

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 Feb 2008

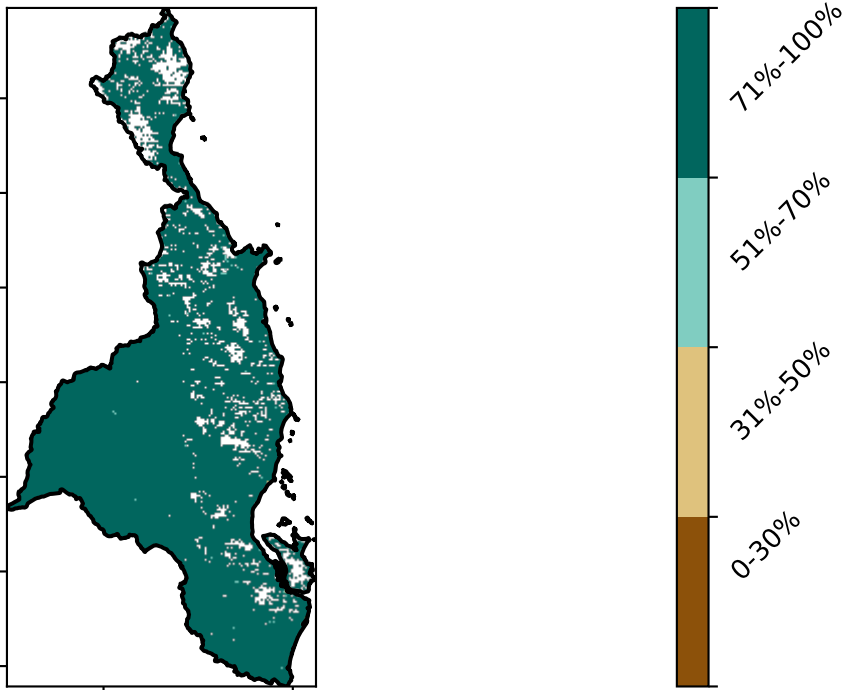
Land use and forest cover



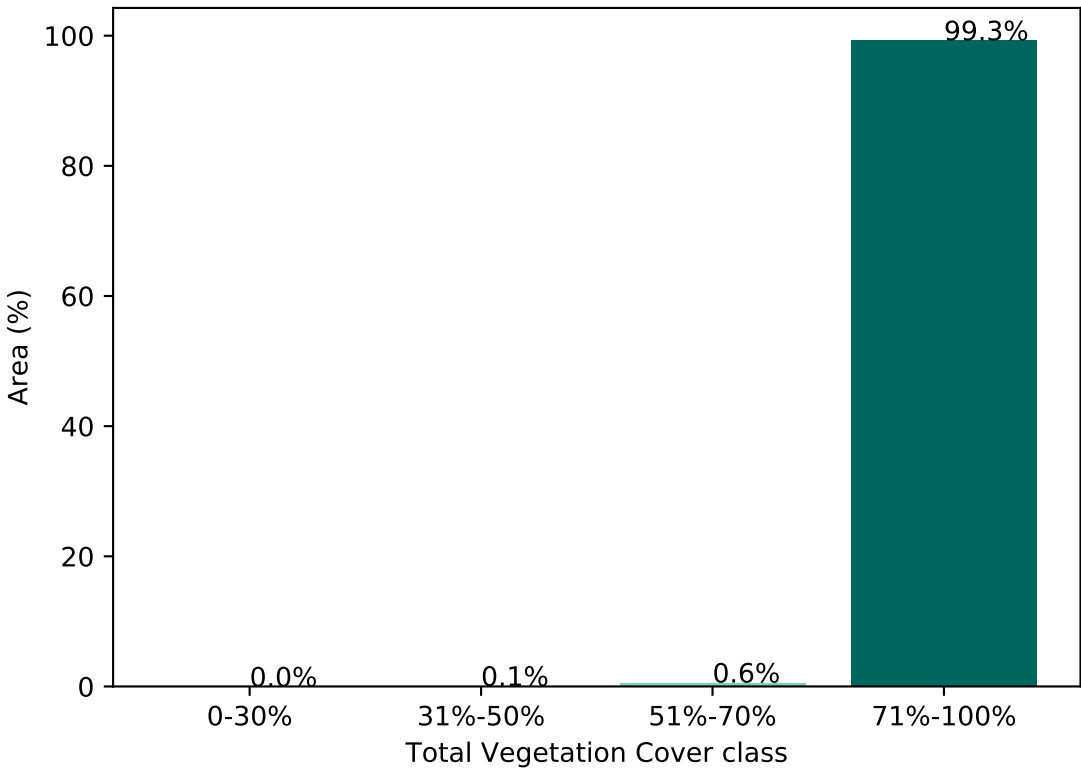
Proportion of each land class in area



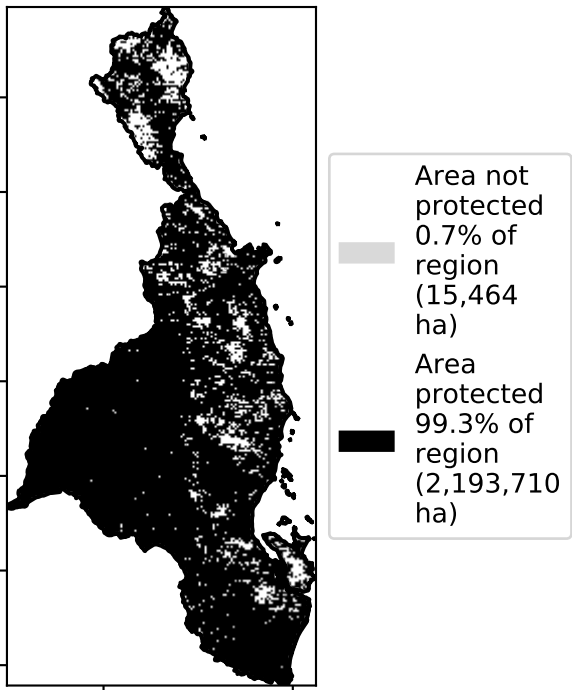
Total Vegetation Cover [%]



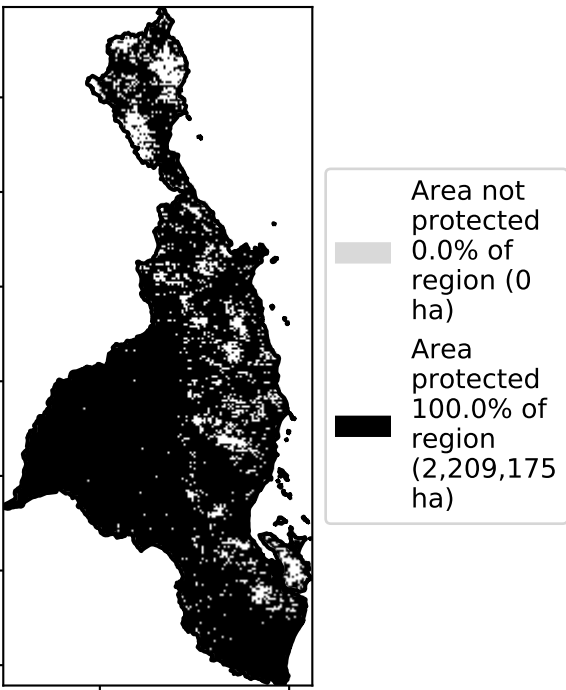
Proportion of vegetation cover class in area



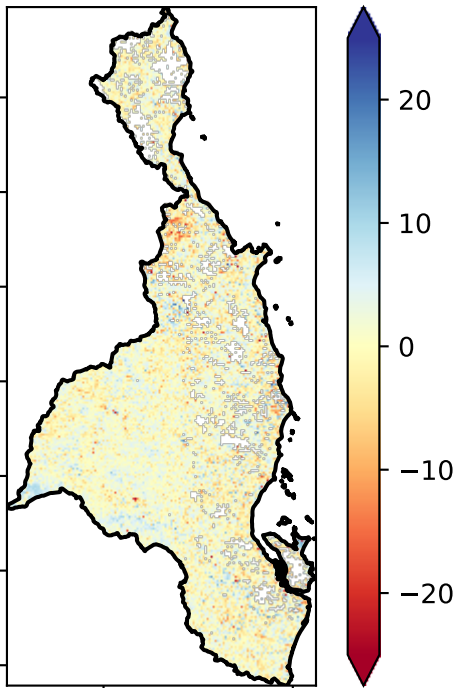
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

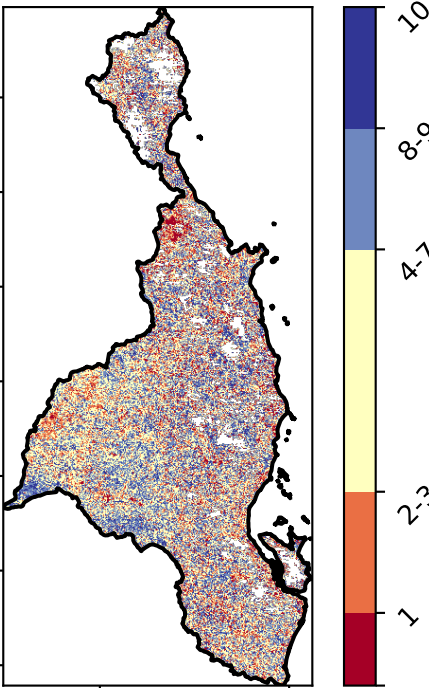


Total Vegetation Cover Anomaly [%]



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Total Vegetation Cover Decile [%]



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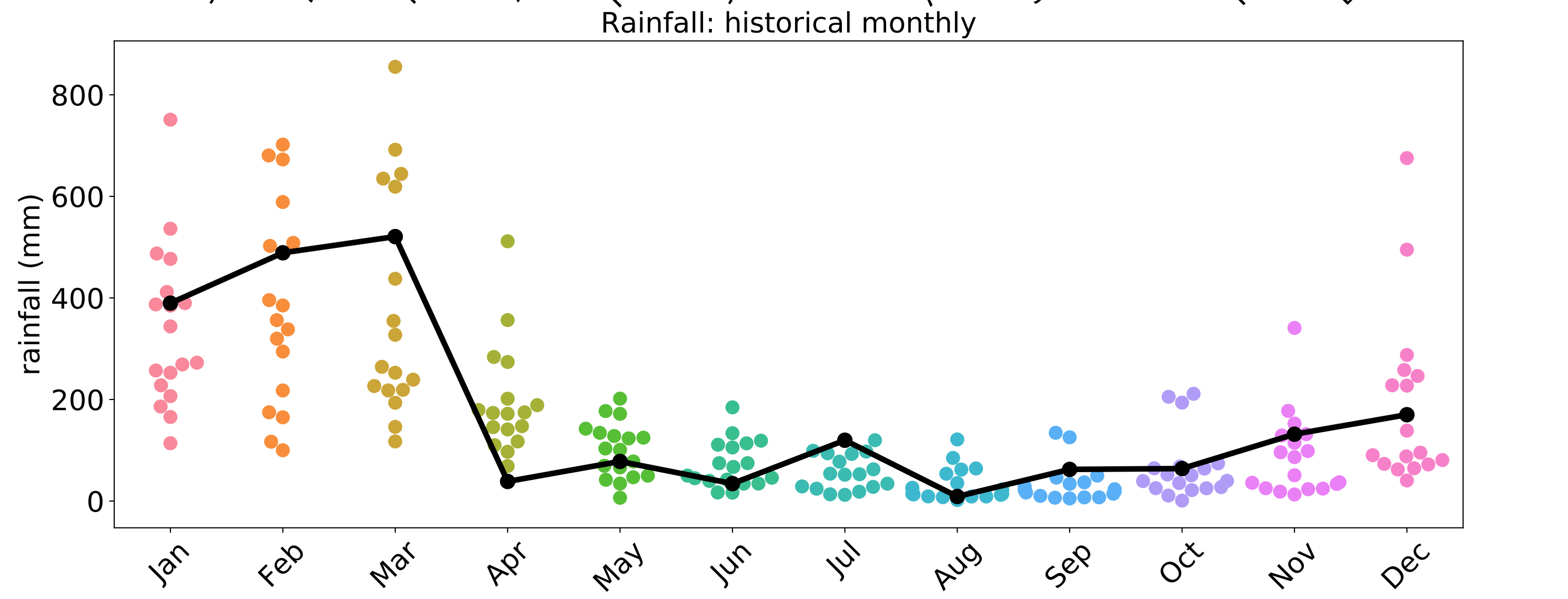
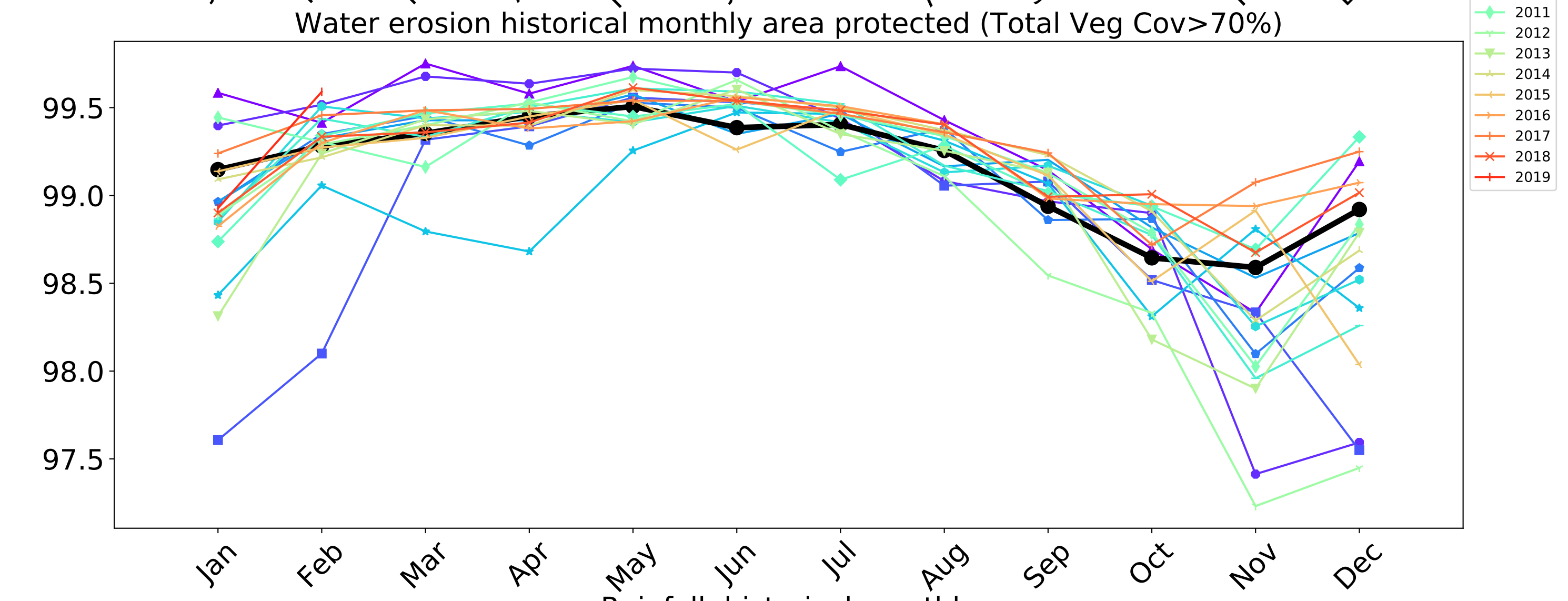
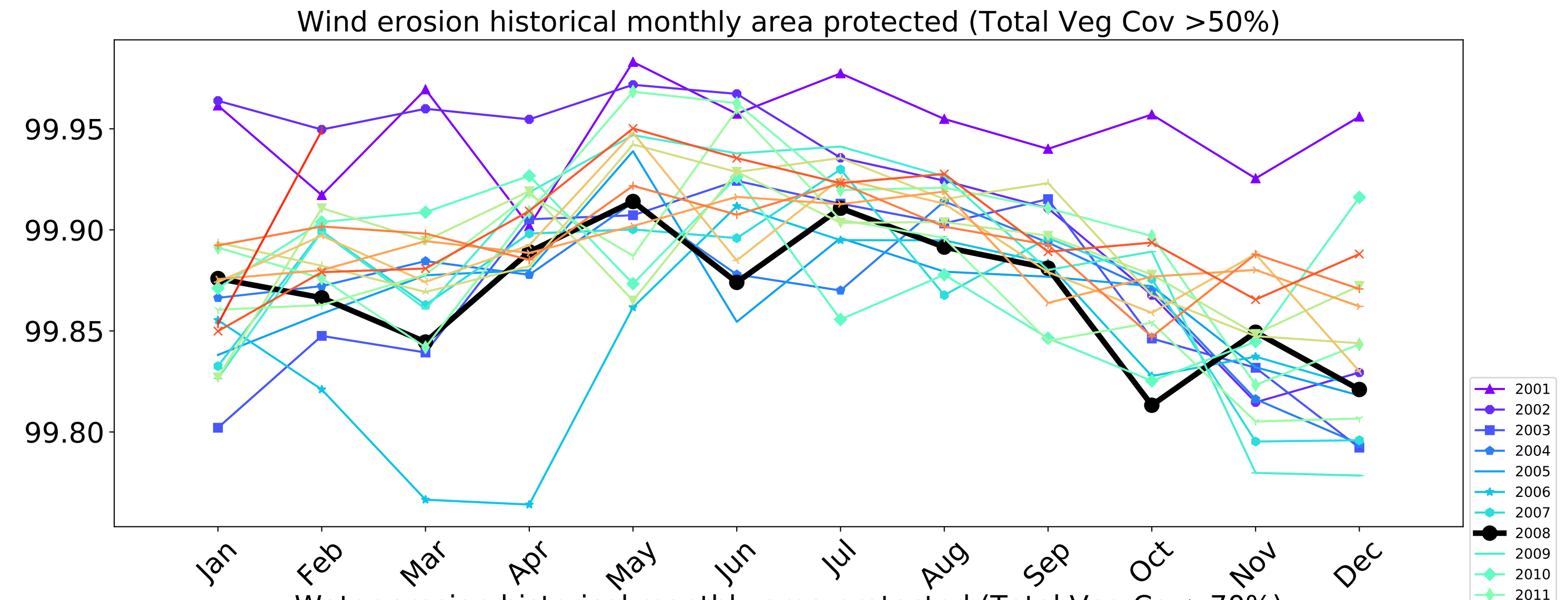
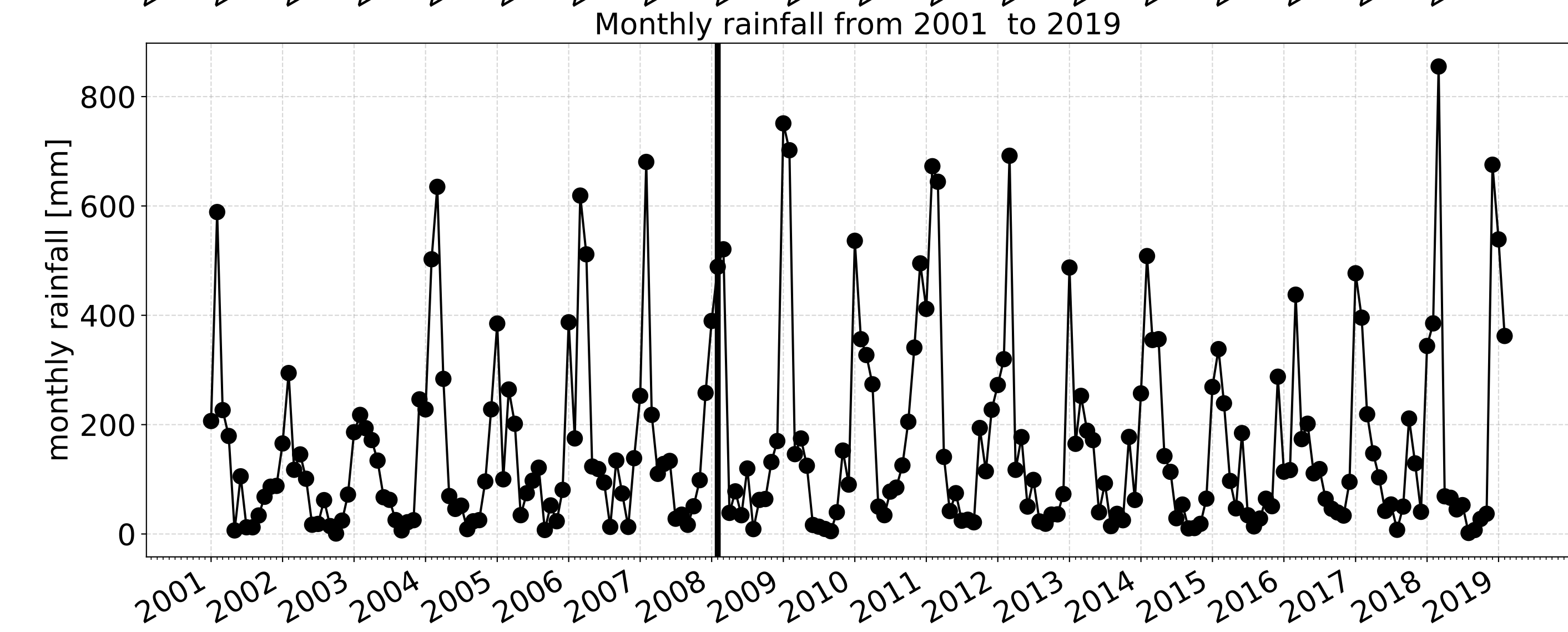
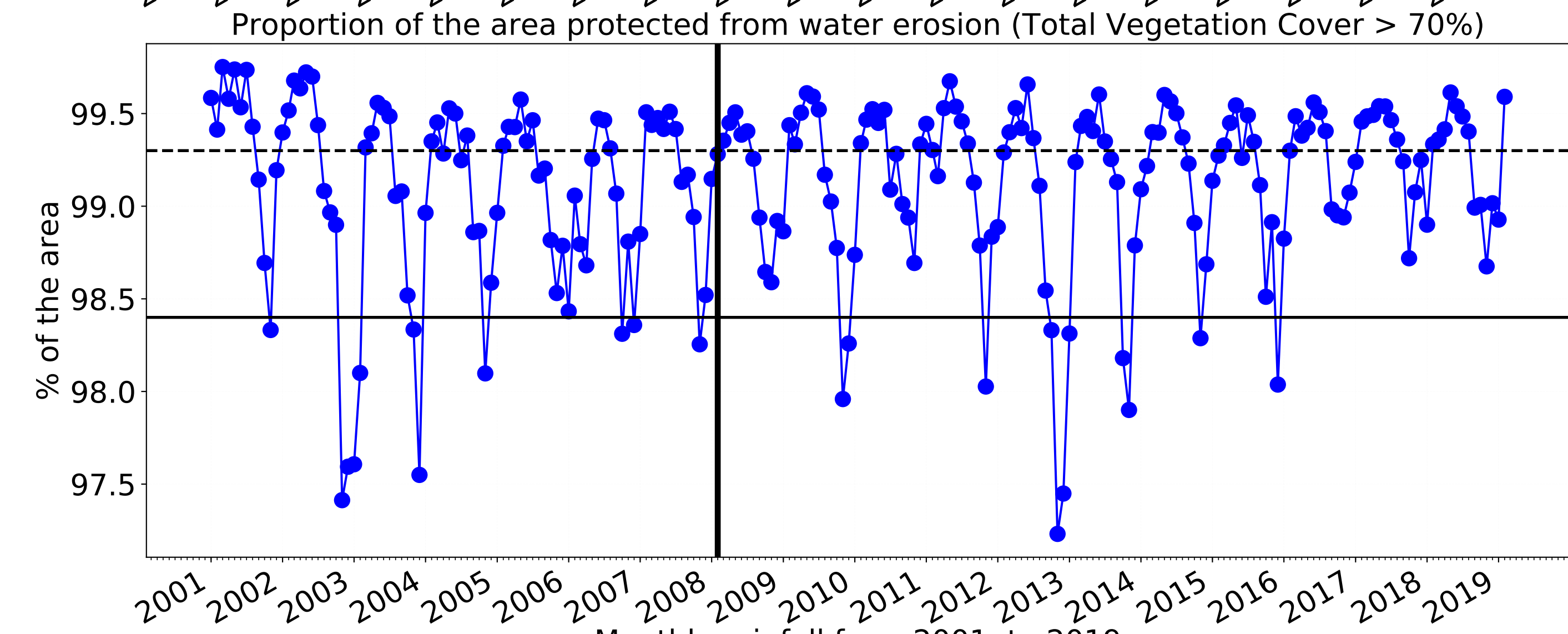
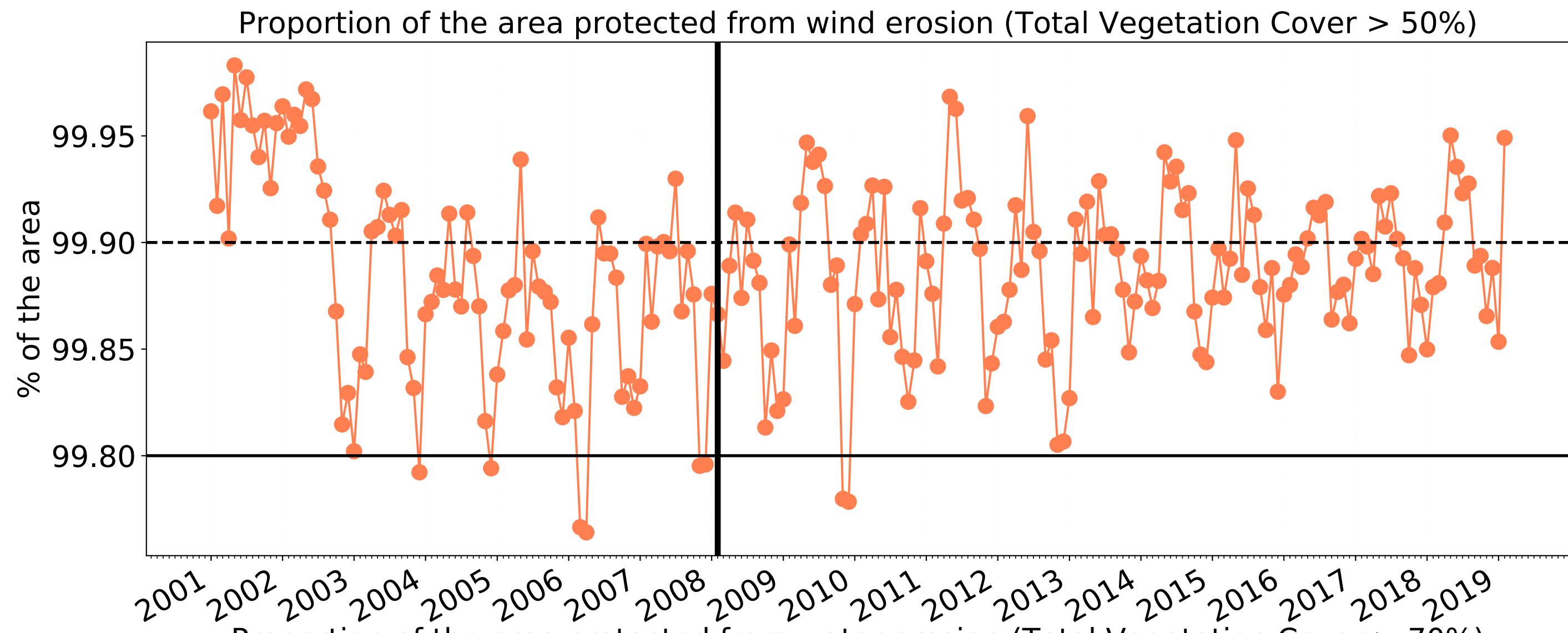
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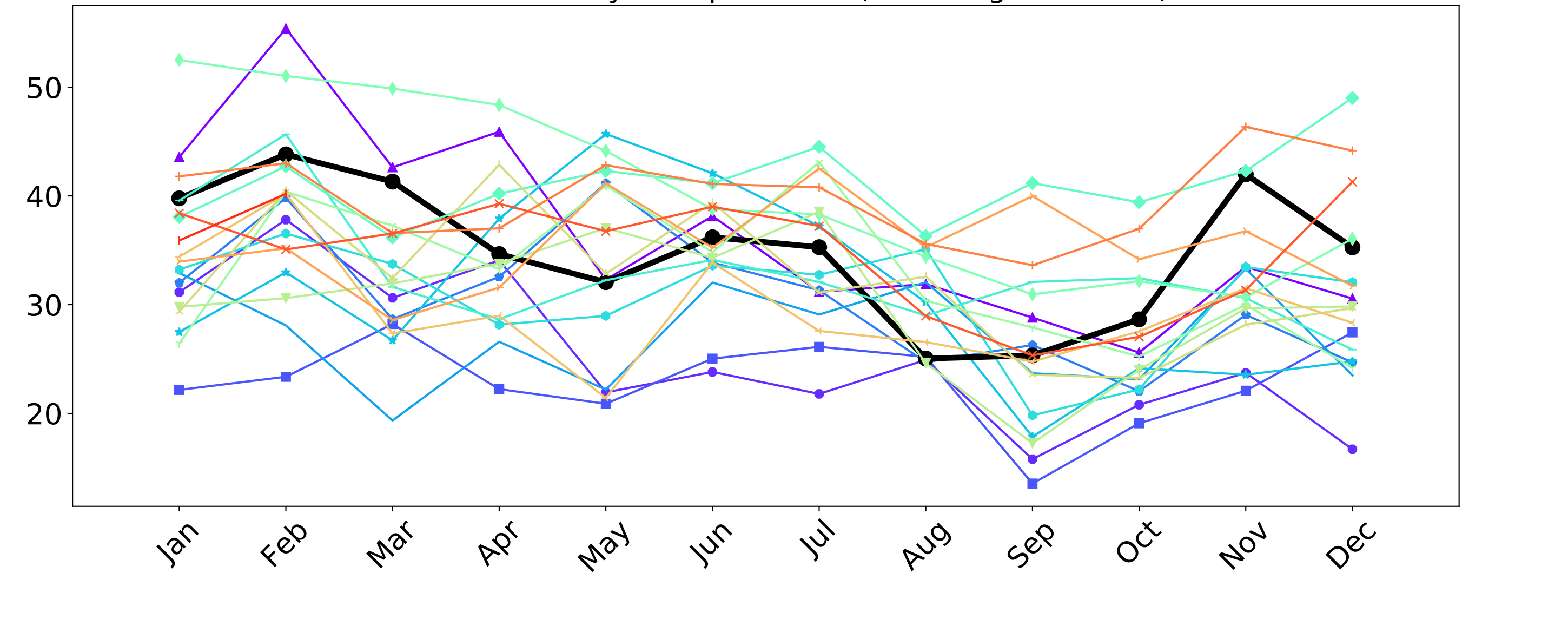
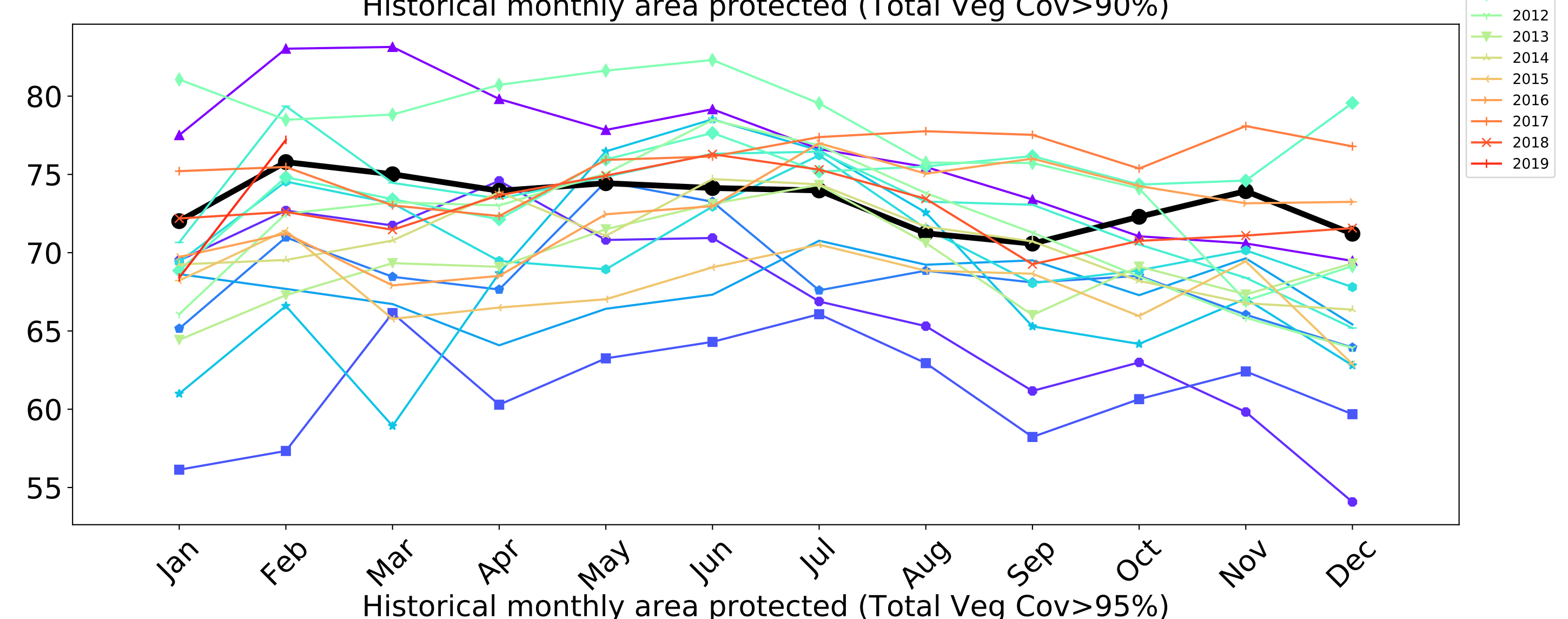
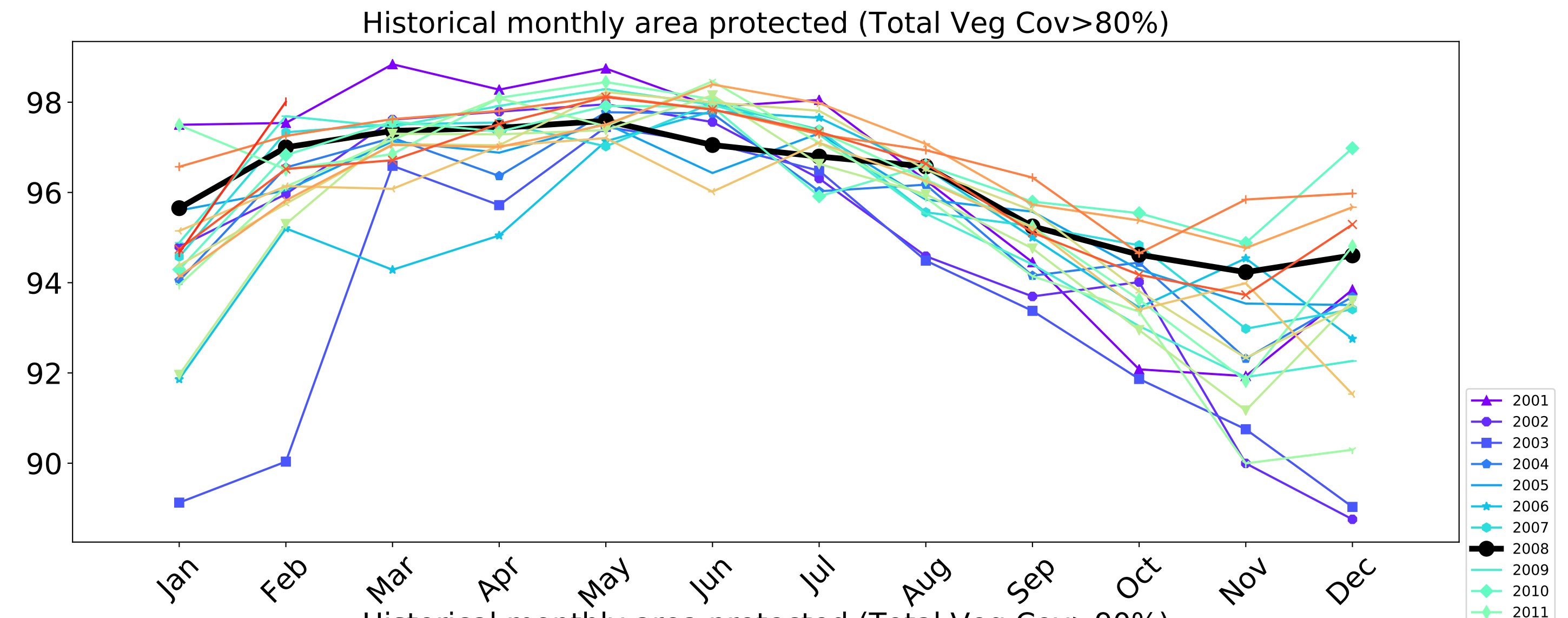
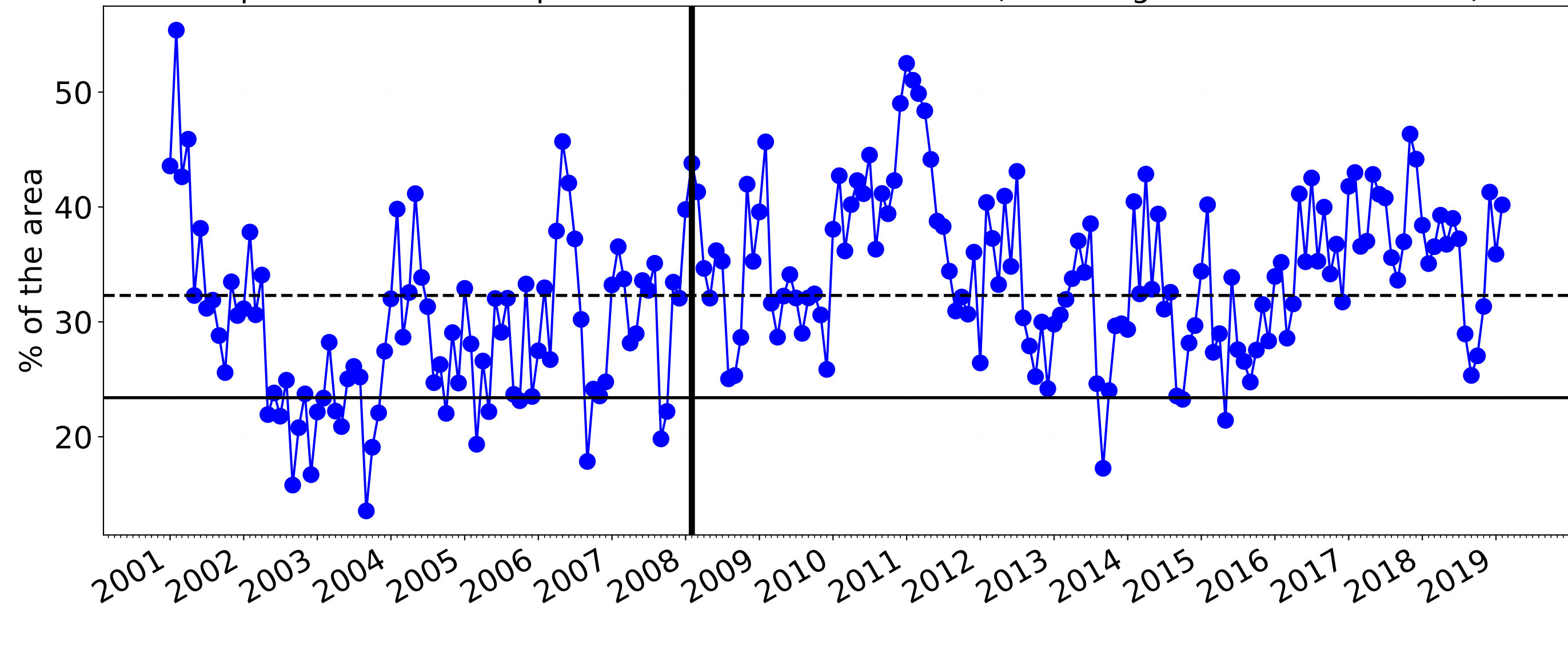
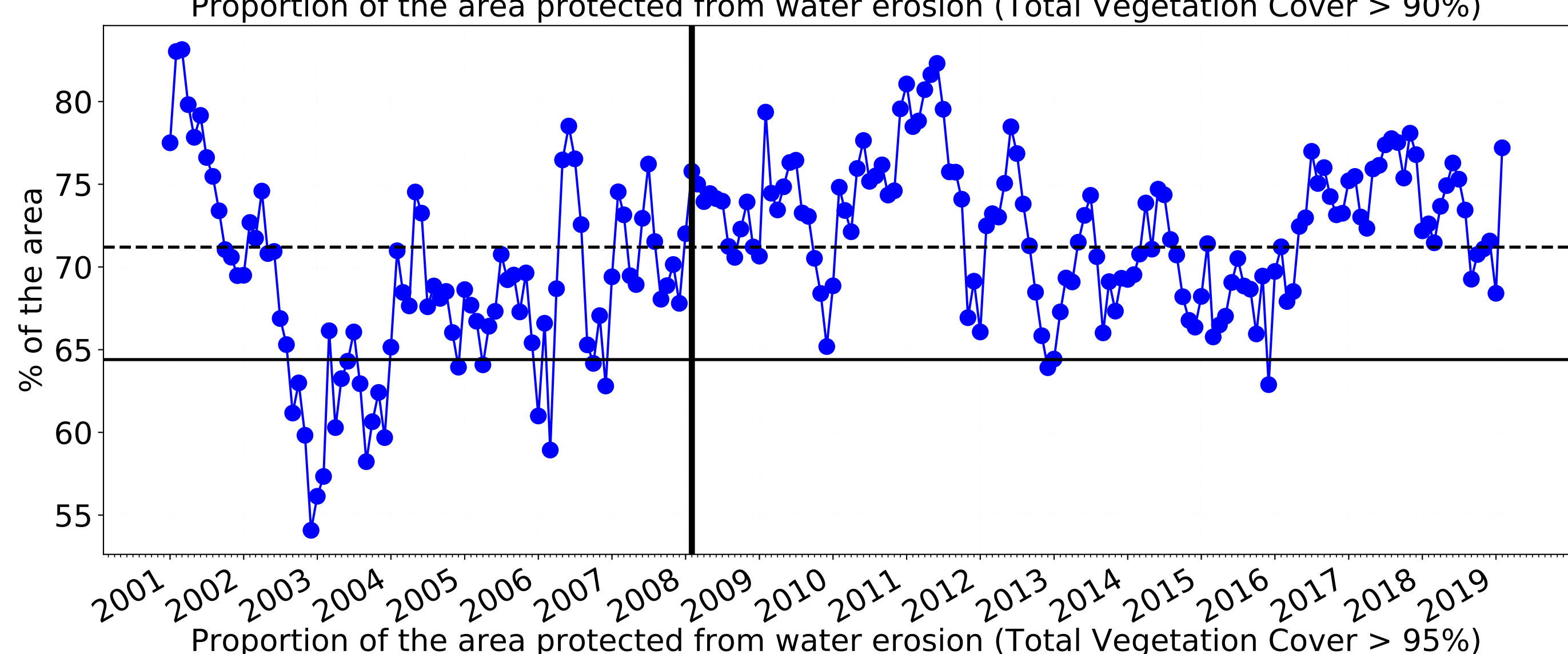
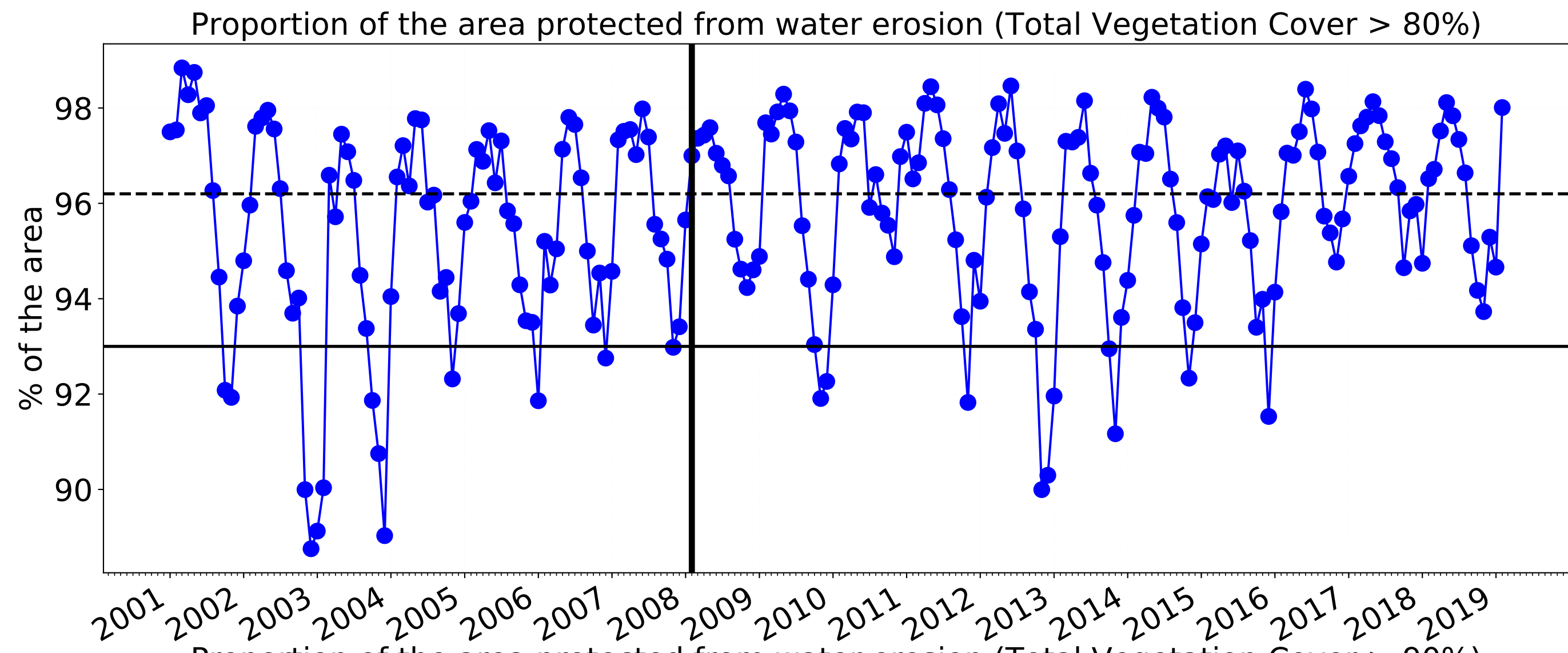


National Landcare Programme



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Conservation and natural environments

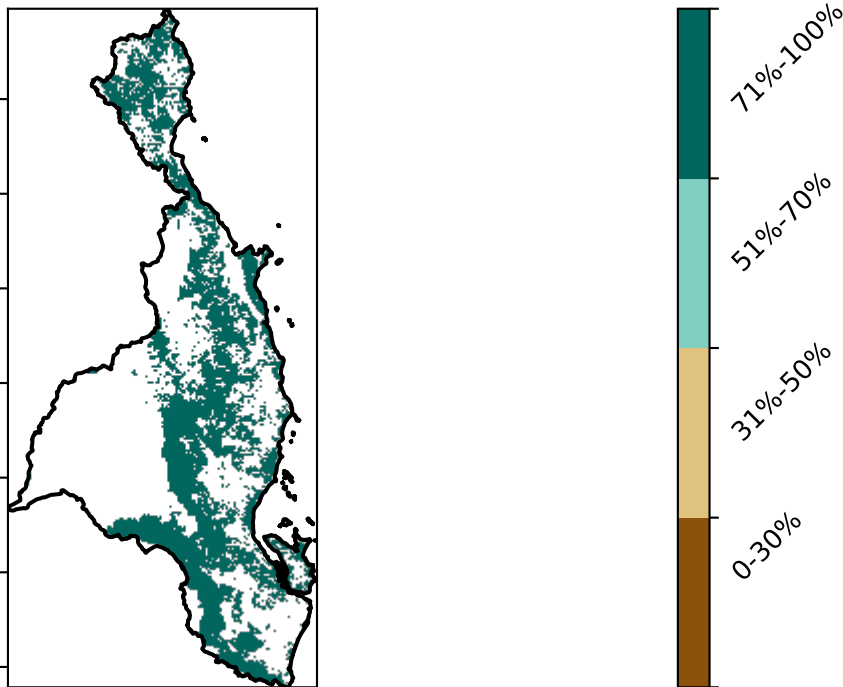
Land use and forest cover



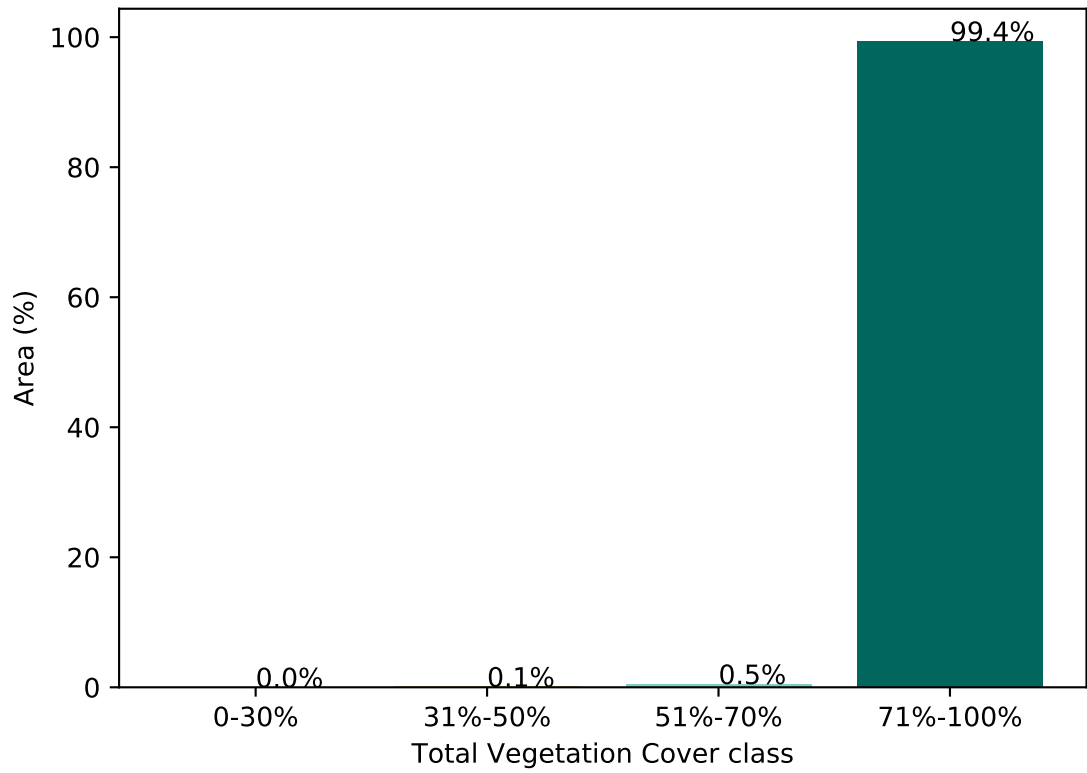
Proportion of each land class in area



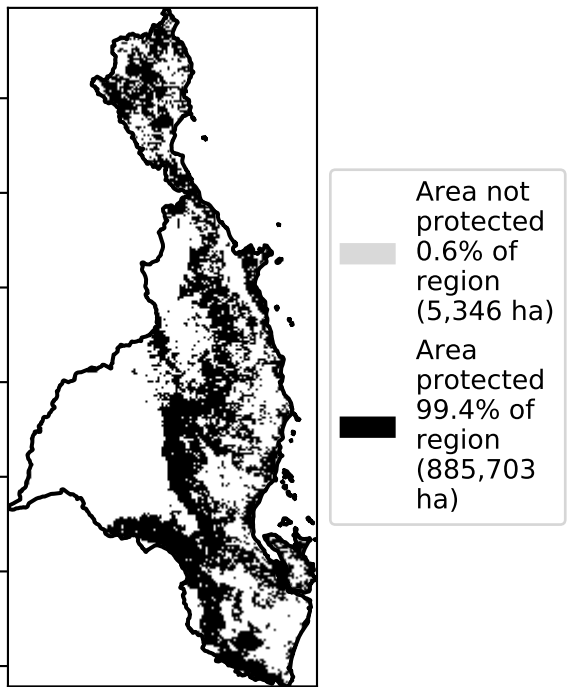
Total Vegetation Cover [%]



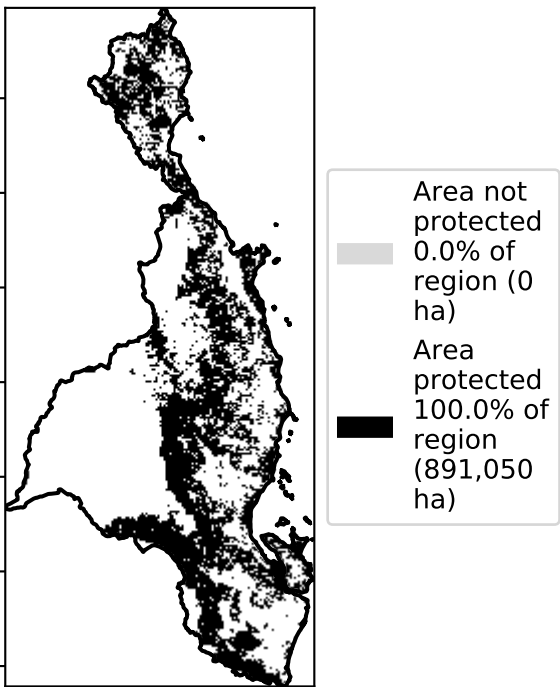
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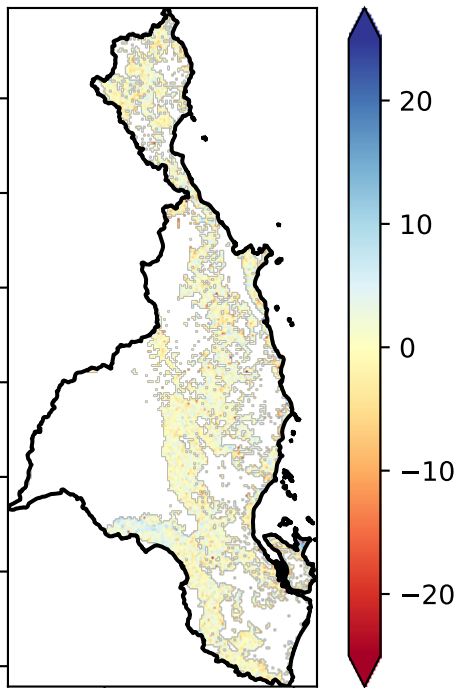
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% Area protected from wind erosion (>50%)

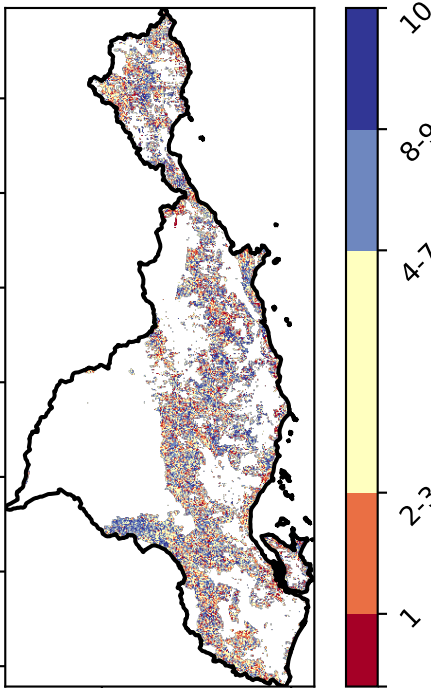


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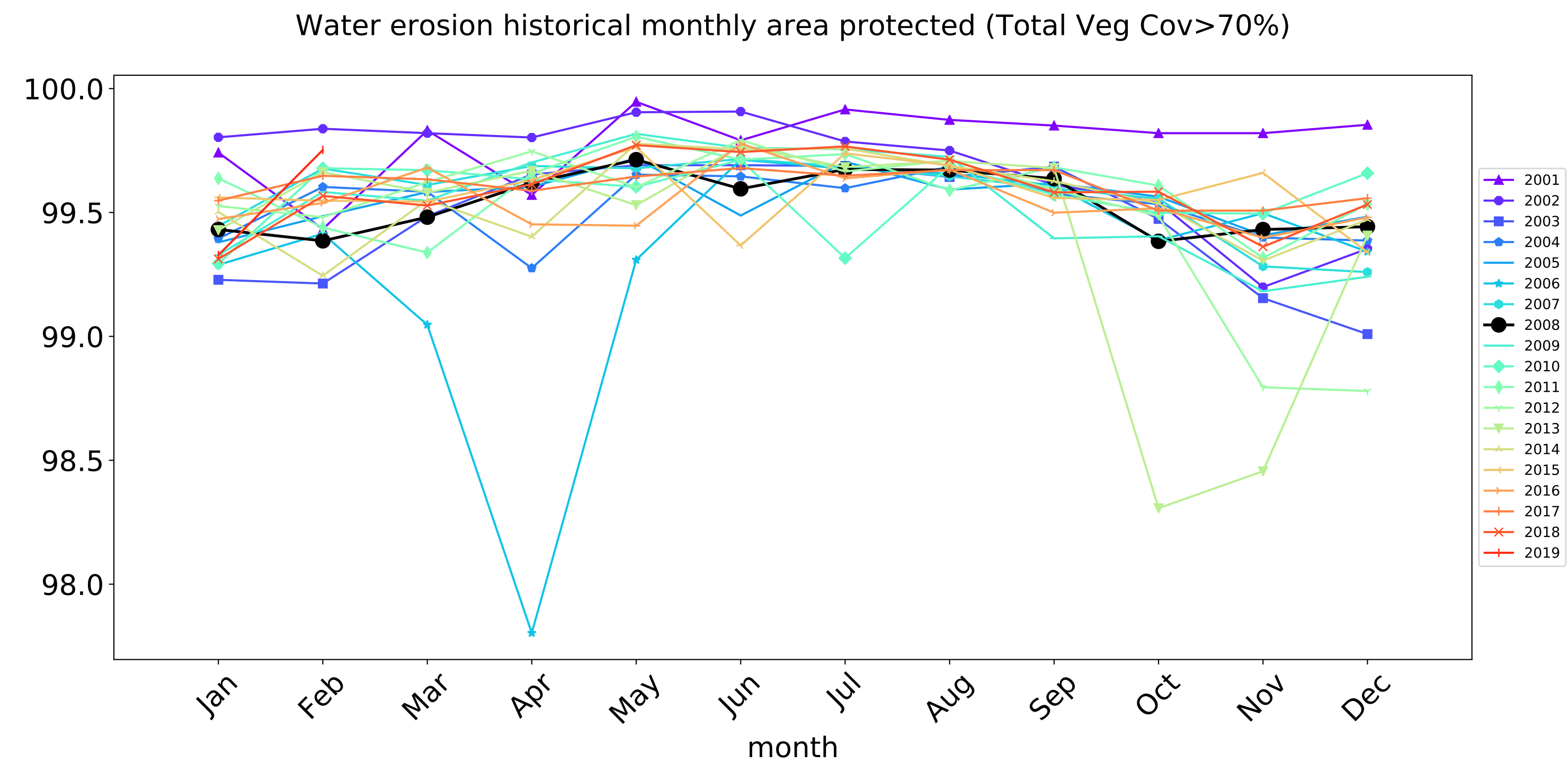
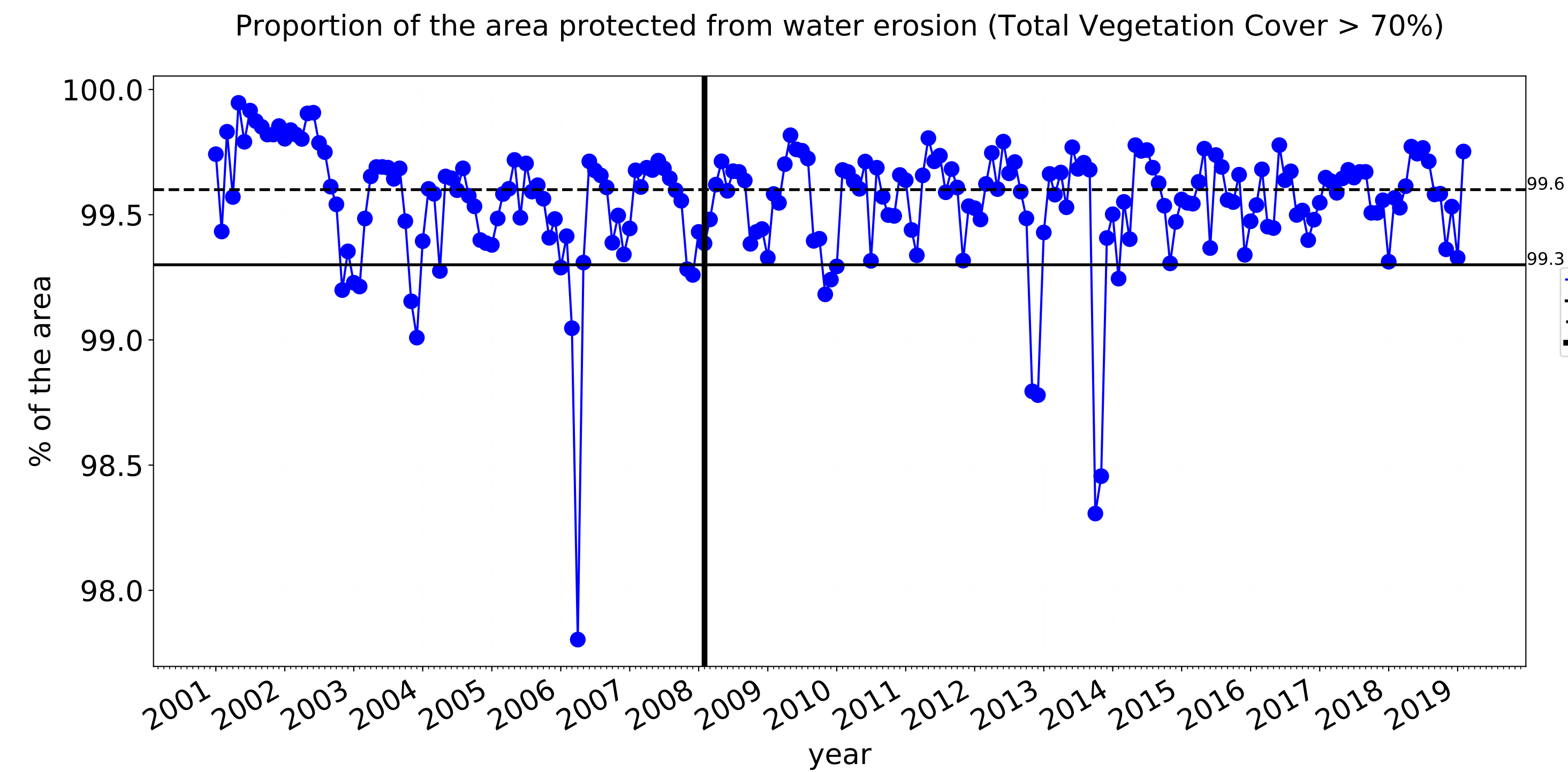
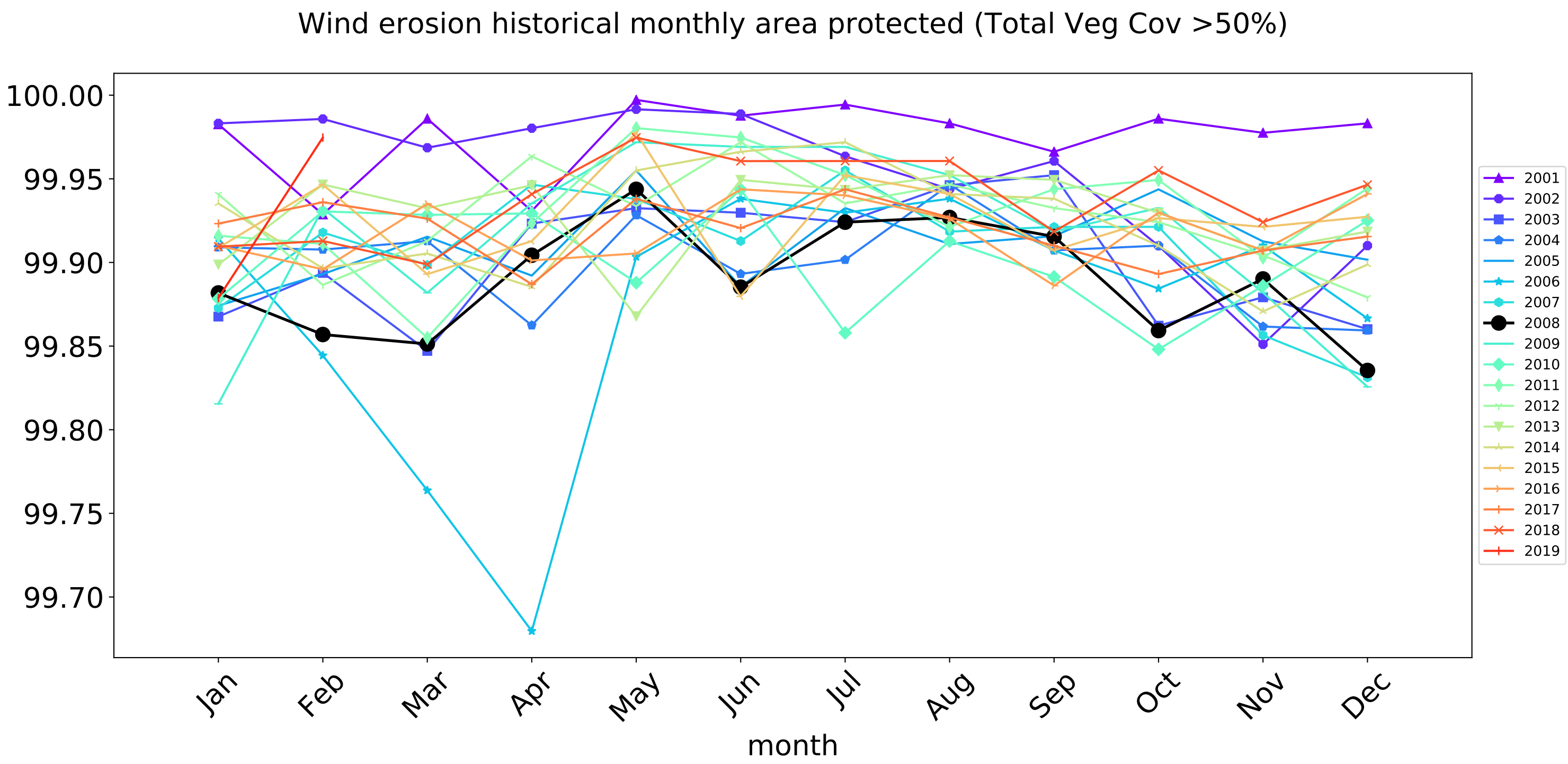
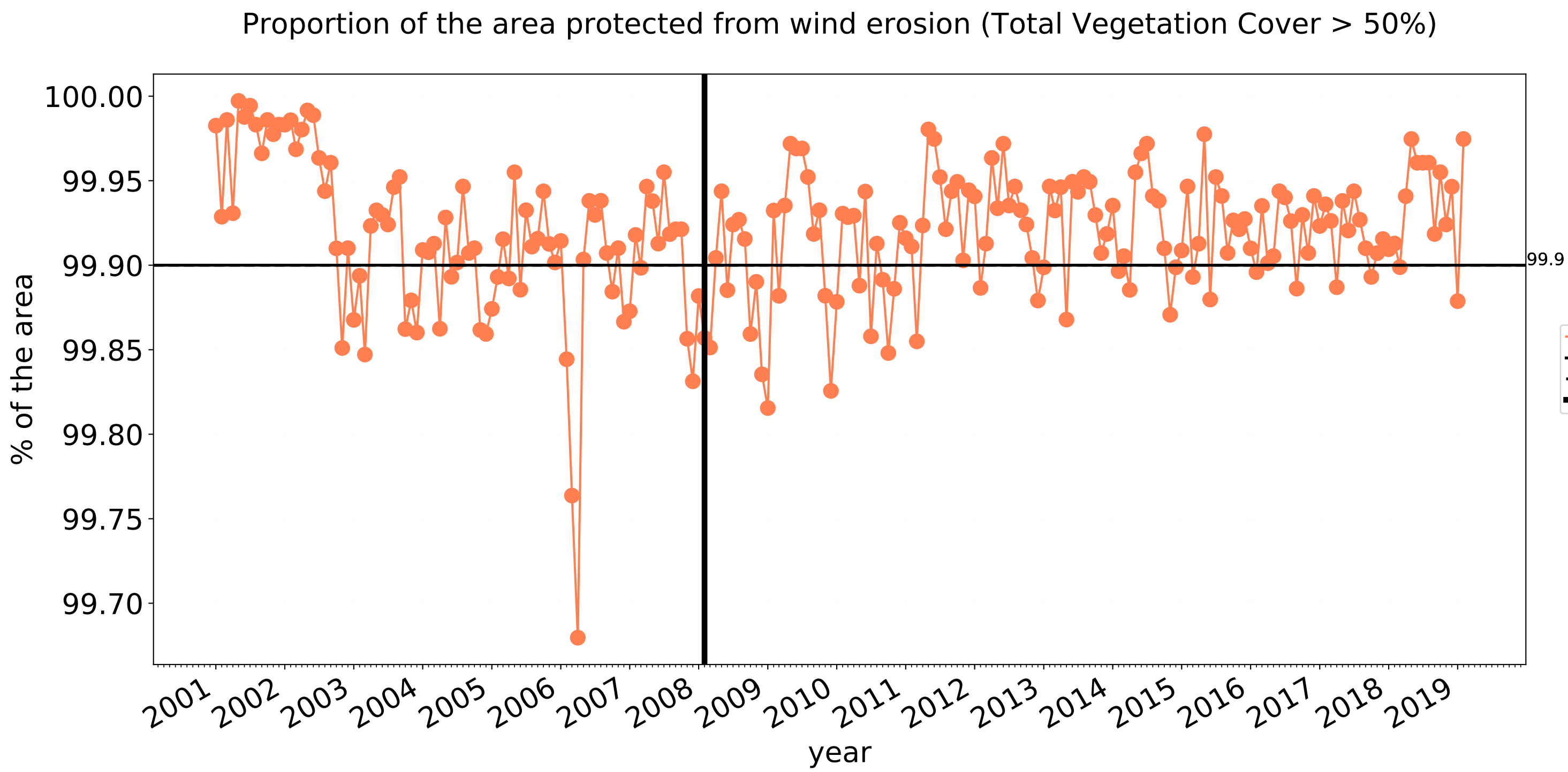


