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: August 2011

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







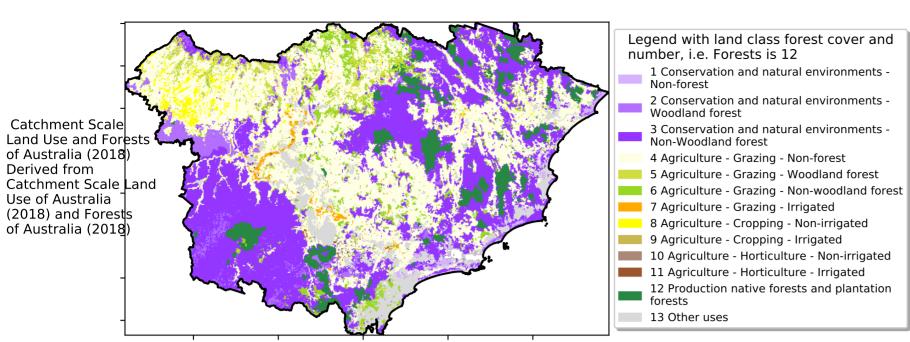




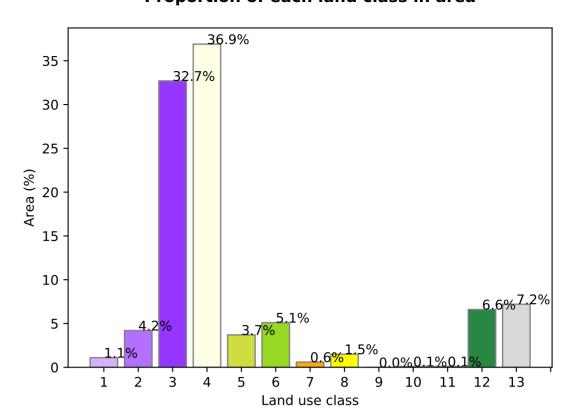


Vegetation Cover Aug 2011

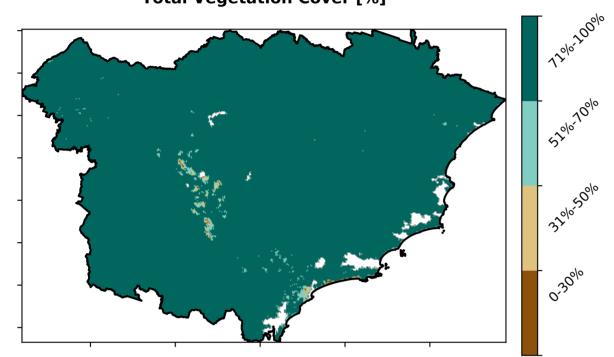
Land use and forest cover



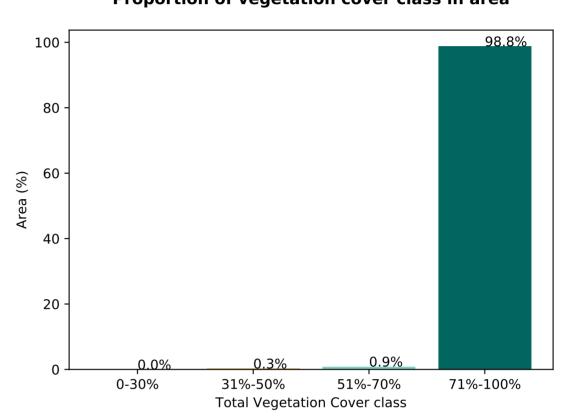
Proportion of each land class in area



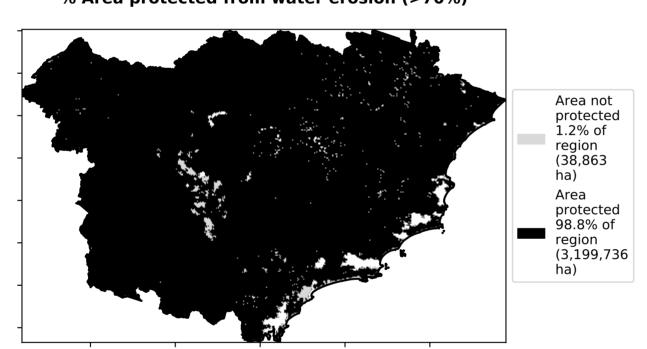
Total Vegetation Cover [%]



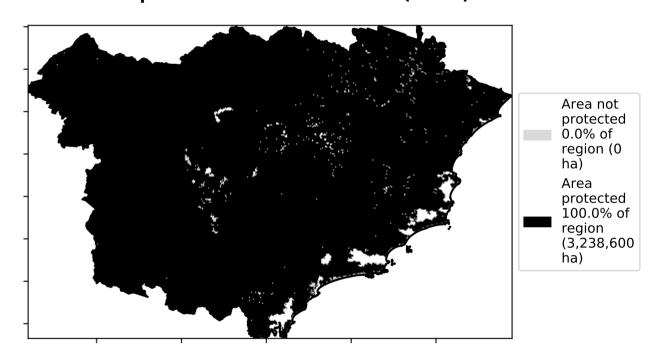
Proportion of vegetation cover class in area



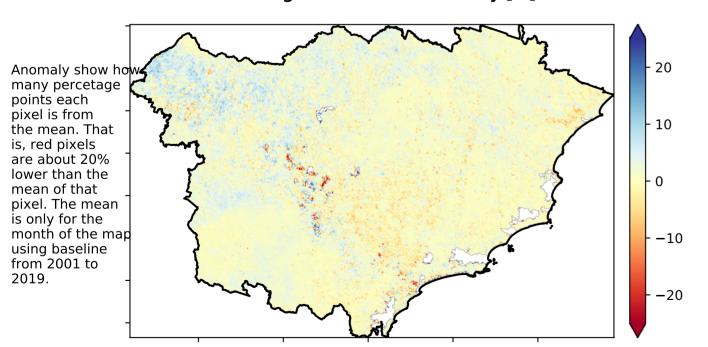
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

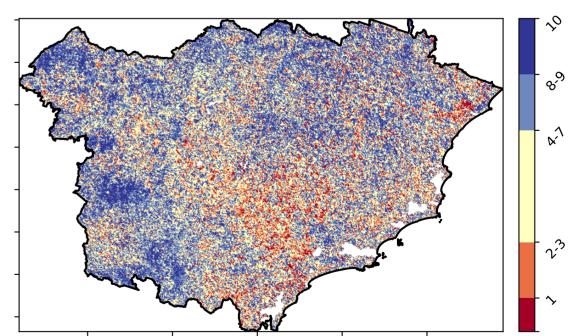


Total Vegetation Cover Anomaly [%]



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 [%]





