LGA Logan_(C) (QLD) - Vegetation cover soil protection report Aug 2019

This report provides information about vegetation covering the soil surface for a region during a single month with comparison to previous years. Vegetation cover indicates where soil is likely to be protected from wind and or water (hillslope) erosion. Results are shown for the whole region (polygon) and also separated by land use and tree cover. Different land uses are likely to have different cover patterns and targets. Reporting is most reliable with less than 20% tree cover.

Logan (C)

- Context
 - o Map: Land use and forest cover
 - o Chart: Land use and forest cover area
- Total vegetation cover for this month
 - o Map: vegetation cover classified into 4 classes
 - o Chart: vegetation cover area classified into 4 classes
- Areas protected from erosion for the month
 - o Map: wind erosion protection (>50% cover)
 - o Map: water erosion protection (>70% cover)
- Comparison with previous years
 - o Map: anomaly compare this month to the average cover from the same month in previous years
 - o Map: deciles rank this month against the same month in previous years
- Time series
 - o Wind erosion protection time series: percentage of the area of the region with greater than 50% cover for each month in the archive (orange lines)
 - o Water erosion protection time series: percentage of the area of the region with greater than 70% cover for each month of the archive (blue lines).
 - o Rainfall: millimetres rainfall each month (black lines)
- Time series stacked by year
 - o Wind erosion protection time series: percentage of the area of the region with greater than 50% cover for each month in the archive (orange lines) in case of 5th percentile is less than 80i
 - o Water erosion protection time series: percentage of the area of the region with greater than 70% cover for each month of the archive (blue lines). in case of 5th percentile is less than 80
- Water erosion protection on higher slopes. As slope increases, more cover is required to control water erosion. The thresholds reported are:
 - o the percentage area with pixels greater than 80% total clover
 - o the percentage area with pixels greater than 90% total clover
 - o the percentage area with pixels greater than 95% total clover

The following pages repeat the above sequence for each land use and forest cover class. For example

- All agricultural lands, that is grazing, cropping plus Horticulture (depending on what land use is present)
- Grazing lands by forest classes if present
- Cropping lands
- Irrigation lands
- Protected areas by forest classes if present

Explanatory notes:

This report has been generated using MODIS fractional vegetation cover information available in Rangelands and Pasture Productivity (RAPP) map tool. The report is based on an analysis of 500 metre pixels. Pixels with greater than or equal to 50% vegetation cover are generally considered to be protected from or have reduced soil loss by wind erosion, and pixels with greater than or equal to 70% vegetation cover are generally considered to also be protected from or have reduced soil loss from water (hillslope) erosion. Report used baseline from 2001 to 2019 for each month to generate anomalies and deciles. And it used threshold of 1% to create land use forest cover reports. Higher cover thresholds may be required for erosion protection in some regions. This report will be less applicable in areas with sparse forest (20-50% tree cover) or dense forest (> 50% tree cover). Therefore land use classes are divided by tree cover: 1) No forest is when there is less than 20% tree cover 2) Sparse forest, is when there is less than 20 to 50 % tree cover 3) Dense forest is greater than 50% tree 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







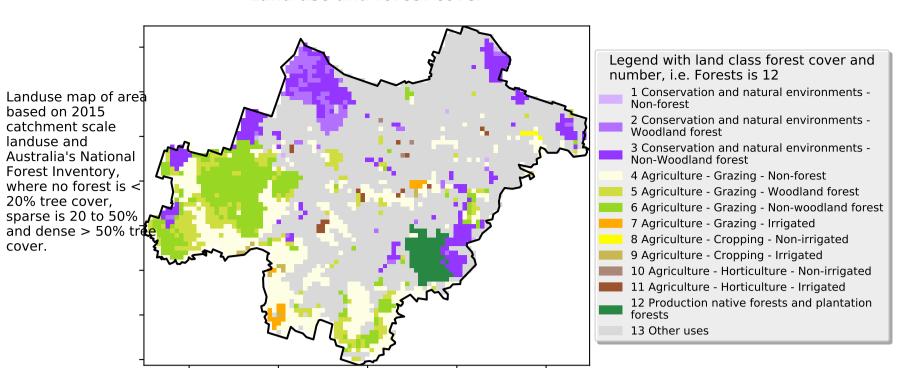




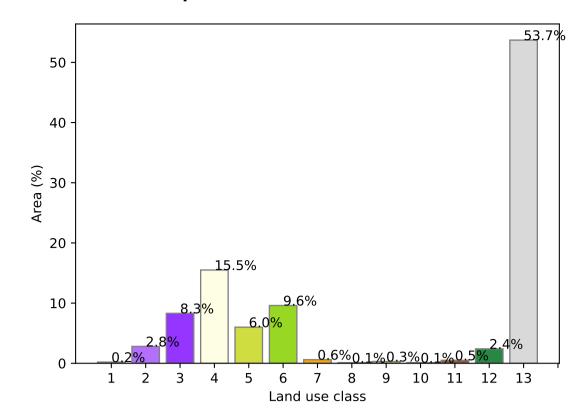


Vegetation Cover Aug 2019

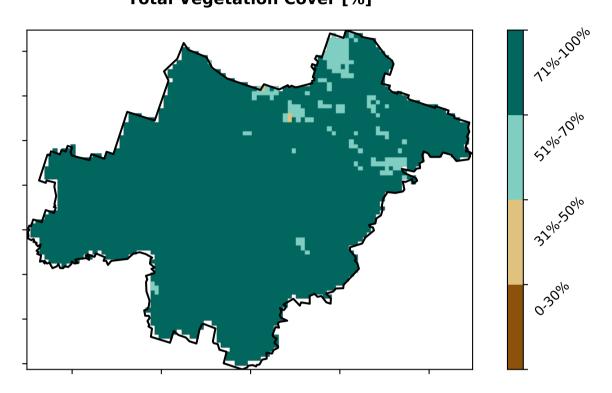
Land use and forest cover



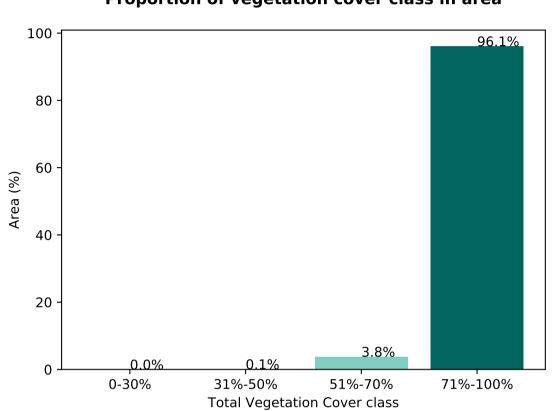
Proportion of each land class in area



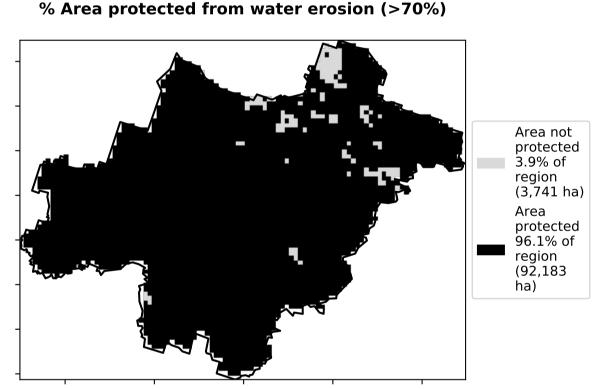
Total Vegetation Cover [%]



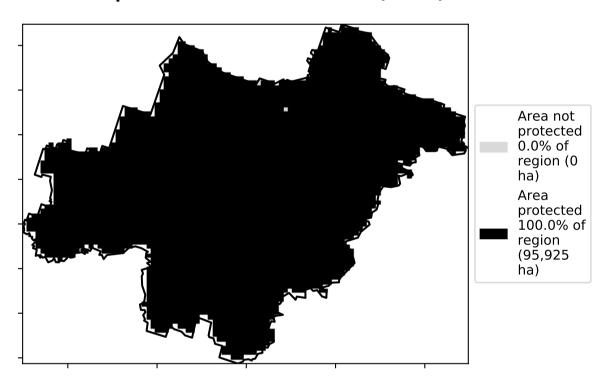
Proportion of vegetation cover class in area



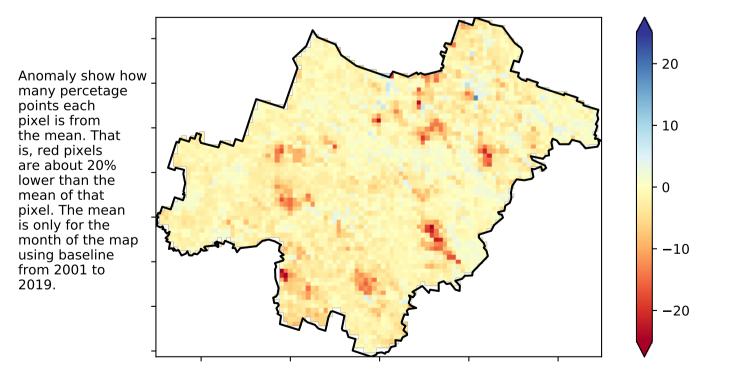
0/ Aven must stad from water evenier (> 700/)



% Area protected from wind erosion (>50%)

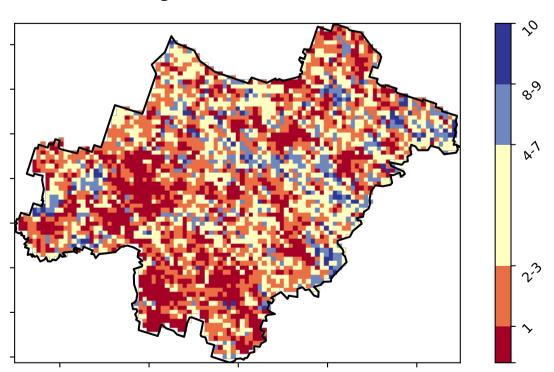


Total Vegetation Cover Anomaly [%]



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 [%]





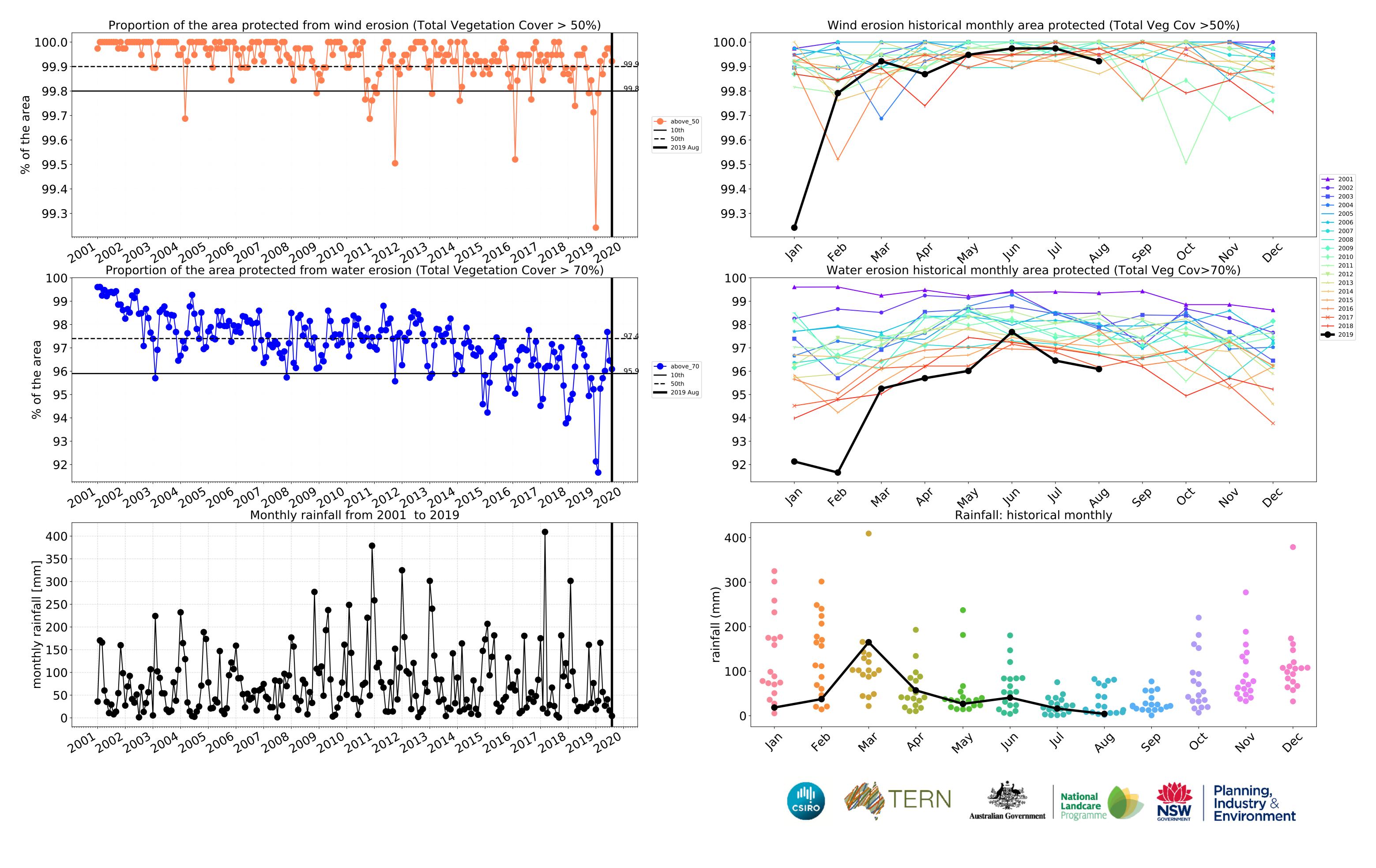


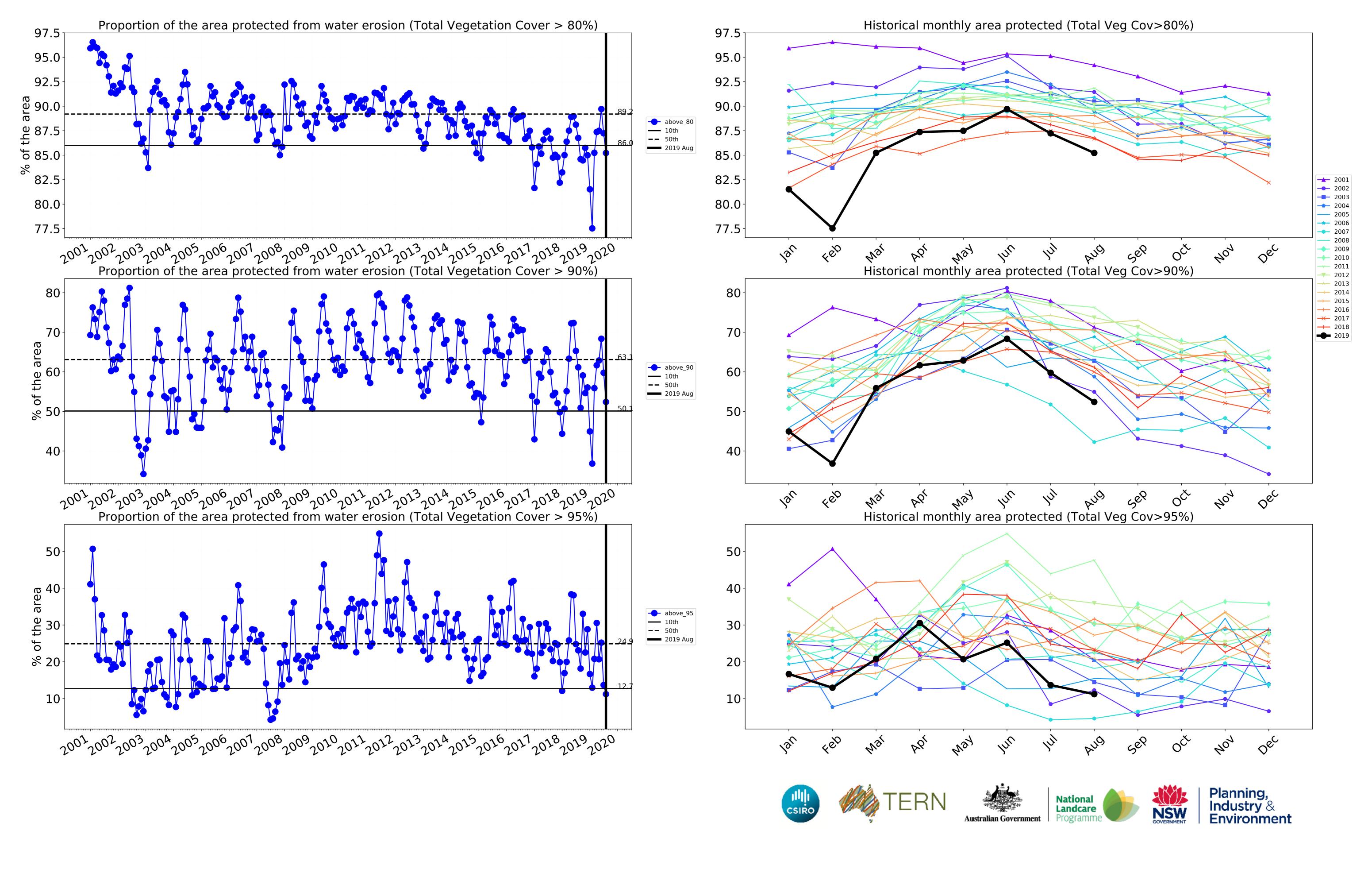






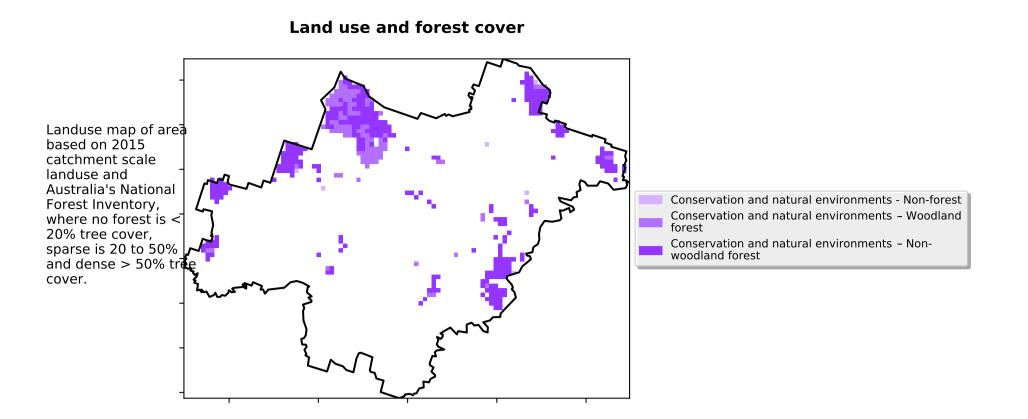


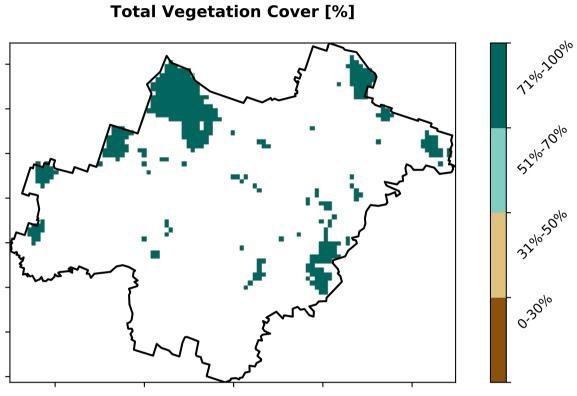


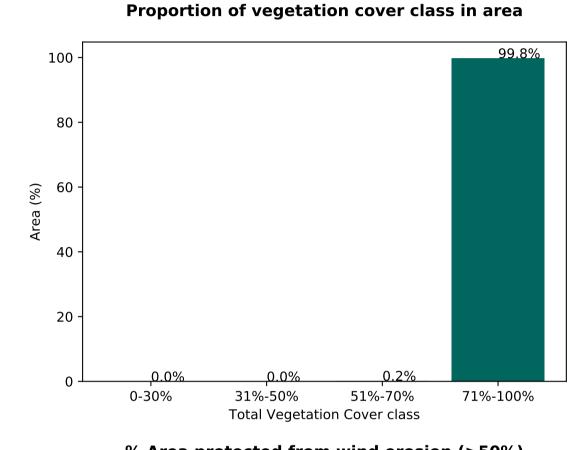


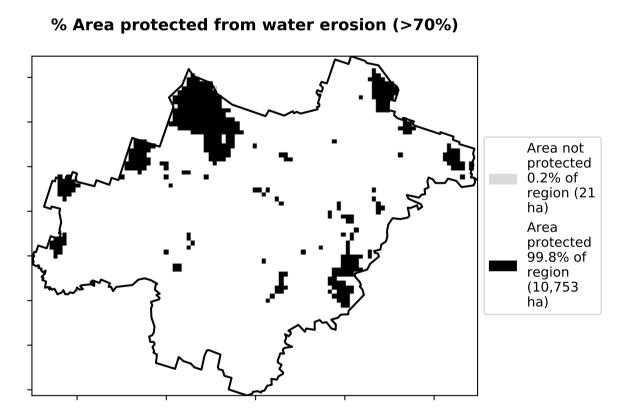
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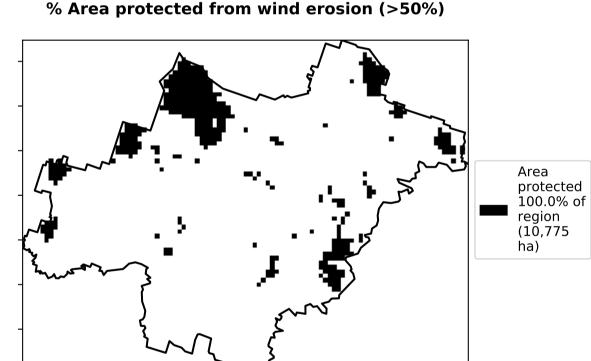
Conservation and natural environments