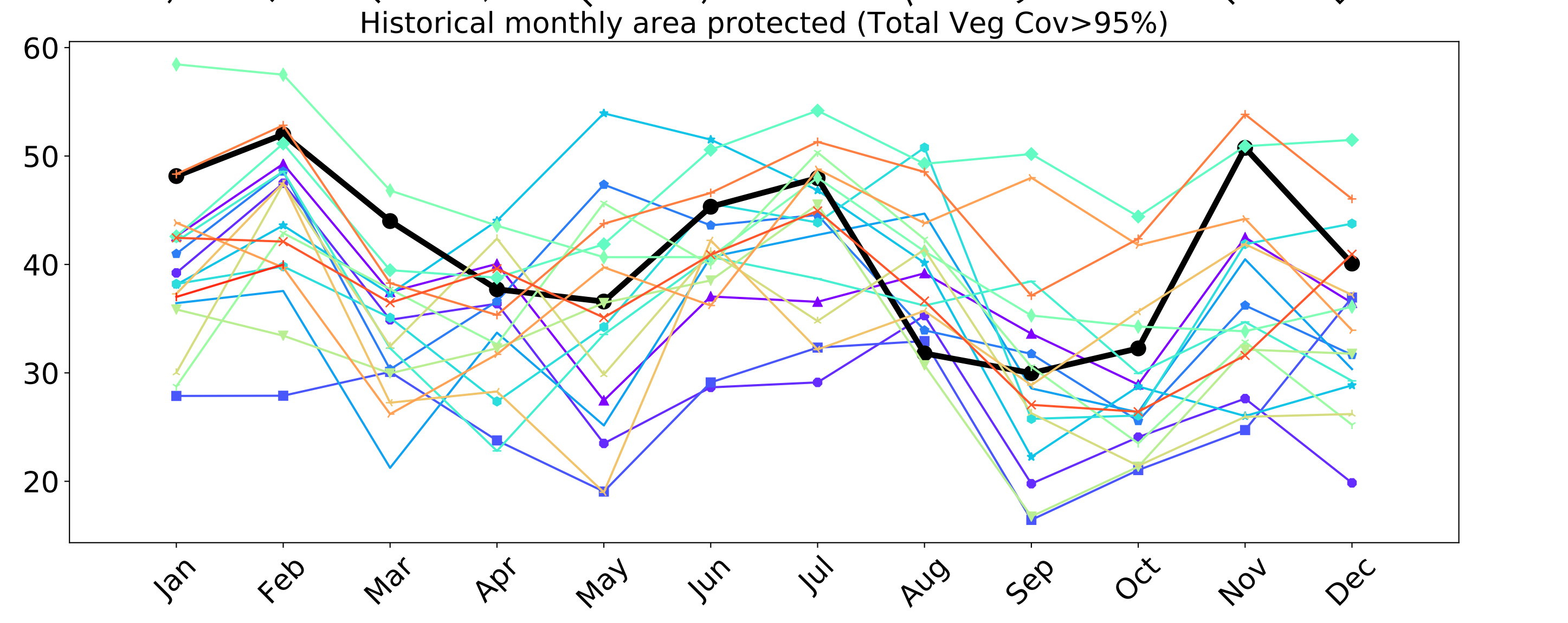
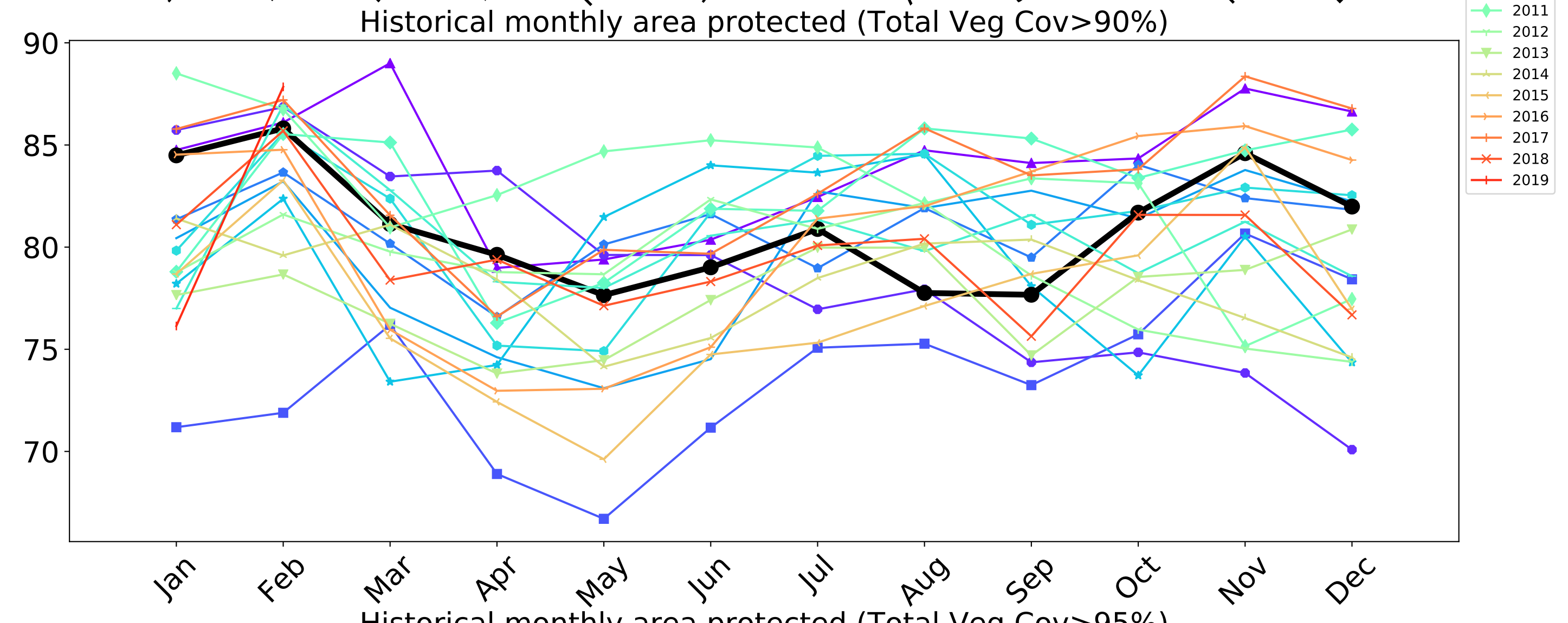
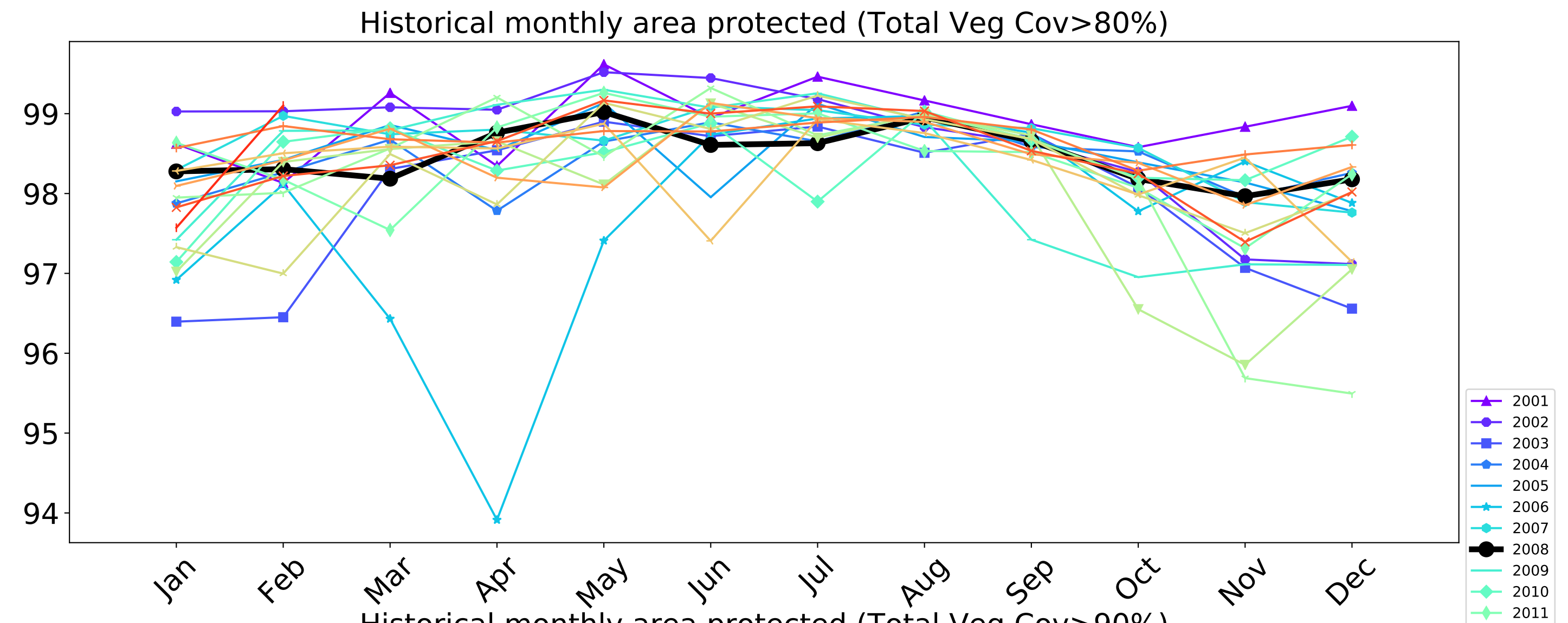
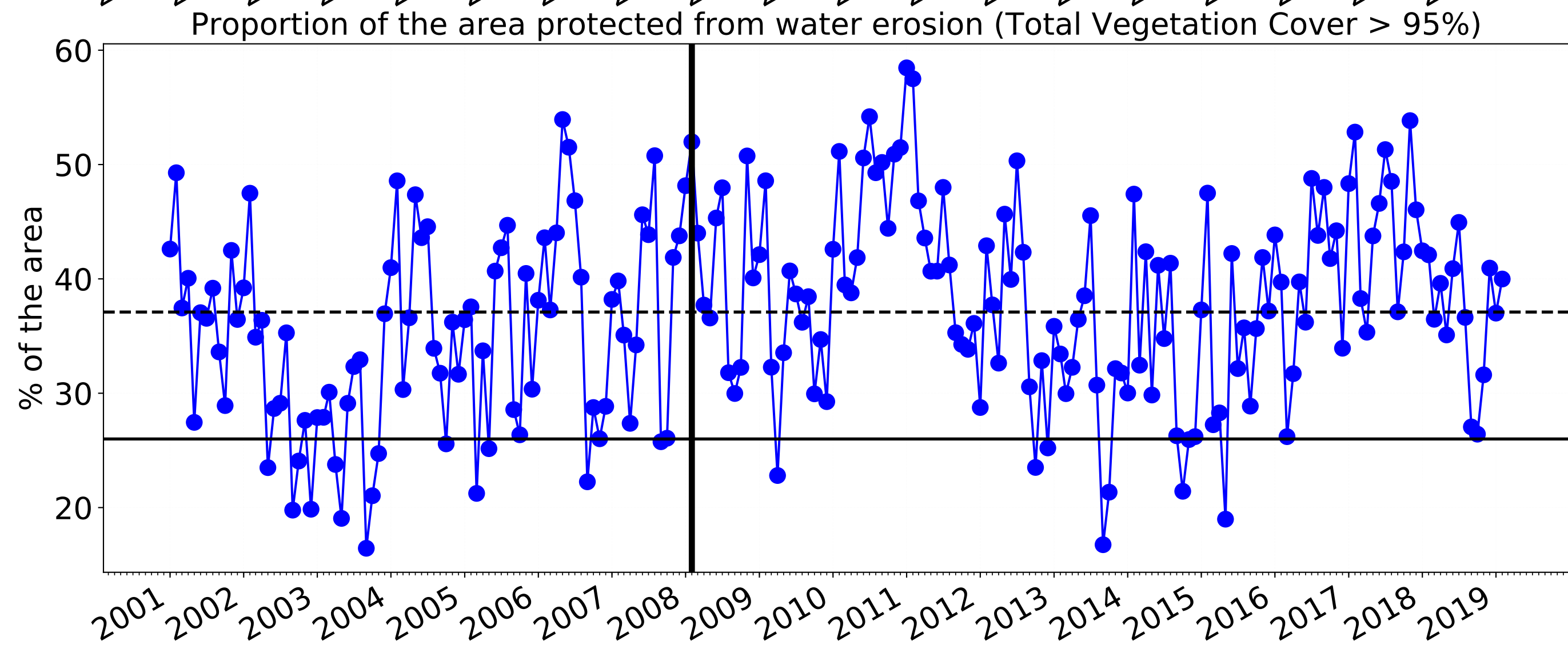
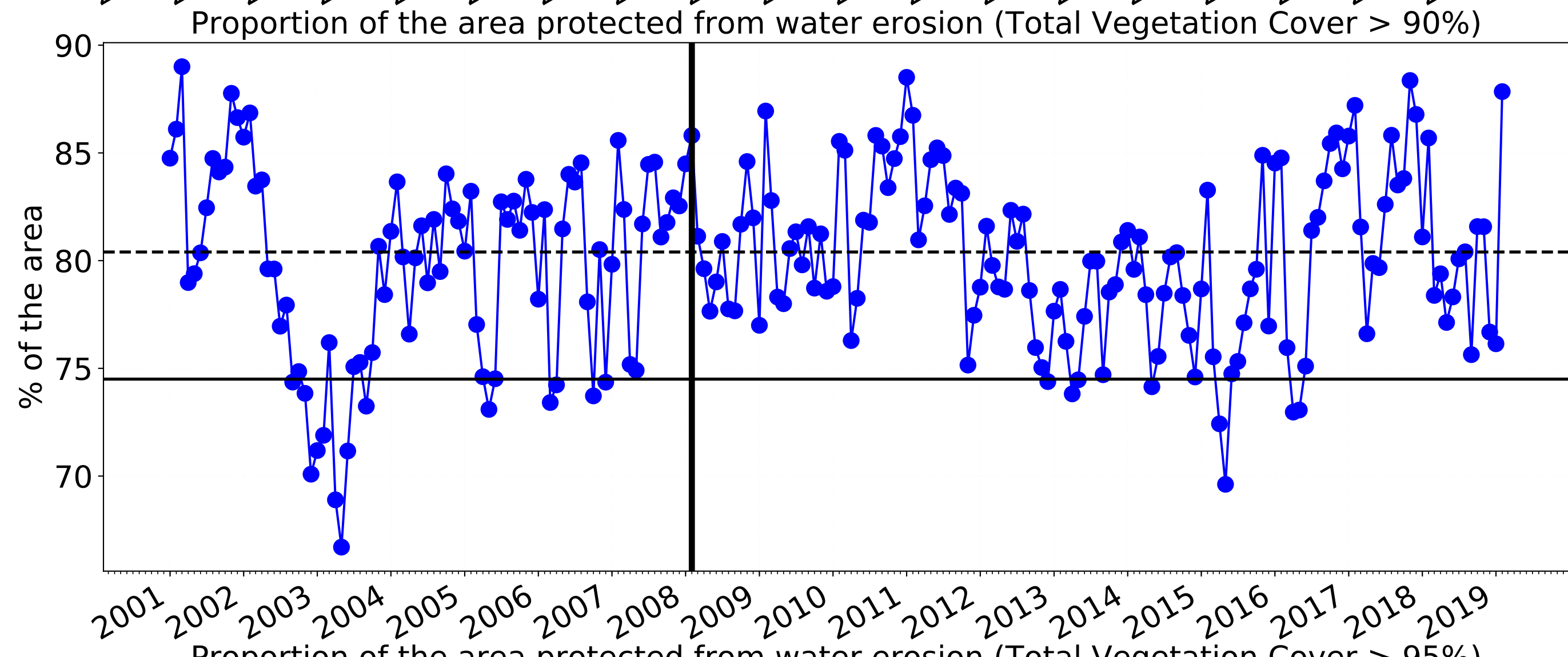
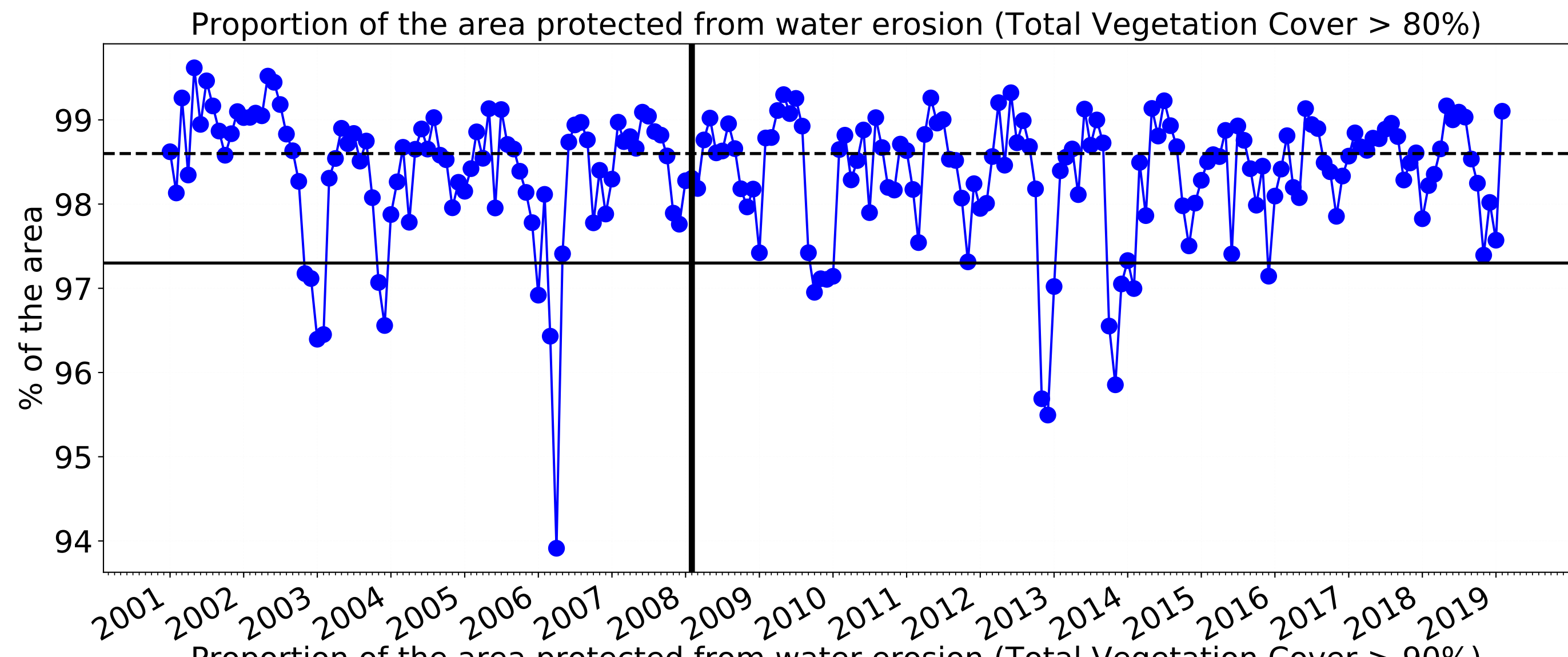
National
Landcare
Programme



Planning,
Industry &
Environment

Conservation and natural environments timeseries





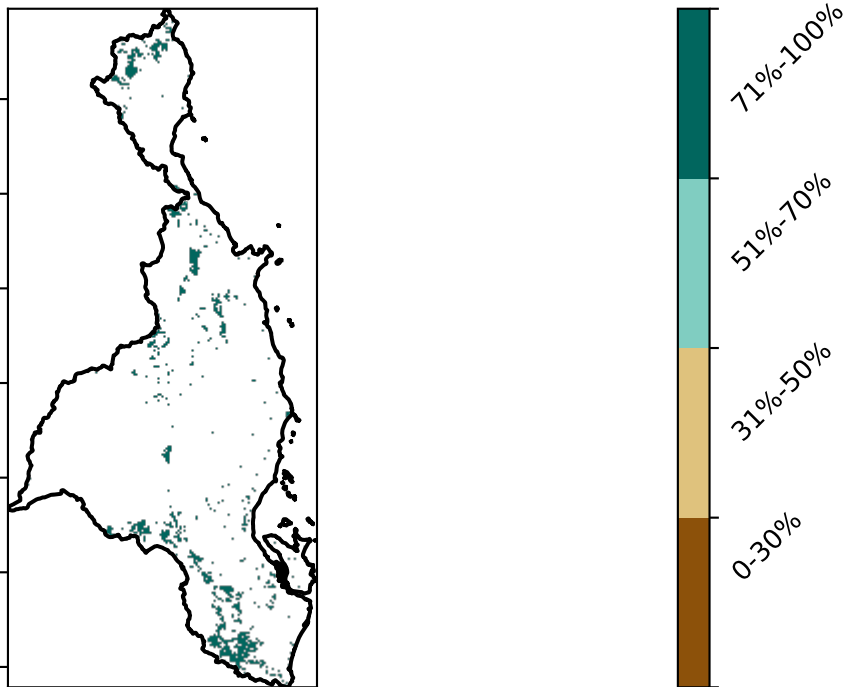
Conservation and natural environments Woodland forest

Land use and forest cover

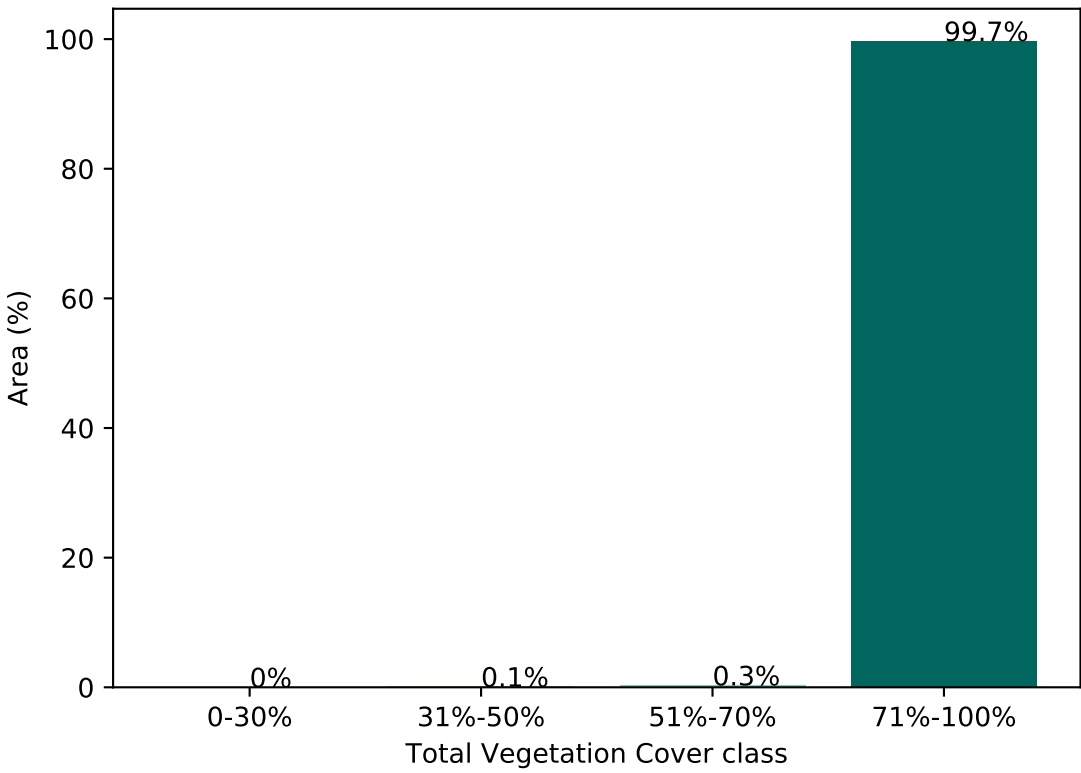


Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
Catchment Scale Land
Use of Australia
(2018) and Forests
of Australia (2018)

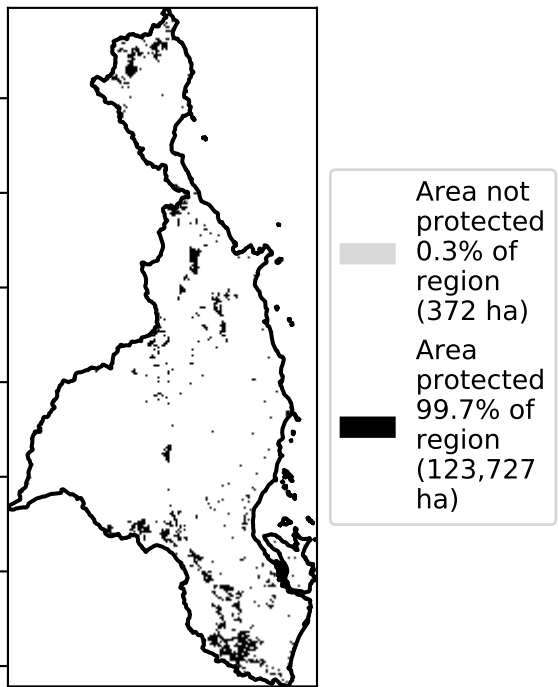
Total Vegetation Cover [%]



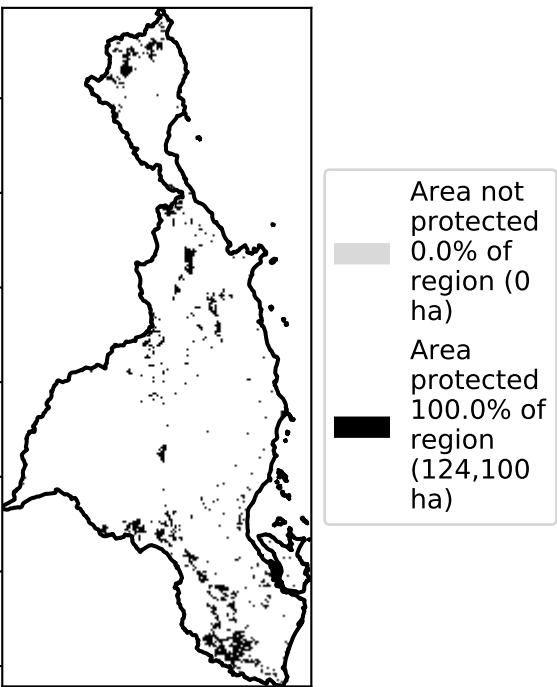
Proportion of vegetation cover class in area



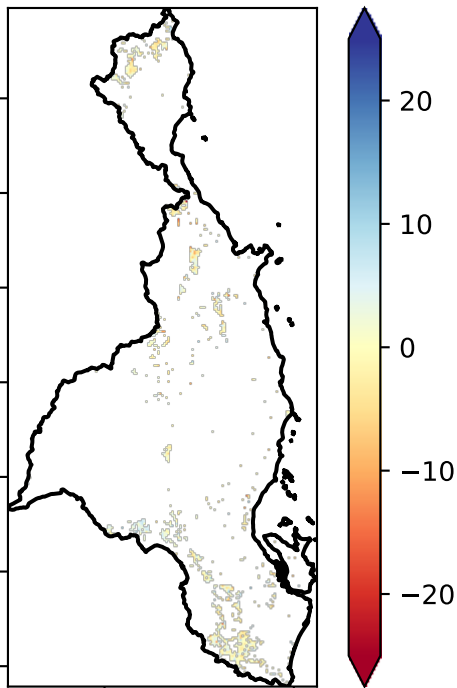
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

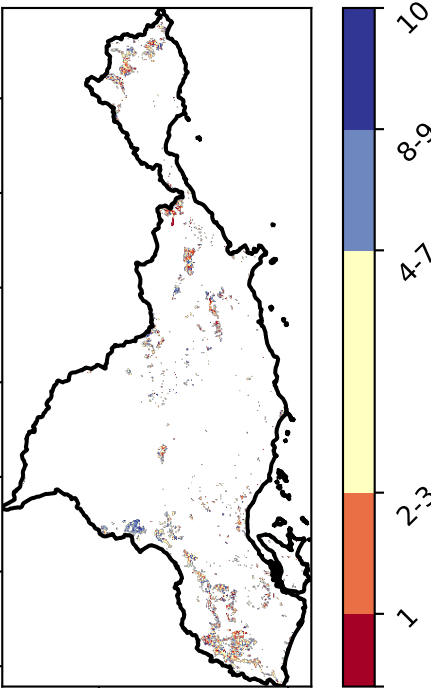


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Total Vegetation Cover Decile [%]



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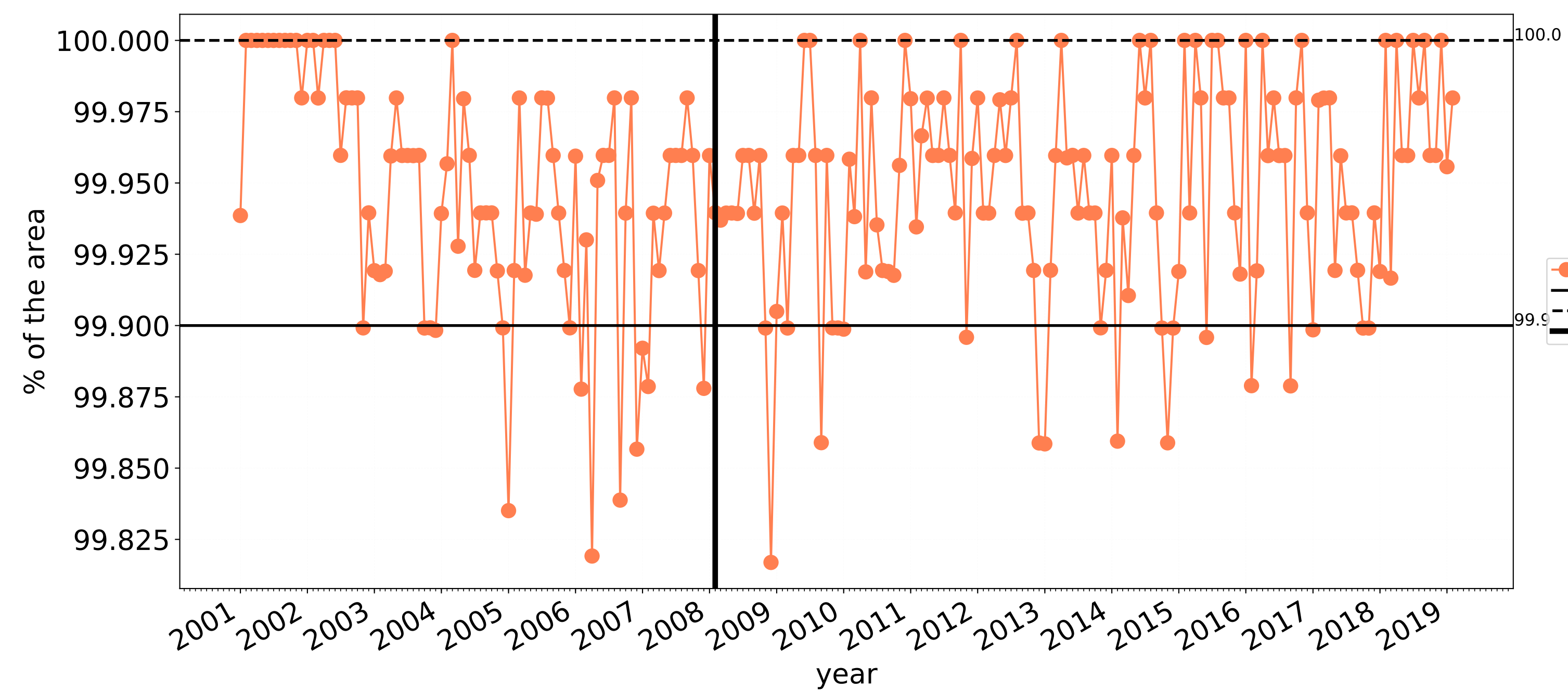
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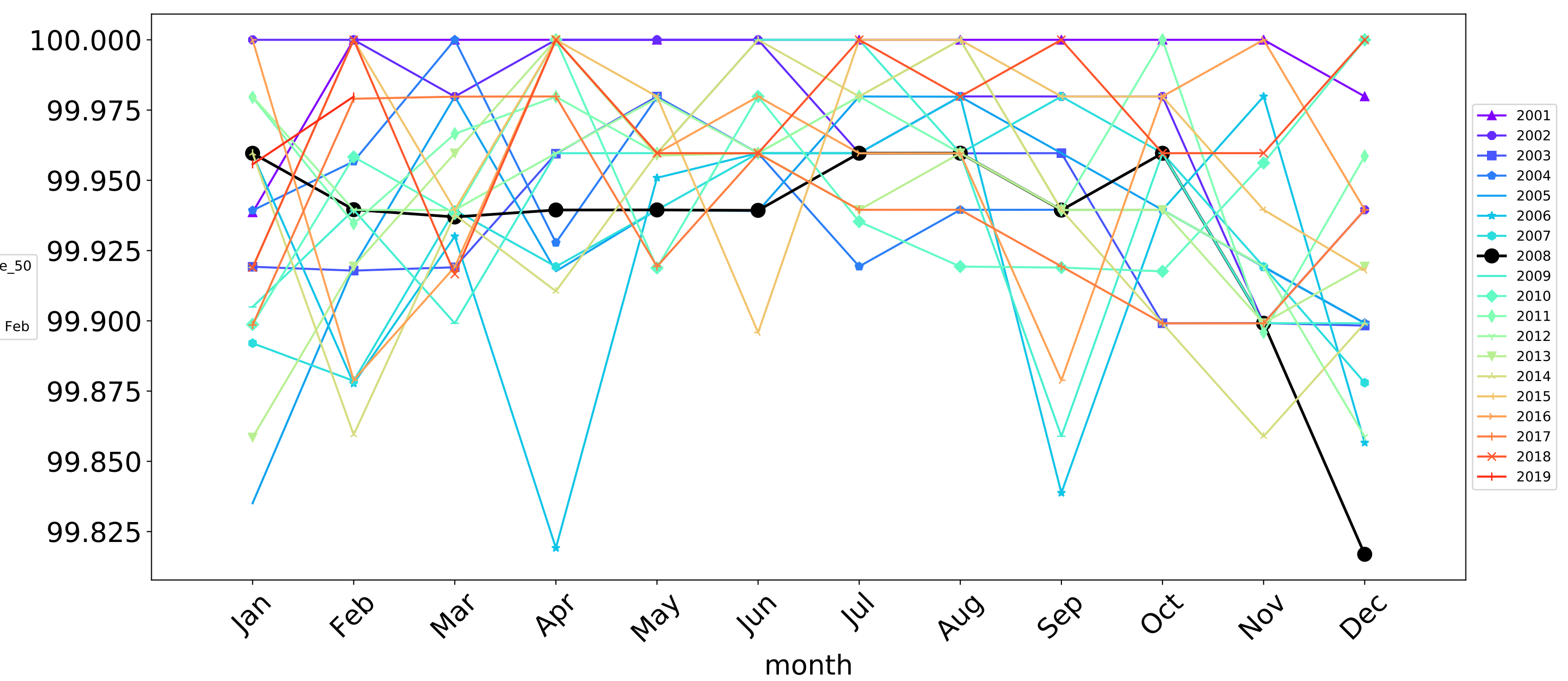
Planning,
Industry &
Environment

Conservation and natural environments Woodland forest timeseries

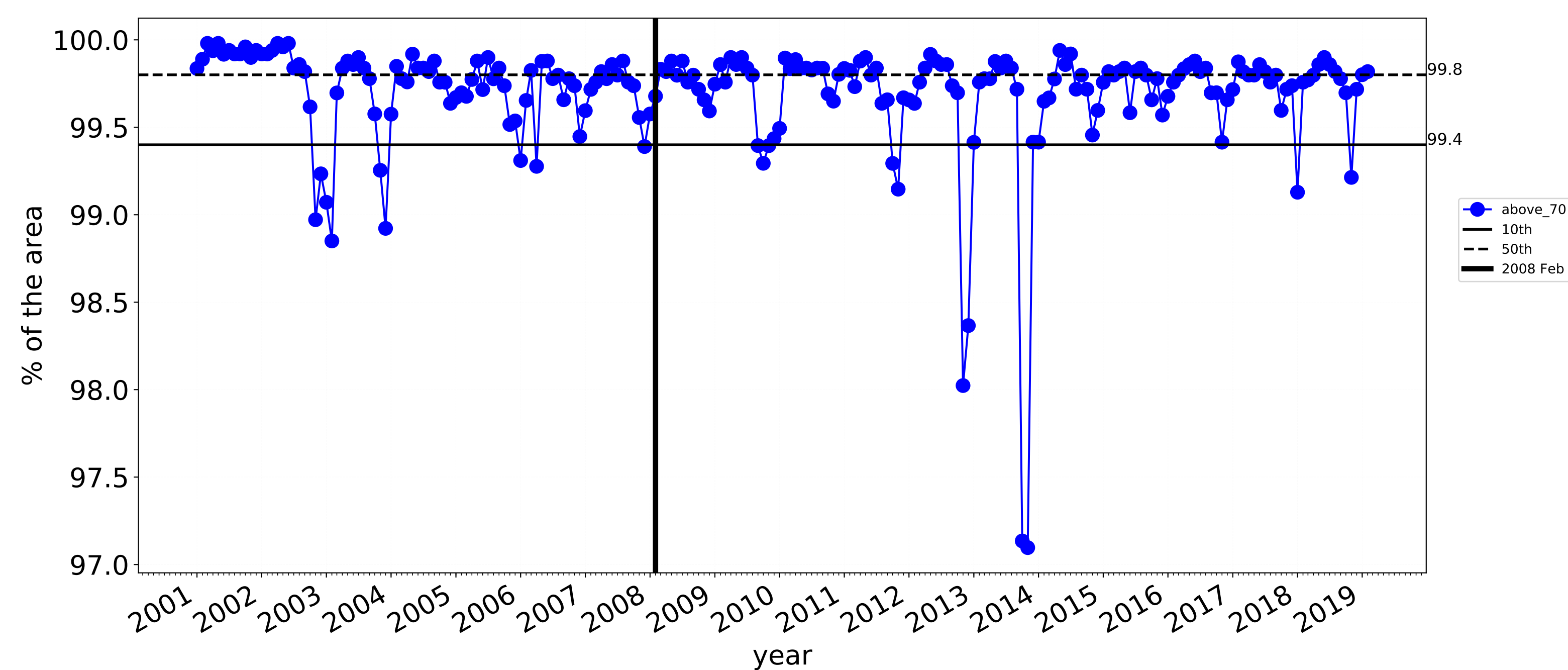
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



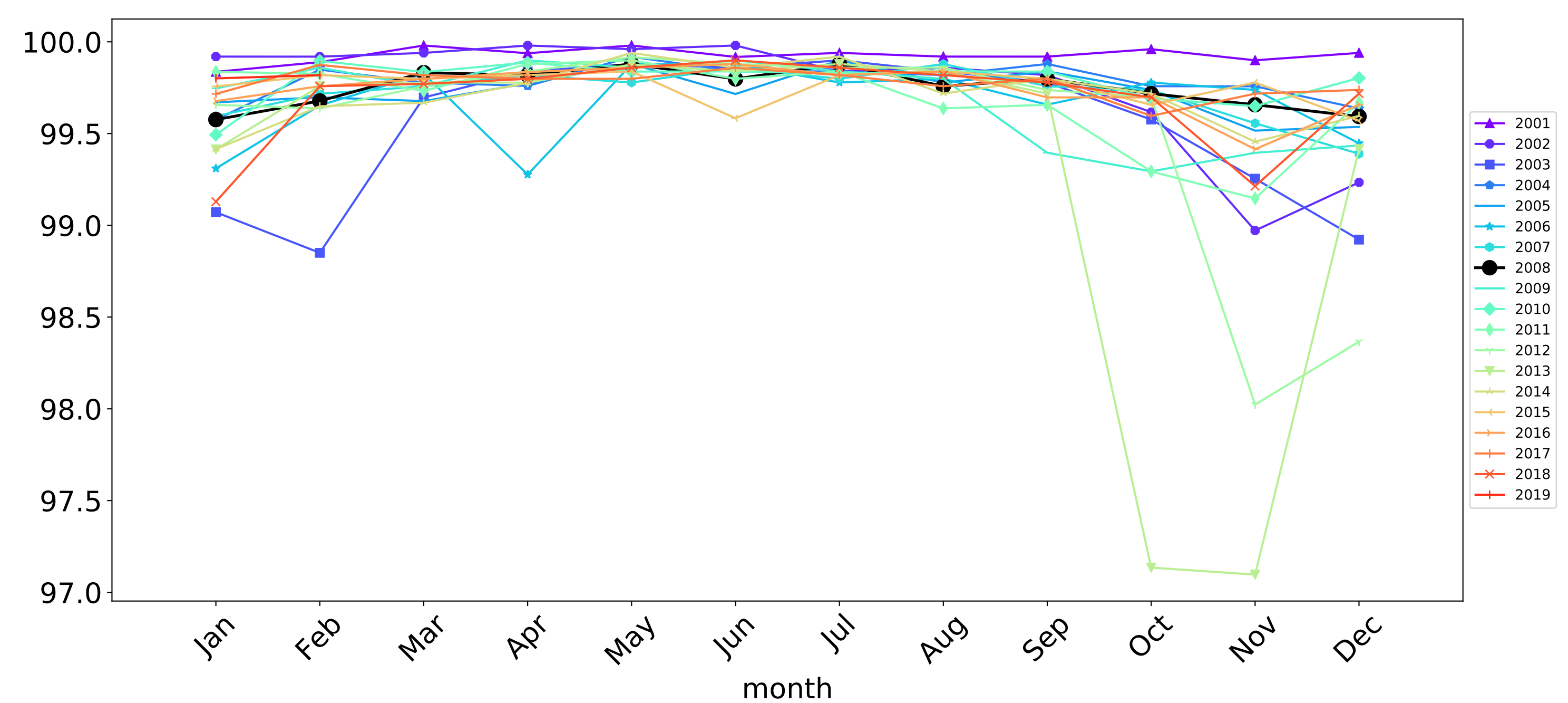
Wind erosion historical monthly area protected (Total Veg Cov > 50%)

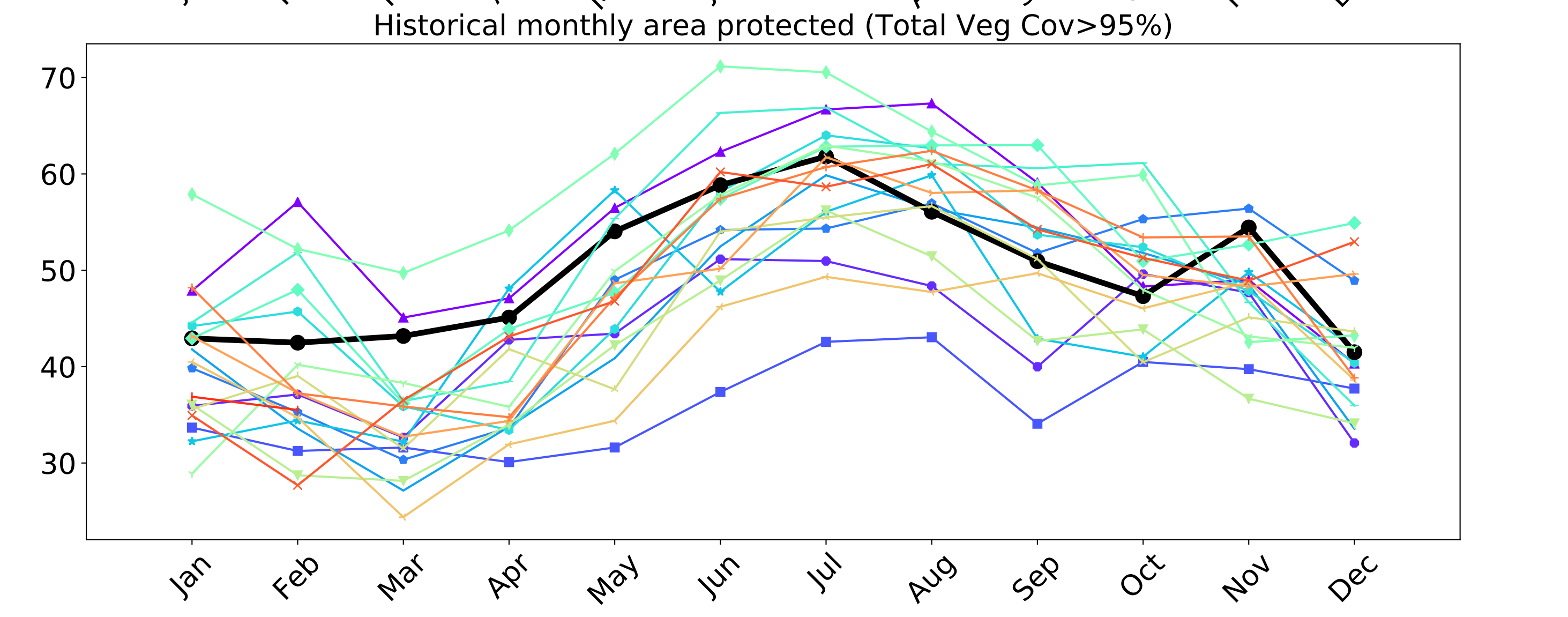
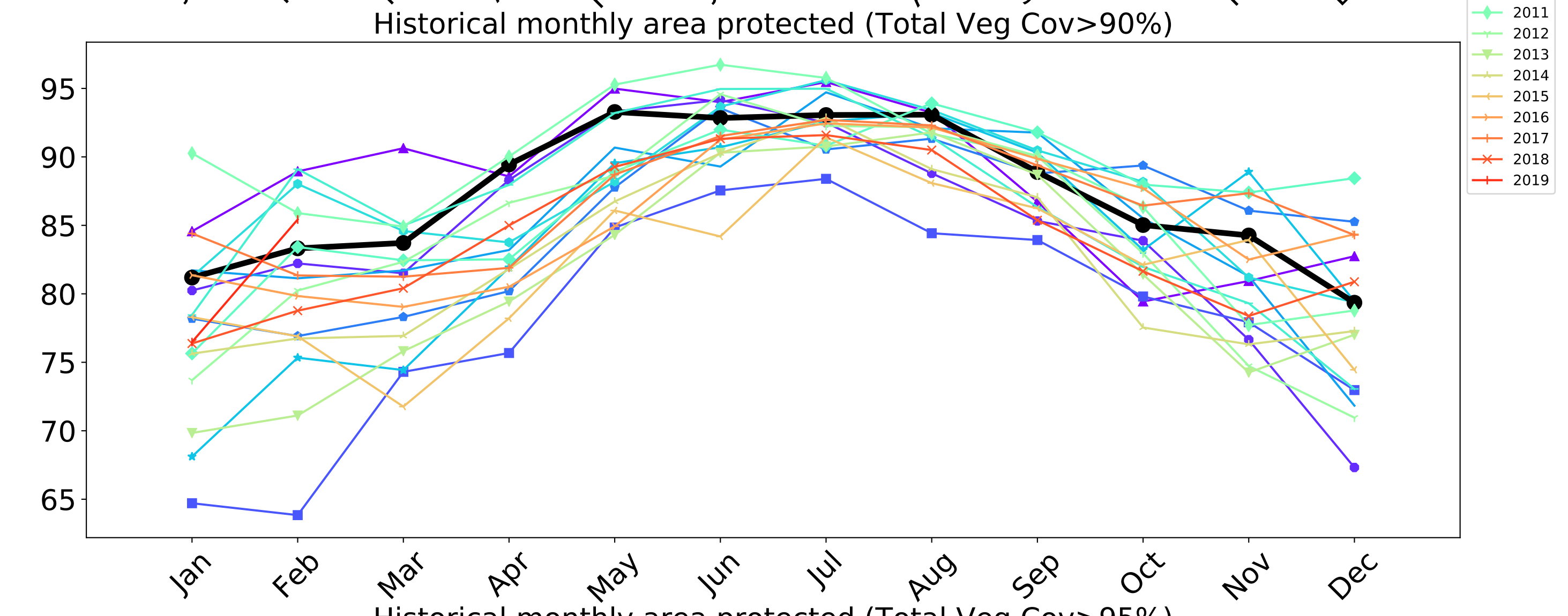
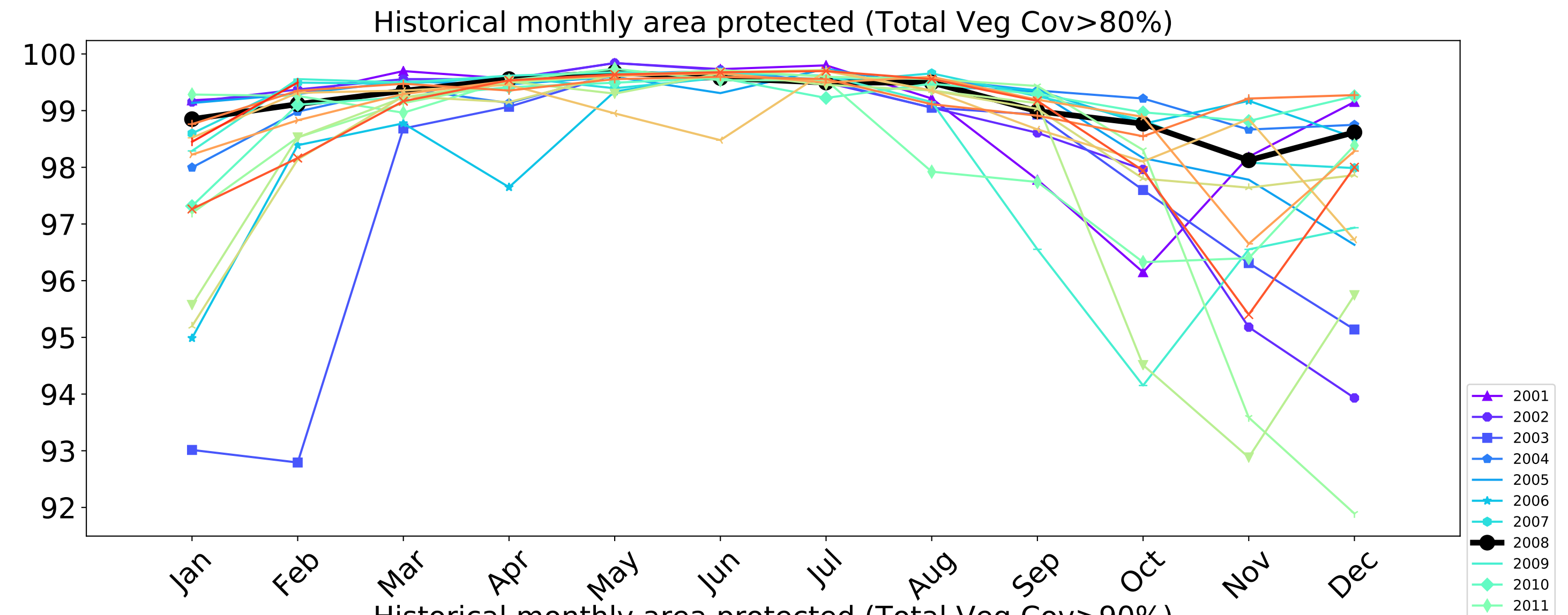
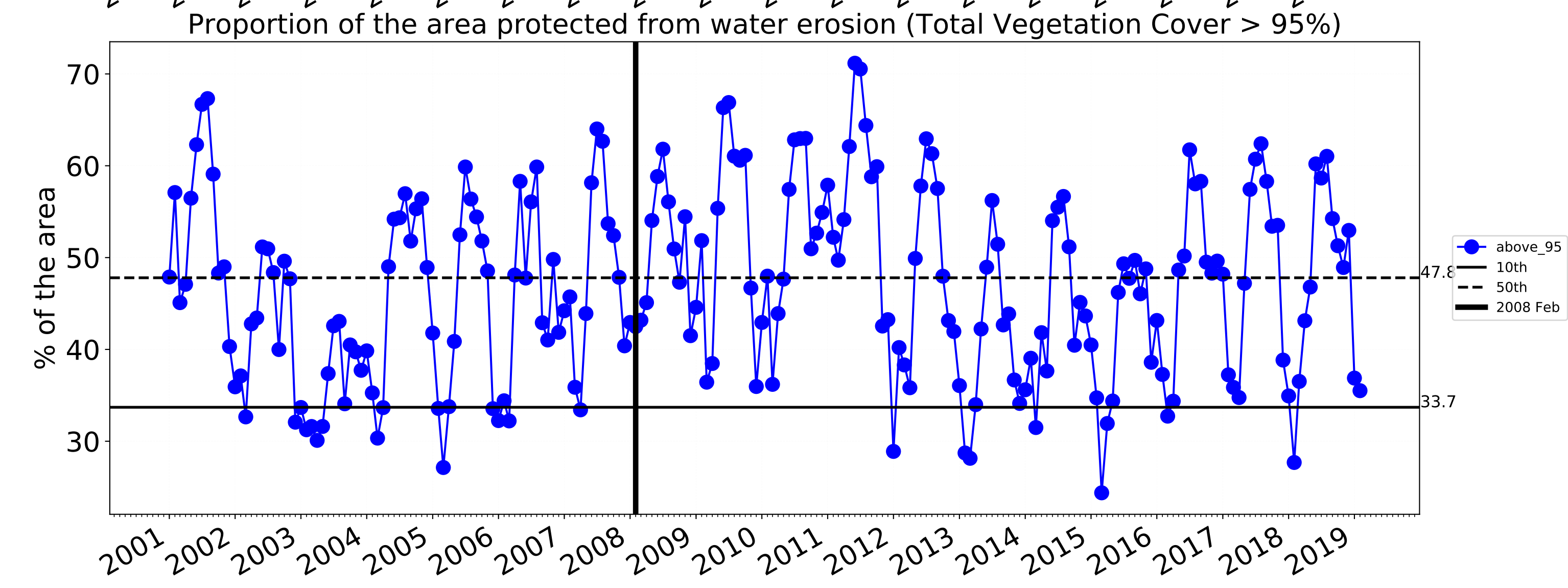
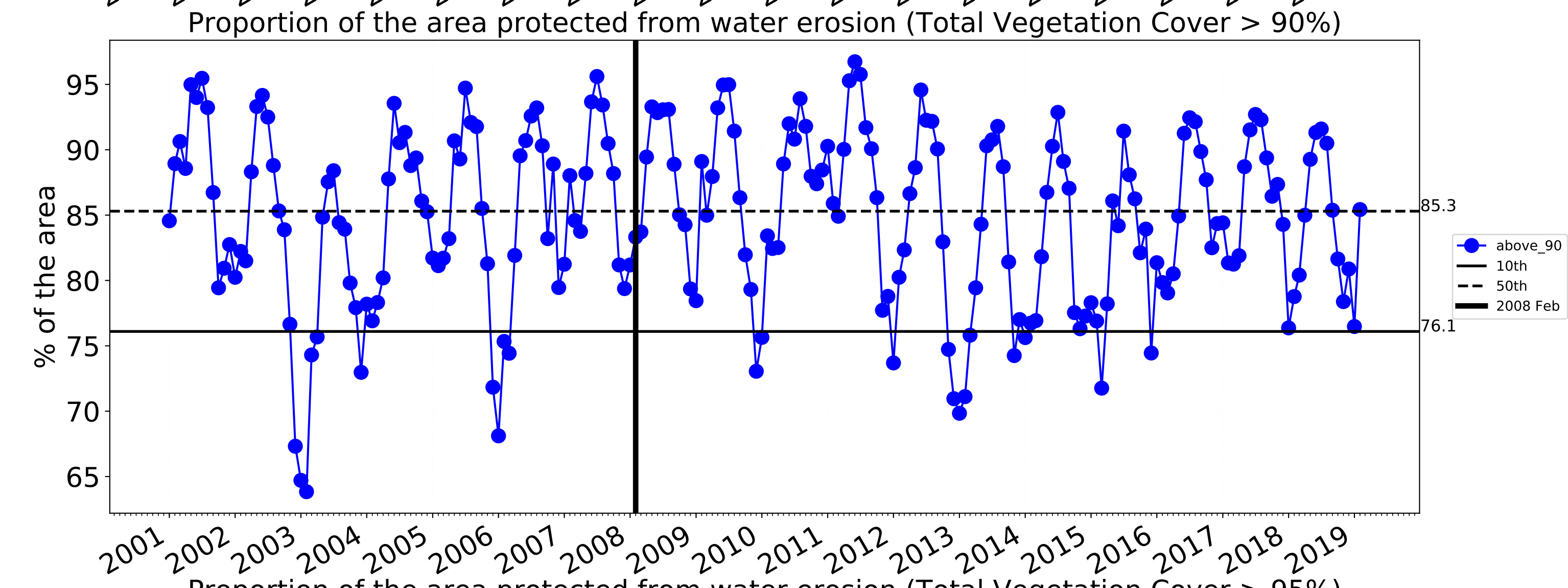
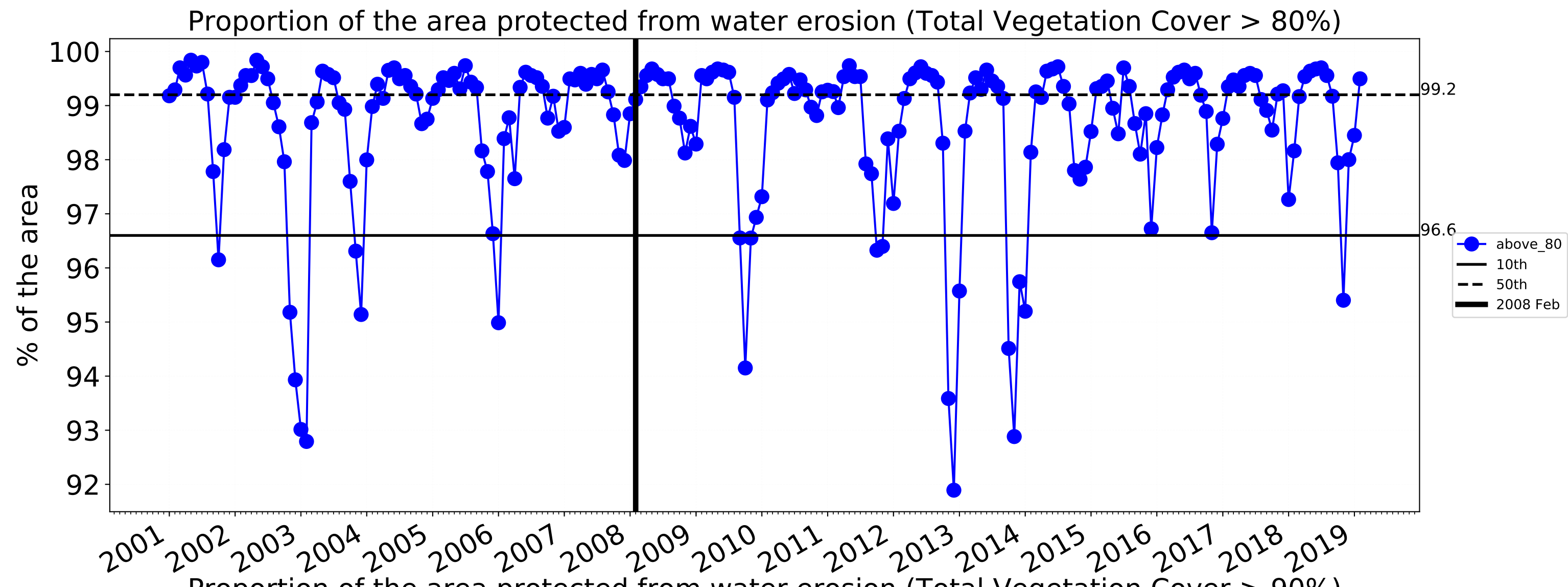


Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



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





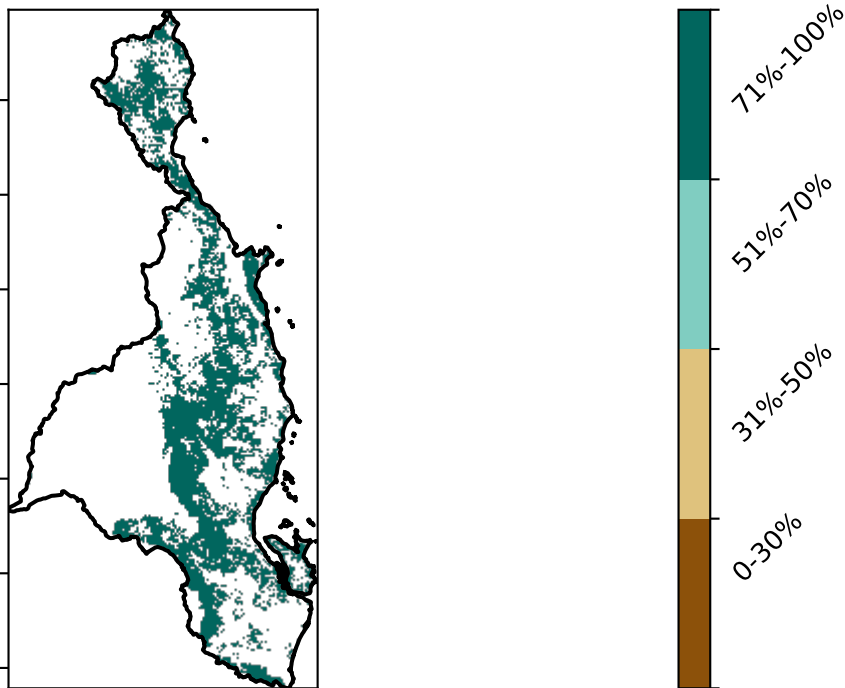
Conservation and natural environments Forest (non woodland)

Land use and forest cover

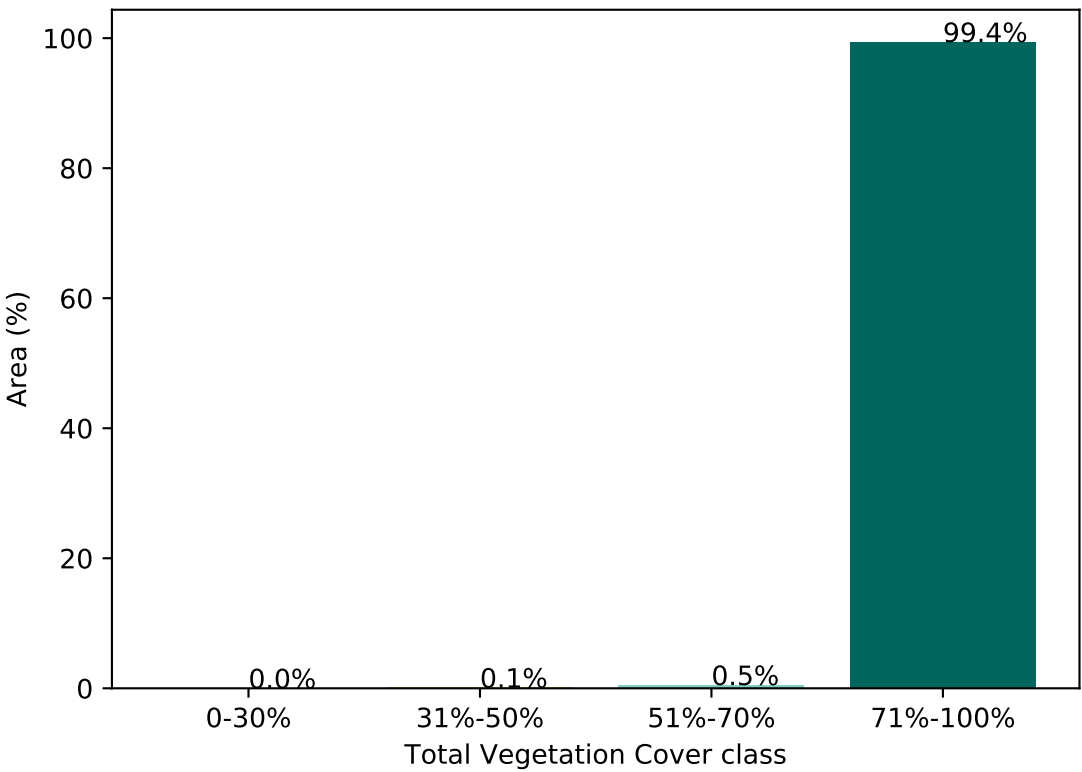
Catchment Scale
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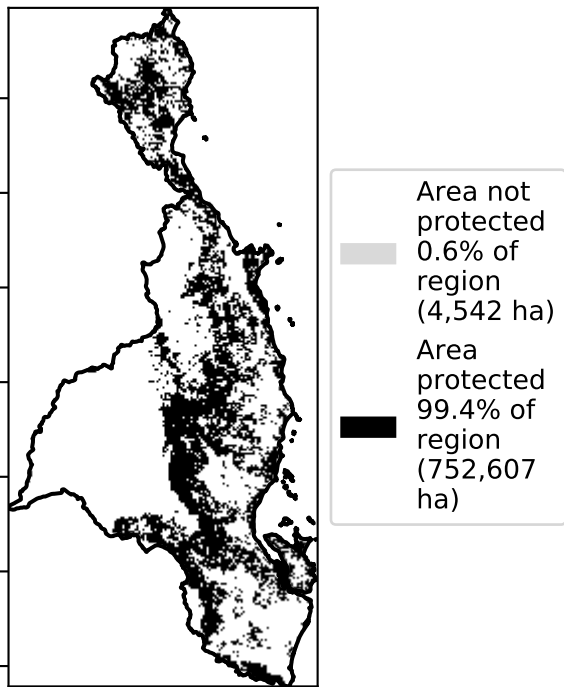
Total Vegetation Cover [%]



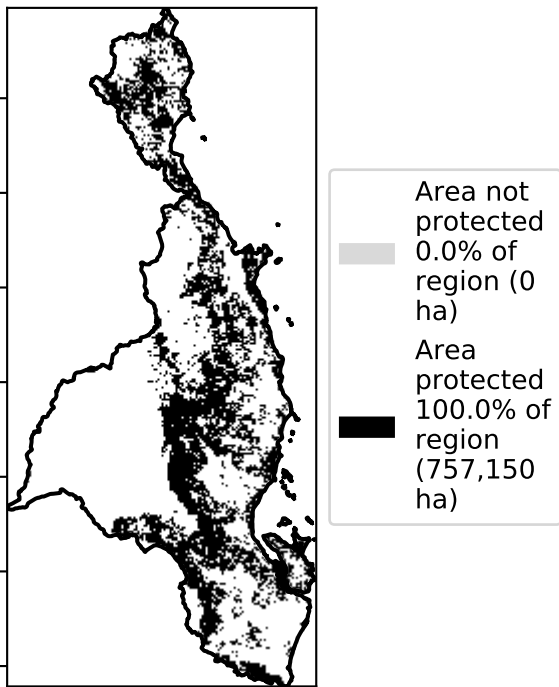
Proportion of vegetation cover class in area



% Area protected from water erosion (>70%)

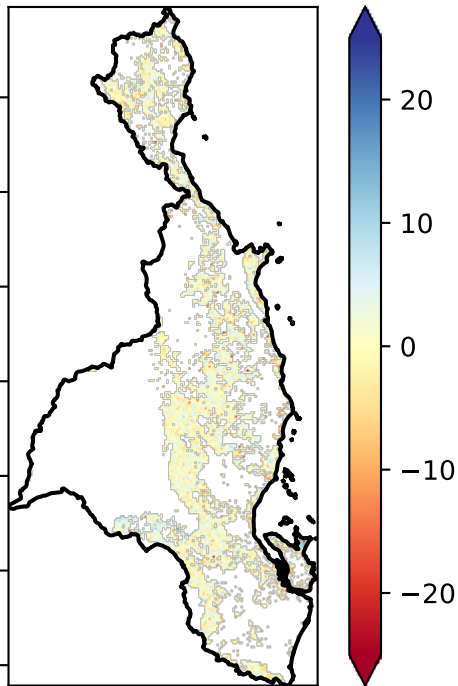


% Area protected from wind erosion (>50%)



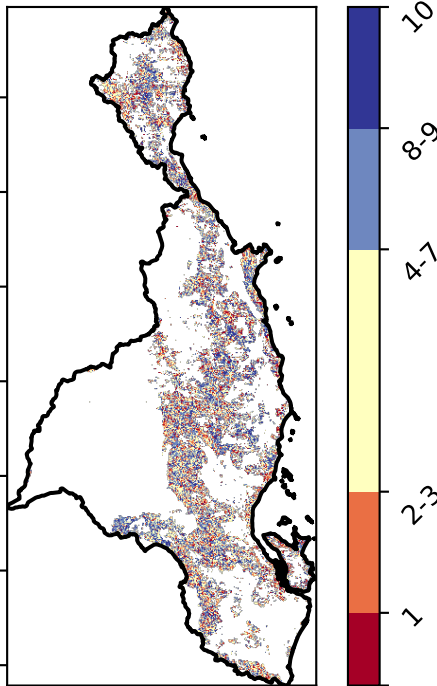
Total Vegetation Cover Anomaly [%]

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Total Vegetation Cover Decile [%]



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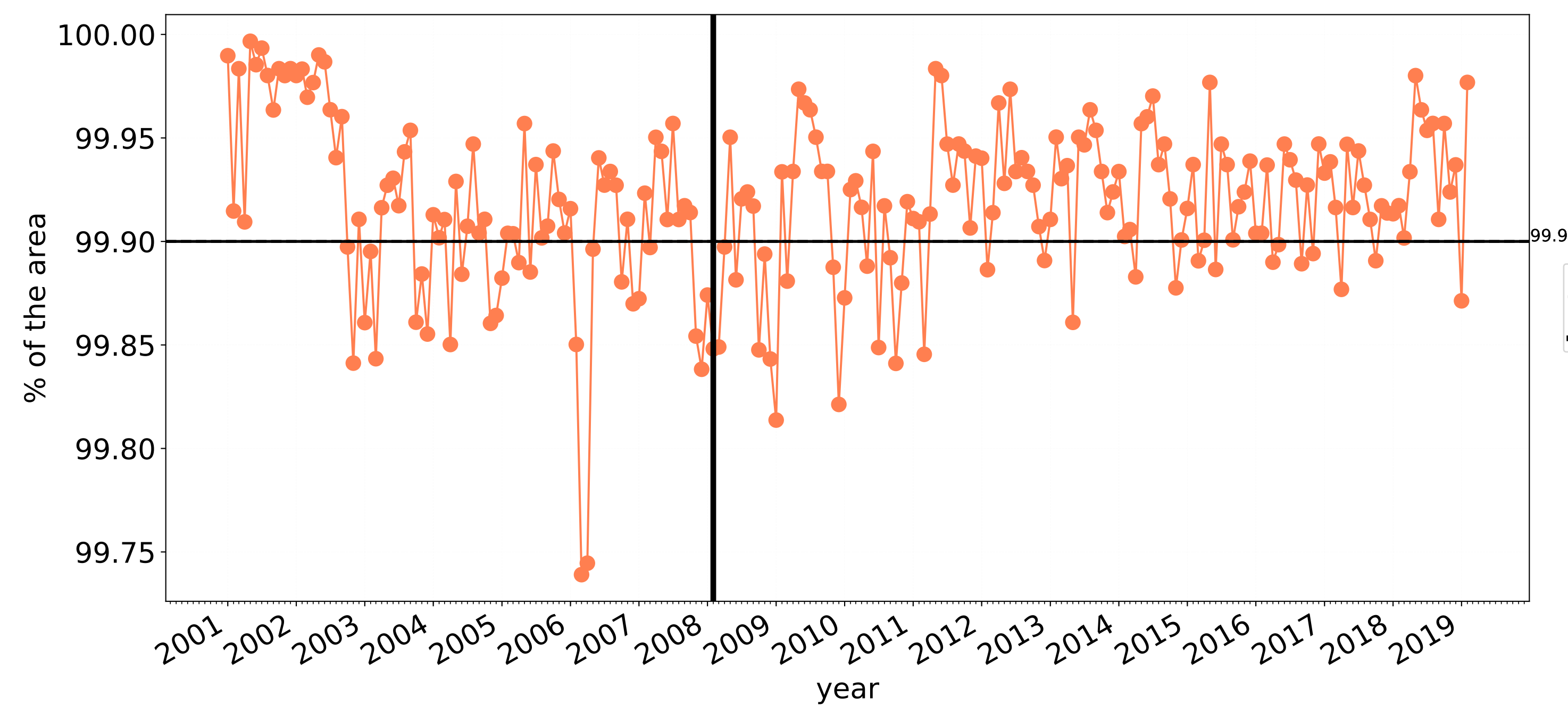
National
Landcare
Programme



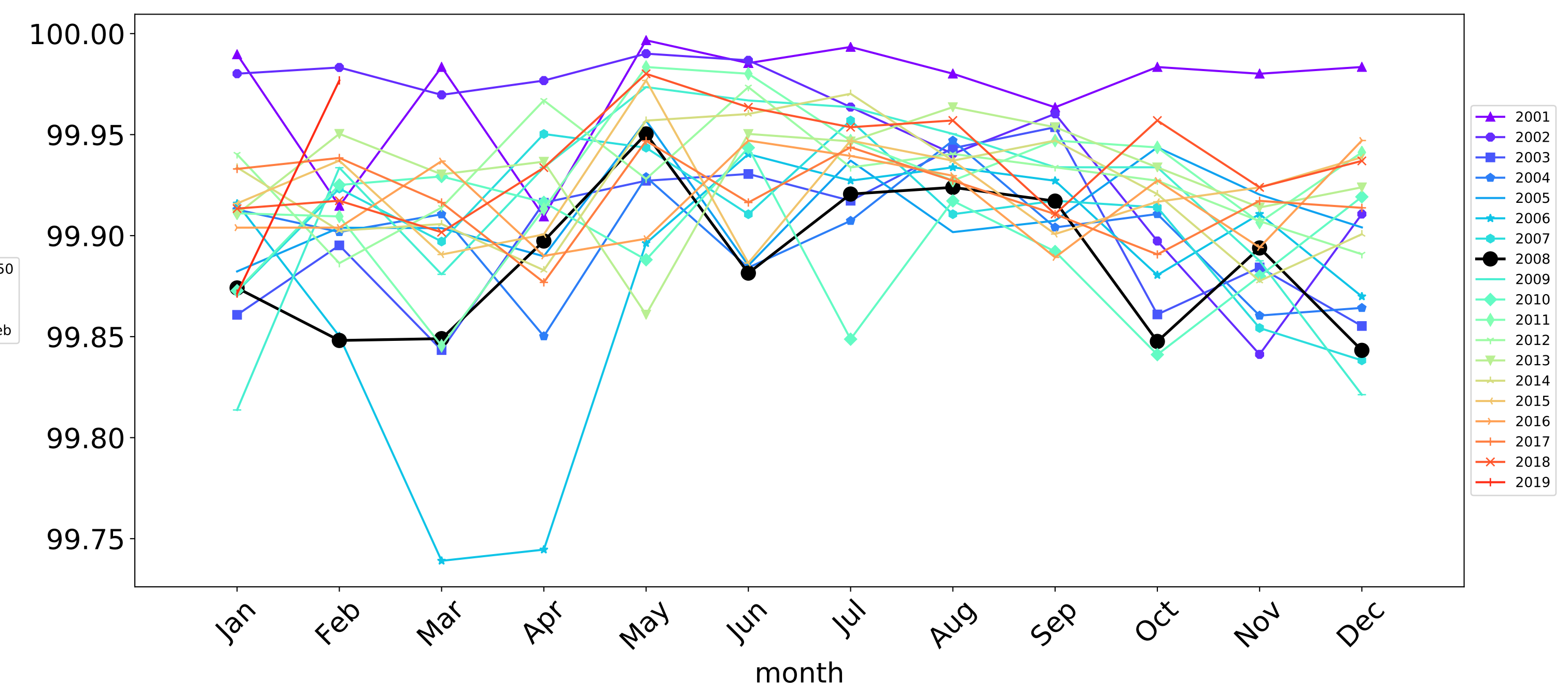
Planning,
Industry &
Environment

Conservation and natural environments Forest (non woodland) timeseries

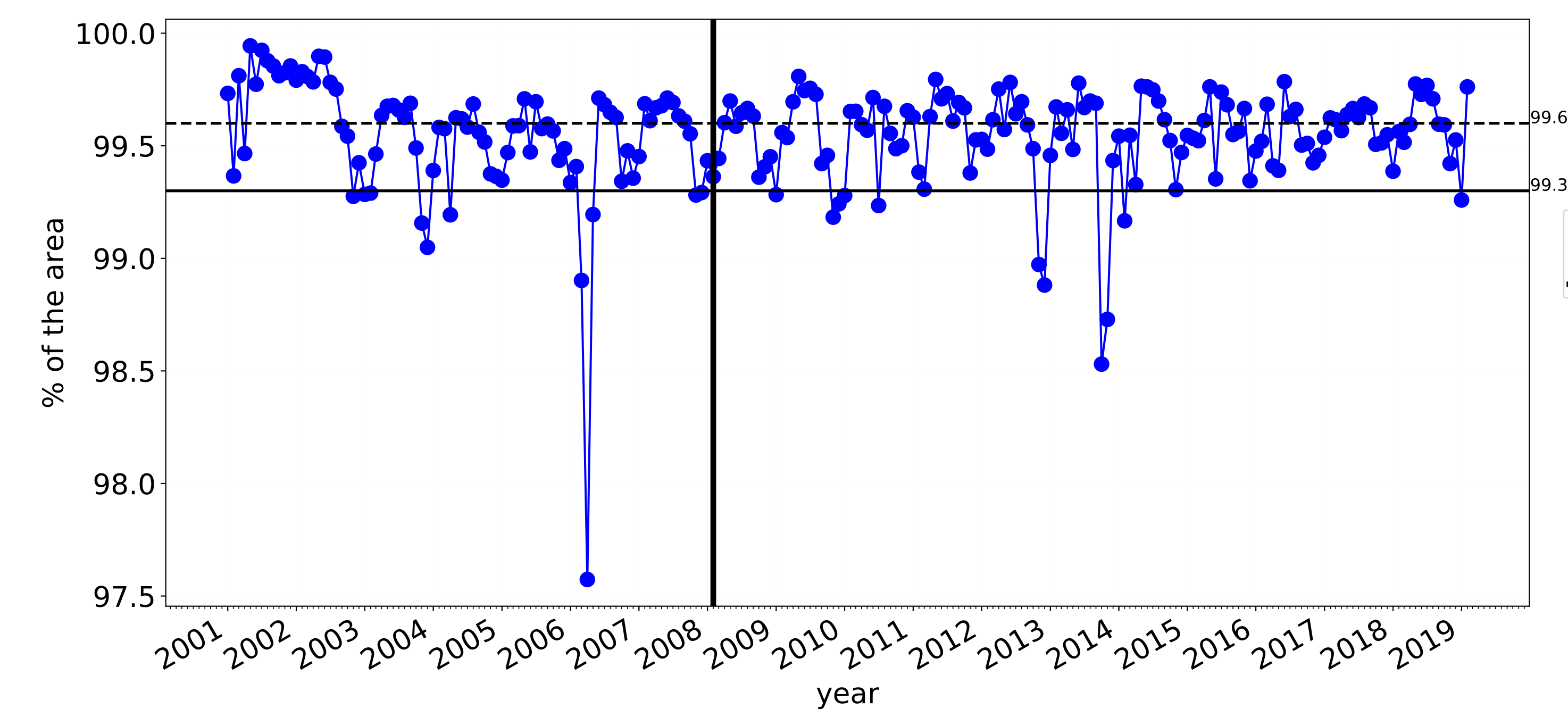
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



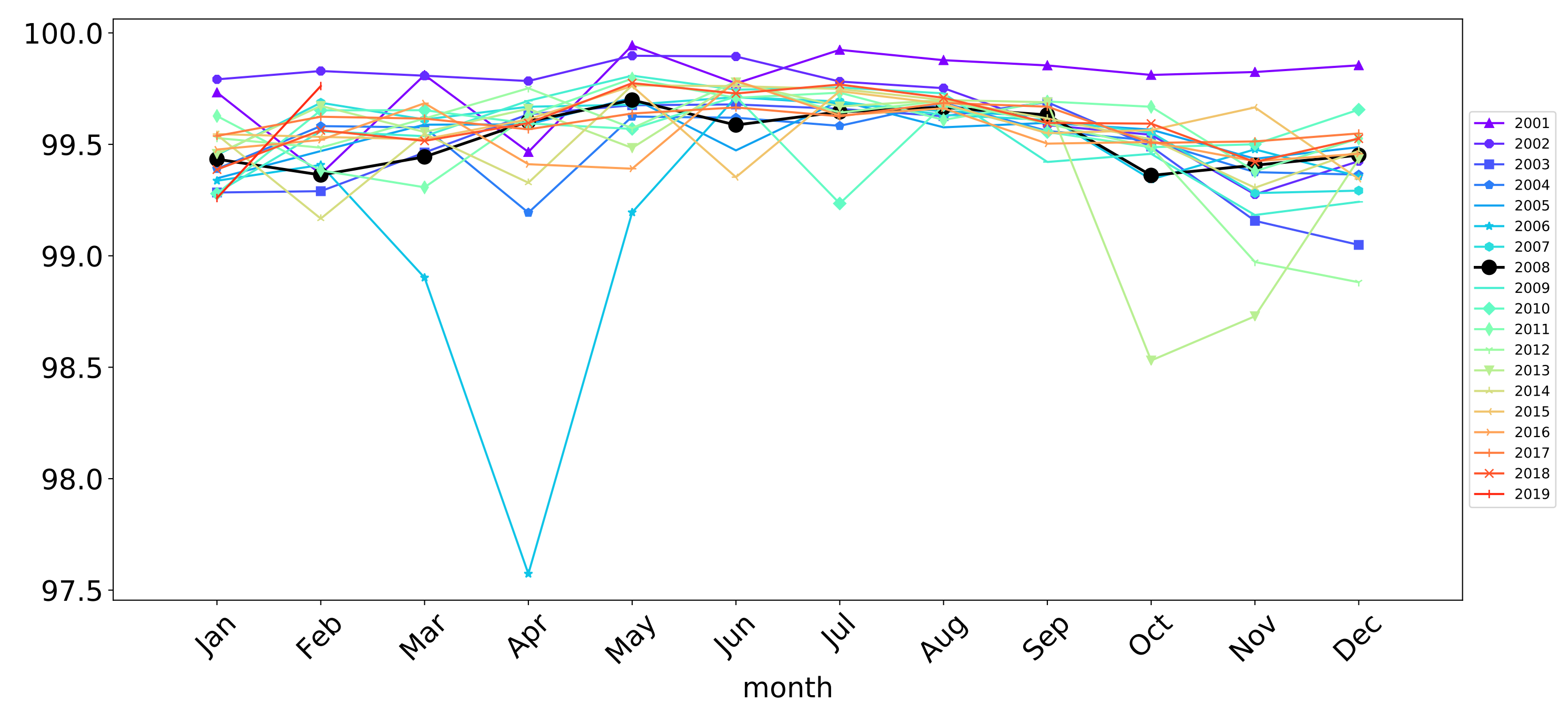
Wind erosion historical monthly area protected (Total Veg Cov >50%)

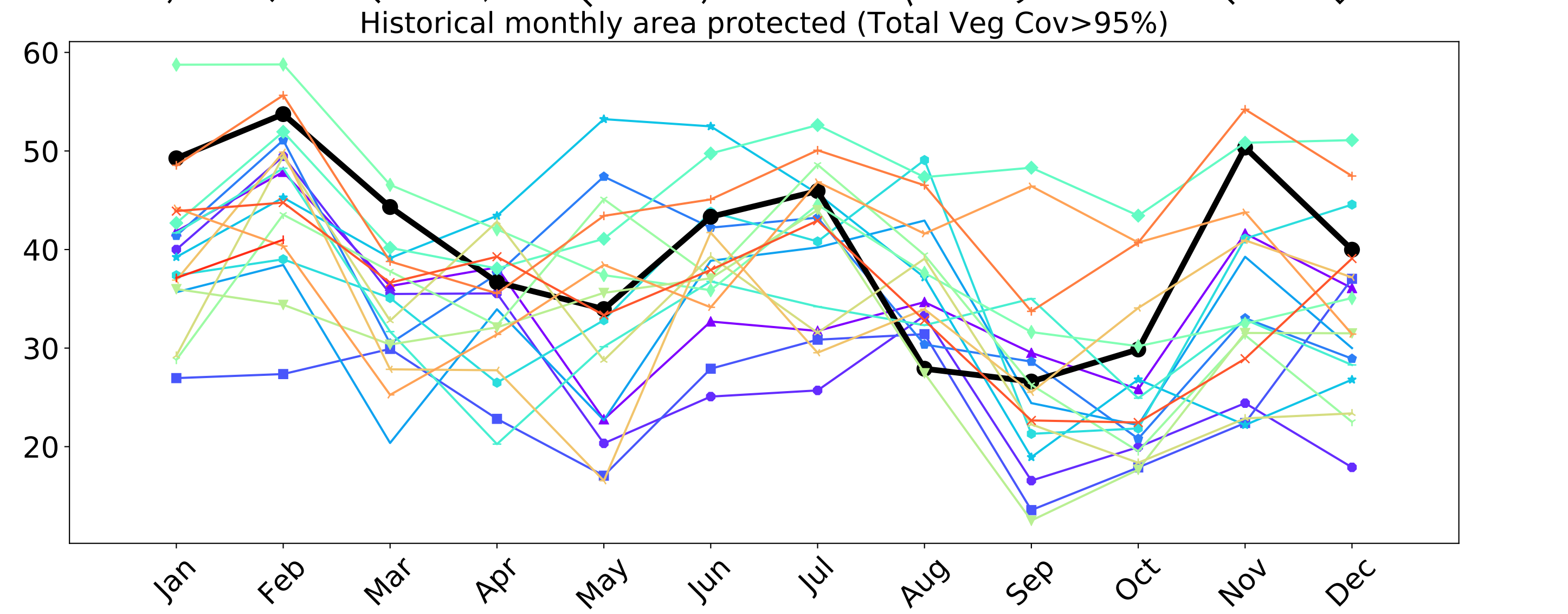
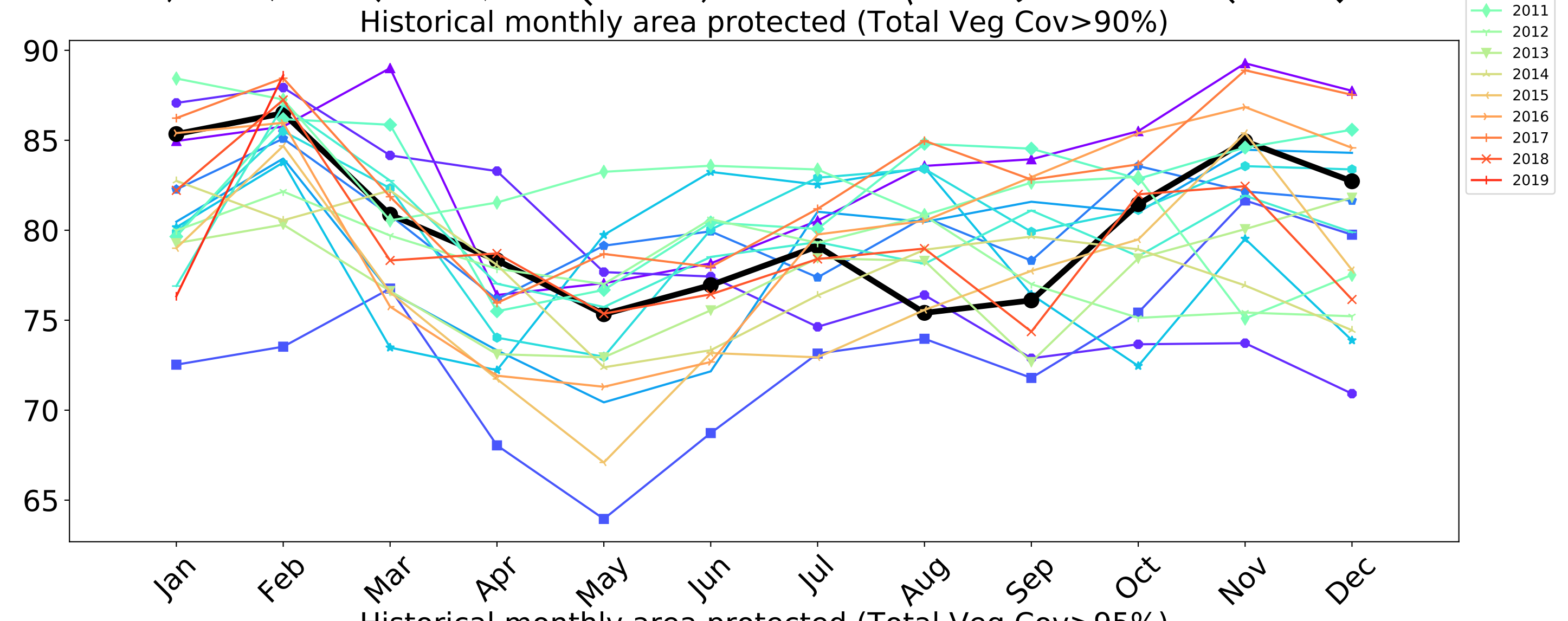
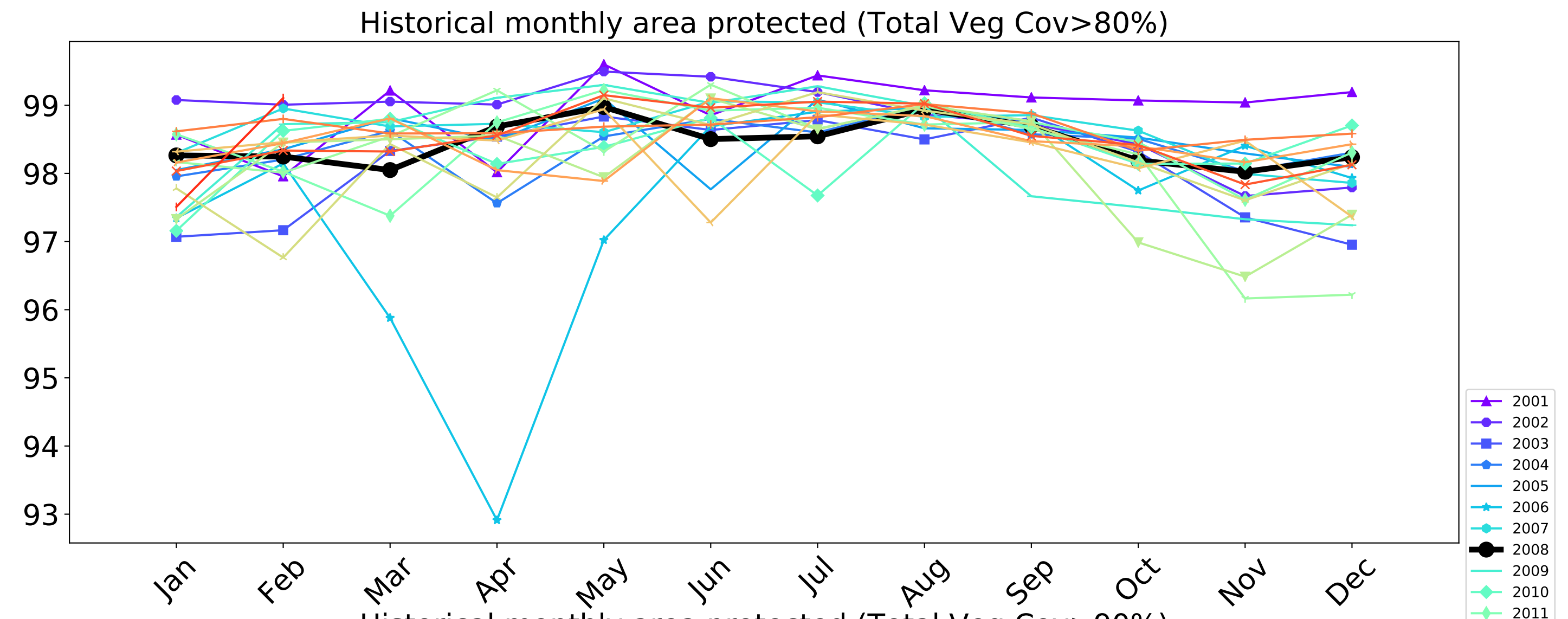
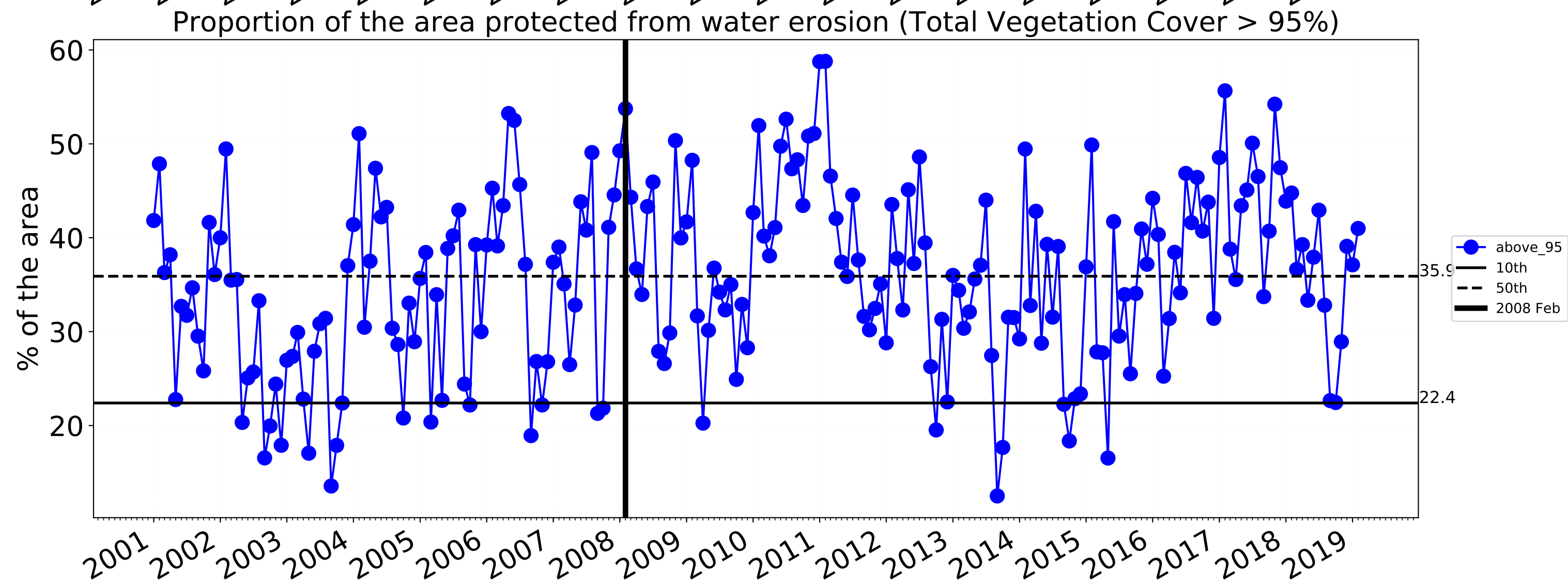
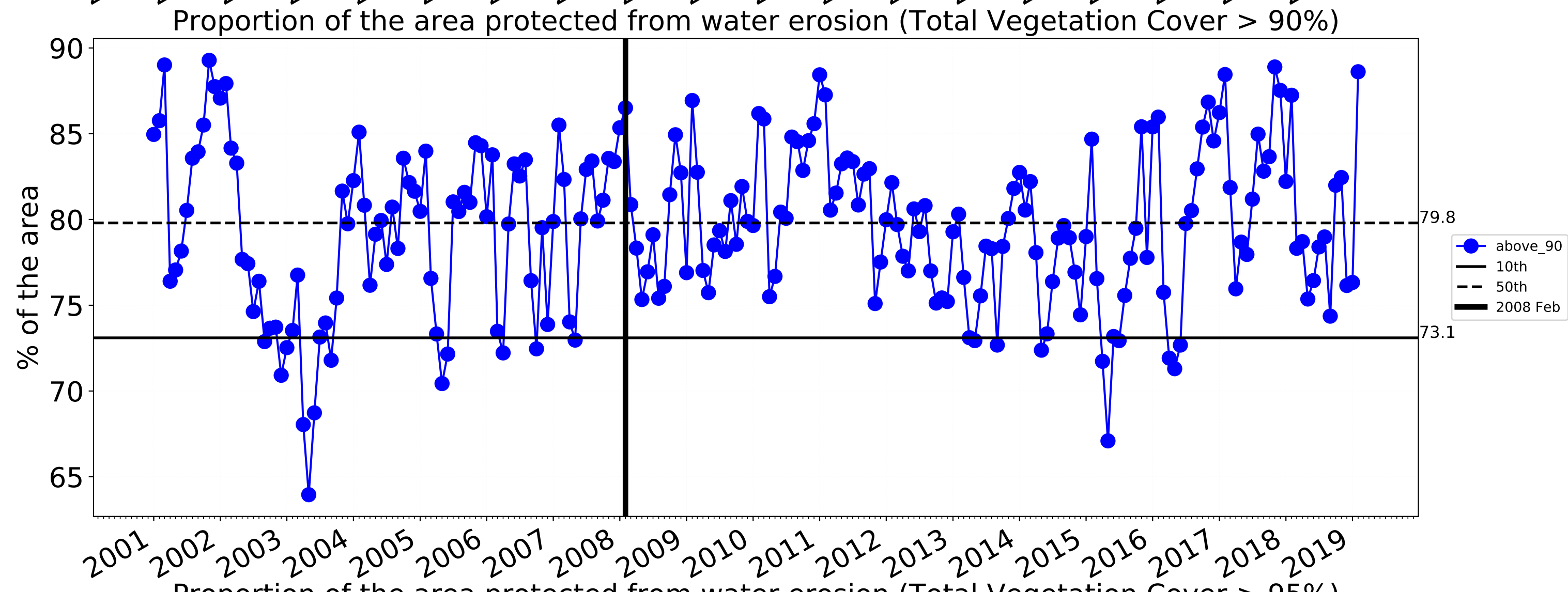
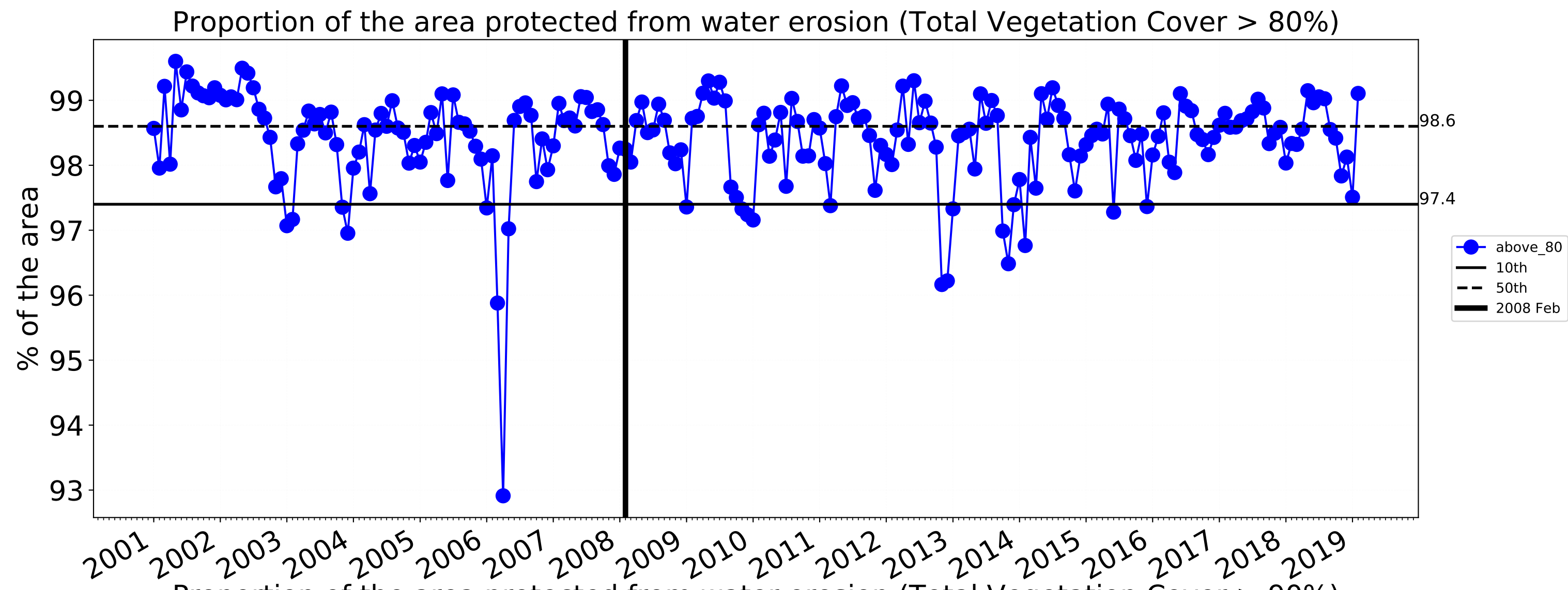


Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



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





Agriculture

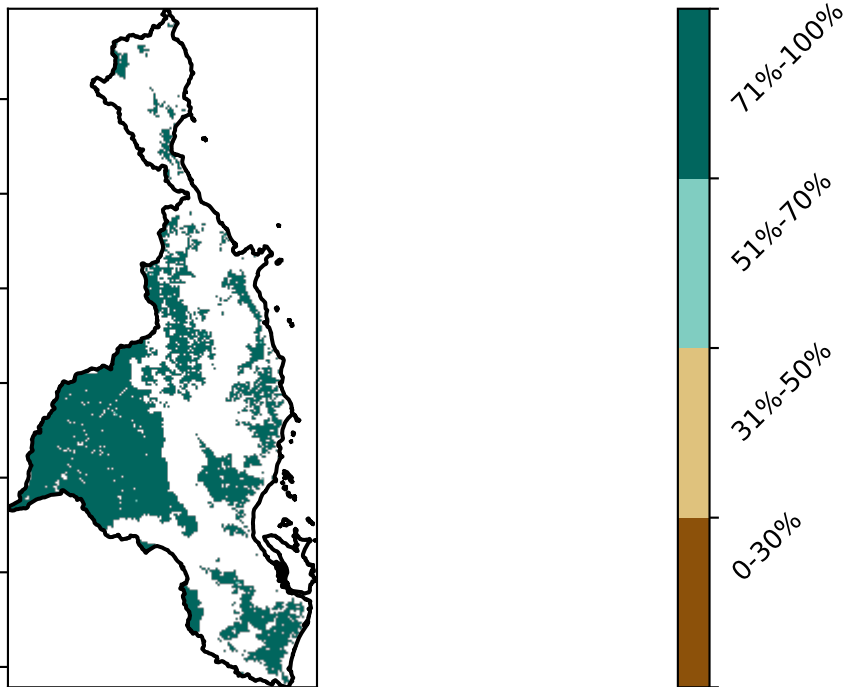
Land use and forest cover



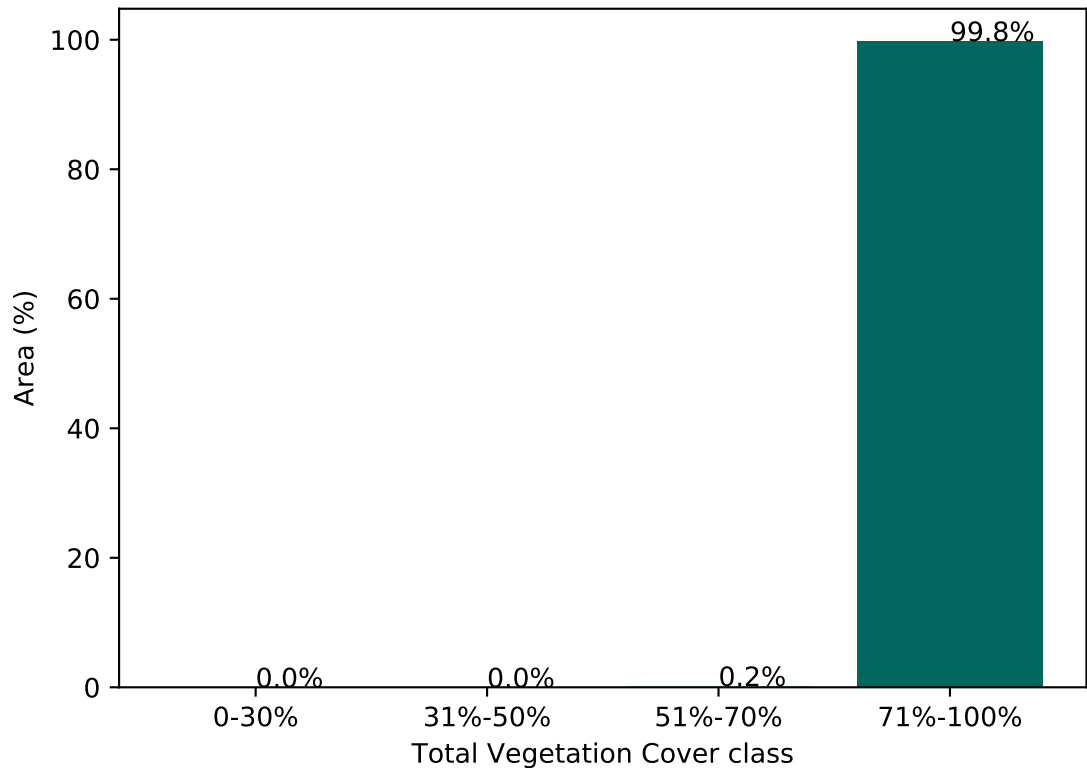
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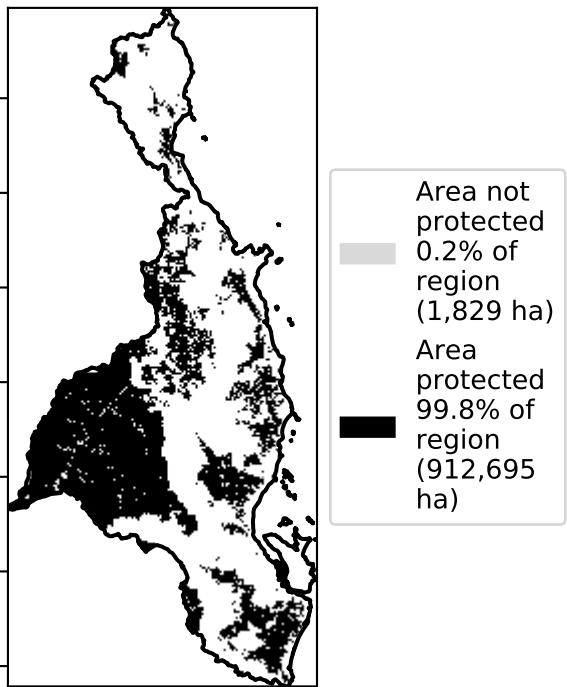
Total Vegetation Cover [%]



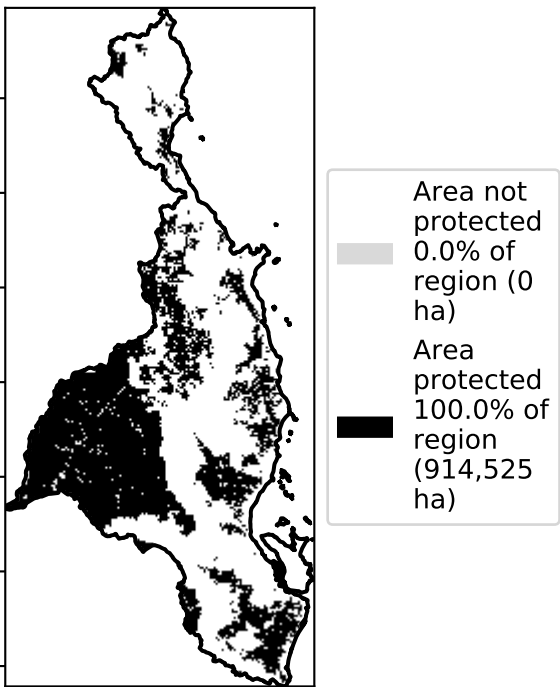
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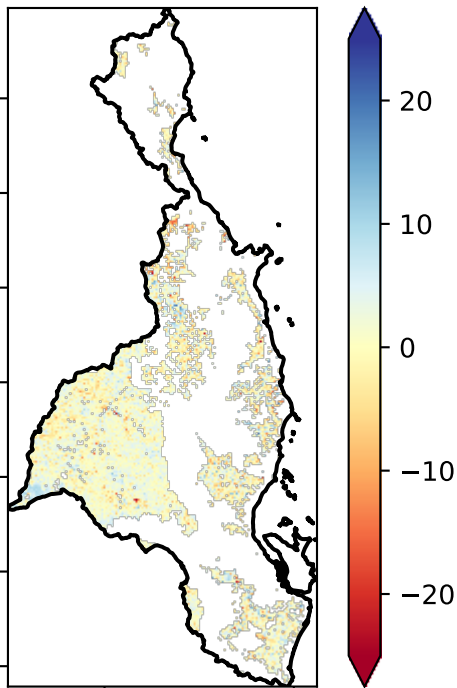
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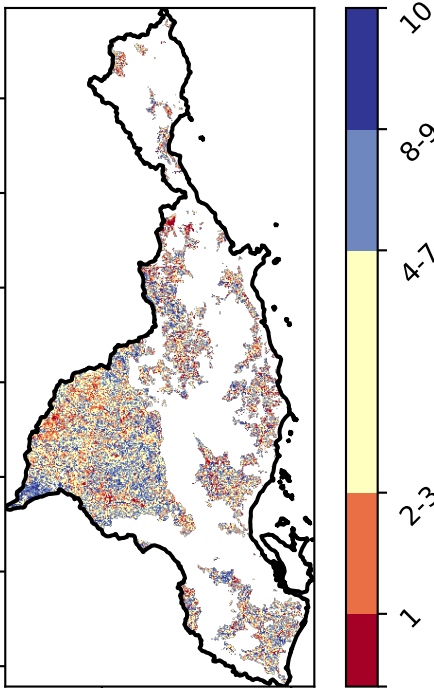
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Total Vegetation Cover Decile [%]



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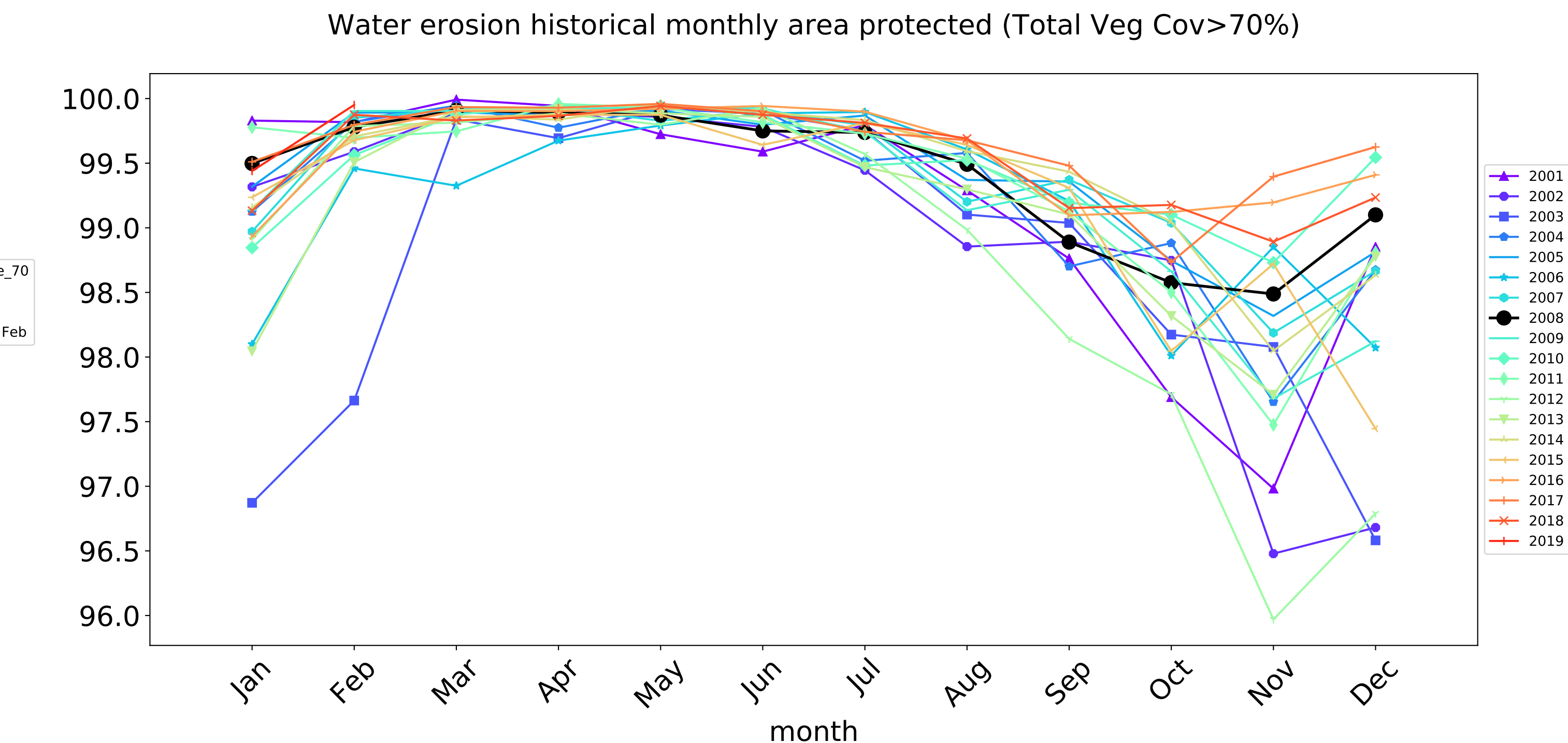
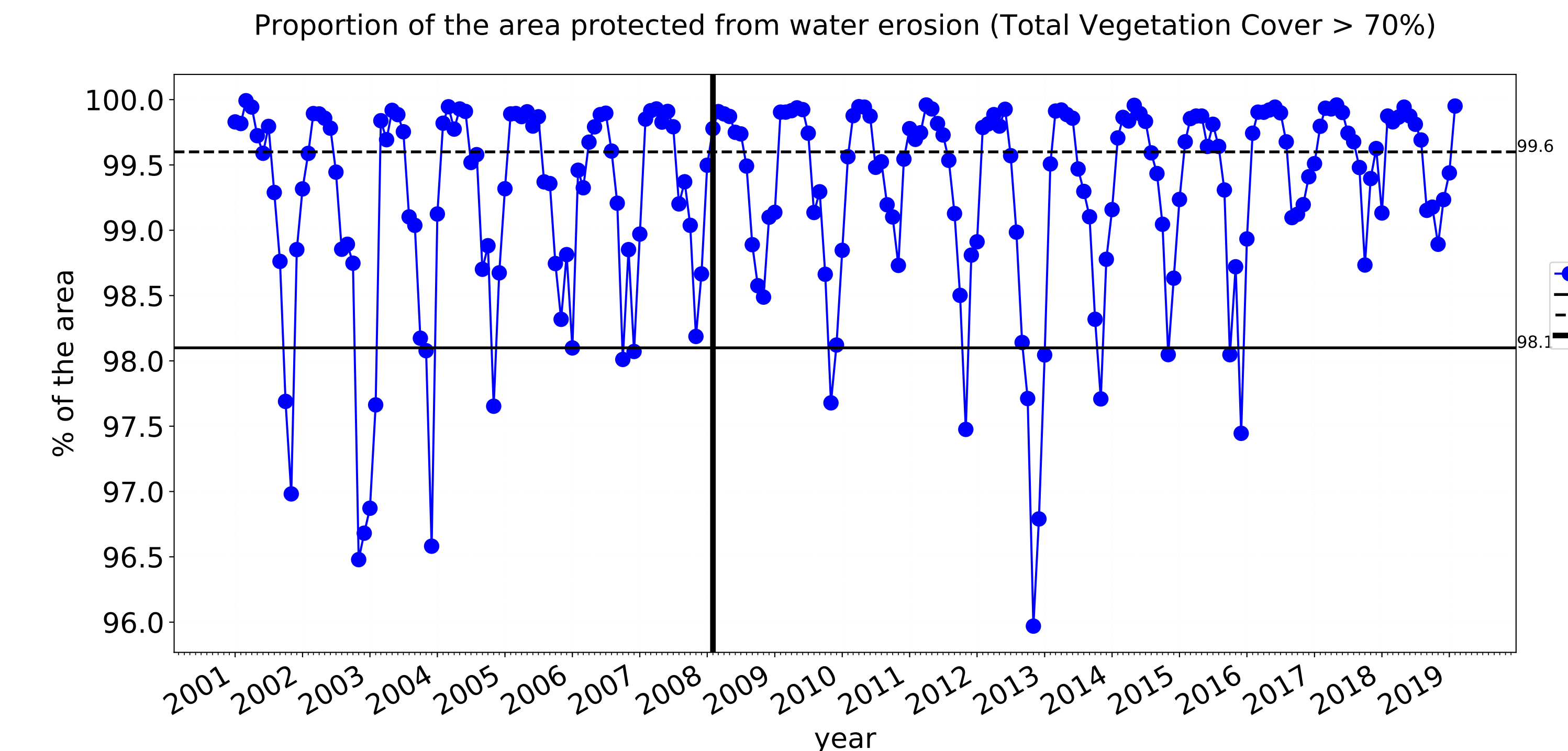
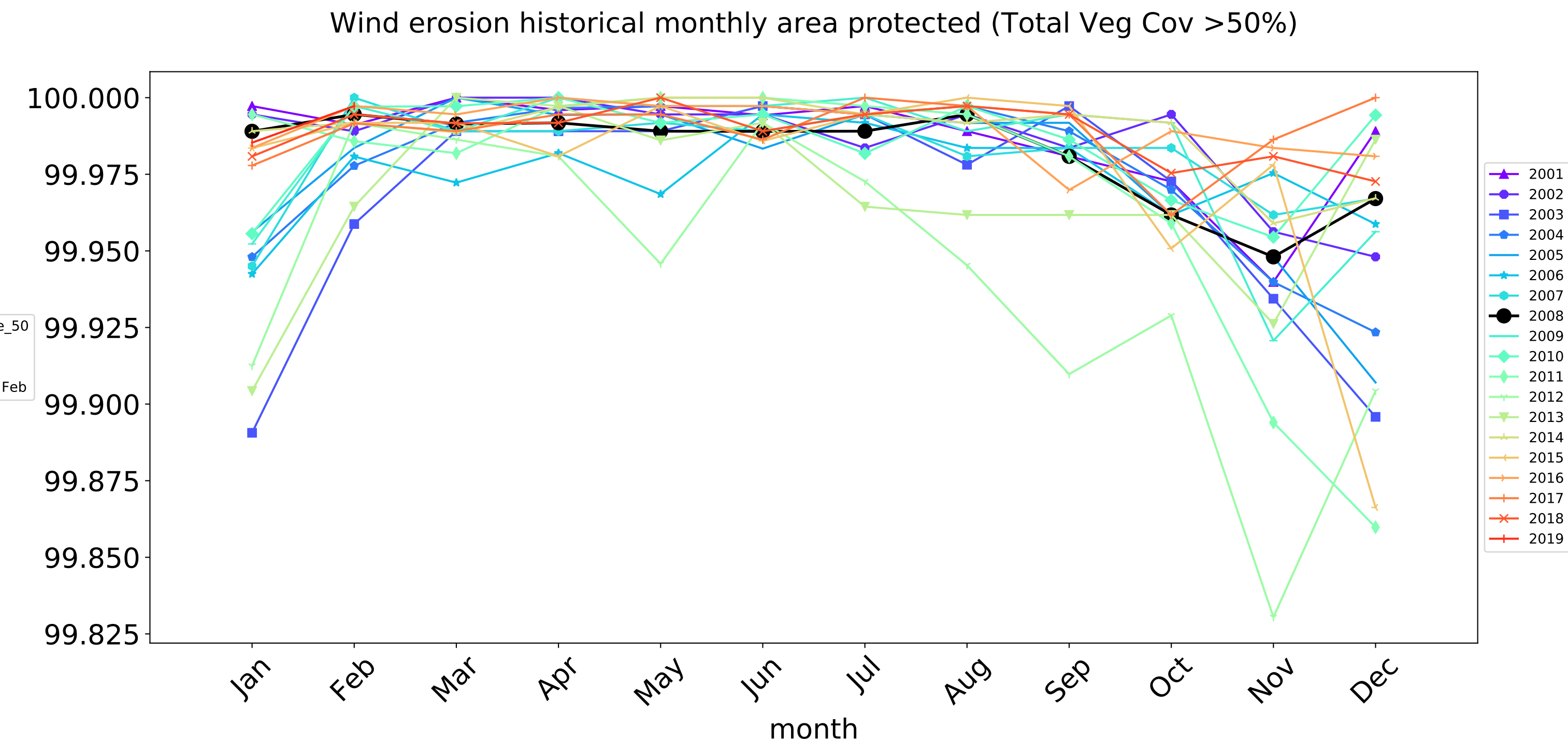
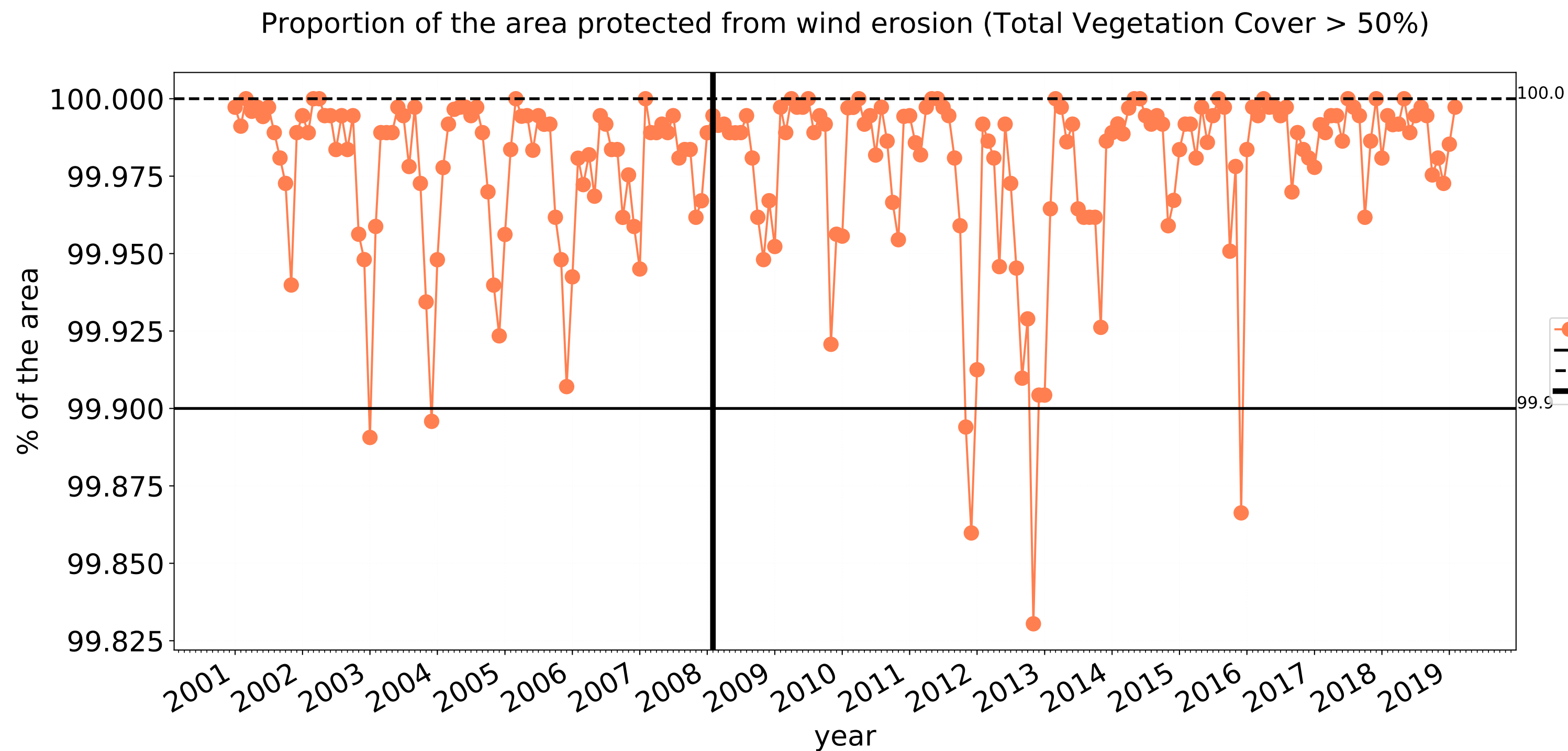