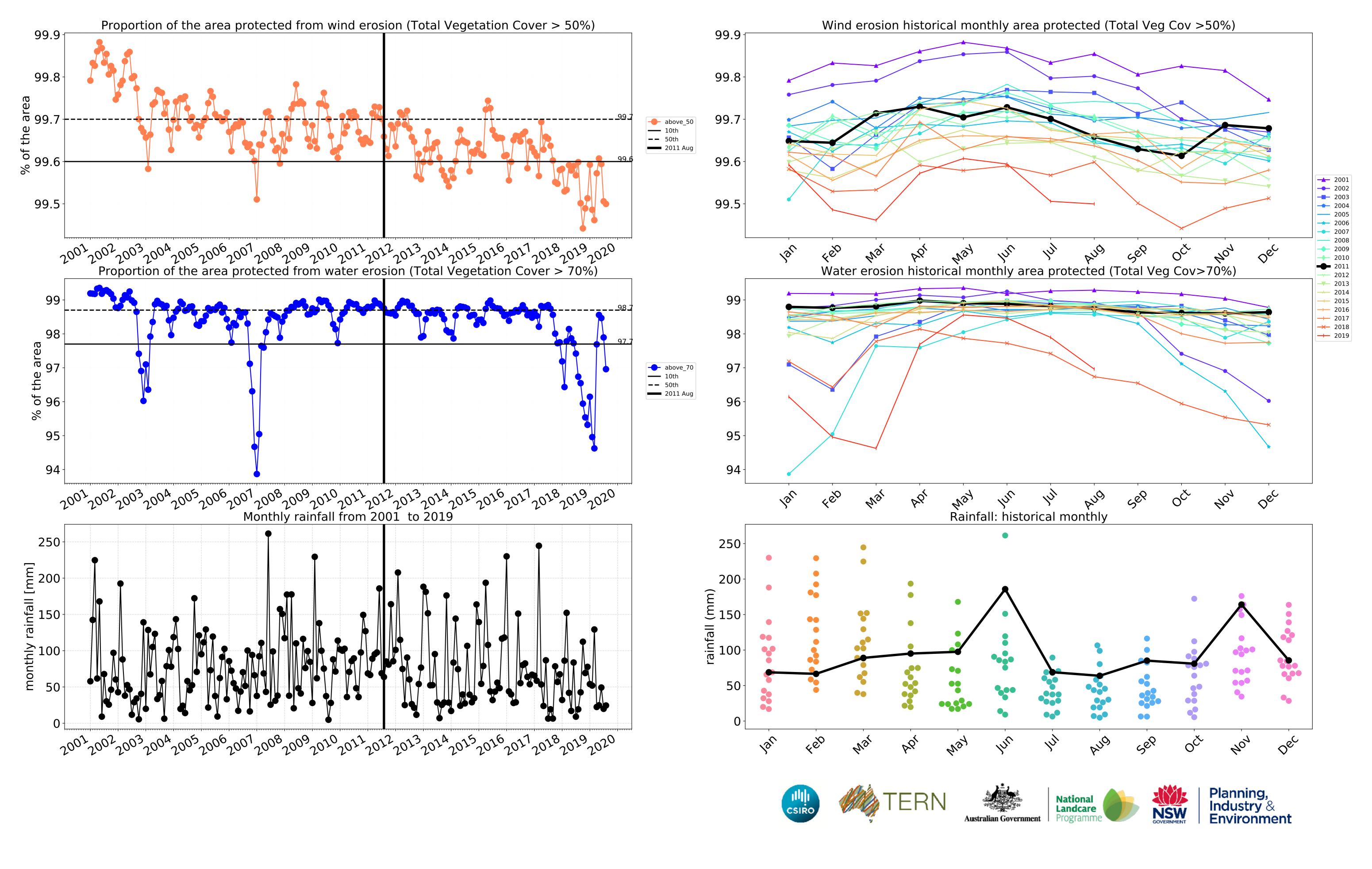


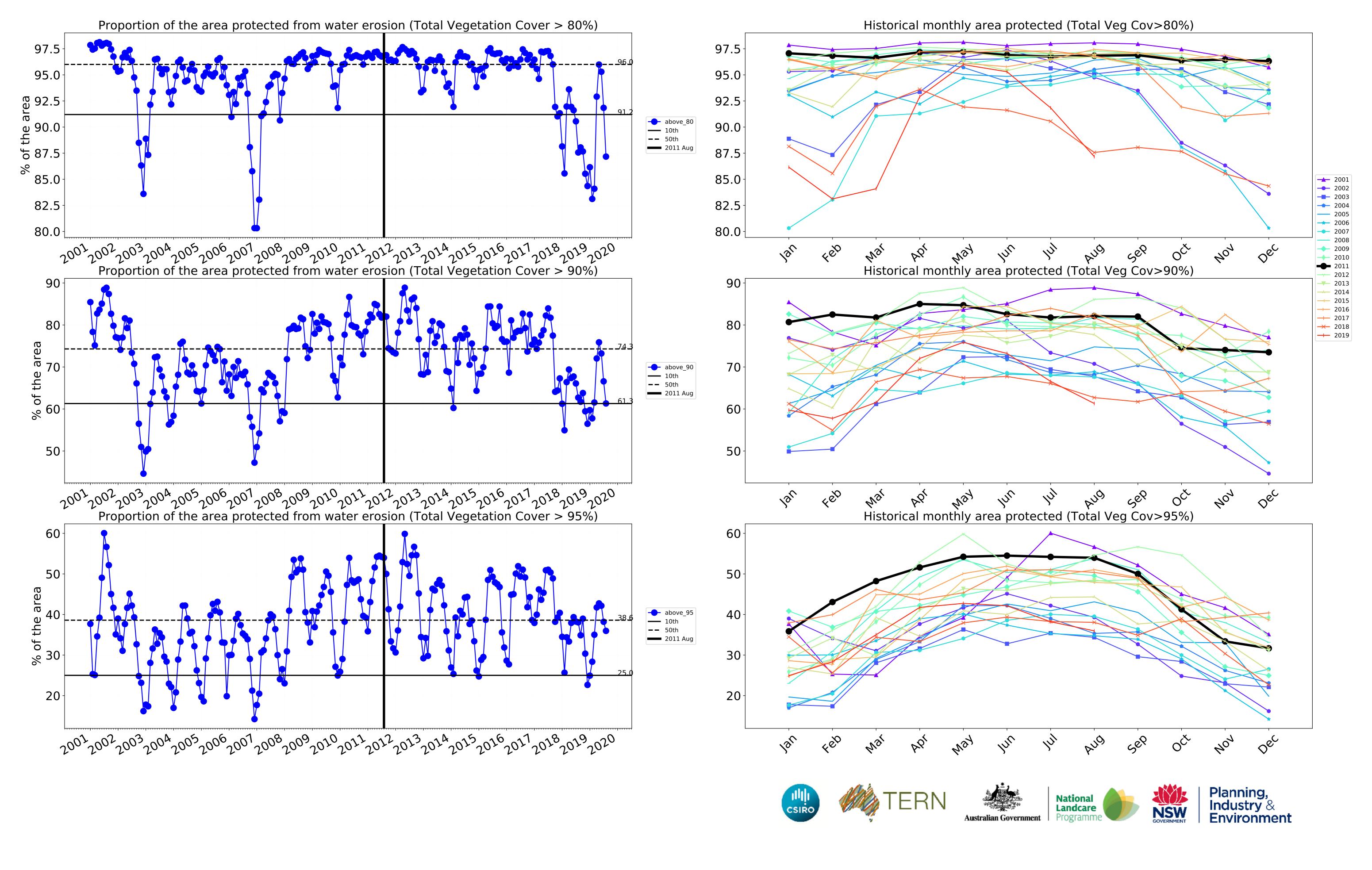






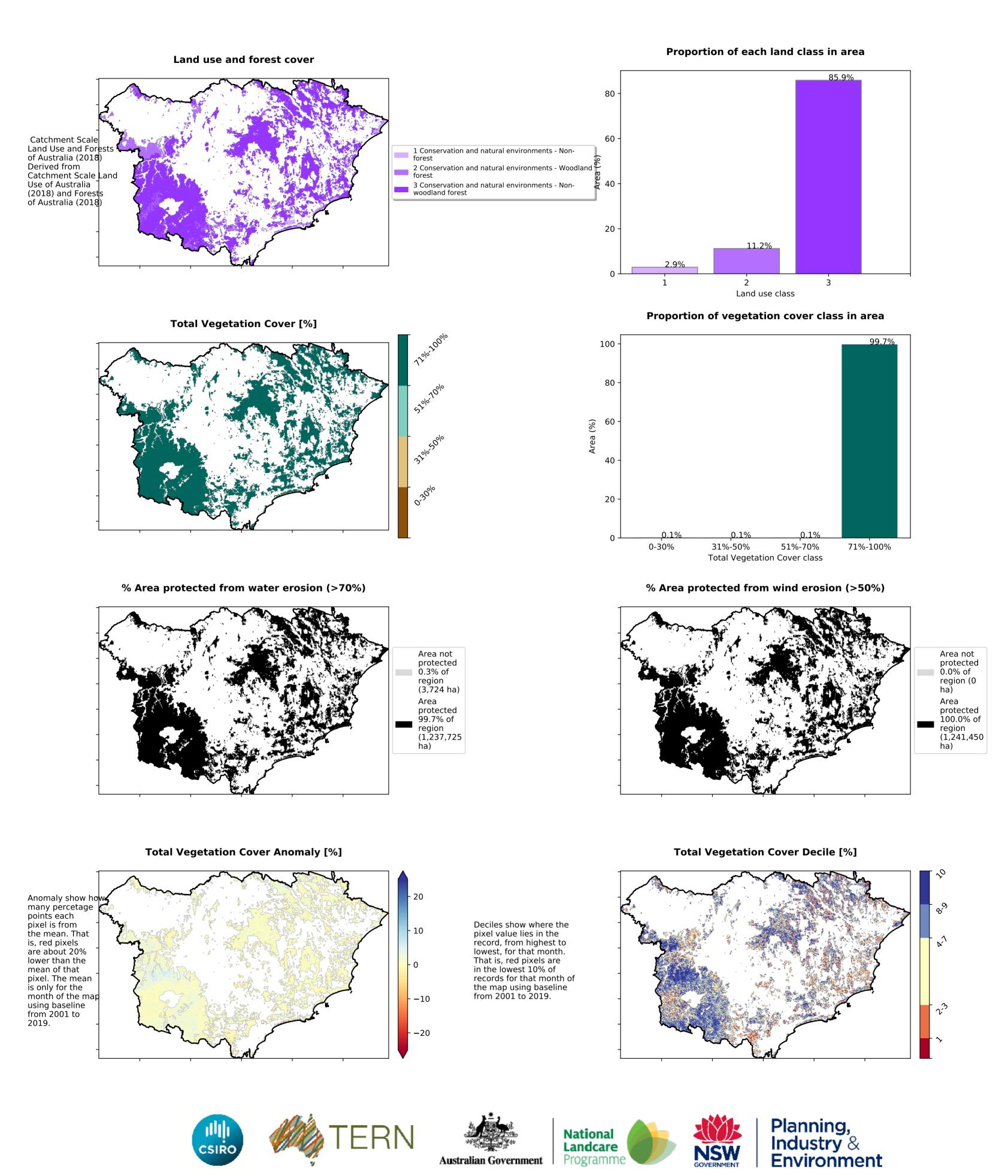




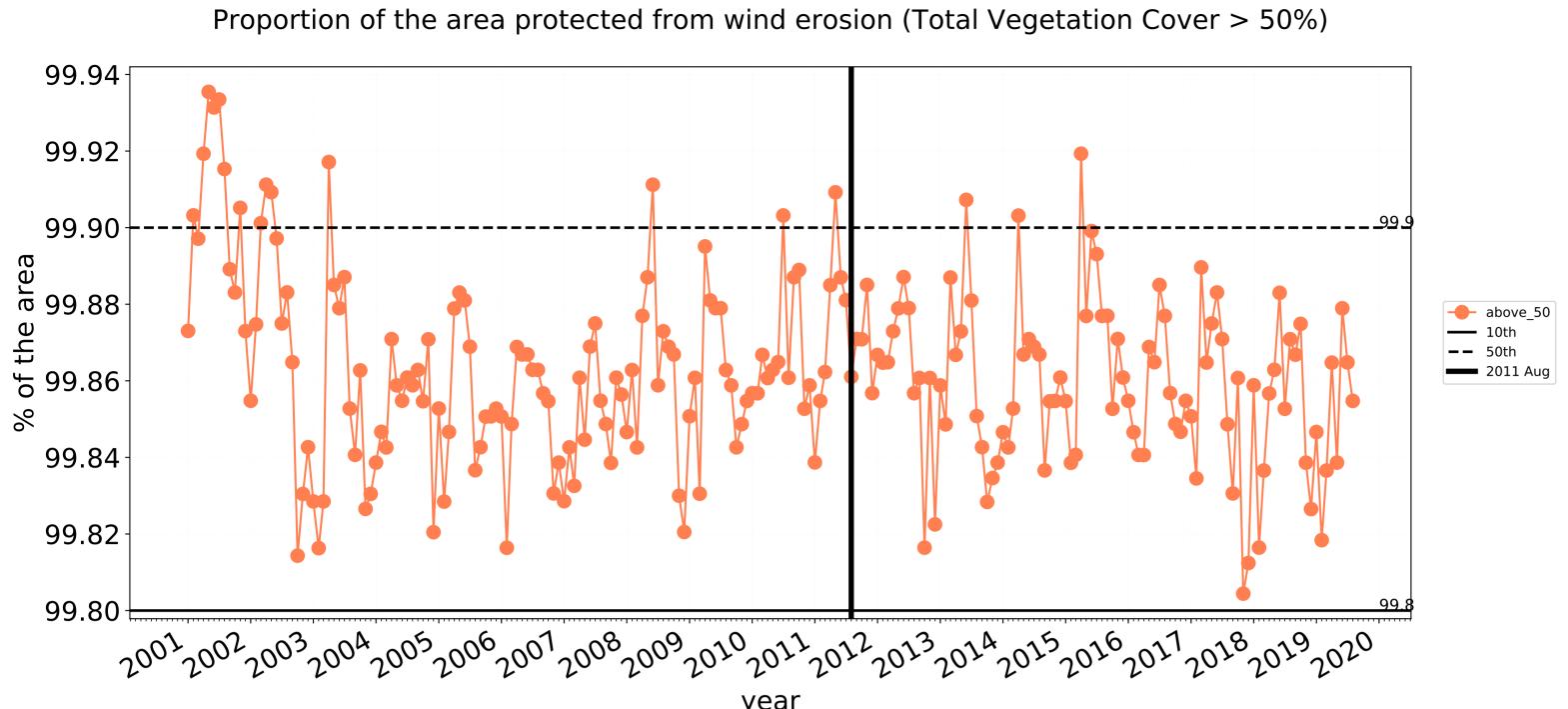


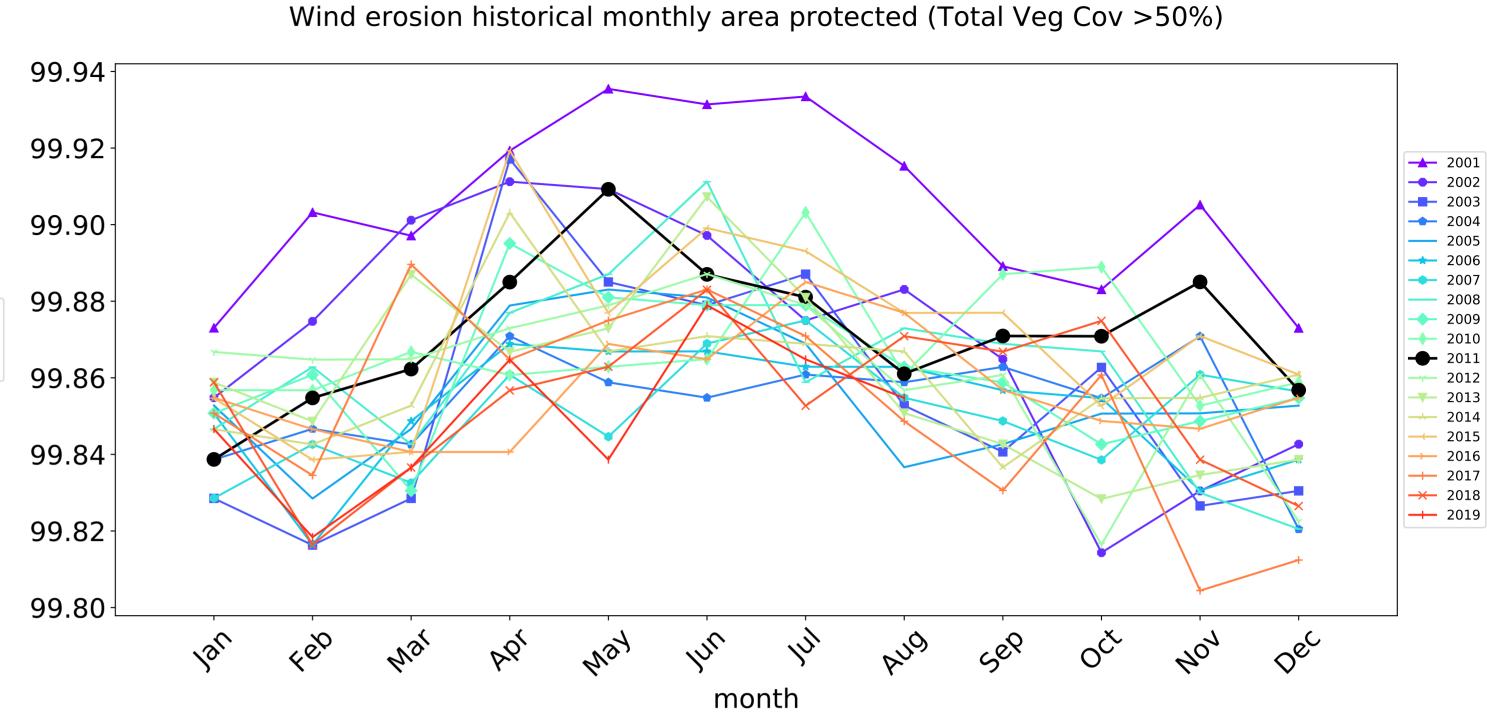
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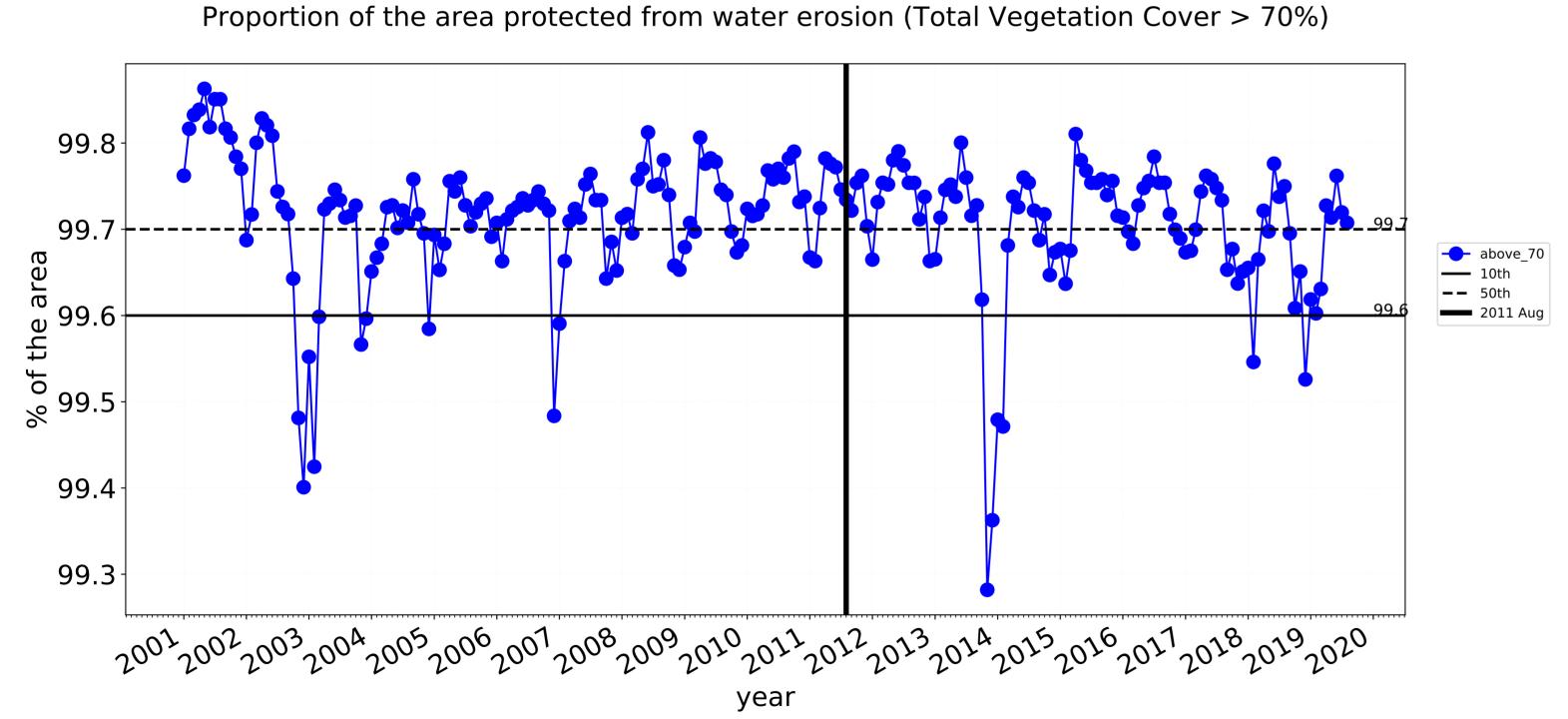
Conservation and natural environments

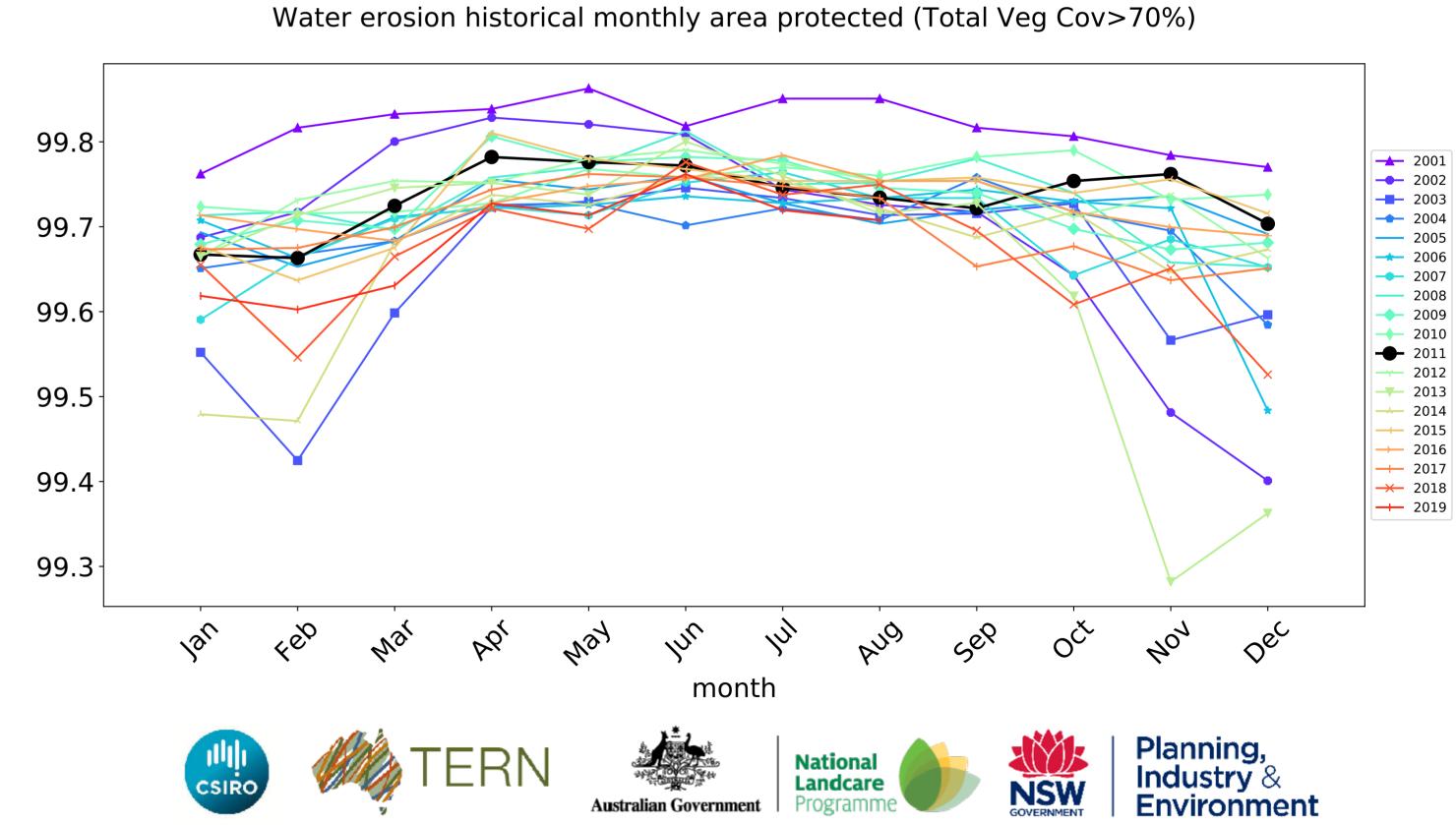


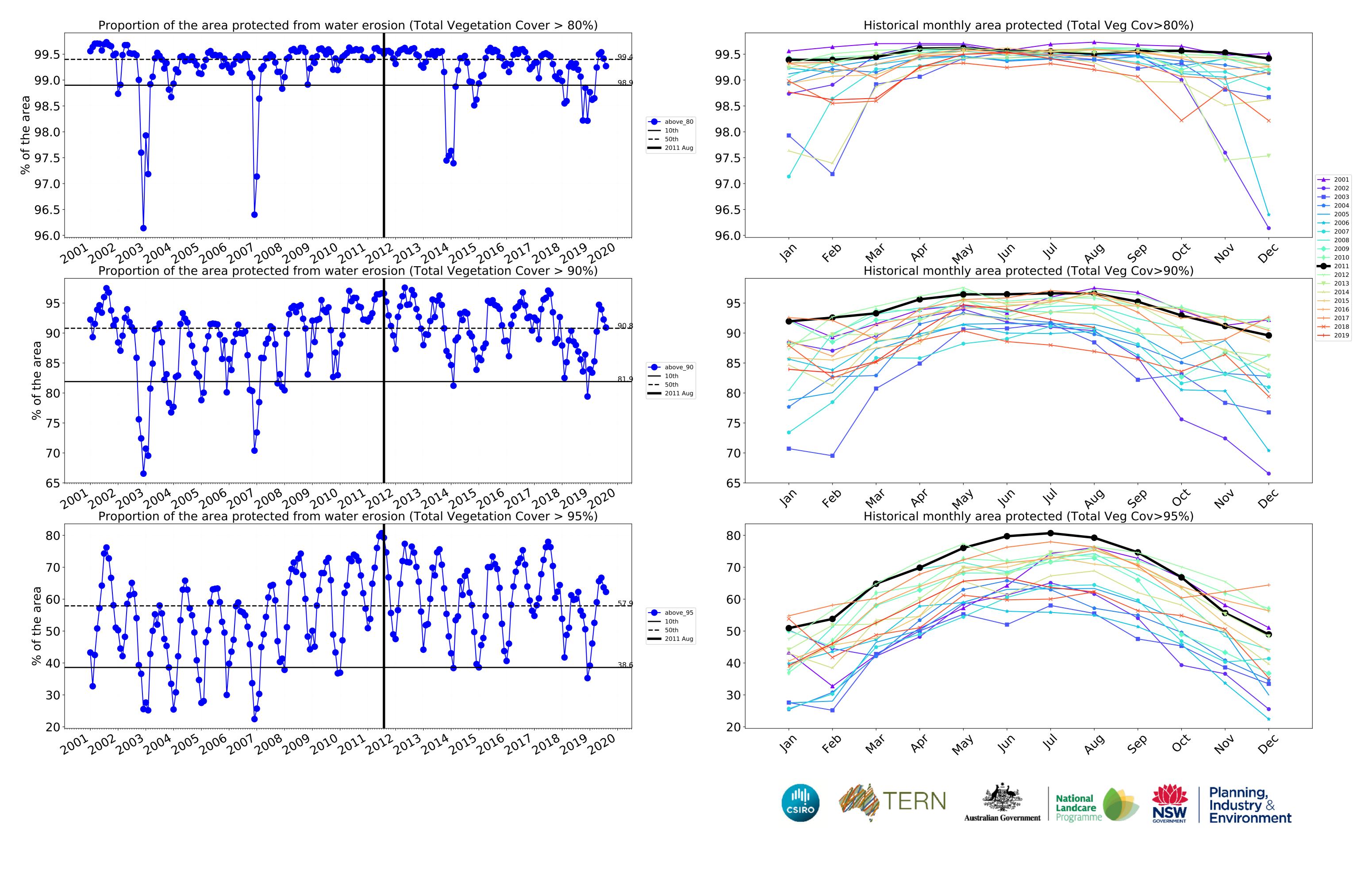
Conservation and natural environments timeseries



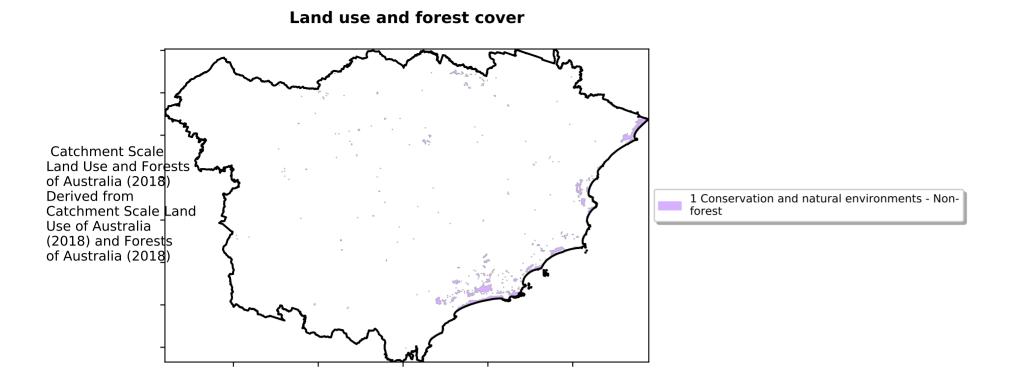




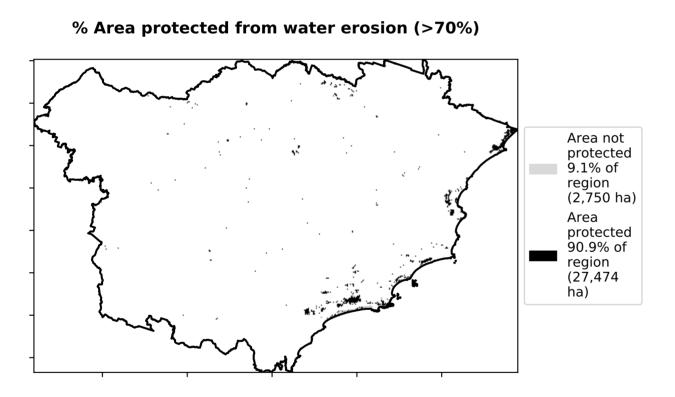


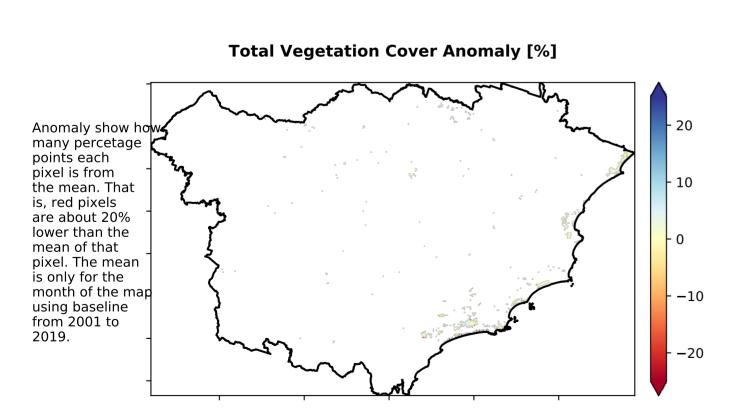


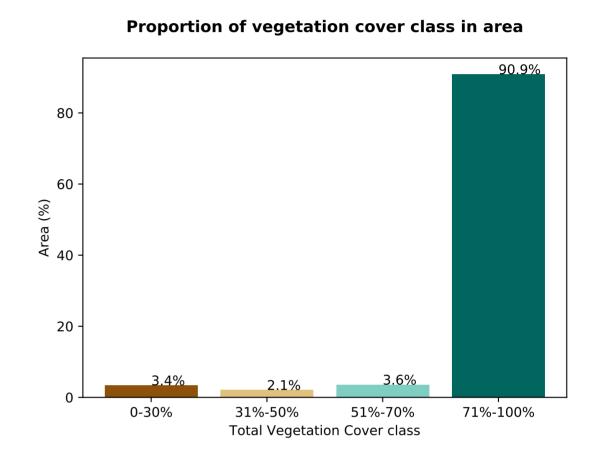
Conservation and natural environments non forest

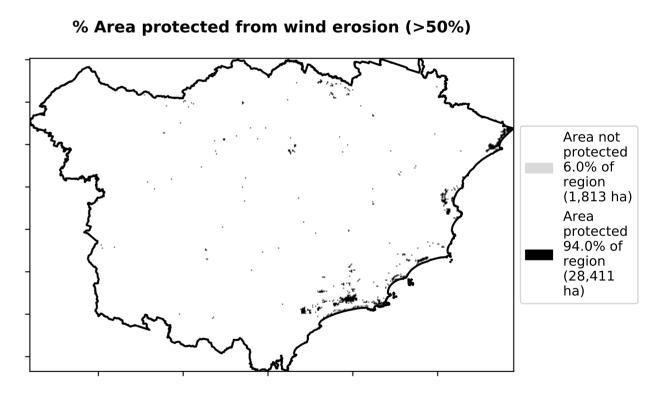


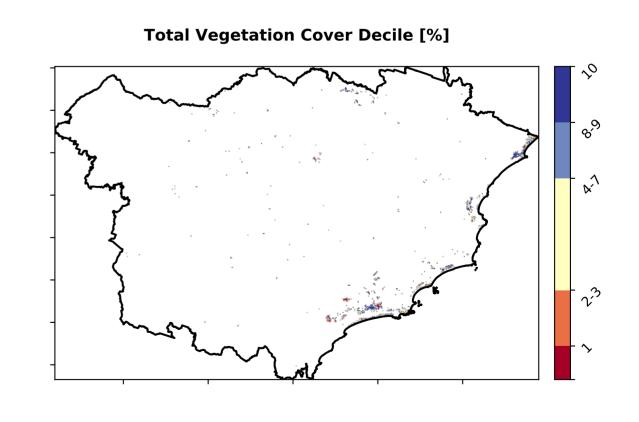
Total Vegetation Cover [%] Talestage Tales















