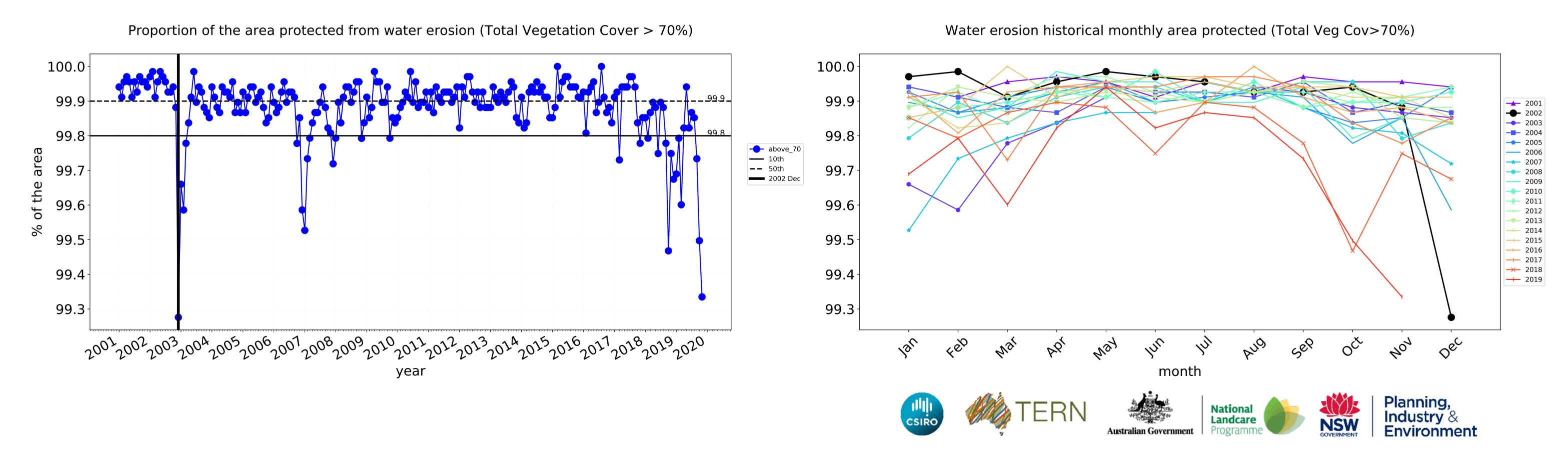


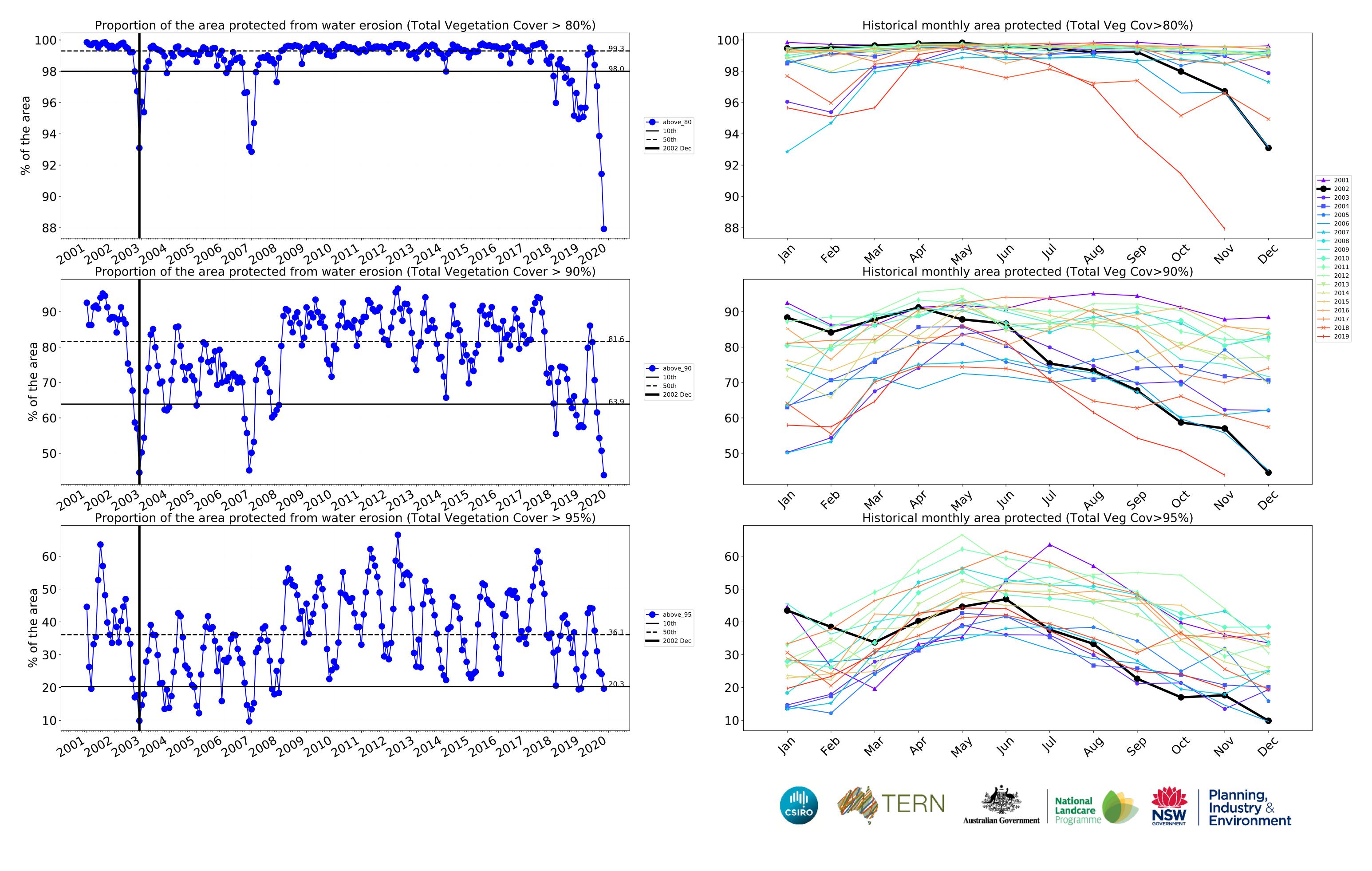






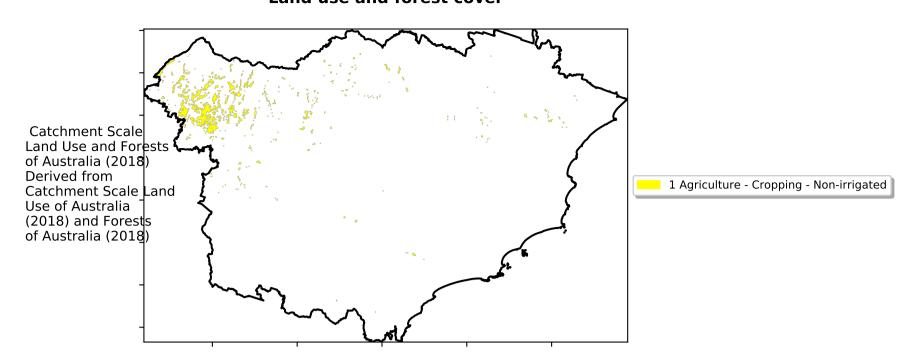




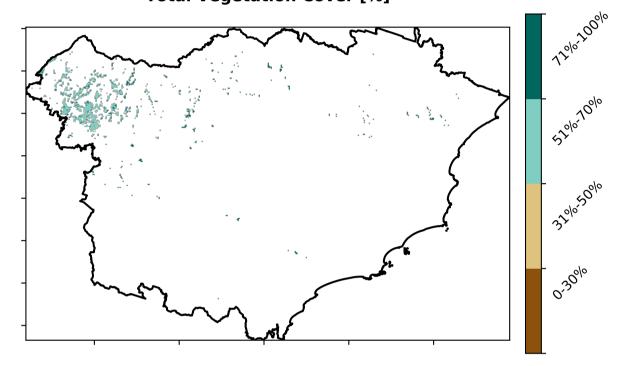


Cropping

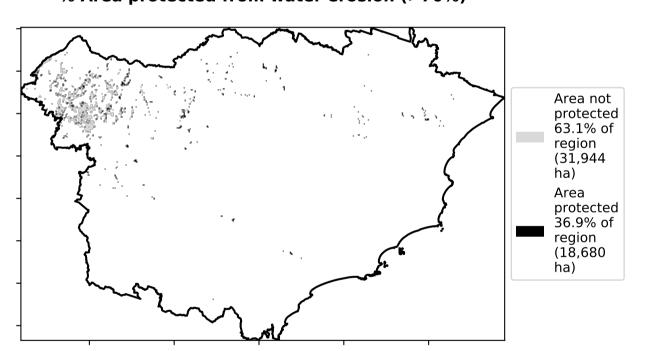
Land use and forest cover



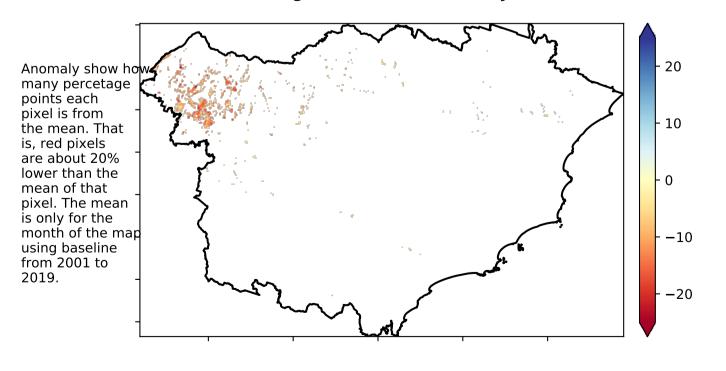