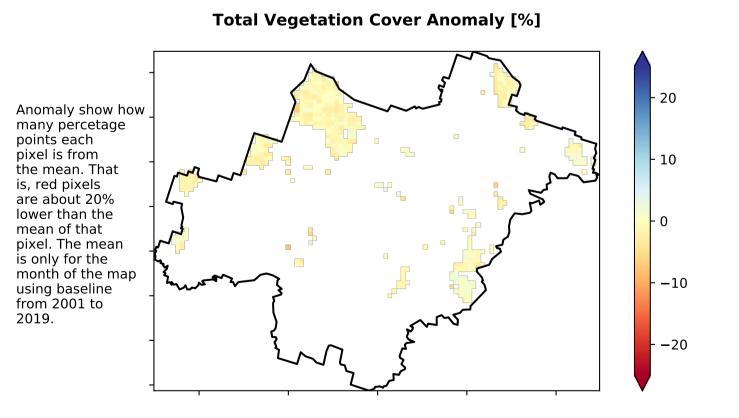












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Total Vegetation Cover Decile [%]



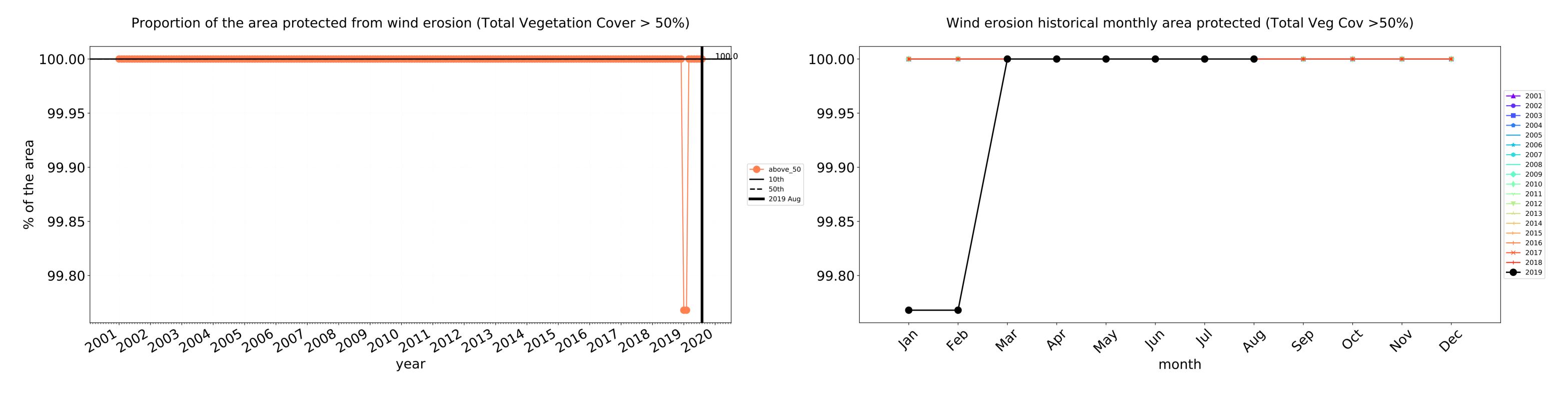


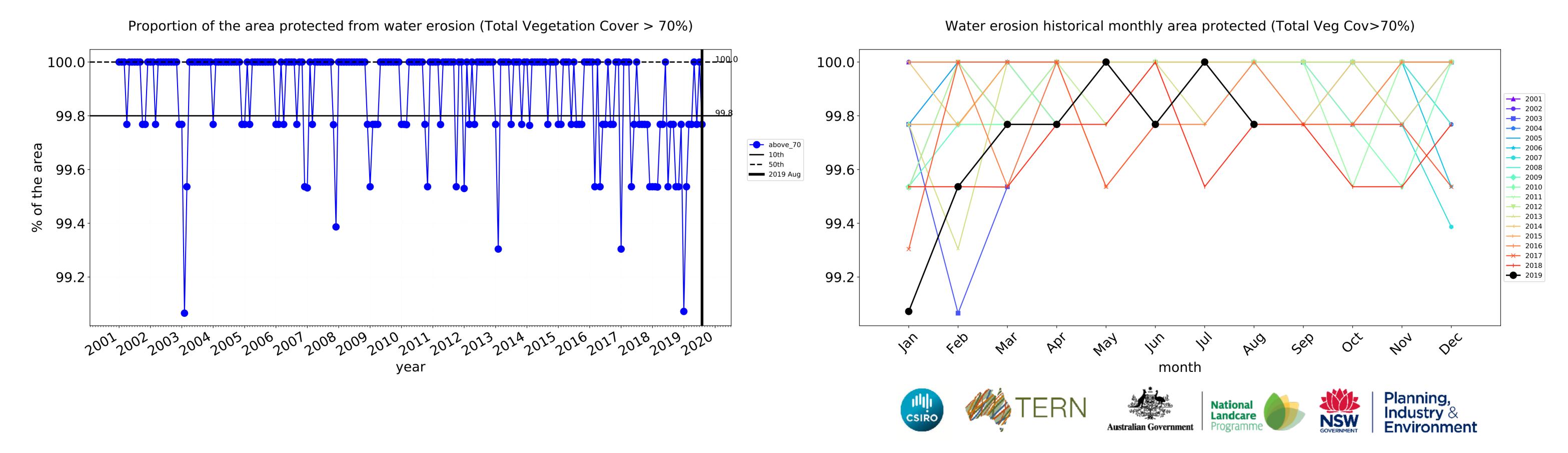


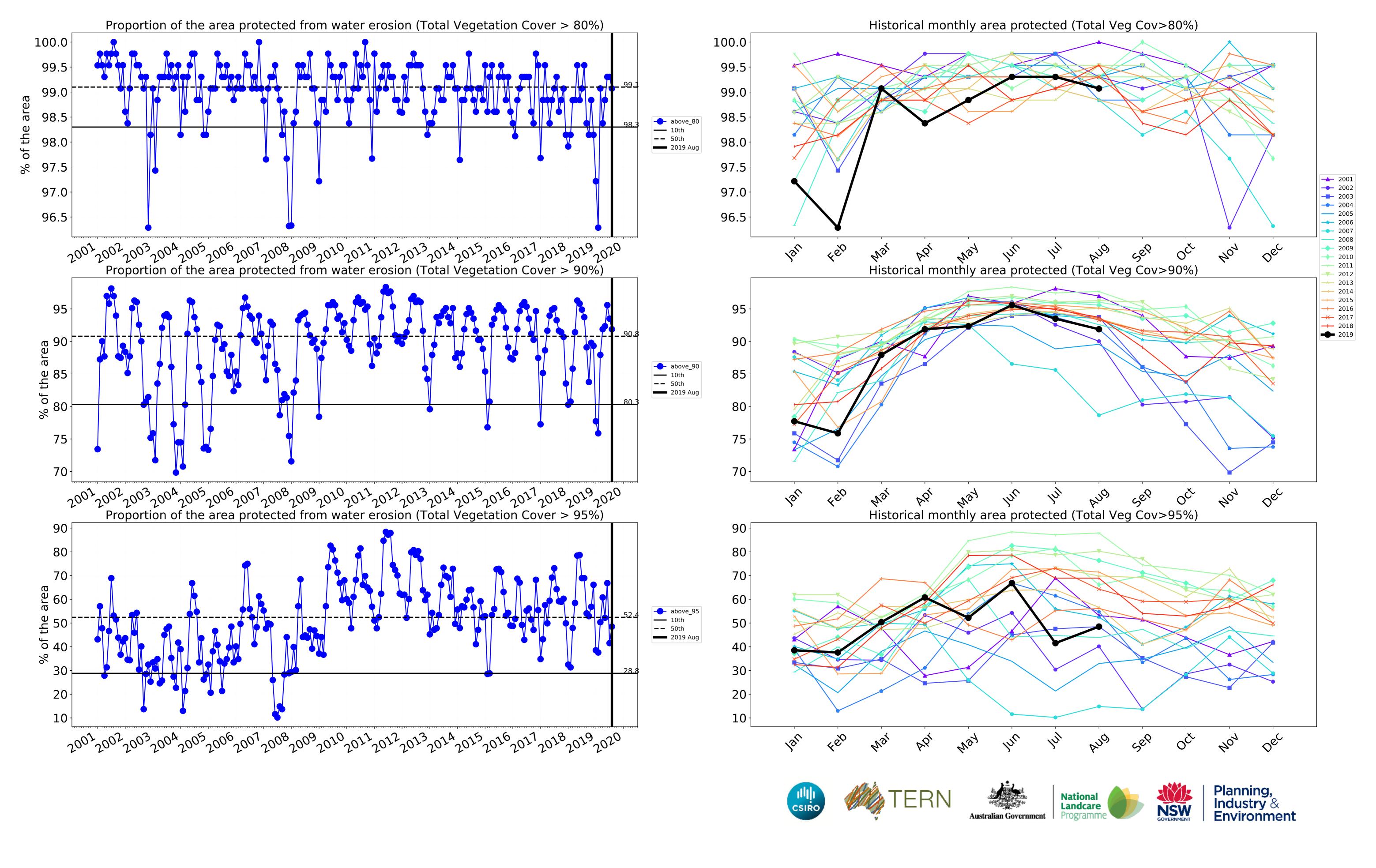




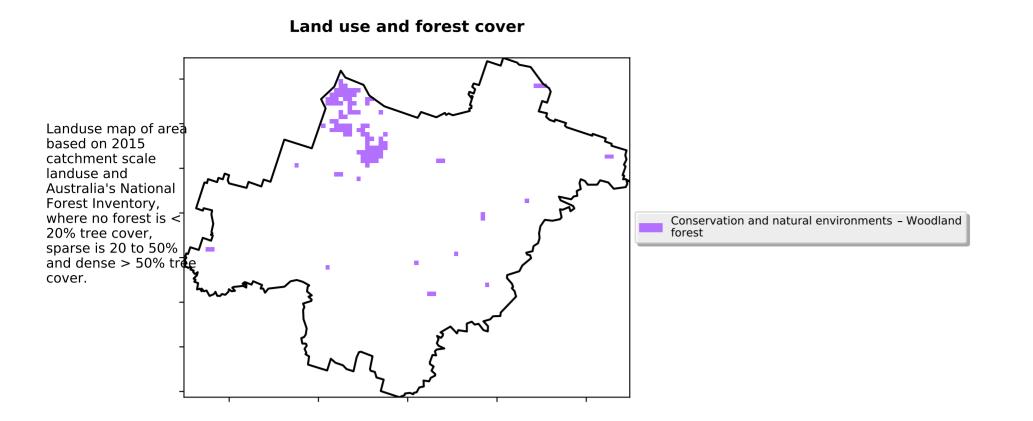
Conservation and natural environments timeseries



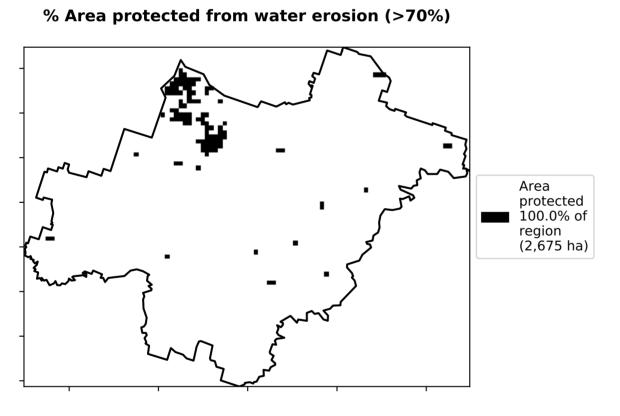


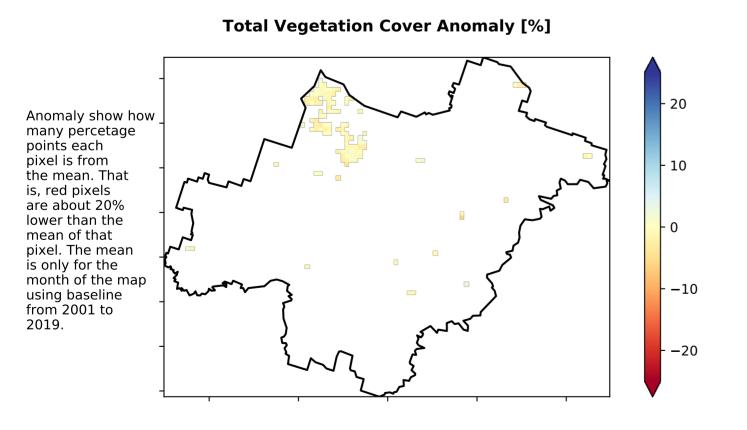


Conservation and natural environments Woodland forest



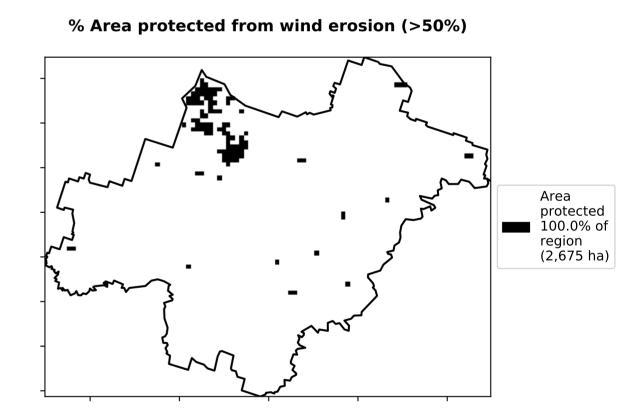
Total Vegetation Cover [%]

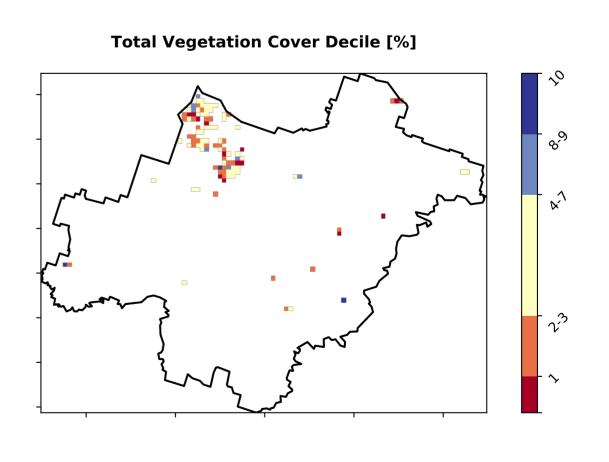




Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the man using baseling. the map using baseline from 2001 to 2019.