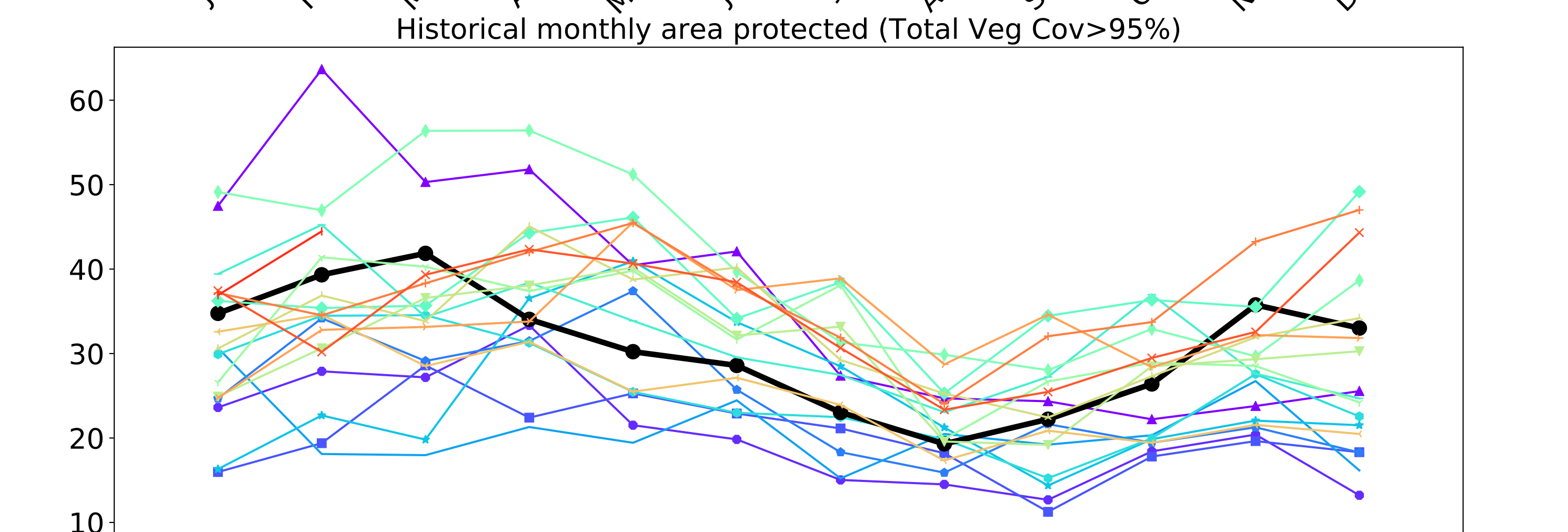
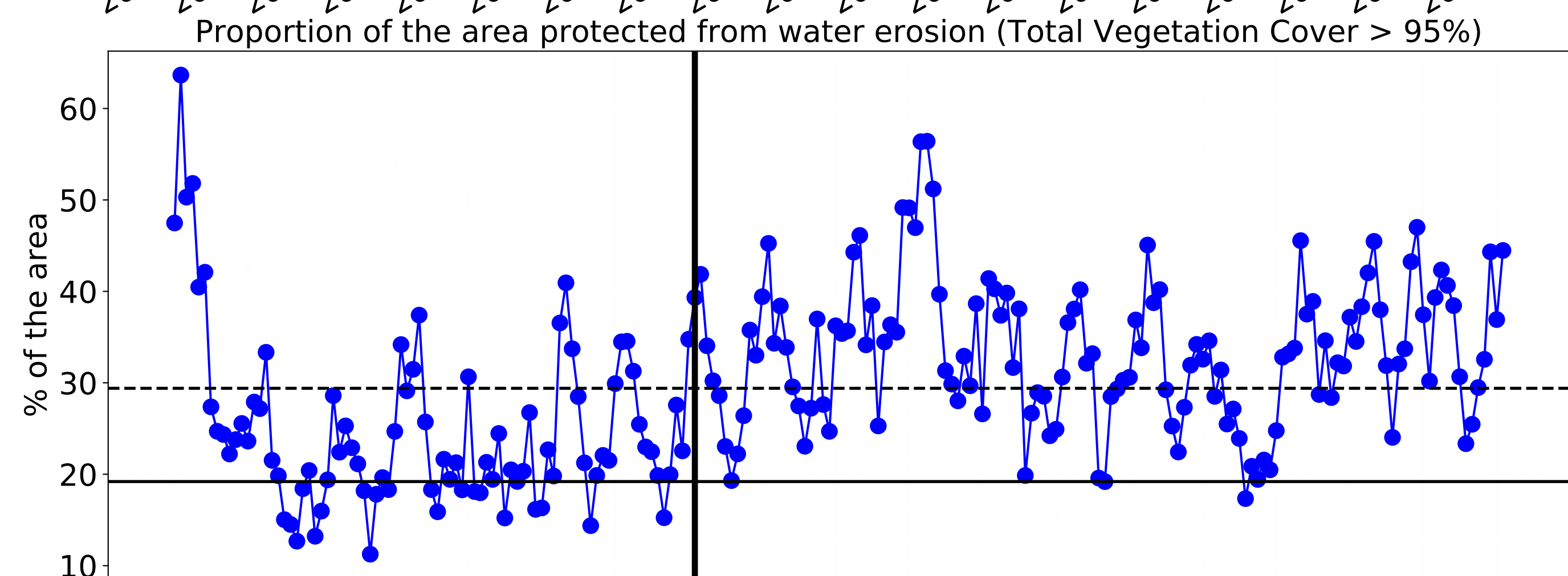
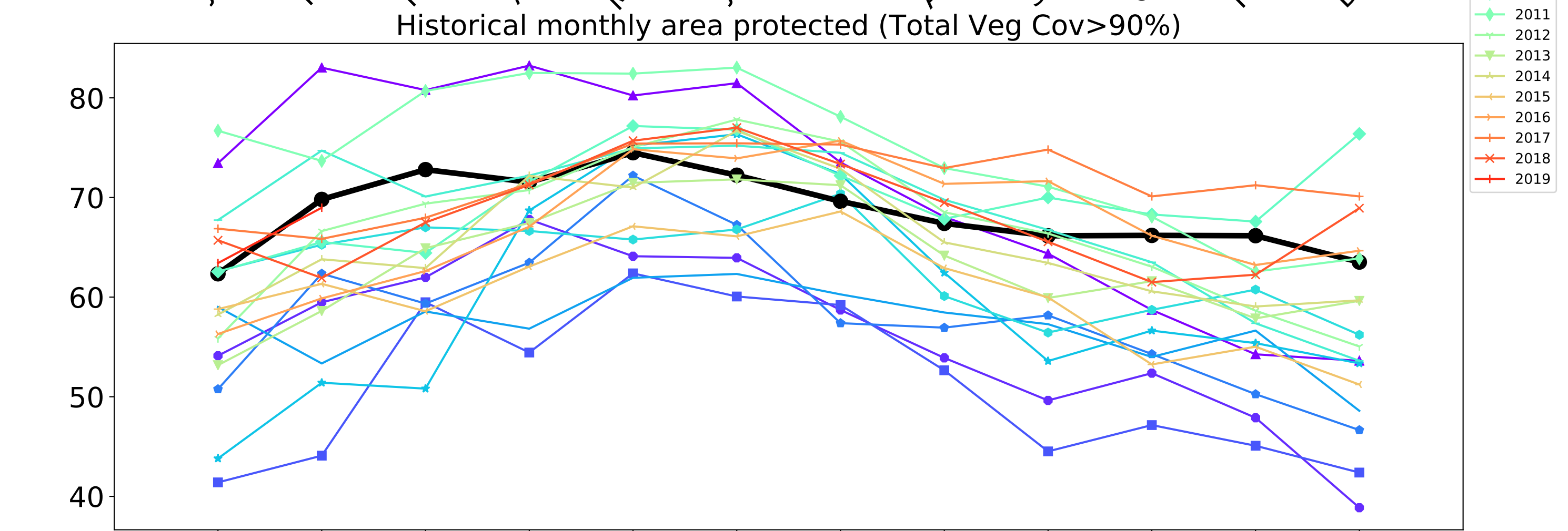
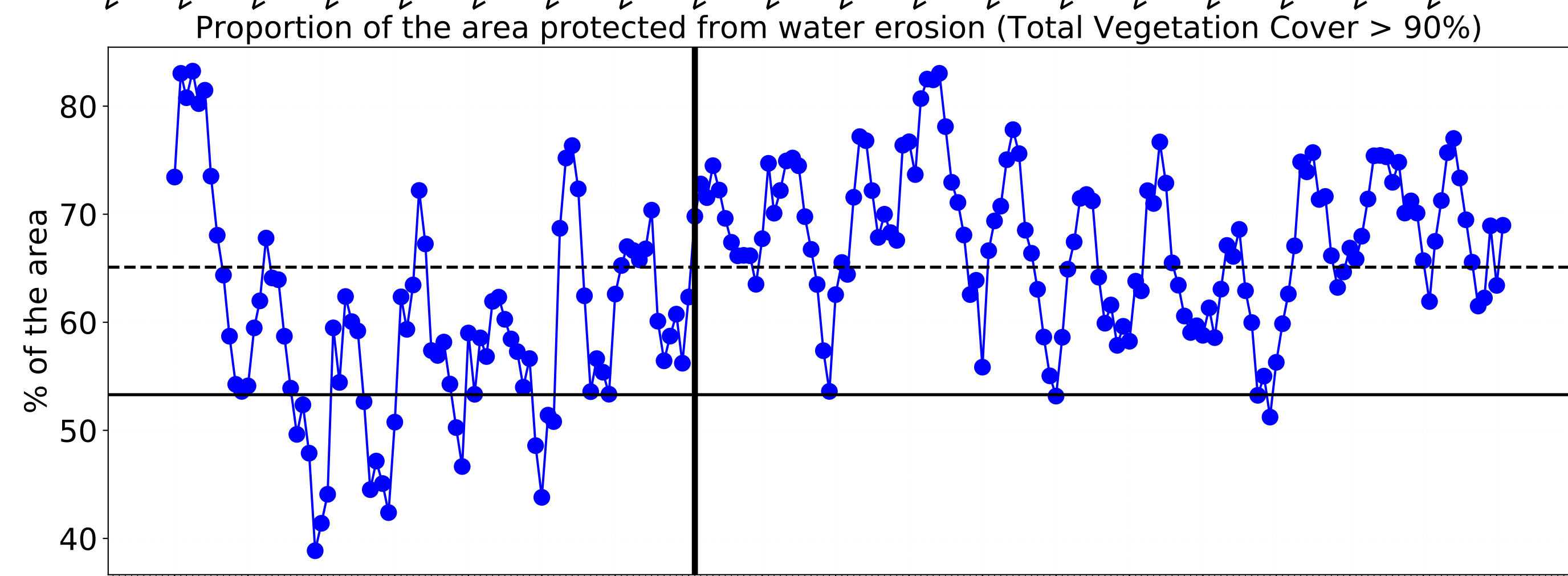
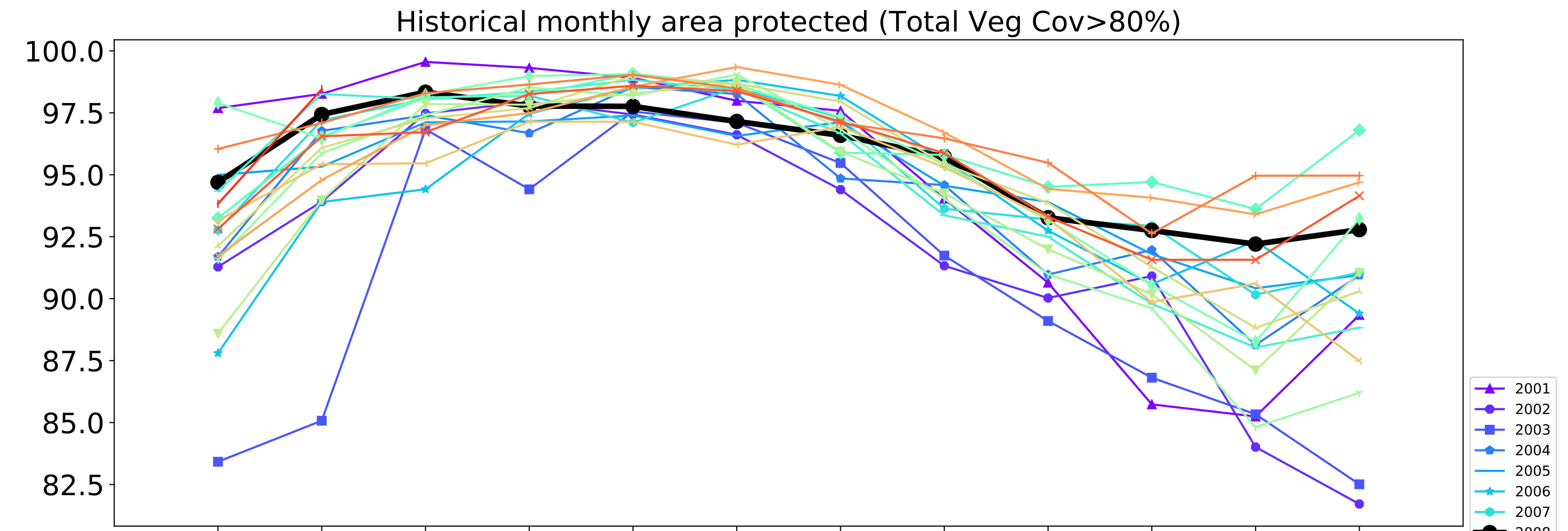
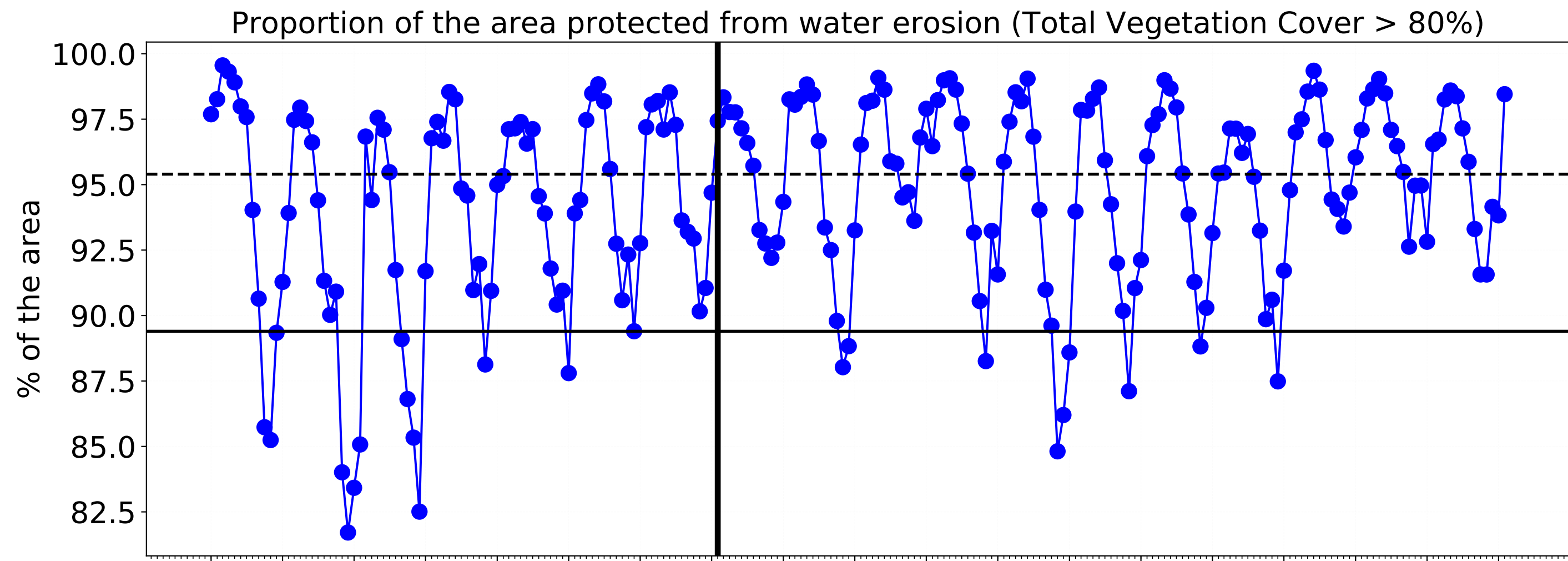
National
Landcare
Programme



Planning,
Industry &
Environment

Agriculture timeseries





Grazing

Land use and forest cover

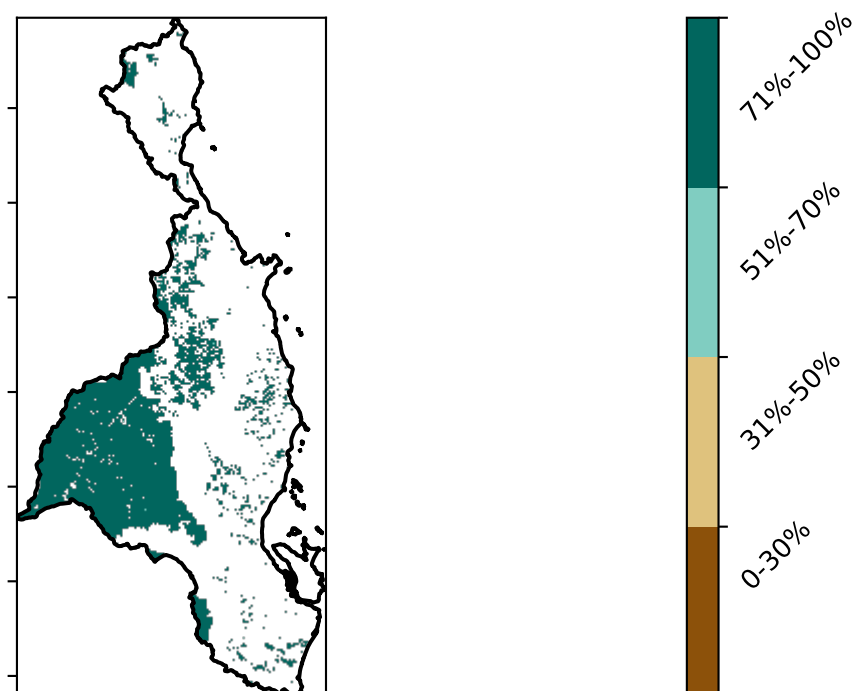


Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
Catchment Scale Land
Use of Australia
(2018) and Forests
of Australia (2018)

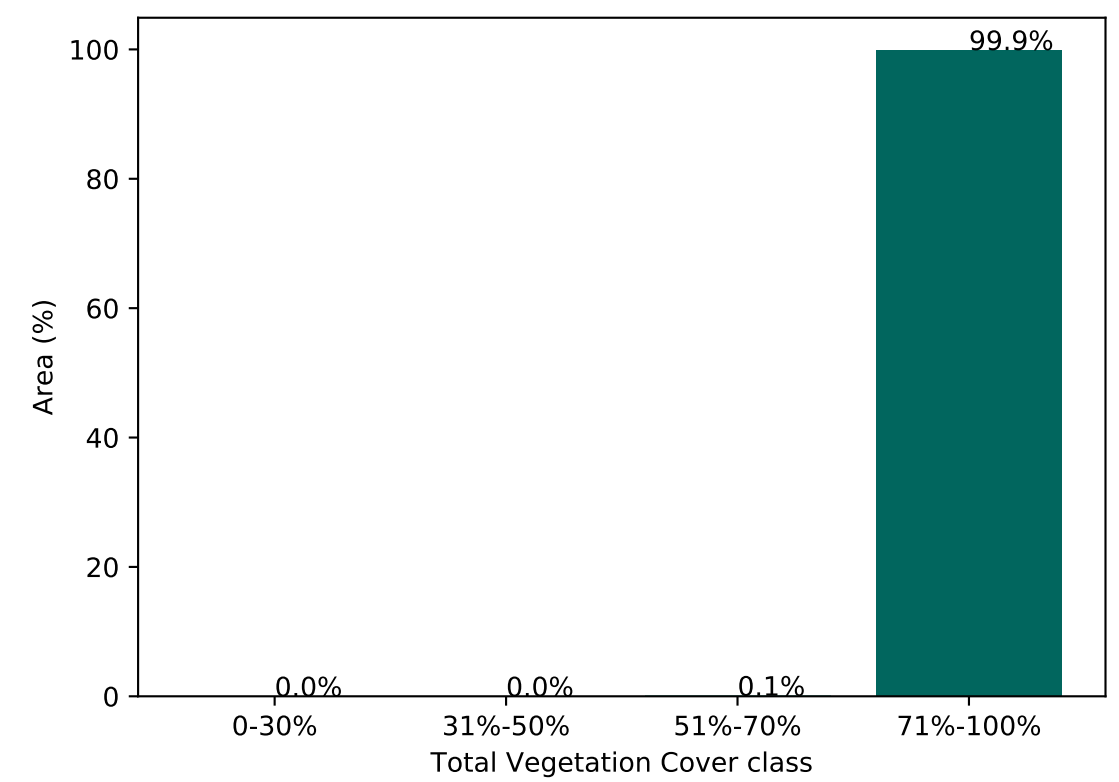
Proportion of each land class in area



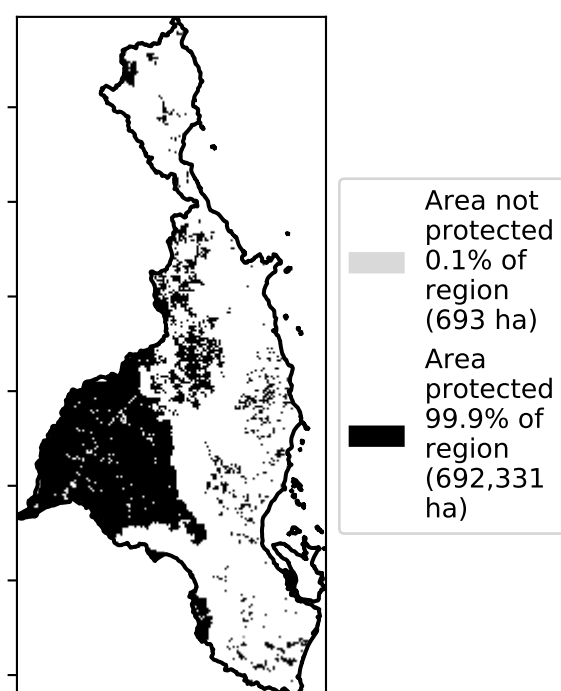
Total Vegetation Cover [%]



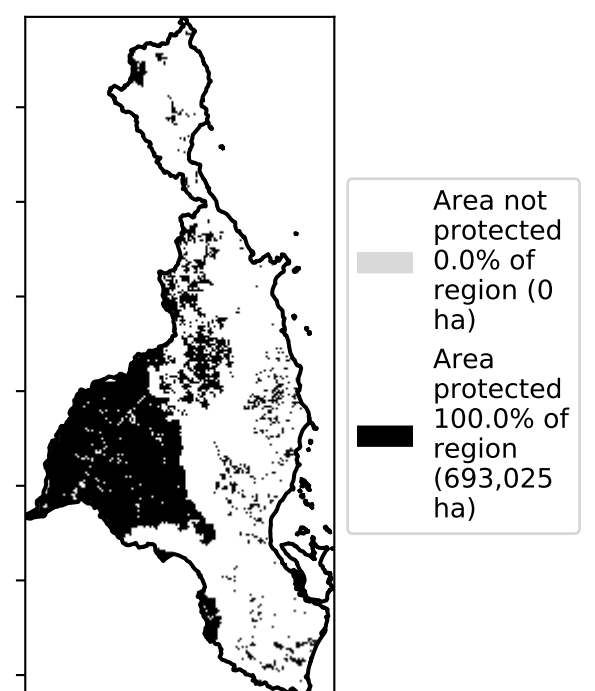
Proportion of vegetation cover class in area



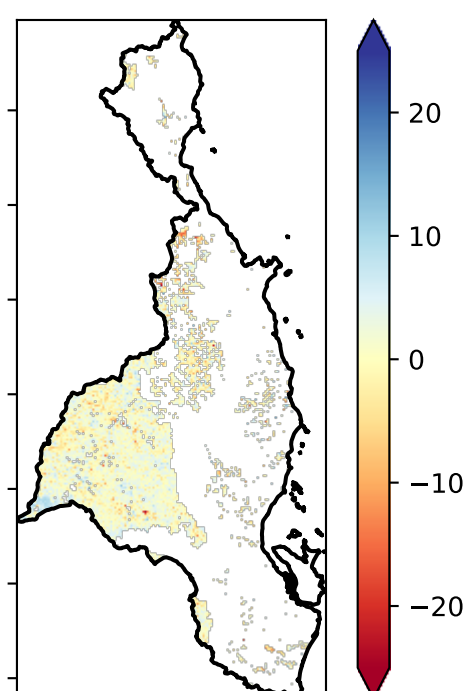
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)



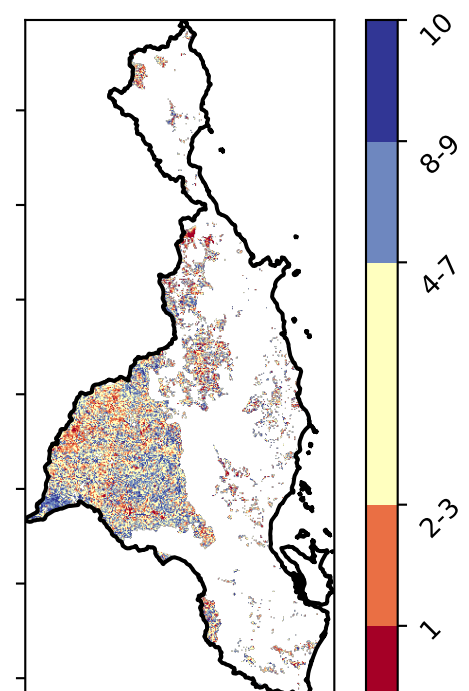
Total Vegetation Cover Anomaly [%]



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
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Deciles show where the
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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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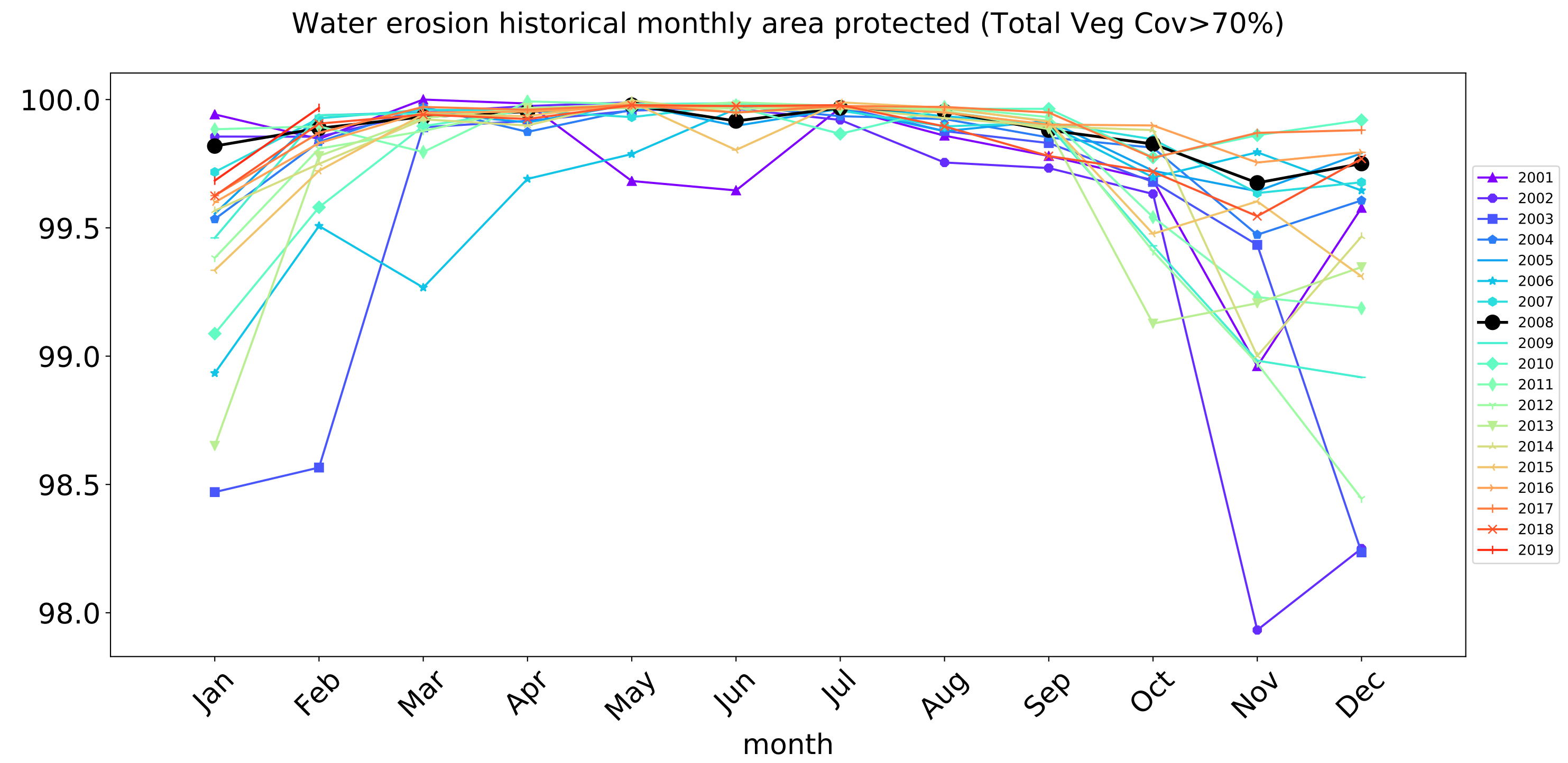
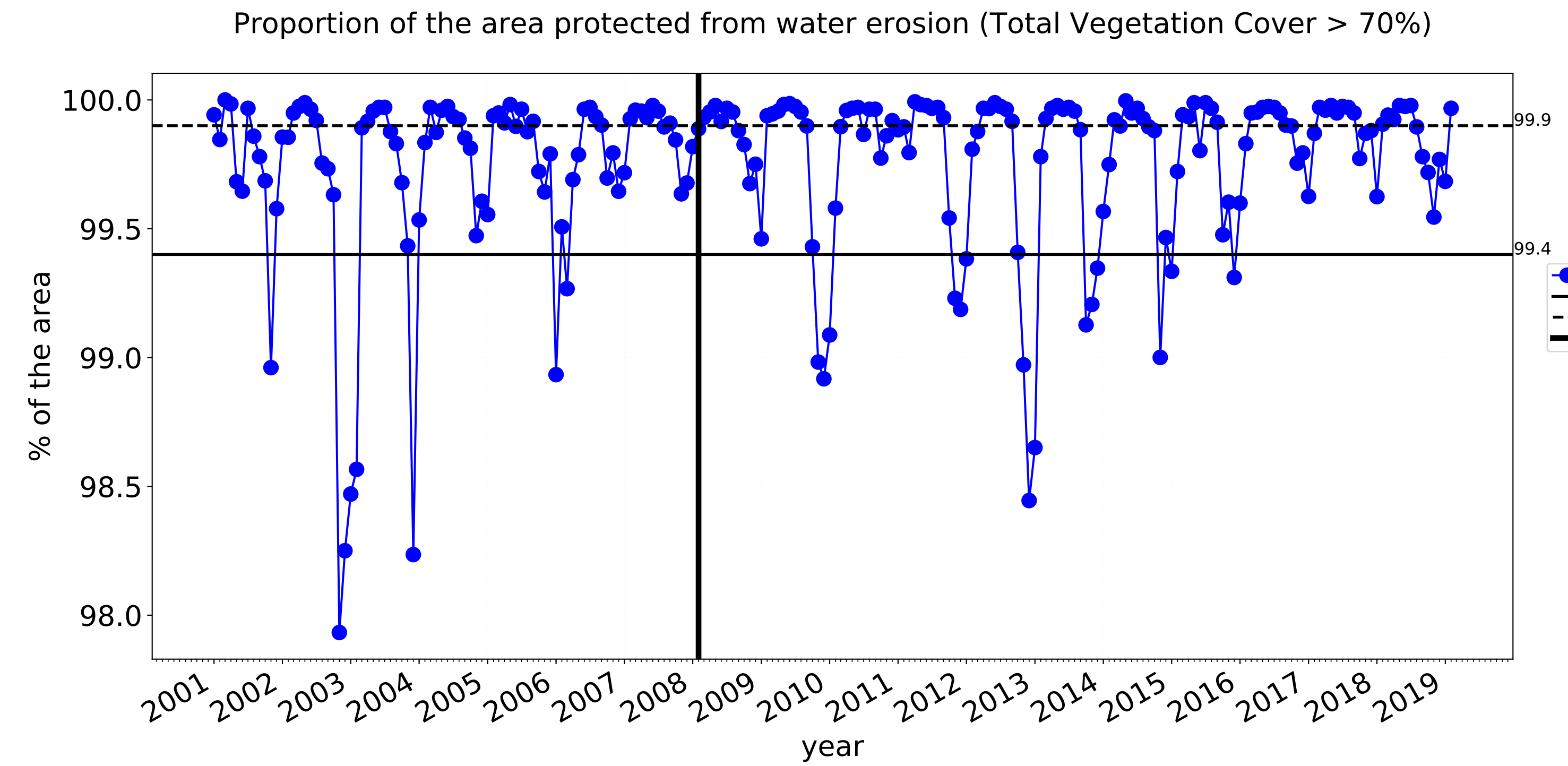
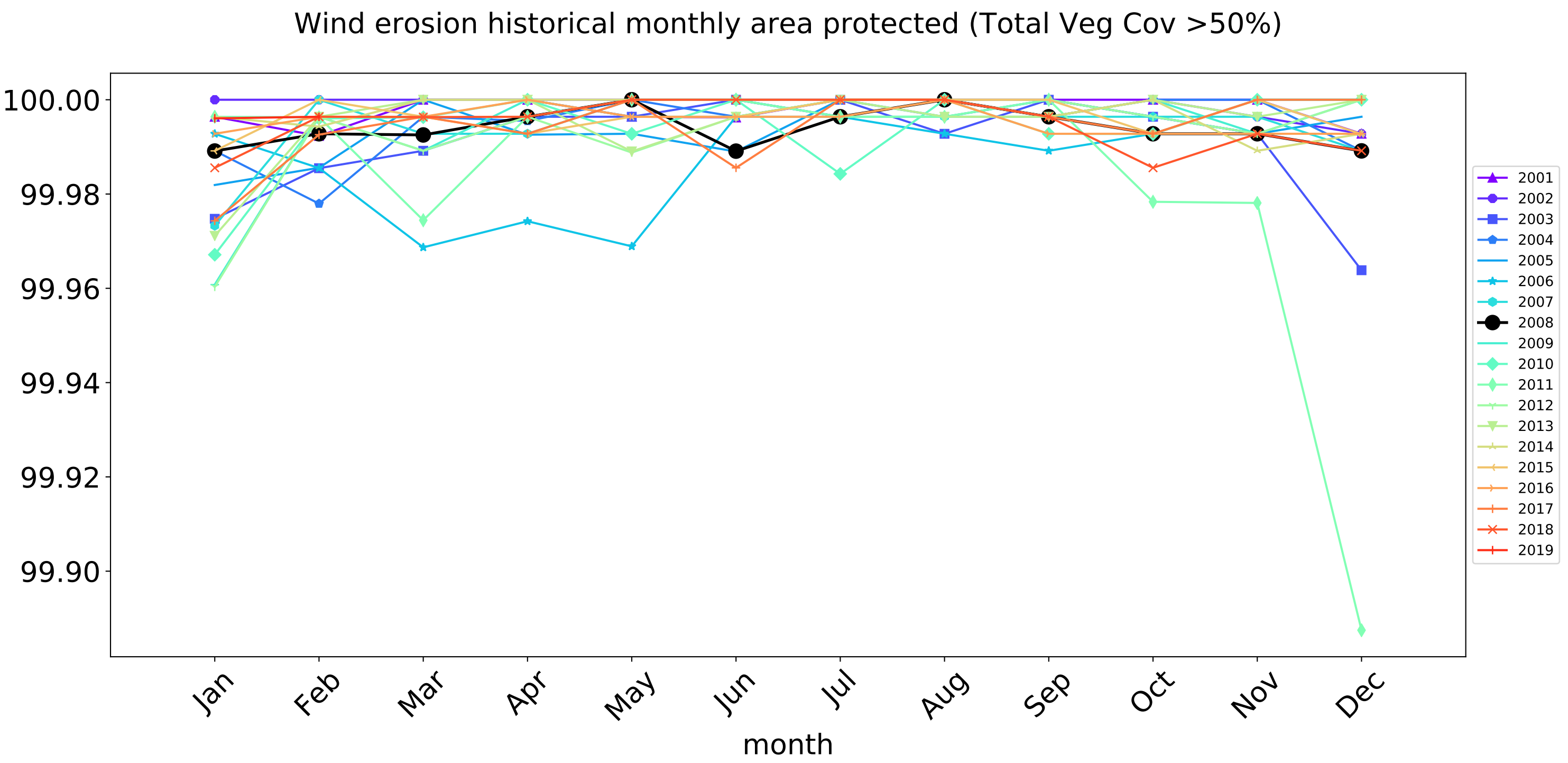
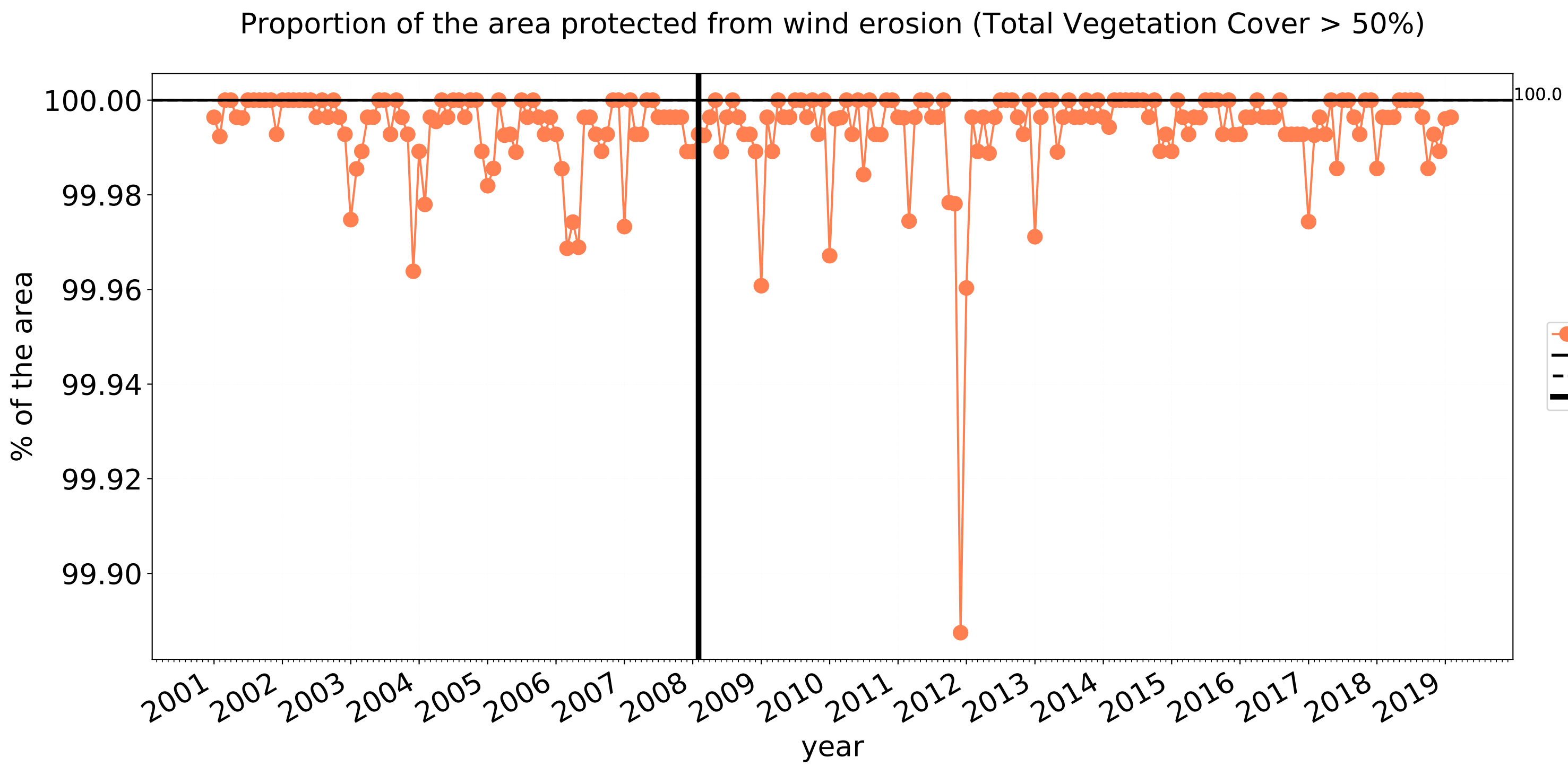


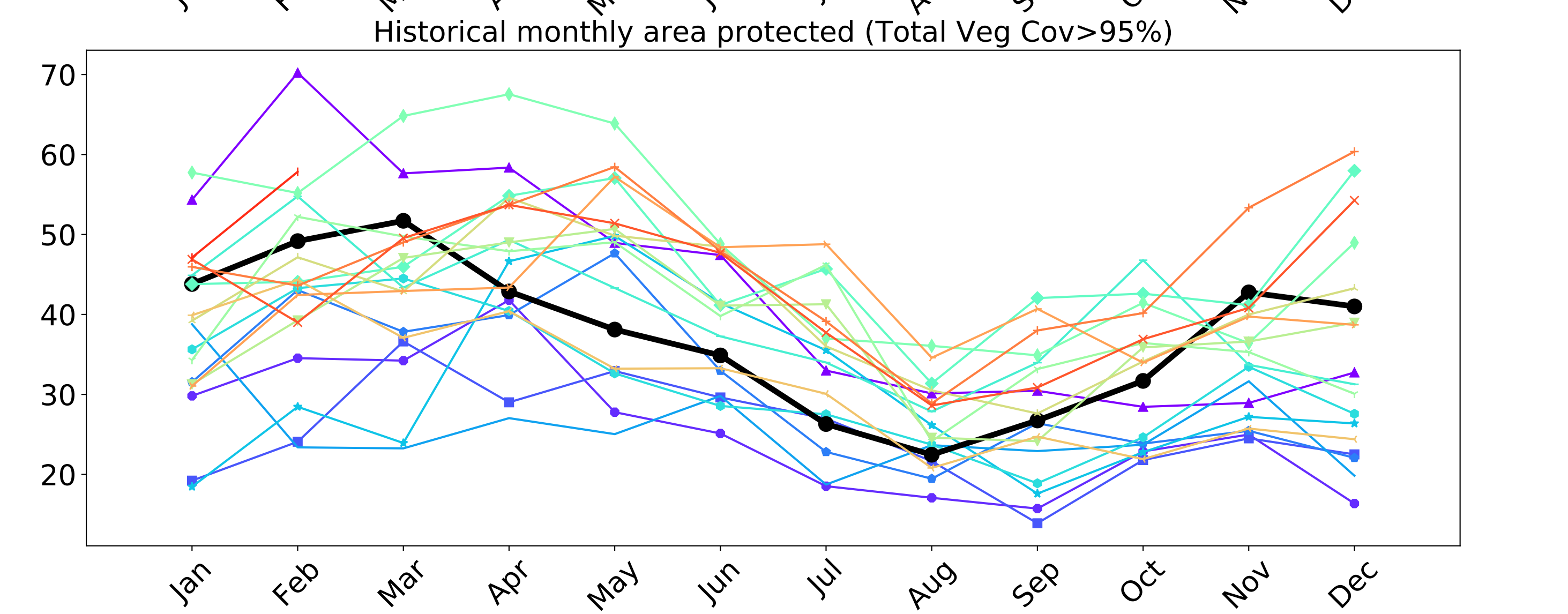
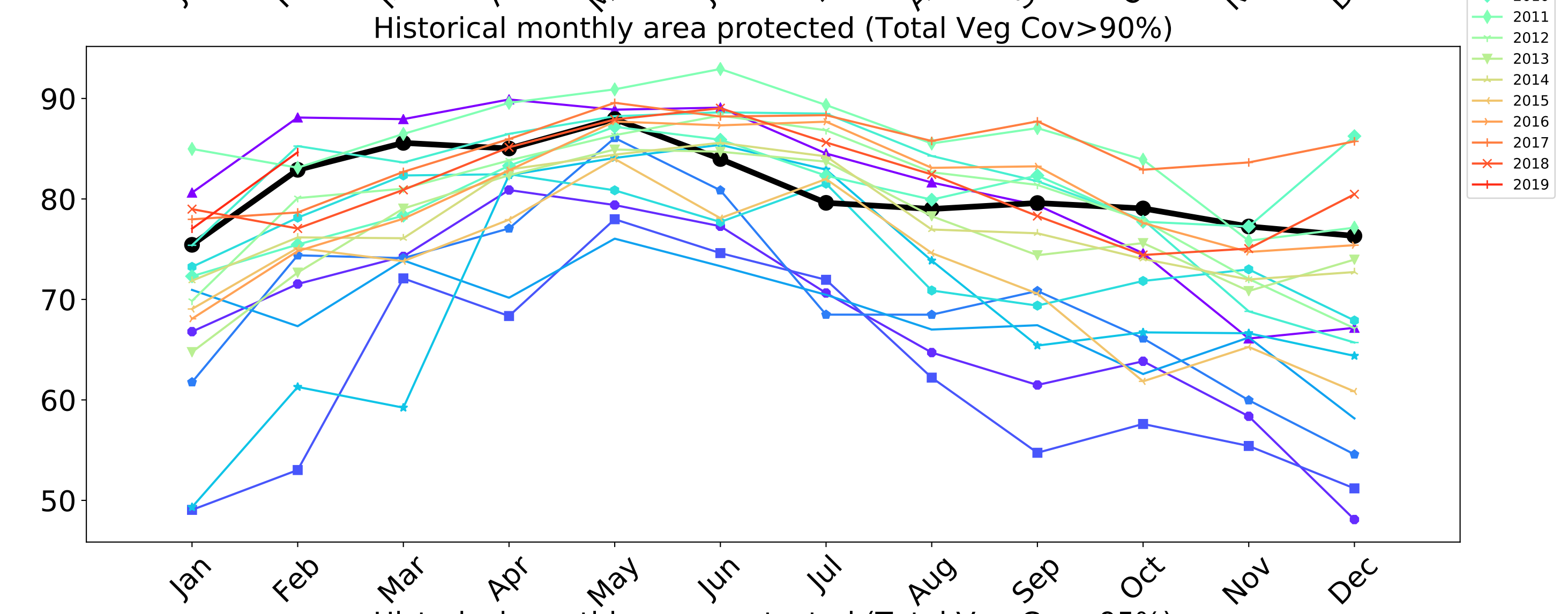
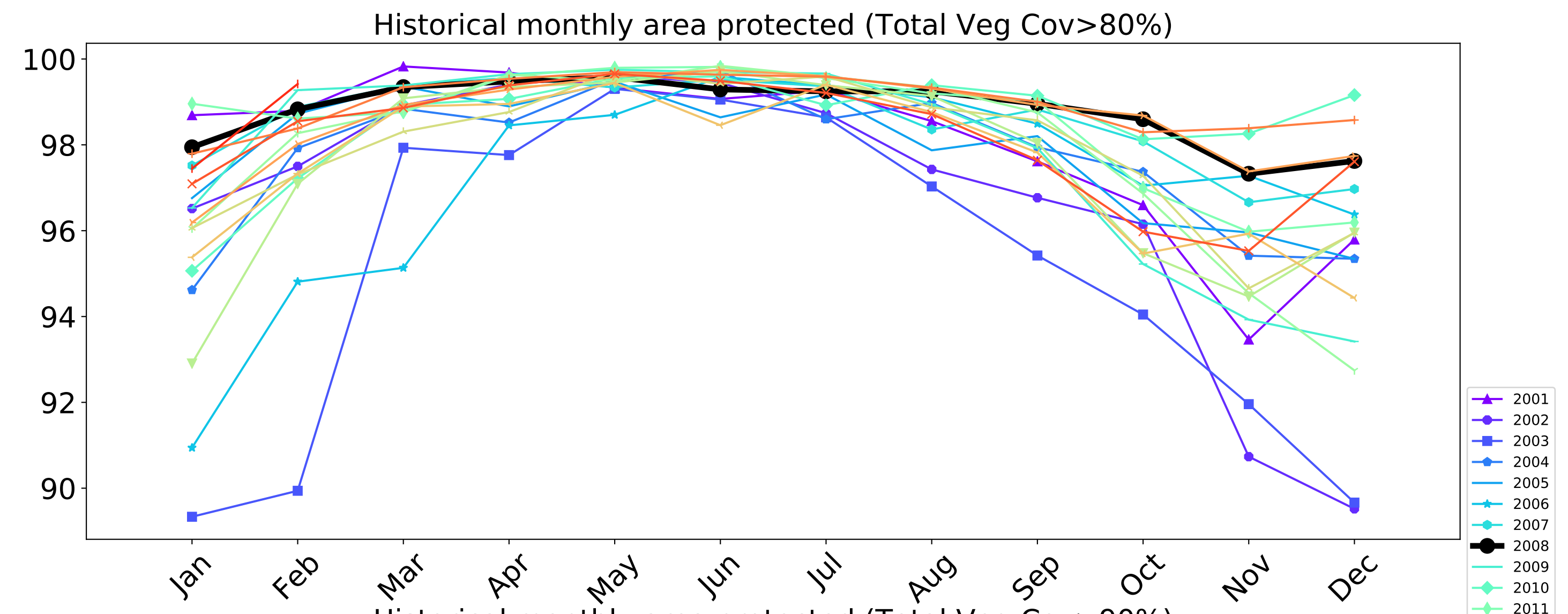
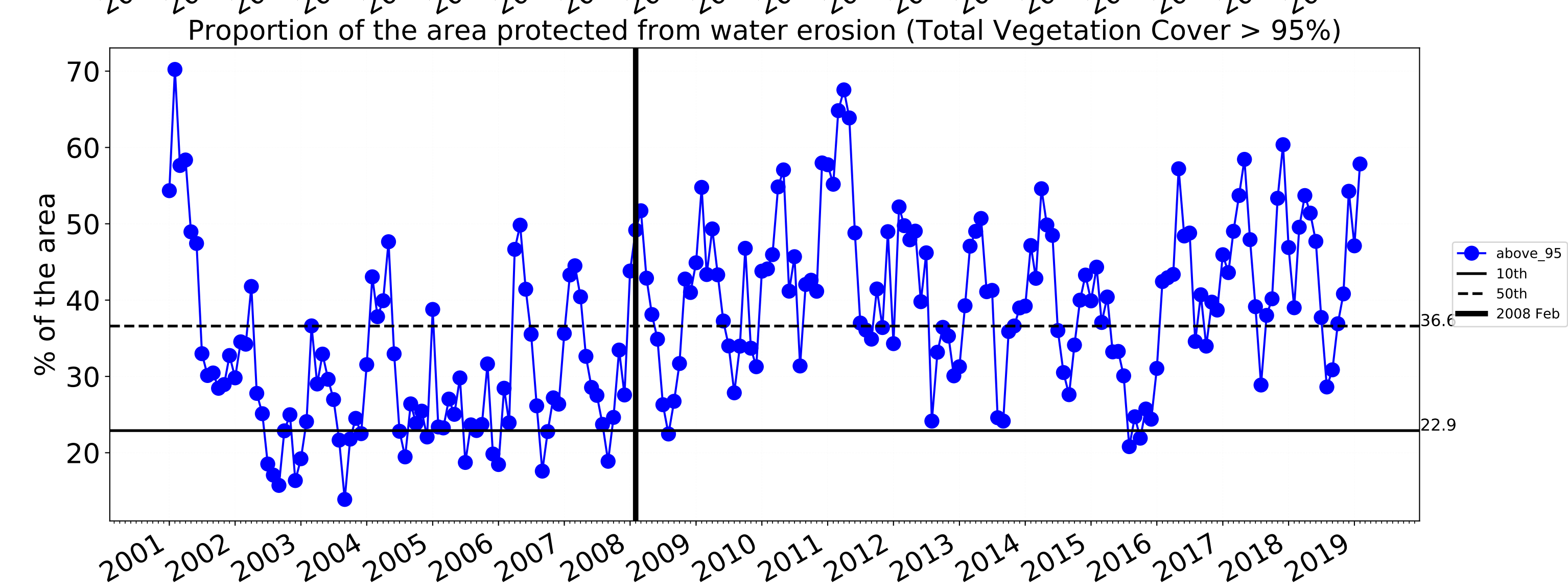
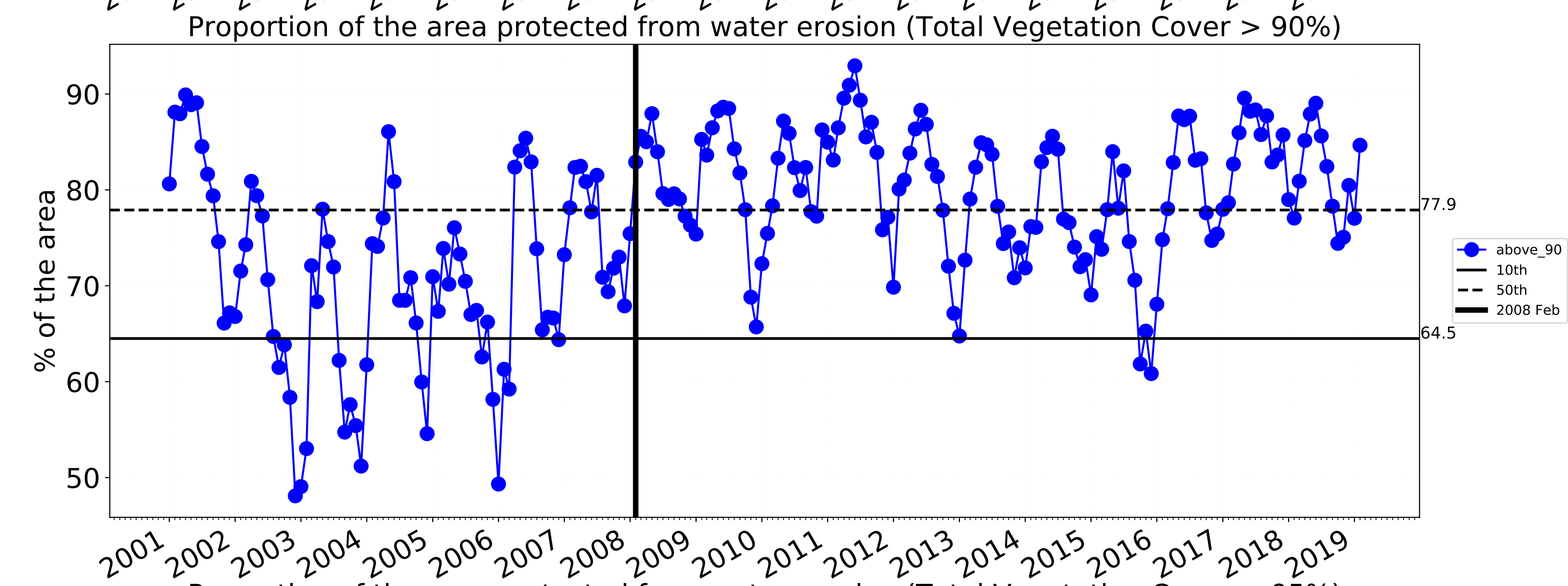
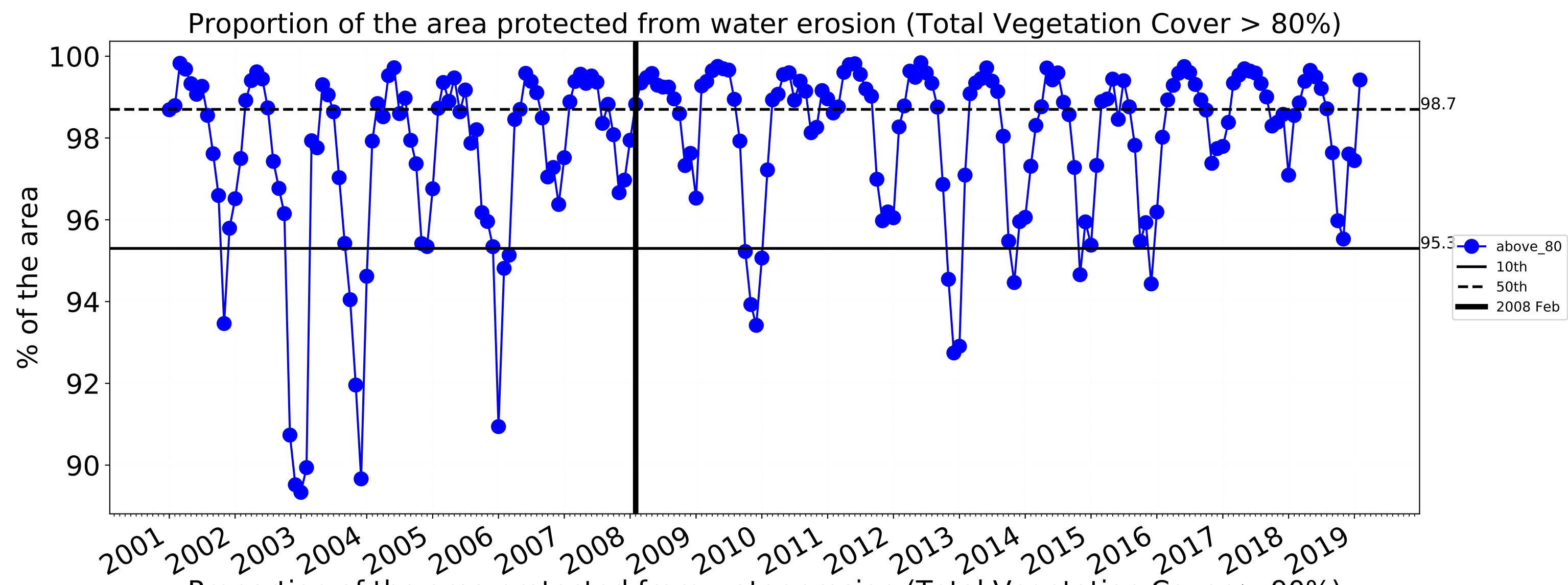
National
Landcare
Programme



