DIGITAL SUPPLEMENT F[†]

Maps and figures for **conditional (non-zero count)** power analyses and significance tests.

Maps depict results in BOEM Atlantic OCS lease blocks.

The user should keep in mind that the spatial distribution of information in maps is dependent on the input data used. There are a variety of reasons that some datasets may not be reflected in these maps: some datasets existed but were not available to us, others were excluded because they were not of a consistent high scientific quality, and others may not yet been collected or made available at the time of this analysis. These maps are intended as a demonstration of the methods described in OCS Study BOEM 2012-101.

SECTION I. Summary Statistic Maps Calculated for All Species [Pages 3-42]
Summary statistics (number of occurrences and average, maximum, and minimum hotspot and coldspot power) were calculated across all species in all seasons combined and for each season.

Figures F1-F7. All Seasons Combined [Pages 3-10]
- Number of occurrences summed over all species in all seasons
- Average, maximum, and minimum power to detect 3x hotspots of non-zero abundance
- Average, maximum, and minimum power to detect 1/3x coldspots of non-zero abundance

Figures F8-F14. Spring [Pages 11-18]
- Number of occurrences summed over all species in spring
- Average, maximum, and minimum power to detect 3x hotspots of non-zero abundance
- Average, maximum, and minimum power to detect 1/3x coldspots of non-zero abundance

Figures F15-F21. Summer [Pages 19-26]
- Number of occurrences summed over all species in summer
- Average, maximum, and minimum power to detect 3x hotspots of non-zero abundance
- Average, maximum, and minimum power to detect 1/3x coldspots of non-zero abundance

Figures F22-F28. Fall [Pages 27-34]
- Number of occurrences summed over all species in fall
- Average, maximum, and minimum power to detect 3x hotspots of non-zero abundance
- Average, maximum, and minimum power to detect 1/3x coldspots of non-zero abundance

Figures F29-F35. Winter [Pages 35-42]
- Number of occurrences summed over all species in winter
- Average, maximum, and minimum power to detect 3x hotspots of non-zero abundance
- Average, maximum, and minimum power to detect 1/3x coldspots of non-zero abundance

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[†]A digital file supporting OCS Study BOEM 2012-101 / NOAA Technical Memorandum NOS NCCOS 158

Citation for main document:

Kinlan, B.P., E.F. Zipkin, A.F. O'Connell, and C. Caldow. 2012. Statistical analyses to support guidelines for marine avian sampling: final report. U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs, Herndon, VA. OCS Study BOEM 2012-101. NOAA Technical Memorandum NOS NCCOS 158. xiv+77 pp.

SECTION II. Species-specific Power Analysis Maps and Figures [Pages 43-286]
Results of the non-zero conditional model are presented as a set of 6 figures for each included species in each season. Within each season, species are presented in the same order as in Table 4 of the main document, except that only species for which maps were created ("Maps created?" = "Yes" in 3rd column of Table 4) are included.

Figures F36-F101. Spring power analysis maps and figures (11 species x 6 figures per species). [Pp.43-109]
Figures F102-F143. Summer power analysis maps and figures (7 species x 6 figs. per species). [Pp.110-152]
Figures F144-F215. Fall power analysis maps and figures (12 species x 6 figs. per species). [Pp.153-225]
Figures F216-F275. Winter power analysis maps and figures (10 species x 6 figs. per species). [Pp.226-286]

1st Figure for each Species: Map of number of occurrences of this species in this season in BOEM Atlantic OCS lease blocks.

2nd Figure for each Species: Map of the mean non-zero count in for this species in this season in BOEM Atlantic OCS lease blocks.

3rd Figure for each Species: Power vs. sample size curves for 3x hotspot and 1/3x coldspot detection for this species, given the selected model fit and reference mean.

4th Figure for each Species: Map of power to detect 3x hotspots of non-zero abundance.

5th Figure for each Species: Map of power to detect 1/3x coldspots of non-zero abundance.

6th Figure for each Species: Combined map of hotspot (red) and coldspot (blue) significance test p-values, based on one-sample, one-tailed (hotspot) Monte Carlo significance tests of the mean non-zero count in each lease block compared to the reference mean. Darker shading indicates greater statistical significance. Lease blocks that did not approach statistical significance ($p>0.2$) are shown in grey, with the intensity of the shading proportional to the average of 3x hotspot and 1/3x coldspot power values for that cell. That is, the darkest grey shading indicates lease blocks not identified as significant hotspots or coldspots, and for which we can be confident in that result because there was relatively high power to detect a hotspot or coldspot, had it existed. In contrast, light grey shading indicates lease blocks not identified as significant hotspots or coldspots, but for which there was little or no power to detect a hotspot or coldspot, had it existed. The darkest blue lease blocks can therefore be regarded as the most significant coldspots, the darkest red lease blocks as the most significant hotspots, and the darkest grey blocks as places most likely to be neither hotspots nor coldspots. Blank (white) polygons indicate lease blocks in which no presences of this species were observed. Hotspot (coldspot) significance does not consider whether high (low) abundances persisted across years or occurred in the same year; if inter-annual persistence is of concern, the temporal distribution of the data should be examined. P-values are not corrected for the large number of simultaneous tests performed (two tests per lease block in which the species occurred), so many of the lighter red and blue lease blocks are likely false positives. The most significant values (darkest red and blue) are more reliable, but will still contain some false positives. Similarly, the lightest grey cells have the highest chance of being false negatives, whereas the darkest grey cells have the lowest chance of being false negatives.

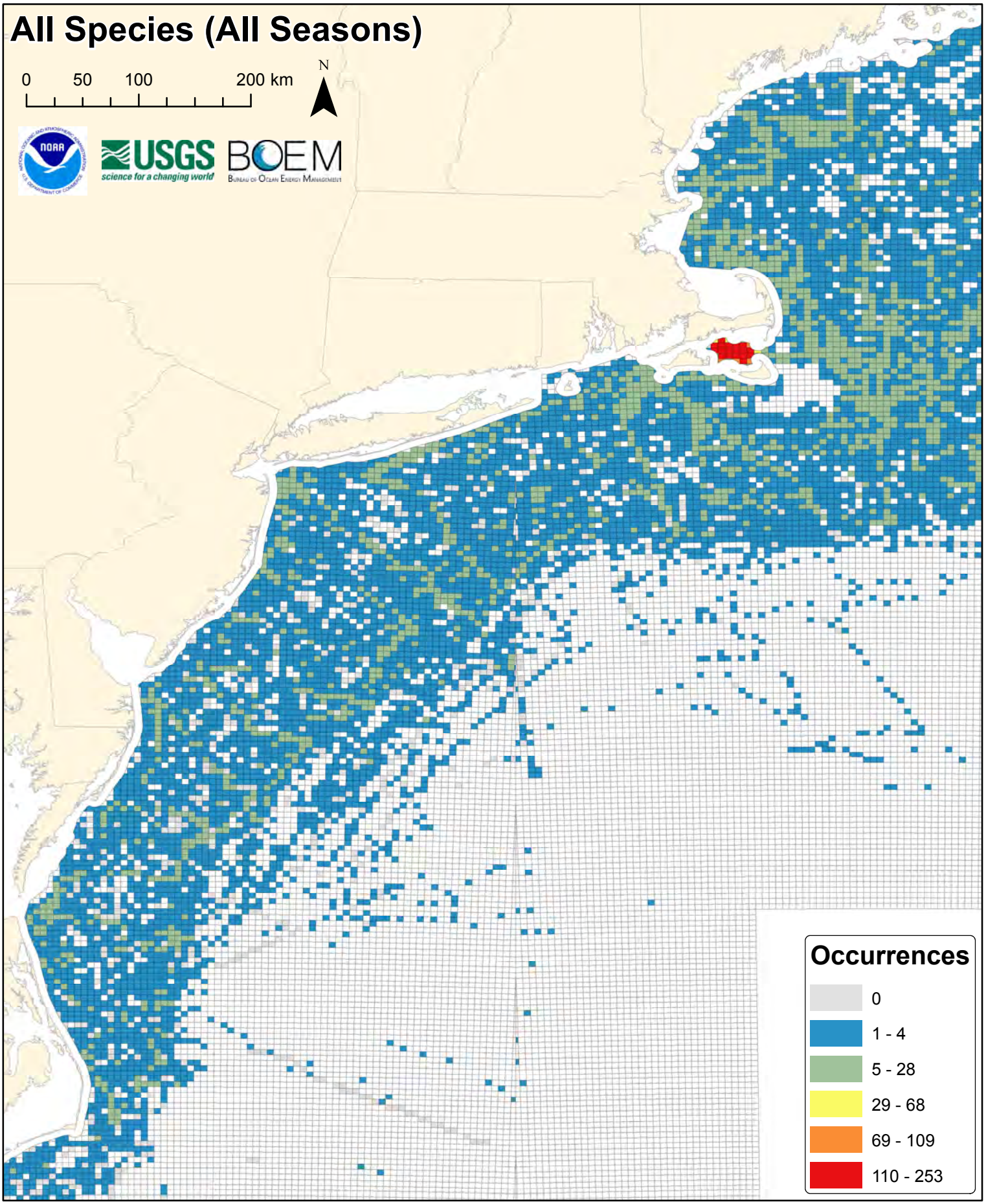
DIGITAL SUPPLEMENT F

Conditional (Non-Zero Count) Model Results

SECTION I. Summary Statistic Maps Calculated for All Species

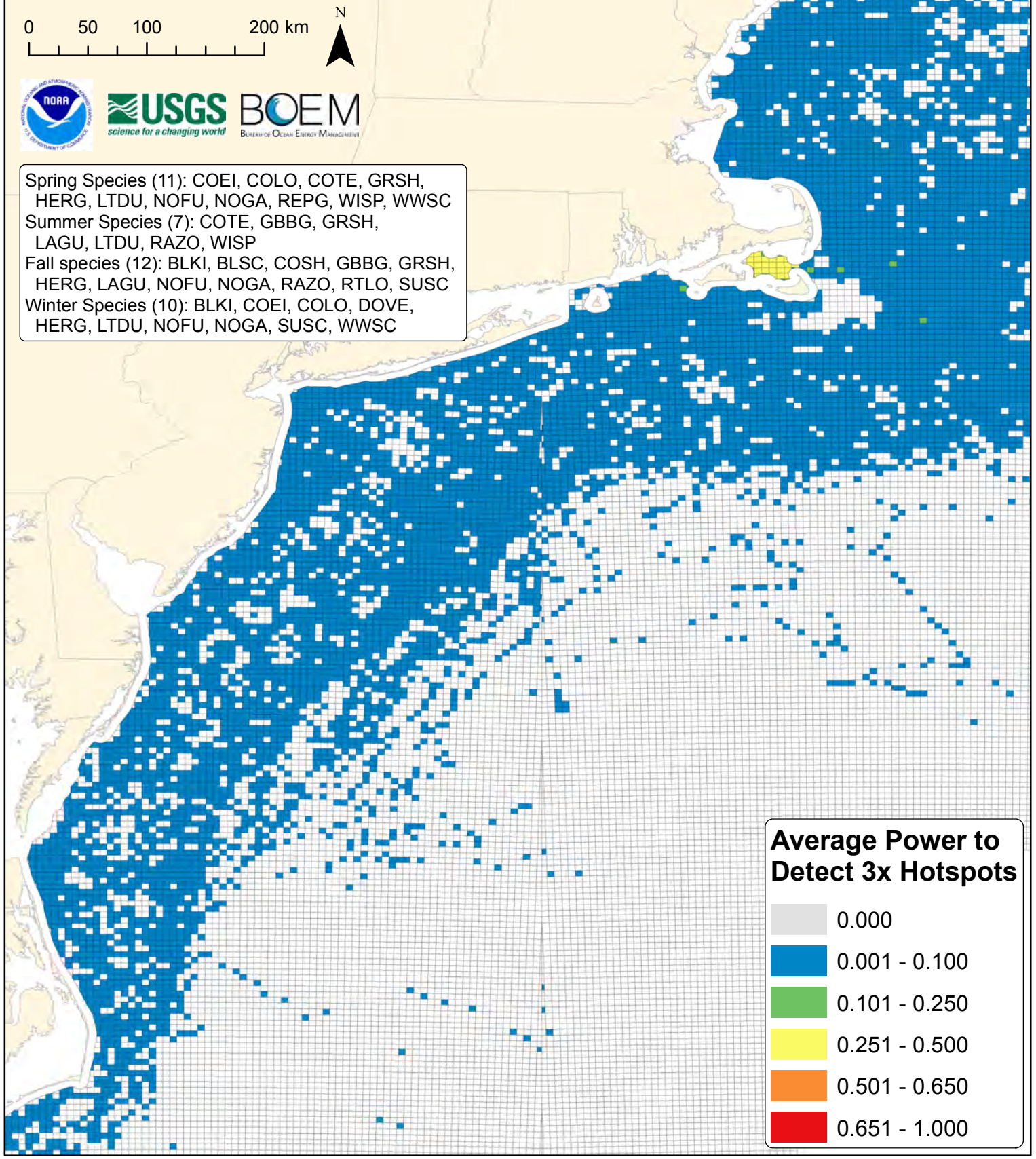
Figures F1-F7. All Seasons Combined

- Number of occurrences summed over all species in all seasons
- Average, maximum, and minimum power to detect 3x hotspots of non-zero abundance
- Average, maximum, and minimum power to detect 1/3x coldspots of non-zero abundance


All Species (All Seasons)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 4
5 - 28
29 - 68
69 - 109
110 - 253

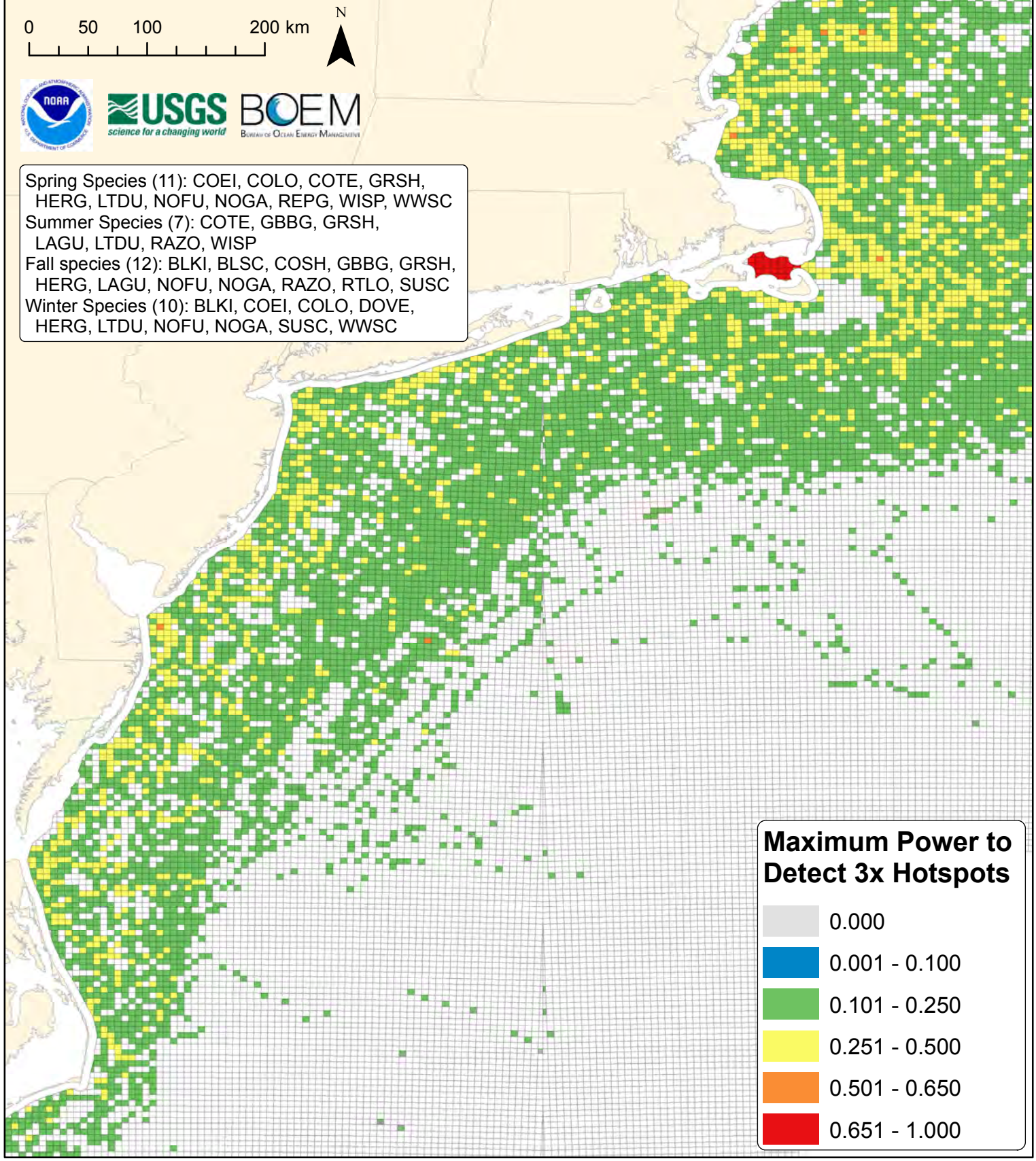
All Species - All Seasons

Conditional Model (Non-zero Counts)



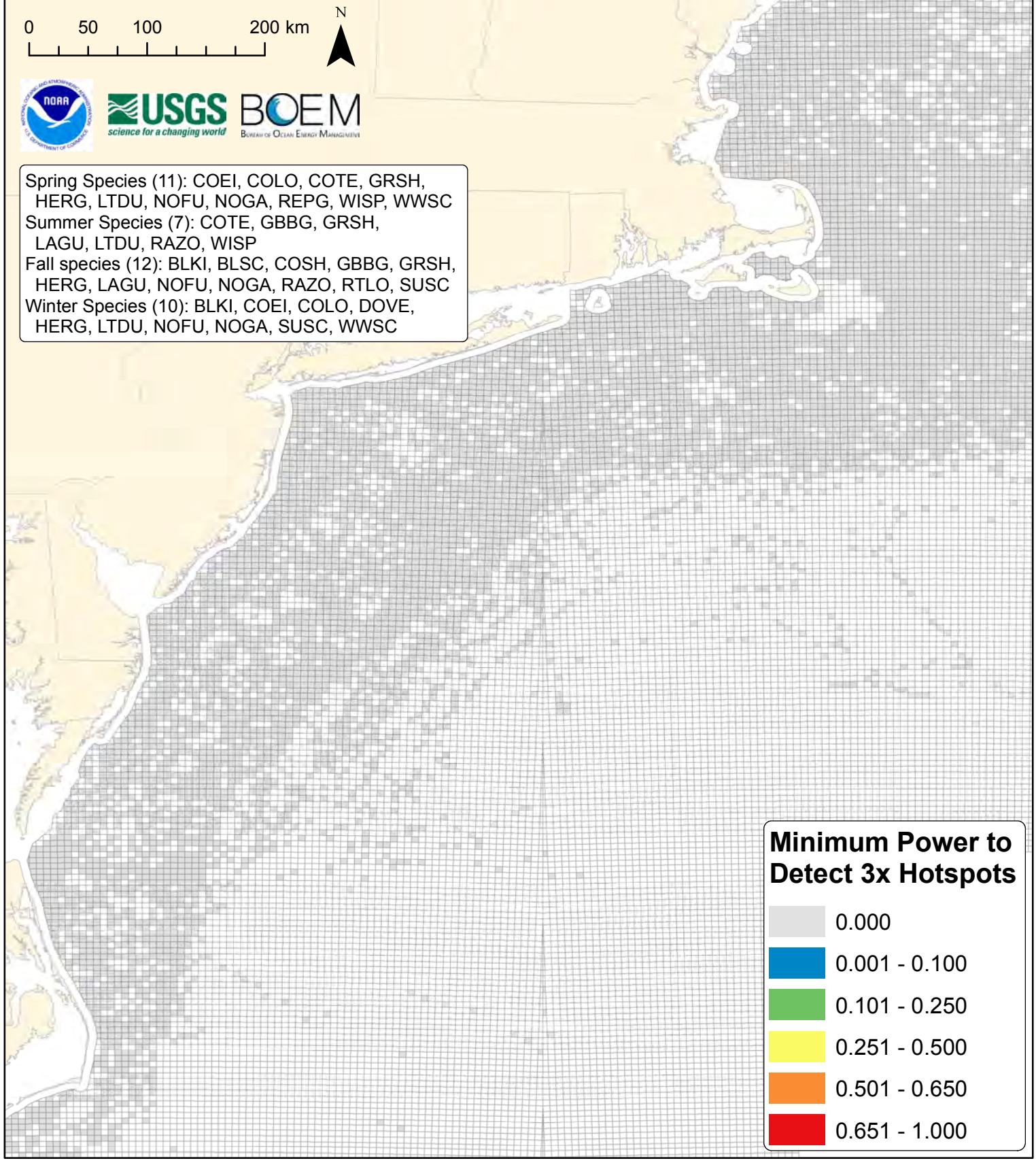
All Species - All Seasons

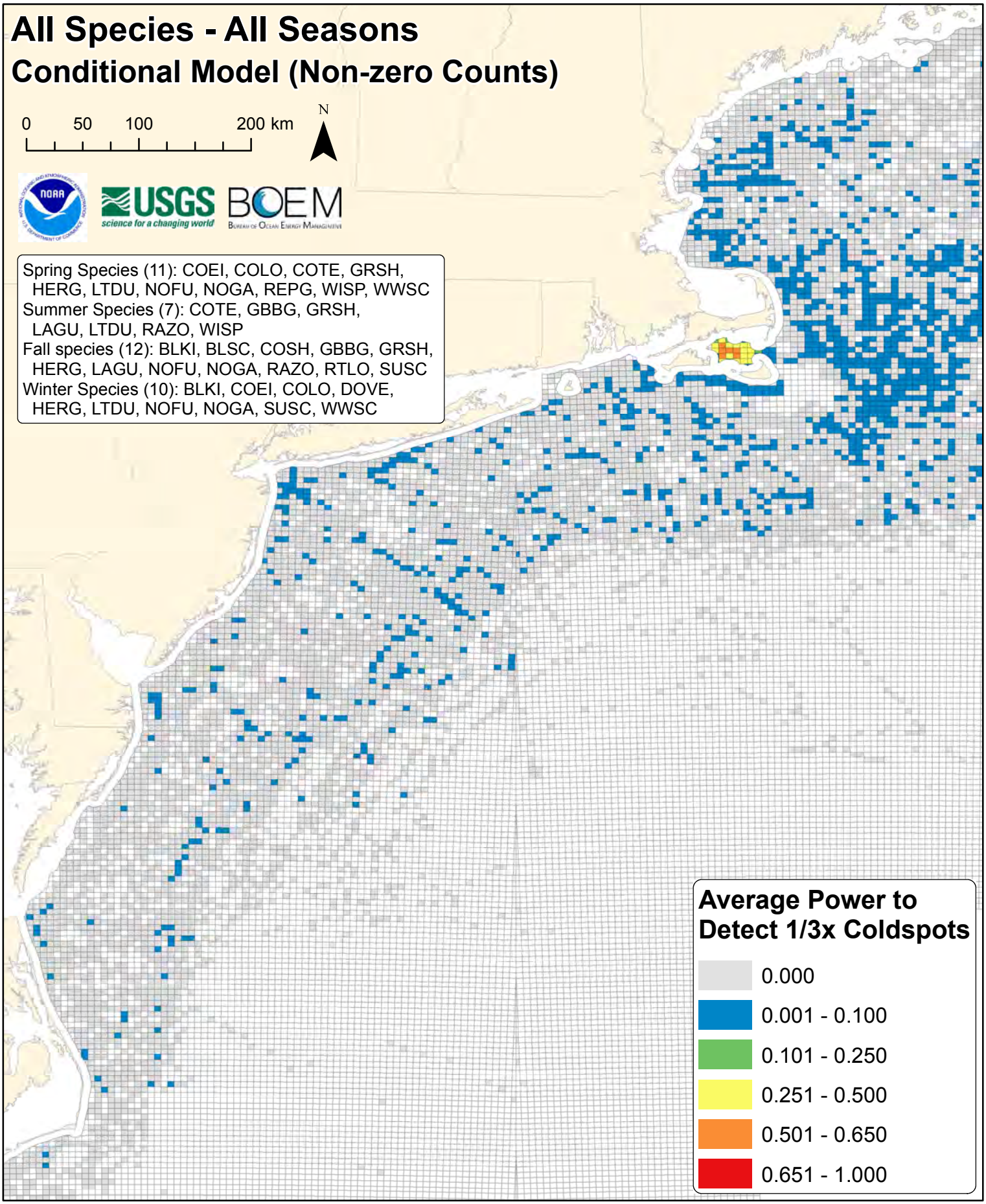
Conditional Model (Non-zero Counts)



All Species - All Seasons

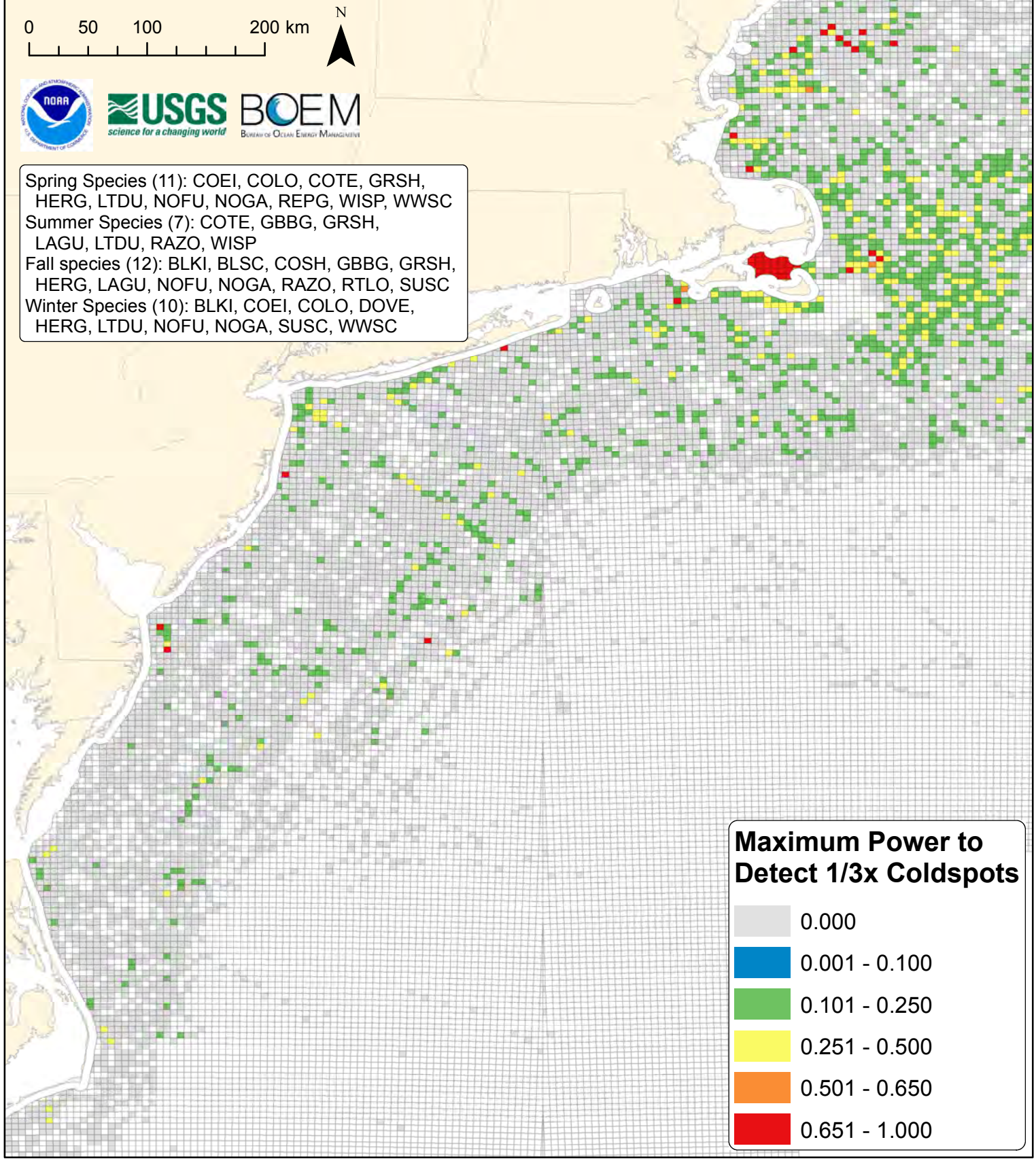
Conditional Model (Non-zero Counts)




All Species - All Seasons
Conditional Model (Non-zero Counts)
0 50 100 200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Spring Species (11): COEI, COLO, COTE, GRSH, HERG, LTDU, NOFU, NOGA, REPG, WISP, WWSC
Summer Species (7): COTE, GBBG, GRSH, LAGU, LTDU, RAZO, WISP
Fall species (12): BLKI, BLSC, COSH, GBBG, GRSH, HERG, LAGU, NOFU, NOGA, RAZO, RTLO, SUSC
Winter Species (10): BLKI, COEI, COLO, DOVE, HERG, LTDU, NOFU, NOGA, SUSC, WWSC
Average Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000

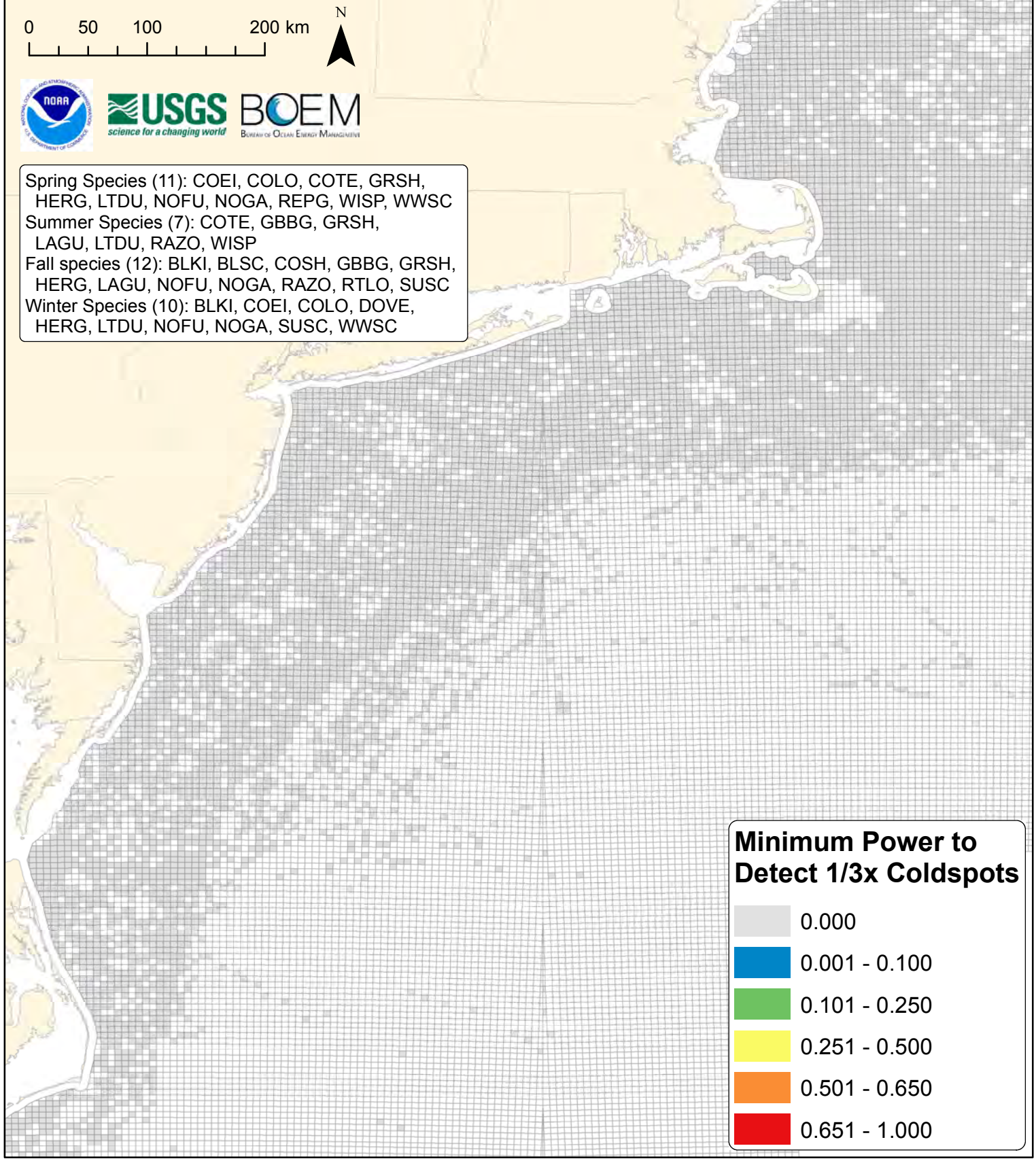
All Species - All Seasons

Conditional Model (Non-zero Counts)



All Species - All Seasons

Conditional Model (Non-zero Counts)