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







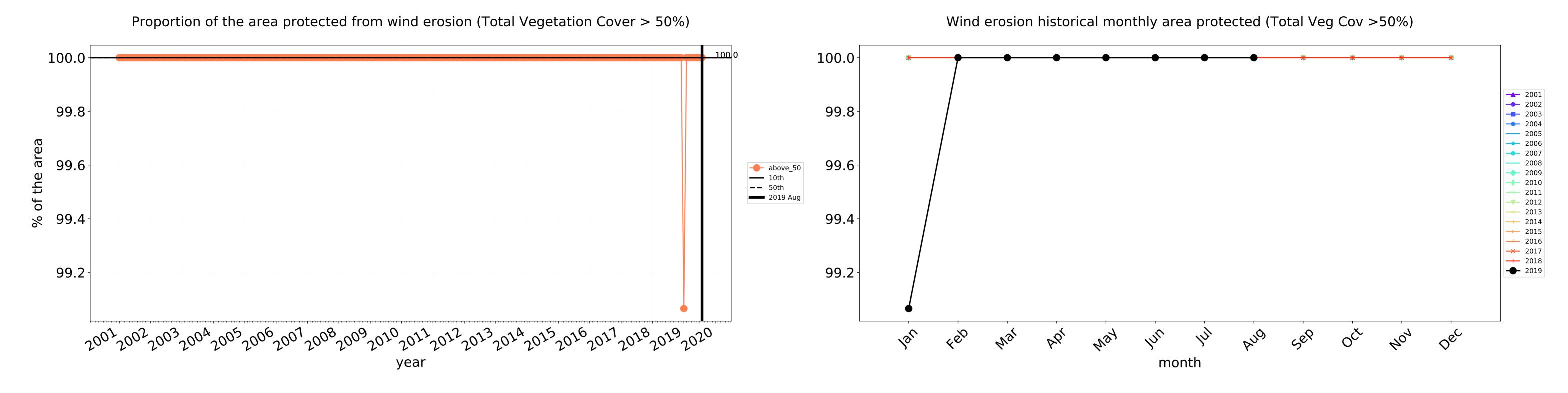


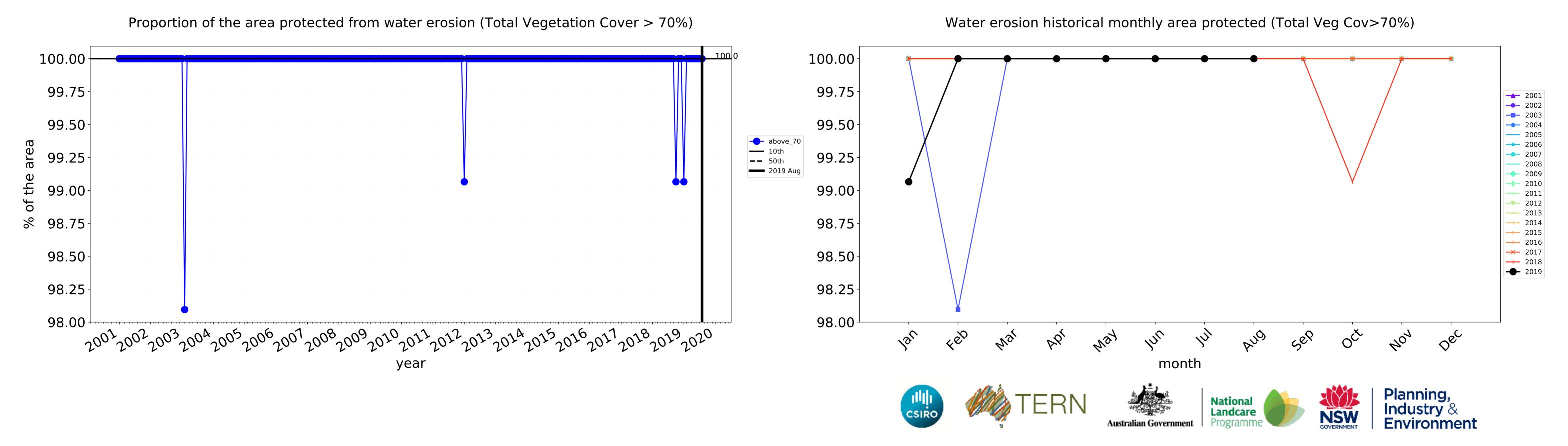


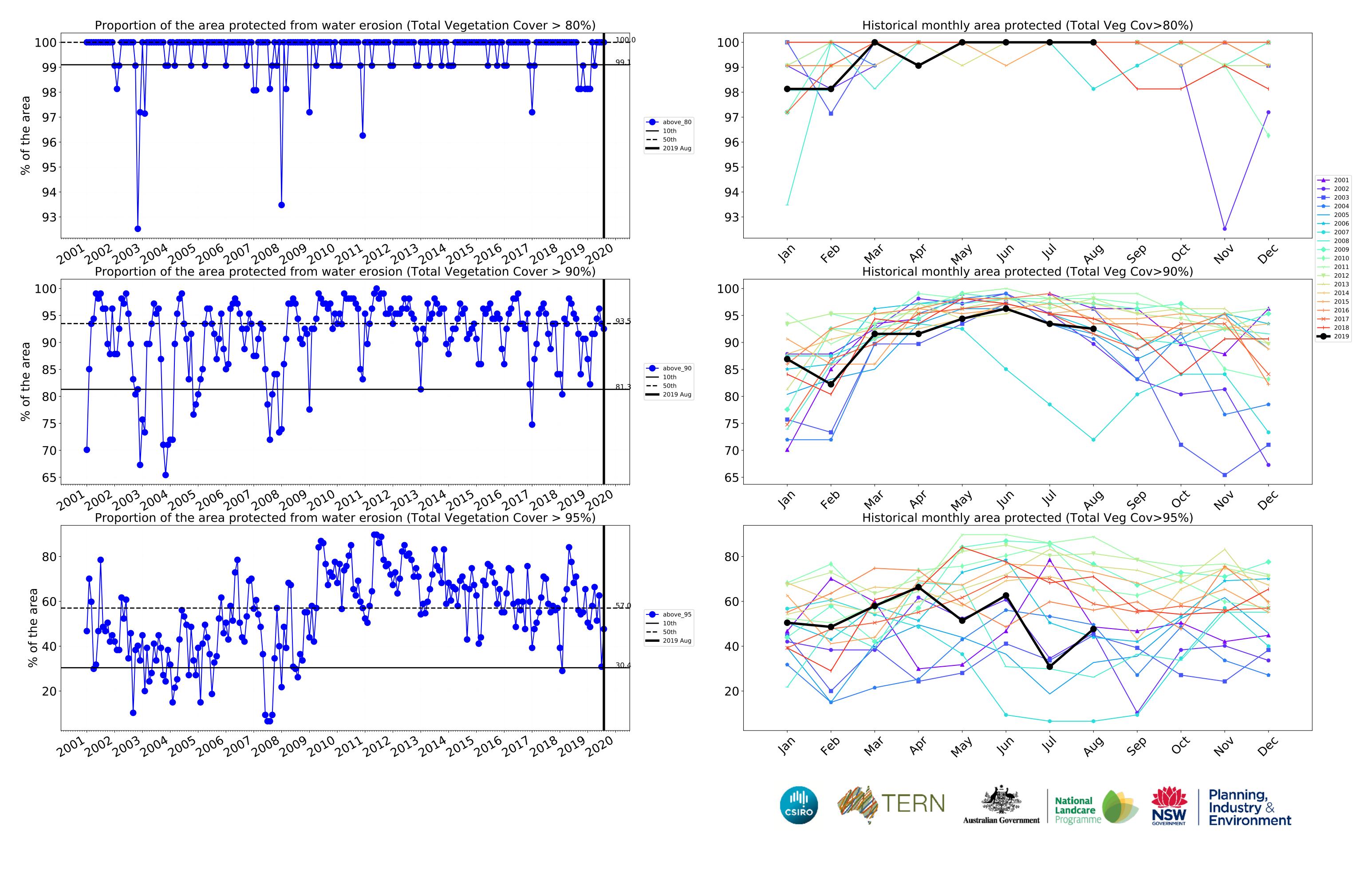




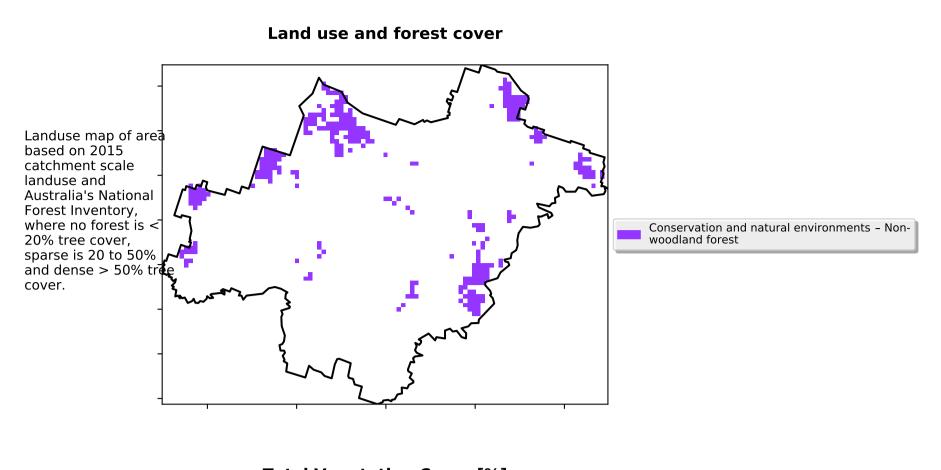


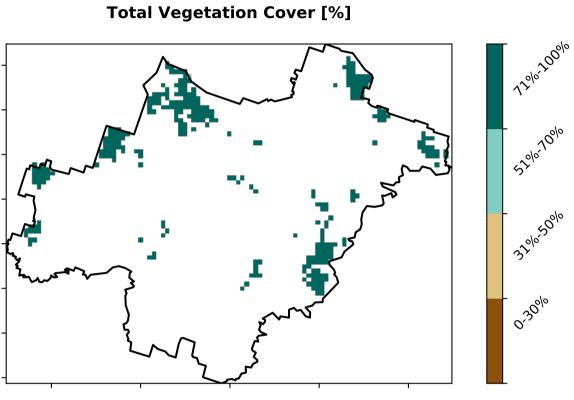


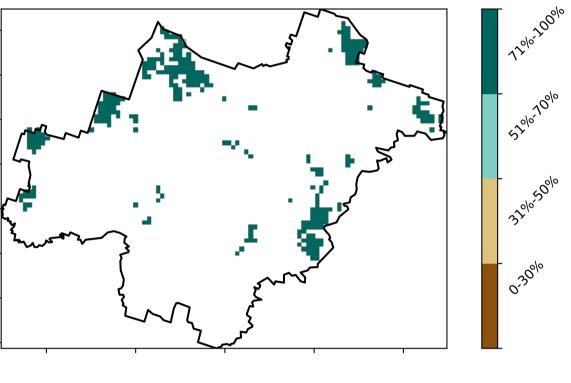


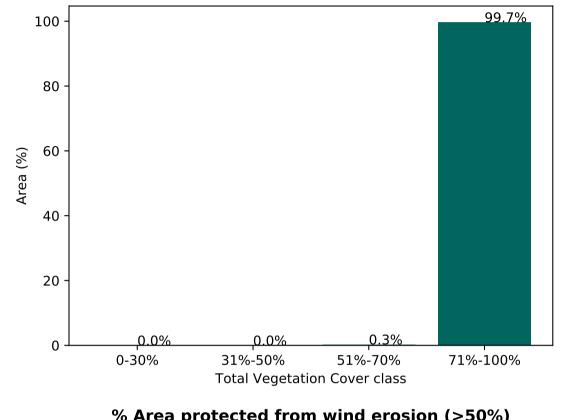


Conservation and natural environments Forest (non woodland)

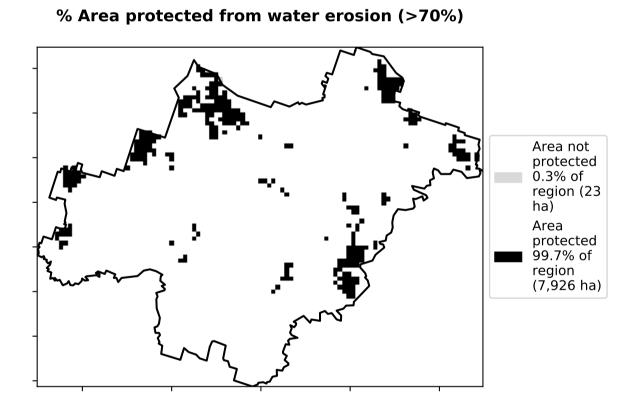


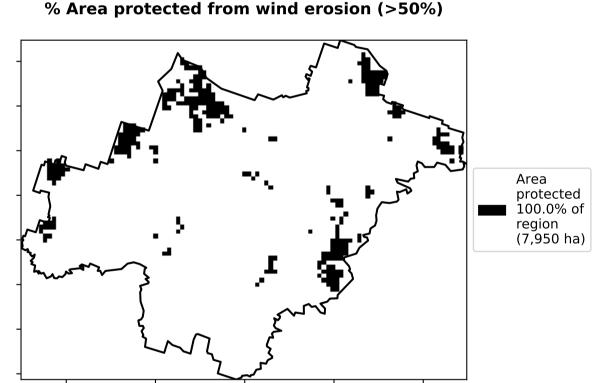




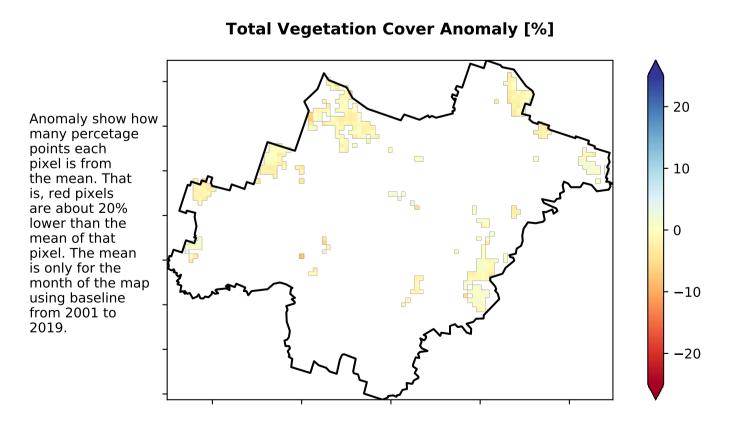


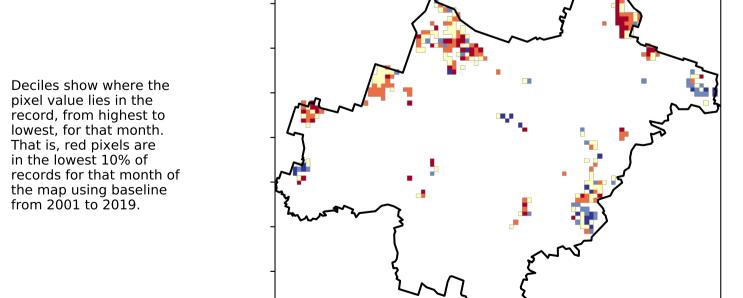
Proportion of vegetation cover class in area





Total Vegetation Cover Decile [%]

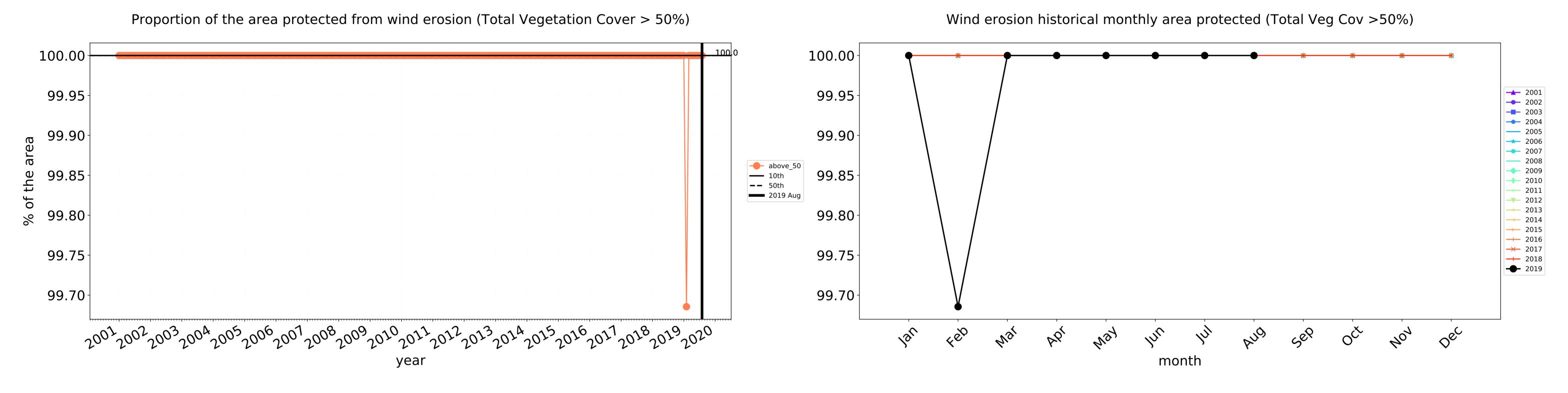


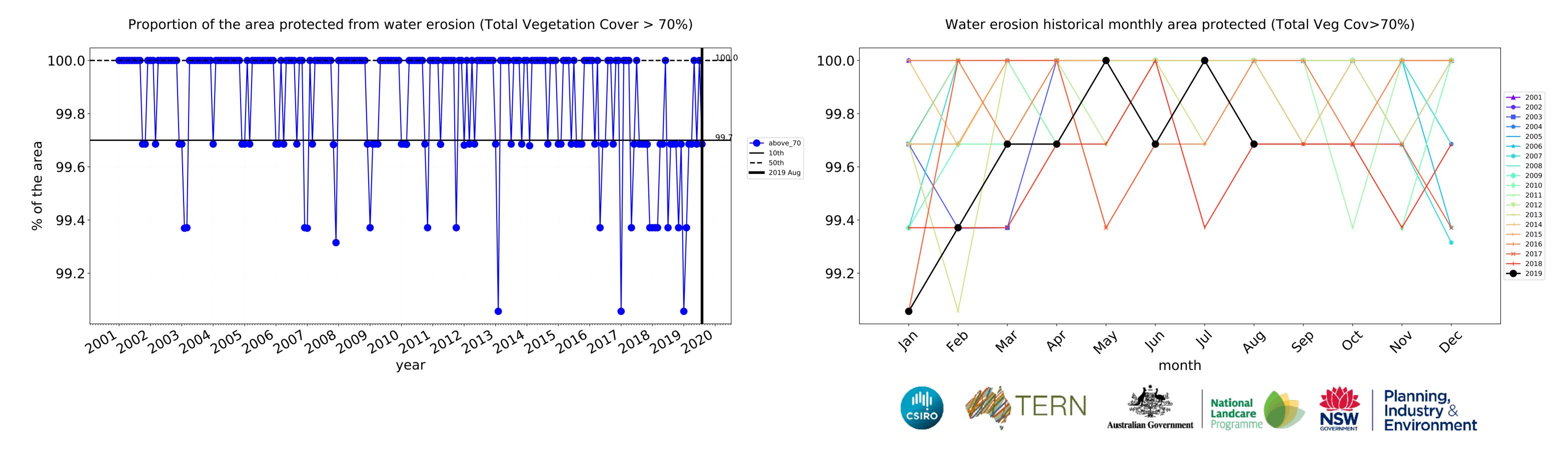


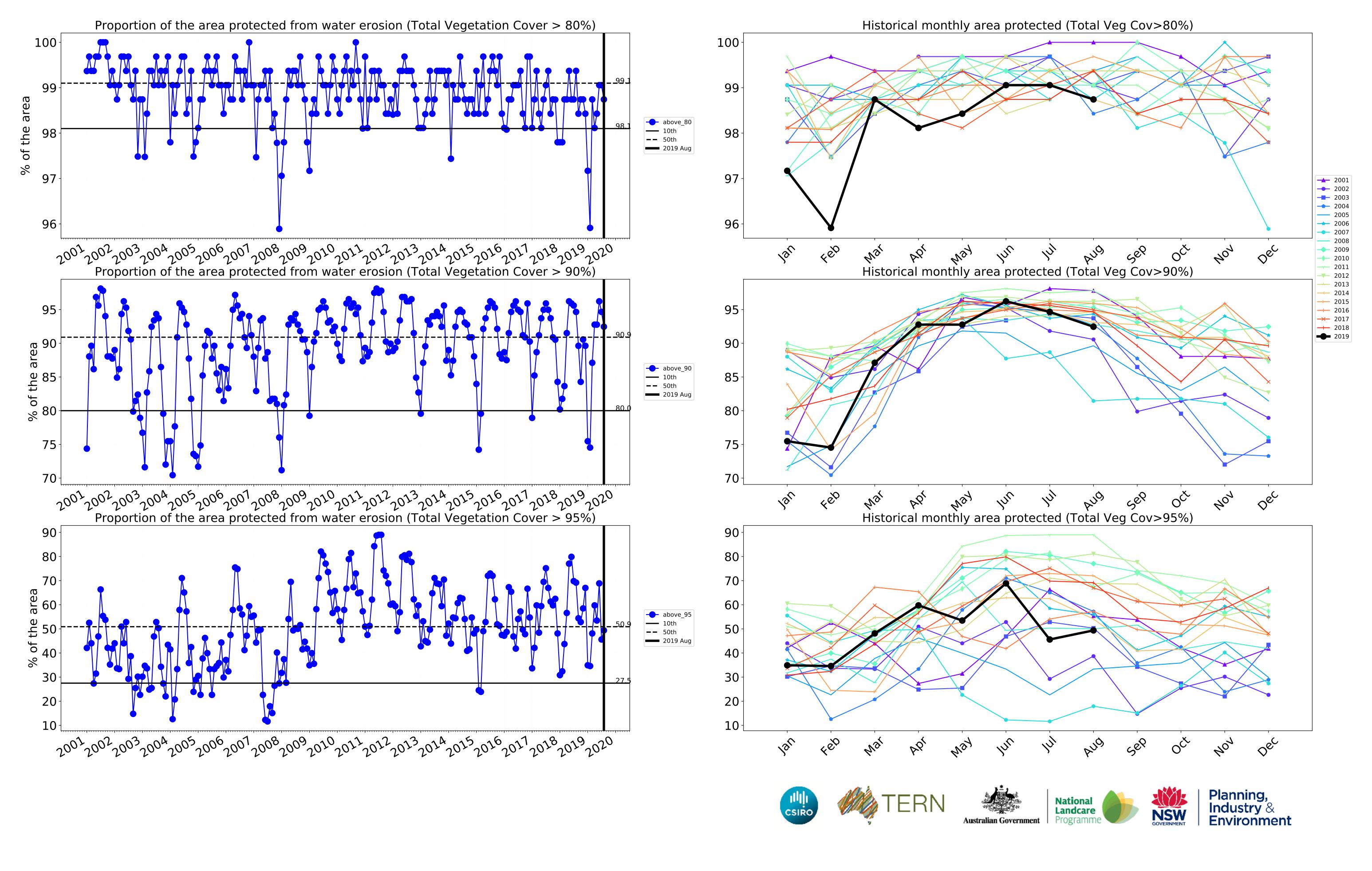










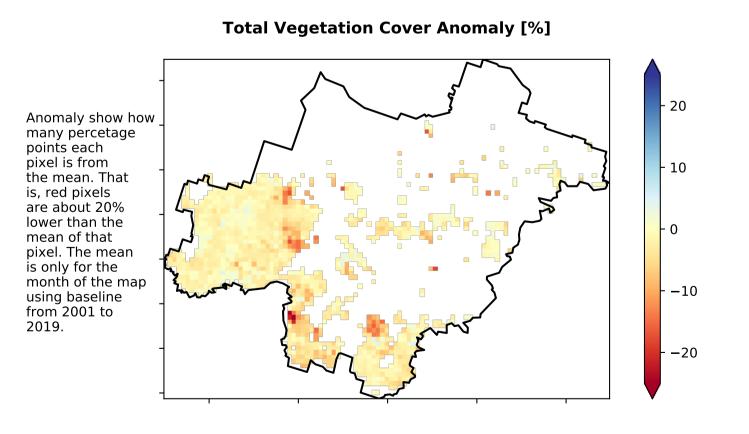


Agriculture

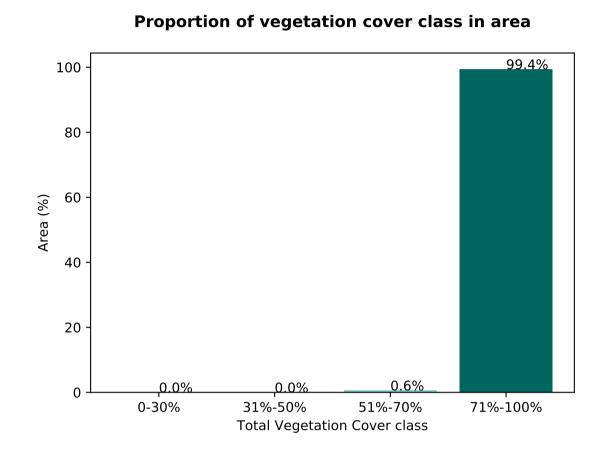
Land use and forest cover Landuse map of area based on 2015 catchment scale Agriculture - Grazing - Non forest landuse and Agriculture - Grazing - Woodland forest Australia's National Agriculture - Grazing - Non-oodland forest Forest Inventory, where no forest is < Agriculture - Grazing - Irrigated 20% tree cover, sparse is 20 to 50% Agriculture - Cropping - Non-irrigated Agriculture - Cropping - Irrigated and dense > 50% tr Agriculture - Horticulture - Non-irrigated cover. Agriculture - Horticulture - Irrigated

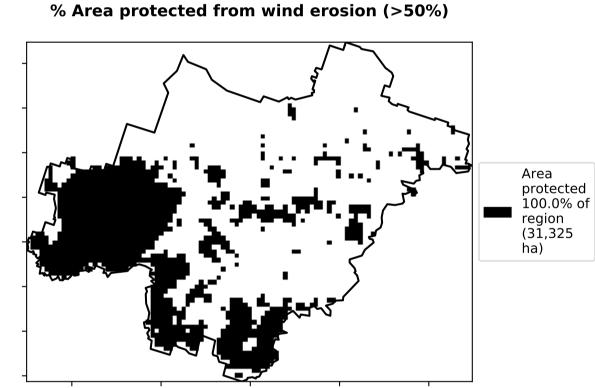
Total Vegetation Cover [%] Type of the last of the state of the state

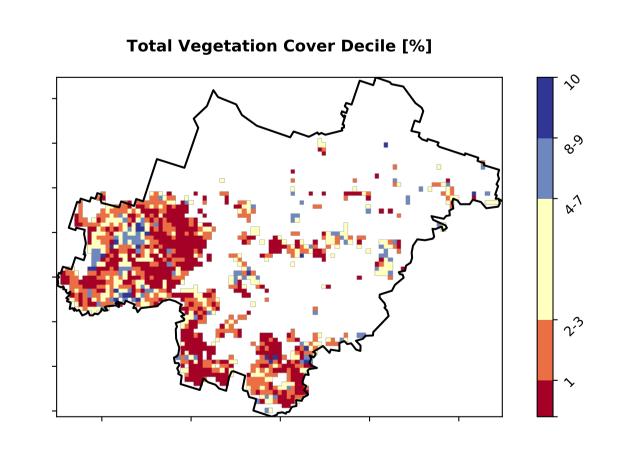
% Area protected from water erosion (>70%) Area not protected 0.6% of region (187 ha) Area protected 99.4% of region (31,137 ha)



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.