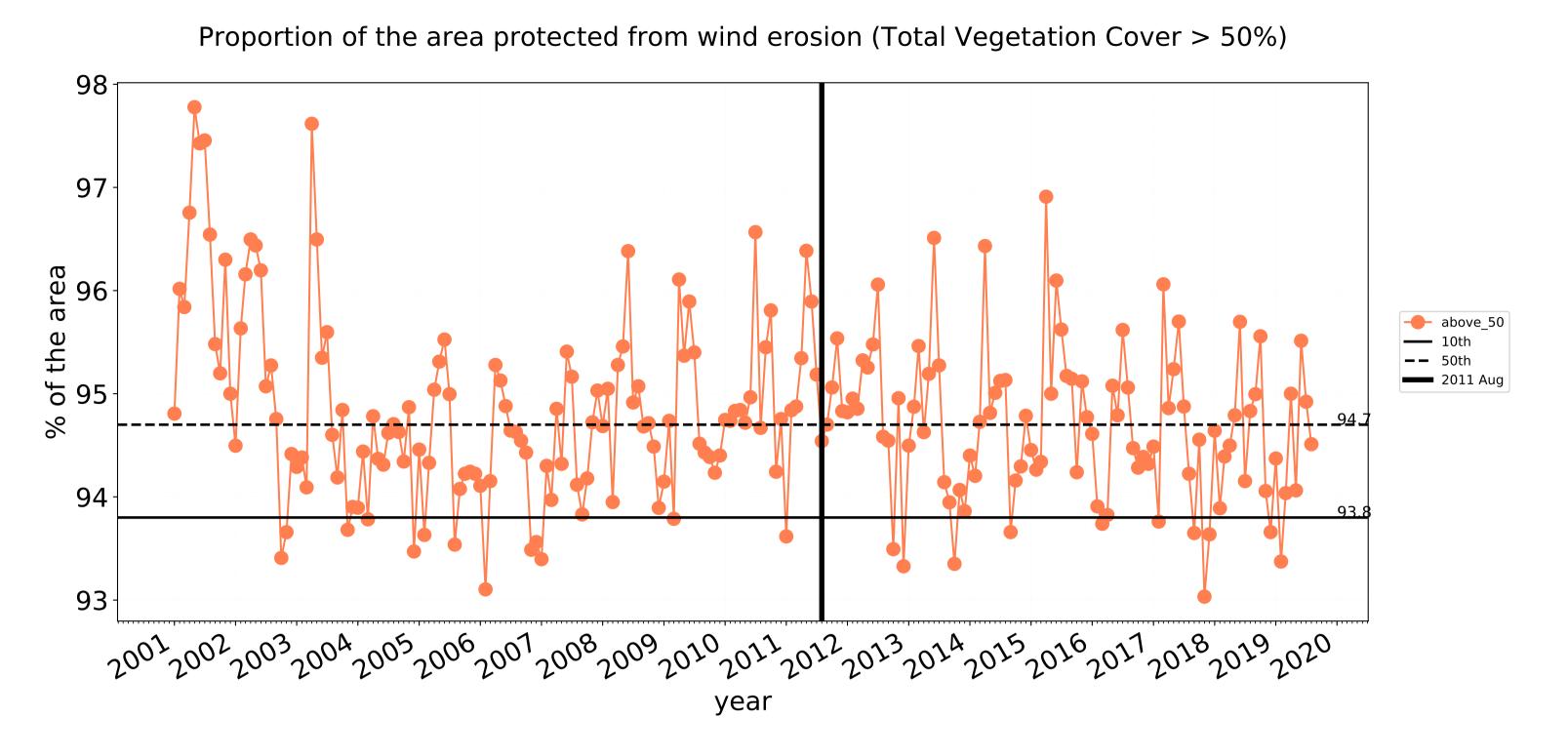


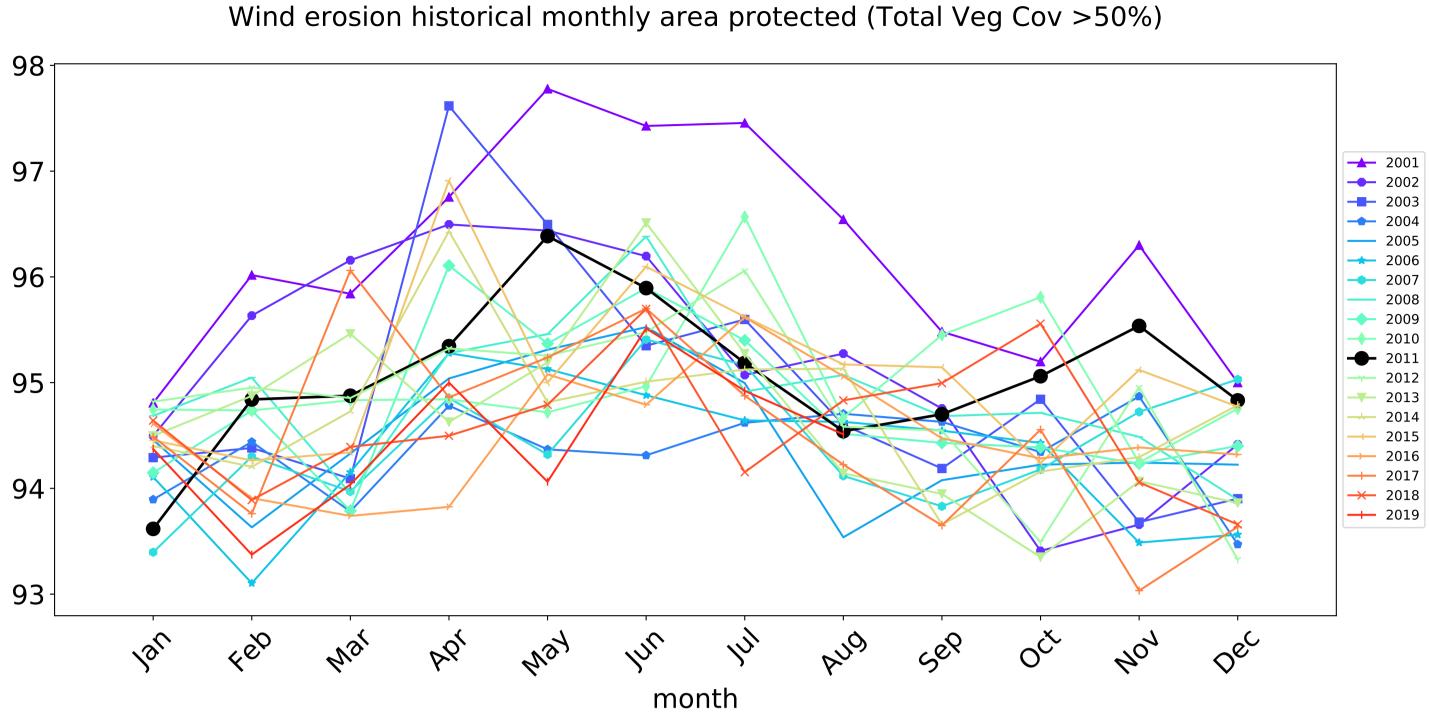


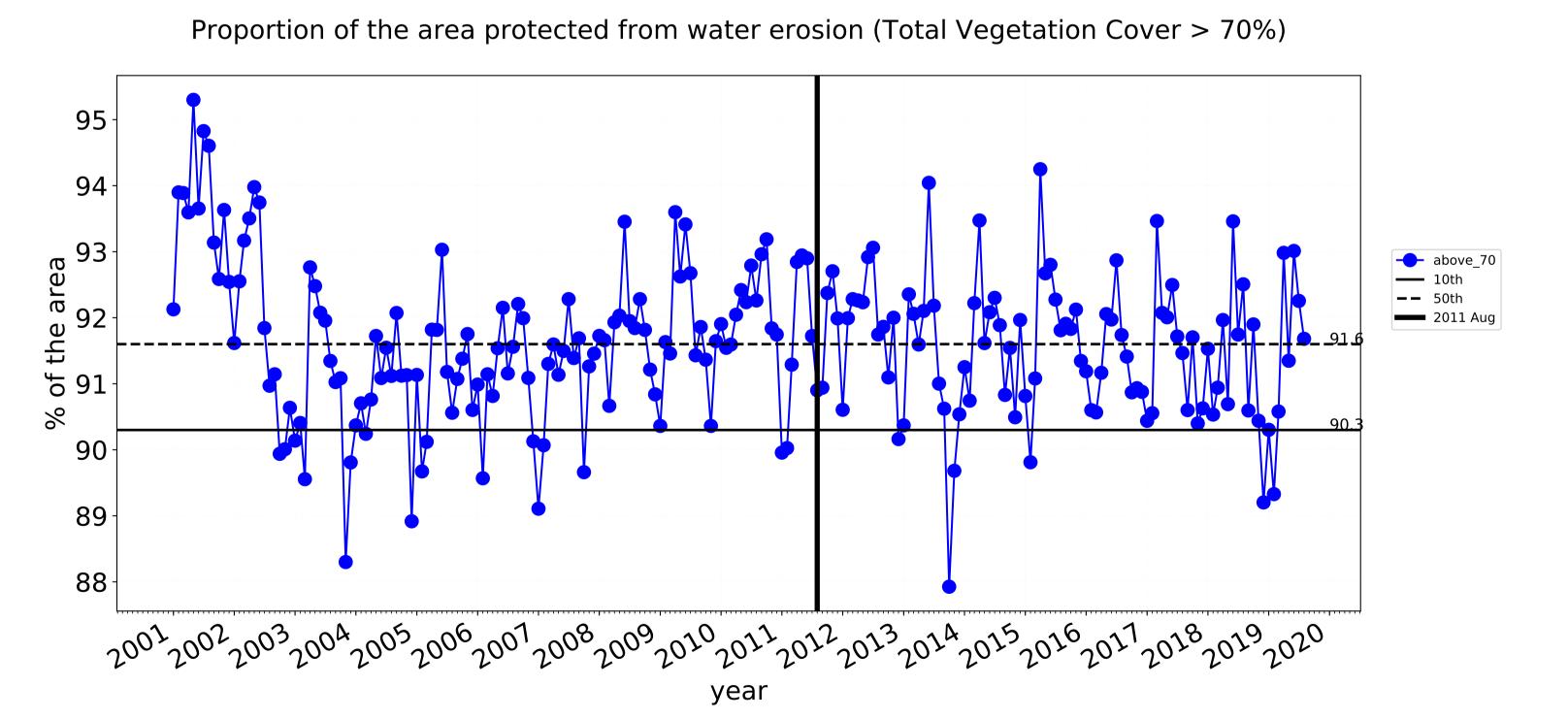


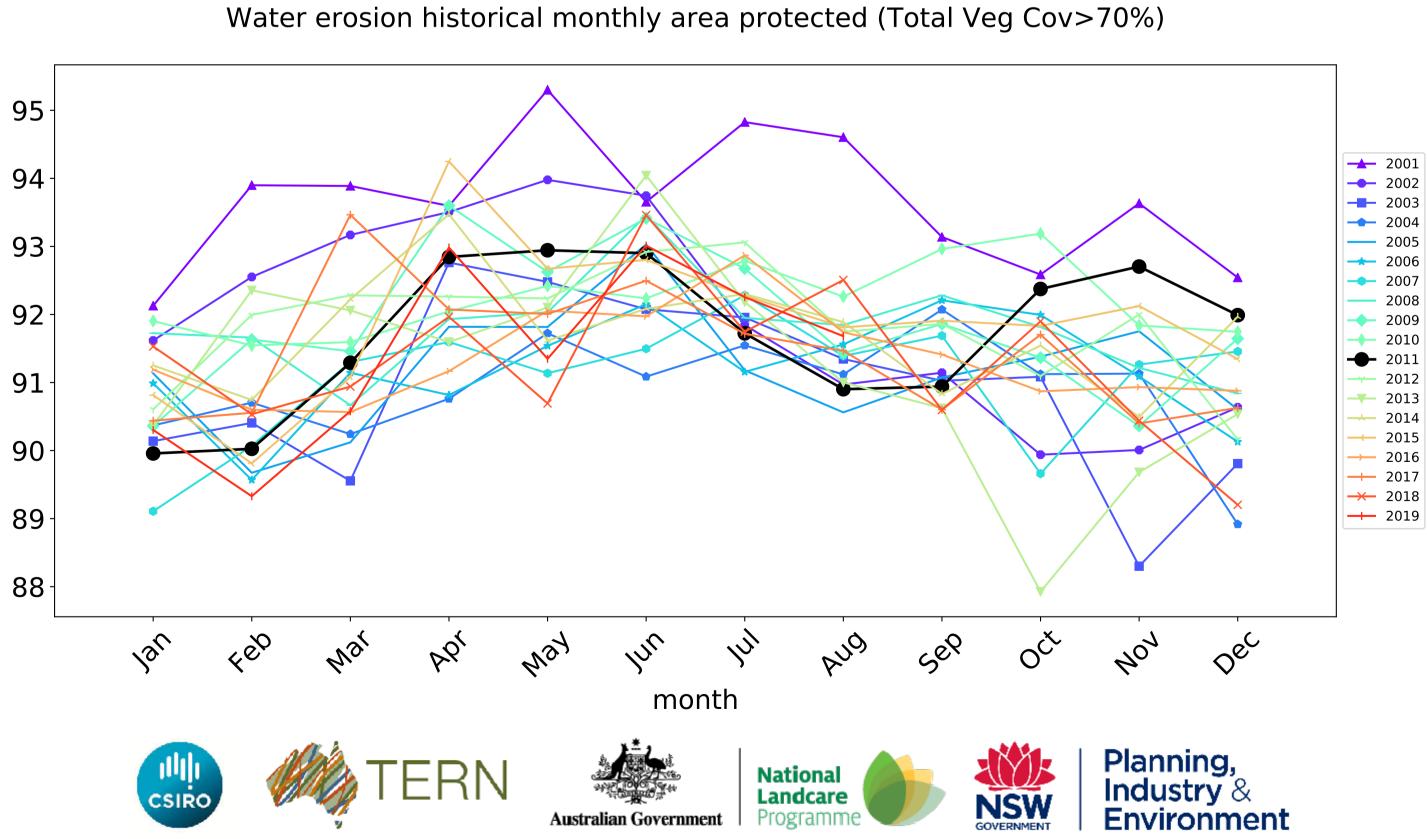


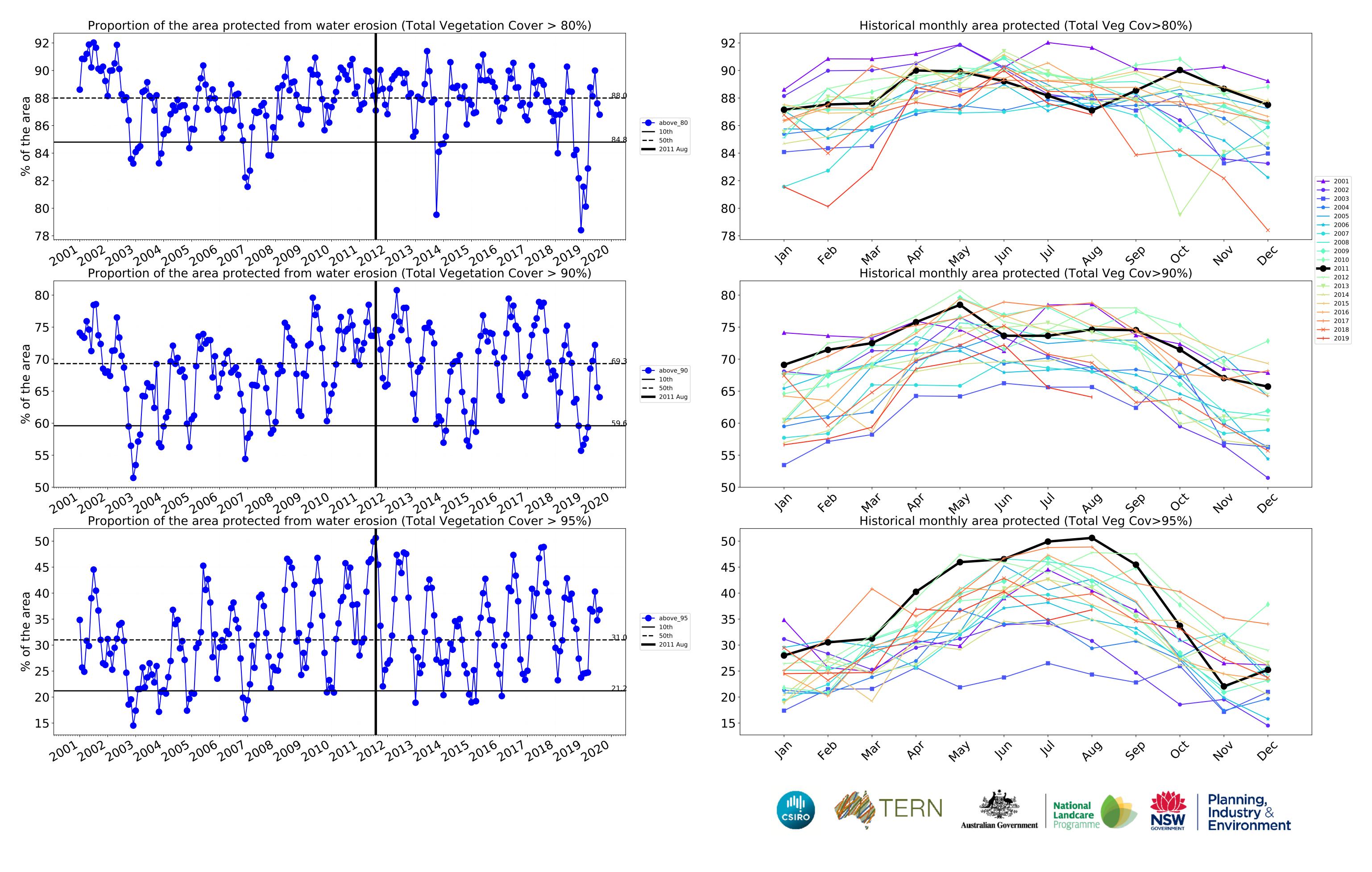
Conservation and natural environments non forest timeseries



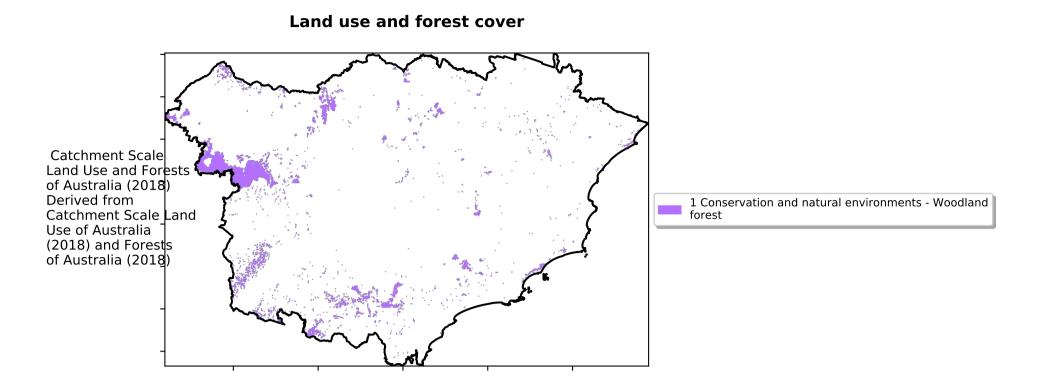


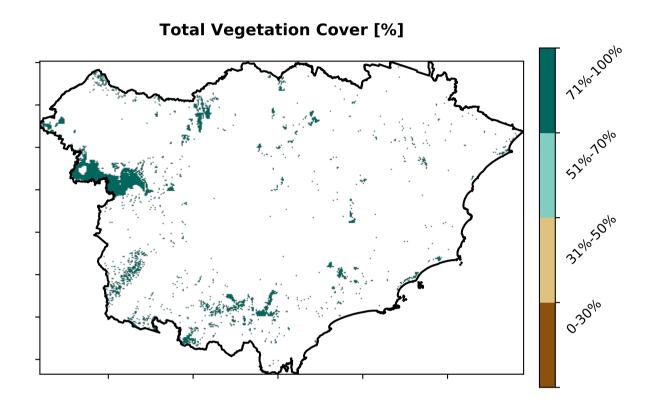


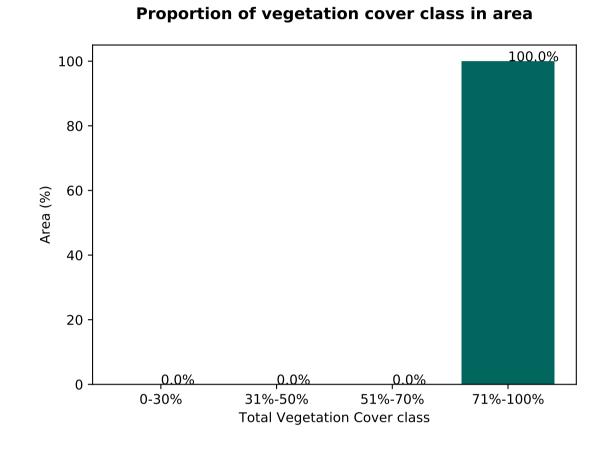


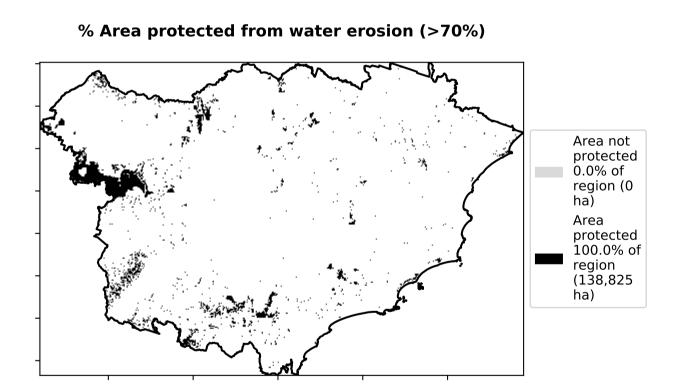


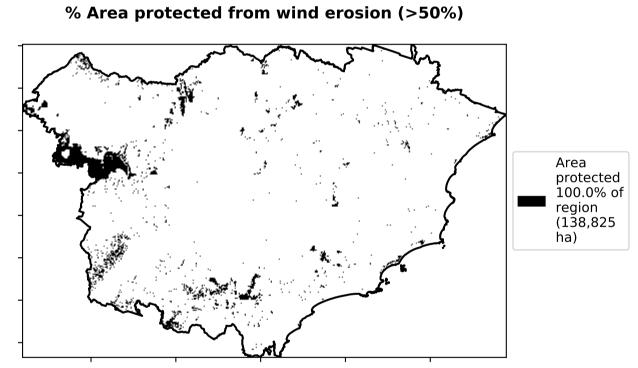
Conservation and natural environments Woodland forest