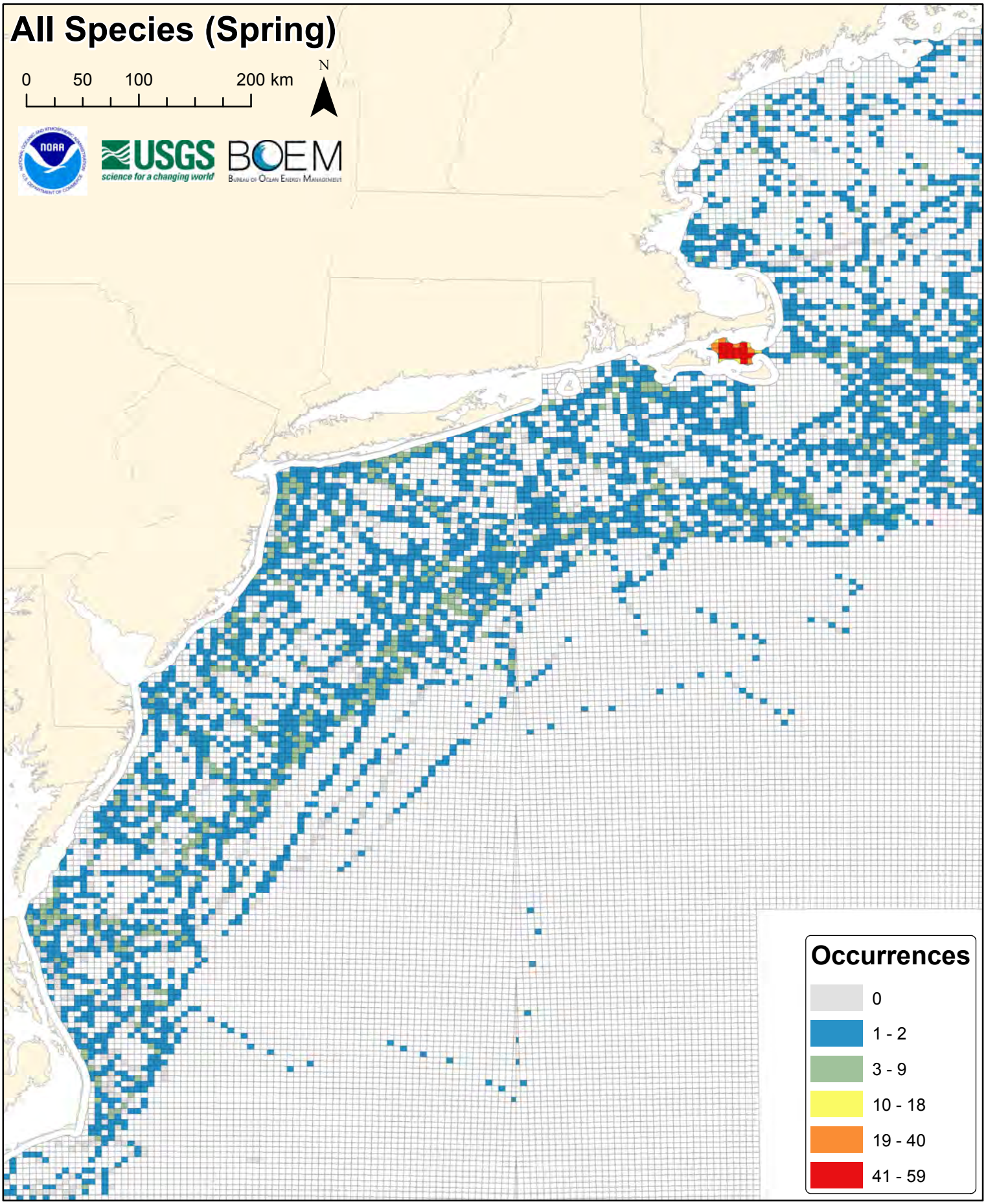
DIGITAL SUPPLEMENT F

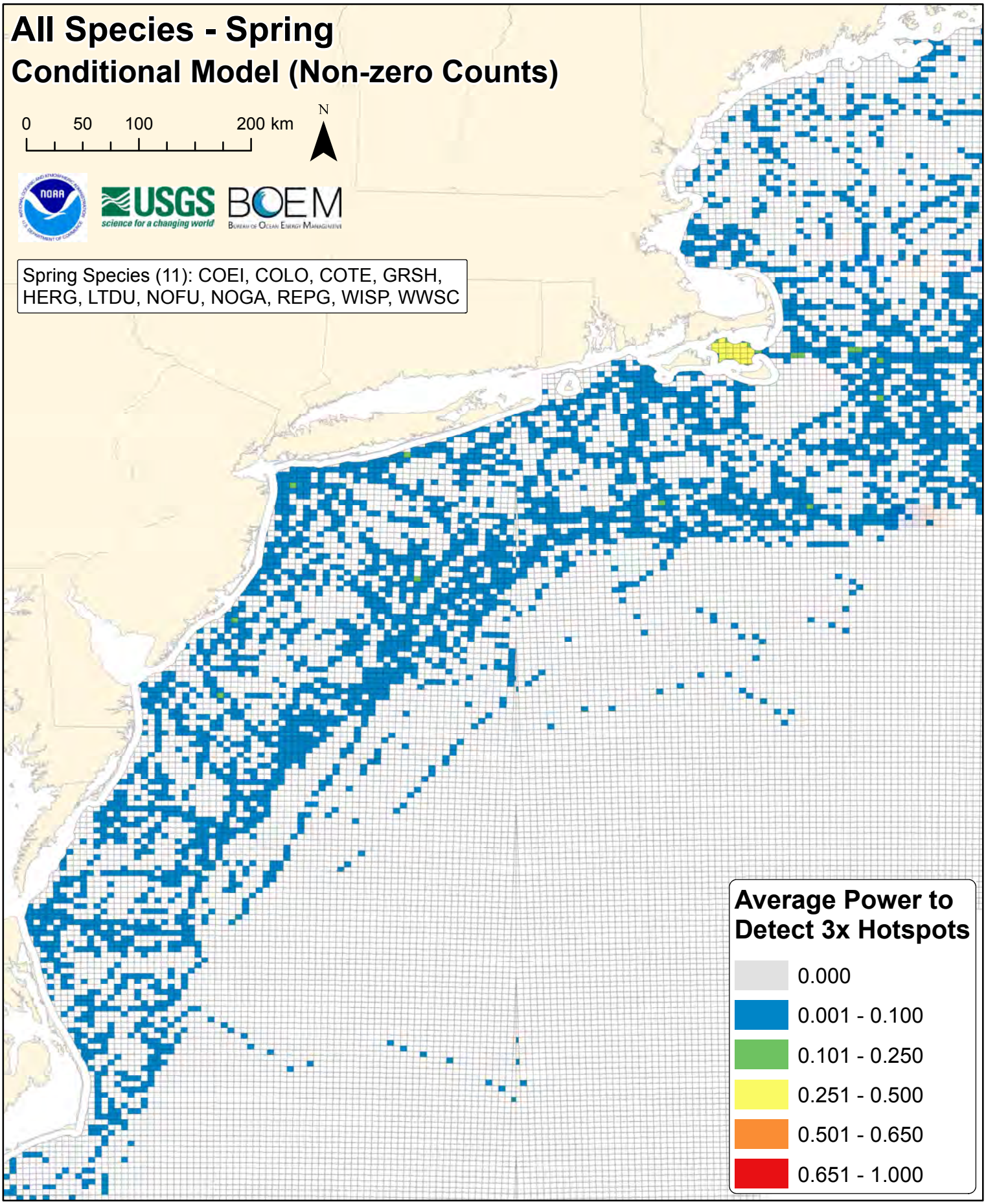
Conditional (Non-Zero Count) Model Results

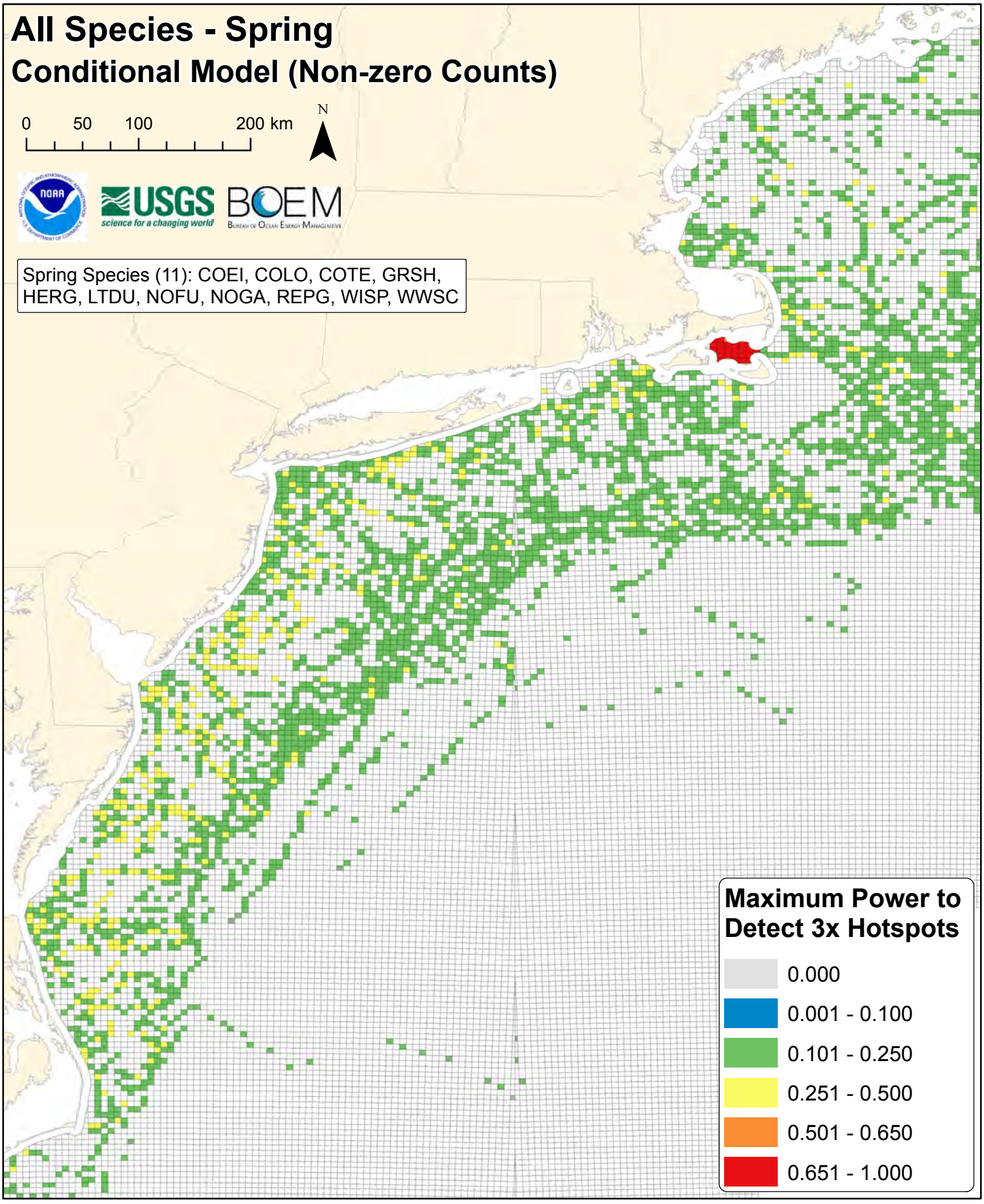
SECTION I. Summary Statistic Maps Calculated for All Species

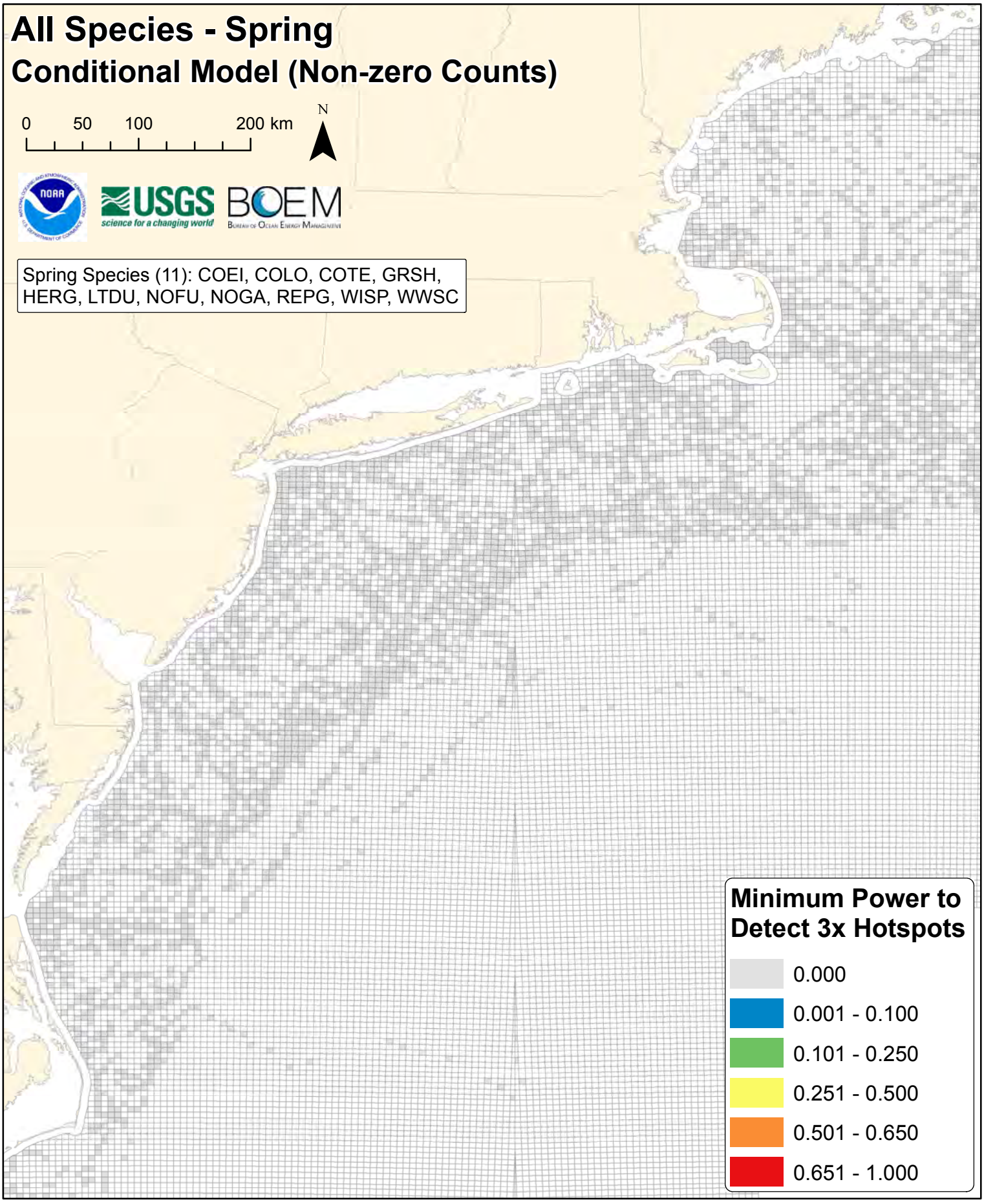
Figures F8-F14. Spring

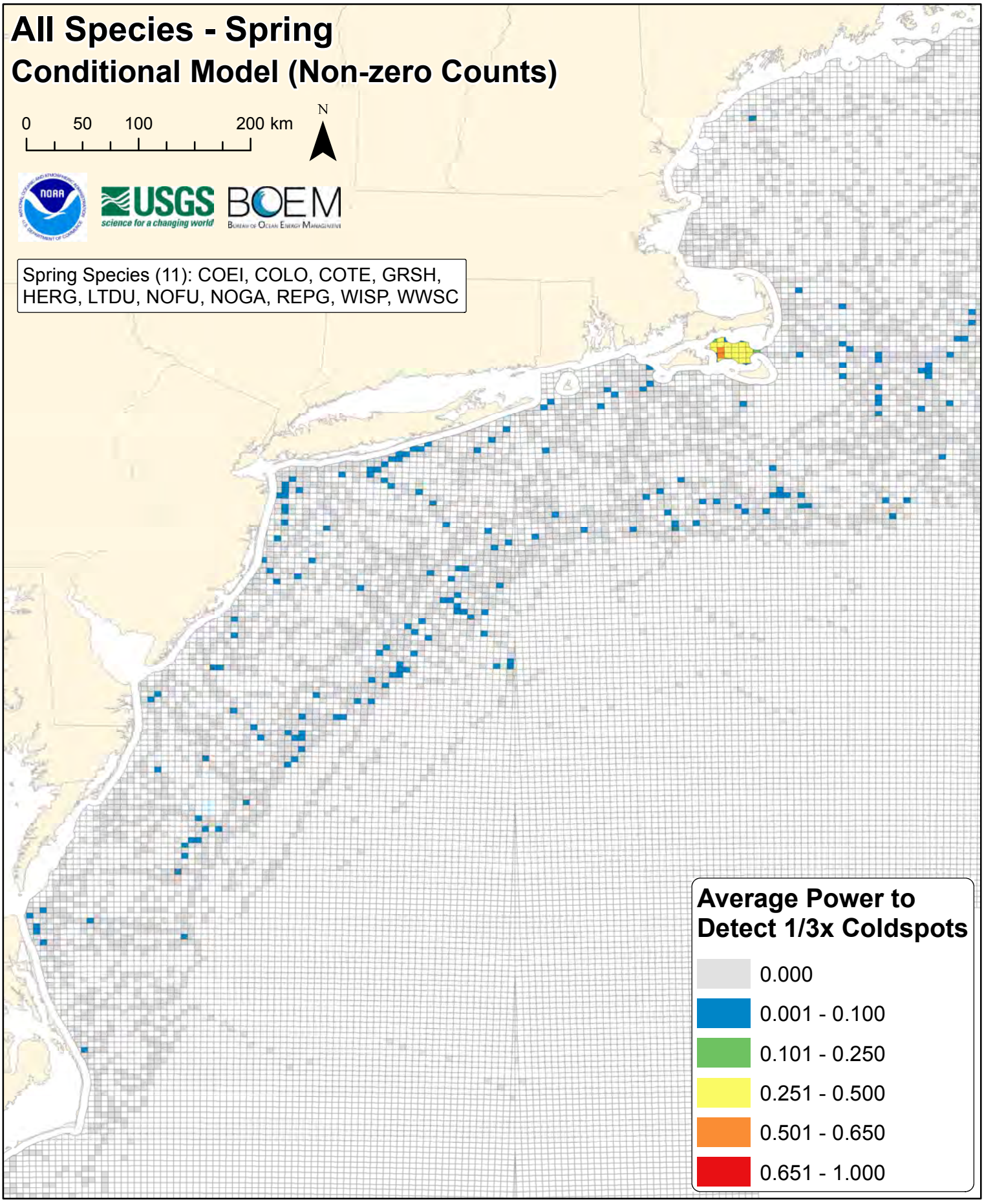
- Number of occurrences summed over all species in spring
- Average, maximum, and minimum power to detect 3x hotspots of non-zero abundance
- Average, maximum, and minimum power to detect 1/3x coldspots of non-zero abundance

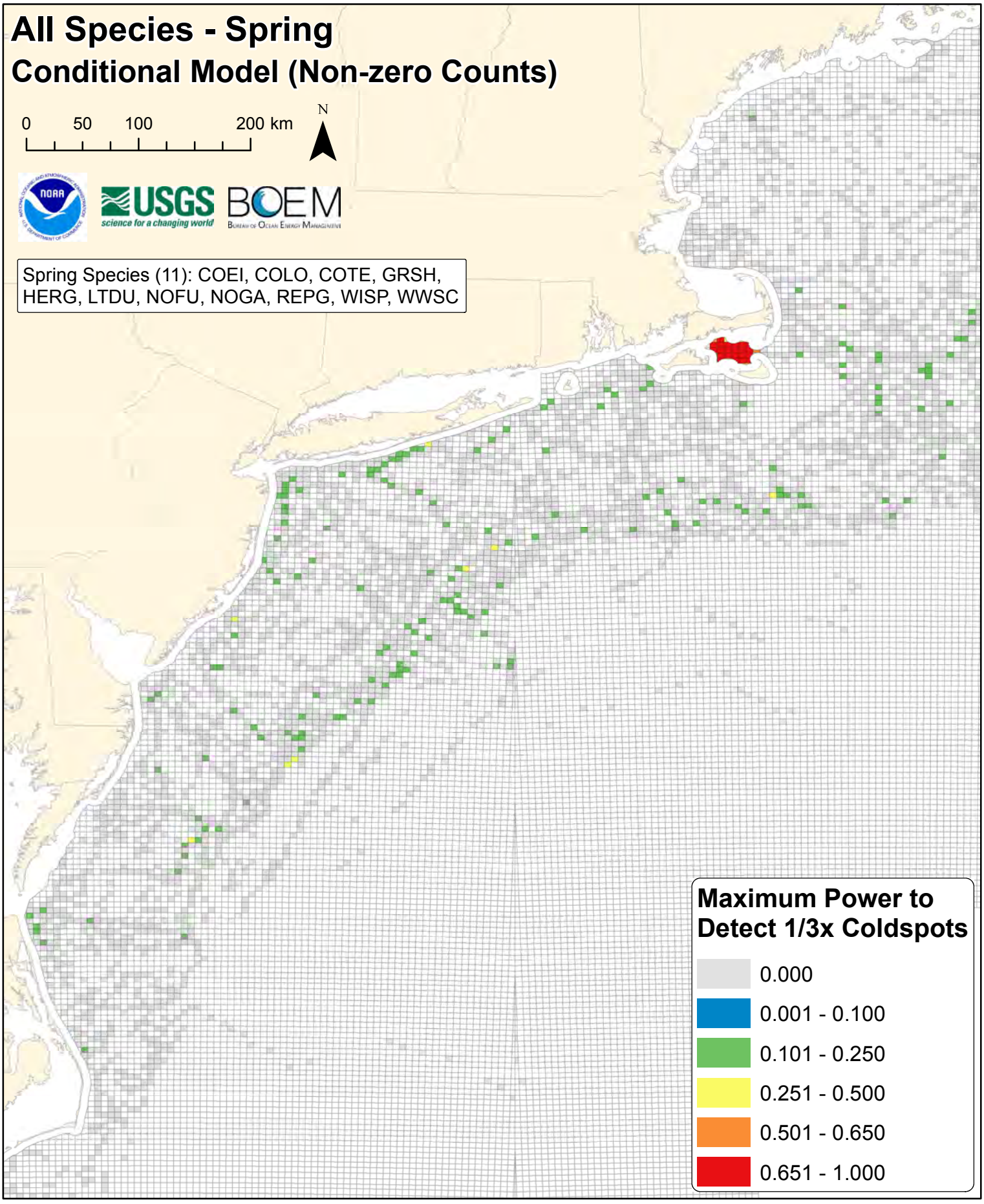

All Species (Spring)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 2
3 - 9
10 - 18
19 - 40
41 - 59

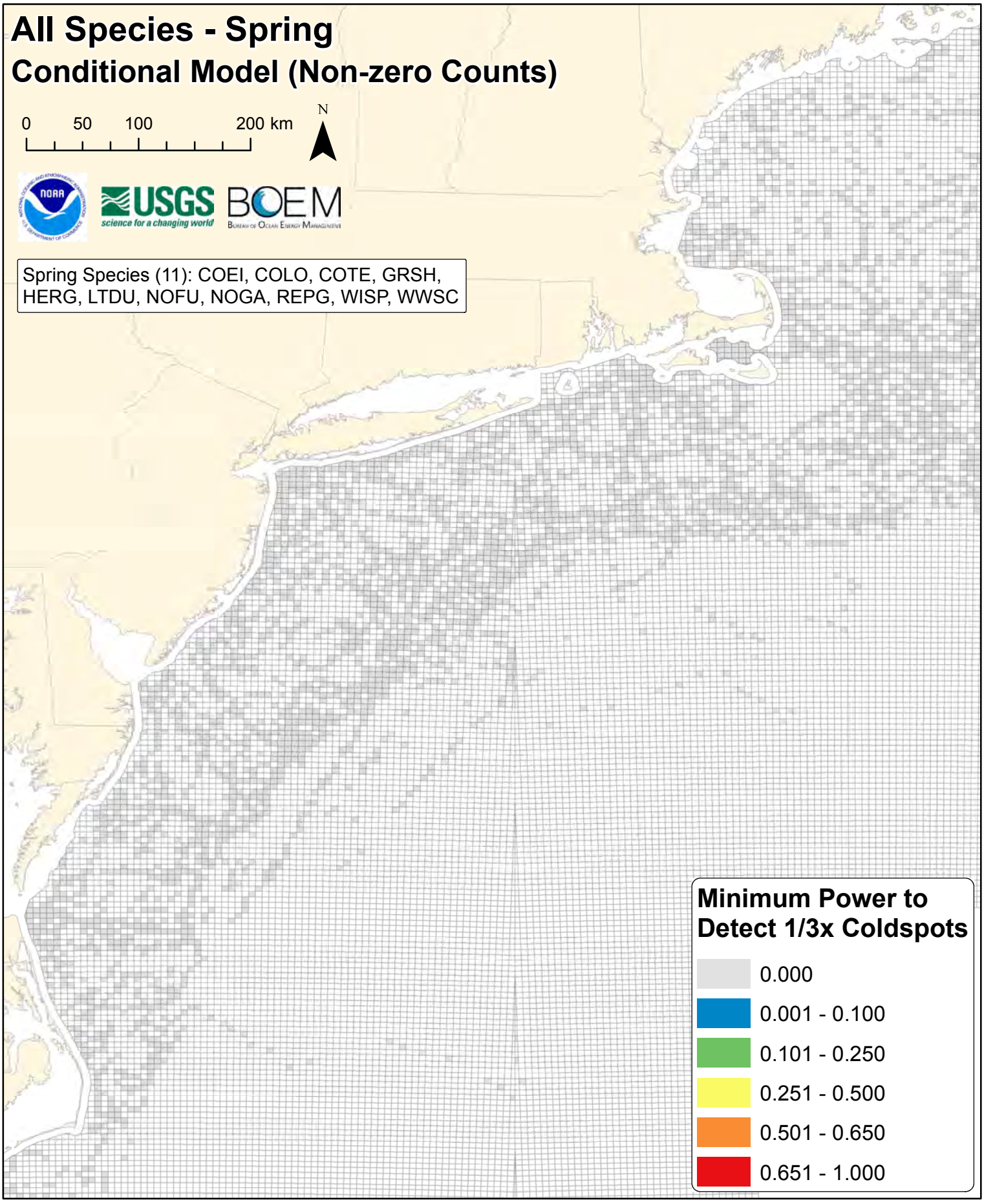

All Species - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Spring Species (11): COEI, COLO, COTE, GRSH, HERG, LTDU, NOFU, NOGA, REPG, WISP, WWSC
Average Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Spring
Conditional Model (Non-zero Counts)
0 50 100 200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Spring Species (11): COEI, COLO, COTE, GRSH, HERG, LTDU, NOFU, NOGA, REPG, WISP, WWSC
Maximum Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Spring Species (11): COEI, COLO, COTE, GRSH, HERG, LTDU, NOFU, NOGA, REPG, WISP, WWSC
Minimum Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Spring Species (11): COEI, COLO, COTE, GRSH, HERG, LTDU, NOFU, NOGA, REPG, WISP, WWSC
Average Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Spring Species (11): COEI, COLO, COTE, GRSH, HERG, LTDU, NOFU, NOGA, REPG, WISP, WWSC
Maximum Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Spring
Conditional Model (Non-zero Counts)
0 50 100 200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Spring Species (11): COEI, COLO, COTE, GRSH, HERG, LTDU, NOFU, NOGA, REPG, WISP, WWSC
Minimum Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000

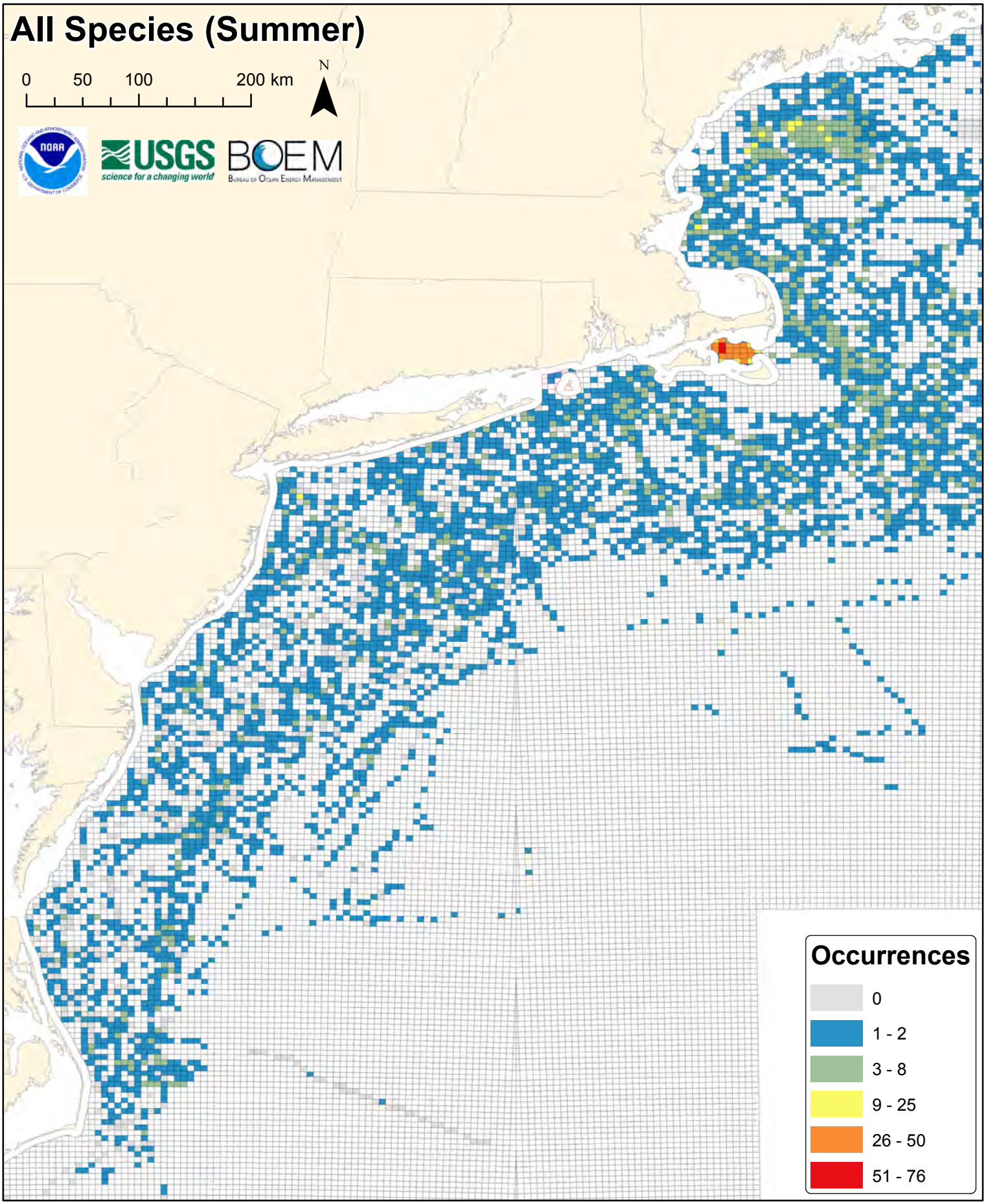
DIGITAL SUPPLEMENT F

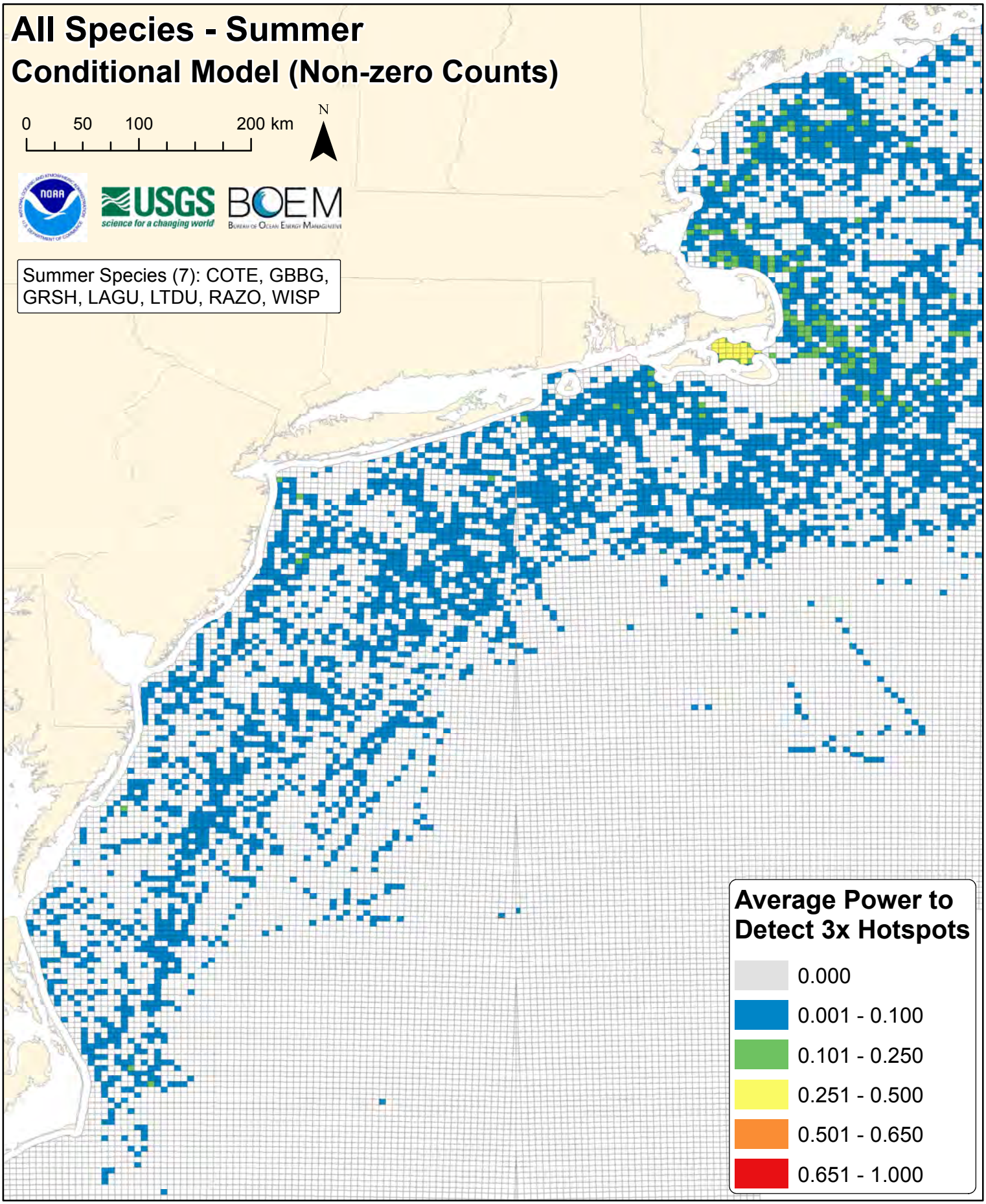
Conditional (Non-Zero Count) Model Results

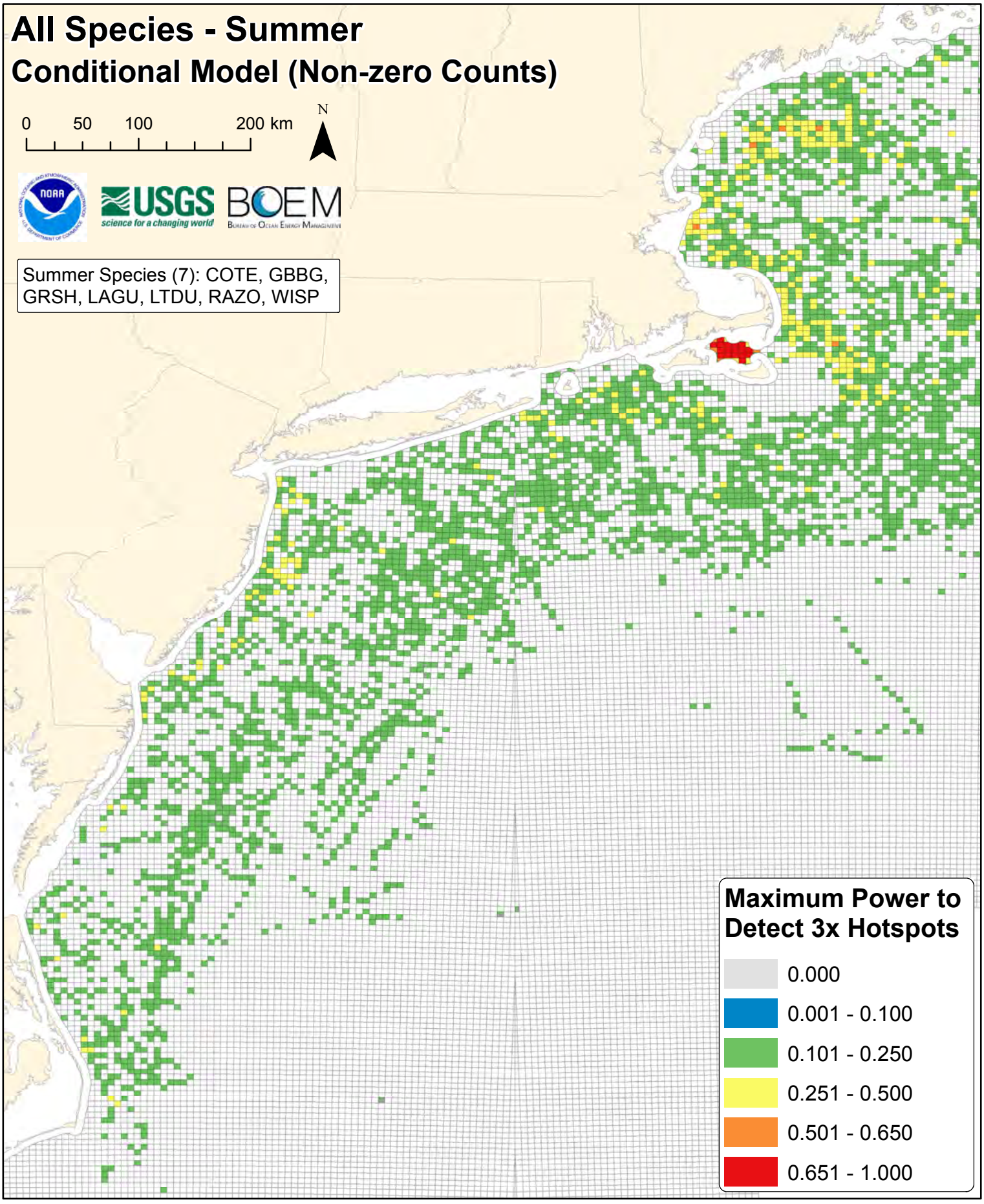
SECTION I. Summary Statistic Maps Calculated for All Species

Figures F15-F21. Summer

- Number of occurrences summed over all species in summer
- Average, maximum, and minimum power to detect 3x hotspots of non-zero abundance
- Average, maximum, and minimum power to detect 1/3x coldspots of non-zero abundance