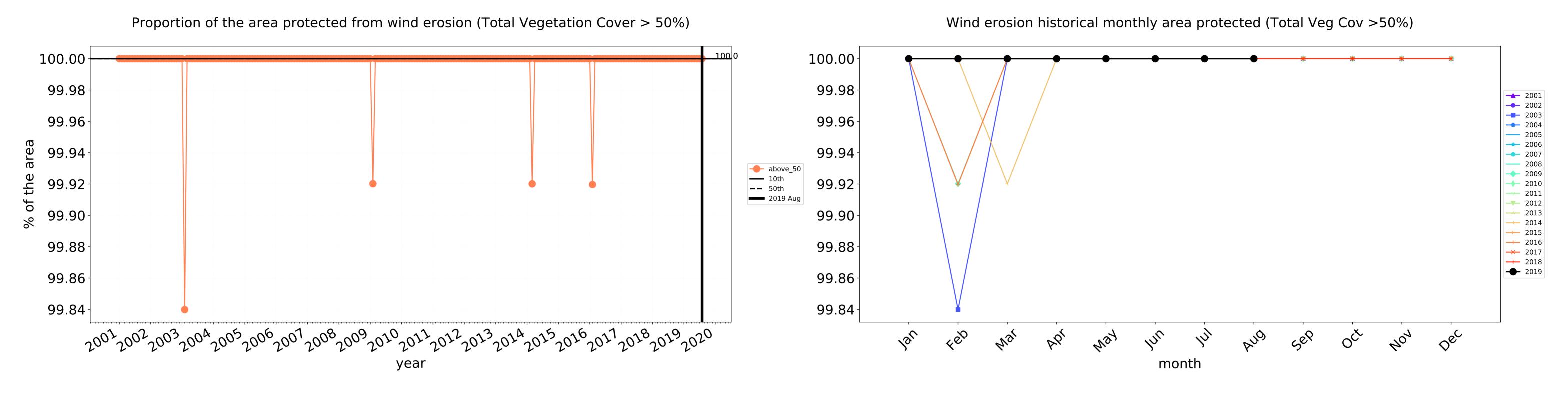


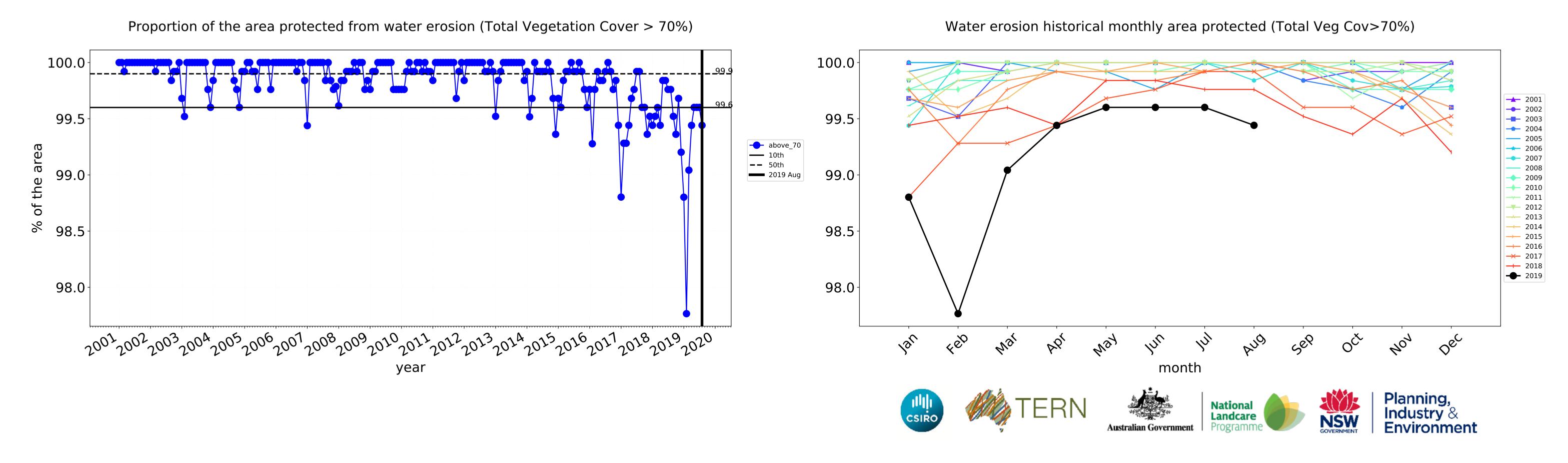


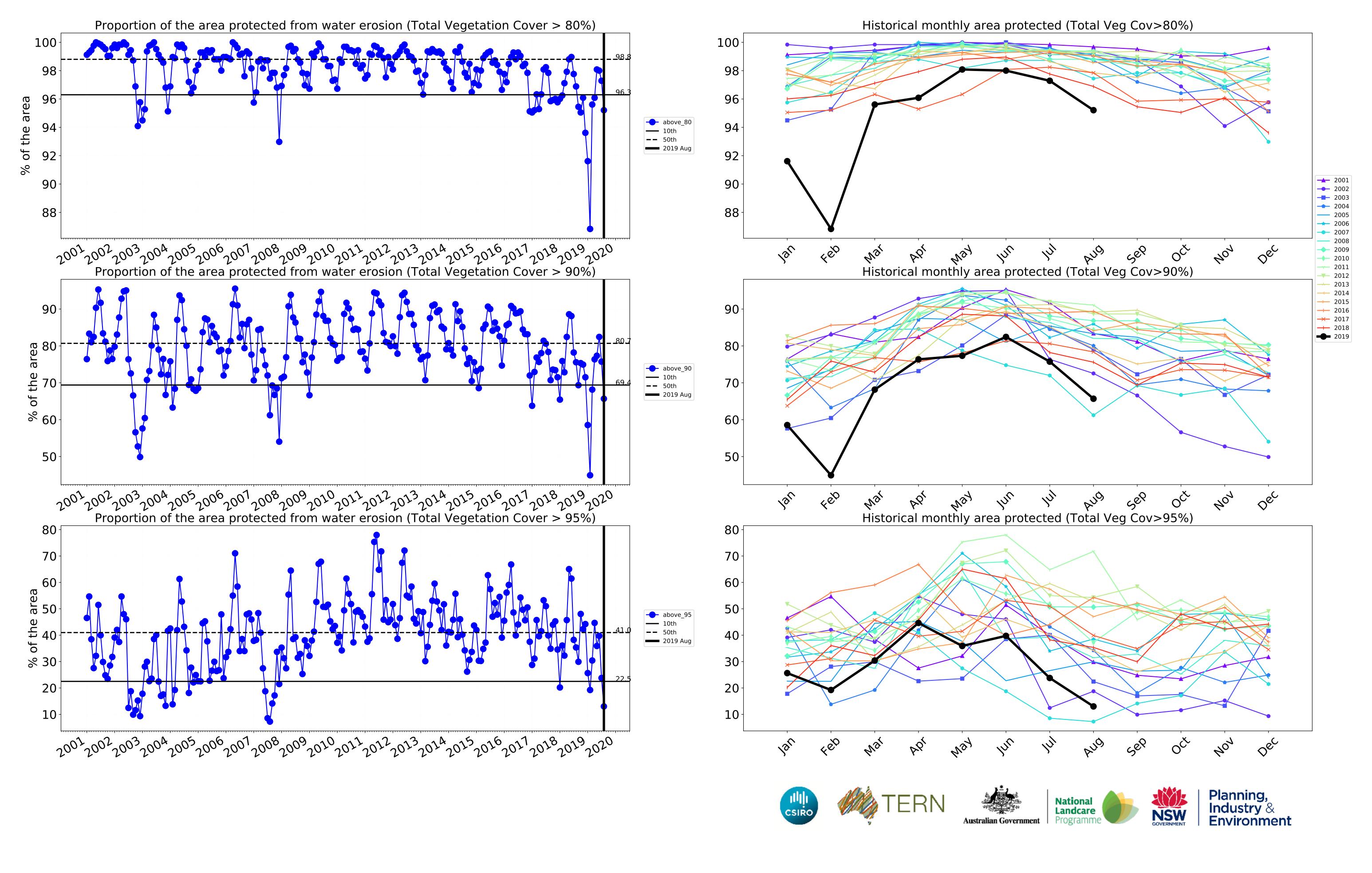




Agriculture timeseries





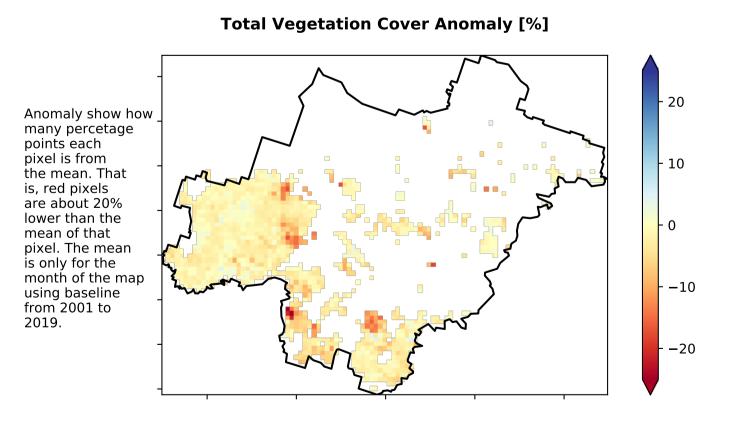


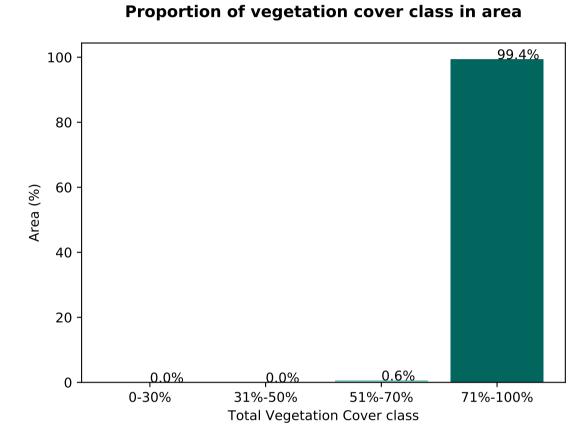
Grazing

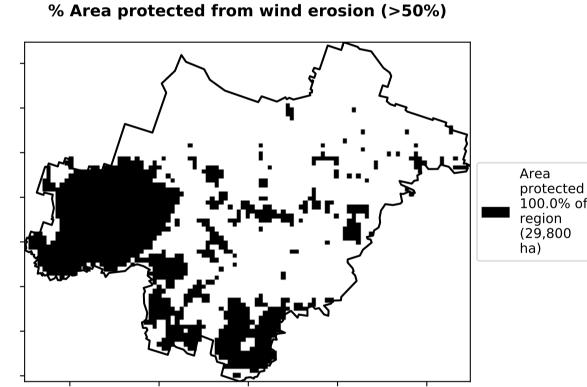
Land use and forest cover Landuse map of area based on 2015 catchment scale landuse and Australia's National Forest Inventory, where no forest is < Agriculture - Grazing - Non forest Agriculture - Grazing - Woodland forest 20% tree cover, sparse is 20 to 50% and dense > 50% tree Agriculture - Grazing - Non-oodland forest cover.

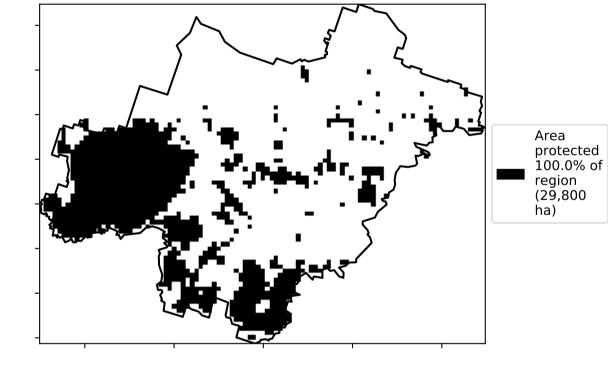
Total Vegetation Cover [%]

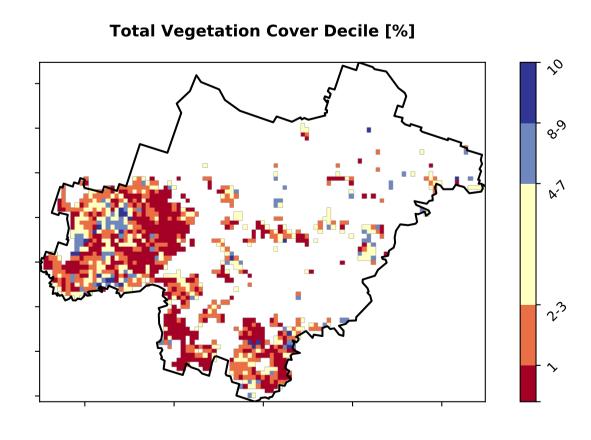
% Area protected from water erosion (>70%) Area not protected 0.6% of region (178 ha) Area protected 99.4% of region (29,621 ha)















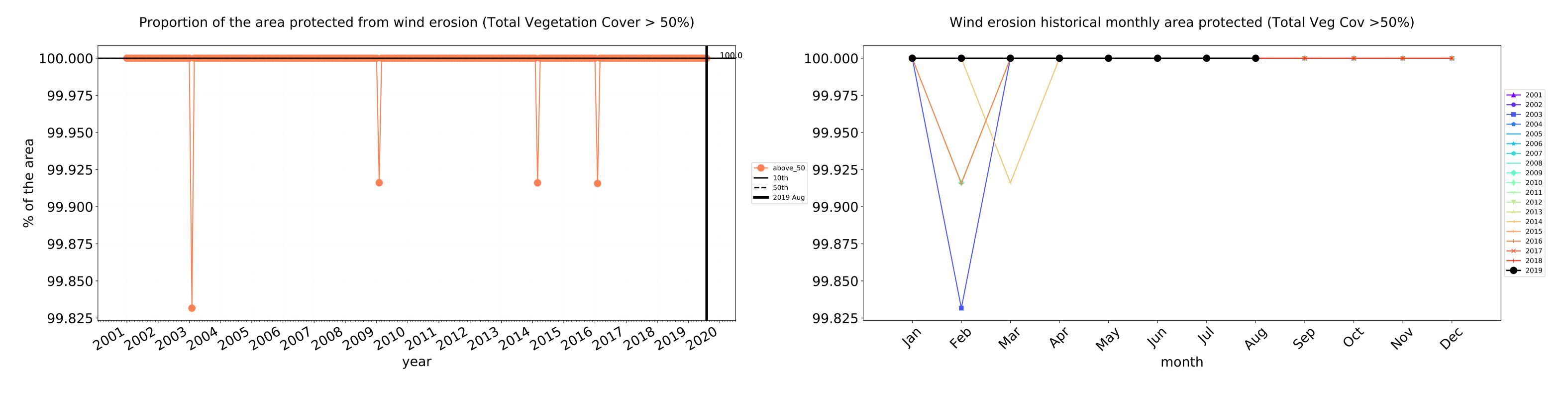
Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the man using baseline.

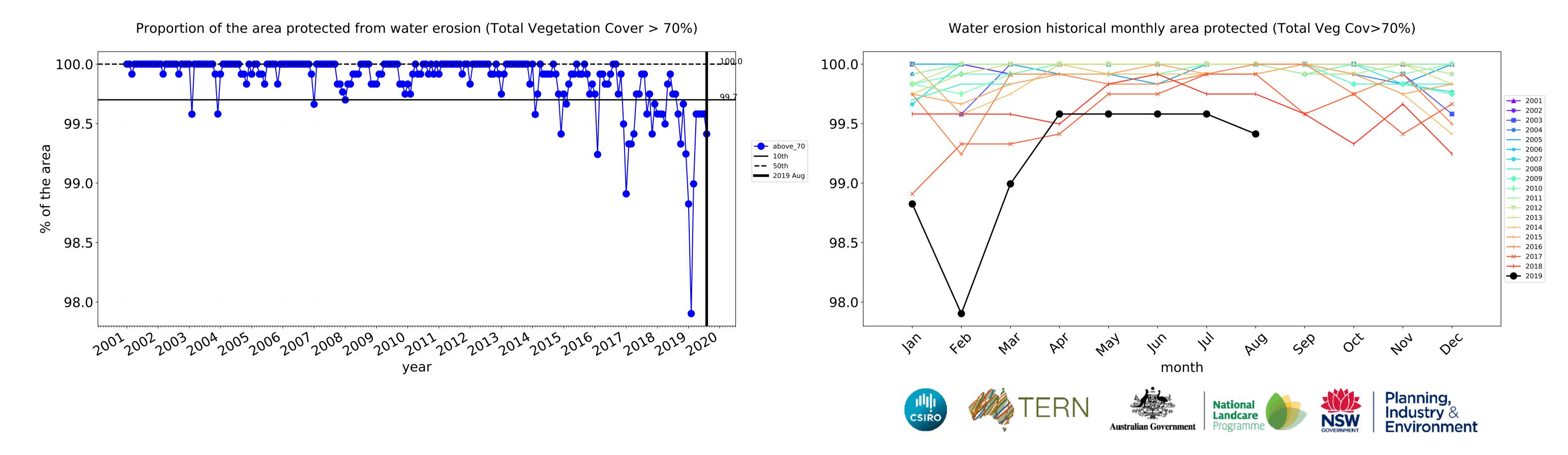
the map using baseline from 2001 to 2019.