Planning,
Industry &
Environment

Grazing timeseries





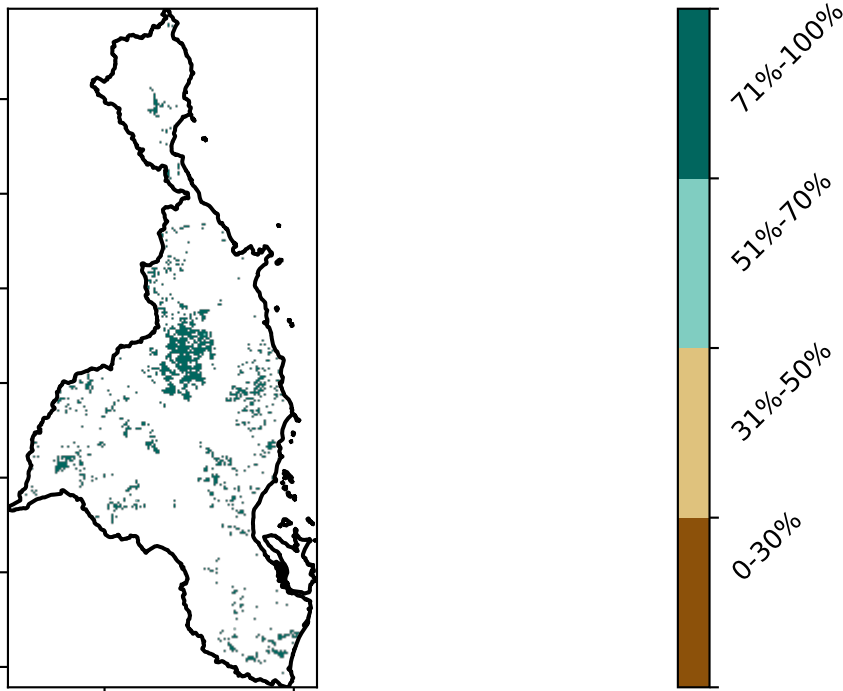
Grazing non forest

Land use and forest cover

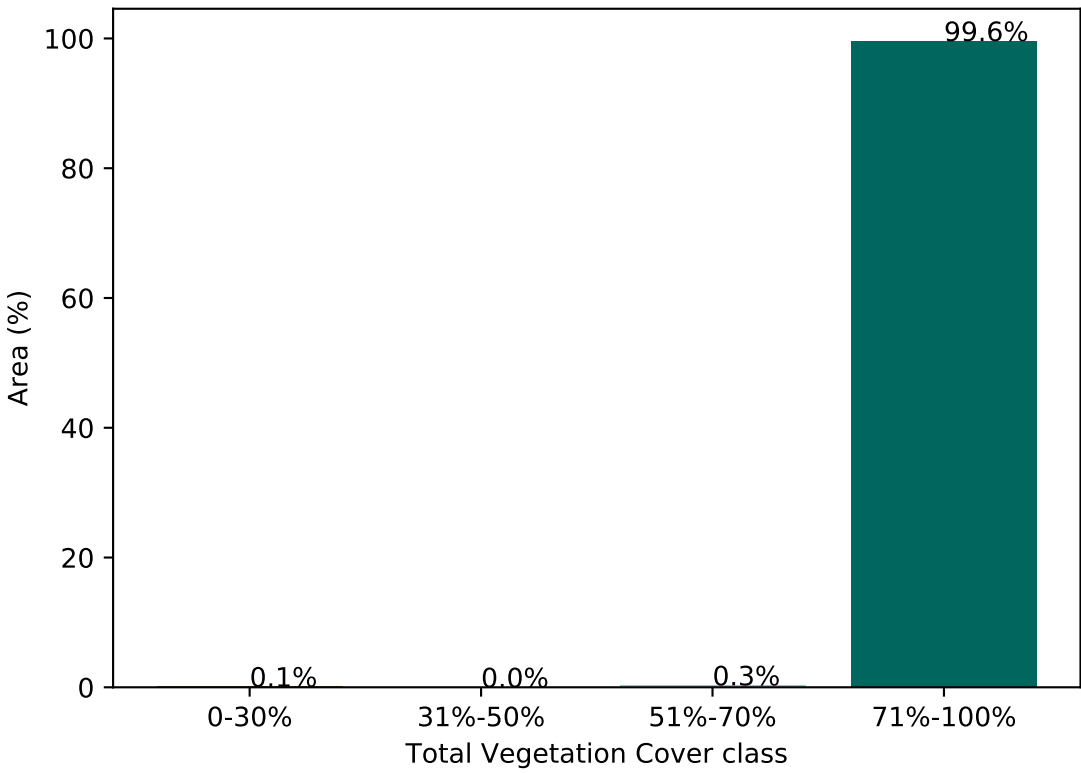


Catchment Scale
Land Use and Forests
of Australia (2018)
Derived from
Catchment Scale Land
Use of Australia
(2018) and Forests
of Australia (2018)

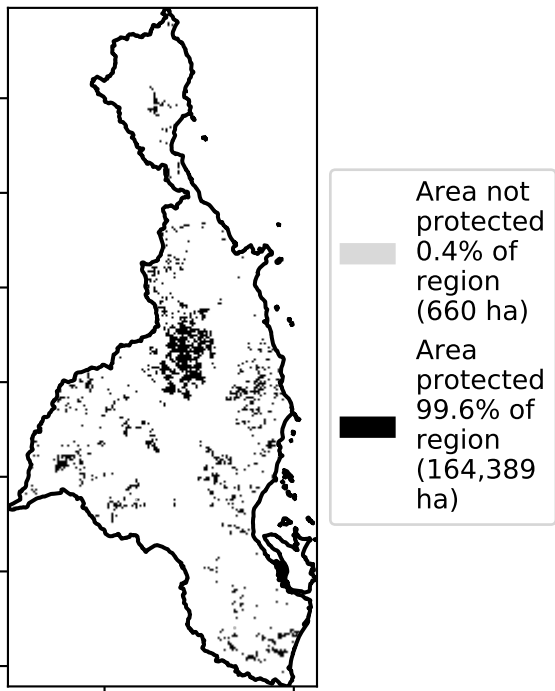
Total Vegetation Cover [%]



Proportion of vegetation cover class in area

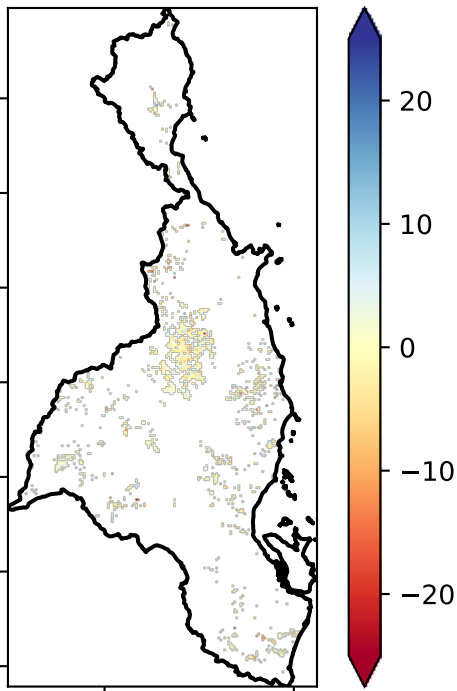


% Area protected from water erosion (>70%)

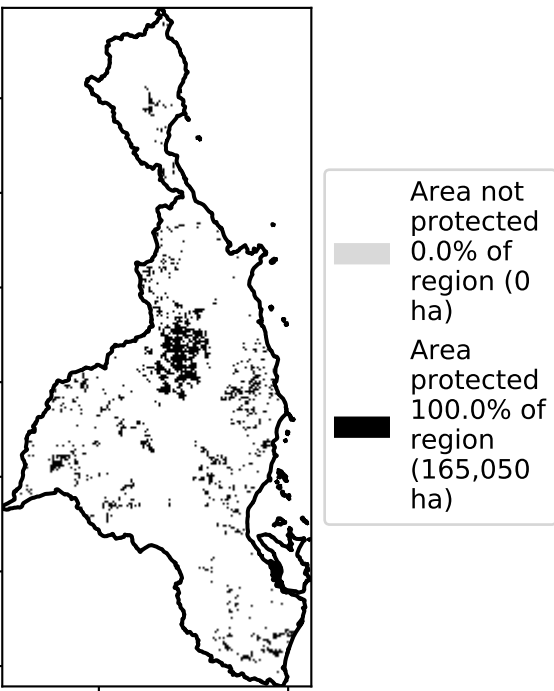


Anomaly show how
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is only for the
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using baseline
from 2001 to
2019.

Total Vegetation Cover Anomaly [%]

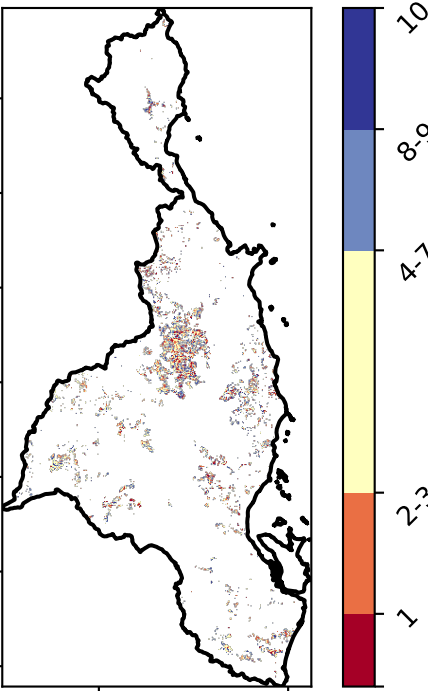


% Area protected from wind erosion (>50%)



Deciles show where the
pixel value lies in the
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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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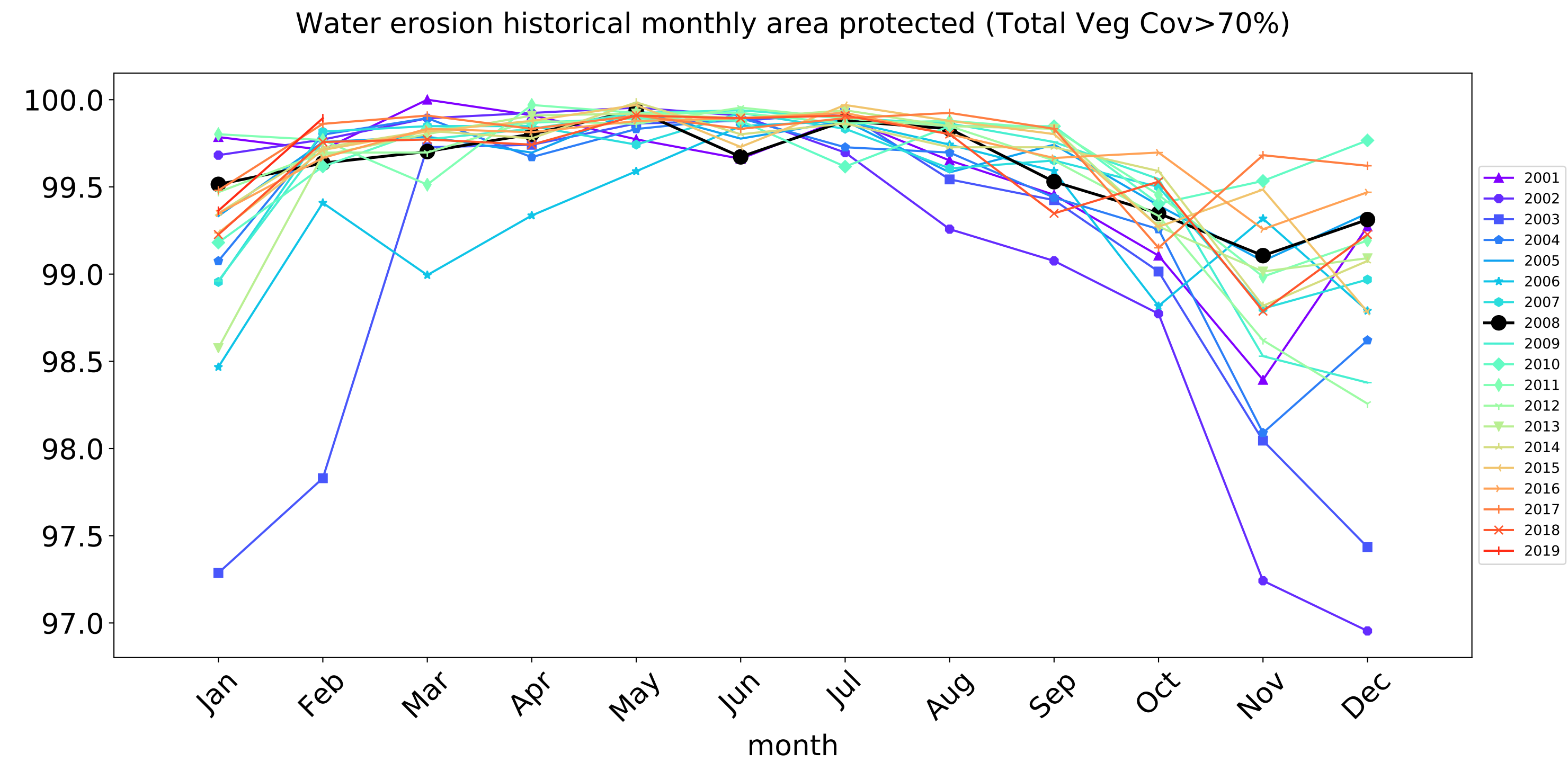
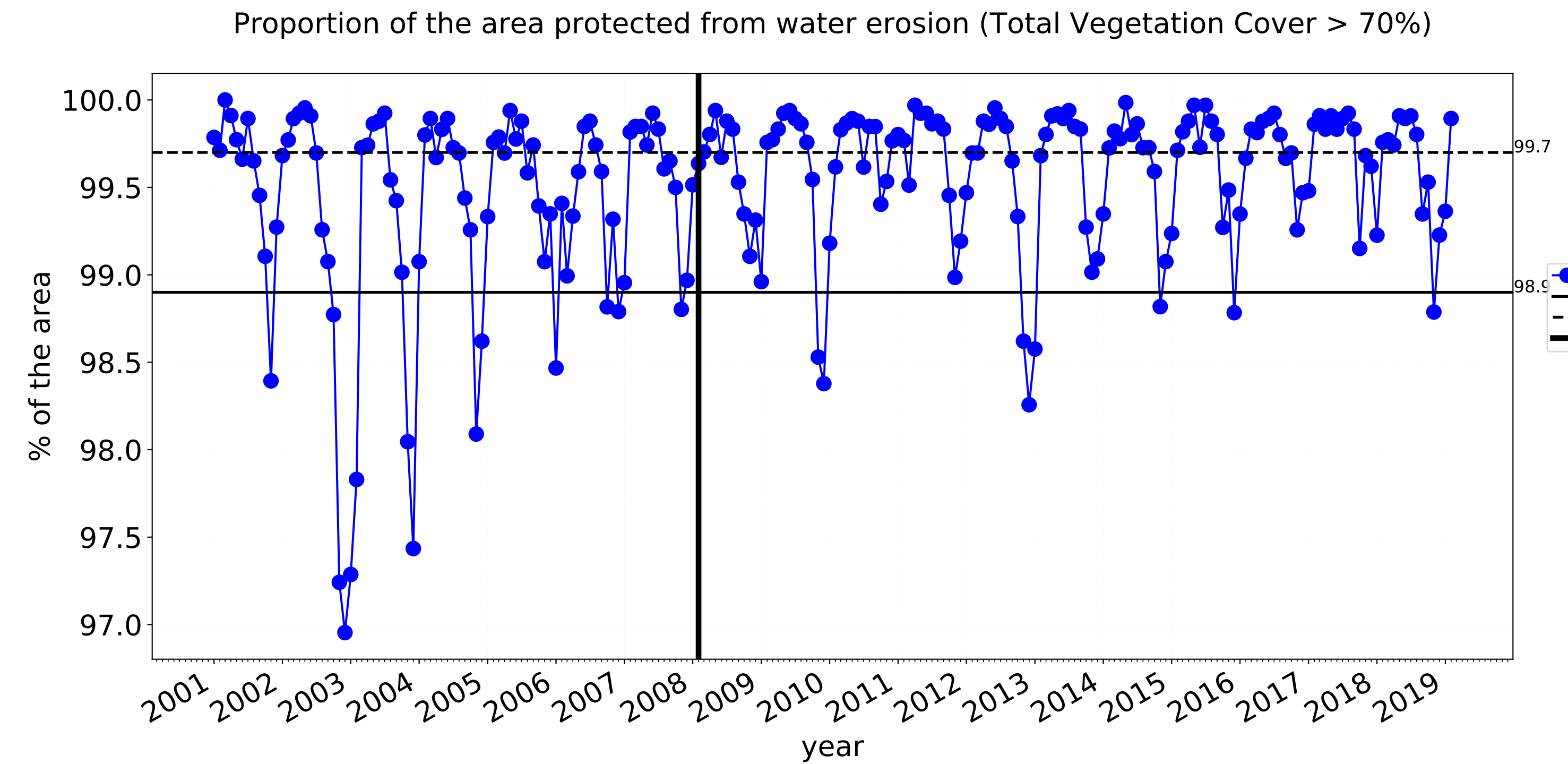
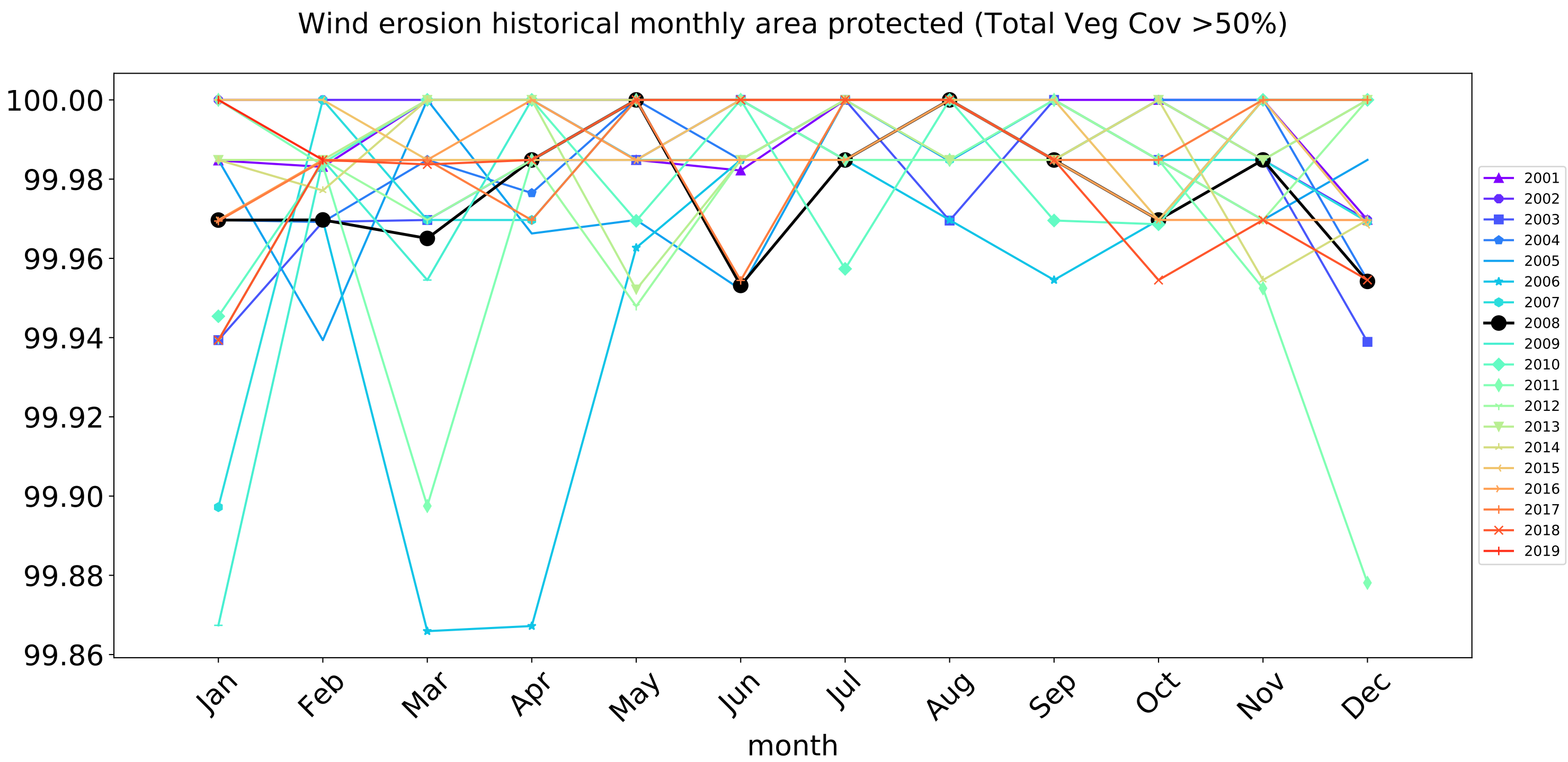
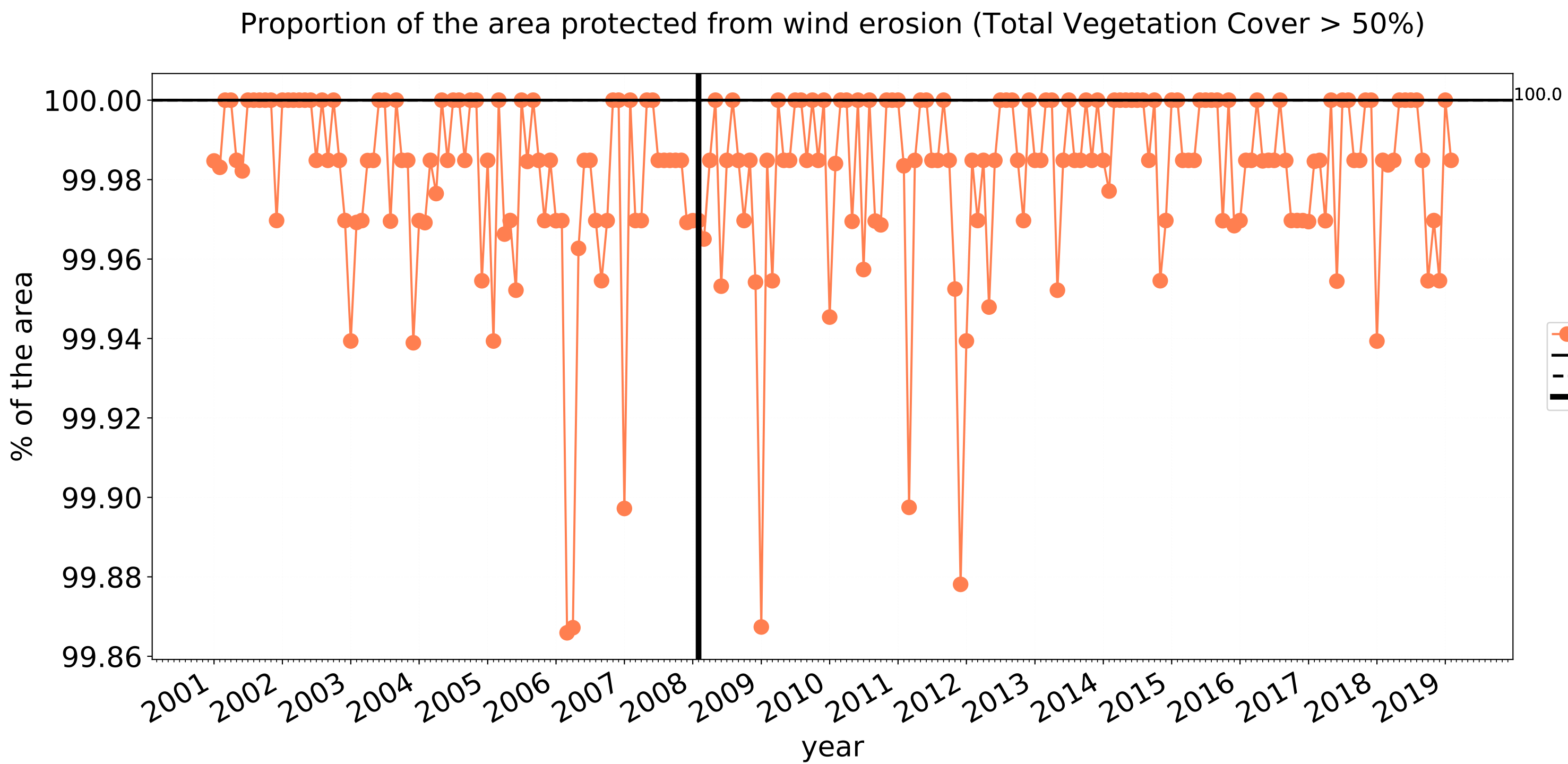


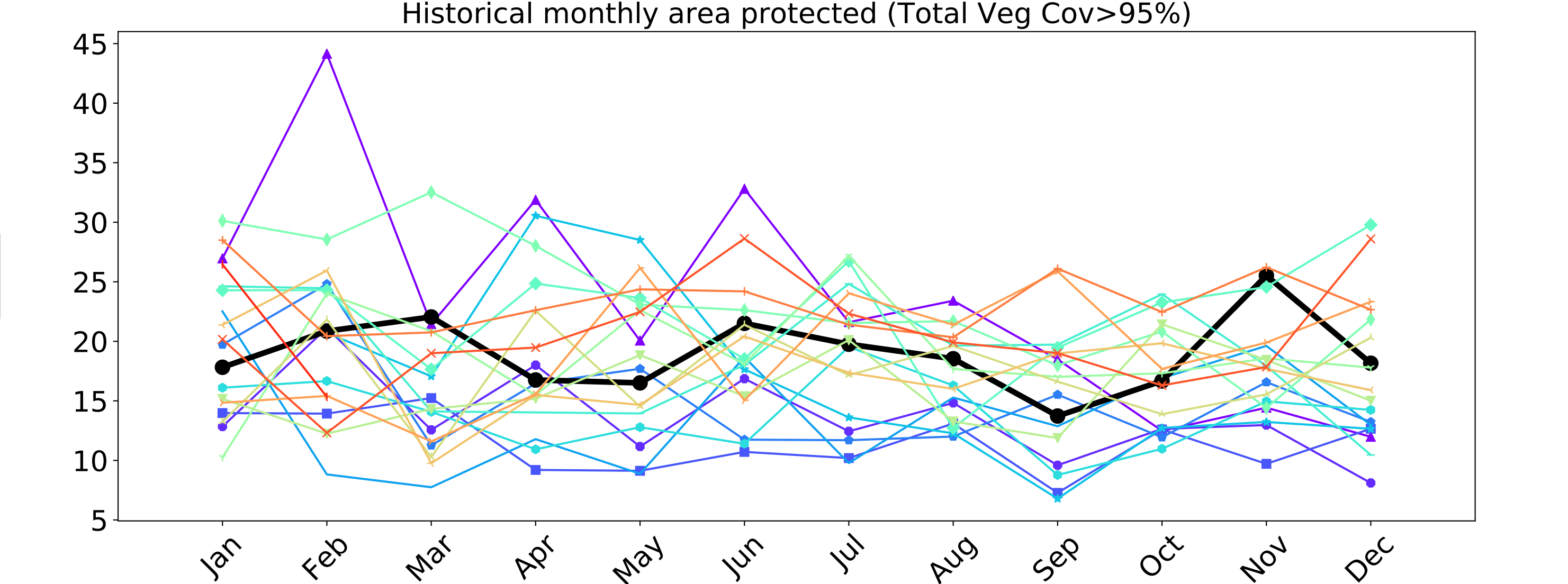
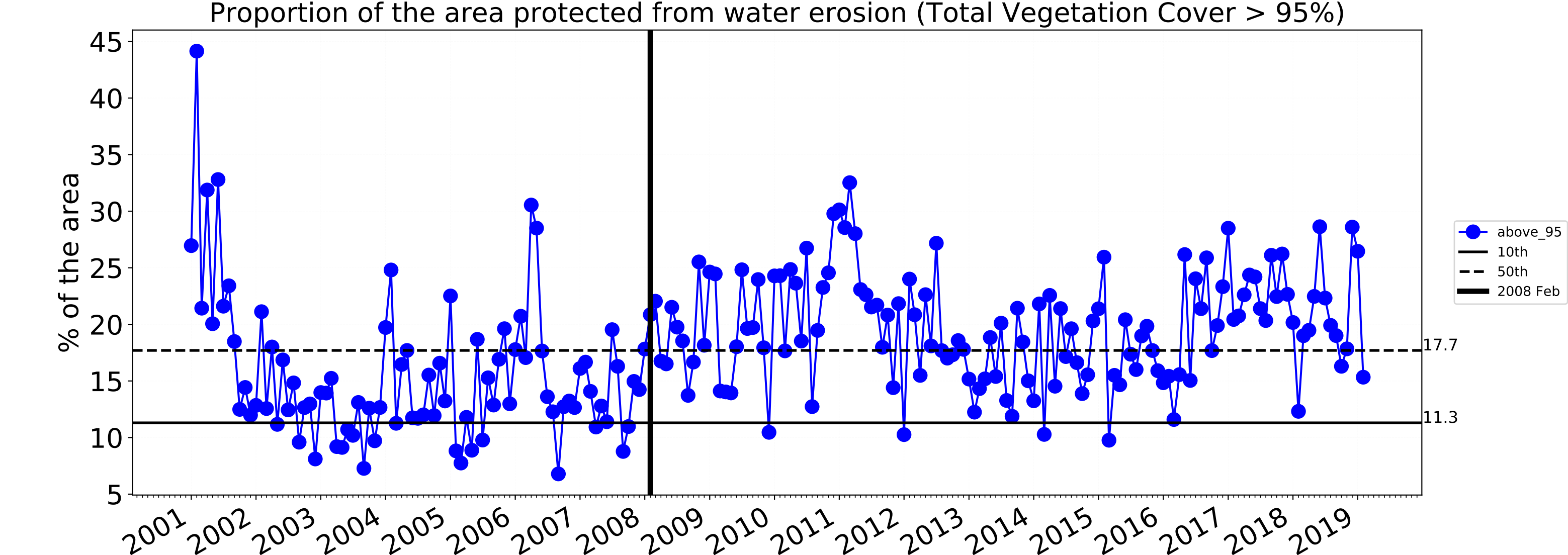
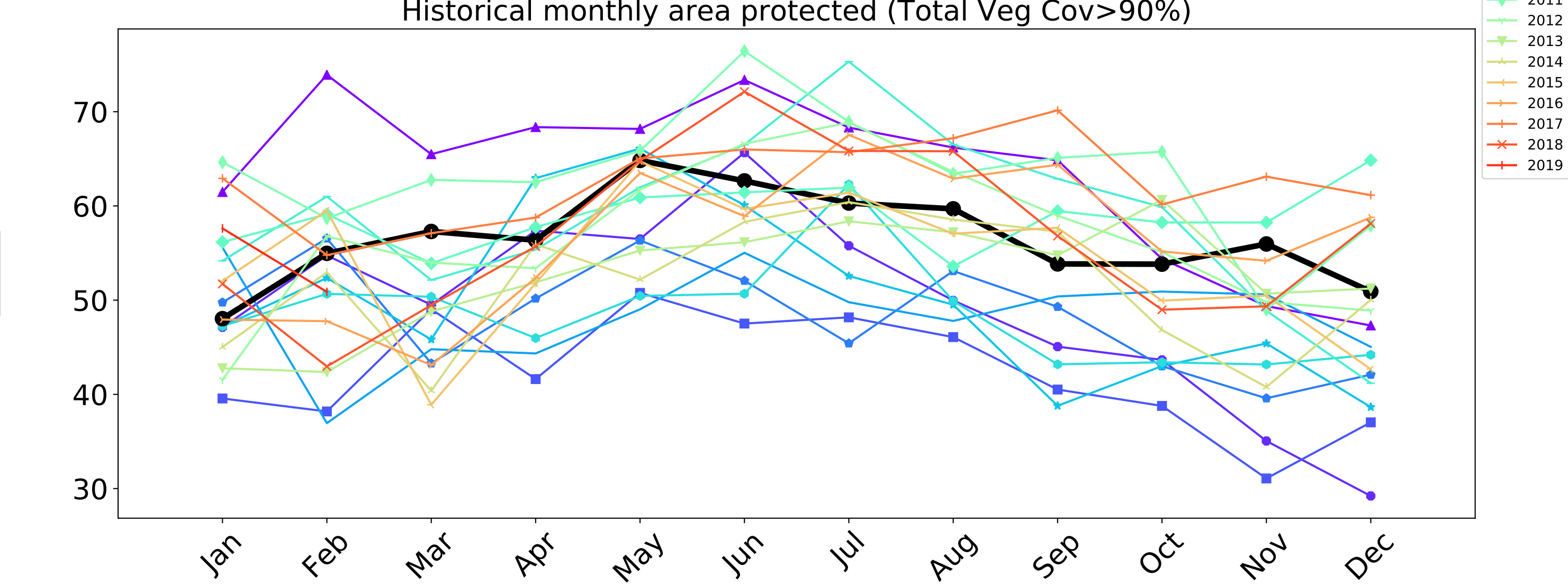
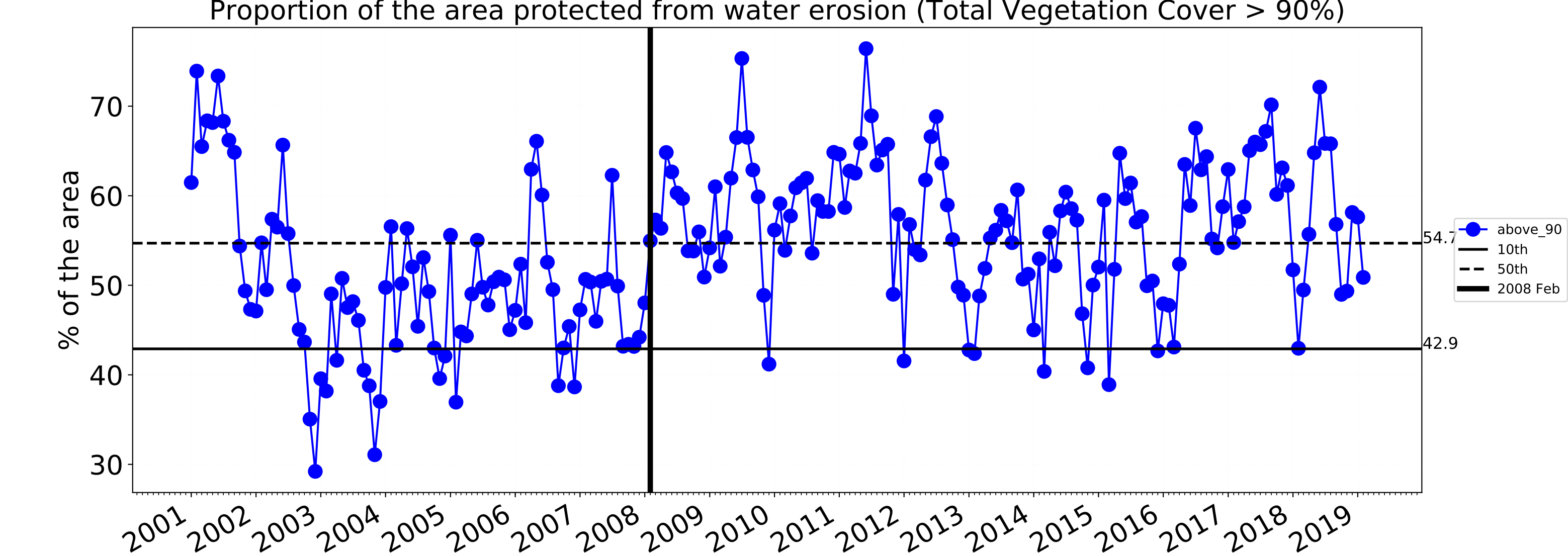
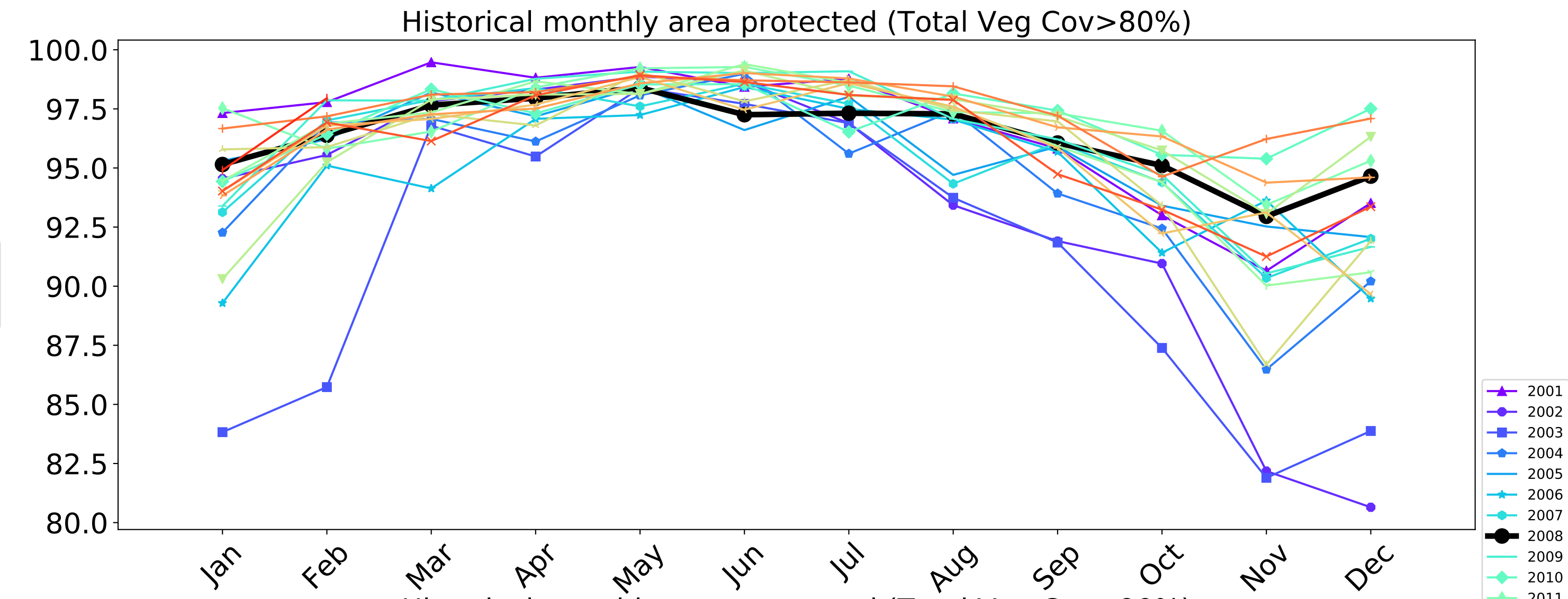
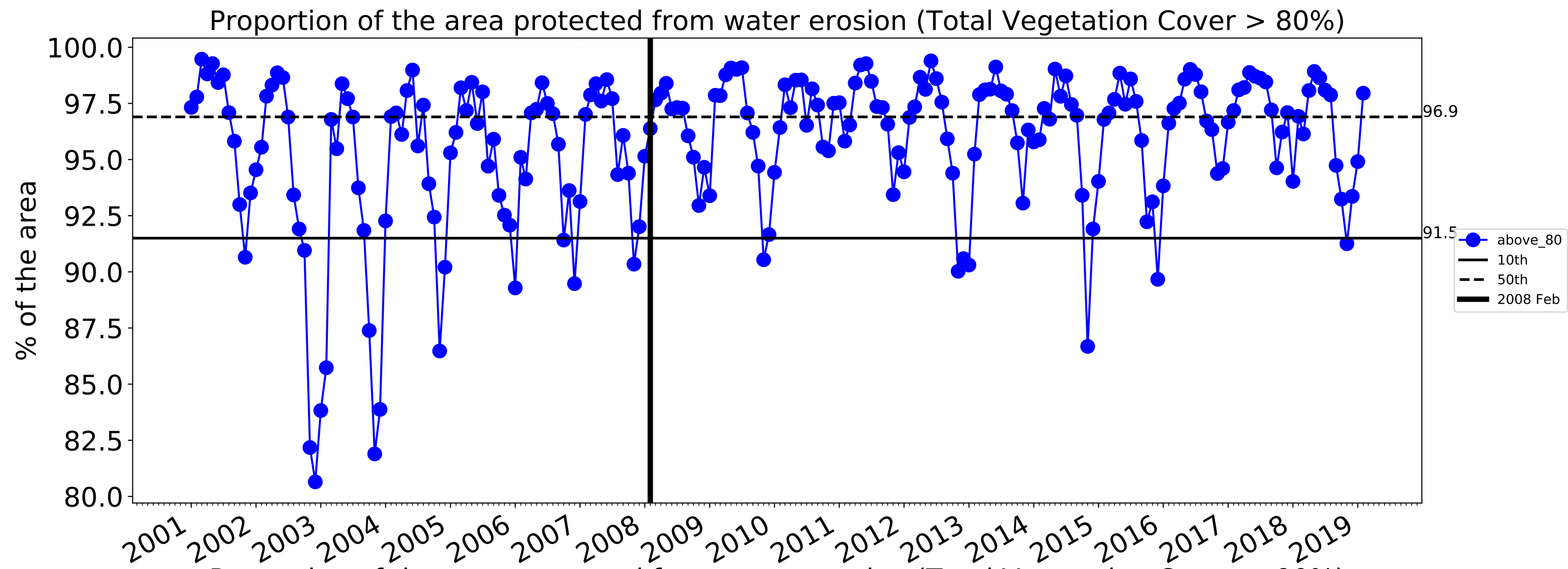
National
Landcare
Programme



Planning,
Industry &
Environment

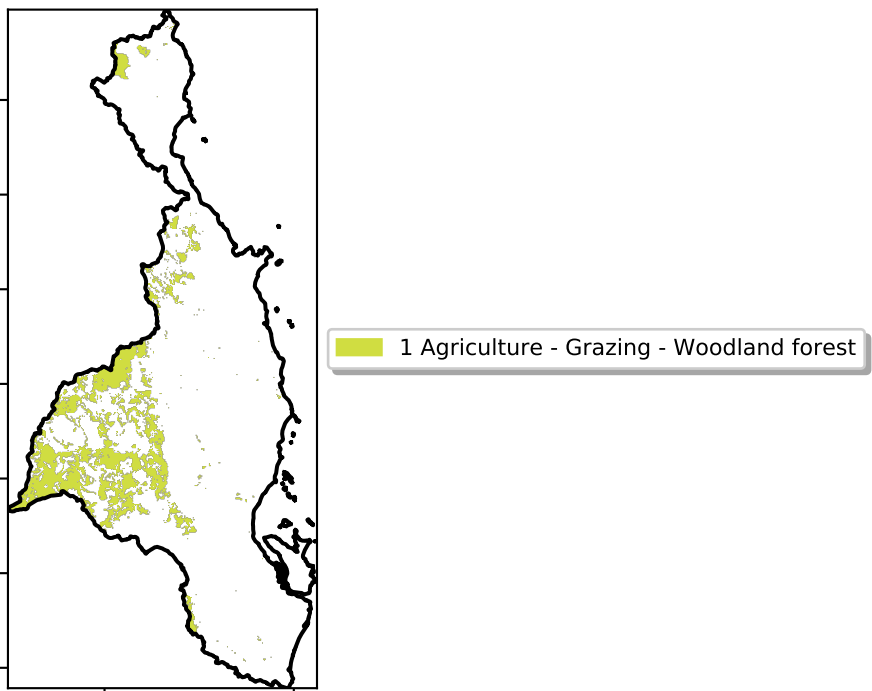
Grazing non forest timeseries





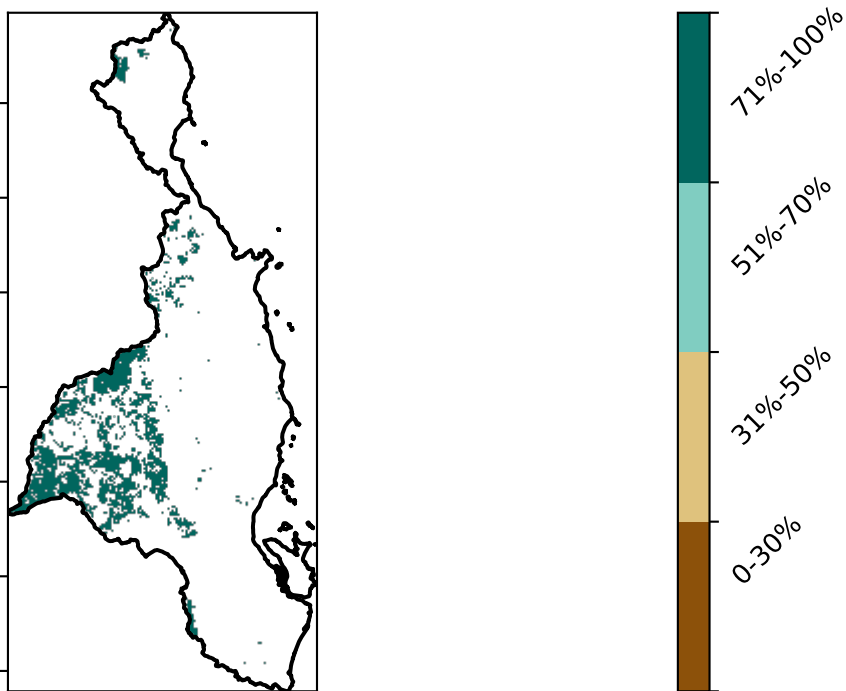
Grazing Woodland forest

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)

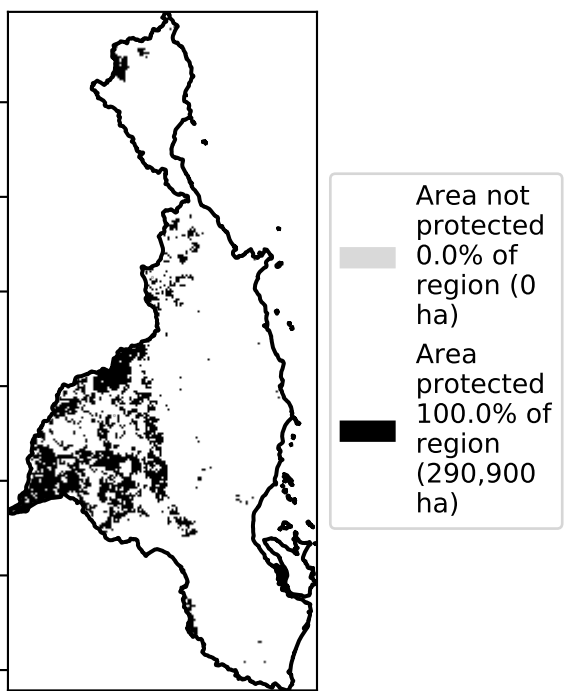
Total Vegetation Cover [%]



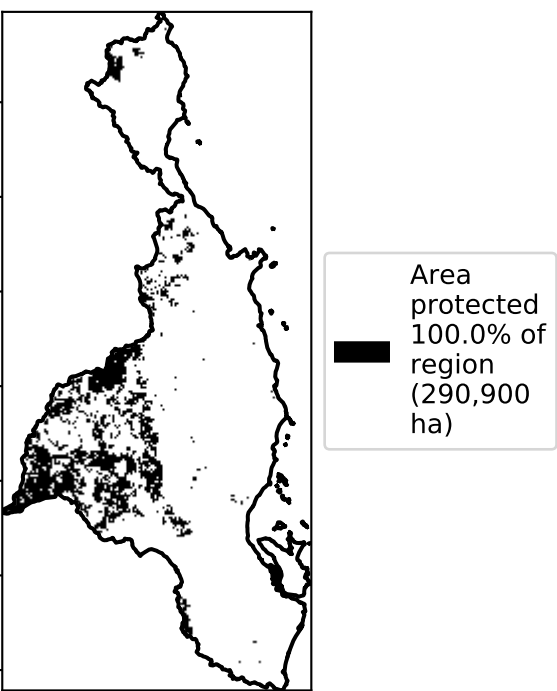
Proportion of vegetation cover class in area



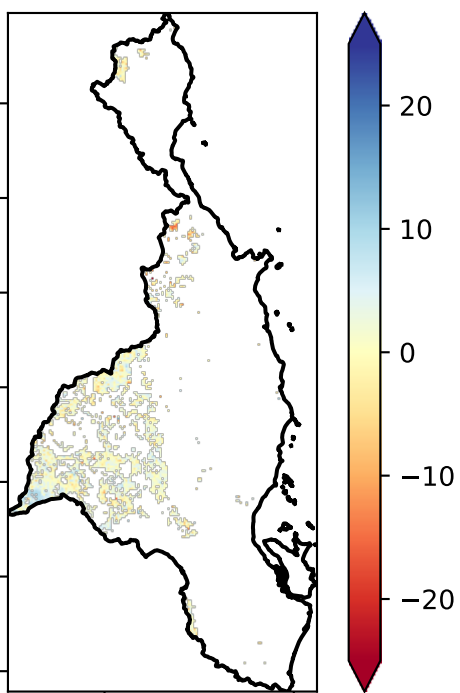
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

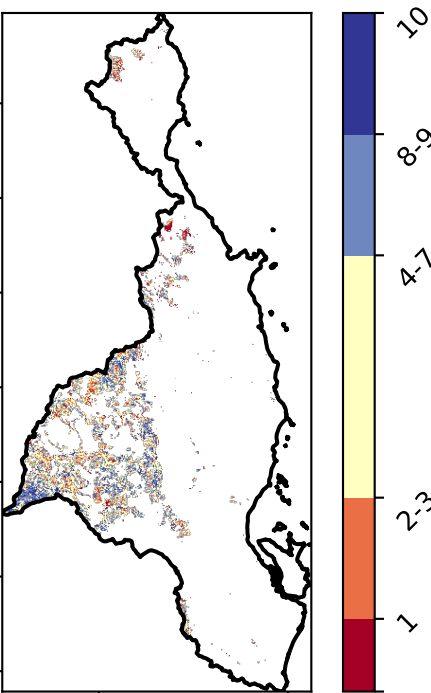


Total Vegetation Cover Anomaly [%]



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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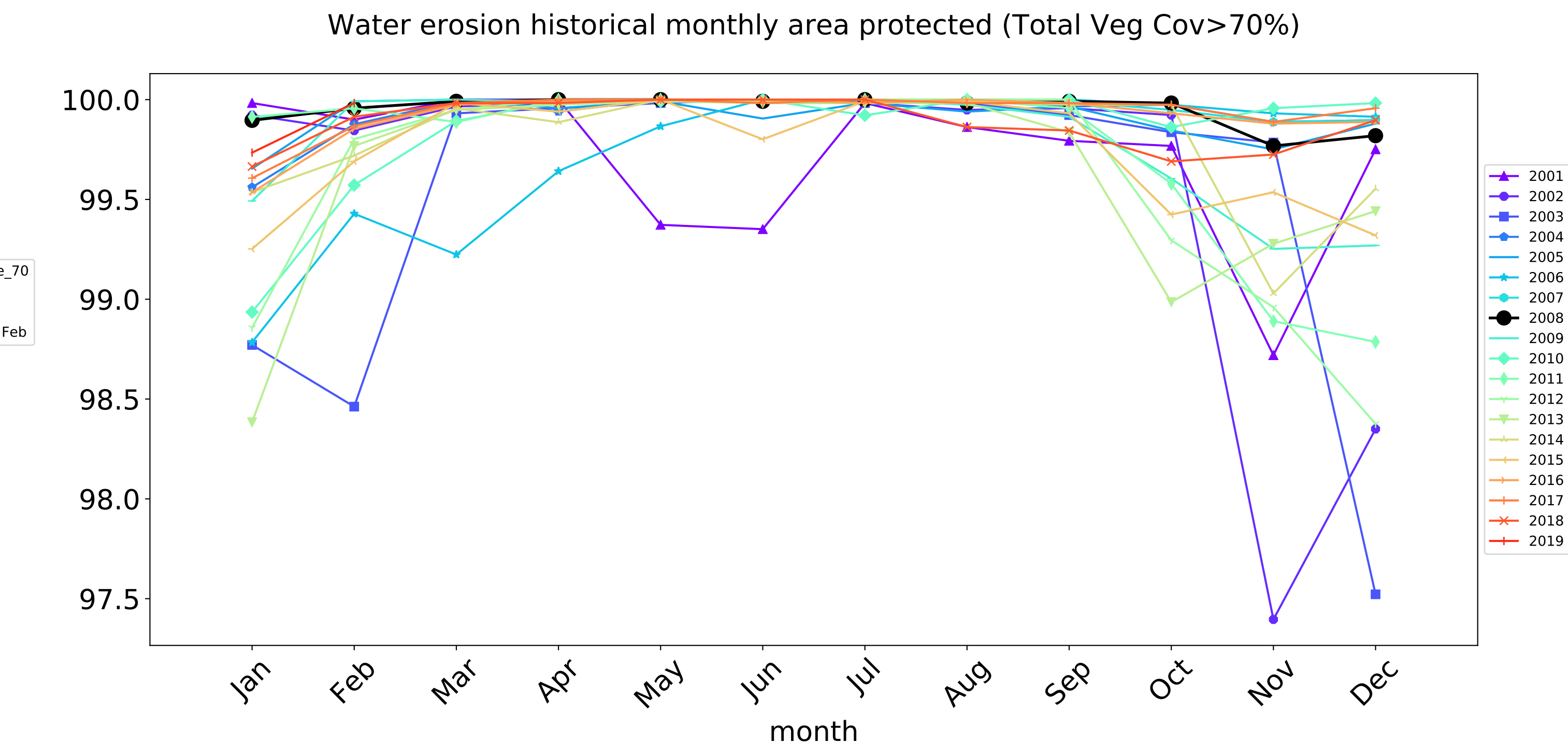
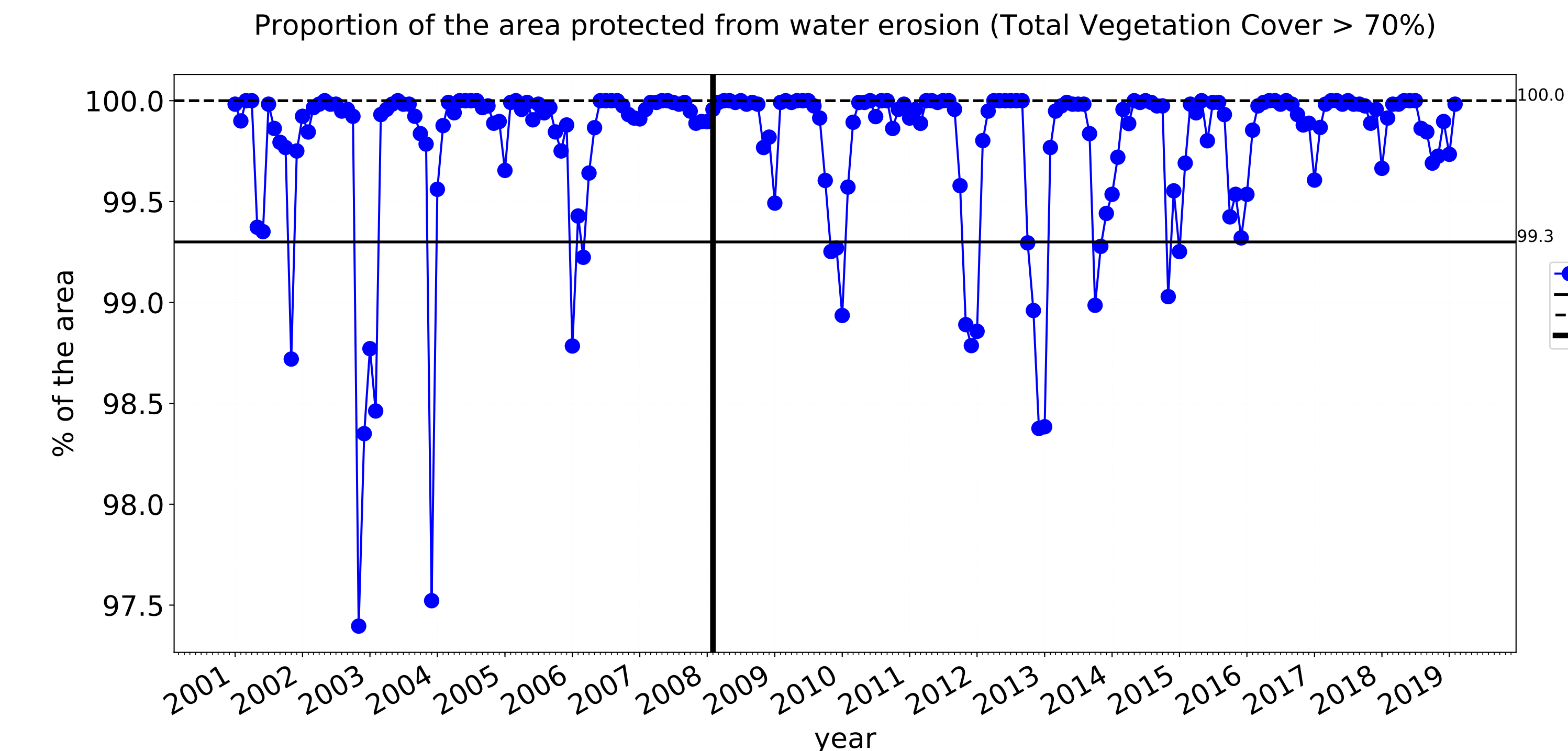
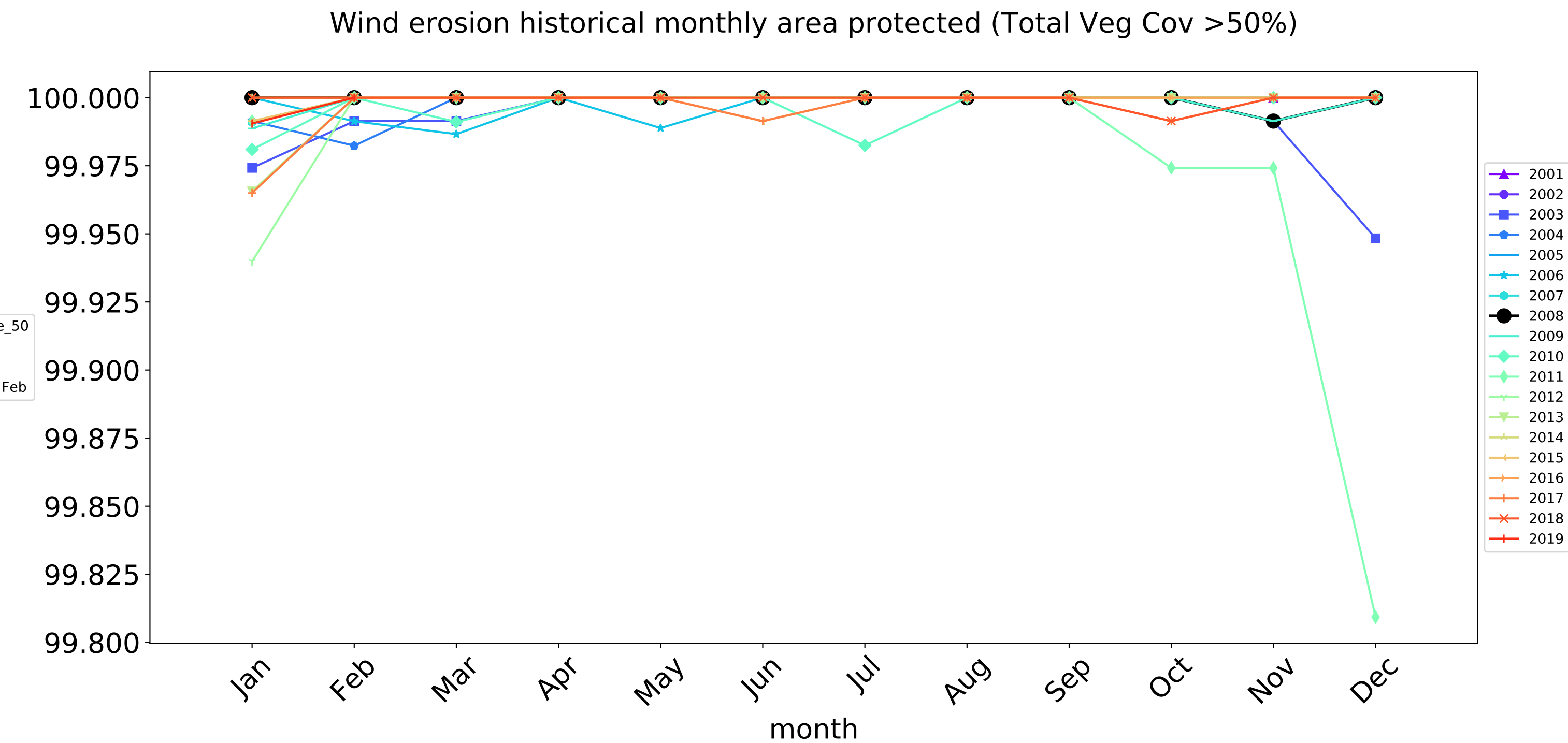
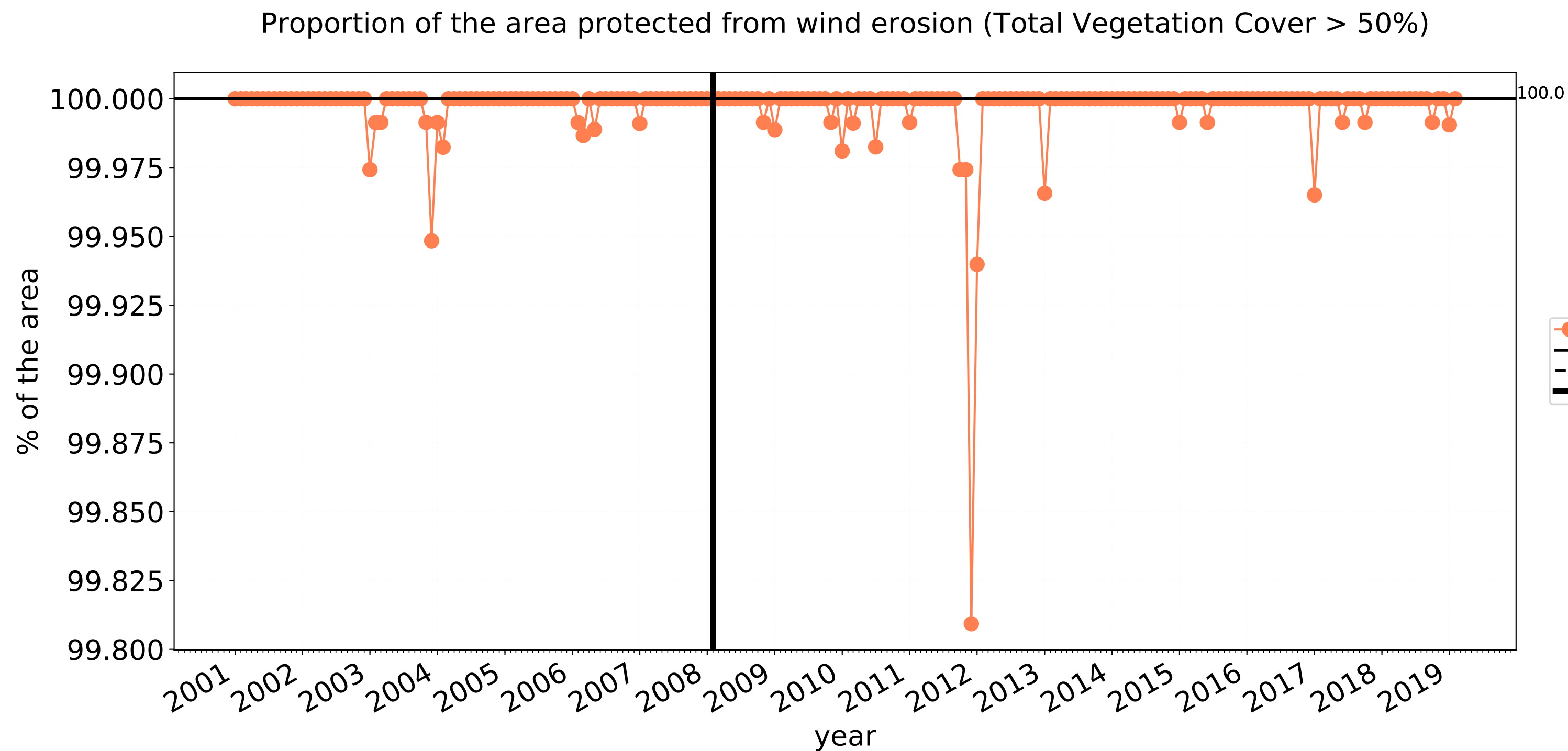