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

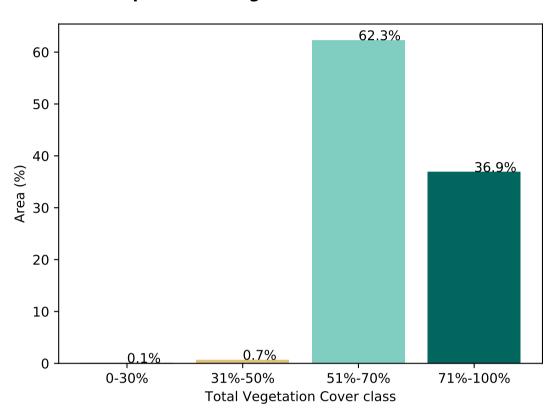


Total Vegetation Cover Anomaly [%]

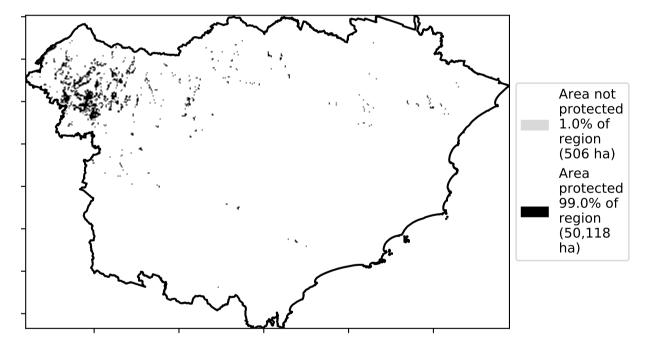


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

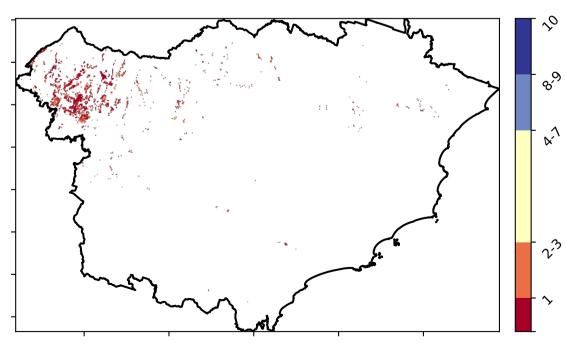
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