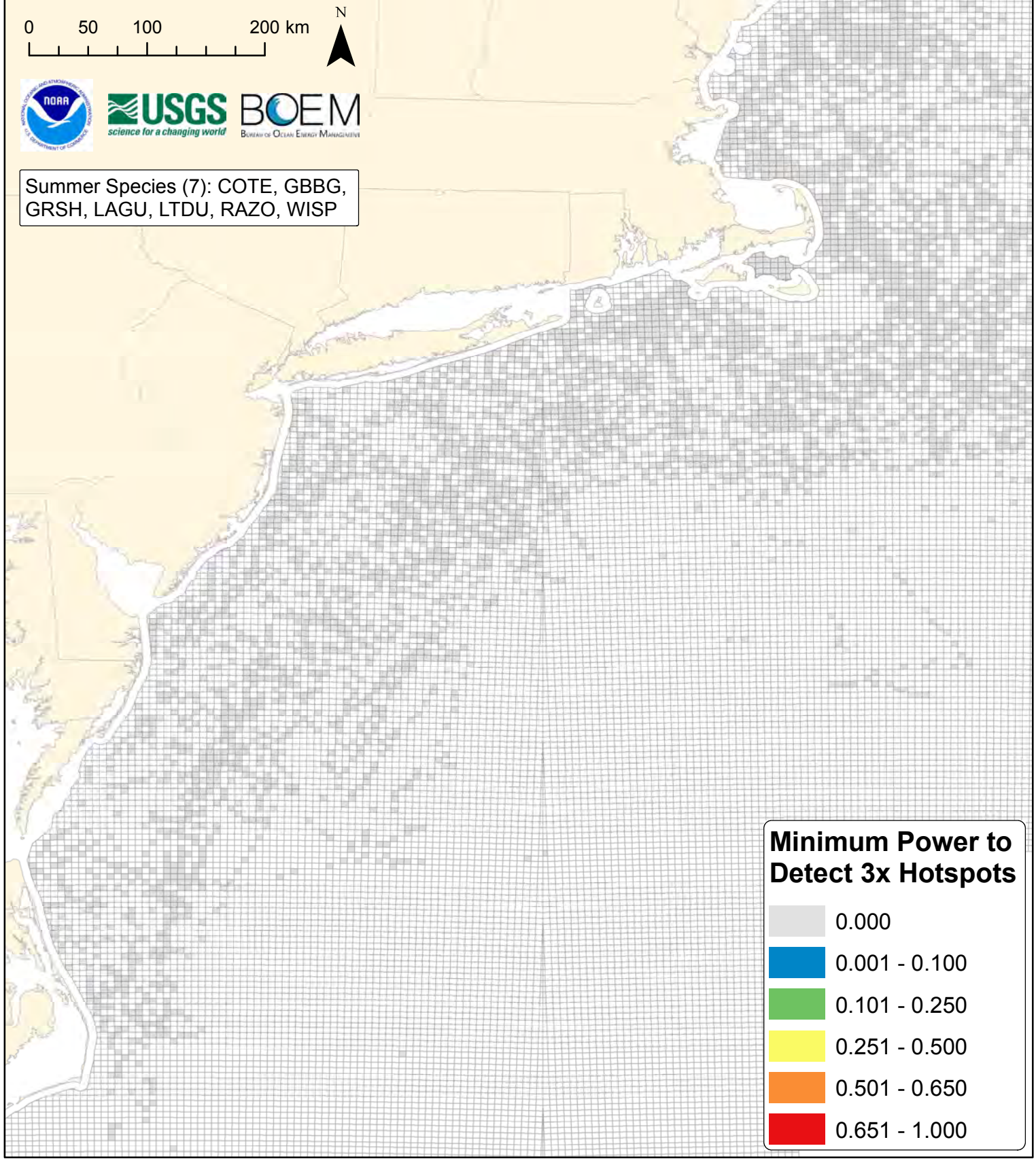

All Species (Summer)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 2
3 - 8
9 - 25
26 - 50
51 - 76

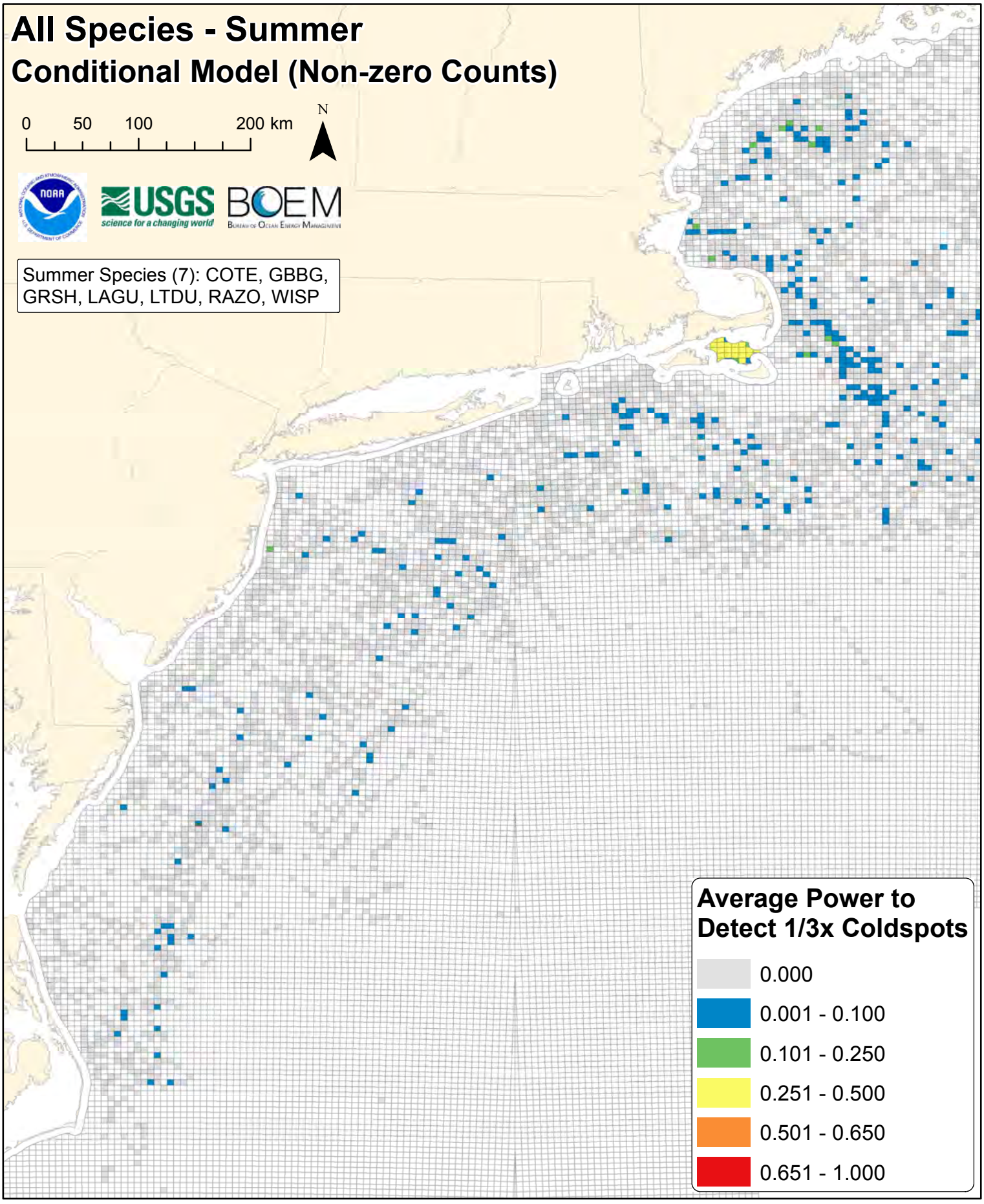

All Species - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Summer Species (7): COTE, GBBG, GRSH, LAGU, LTDU, RAZO, WISP
Average Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000

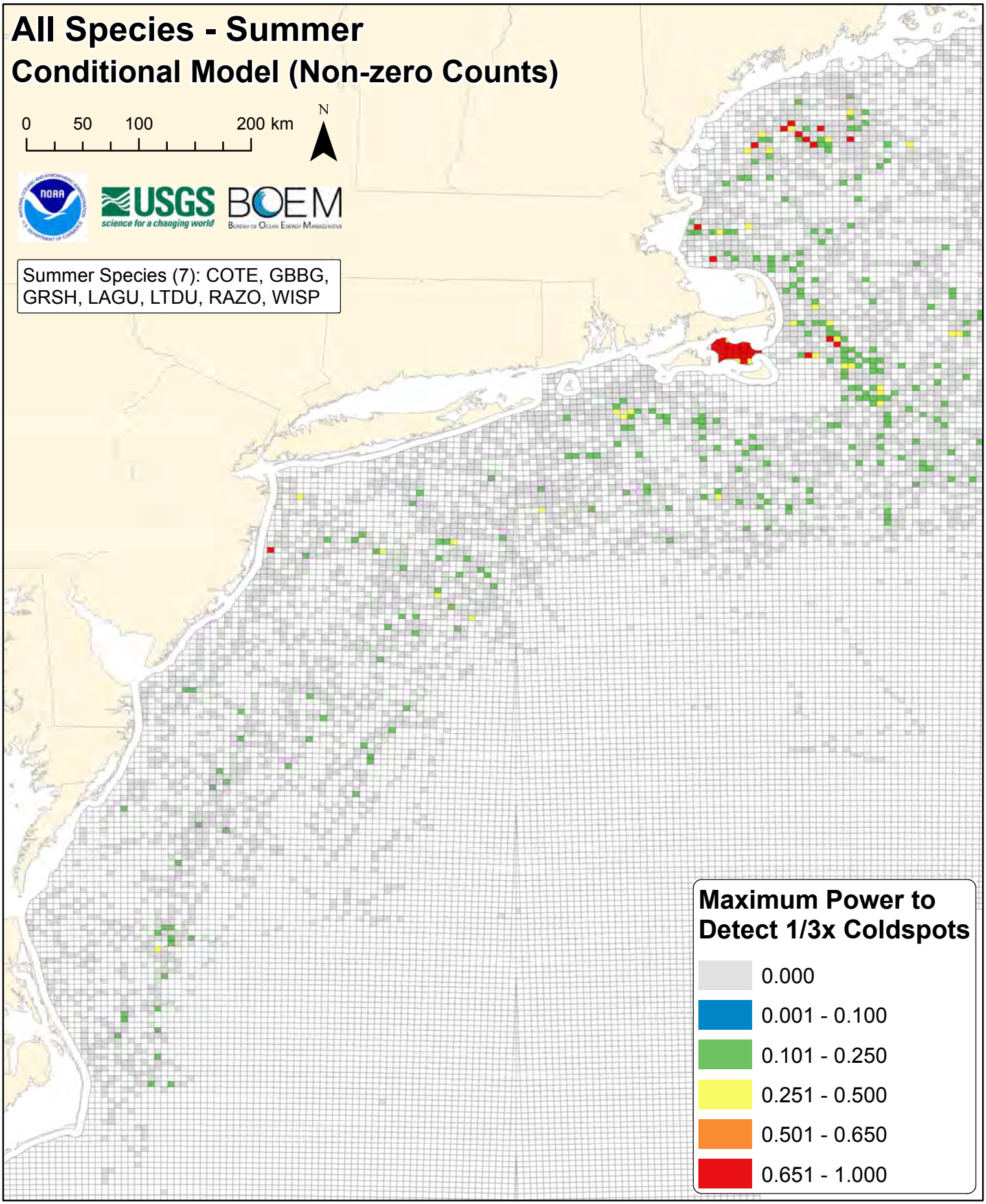

All Species - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Summer Species (7): COTE, GBBG, GRSH, LAGU, LTDU, RAZO, WISP
Maximum Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000

All Species - Summer

Conditional Model (Non-zero Counts)

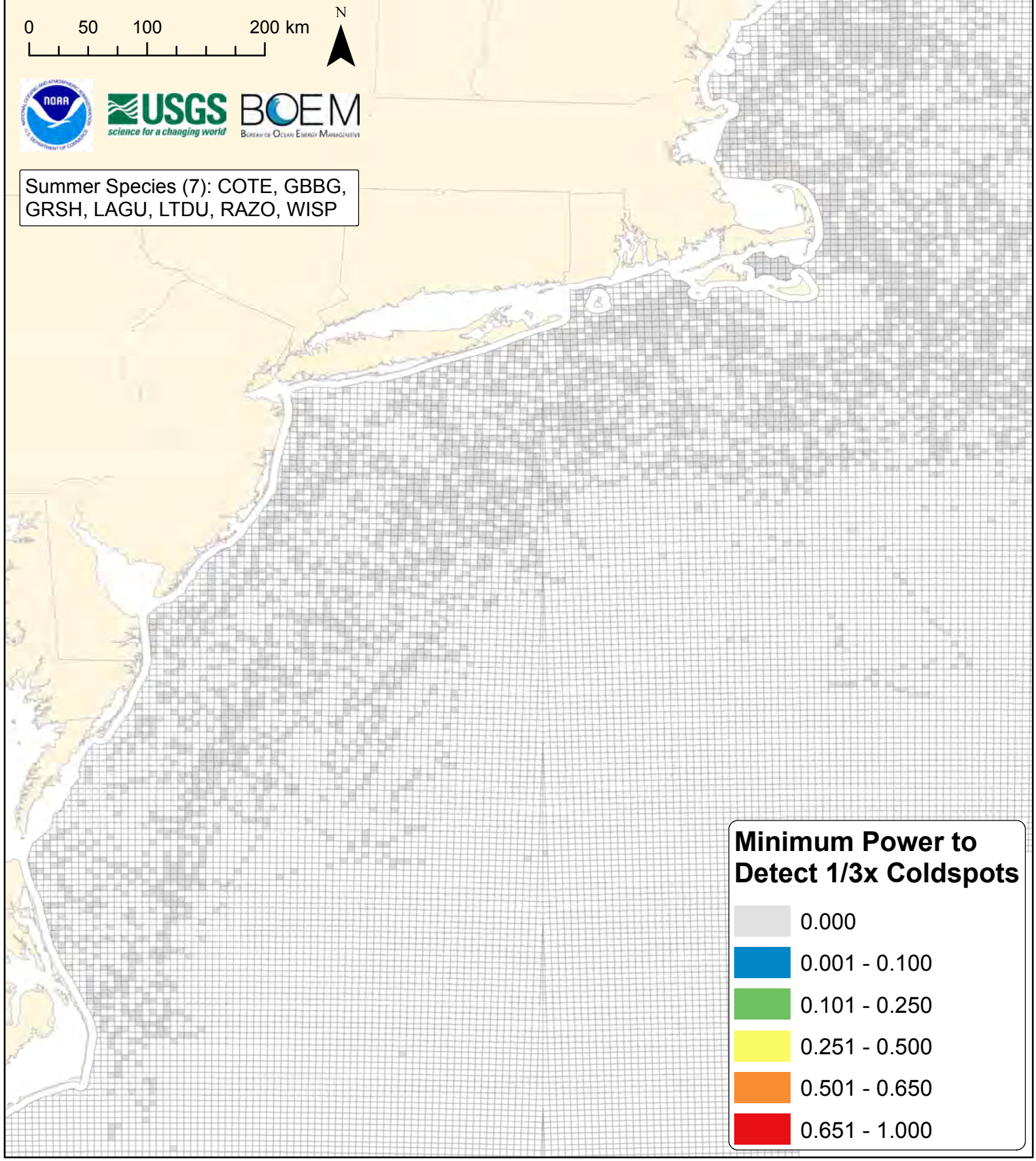



All Species - Summer
Conditional Model (Non-zero Counts)
0 50 100 200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Summer Species (7): COTE, GBBG, GRSH, LAGU, LTDU, RAZO, WISP
Average Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Summer
Conditional Model (Non-zero Counts)
0 50 100 200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Summer Species (7): COTE, GBBG, GRSH, LAGU, LTDU, RAZO, WISP
Maximum Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000

All Species - Summer

Conditional Model (Non-zero Counts)



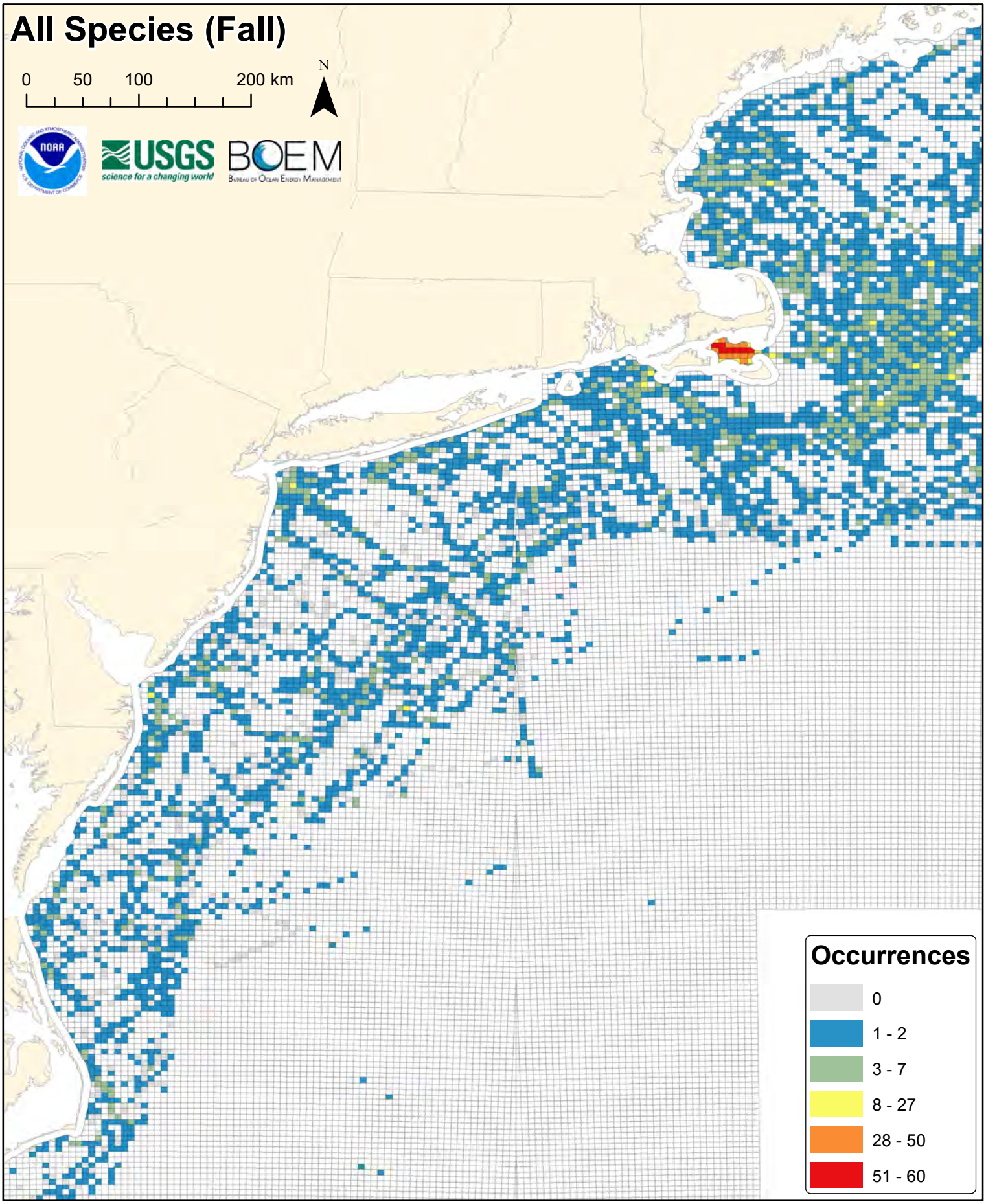
DIGITAL SUPPLEMENT F

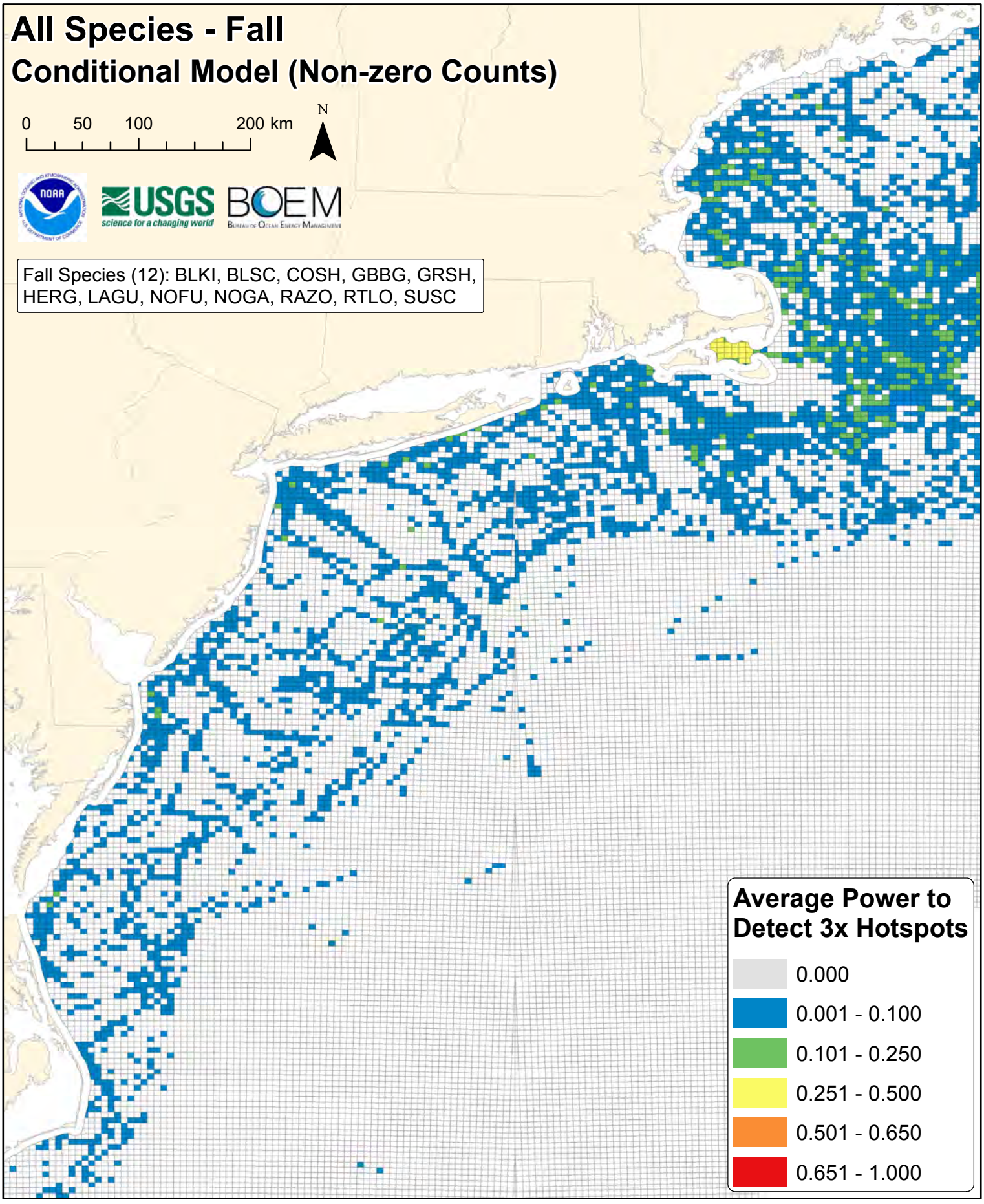
Conditional (Non-Zero Count) Model Results

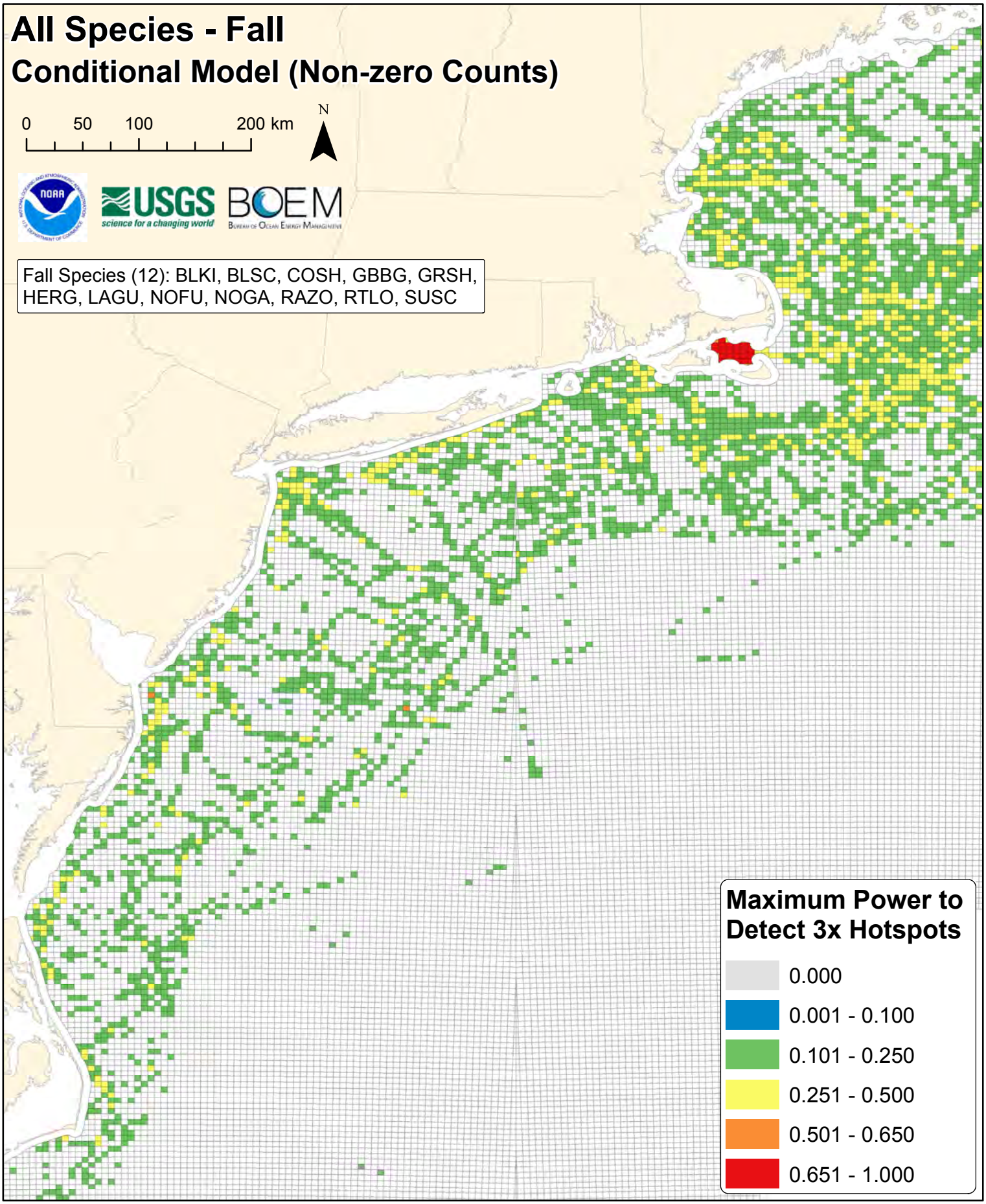
SECTION I. Summary Statistic Maps Calculated for All Species

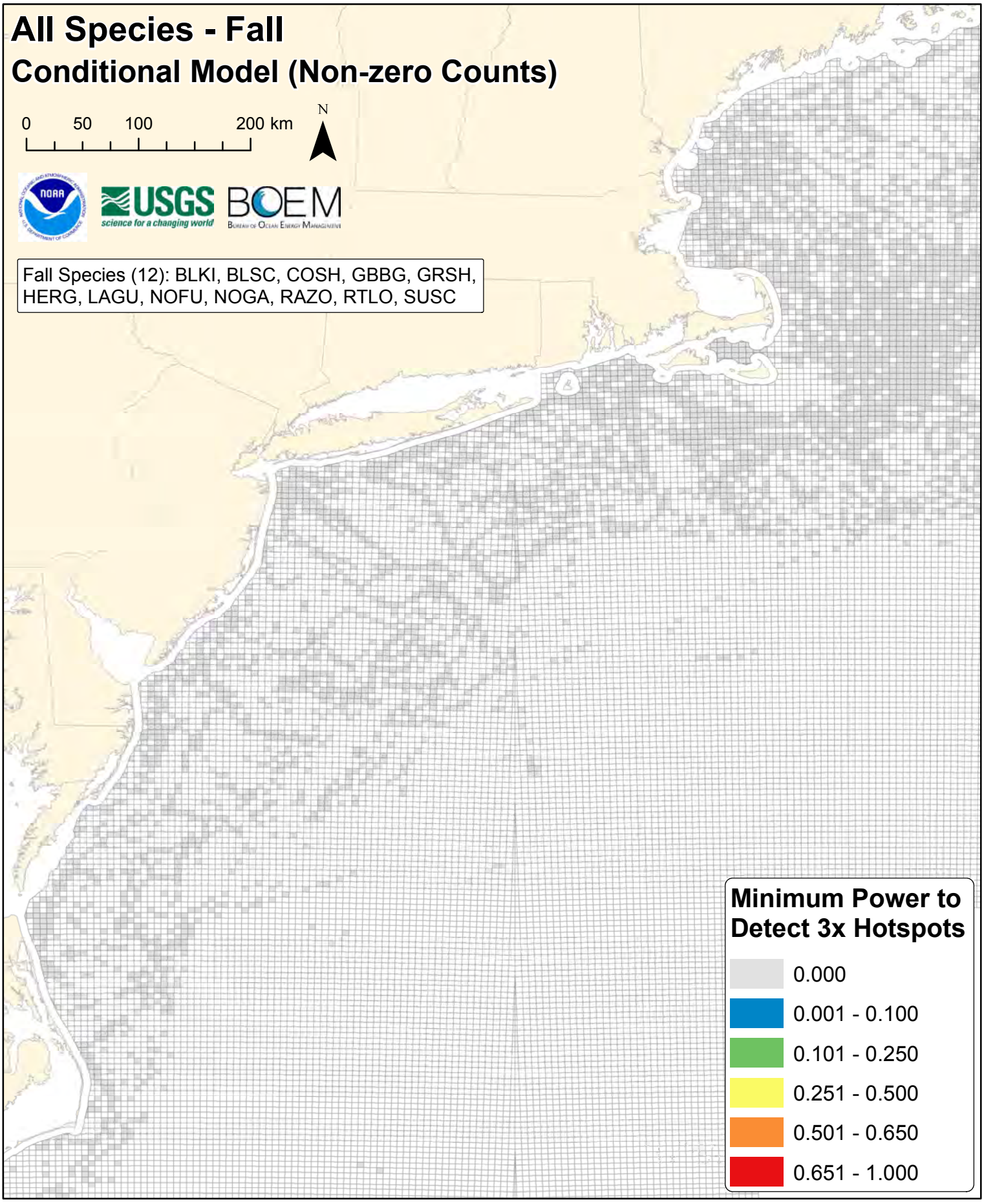
Figures F22-F28. Fall

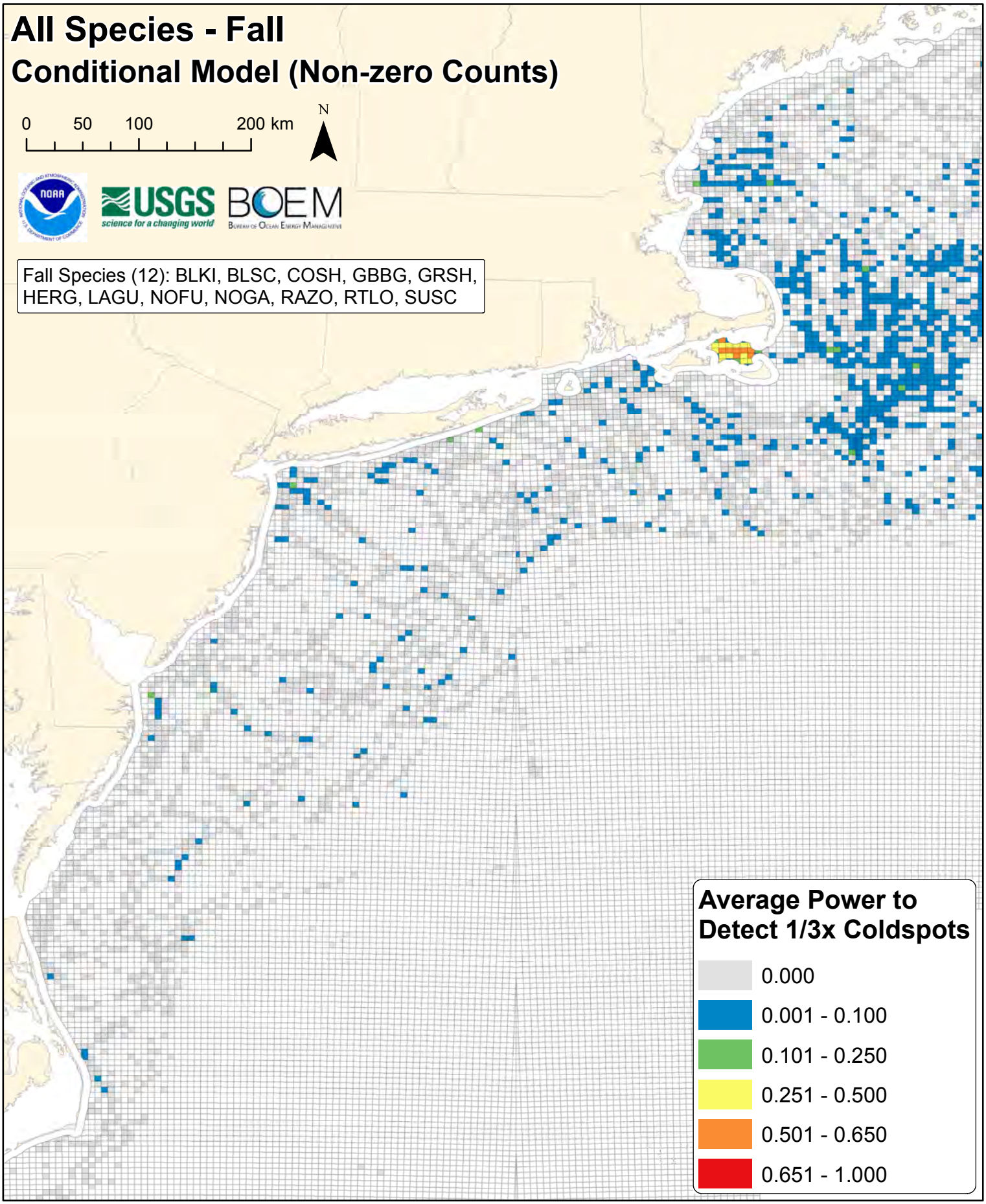
- Number of occurrences summed over all species in fall
- Average, maximum, and minimum power to detect 3x hotspots of non-zero abundance
- Average, maximum, and minimum power to detect 1/3x coldspots of non-zero abundance

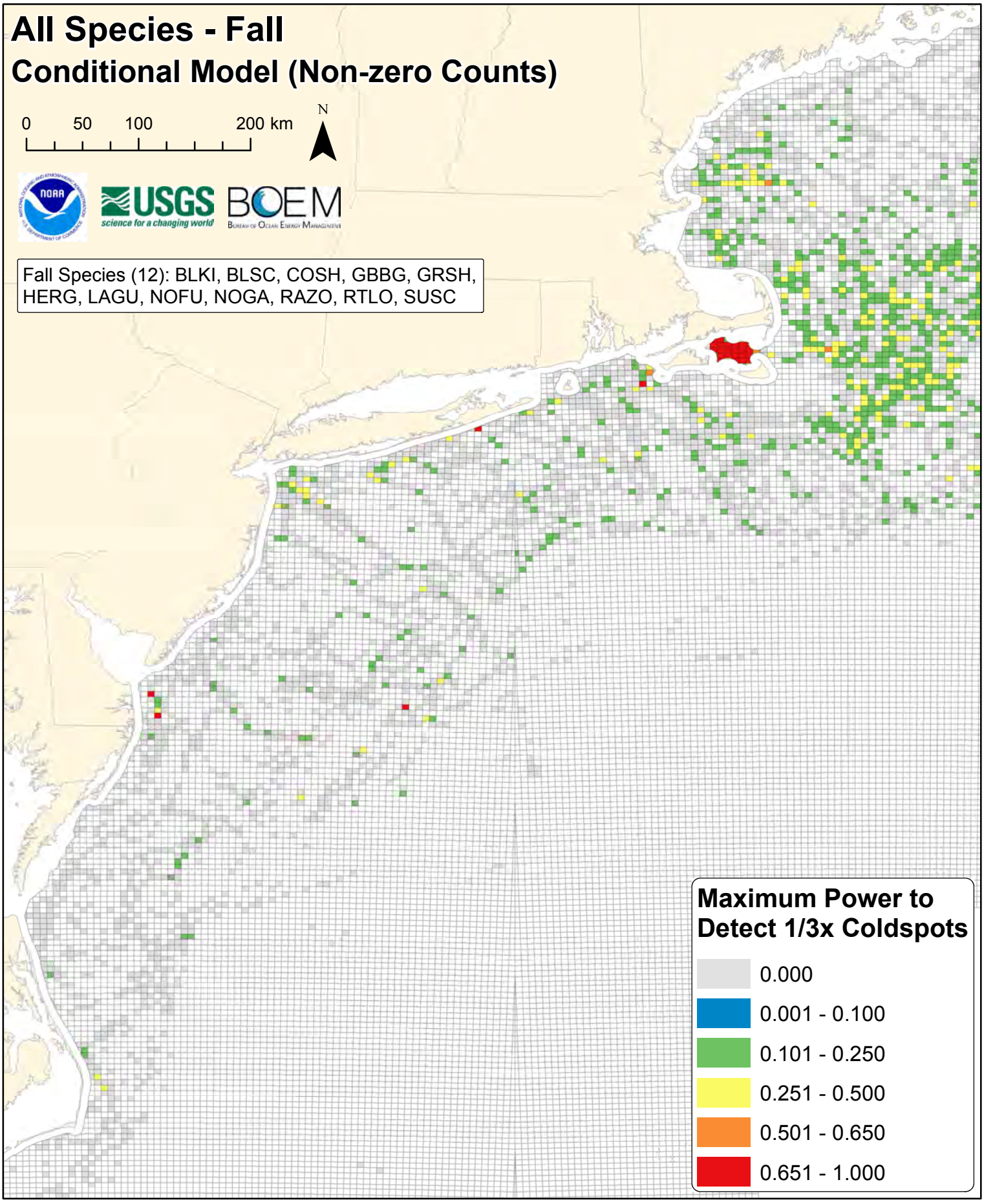

All Species (Fall)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 2
3 - 7
8 - 27
28 - 50
51 - 60