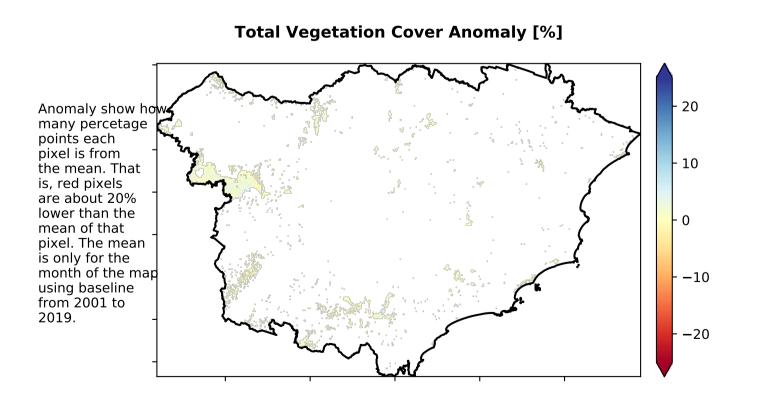


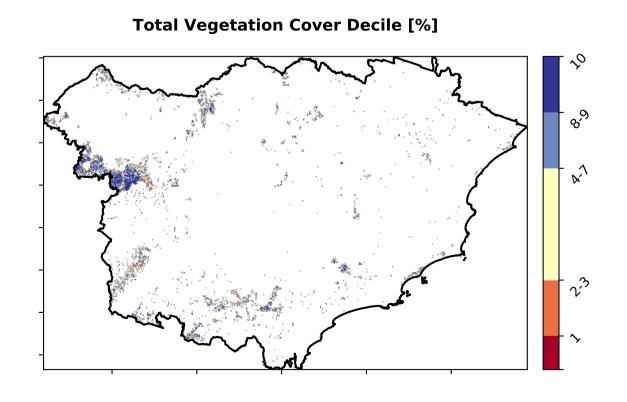
















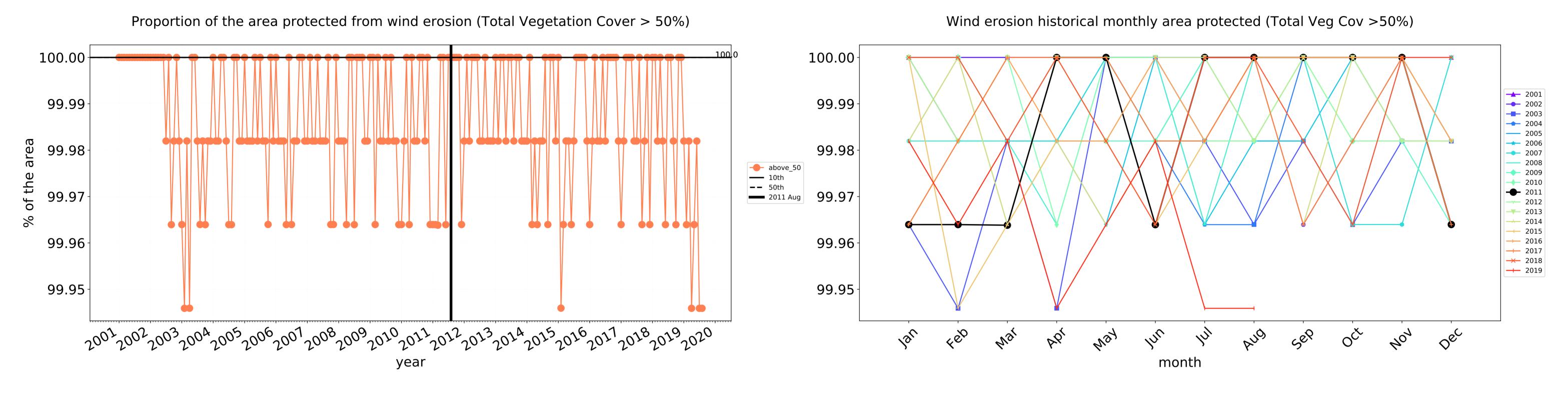


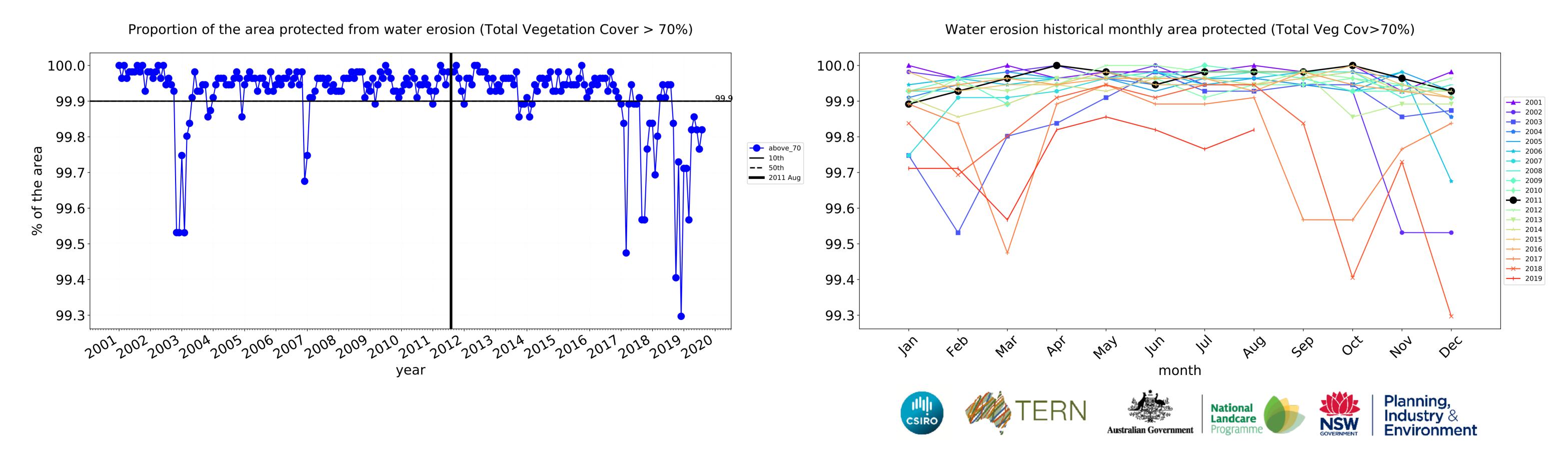


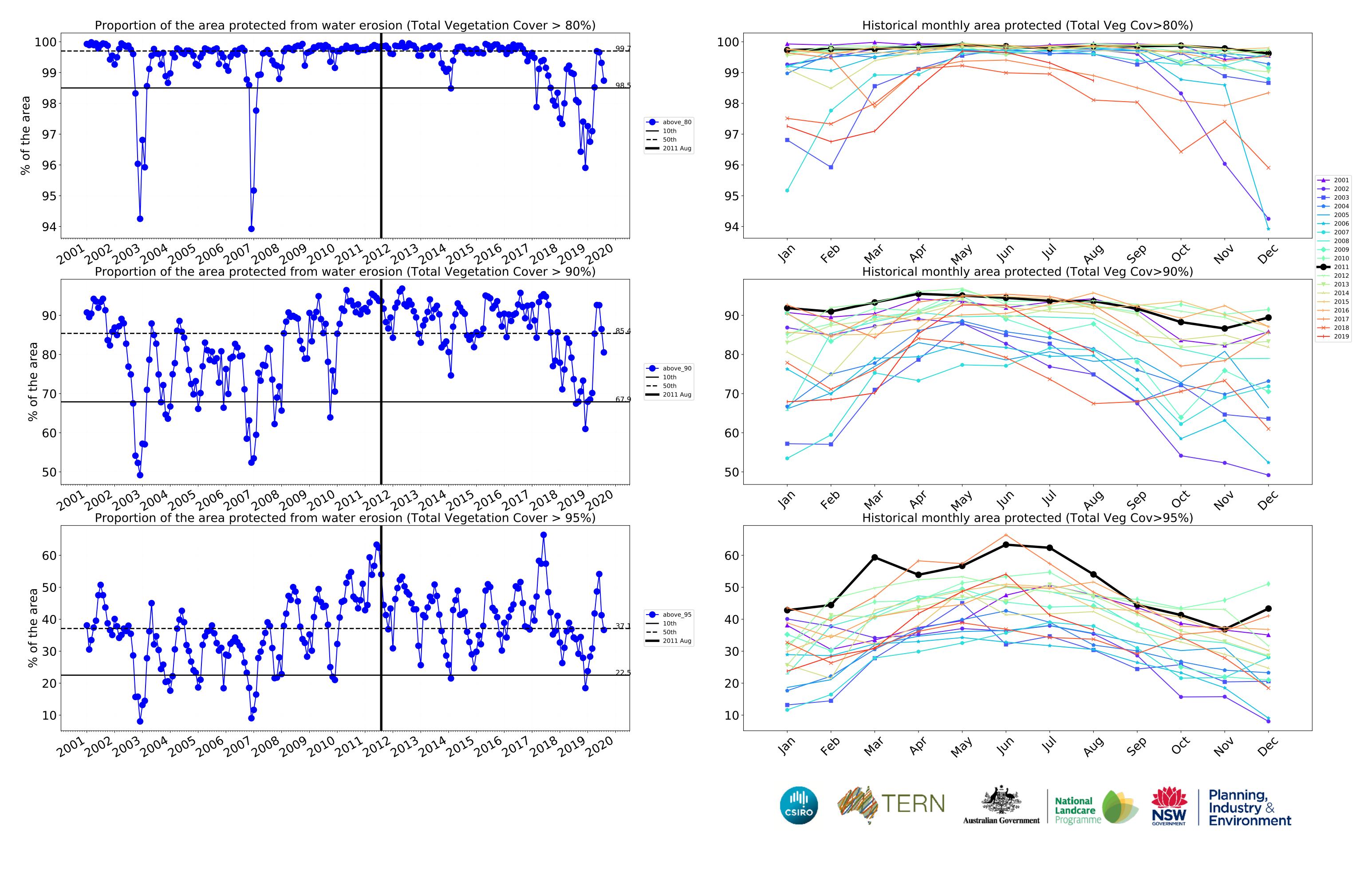




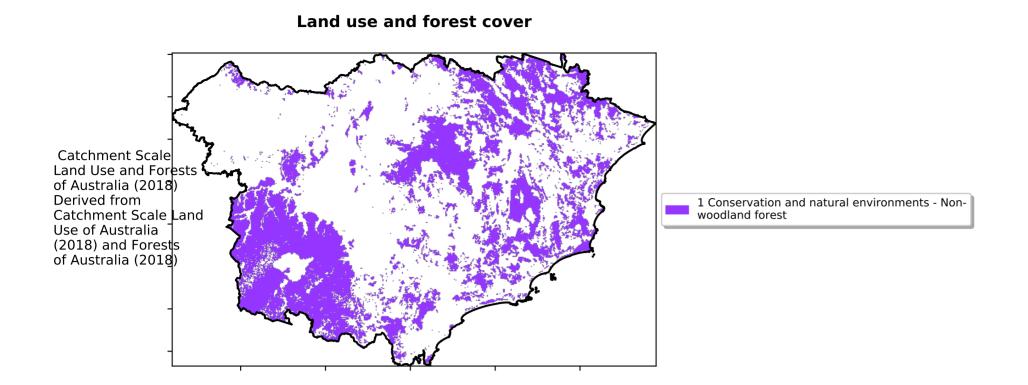
Conservation and natural environments Woodland forest timeseries



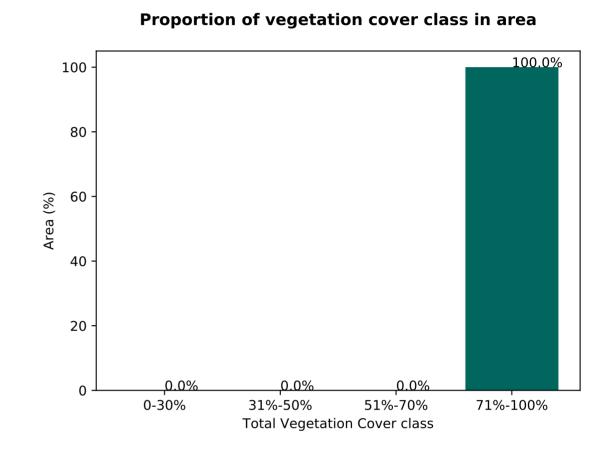


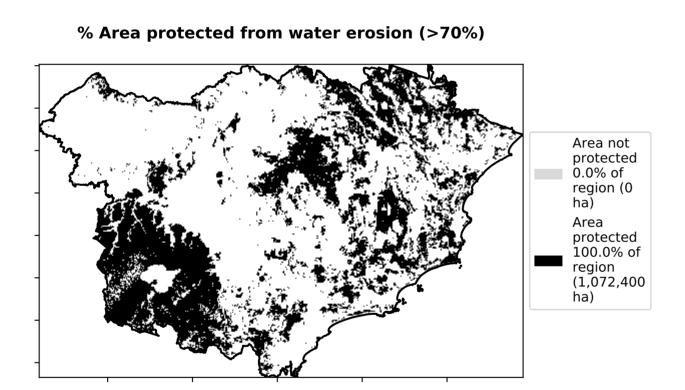


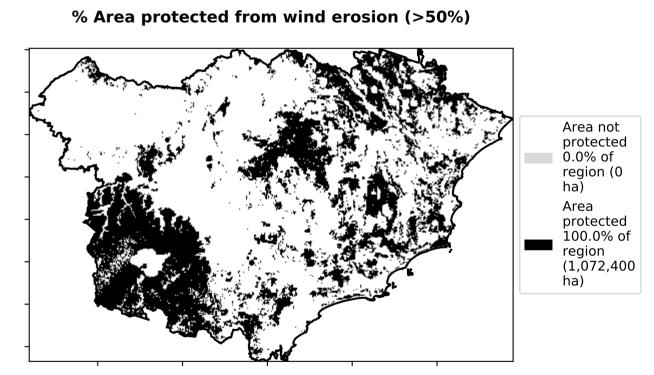
Conservation and natural environments Forest (non woodland)

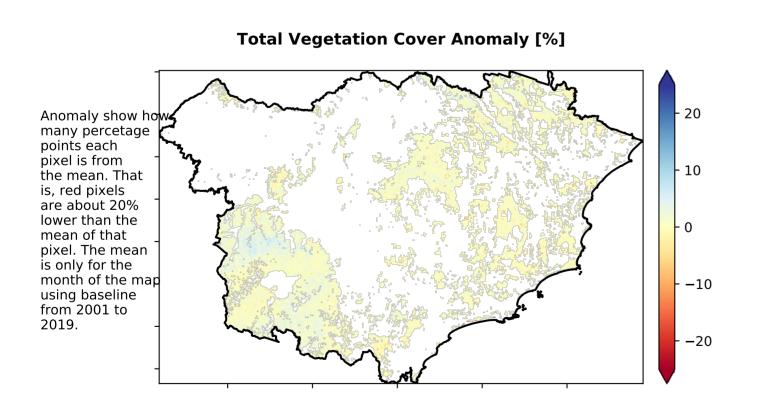


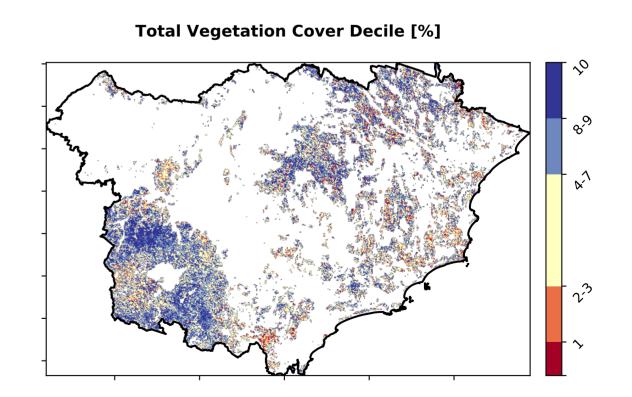
Total Vegetation Cover [%] Total Vegetation Cover [%] Total Vegetation Cover [%]













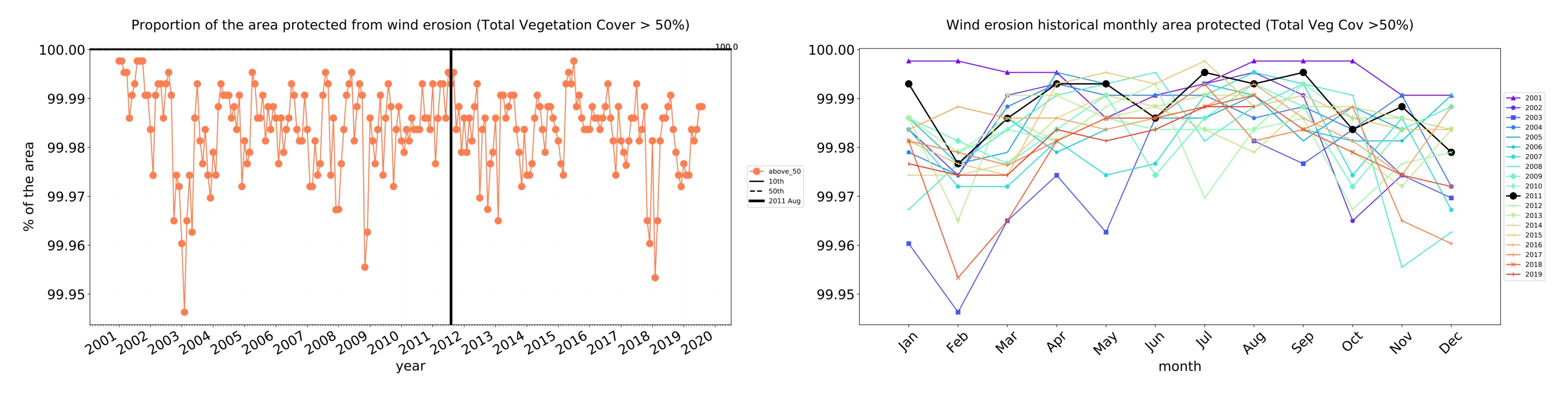


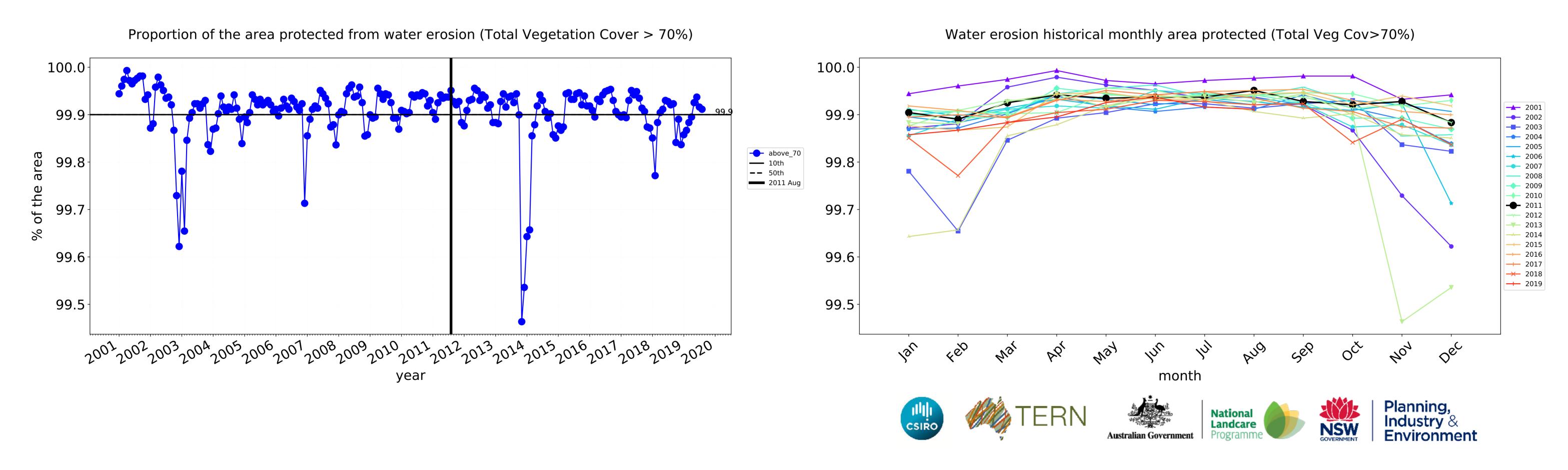


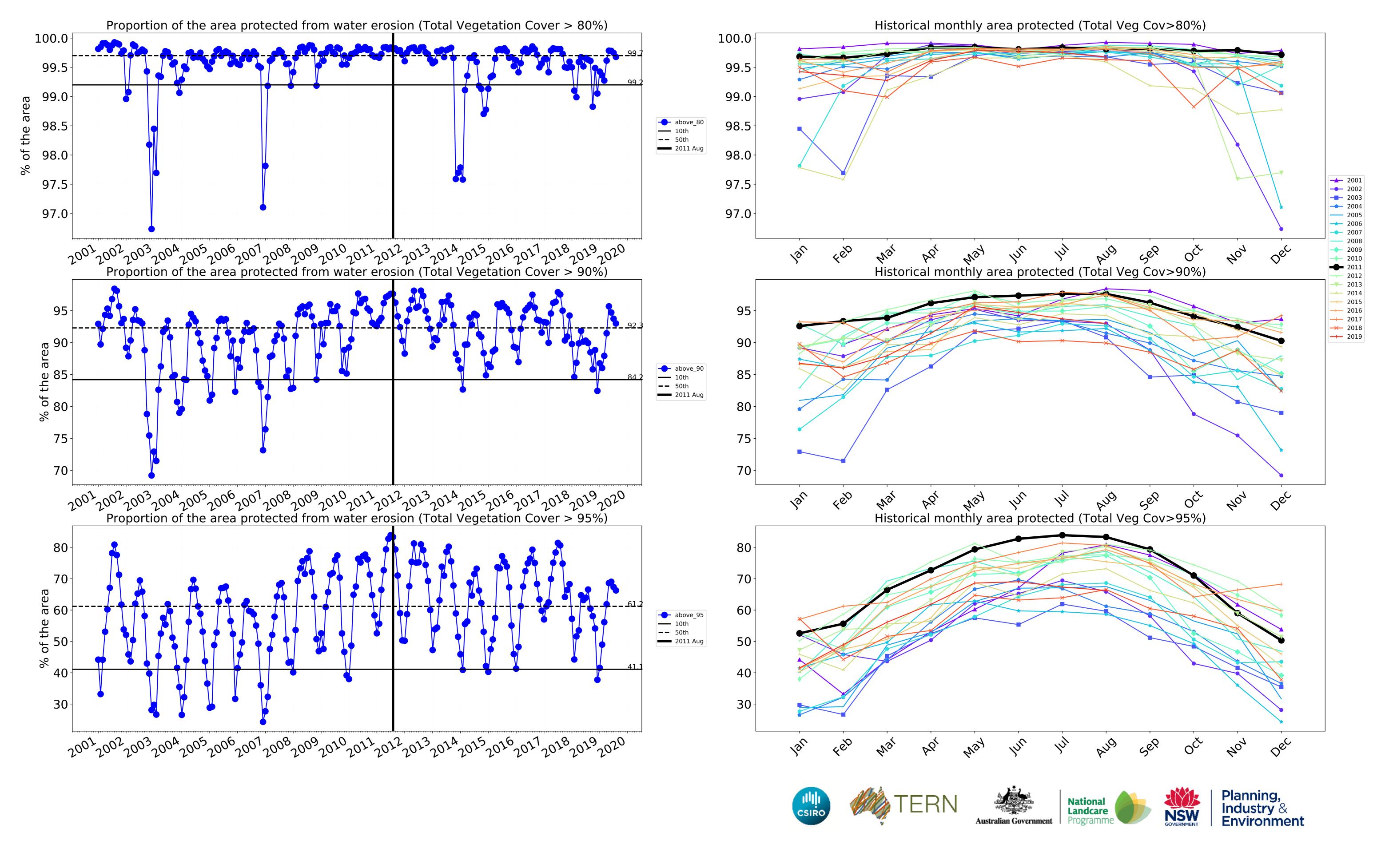




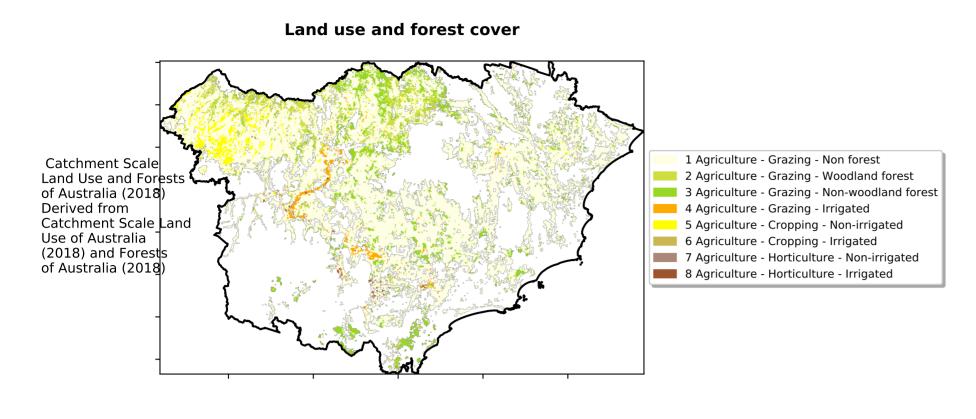




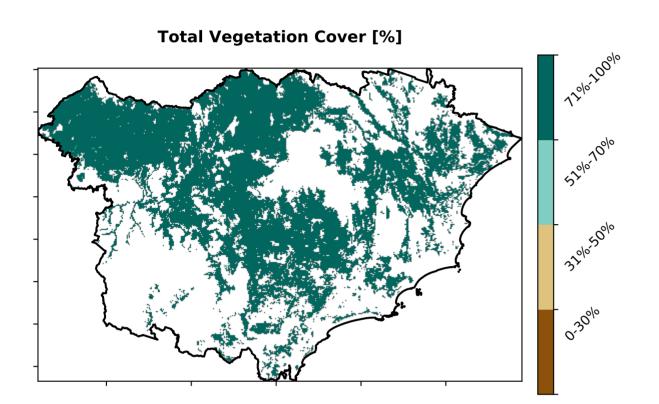


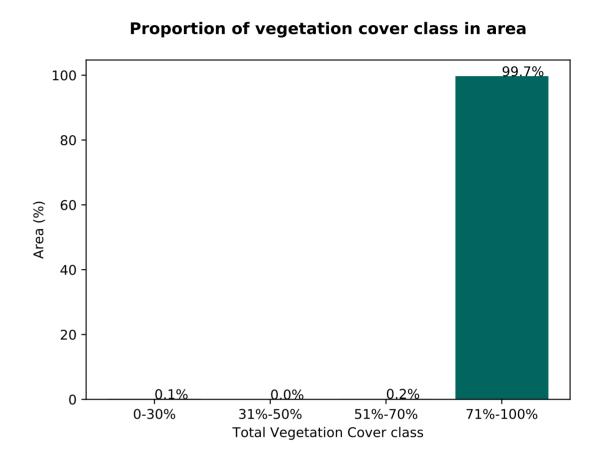


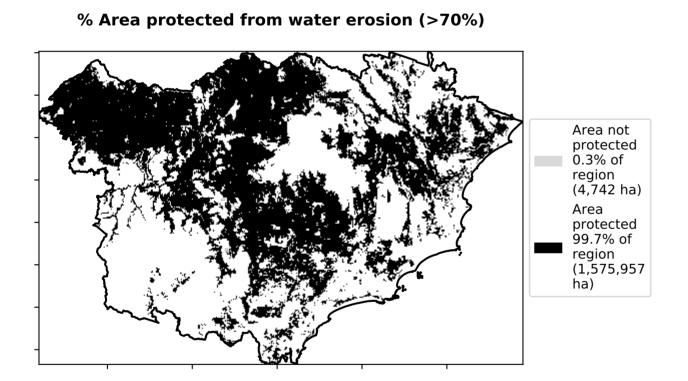
Agriculture

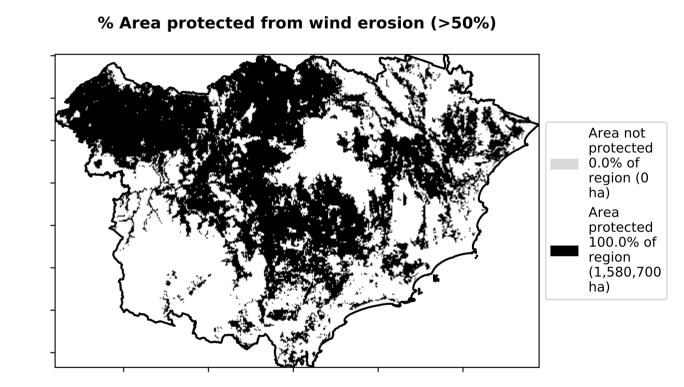


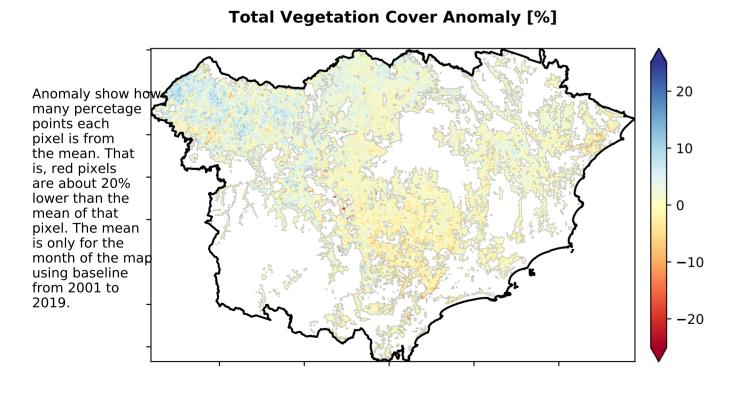
Proportion of each land class in area 80 76.7% 70 60 50 20 10 7.6% 10.7% 10.7% 1.3% 3.2% 0.1% 0.1% 0.2% Land use class