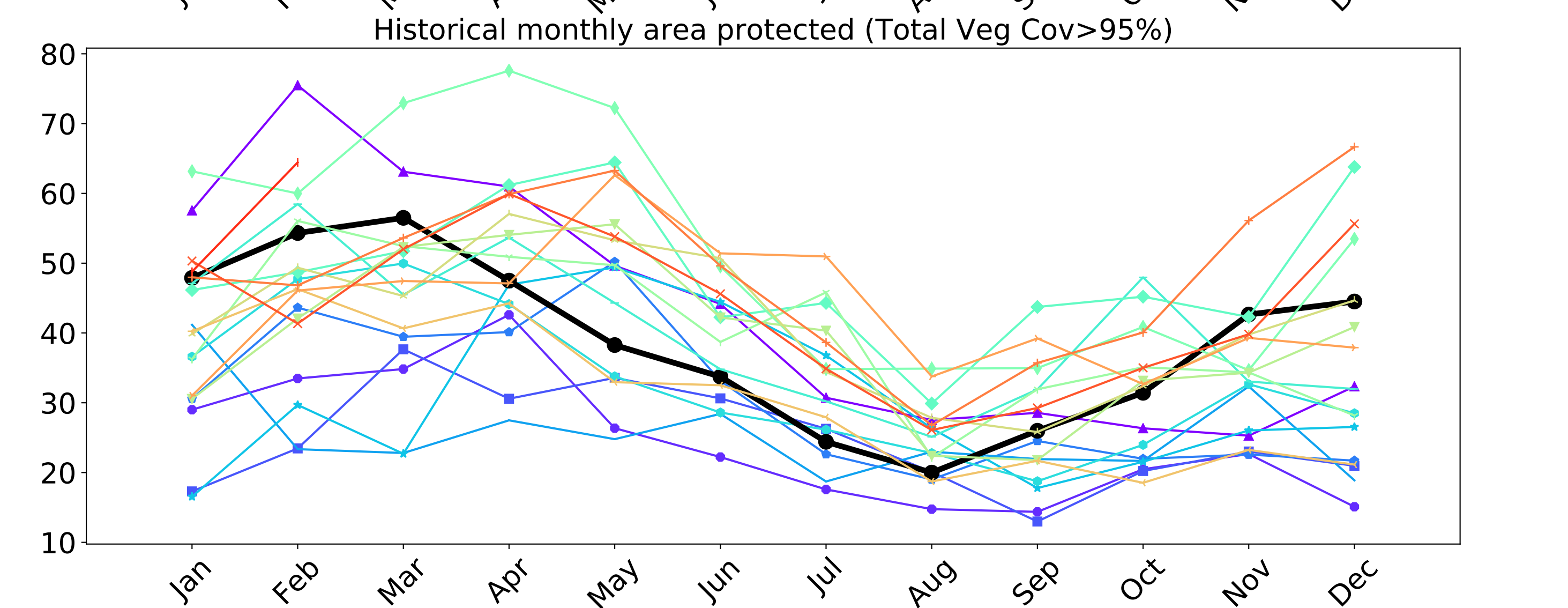
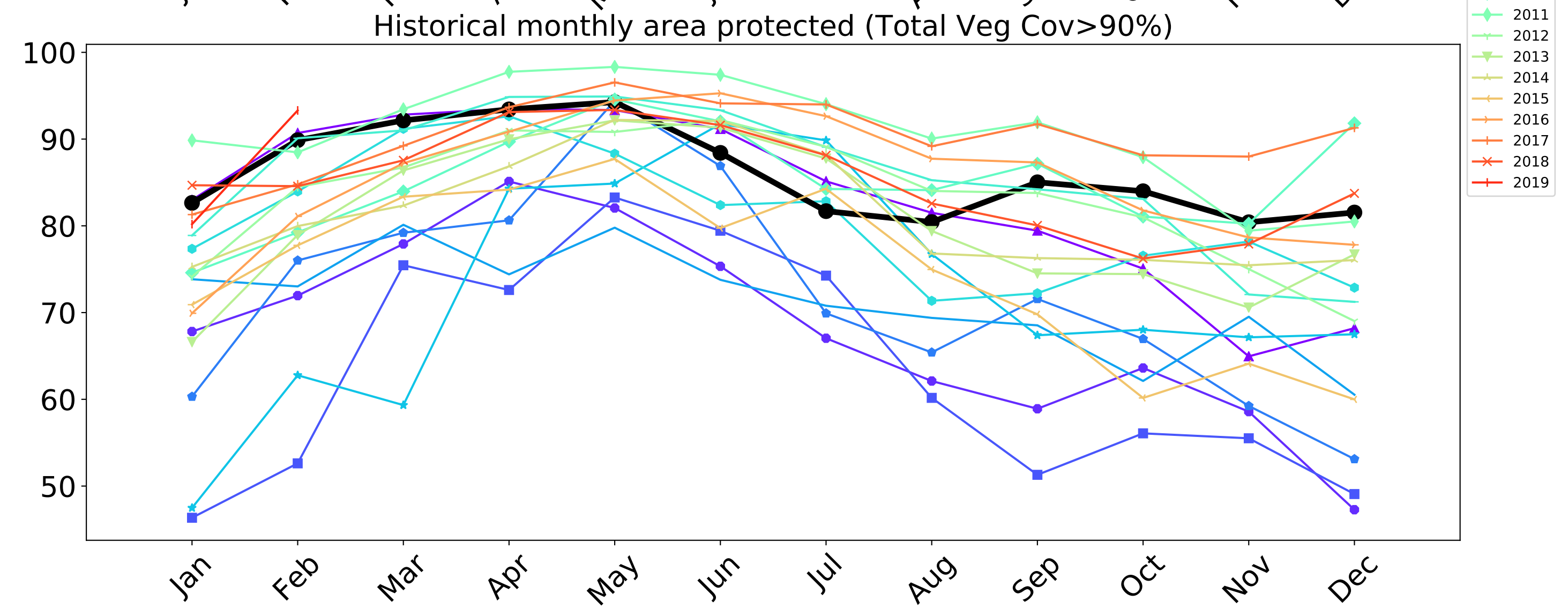
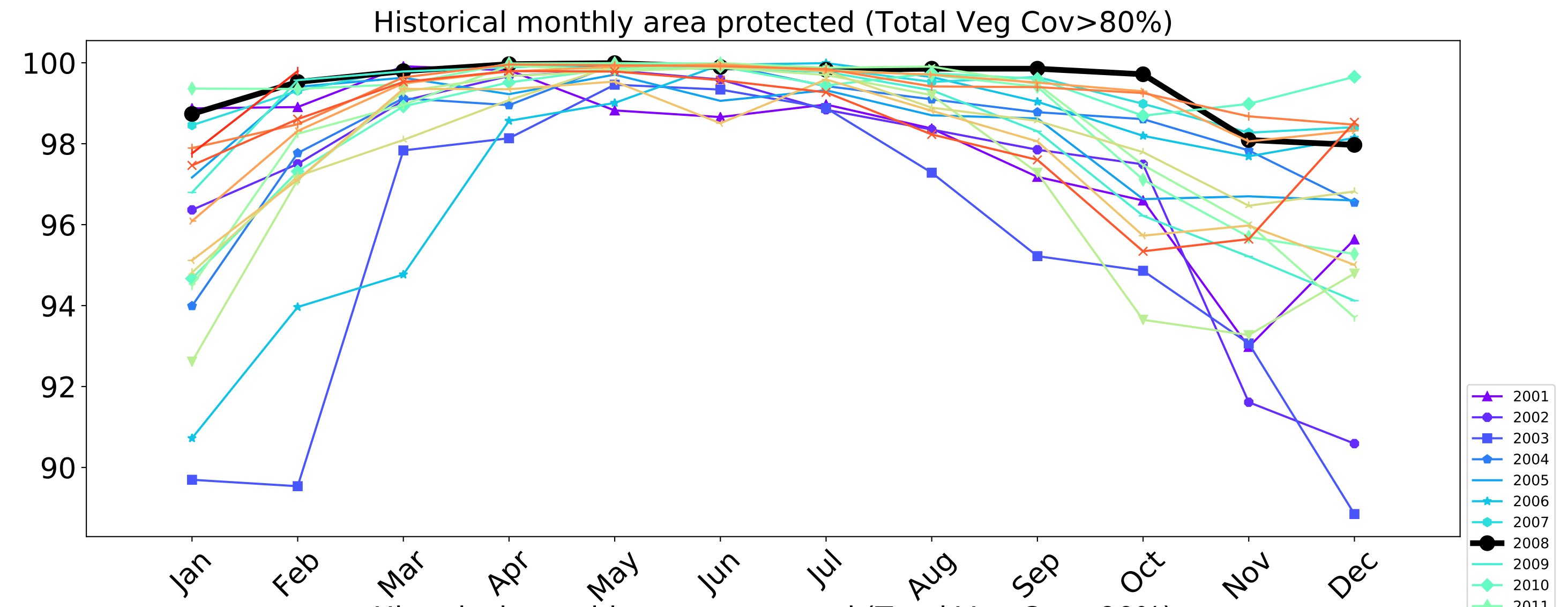
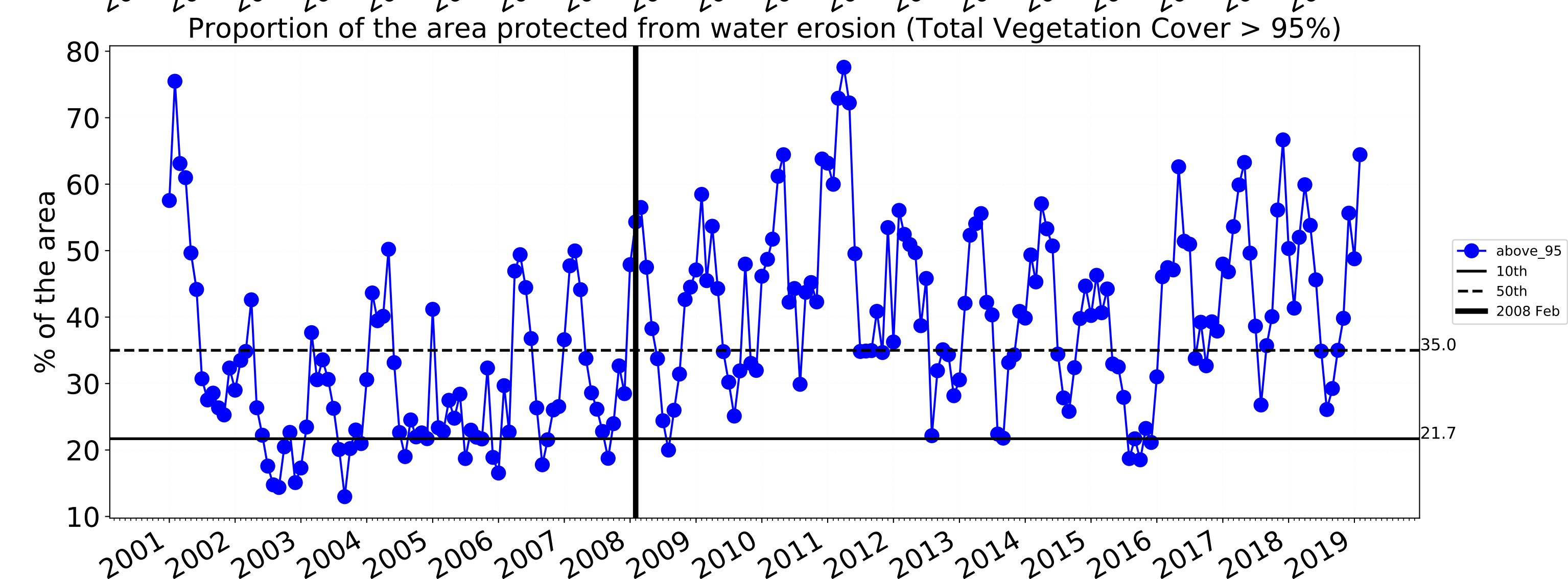
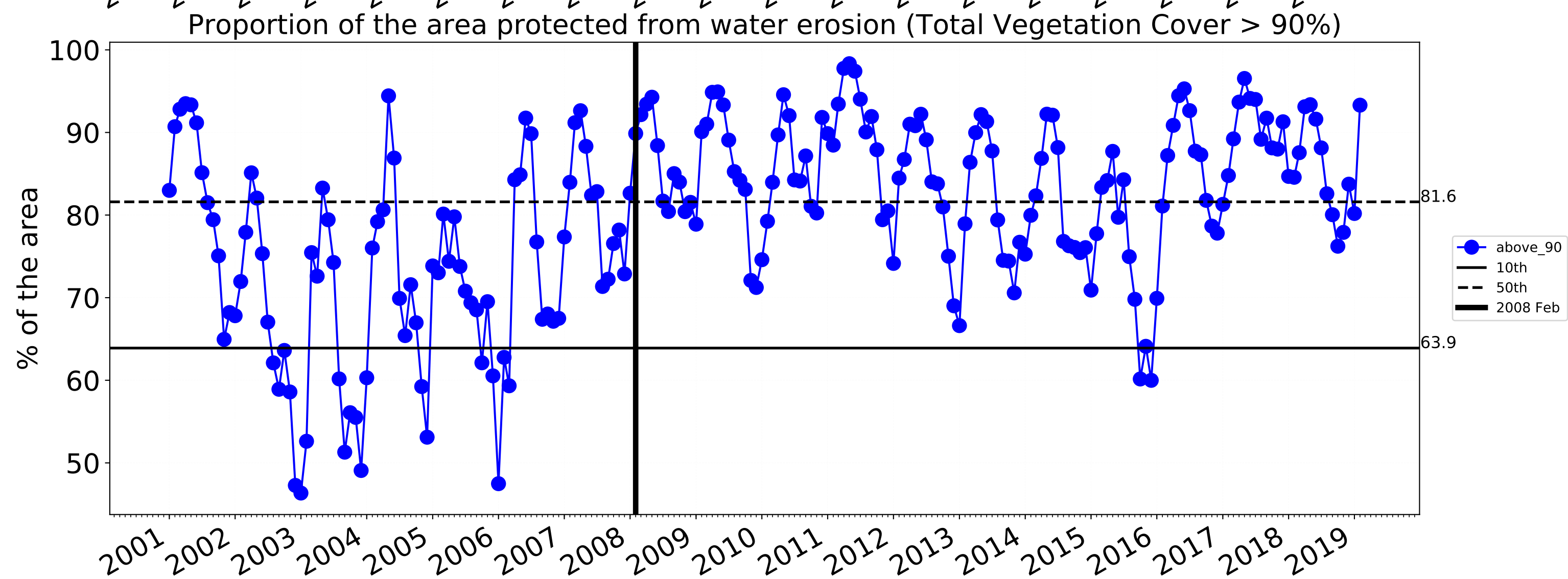
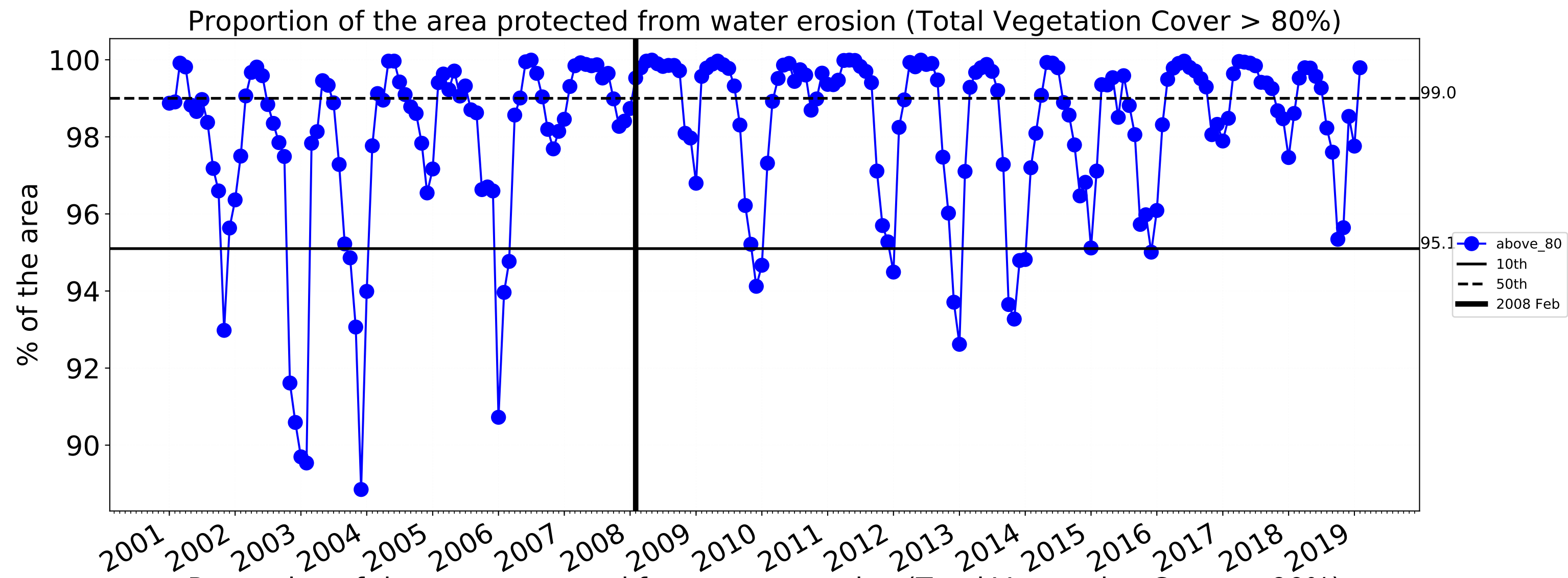
National
Landcare
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Planning,
Industry &
Environment

Grazing Woodland forest timeseries





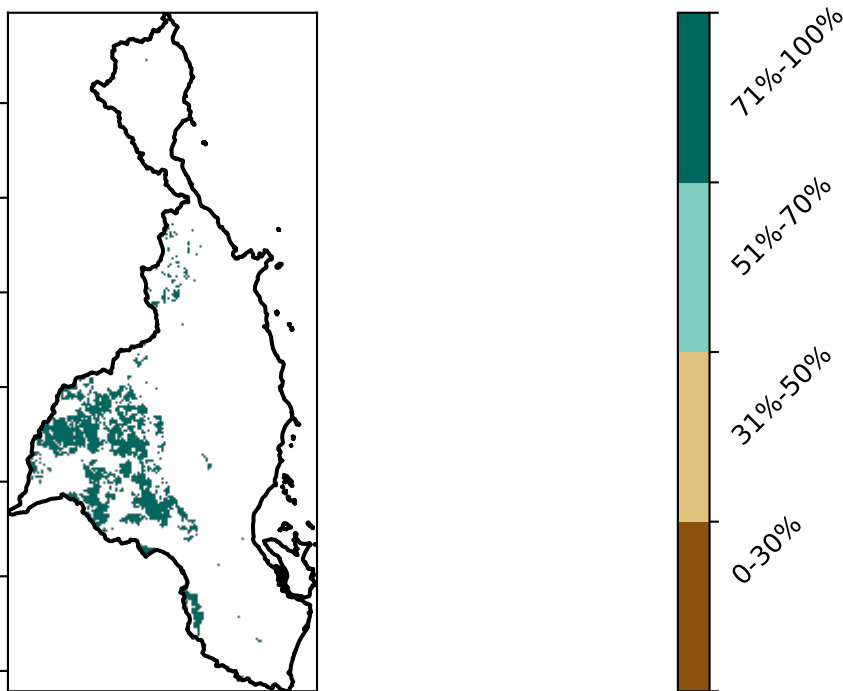
Grazing - Forest (non woodland)

Land use and forest cover



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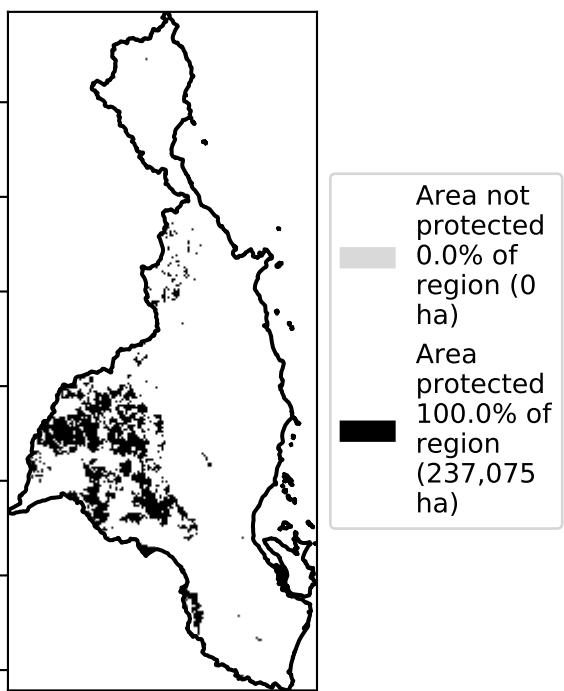
Total Vegetation Cover [%]



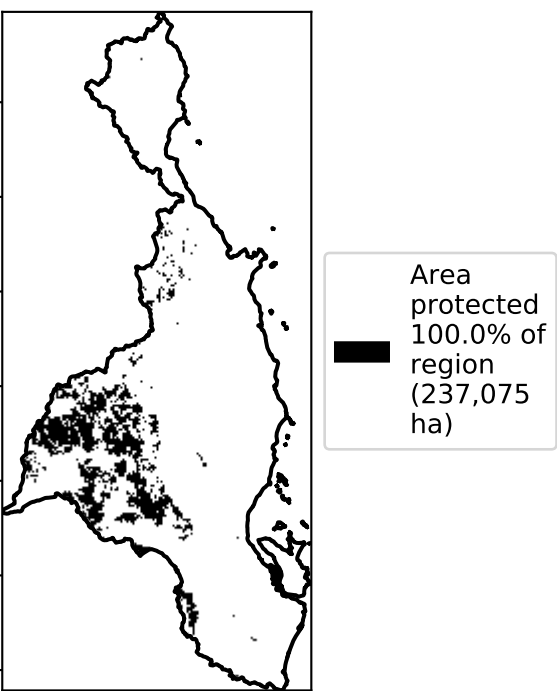
Proportion of vegetation cover class in area



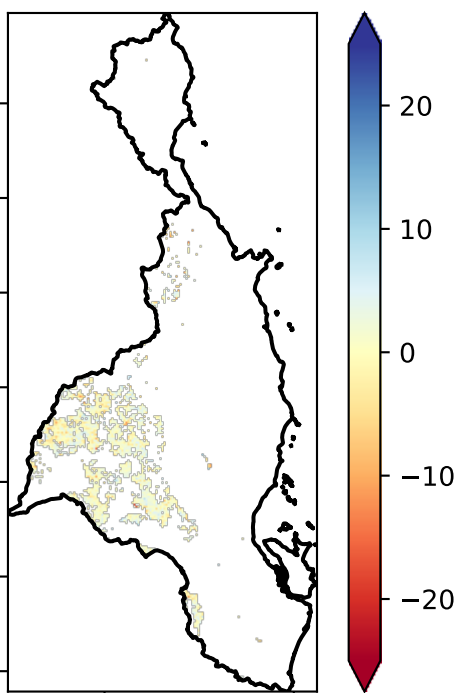
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

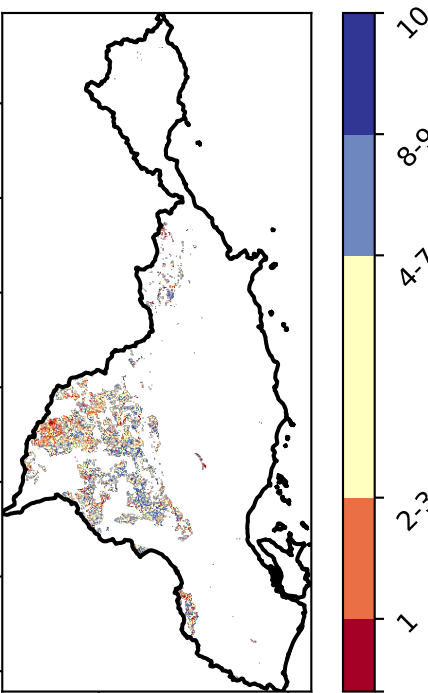


Total Vegetation Cover Anomaly [%]



Anomaly show how
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Total Vegetation Cover Decile [%]



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TERN

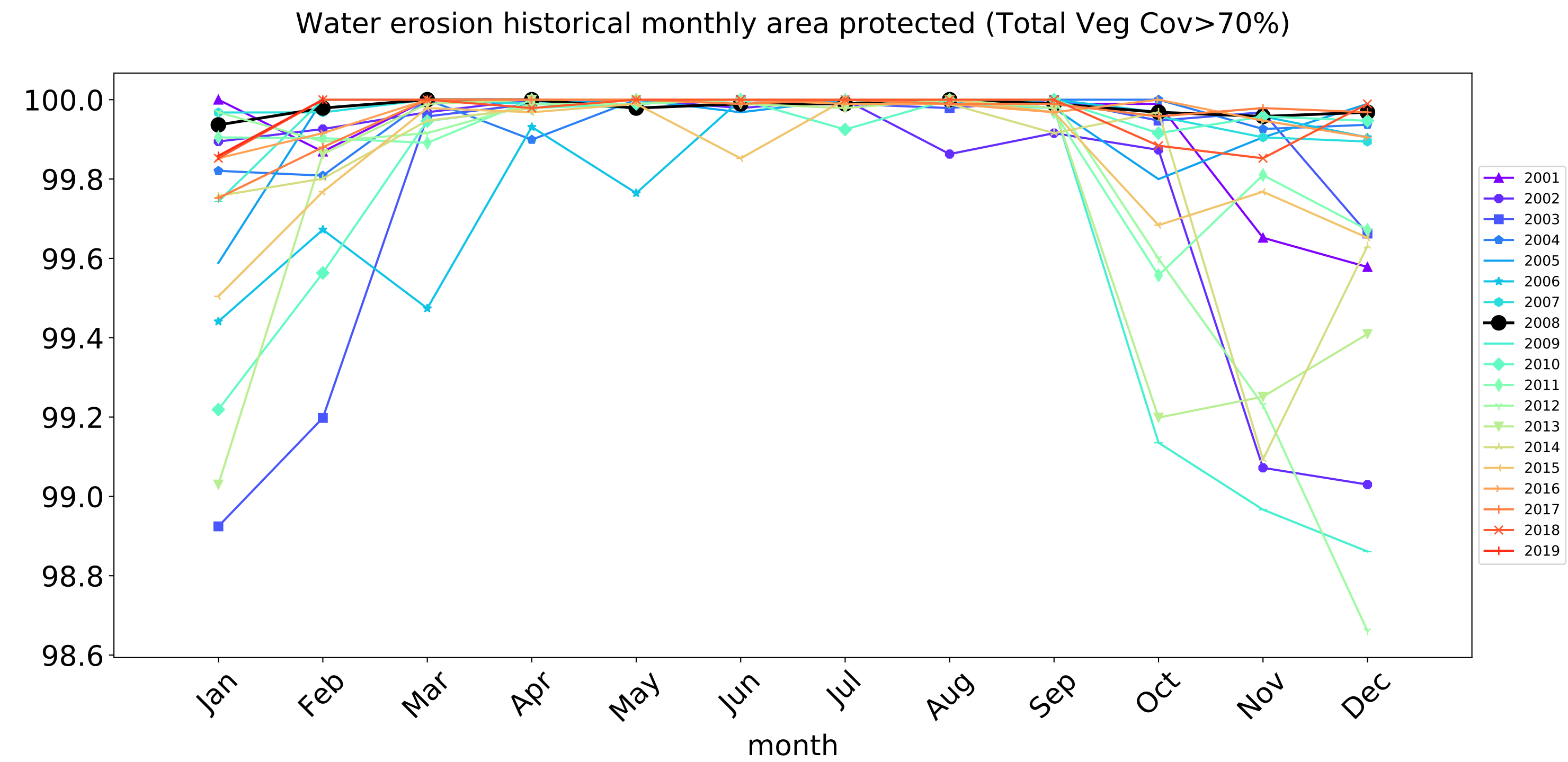
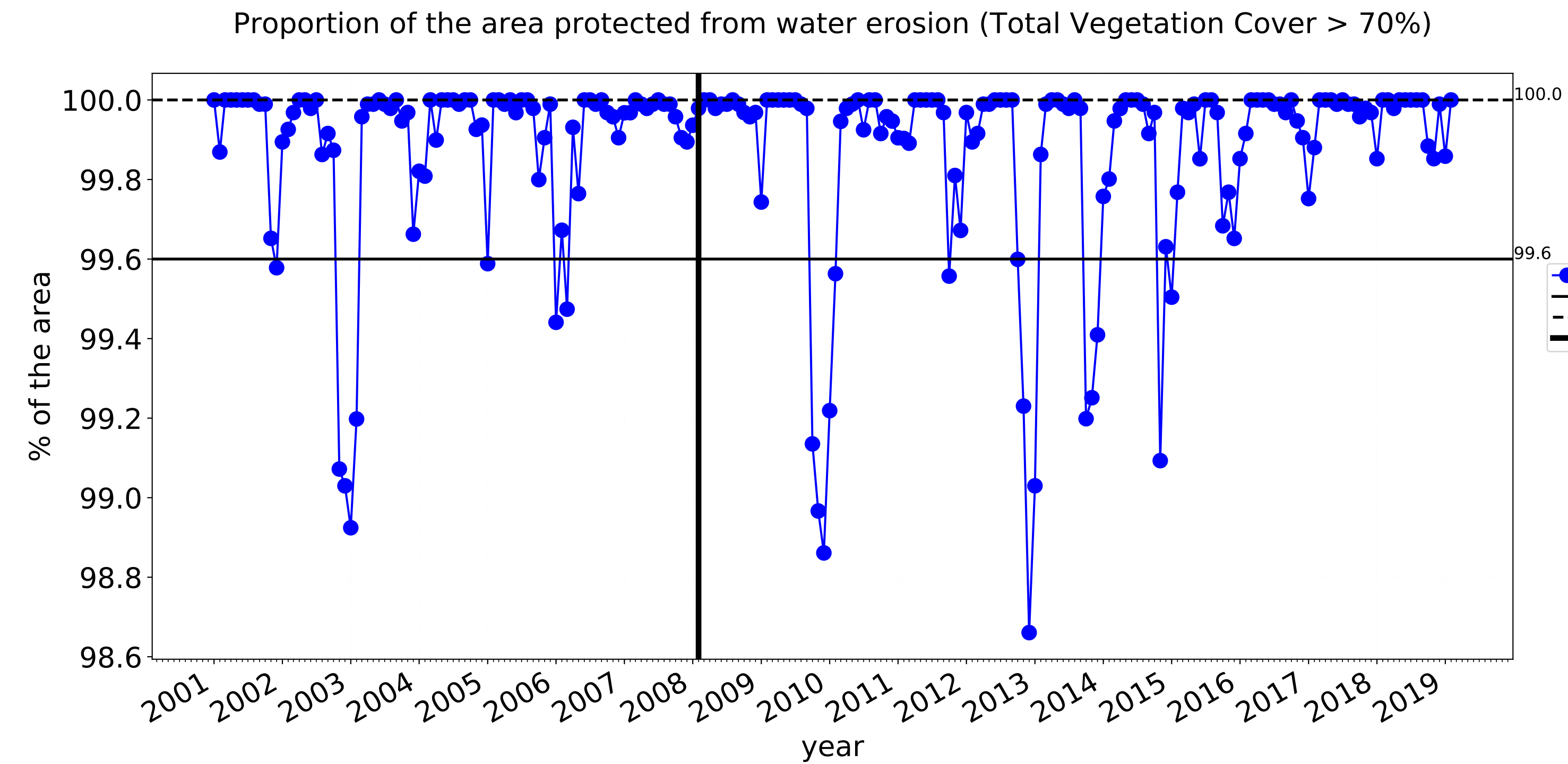
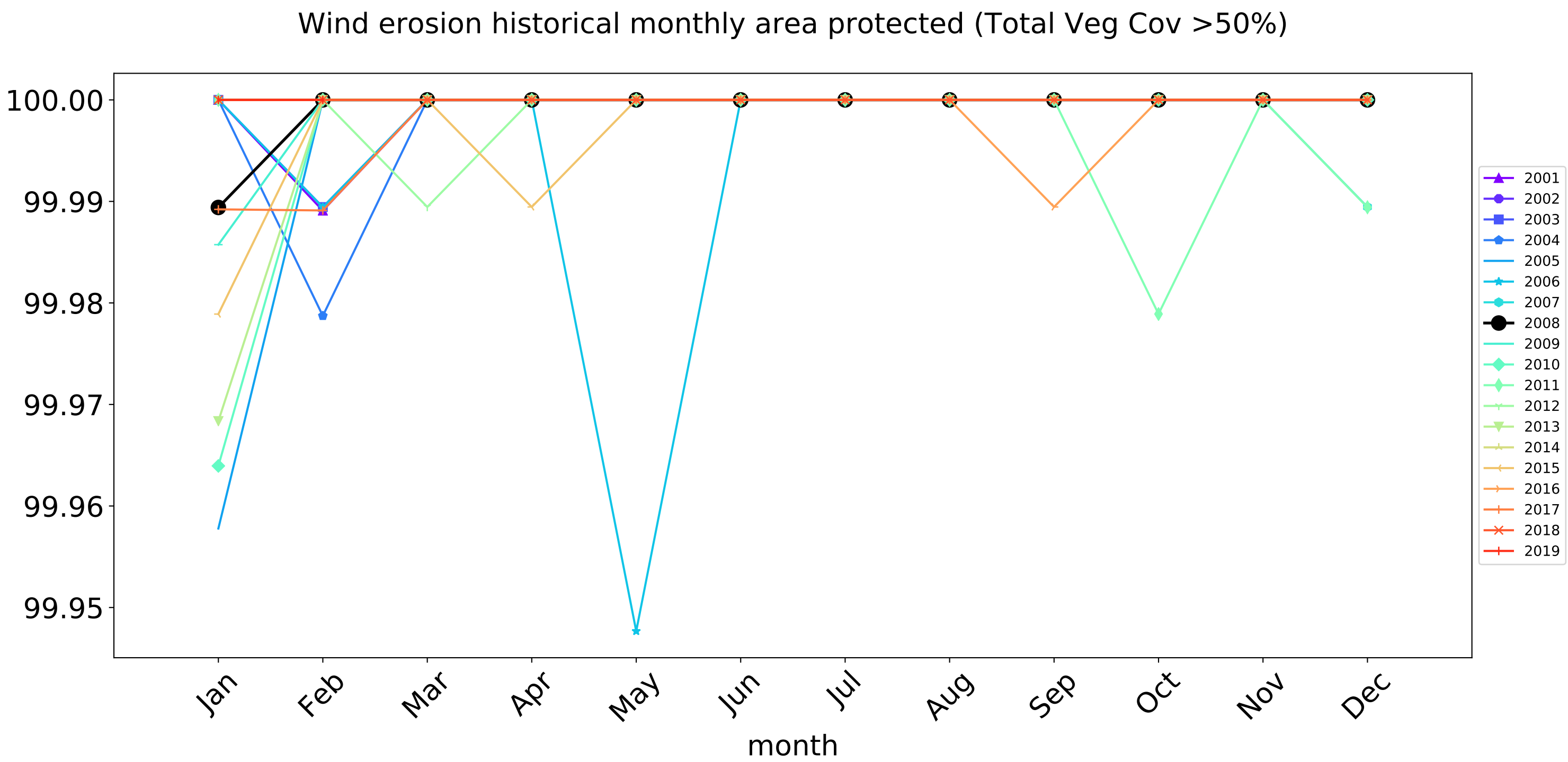
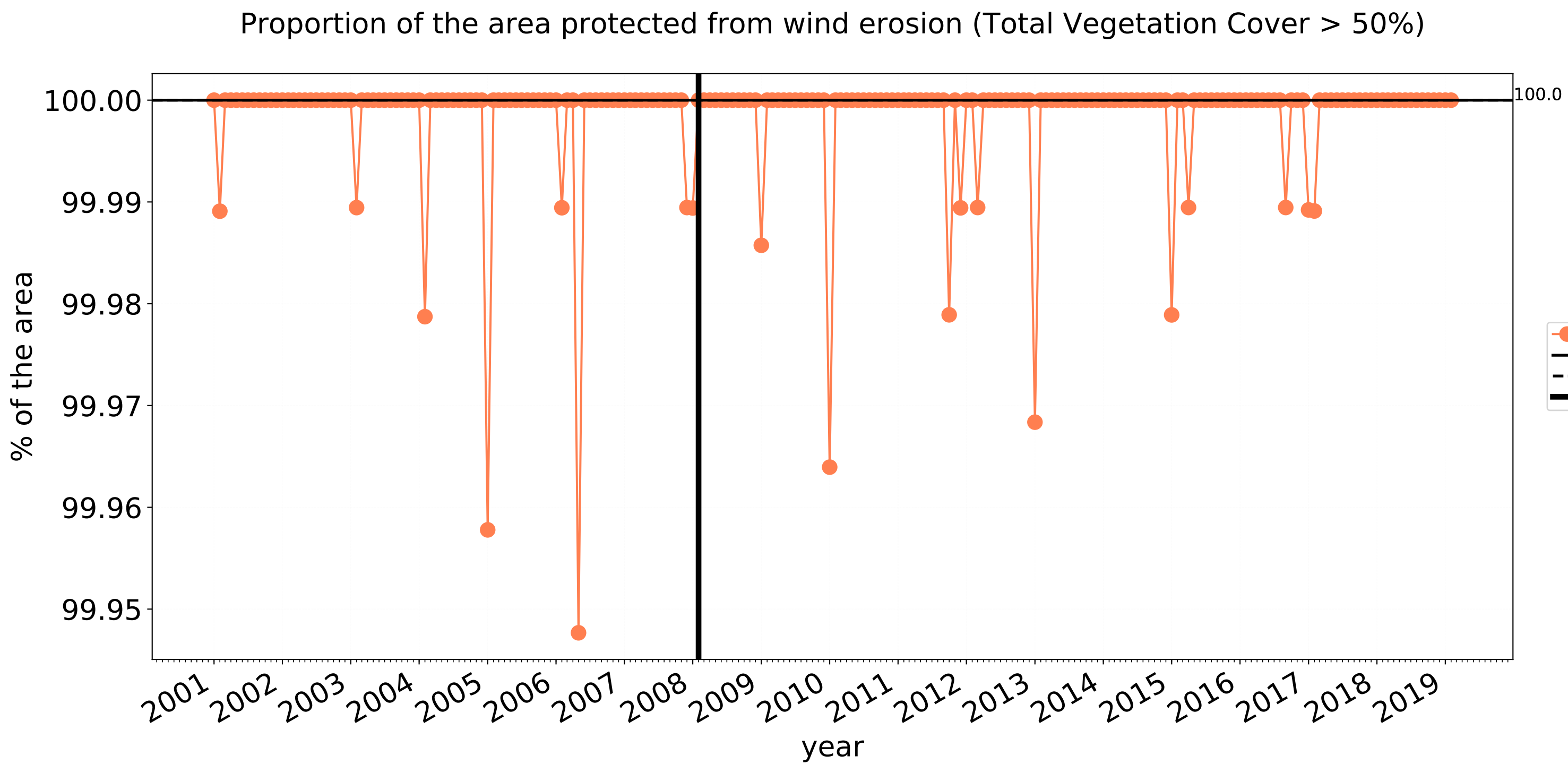


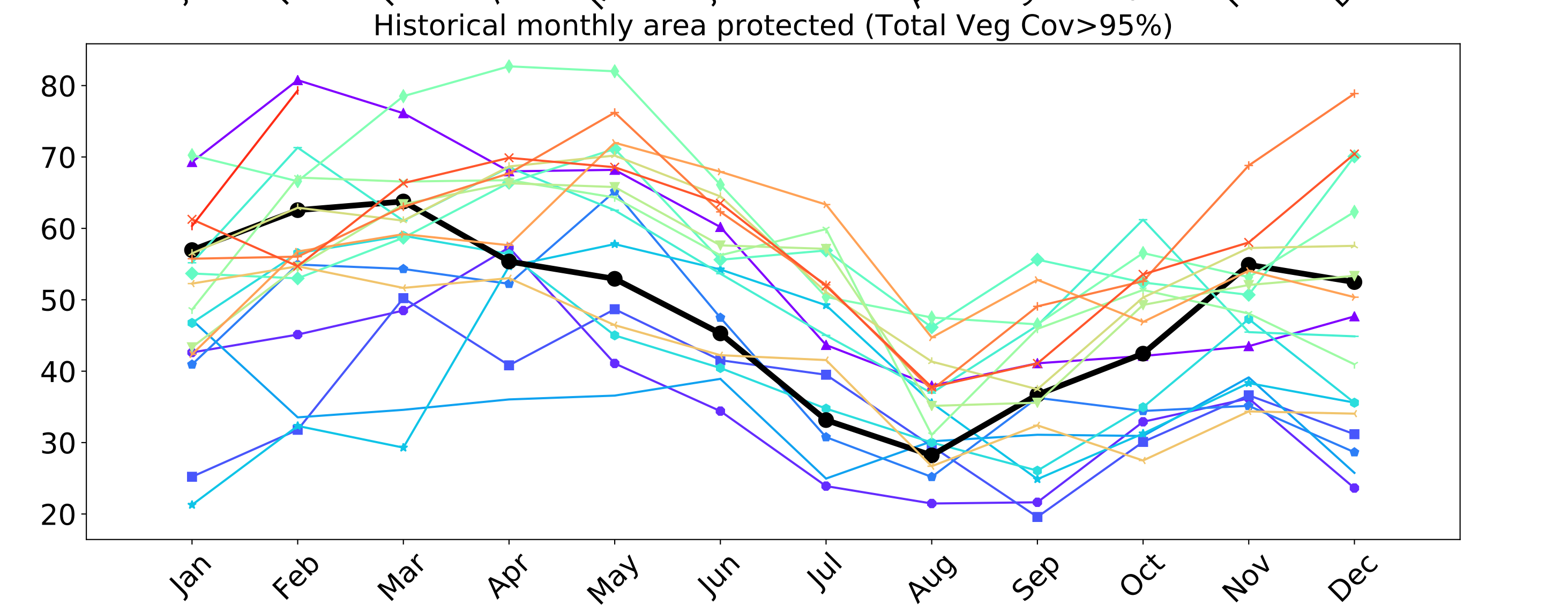
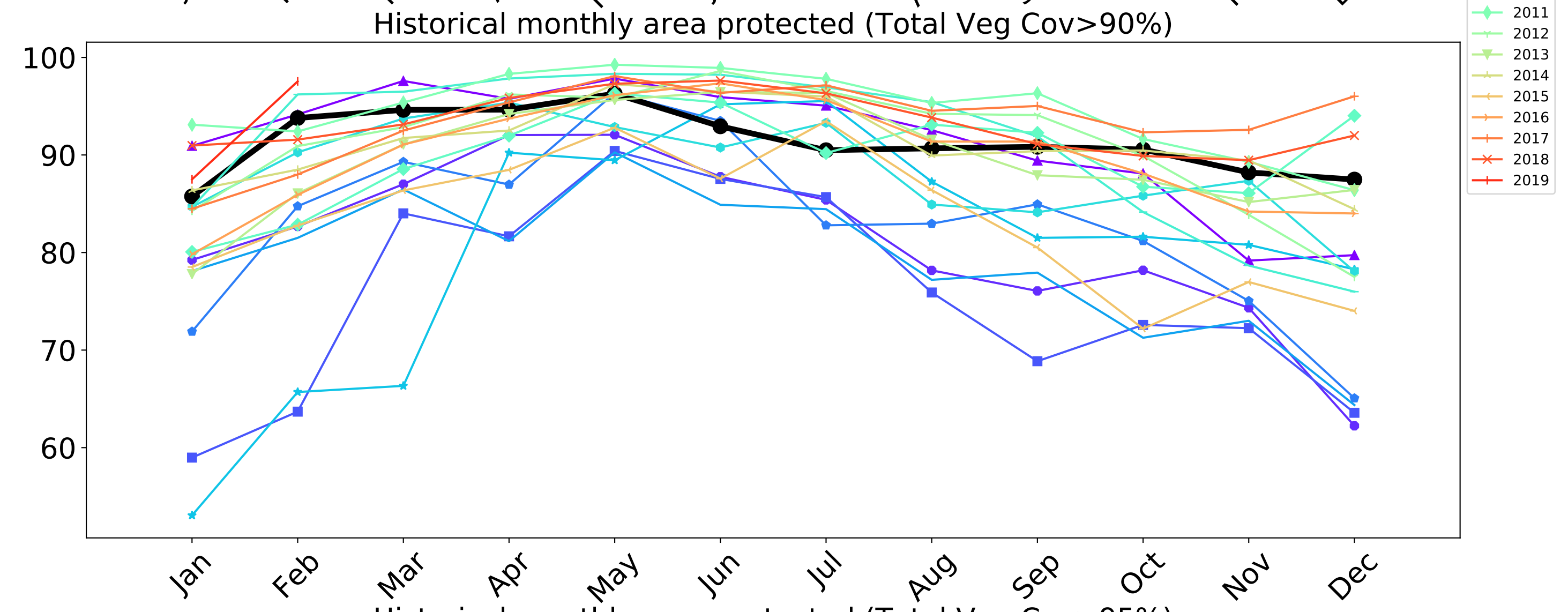
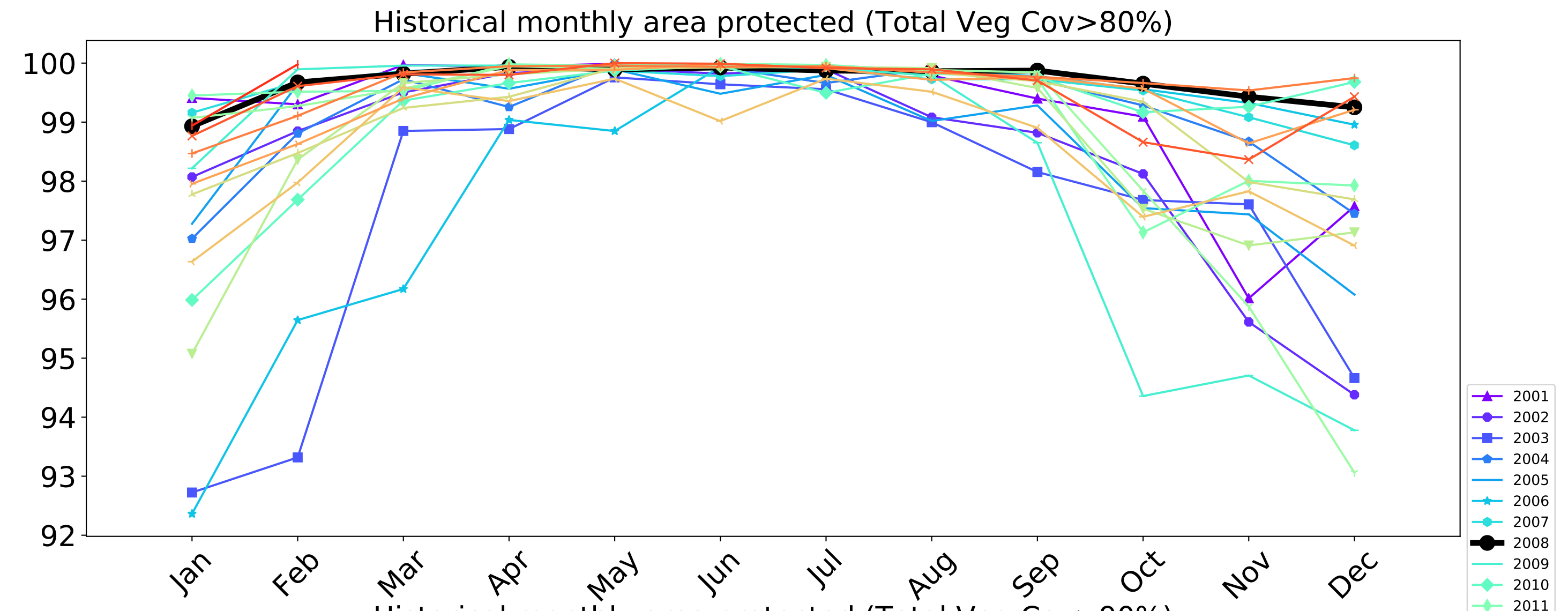
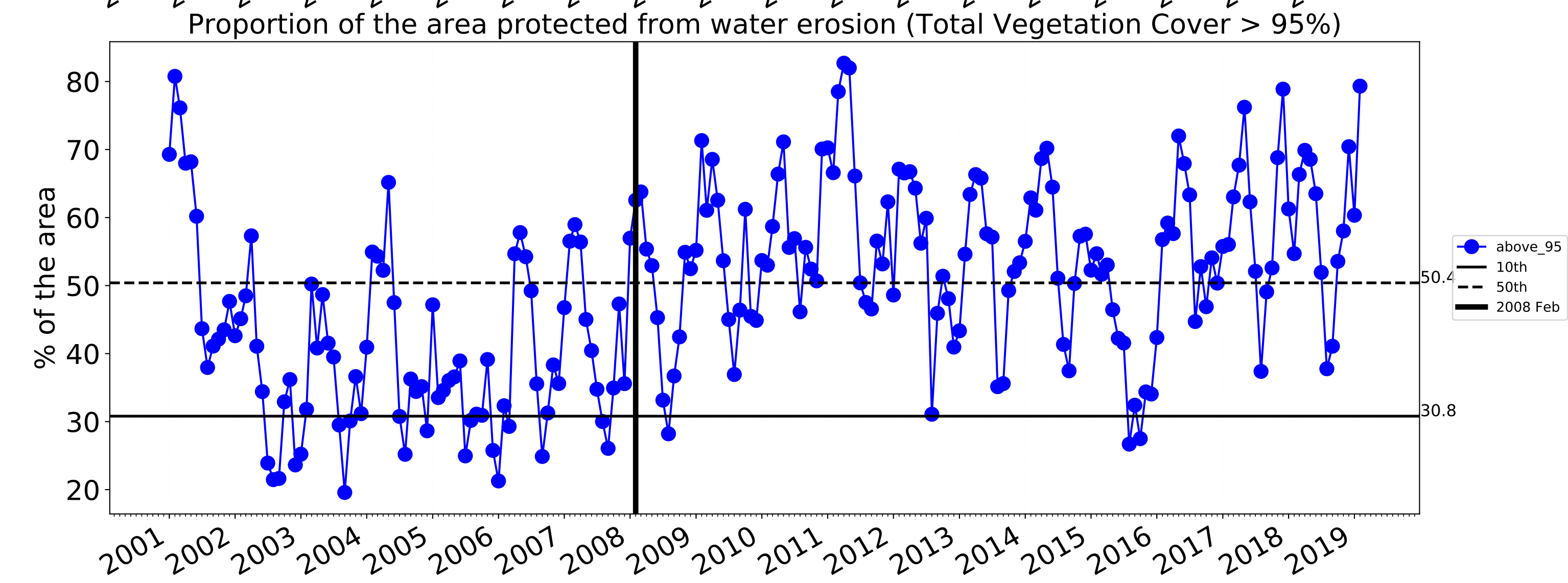
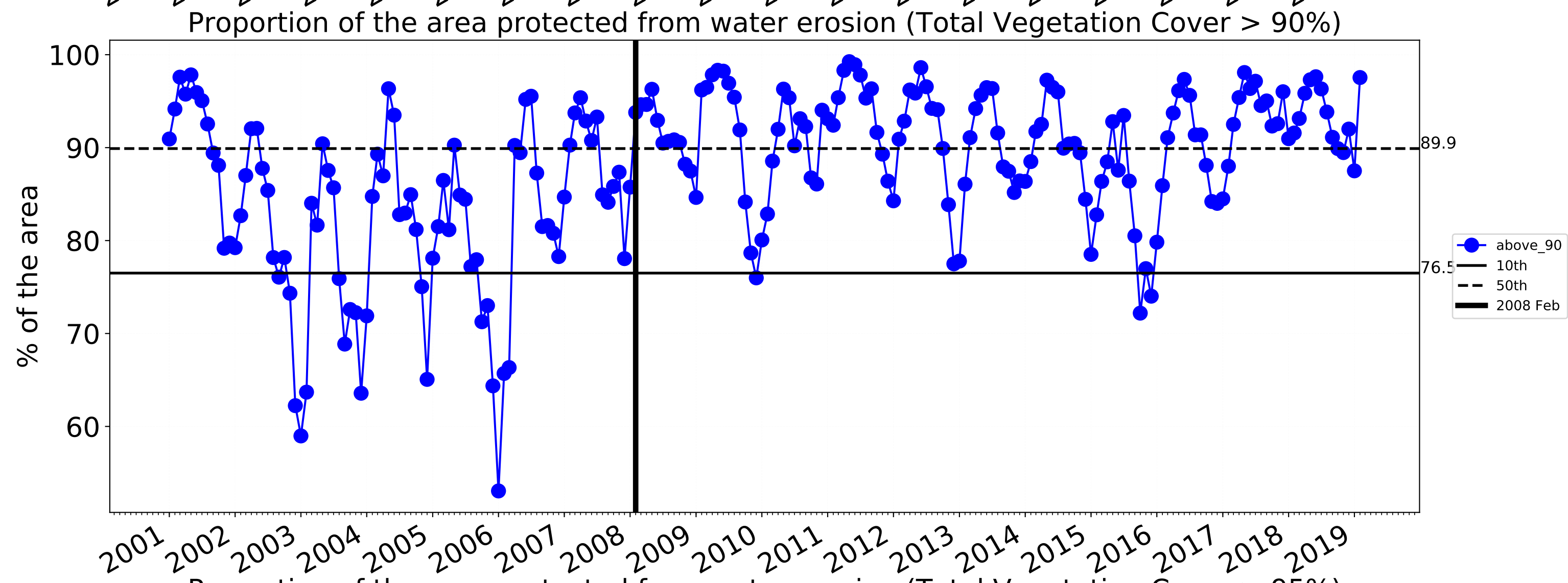
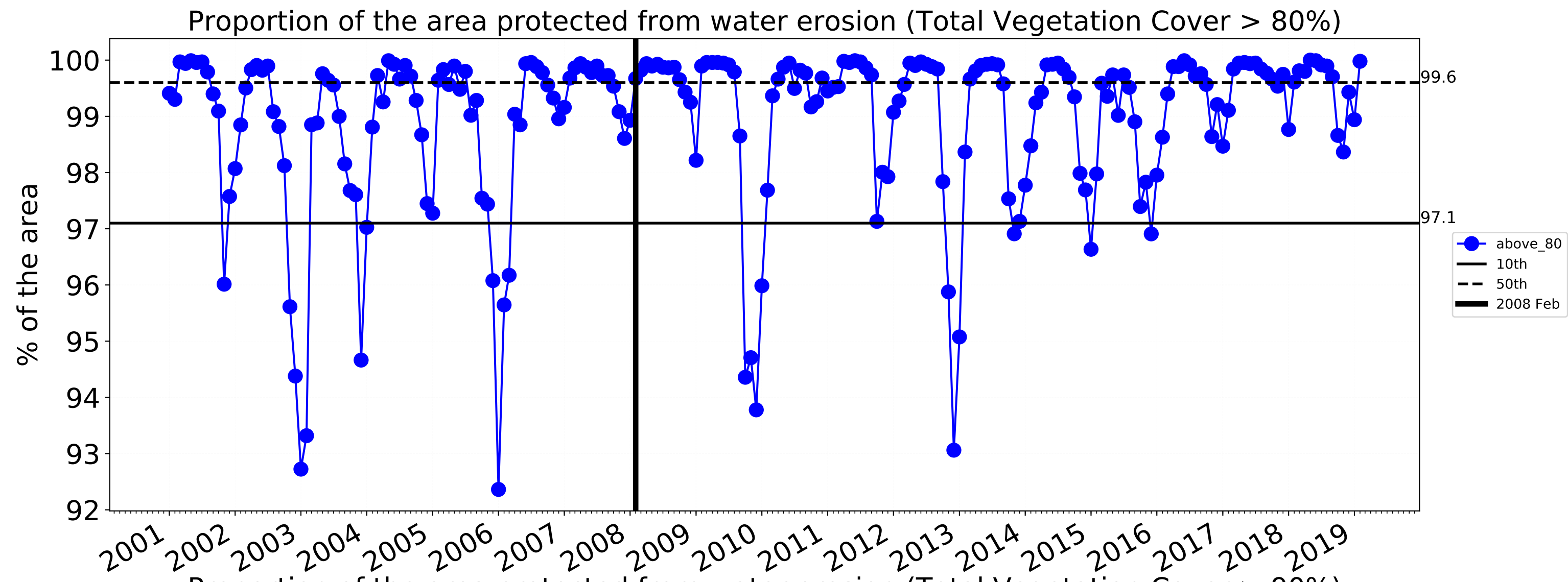
National
Landcare
Programme



Planning,
Industry &
Environment

Grazing - Forest (non woodland) timeseries





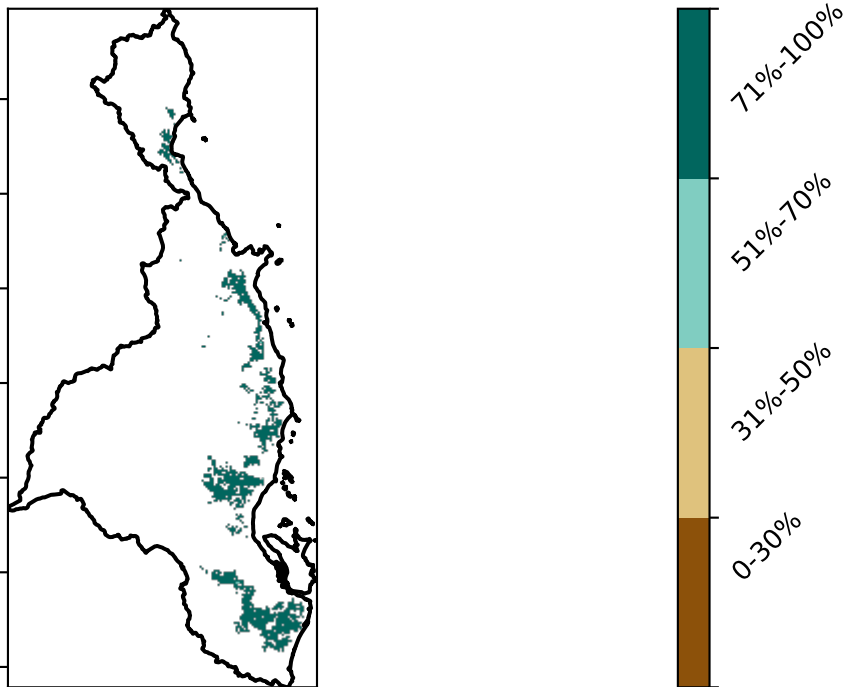
Cropping

Land use and forest cover

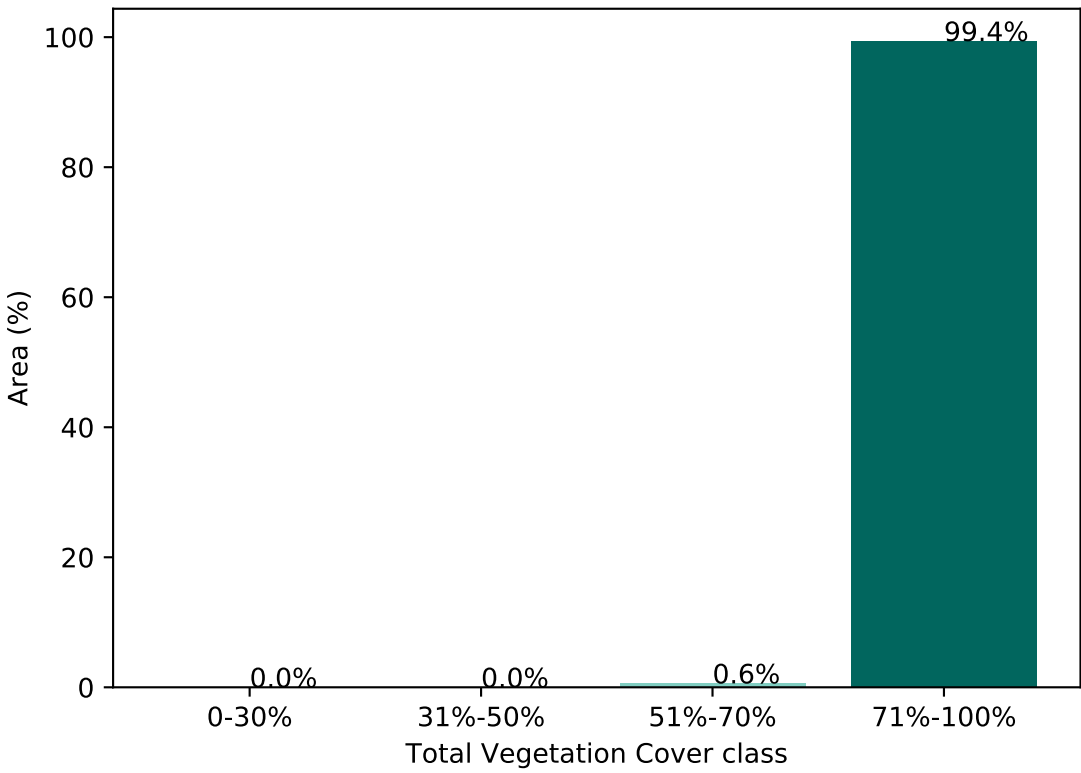


Catchment Scale
Land Use and Forests
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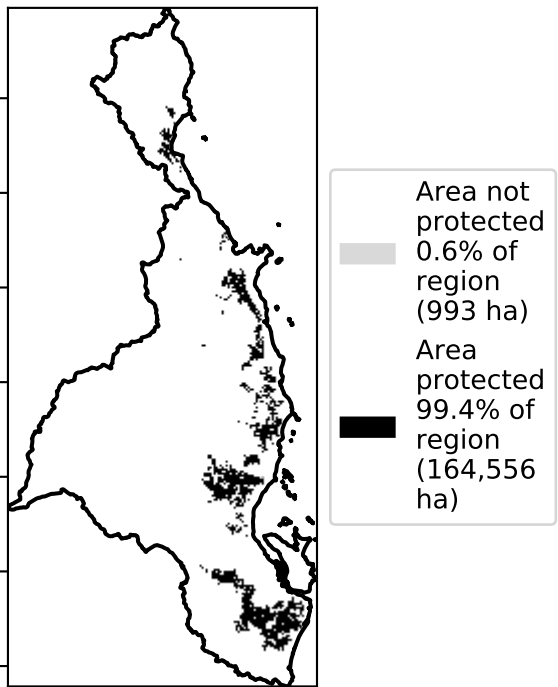
Total Vegetation Cover [%]