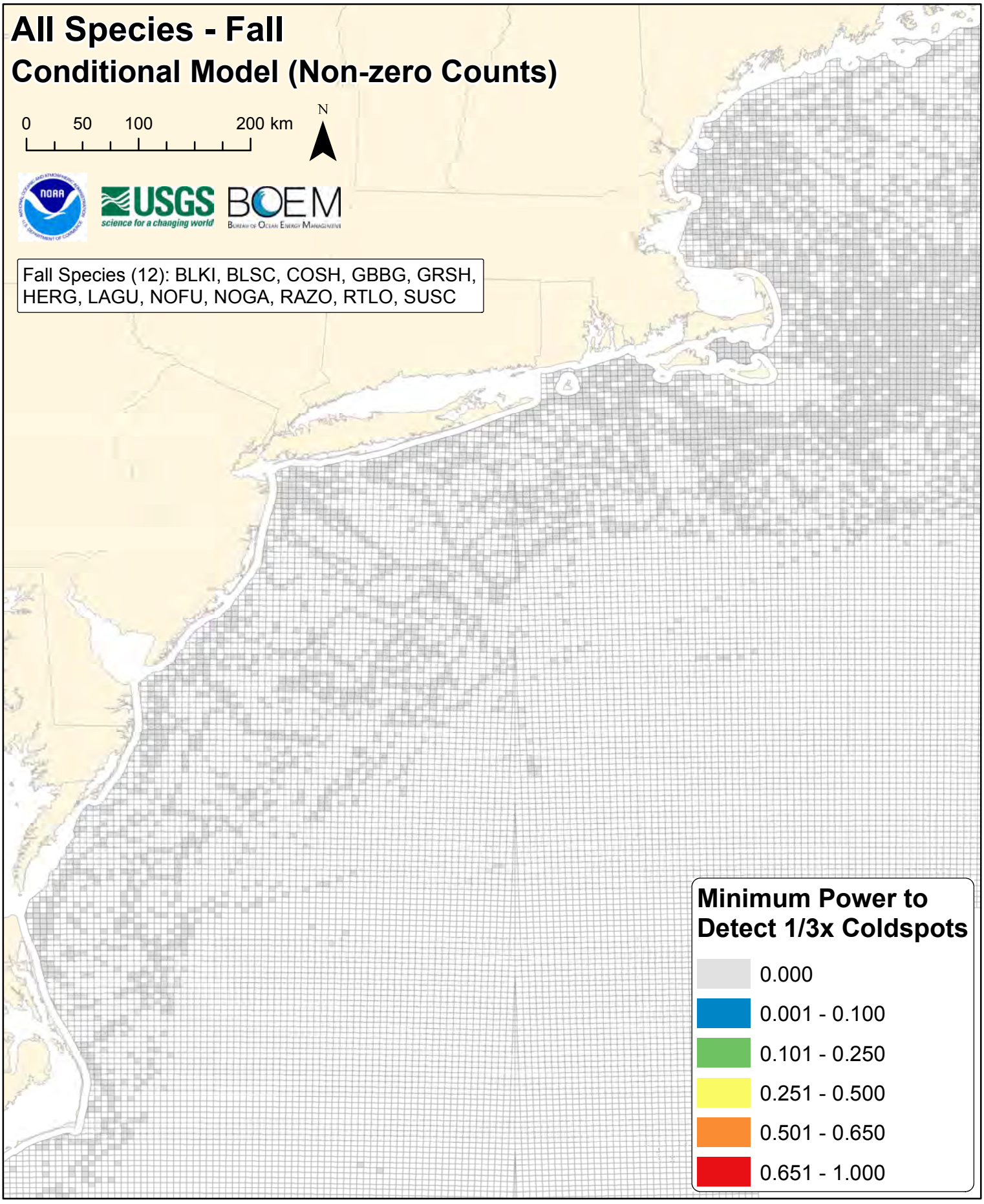

All Species - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Fall Species (12): BLKI, BLSC, COSH, GBBG, GRSH, HERG, LAGU, NOFU, NOGA, RAZO, RTLO, SUSC
Average Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Fall Species (12): BLKI, BLSC, COSH, GBBG, GRSH, HERG, LAGU, NOFU, NOGA, RAZO, RTLO, SUSC
Maximum Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Fall
Conditional Model (Non-zero Counts)
0 50 100 200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Fall Species (12): BLKI, BLSC, COSH, GBBG, GRSH, HERG, LAGU, NOFU, NOGA, RAZO, RTLO, SUSC
Minimum Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Fall Species (12): BLKI, BLSC, COSH, GBBG, GRSH, HERG, LAGU, NOFU, NOGA, RAZO, RTLO, SUSC
Average Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Fall Species (12): BLKI, BLSC, COSH, GBBG, GRSH, HERG, LAGU, NOFU, NOGA, RAZO, RTLO, SUSC
Maximum Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Fall
Conditional Model (Non-zero Counts)
0 50 100 200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Fall Species (12): BLKI, BLSC, COSH, GBBG, GRSH, HERG, LAGU, NOFU, NOGA, RAZO, RTLO, SUSC
Minimum Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000

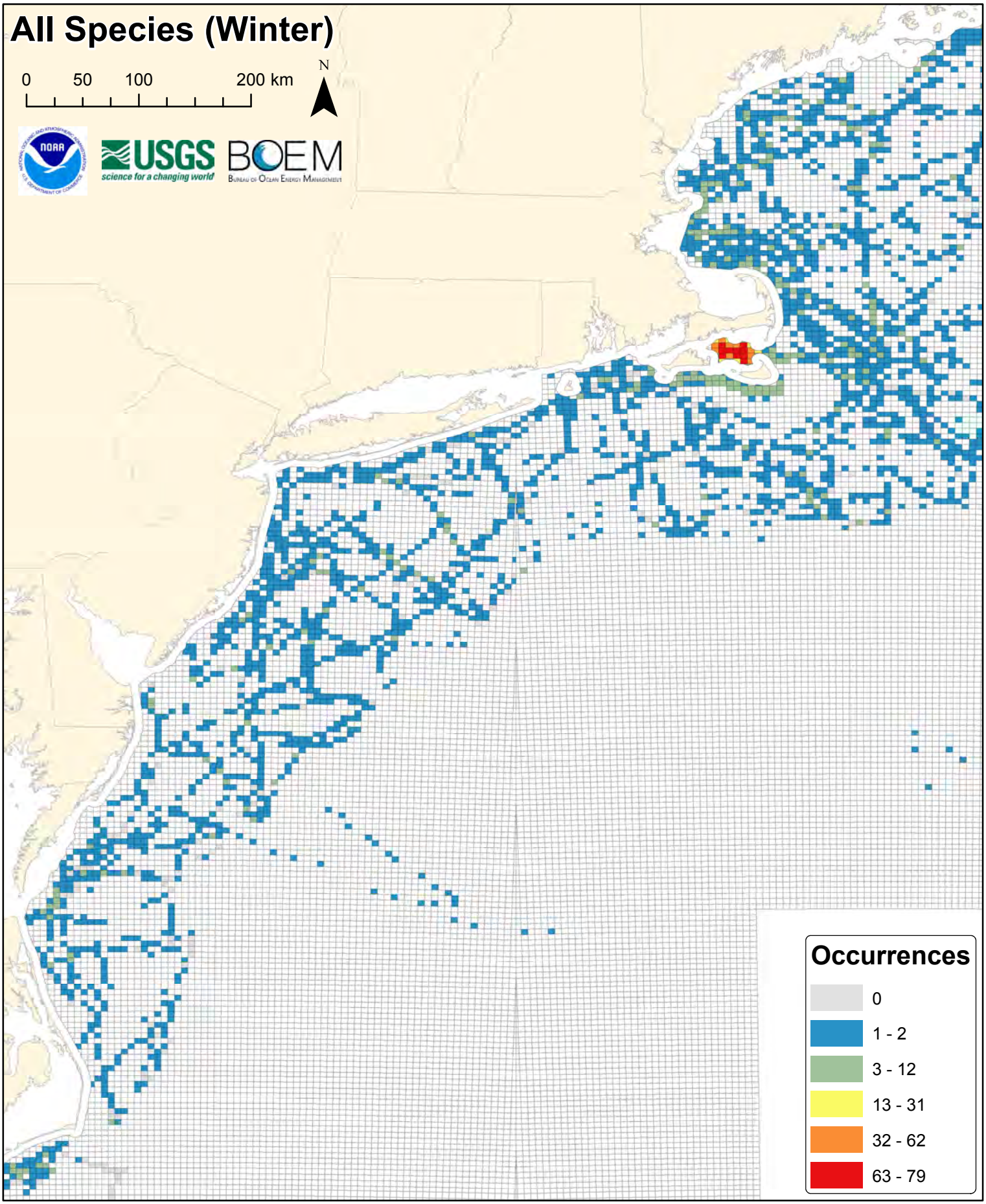
DIGITAL SUPPLEMENT F

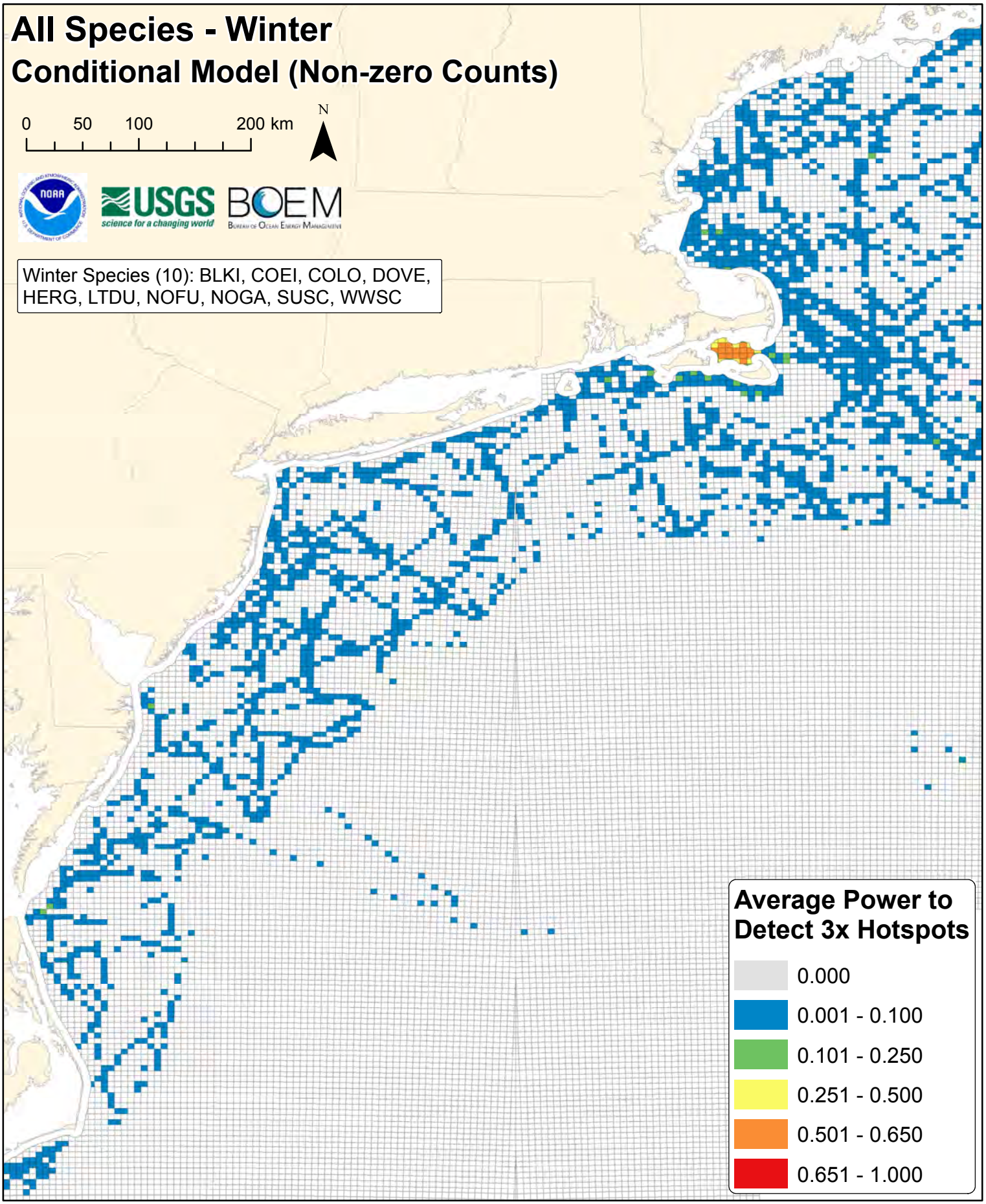
Conditional (Non-Zero Count) Model Results

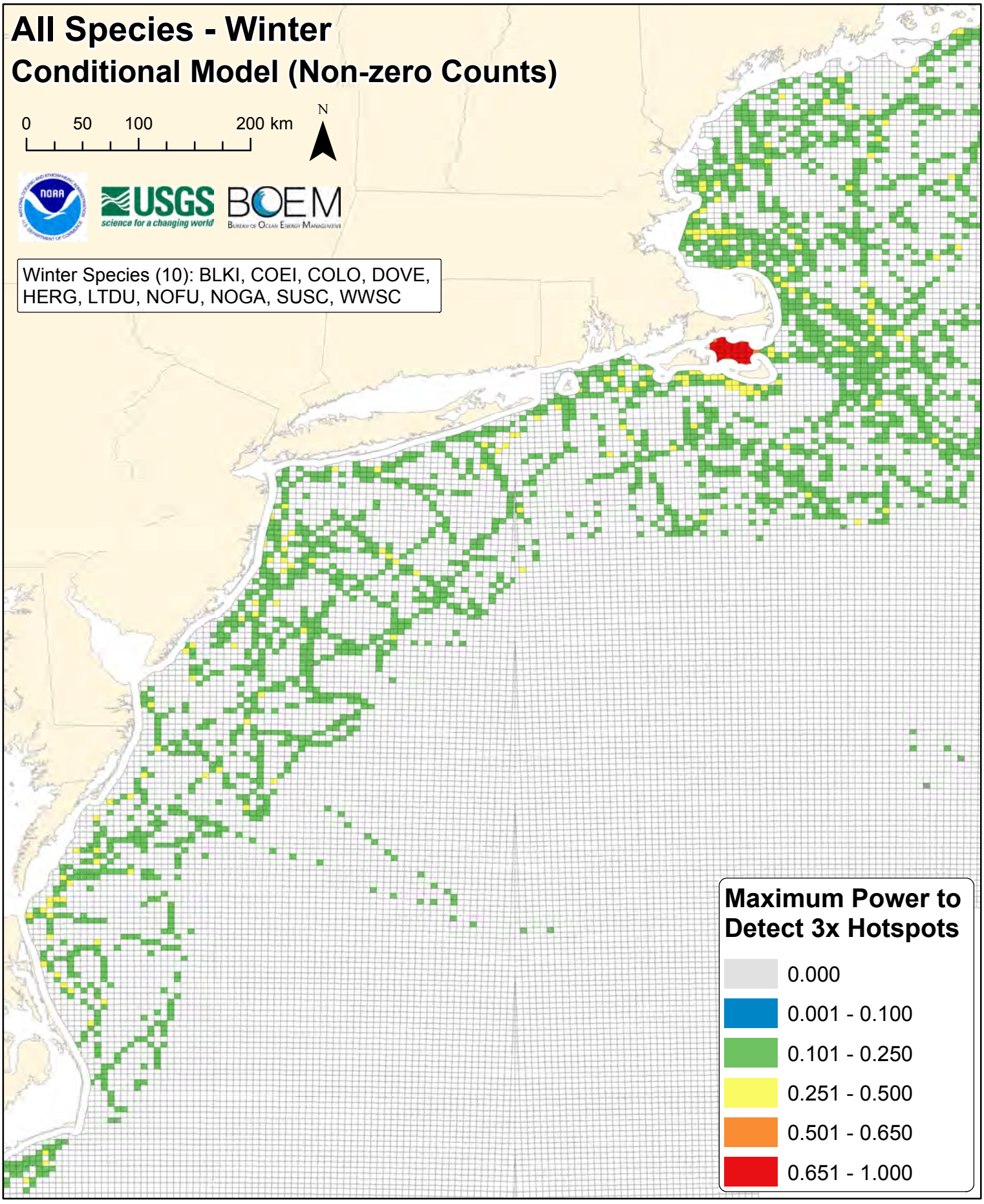
SECTION I. Summary Statistic Maps Calculated for All Species

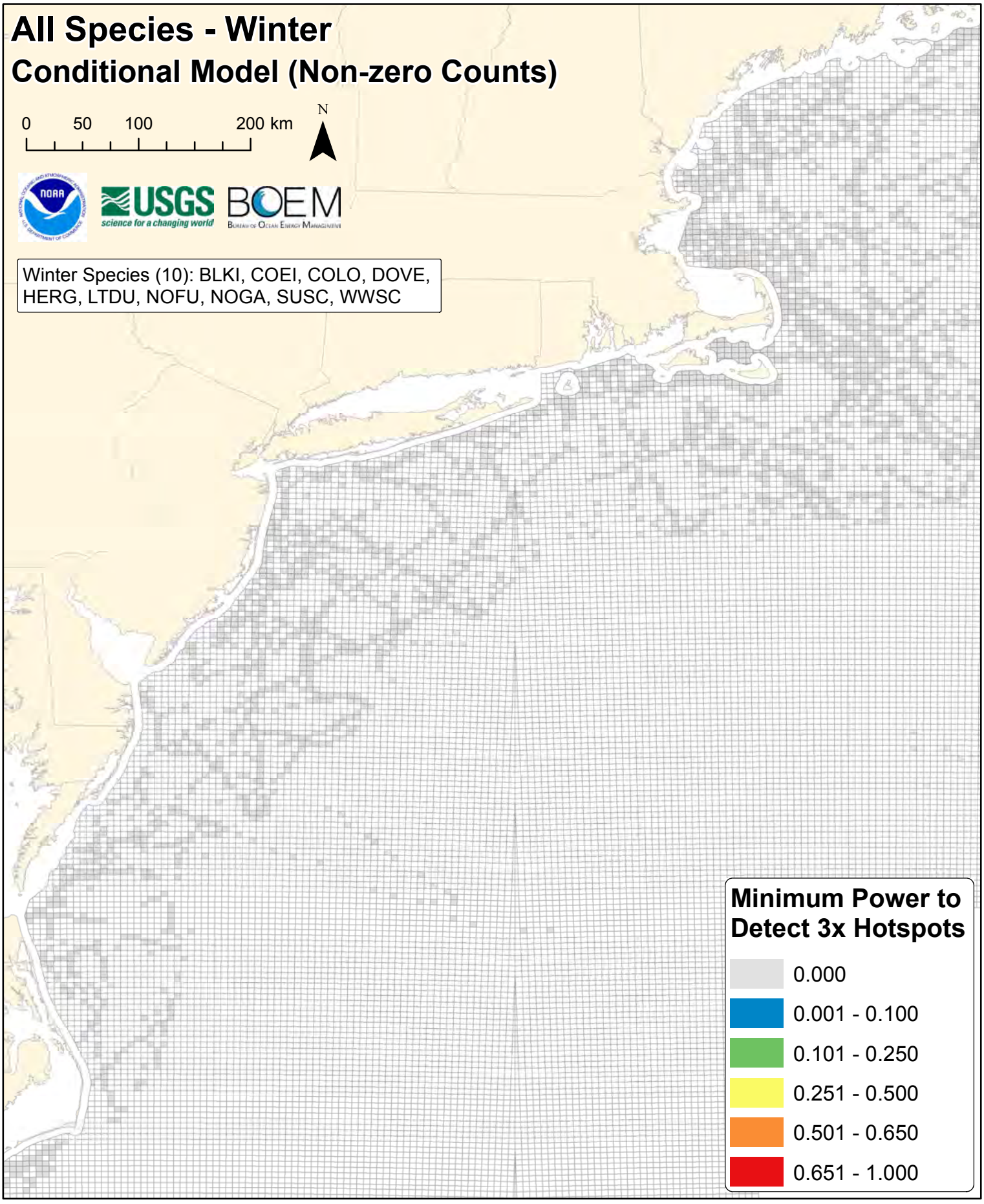
Figures F29-F35. Winter

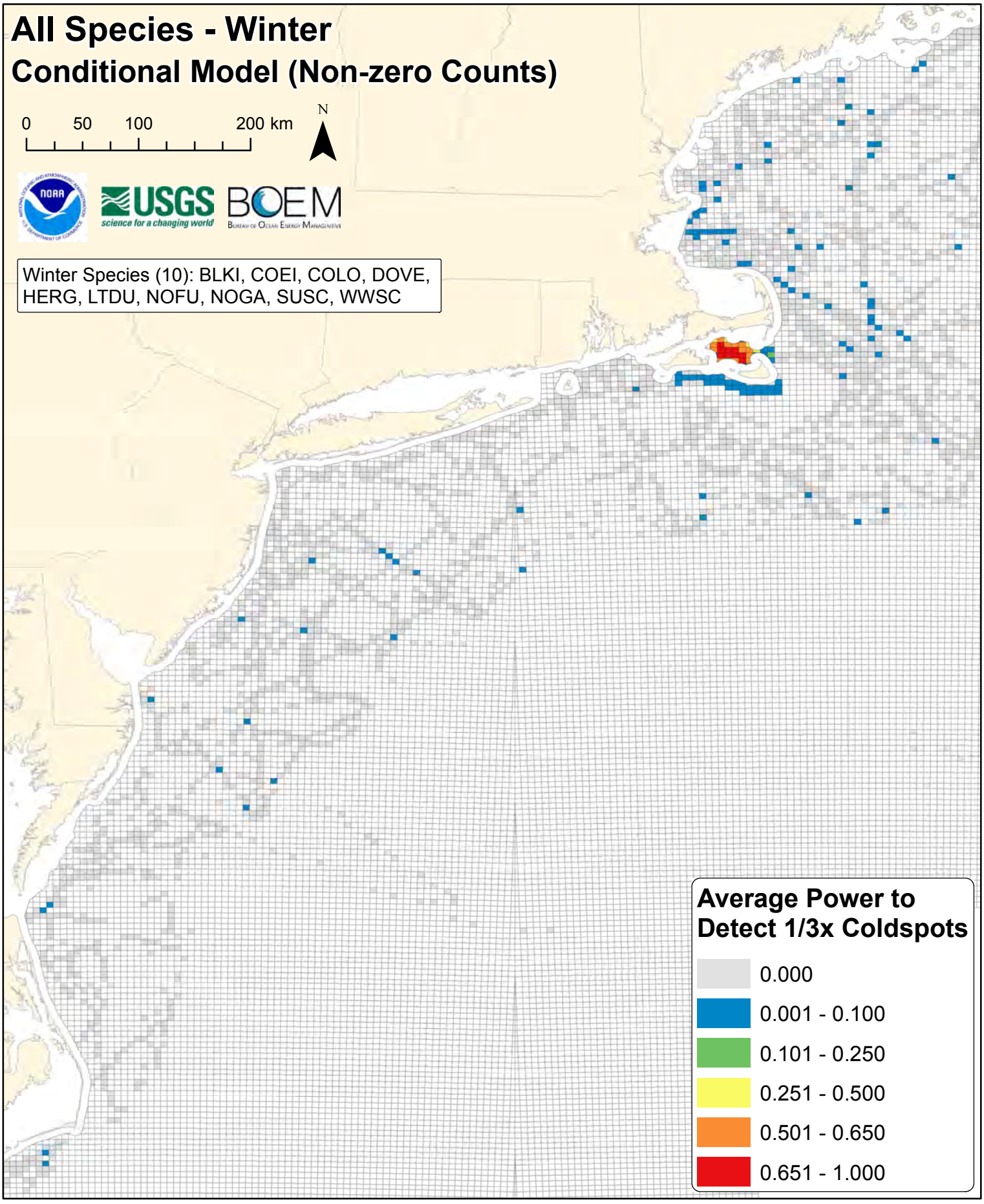
- Number of occurrences summed over all species in winter
- Average, maximum, and minimum power to detect 3x hotspots of non-zero abundance
- Average, maximum, and minimum power to detect 1/3x coldspots of non-zero abundance

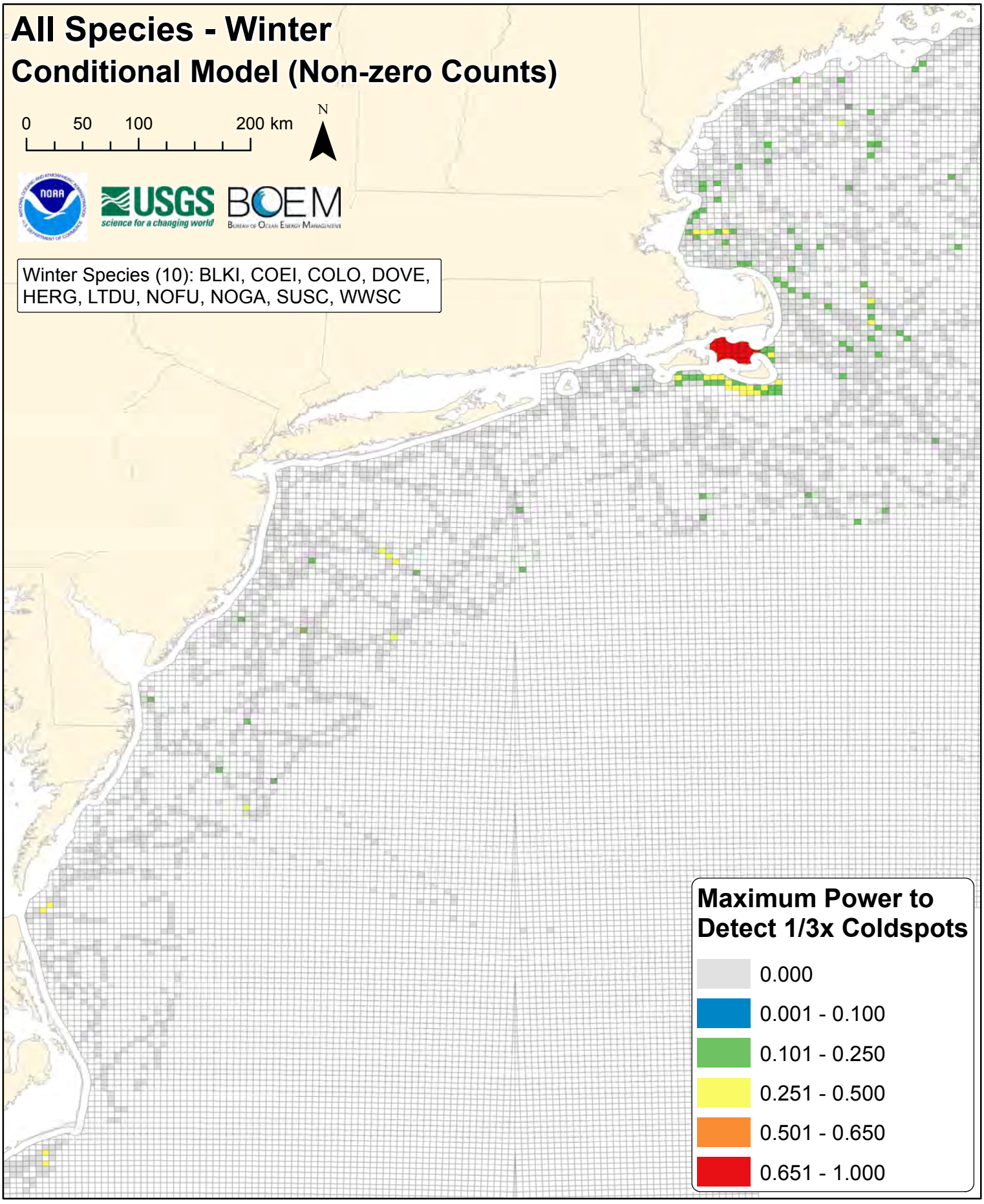

All Species (Winter)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 2
3 - 12
13 - 31
32 - 62
63 - 79

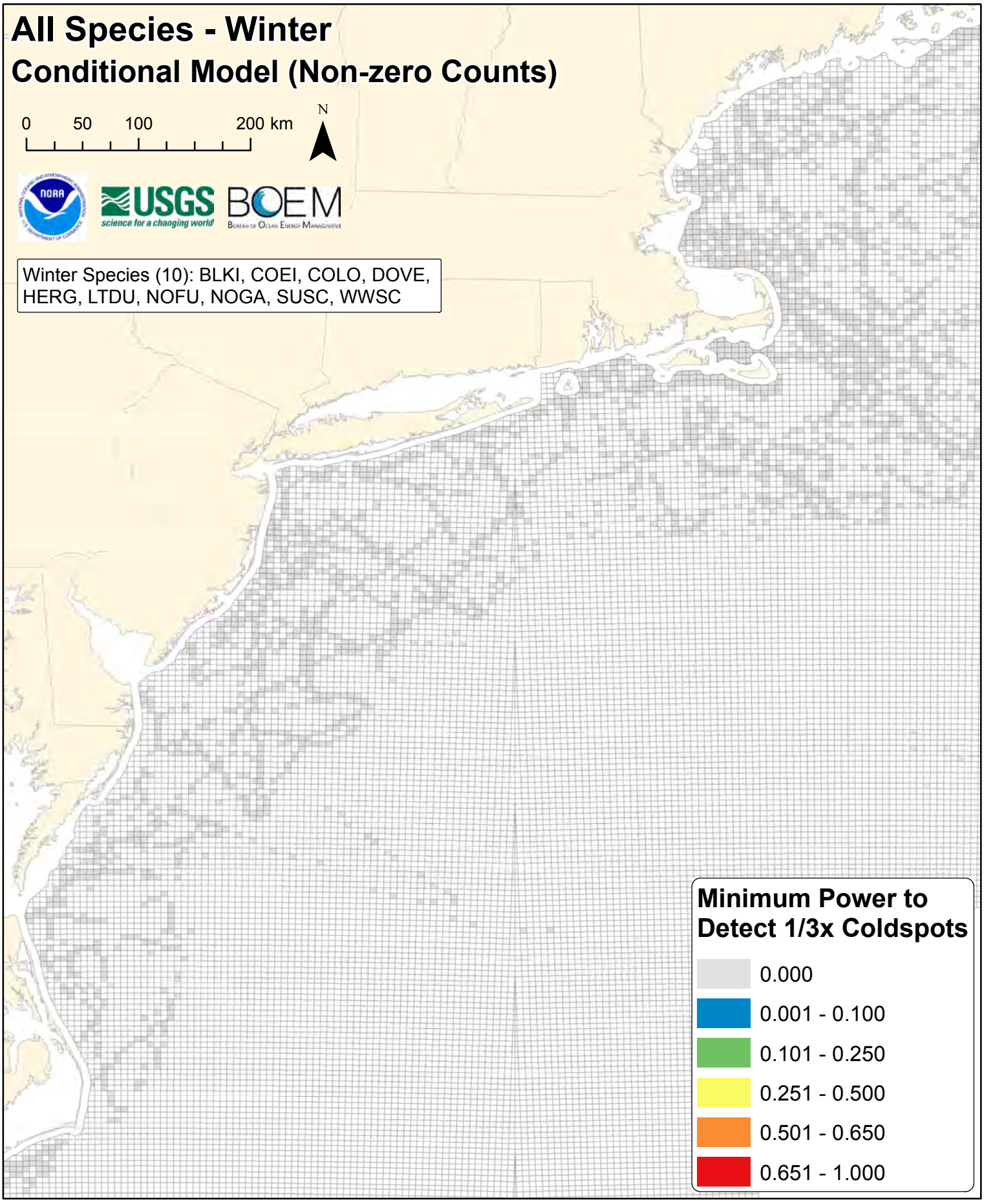

All Species - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Winter Species (10): BLKI, COEI, COLO, DOVE, HERG, LTDU, NOFU, NOGA, SUSC, WWSC
Average Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Winter Species (10): BLKI, COEI, COLO, DOVE, HERG, LTDU, NOFU, NOGA, SUSC, WWSC
Maximum Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Winter Species (10): BLKI, COEI, COLO, DOVE, HERG, LTDU, NOFU, NOGA, SUSC, WWSC
Minimum Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Winter Species (10): BLKI, COEI, COLO, DOVE, HERG, LTDU, NOFU, NOGA, SUSC, WWSC
Average Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000


All Species - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Winter Species (10): BLKI, COEI, COLO, DOVE, HERG, LTDU, NOFU, NOGA, SUSC, WWSC
Maximum Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000

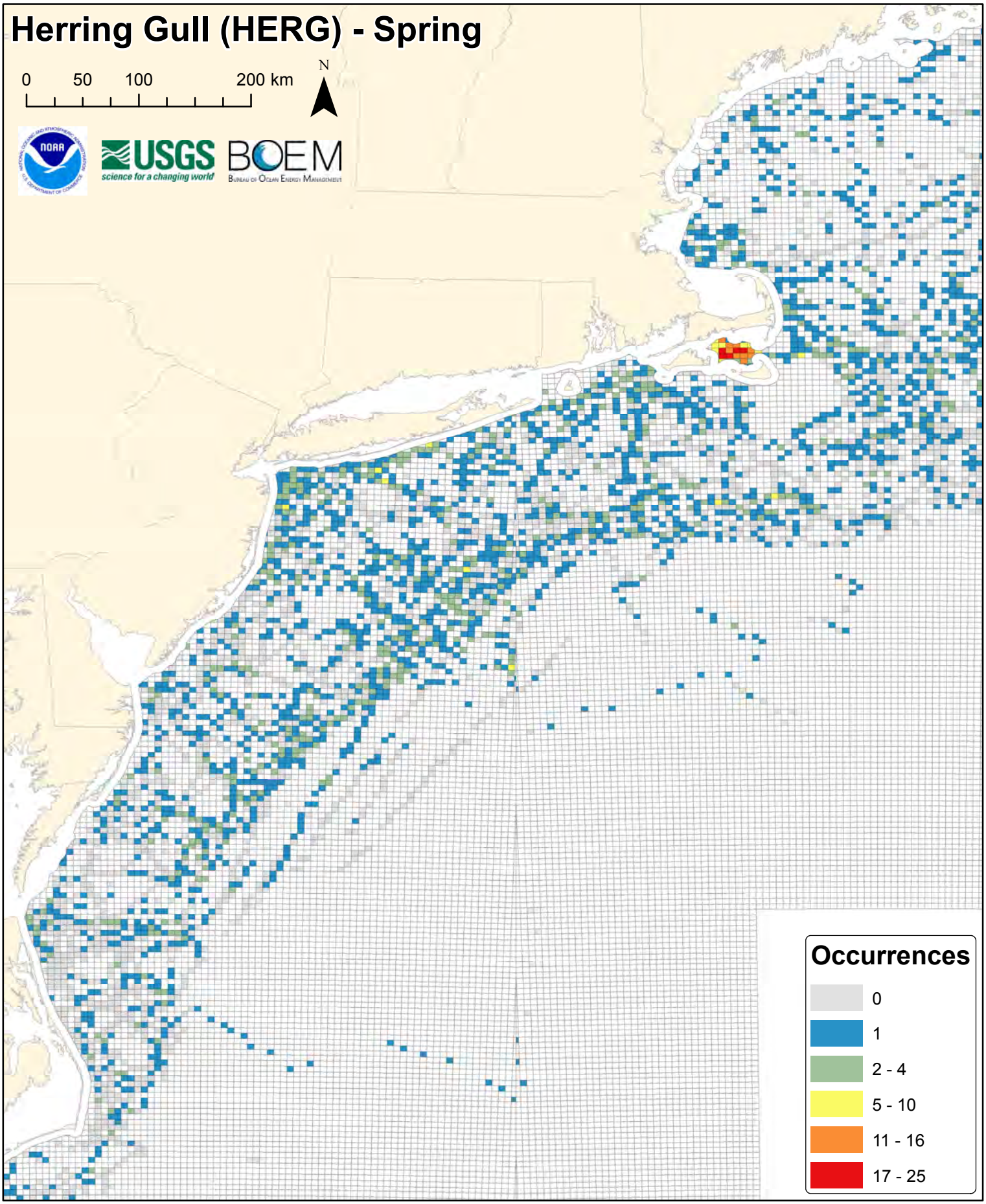

All Species - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Winter Species (10): BLKI, COEI, COLO, DOVE, HERG, LTDU, NOFU, NOGA, SUSC, WWSC
Minimum Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 1.000