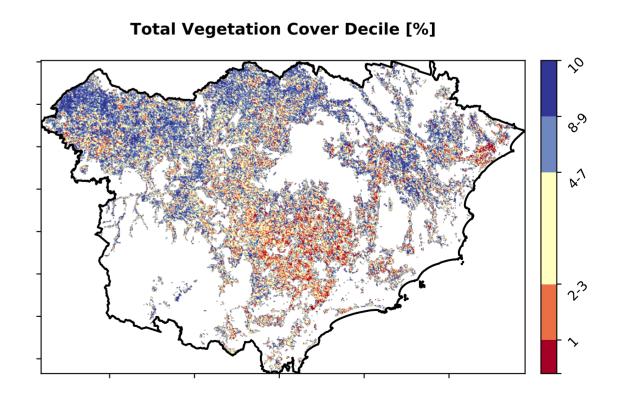
















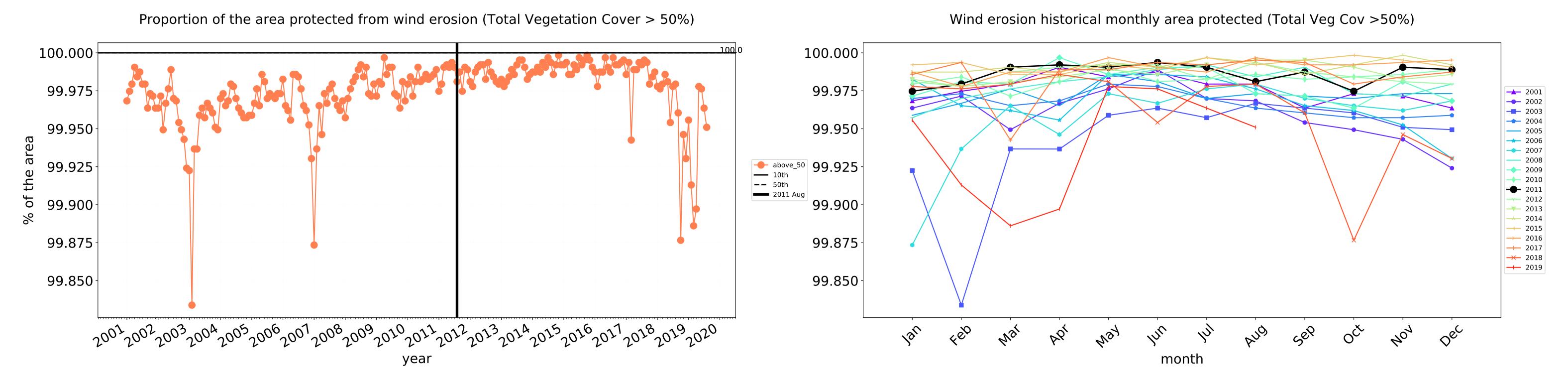


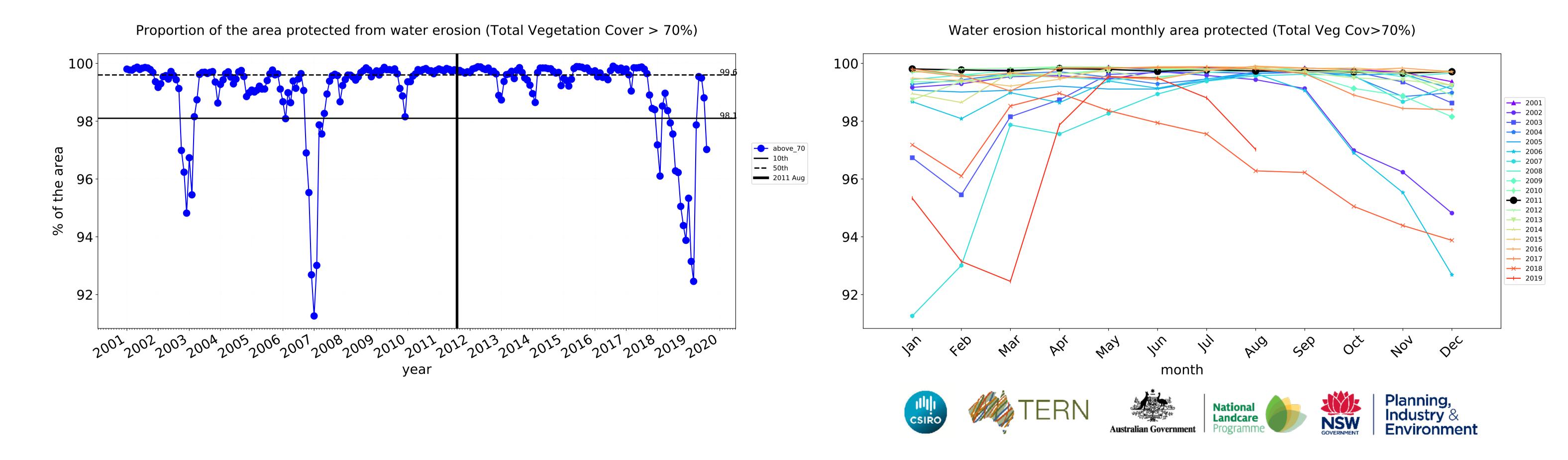


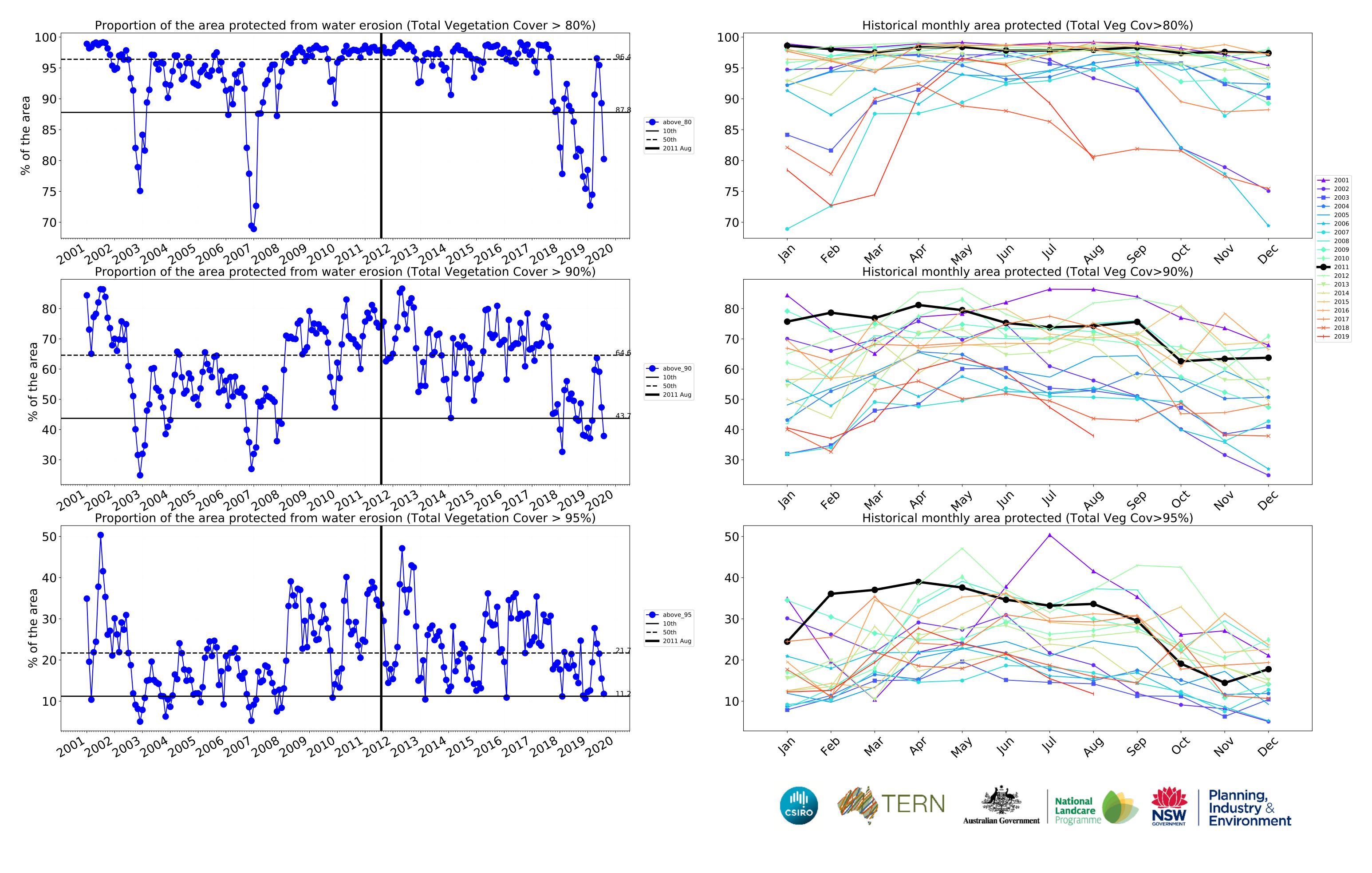




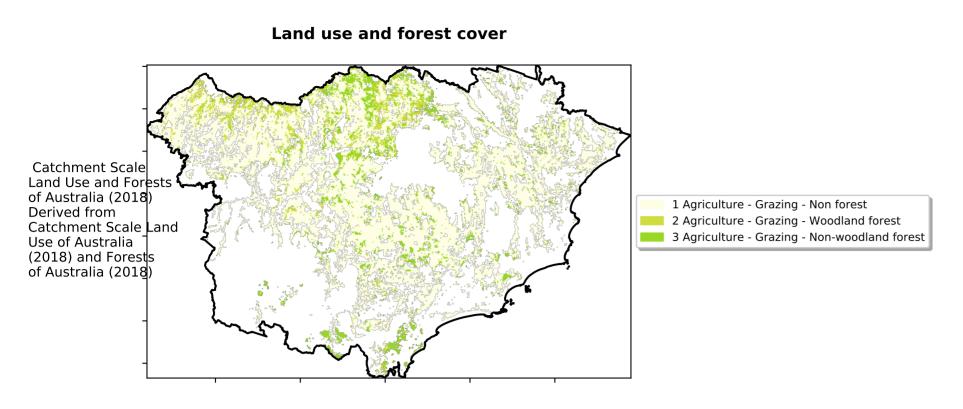
Agriculture timeseries



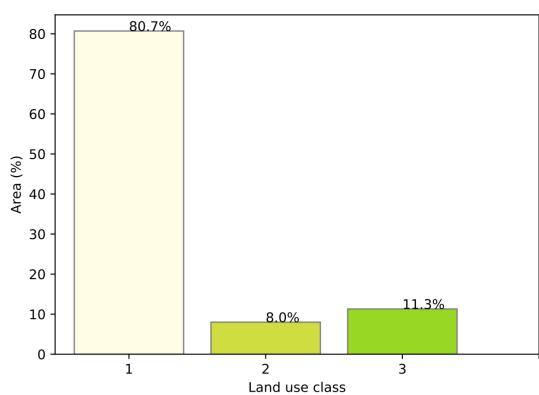




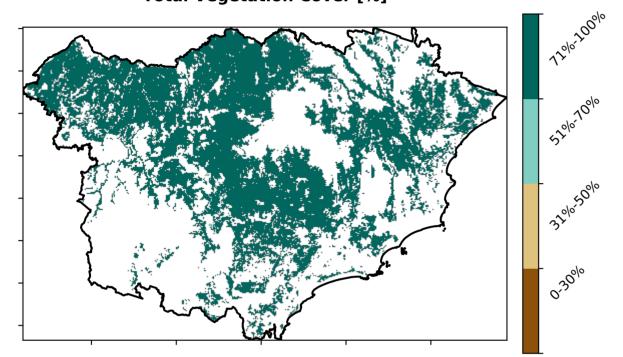
Grazing



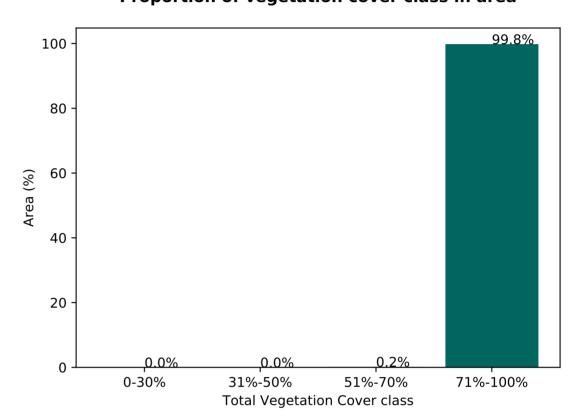
Proportion of each land class in area



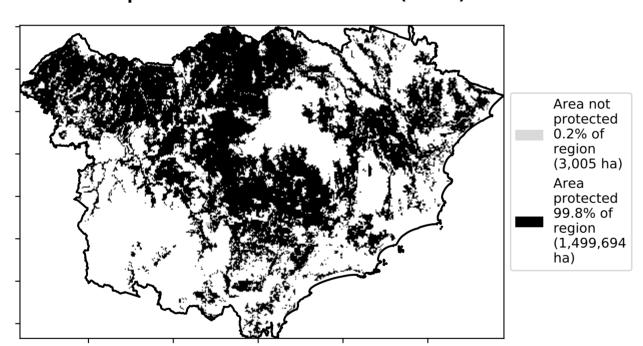
Total Vegetation Cover [%]



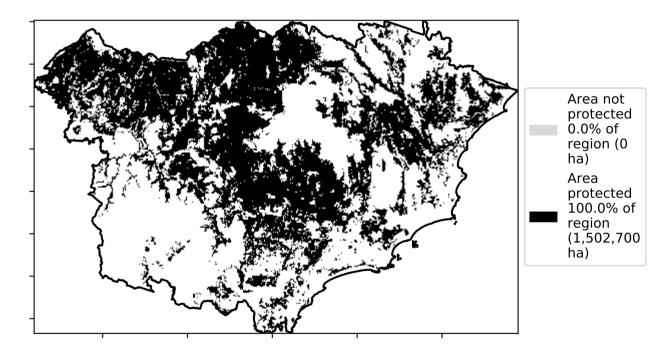
Proportion of vegetation cover class in area



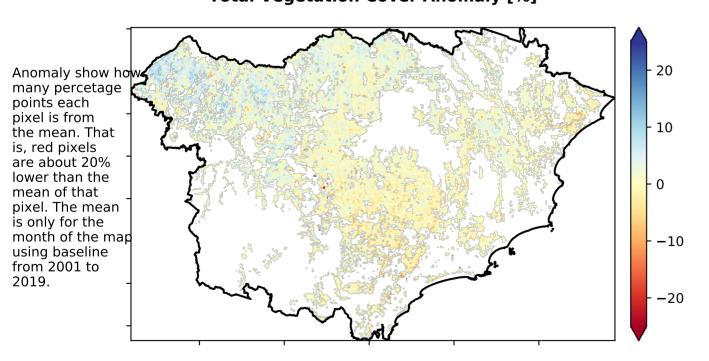
% Area protected from water erosion (>70%)

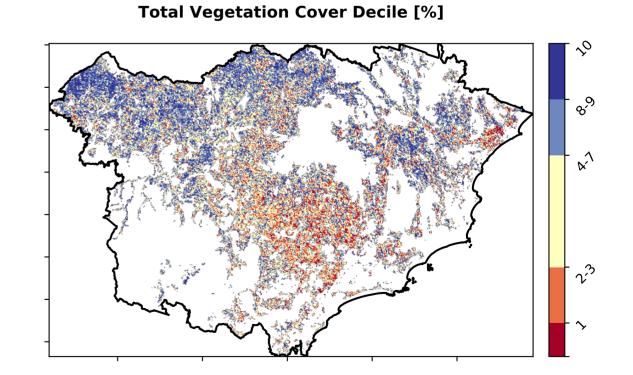


% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]