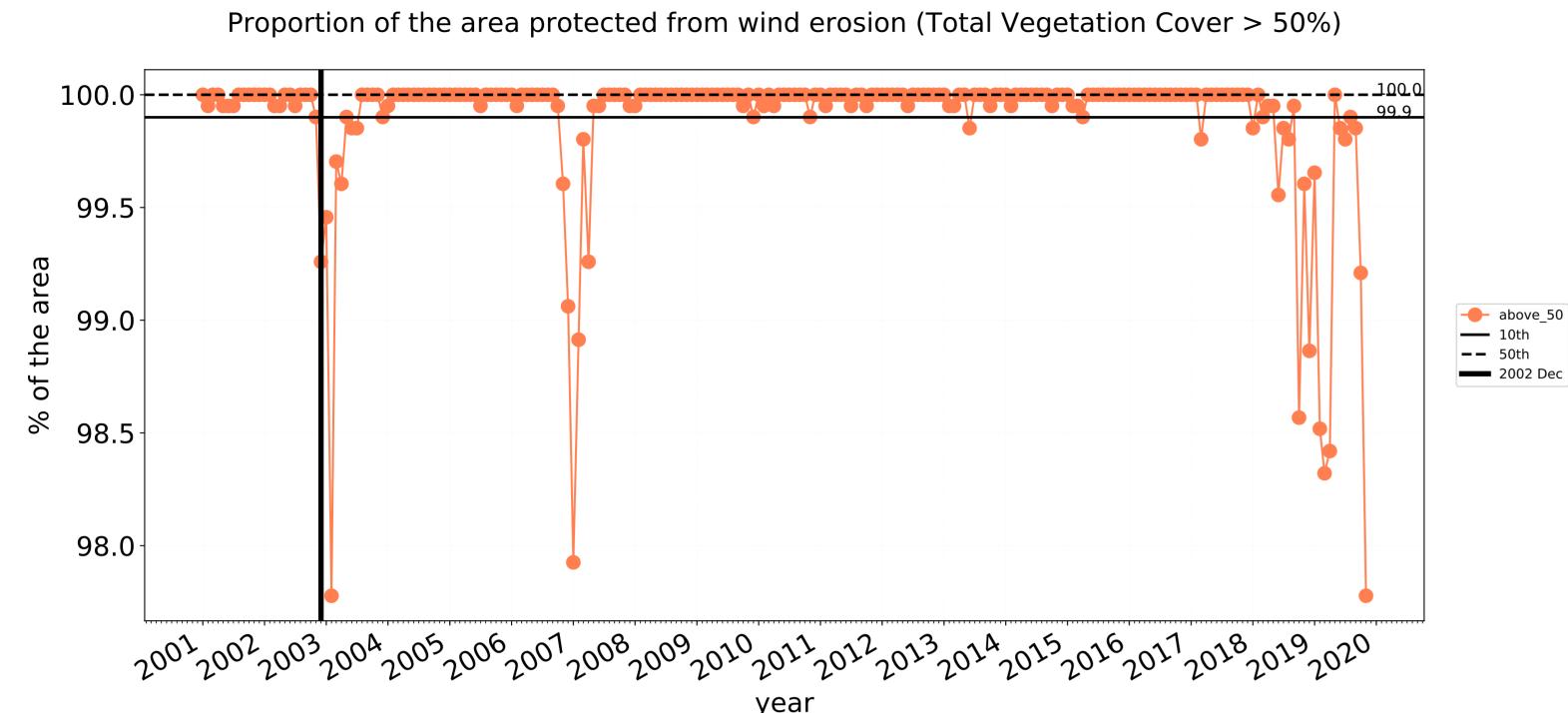


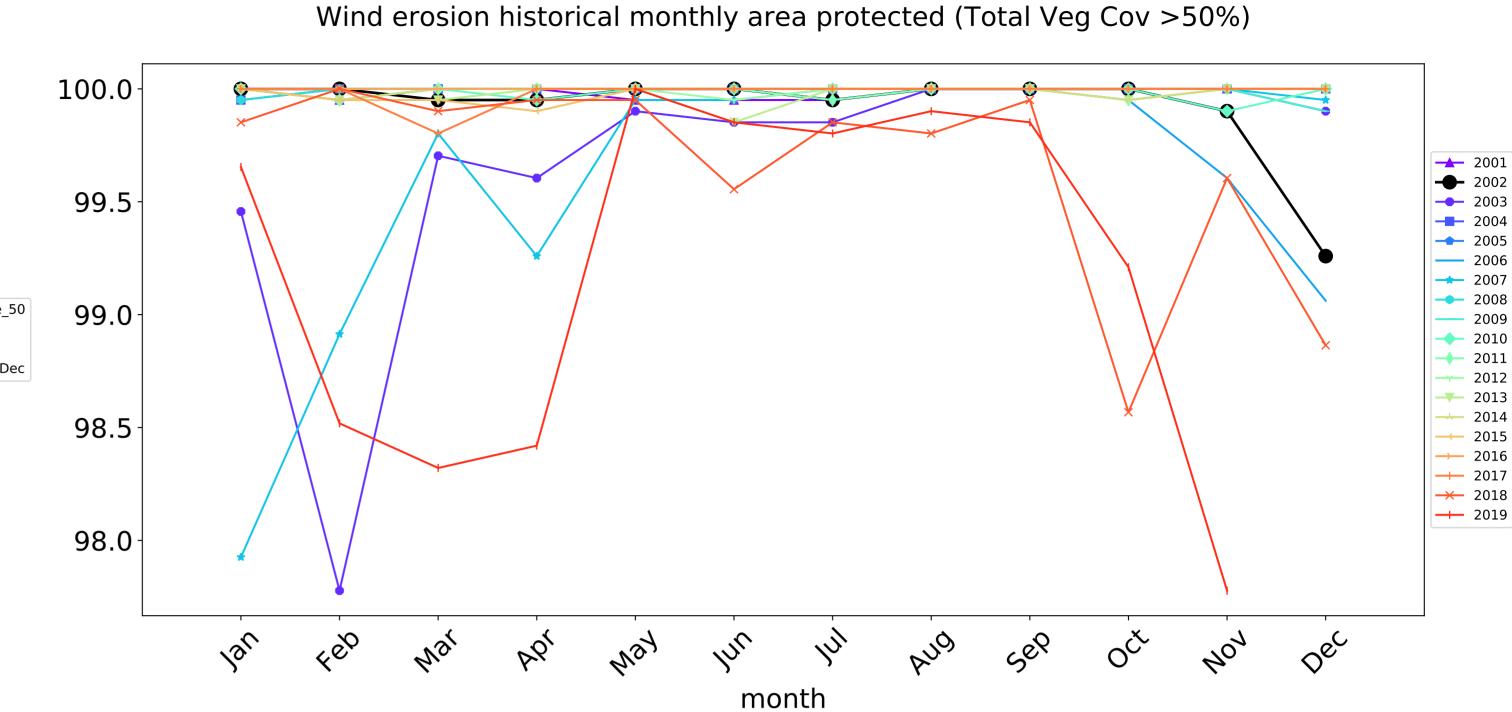


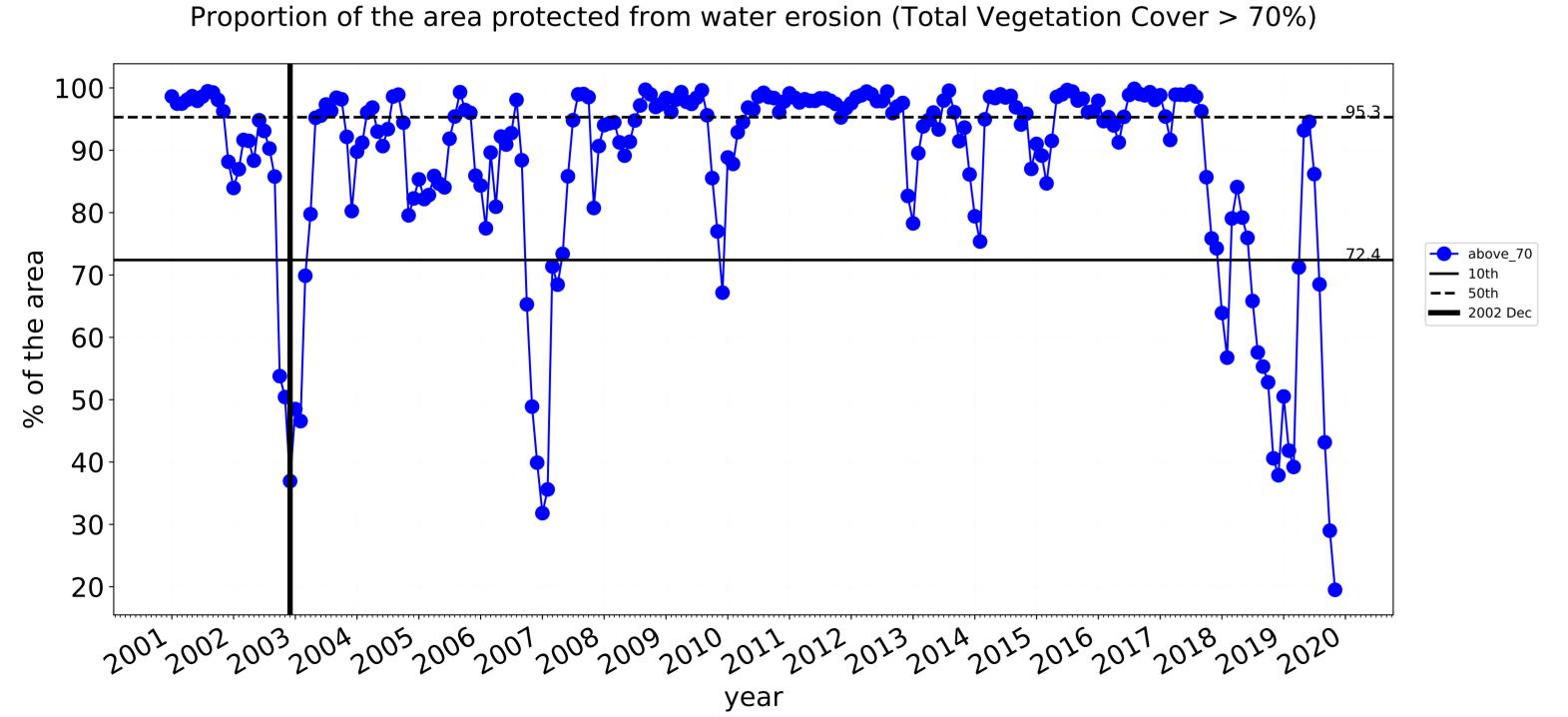


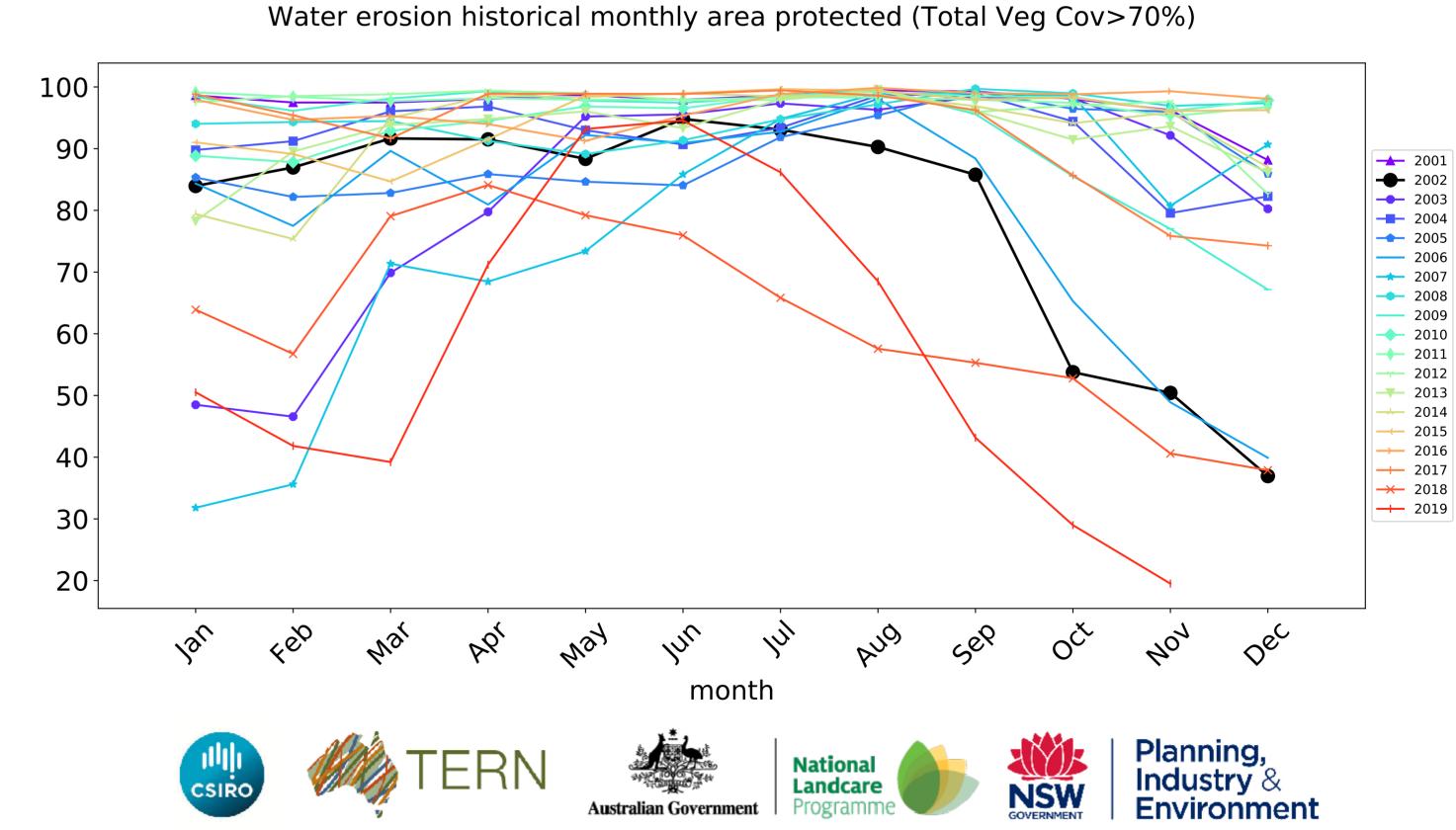


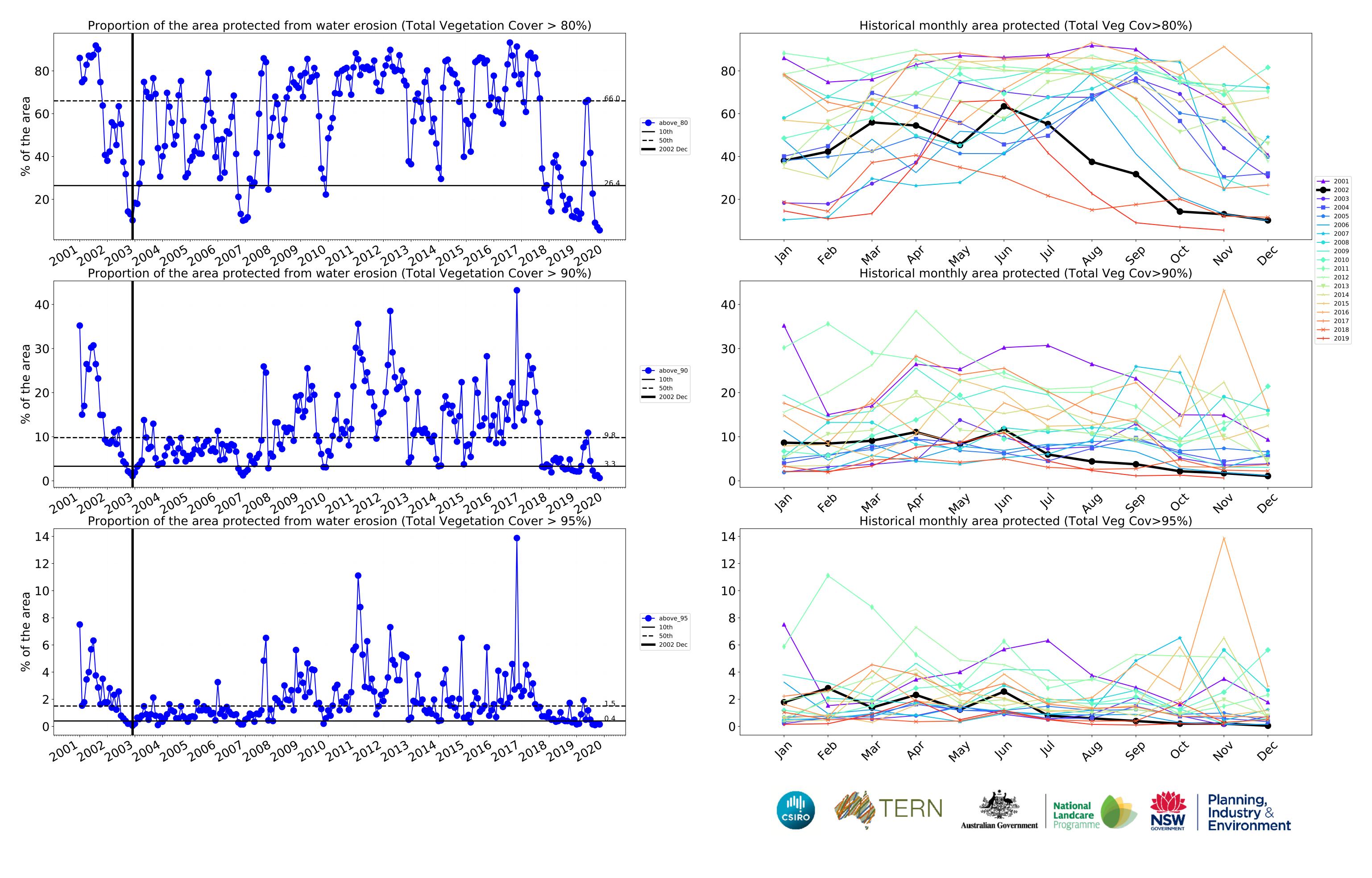
Cropping timeseries









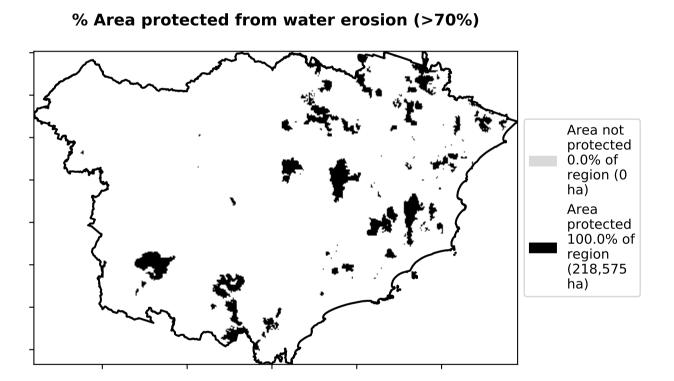