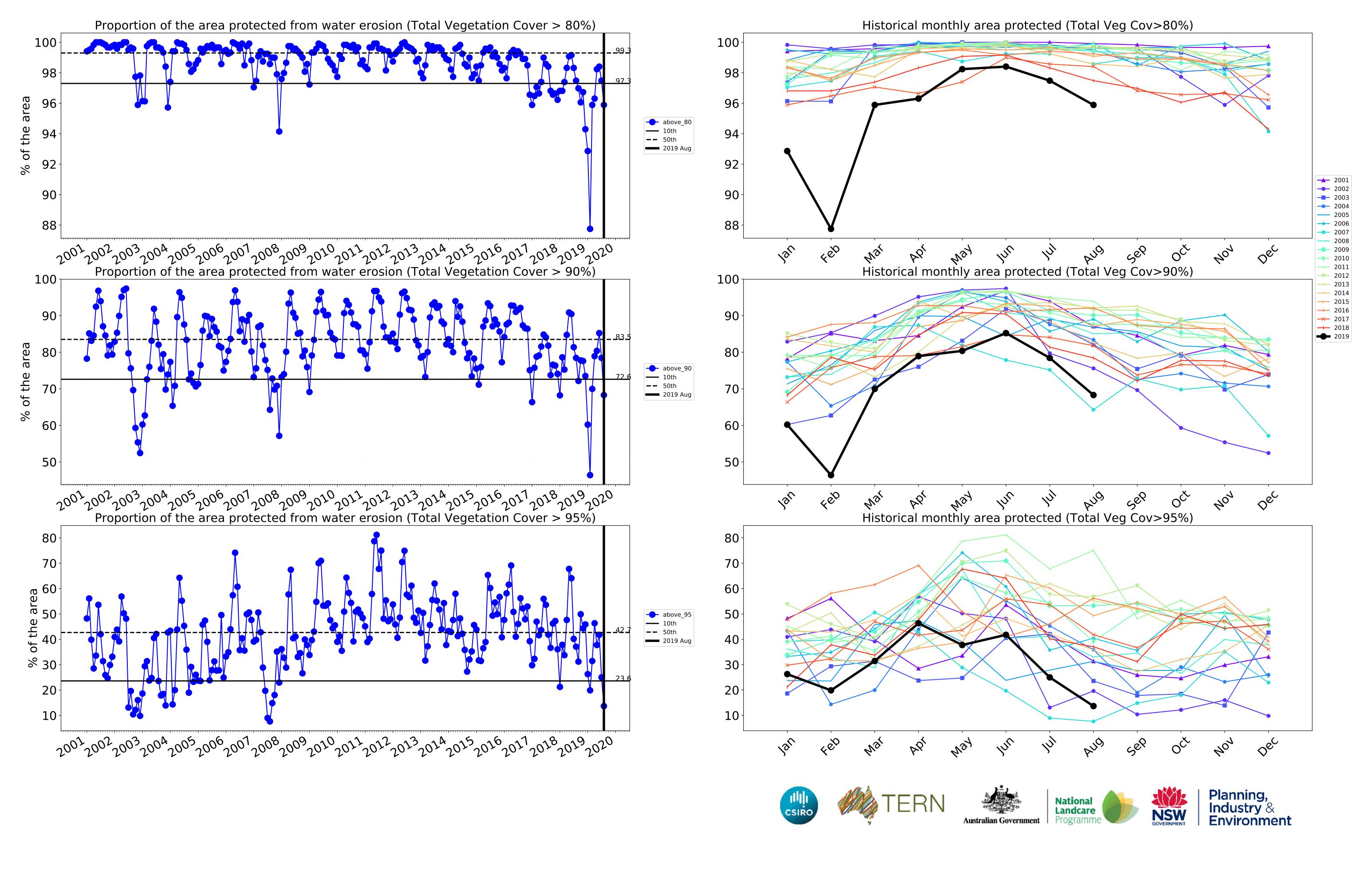




Grazing timeseries





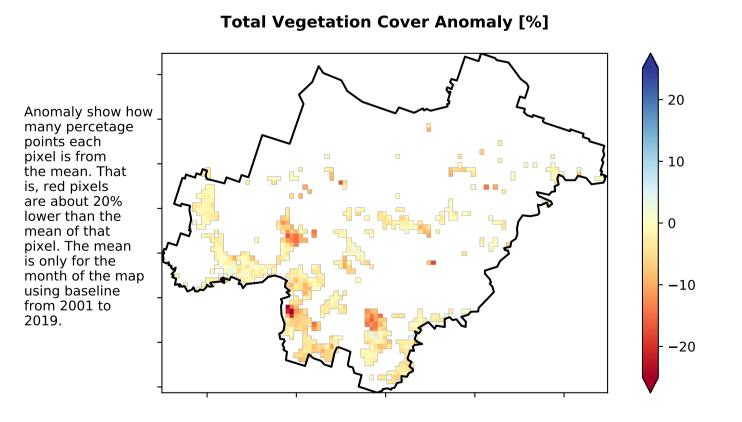


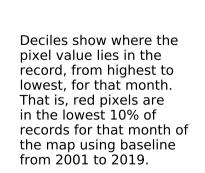
Grazing non forest

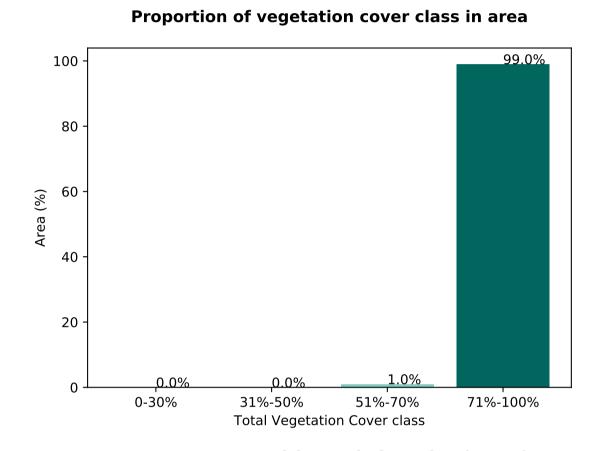
Land use and forest cover Landuse map of area based on 2015 catchment scale landuse and Australia's National Forest Inventory, where no forest is < Agriculture - Grazing - Non forest 20% tree cover, sparse is 20 to 50% and dense > 50% tree cover.

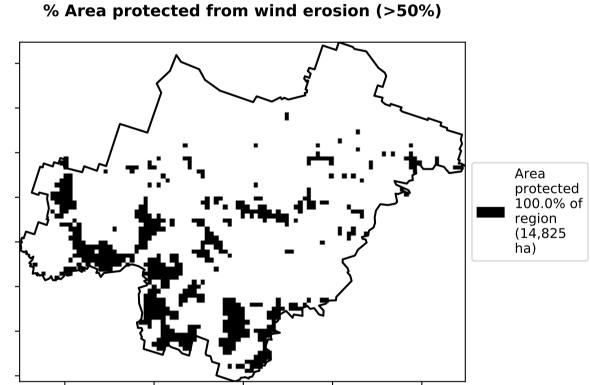
Total Vegetation Cover [%]

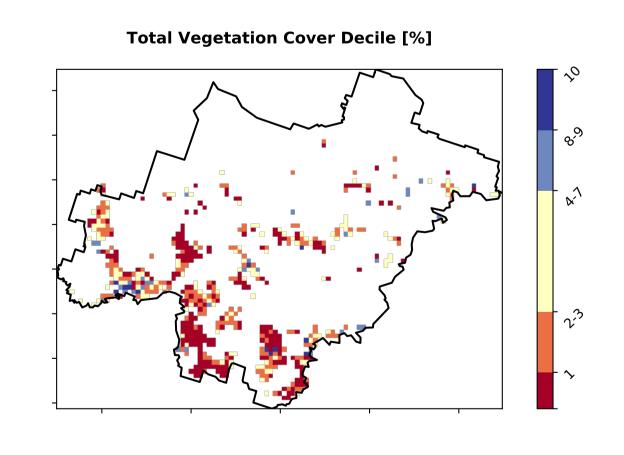
% Area protected from water erosion (>70%) Area not protected 1.0% of region (148 ha) Area protected 99.0% of region (14,676 ha)















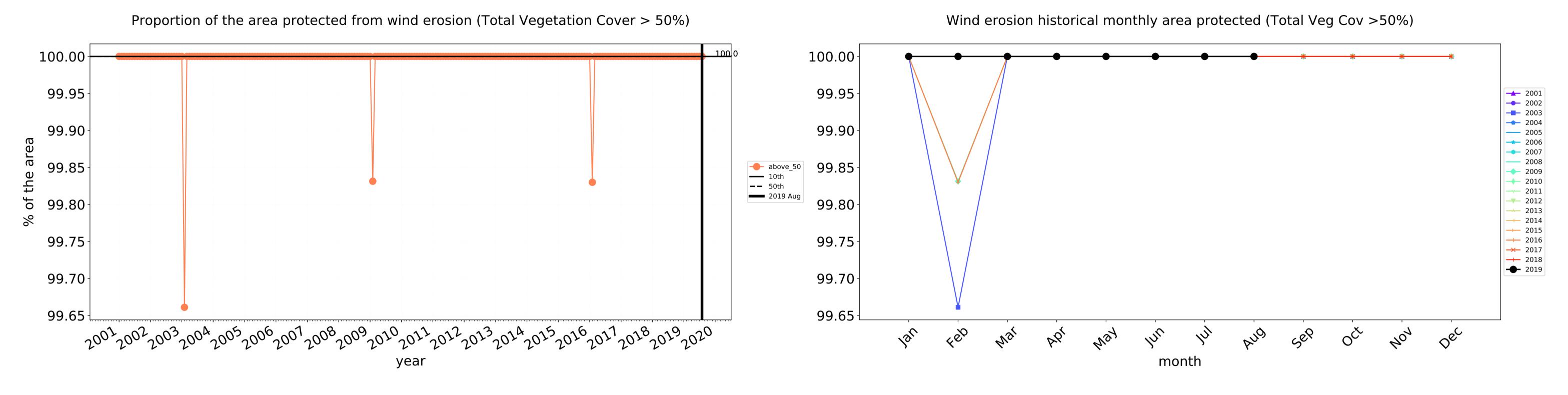


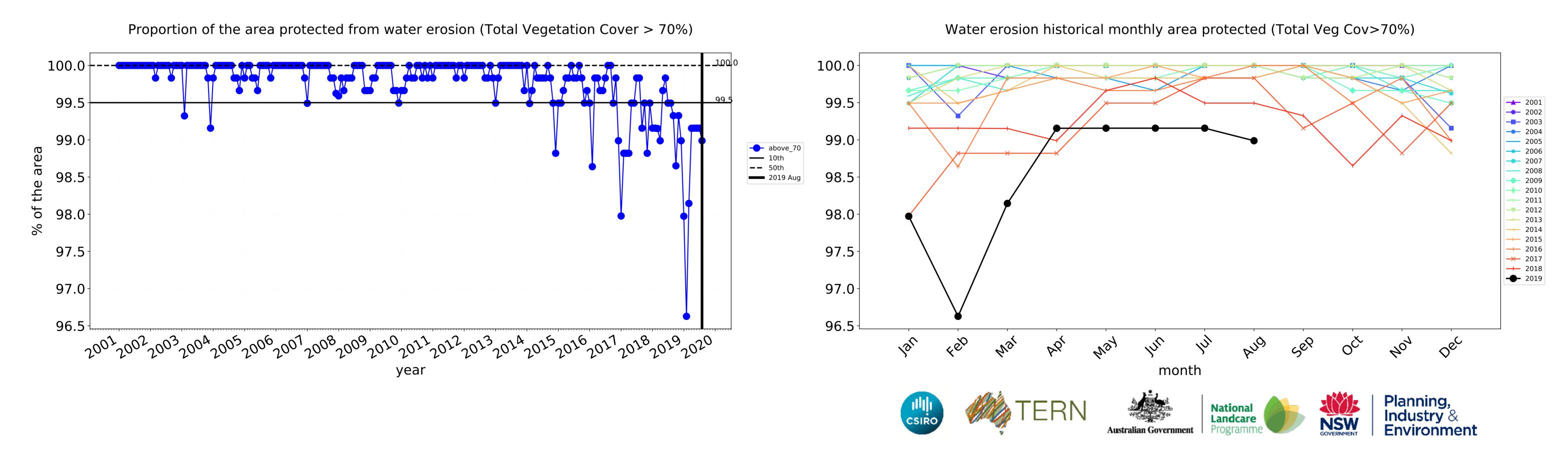


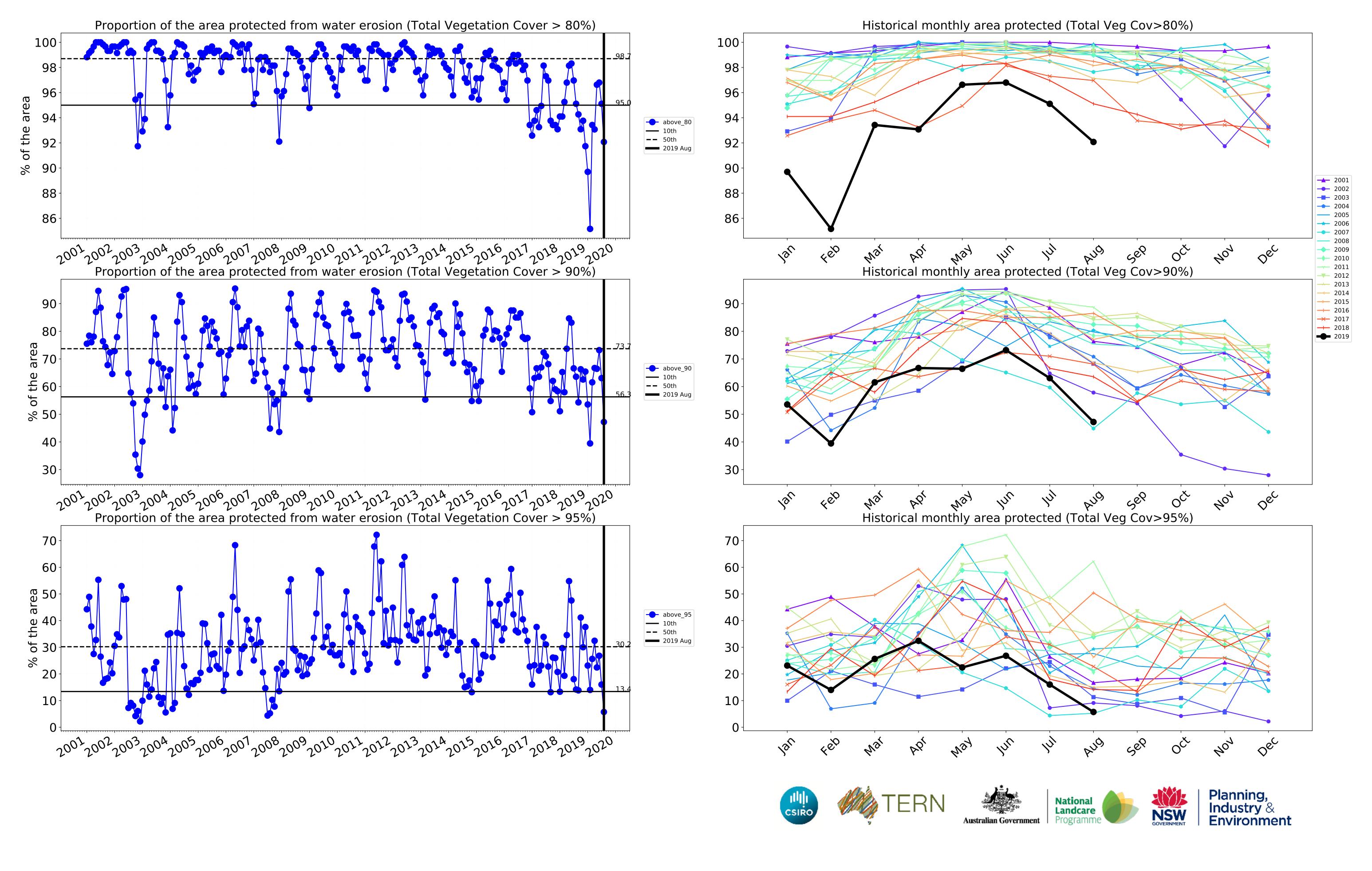




Grazing non forest timeseries





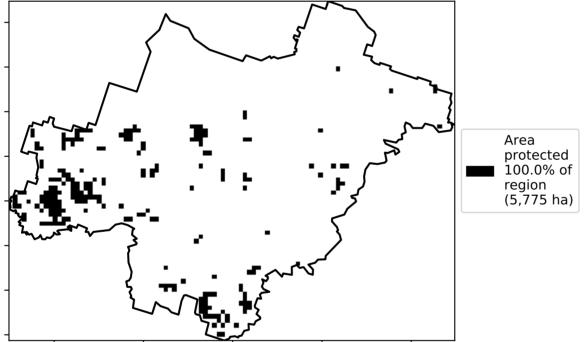


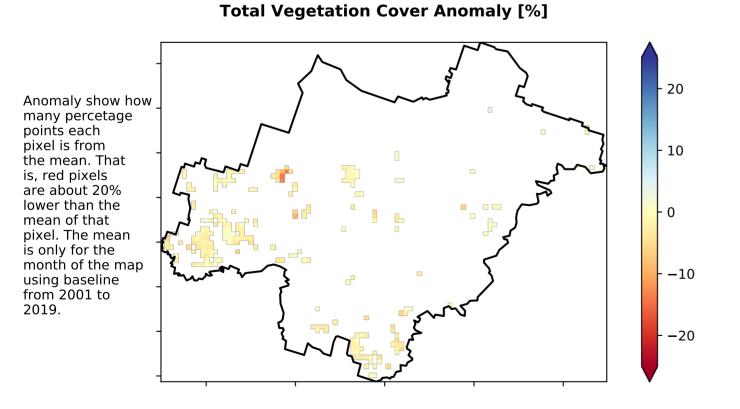
Grazing Woodland forest

Land use and forest cover Landuse map of area based on 2015 catchment scale landuse and Australia's National Forest Inventory, where no forest is < Agriculture - Grazing - Woodland forest 20% tree cover, sparse is 20 to 50% and dense > 50% tre cover.

Total Vegetation Cover [%]

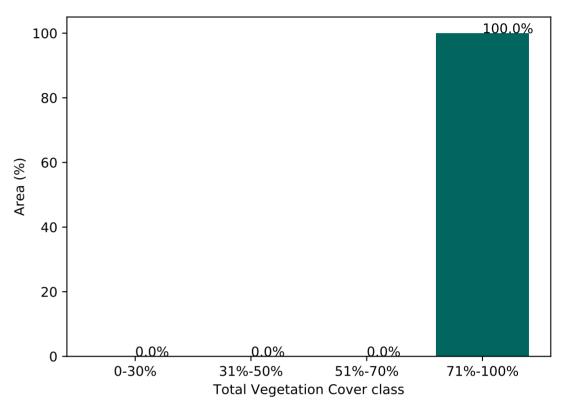
% Area protected from water erosion (>70%)



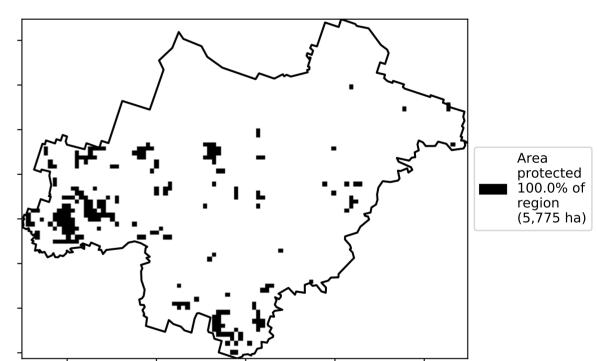


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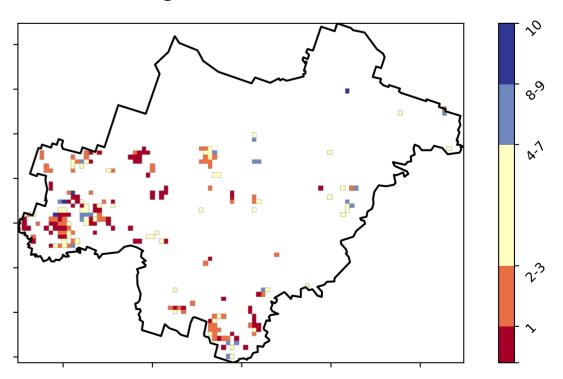
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]