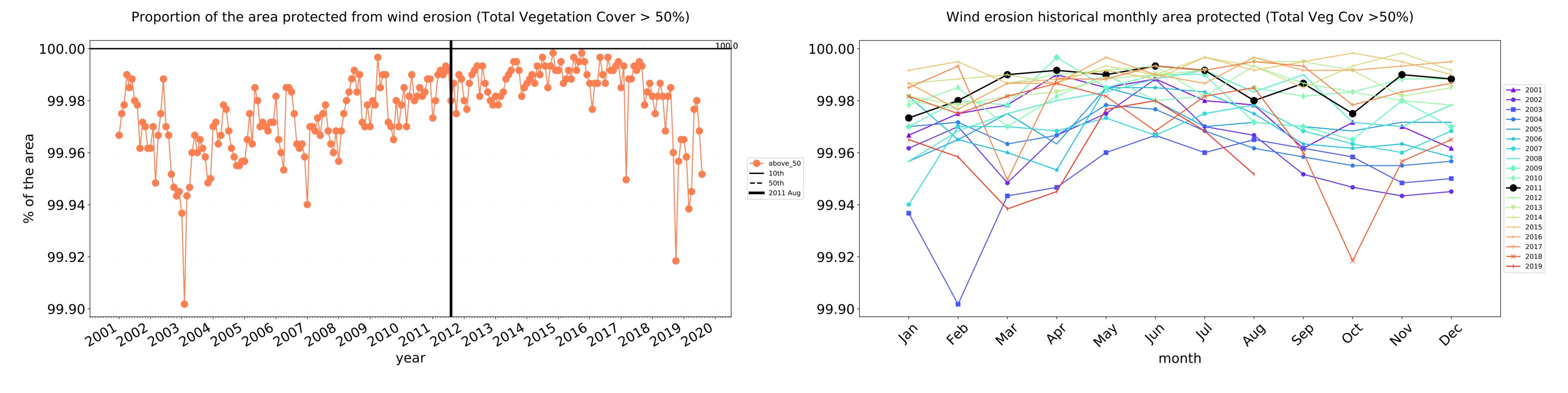


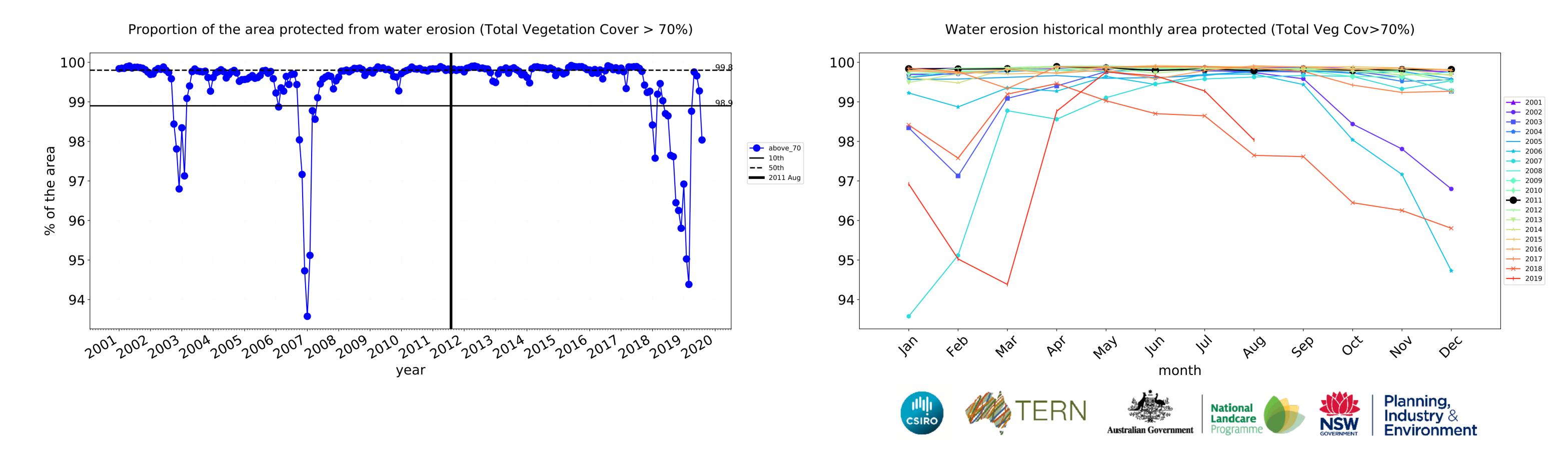


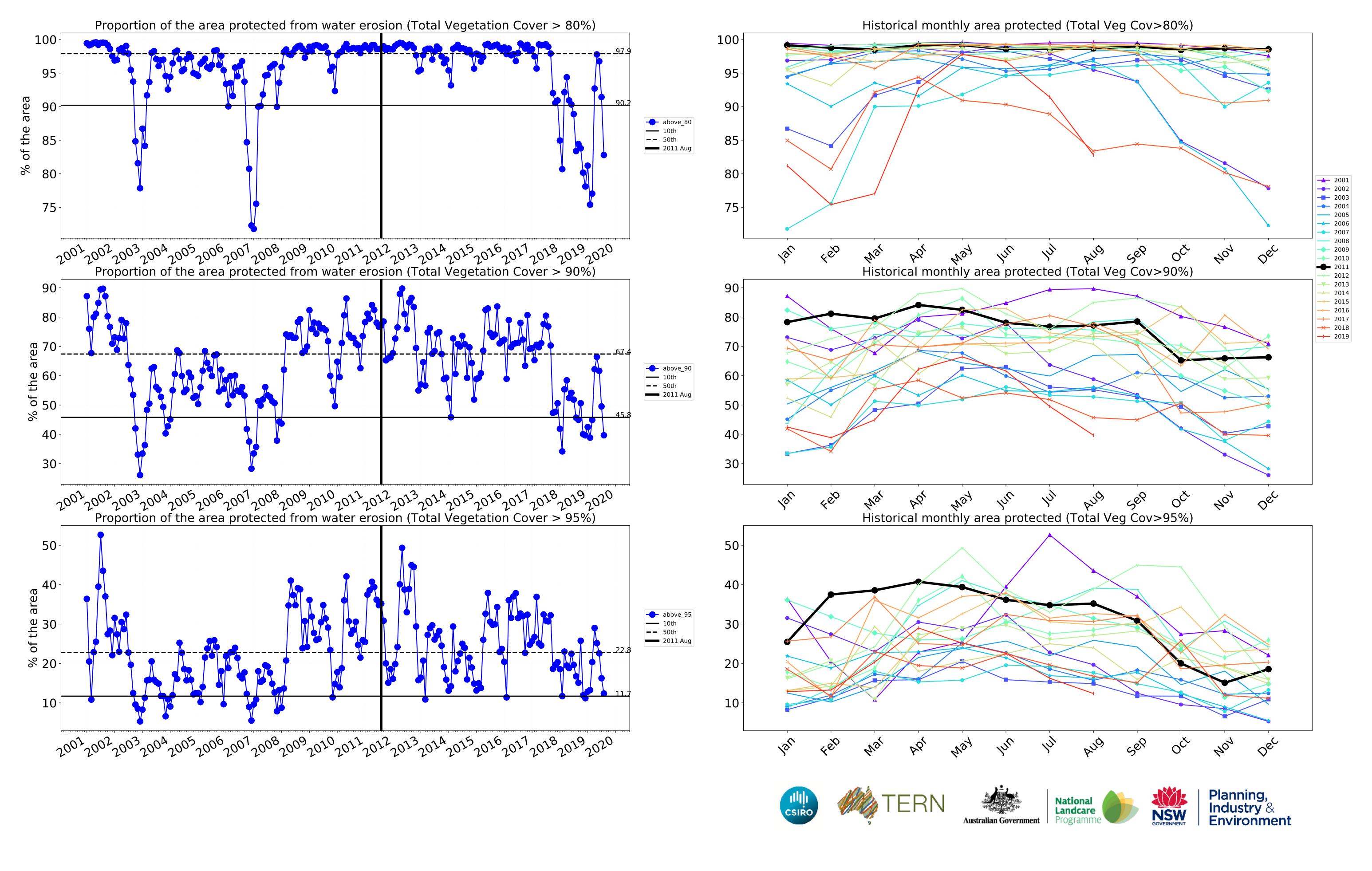




Grazing timeseries

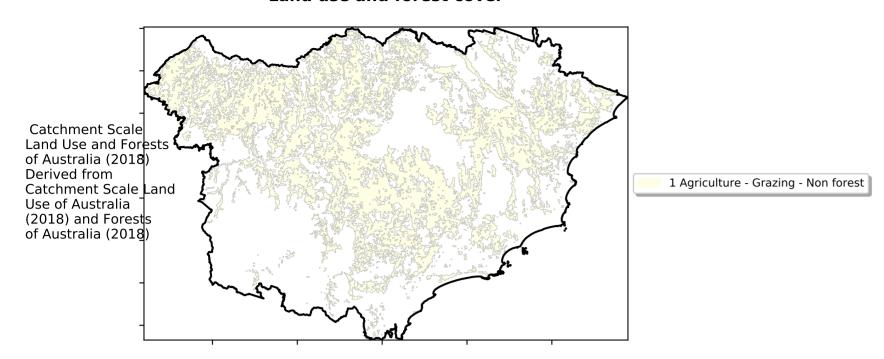




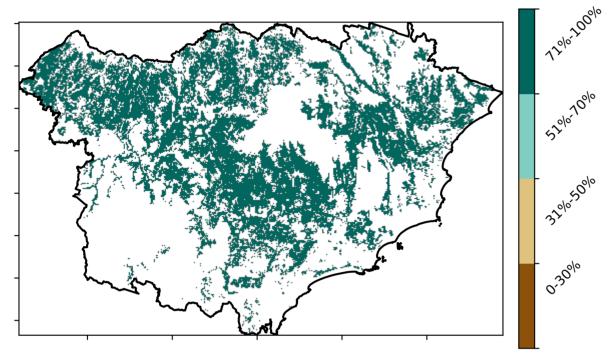


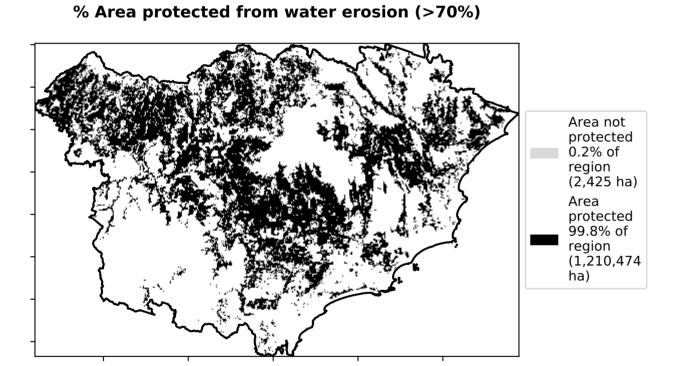
Grazing non forest

Land use and forest cover

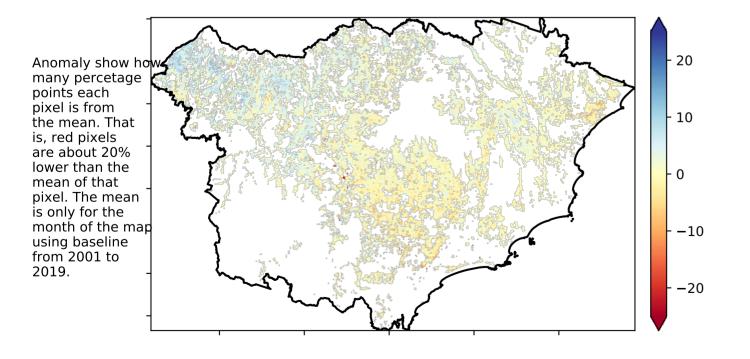


Total Vegetation Cover [%]



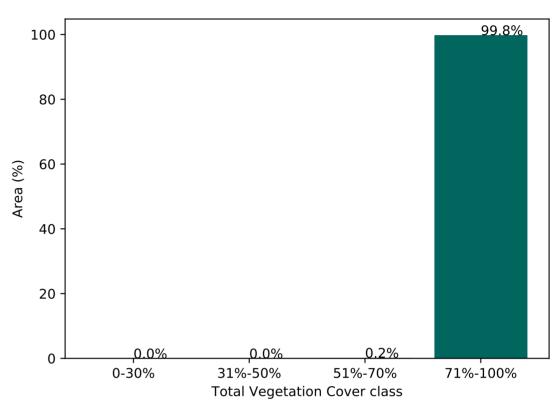


Total Vegetation Cover Anomaly [%]

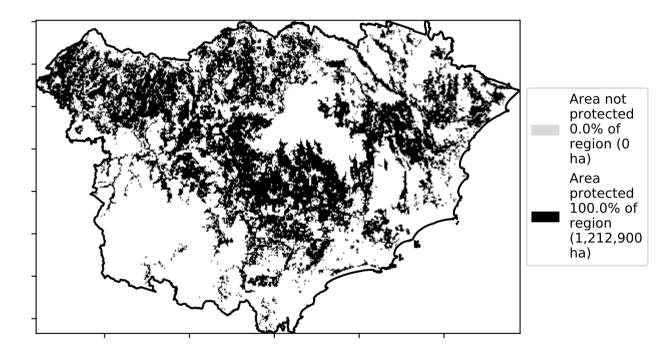


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

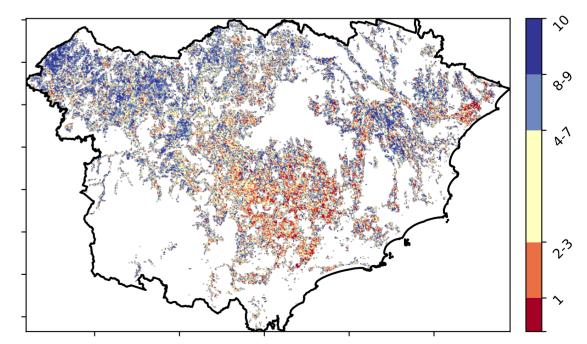
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







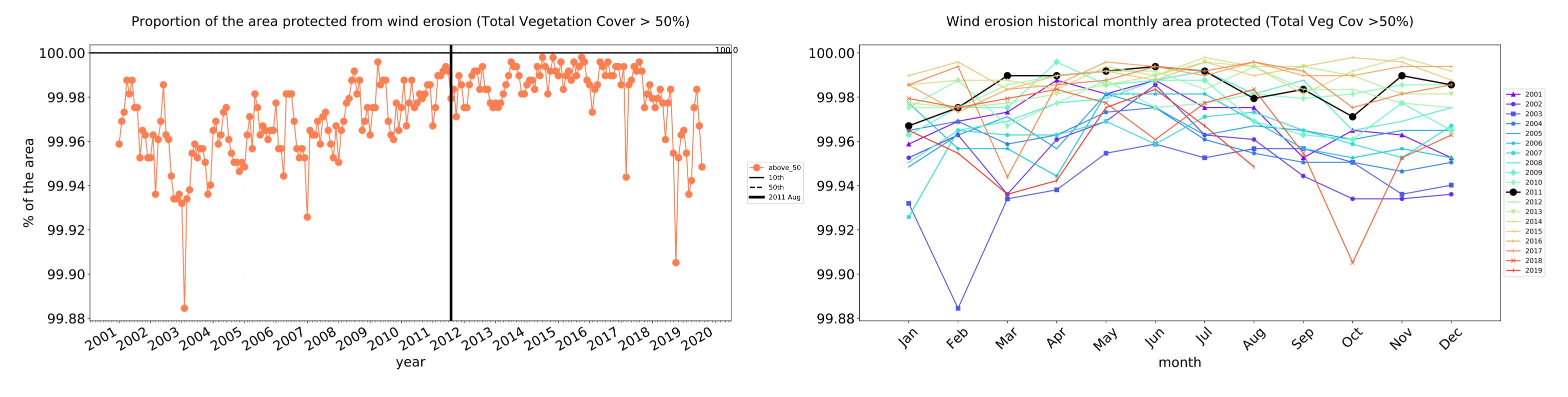


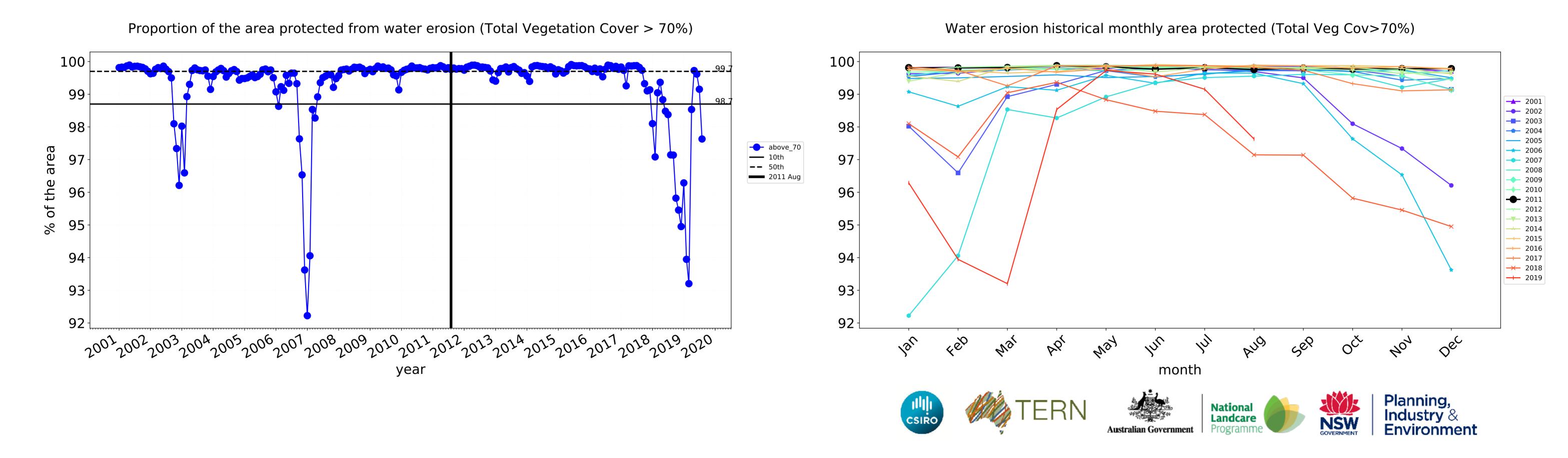


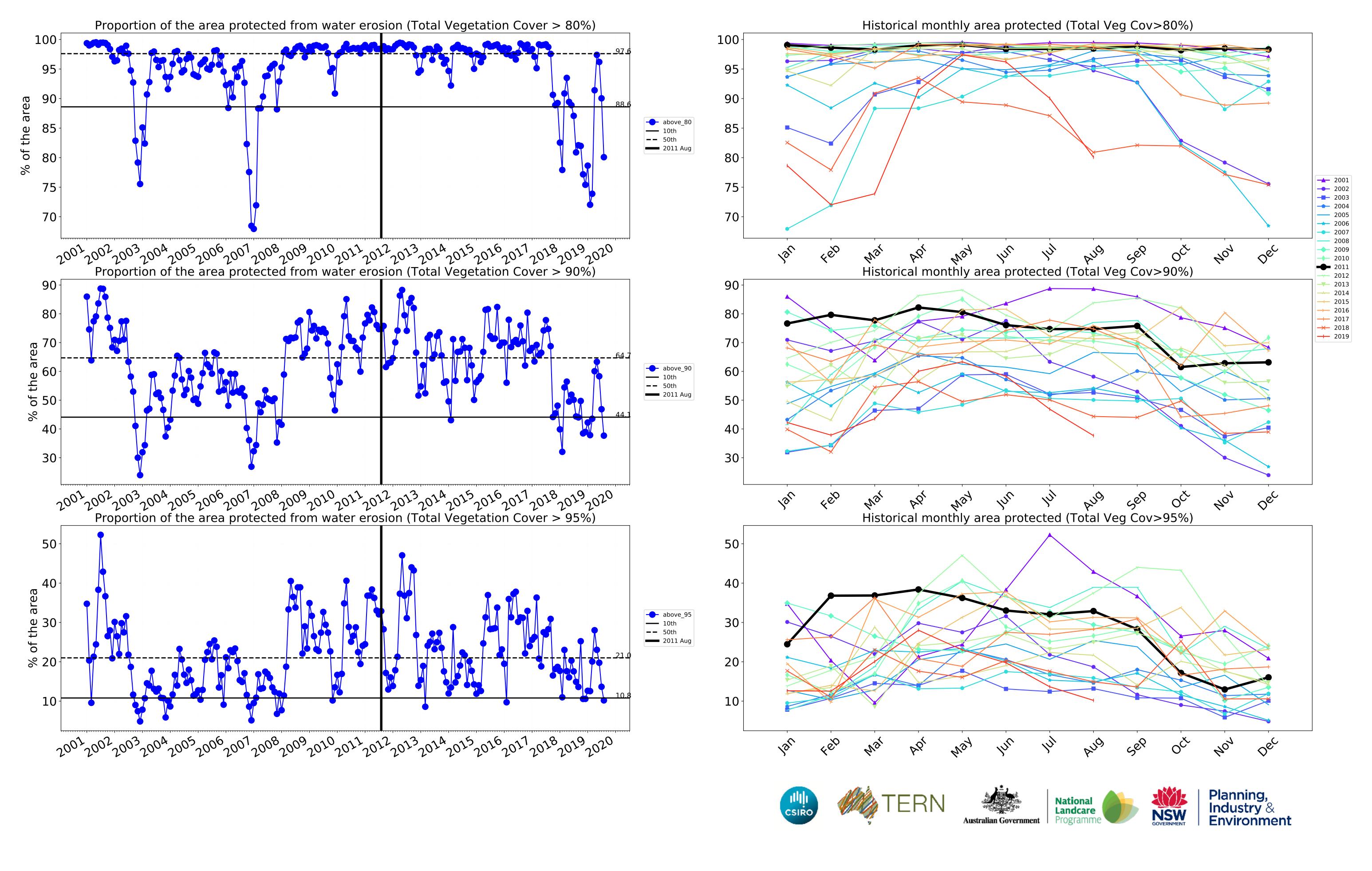




Grazing non forest timeseries







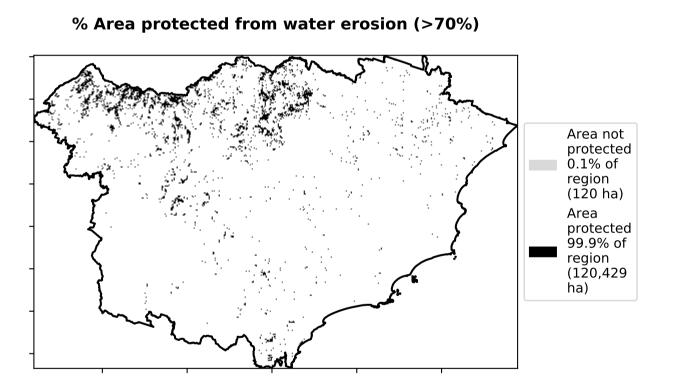
Grazing Woodland forest

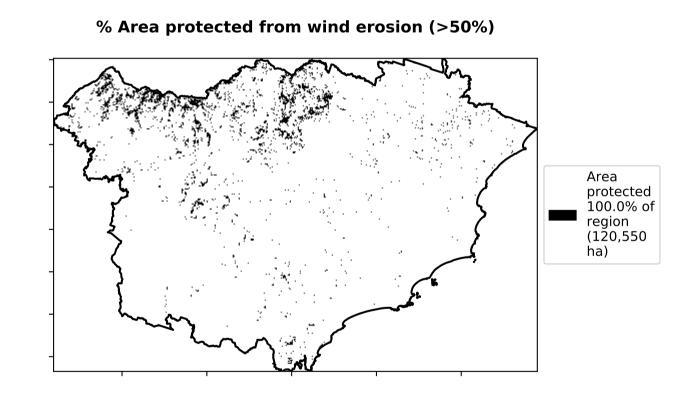
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Use of Australia (2018) 1 Agriculture - Grazing - Woodland forest of Australia (2018)

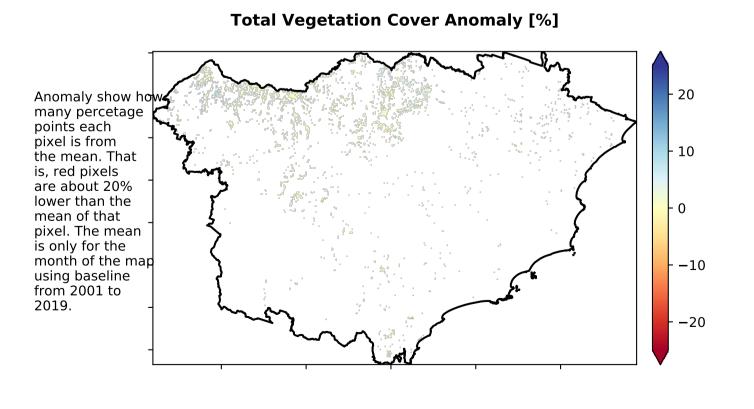
Total Vegetation Cover [%]

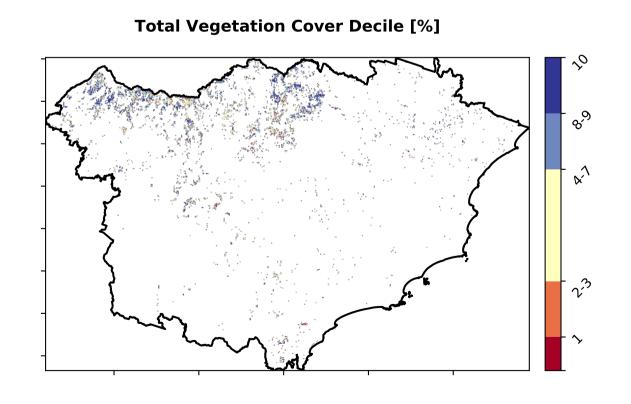
100 - 99.9% 80 - 60 - 20 - 20 - 0.0% 0.1% 0-30% 31%-50% 51%-70% 71%-100% Total Vegetation Cover class