Proportion of vegetation cover class in area

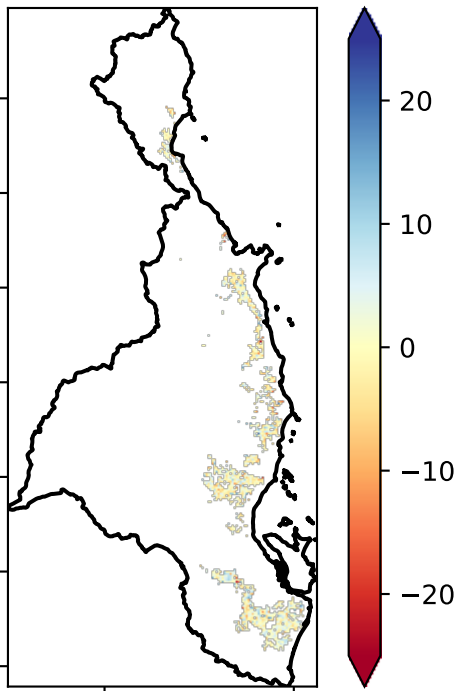


% Area protected from water erosion (>70%)

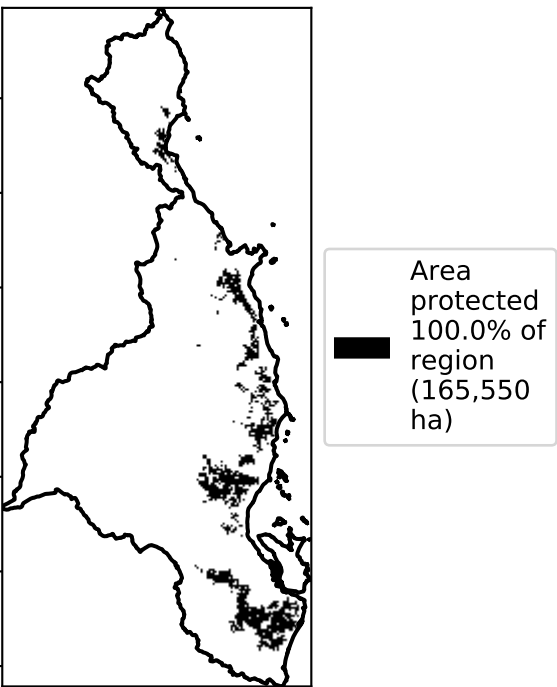


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Total Vegetation Cover Anomaly [%]

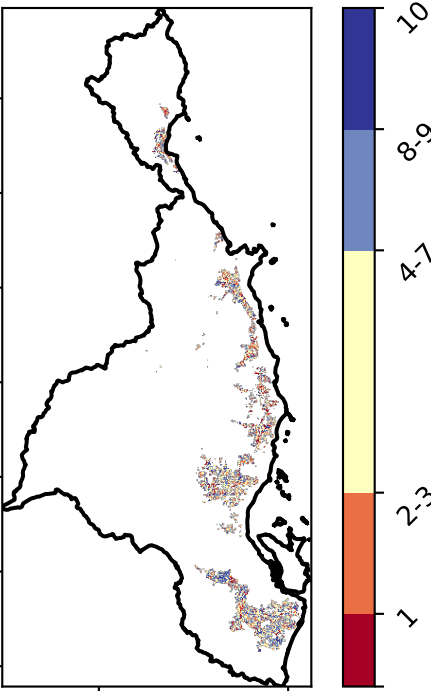


% Area protected from wind erosion (>50%)



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That is, red pixels are
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Total Vegetation Cover Decile [%]



TERN

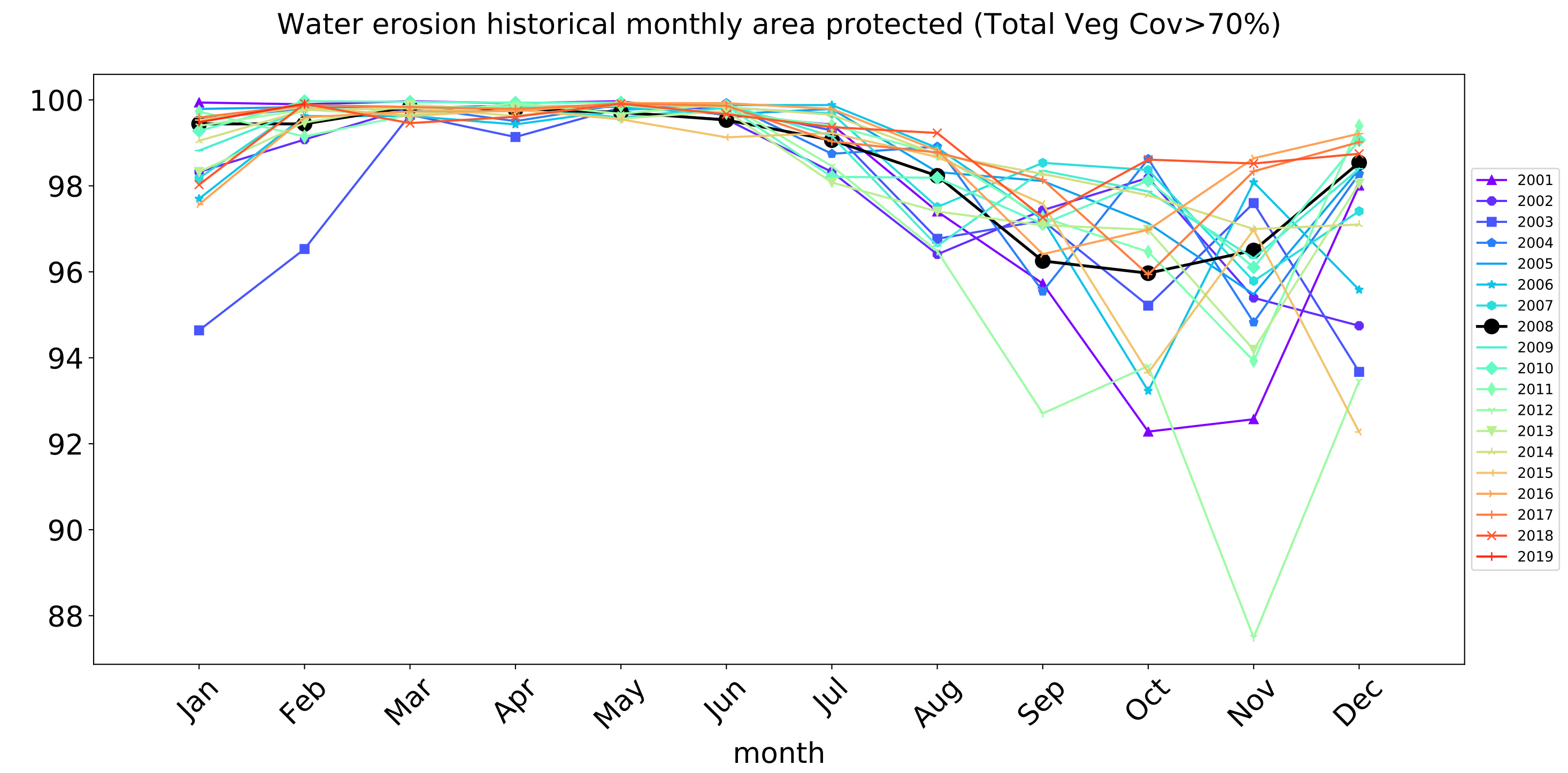
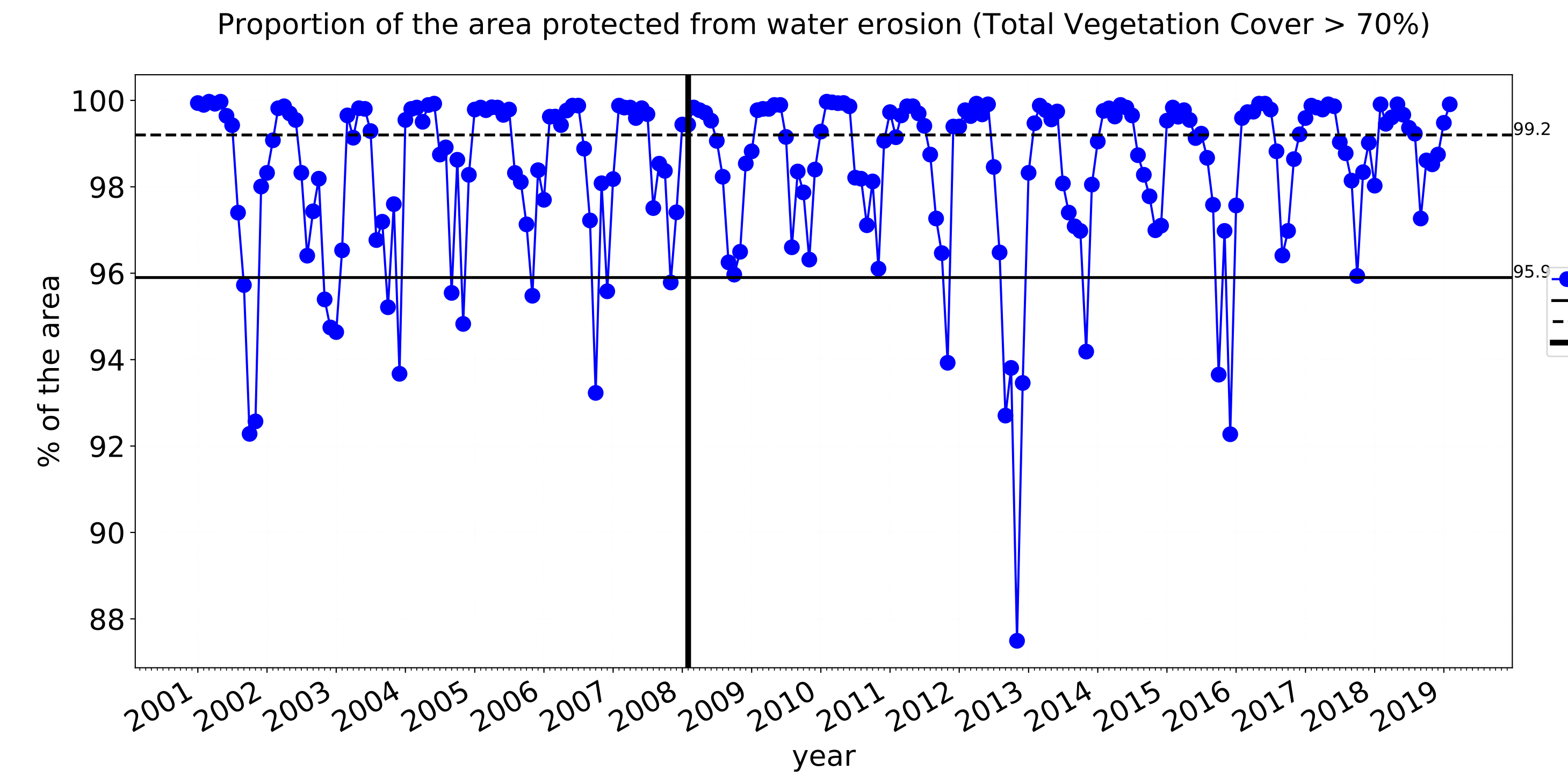
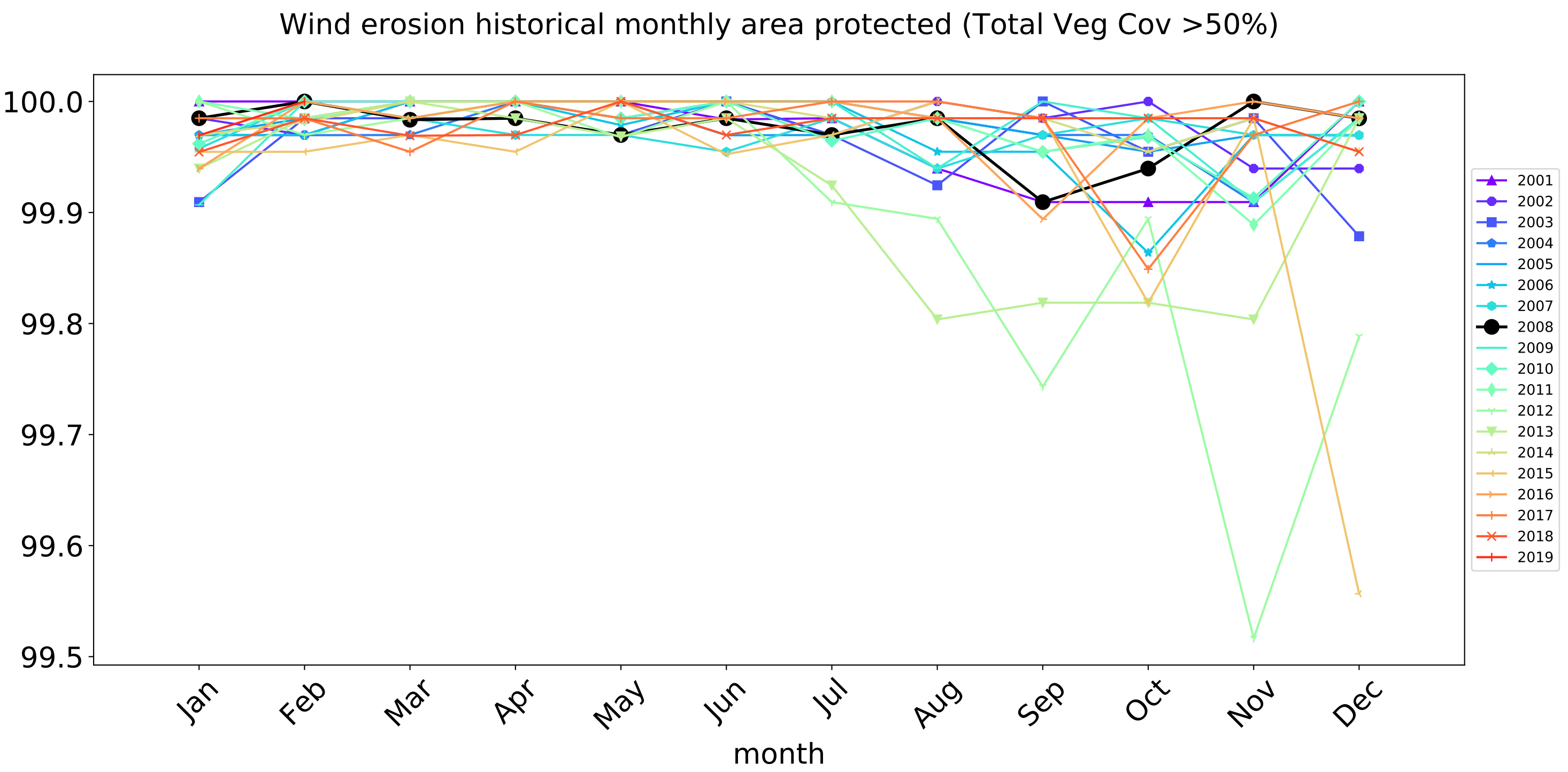
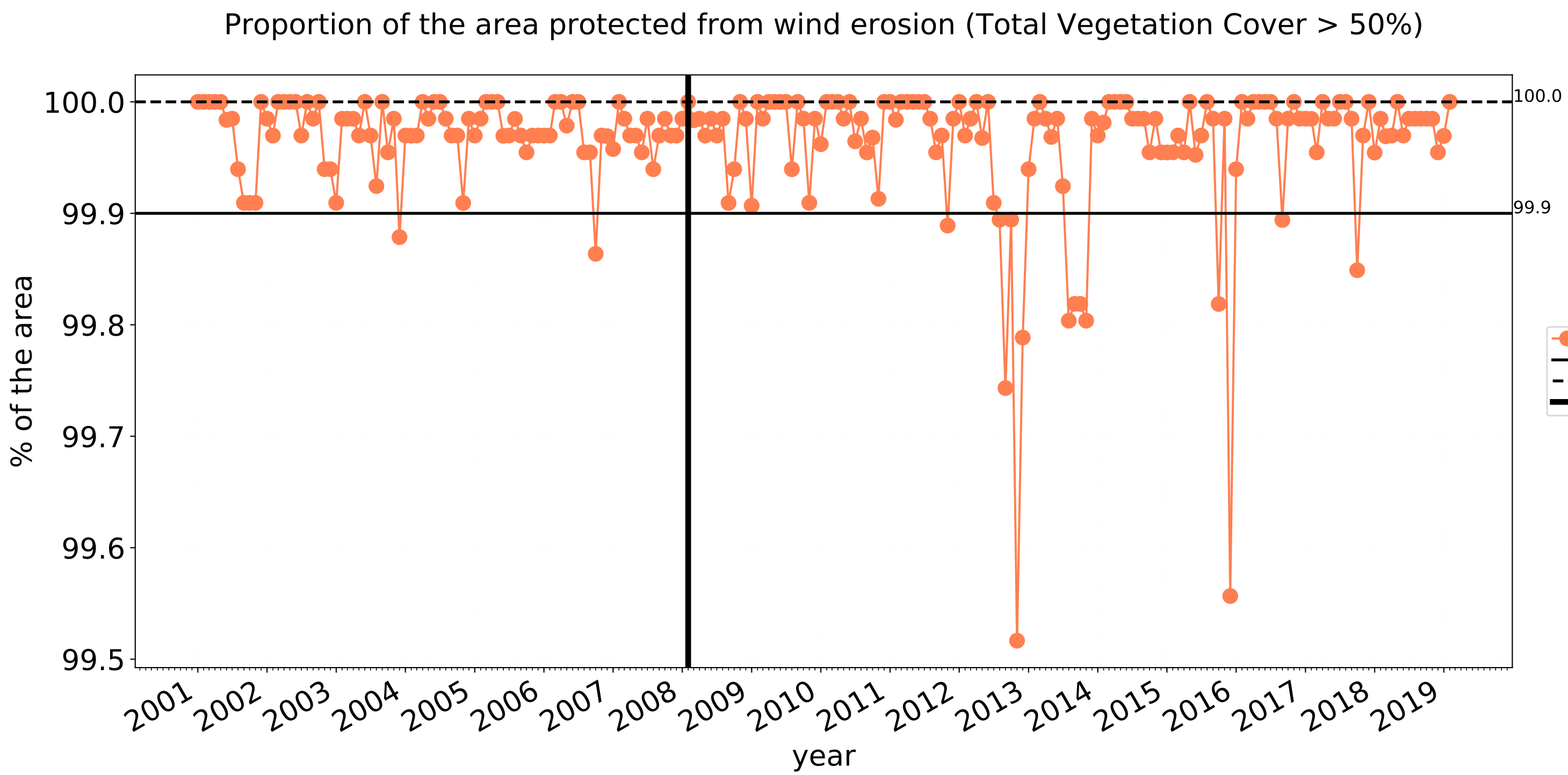


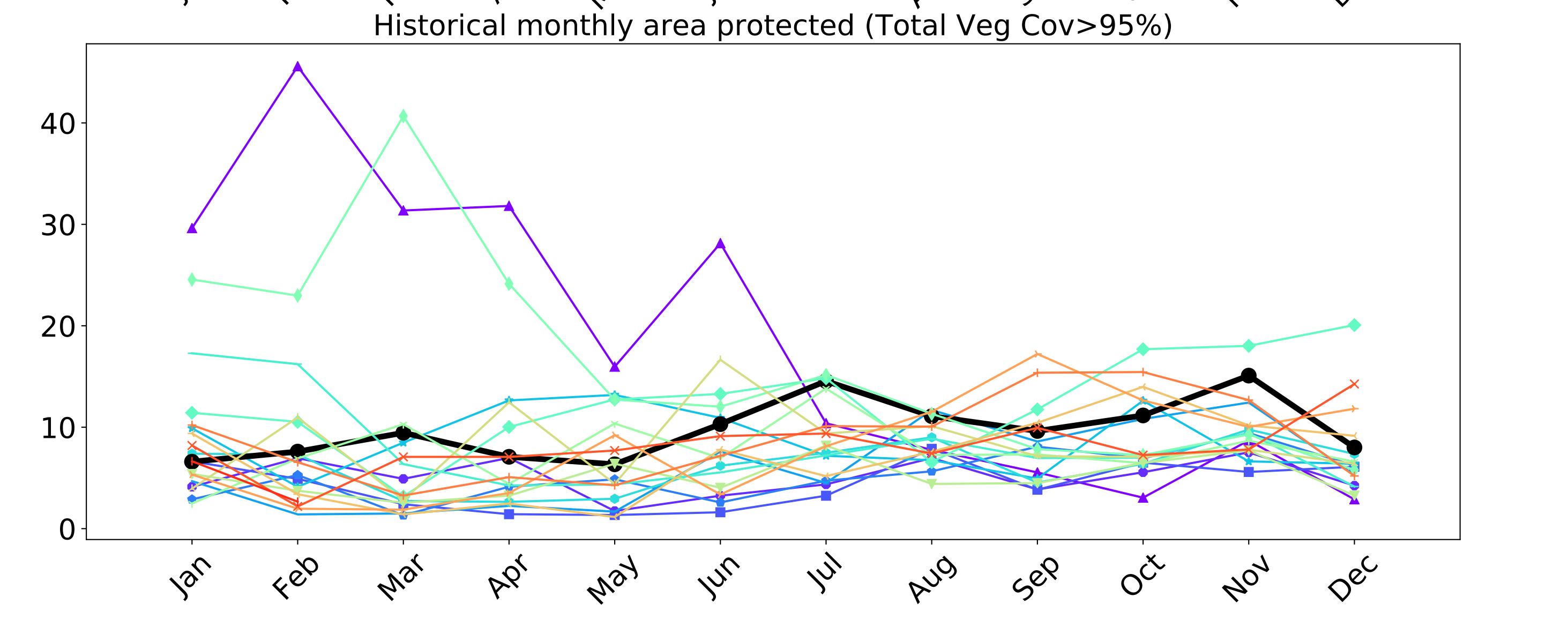
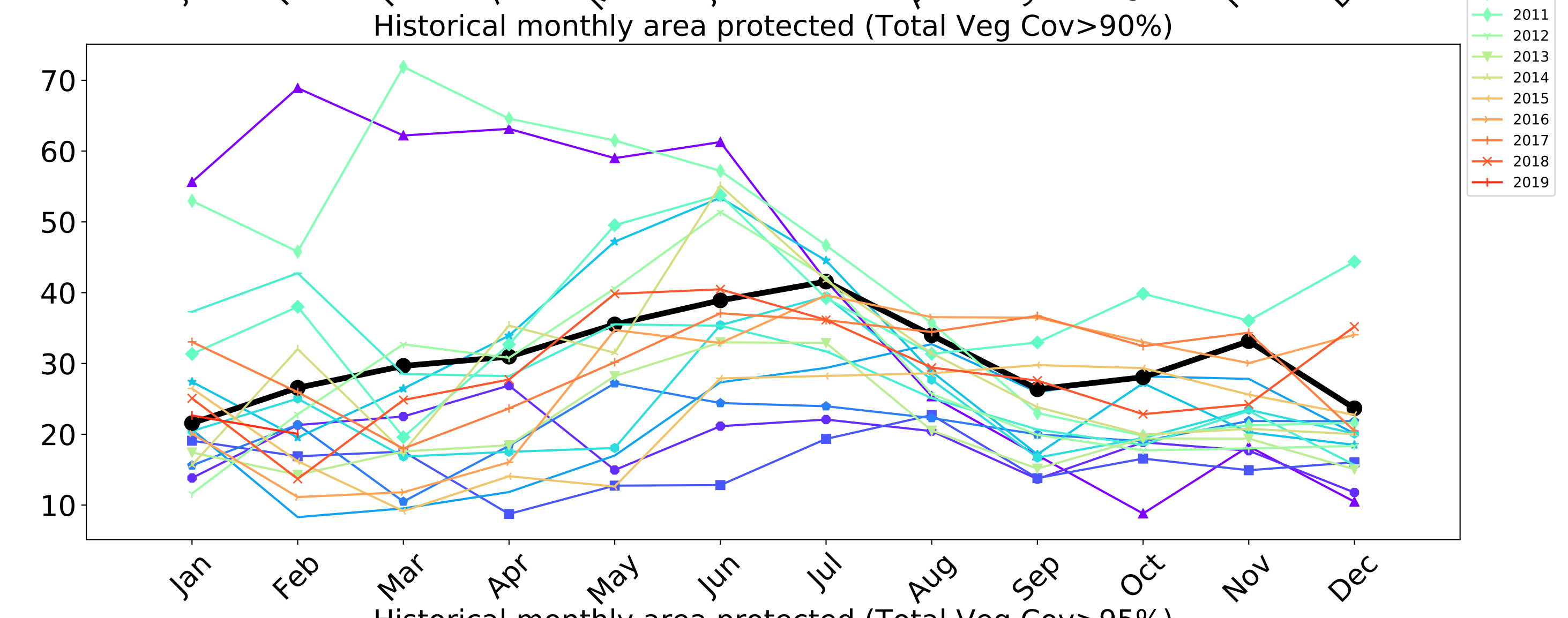
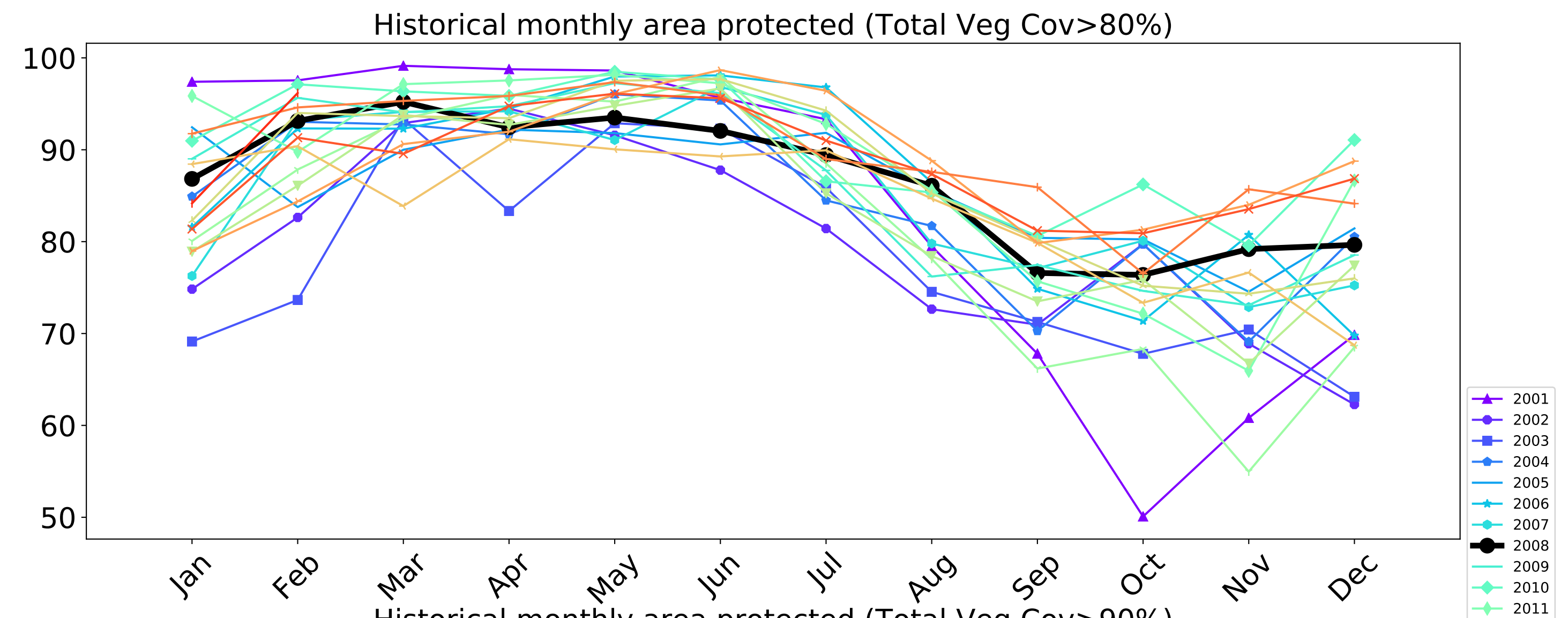
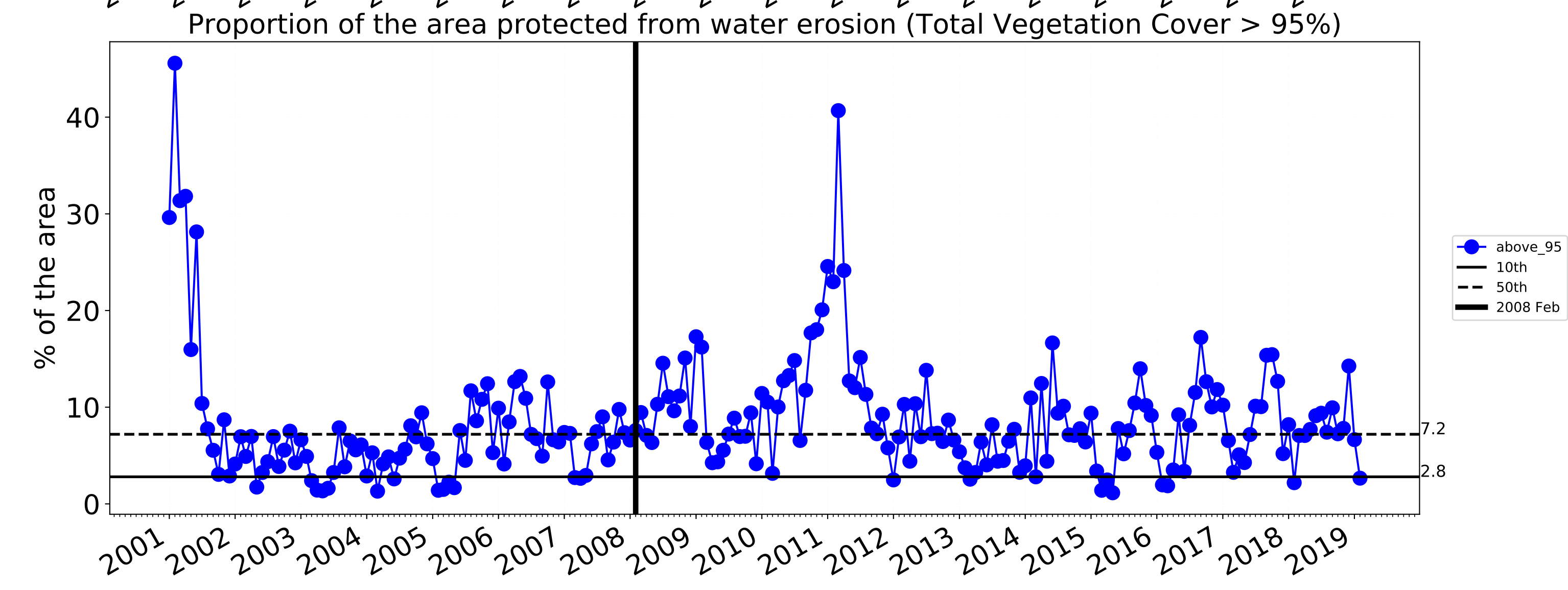
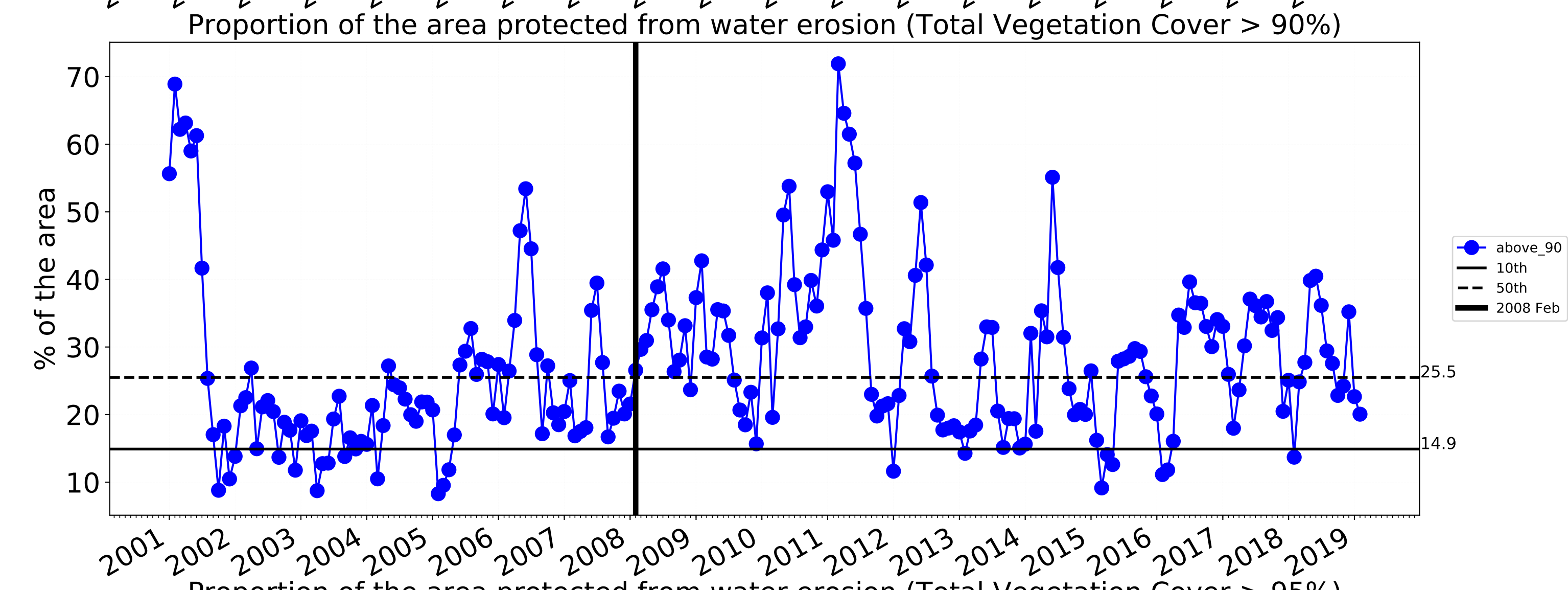
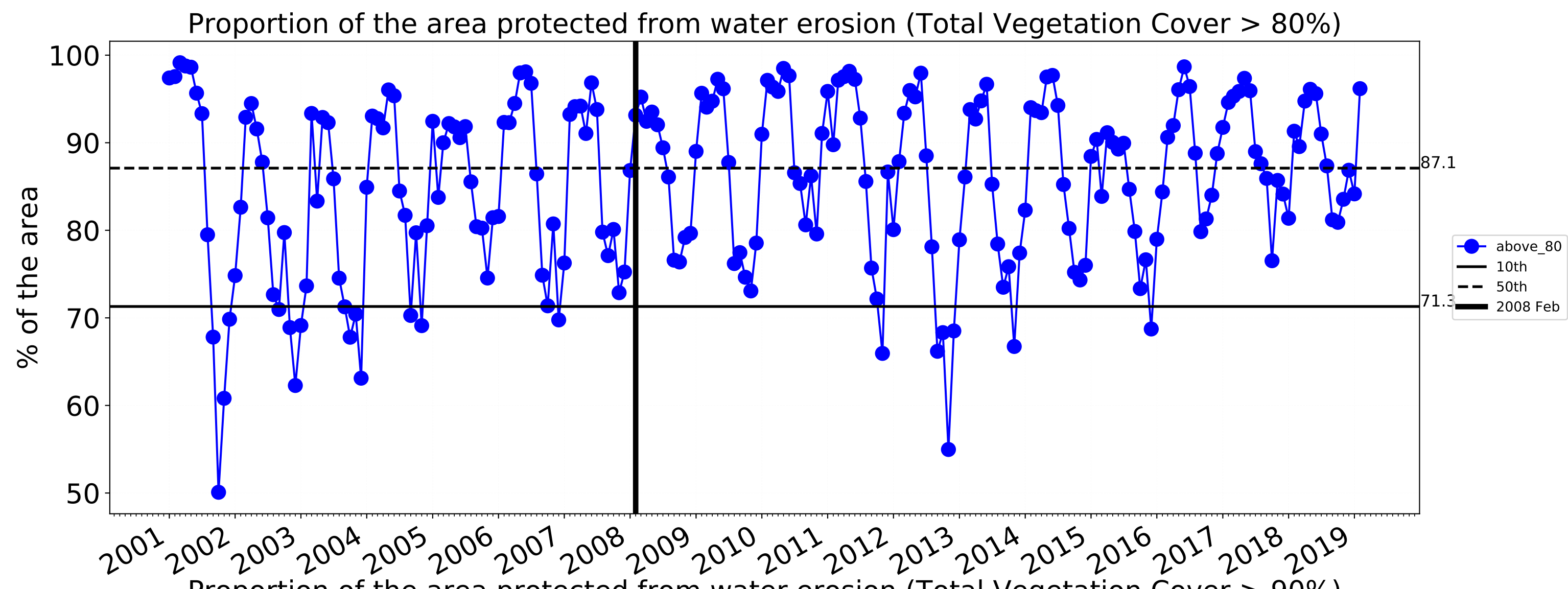
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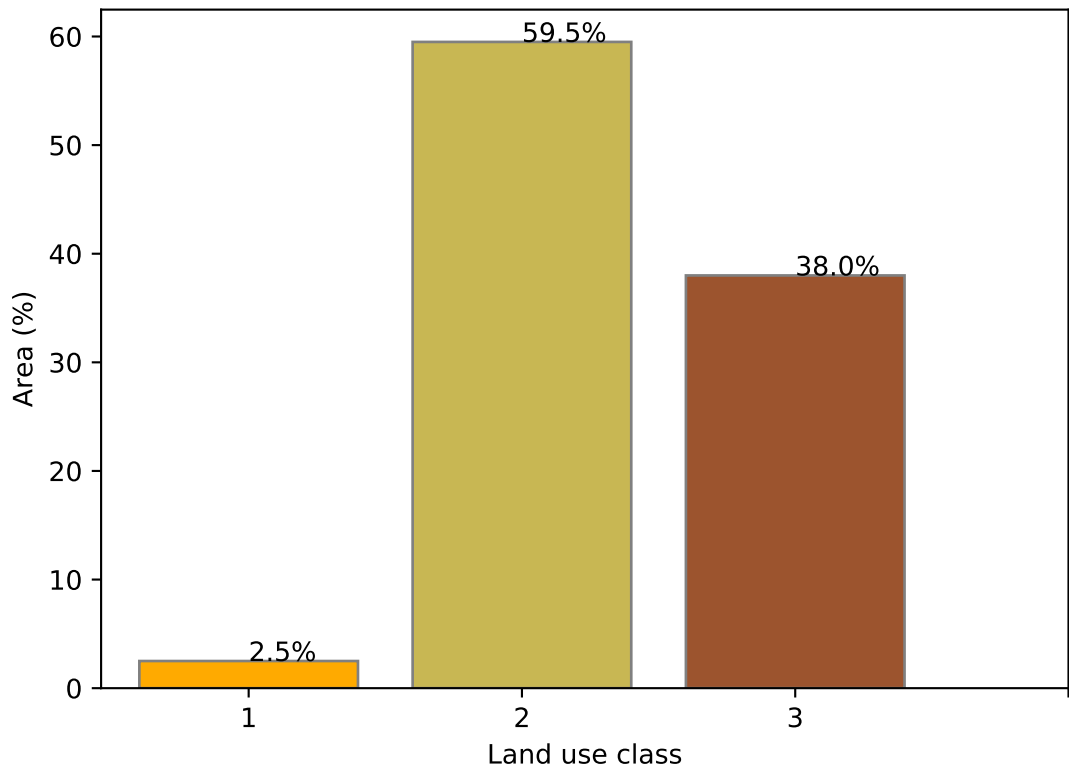


Irrigation

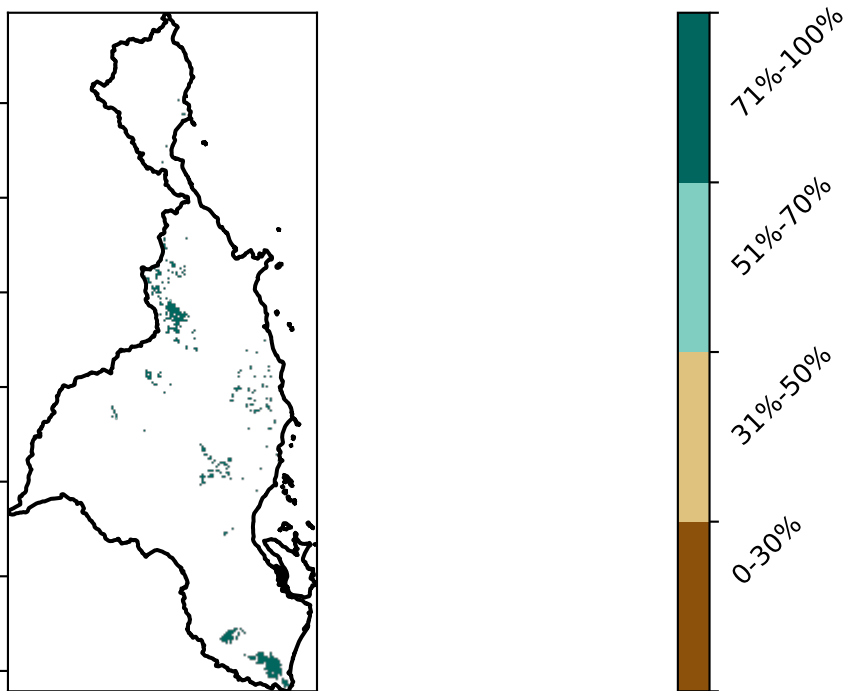
Land use and forest cover



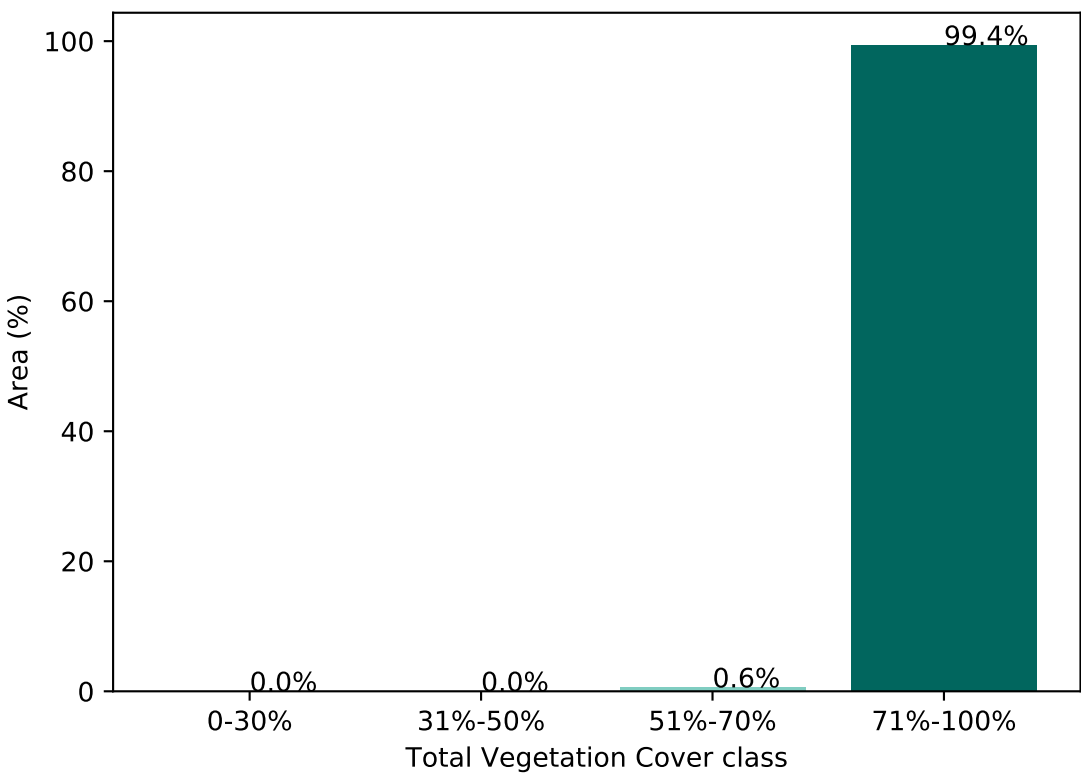
Proportion of each land class in area



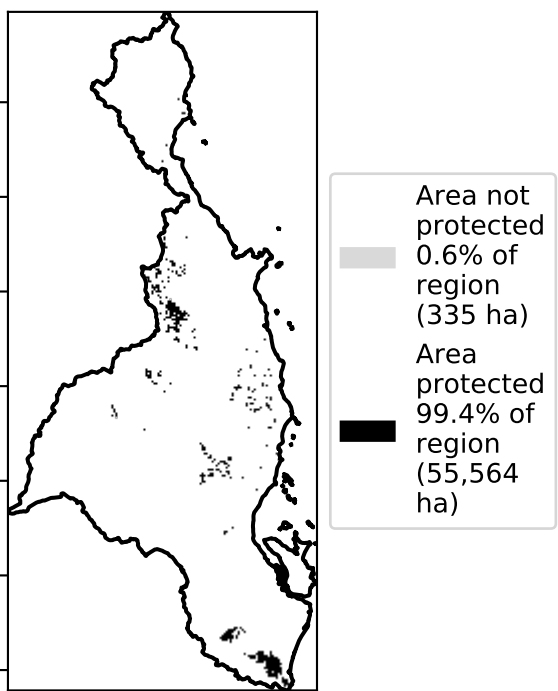
Total Vegetation Cover [%]



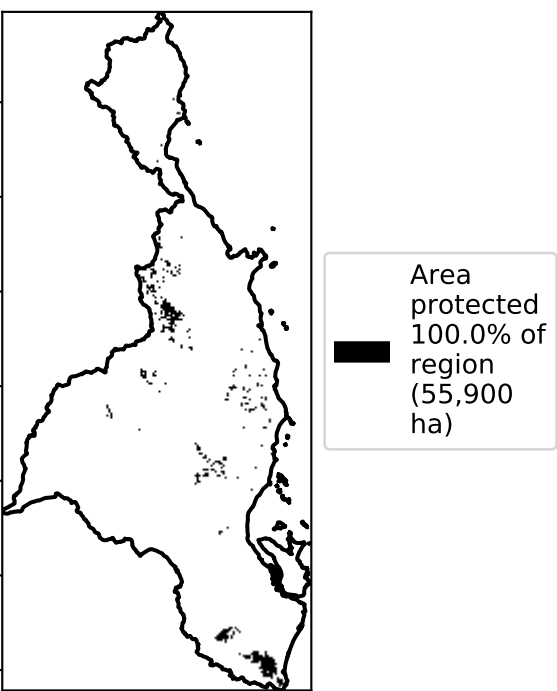
Proportion of vegetation cover class in area



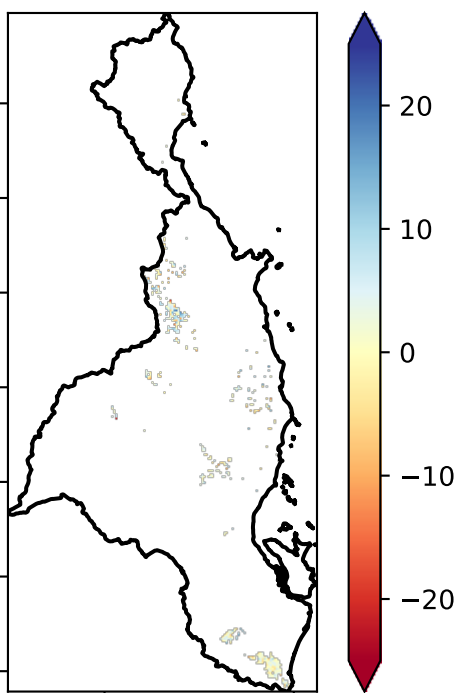
% Area protected from water erosion (>70%)



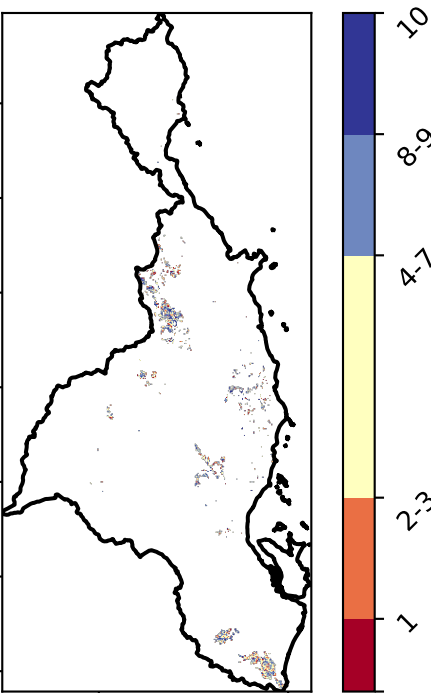
% Area protected from wind erosion (>50%)



Total Vegetation Cover Anomaly [%]



Total Vegetation Cover Decile [%]



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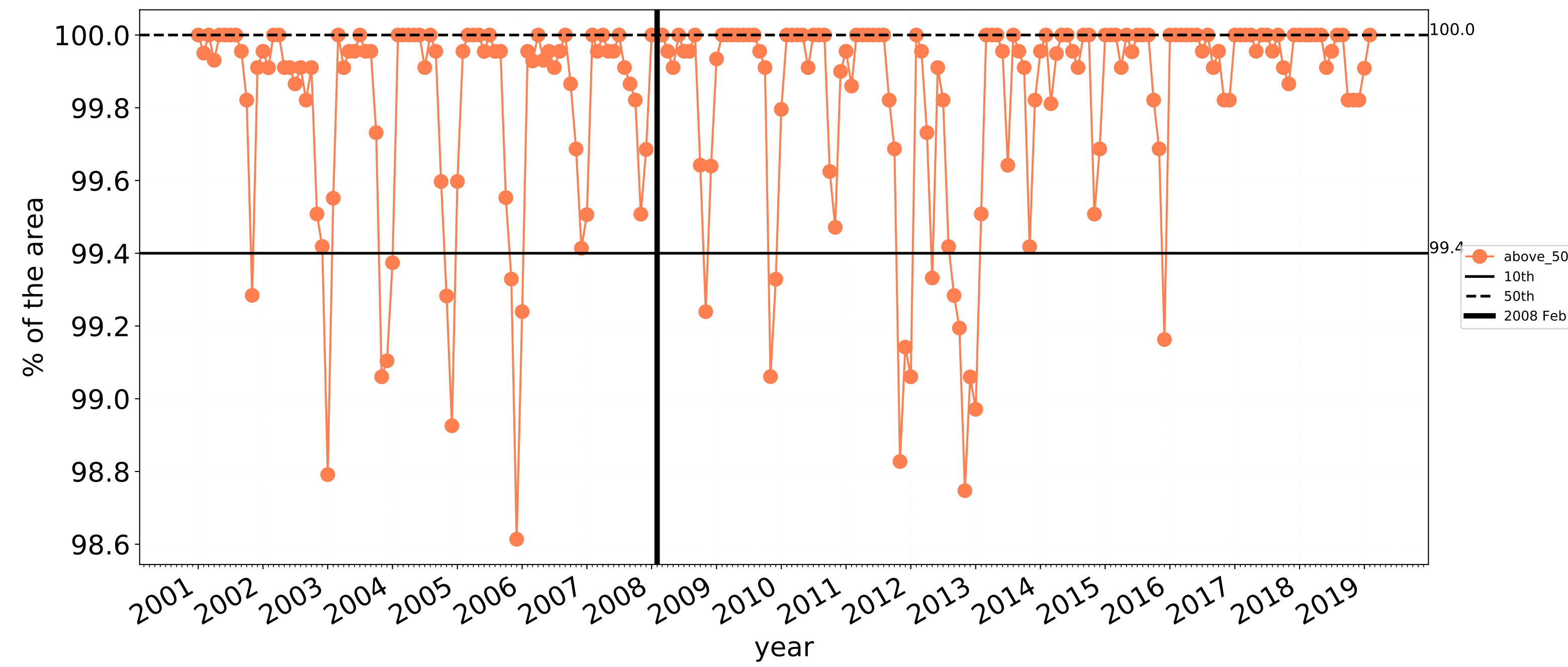
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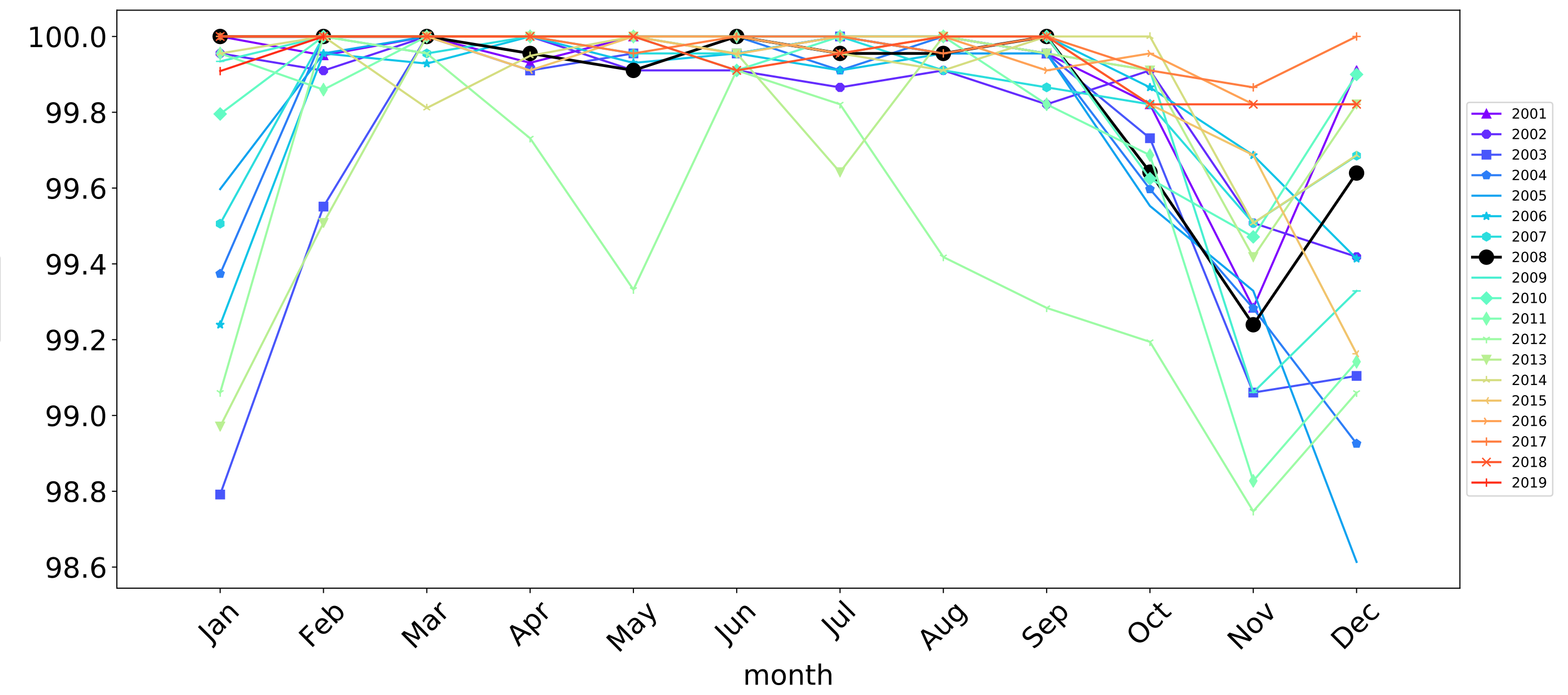
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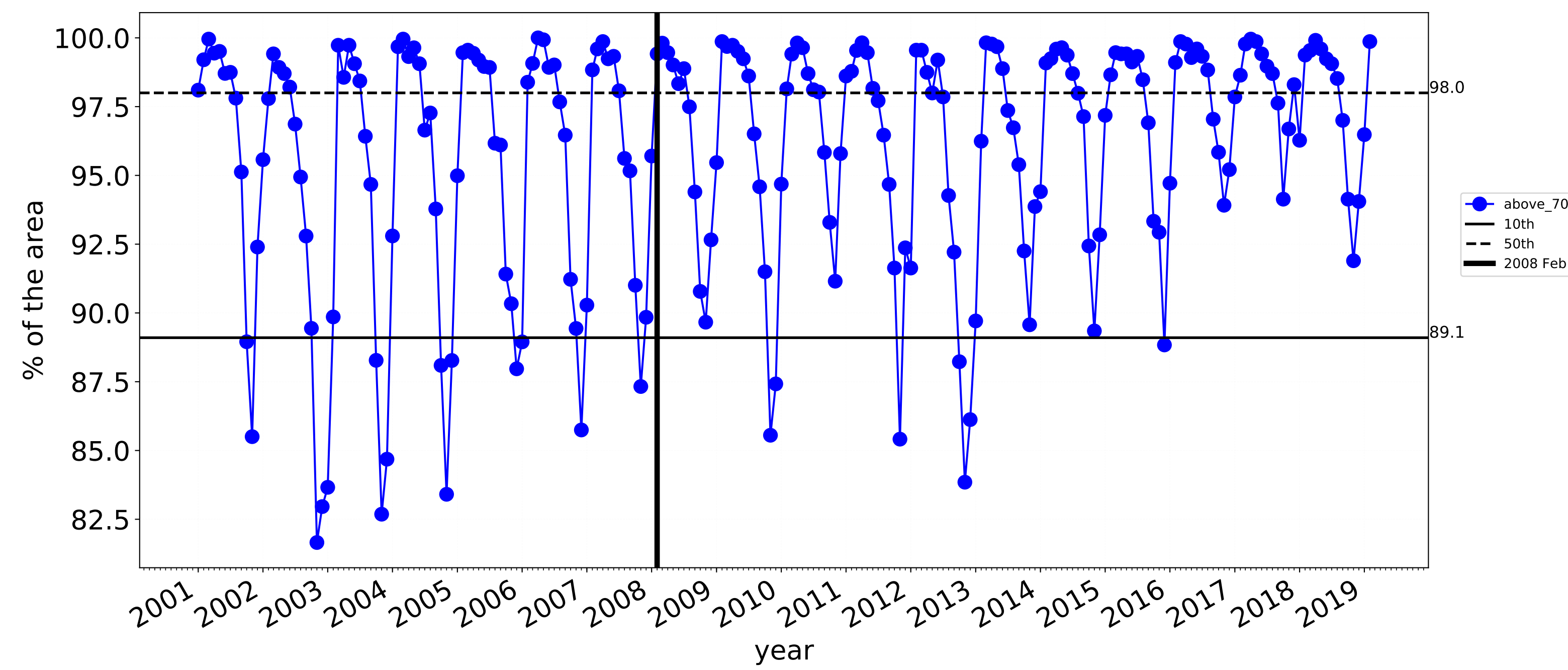
Proportion of the area protected from wind erosion (Total Vegetation Cover > 50%)



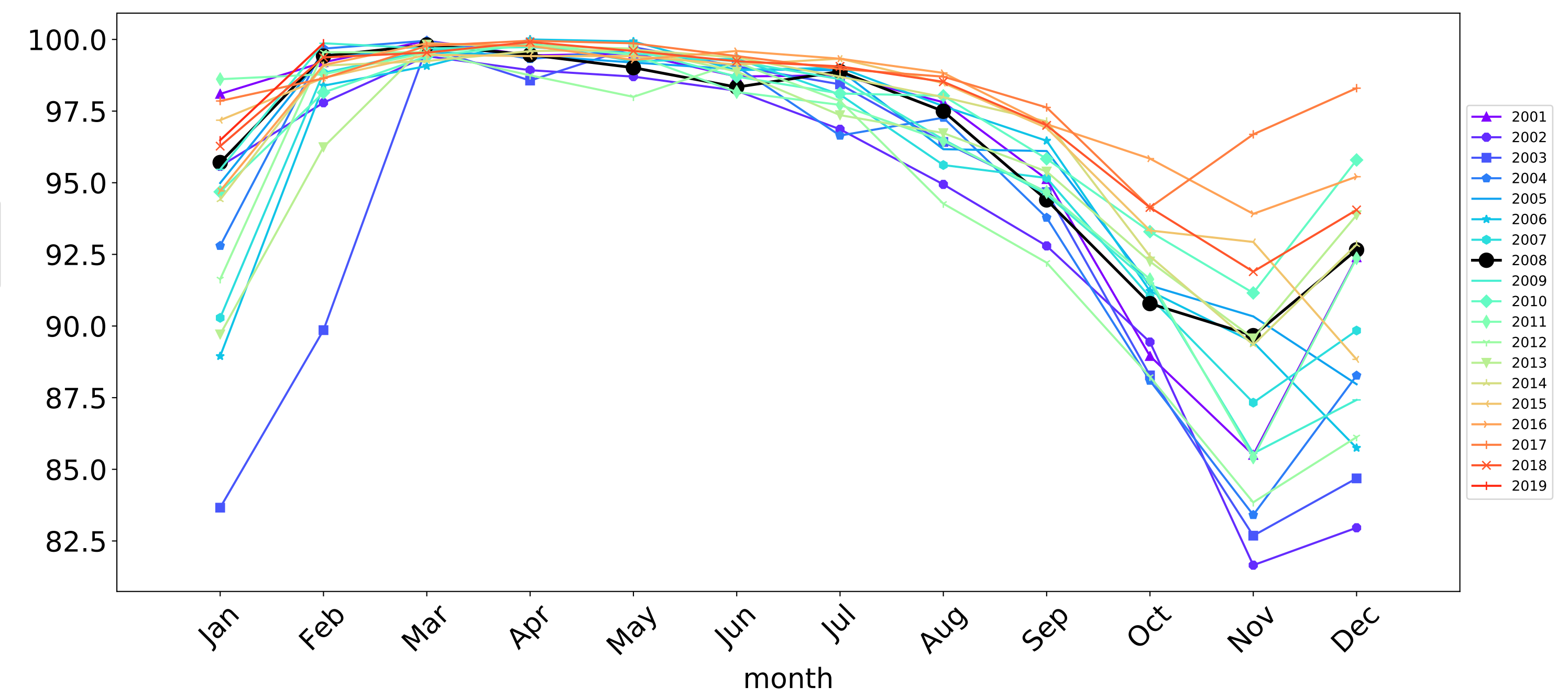
Wind erosion historical monthly area protected (Total Veg Cov >50%)