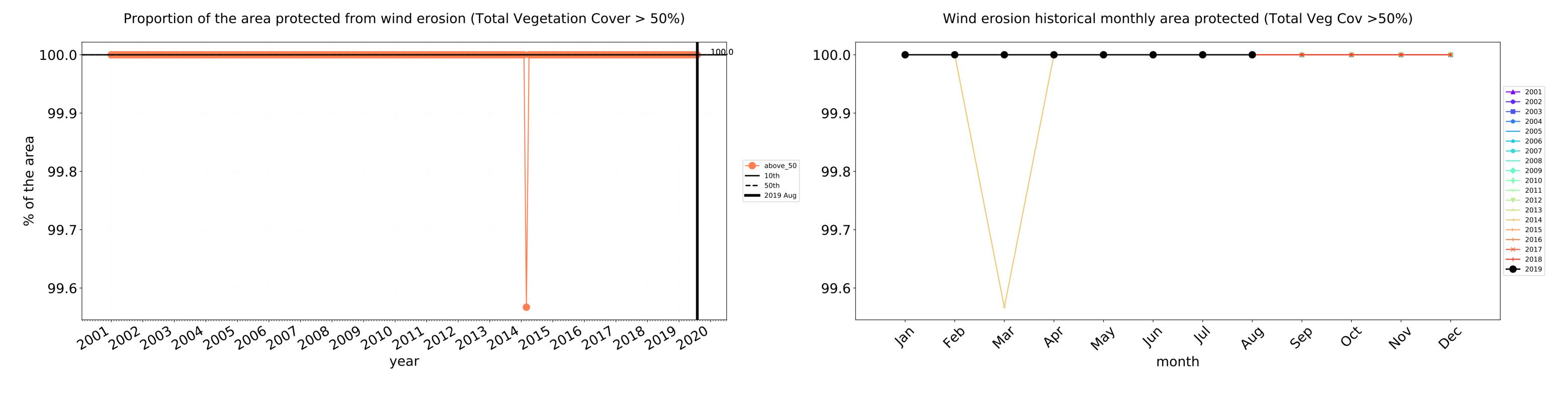


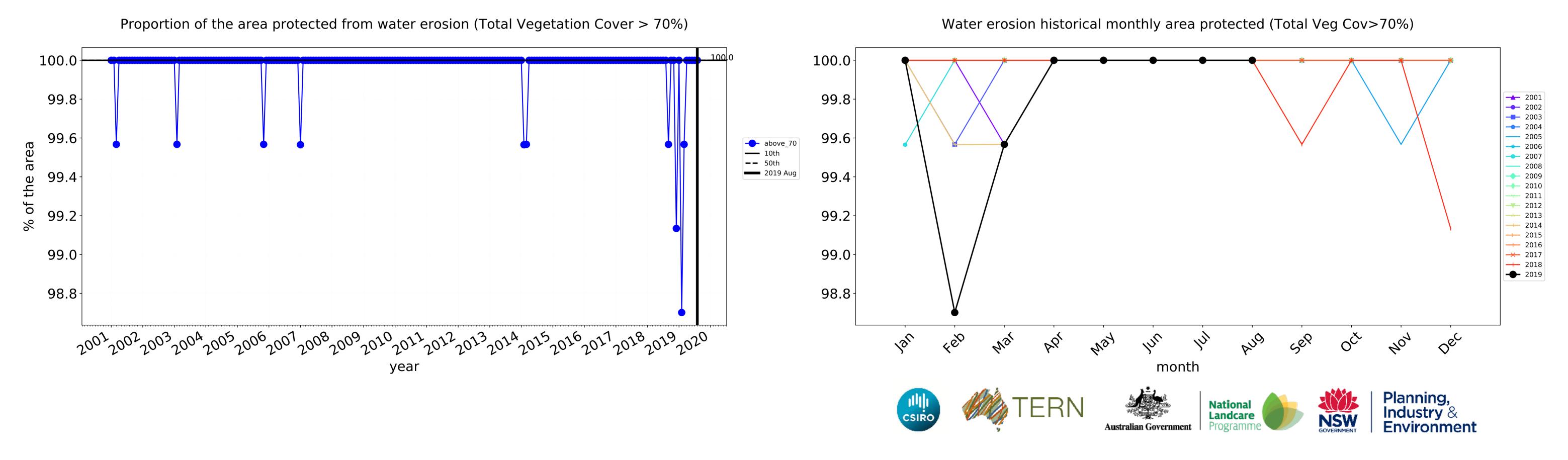


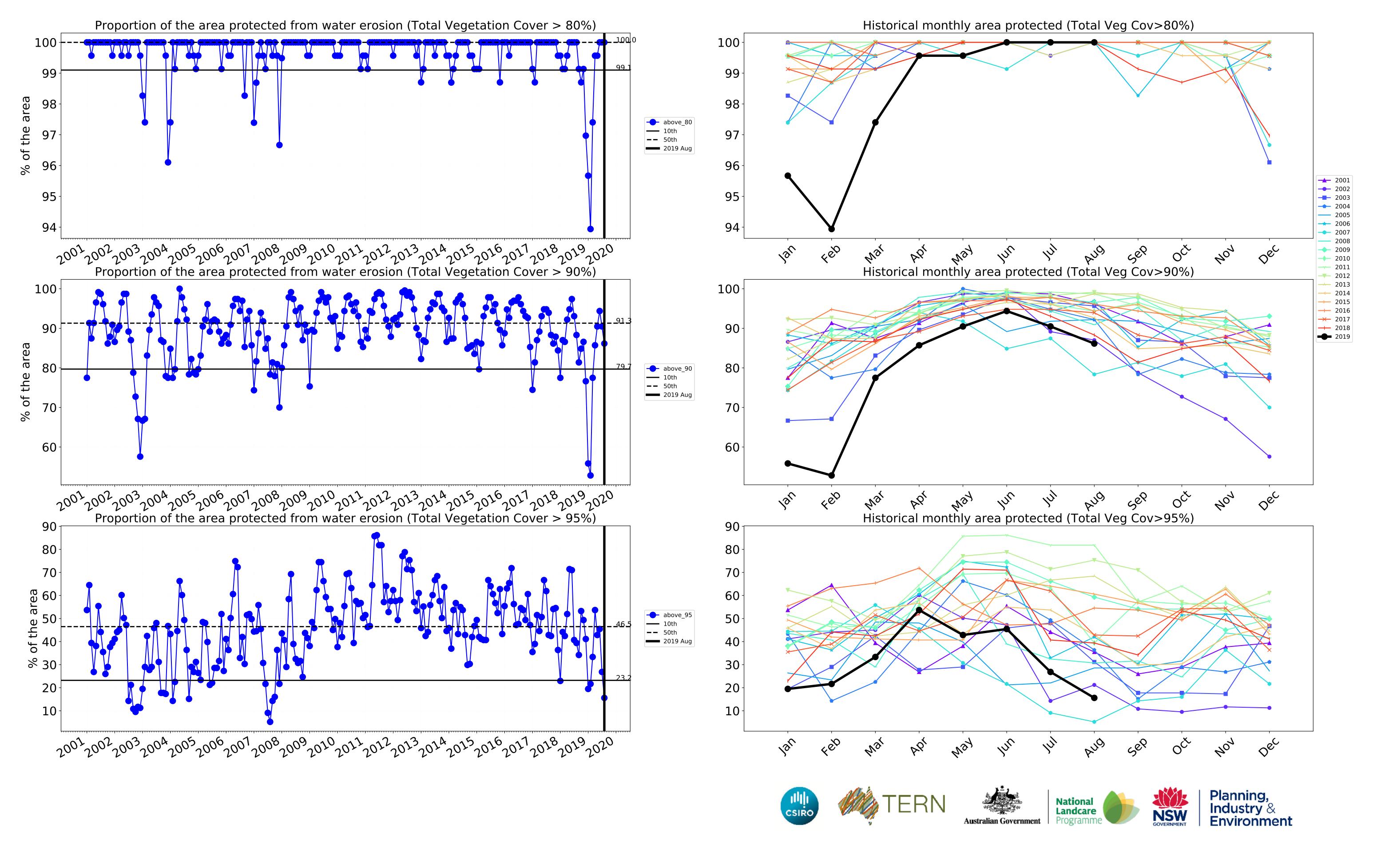




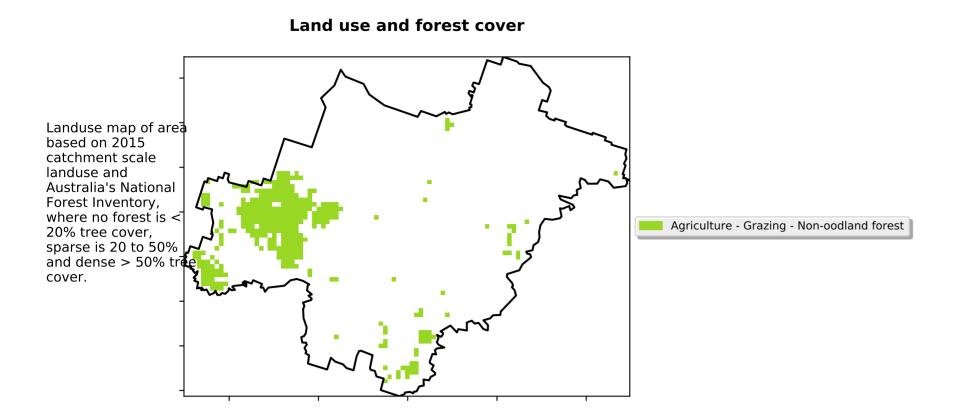
Grazing Woodland forest timeseries





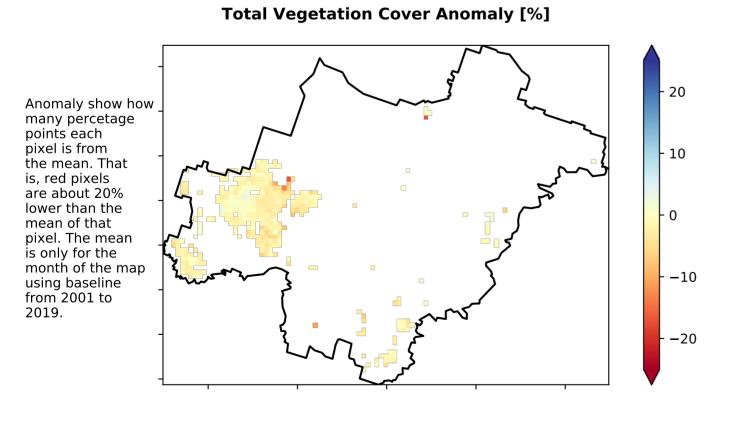


Grazing - Forest (non woodland)

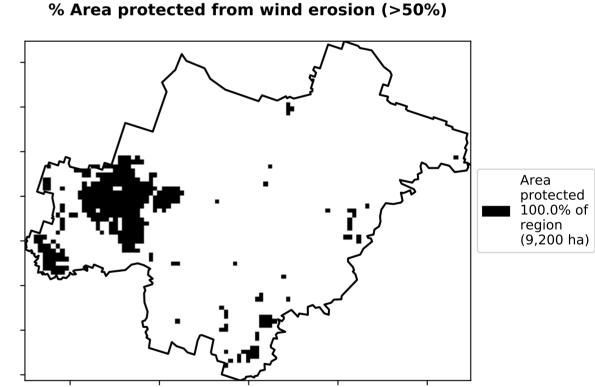


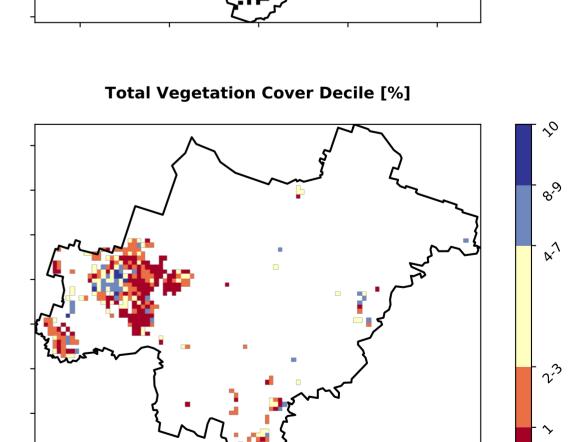
Total Vegetation Cover [%]

Area not protected 0.3% of region (27 ha) Area protected 99.7% of region (9,172 ha)



Proportion of vegetation cover class in area 99.7% 100 80 Area (%) 60 40 20 0.0% 0.3% 0.0% 0-30% 31%-50% 51%-70% 71%-100% **Total Vegetation Cover class**









Deciles show where 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.

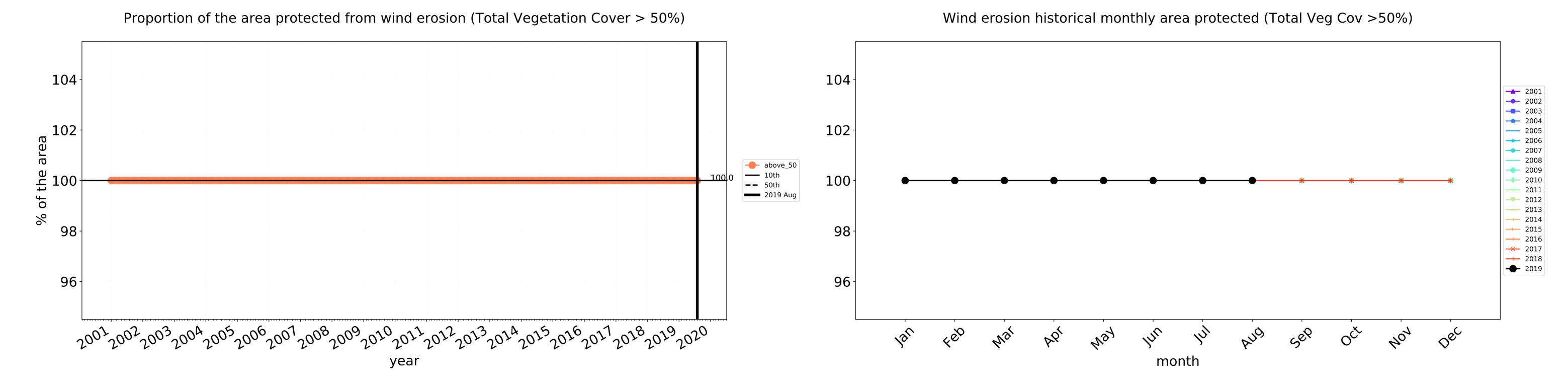
the map using baseline from 2001 to 2019.

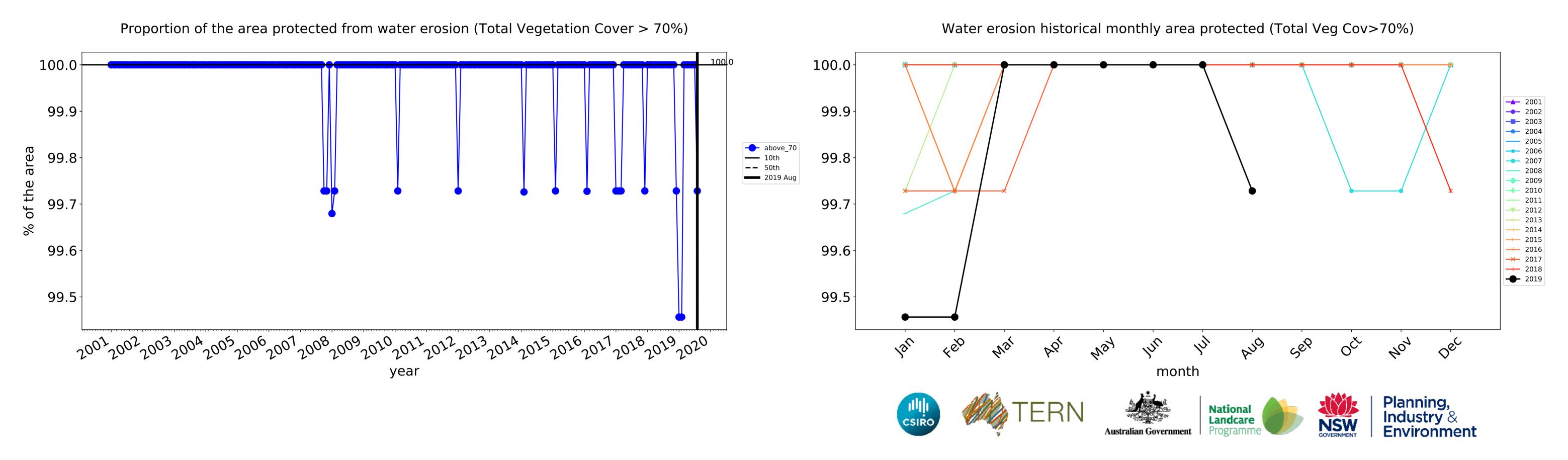
pixel value lies in the

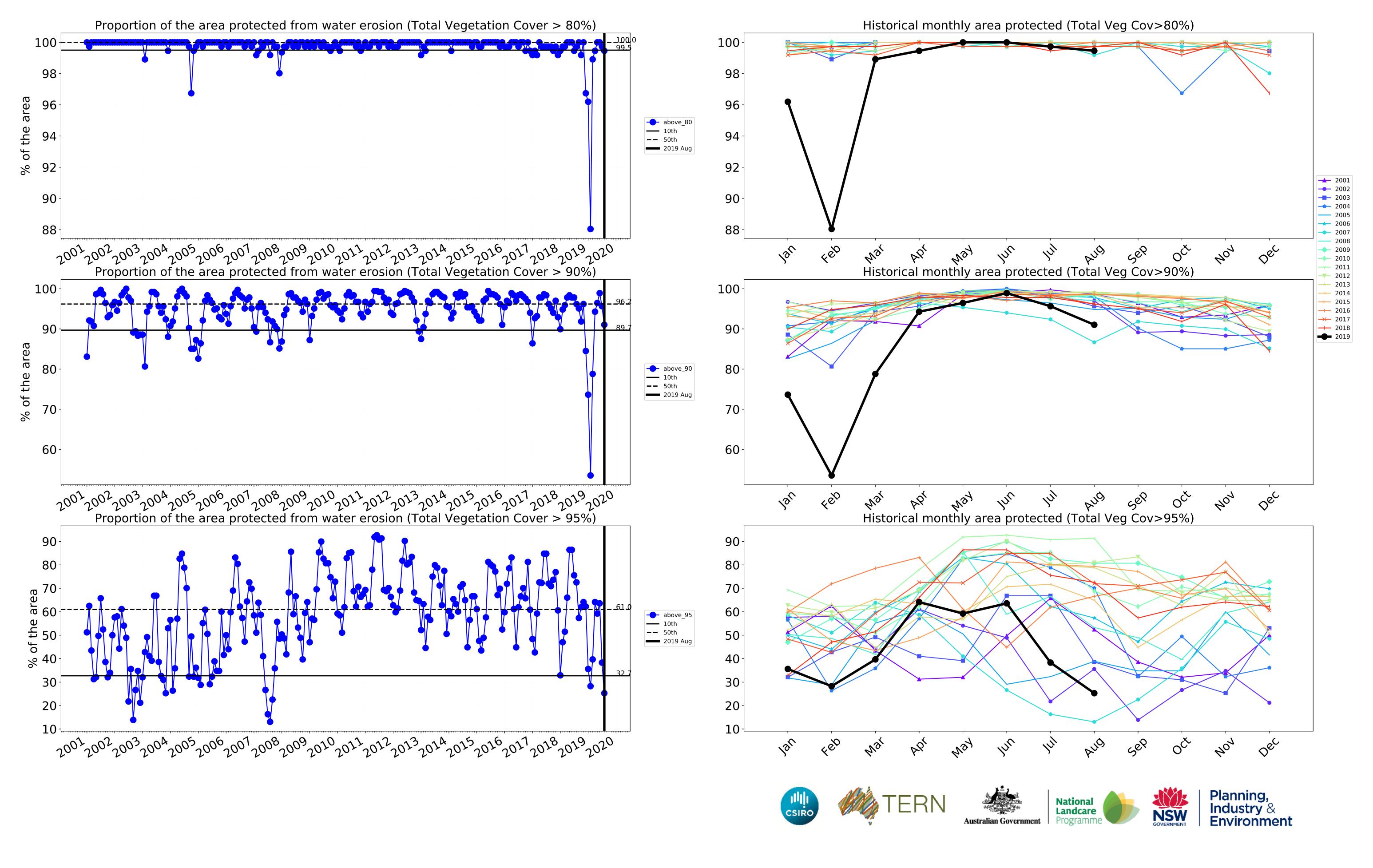












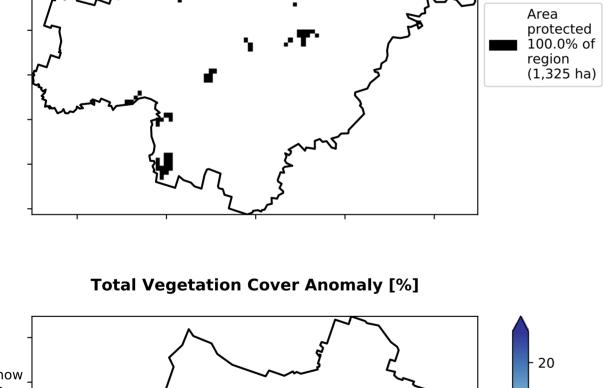
Irrigation

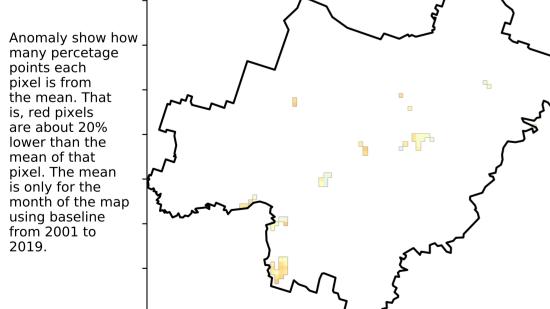
Land use and forest cover Landuse map of area based on 2015 catchment scale landuse and Australia's National Forest Inventory, where no forest is < 20% tree cover, sparse is 20 to 50% and dense > 50% tree cover. Agriculture - Grazing - Irrigated Agriculture - Cropping - Irrigated Agriculture - Horticulture - Irrigated Agriculture - Irrigated Agriculture - Irrigated Agriculture - Horticulture - Irrigated Agriculture - Irrigated Irrigated Agriculture - Irrigated Irrigate

Total Vegetation Cover [%]

Area protected 100.0% of region (1,325 ha)

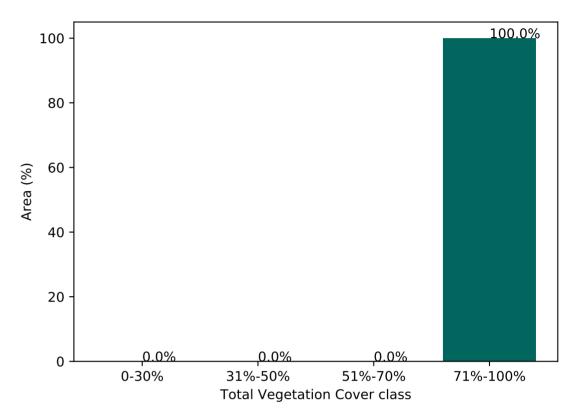
% Area protected from water erosion (>70%)



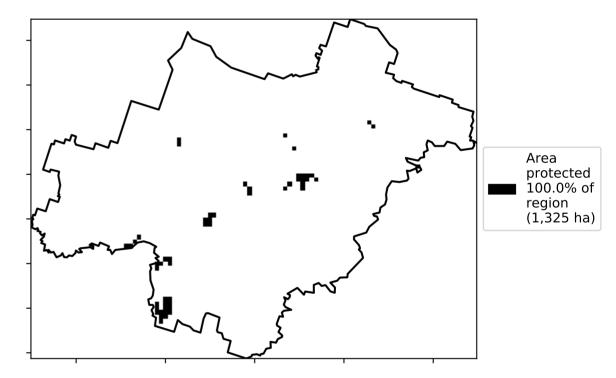


Deciles show where the pixel value lies in the record, from highest to lowest, for that month. That is, red pixels are in the lowest 10% of records for that month of the map using baseline from 2001 to 2019.

