

This report describes vegetation protecting the soil surface from erosion during a chosen month compared to previous years. This report has been generated using MODIS fractional vegetation cover information available in Rangelands and Pasture Productivity (RAPP) map tool <https://map.geo-rapp.org/#australia>. The report is based on 500 metre pixel data on monthly time steps.

Land use forest cover:

Results can be shown for the whole region (polygon), and separated by land use and forest cover classes which are likely to show different cover patterns and targets. Land use is divided into four broad classes: Conservation and natural environments, Agriculture, production native forests and plantation forests (no report), and other (no report). Agriculture is divided into grazing, crops and horticulture which are sub-divided into non-irrigated and irrigated. If forest is present land use is further divided into: non-forest, woodland forest and non-woodland forest. The area of each land use and forest class are shown as a map and chart. The report content is repeated for each land use and forest cover class that covers at least 1% of the area of the chosen region.

Total vegetation Cover:

The total vegetation cover indicates where soil is likely to be protected from wind and or water hillslope erosion. Total vegetation cover for this month is shown on a map and chart classified into 4 classes.

- 71-100% High cover – protected from wind and usually water erosion (high rainfall, steep slopes, and erodible soils may need greater than 80, 90, 95 and up to 100% cover)
- 51-70% Moderate cover – protected from wind erosion
- 31-50% Low cover – not protected
- 0-30% Very Low cover – not protected

Erosion protection: Wind erosion 50% total vegetation cover

The vegetation cover threshold required to prevent soil erosion is usually 50% to reduce wind erosion, 70% or 80% to reduce water (hillslope) erosion depending on the steepness and rainfall. Areas protected from erosion for the month:

- Map: water erosion protection (>70% cover) percentage area and hectares.
- Map: wind erosion protection (>50% cover) percentage area and hectares.

Comparison with previous years:

- Map: anomaly comparing this month to the average cover from the same month in previous years.
- Map: deciles rank of month against the same month in previous years.

Anomalies and deciles until September 2019 are calculated comparing to the same months 2001 to 2019. Extra monthly data will be used to calculate anomalies and deciles post September 2019 as they become available.

Time series monthly from January 2001 to current:

Erosion protection

- Wind erosion protection time series: percentage of the area of the region with greater than 50% cover for each month (orange lines). Horizontal lines are 10th (cover target) and 50th percentiles.
- Water erosion protection time series: percentage of the area of the region with greater than 70% cover for each month (blue line). Horizontal lines are 10th (cover target) and 50th percentiles.

Rainfall

- Millimetres rainfall each month (black line).

Each time series is also stacked by year. The black line shows the current year of data.

Water erosion protection for higher rainfall and steeper slopes:

Water erosion protection on higher slopes. As slope increases, more cover is required to control water erosion. The thresholds reported are:

- the percentage area with pixels greater than 80% total cover.
- the percentage area with pixels greater than 90% total cover.
- the percentage area with pixels greater than 95% total cover.

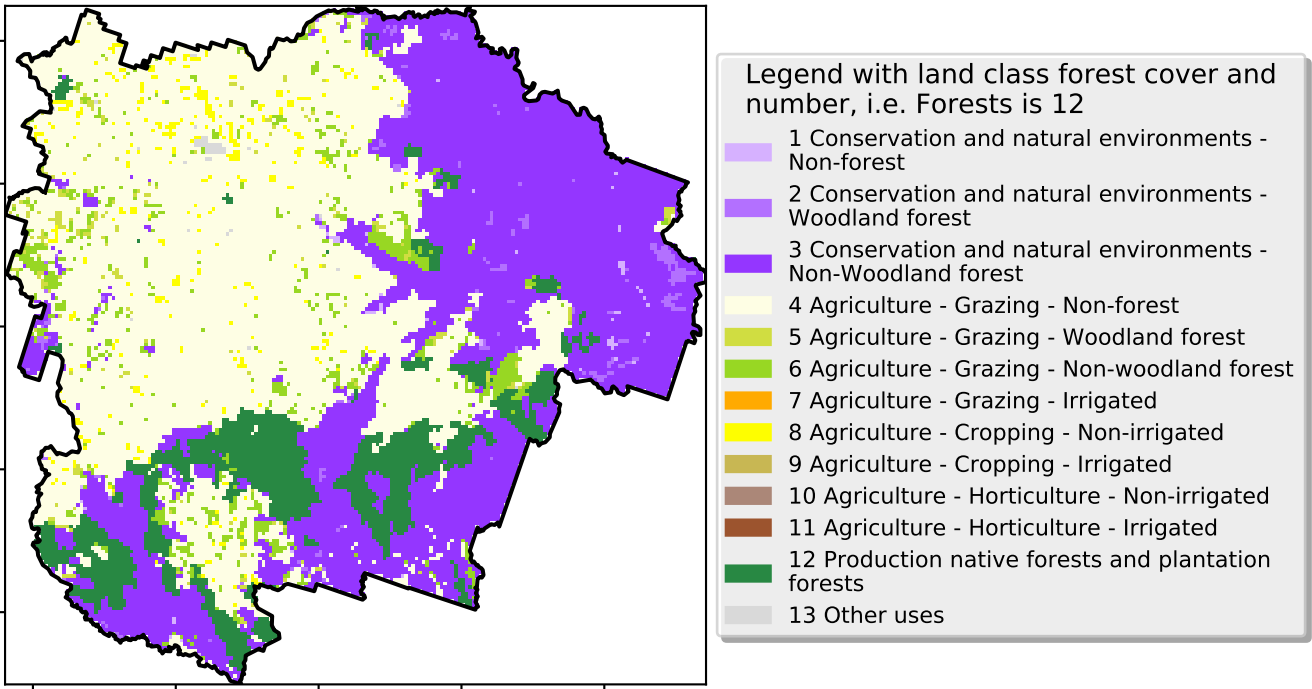
Acknowledgment of data:

1. <http://www.agriculture.gov.au/abares/aclump/land-use/alum-classification>
2. <http://www.agriculture.gov.au/abares/forestsaustralia/sofr/sofr-2018>
3. <https://www.dpi.nsw.gov.au/agriculture/pastures-and-rangelands/establishment-mgmt/production-management2/groundcover>
4. MODIS Fractional cover algorithm:
<https://doi.org/10.4225/08/5848a3f19a7b3>

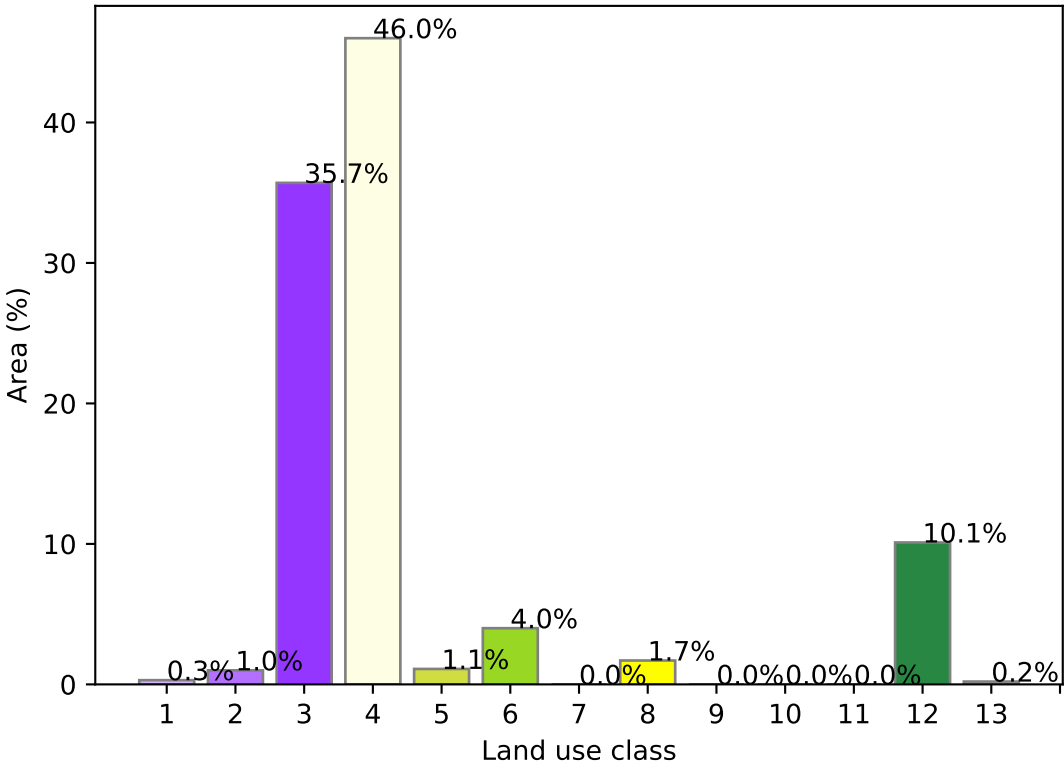


Vegetation Cover Oct 2019

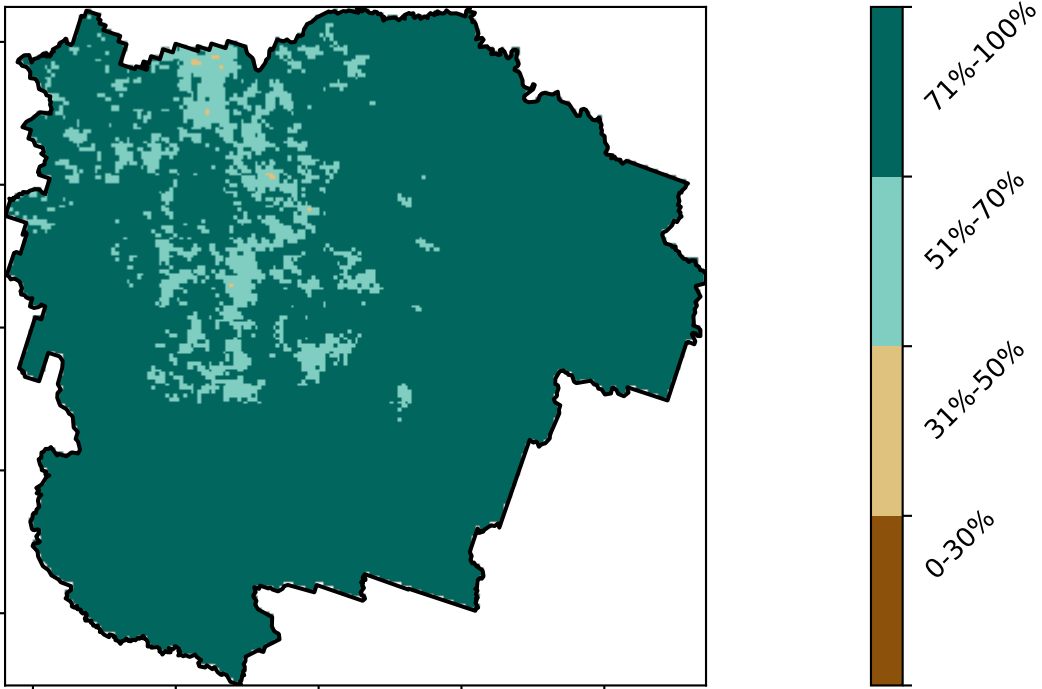
Land use and forest cover



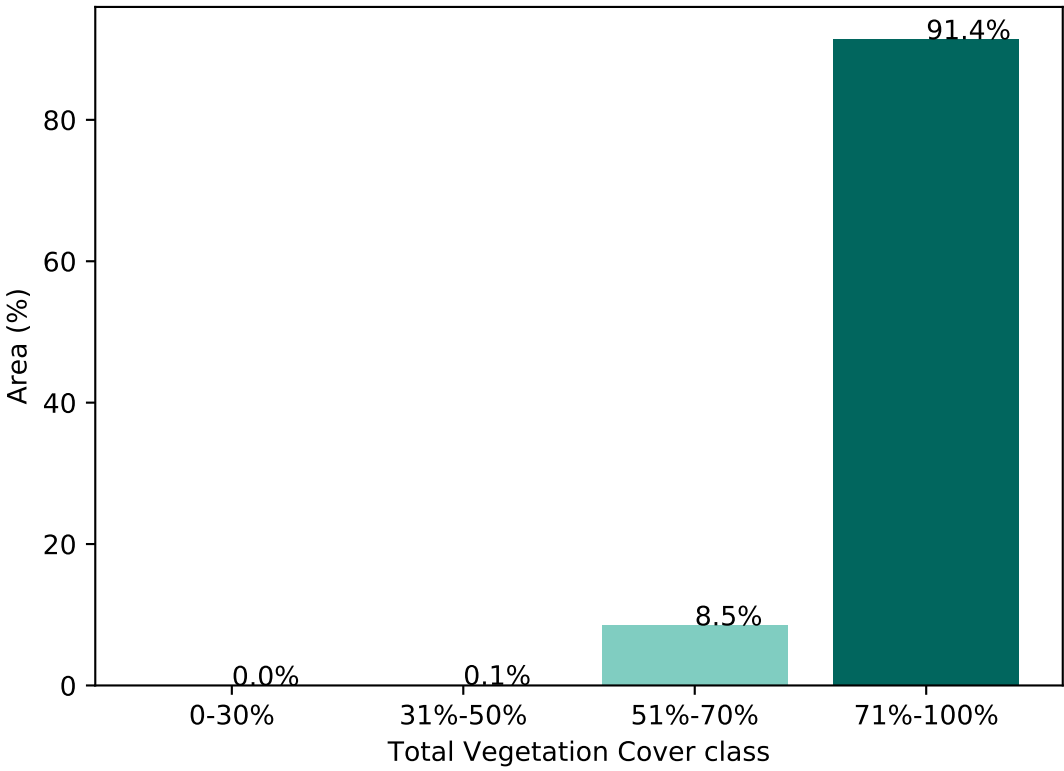
Proportion of each land class in area



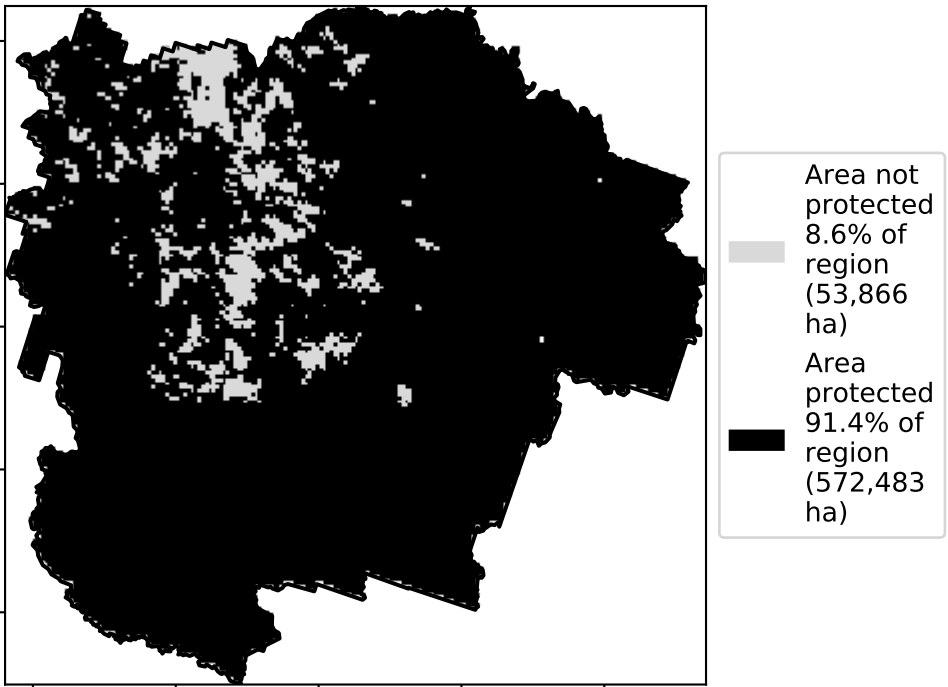
Total Vegetation Cover [%]



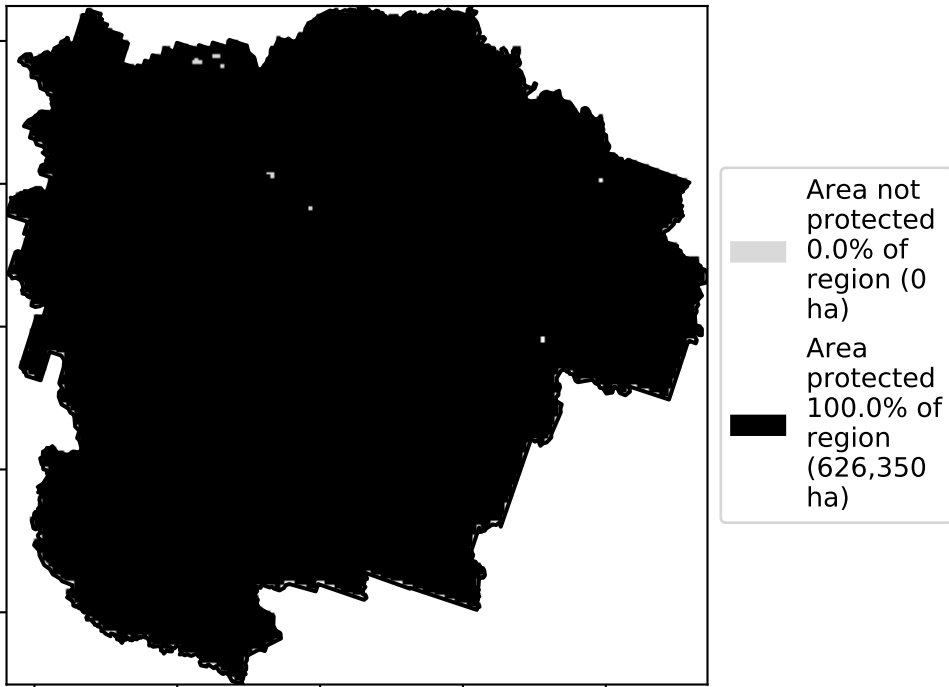
Proportion of vegetation cover class in area



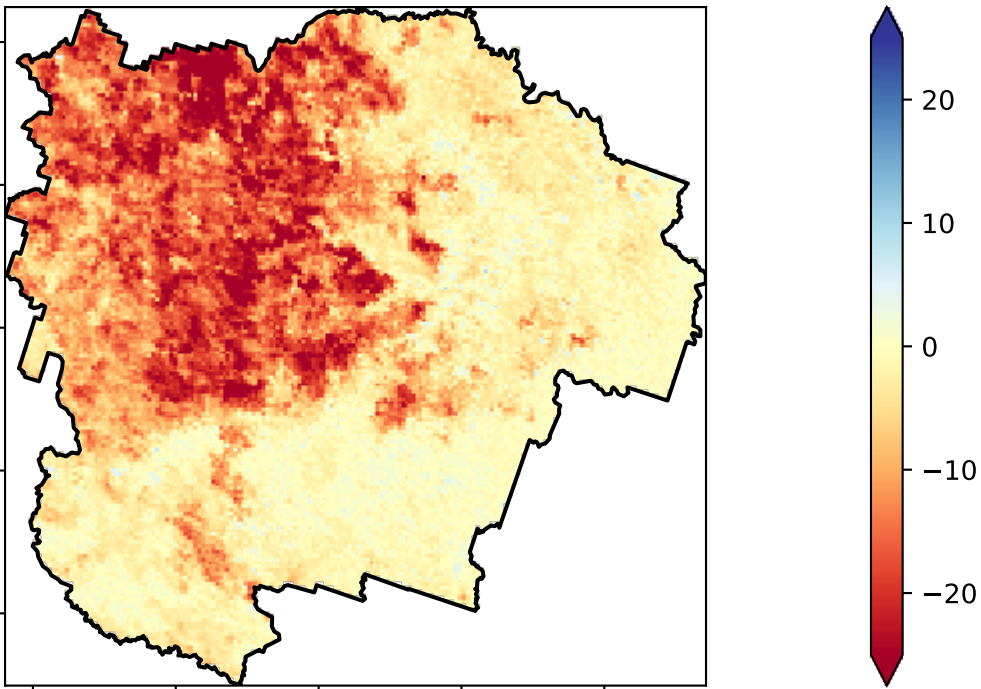
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



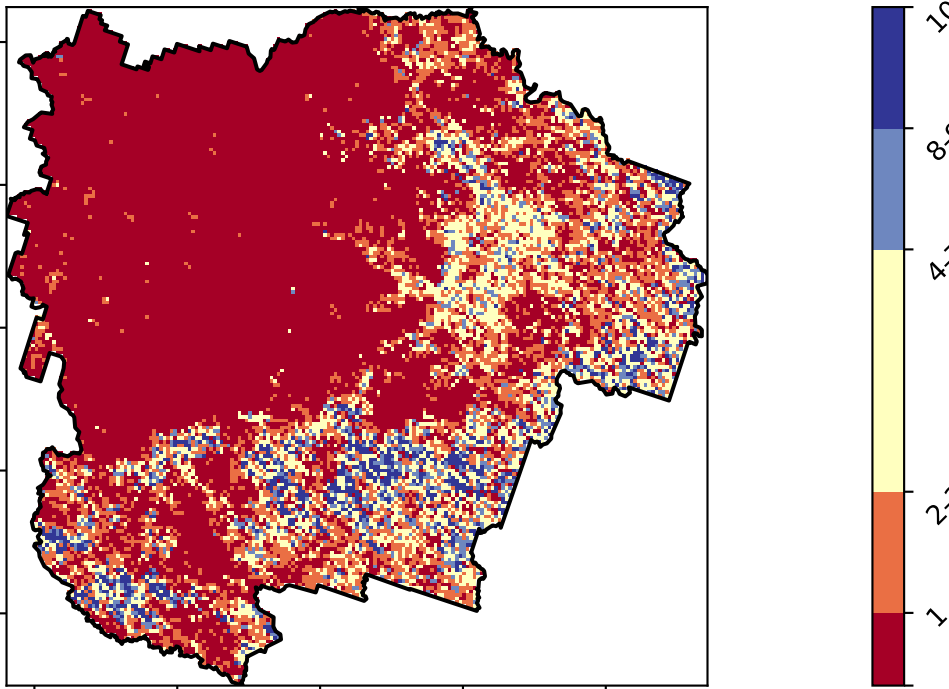
Total Vegetation Cover Anomaly [%]



Anomaly show how many percentage points each pixel is from the mean. That is, red pixels are about 20% lower than the mean of that pixel. The mean is only for the month of the map using baseline from 2001 to 2019.

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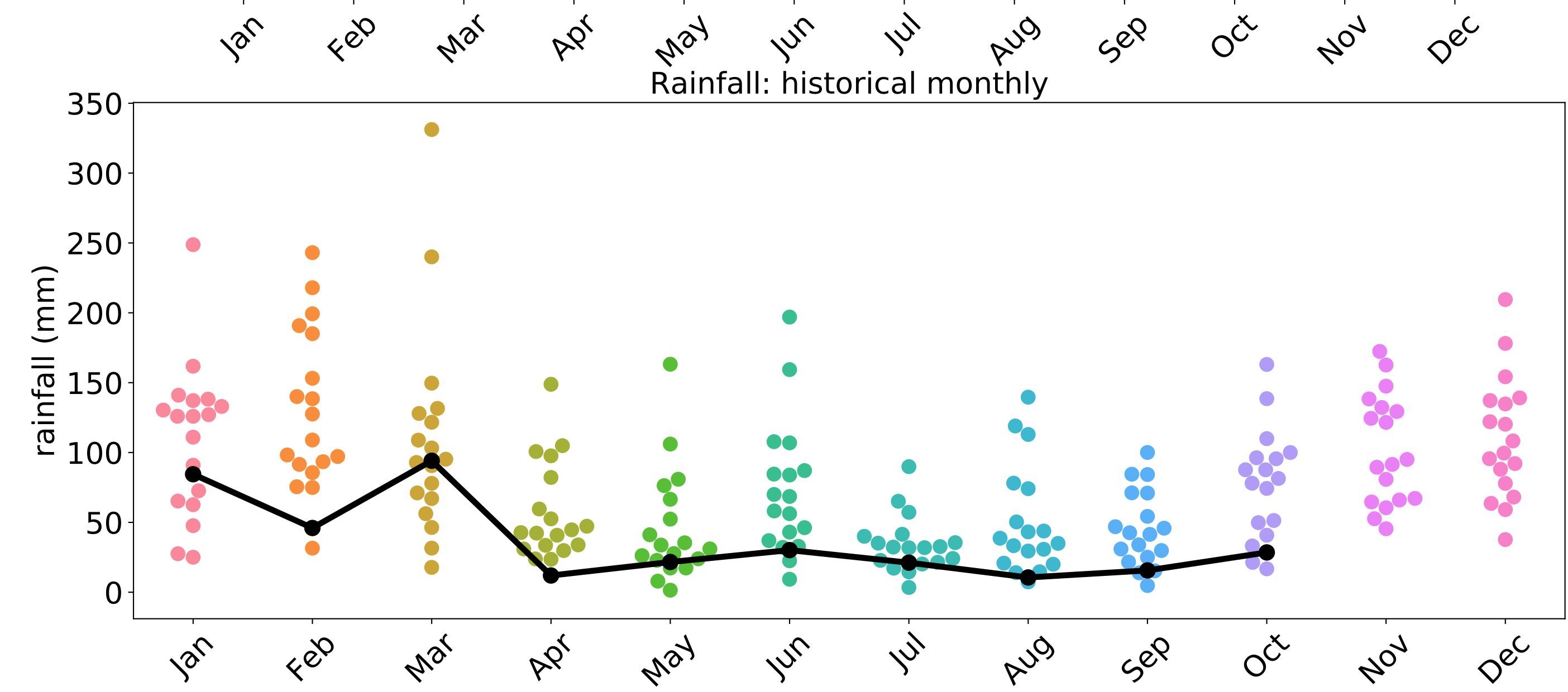
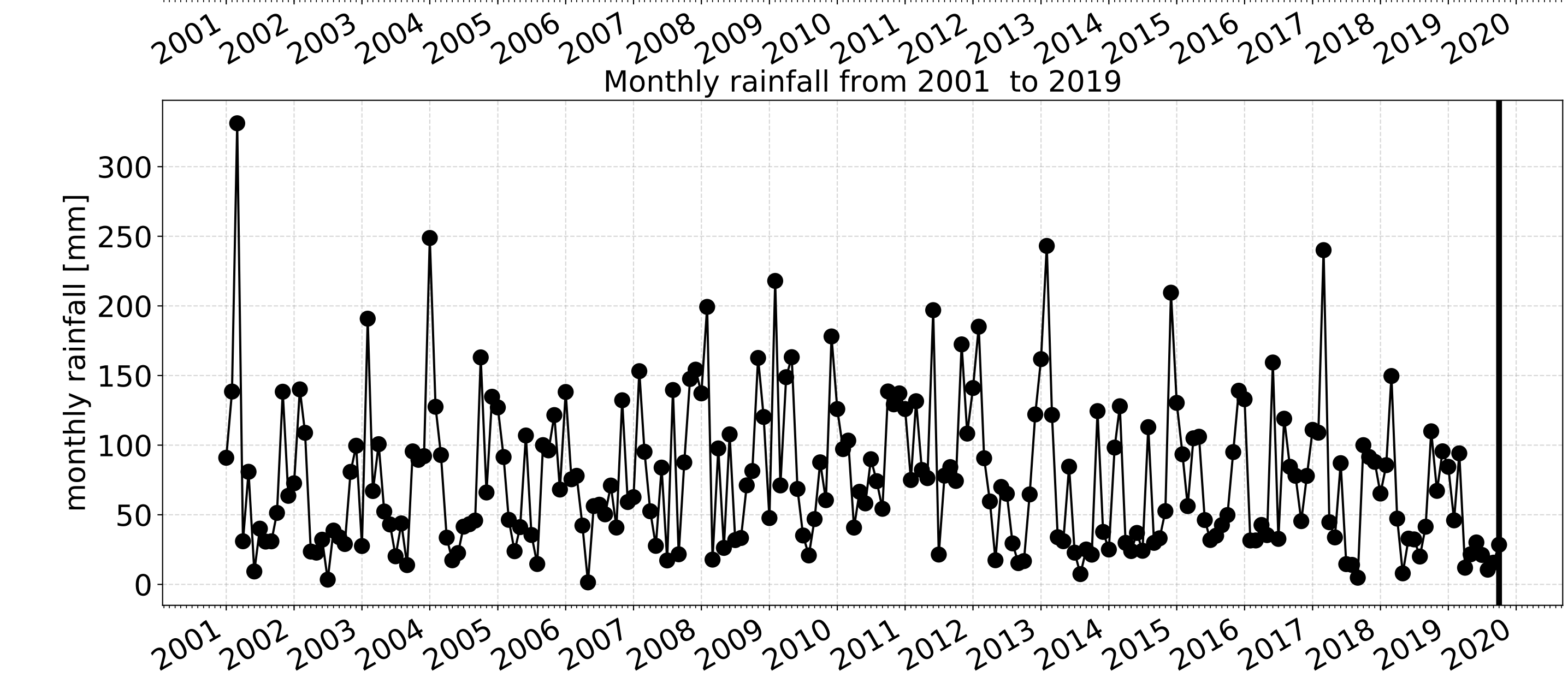
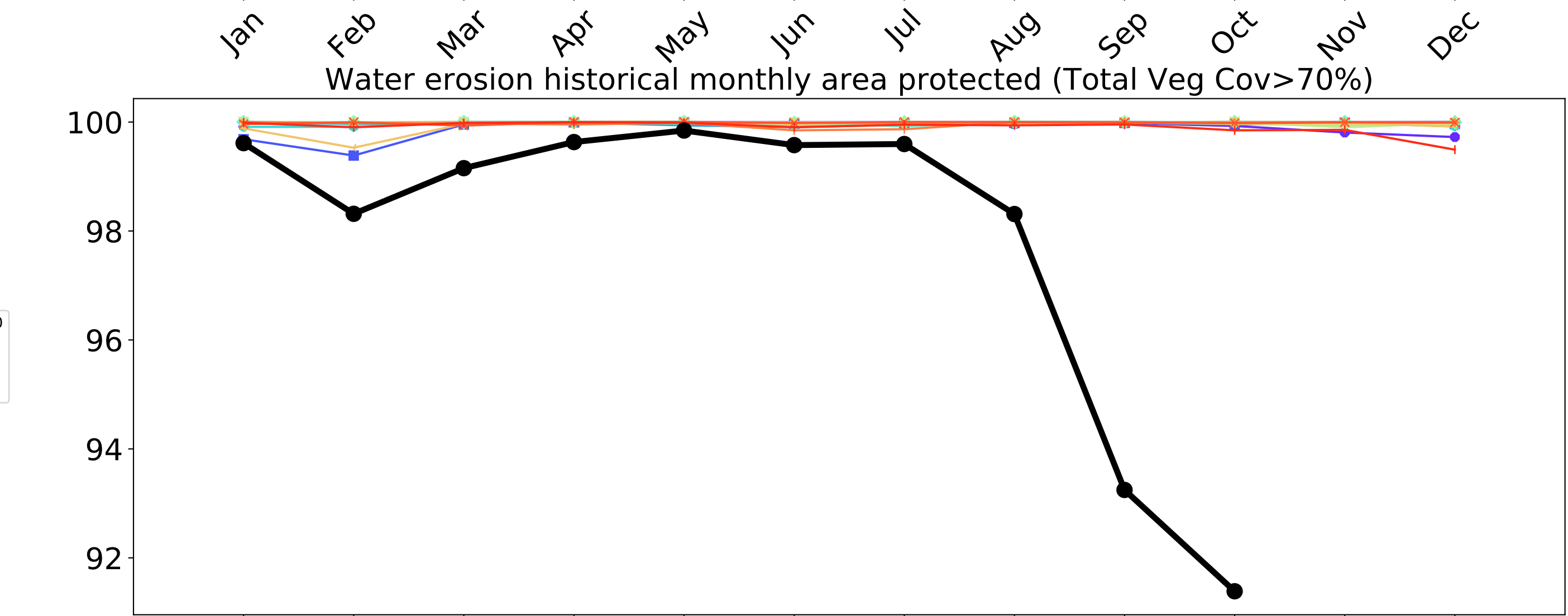
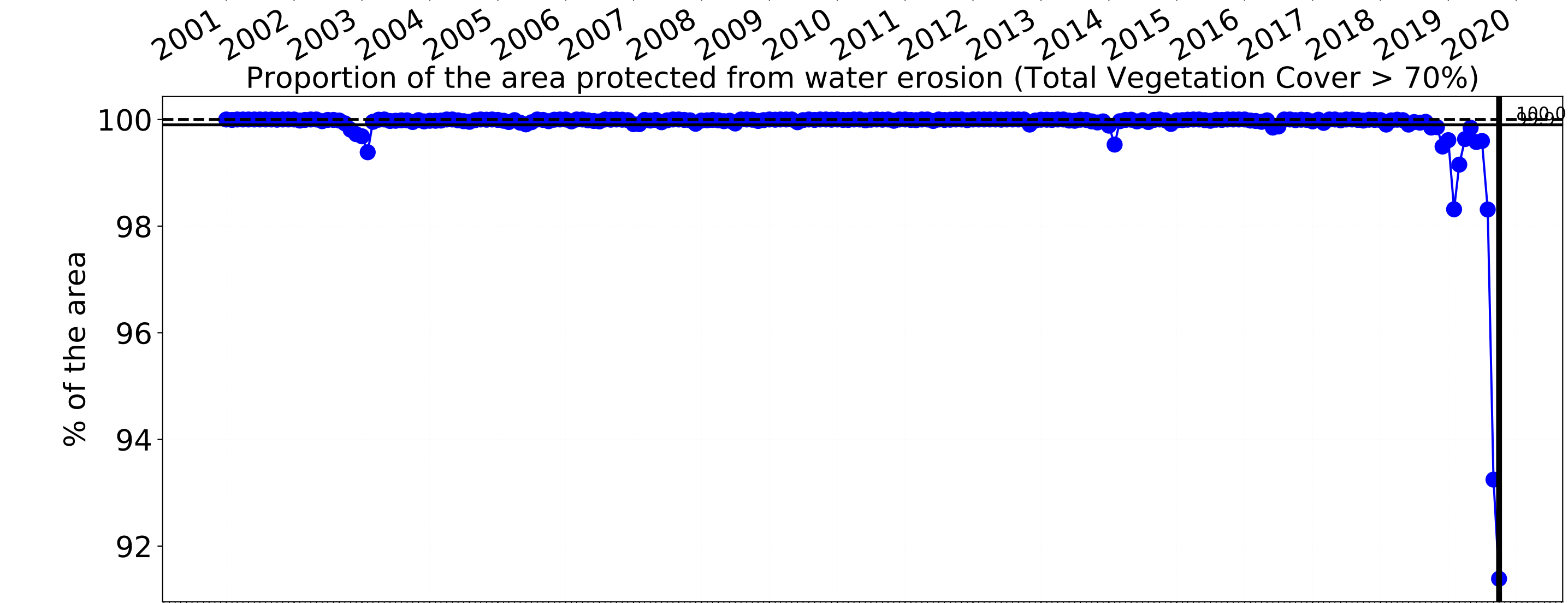
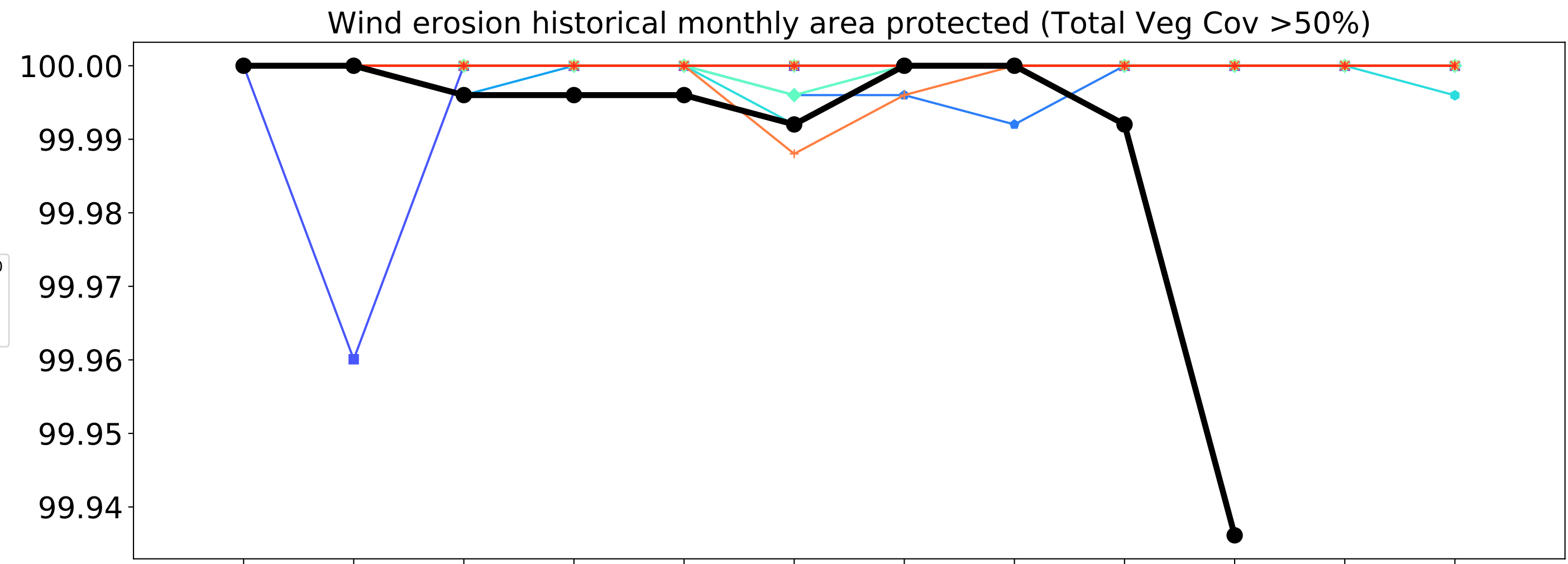
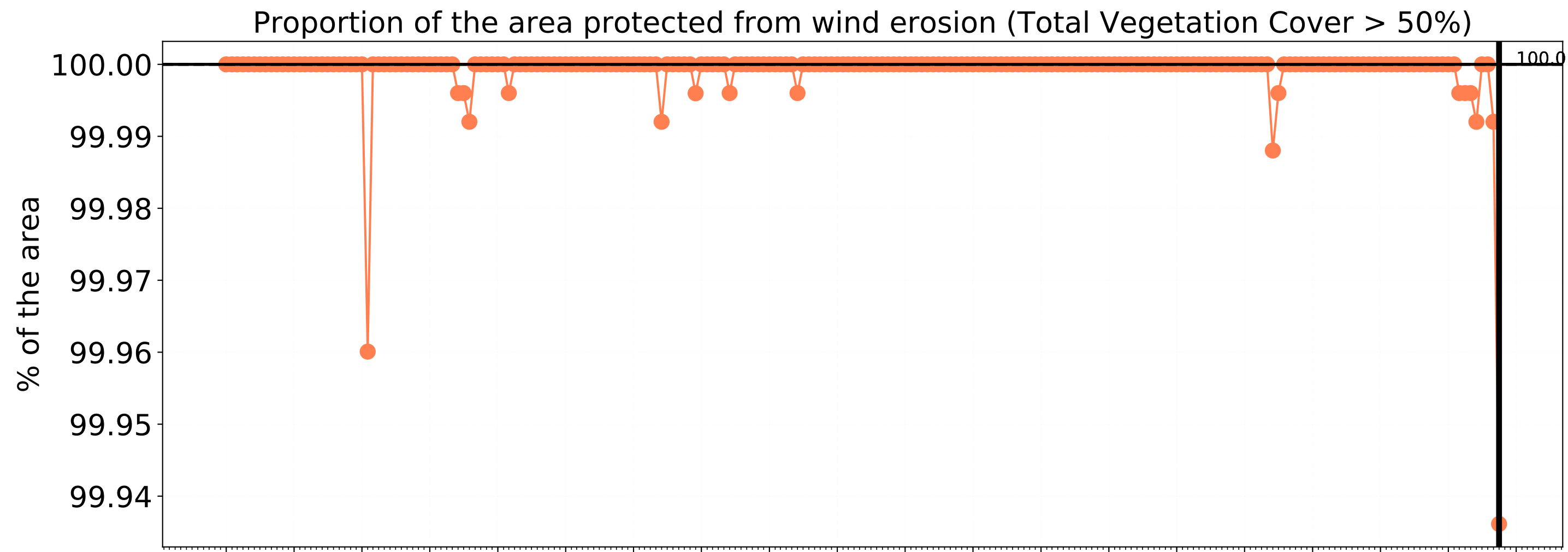
Total Vegetation Cover Decile [%]

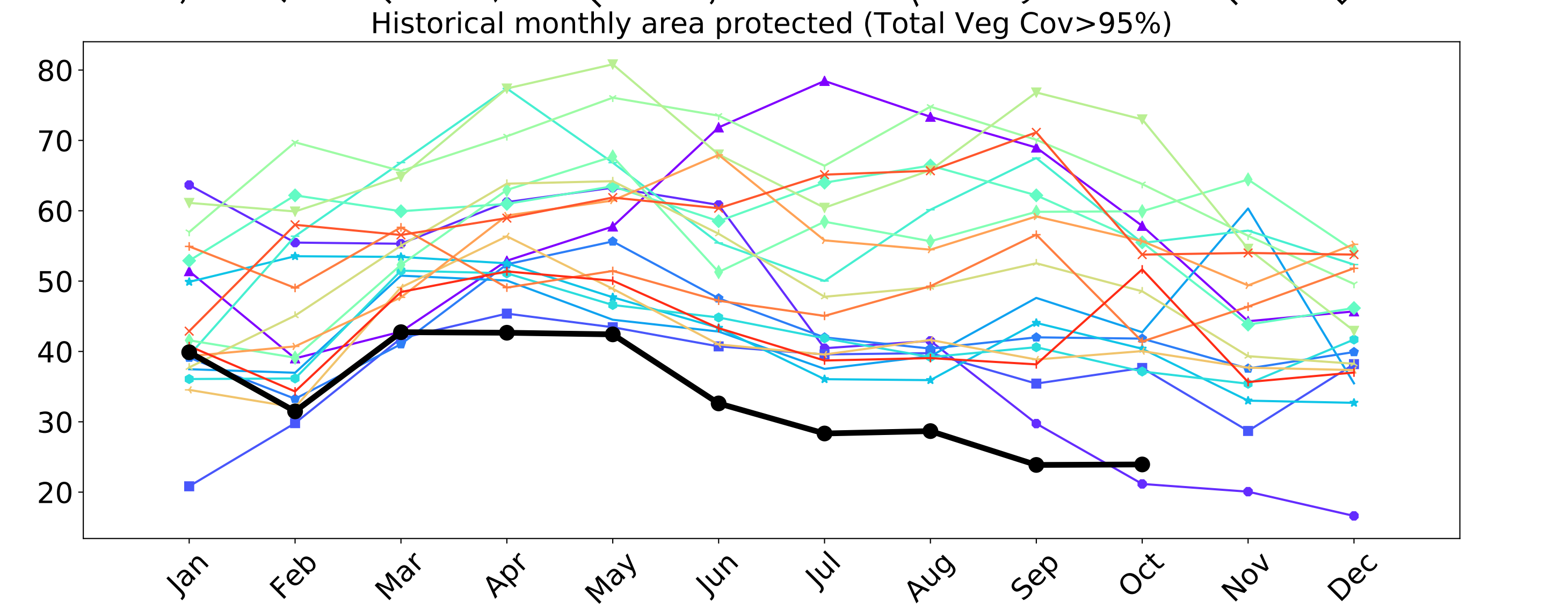
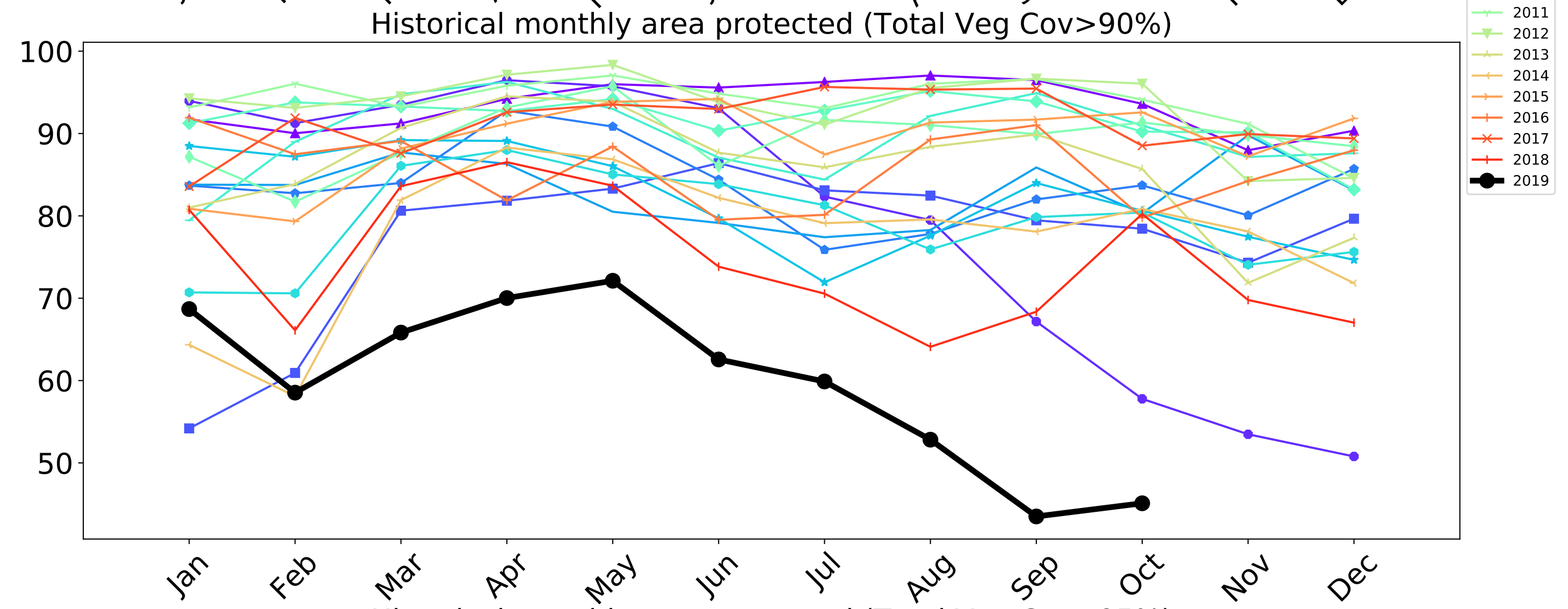
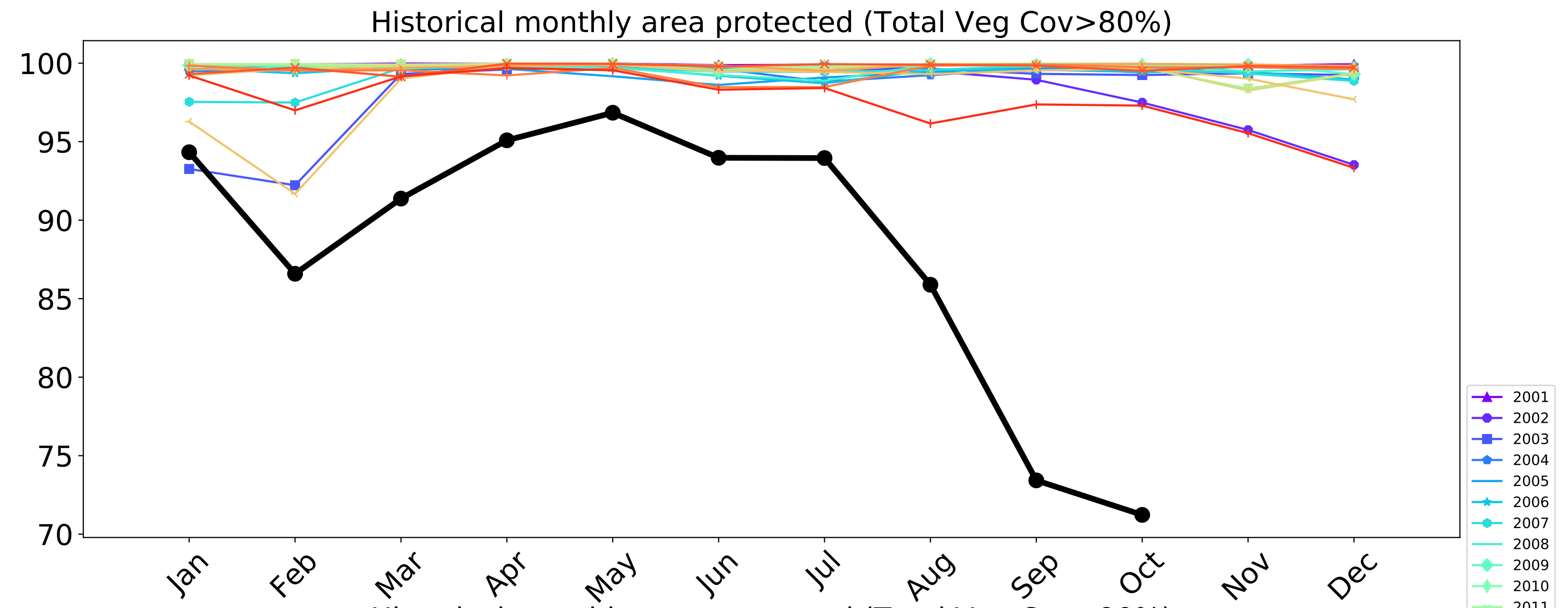
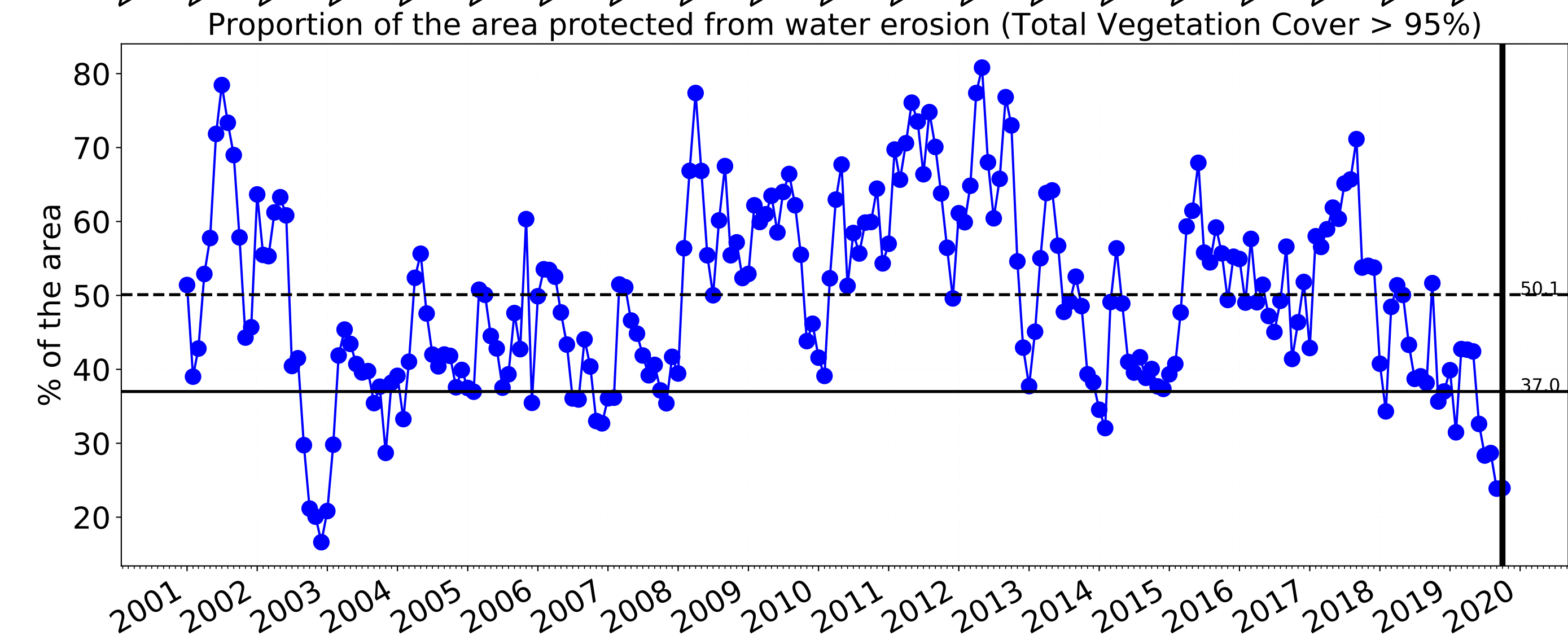
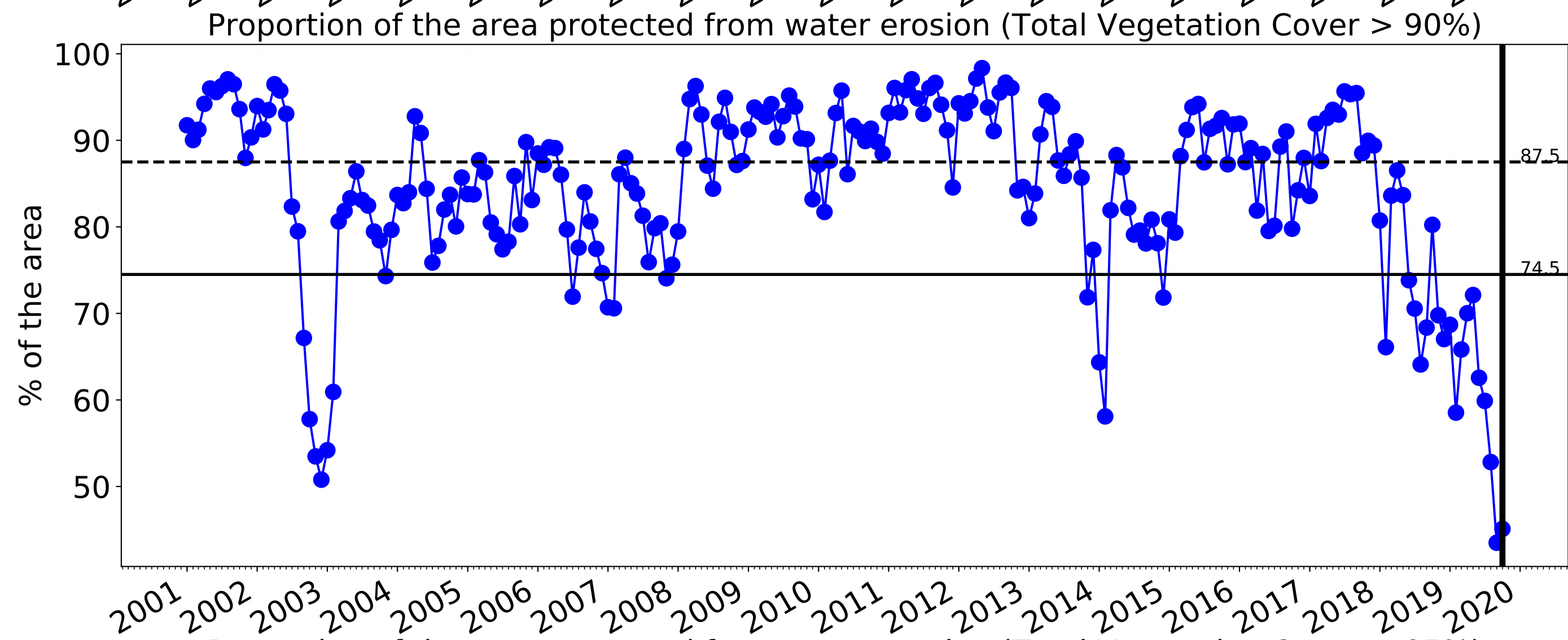
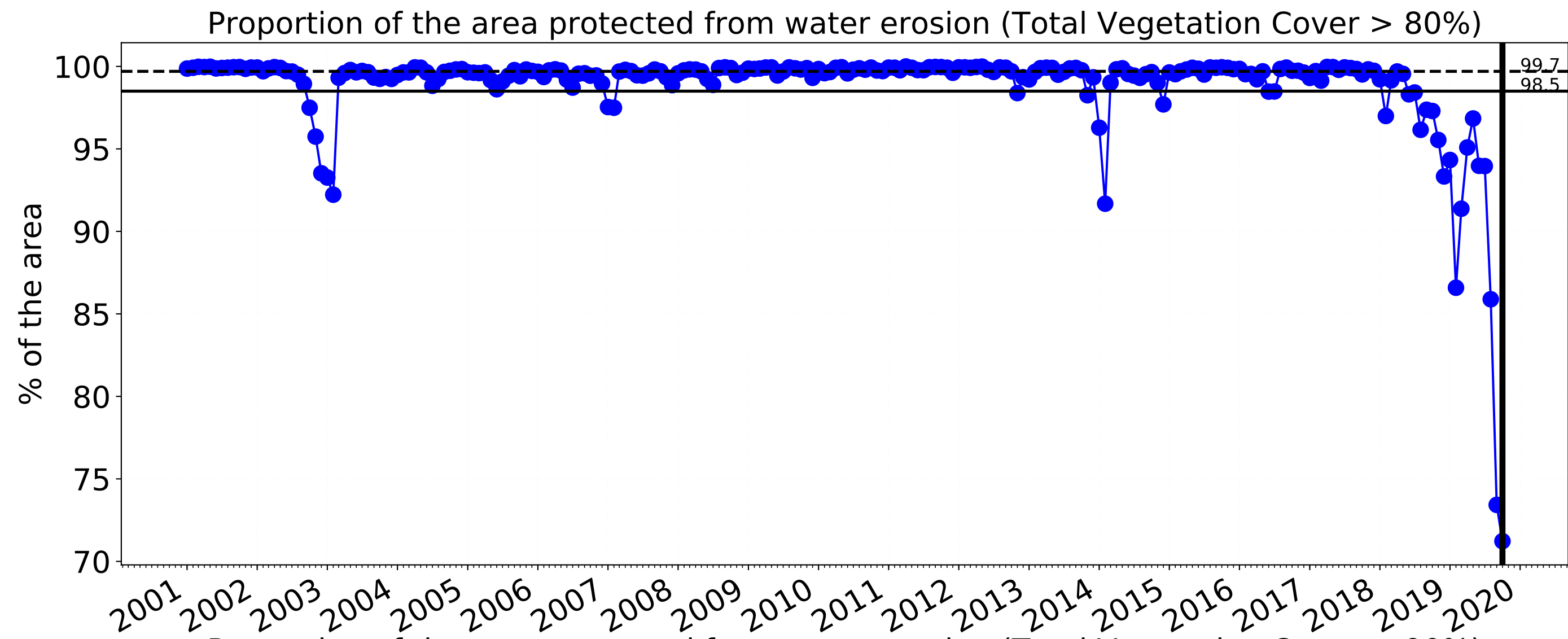


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Planning, Industry & Environment

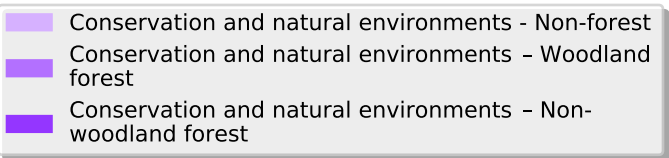
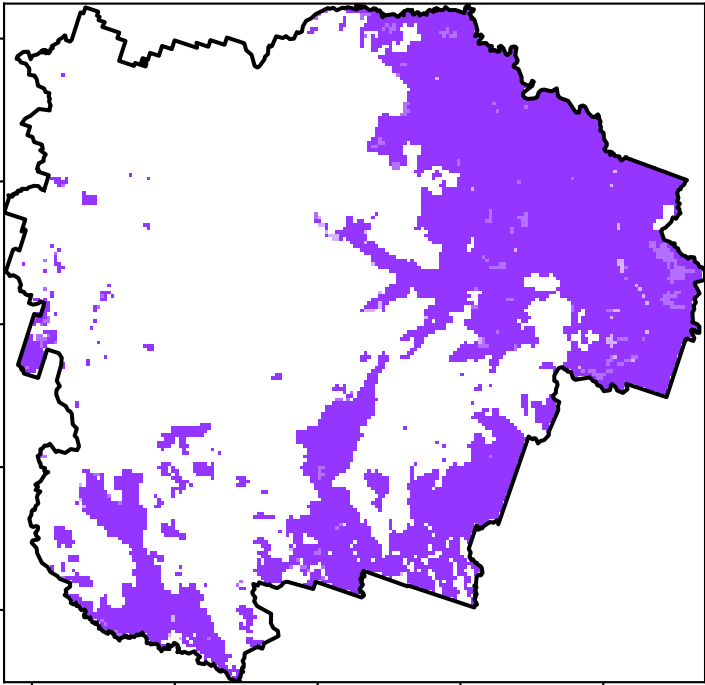




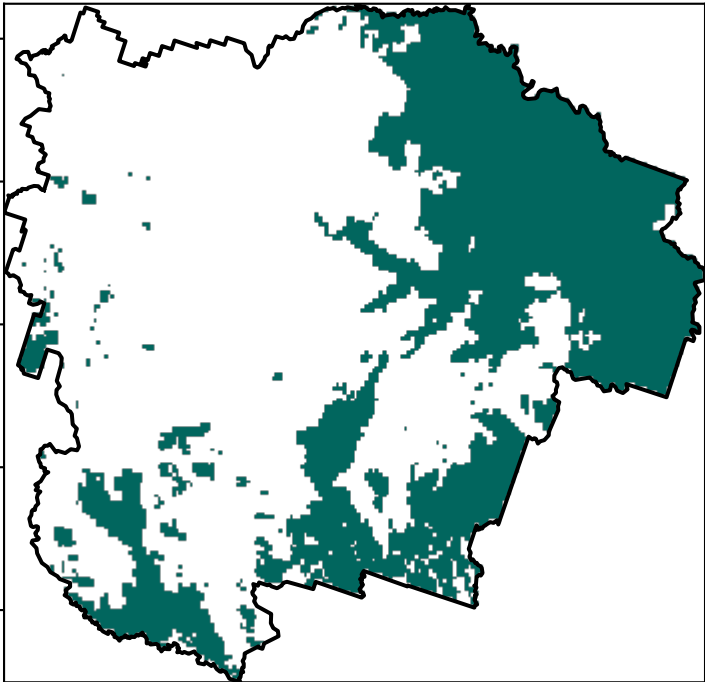
Conservation and natural environments

Land use and forest cover

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



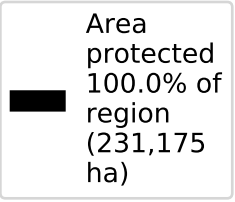
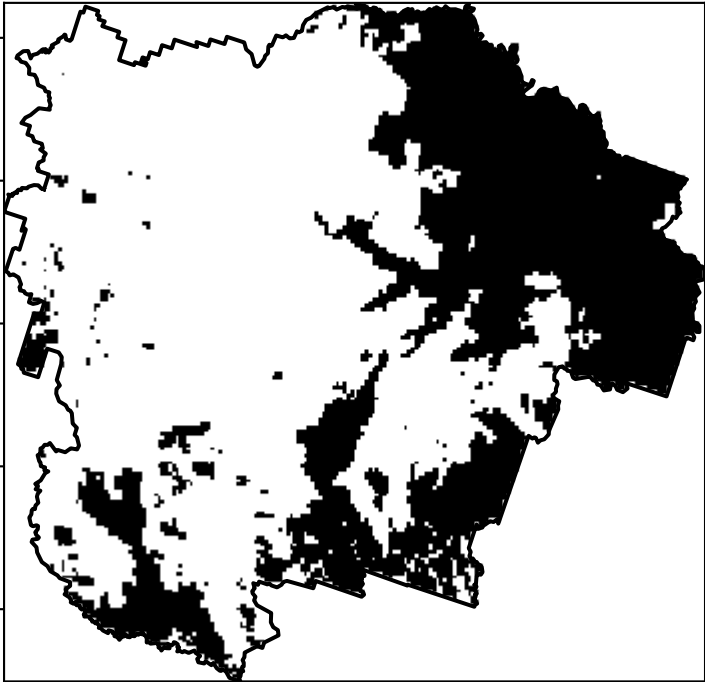
Total Vegetation Cover [%]



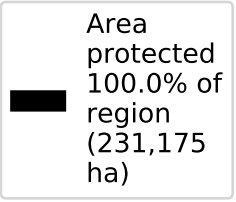
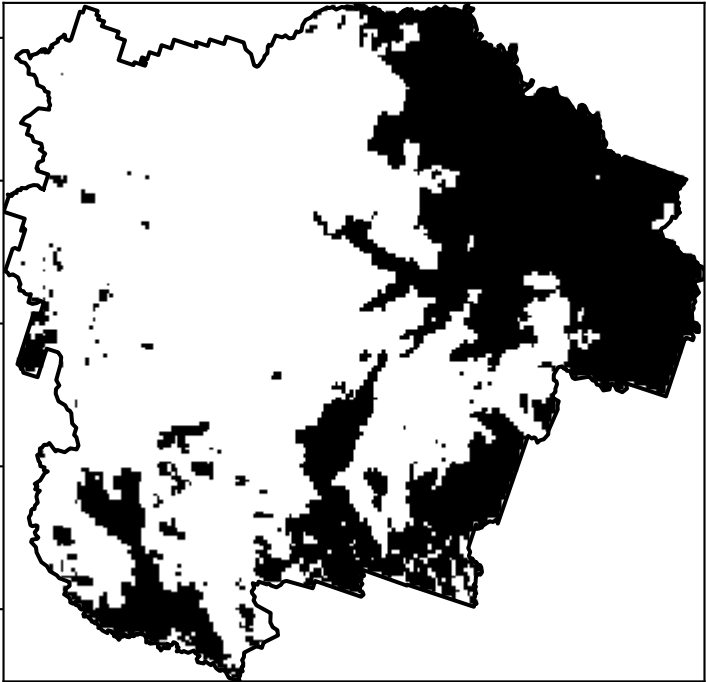
Proportion of vegetation cover class in area