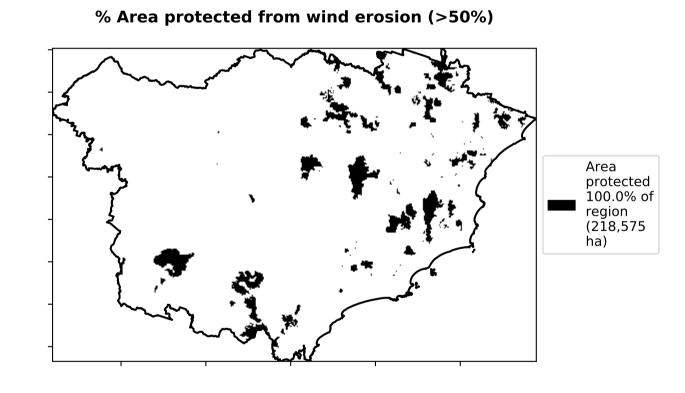
Production native forests and plantation forests

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) 1 Production native forests and plantation forests

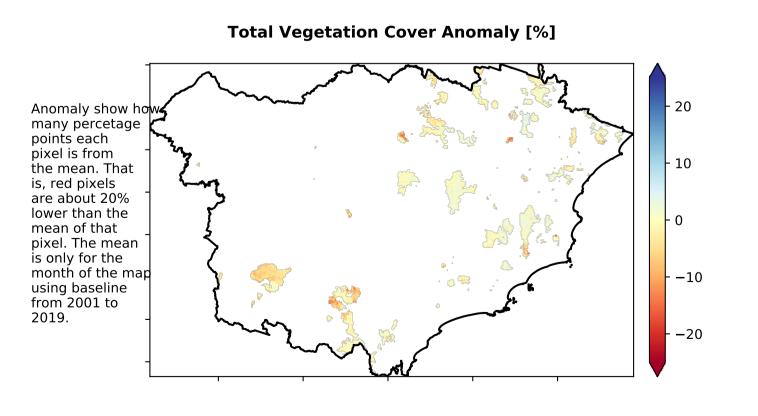
Total Vegetation Cover [%]

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

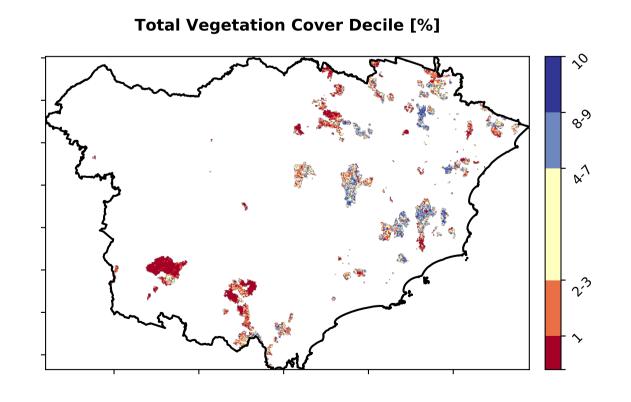




Proportion of vegetation cover class in area



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 baseling. the map using baseline from 2001 to 2019.