Proportion of vegetation cover class in area













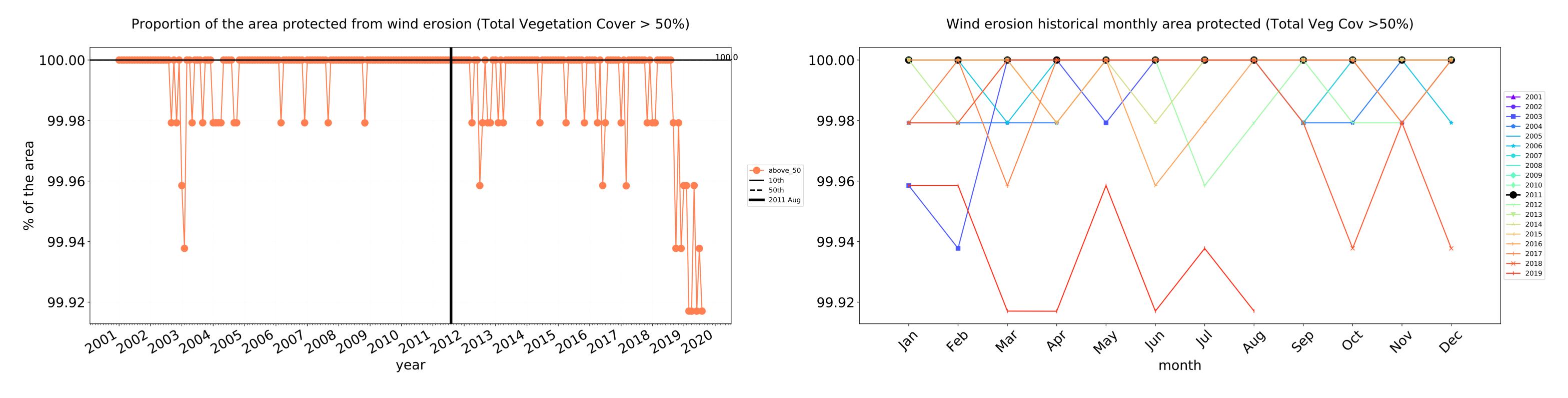


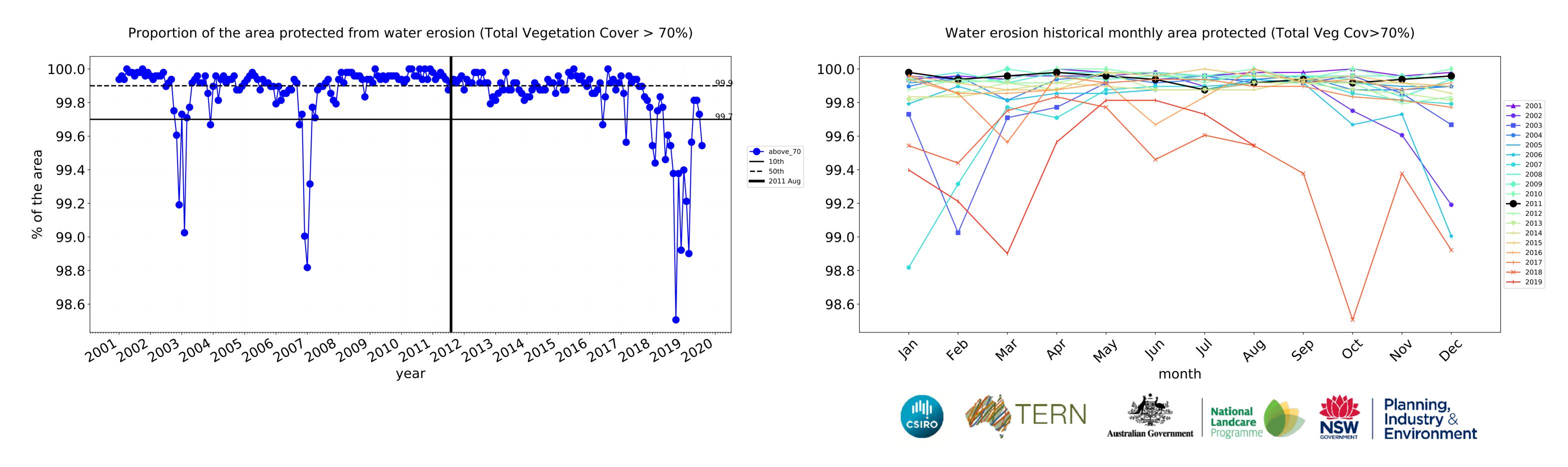


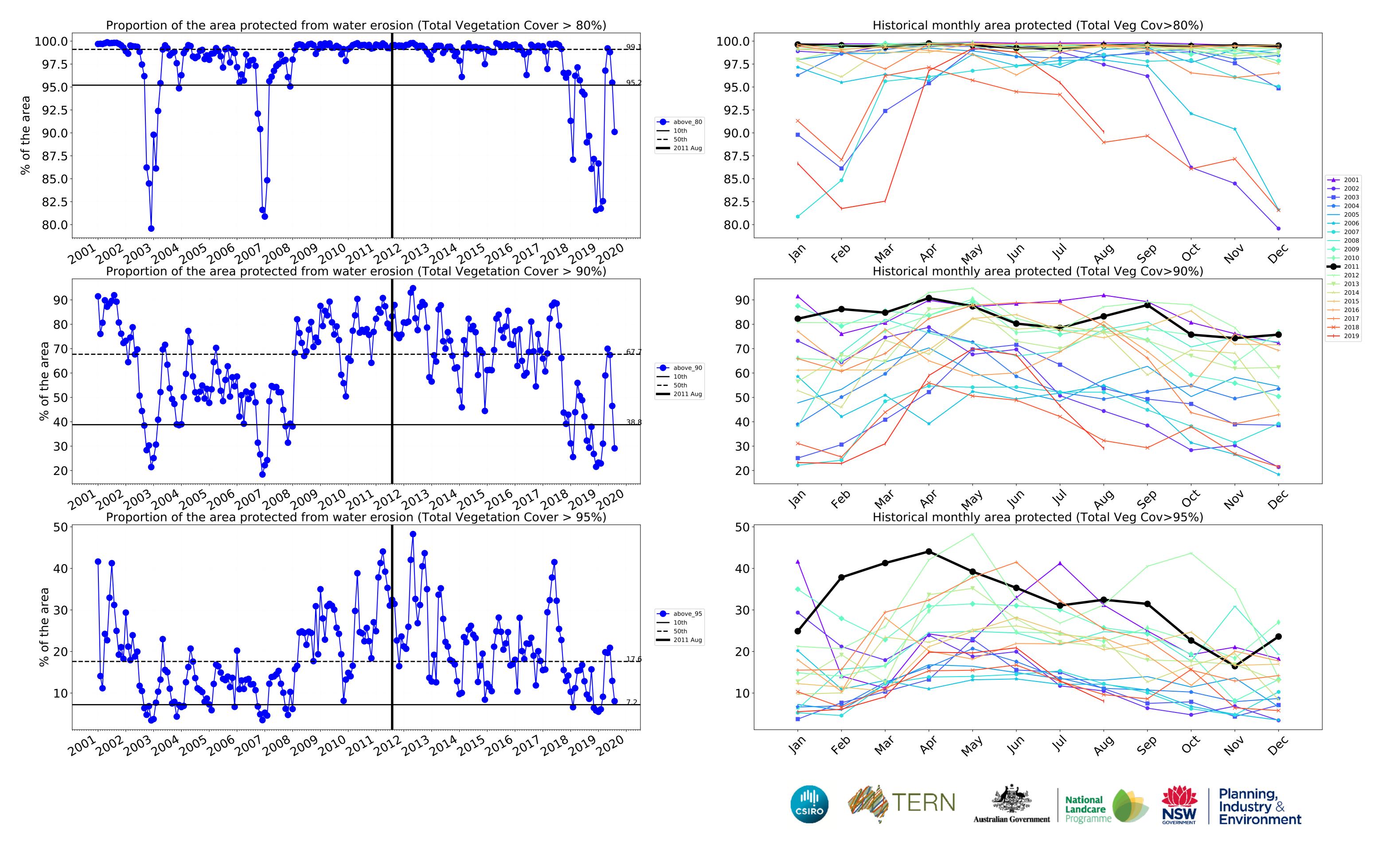




Grazing Woodland forest timeseries



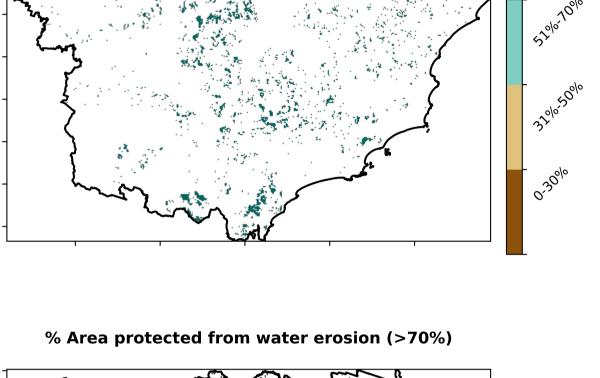


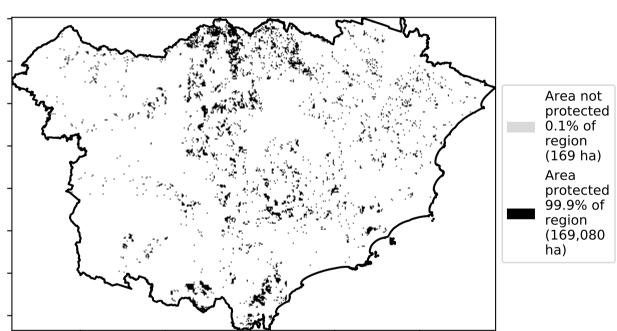


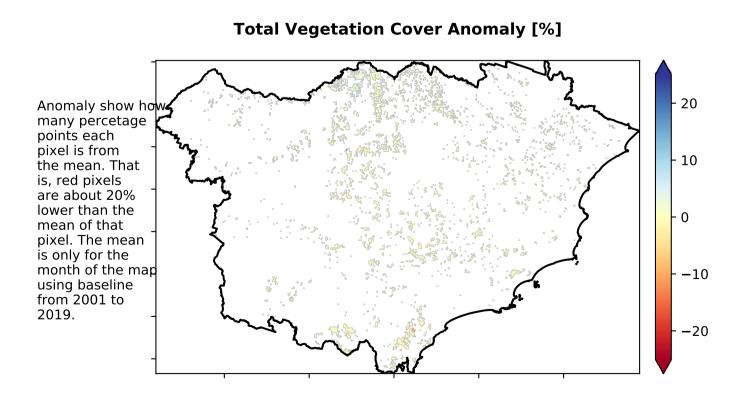
Grazing - Forest (non woodland)

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 [%]

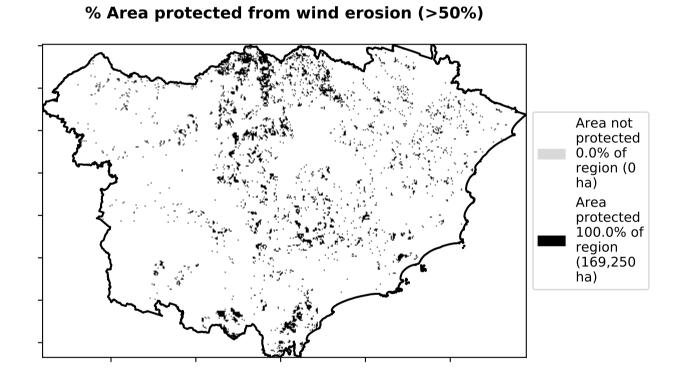


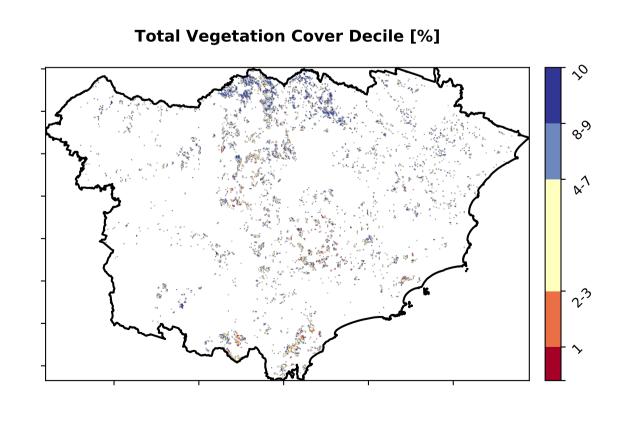




Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the man using baseling. the map using baseline from 2001 to 2019.

Proportion of vegetation cover class in area 99.9% 100 Area (%) 60 40 20 -0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**







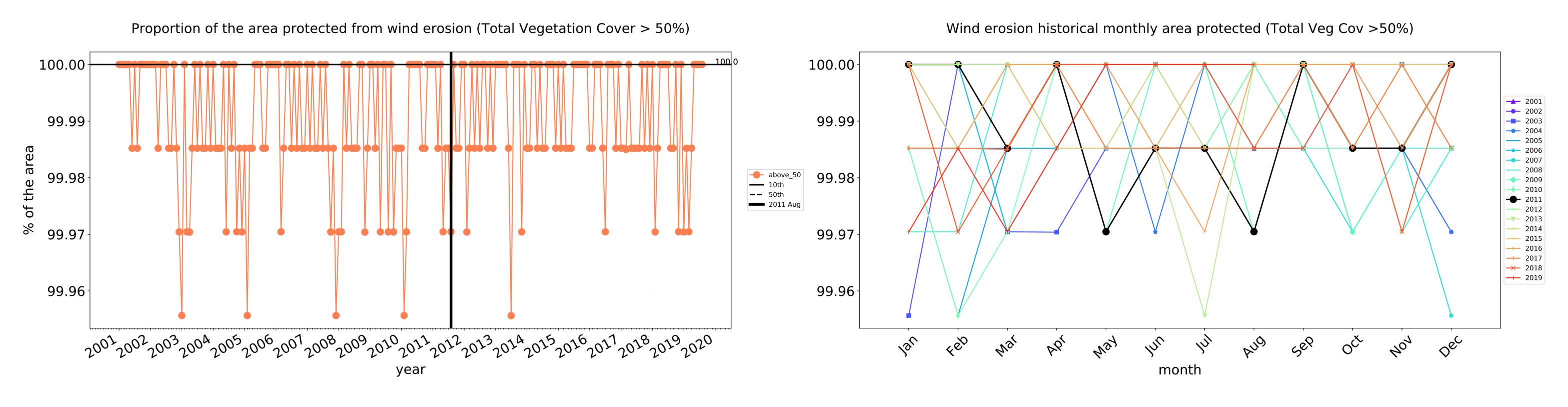


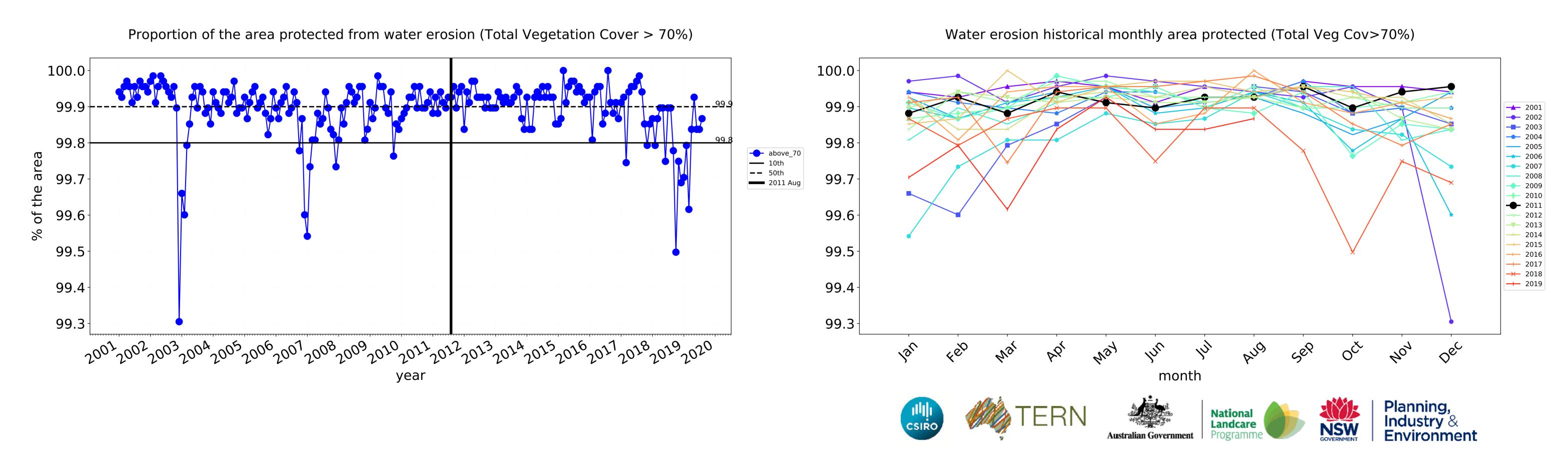


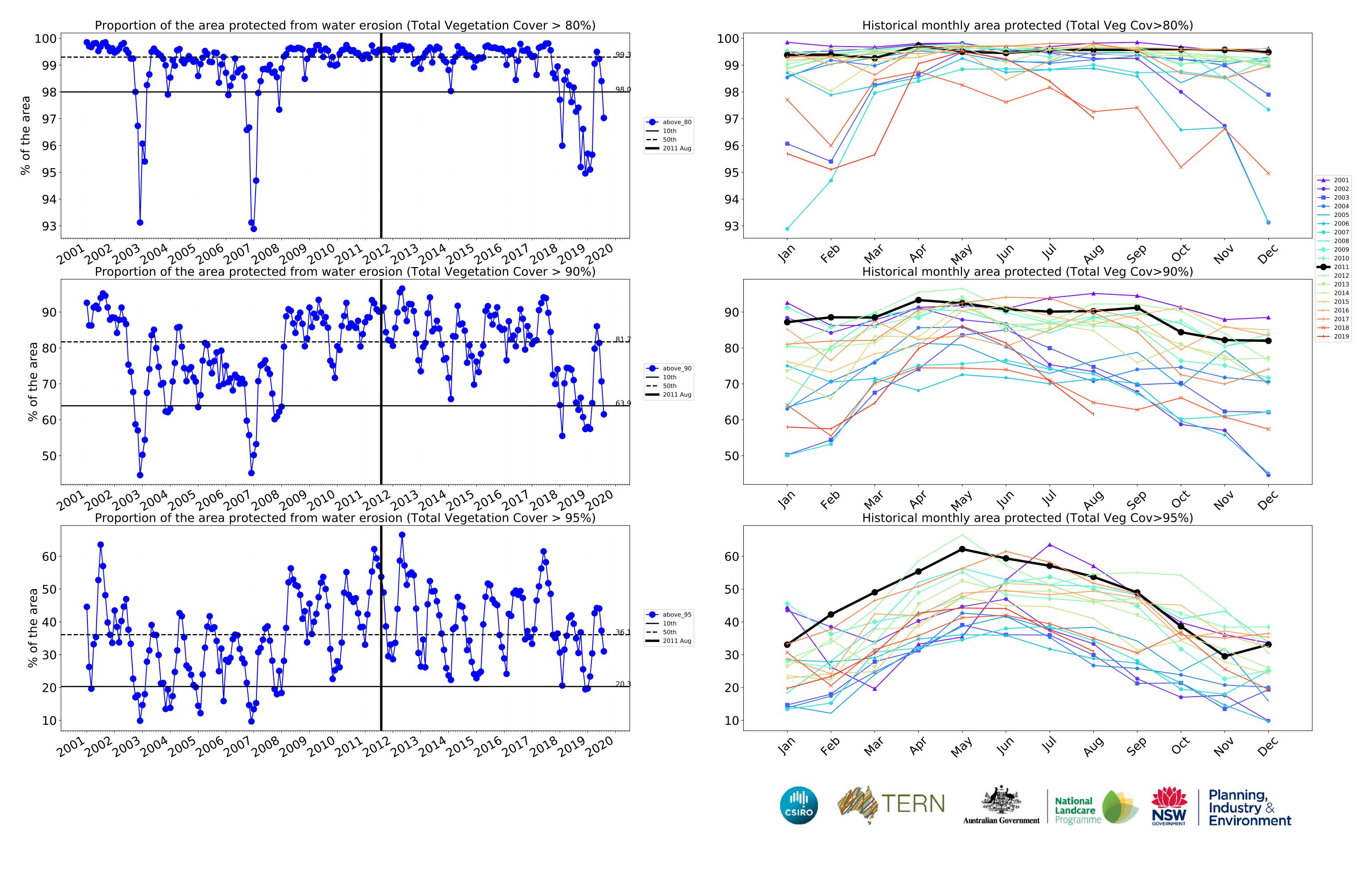






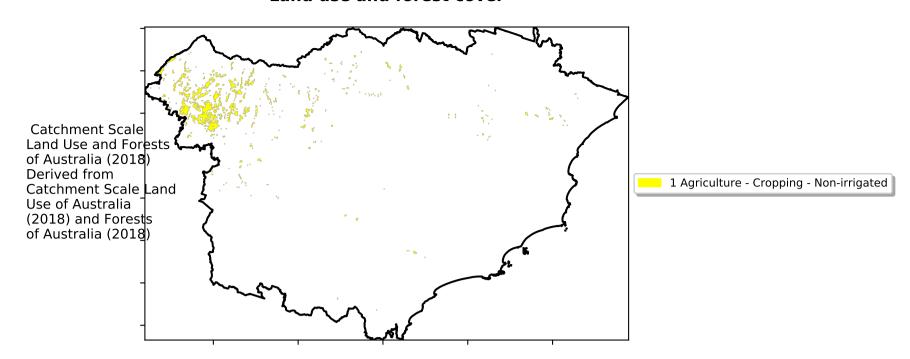




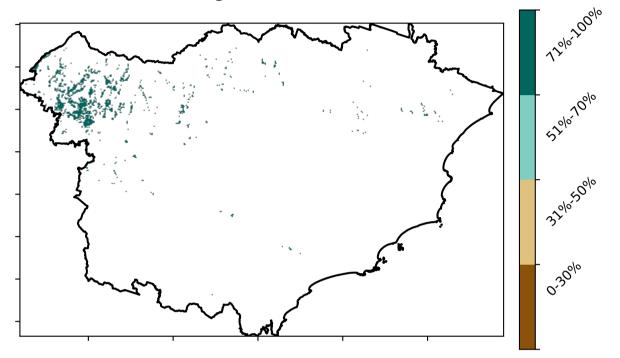


Cropping

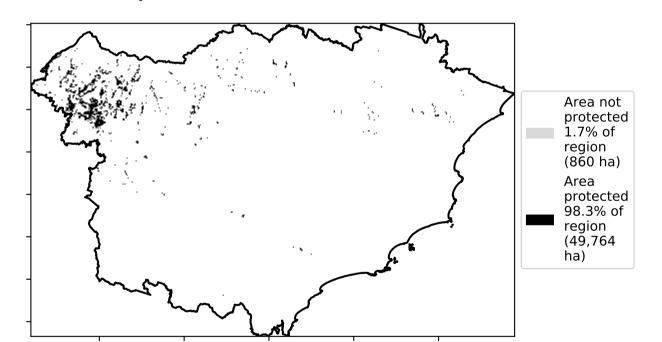
Land use and forest cover



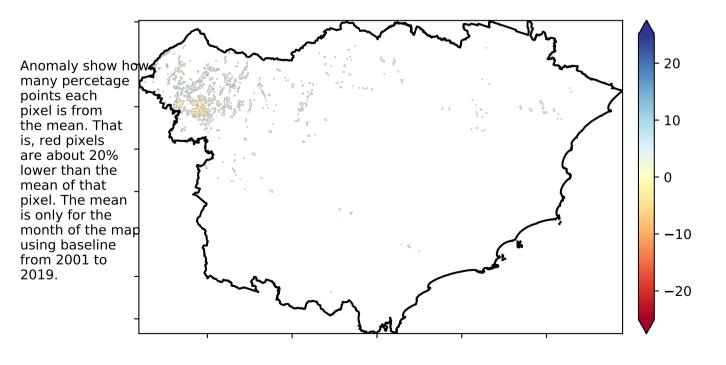
Total Vegetation Cover [%]



% Area protected from water erosion (>70%)

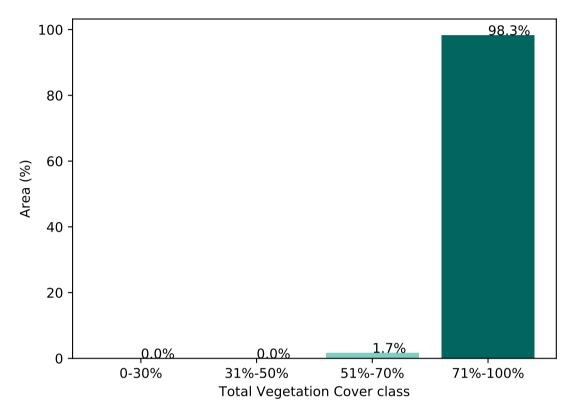


Total Vegetation Cover Anomaly [%]