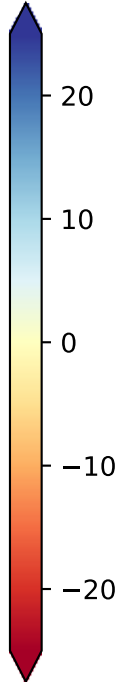
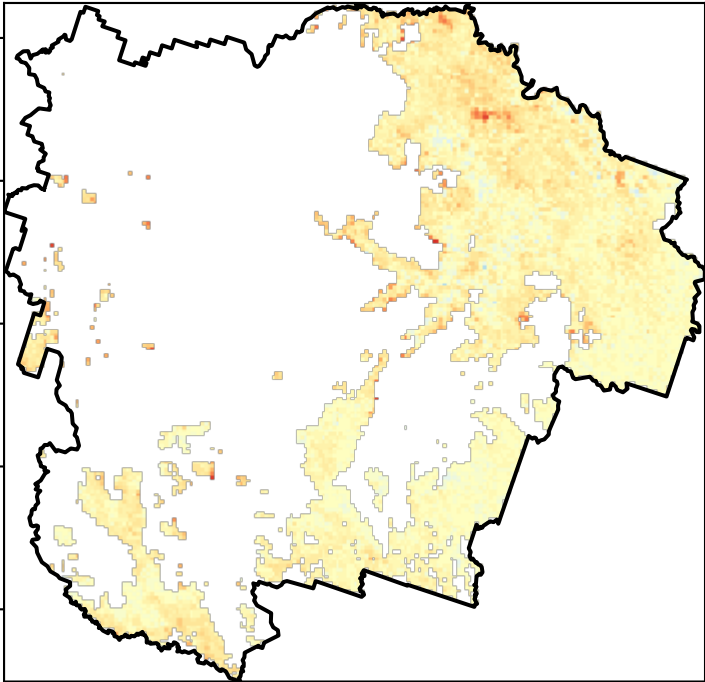
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

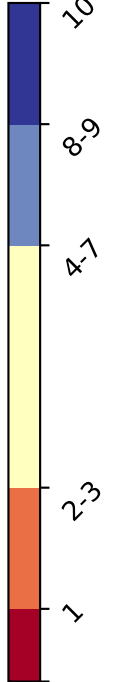
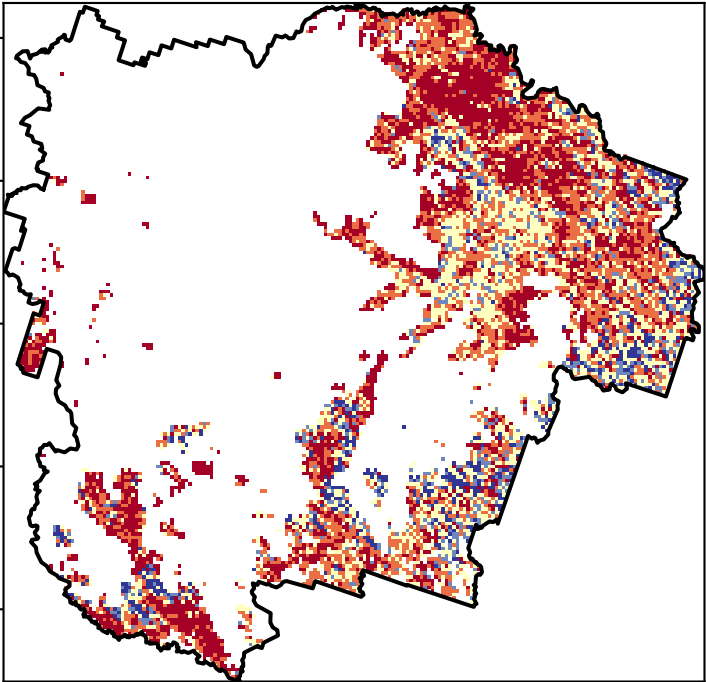


Total Vegetation Cover Anomaly [%]



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Total Vegetation Cover Decile [%]



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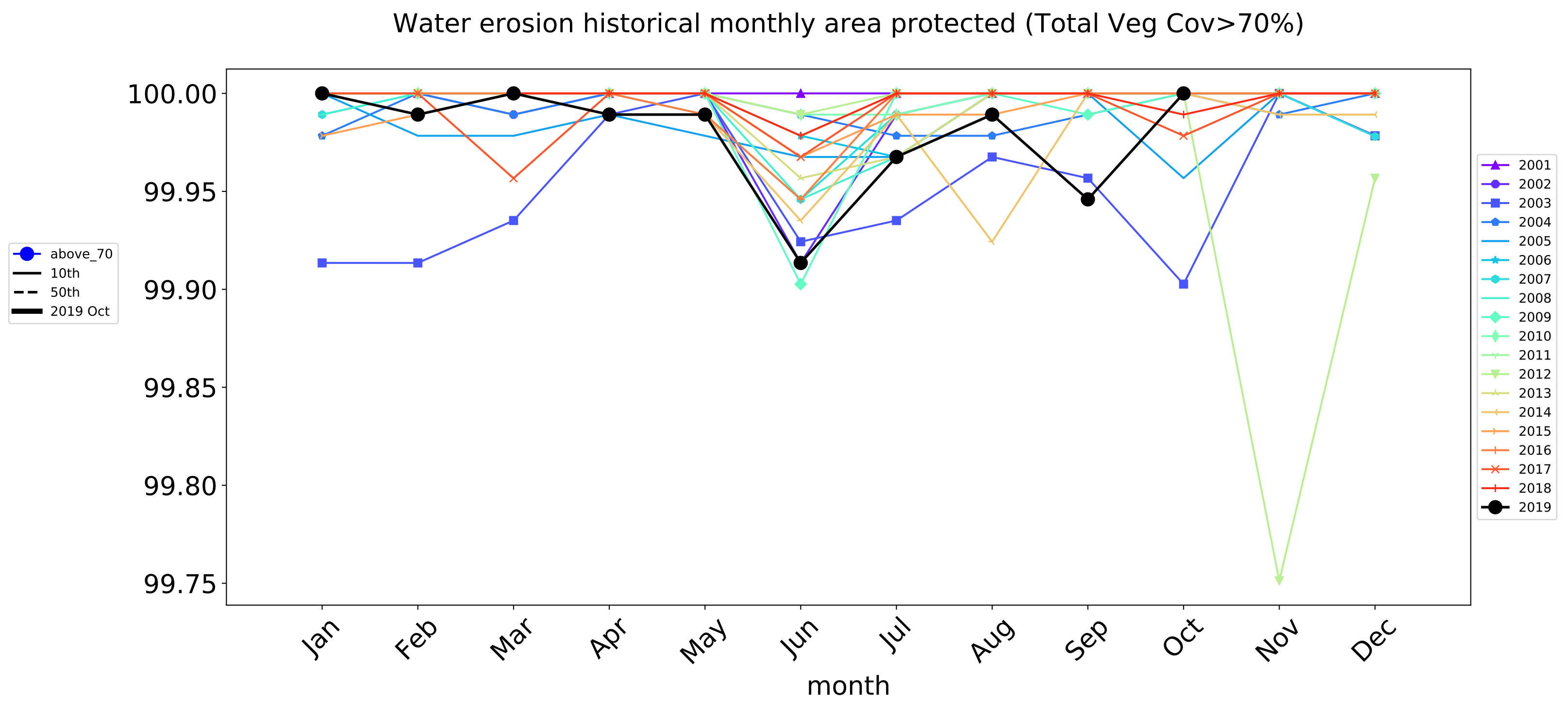
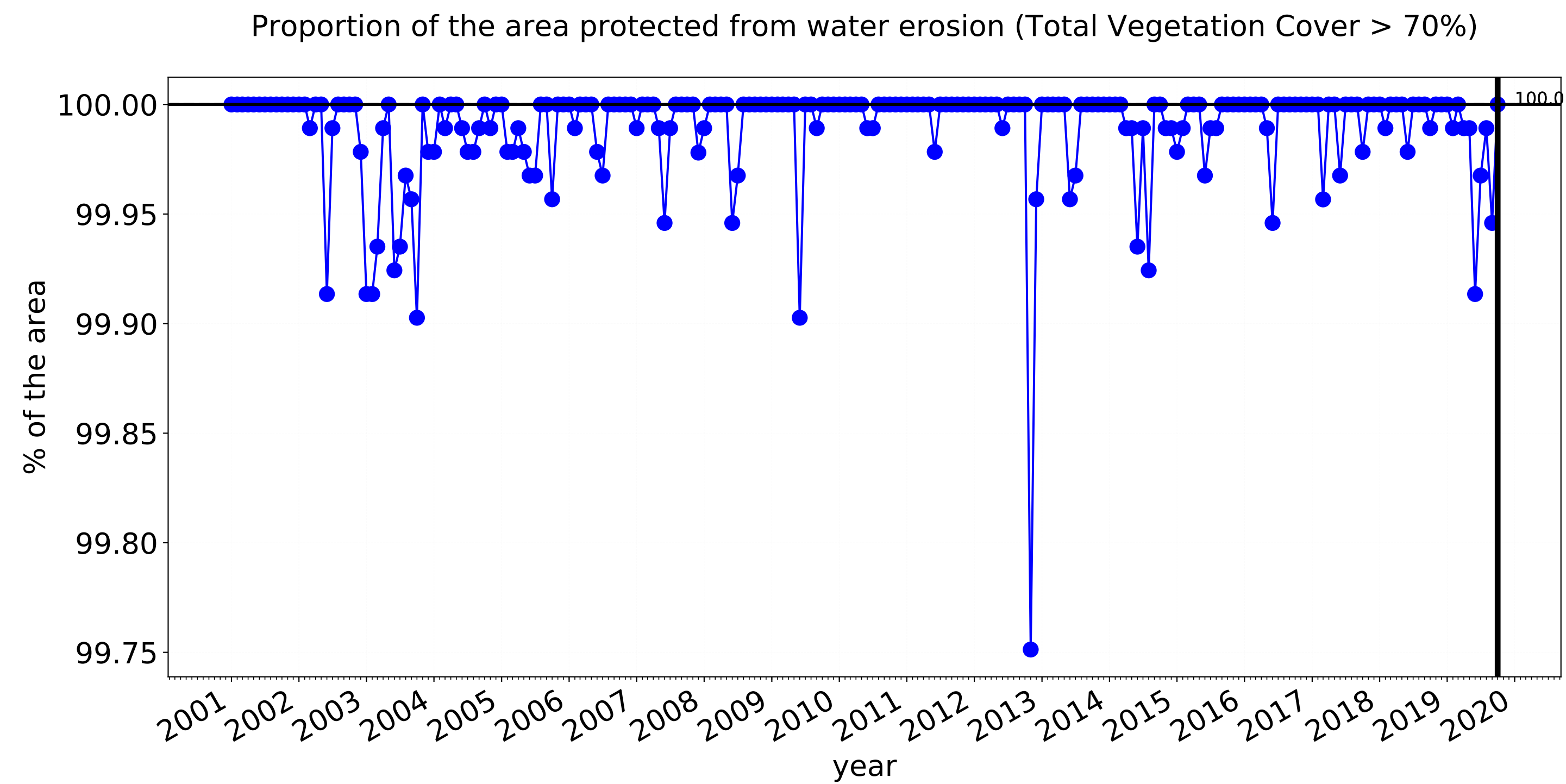
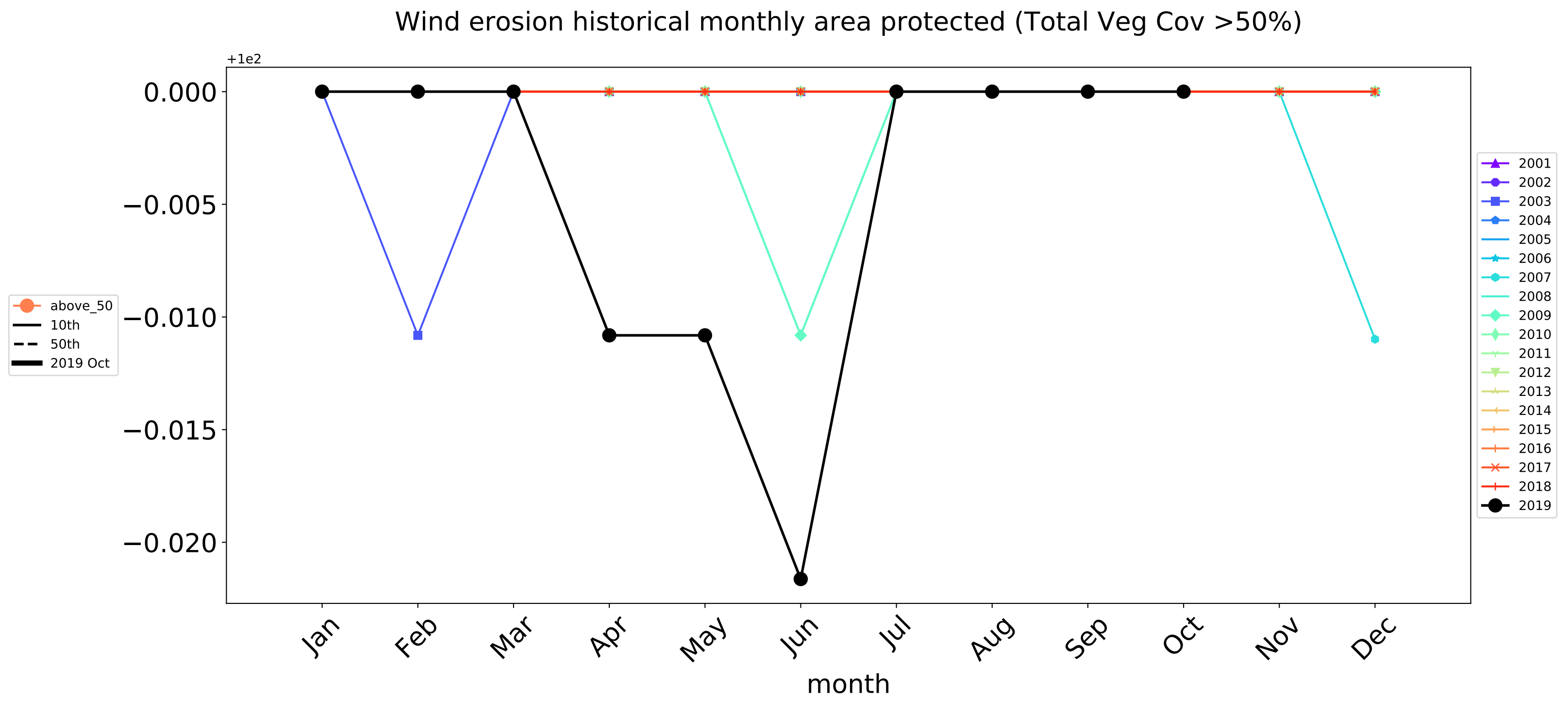
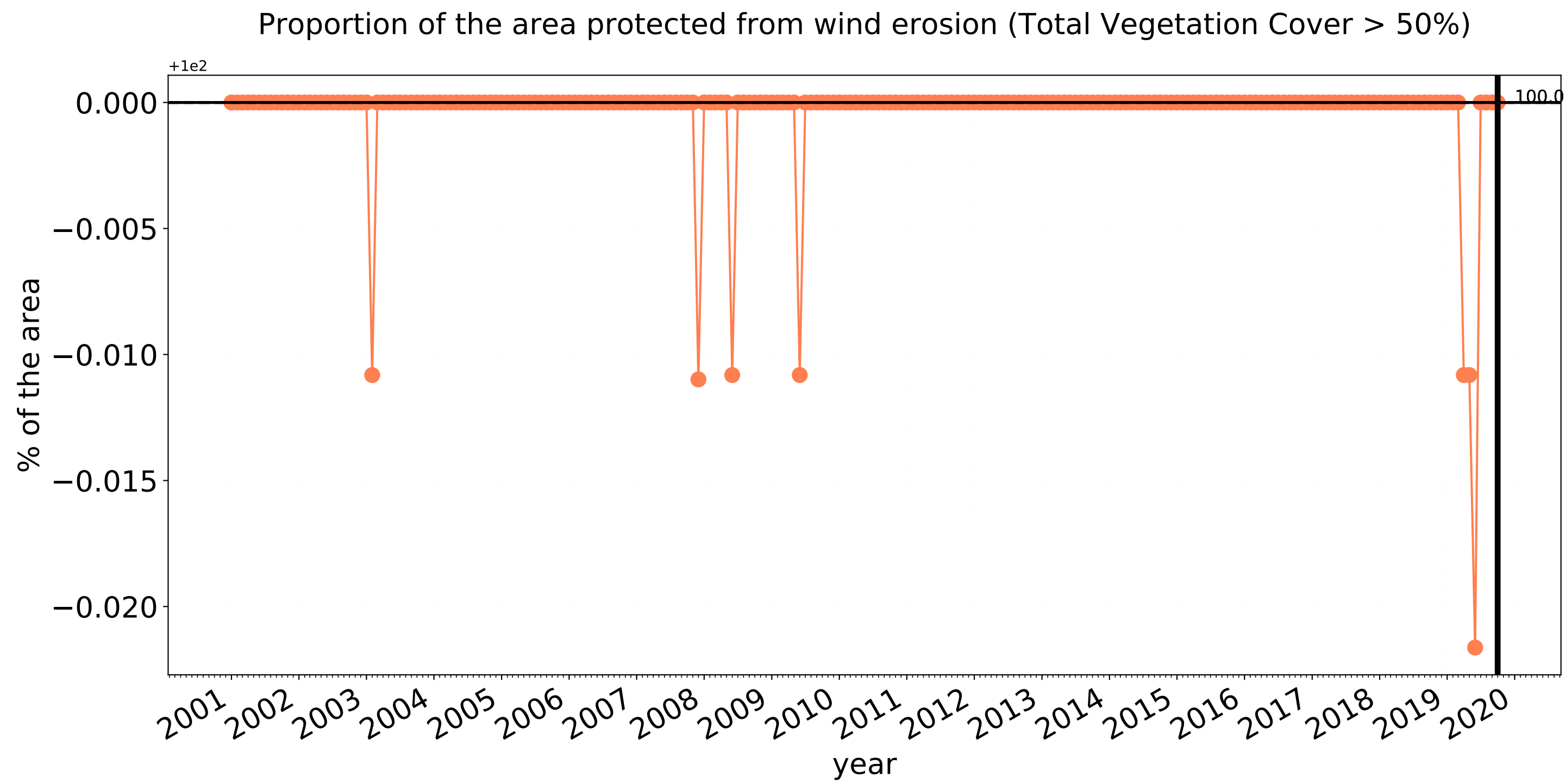


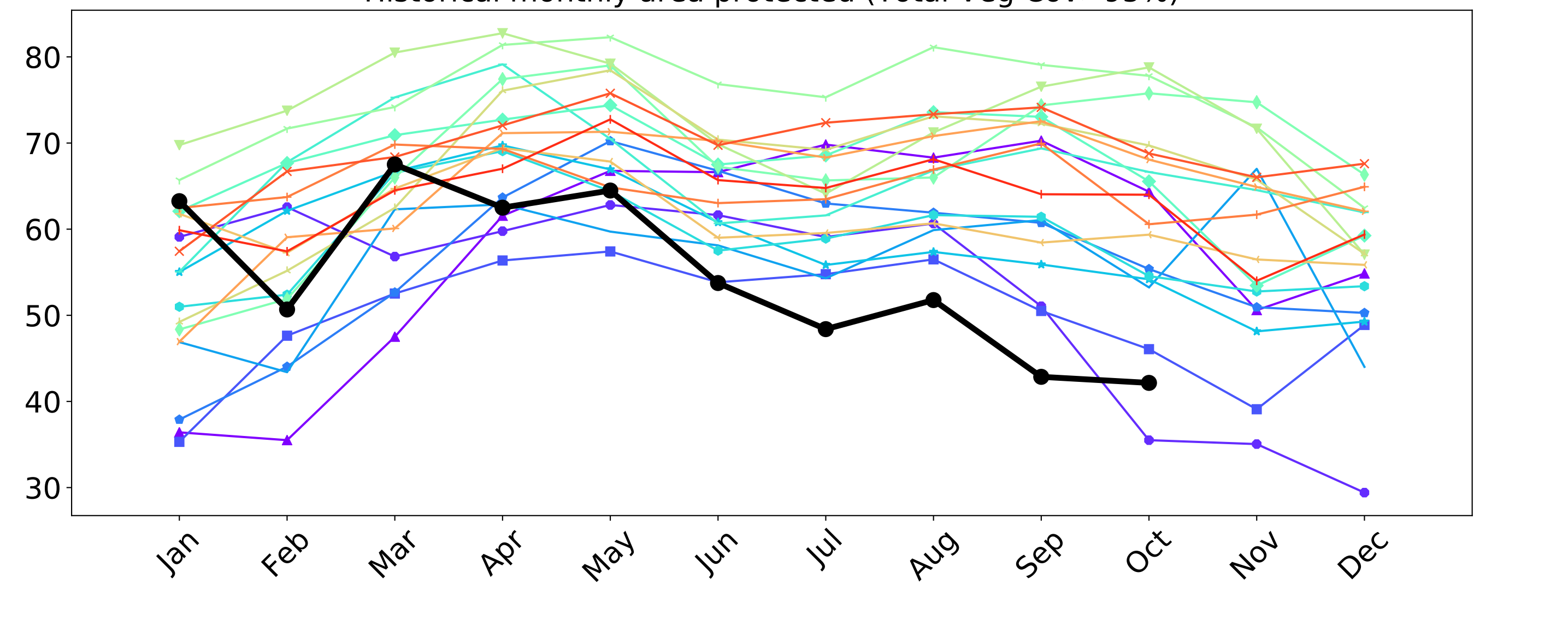
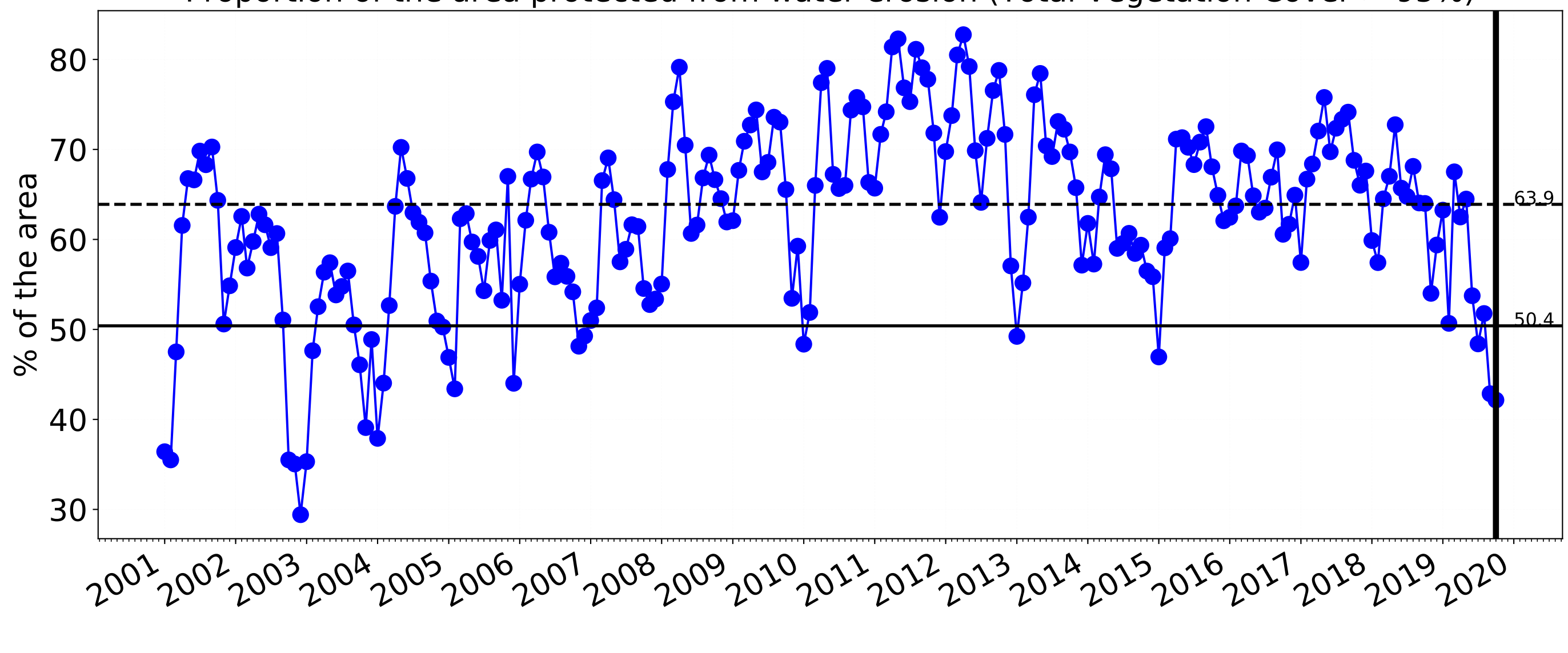
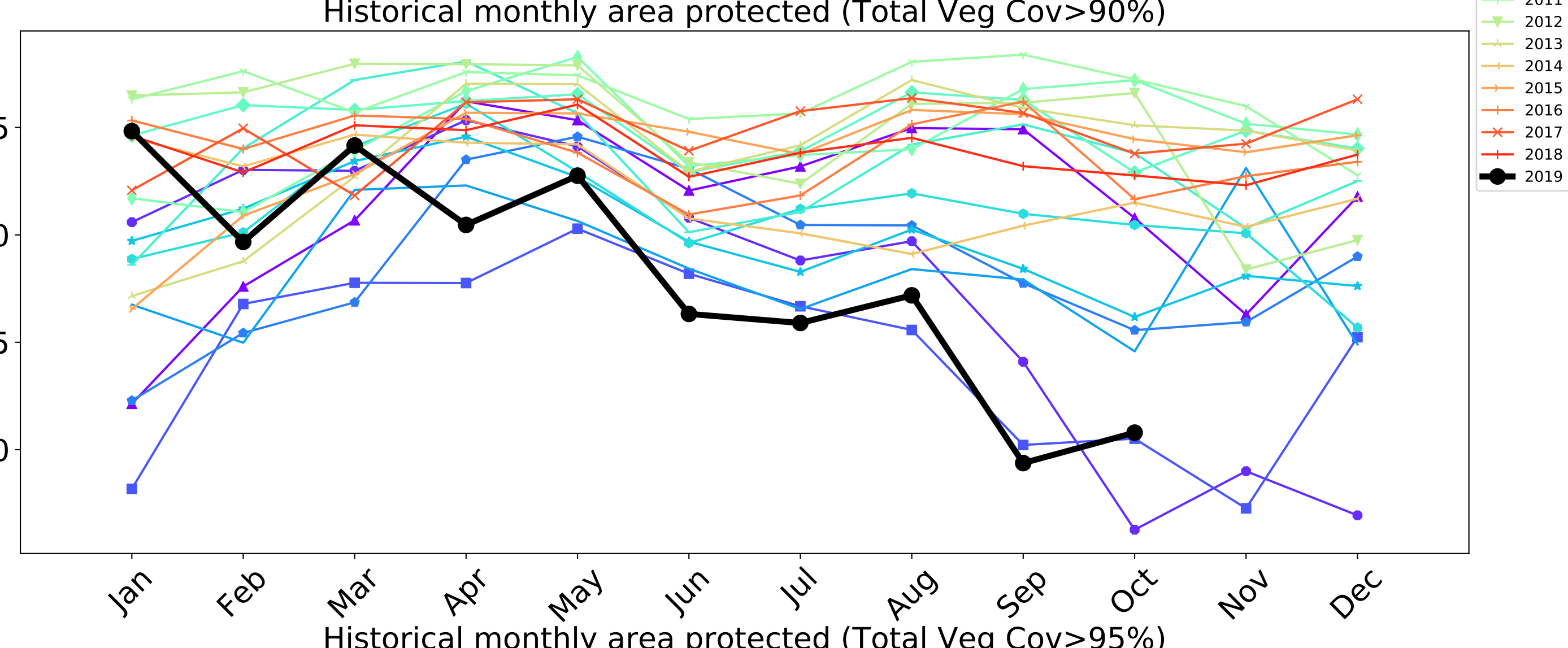
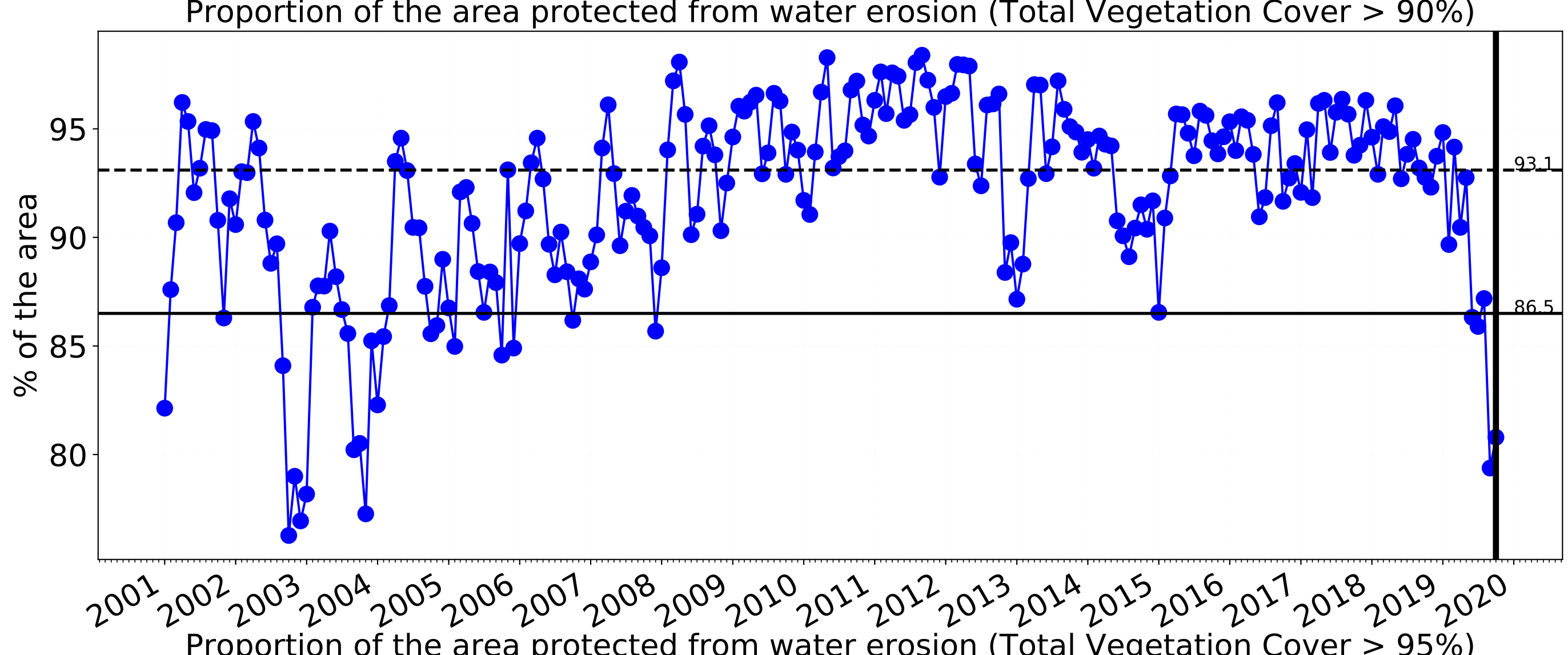
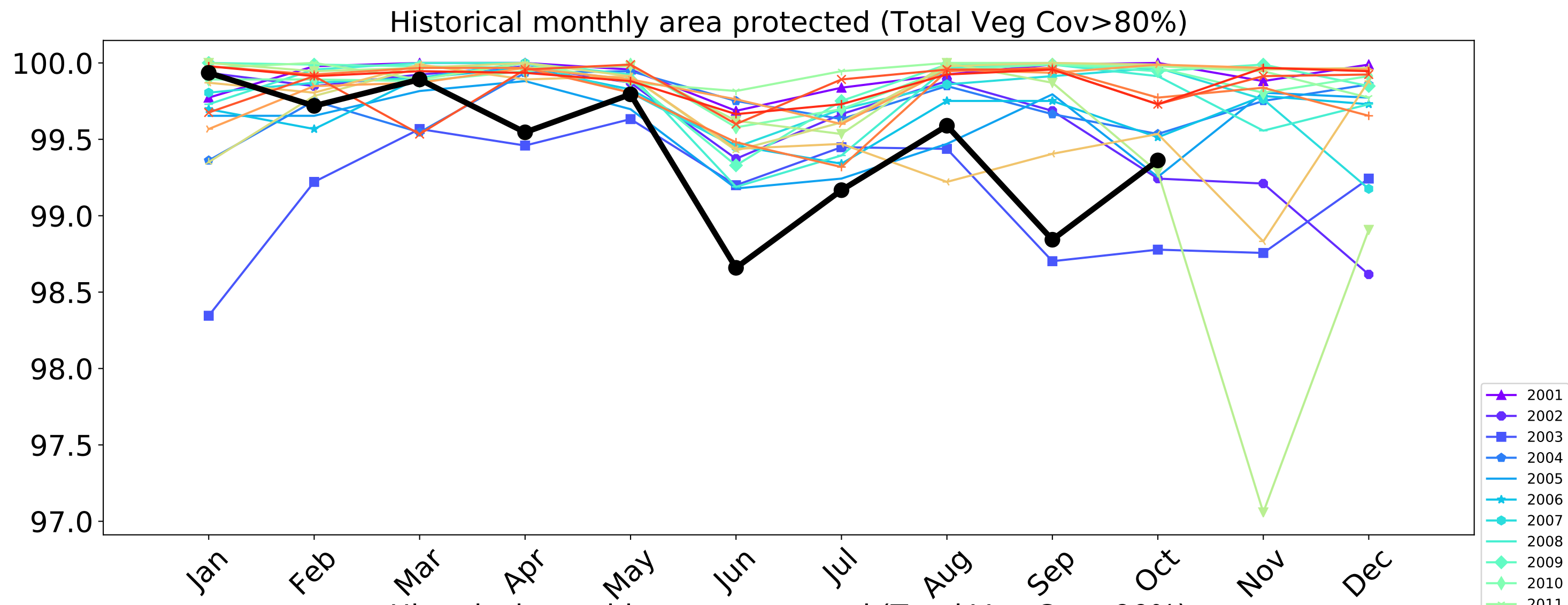
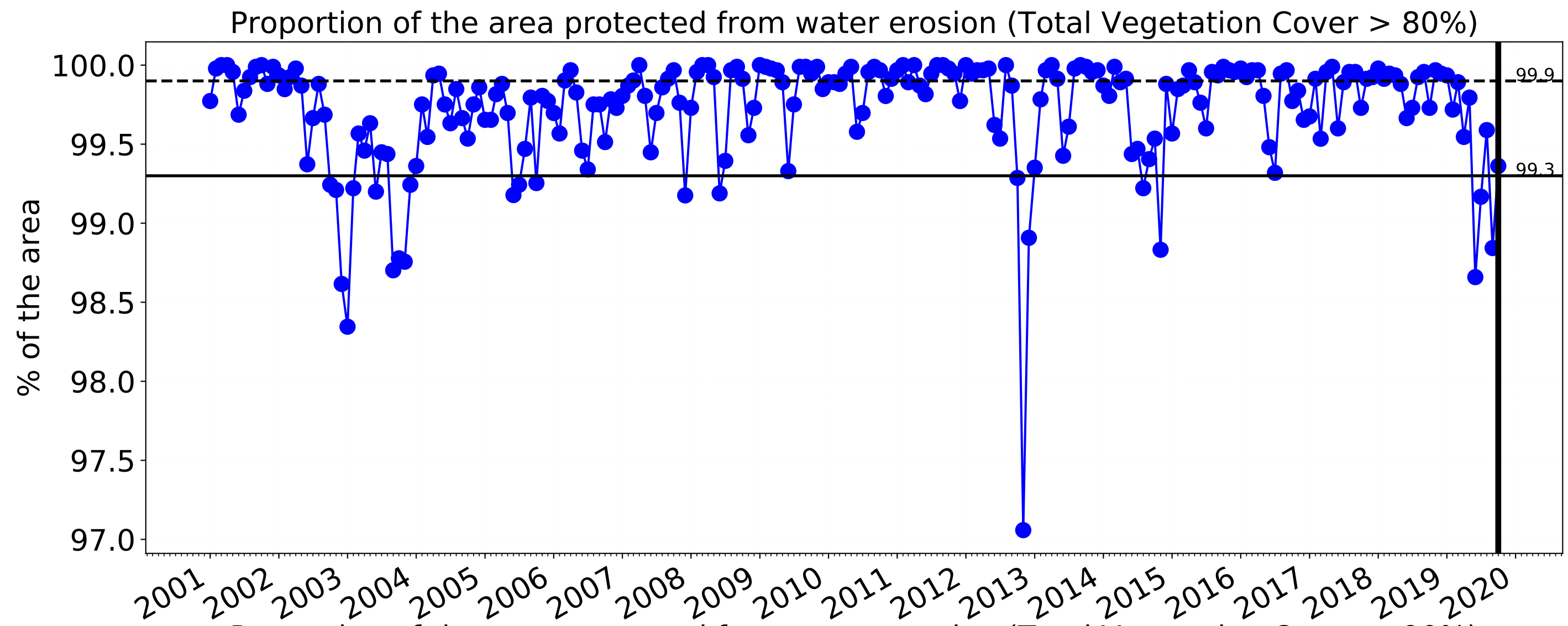
National Landcare Programme



Planning, Industry & Environment

Conservation and natural environments timeseries

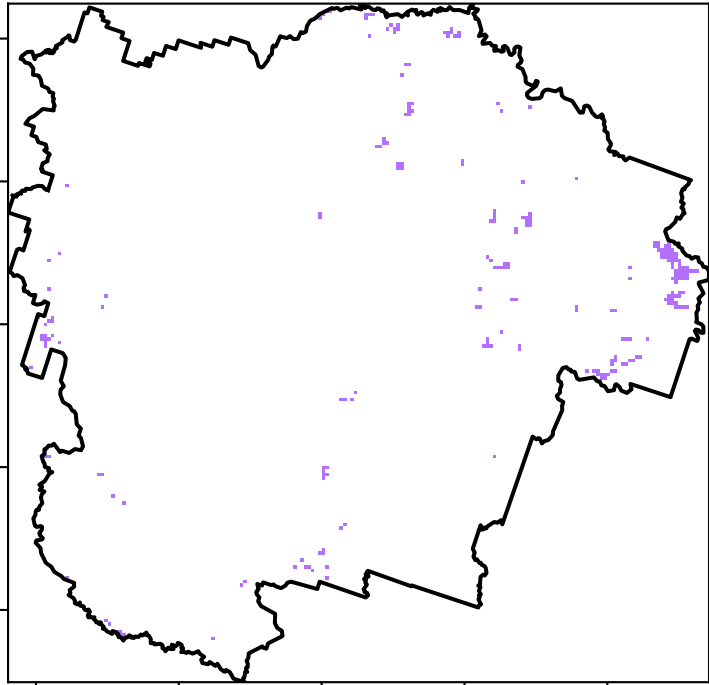




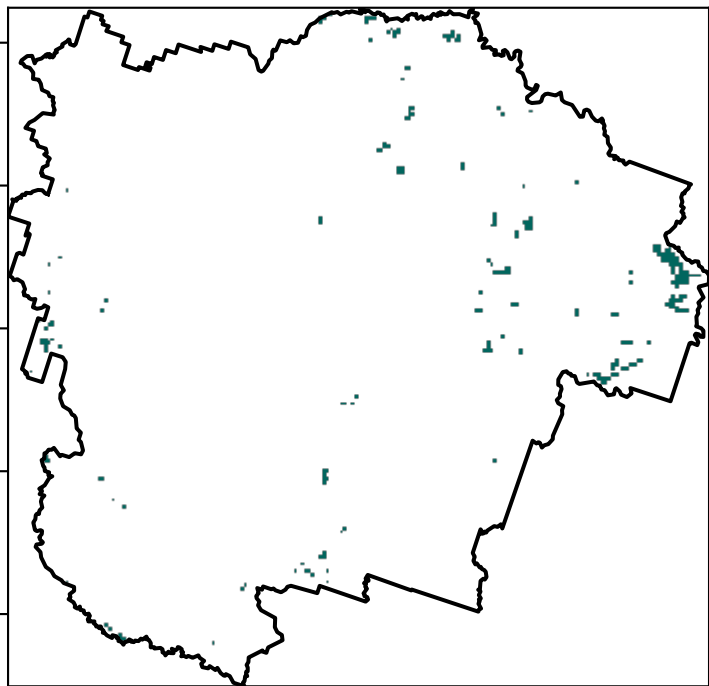
Conservation and natural environments Woodland forest

Land use and forest cover

Catchment Scale Land Use and Forests of Australia (2018)
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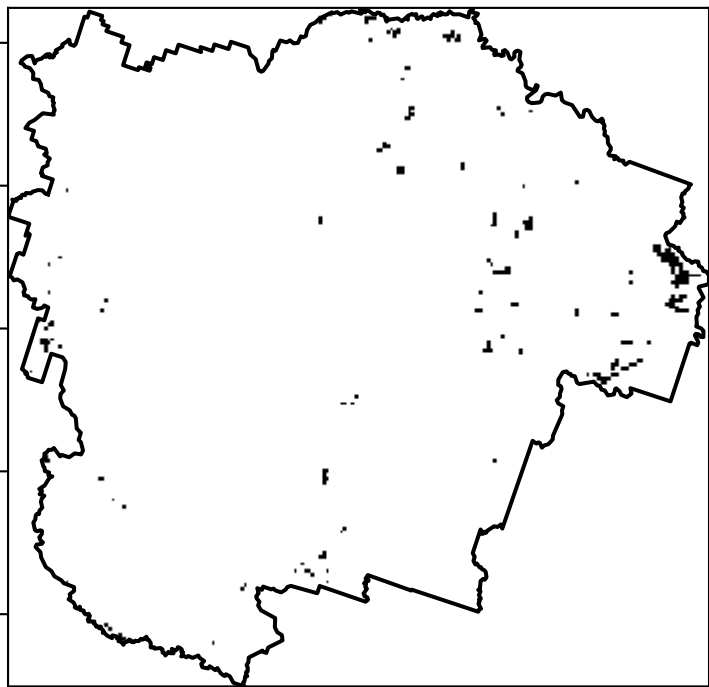
Total Vegetation Cover [%]



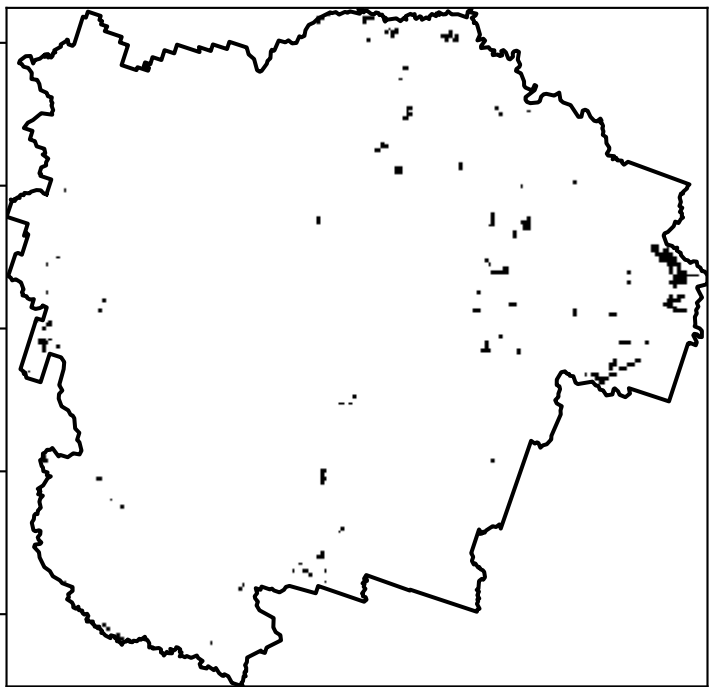
Proportion of vegetation cover class in area



% Area protected from water erosion (>70%)

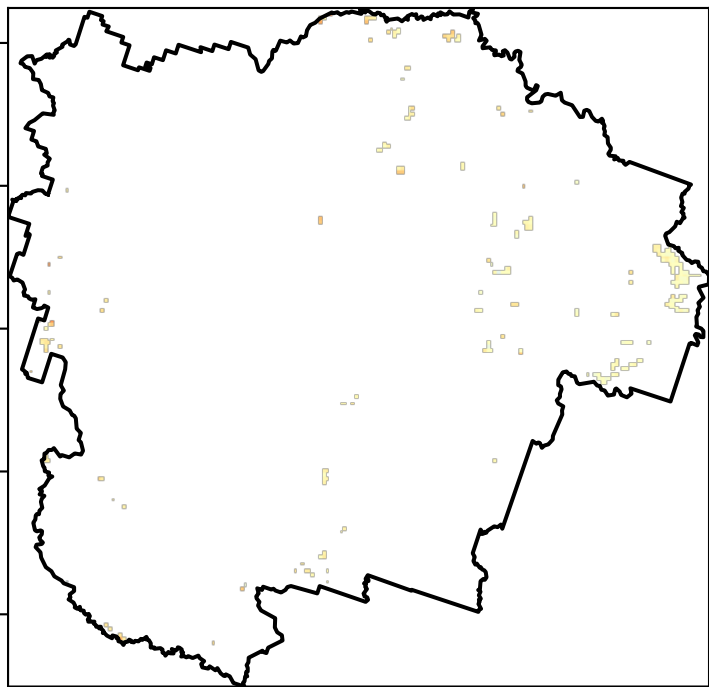


% Area protected from wind erosion (>50%)



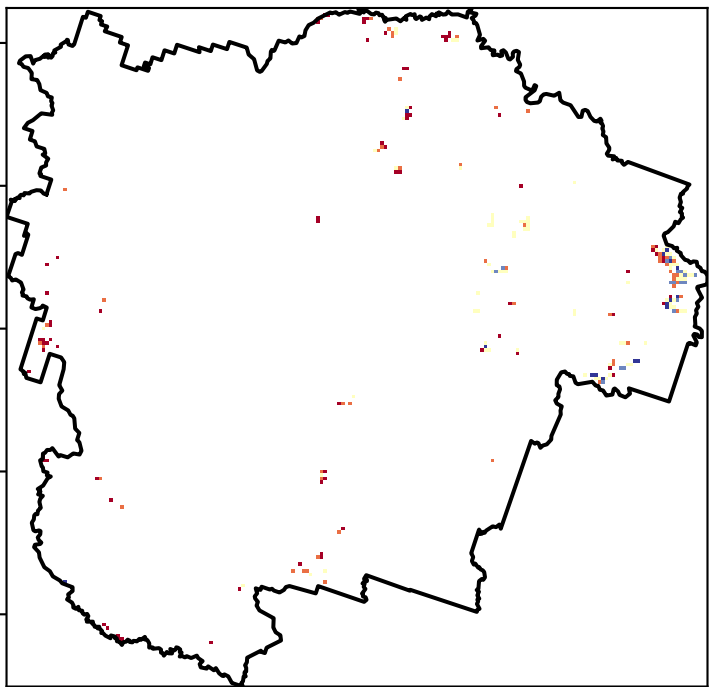
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Total Vegetation Cover Decile [%]



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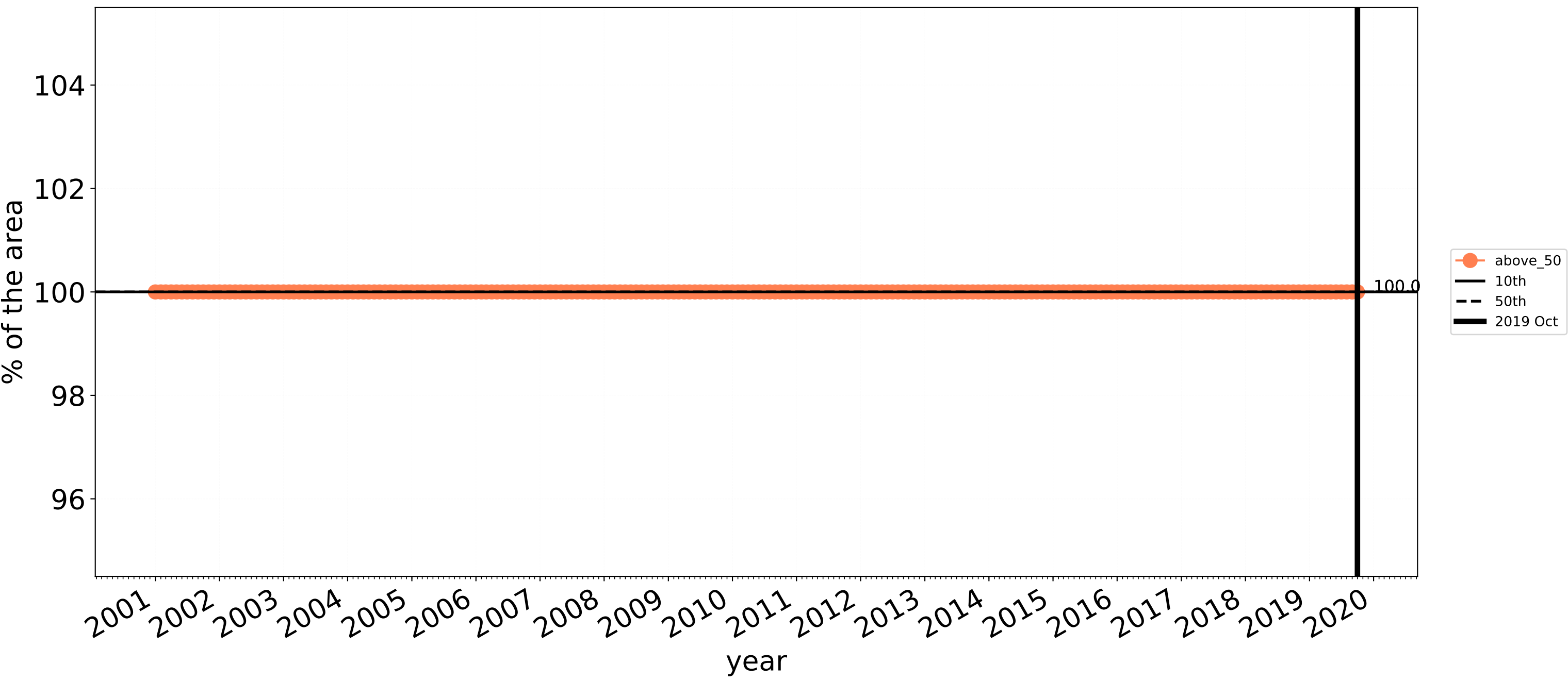


National
Landcare
Programme

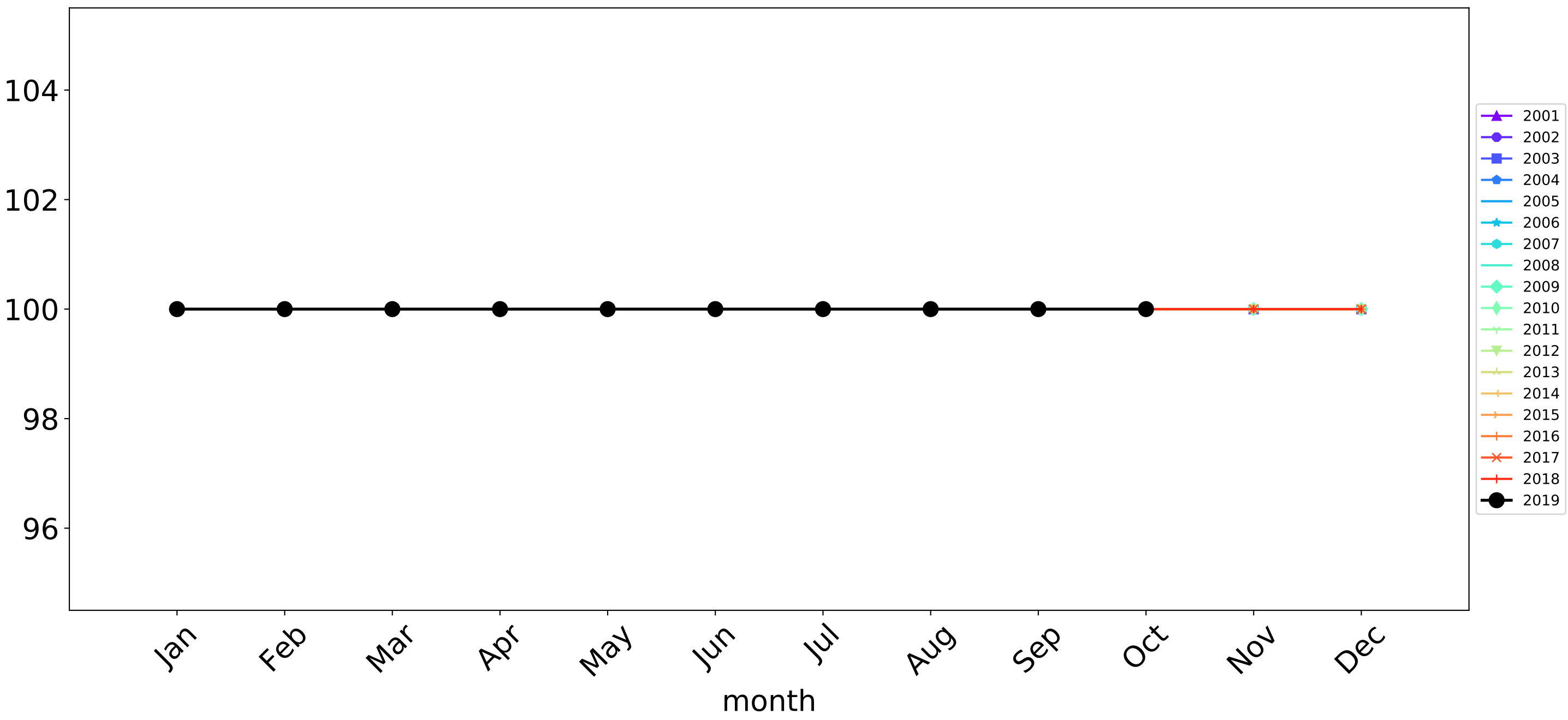


Planning,
Industry &
Environment

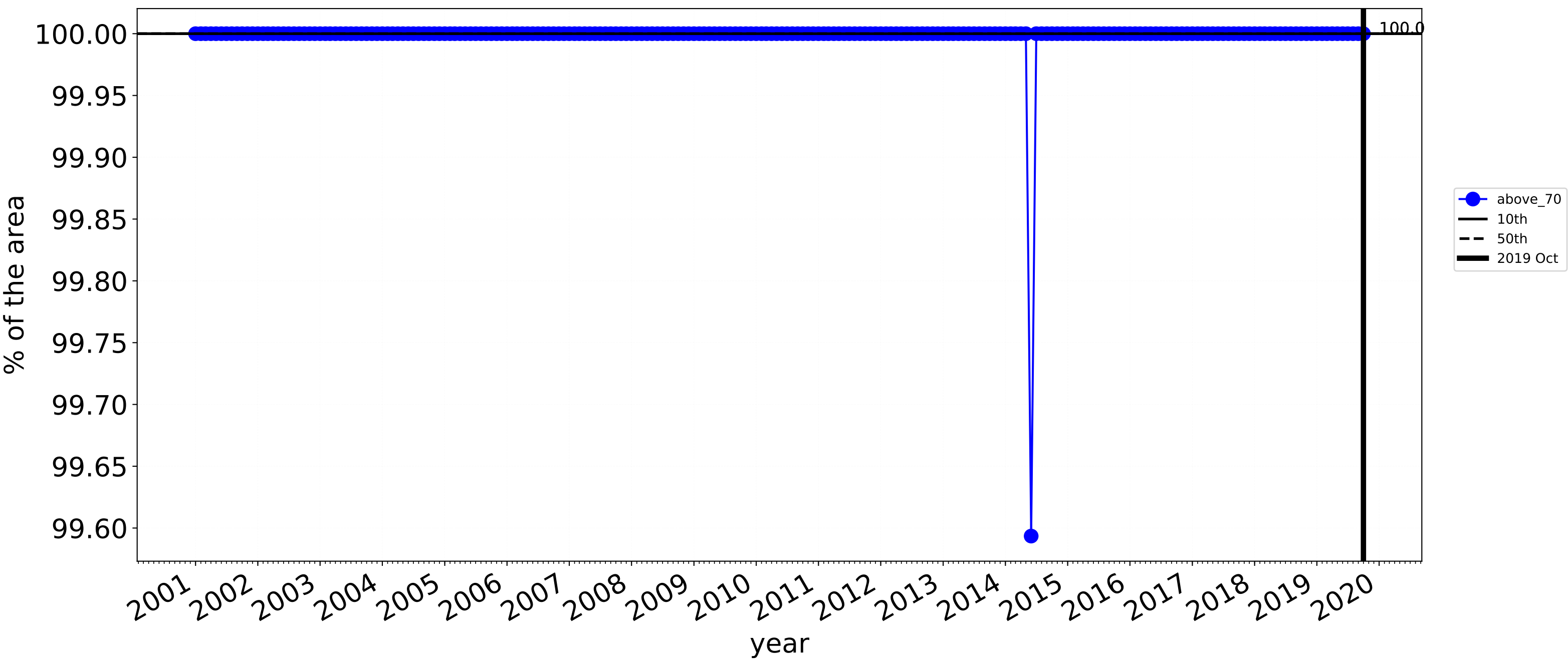
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



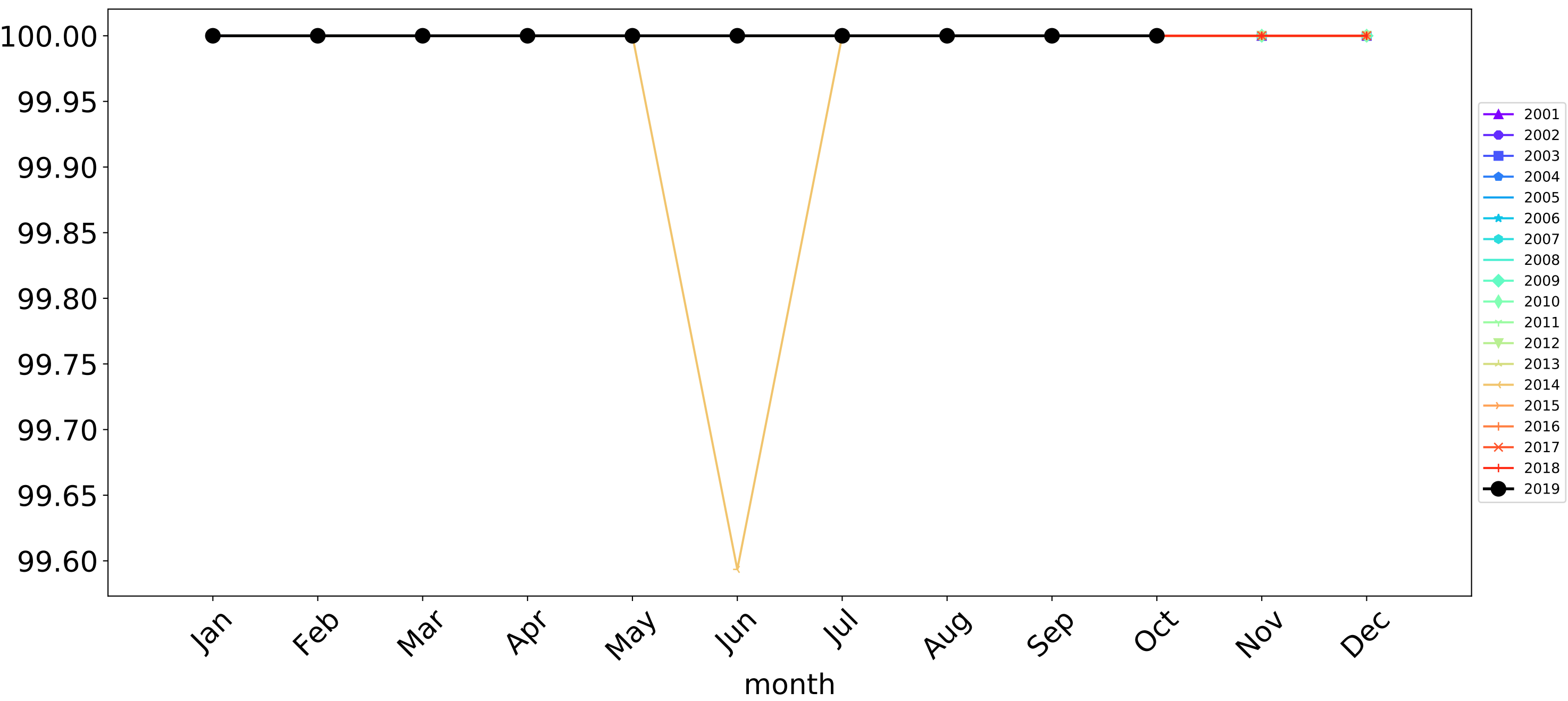
Wind erosion historical monthly area protected (Total Veg Cov >50%)