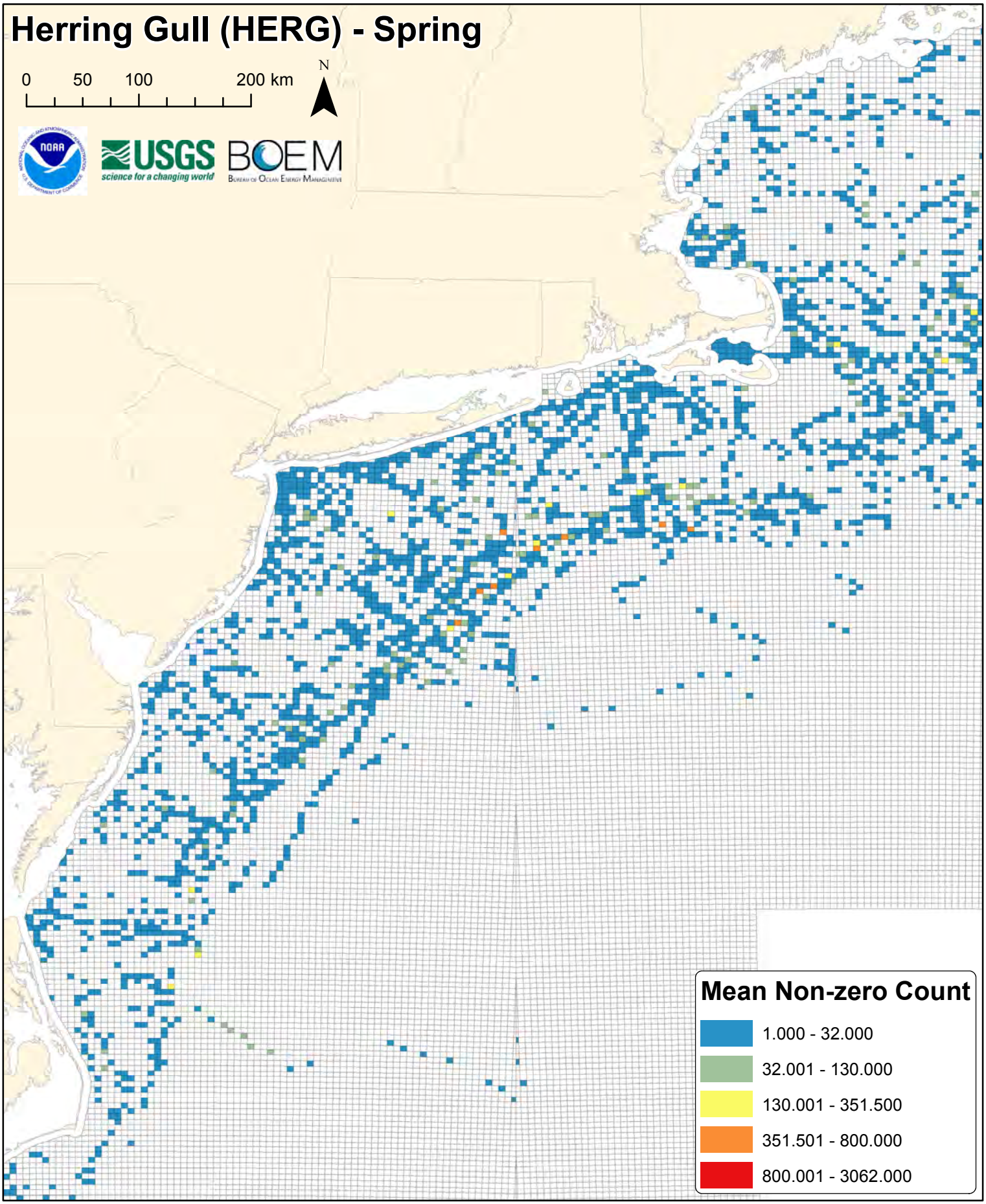
DIGITAL SUPPLEMENT F

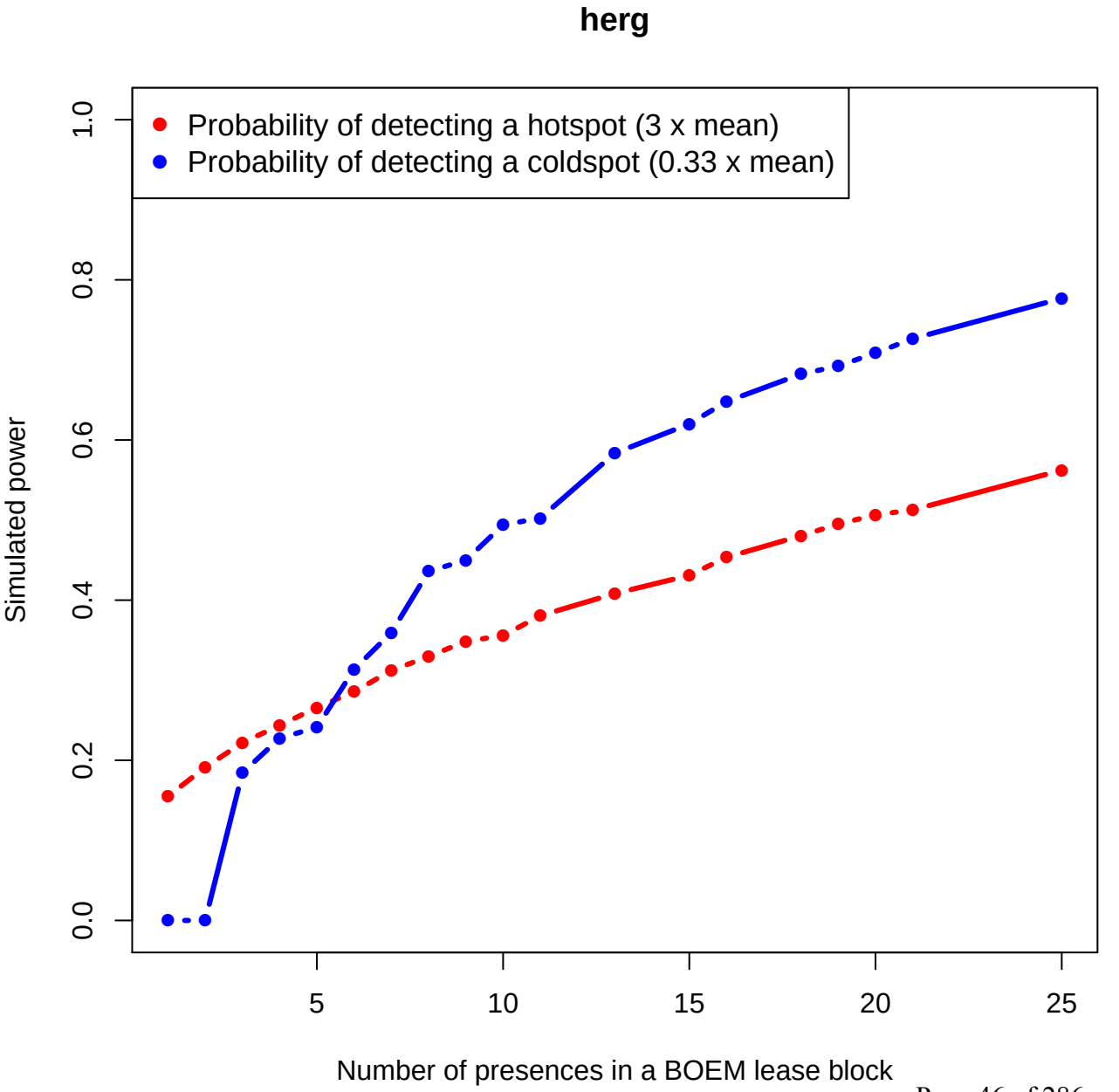
Conditional (Non-Zero Count) Model Results

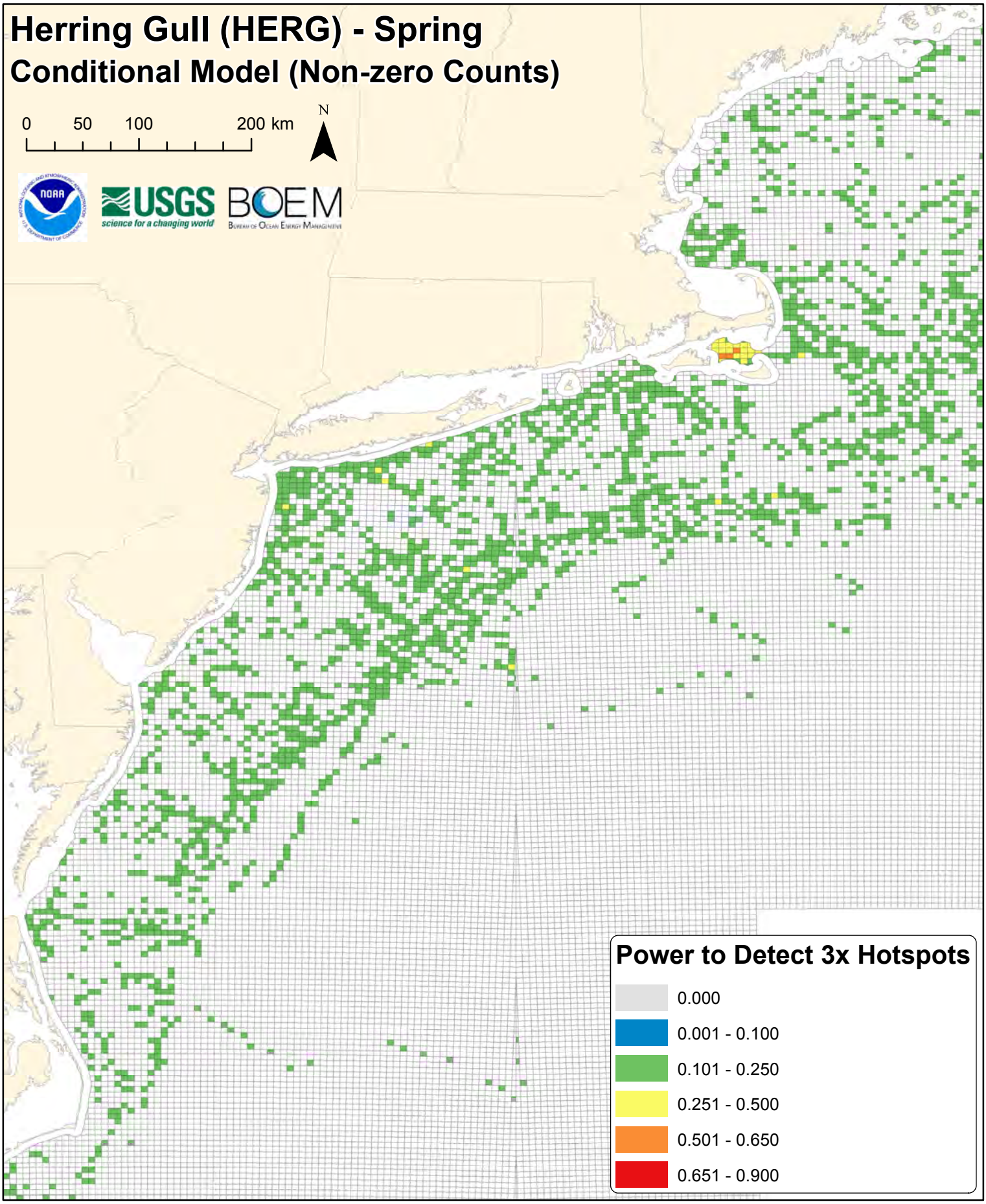
SECTION II. Species-specific Power Analysis Maps and Figures

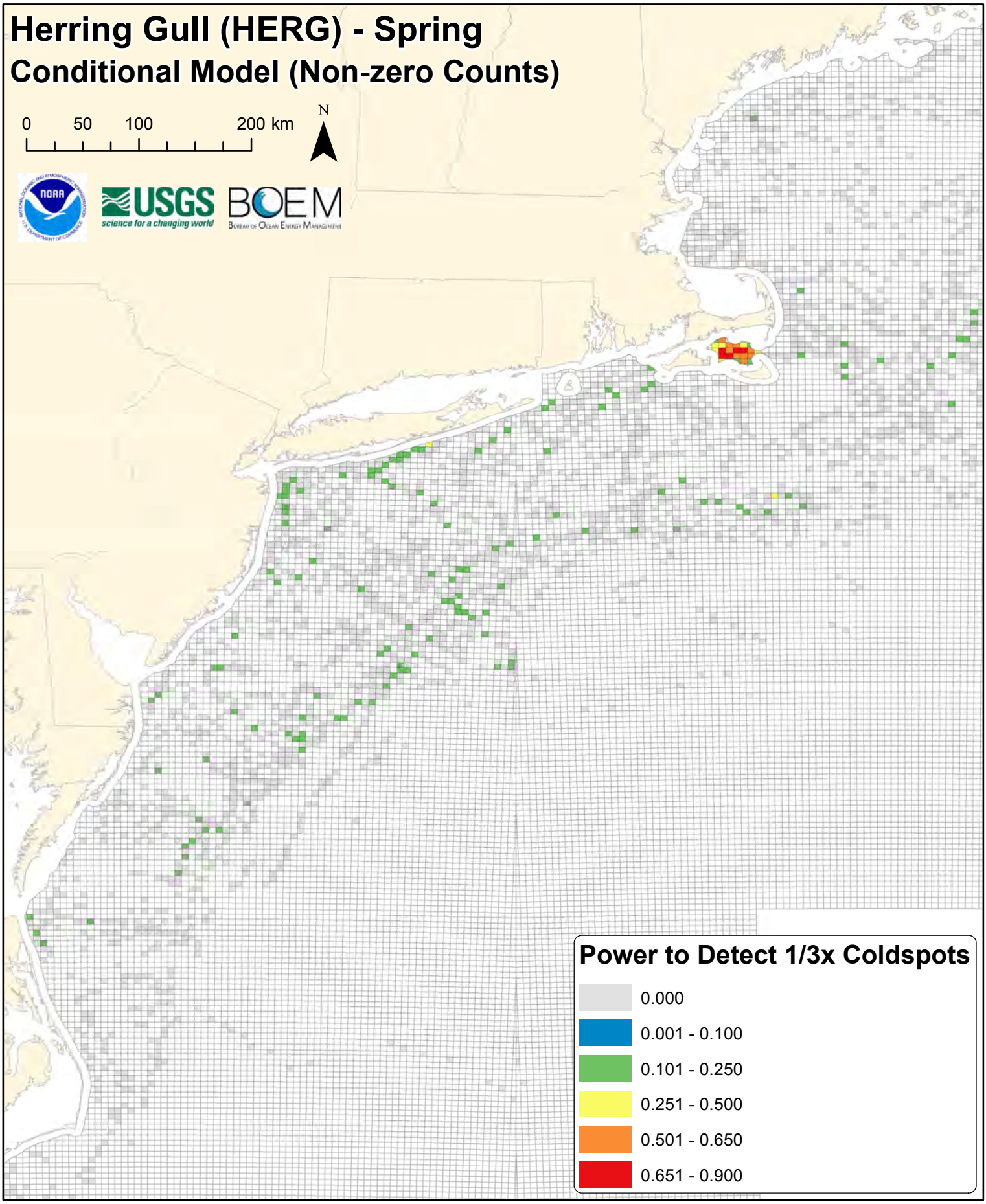
Figures F36-F101. Spring power analysis maps and figures (11 species x 6 figures per species).

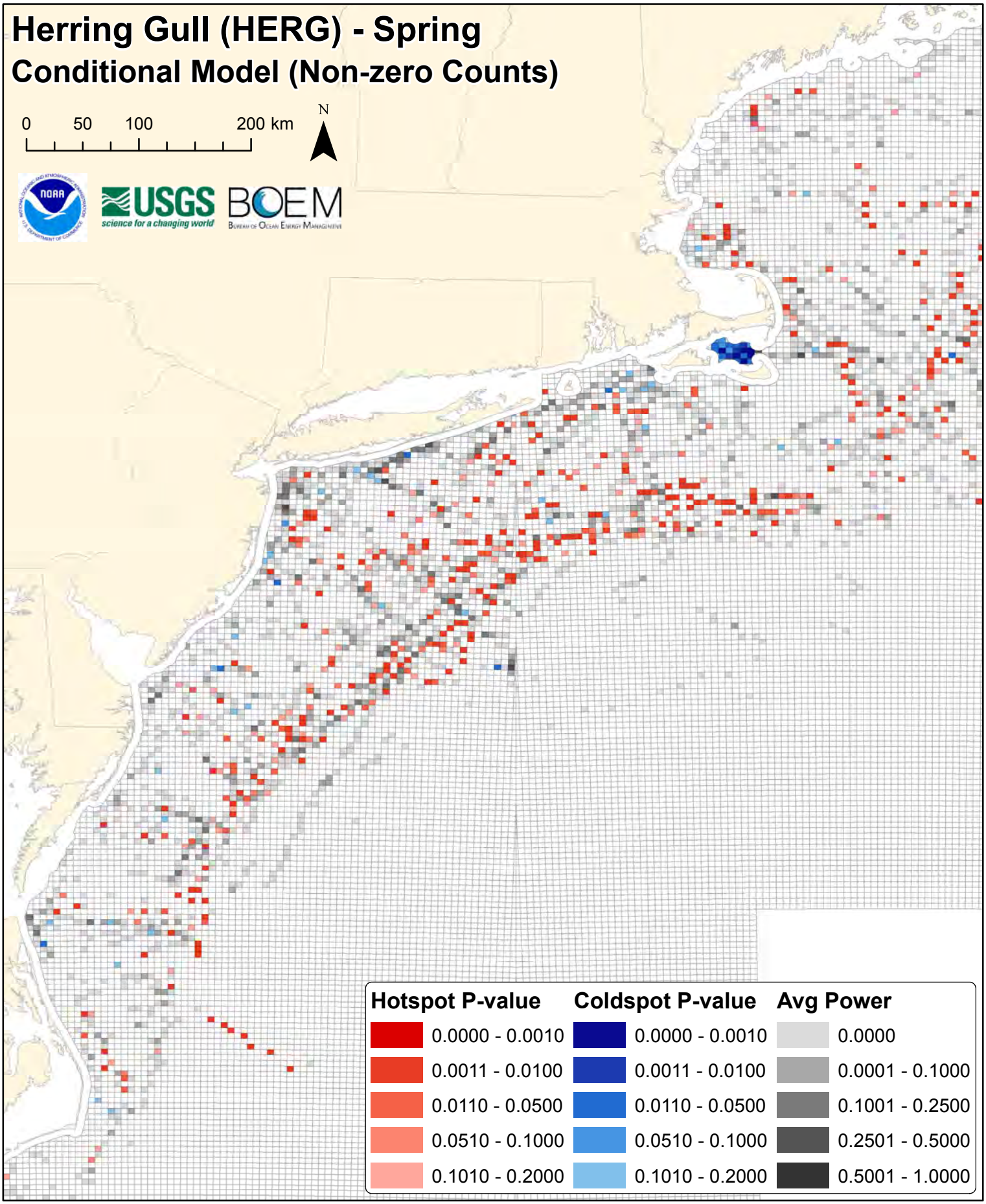

Herring Gull (HERG) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2 - 4
5 - 10
11 - 16
17 - 25

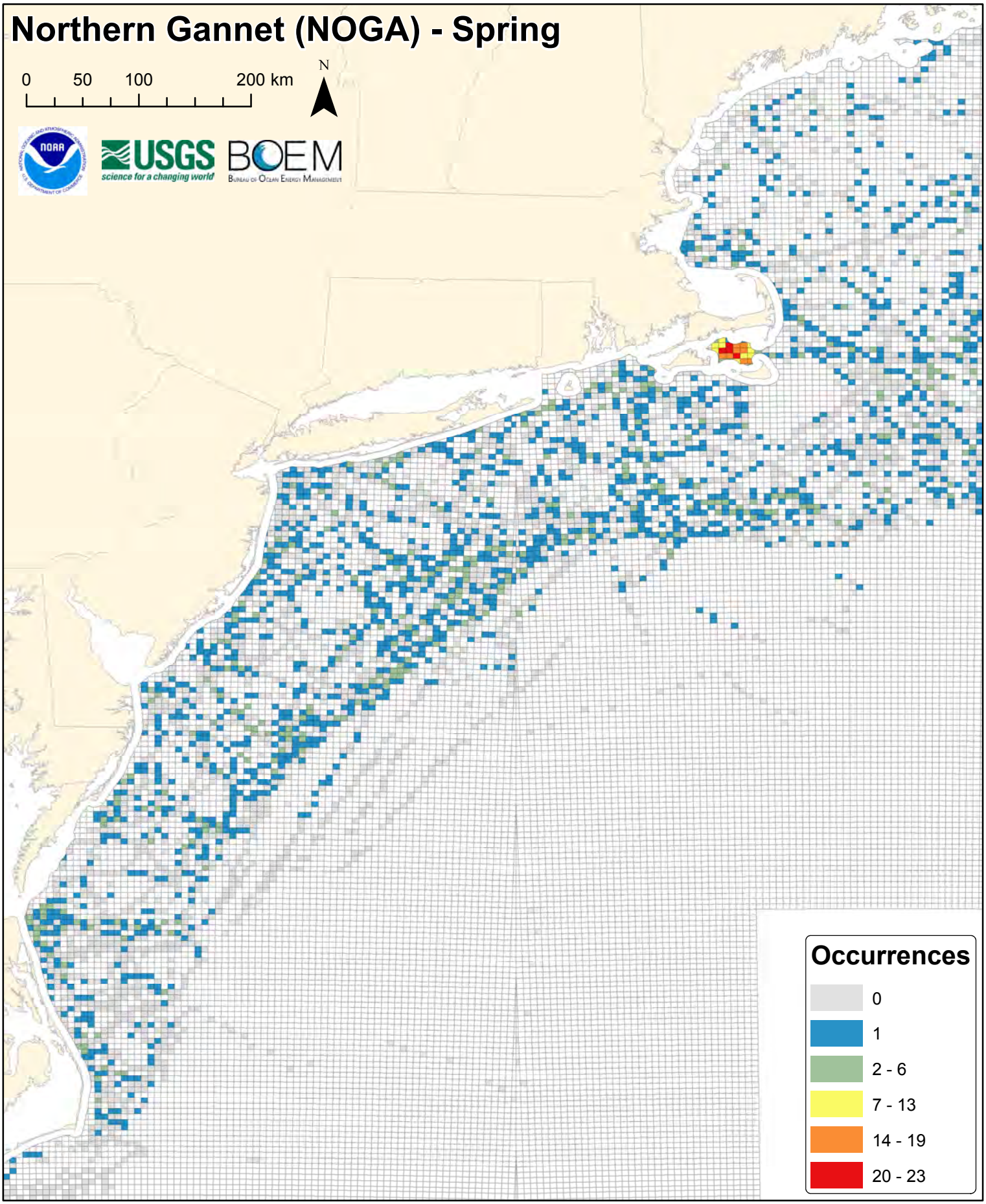

Herring Gull (HERG) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 32.000
32.001 - 130.000
130.001 - 351.500
351.501 - 800.000
800.001 - 3062.000

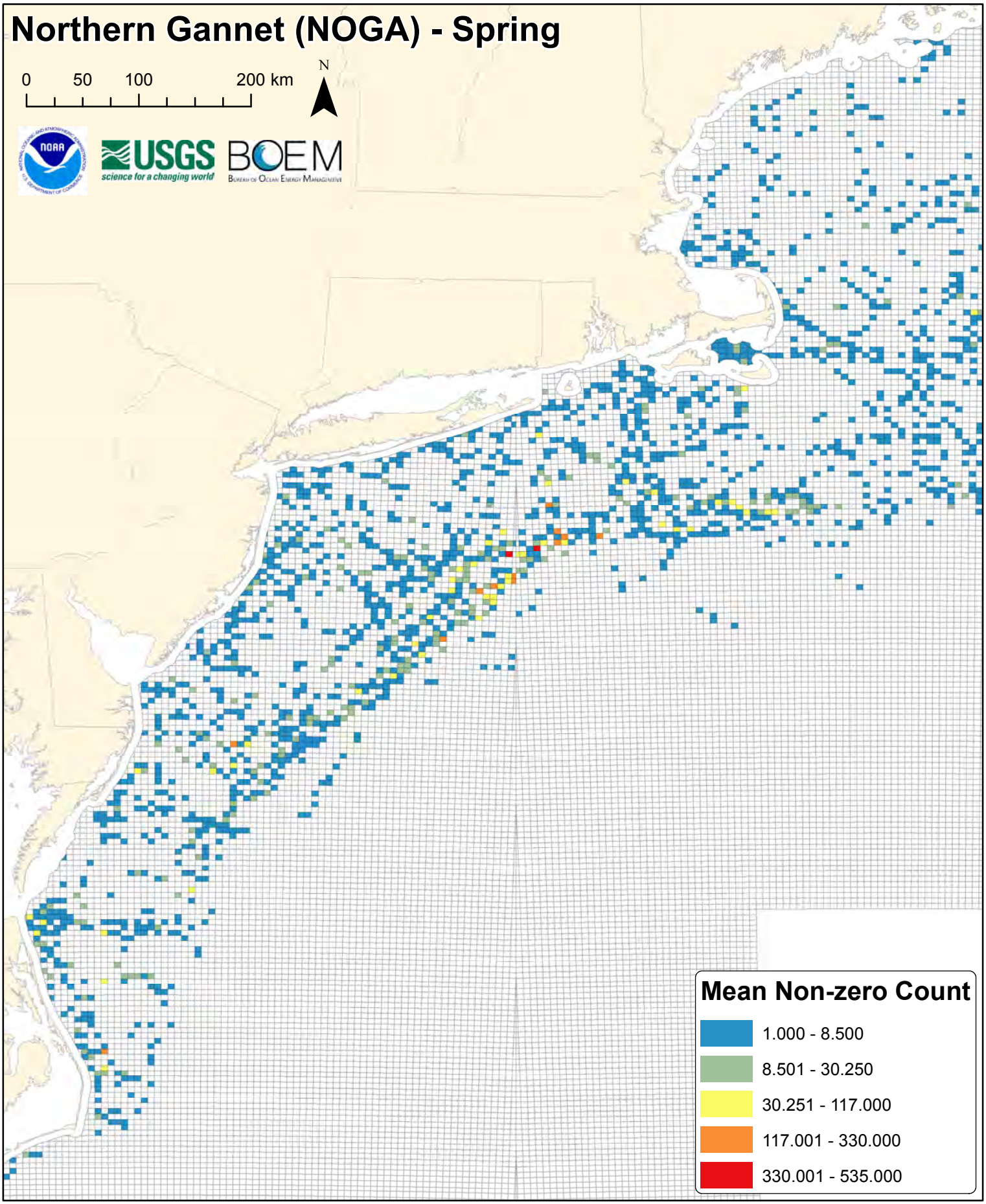

herg
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
5
10
15
20
25
Number of presences in a BOEM lease block