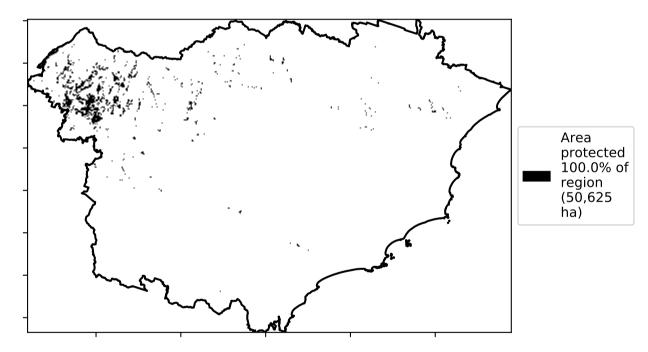


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

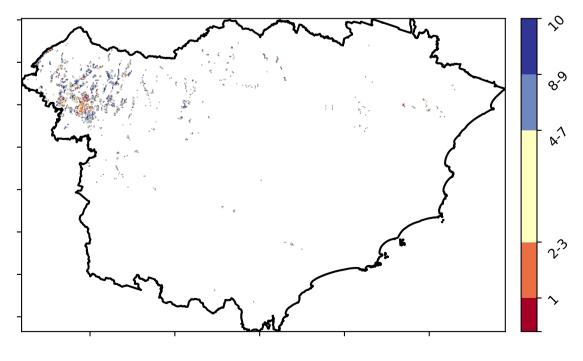
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







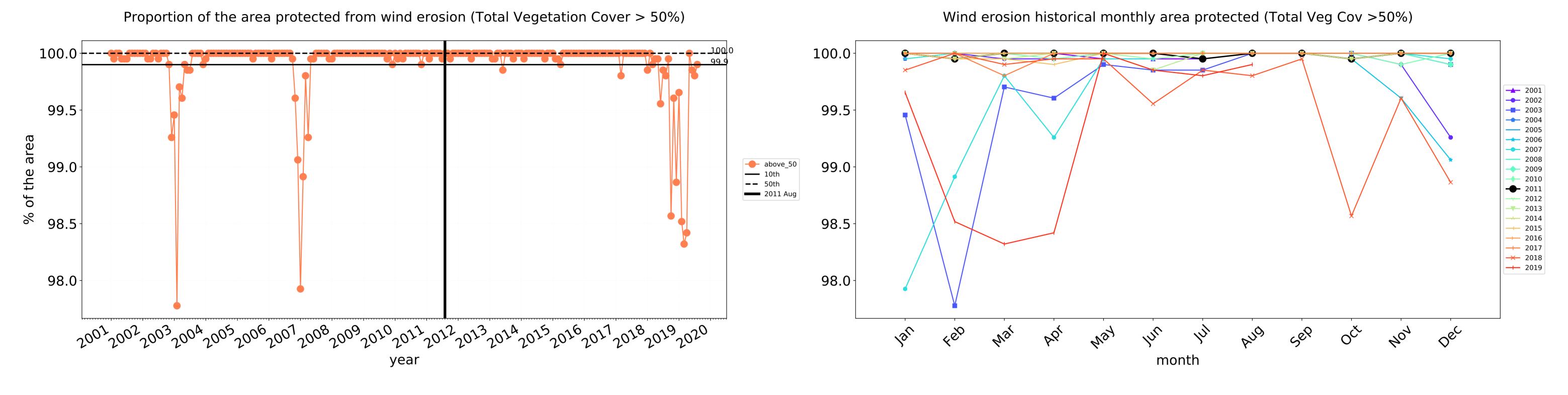


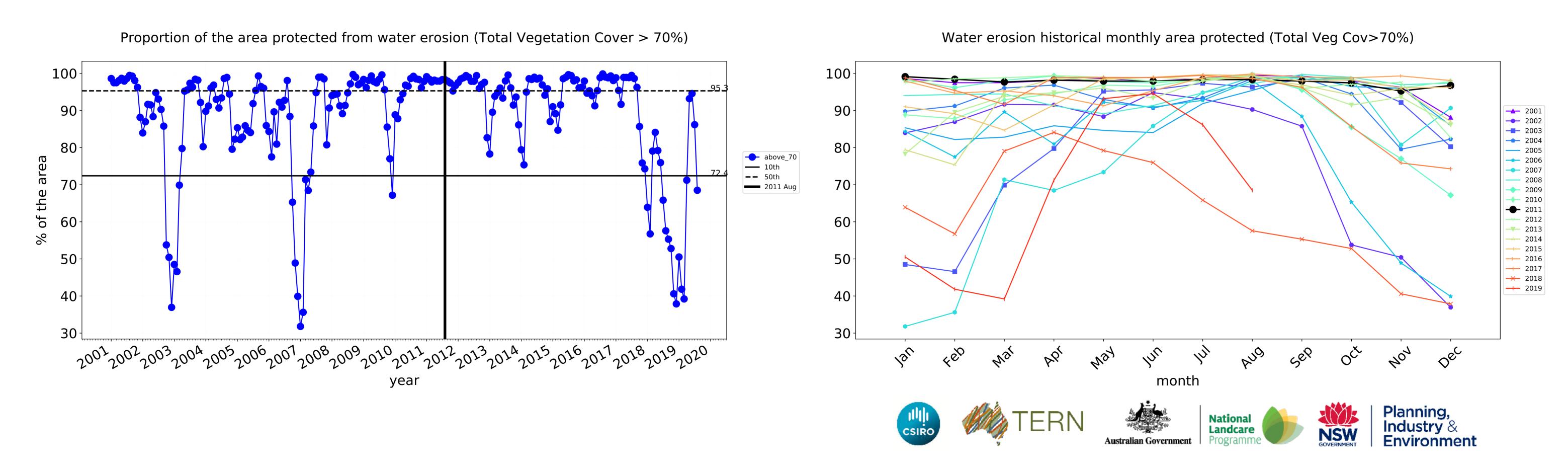


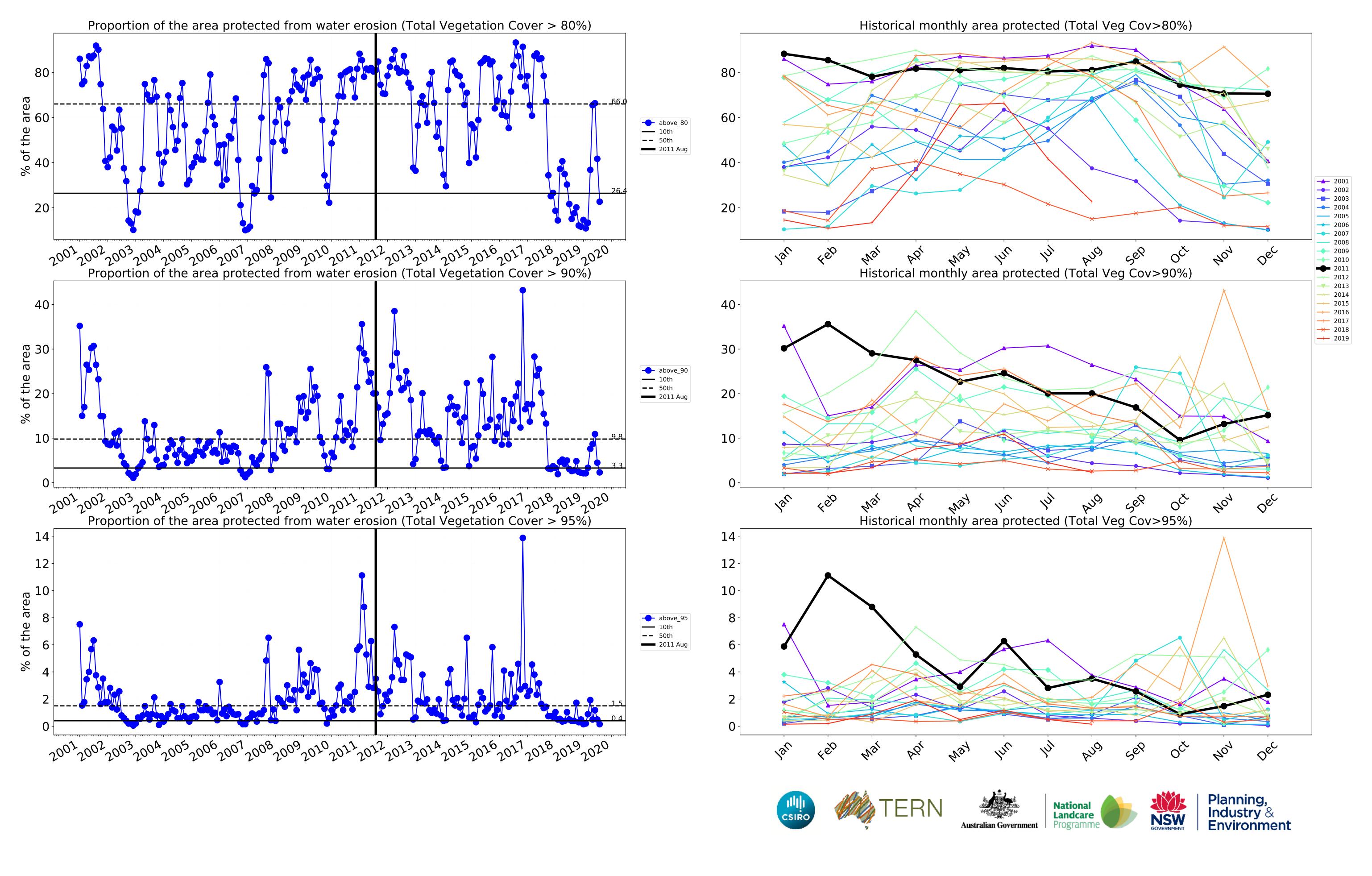




Cropping timeseries





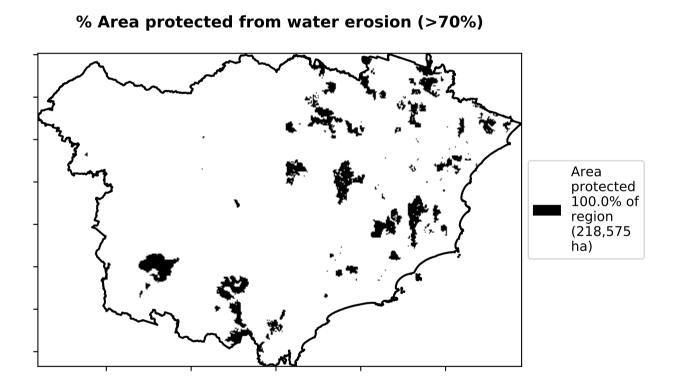


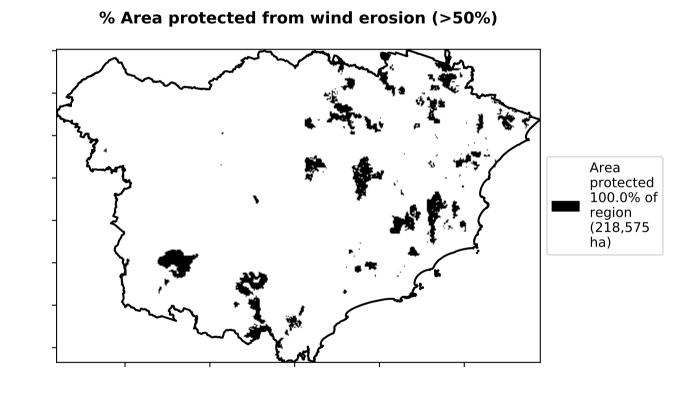
Production native forests and plantation forests

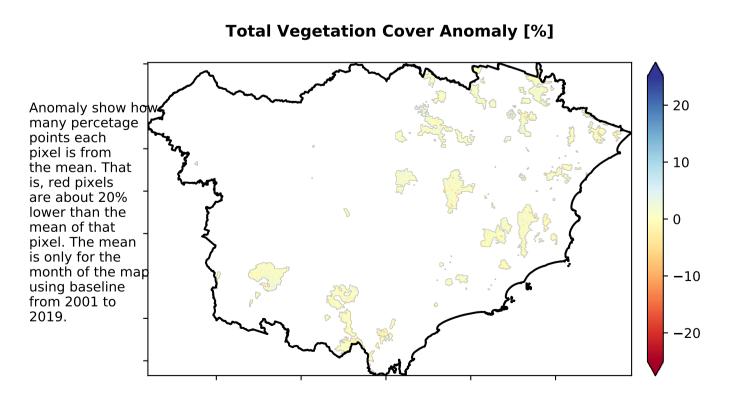
Catchment Scale Land Use and Forests of Australia (2018) Derived from Catchment Scale Land Use of Australia (2018) 1 Production native forests and plantation forests of Australia (2018)

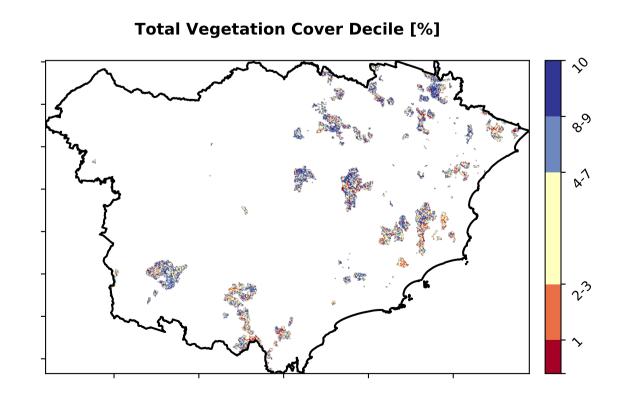
Total Vegetation Cover [%]

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













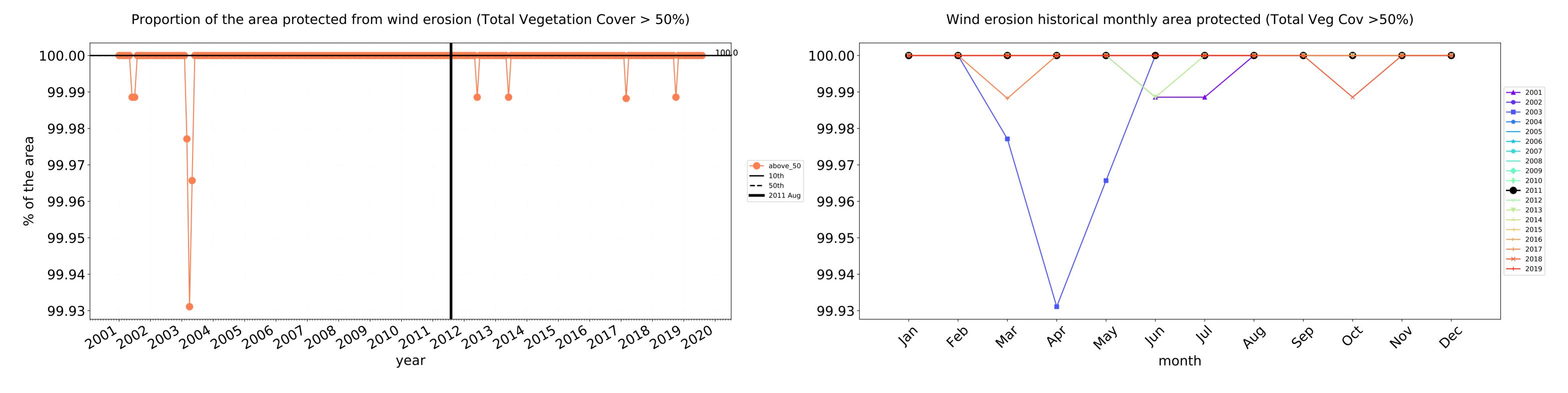


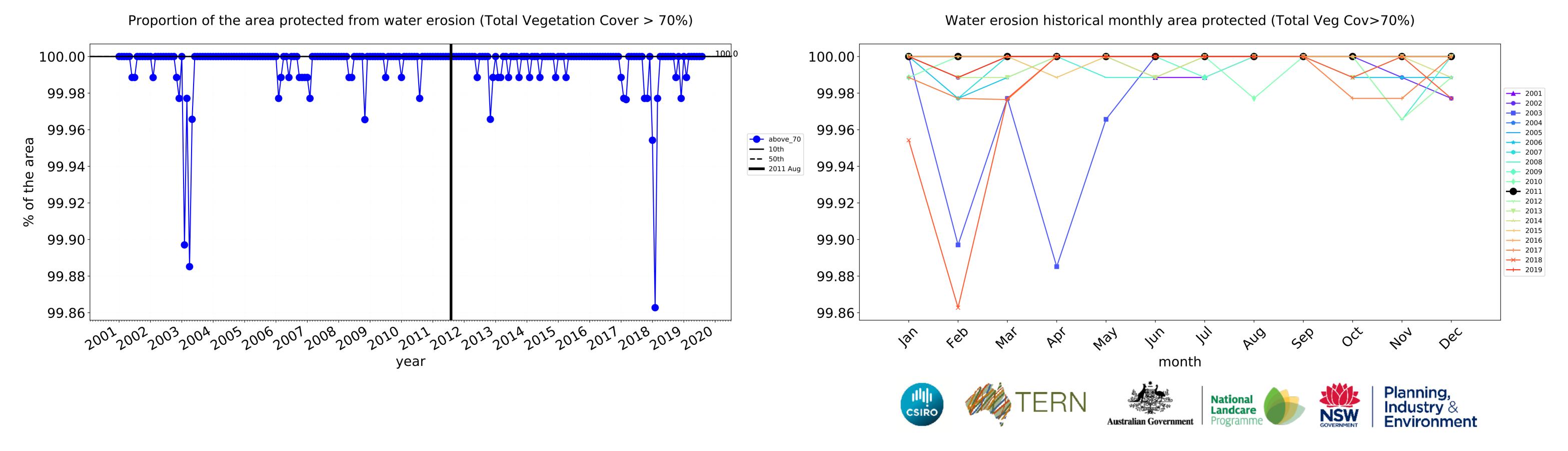


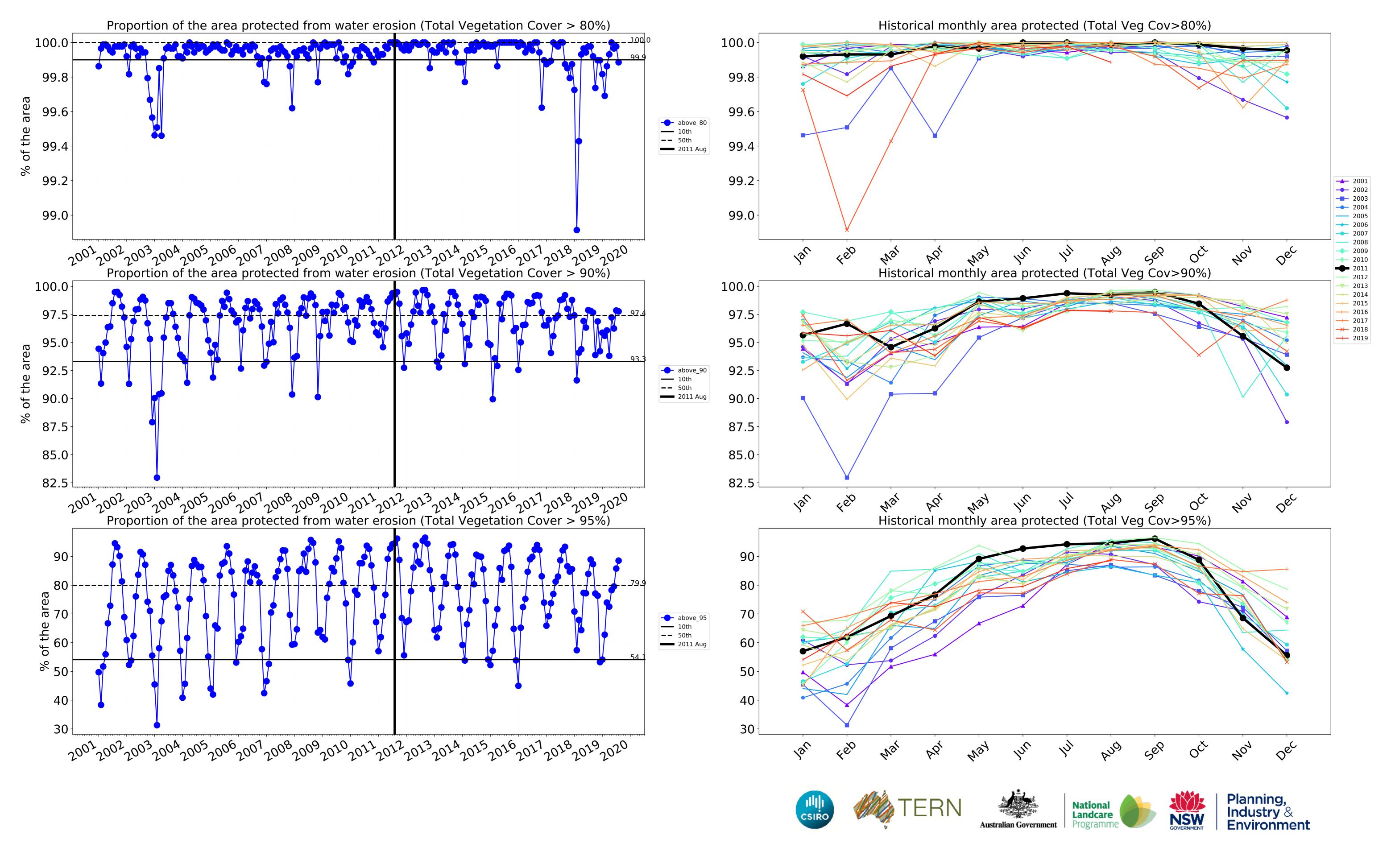




Production native forests and plantation forests timeseries







Hunter (3,238,600 ha and no data 61,825 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	3,238,600	99.9% 3,235,751	99.7% 3,227,555	98.8% 3,198,195	96.8% 3,136,101	82.1% 2,659,615	54.0% 1,748,297
Conservation and natural environments	1,241,450	99.9% 1,240,425	99.9% 1,239,725	99.7% 1,238,150	99.5% 1,235,325	96.6% 1,199,475	79.3% 983,850
Conservation and natural environments non forest	30,225	96.6% 29,200	94.5% 28,575	90.9% 27,475	87.1% 26,325	74.6% 22,550	50.6% 15,300
Conservation and natural environments Woodland forest	138,825	100.0% 138,825	100.0% 138,825	100.0% 138,800	99.9% 138,625	93.6% 129,975	54.0% 75,000
Conservation and natural environments Forest (non woodland)	1,072,400	100.0% 1,072,400	100.0% 1,072,325	100.0% 1,071,875	99.8% 1,070,375	97.6% 1,046,950	83.3% 893,550
Agriculture	1,580,700	100.0% 1,580,675	100.0% 1,580,400	99.7% 1,576,525	97.9% 1,548,200	74.3% 1,174,275	33.6% 531,450
Grazing	1,502,700	100.0% 1,502,675	100.0% 1,502,400	99.8% 1,499,525	98.7% 1,482,825	77.1% 1,159,325	35.2% 529,000
Grazing non forest	1,212,900	100.0% 1,212,875	100.0% 1,212,650	99.8% 1,209,950	98.5% 1,194,325	74.7% 906,175	32.9% 398,950
Grazing Woodland forest	120,550	100.0% 120,550	100.0% 120,550	99.9% 120,450	99.5% 119,975	83.3% 100,375	32.5% 39,125
Grazing - Forest (non woodland)	169,250	100.0% 169,250	100.0% 169,200	99.9% 169,125	99.6% 168,525	90.3% 152,775	53.7% 90,925
Cropping	50,625	100.0% 50,625	100.0% 50,625	98.3% 49,775	81.0% 41,025	20.0% 10,150	3.5% 1,775
Production native forests and plantation forests	218,575	100.0% 218,575	100.0% 218,575	100.0% 218,575	100.0% 218,550	99.3% 216,950	94.6% 206,725