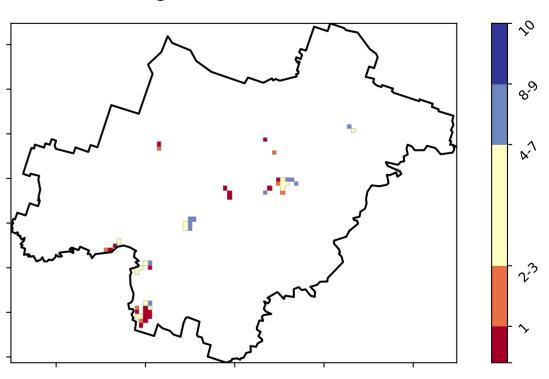
Proportion of vegetation cover class in area



% Area protected from wind erosion (>50%)



Total Vegetation Cover Decile [%]











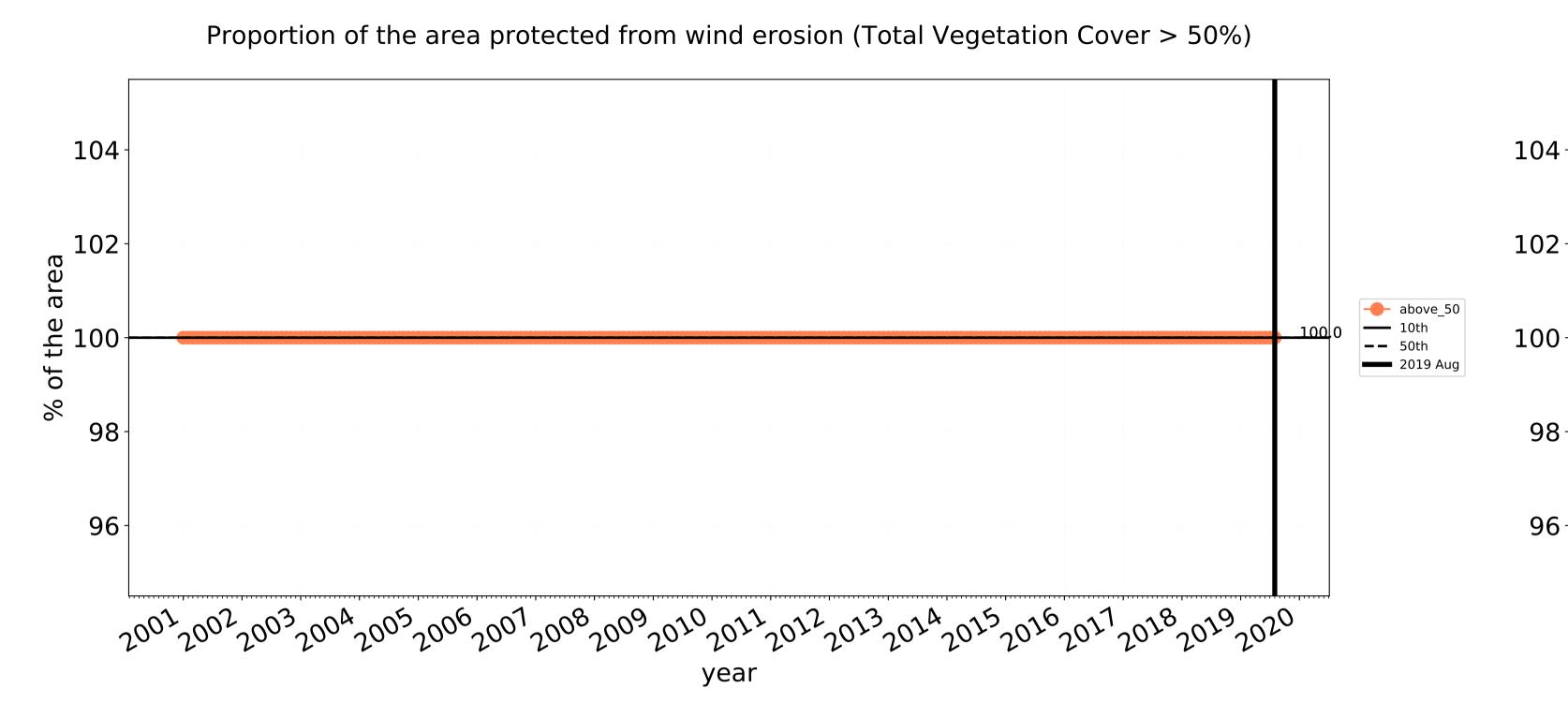


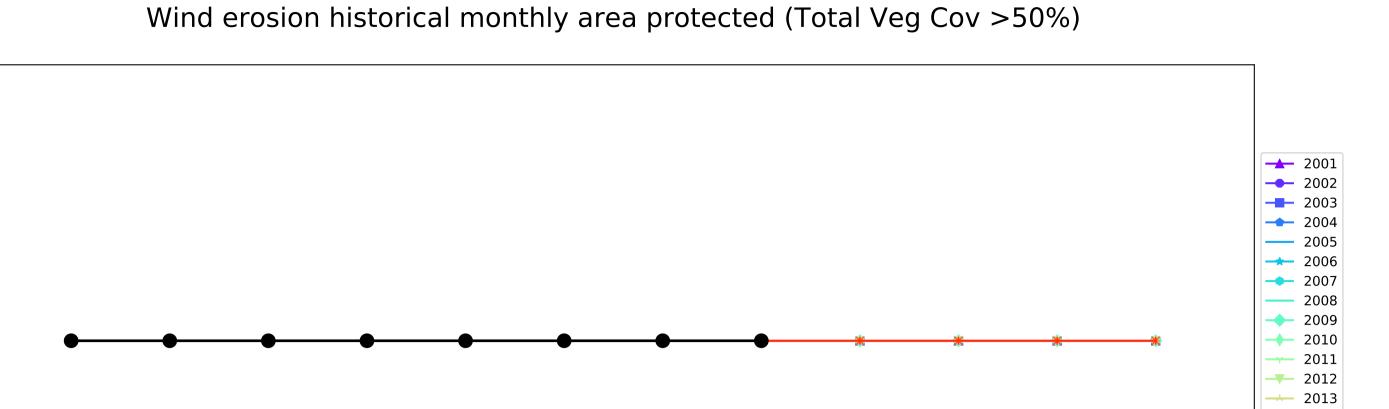


- 10

-10

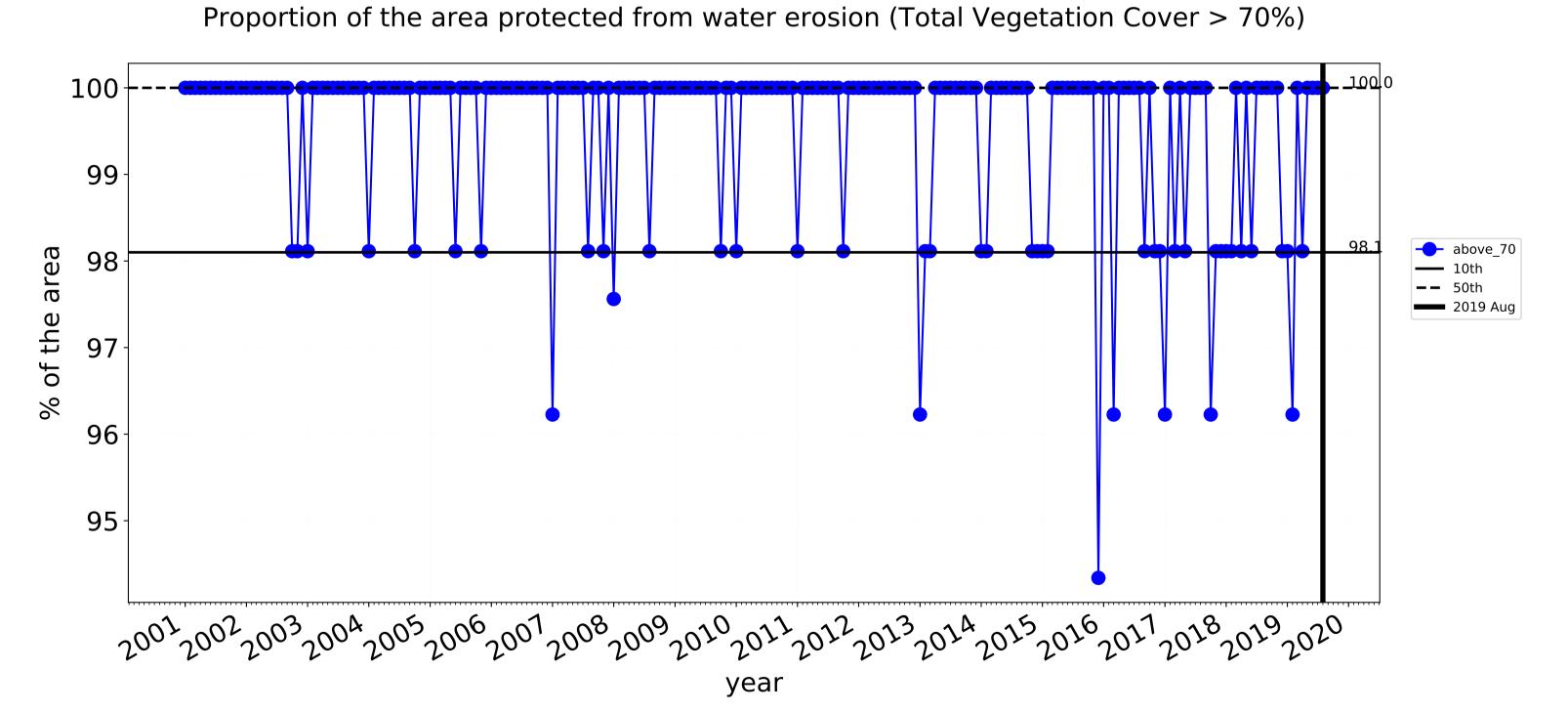
-20

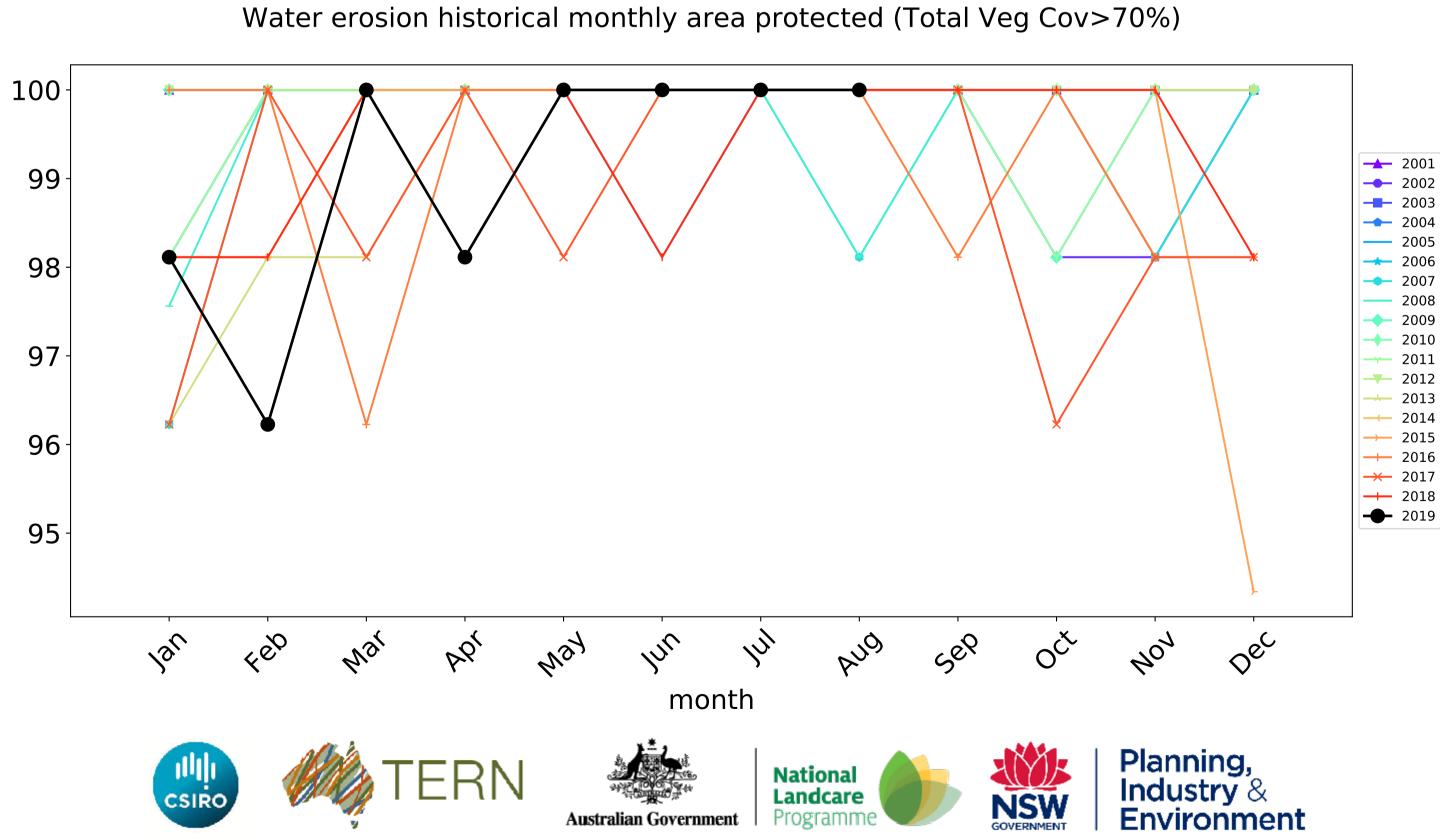




← 2014

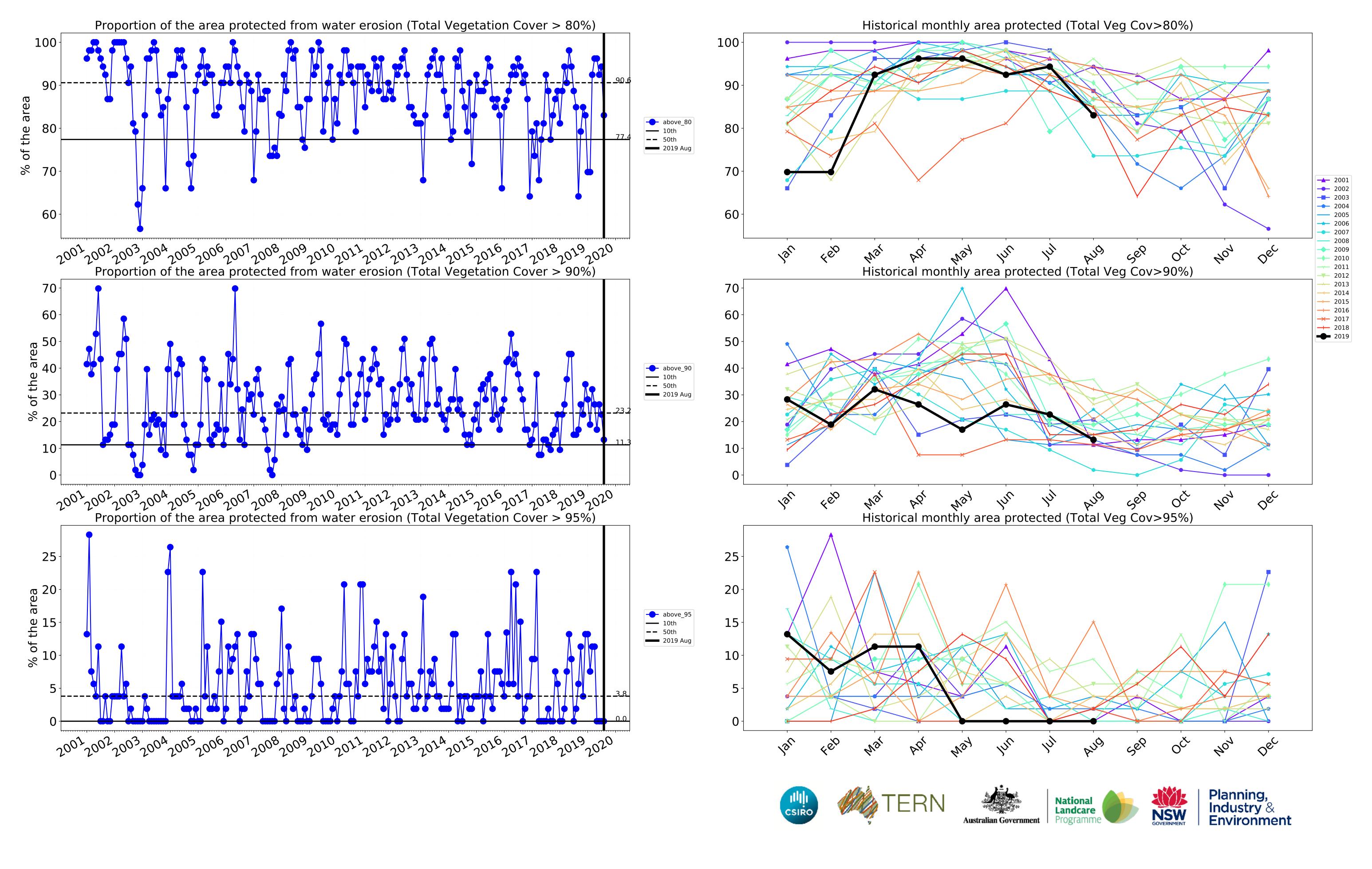
→ 2015 → 2016 → 2017 → 2018 → 2019





month

Nay

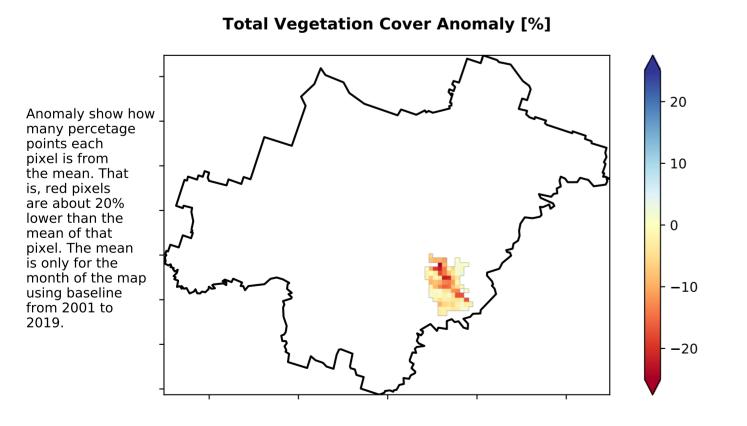


Production native forests and plantation forests

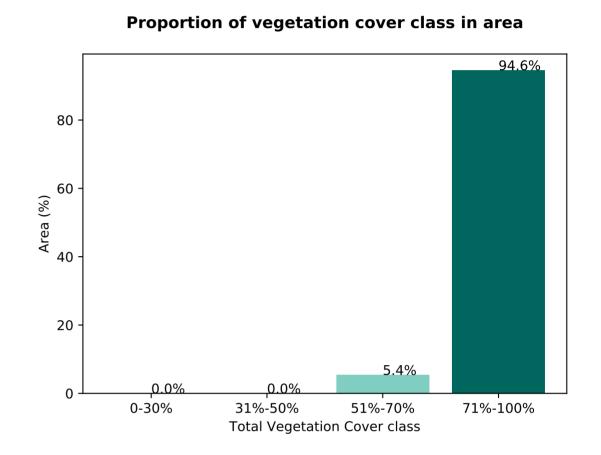
Land use and forest cover Landuse map of area based on 2015 catchment scale landuse and Australia's National Forest Inventory, where no forest is < 20% tree cover, sparse is 20 to 50% and dense > 50% tree cover. Production native forests and plantation forests Production native forests and plantation forests

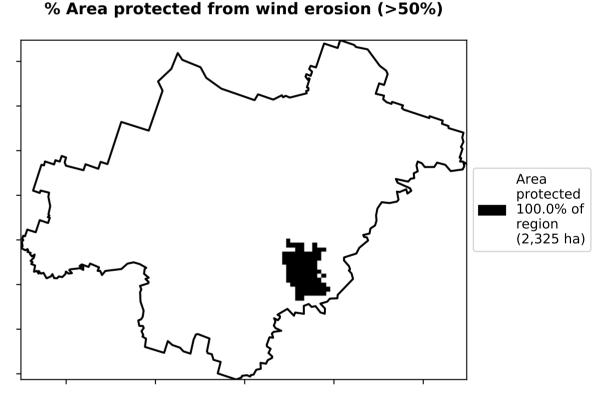
Total Vegetation Cover [%] Total Vegetation Cover [%] Tolographic Cover [%] Tolographic Cover [%]

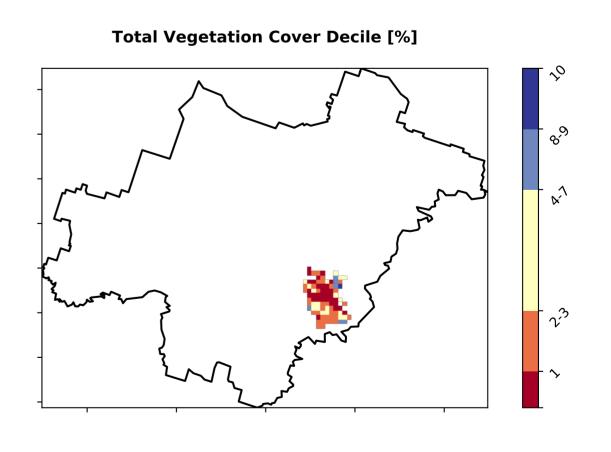
Area not protected from water erosion (>70%) Area not protected 5.4% of region (125 ha) Area protected 94.6% of region (2,199 ha)