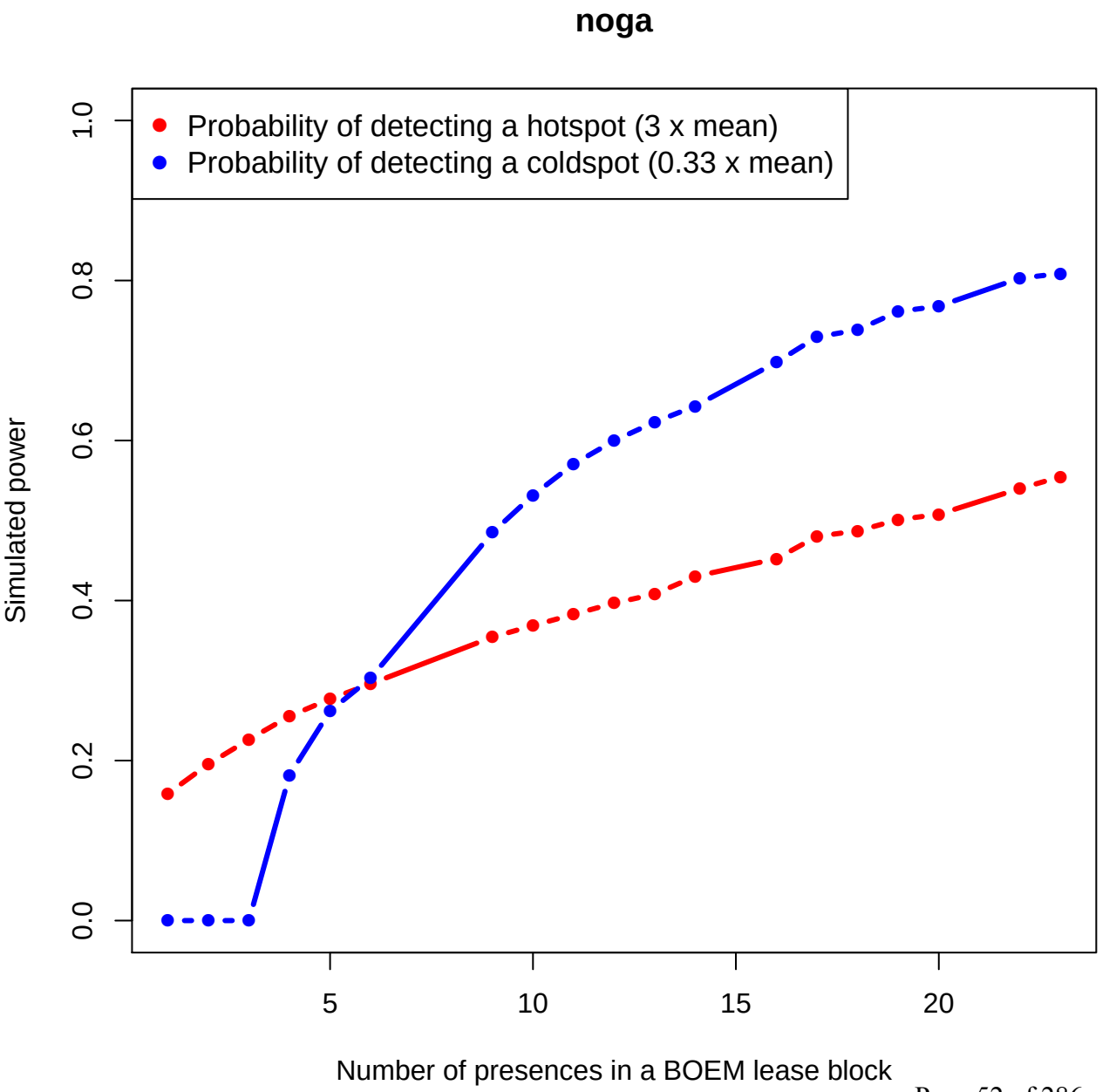

Herring Gull (HERG) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

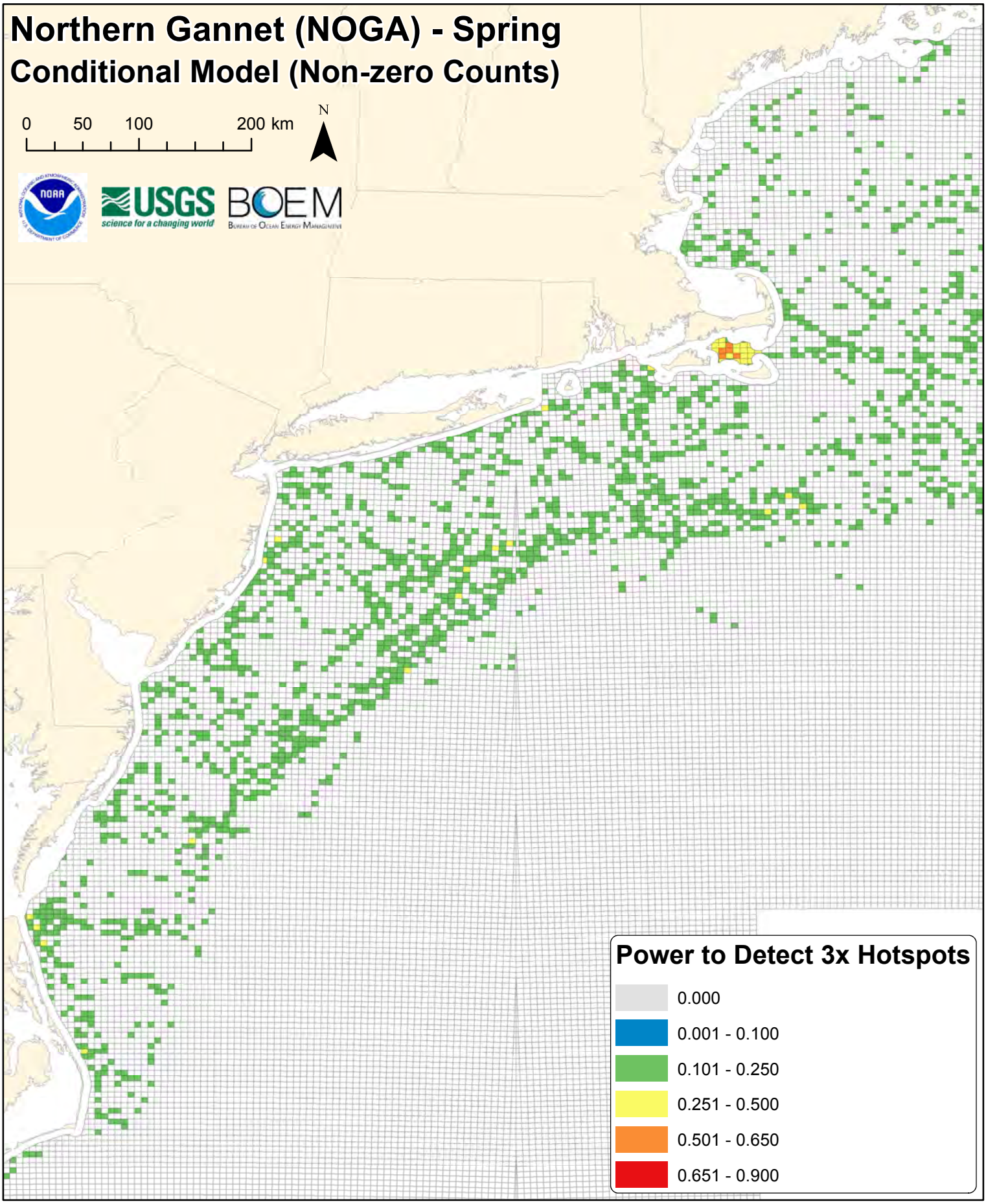

Herring Gull (HERG) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

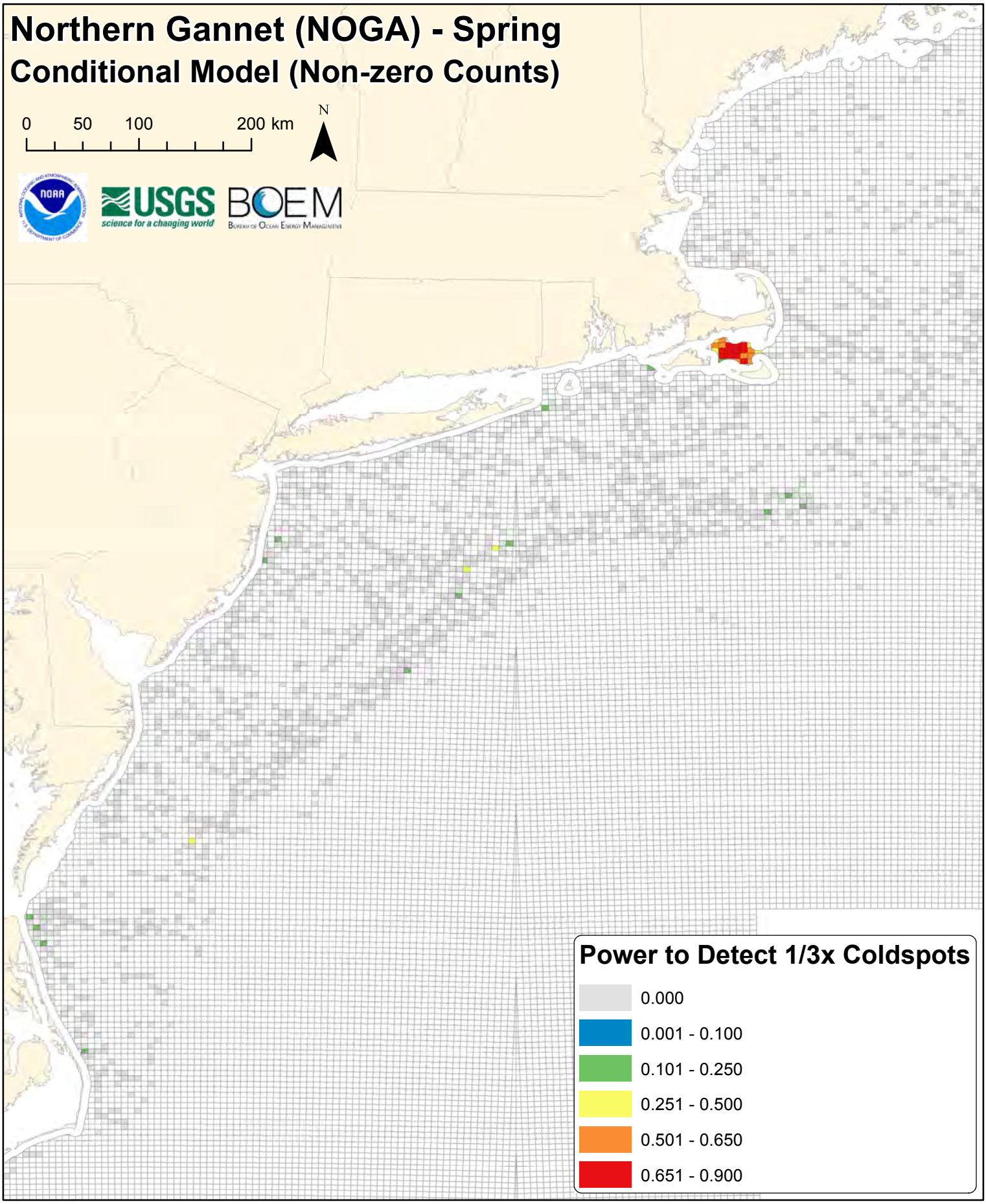

Herring Gull (HERG) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

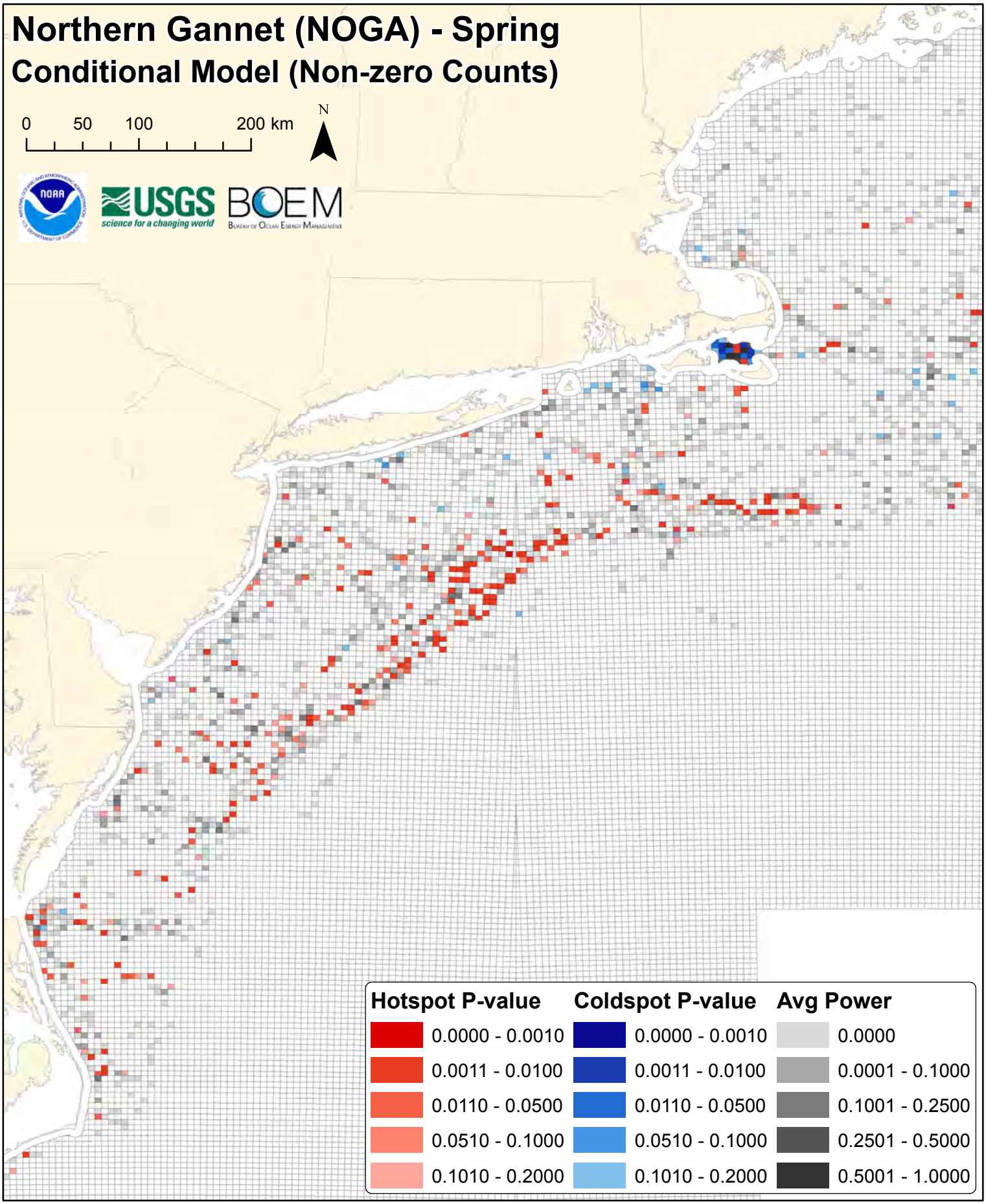

Northern Gannet (NOGA) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2 - 6
7 - 13
14 - 19
20 - 23

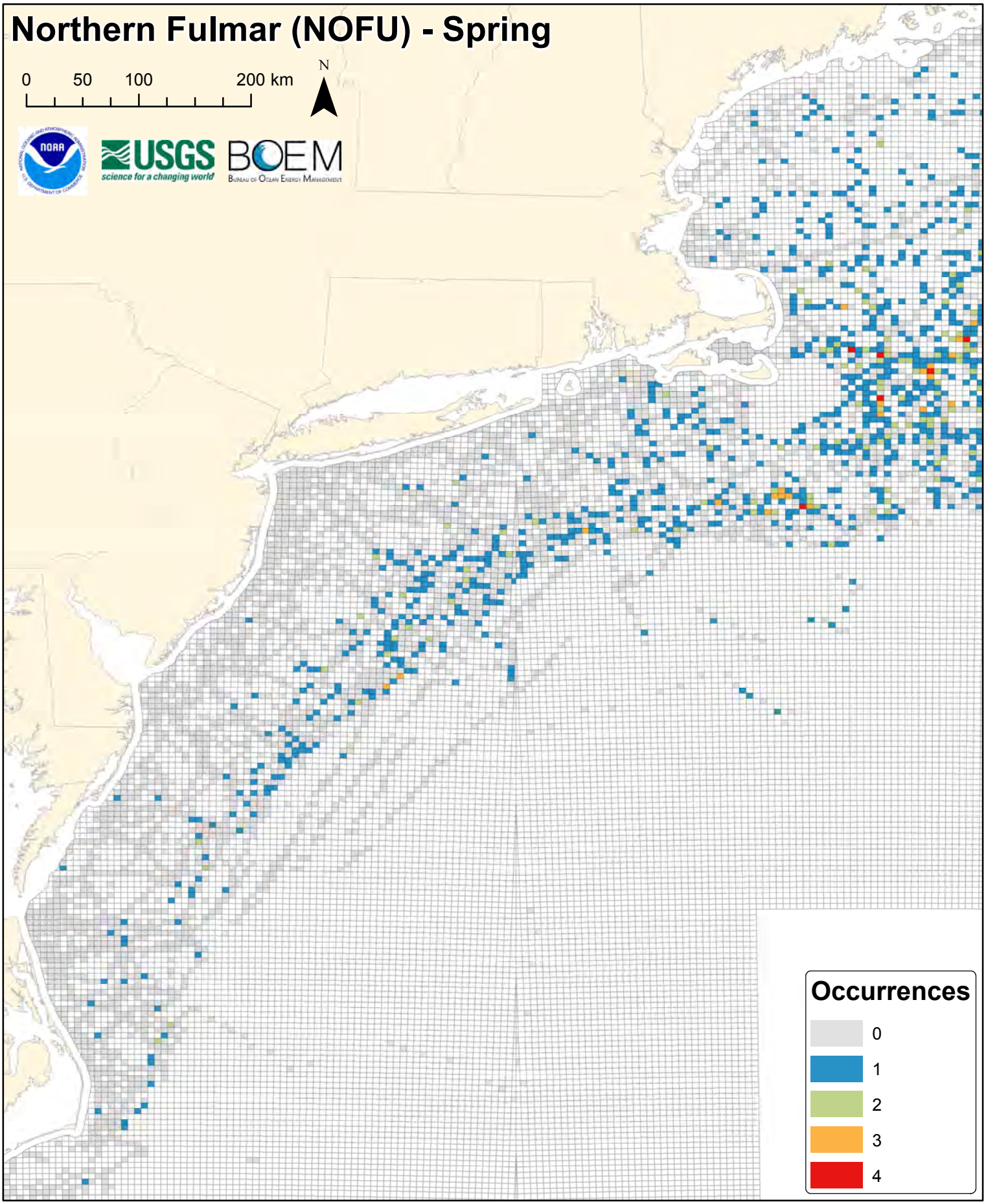

Northern Gannet (NOGA) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 8.500
8.501 - 30.250
30.251 - 117.000
117.001 - 330.000
330.001 - 535.000

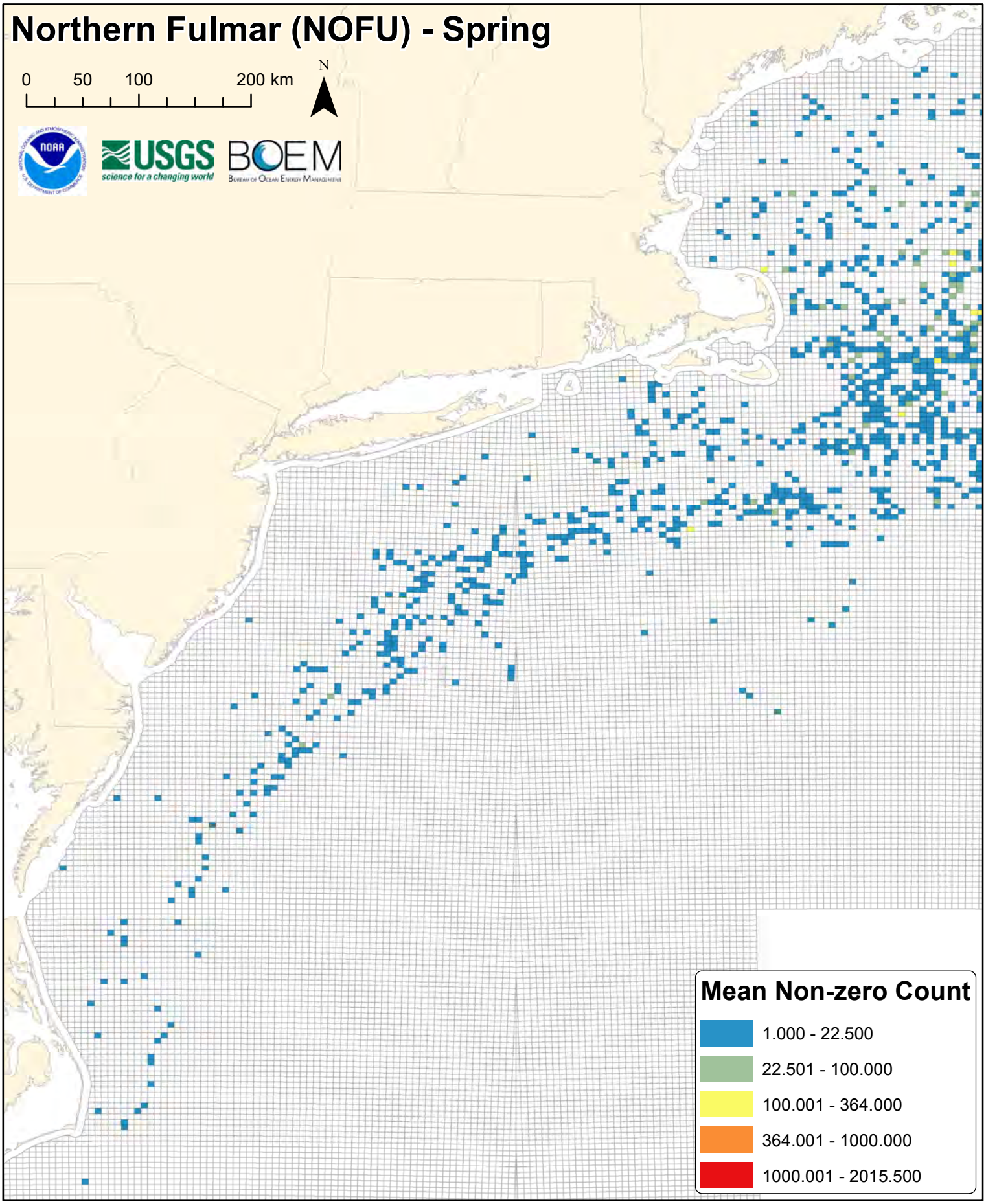

noga
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
5
10
15
20
Number of presences in a BOEM lease block

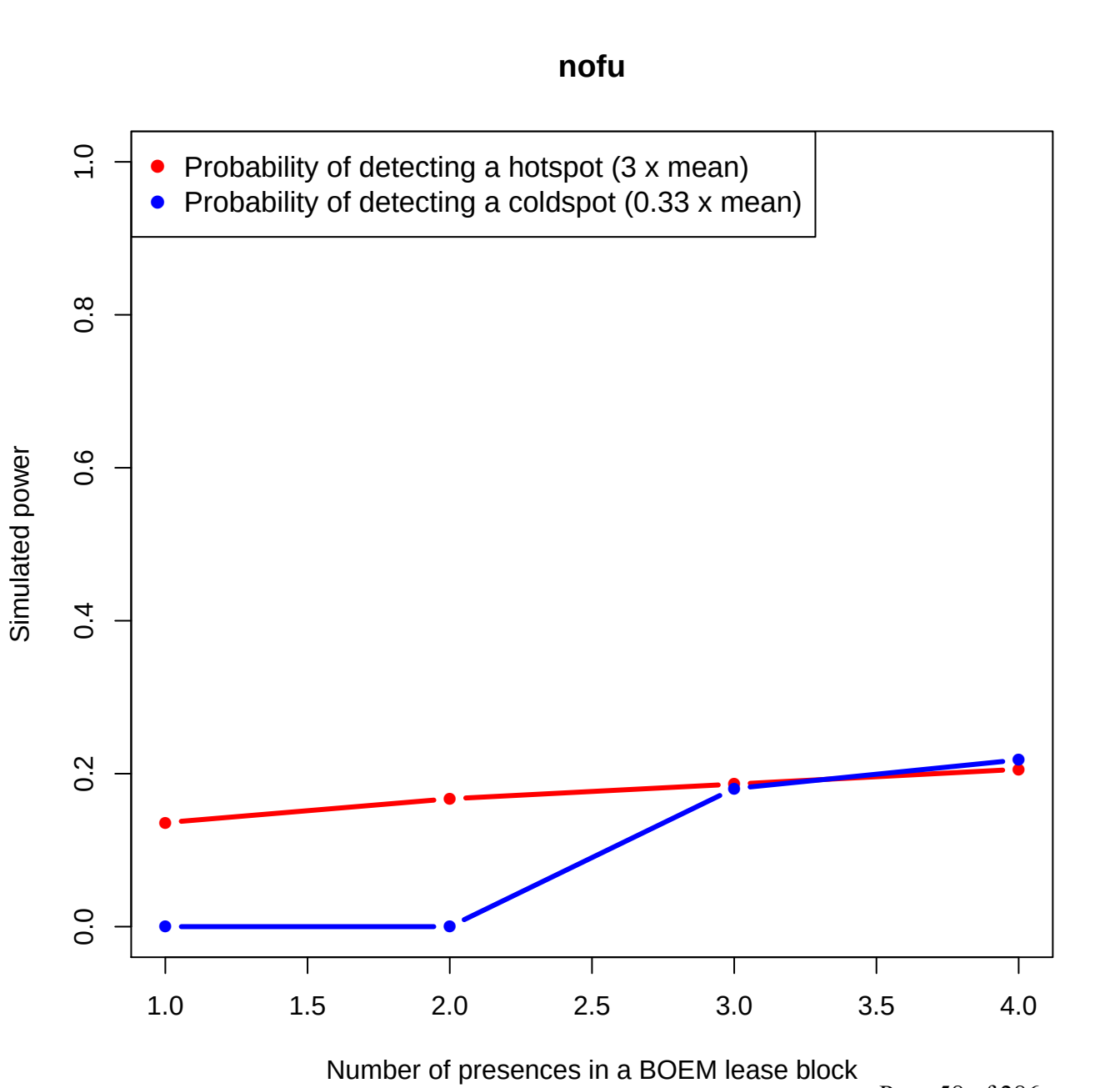

Northern Gannet (NOGA) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

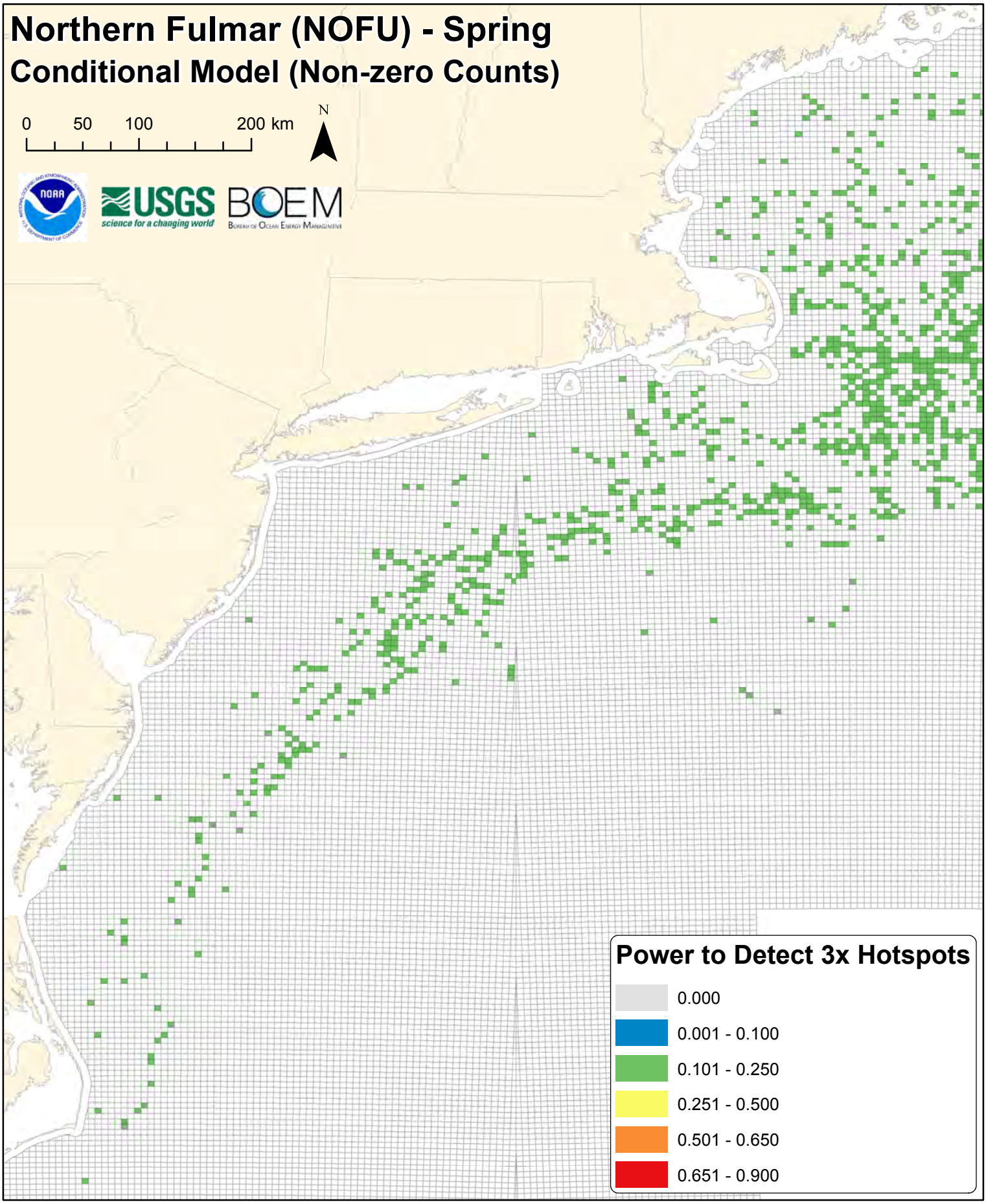

Northern Gannet (NOGA) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

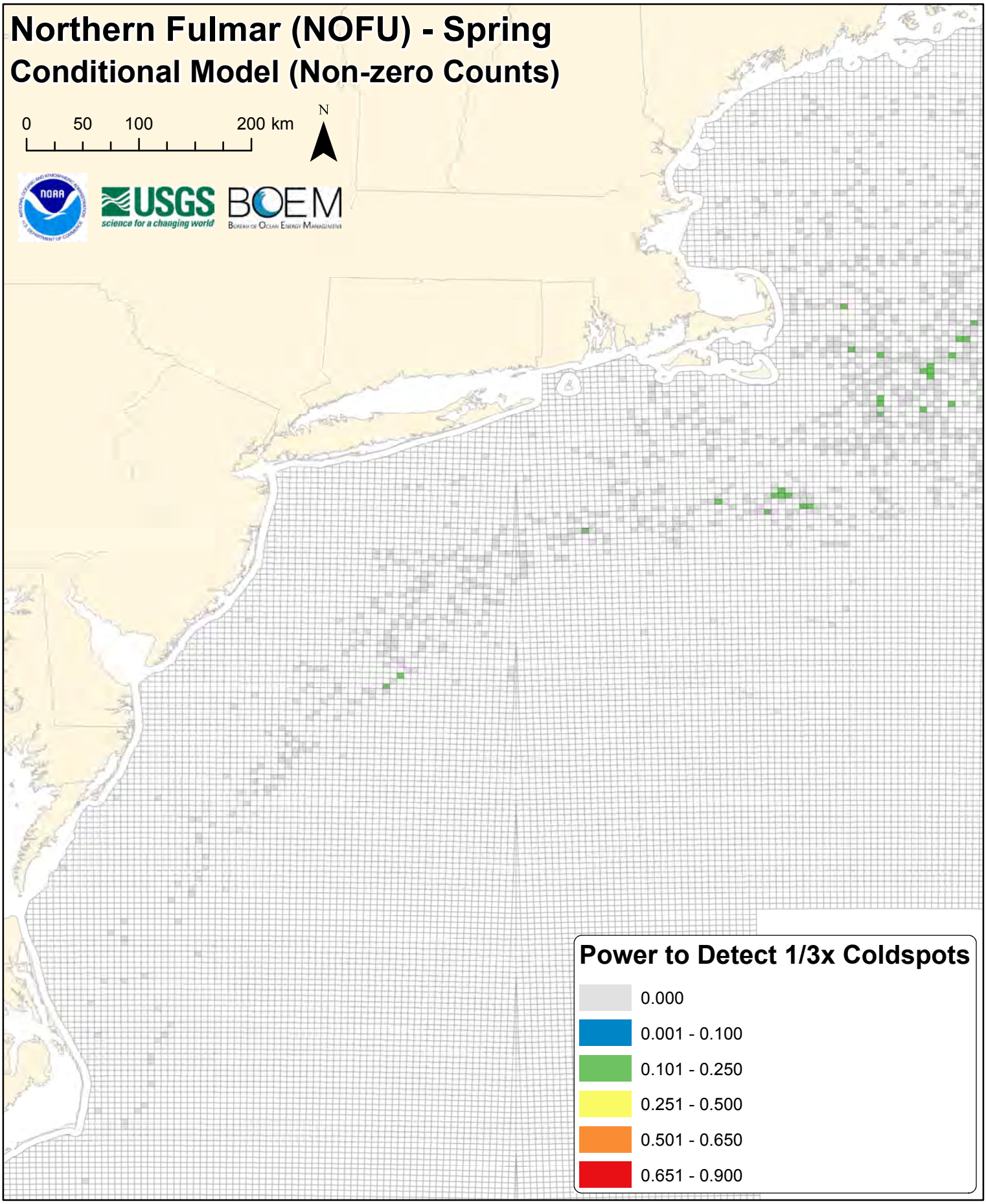

Northern Gannet (NOGA) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

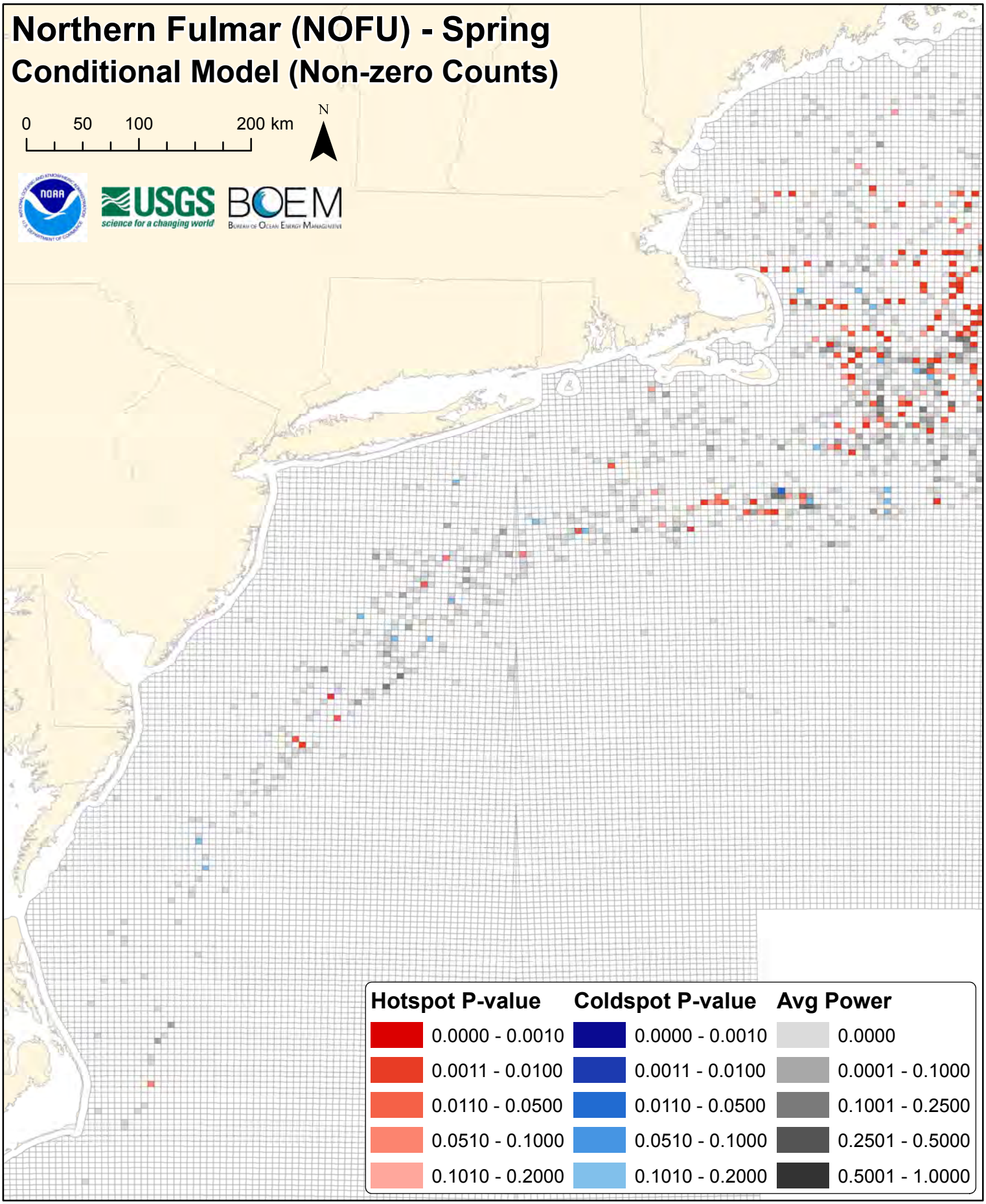

Northern Fulmar (NOFU) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2
3
4

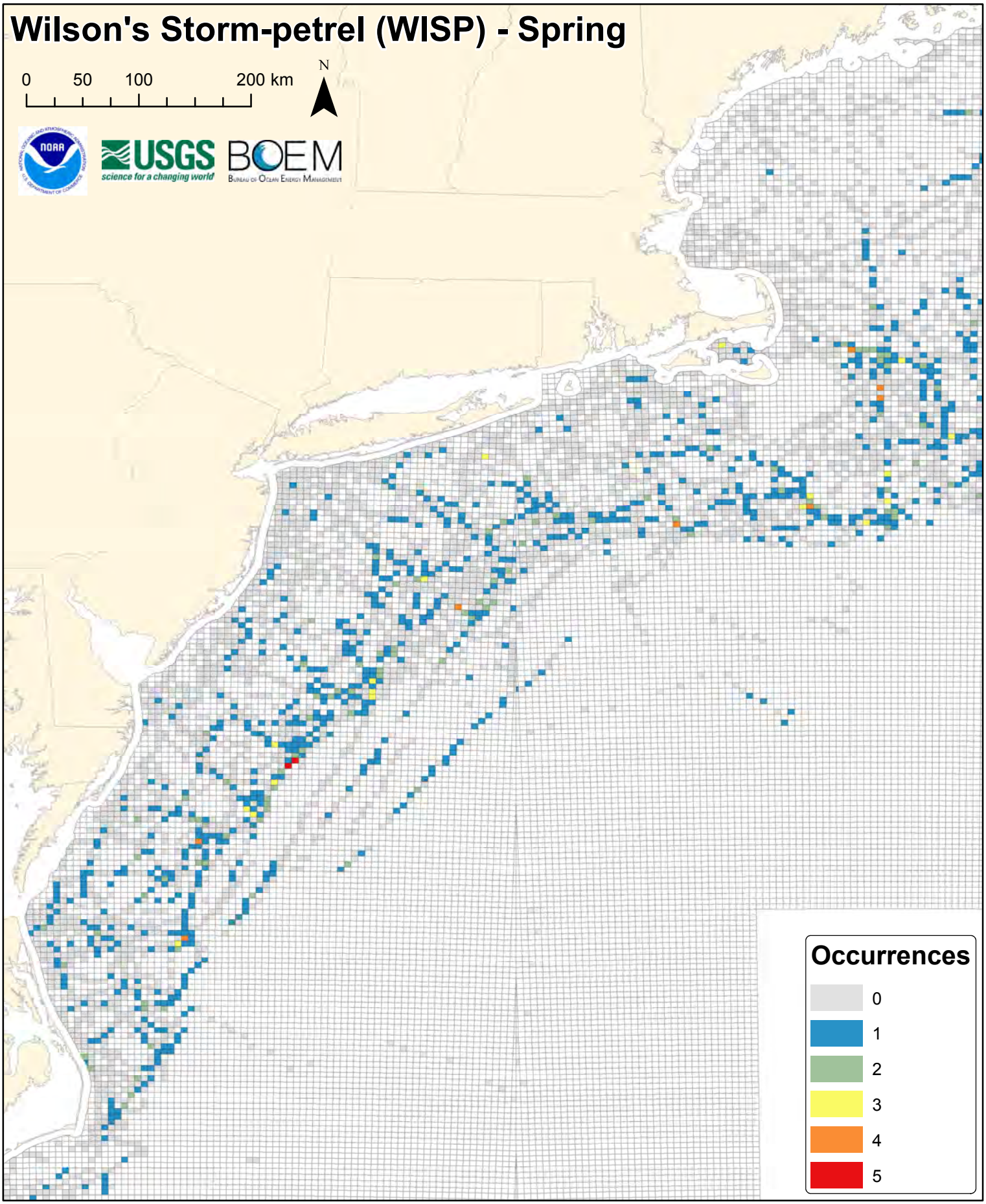

Northern Fulmar (NOFU) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 22.500
22.501 - 100.000
100.001 - 364.000
364.001 - 1000.000
1000.001 - 2015.500

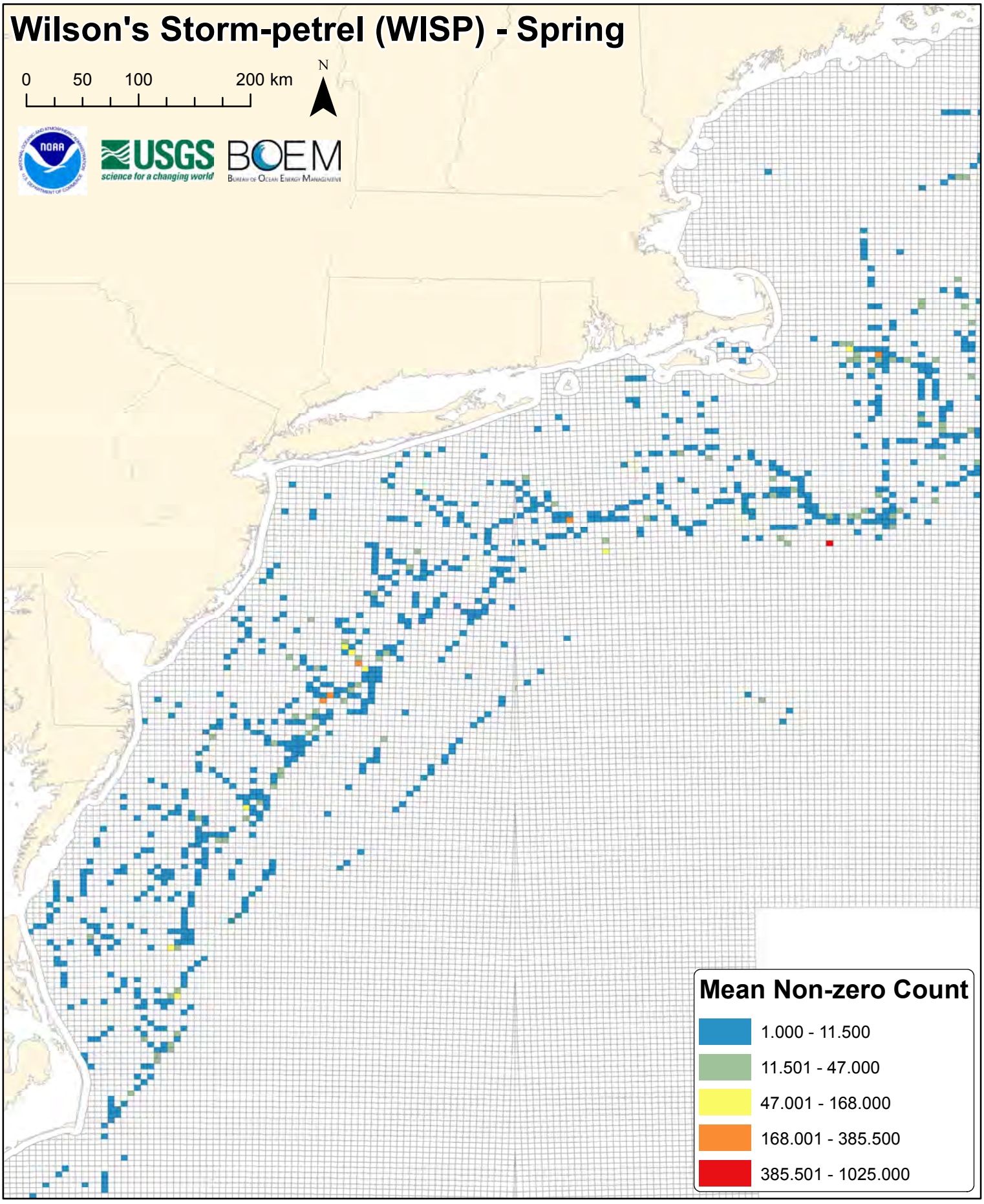

nofu
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Number of presences in a BOEM lease block