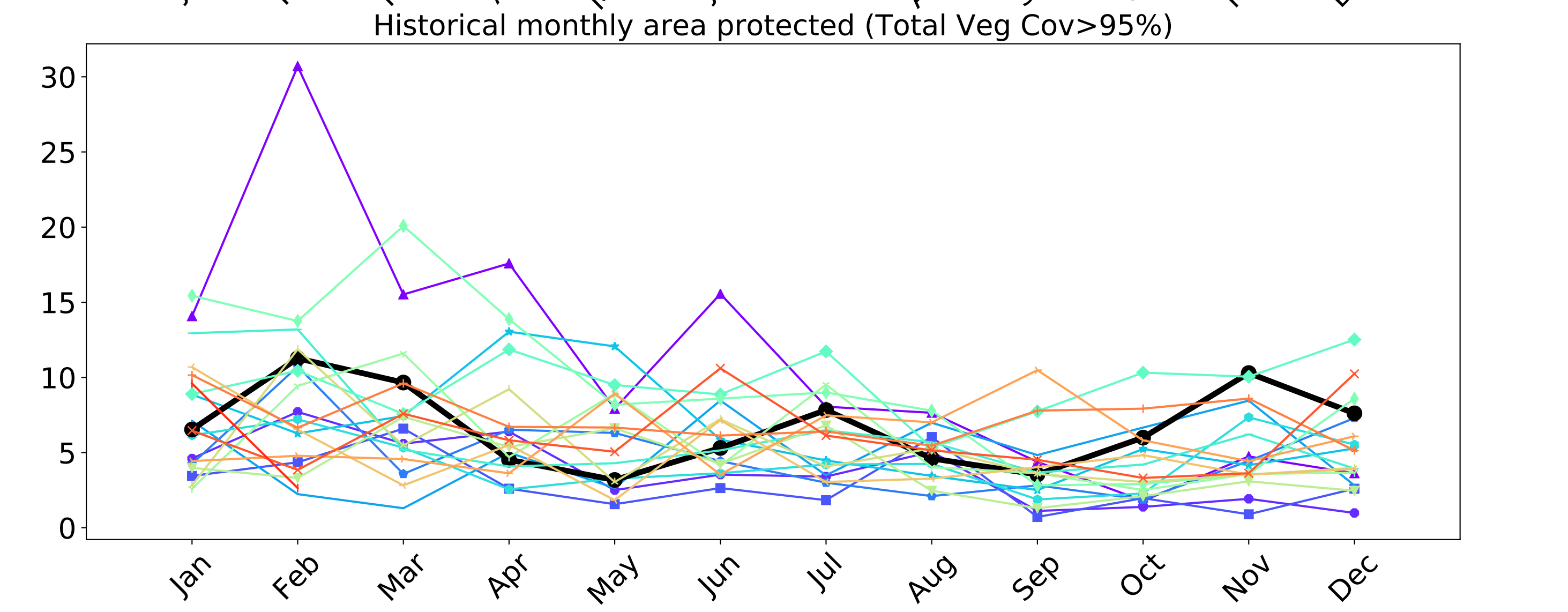
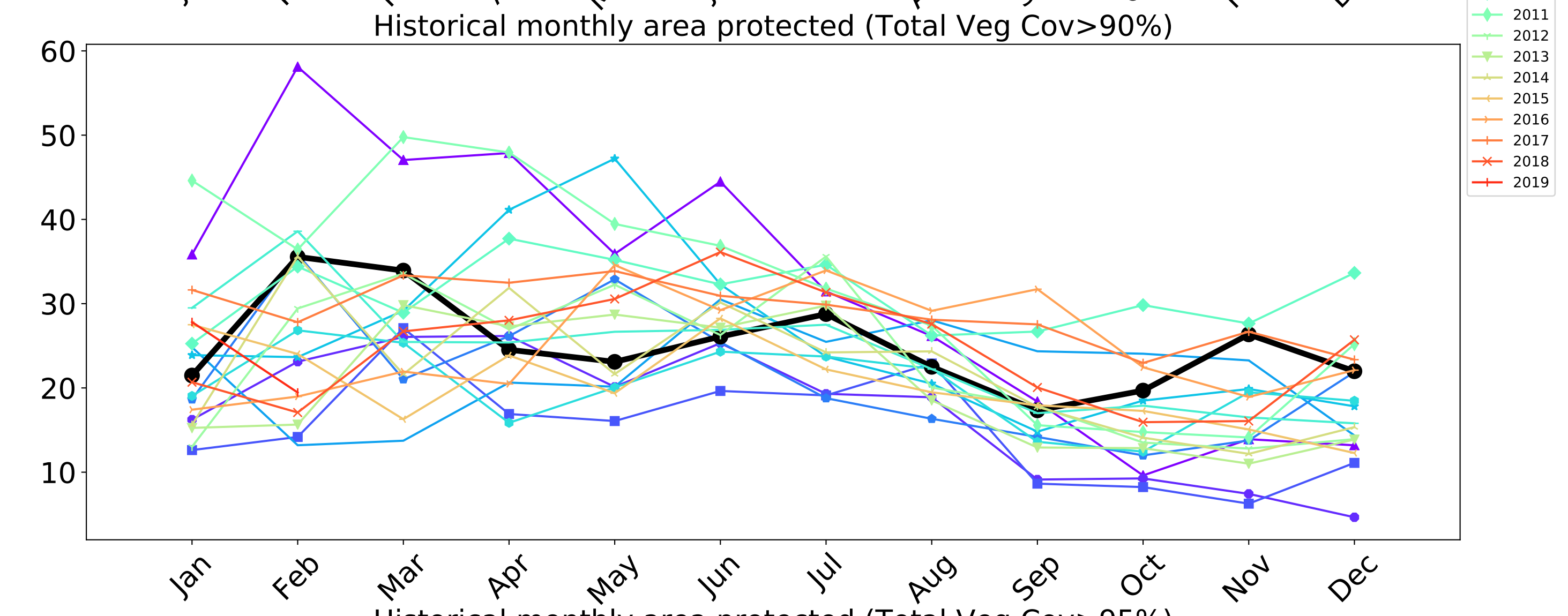
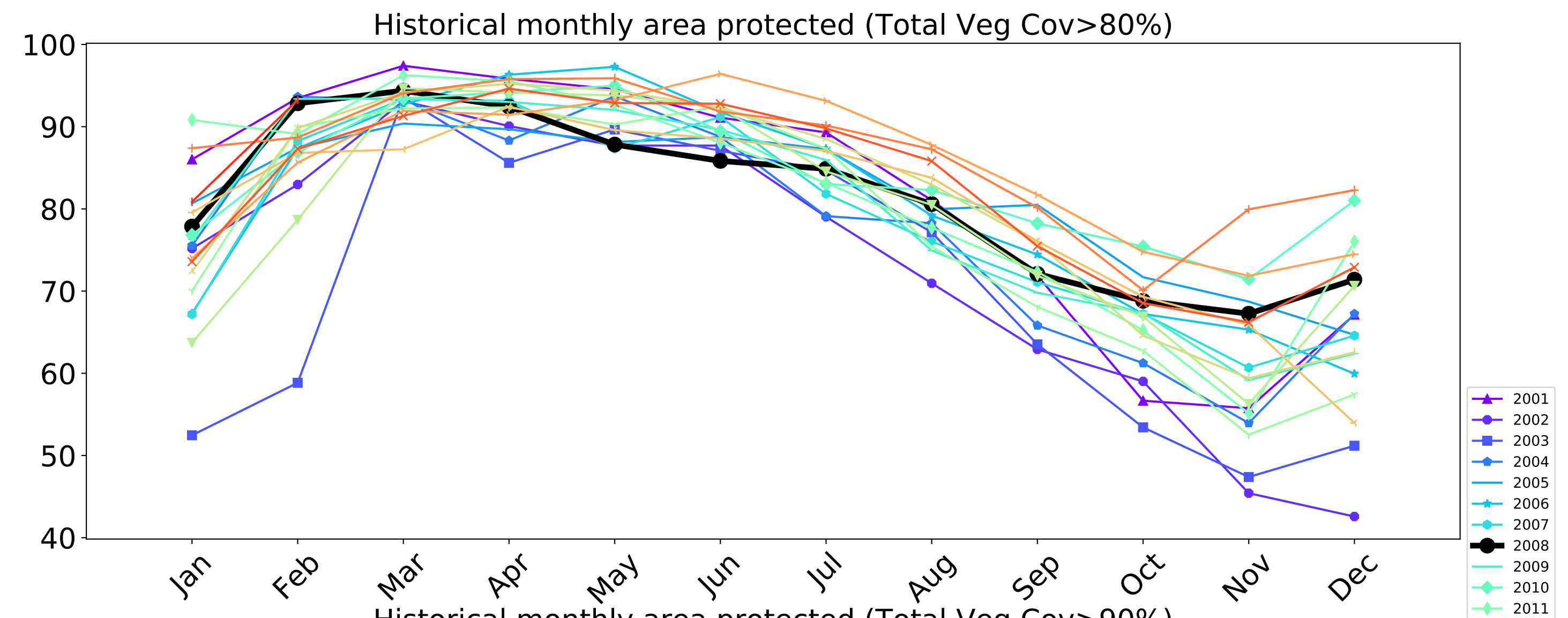
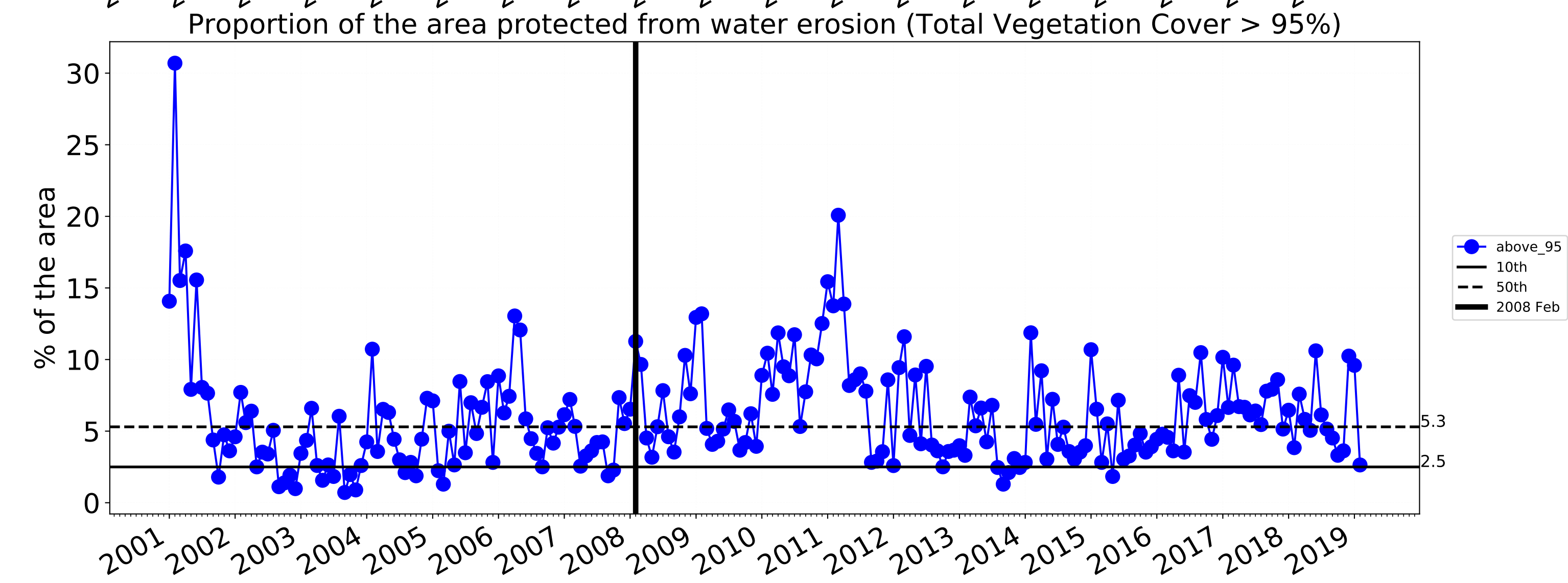
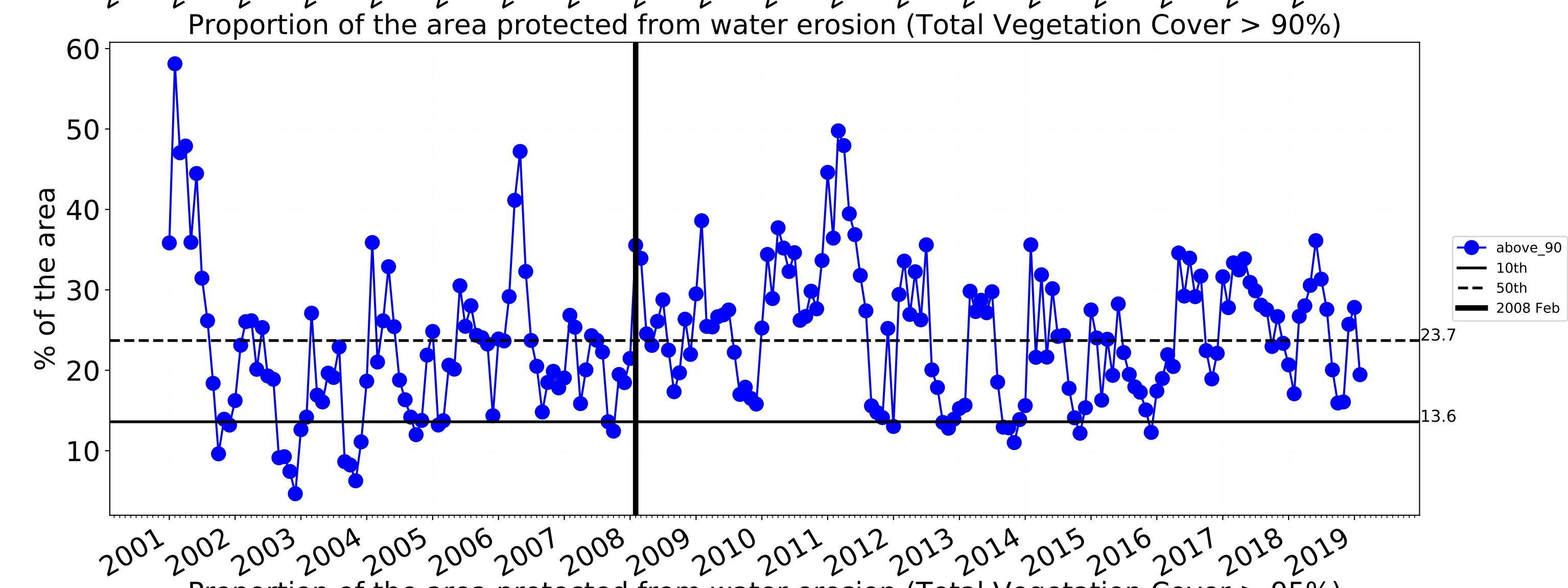
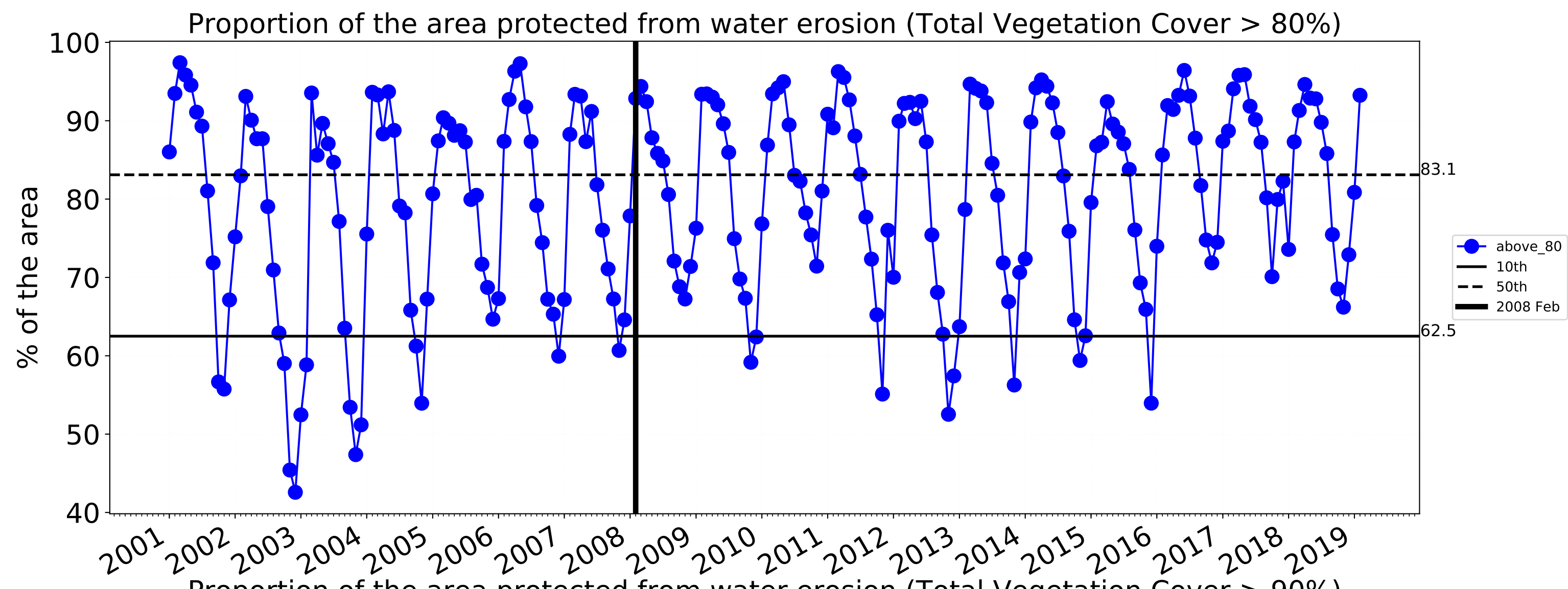


Proportion of the area protected from water erosion (Total Vegetation Cover > 70%)



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



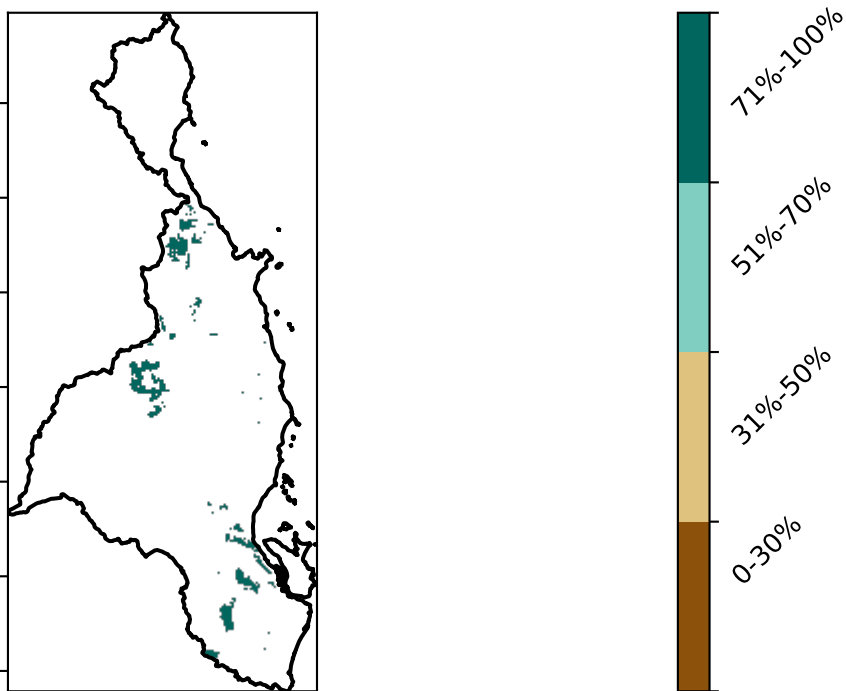


Production native forests and plantation forests

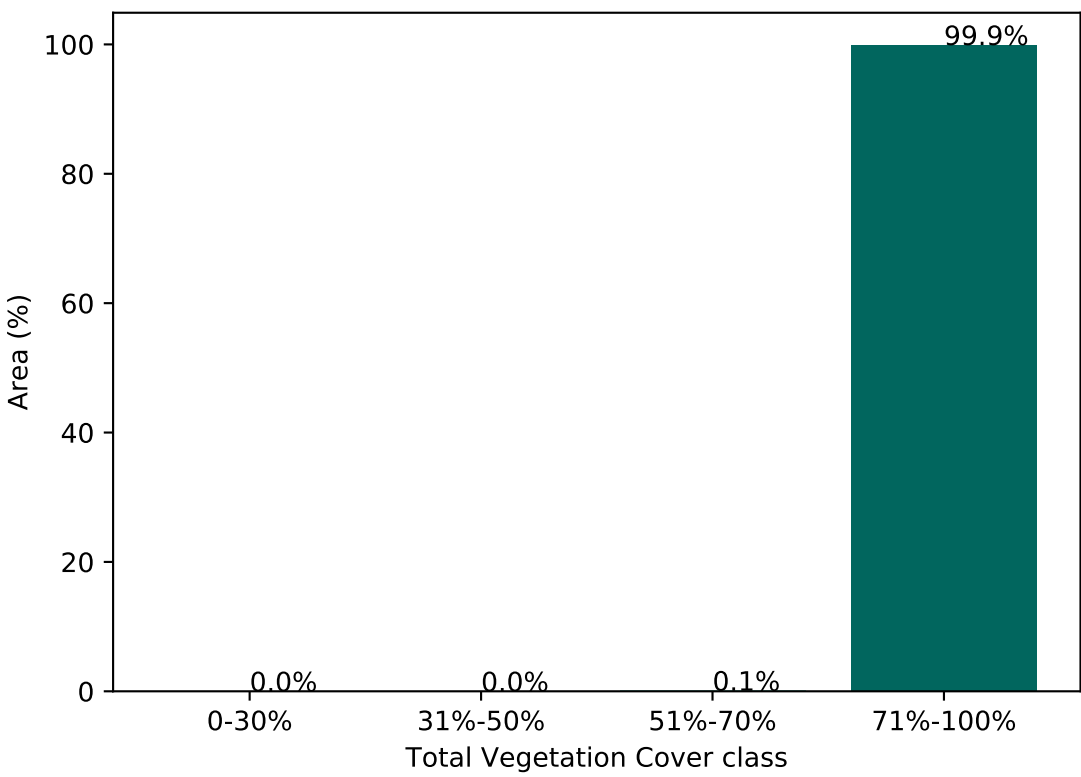
Land use and forest cover



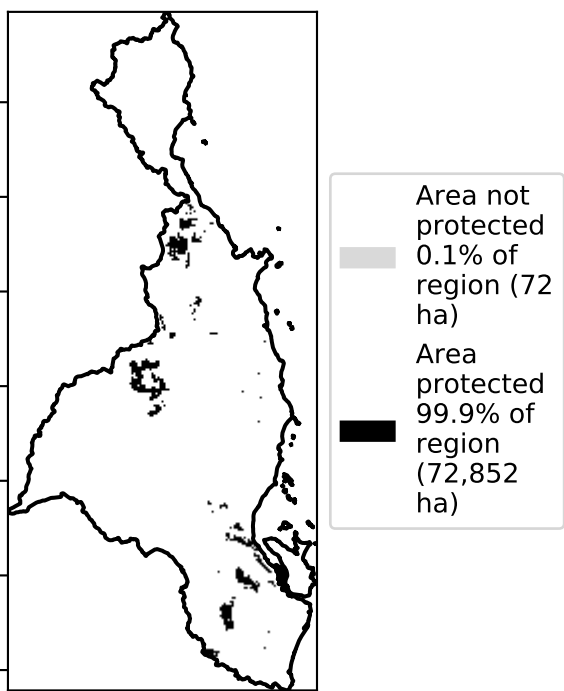
Total Vegetation Cover [%]



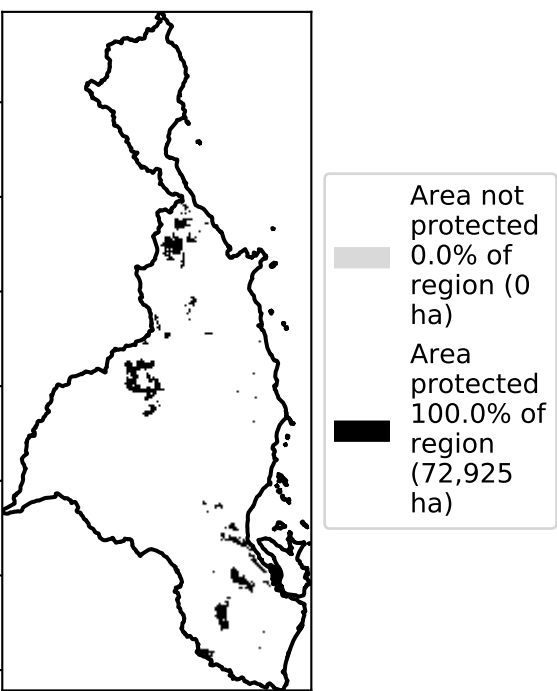
Proportion of vegetation cover class in area



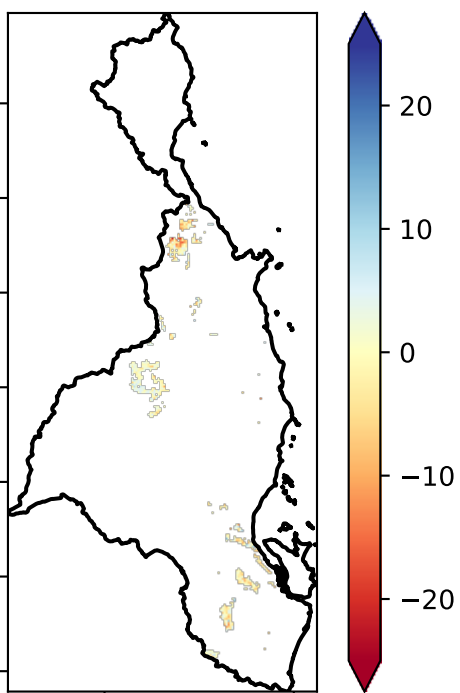
% Area protected from water erosion (>70%)



% Area protected from wind erosion (>50%)

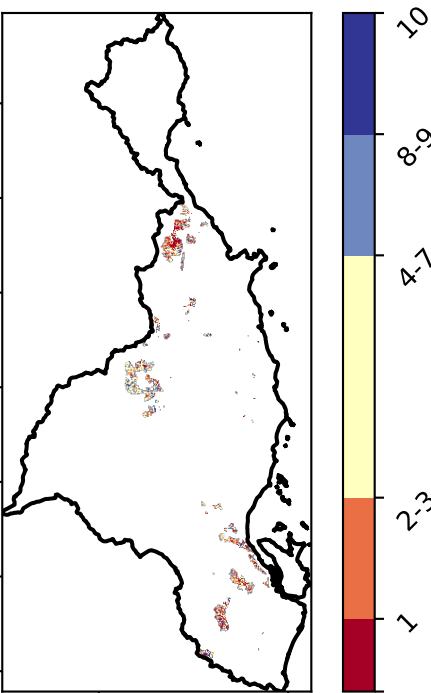


Total Vegetation Cover Anomaly [%]



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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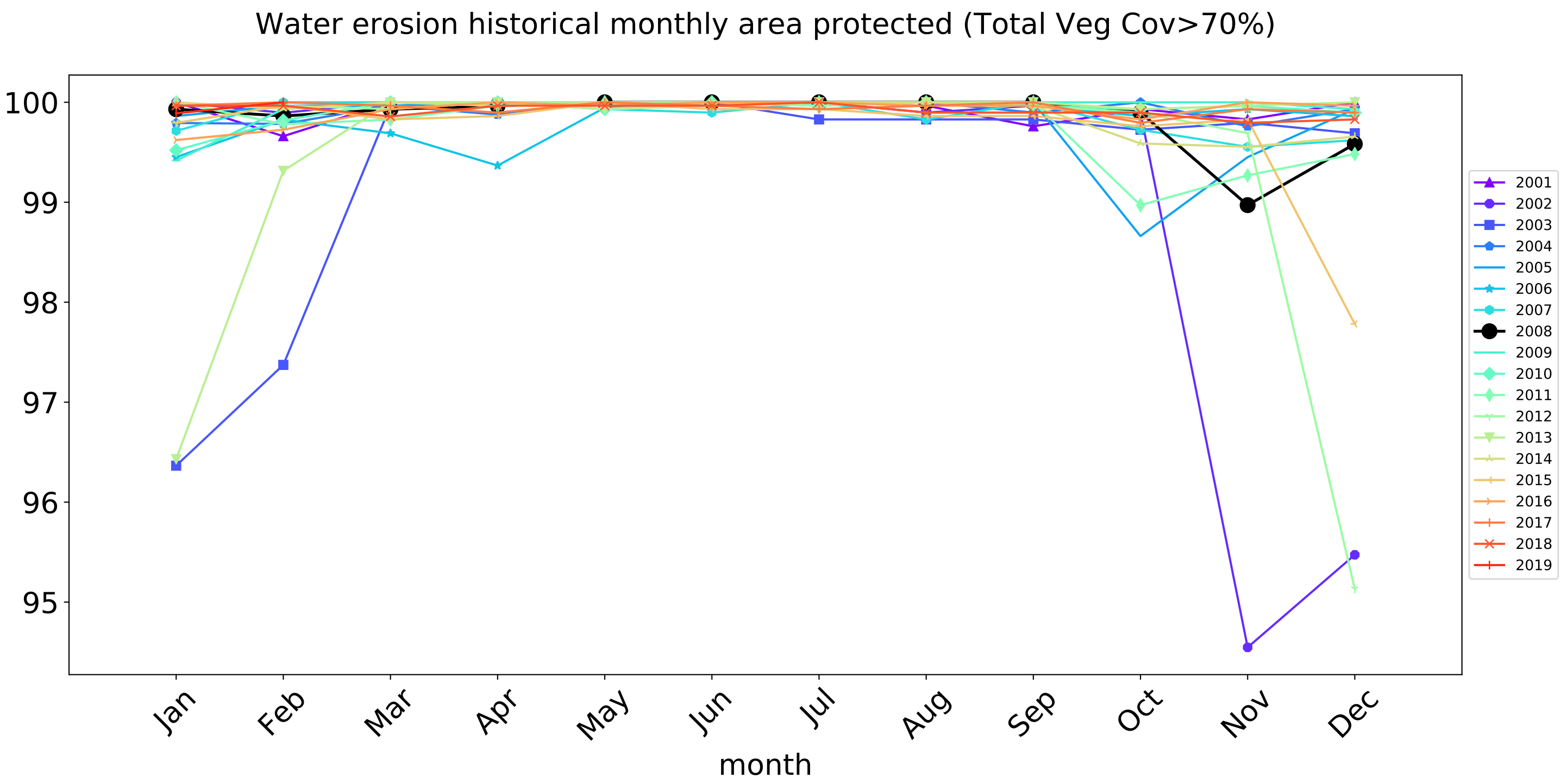
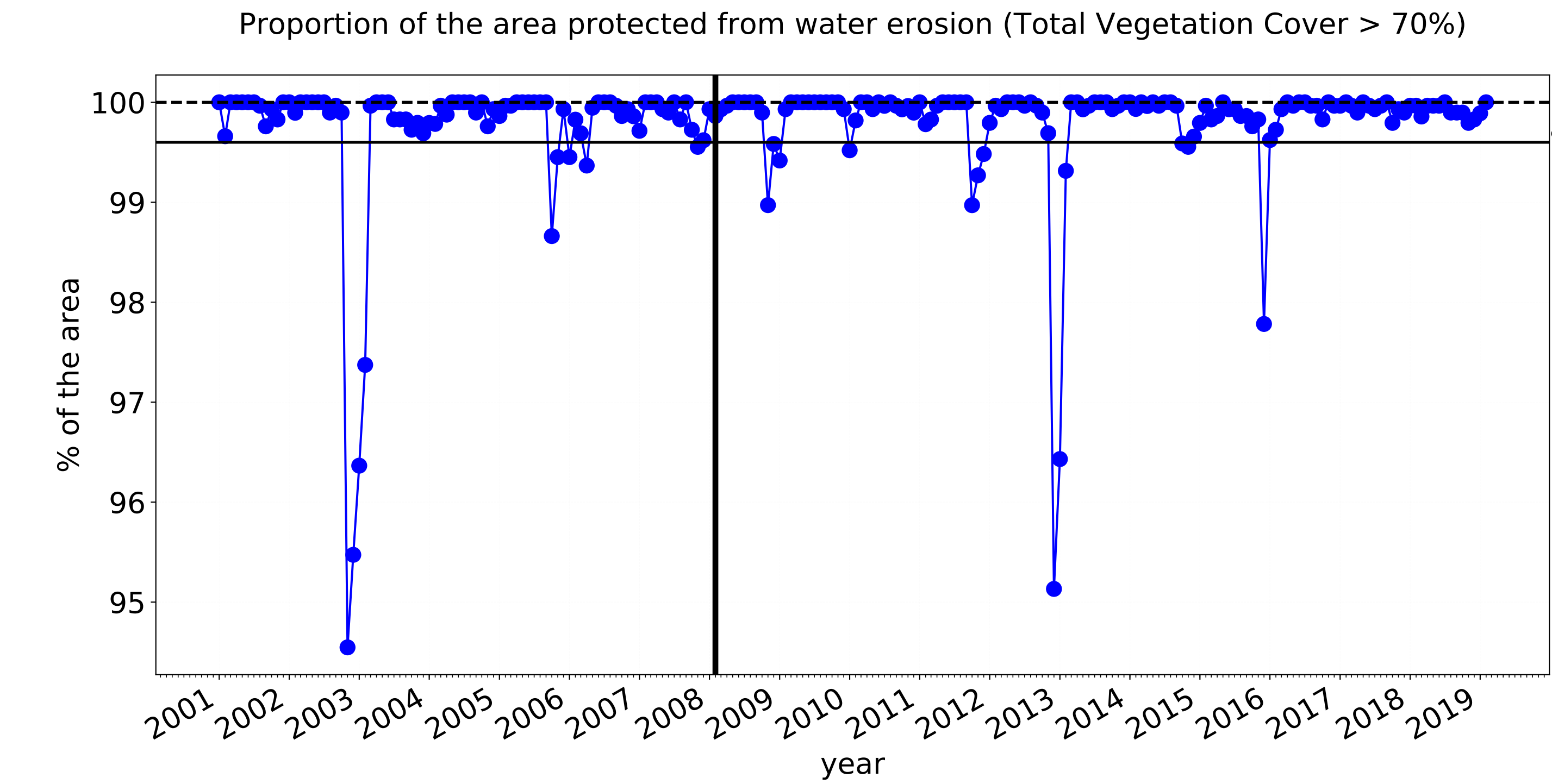
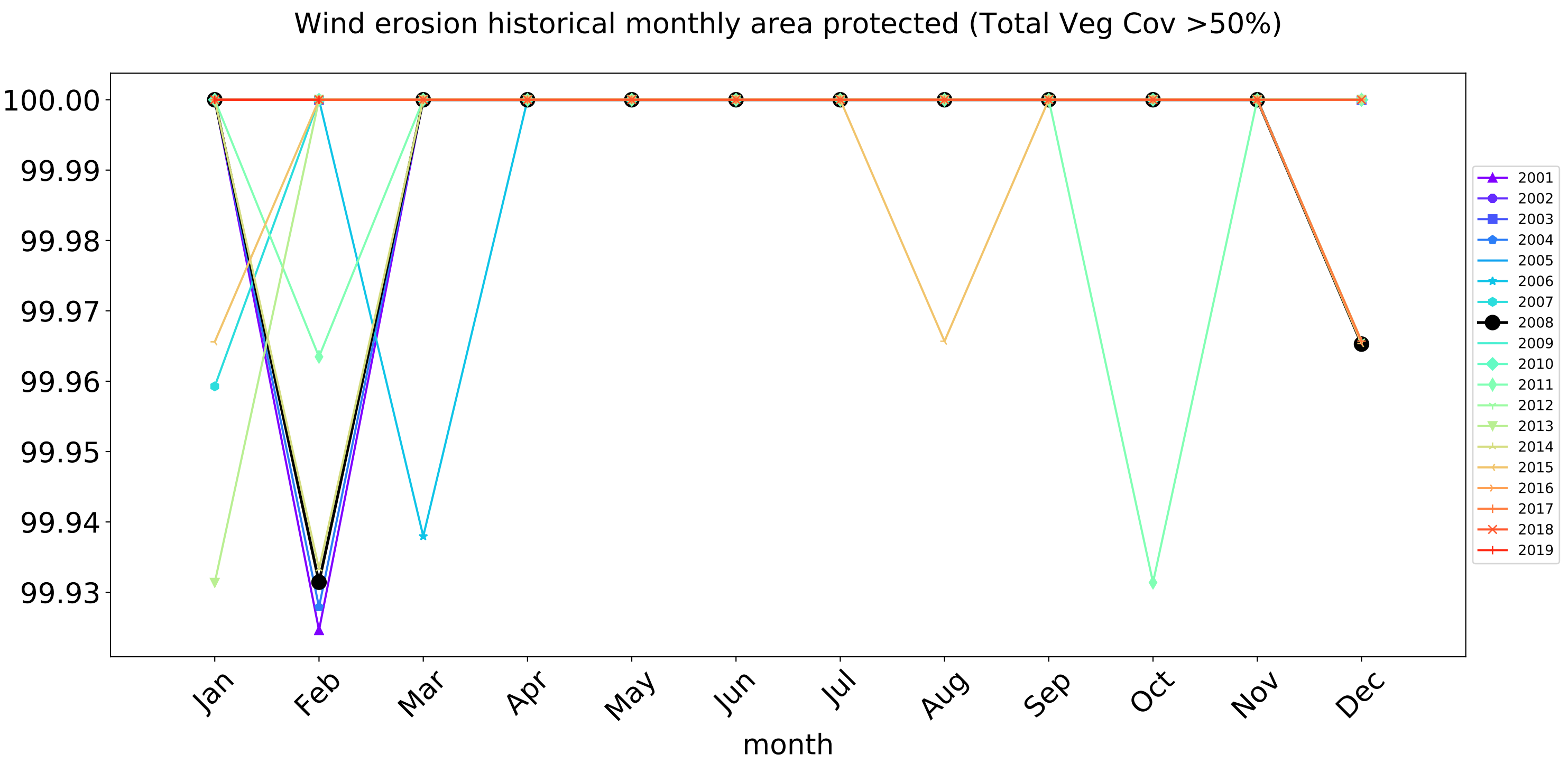
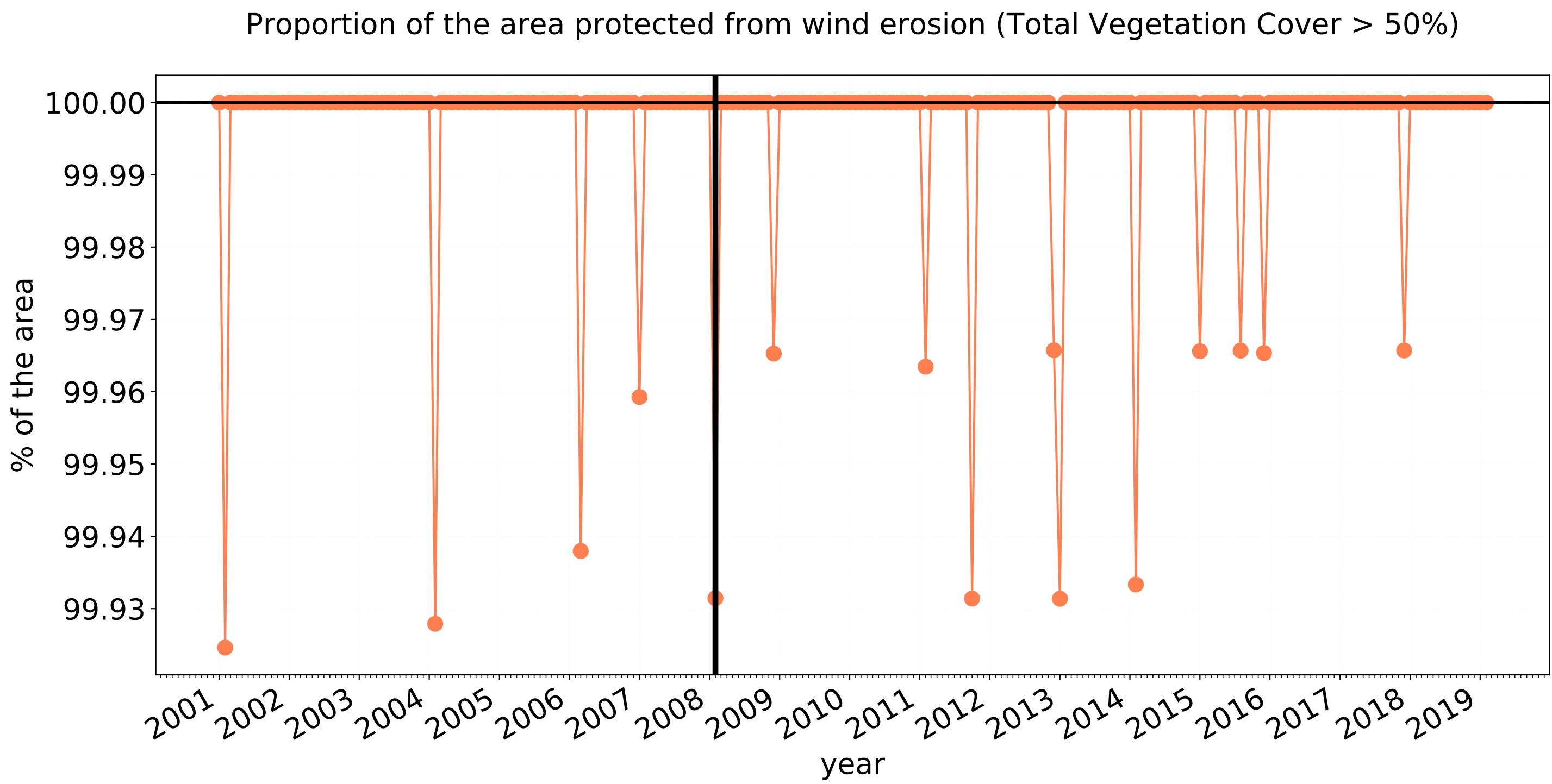


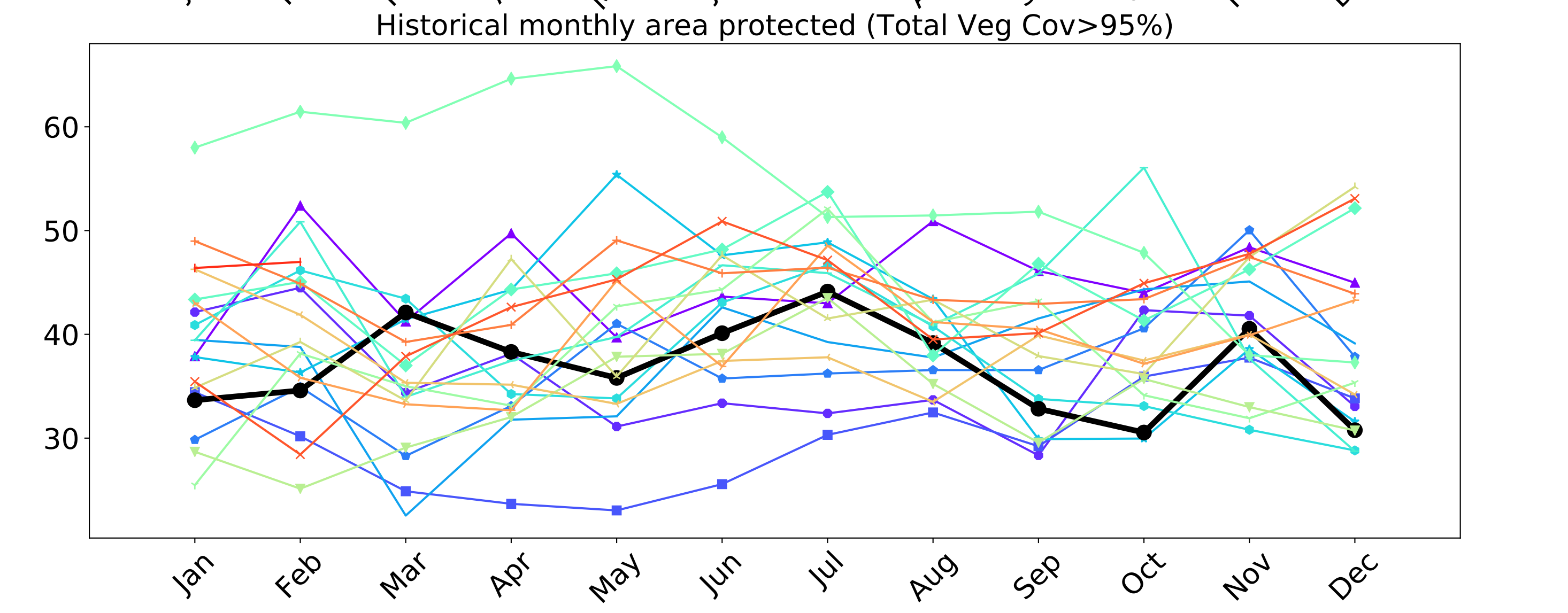
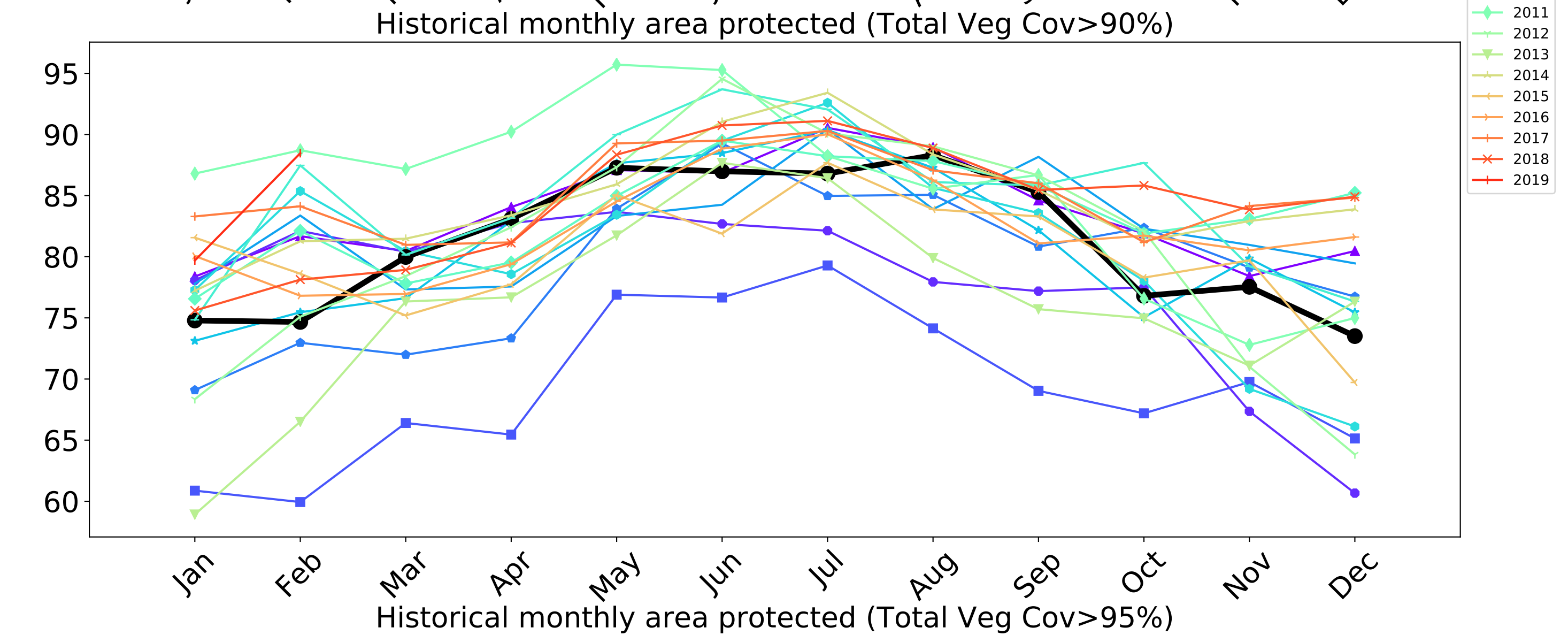
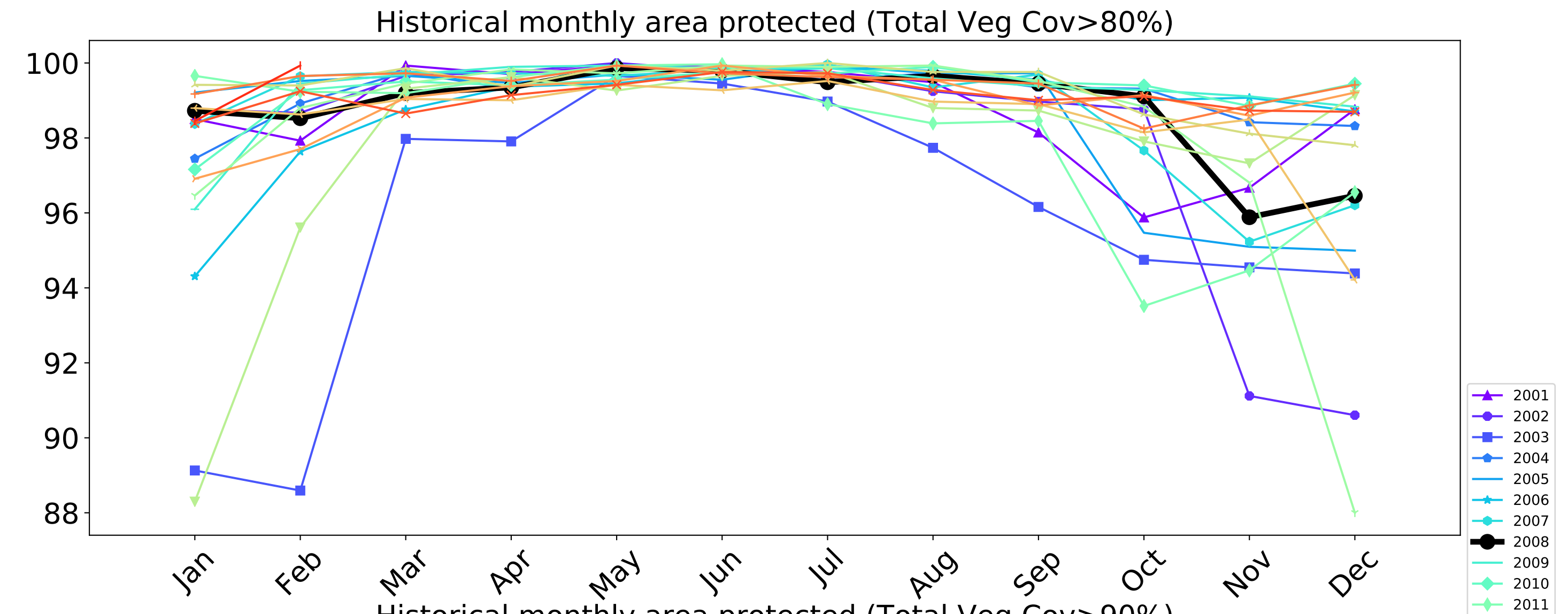
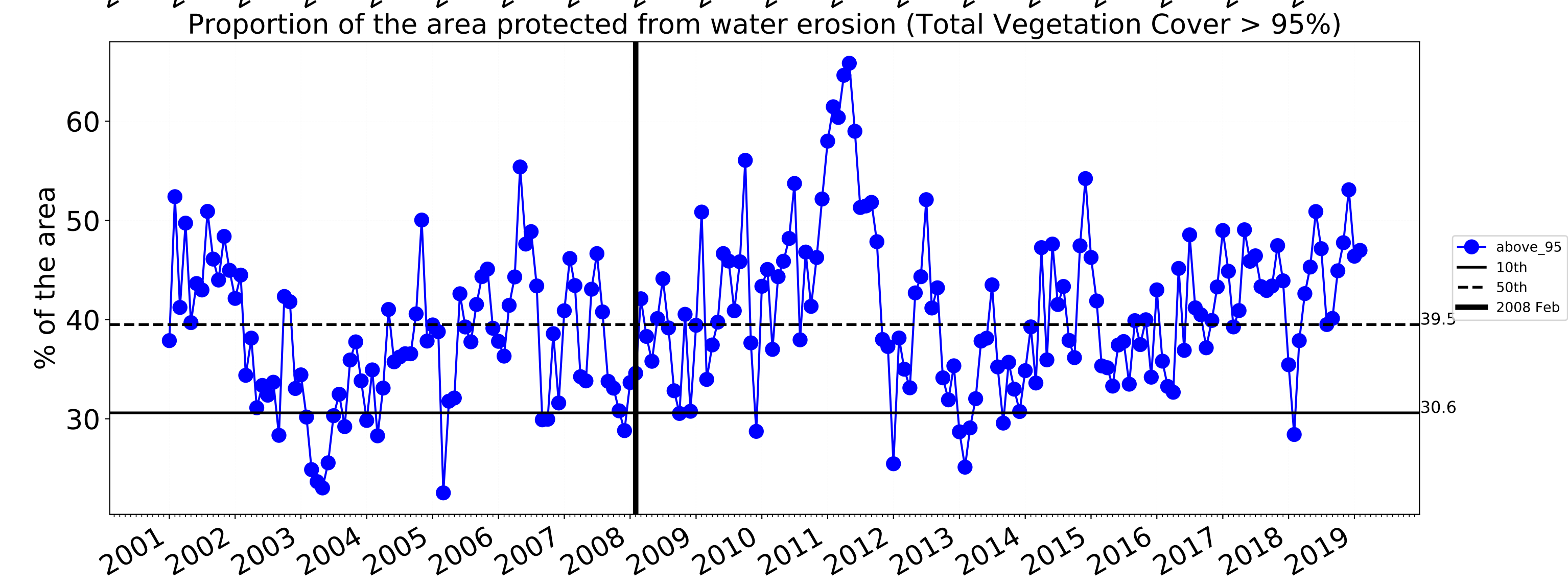
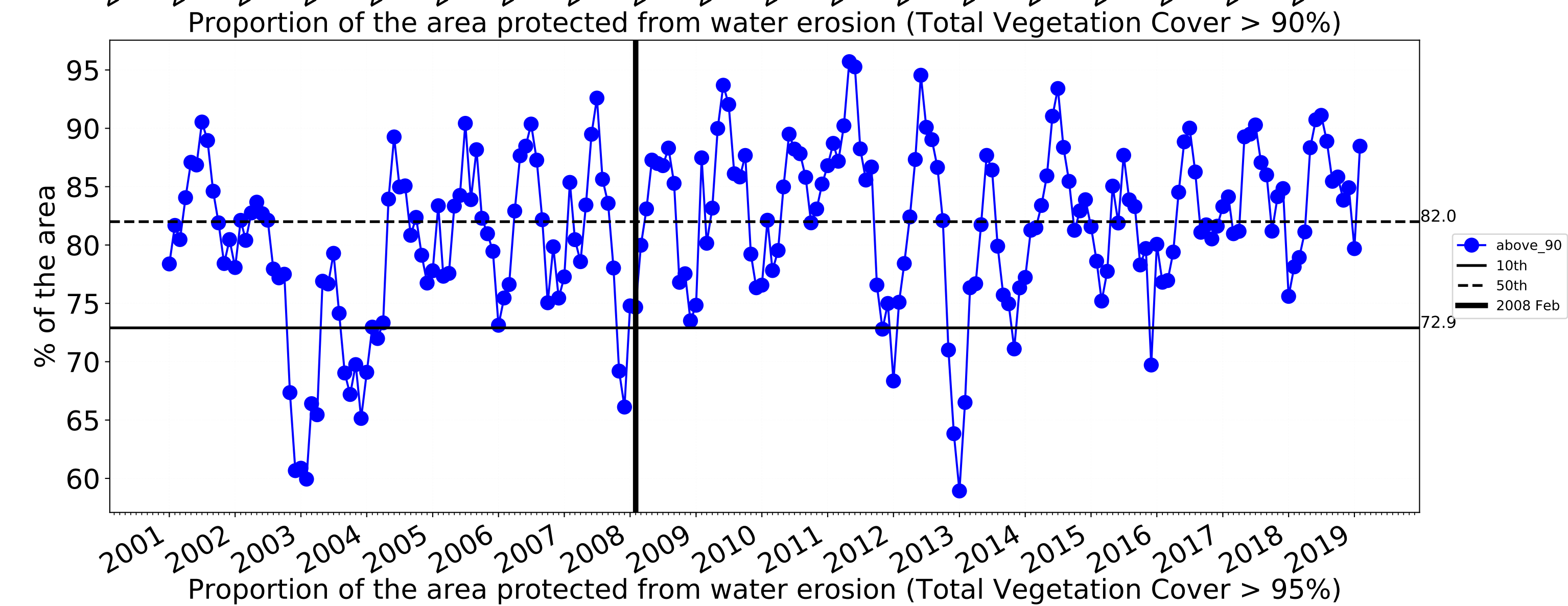
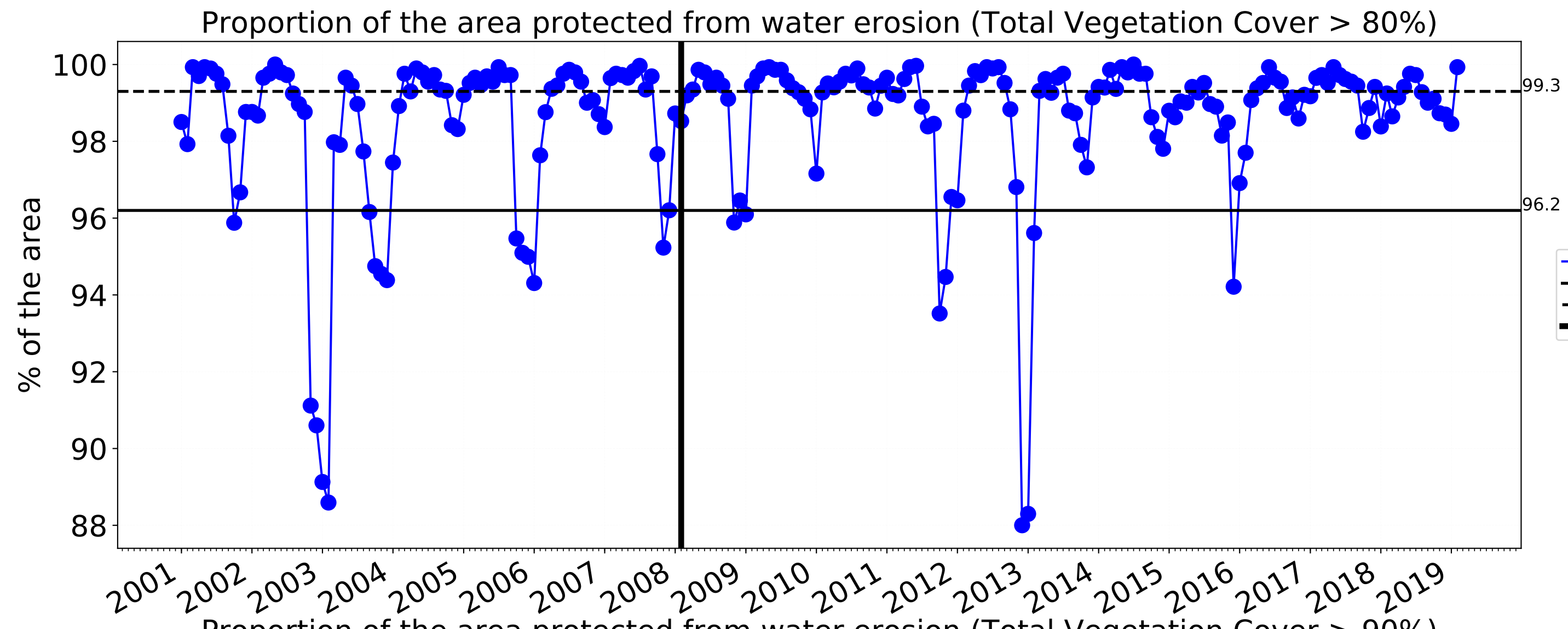
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Wet Tropics (2,209,175 ha and no data 15,069 ha) Percentage area and hectares protected with TVC threshold 30,50,70,80,90 and 95%

Land use and forest cover Class	area(ha)	above_30	above_50	above_70	above_80	above_90	above_95
Entire region	2,209,175	100.0% 2,208,423	99.9% 2,206,223	99.3% 2,193,301	97.0% 2,142,894	75.8% 1,674,279	43.8% 968,002
Conservation and natural environments	891,050	100.0% 890,800	99.9% 889,775	99.4% 885,575	98.3% 875,950	85.8% 764,600	52.0% 463,225
Conservation and natural environments Woodland forest	124,100	100.0% 124,100	99.9% 124,025	99.7% 123,700	99.1% 123,000	83.3% 103,400	42.5% 52,725
Conservation and natural environments Forest (non woodland)	757,150	100.0% 756,900	99.8% 756,000	99.4% 752,325	98.2% 743,875	86.5% 654,975	53.7% 406,900
Agriculture	914,525	100.0% 914,525	100.0% 914,475	99.8% 912,500	97.4% 891,050	69.8% 638,400	39.3% 359,650
Grazing	693,025	100.0% 693,025	100.0% 692,975	99.9% 692,250	98.8% 684,900	82.9% 574,525	49.2% 340,750
Grazing non forest	165,050	100.0% 165,050	100.0% 165,000	99.6% 164,450	96.4% 159,075	55.0% 90,725	20.9% 34,425
Grazing Woodland forest	290,900	100.0% 290,900	100.0% 290,900	100.0% 290,775	99.5% 289,525	89.9% 261,450	54.3% 158,025
Grazing - Forest (non woodland)	237,075	100.0% 237,075	100.0% 237,075	100.0% 237,025	99.7% 236,300	93.8% 222,350	62.6% 148,300
Cropping	165,550	100.0% 165,550	100.0% 165,550	99.4% 164,625	93.1% 154,200	26.6% 43,975	7.6% 12,575
Irrigation	55,900	100.0% 55,900	100.0% 55,900	99.4% 55,575	92.8% 51,900	35.6% 19,875	11.3% 6,300
Production native forests and plantation forests	72,925	99.9% 72,875	99.9% 72,875	99.9% 72,825	98.5% 71,850	74.7% 54,450	34.6% 25,225



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