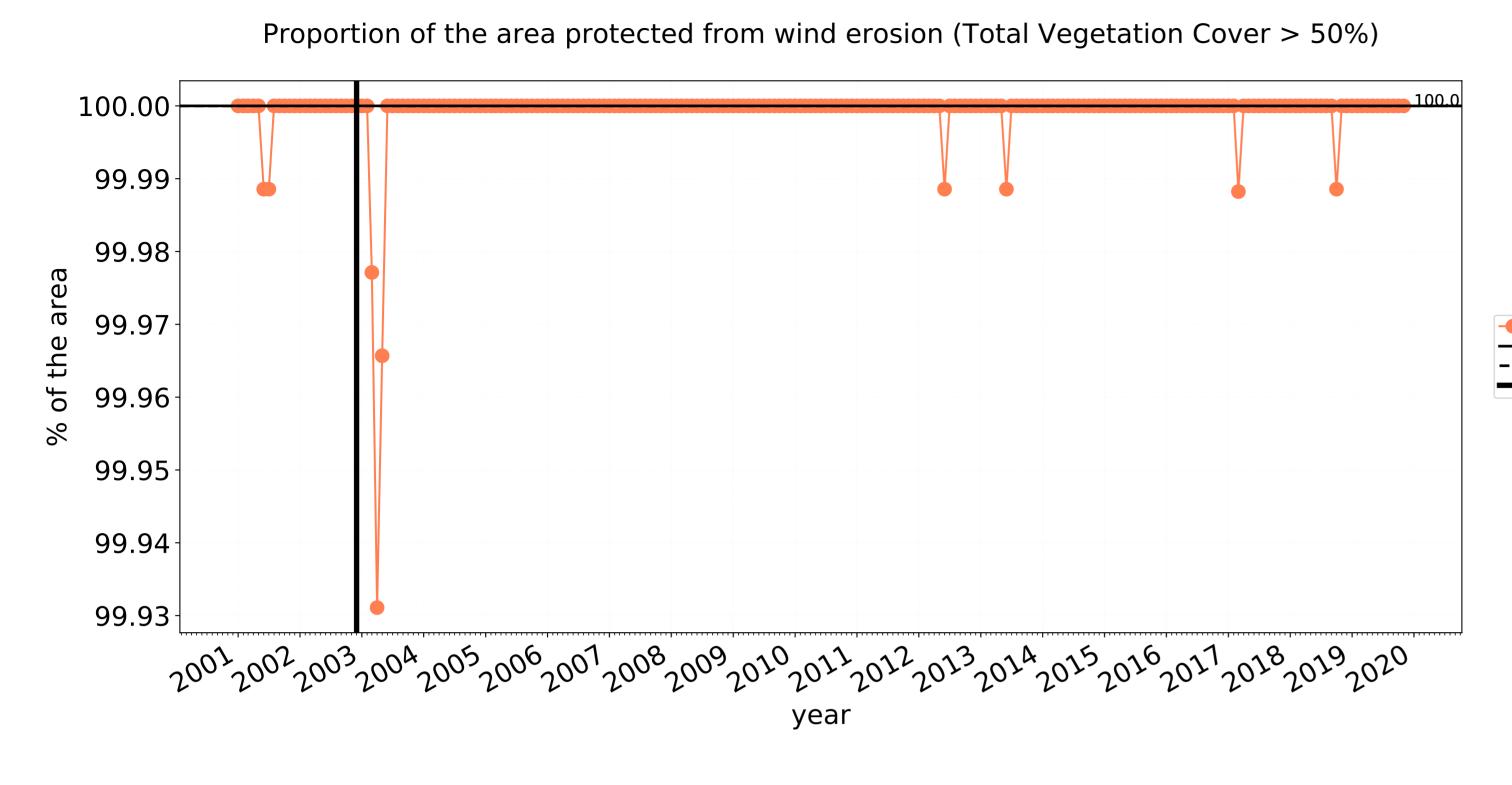


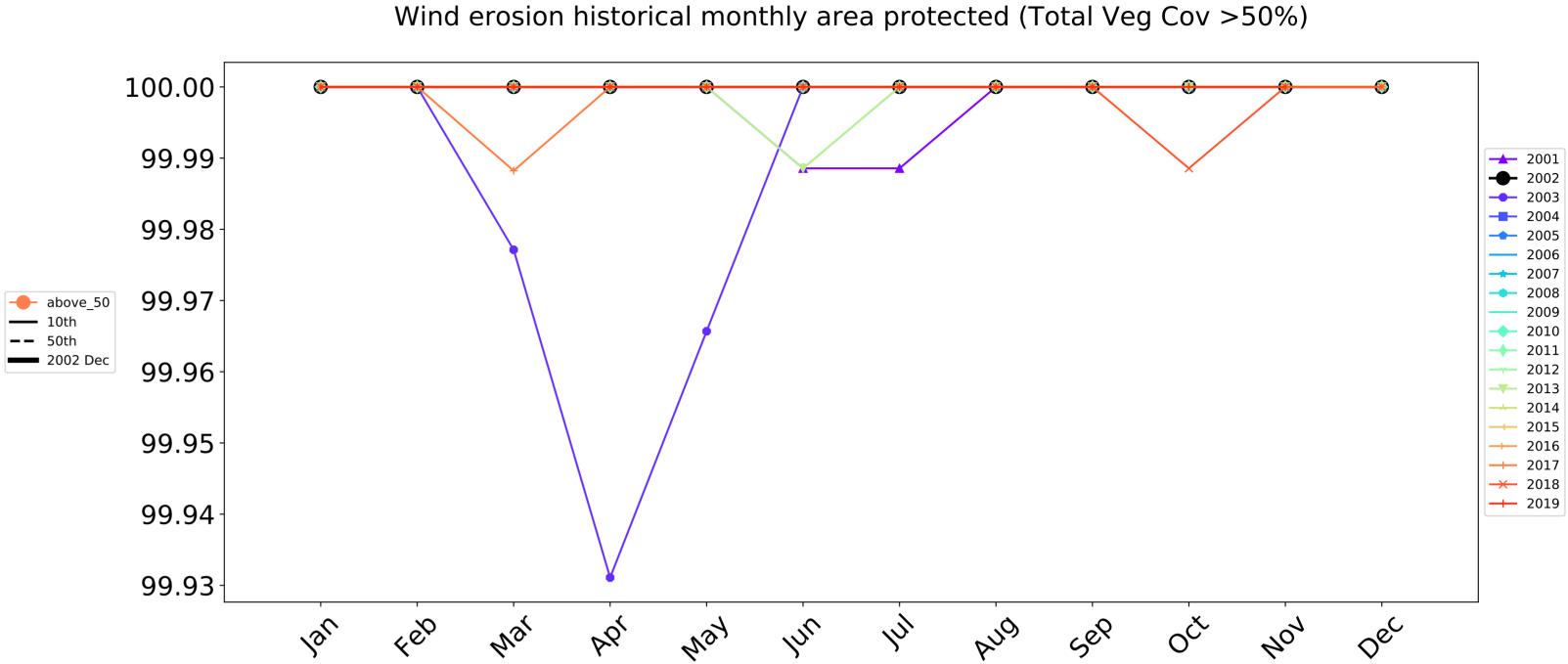




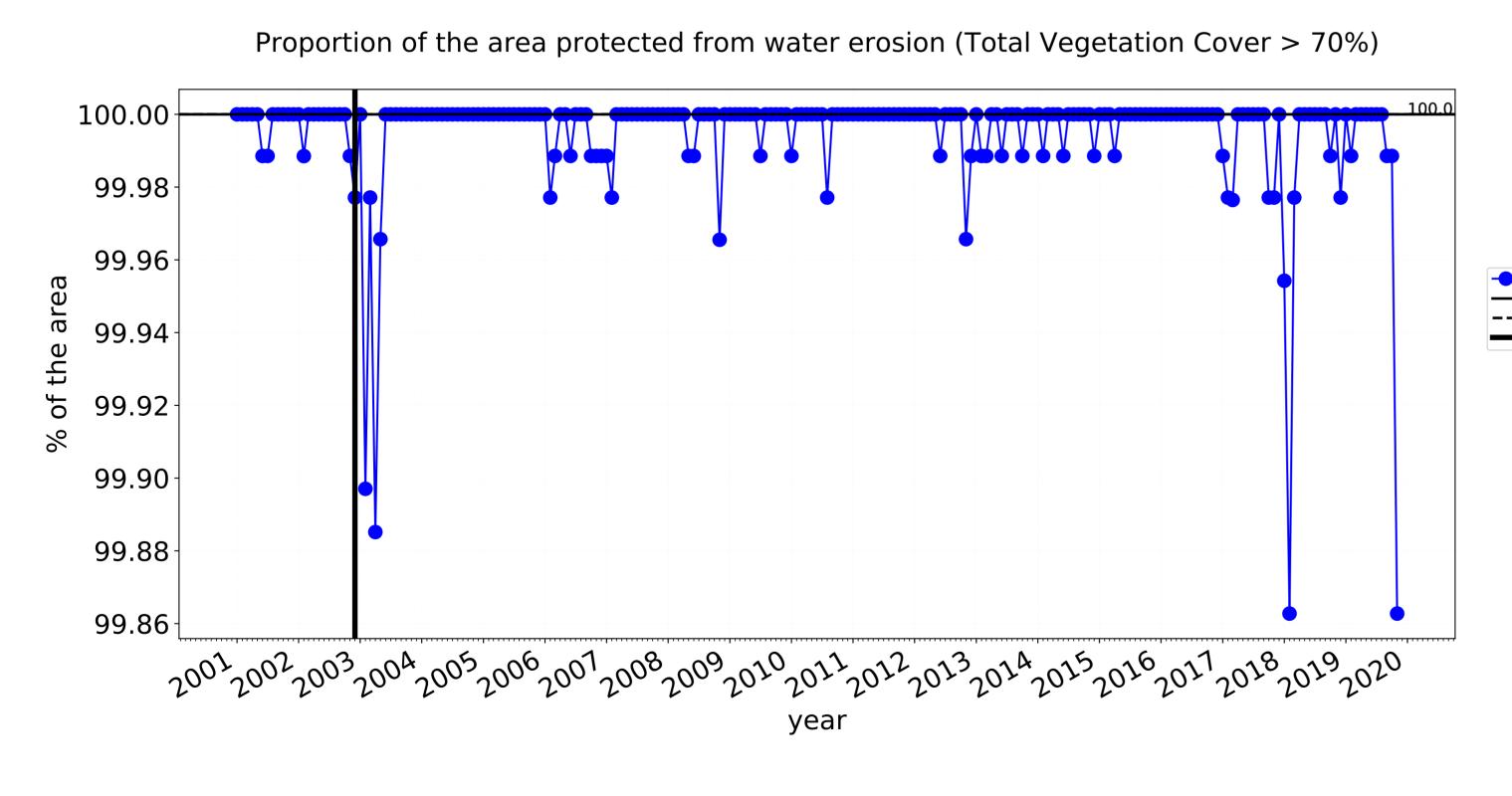