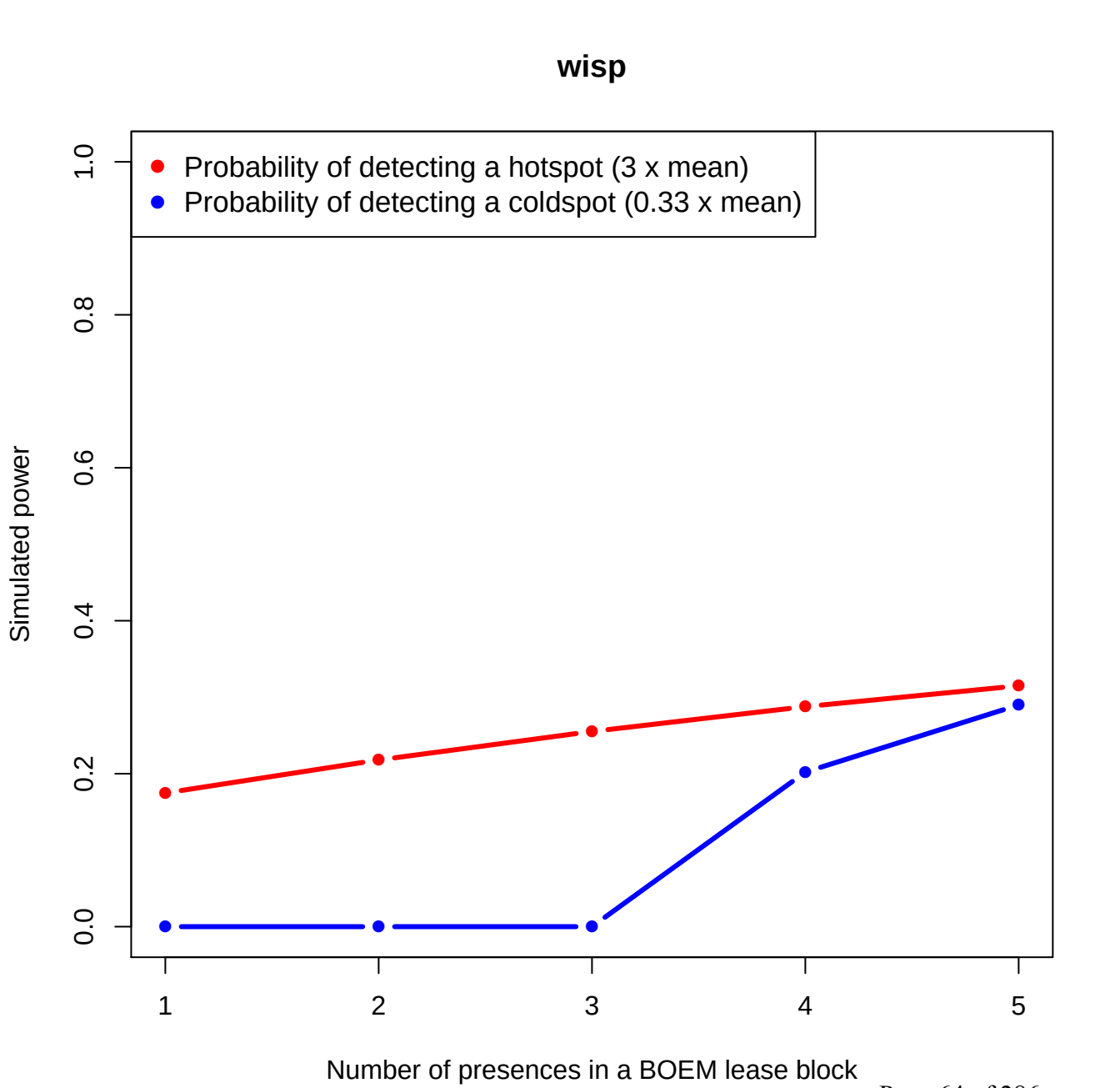

Northern Fulmar (NOFU) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

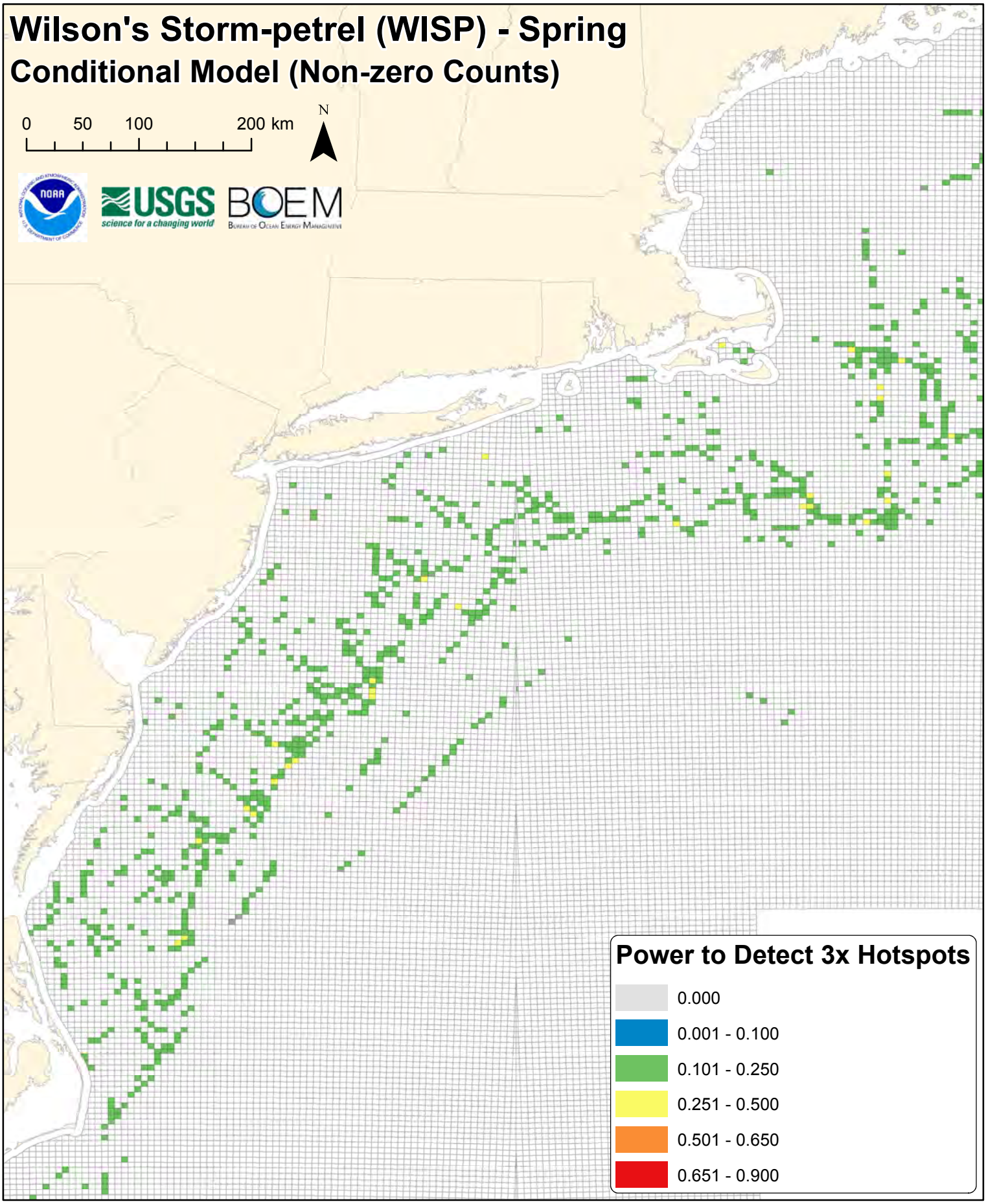

Northern Fulmar (NOFU) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

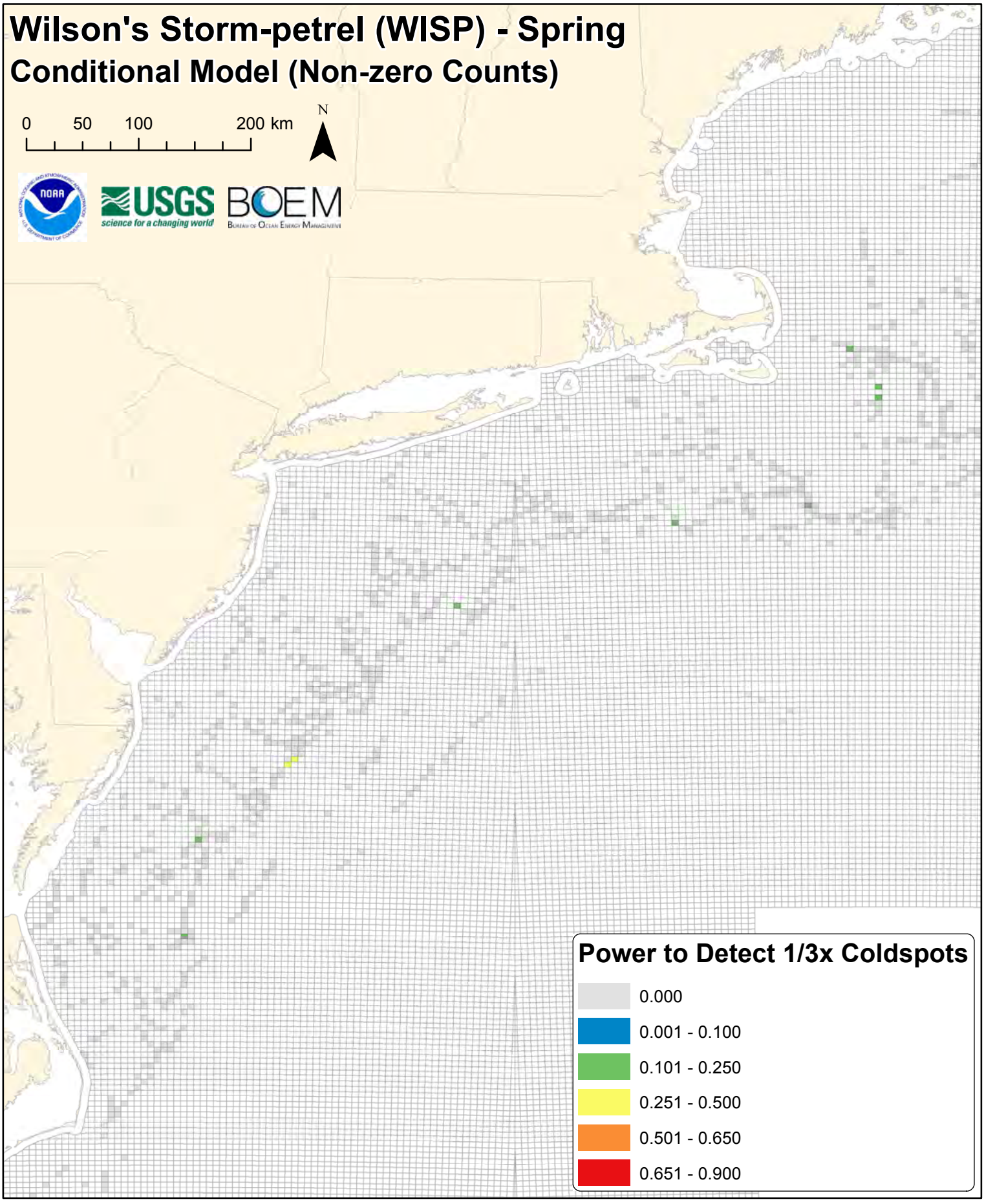

Northern Fulmar (NOFU) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

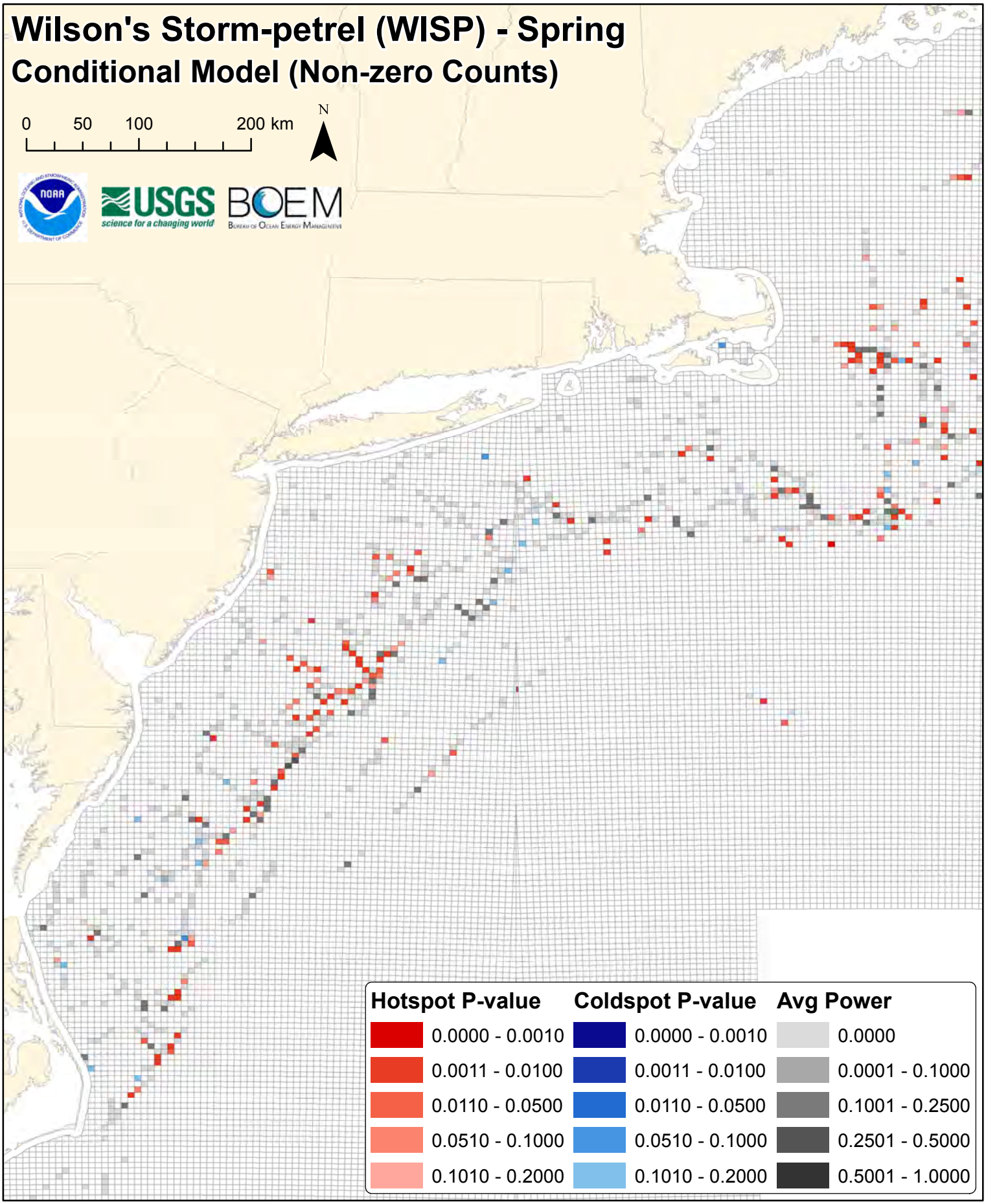

Wilson's Storm-petrel (WISP) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2
3
4
5

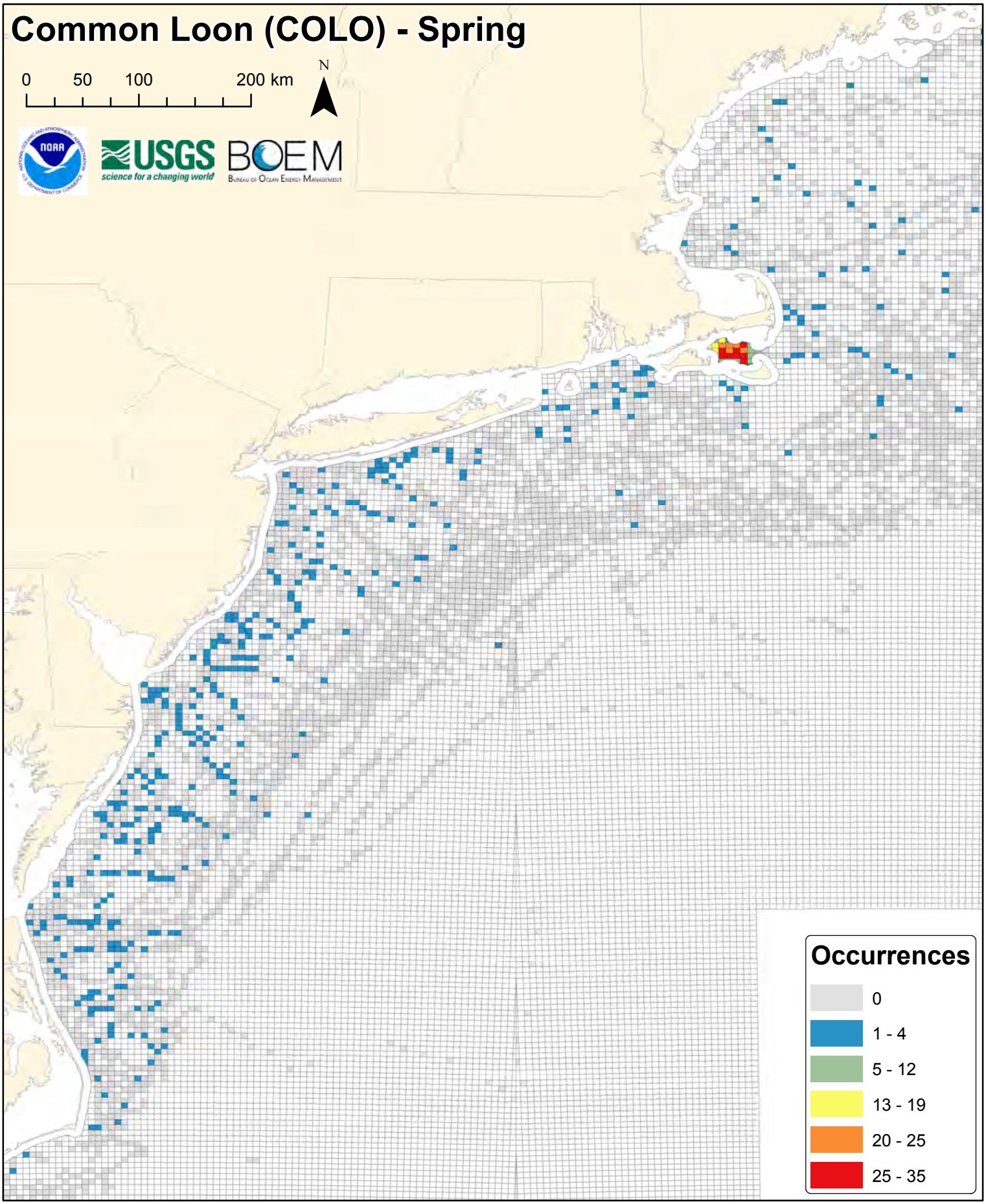

Wilson's Storm-petrel (WISP) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 11.500
11.501 - 47.000
47.001 - 168.000
168.001 - 385.500
385.501 - 1025.000

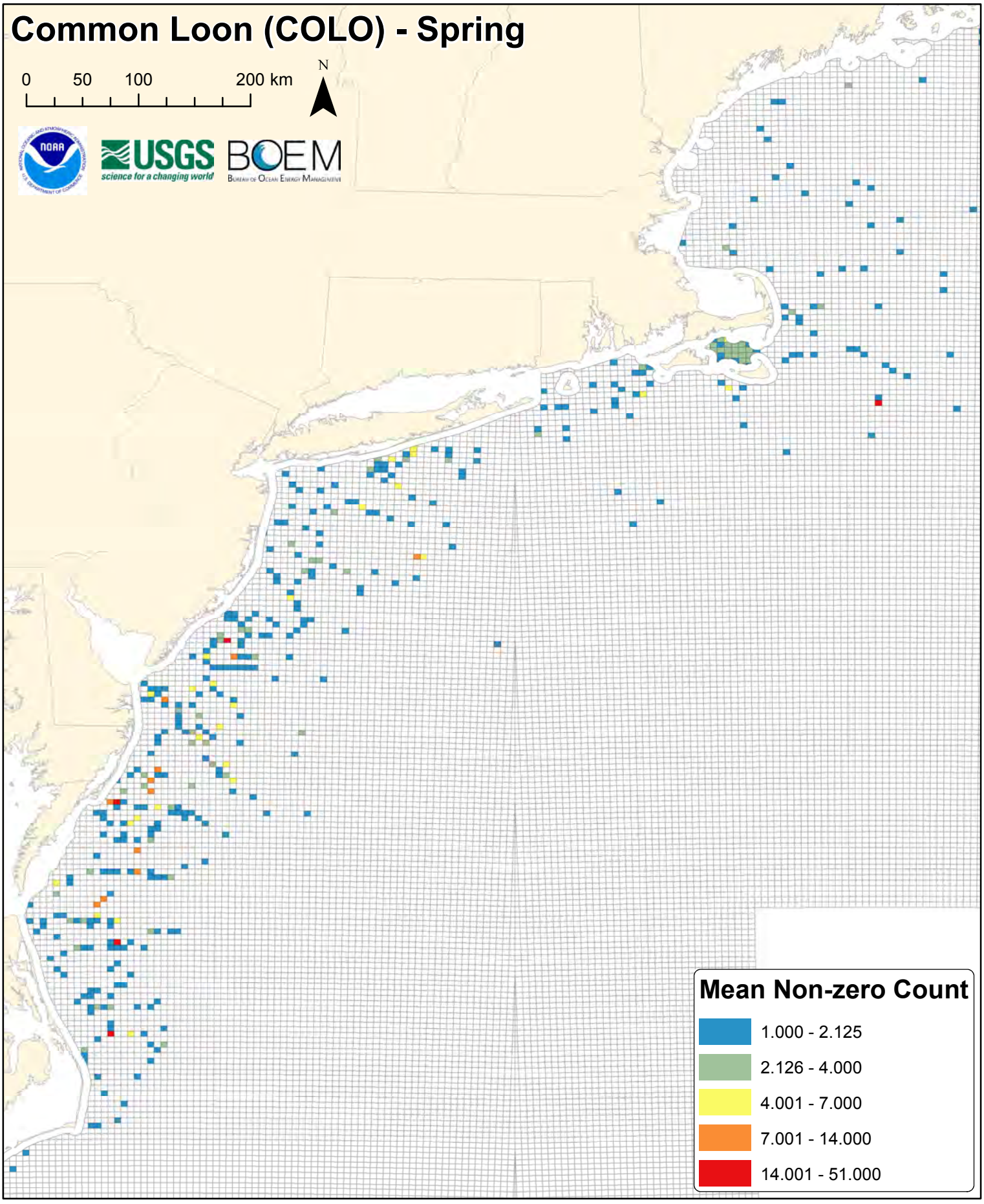

wisp
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
1
2
3
4
5
Number of presences in a BOEM lease block

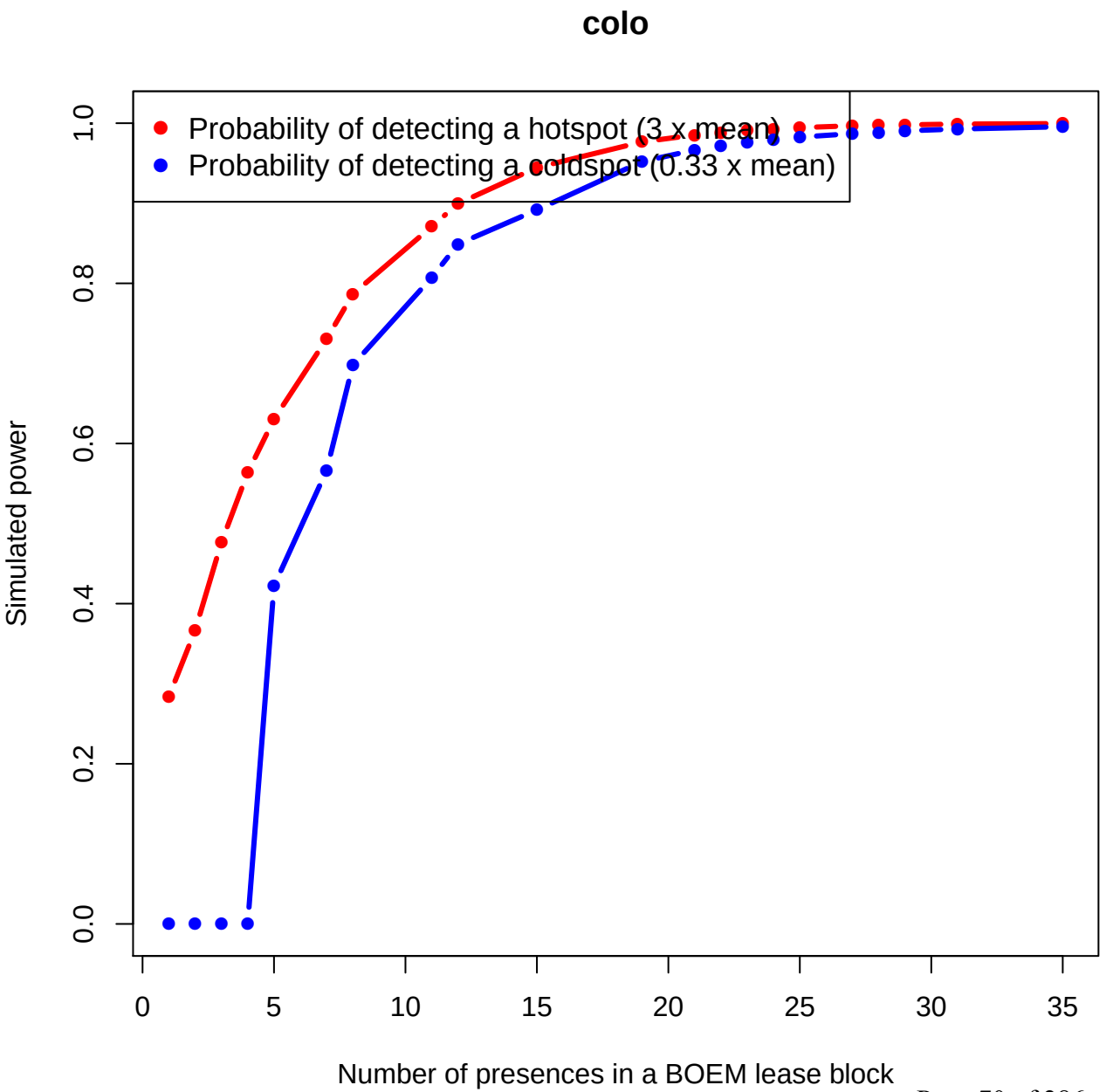

Wilson's Storm-petrel (WISP) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

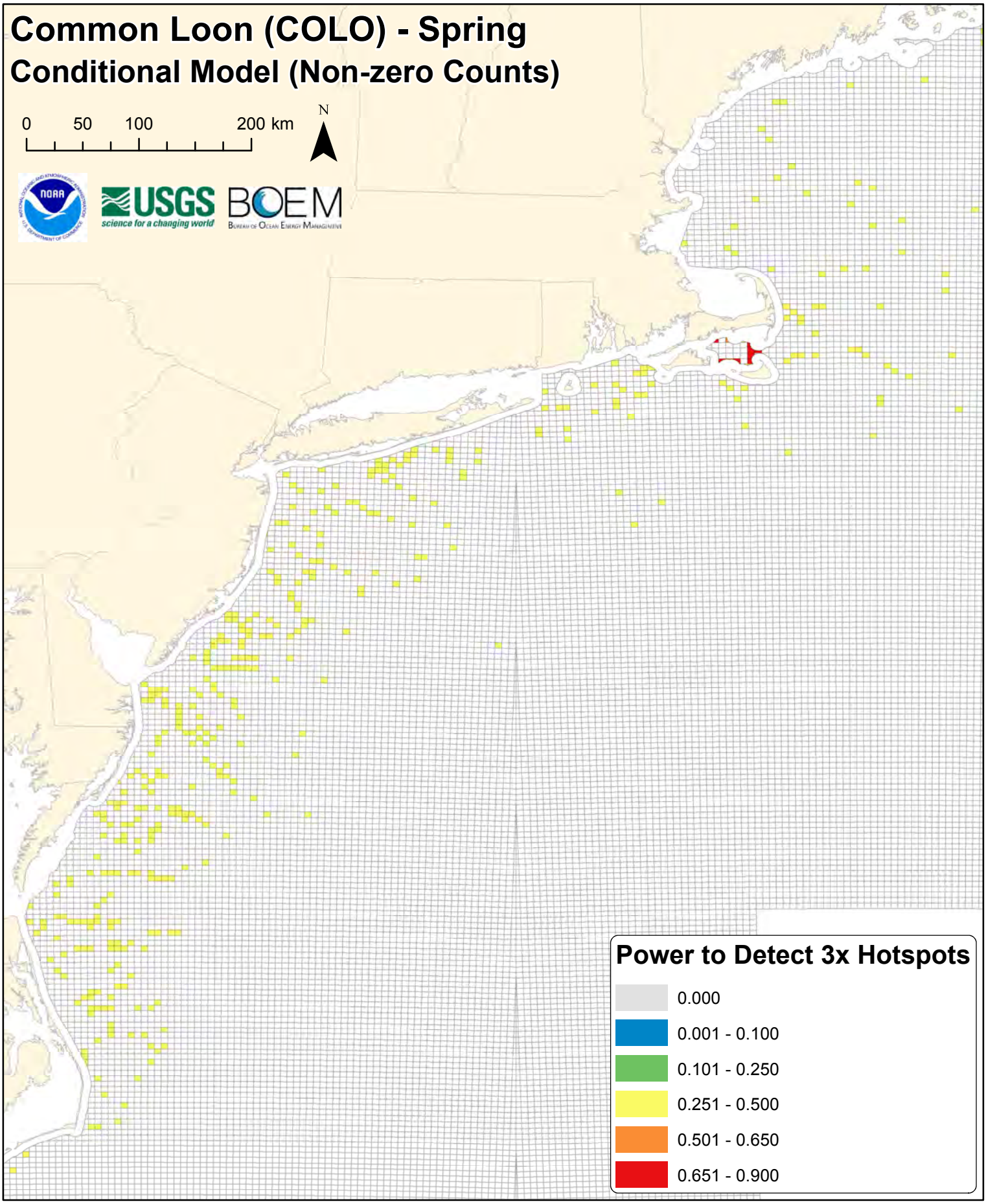

Wilson's Storm-petrel (WISP) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

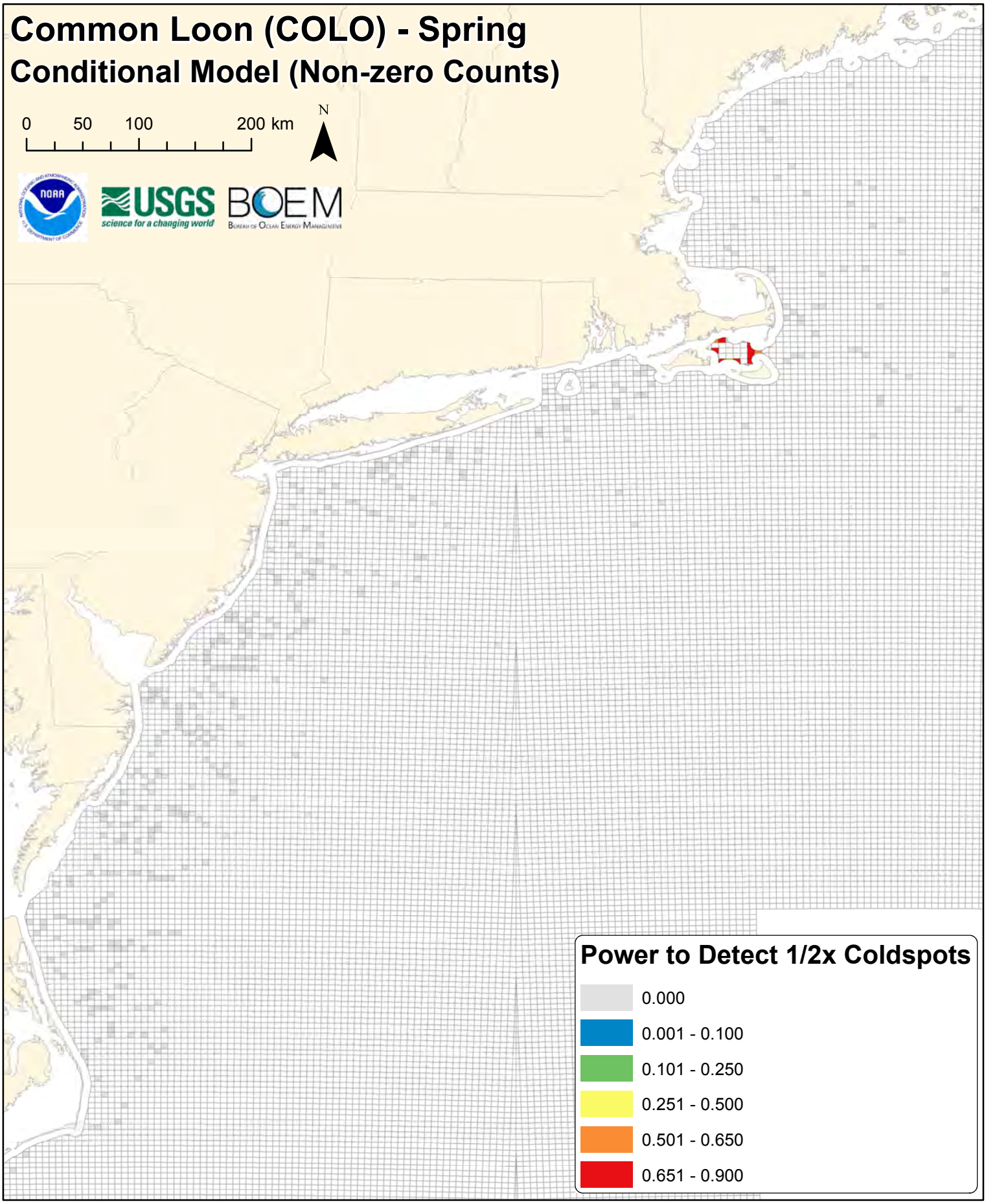

Wilson's Storm-petrel (WISP) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