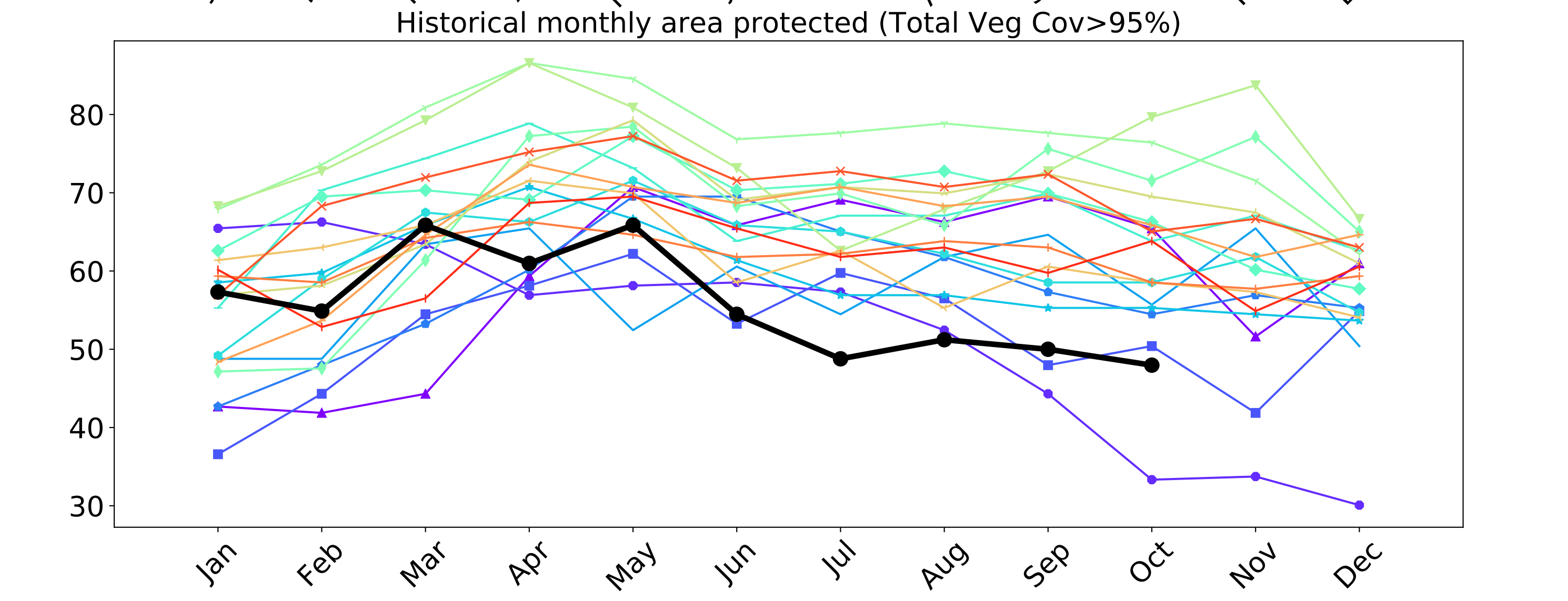
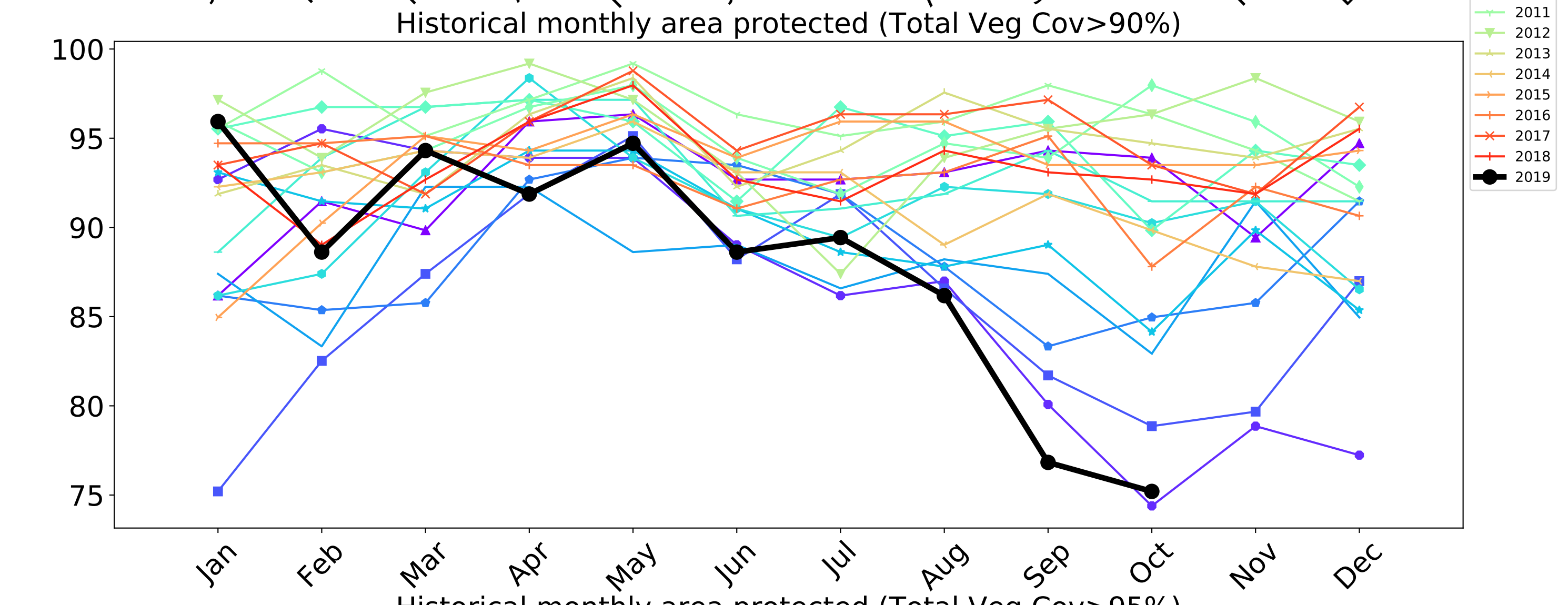
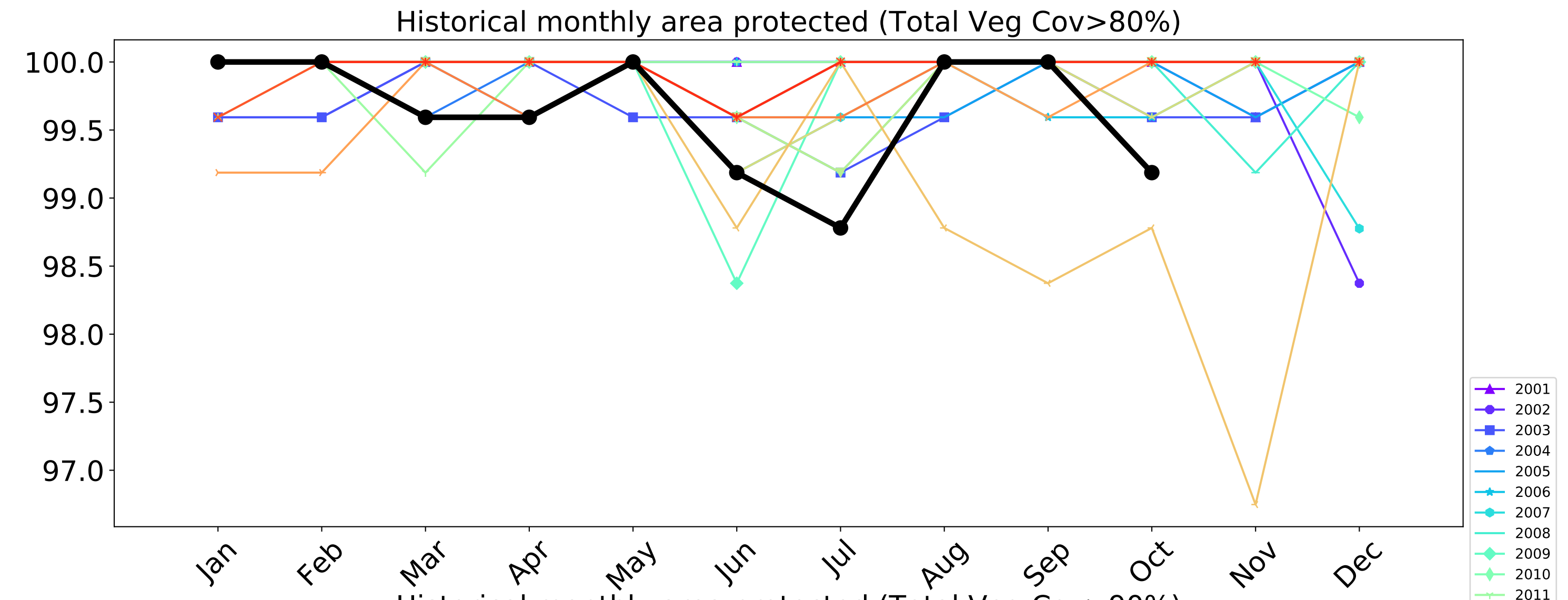
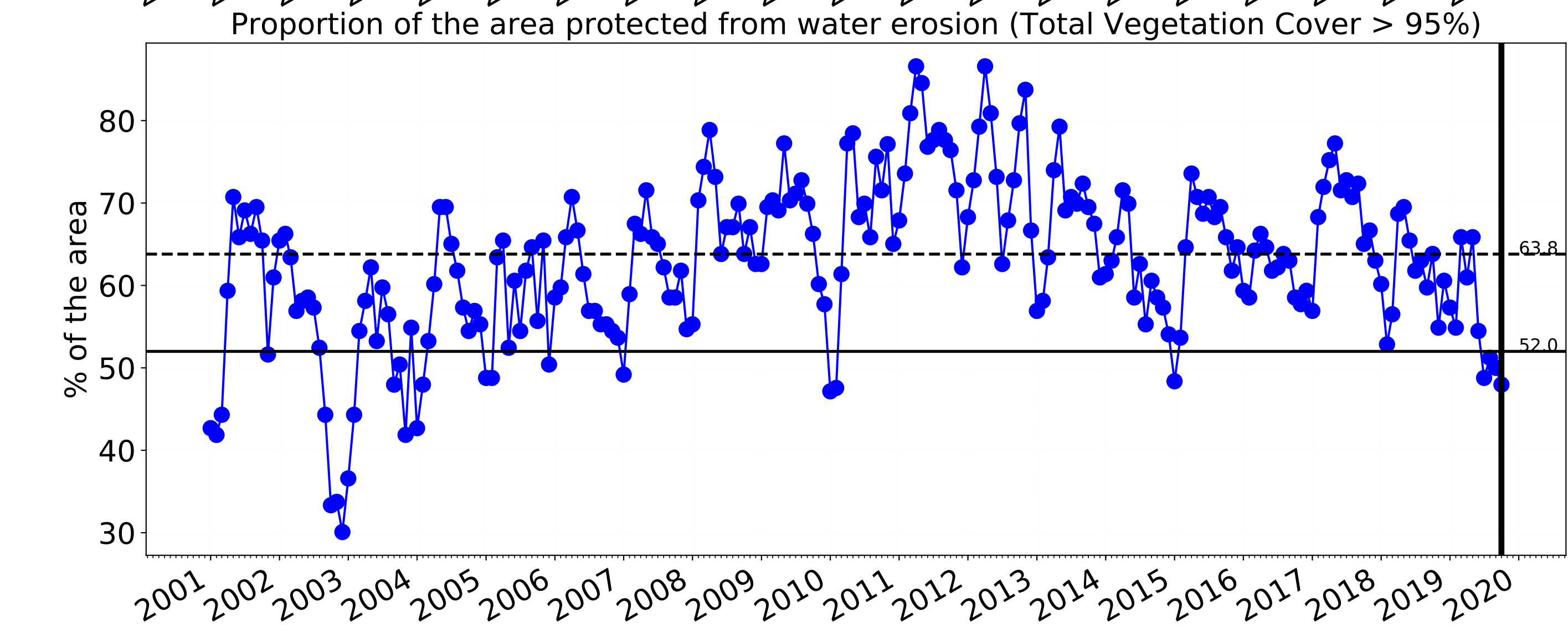
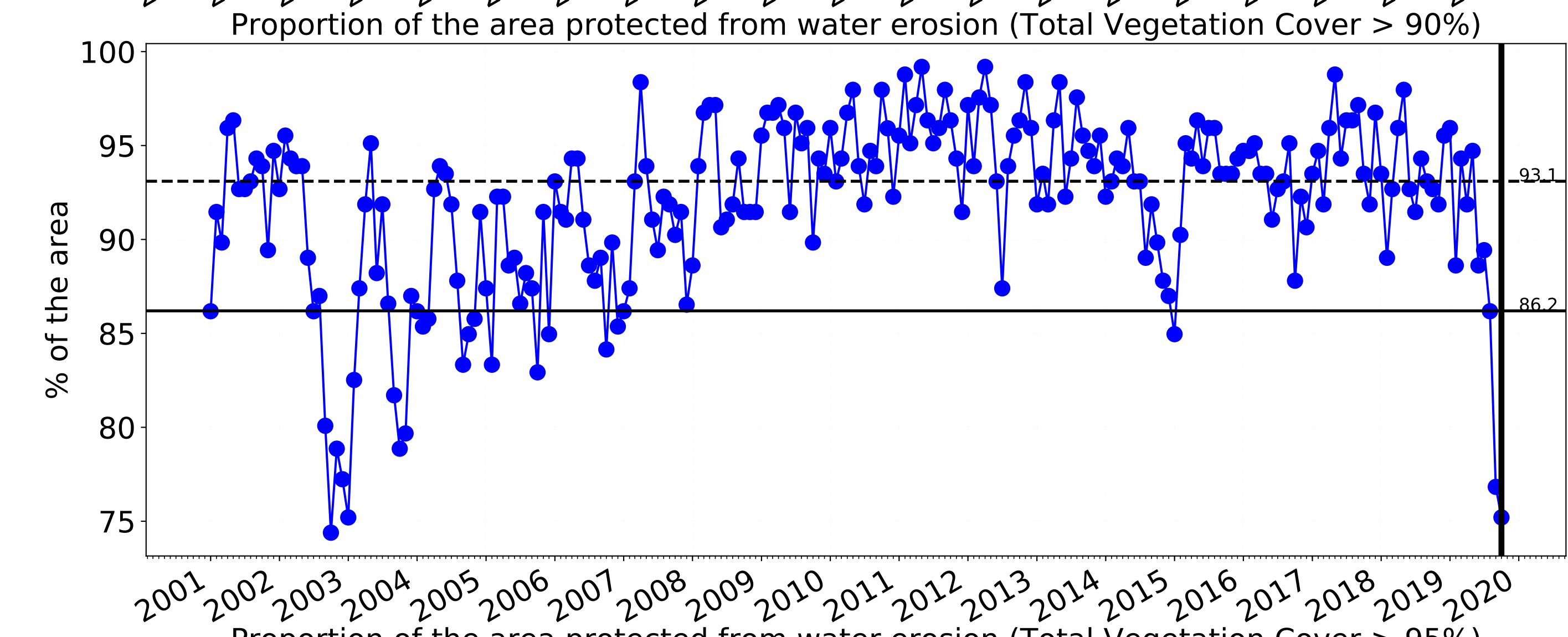
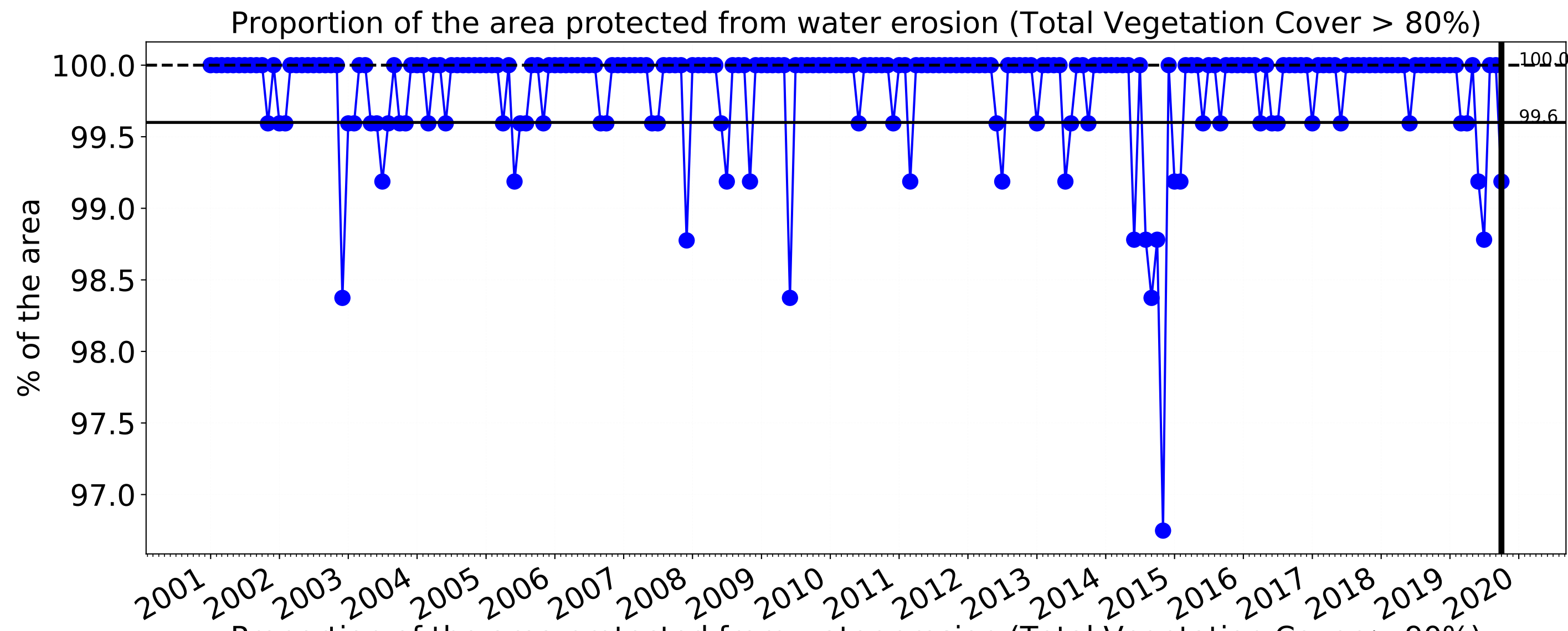


Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



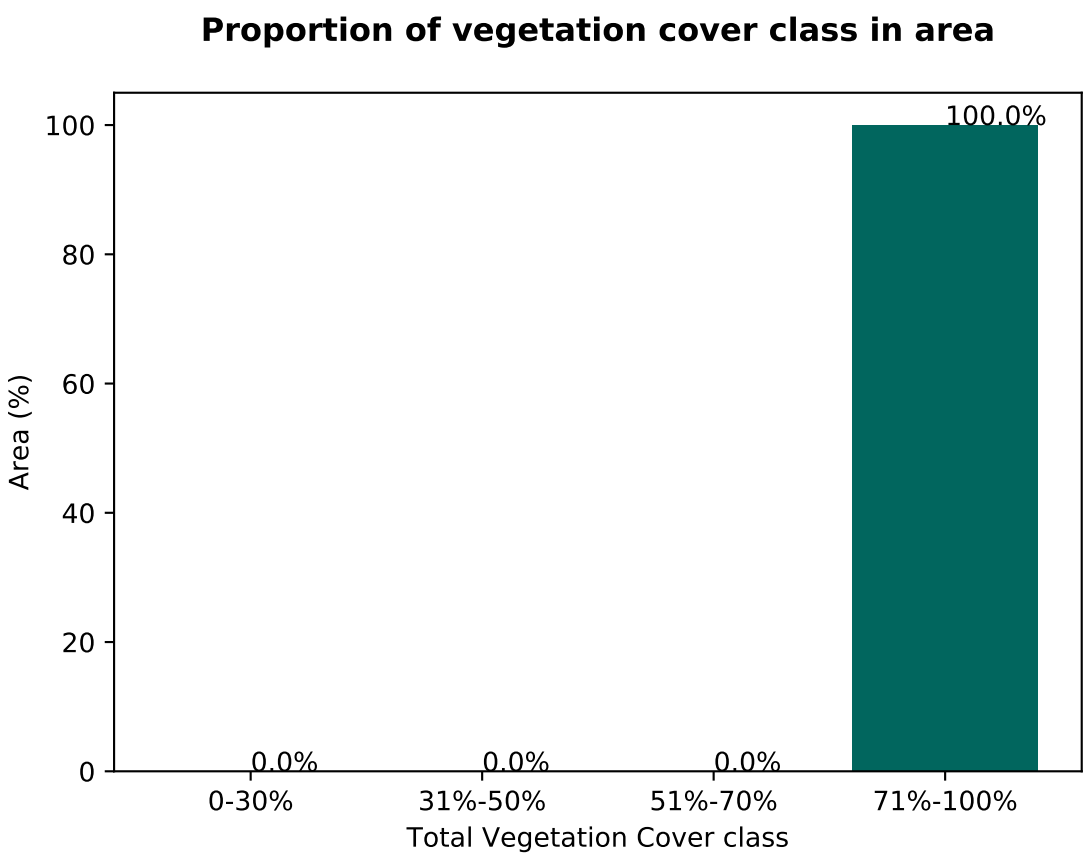
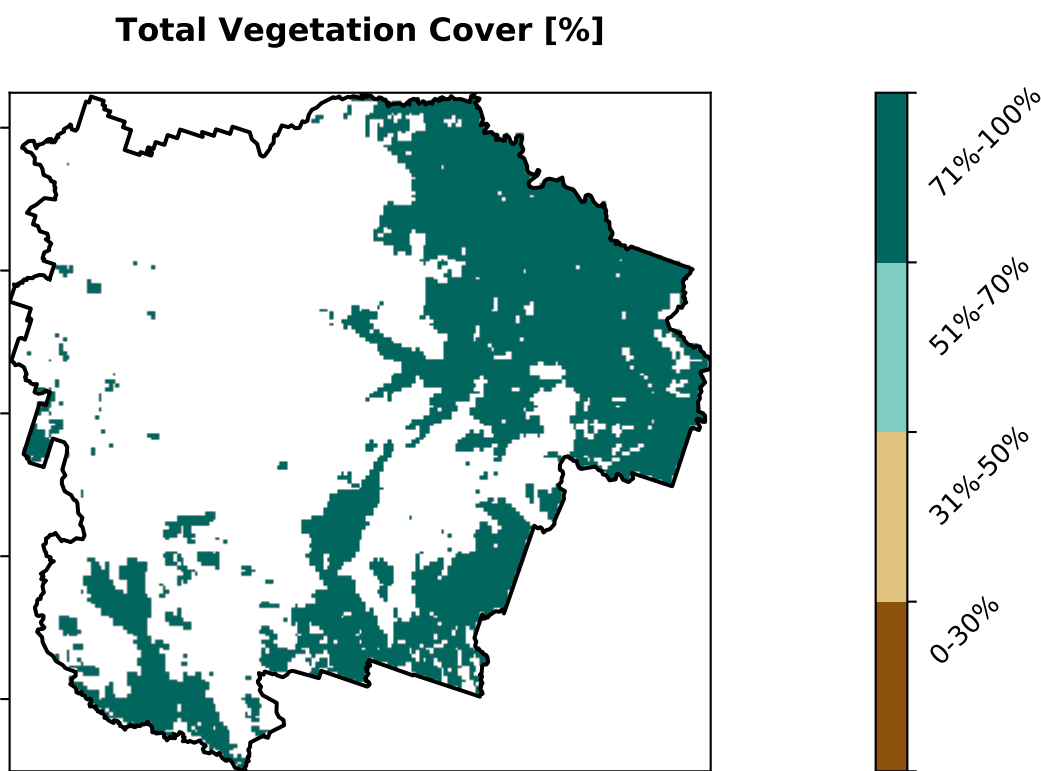
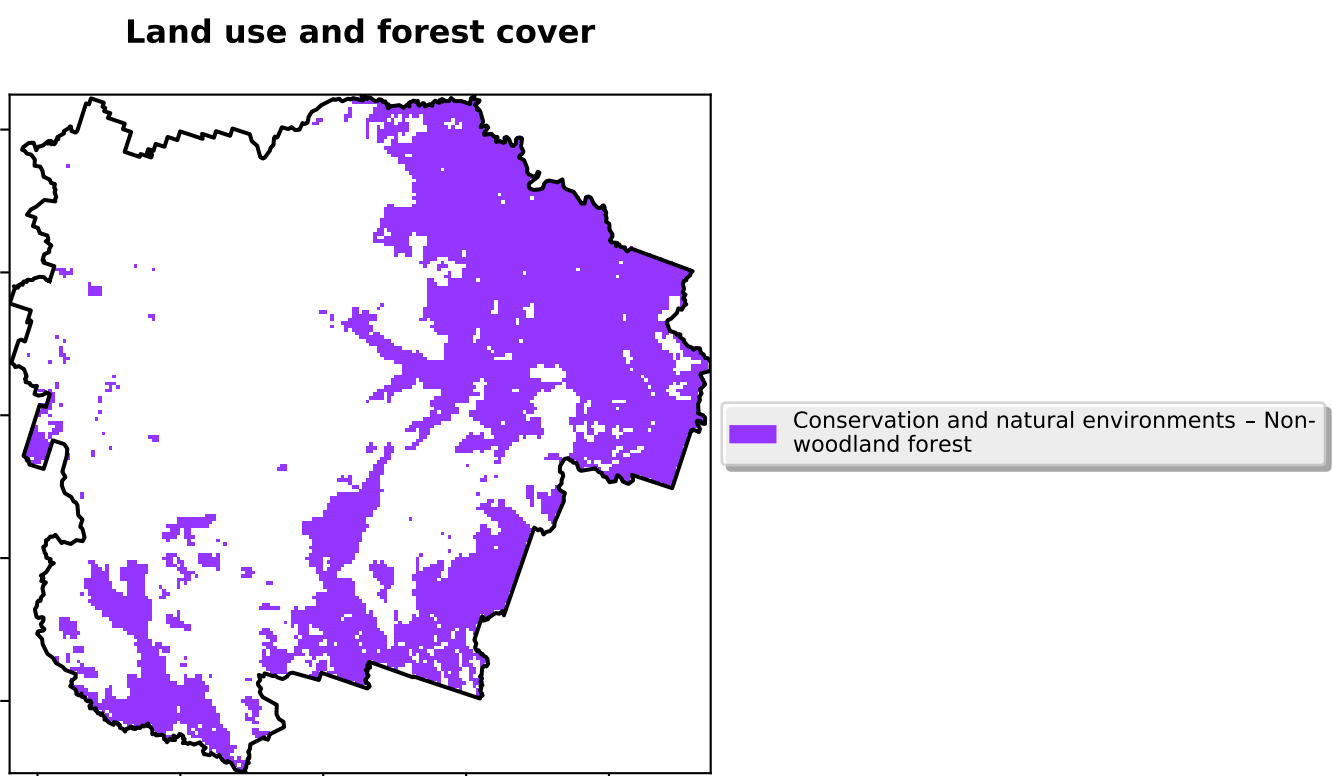
Water erosion historical monthly area protected (Total Veg Cov>70%)



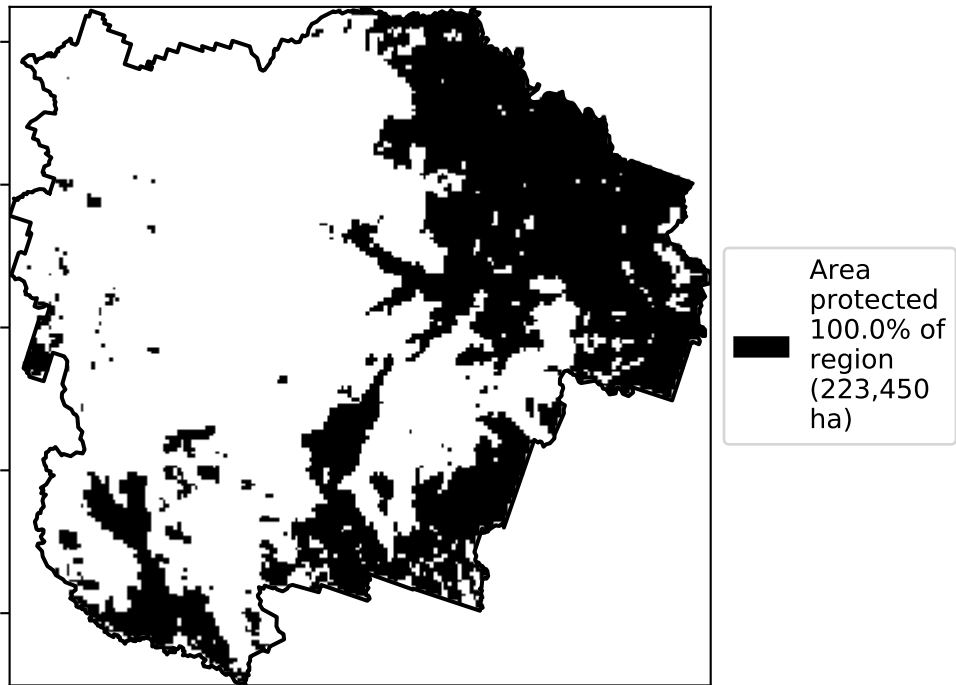


Conservation and natural environments Forest (non woodland)

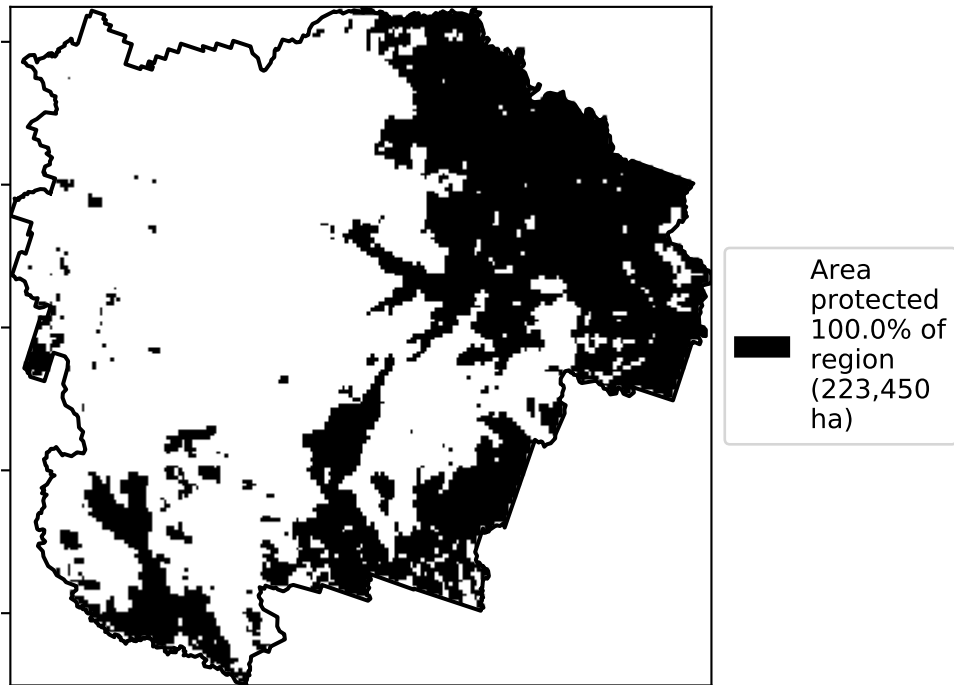
Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
Catchment Scale Land
Use of Australia
(2018) and Forests
of Australia (2018)



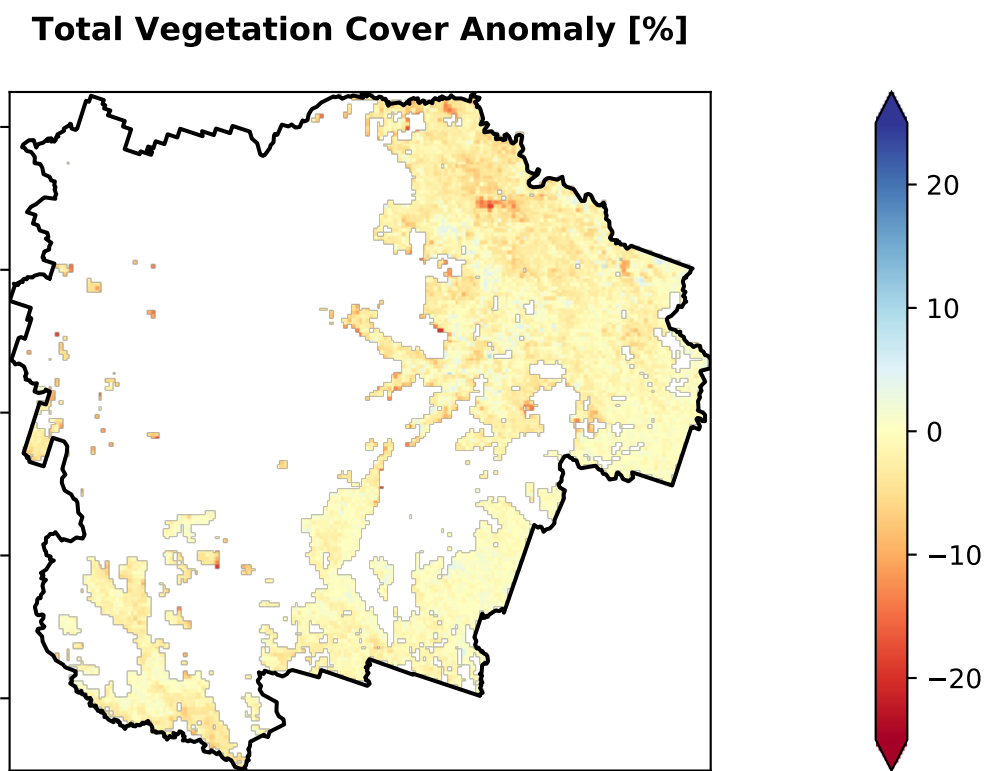
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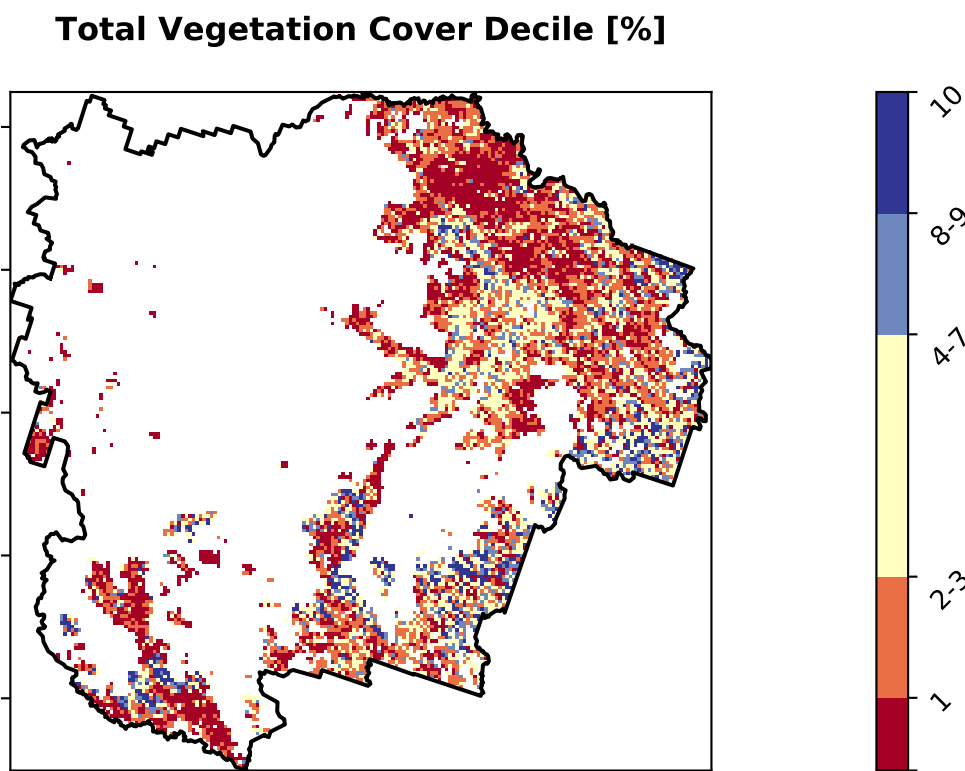
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Anomaly show how
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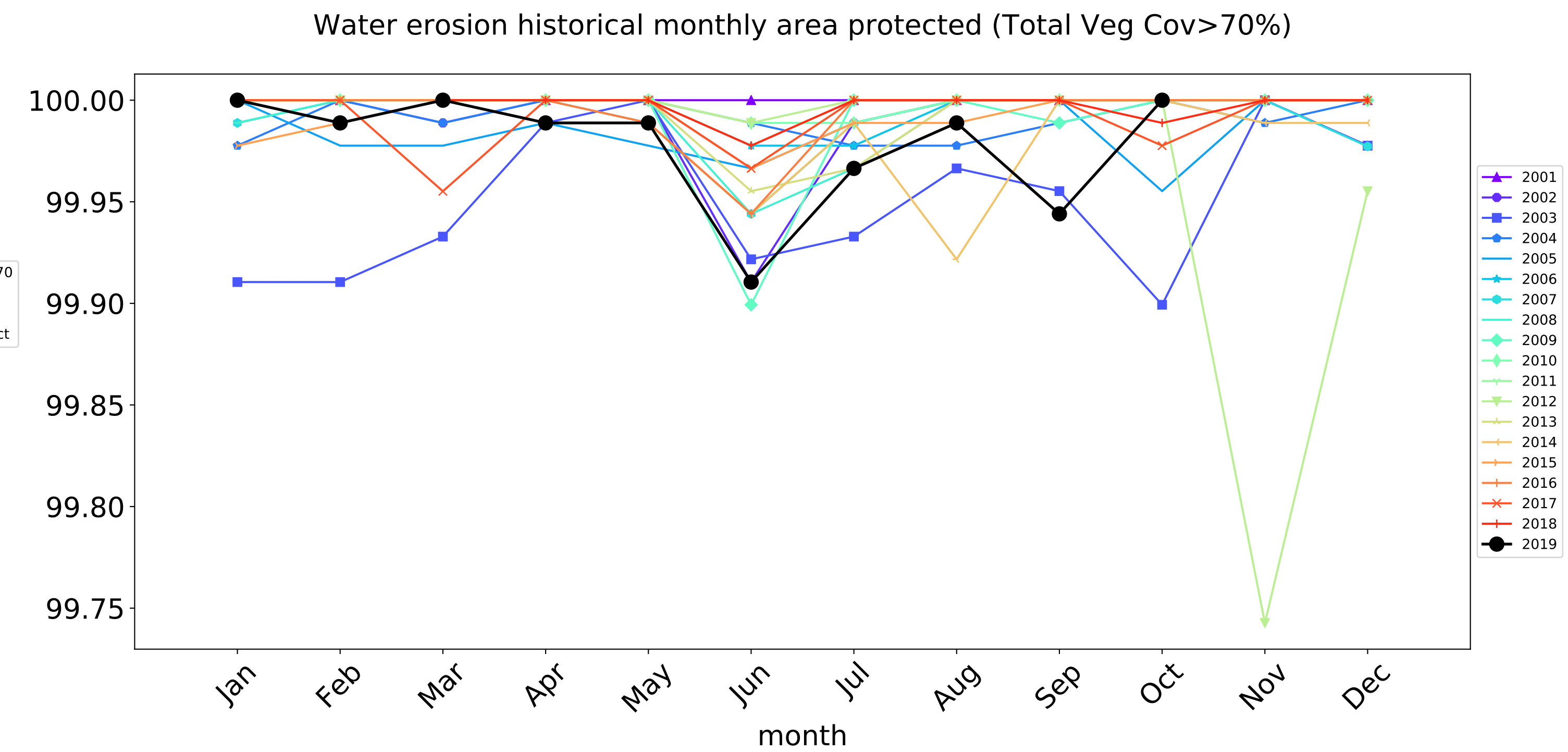
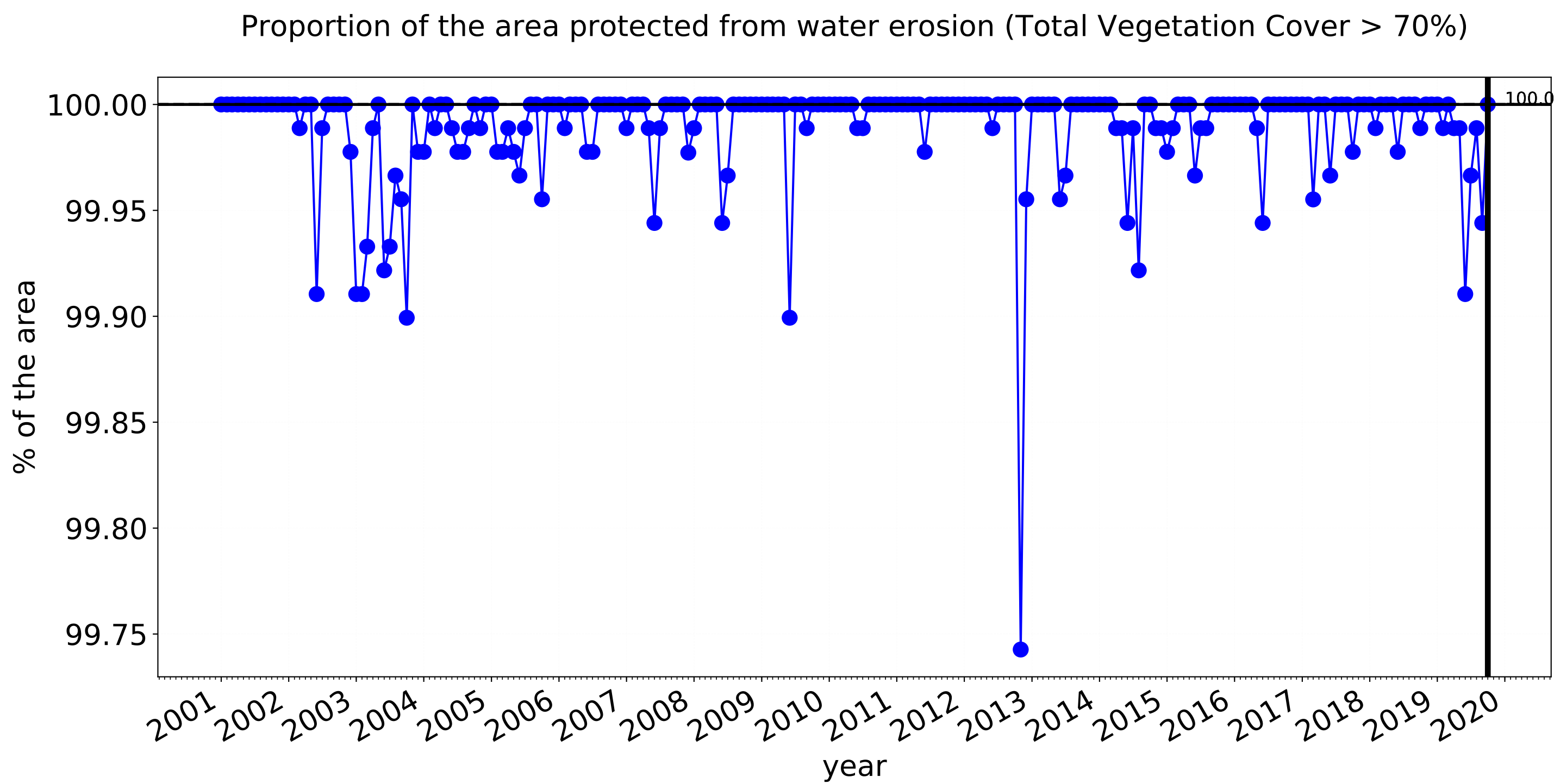
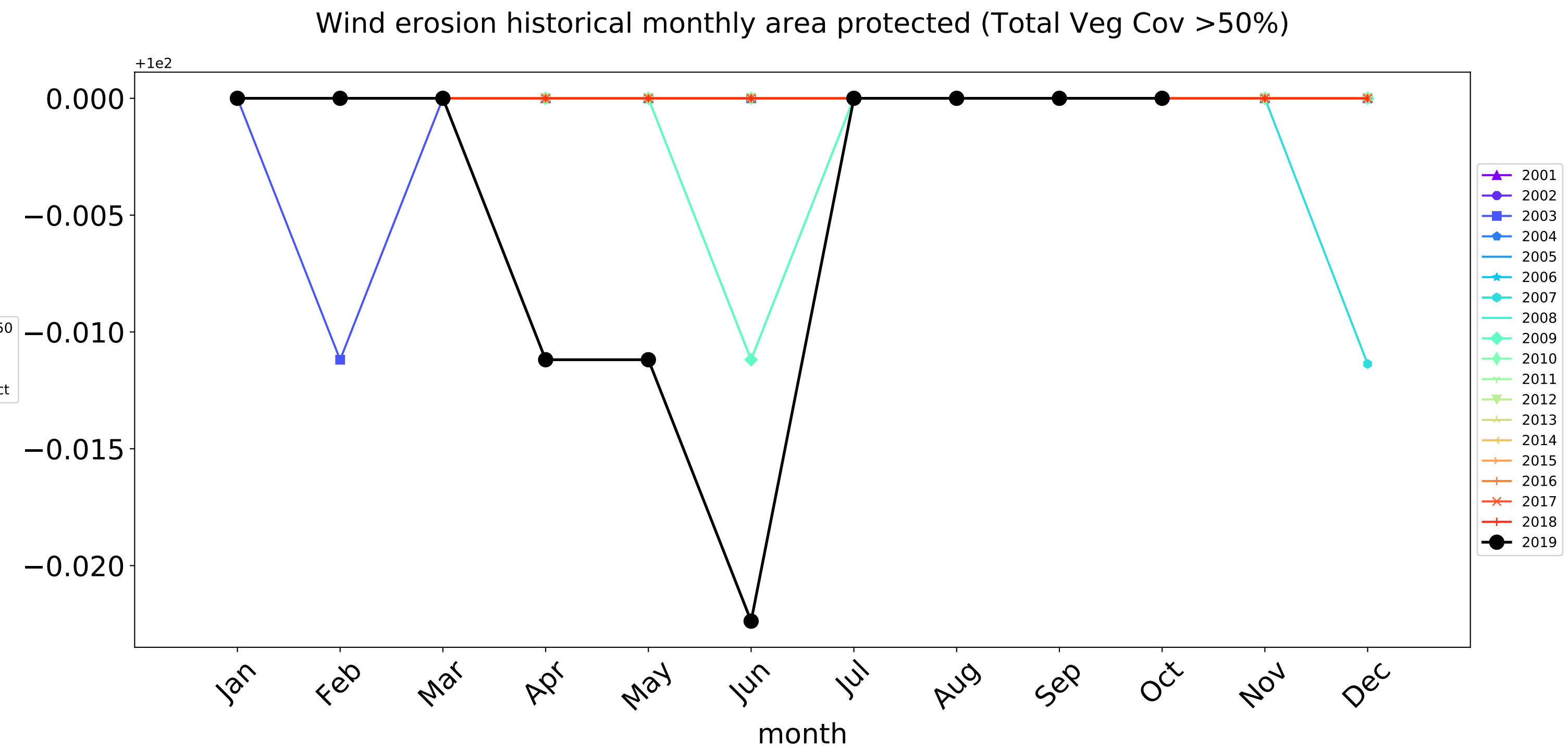
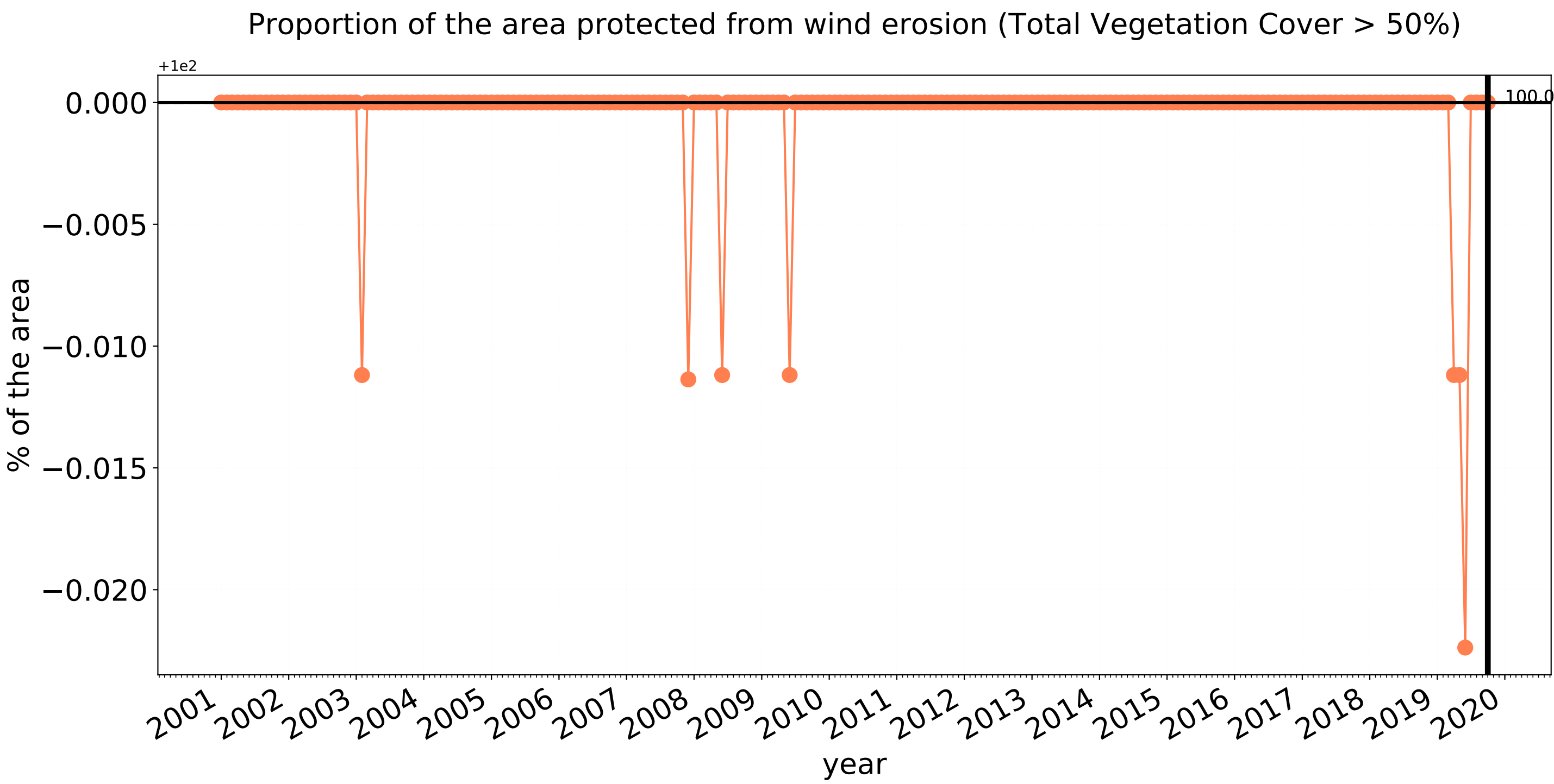
Australian Government

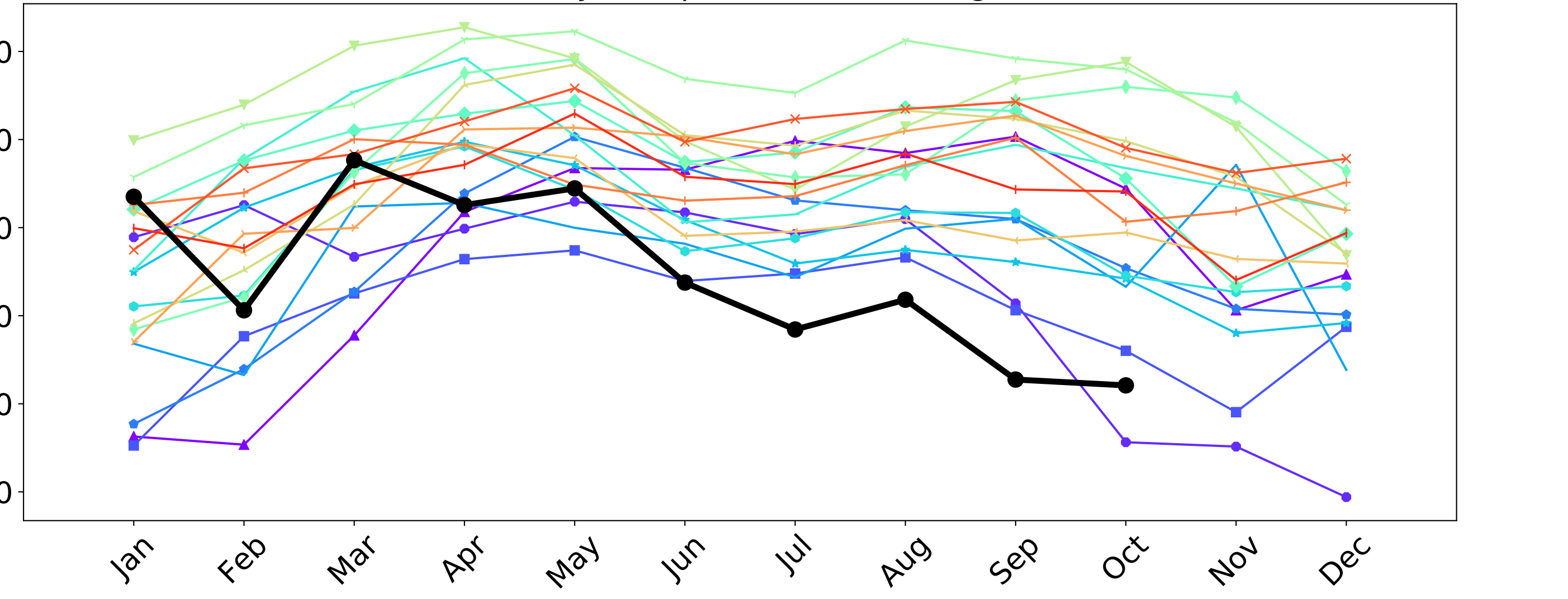
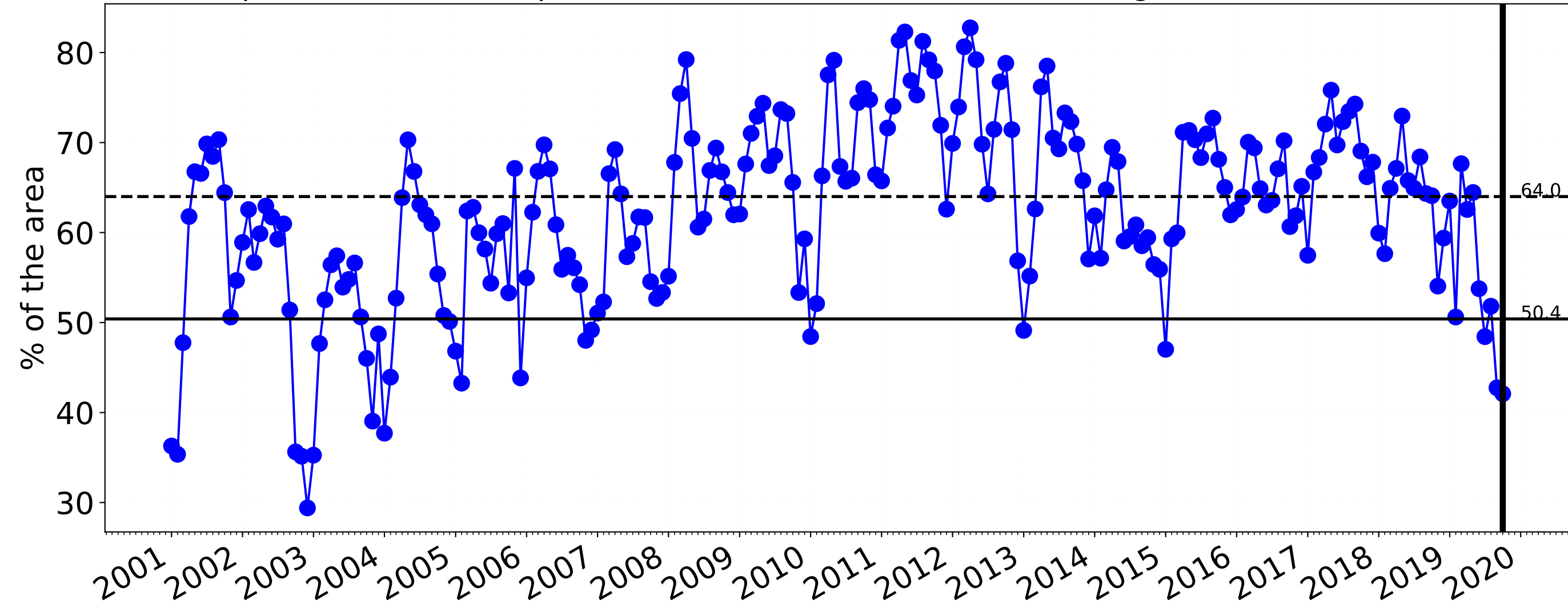
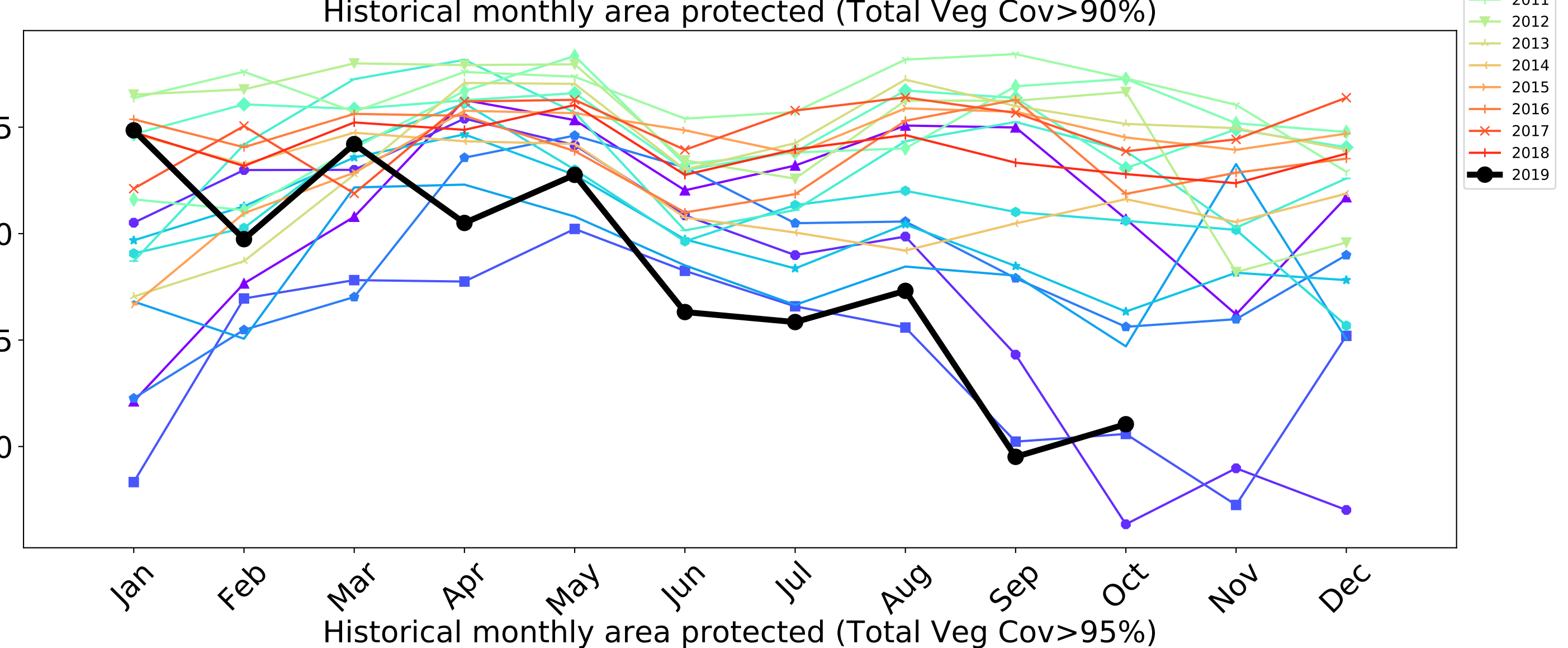
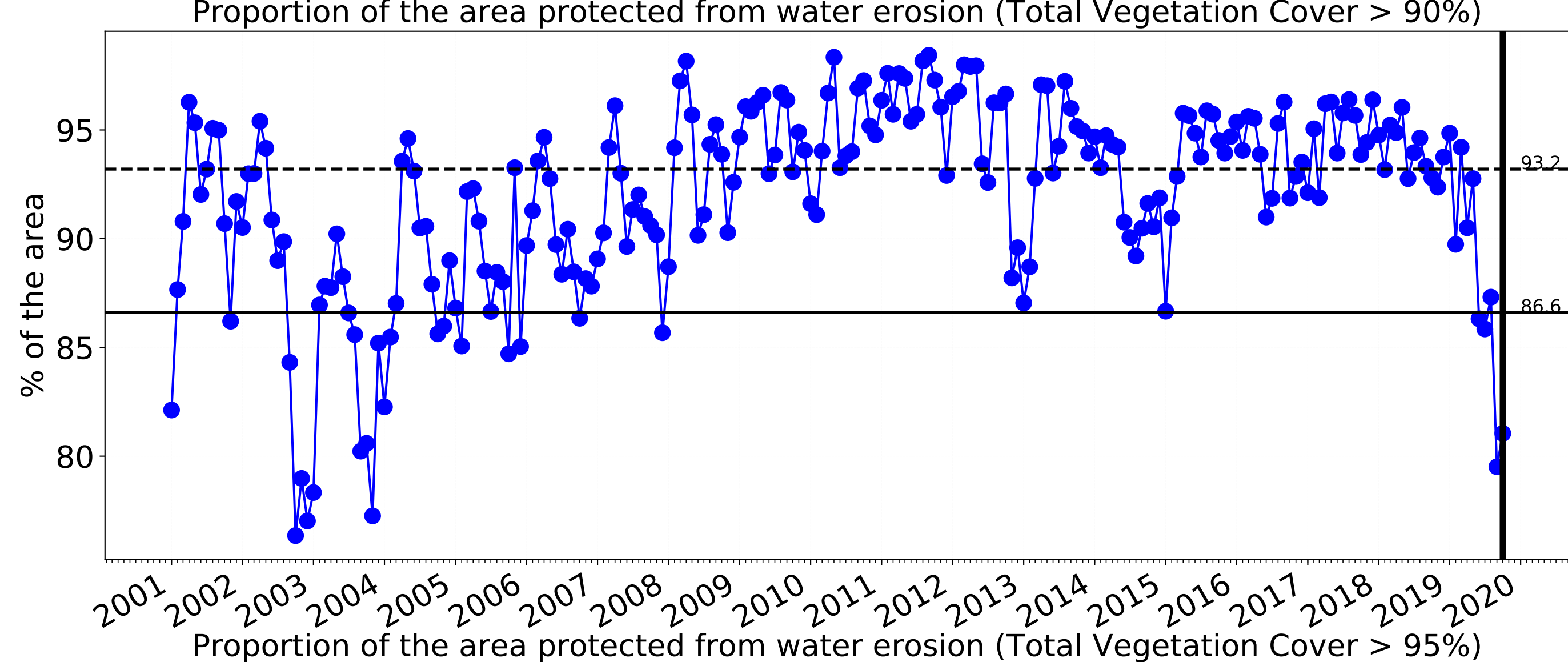
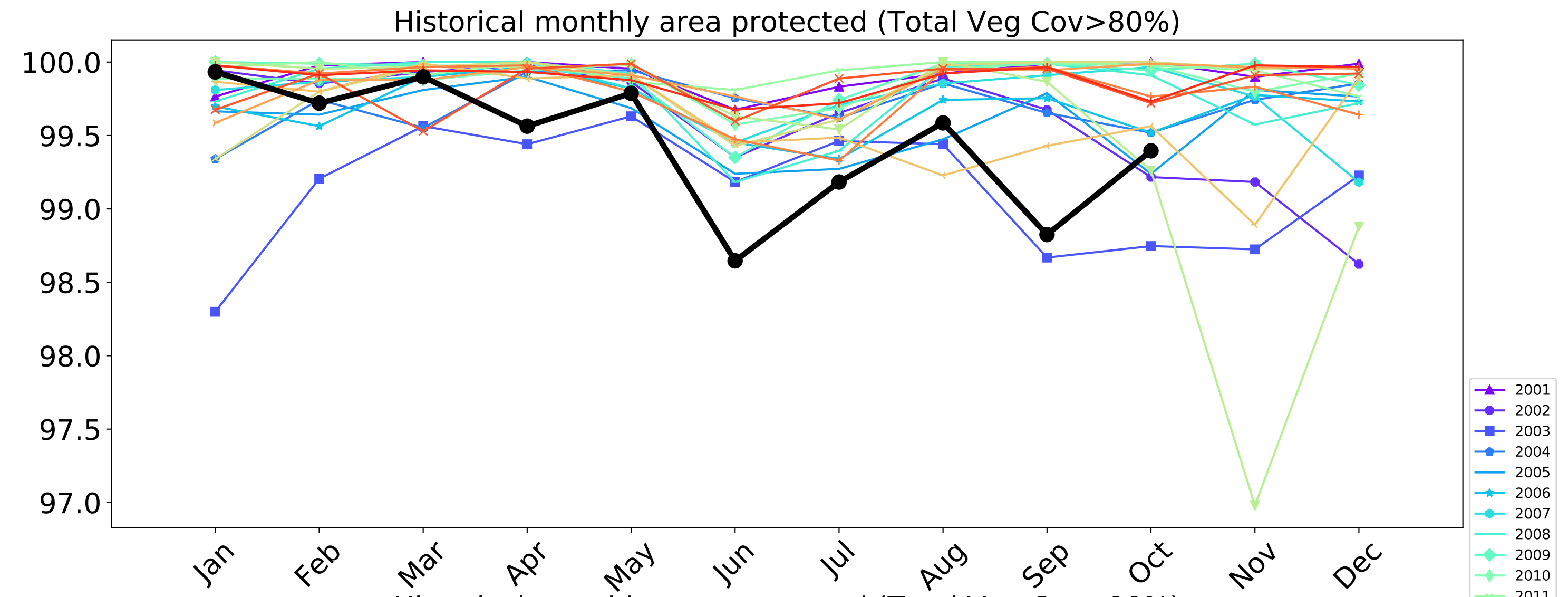
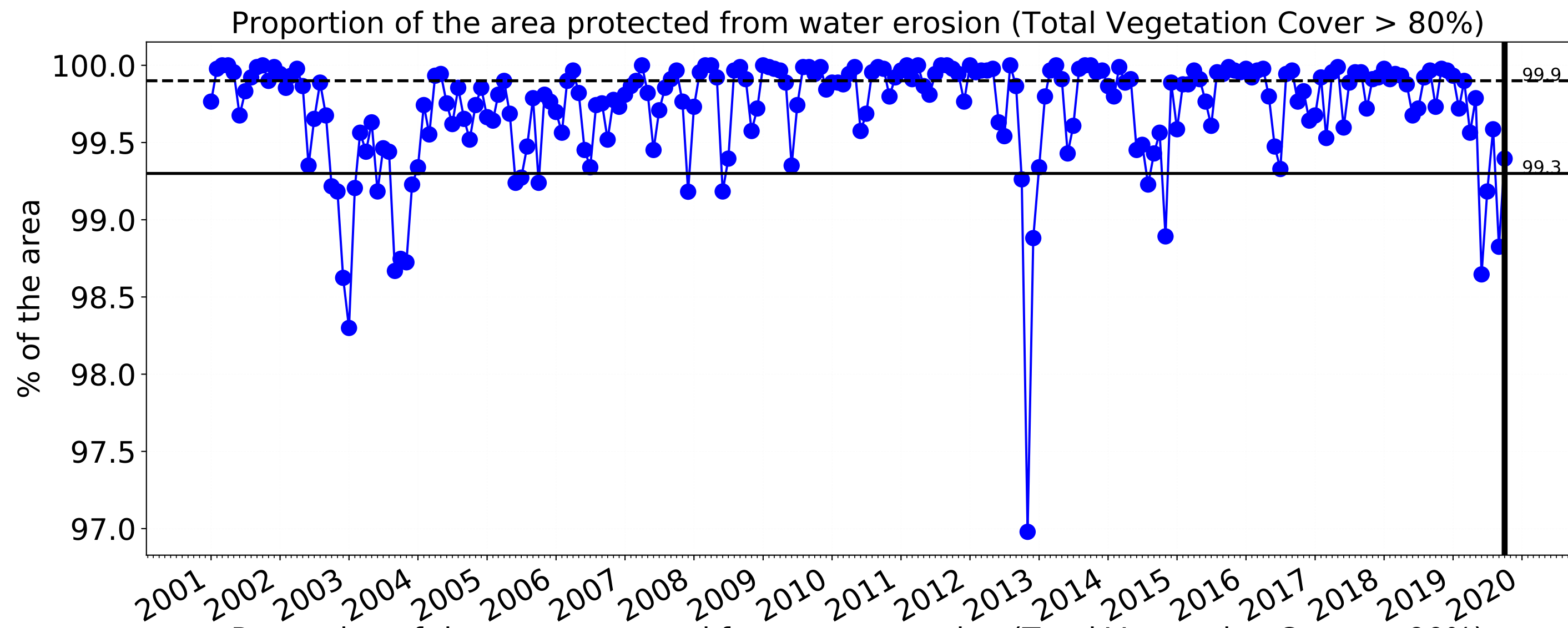
National
Landcare
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Planning,
Industry &
Environment