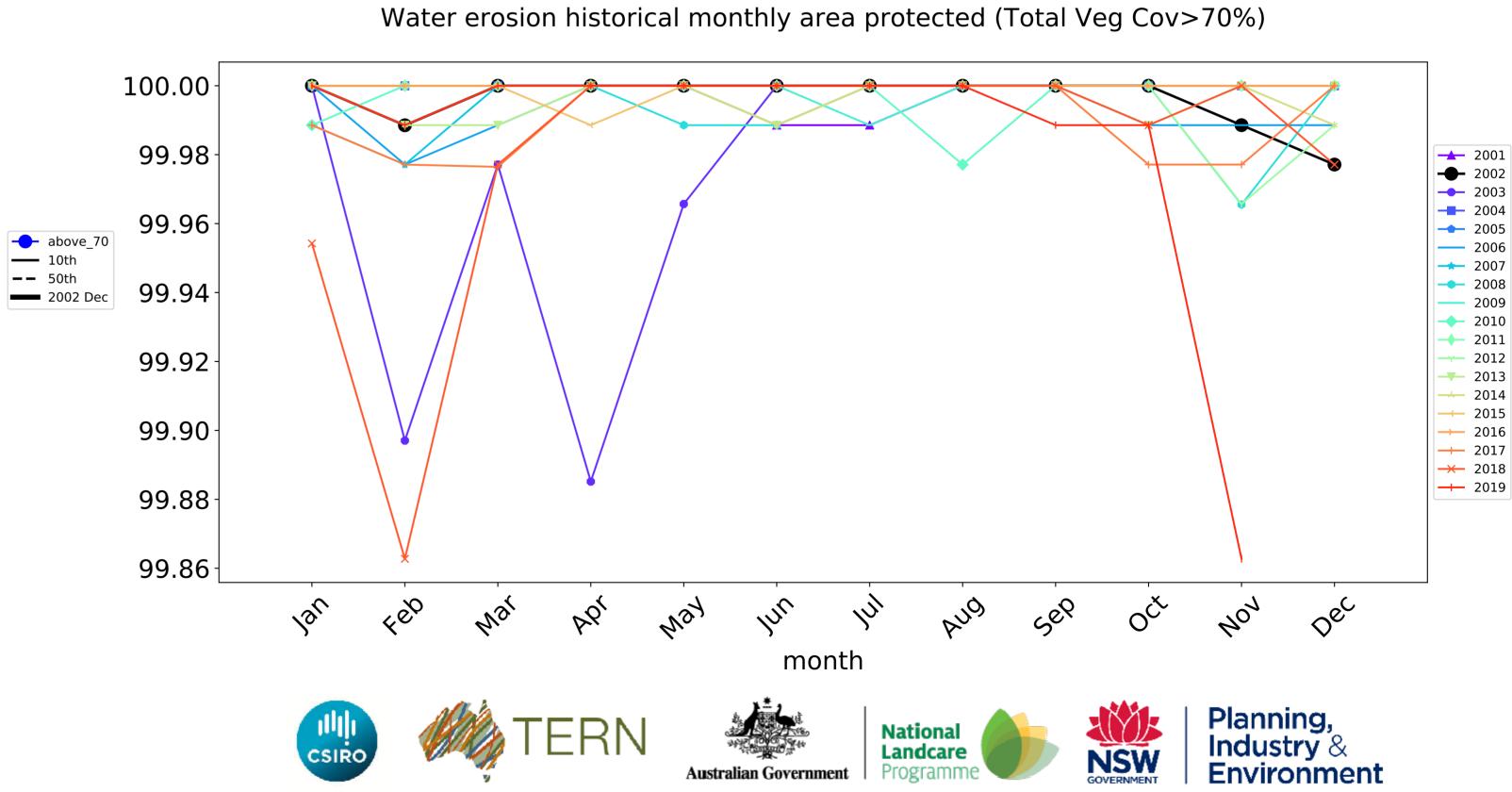
Production native forests and plantation forests timeseries