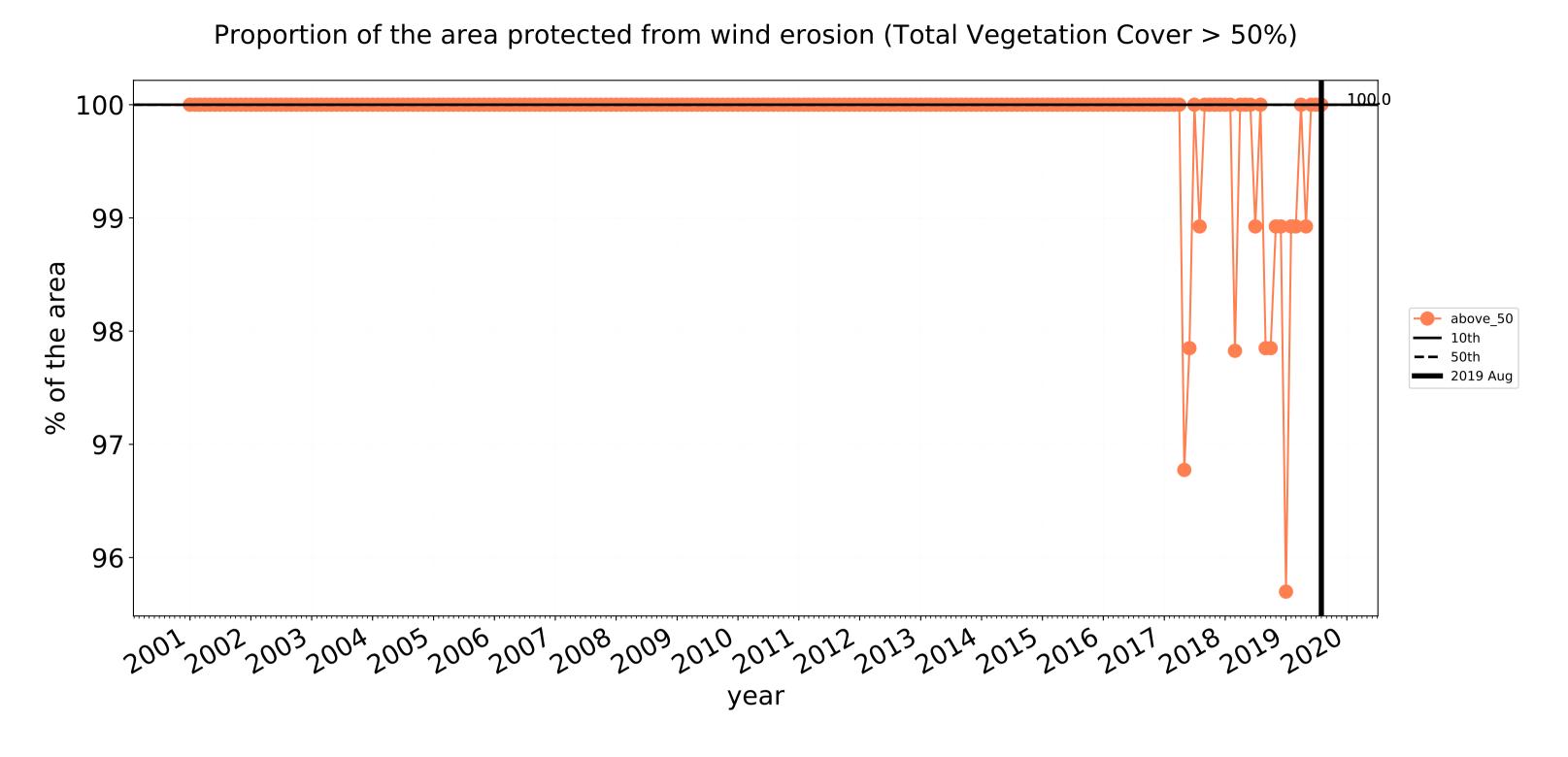


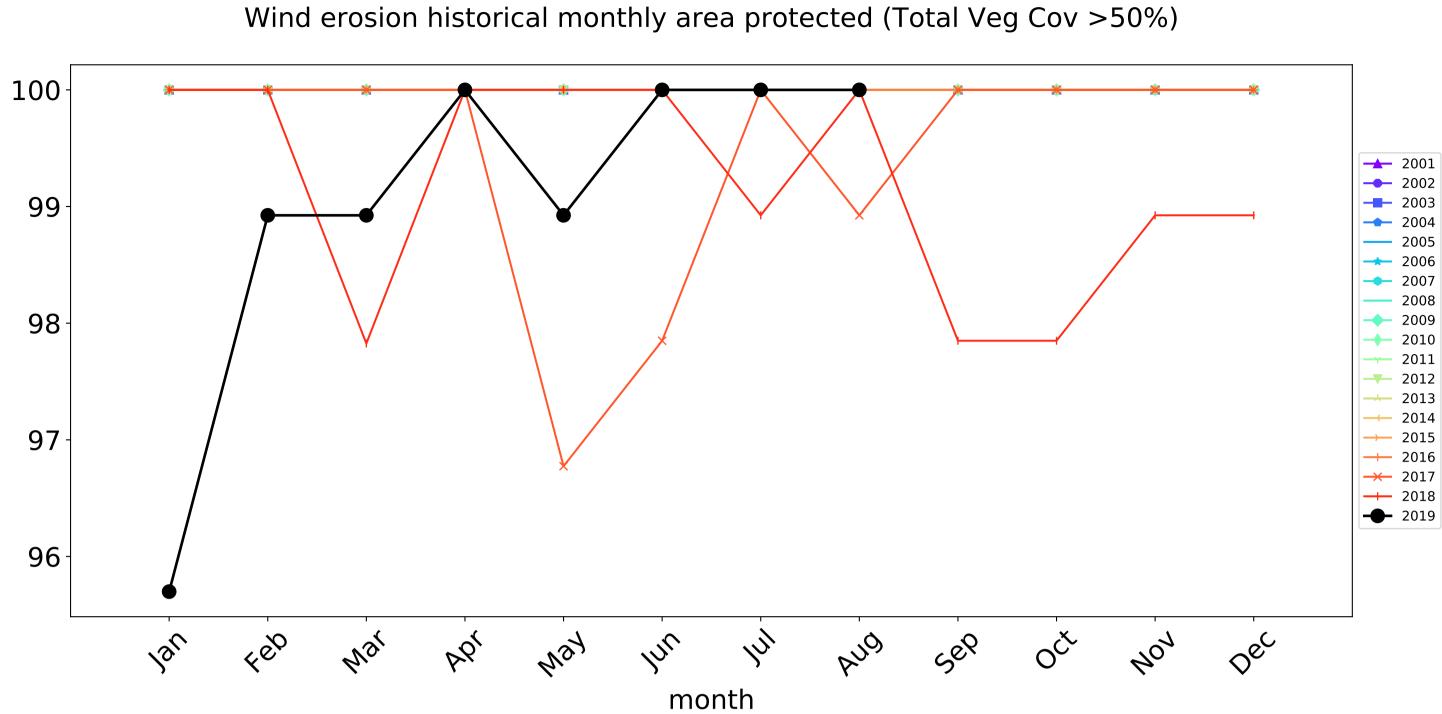


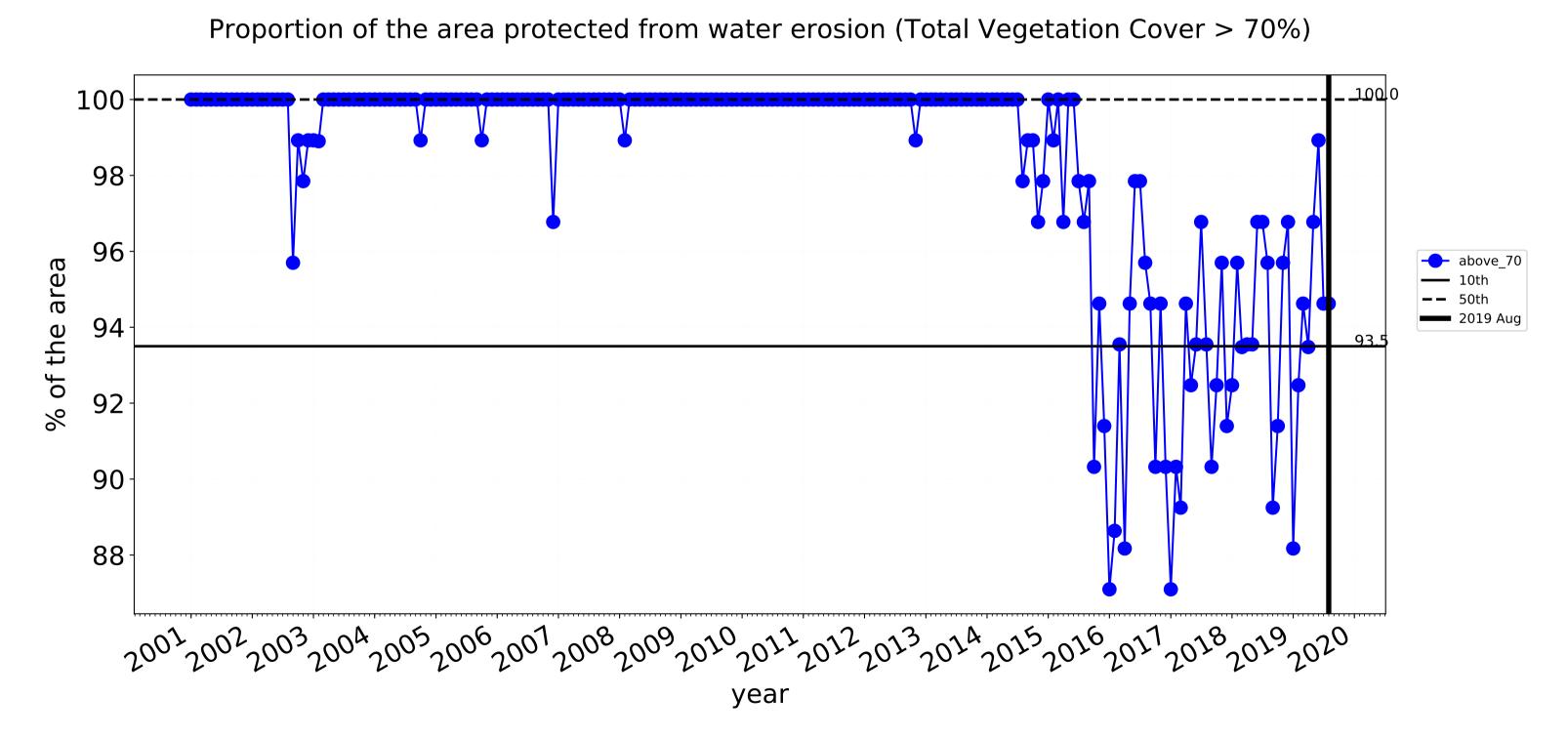


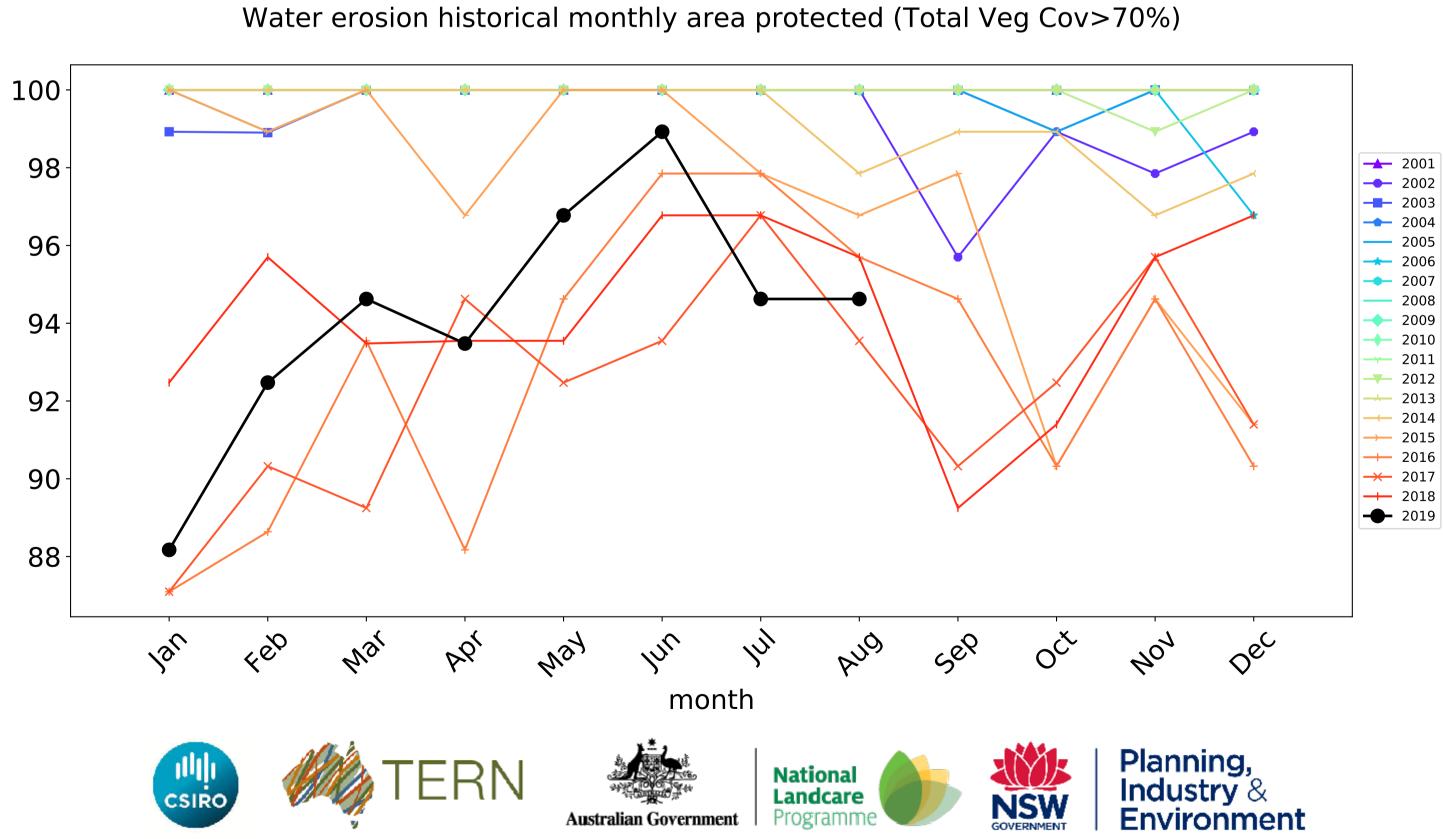


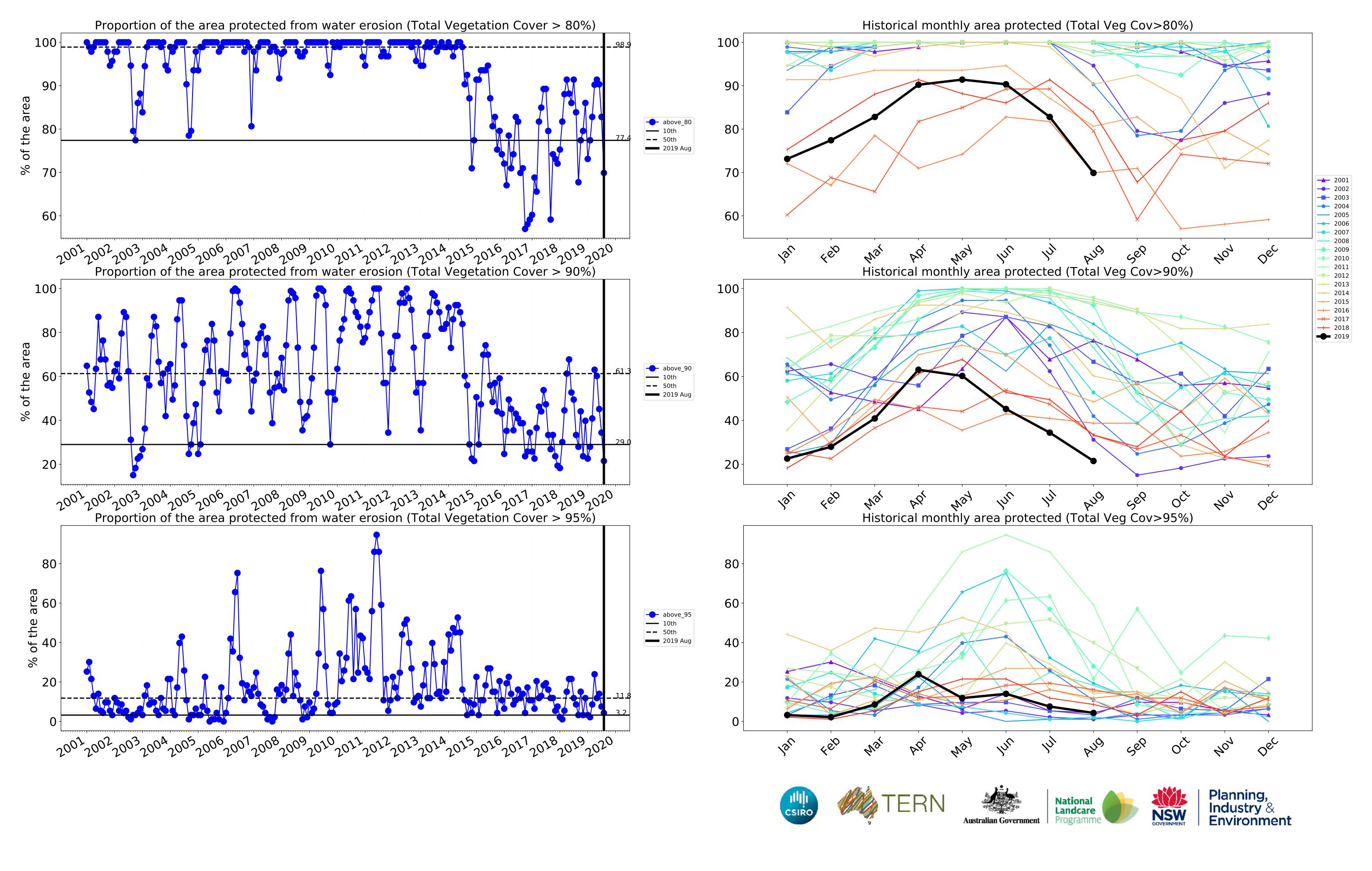
Production native forests and plantation forests timeseries











Logan_(C) (total 95,925 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 | 95,925 | 100.0% 95,925 | 99.9% 95,850 | 96.1% 92,175 | 85.2% 81,750 | 52.4% 50,250 | 11.2% 10,750 |
| Conservation and natural environments | 10,839 | 100.0% 10,839 | 100.0% 10,839 | 99.8% 10,814 | 99.1% 10,738 | 91.9% 9,959 | 48.5% 5,256 |
| Conservation and natural environments Woodland forest | 2,685 | 100.0% 2,685 | 100.0% 2,685 | 100.0% 2,685 | 100.0% 2,685 | 92.5% 2,485 | 47.7% 1,280 |
| Conservation and natural environments Forest (non woodland) | 7,961 | 100.0% 7,961 | 100.0% 7,961 | 99.7% 7,936 | 98.7% 7,861 | 92.5% 7,360 | 49.4% 3,930 |
| Agriculture | 31,847 | 100.0% 31,847 | 100.0% 31,847 | 99.4% 31,669 | 95.2% 30,322 | 65.7% 20,917 | 13.0% 4,142 |
| Grazing | 29,832 | 100.0% 29,832 | 100.0% 29,832 | 99.4% 29,657 | 95.9% 28,606 | 68.3% 20,372 | 13.7% 4,079 |
| Grazing non forest | 14,868 | 100.0% 14,868 | 100.0% 14,868 | 99.0% 14,717 | 92.1% 13,689 | 47.2% 7,020 | 5.7% 852 |
| Grazing Woodland forest | 5,755 | 100.0% 5,755 | 100.0% 5,755 | 100.0% 5,755 | 100.0% 5,755 | 86.1% 4,958 | 15.6% 896 |
| Grazing - Forest (non woodland) | 9,208 | 100.0% 9,208 | 100.0% 9,208 | 99.7% 9,183 | 99.5% 9,158 | 91.0% 8,383 | 25.3% 2,327 |
| Irrigation | 1,342 | 100.0% 1,342 | 100.0% 1,342 | 100.0% 1,342 | 83.0% 1,114 | 13.2% 177 | 0.0% |
| Production native forests and plantation forests | 2,302 | 100.0% 2,302 | 100.0% 2,302 | 94.6% 2,178 | 69.9% 1,609 | 21.5% 495 | 4.3% 99 |