Conservation and natural environments Forest (non woodland) timeseries

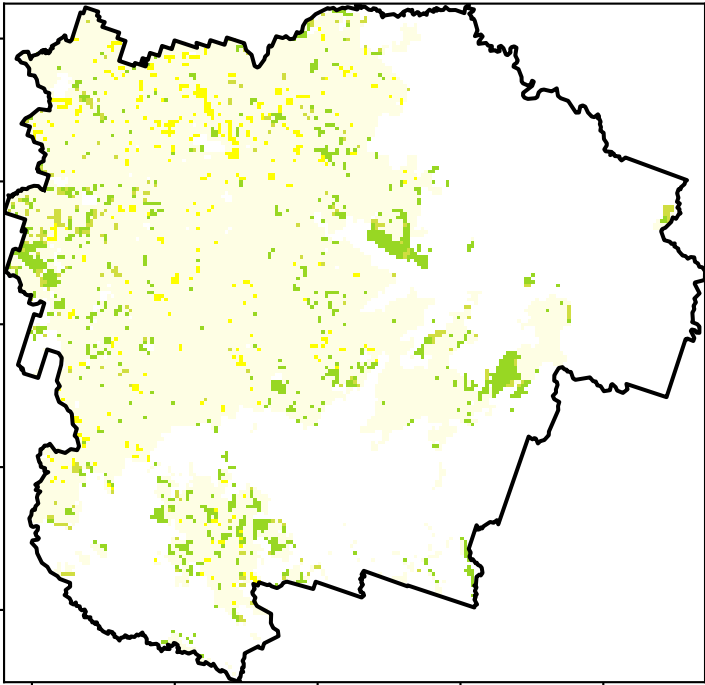




Agriculture

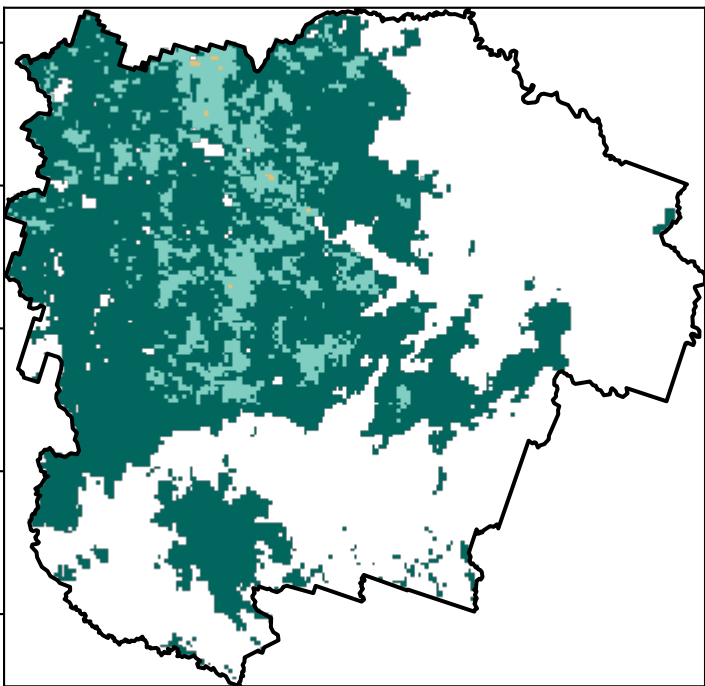
Land use and forest cover

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

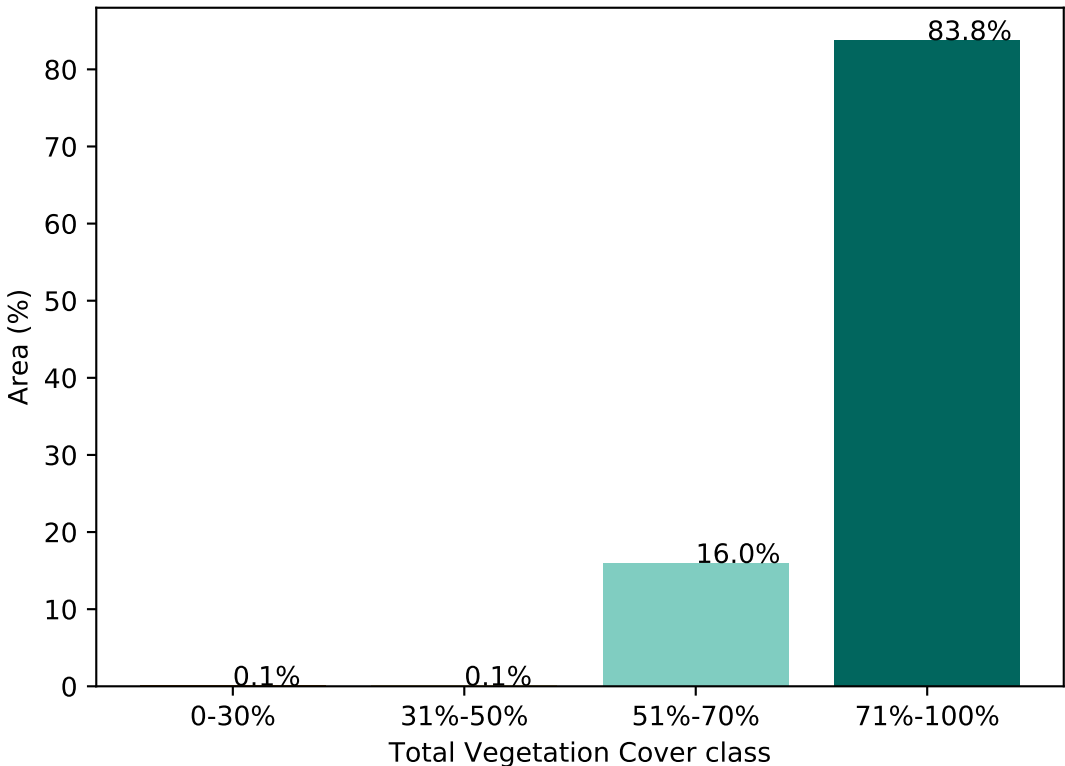


- Agriculture - Grazing - Non forest
- Agriculture - Grazing - Woodland forest
- Agriculture - Grazing - Non-oodland forest
- Agriculture - Cropping - Non-irrigated

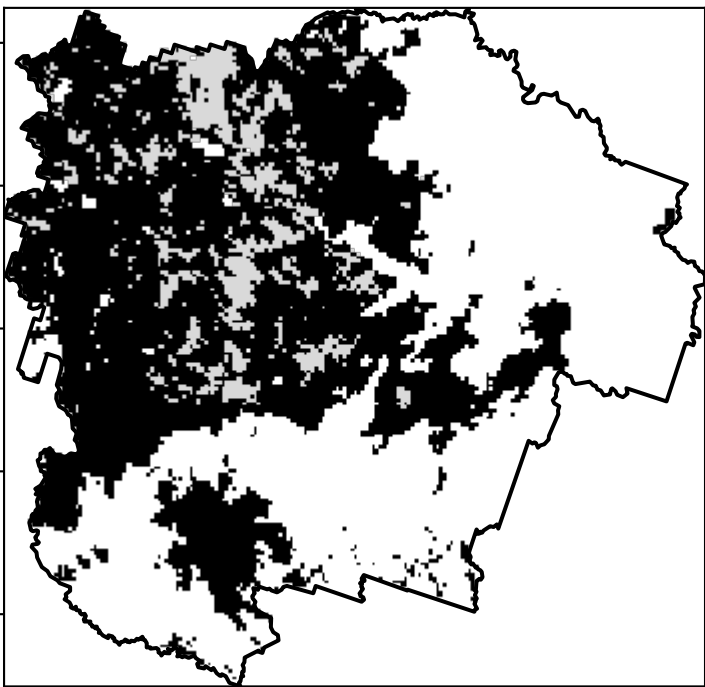
Total Vegetation Cover [%]



Proportion of vegetation cover class in area

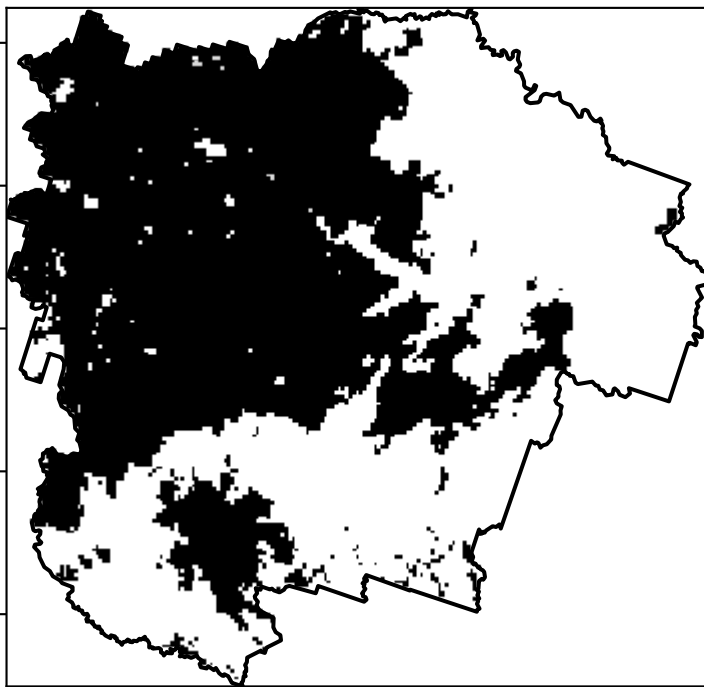


% Area protected from water erosion (>70%)



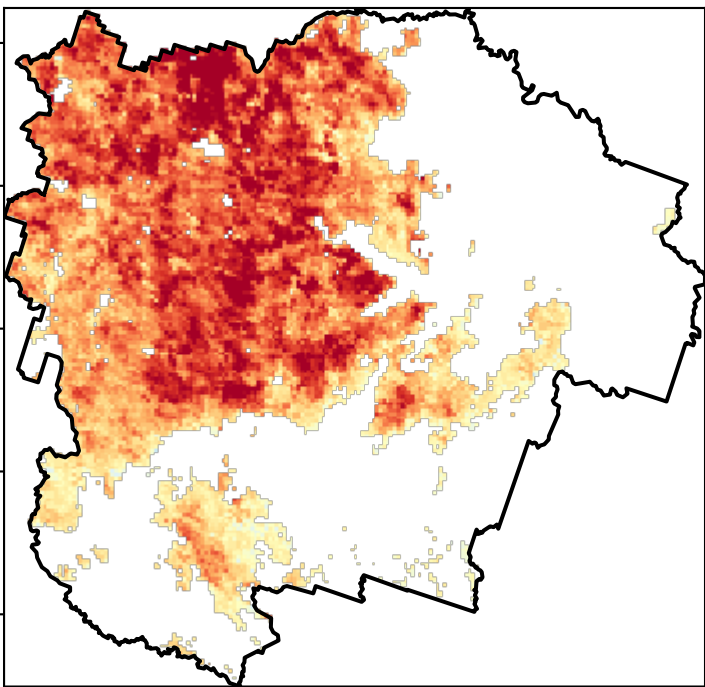
- Area not protected 16.2% of region (53,536 ha)
- Area protected 83.8% of region (276,938 ha)

% Area protected from wind erosion (>50%)



- Area not protected 0.0% of region (0 ha)
- Area protected 100.0% of region (330,475 ha)

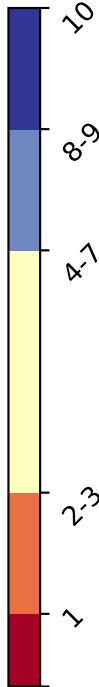
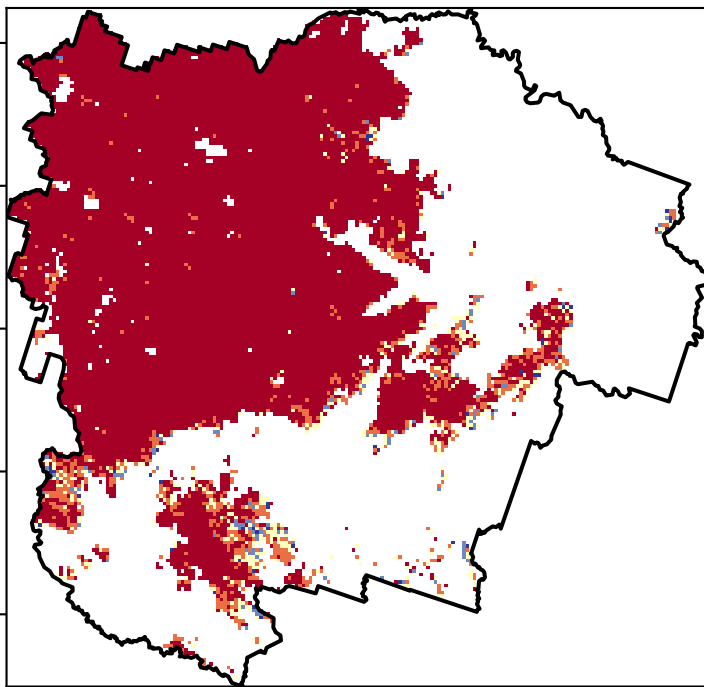
Total Vegetation Cover Anomaly [%]



Anomaly show how many percentage points each pixel is from the mean. That is, red pixels are about 20% lower than the mean of that pixel. The mean is only for the month of the map using baseline from 2001 to 2019.

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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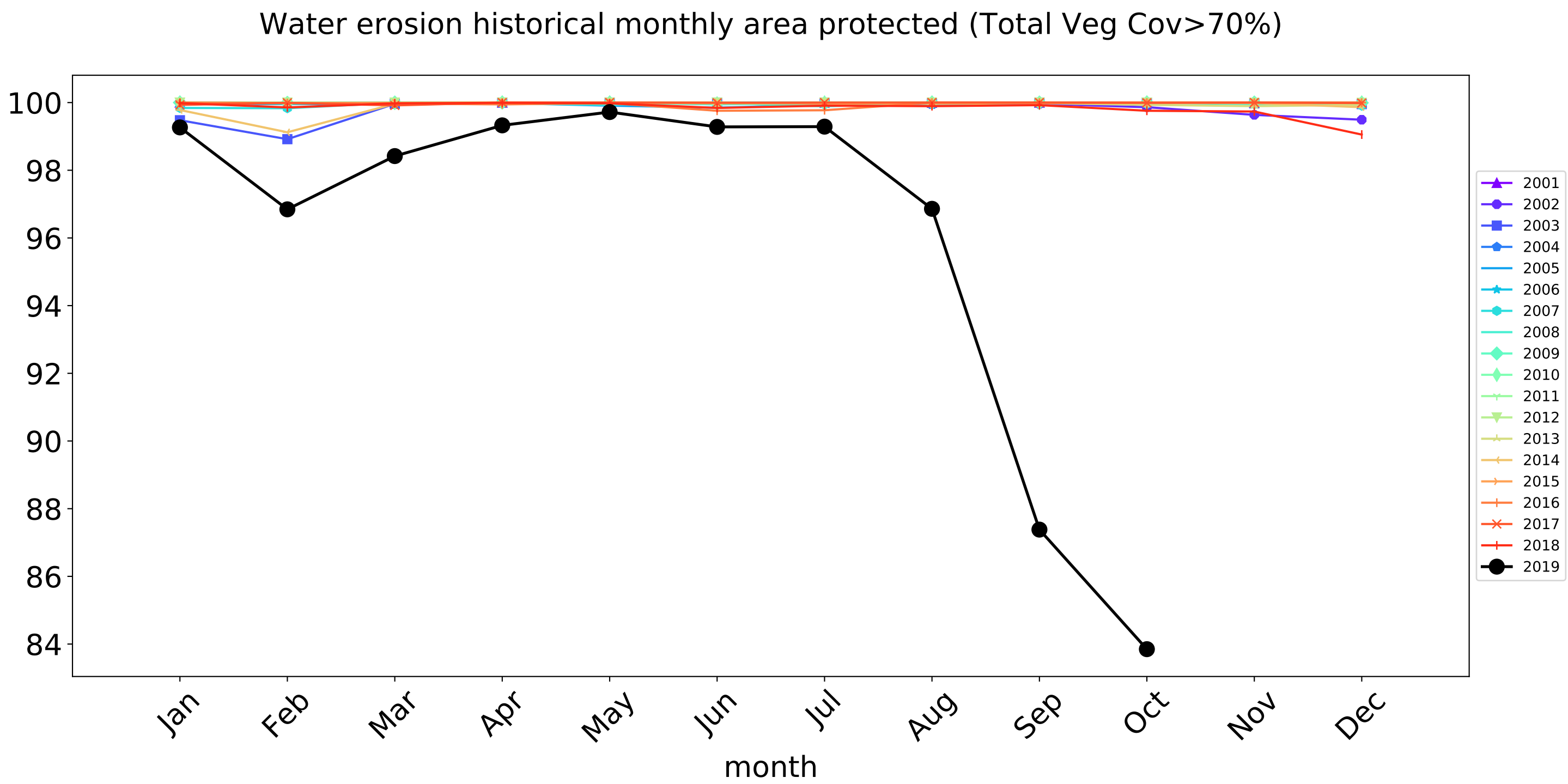
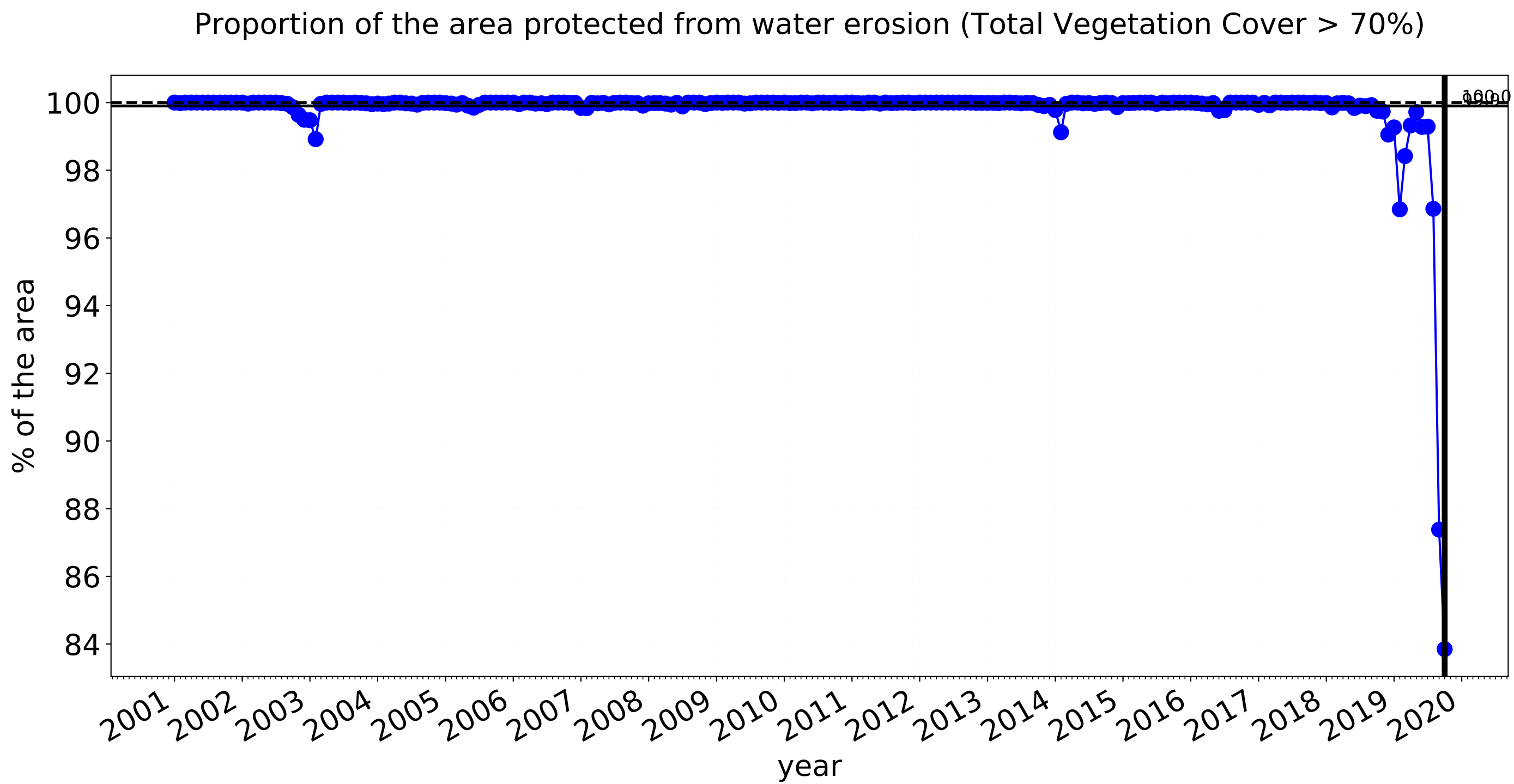
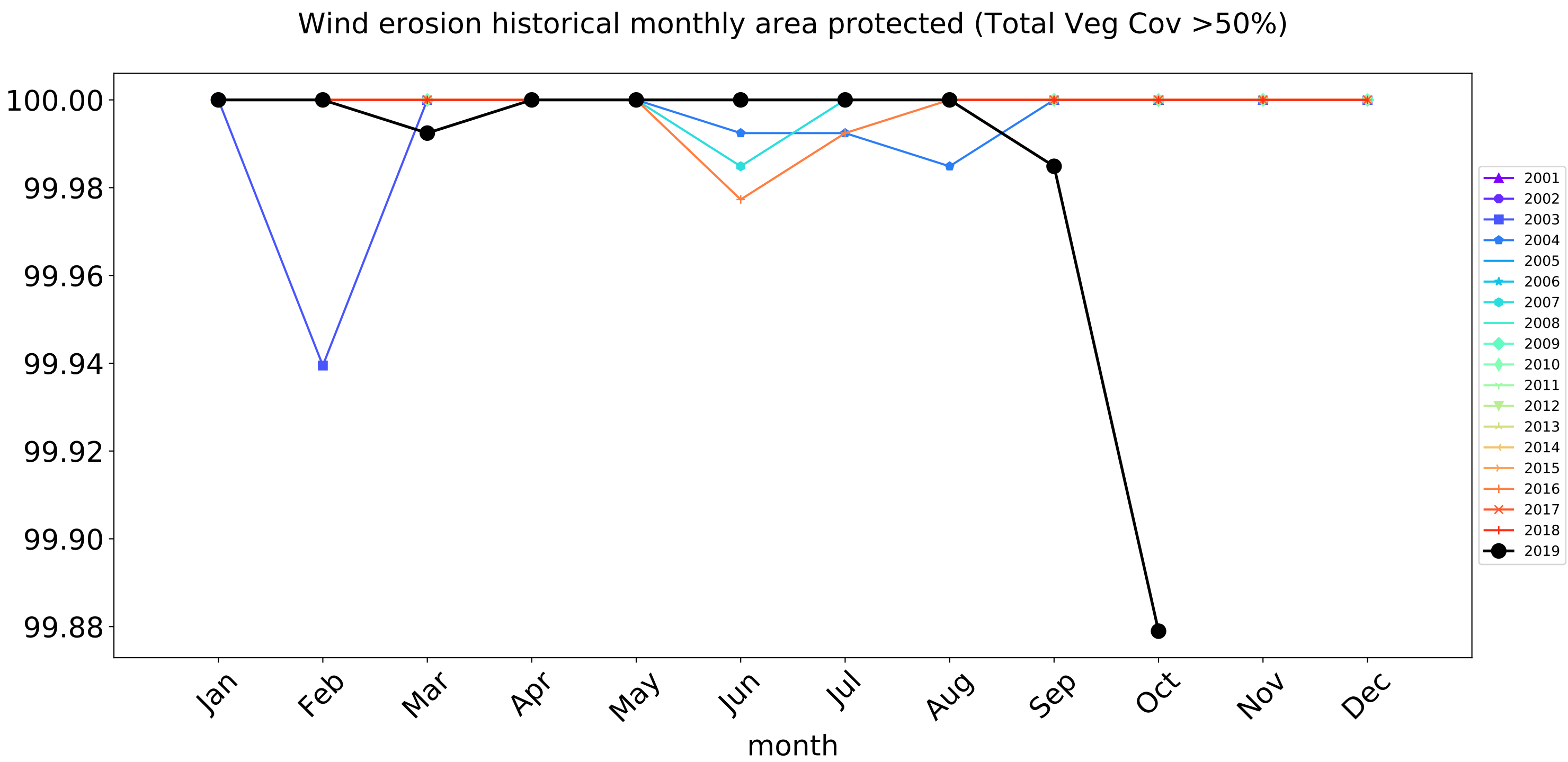
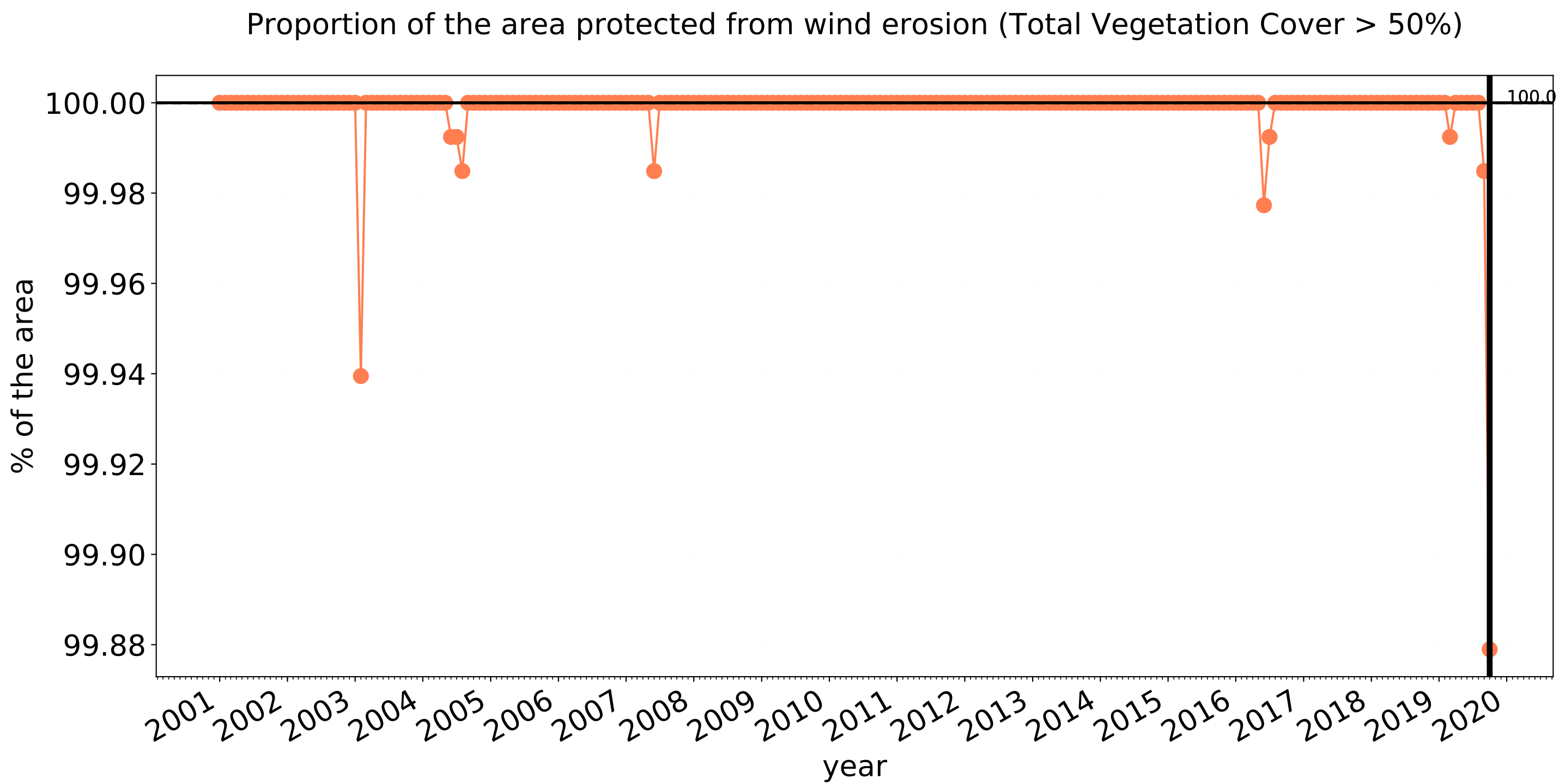


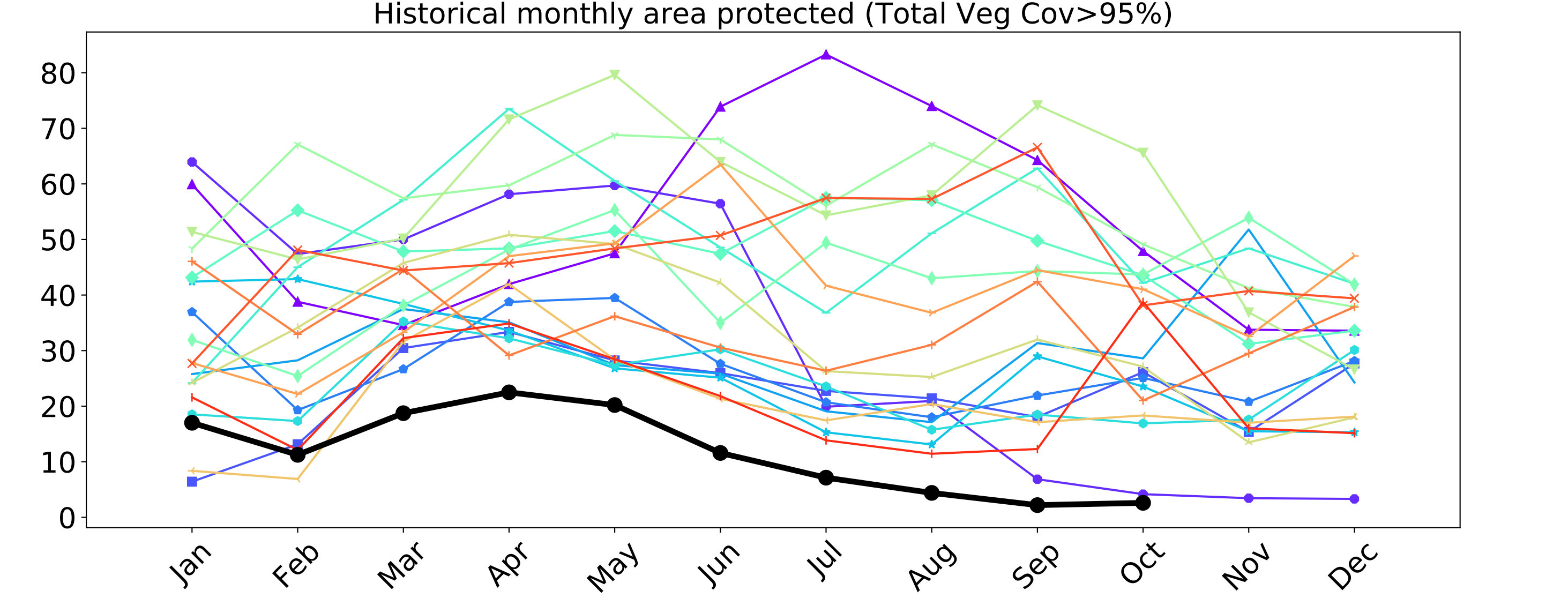
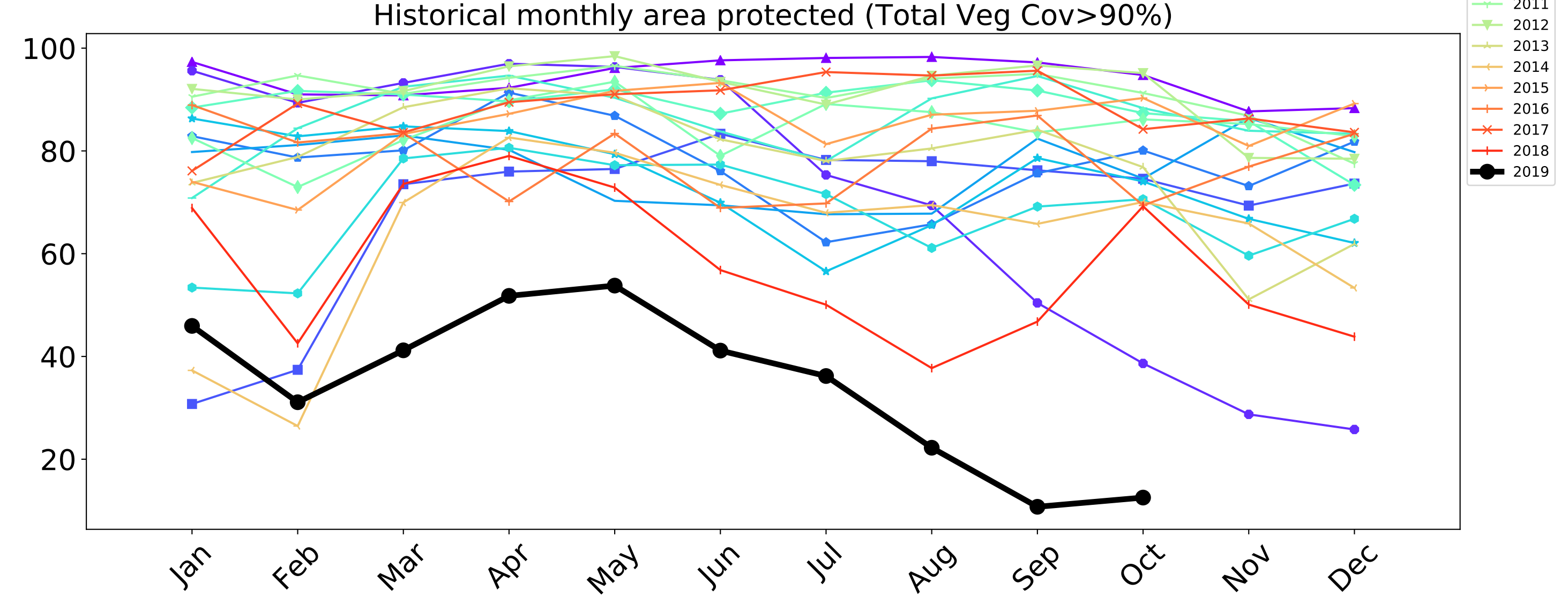
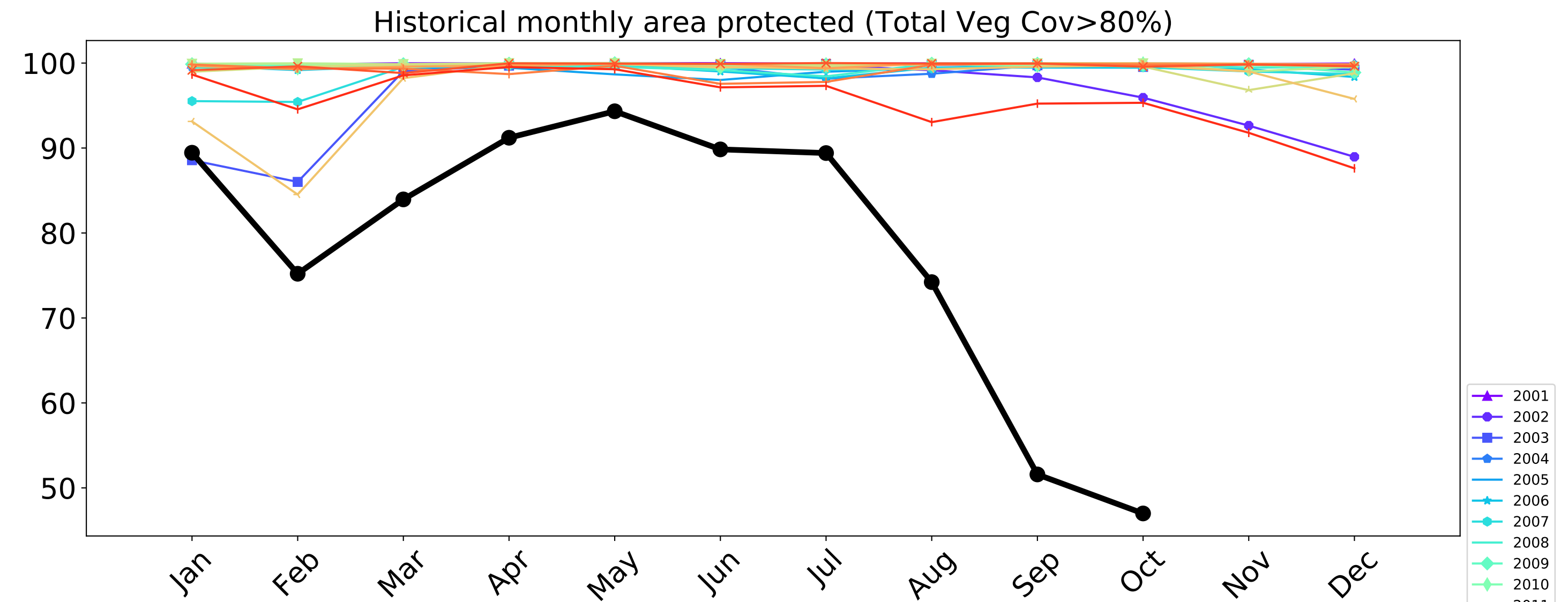
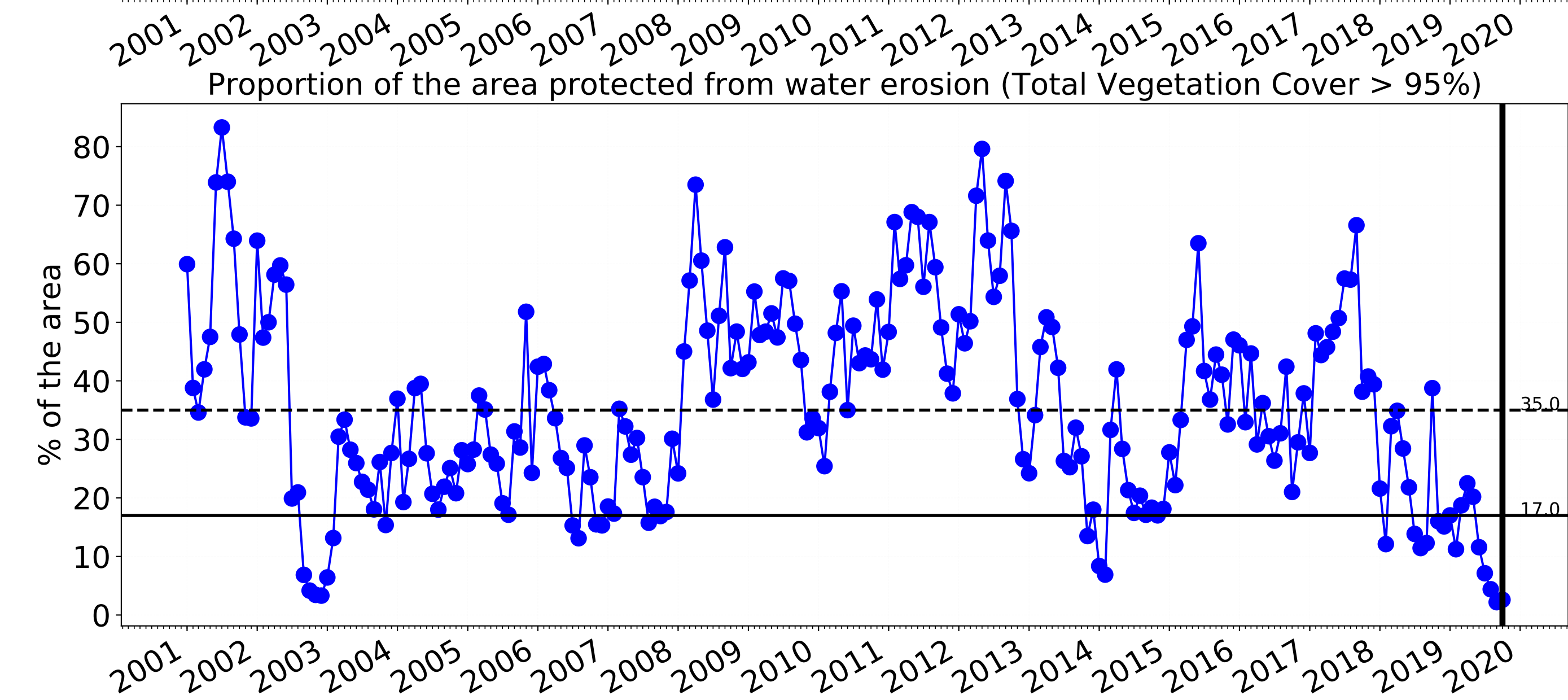
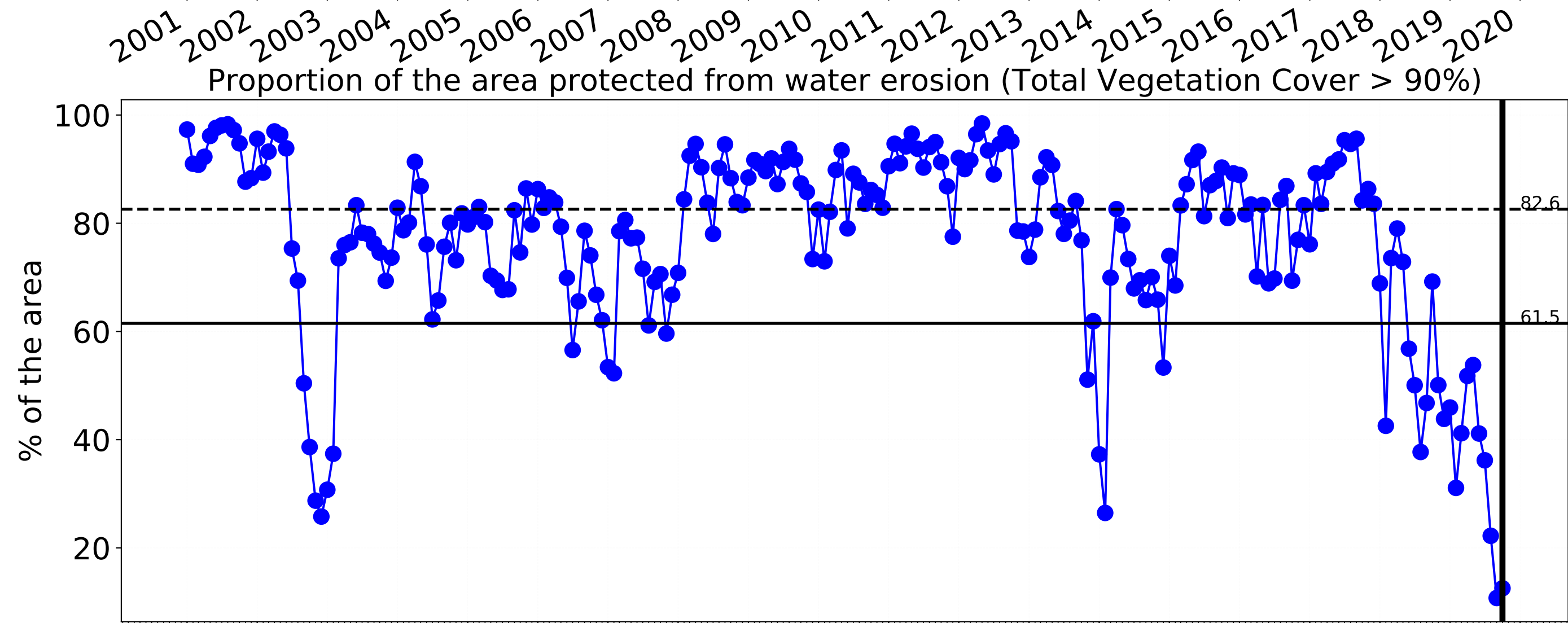
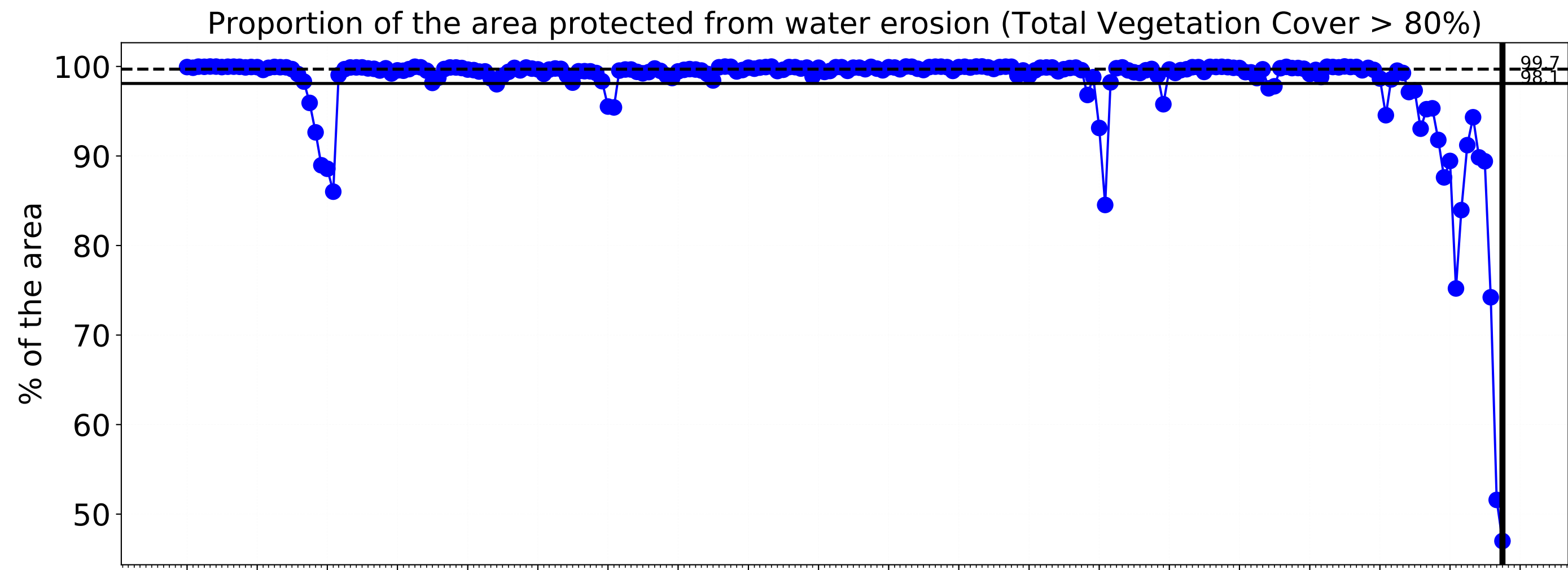
National Landcare Programme



Planning, Industry & Environment

Agriculture timeseries

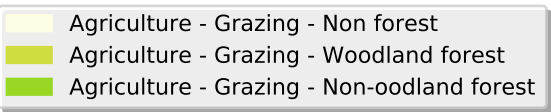
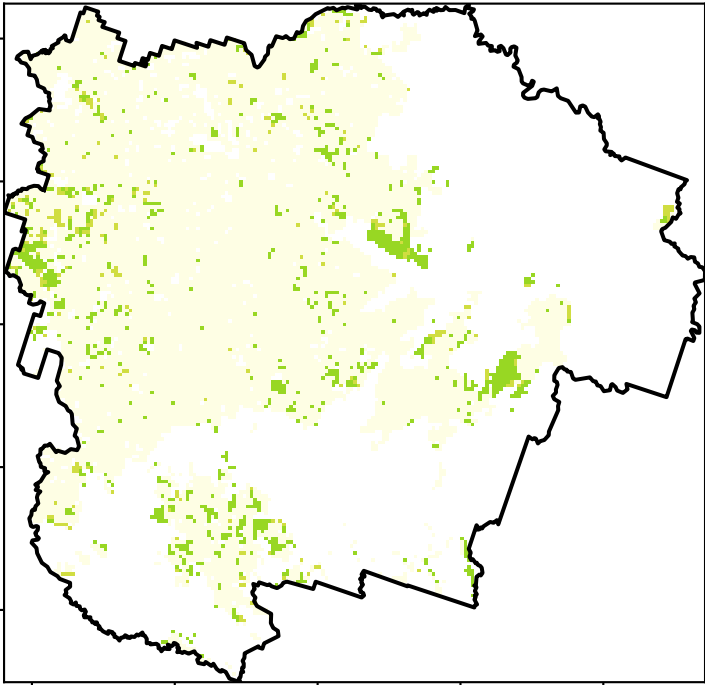




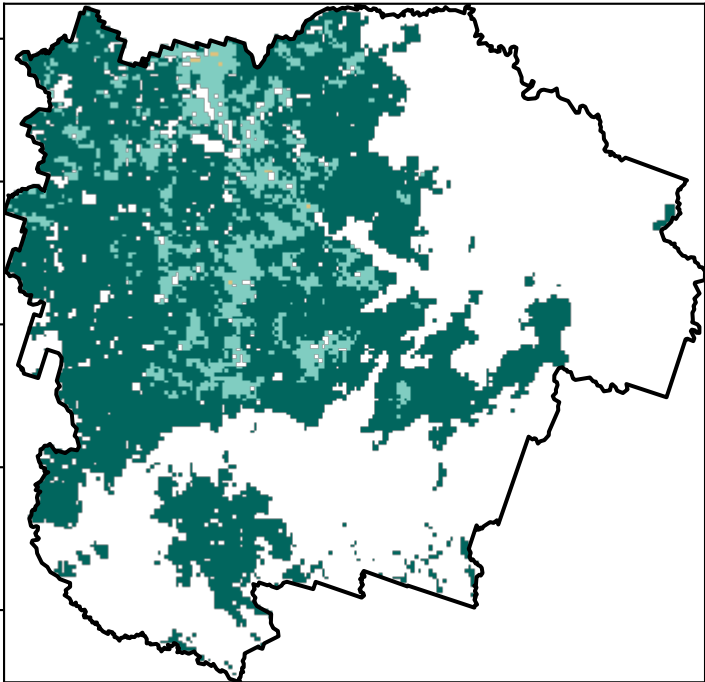
Grazing

Land use and forest cover

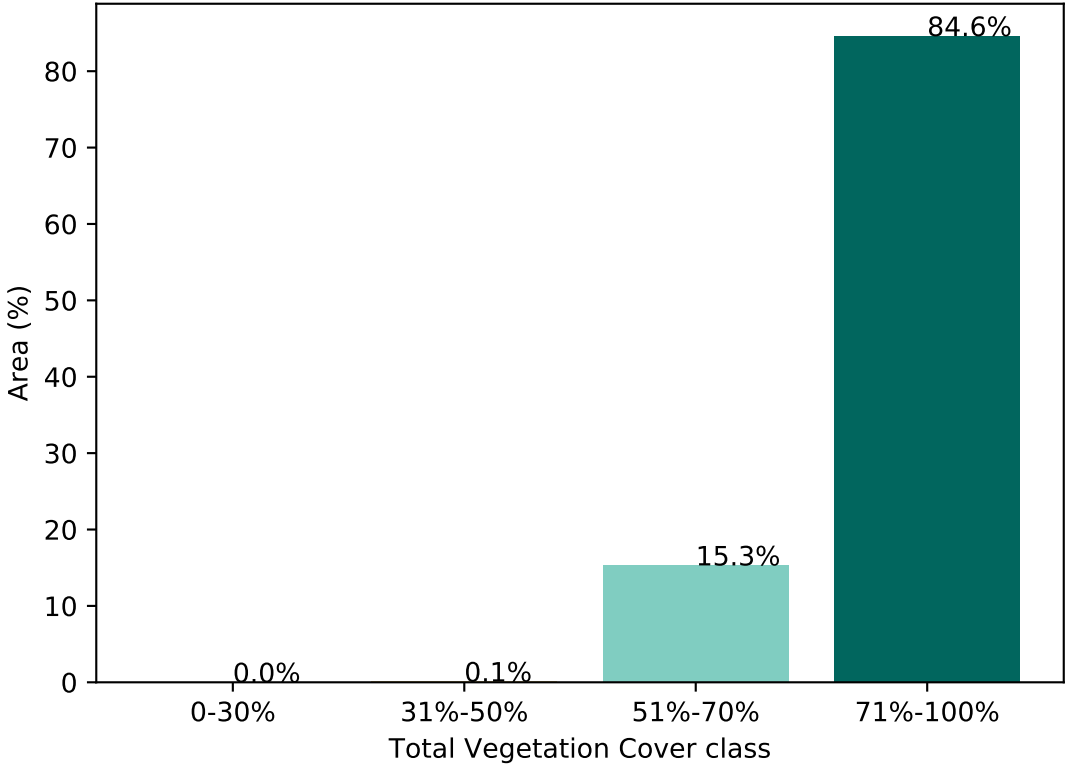
Catchment Scale Land Use and Forests of Australia (2018)
Derived from Catchment Scale Land Use of Australia (2018) and Forests of Australia (2018)



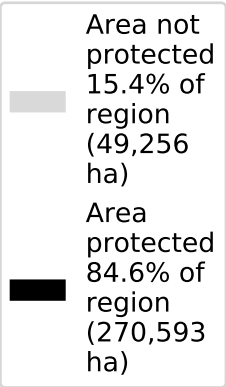
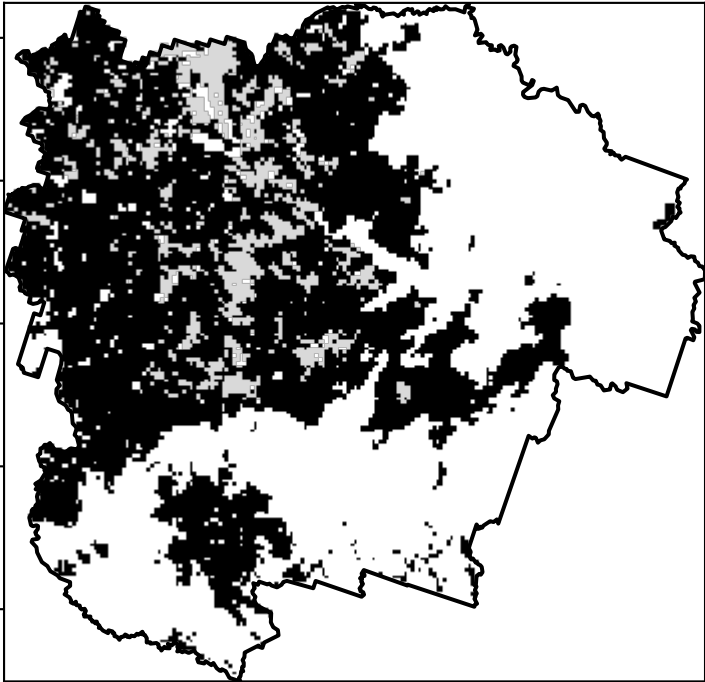
Total Vegetation Cover [%]



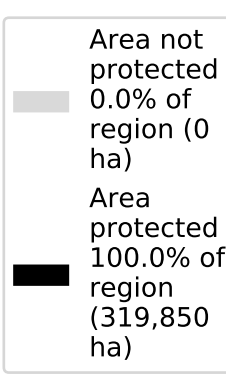
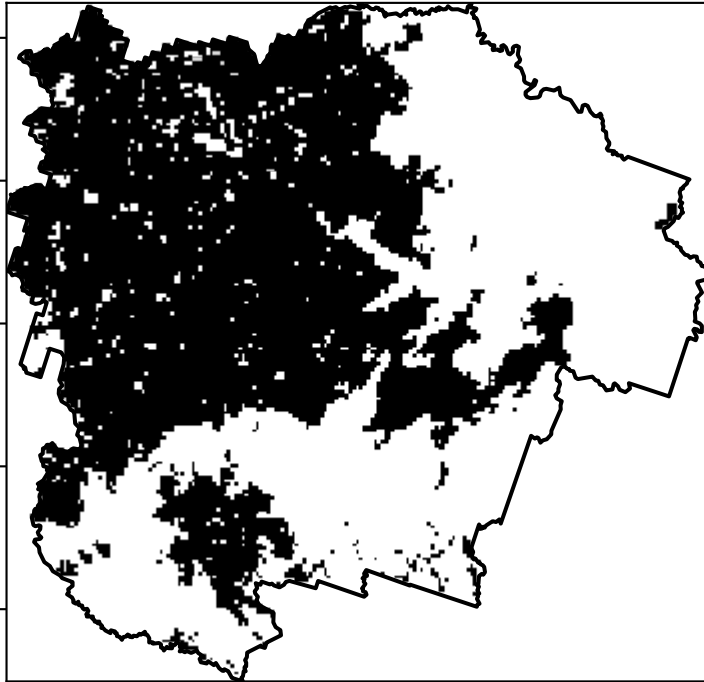
Proportion of vegetation cover class in area



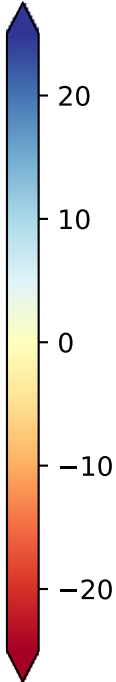
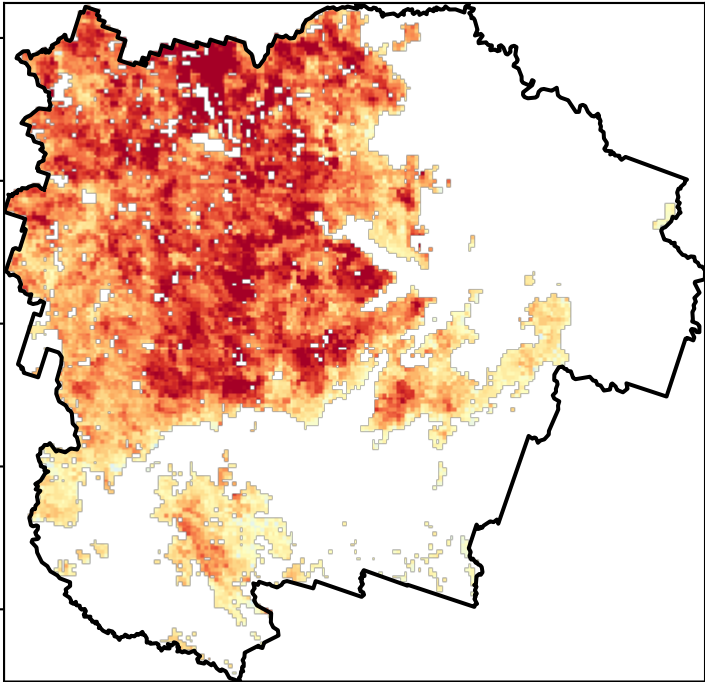
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

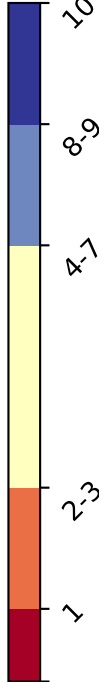
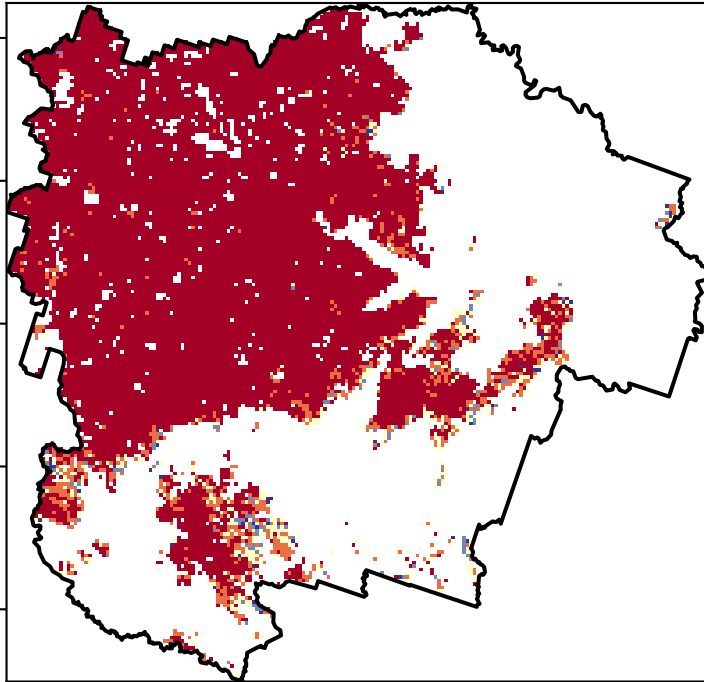


Total Vegetation Cover Anomaly [%]



Anomaly show how many percentage points each pixel is from the mean. That is, red pixels are about 20% lower than the mean of that pixel. The mean is only for the month of the map using baseline from 2001 to 2019.

Total Vegetation Cover Decile [%]



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.