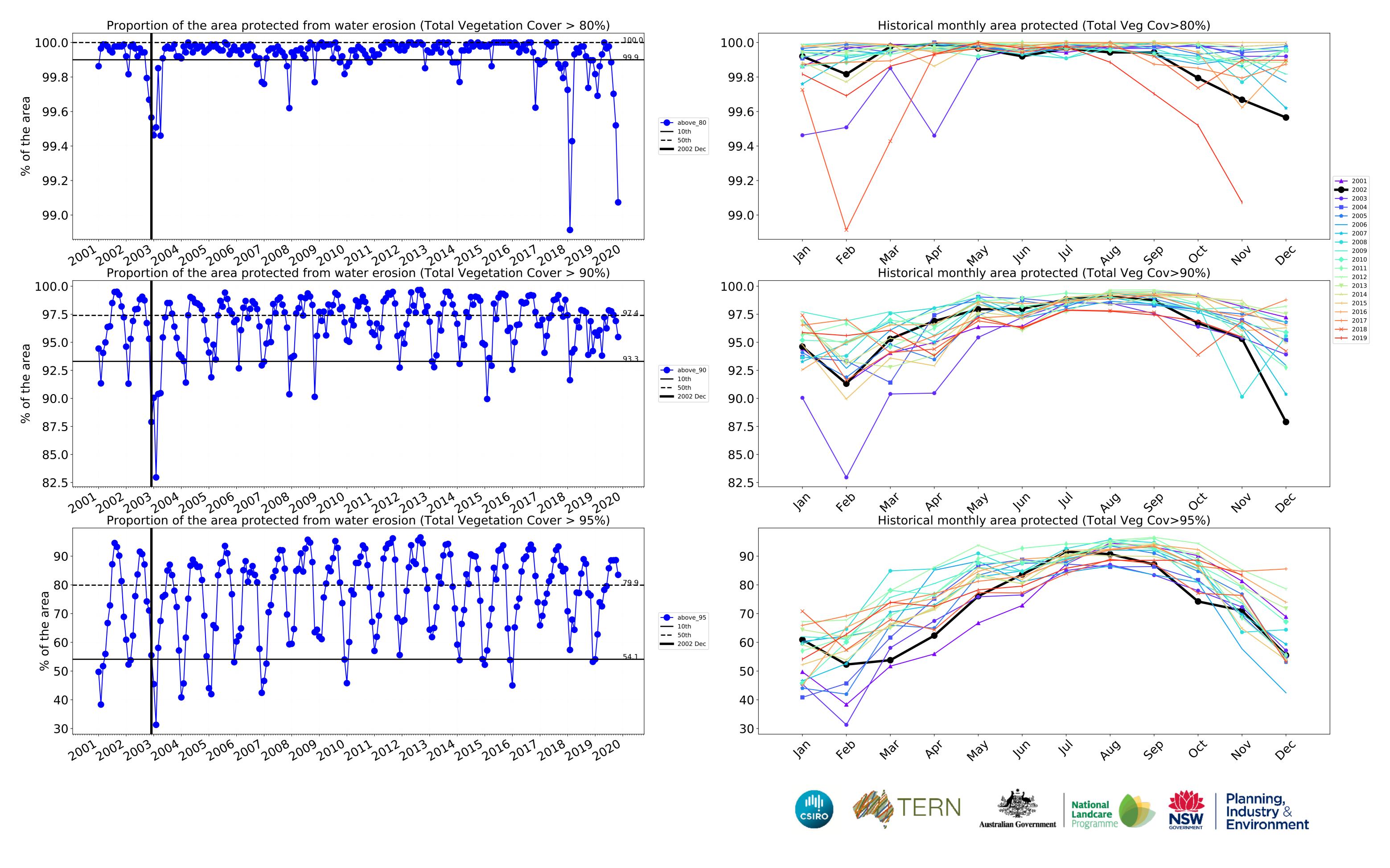




month







Hunter (3,240,325 ha and no data 60,100 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	3,240,325	99.9% 3,237,400	99.7% 3,229,626	96.0% 3,111,498	83.6% 2,708,973	44.6% 1,445,457	16.2% 524,302
Conservation and natural environments	1,241,400	99.9% 1,240,350	99.8% 1,239,250	99.4% 1,233,450	96.1% 1,192,550	66.5% 825,100	25.5% 316,550
Conservation and natural environments non forest	30,150	96.8% 29,175	94.1% 28,375	89.9% 27,100	82.0% 24,725	50.2% 15,125	14.1% 4,250
Conservation and natural environments Woodland forest	138,900	100.0% 138,875	100.0% 138,850	99.5% 138,200	94.2% 130,800	49.1% 68,250	8.0% 11,150
Conservation and natural environments Forest (non woodland)	1,072,350	100.0% 1,072,300	100.0% 1,072,025	99.6% 1,068,150	96.7% 1,037,025	69.2% 741,725	28.1% 301,150
Agriculture	1,580,900	100.0% 1,580,750	99.9% 1,579,675	94.8% 1,498,875	75.1% 1,186,825	24.9% 392,925	5.0% 79,750
Grazing	1,502,900	100.0% 1,502,750	99.9% 1,502,050	96.8% 1,454,650	77.8% 1,169,850	26.1% 391,725	5.3% 79,600
Grazing non forest	1,213,125	100.0% 1,213,000	99.9% 1,212,325	96.2% 1,167,075	75.5% 916,400	24.0% 290,550	4.8% 58,800
Grazing Woodland forest	120,600	100.0% 120,600	100.0% 120,600	99.2% 119,625	79.6% 95,950	21.4% 25,800	3.4% 4,125
Grazing - Forest (non woodland)	169,175	100.0% 169,150	100.0% 169,125	99.3% 167,950	93.1% 157,500	44.6% 75,375	9.9% 16,675
Cropping	50,625	100.0% 50,625	99.3% 50,250	36.9% 18,700	10.2% 5,150	1.1% 550	0.0% 25
Production native forests and plantation forests	218,575	100.0% 218,575	100.0% 218,575	100.0% 218,525	99.6% 217,625	87.9% 192,125	55.5% 121,300