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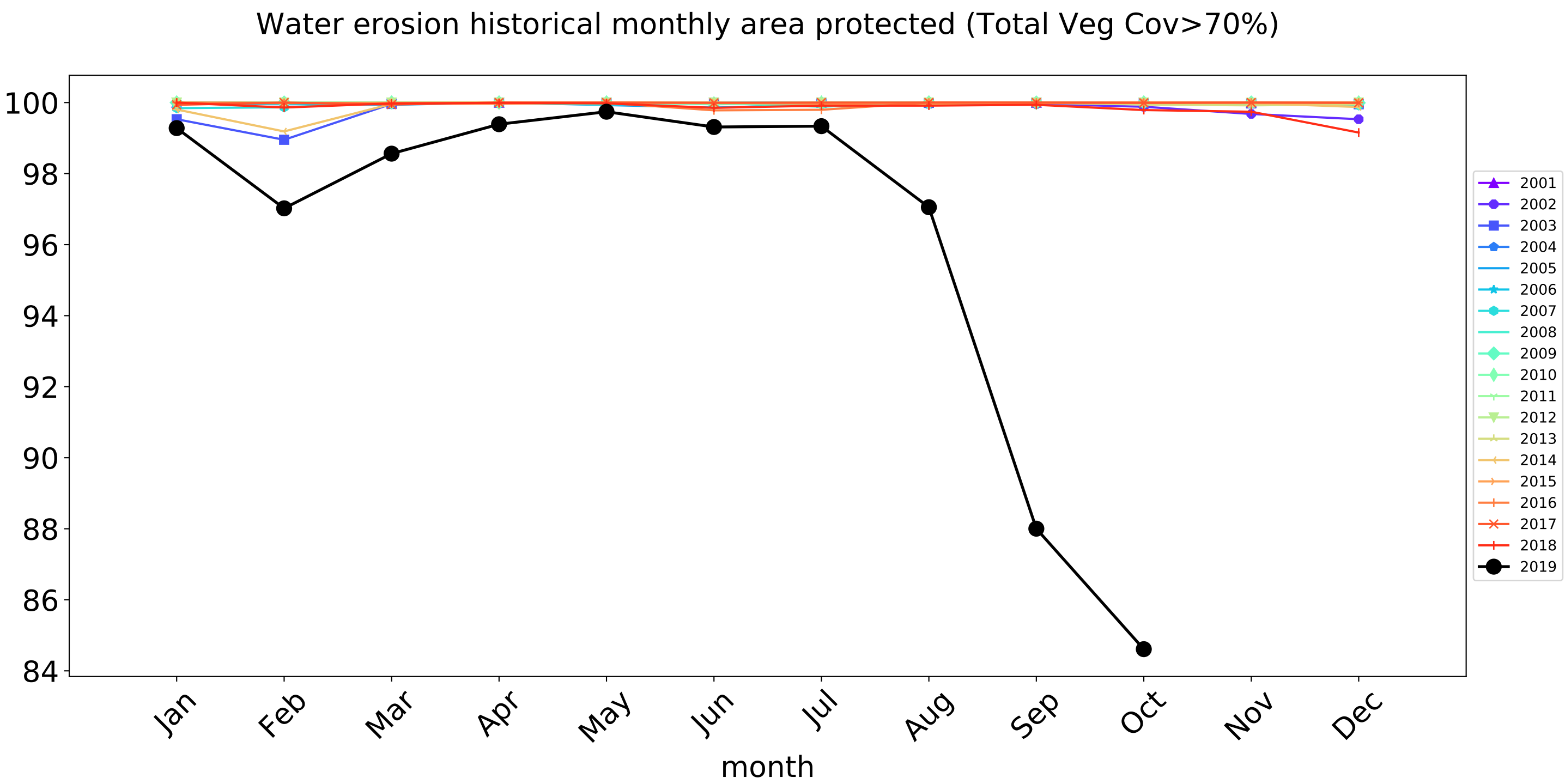
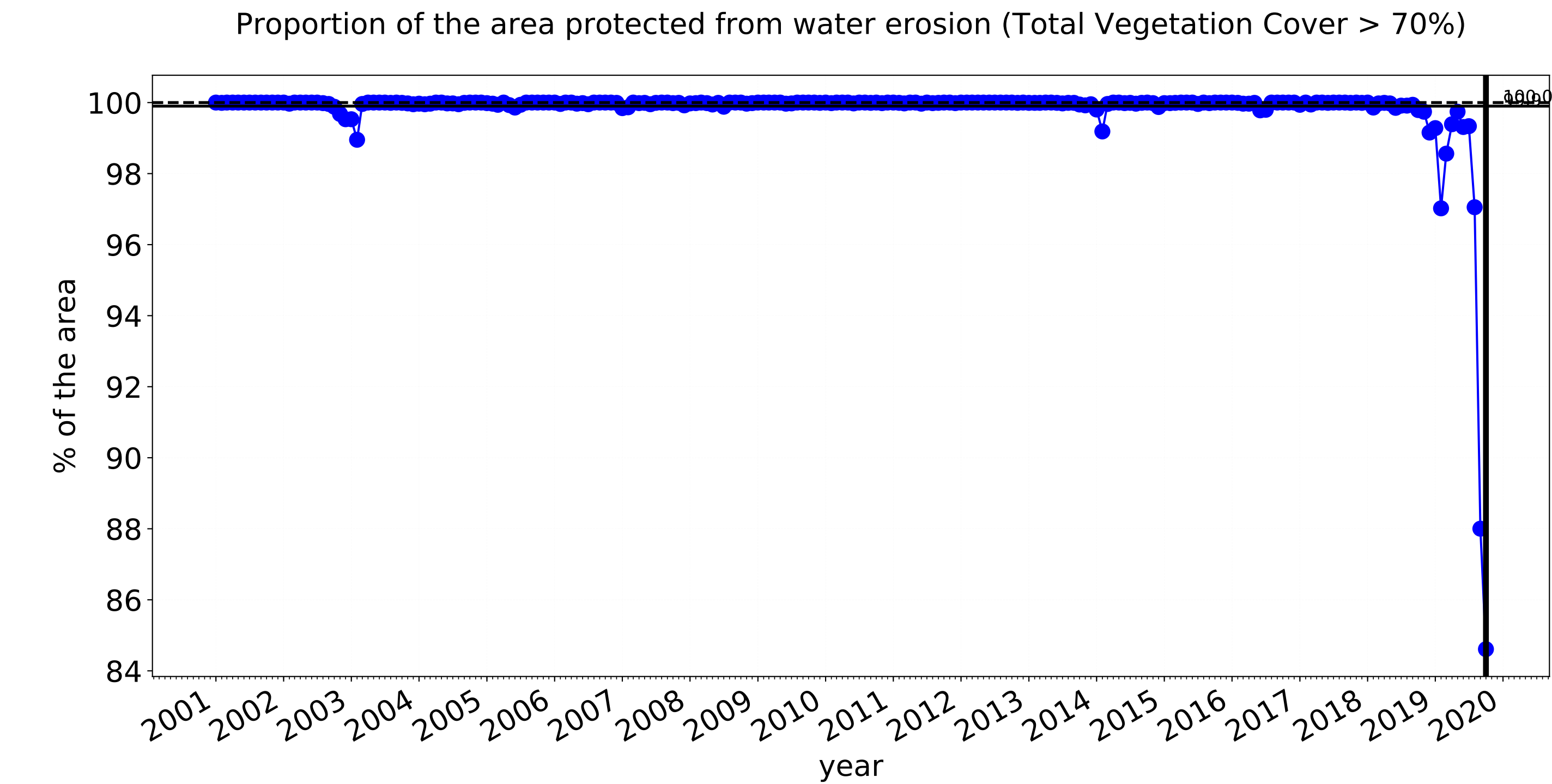
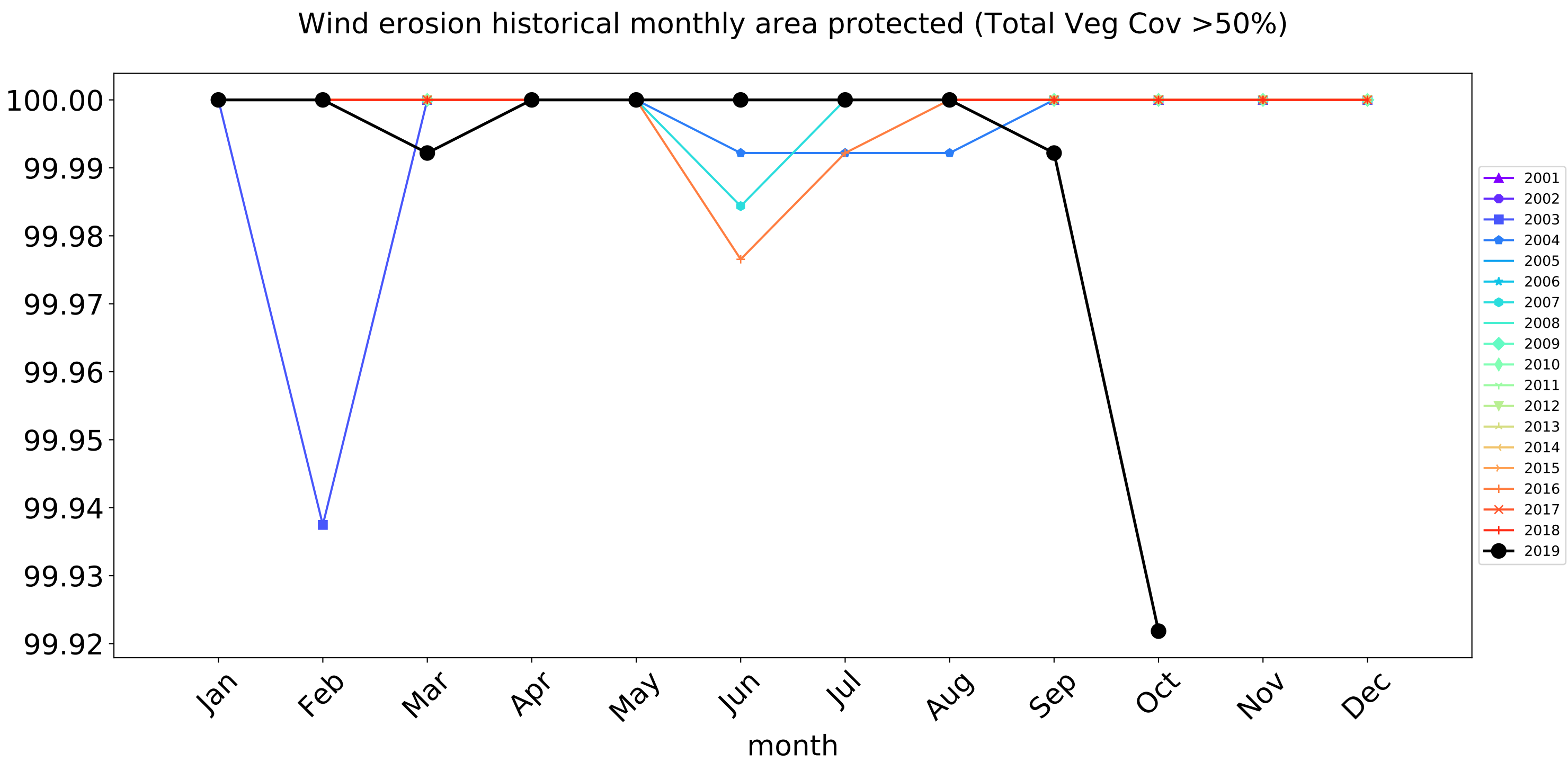
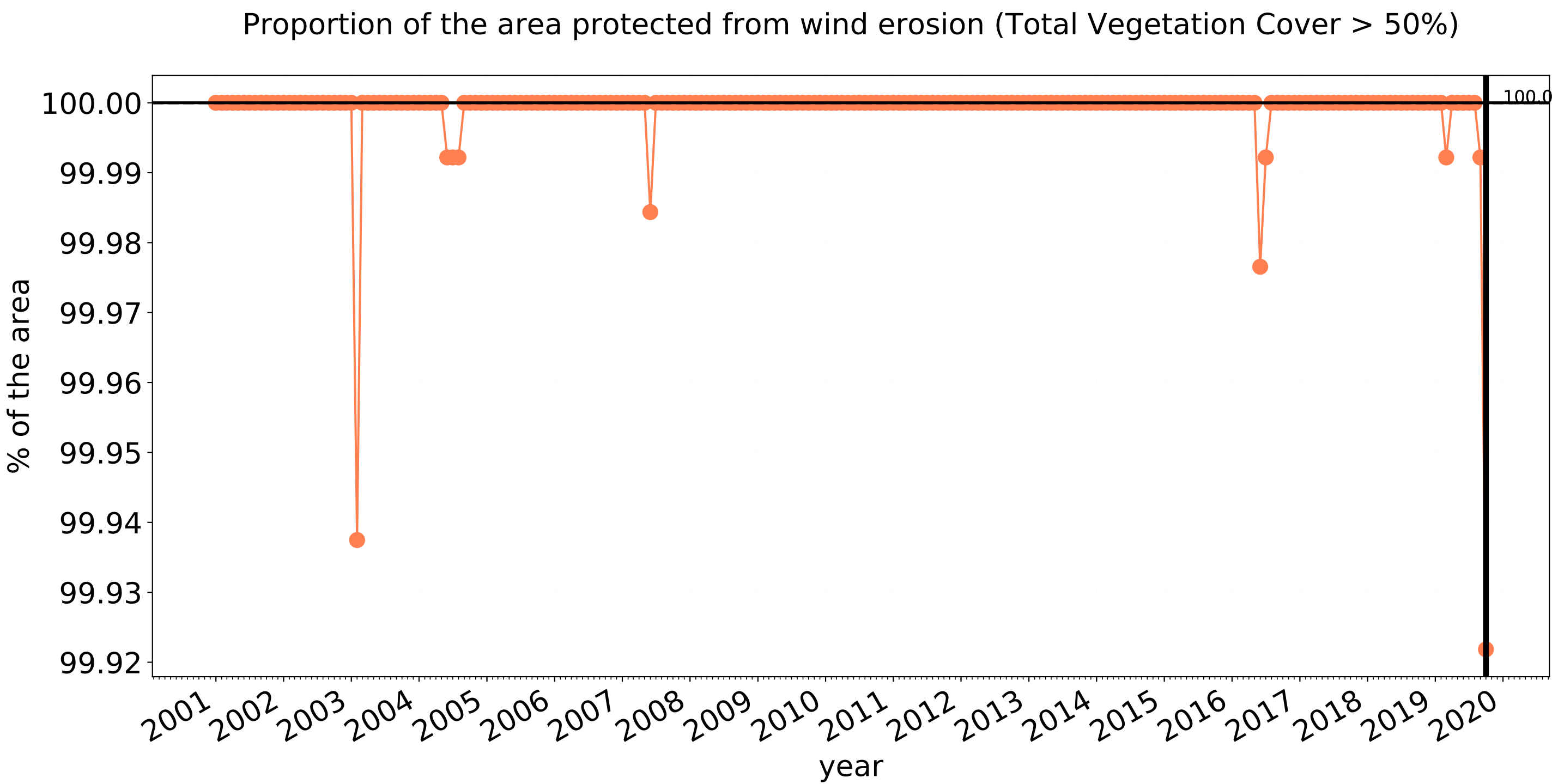


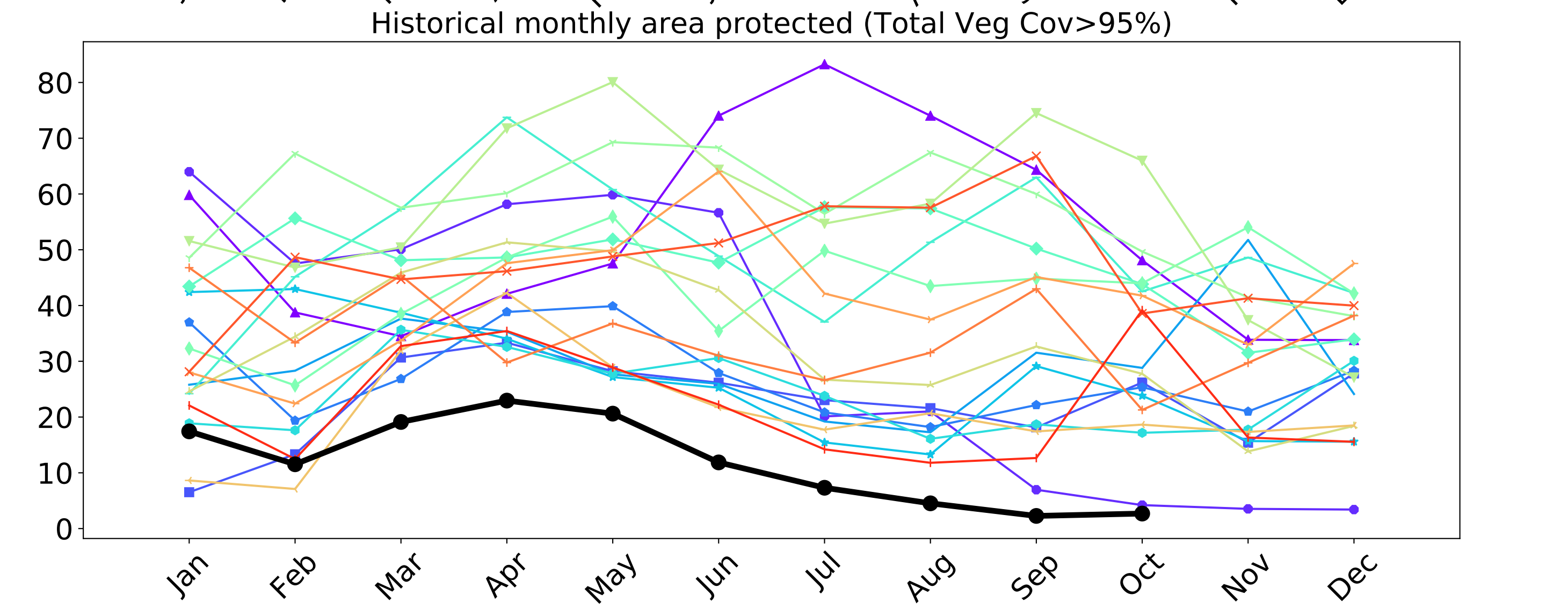
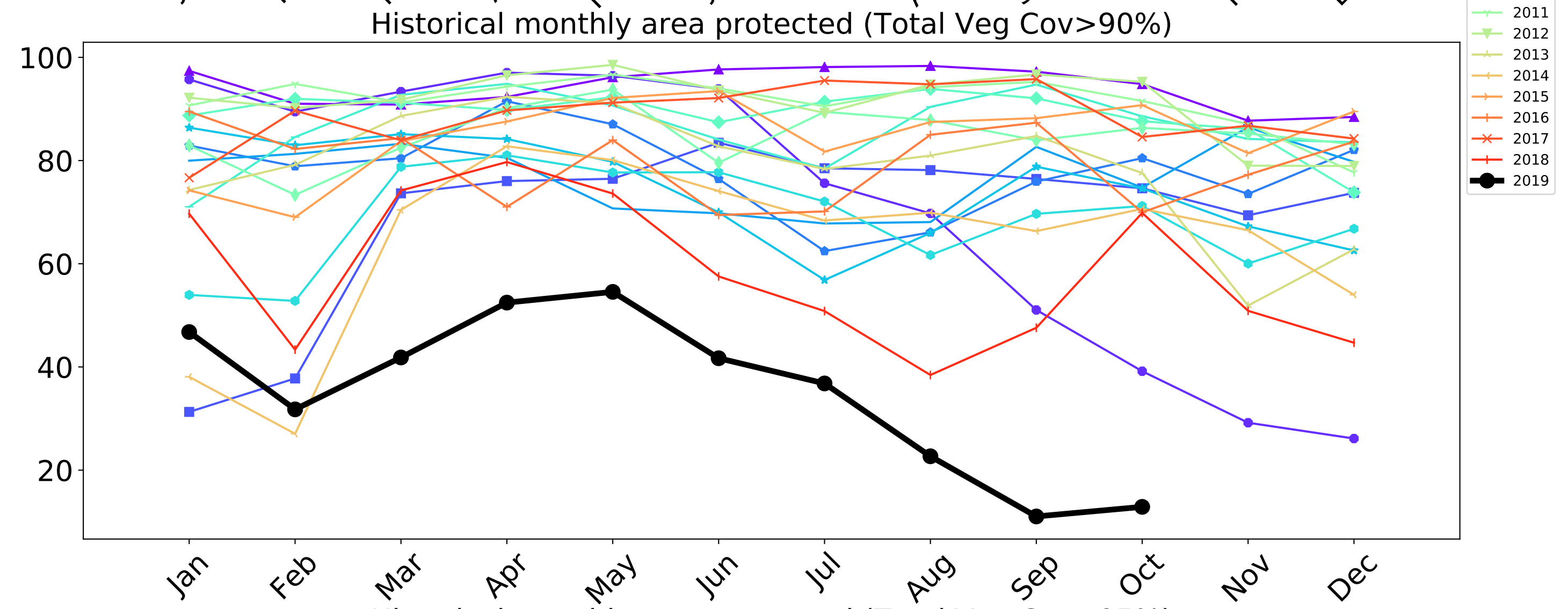
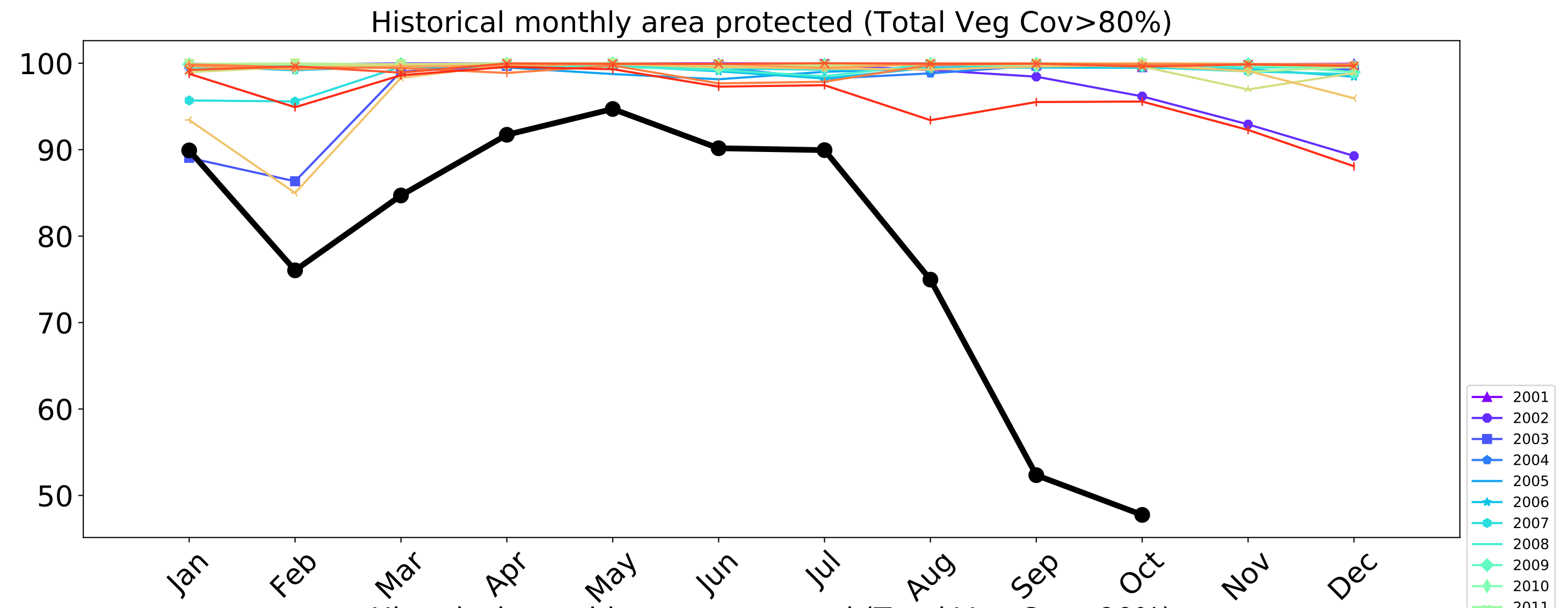
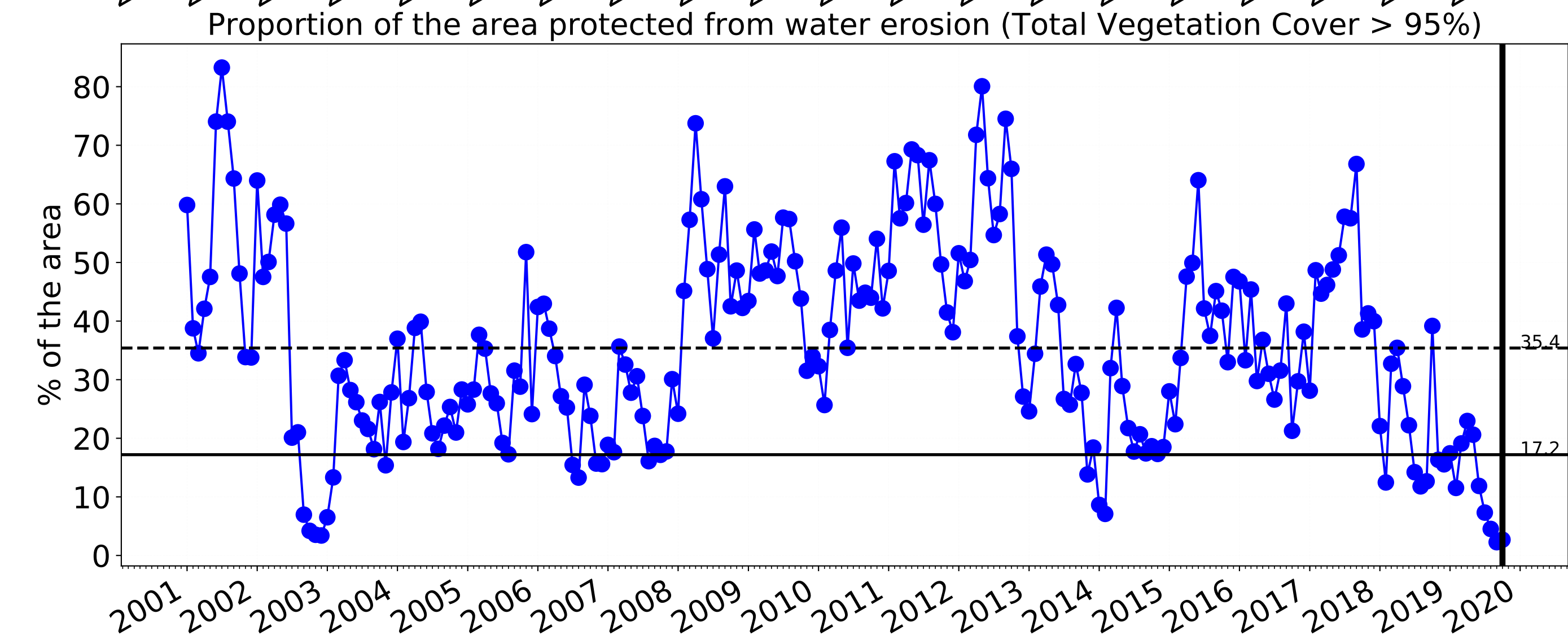
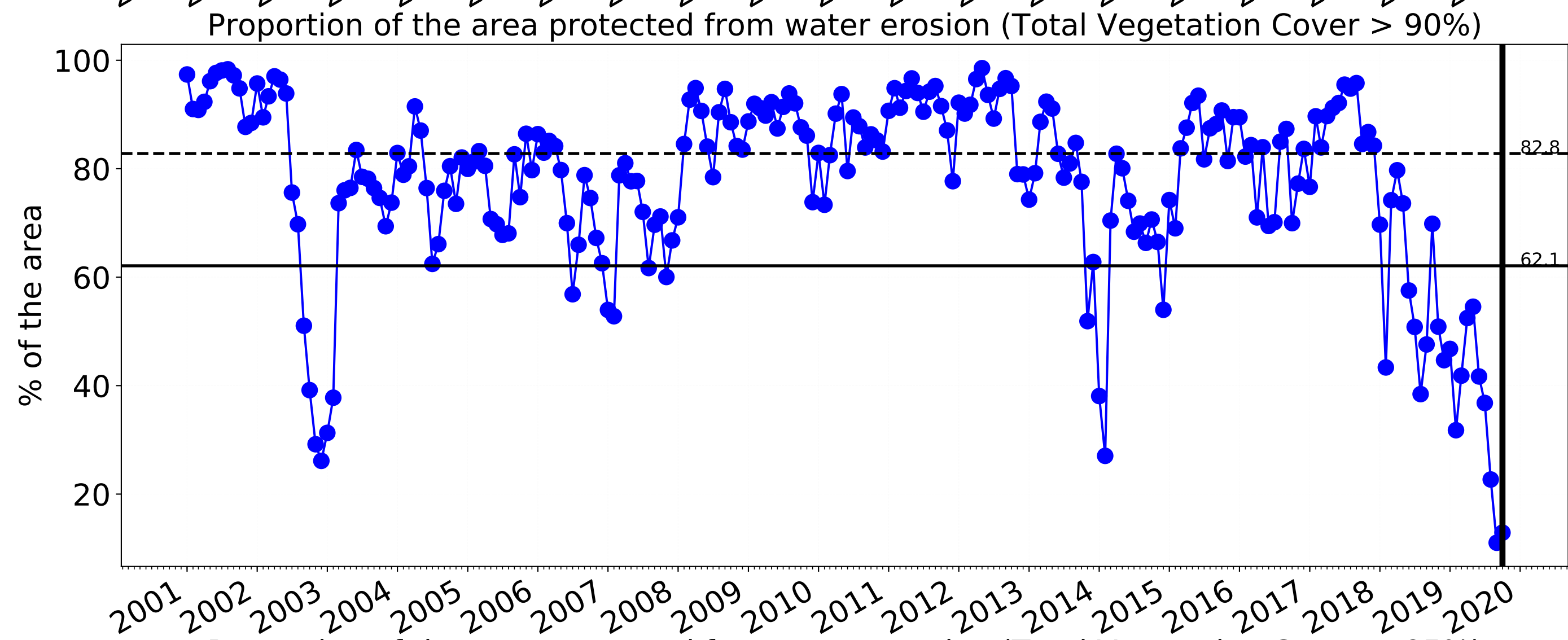
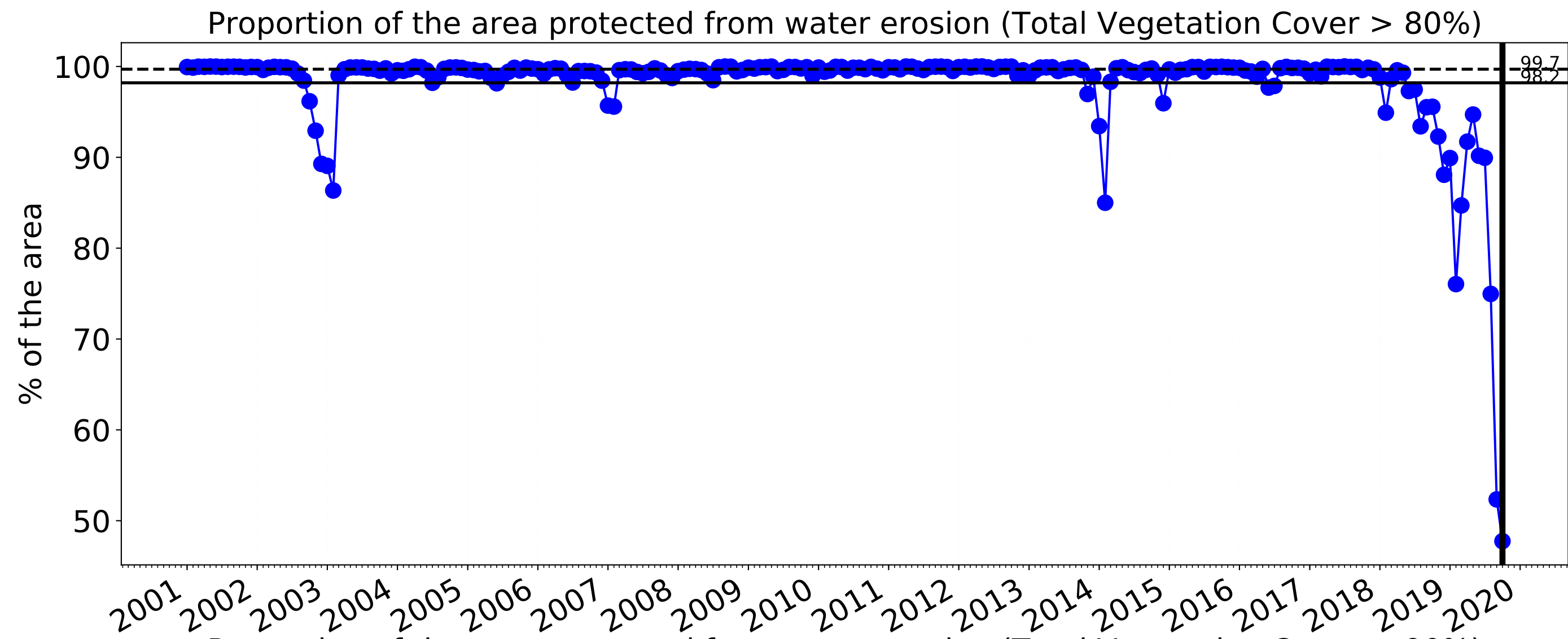
National Landcare Programme



Planning, Industry & Environment

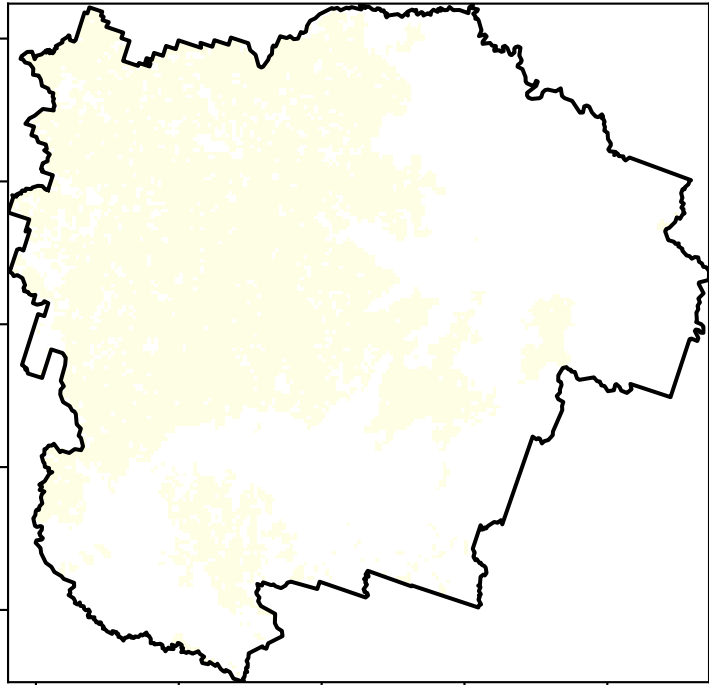
Grazing timeseries





Grazing non forest

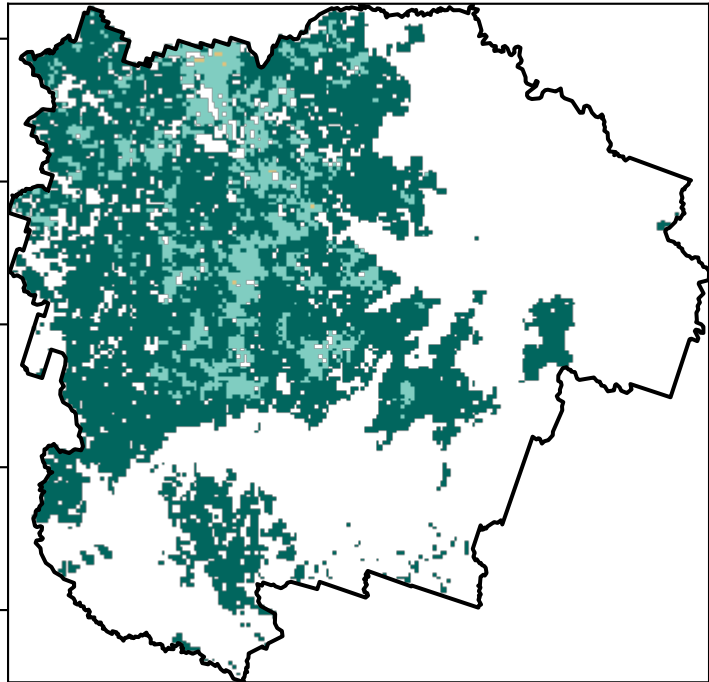
Land use and forest cover



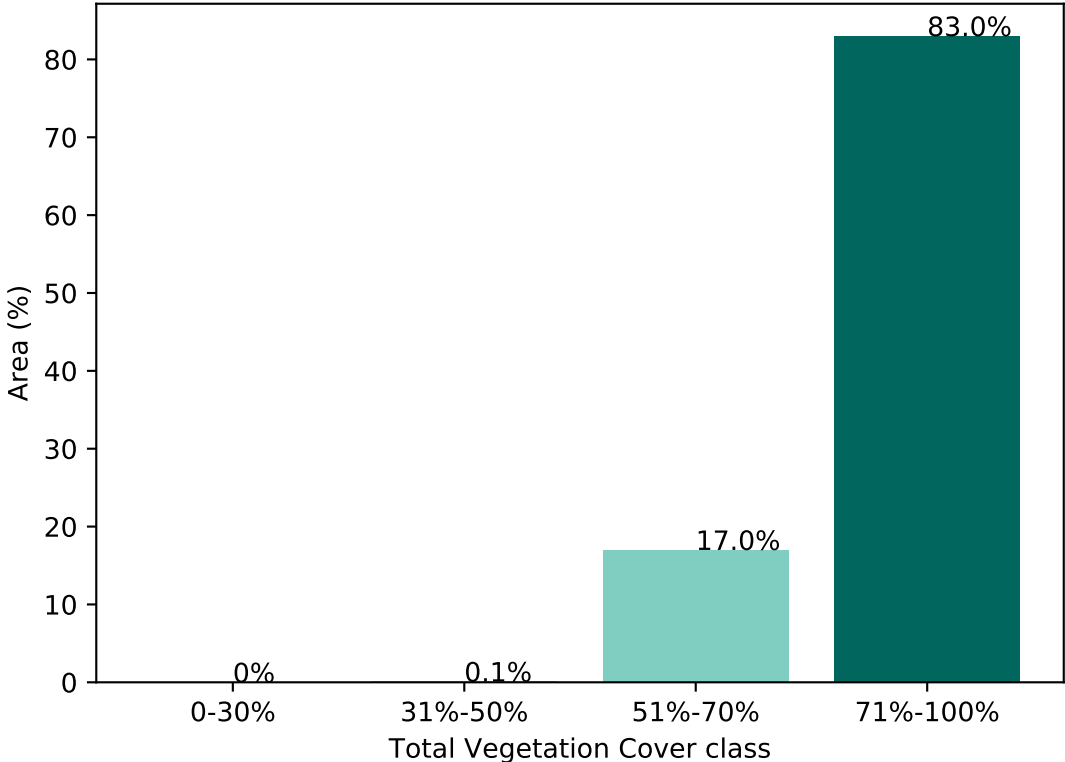
Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
Catchment Scale Land
Use of Australia
(2018) and Forests
of Australia (2018)

Agriculture - Grazing - Non forest

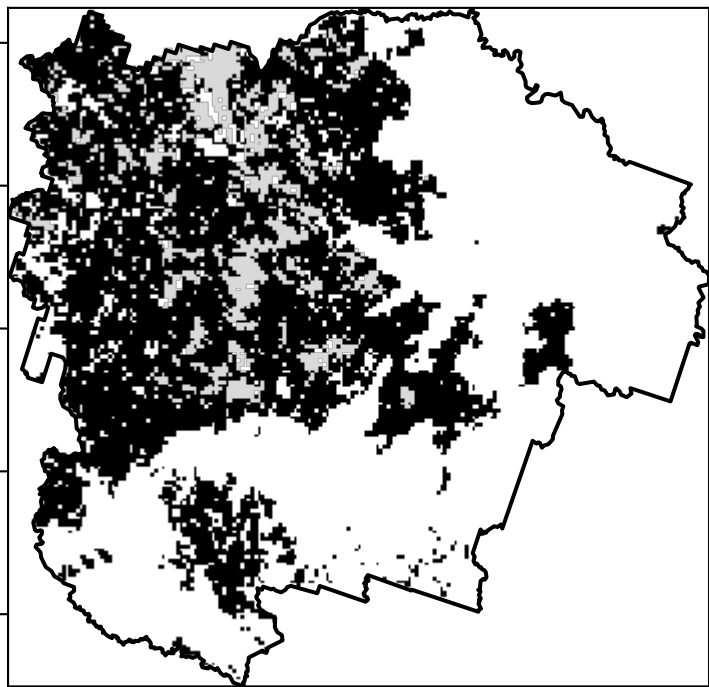
Total Vegetation Cover [%]



Proportion of vegetation cover class in area

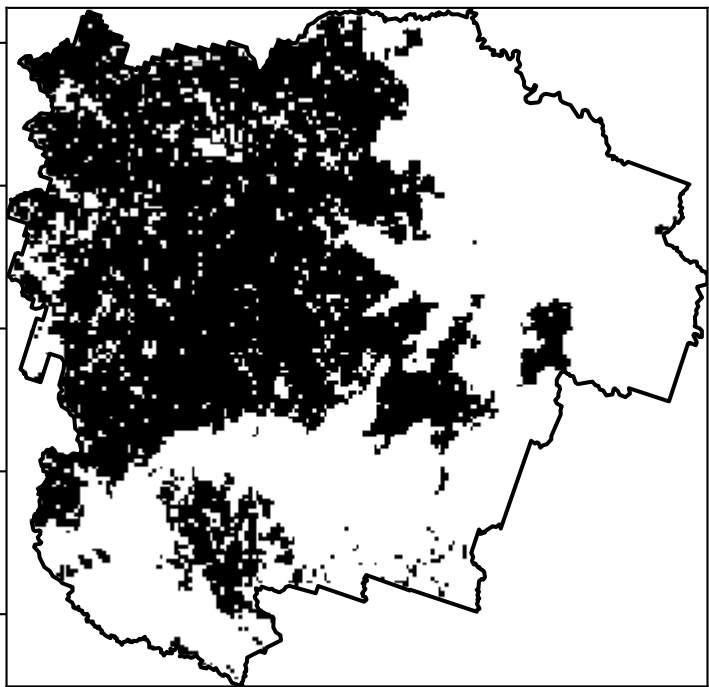


% Area protected from water erosion (>70%)



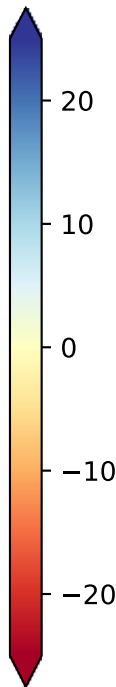
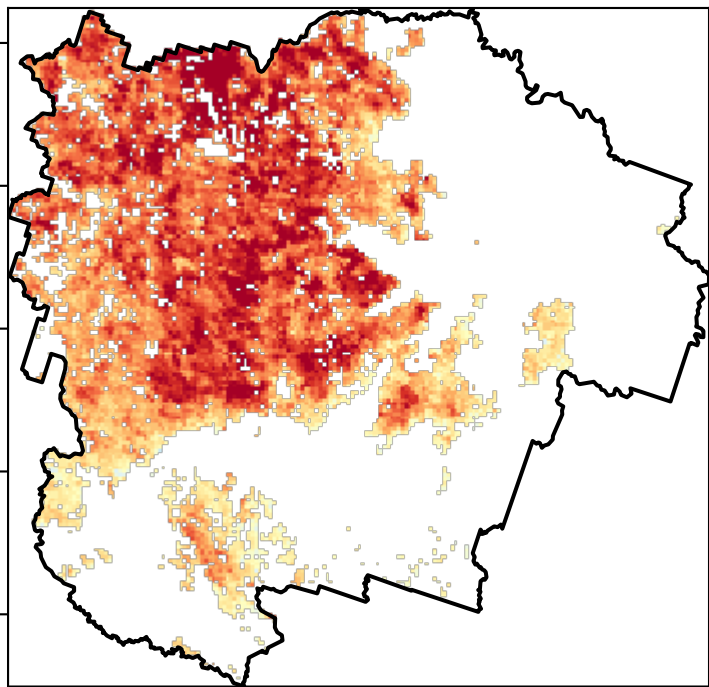
Area not
protected
17.0% of
region
(48,964
ha)
Area
protected
83.0% of
region
(239,060
ha)

% Area protected from wind erosion (>50%)



Area not
protected
0.0% of
region (0
ha)
Area
protected
100.0% of
region
(288,025
ha)

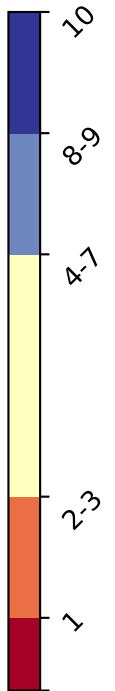
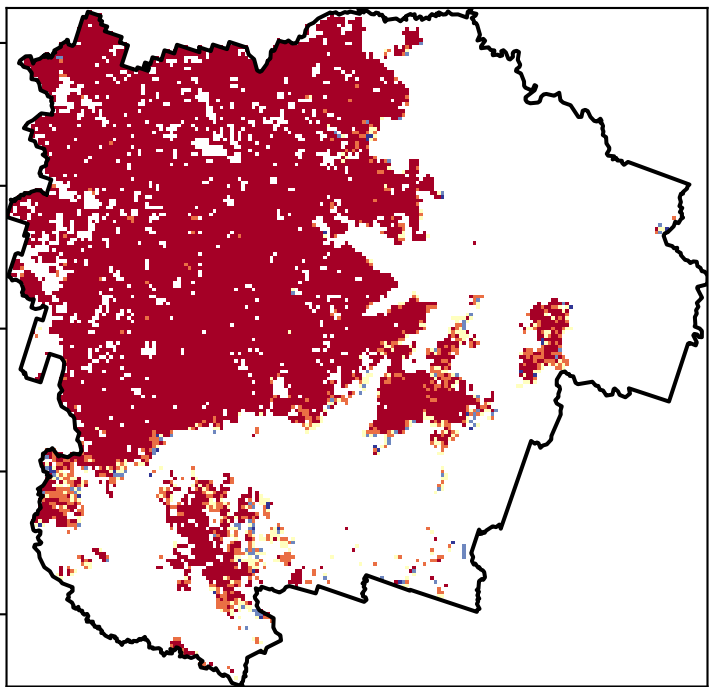
Total Vegetation Cover Anomaly [%]



Anomaly show how
many percentage
points each
pixel is from
the mean. That
is, red pixels
are about 20%
lower than the
mean of that
pixel. The mean
is only for the
month of the map
using baseline
from 2001 to
2019.

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 [%]



TERN

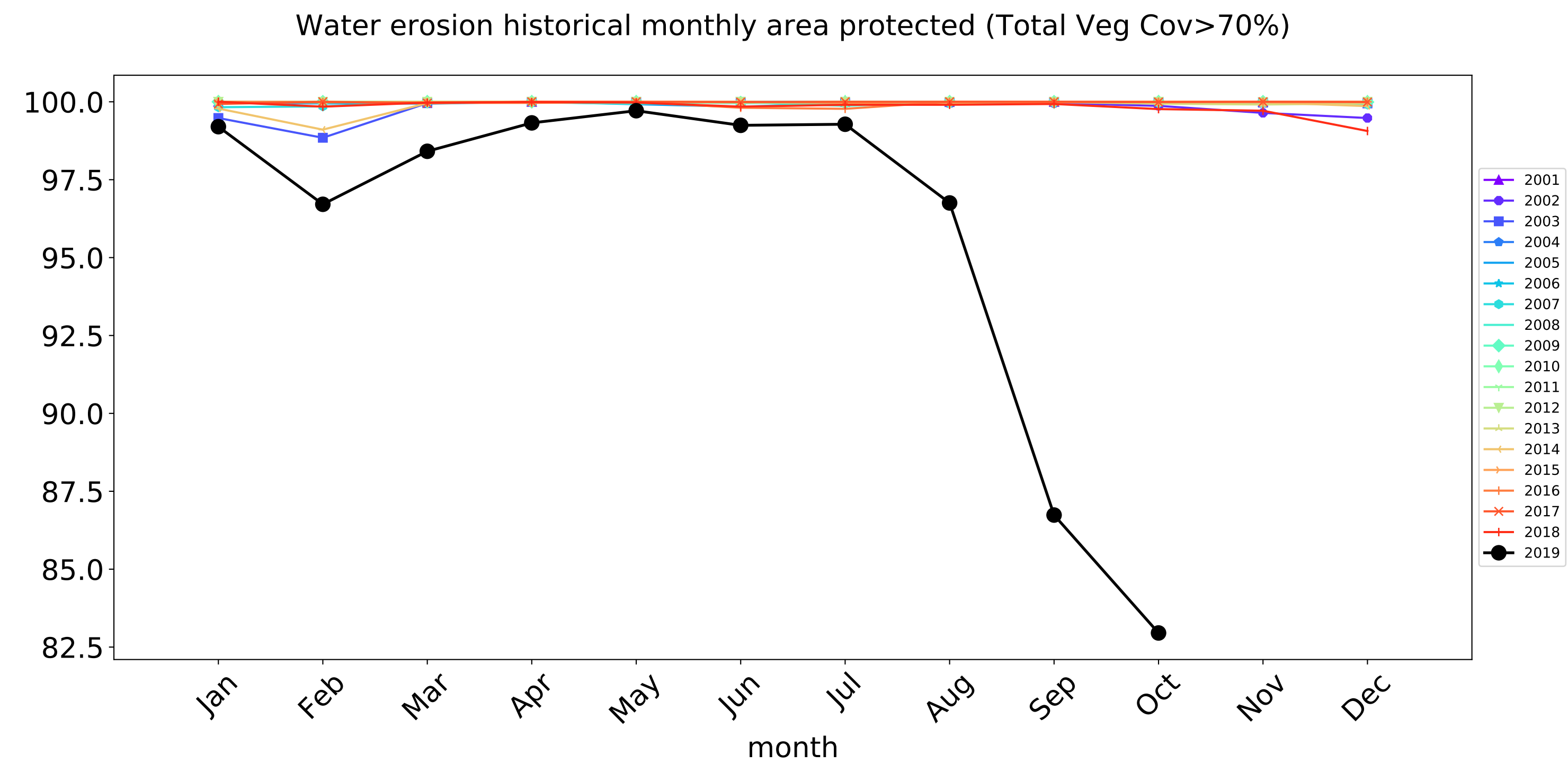
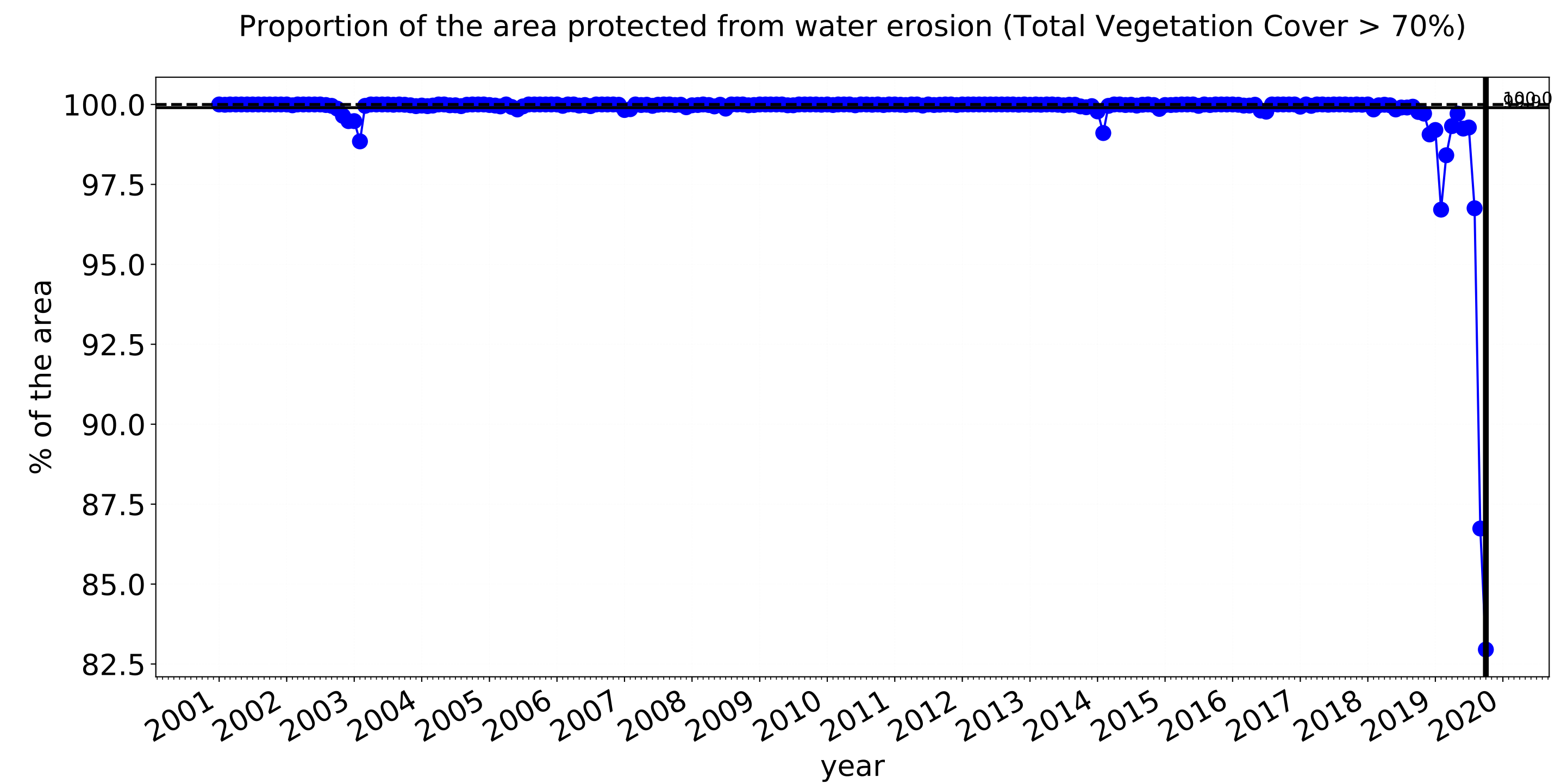
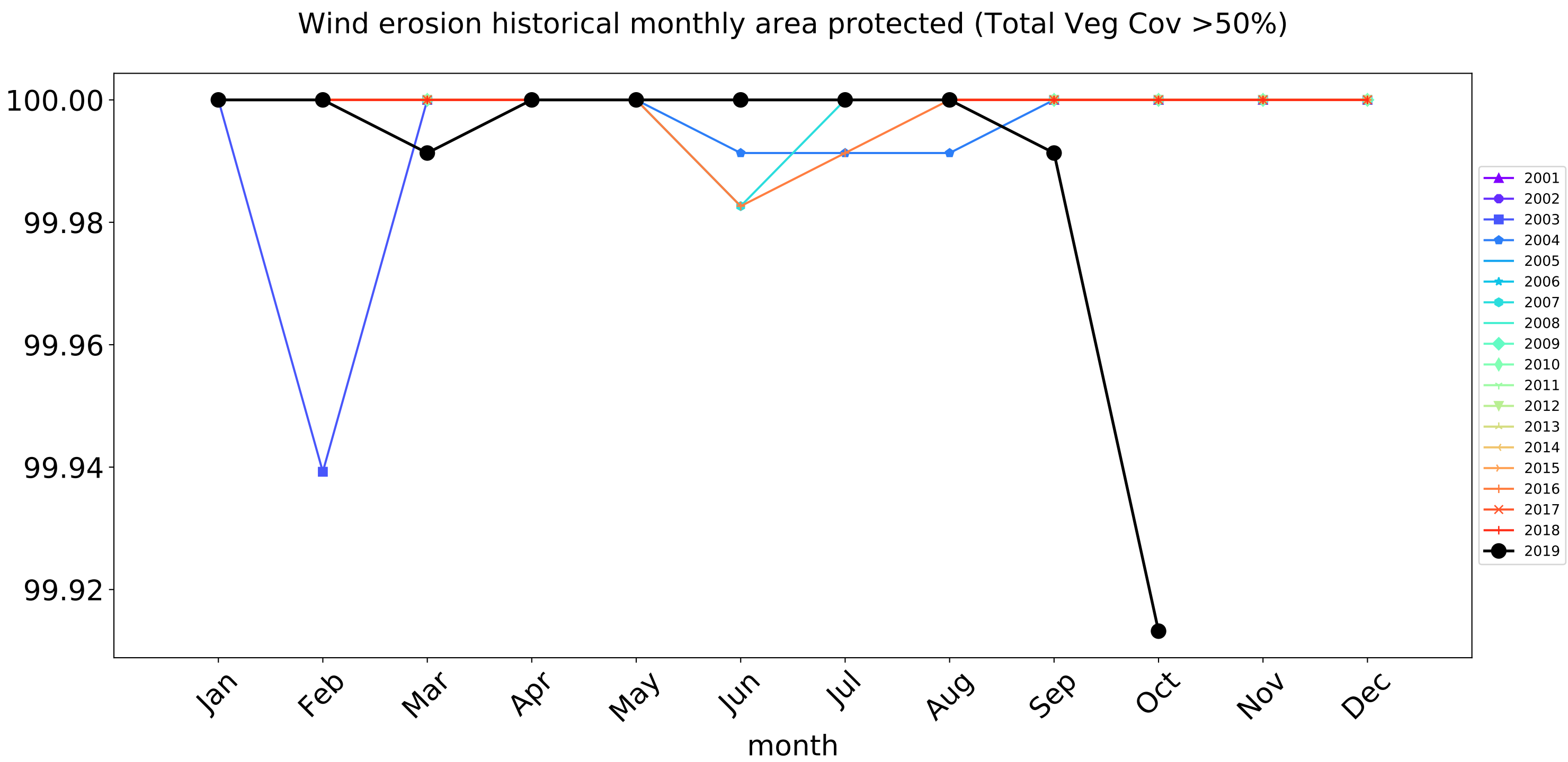
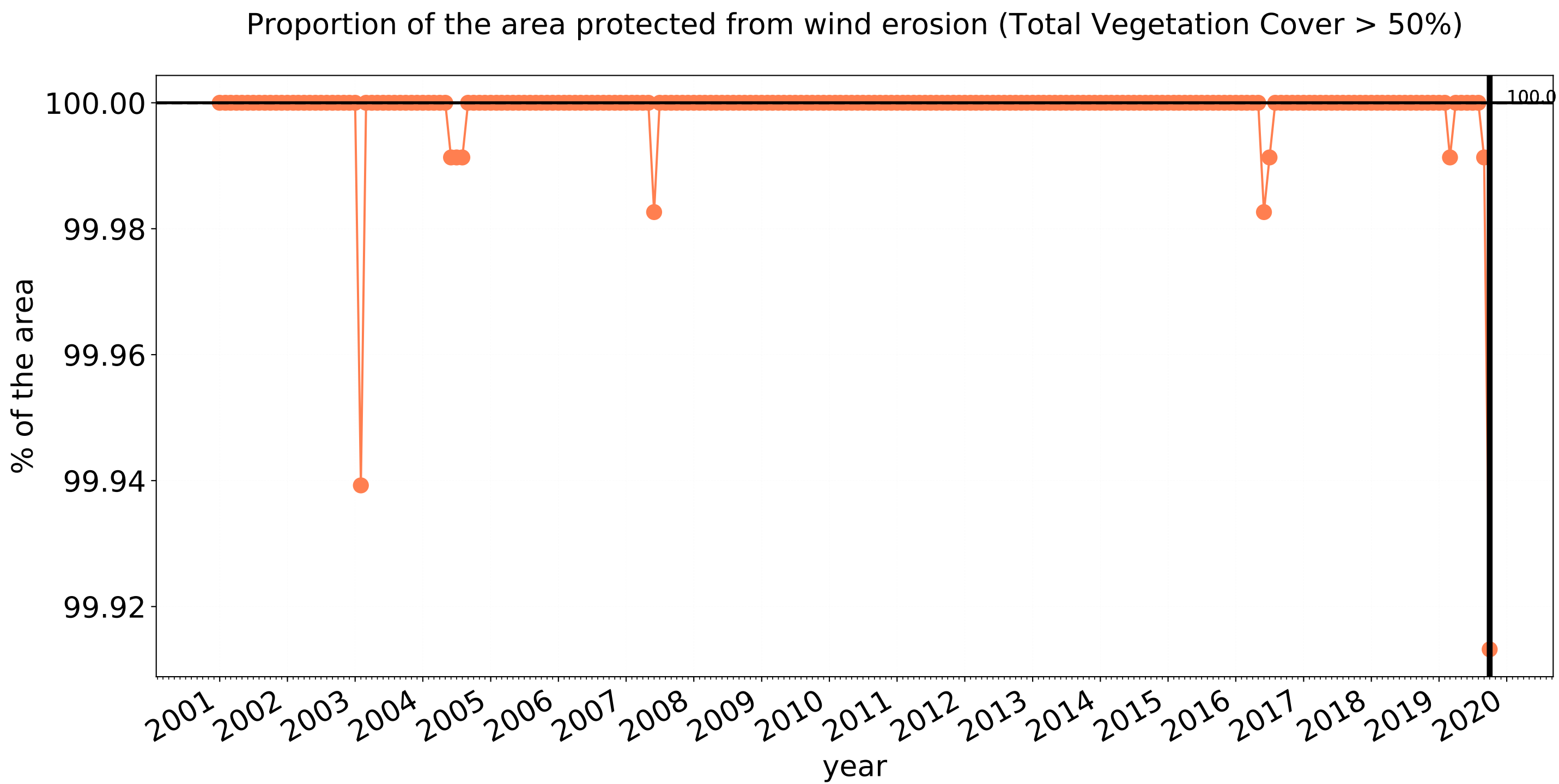


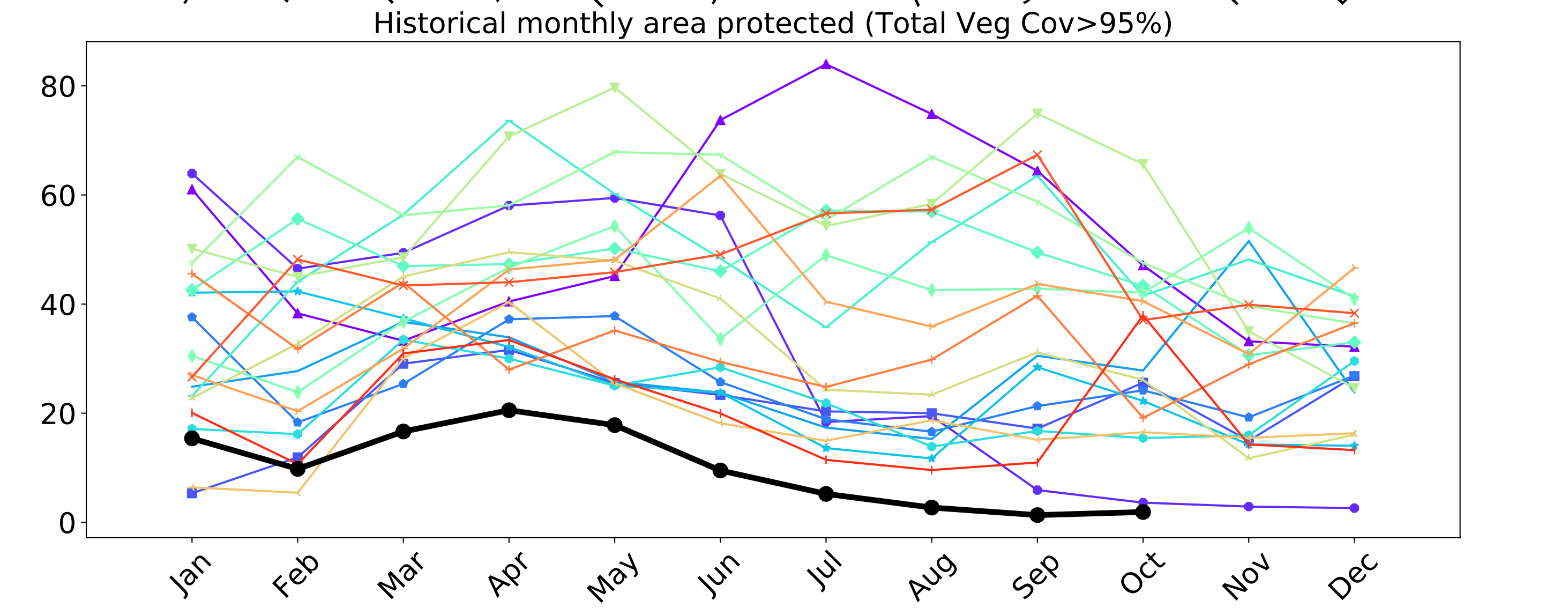
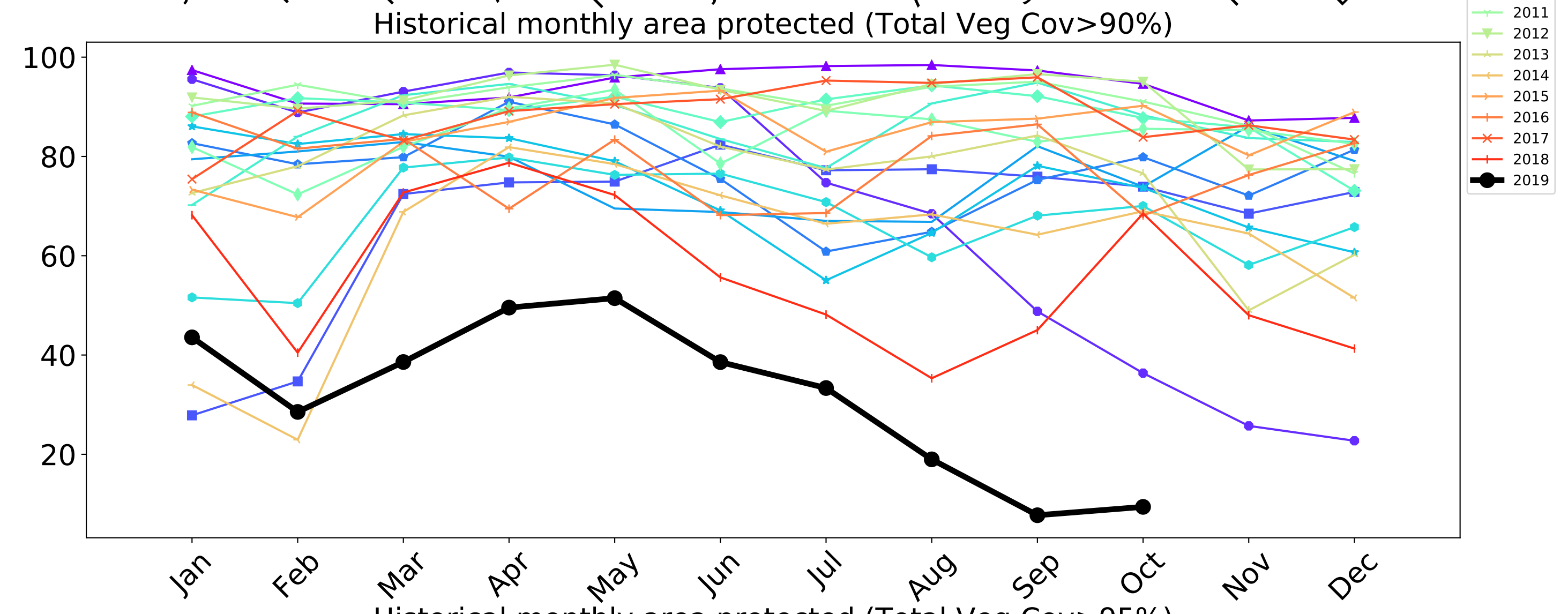
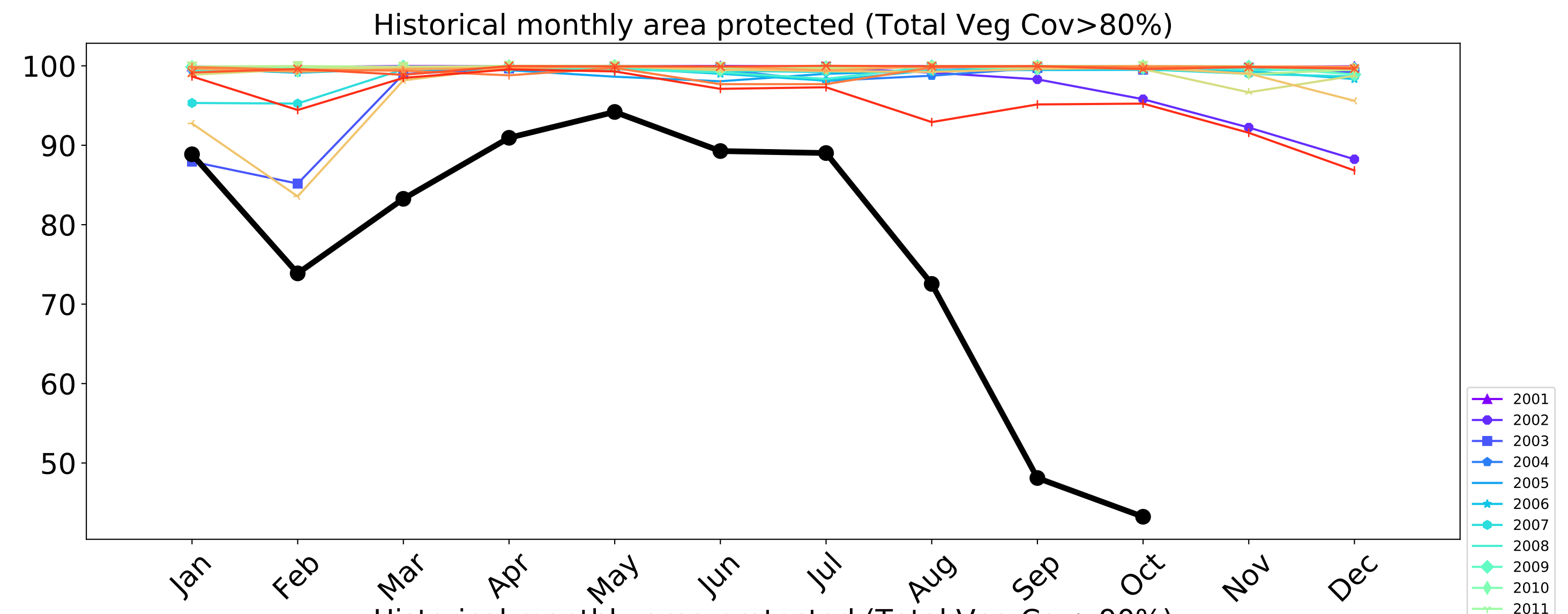
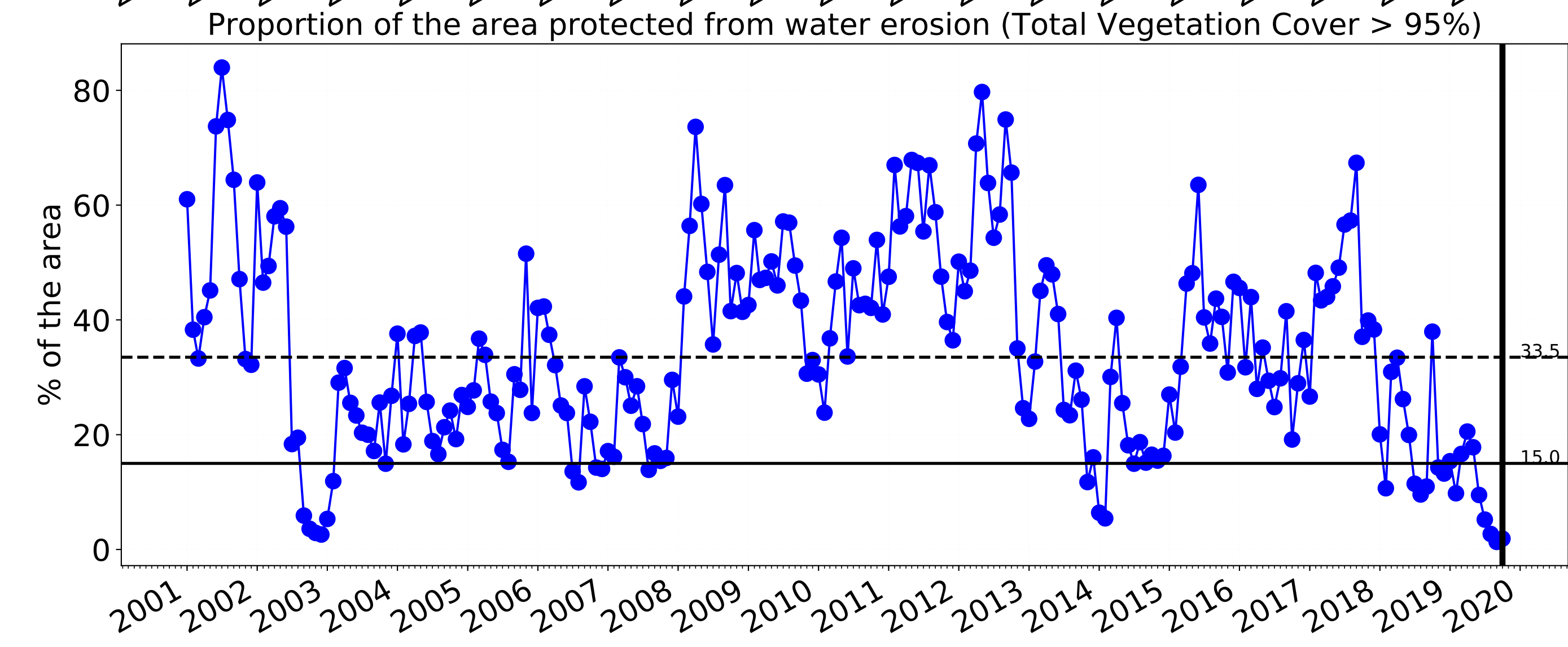
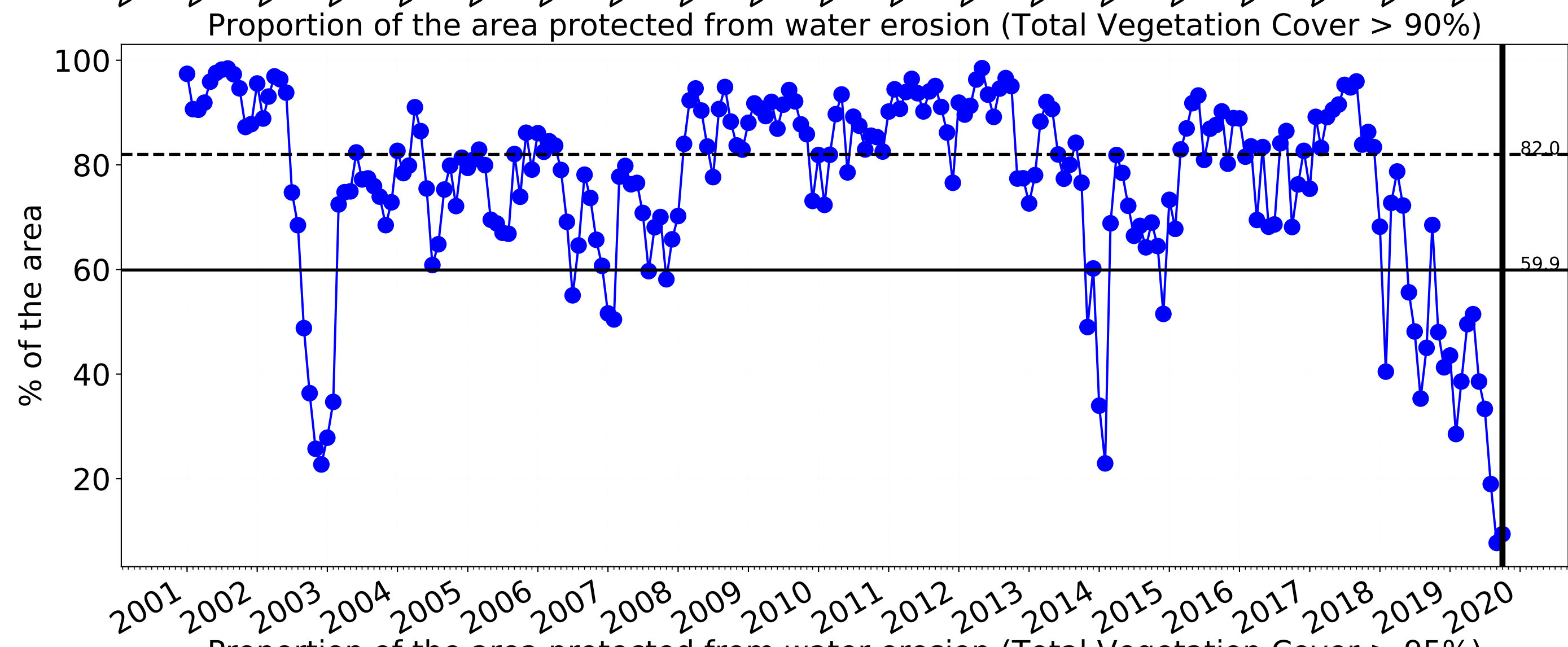
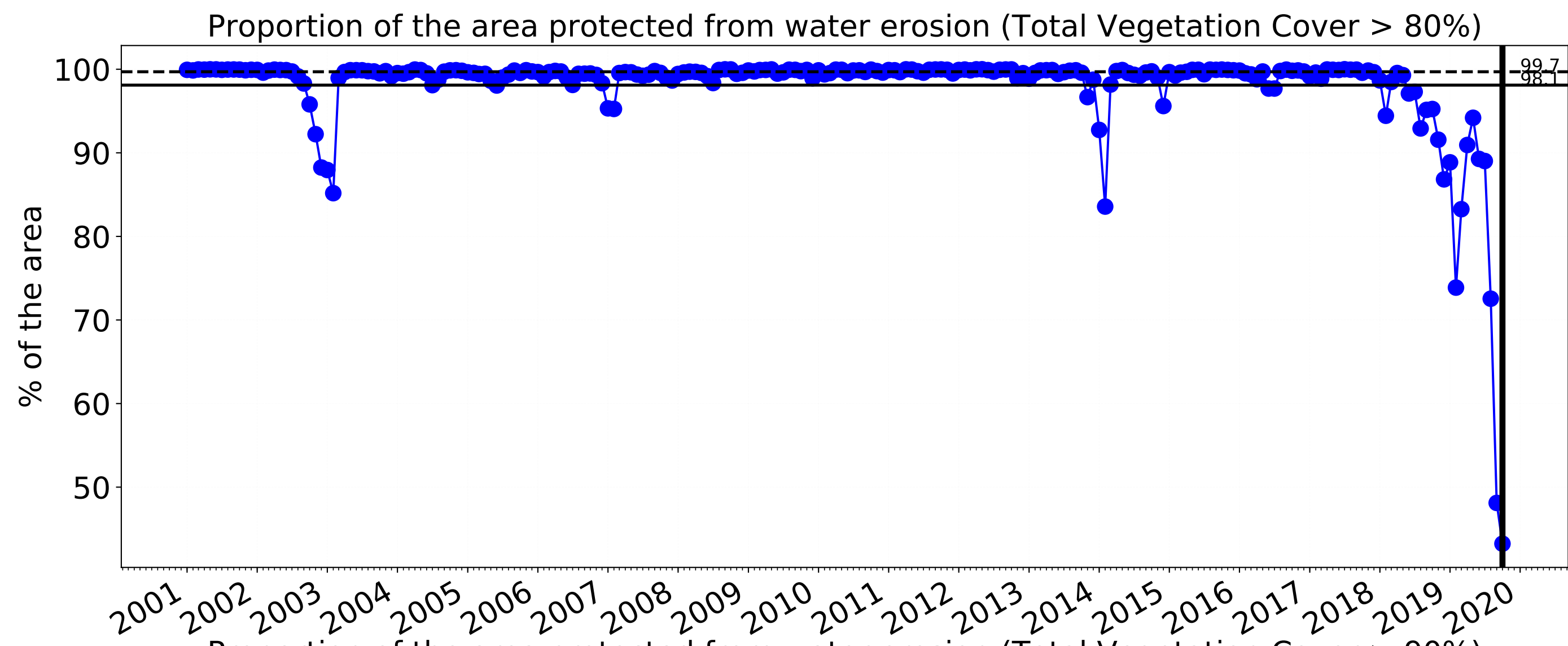
National
Landcare
Programme



Planning,
Industry &
Environment

Grazing non forest timeseries

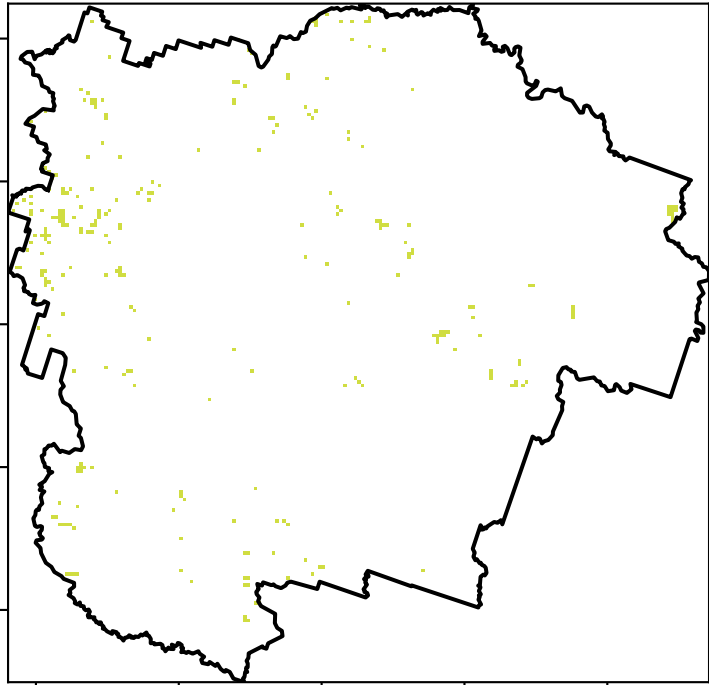




Grazing Woodland forest

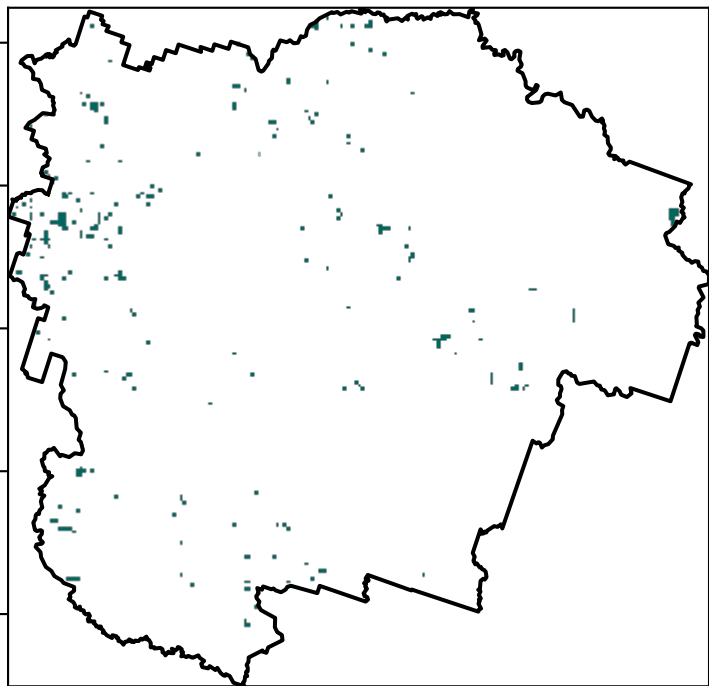
Land use and forest cover

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

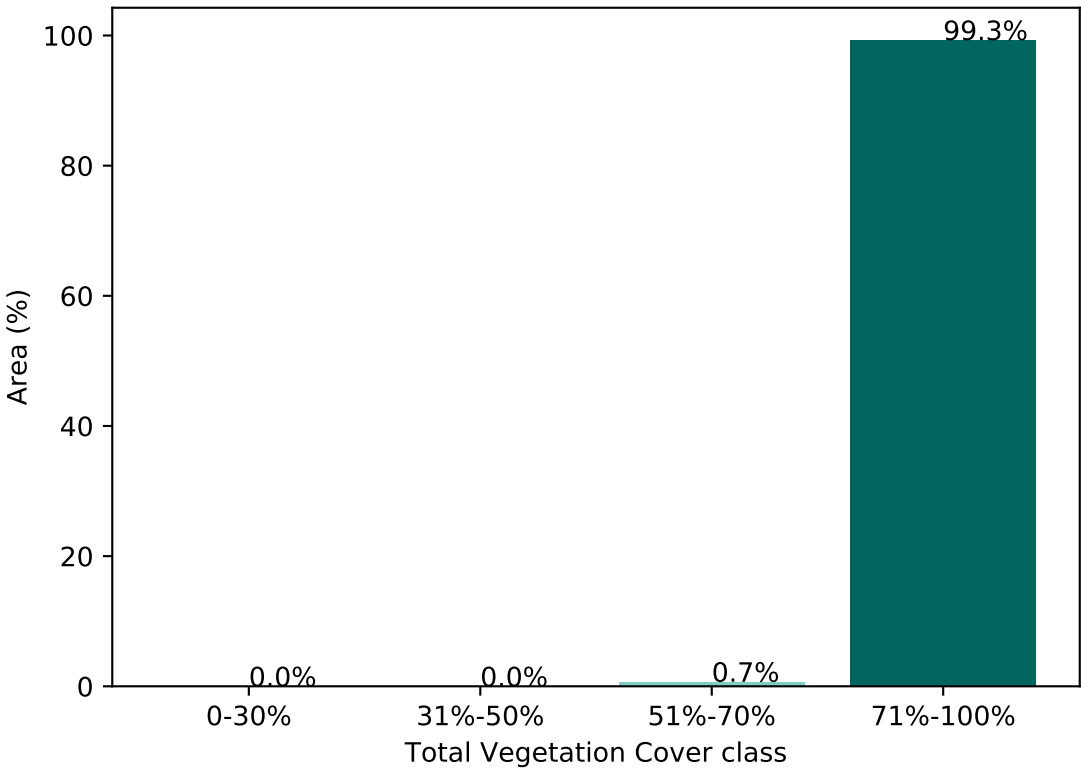


Agriculture - Grazing - Woodland forest

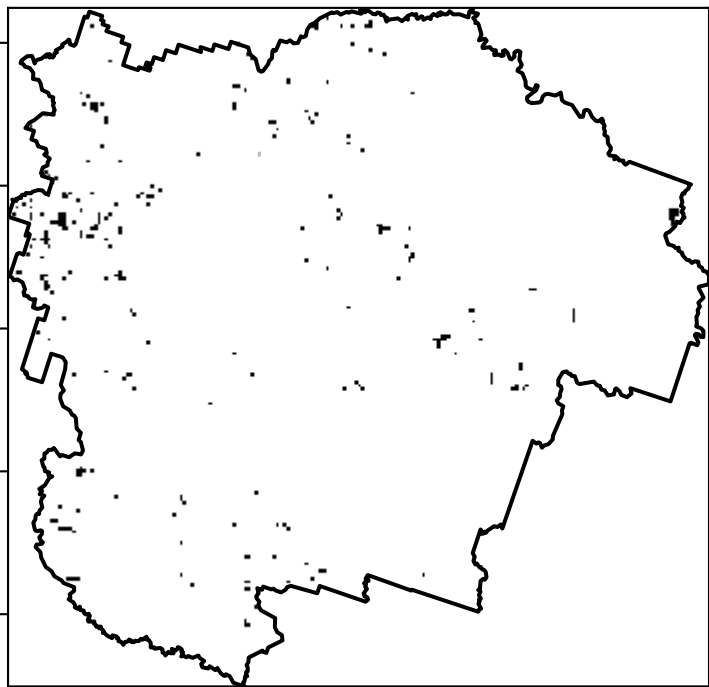
Total Vegetation Cover [%]



Proportion of vegetation cover class in area

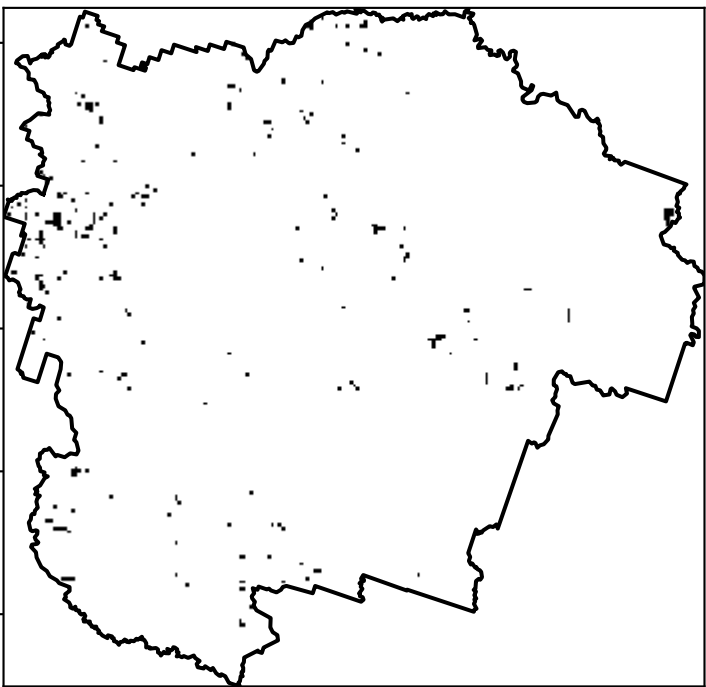


% Area protected from water erosion (>70%)



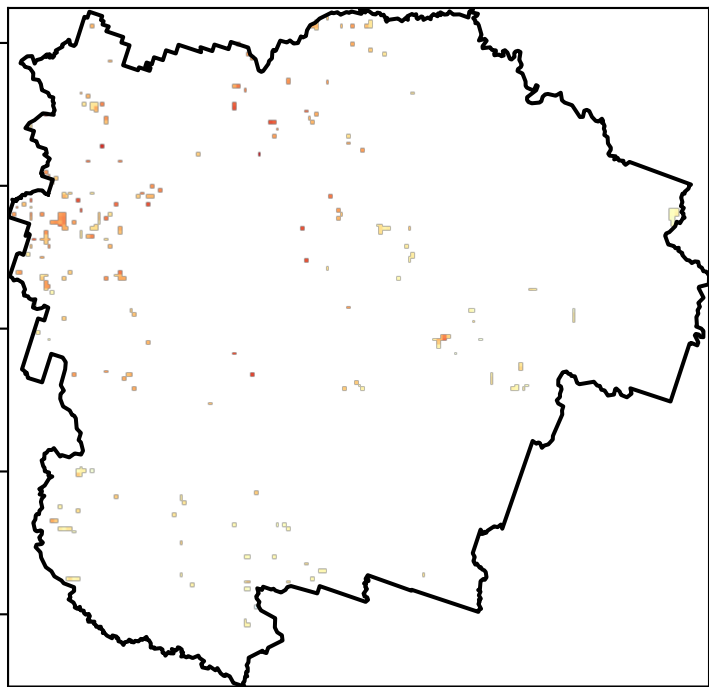
Area not protected
0.7% of region (47 ha)
Area protected
99.3% of region (6,802 ha)

% Area protected from wind erosion (>50%)



Area protected
100.0% of region (6,850 ha)

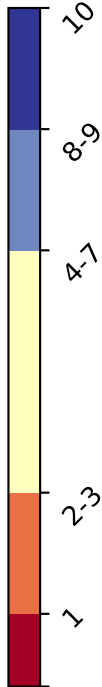
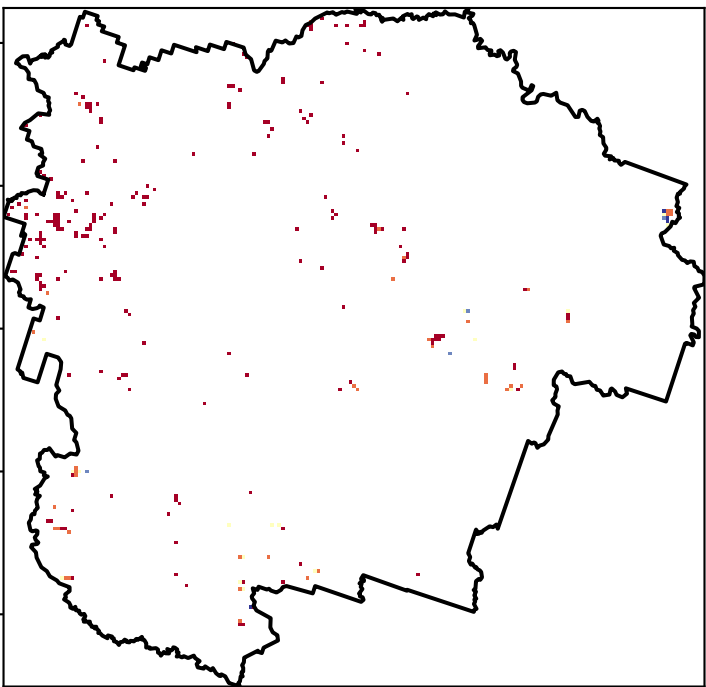
Total Vegetation Cover Anomaly [%]



Anomaly show how many percentage points each pixel is from the mean. That is, red pixels are about 20% lower than the mean of that pixel. The mean is only for the month of the map using baseline from 2001 to 2019.

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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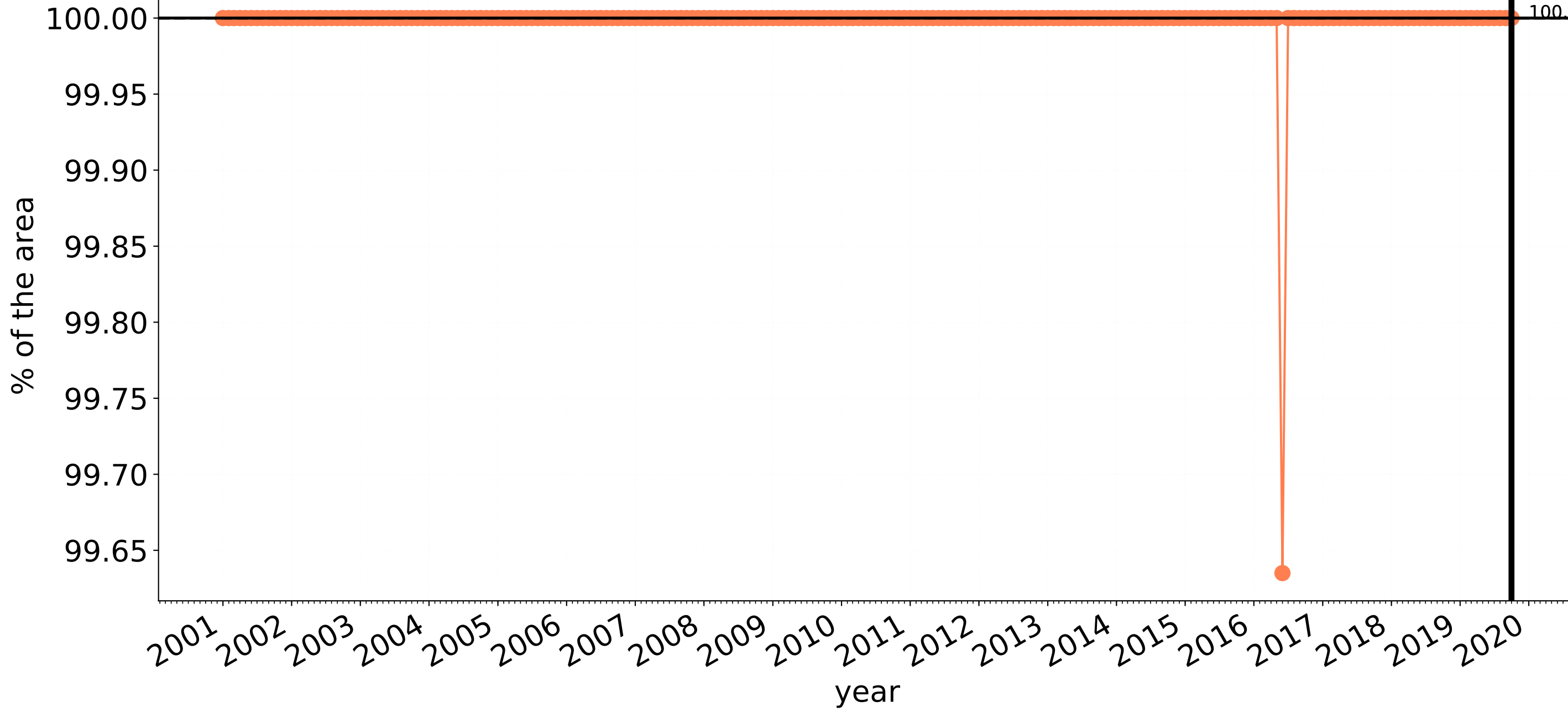
National
Landcare
Programme



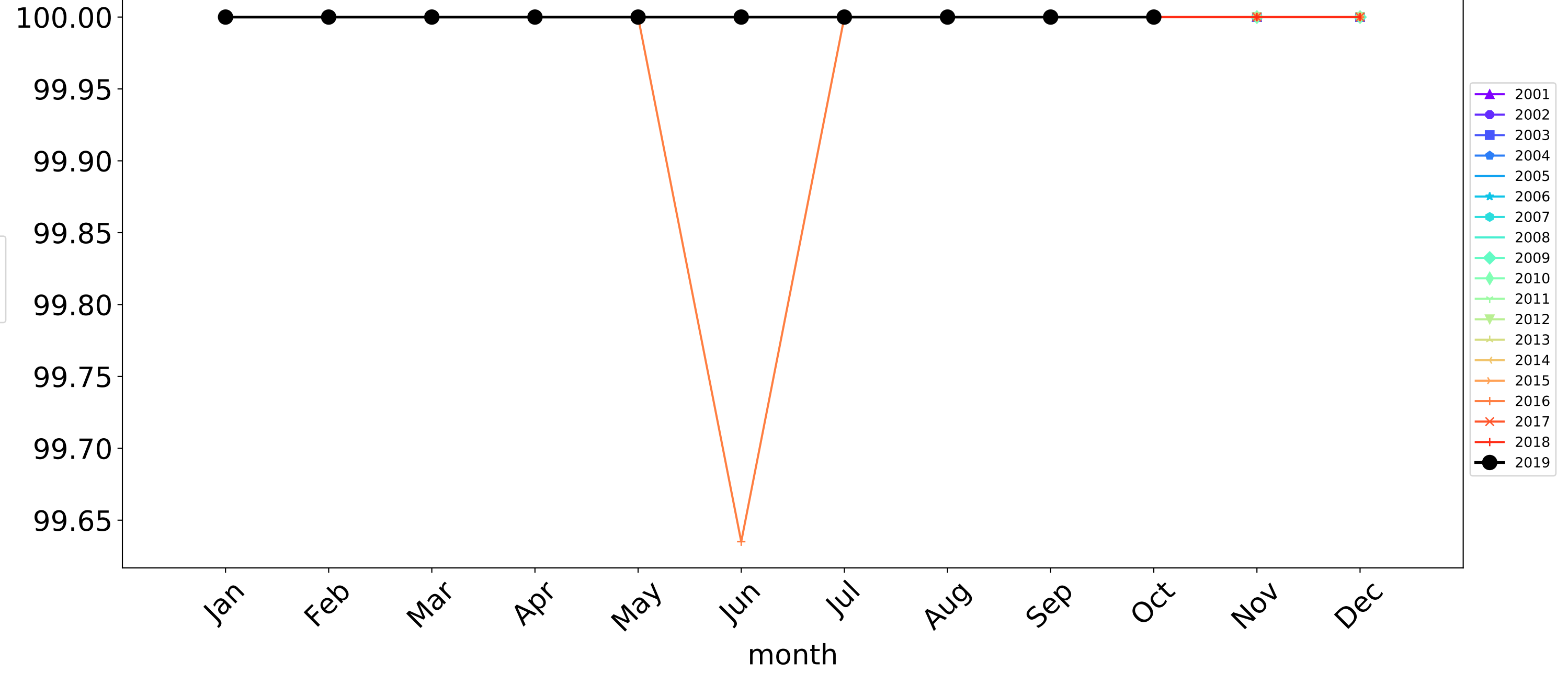
Planning,
Industry &
Environment

Grazing Woodland forest timeseries

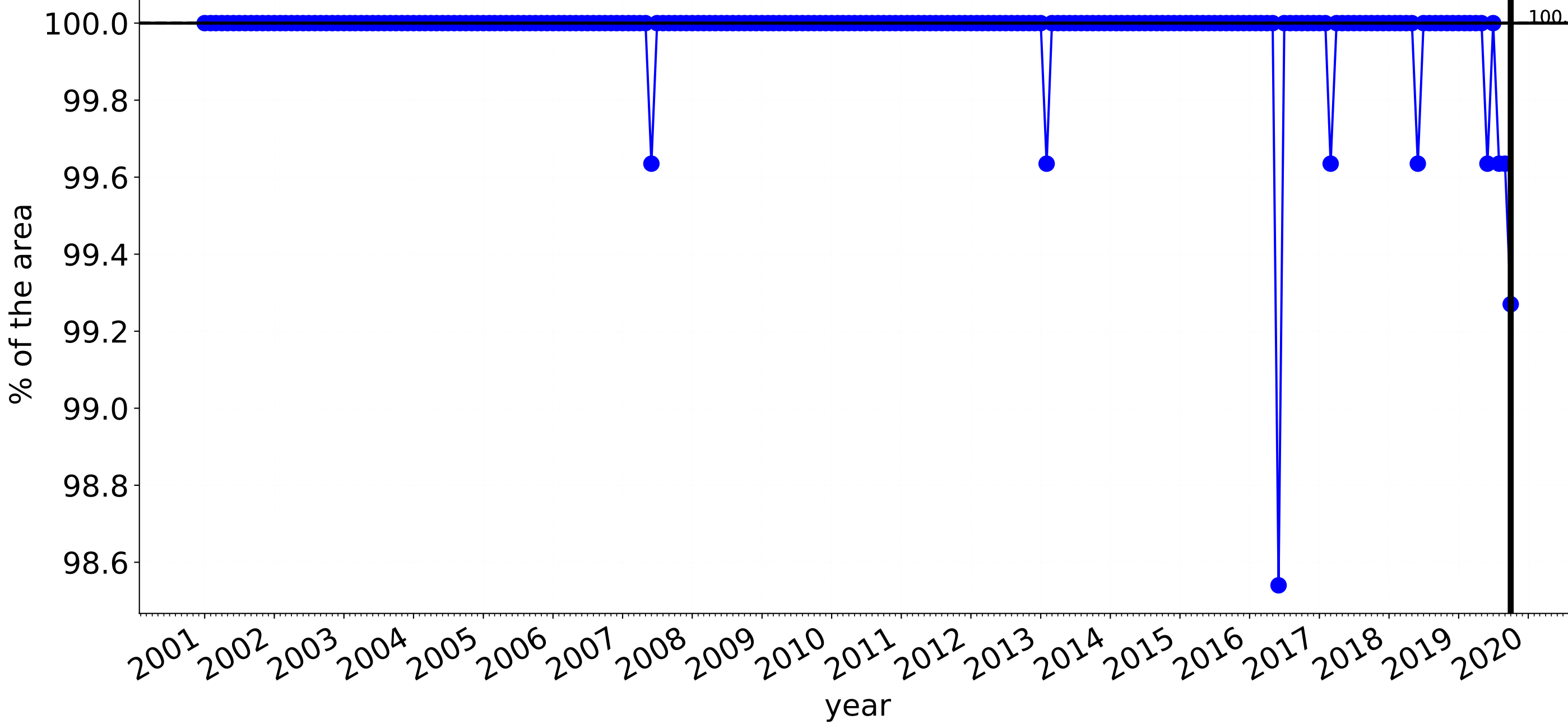
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



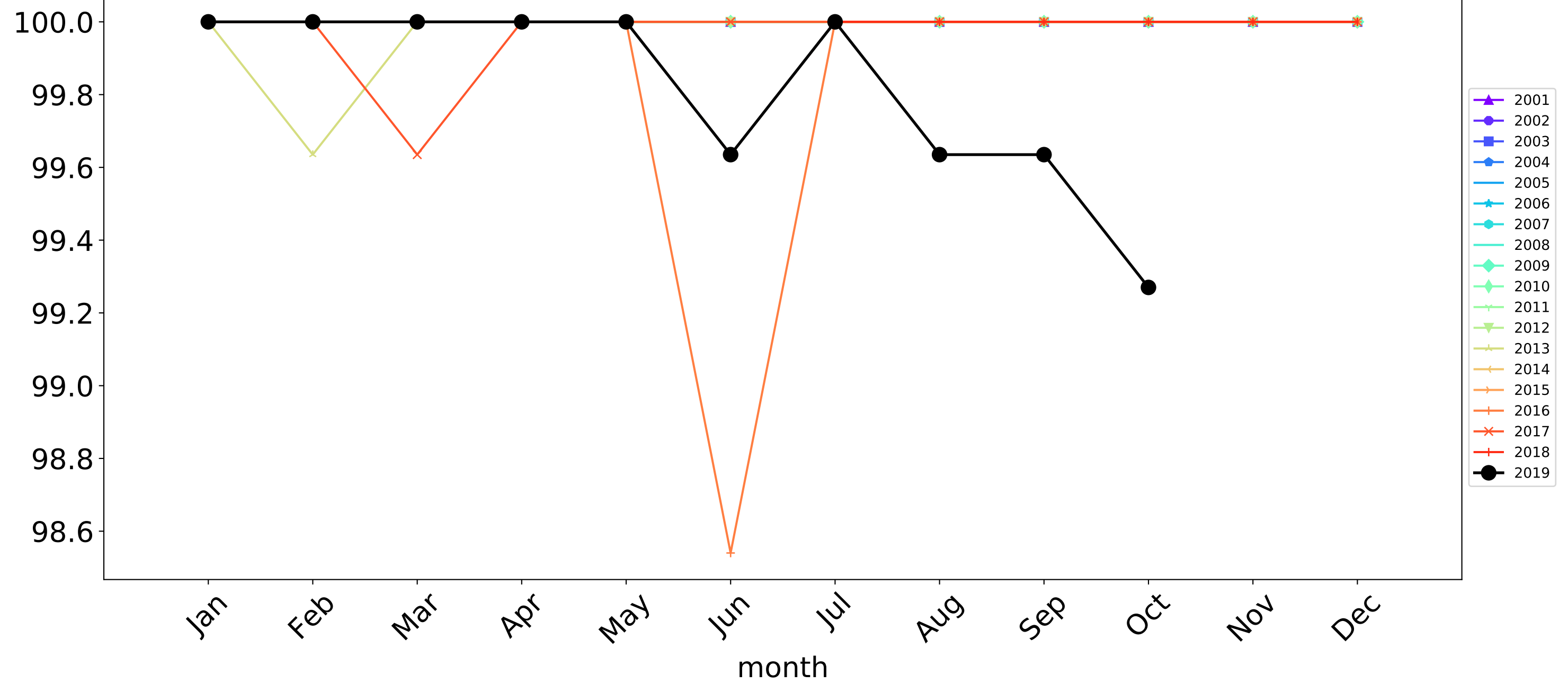
Wind erosion historical monthly area protected (Total Veg Cov >50%)

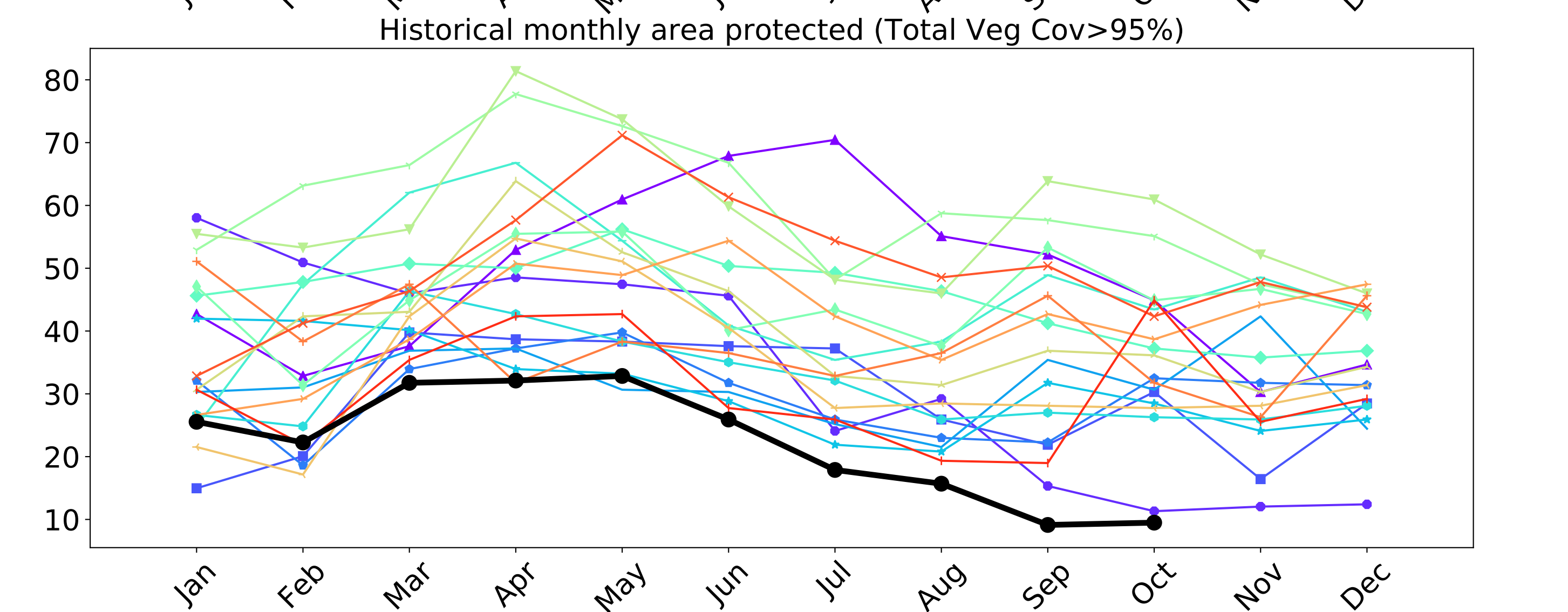
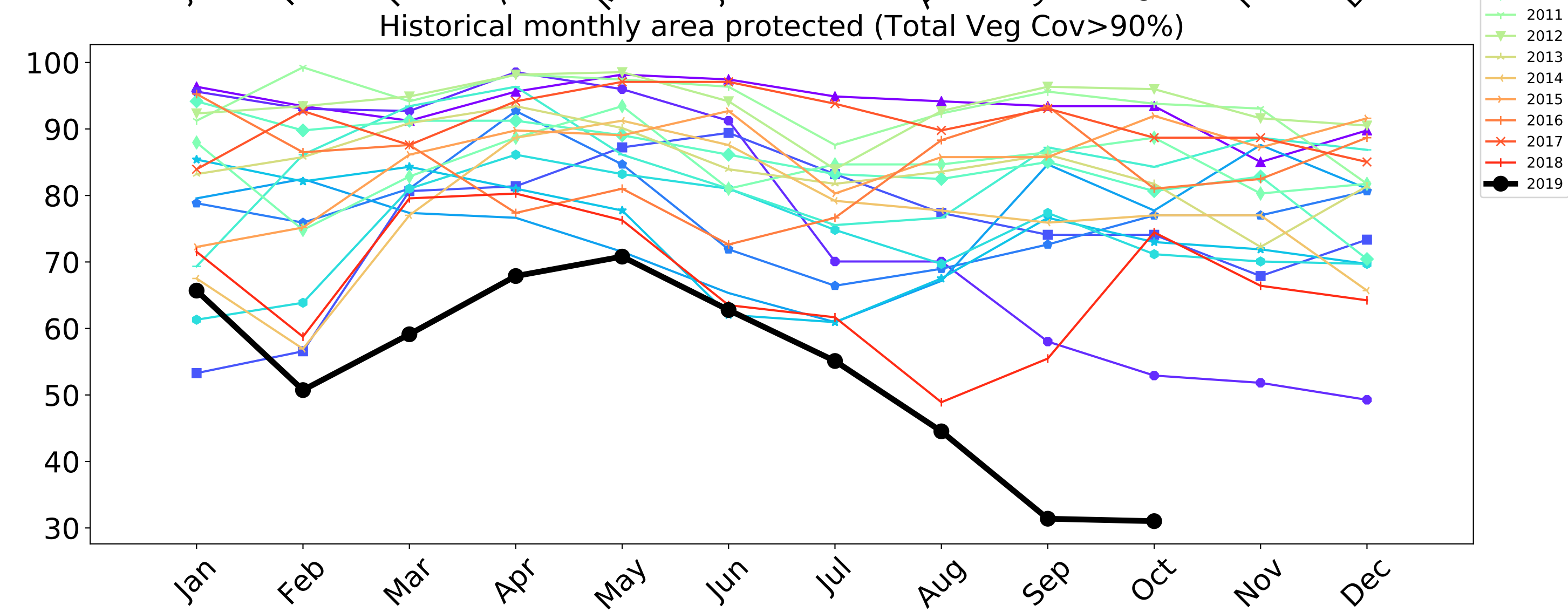
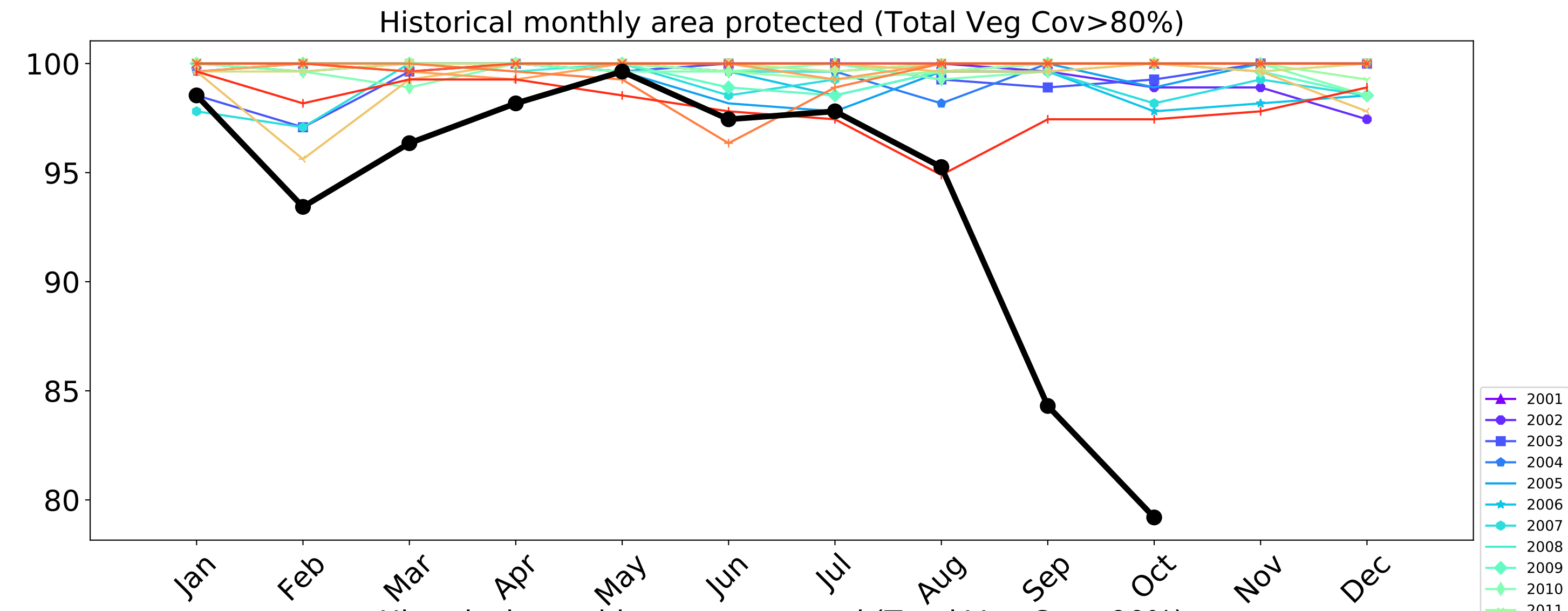
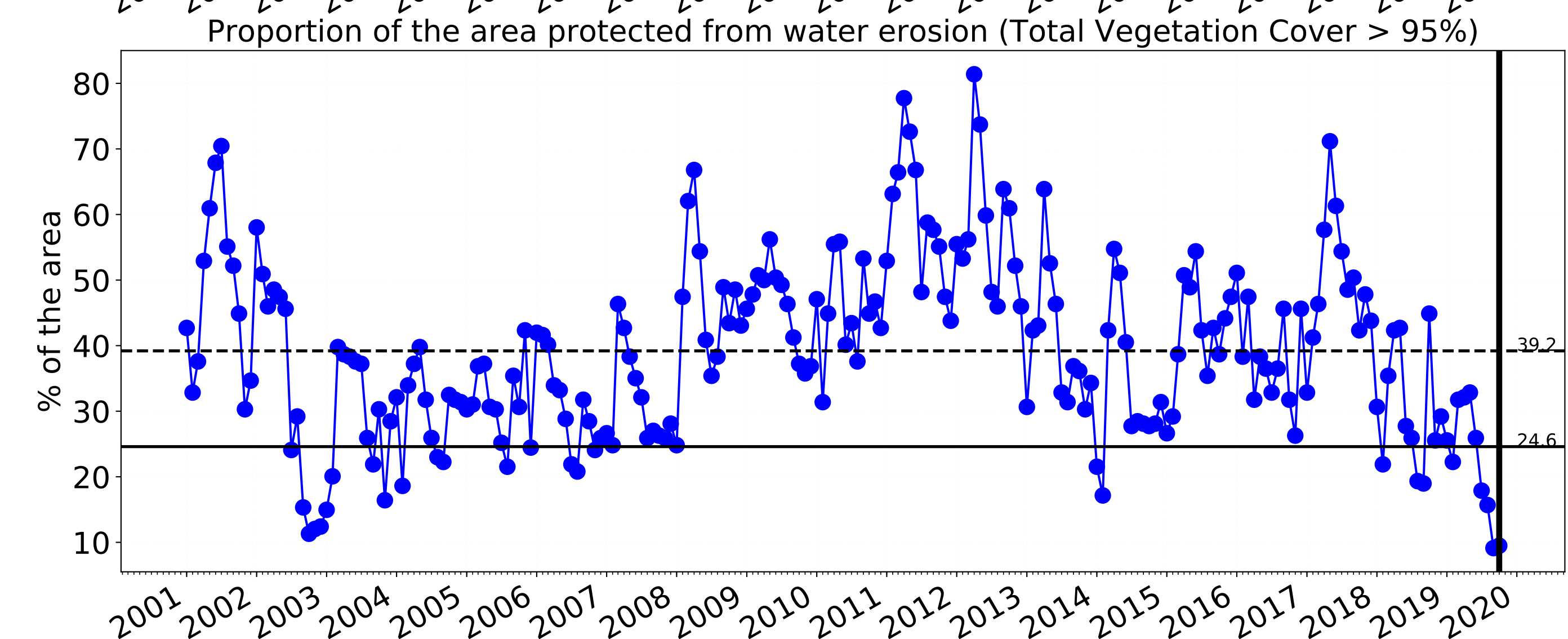
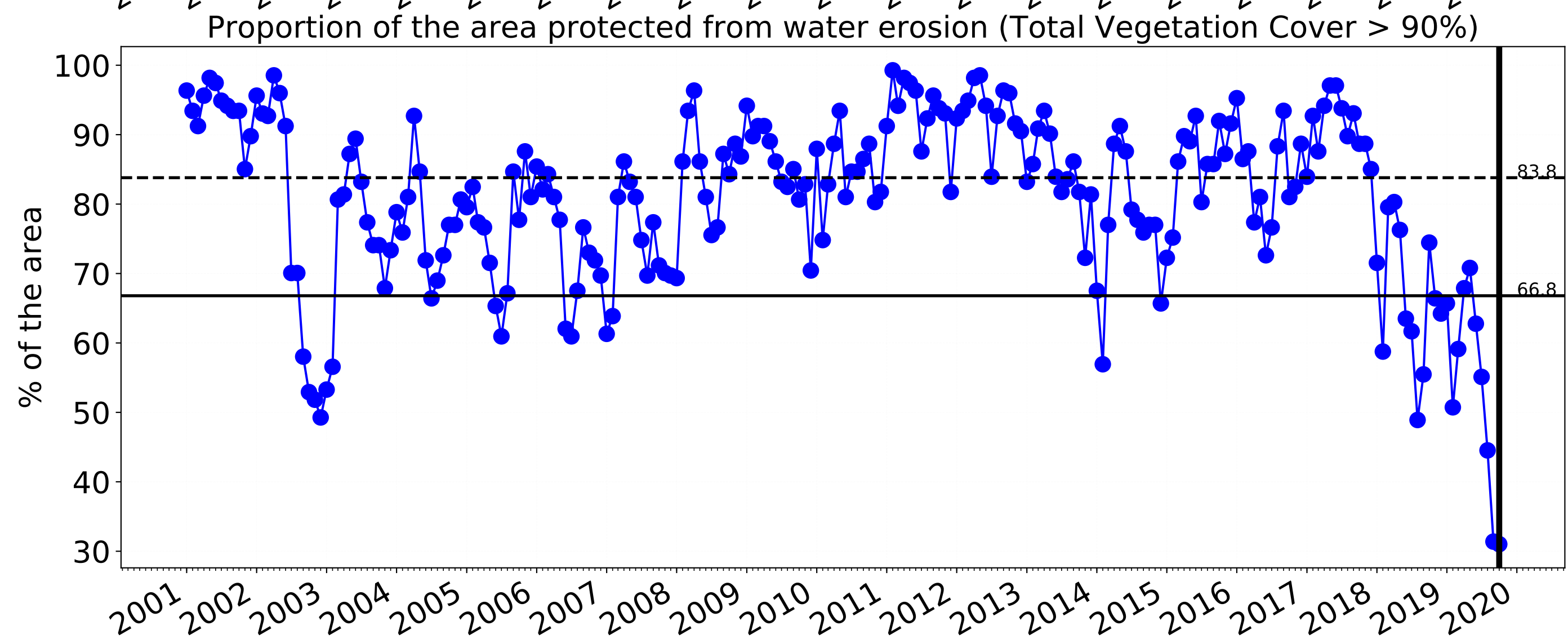
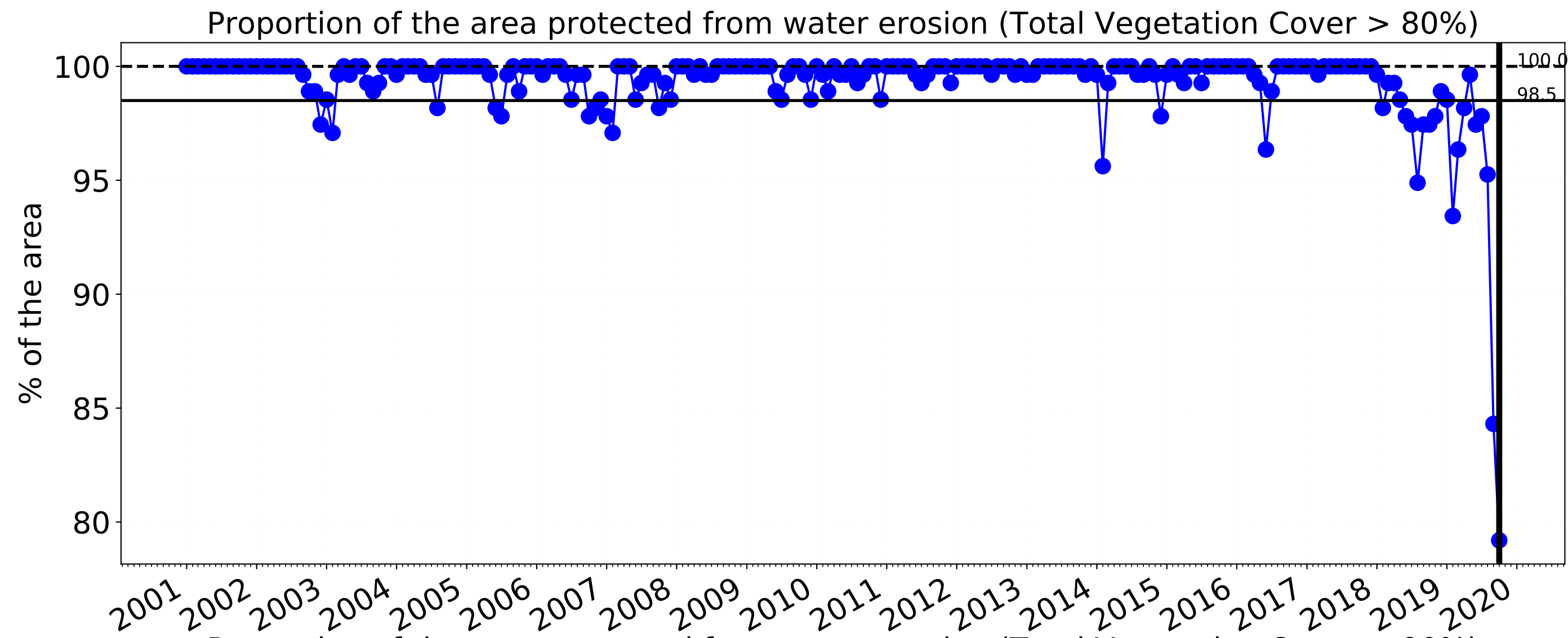


Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



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

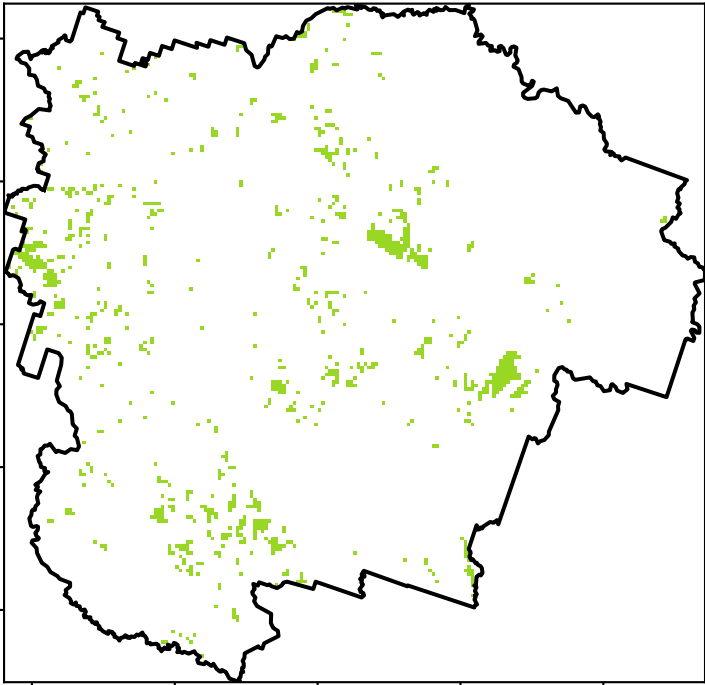




Grazing - Forest (non woodland)

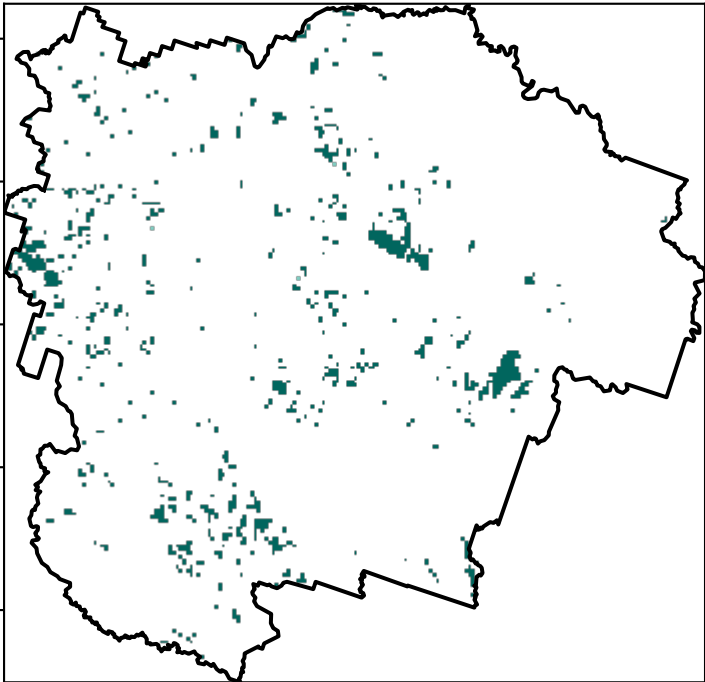
Land use and forest cover

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

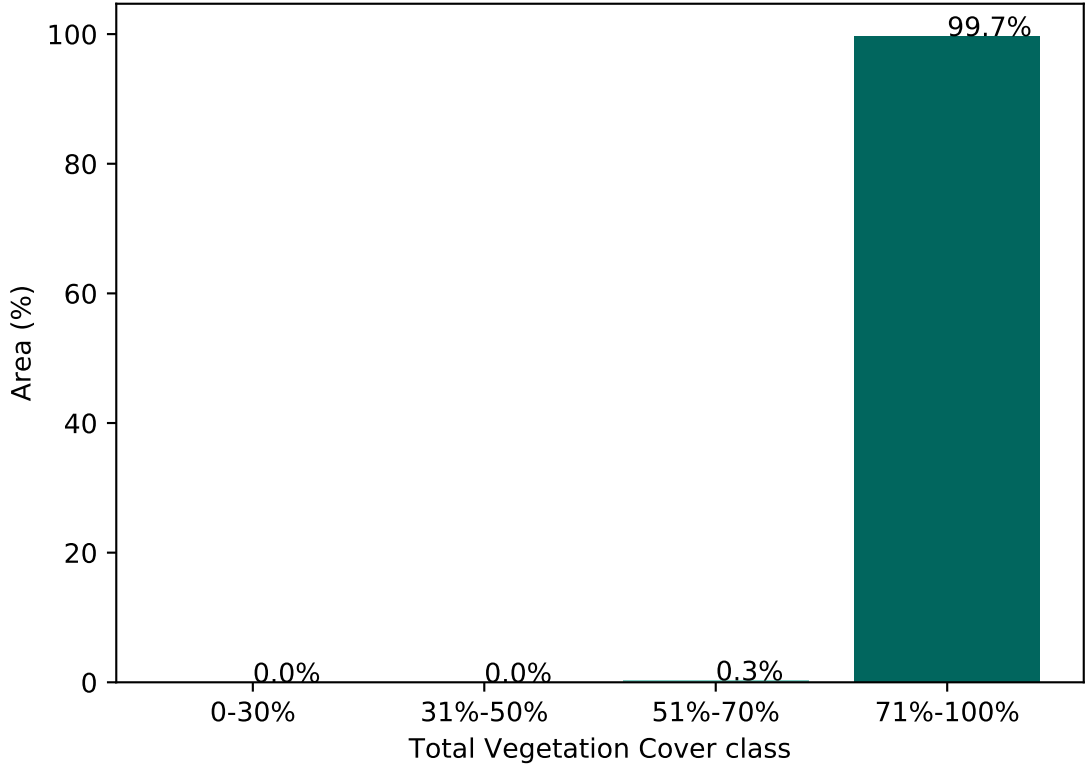


Agriculture - Grazing - Non-oodland forest

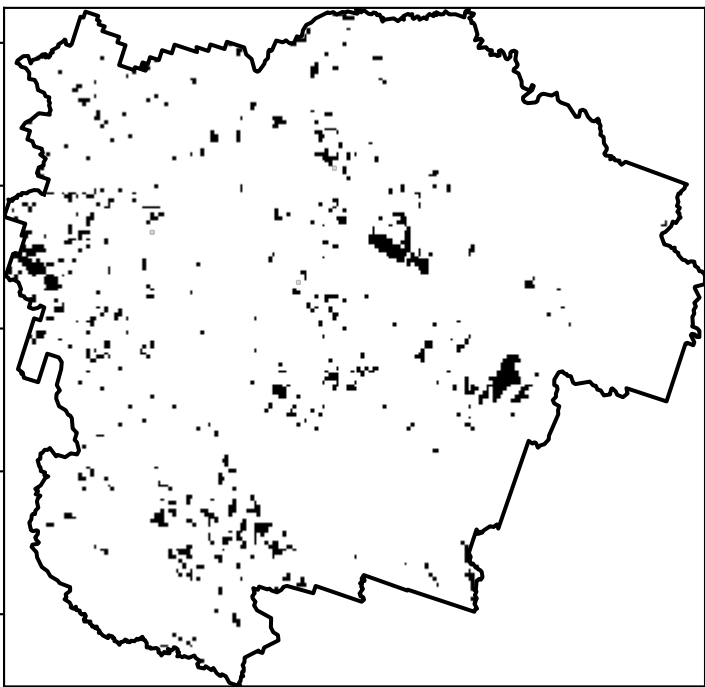
Total Vegetation Cover [%]



Proportion of vegetation cover class in area

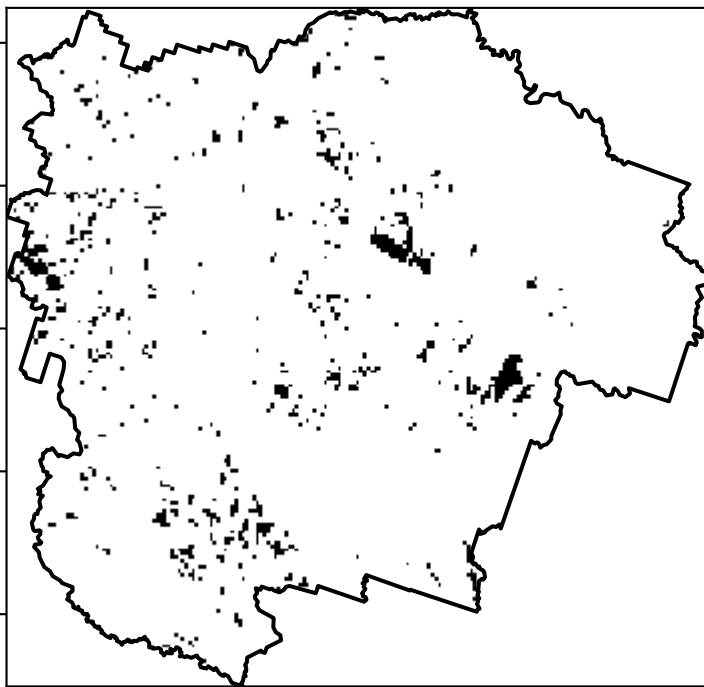


% Area protected from water erosion (>70%)



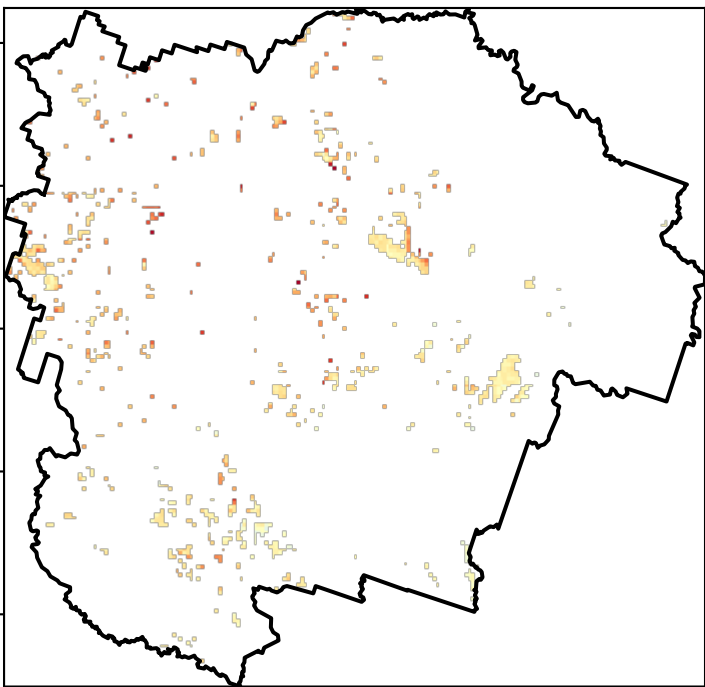
Area not protected
0.3% of region (74 ha)
Area protected
99.7% of region (24,900 ha)

% Area protected from wind erosion (>50%)



Area protected
100.0% of region (24,975 ha)

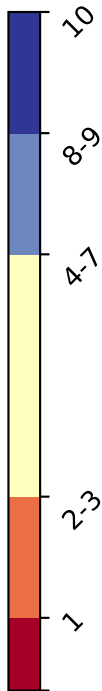
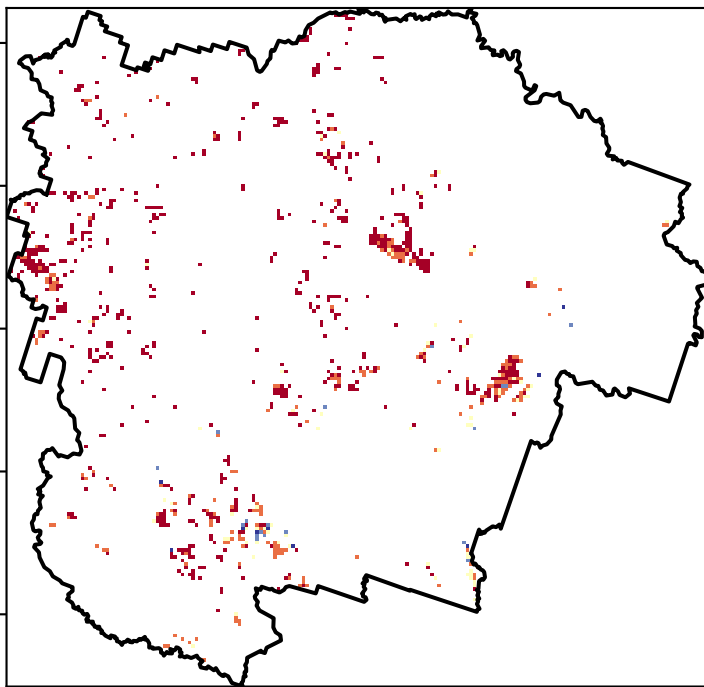
Total Vegetation Cover Anomaly [%]



Anomaly show how many percentage points each pixel is from the mean. That is, red pixels are about 20% lower than the mean of that pixel. The mean is only for the month of the map using baseline from 2001 to 2019.

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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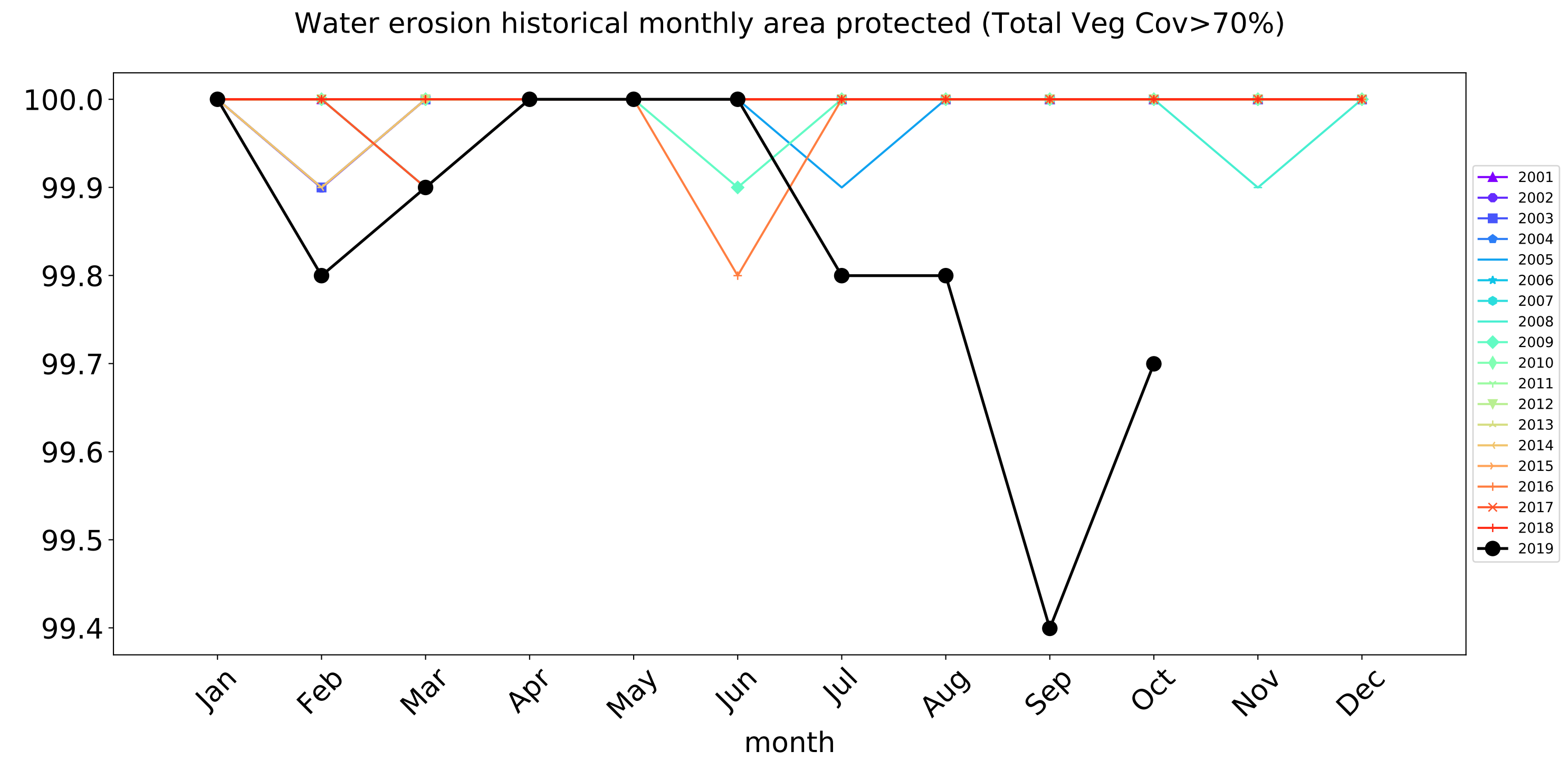
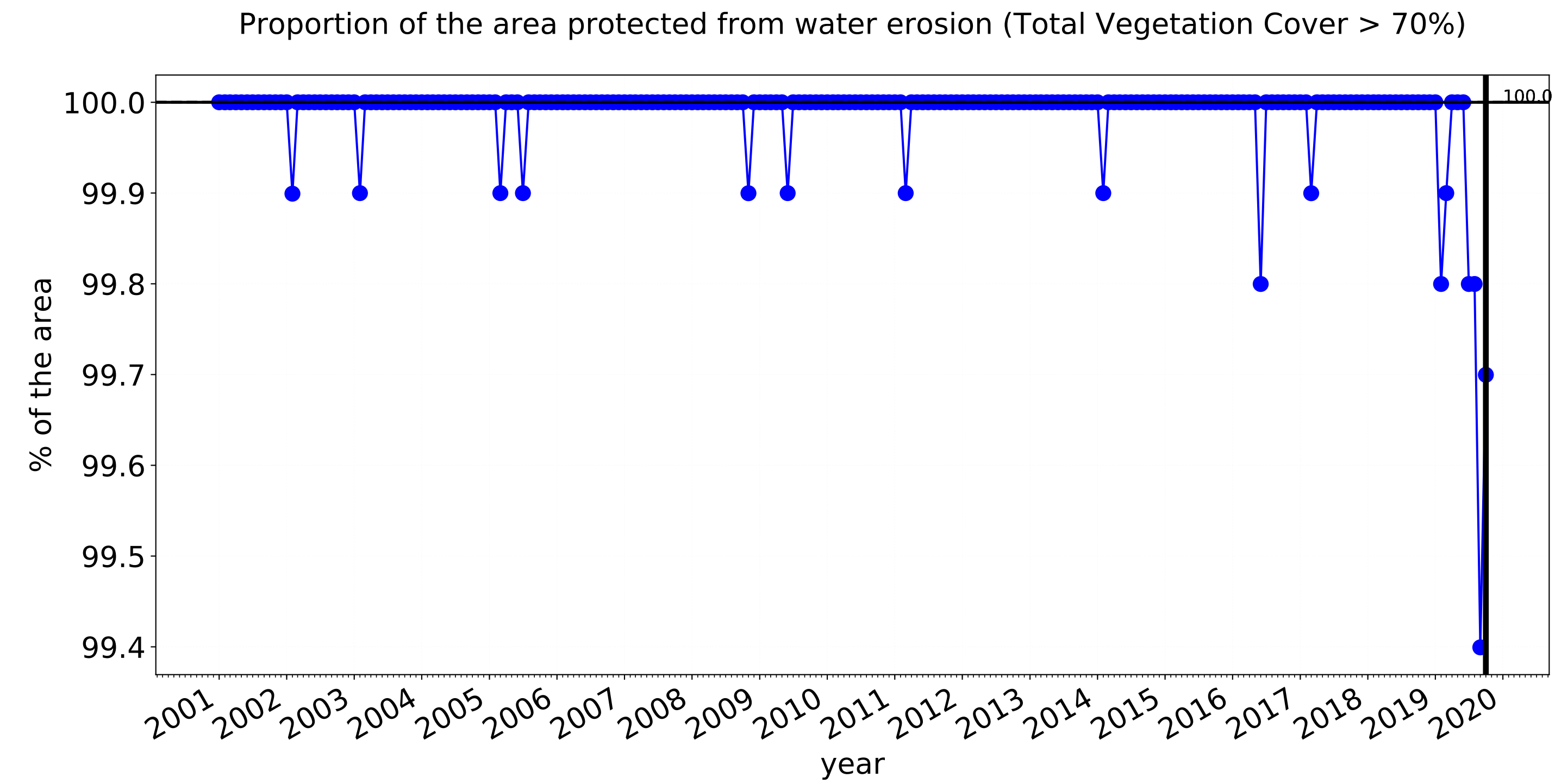
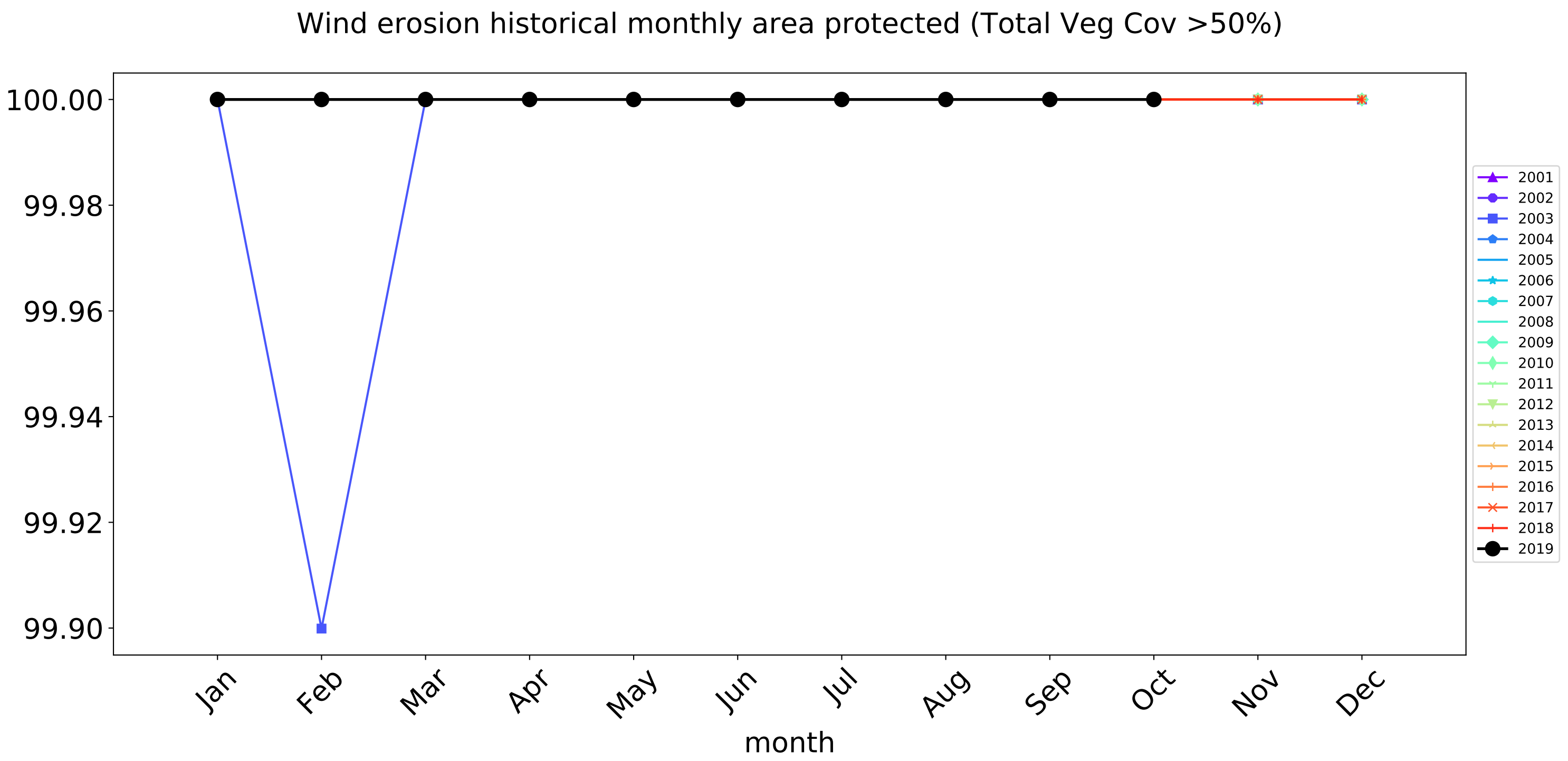
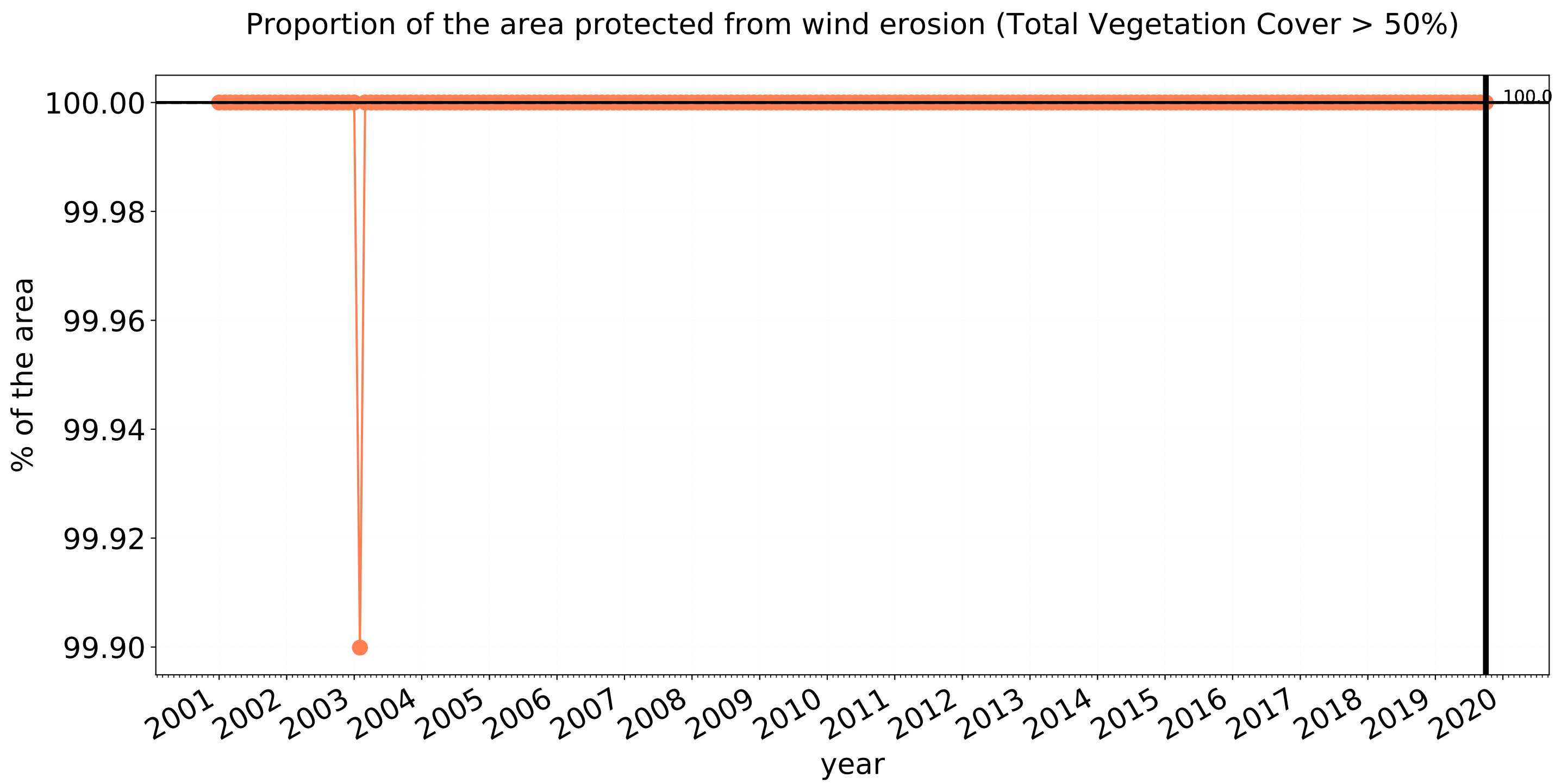


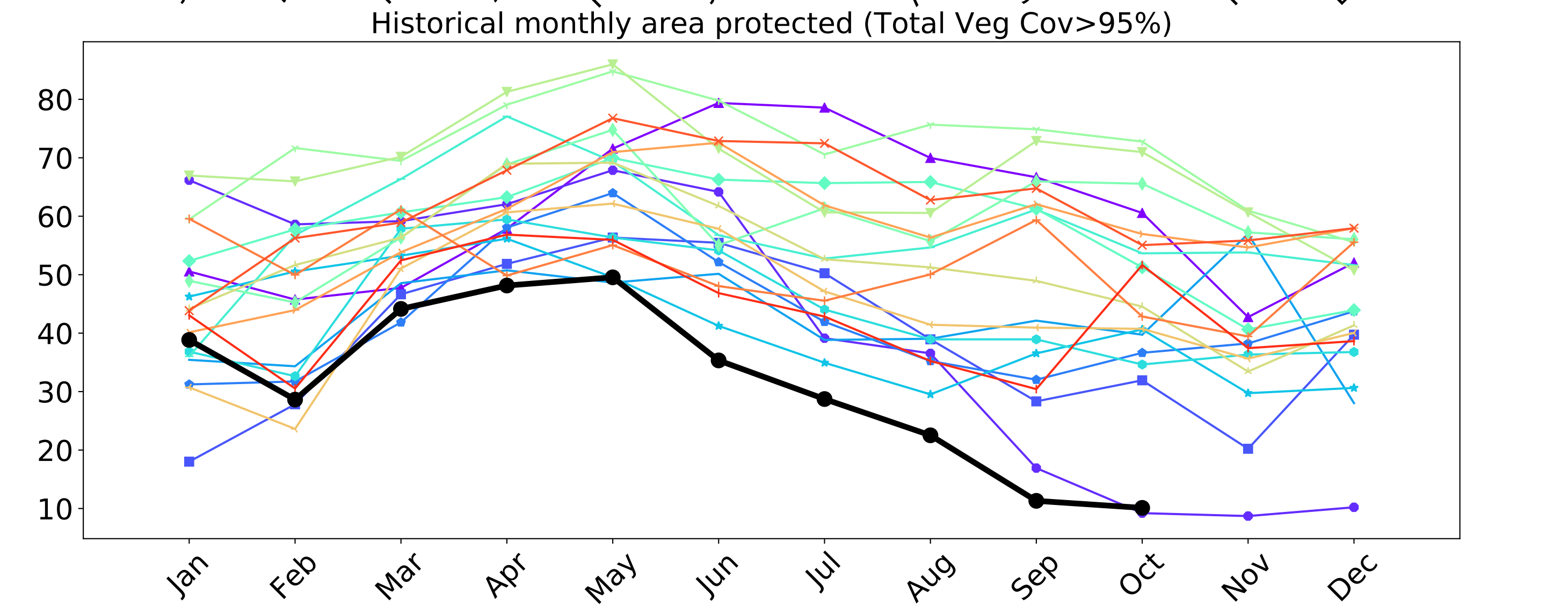
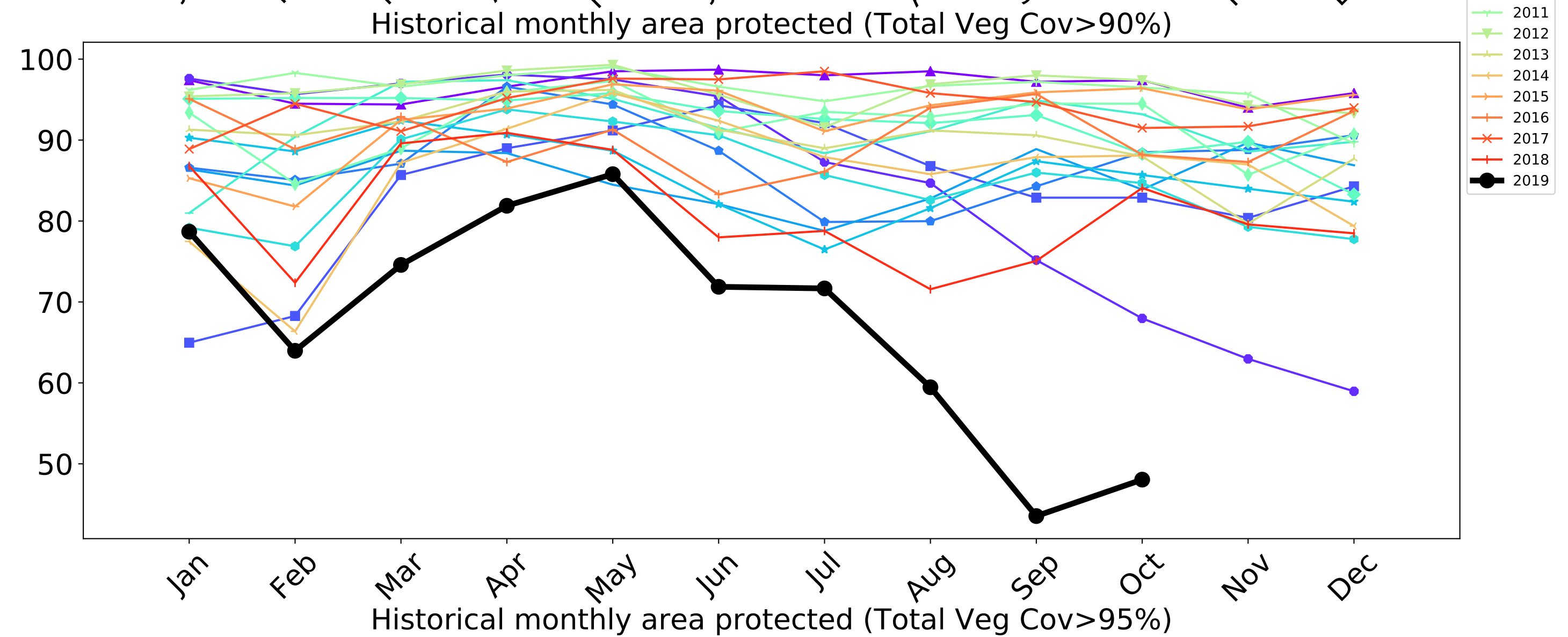
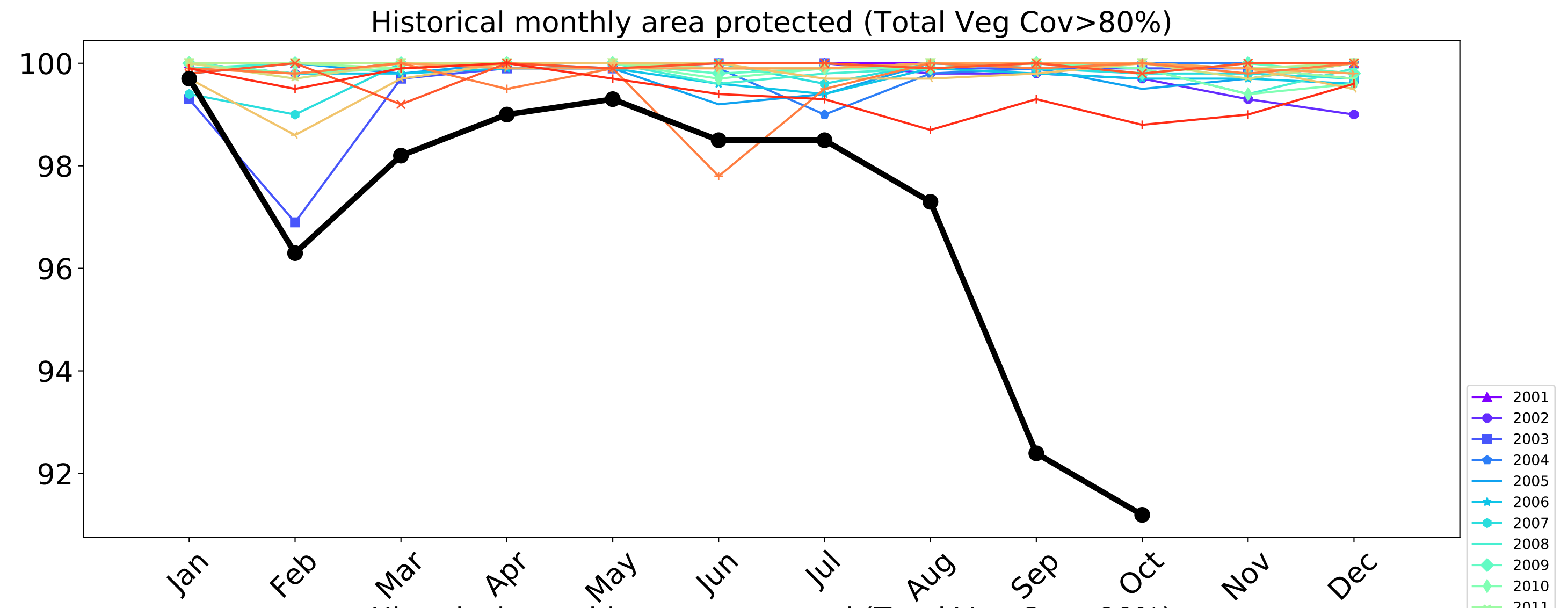
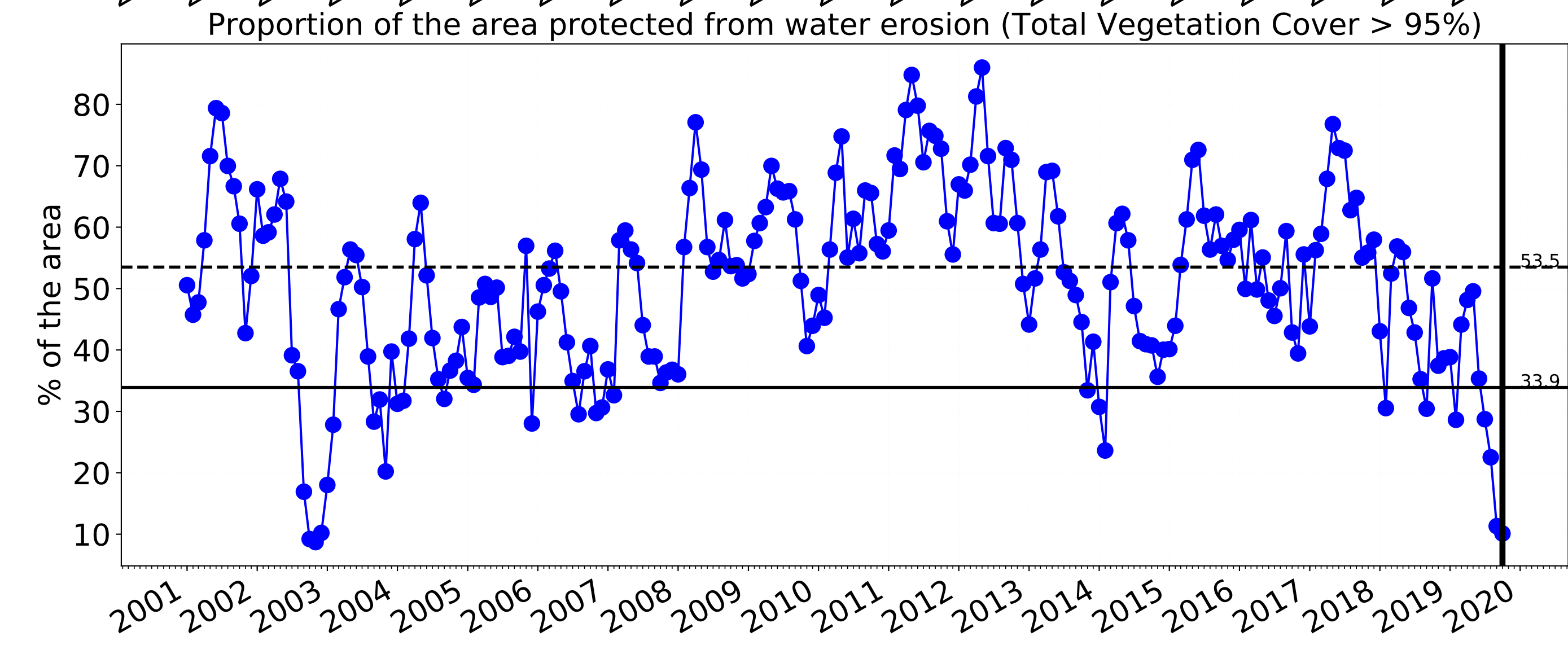
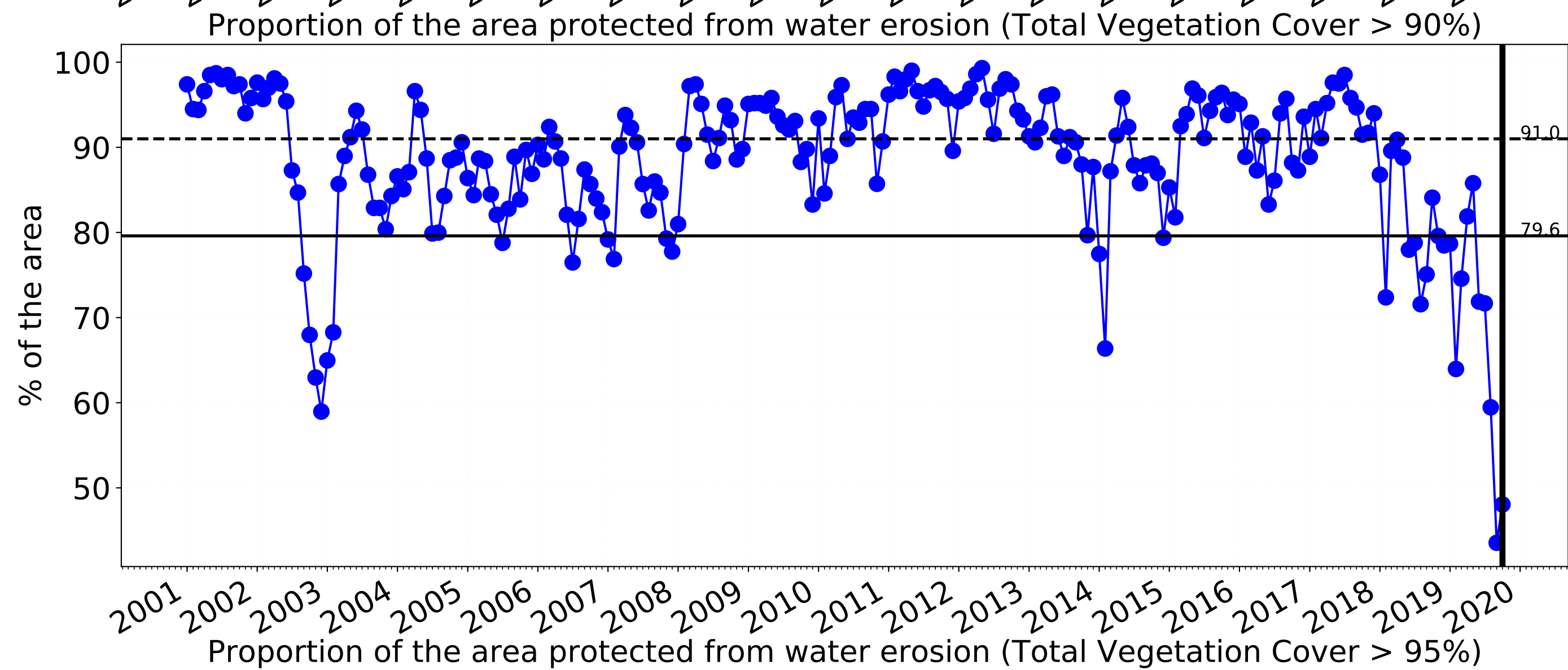
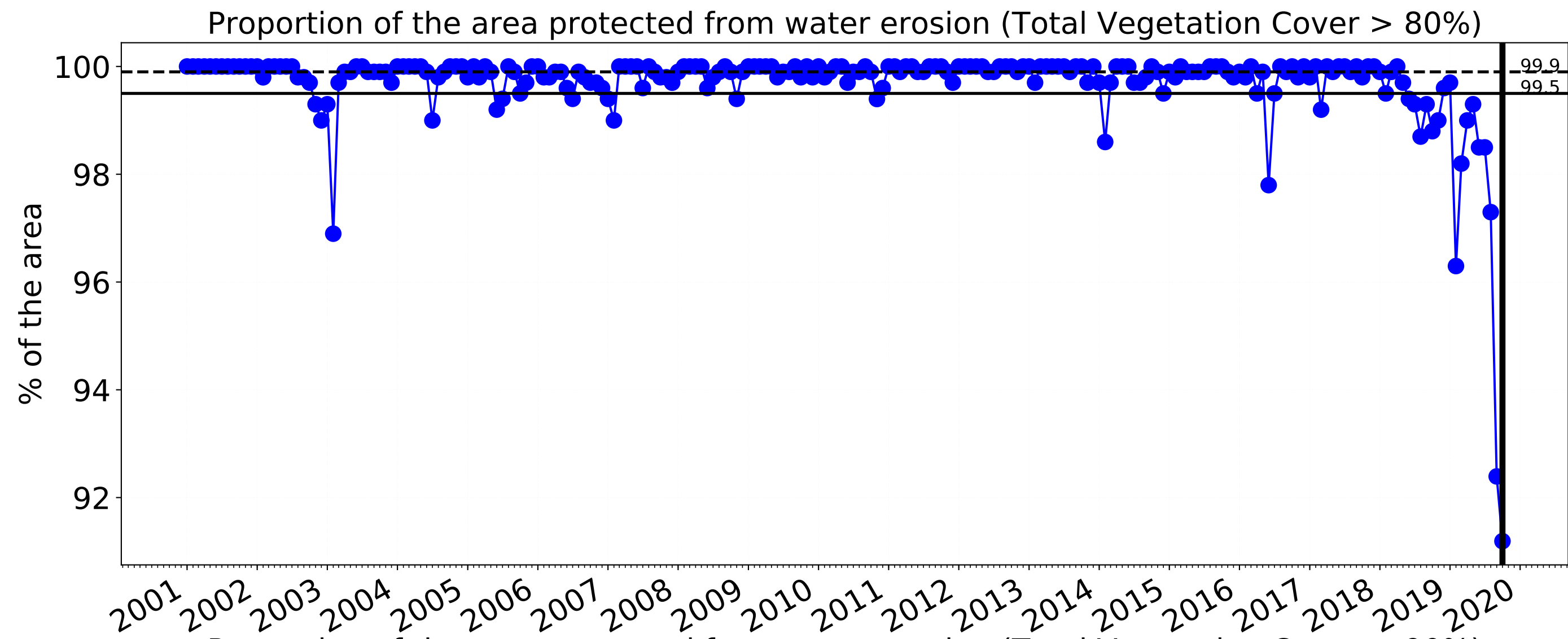
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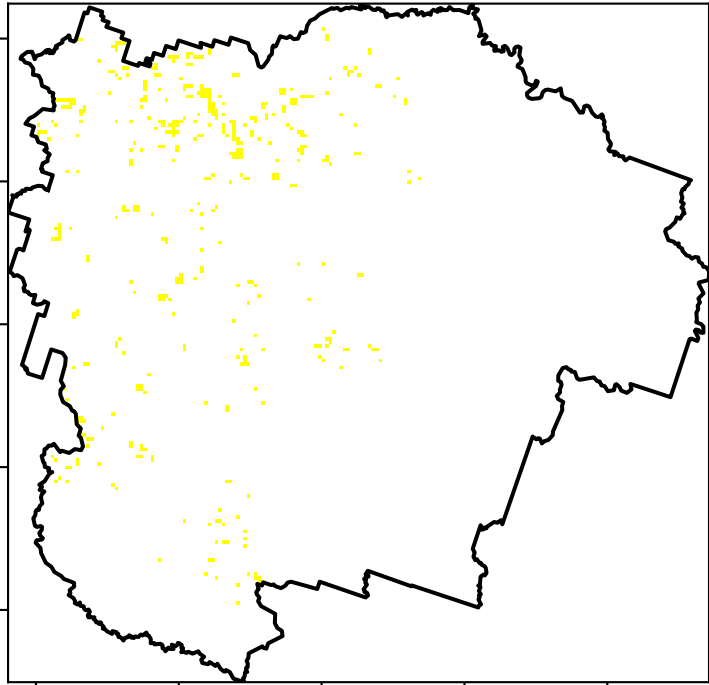
Grazing - Forest (non woodland) timeseries





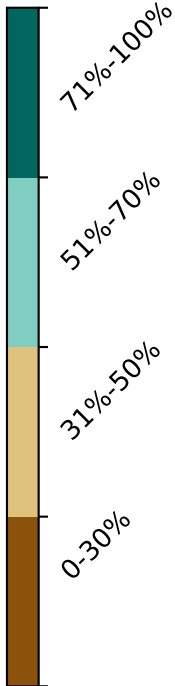
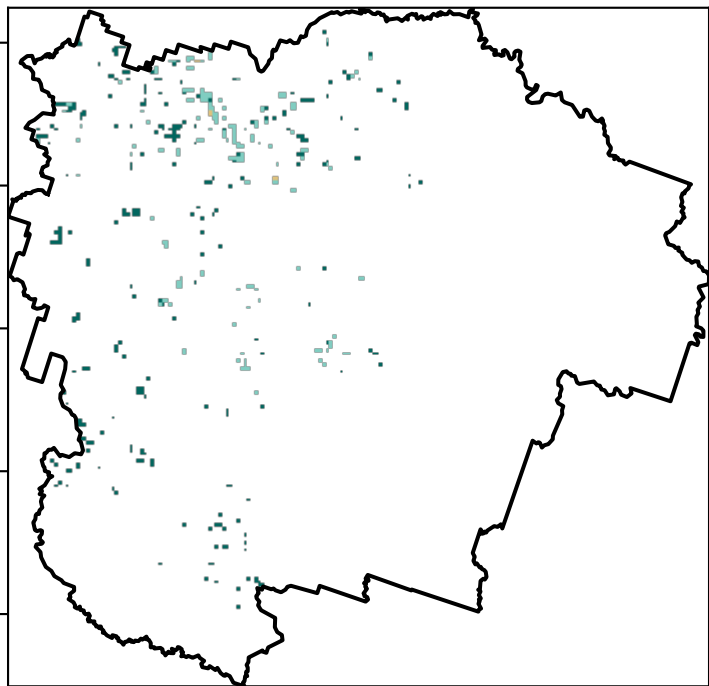
Cropping

Land use and forest cover

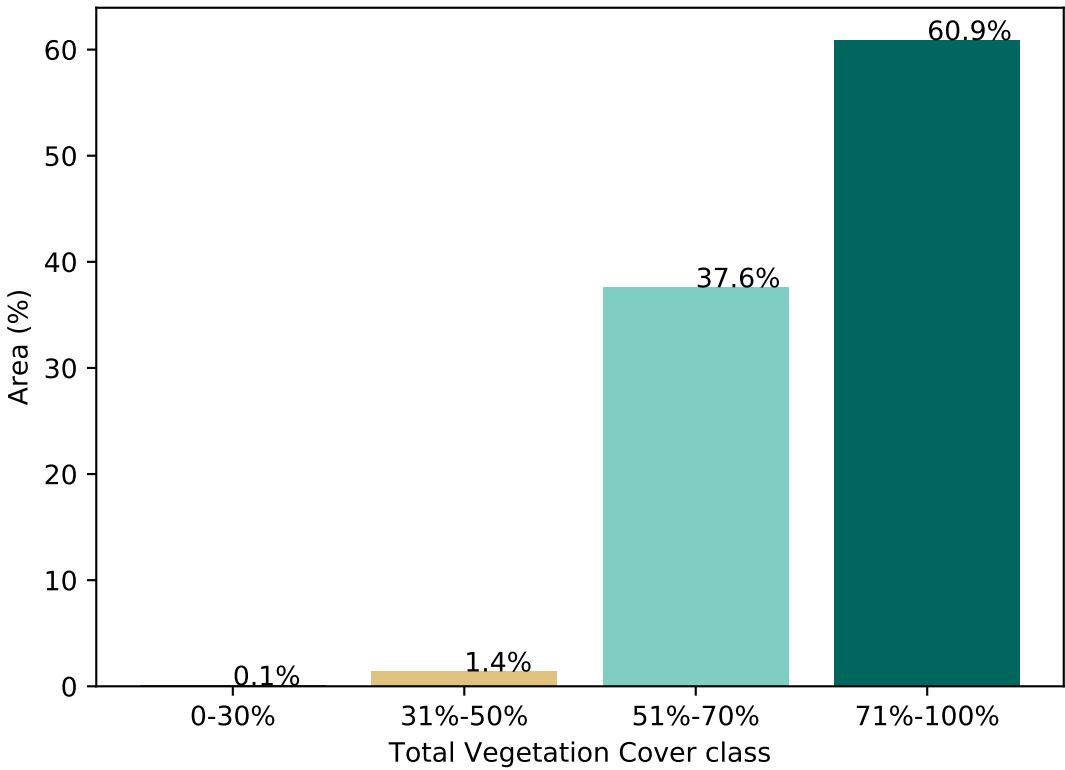


Agriculture - Cropping - Non-irrigated

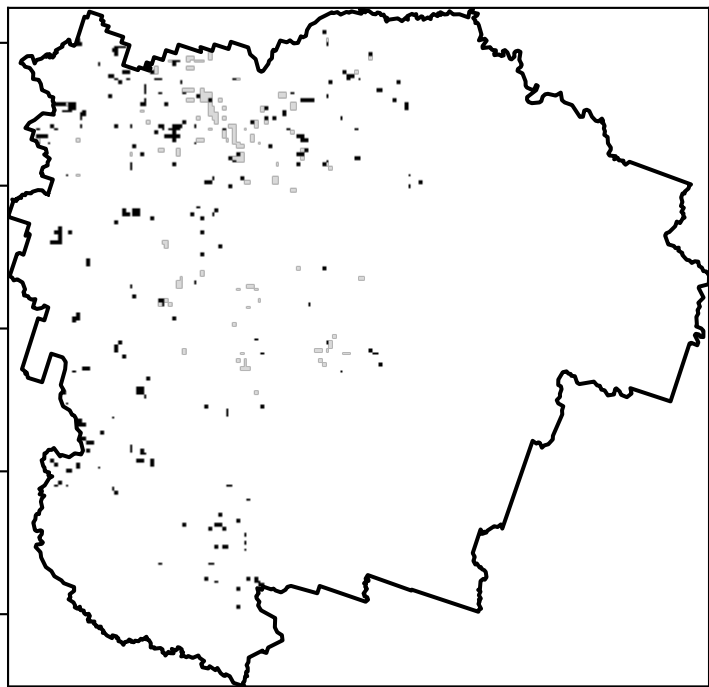
Total Vegetation Cover [%]



Proportion of vegetation cover class in area

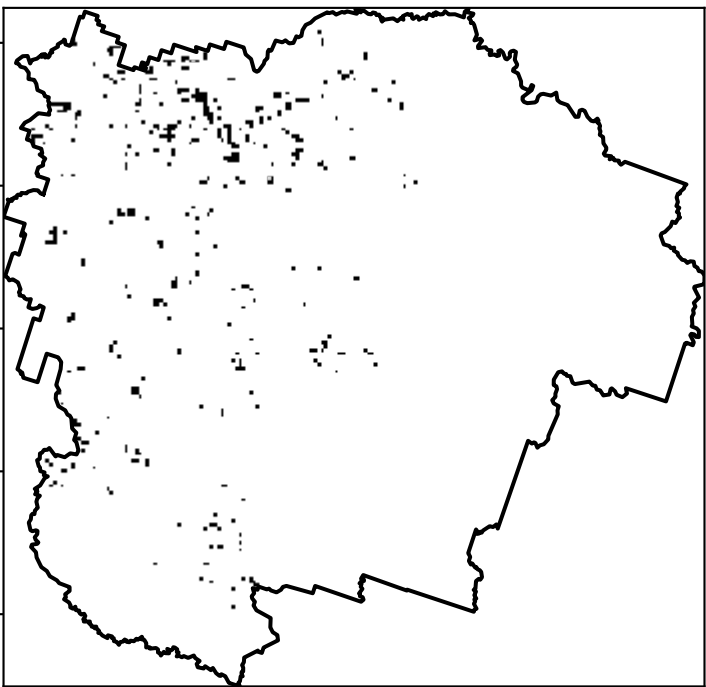


% Area protected from water erosion (>70%)



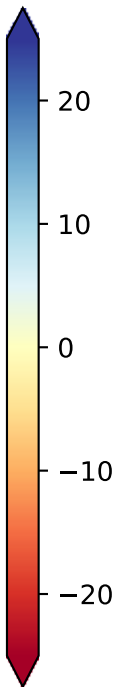
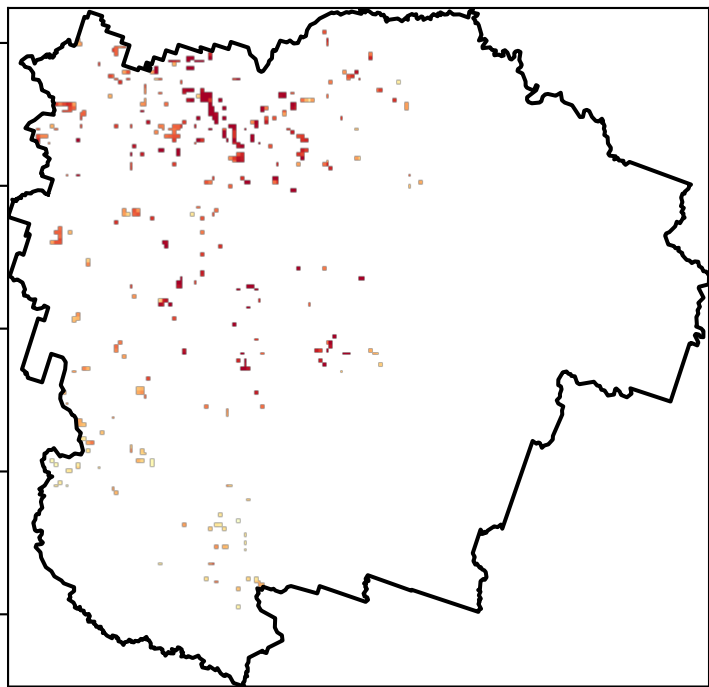
Area not protected
39.1% of region
(4,154 ha)
Area protected
60.9% of region
(6,470 ha)

% Area protected from wind erosion (>50%)



Area not protected
2.0% of region
(212 ha)
Area protected
98.0% of region
(10,412 ha)

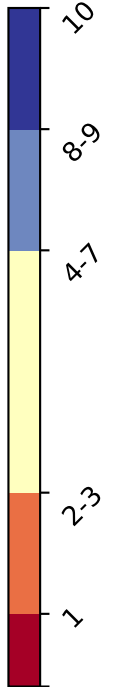
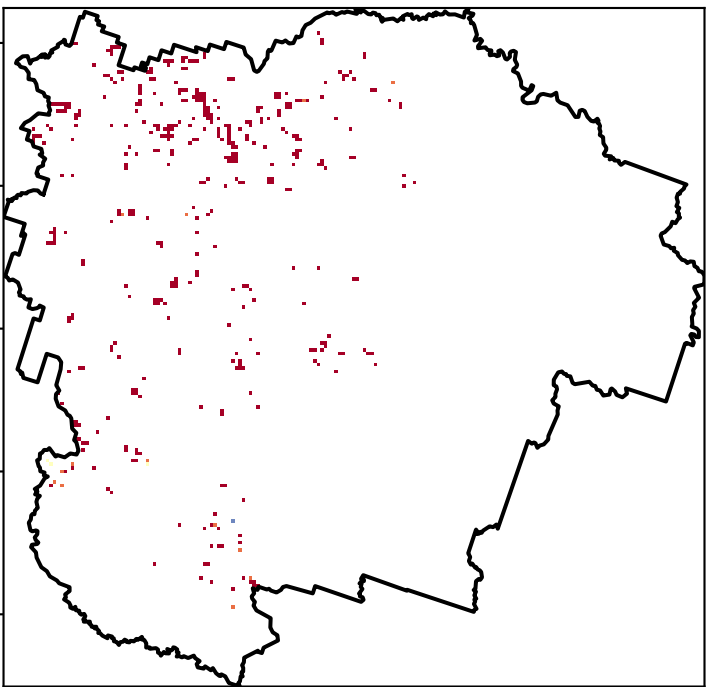
Total Vegetation Cover Anomaly [%]



Anomaly show how many percentage points each pixel is from the mean. That is, red pixels are about 20% lower than the mean of that pixel. The mean is only for the month of the map using baseline from 2001 to 2019.

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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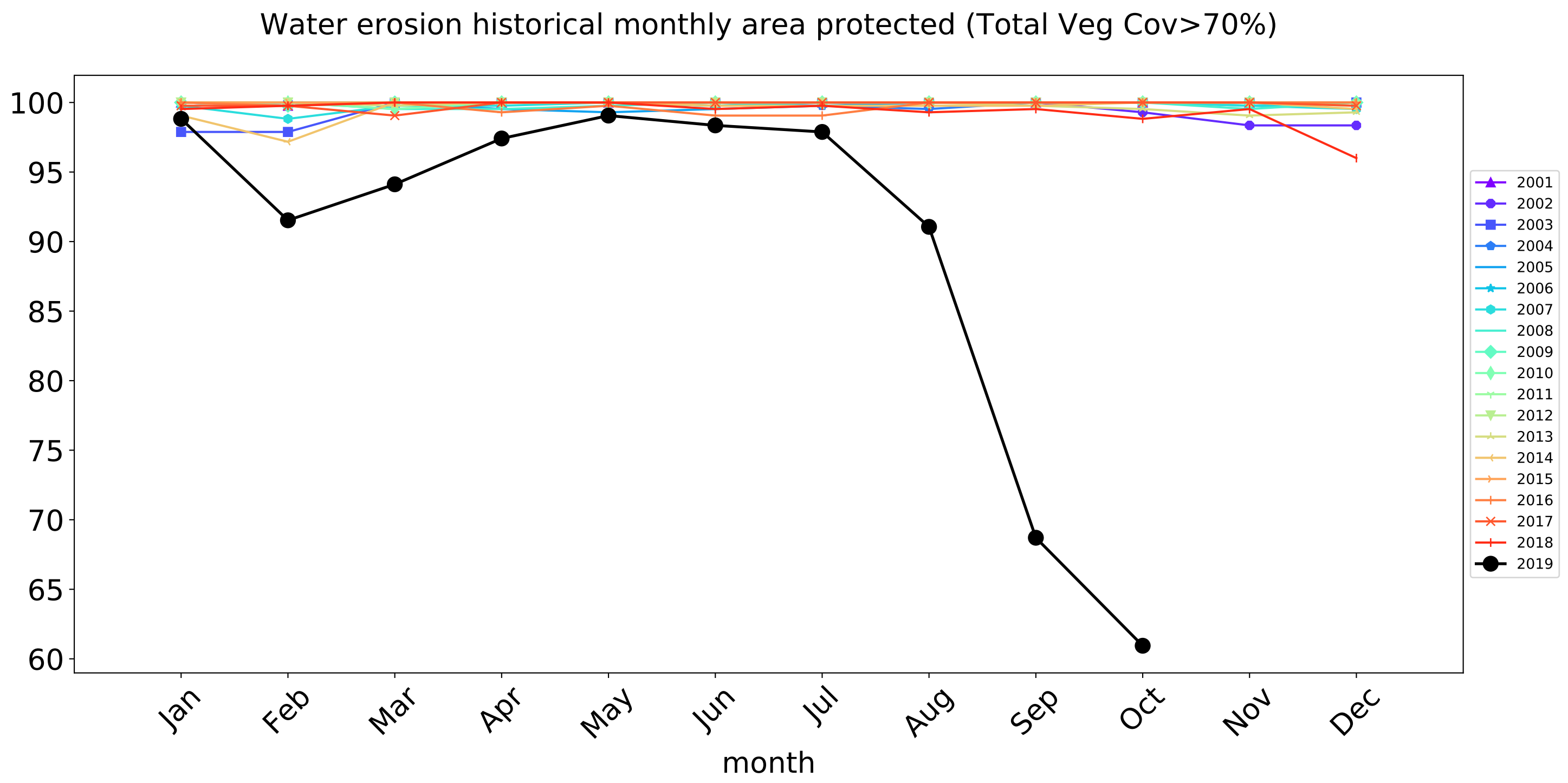
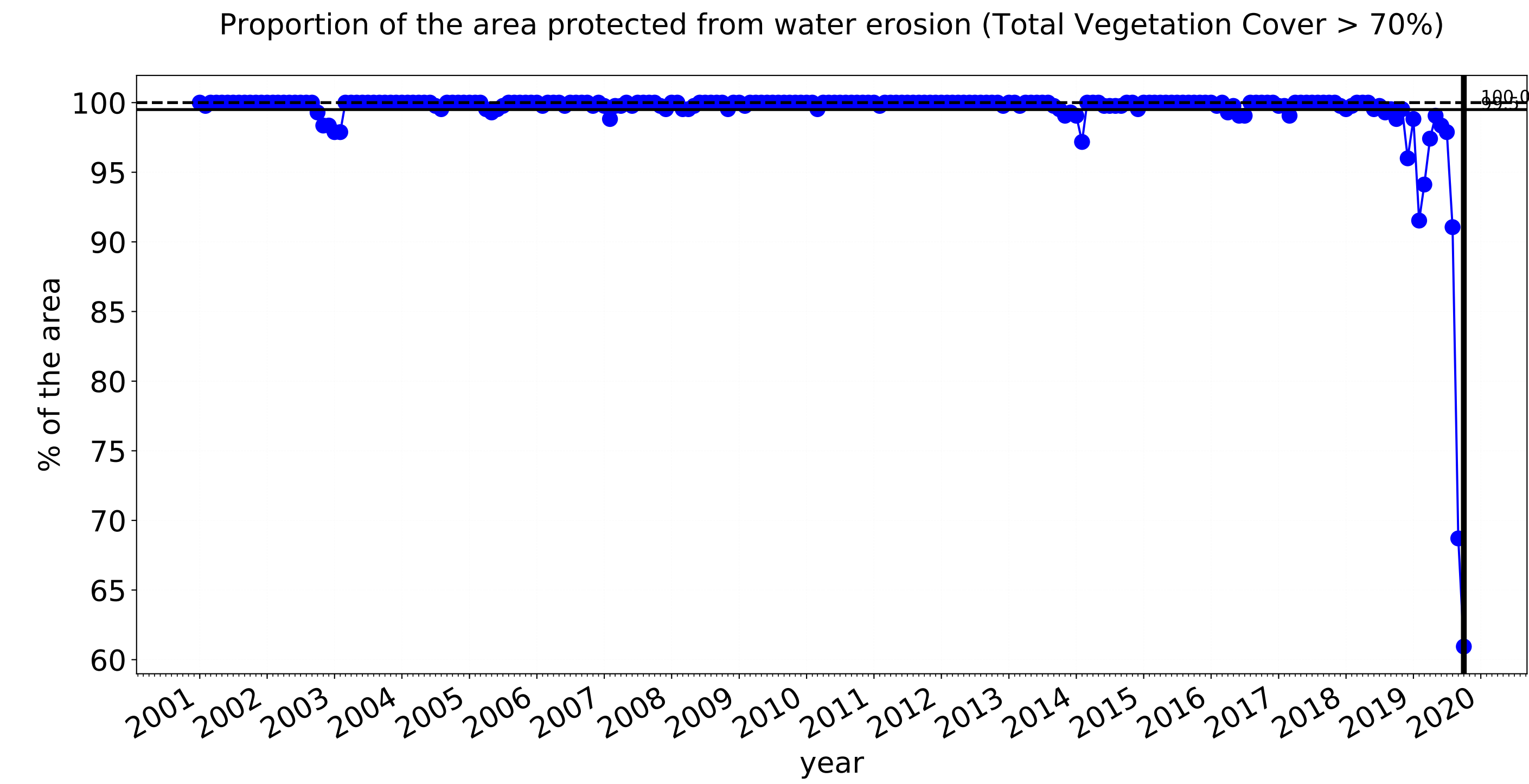
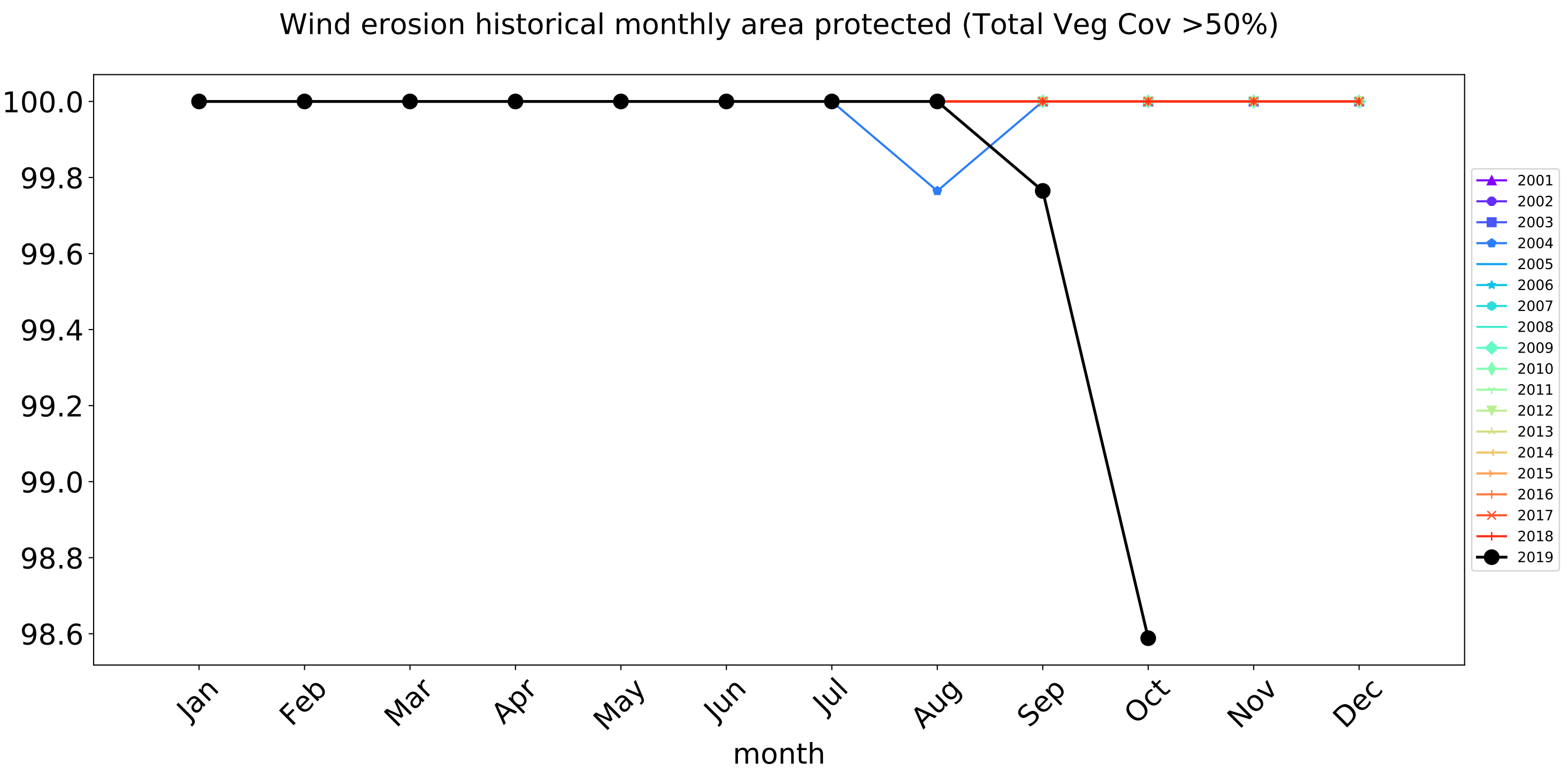
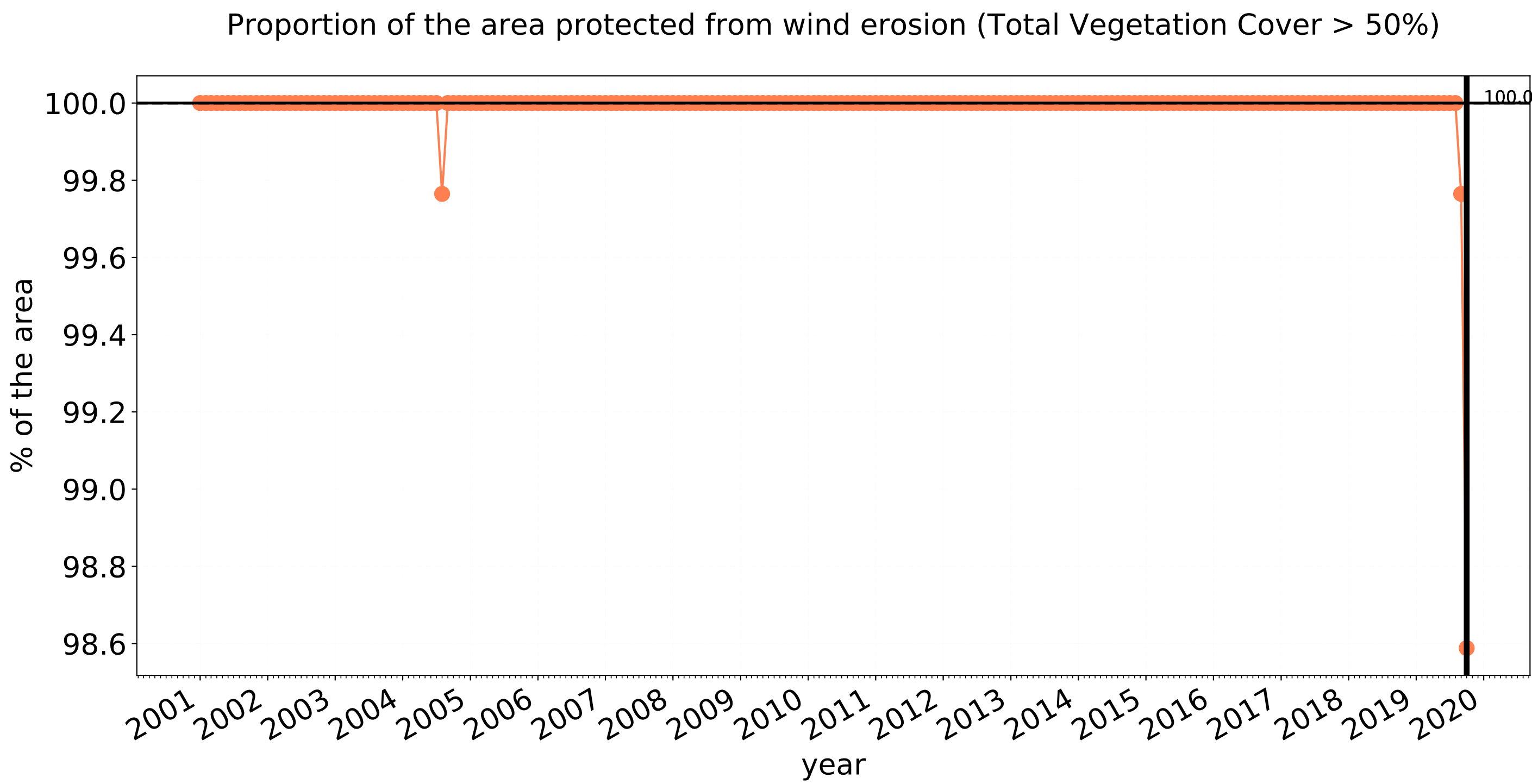


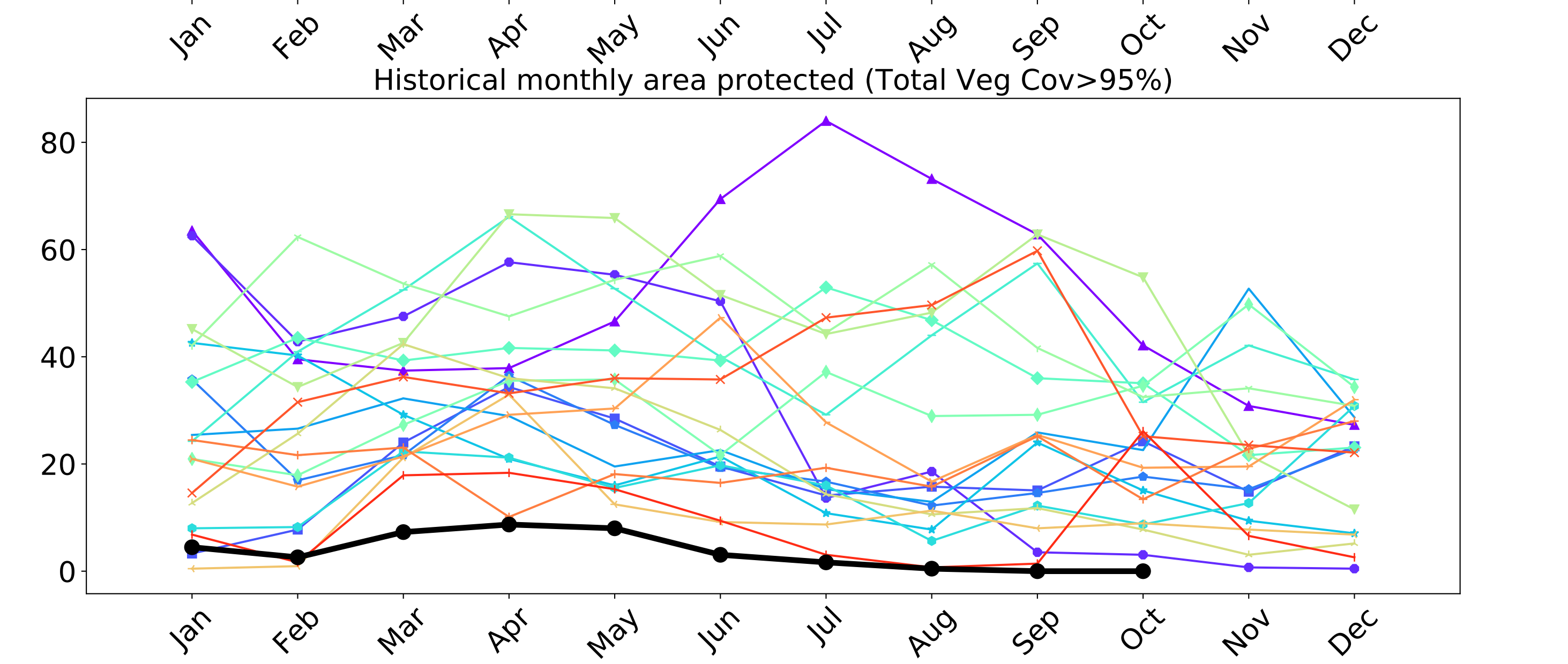
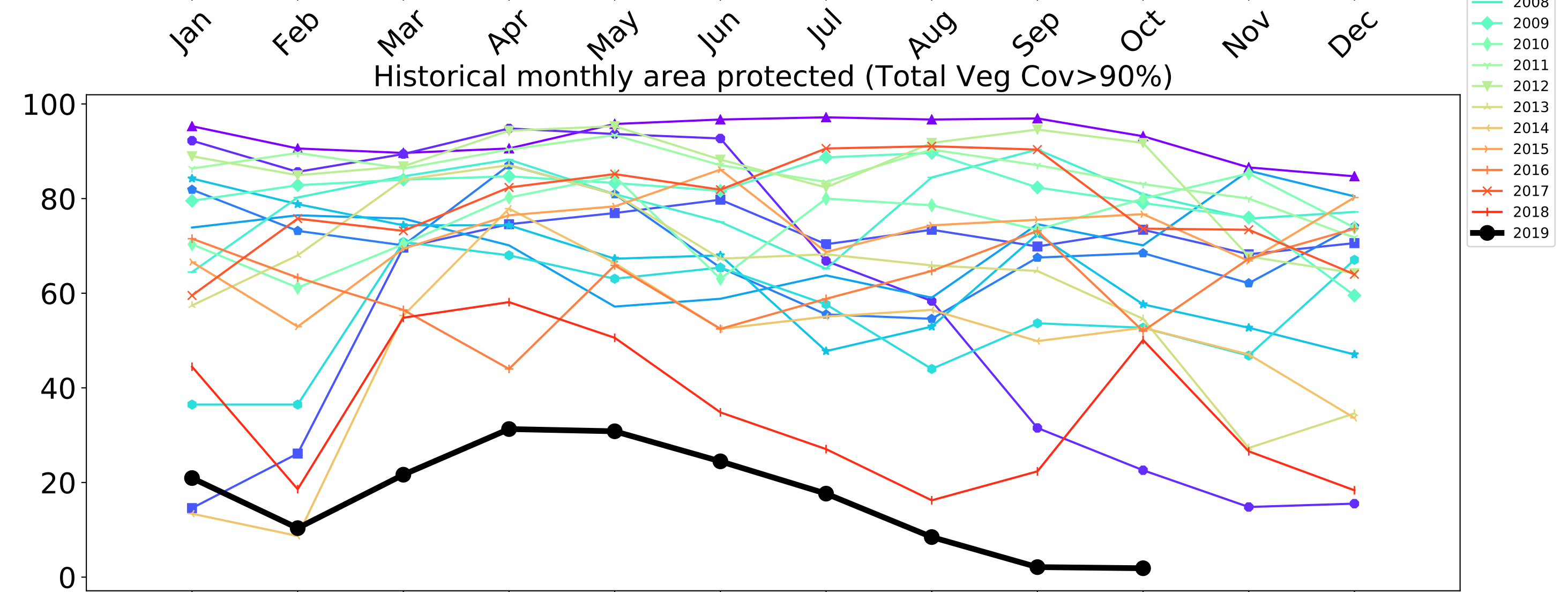
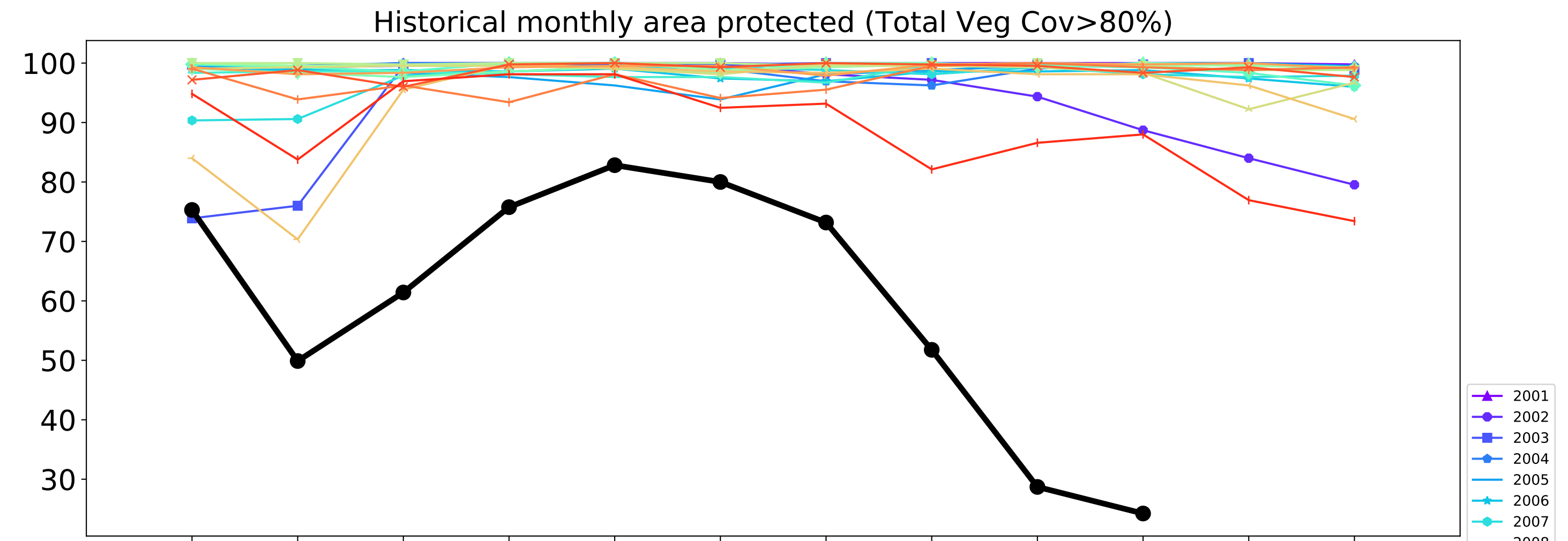
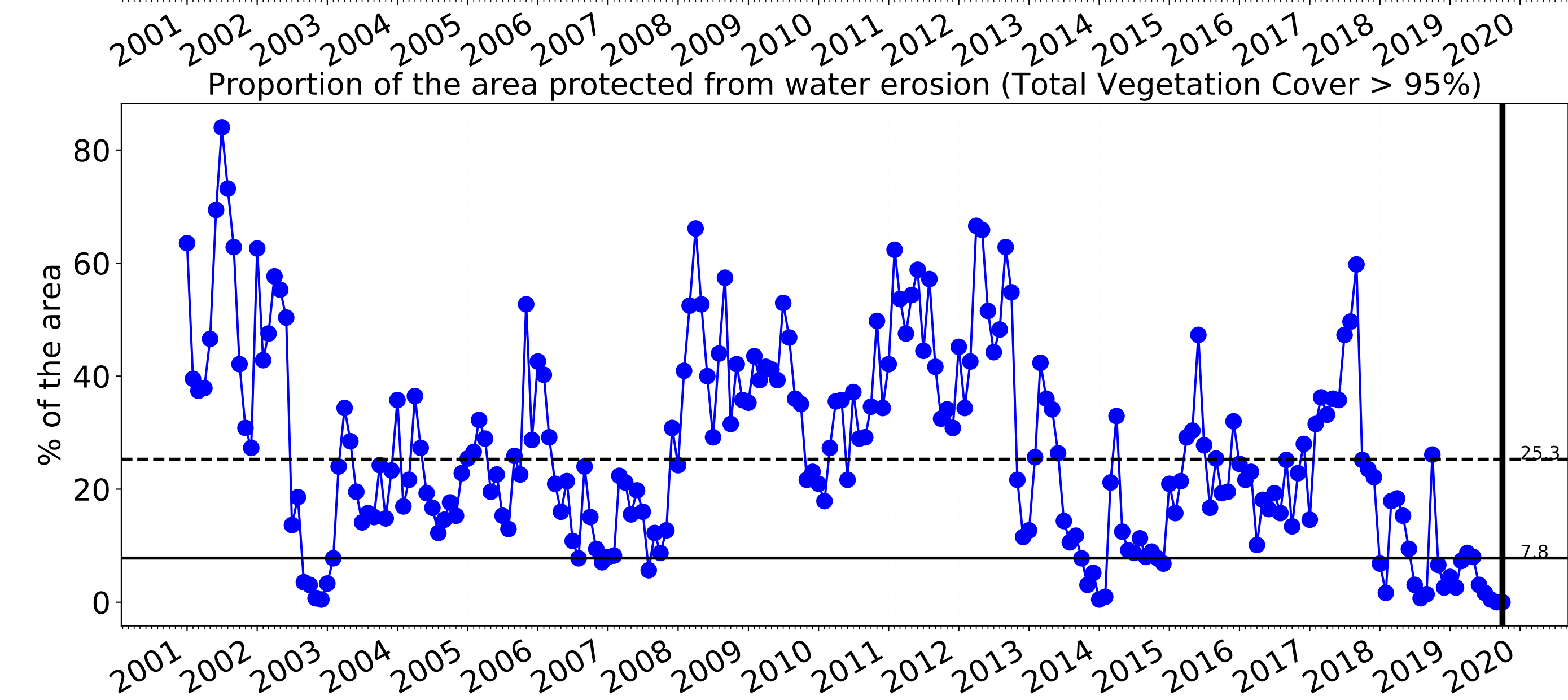
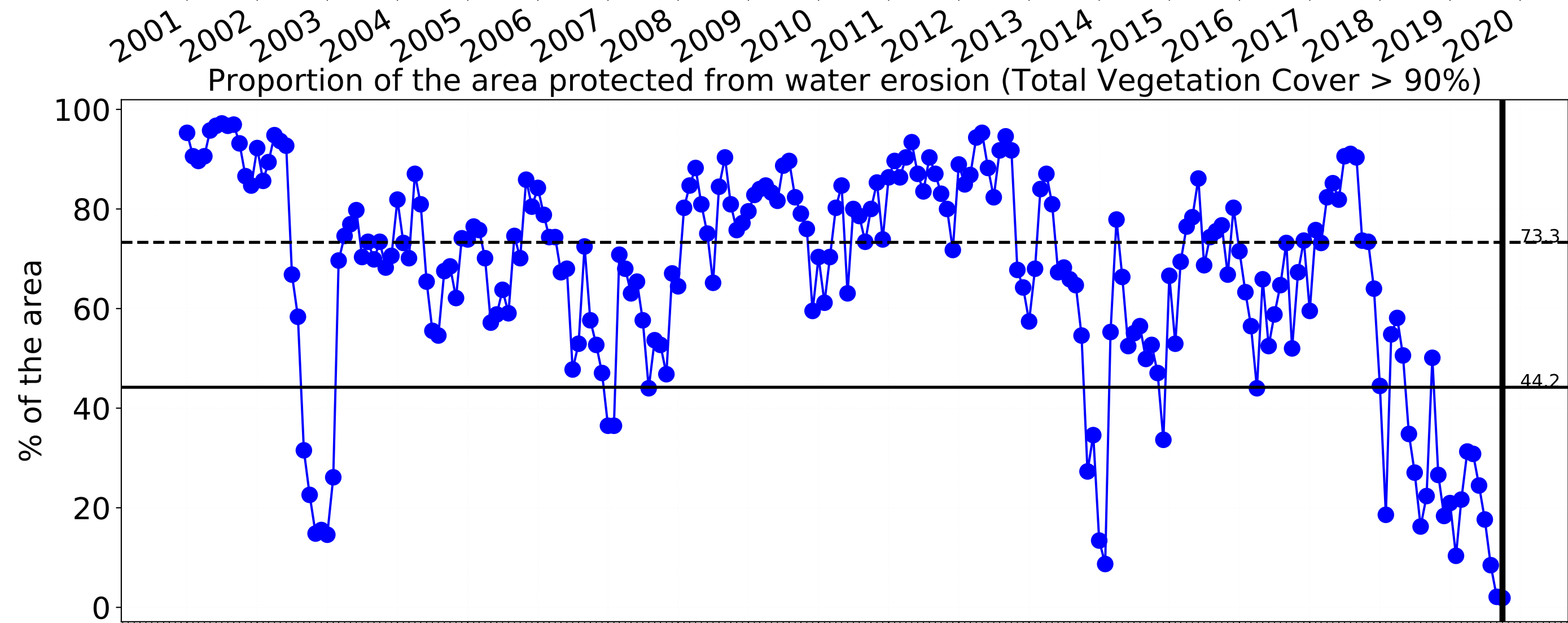
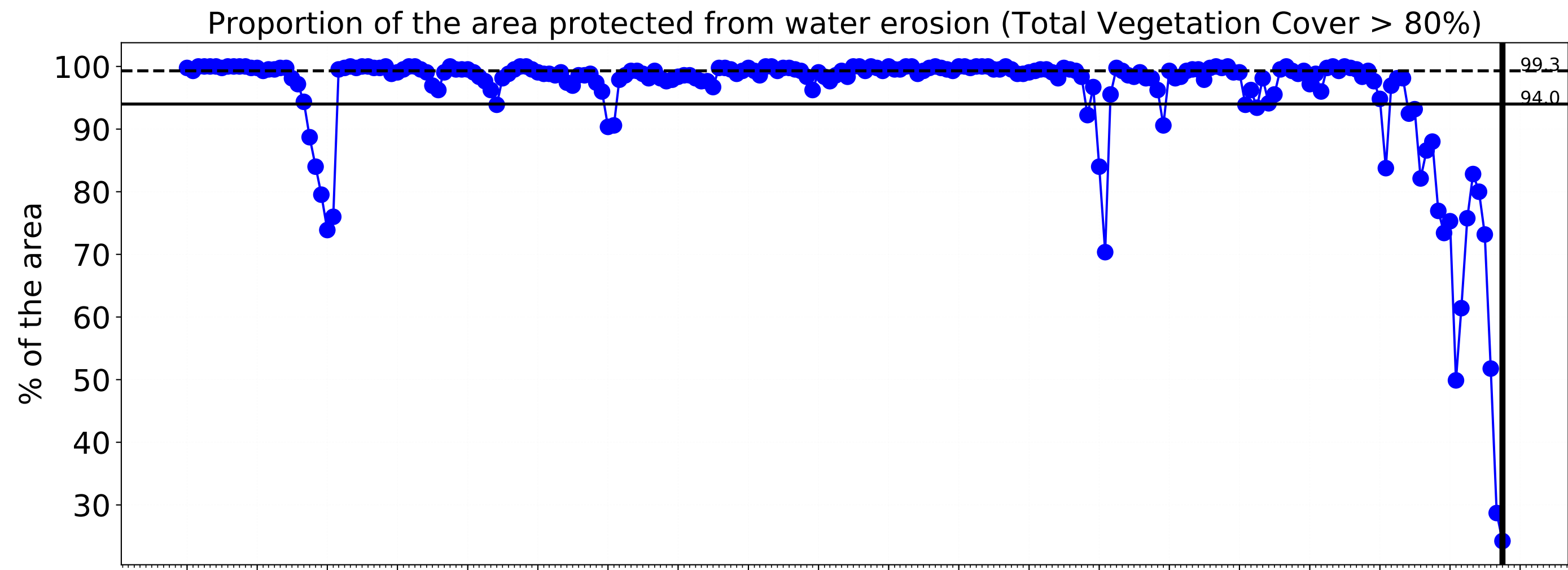
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Cropping timeseries

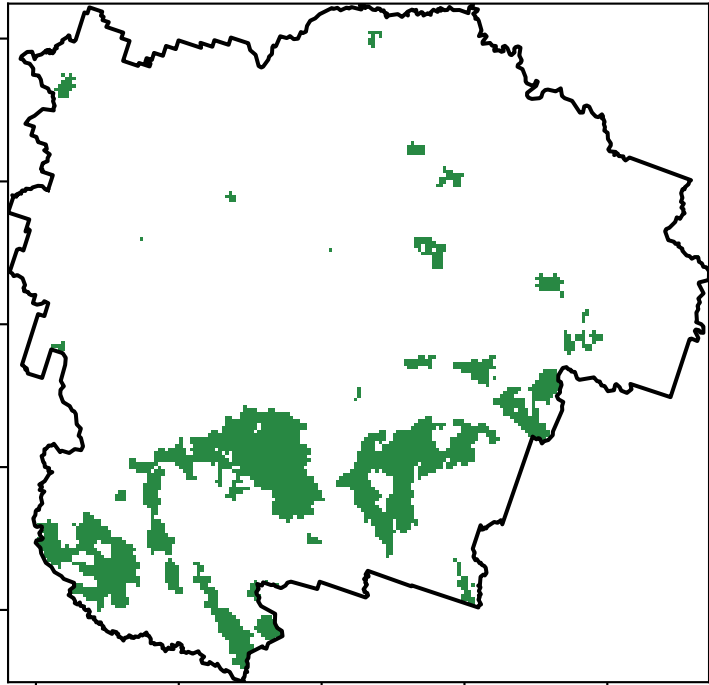




Production native forests and plantation forests

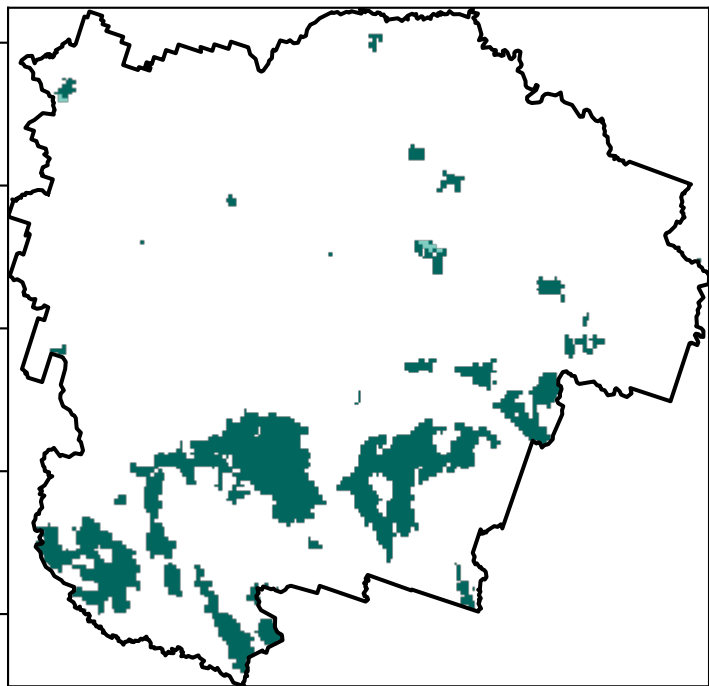
Land use and forest cover

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



Production native forests and plantation forests

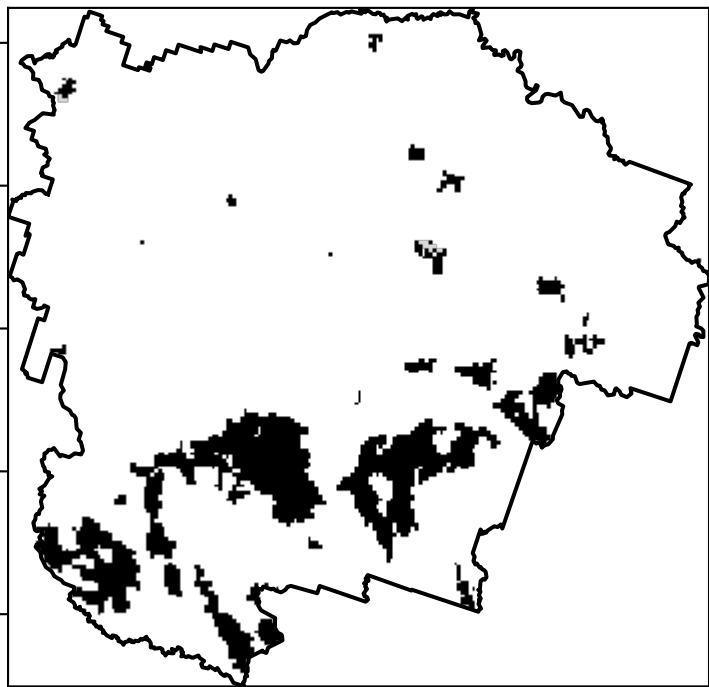
Total Vegetation Cover [%]



Proportion of vegetation cover class in area

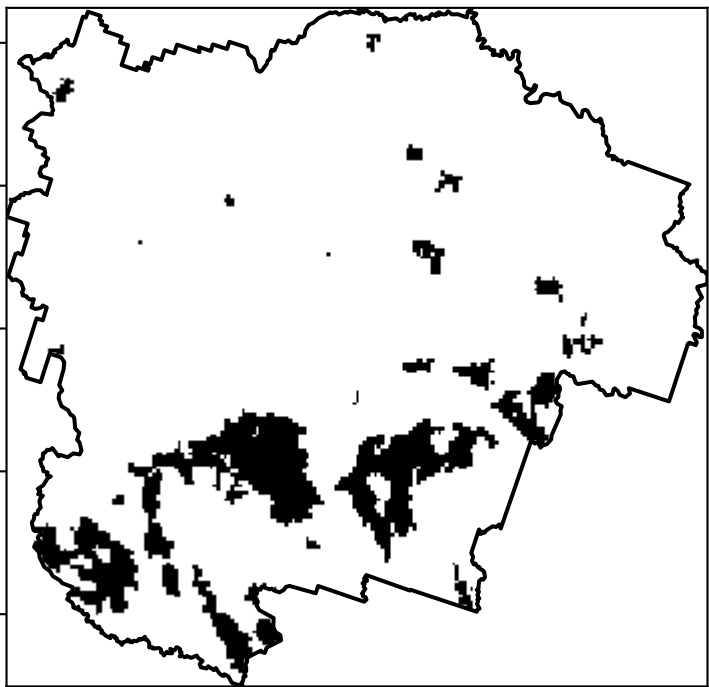


% Area protected from water erosion (>70%)



Area not protected
0.6% of region
(381 ha)
Area protected
99.4% of region
(63,168 ha)

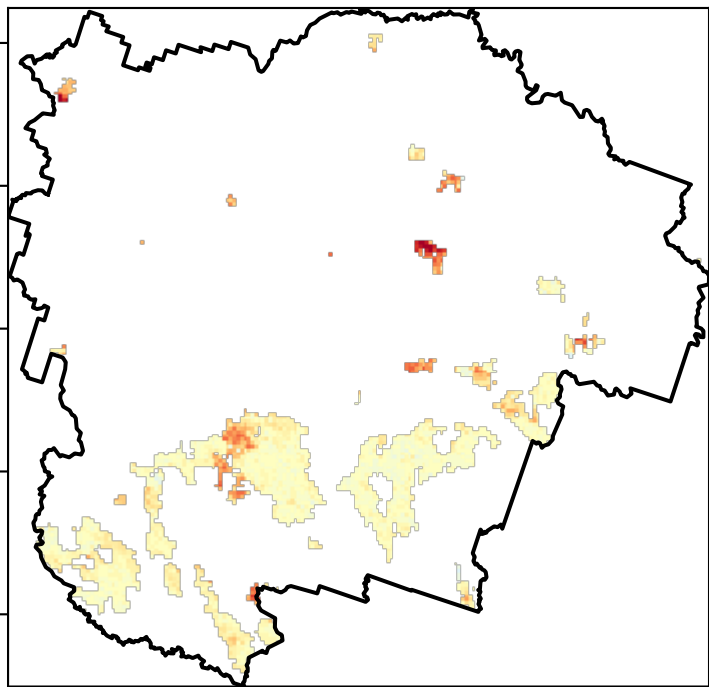
% Area protected from wind erosion (>50%)



Area protected
100.0% of region
(63,550 ha)

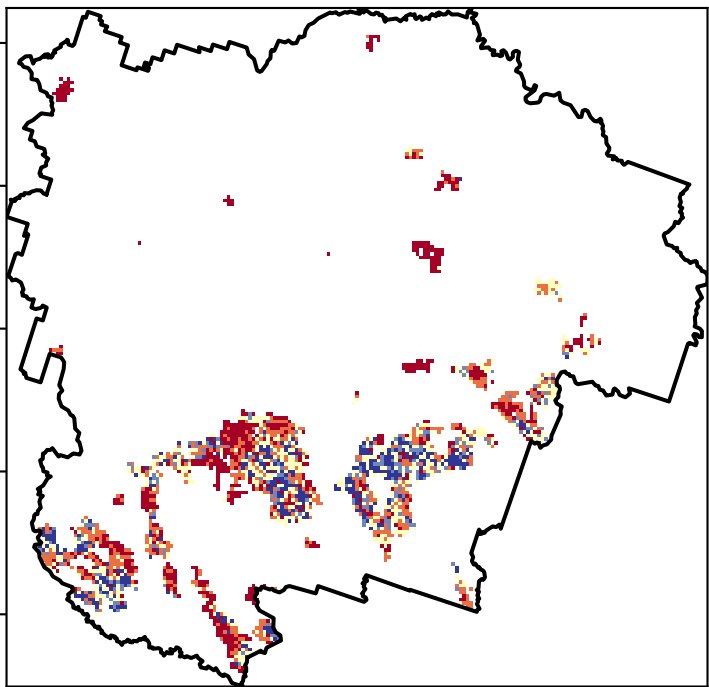
Total Vegetation Cover Anomaly [%]

Anomaly show how many percentage points each pixel is from the mean. That is, red pixels are about 20% lower than the mean of that pixel. The mean is only for the month of the map using baseline from 2001 to 2019.



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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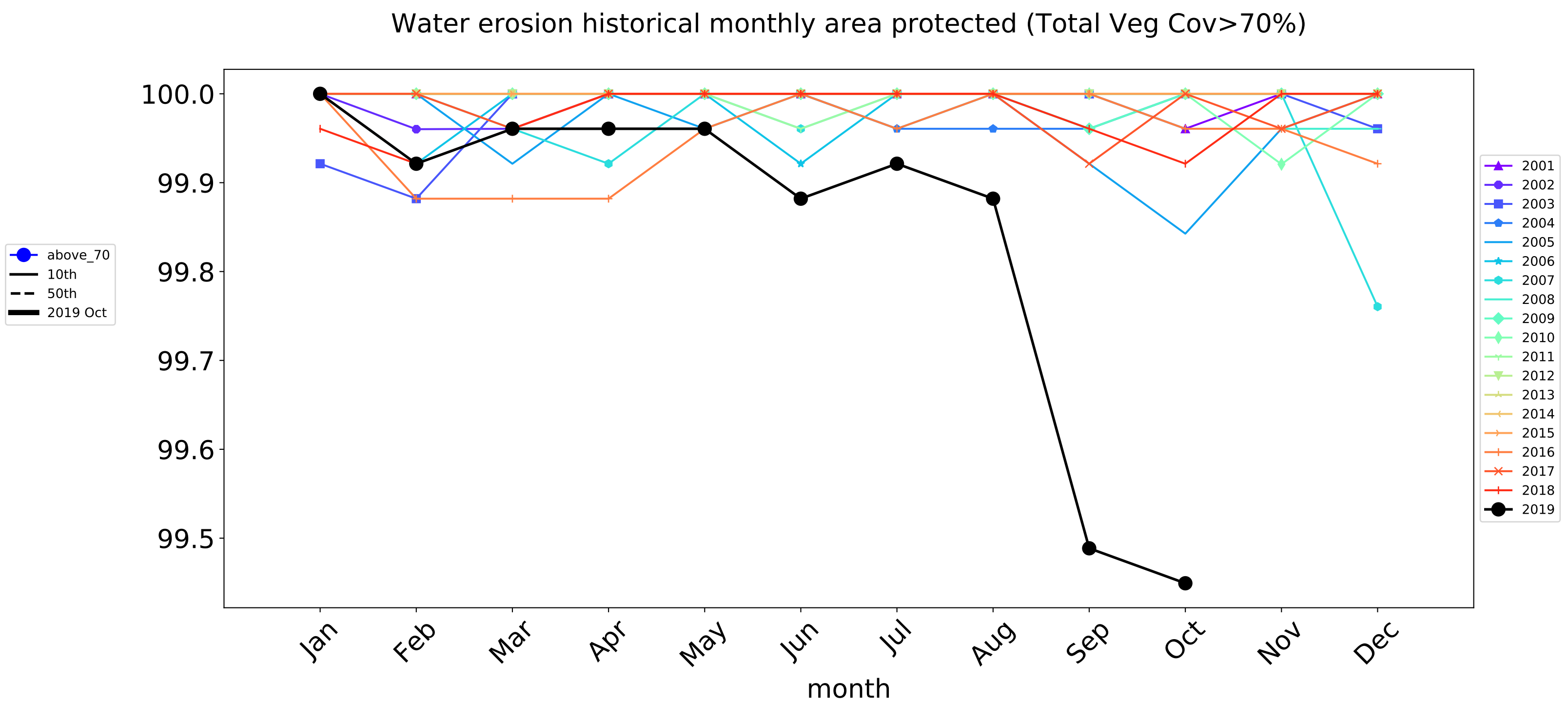
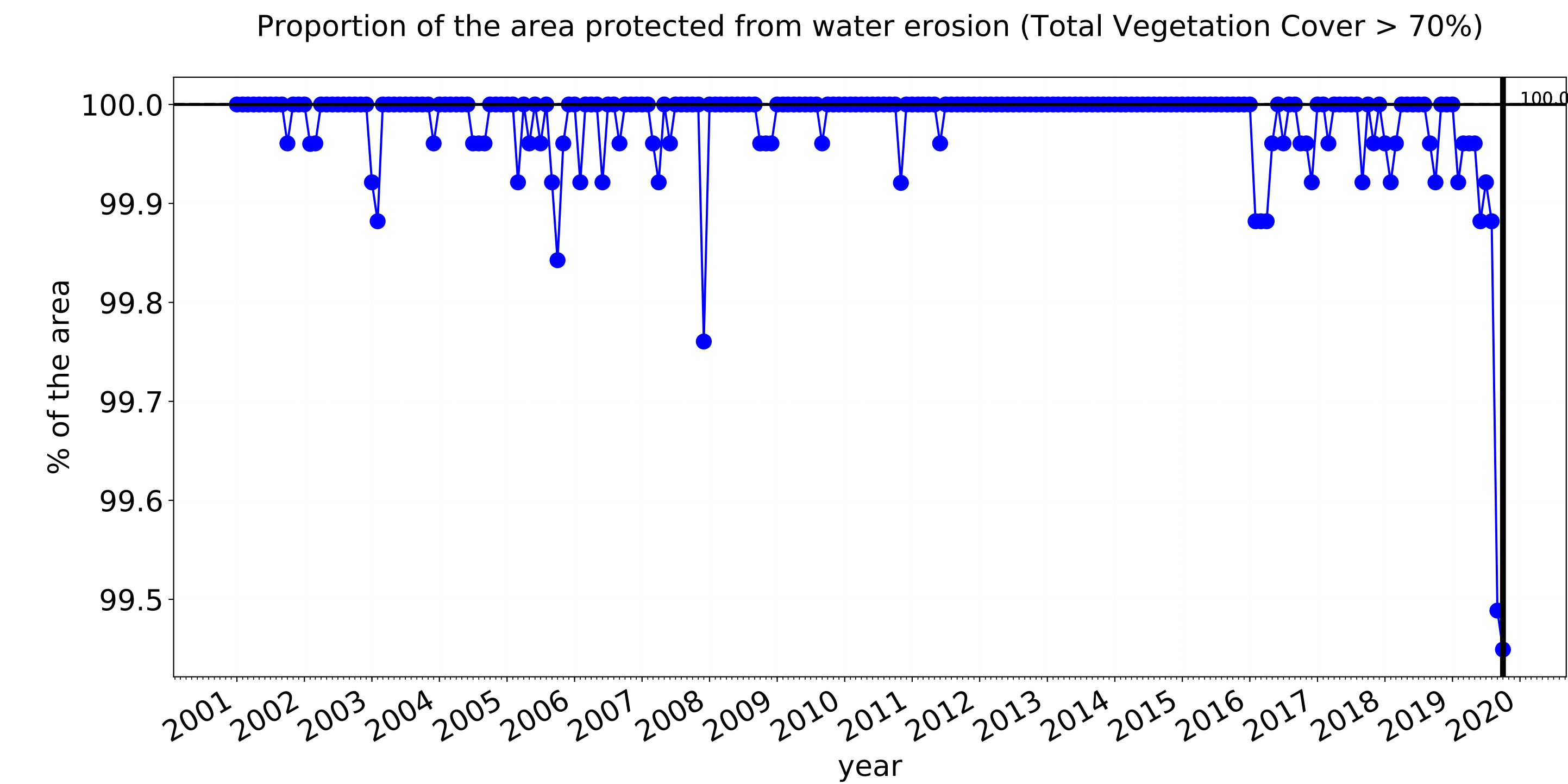
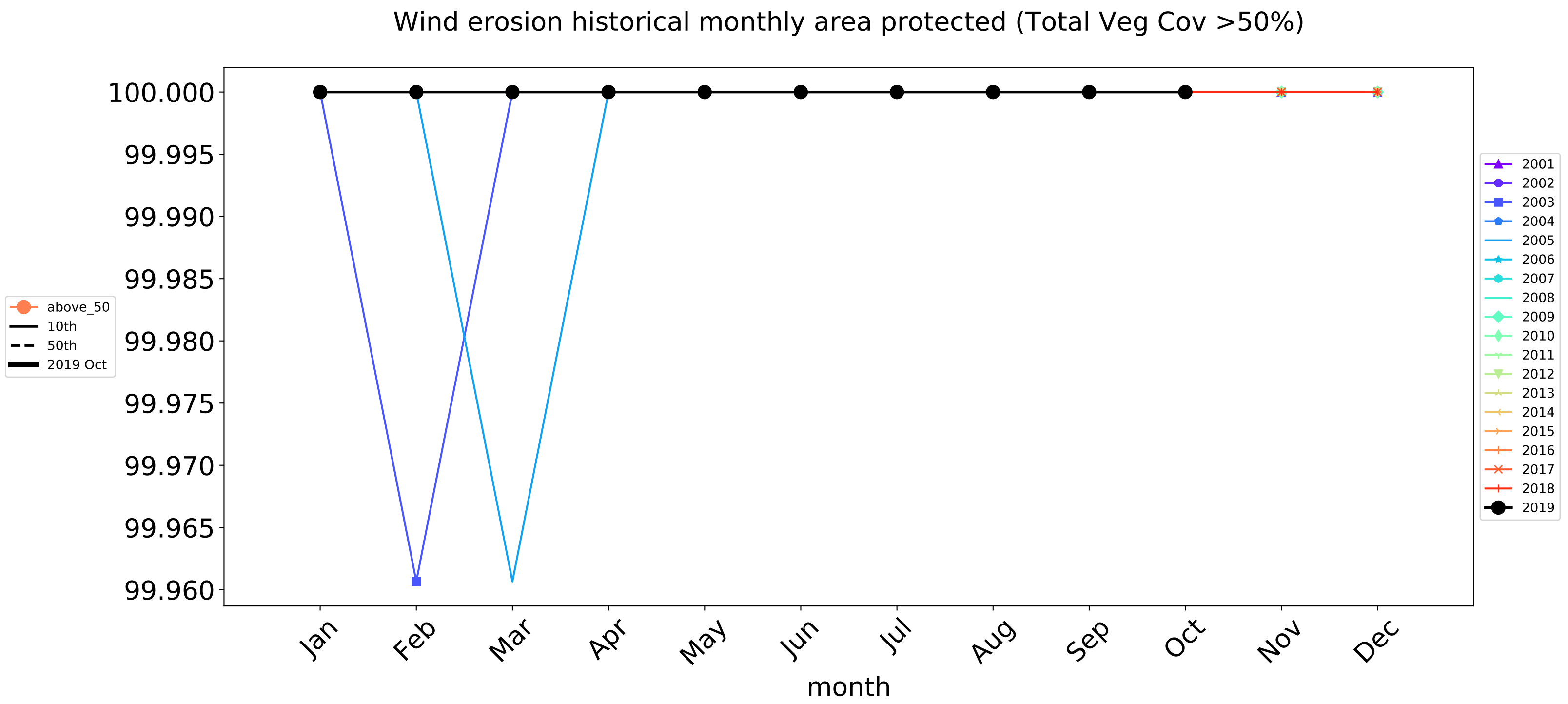
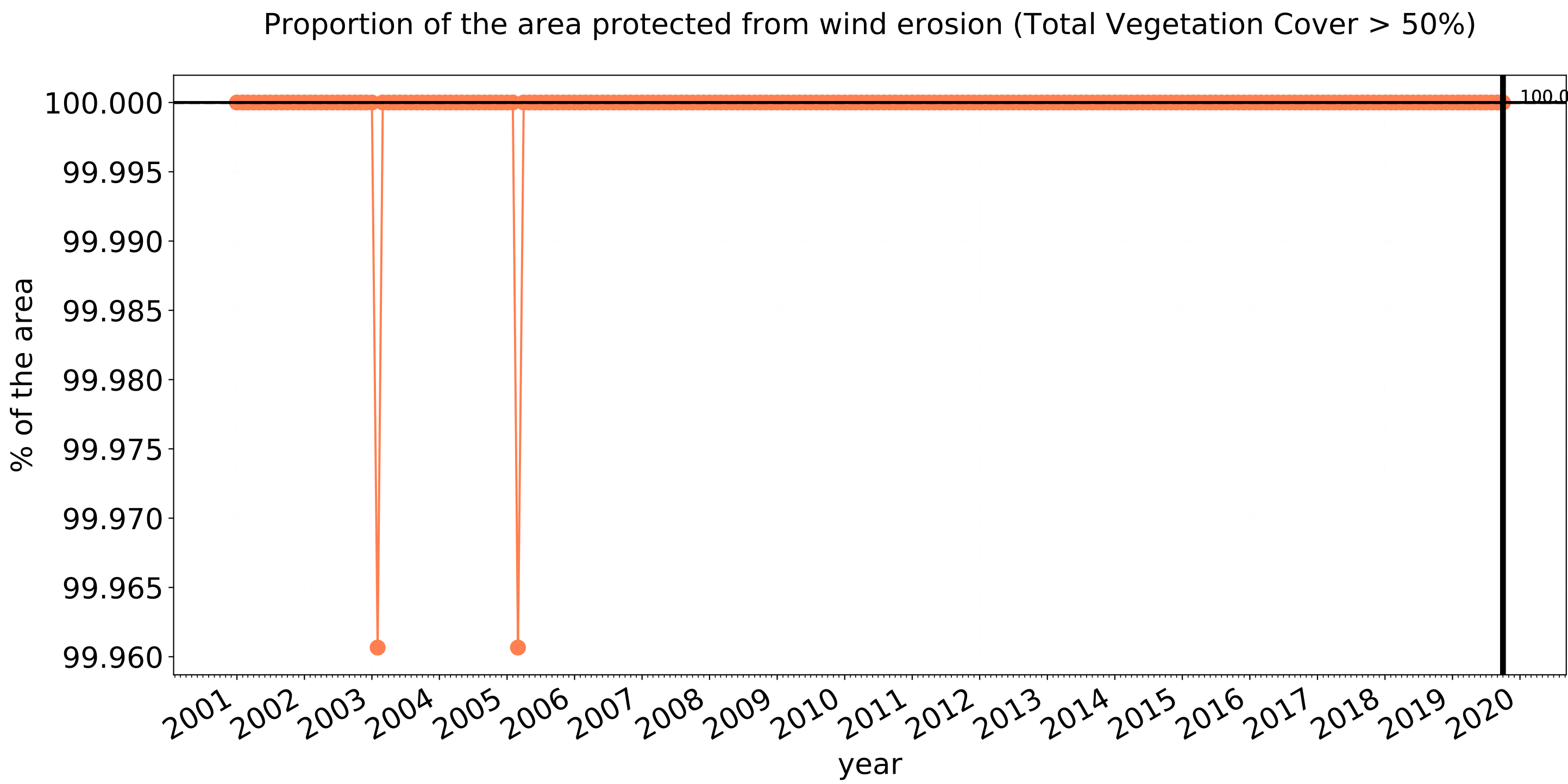


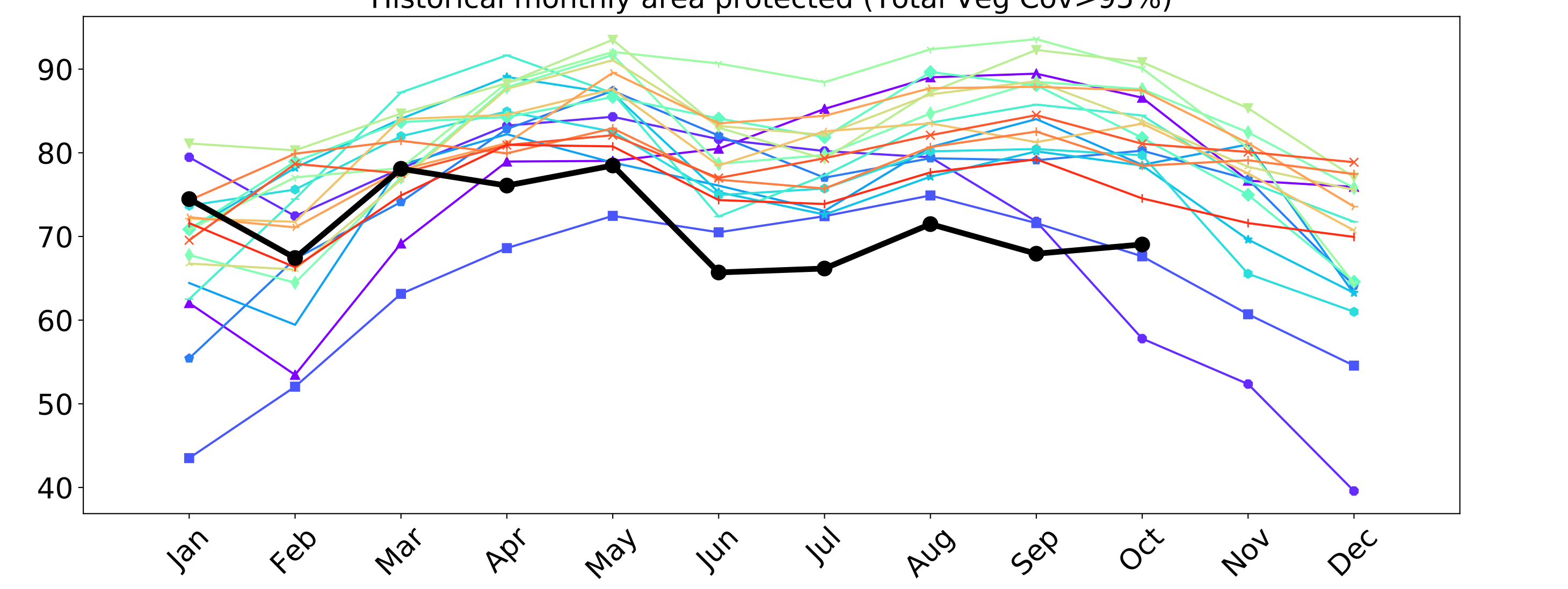
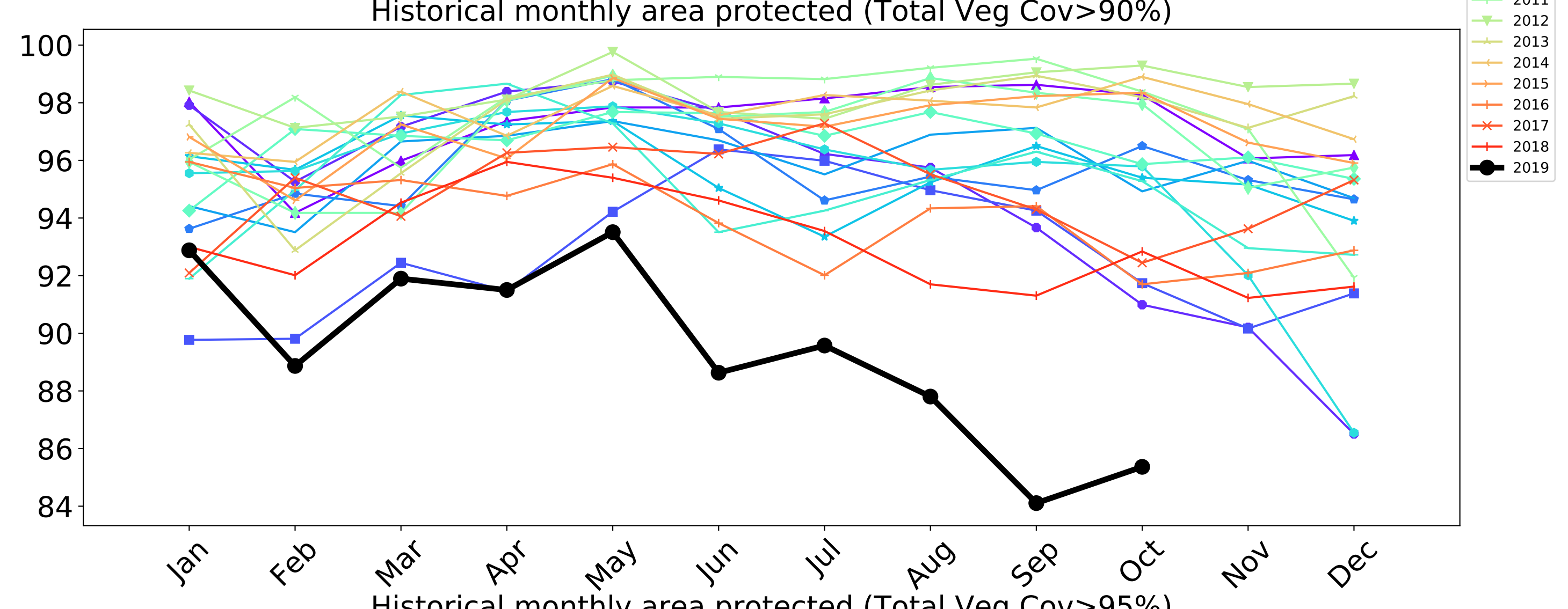
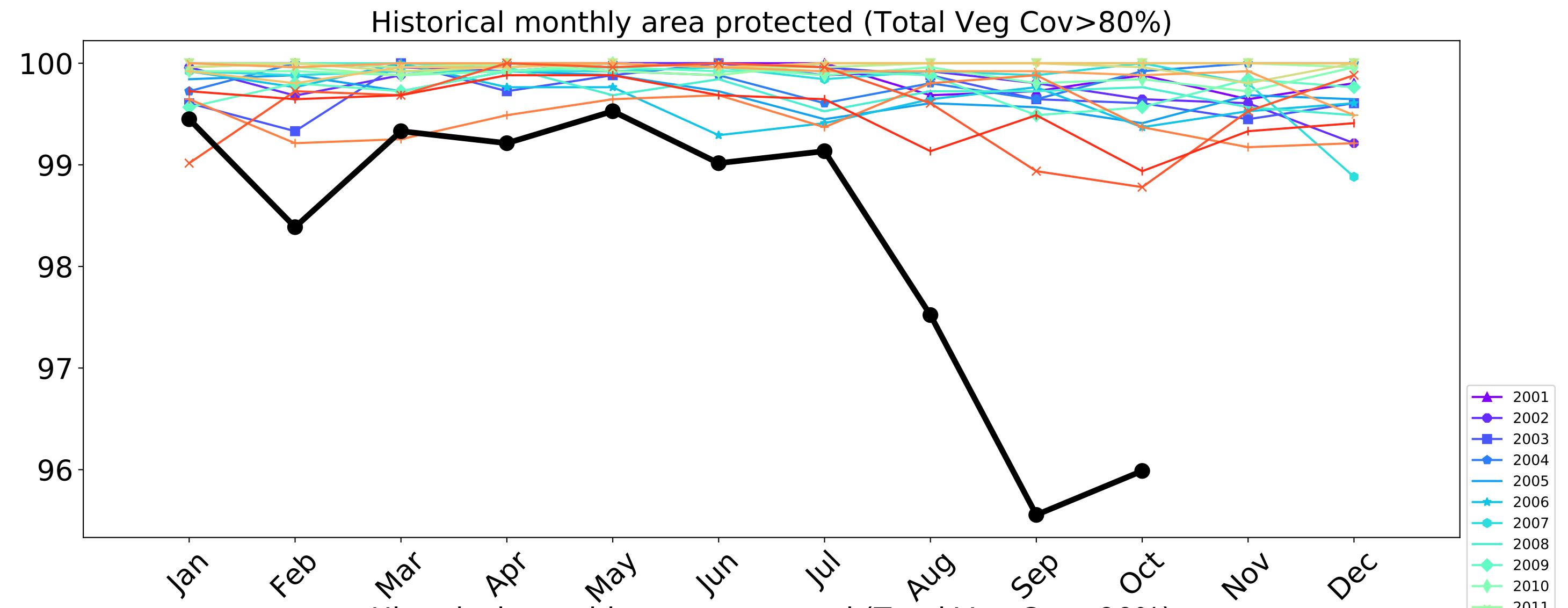
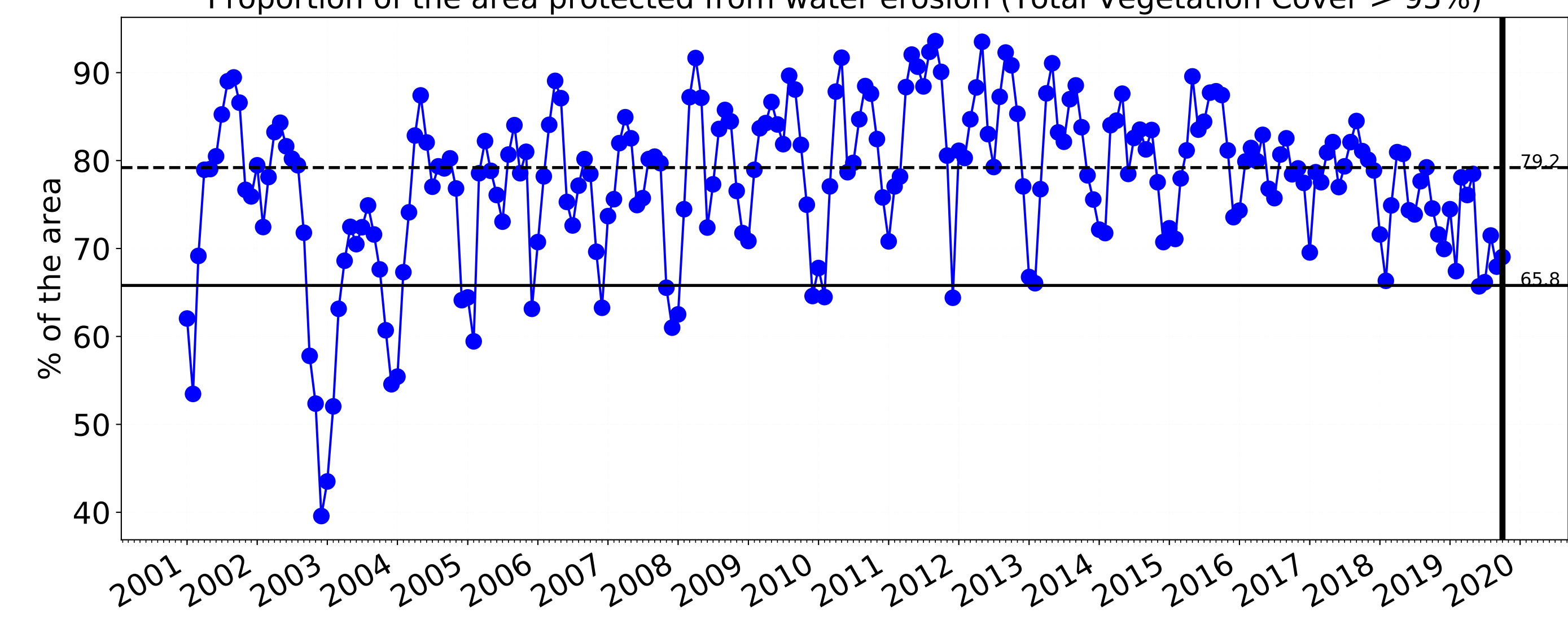
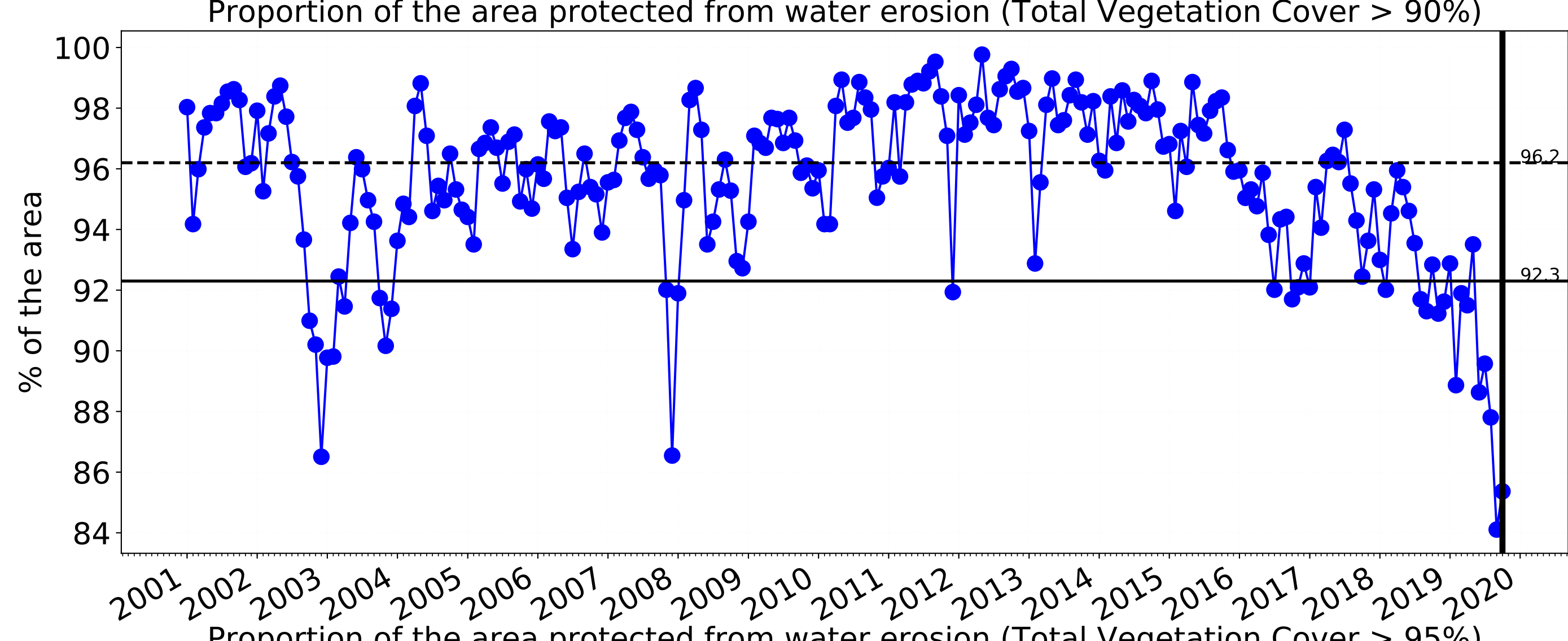
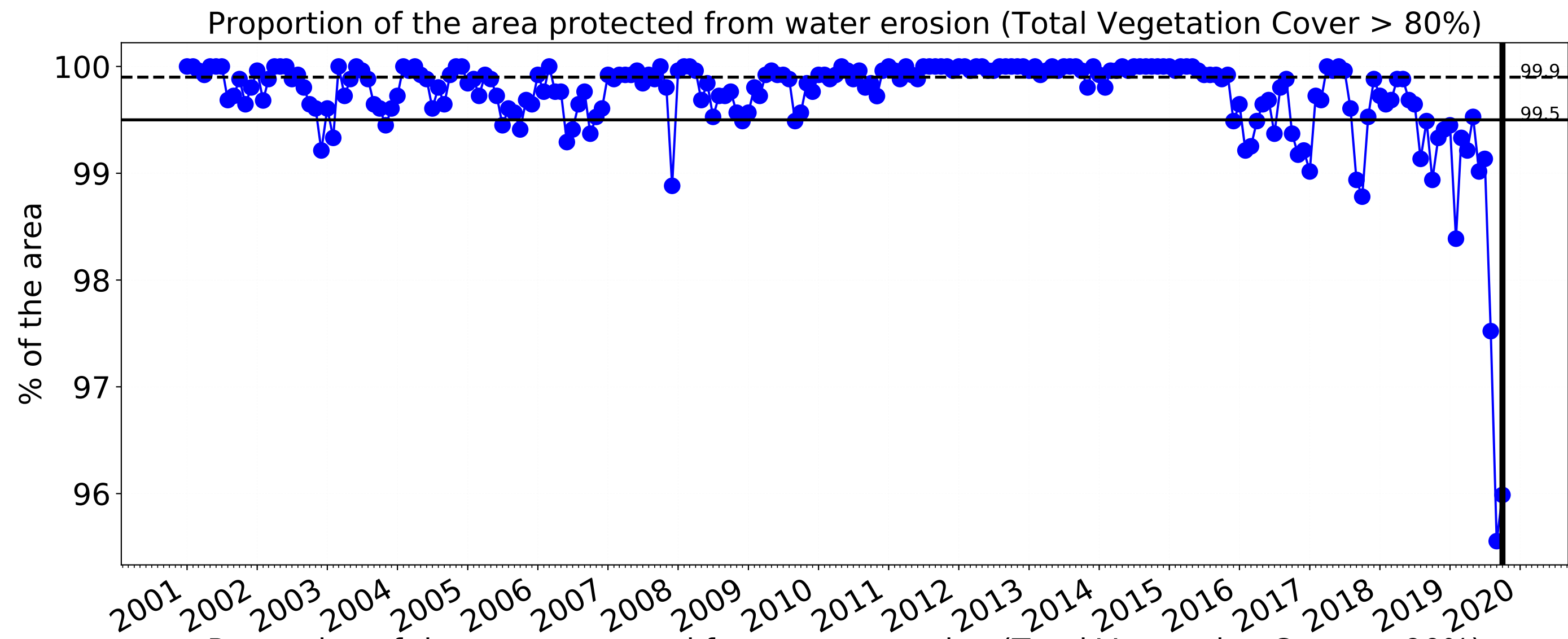
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Production native forests and plantation forests timeseries





Walcha_(A) (total 626,350 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	626,350	100.0% 626,350	99.9% 625,950	91.4% 572,400	71.2% 446,125	45.1% 282,475	23.9% 149,925
Conservation and natural environments	231,175	100.0% 231,175	100.0% 231,175	100.0% 231,175	99.4% 229,700	80.8% 186,775	42.2% 97,450
Conservation and natural environments Woodland forest	6,150	100.0% 6,150	100.0% 6,150	100.0% 6,150	99.2% 6,100	75.2% 4,625	48.0% 2,950
Conservation and natural environments Forest (non woodland)	223,450	100.0% 223,450	100.0% 223,450	100.0% 223,450	99.4% 222,100	81.0% 181,100	42.1% 94,050
Agriculture	330,475	100.0% 330,475	99.9% 330,075	83.8% 277,100	47.0% 155,300	12.5% 41,425	2.6% 8,600
Grazing	319,850	100.0% 319,850	99.9% 319,600	84.6% 270,625	47.7% 152,725	12.9% 41,225	2.7% 8,600
Grazing non forest	288,025	100.0% 288,025	99.9% 287,775	83.0% 238,925	43.2% 124,525	9.4% 27,100	1.9% 5,425
Grazing Woodland forest	6,850	100.0% 6,850	100.0% 6,850	99.3% 6,800	79.2% 5,425	31.0% 2,125	9.5% 650
Grazing - Forest (non woodland)	24,975	100.0% 24,975	100.0% 24,975	99.7% 24,900	91.2% 22,775	48.0% 12,000	10.1% 2,525
Cropping	10,625	100.0% 10,625	98.6% 10,475	60.9% 6,475	24.2% 2,575	1.9% 200	0.0% 0
Production native forests and plantation forests	63,550	100.0% 63,550	100.0% 63,550	99.4% 63,200	96.0% 61,000	85.4% 54,250	69.0% 43,875



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