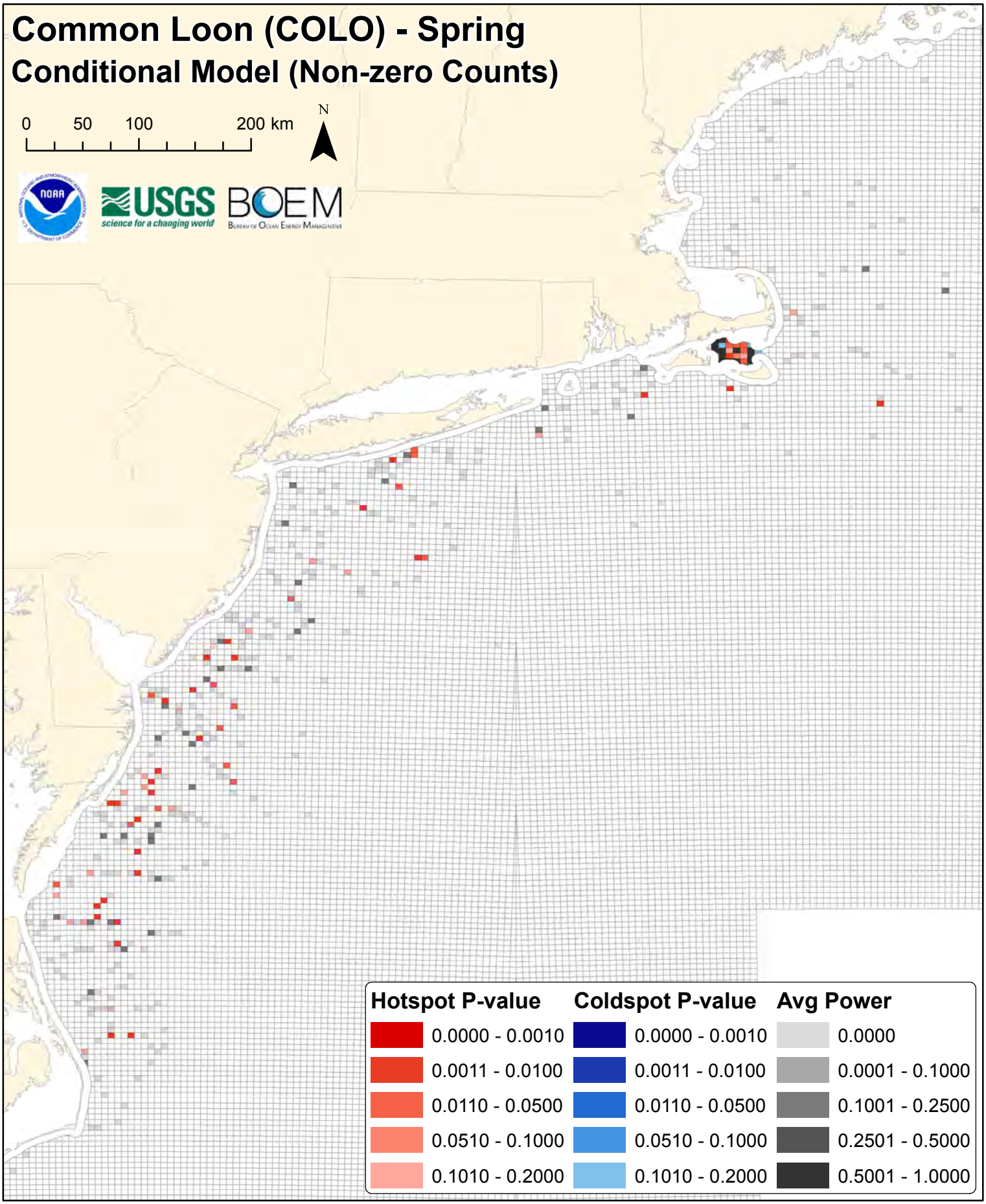

Common Loon (COLO) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 4
5 - 12
13 - 19
20 - 25
25 - 35

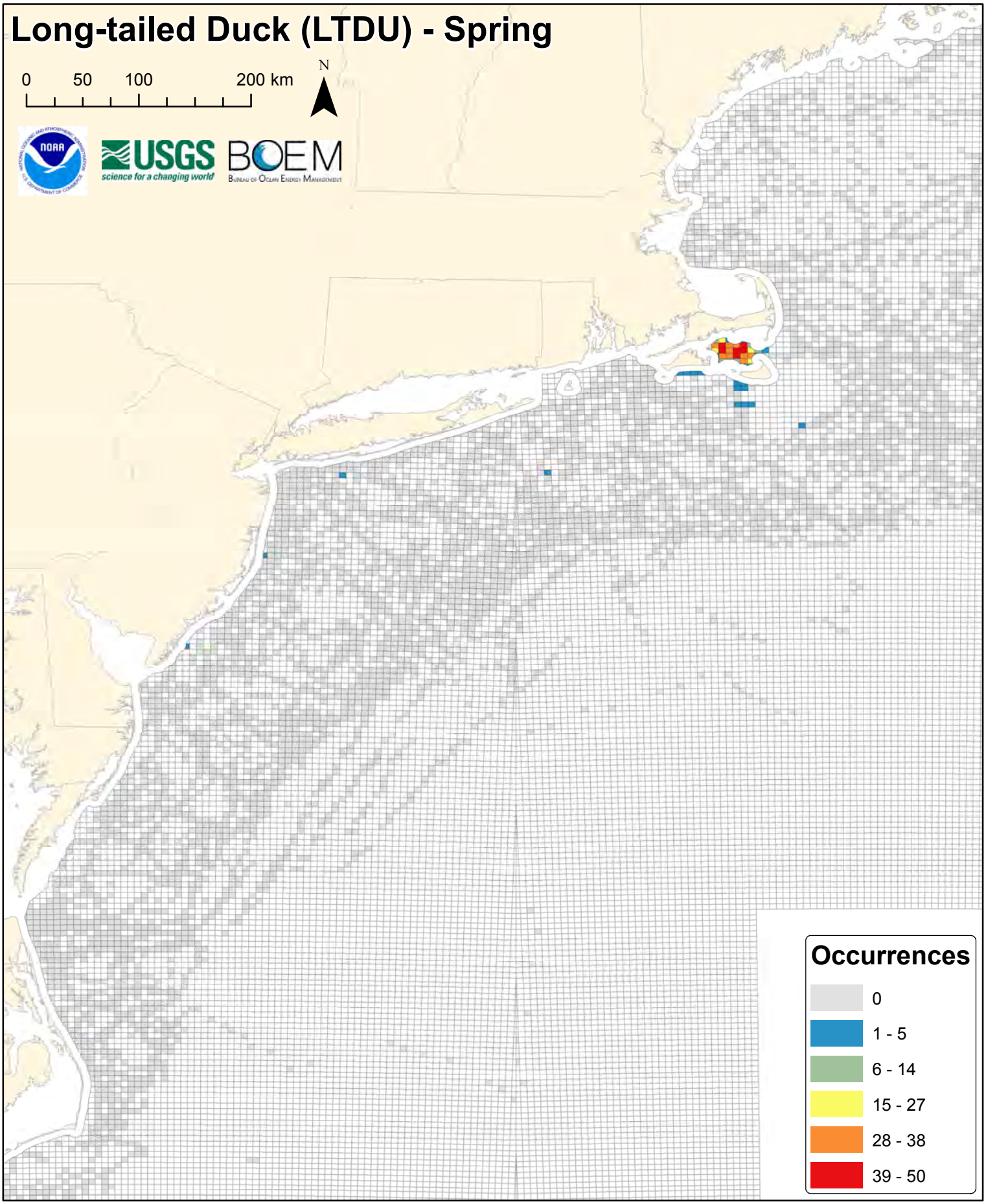

Common Loon (COLO) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 2.125
2.126 - 4.000
4.001 - 7.000
7.001 - 14.000
14.001 - 51.000

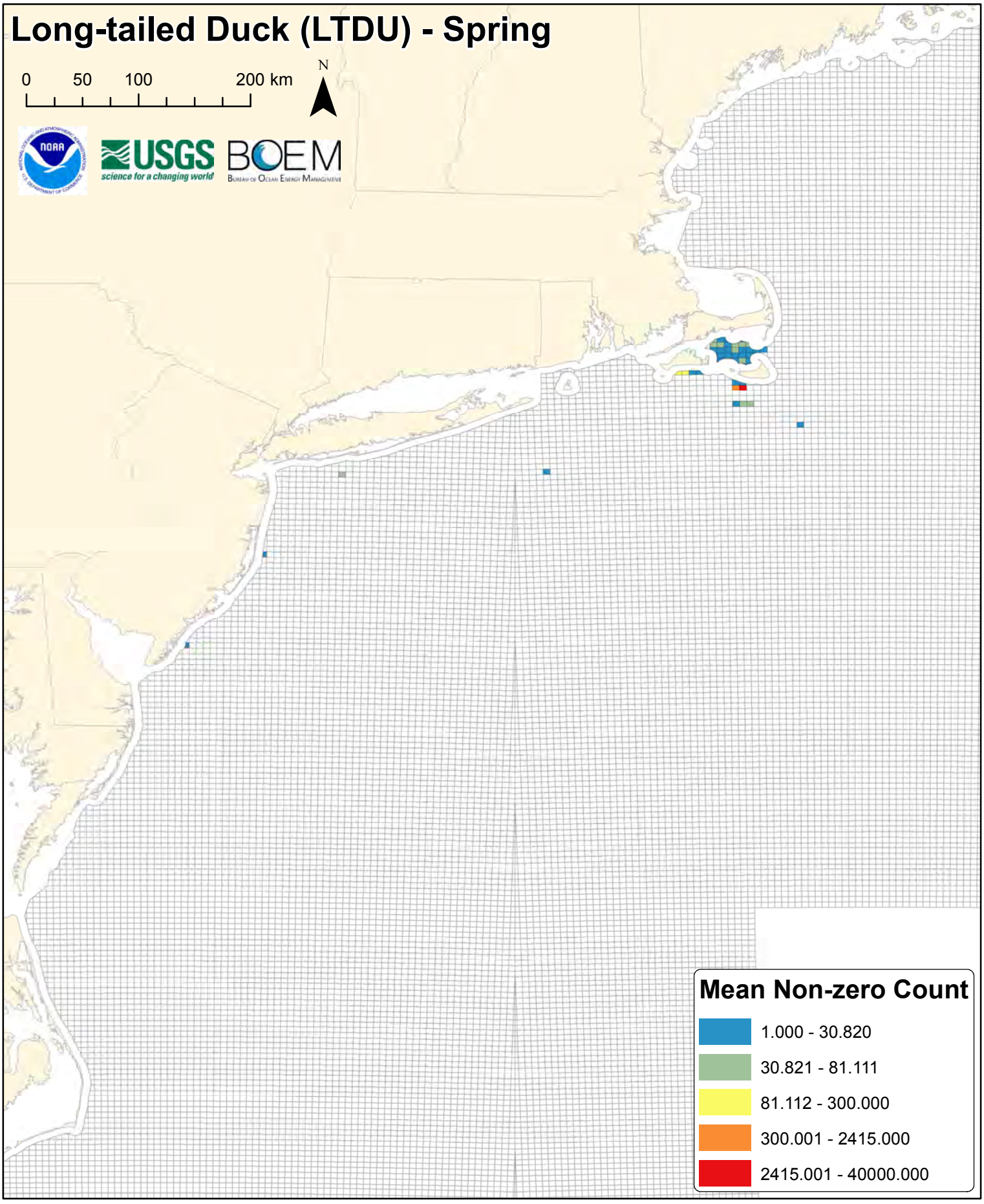

colo
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
35
Number of presences in a BOEM lease block

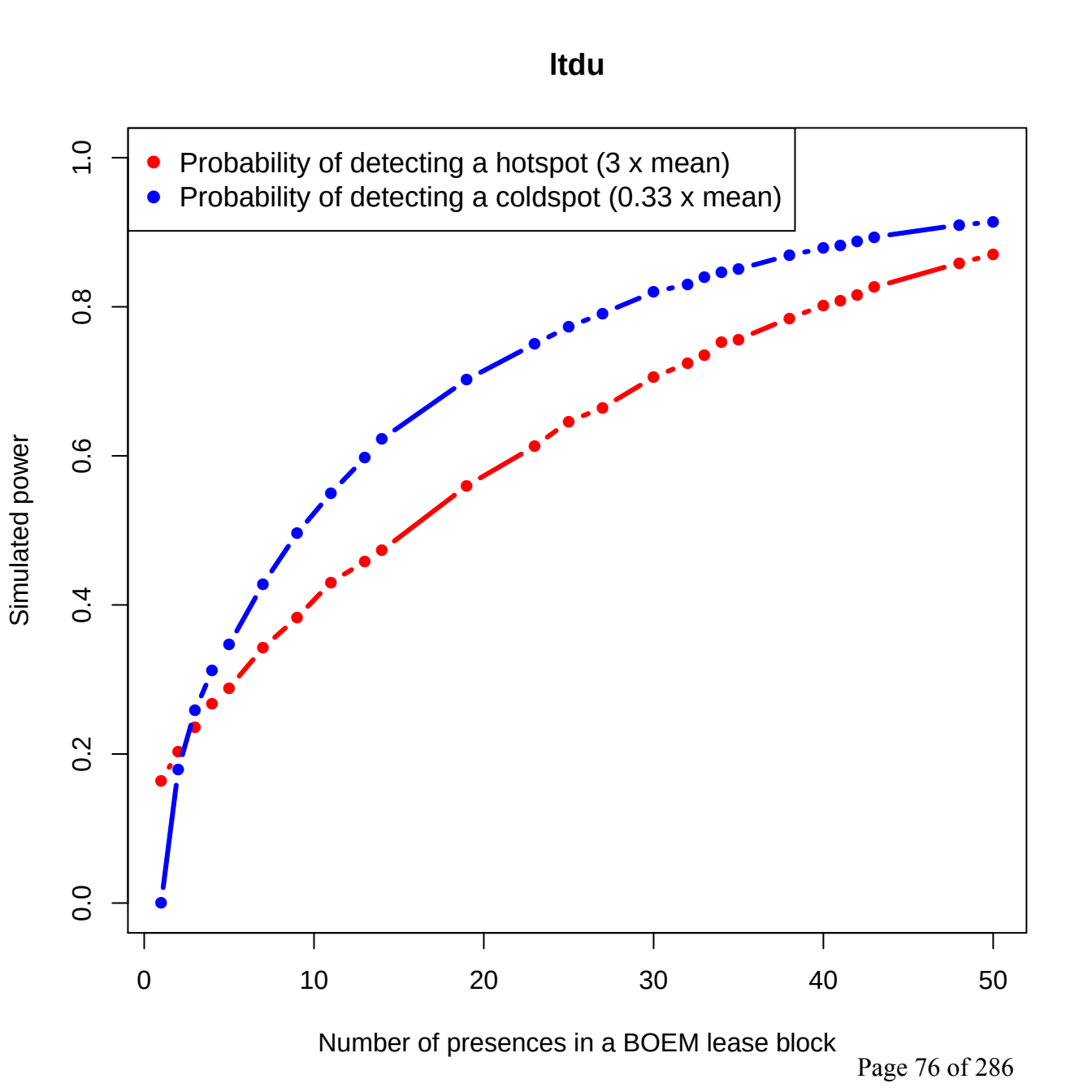

Common Loon (COLO) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

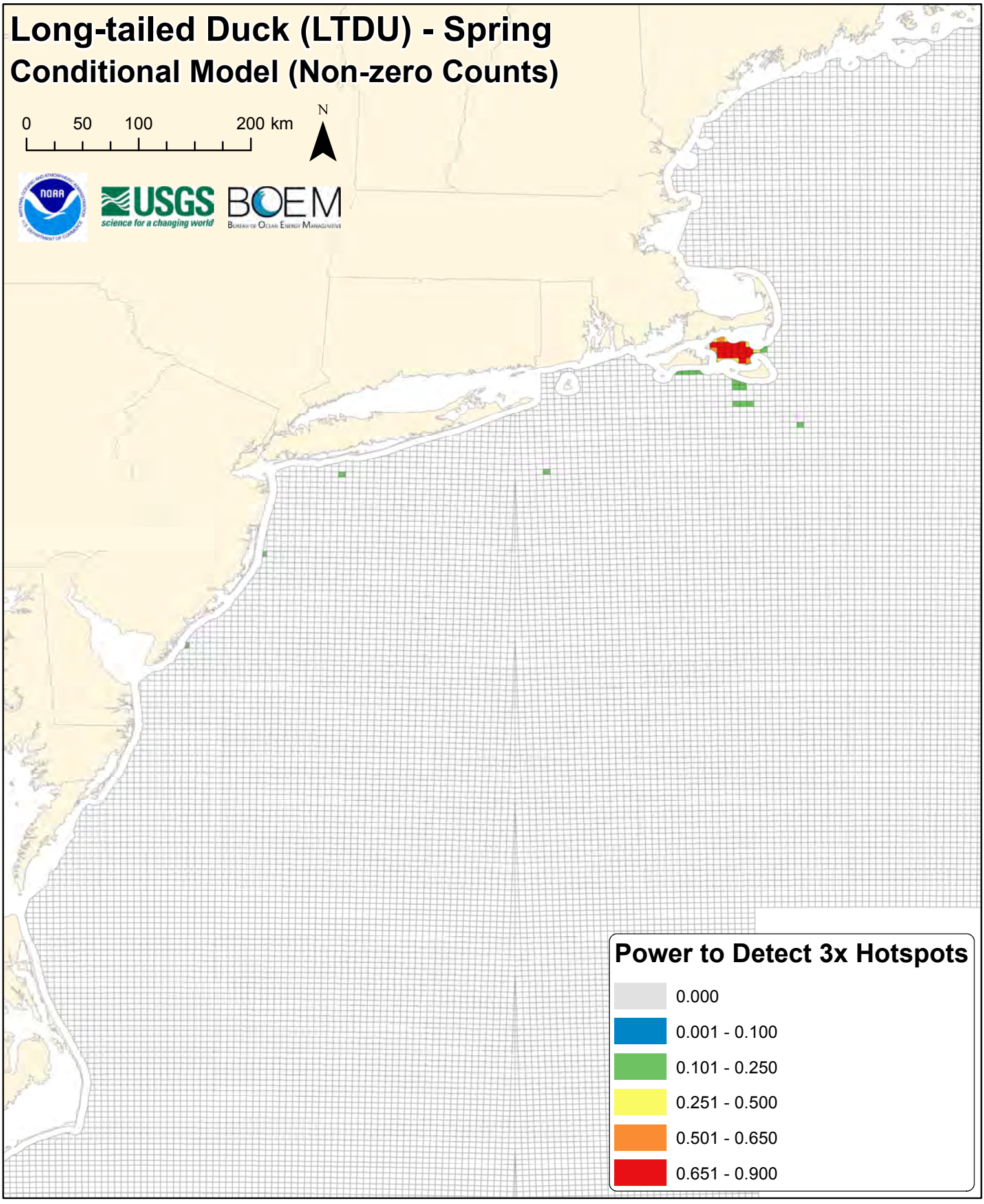

Common Loon (COLO) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/2x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

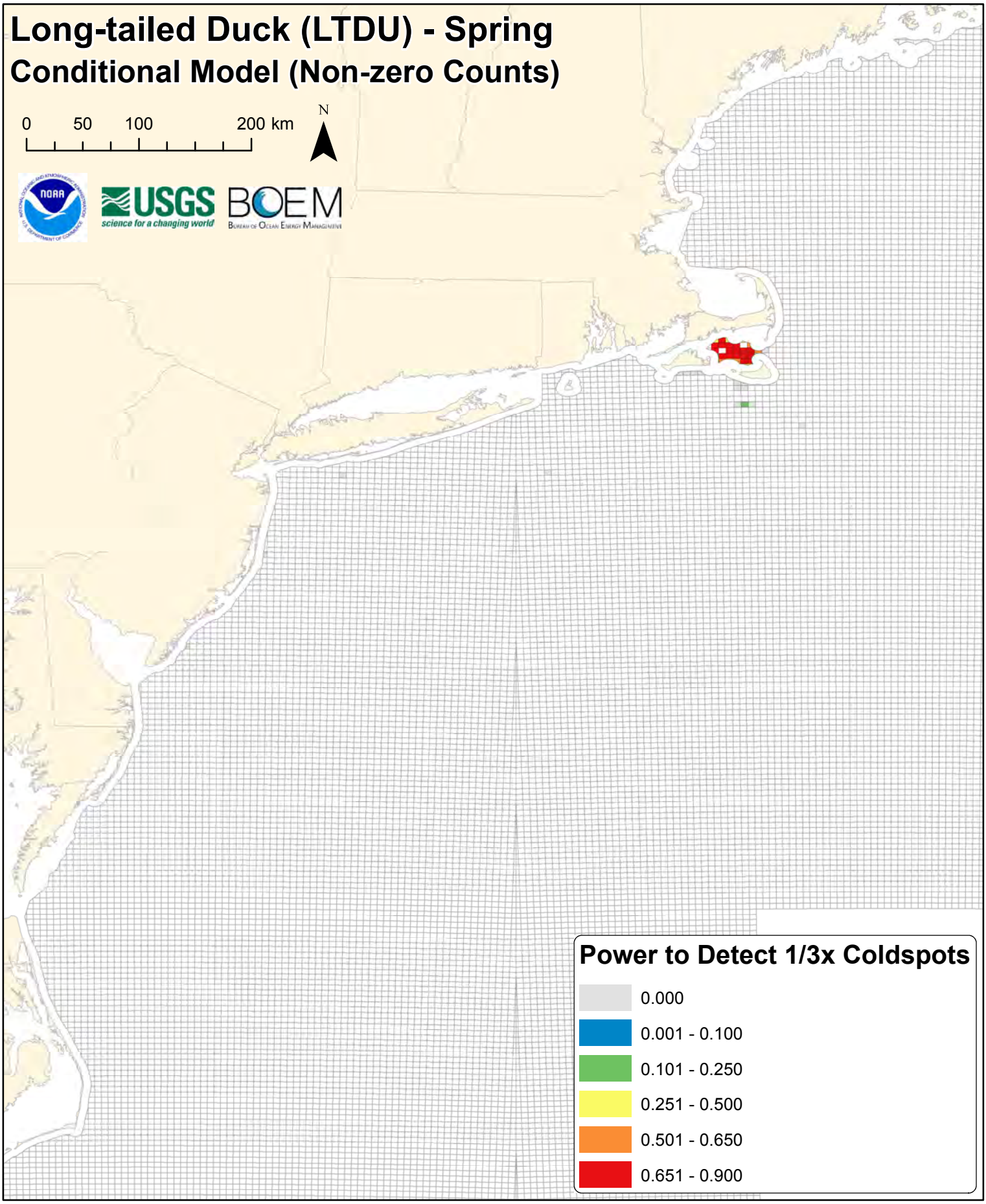

Common Loon (COLO) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

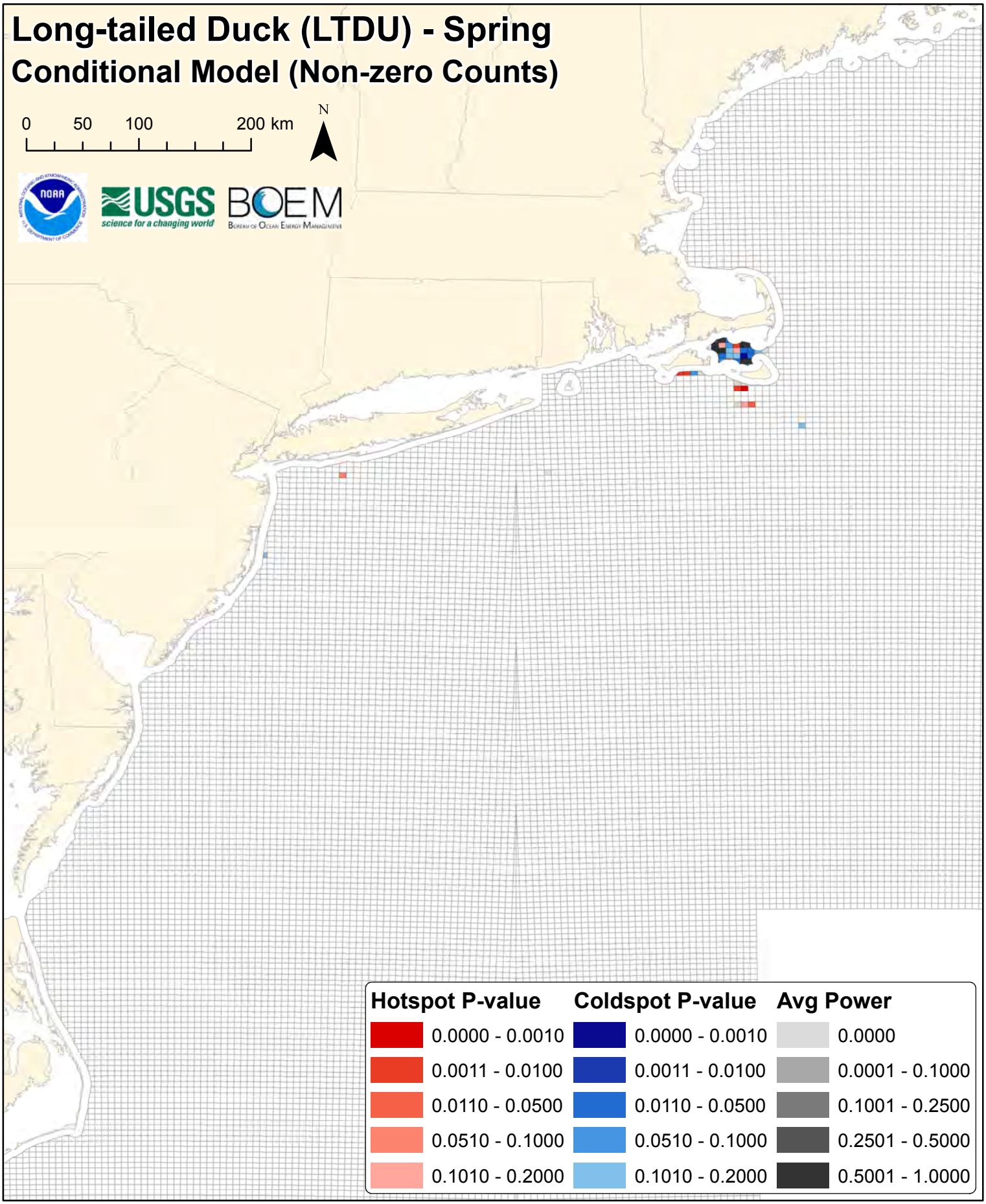

Long-tailed Duck (LTDU) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 5
6 - 14
15 - 27
28 - 38
39 - 50

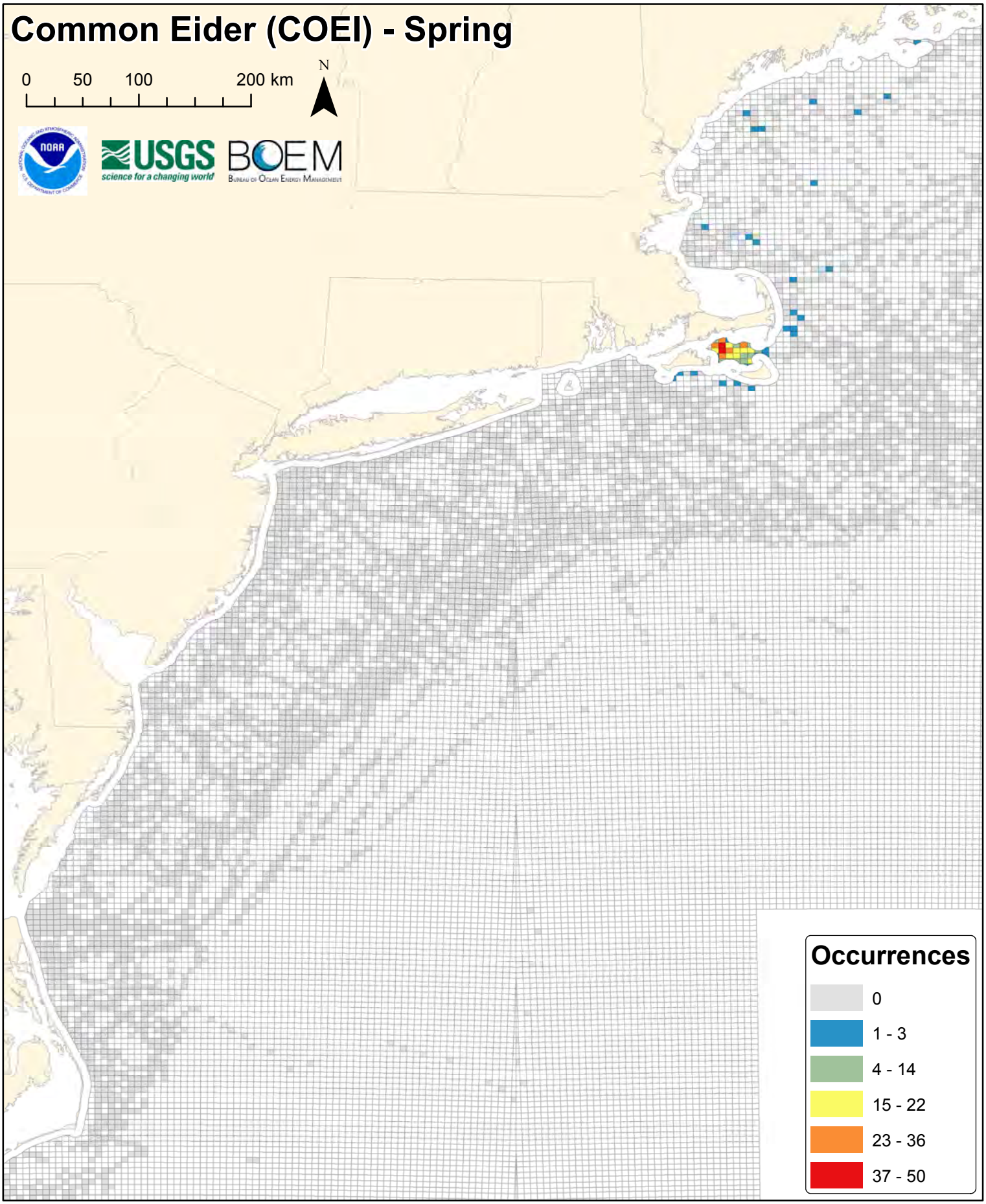

Long-tailed Duck (LTDU) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 30.820
30.821 - 81.111
81.112 - 300.000
300.001 - 2415.000
2415.001 - 40000.000

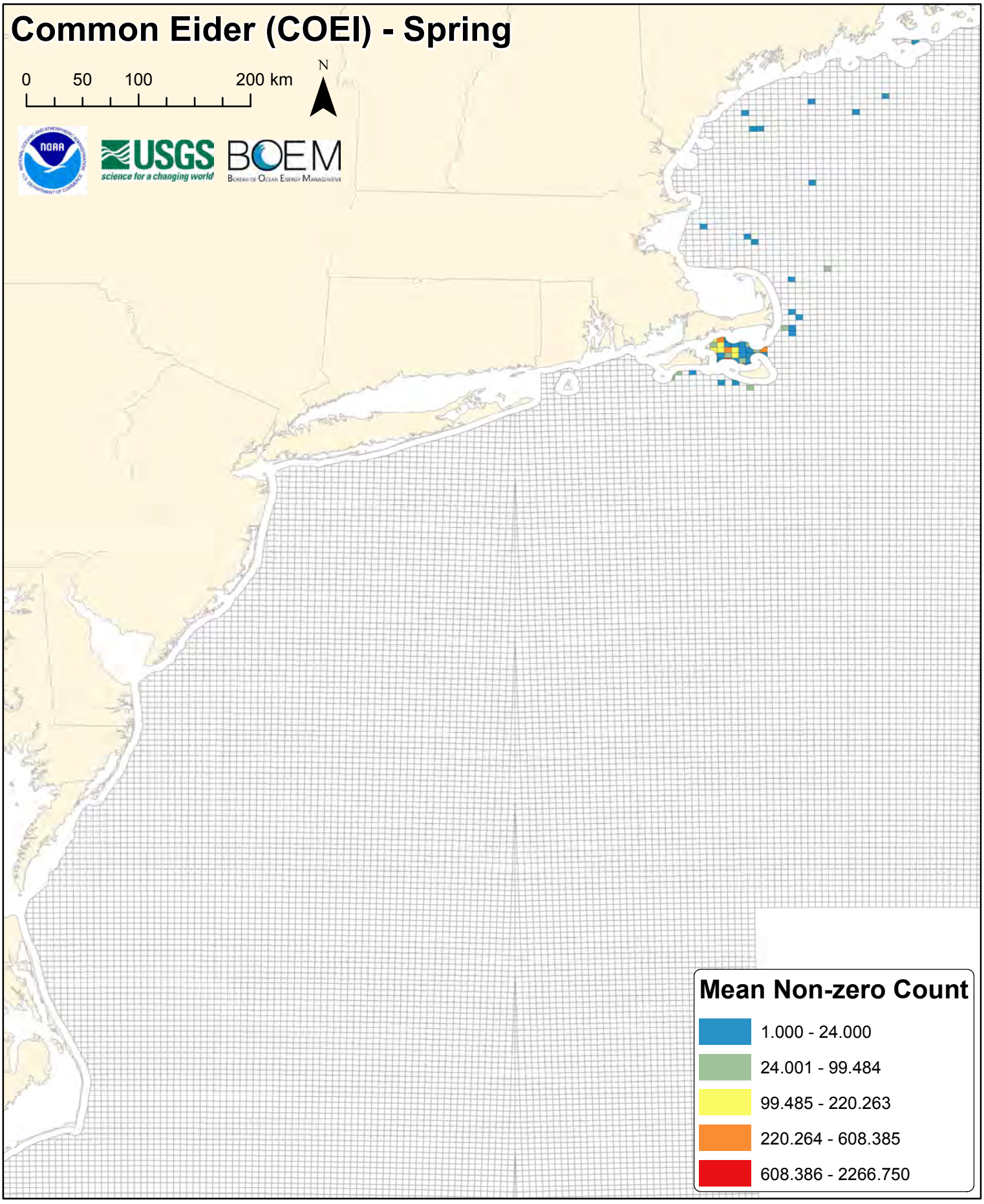

ltdu
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
50
Number of presences in a BOEM lease block

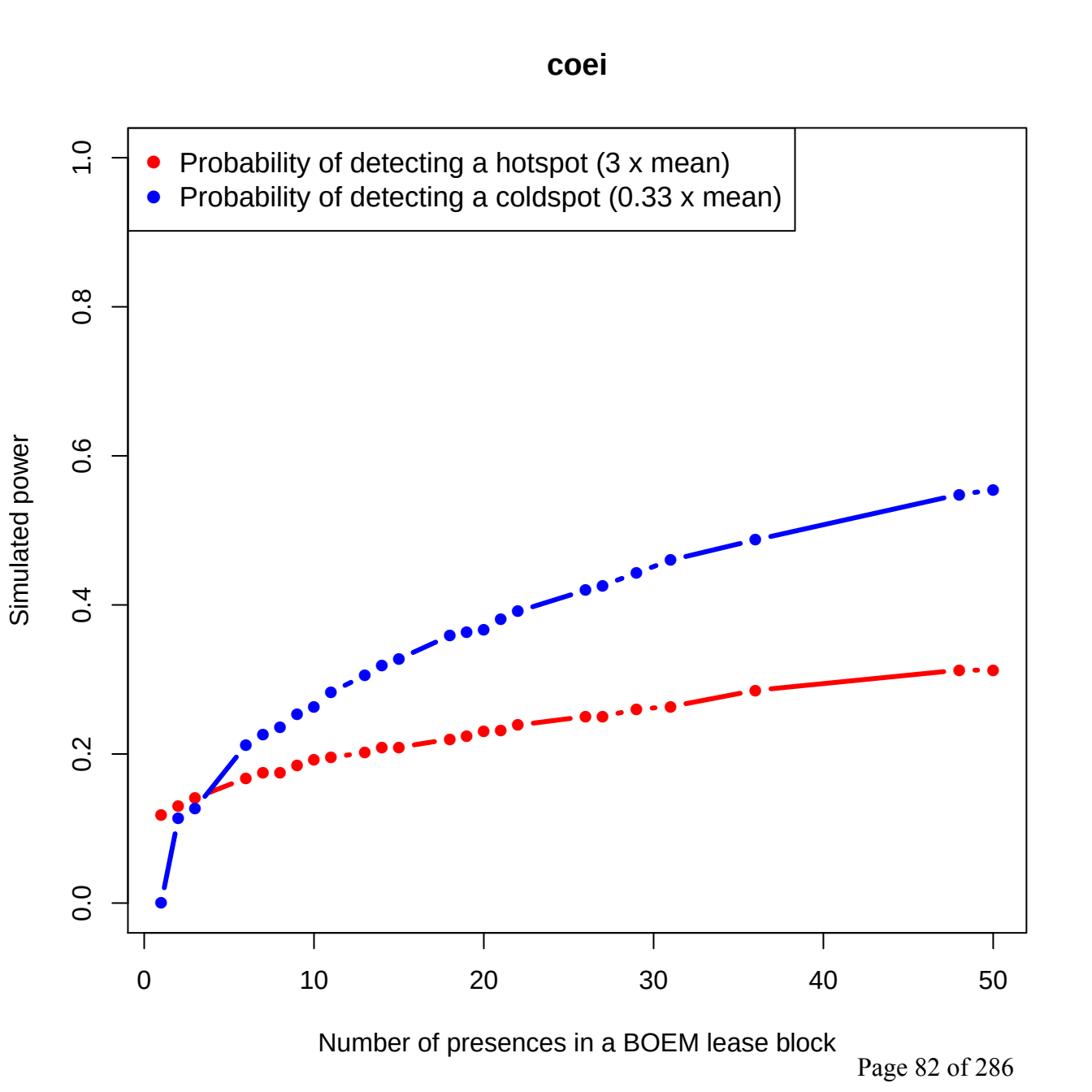

Long-tailed Duck (LTDU) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

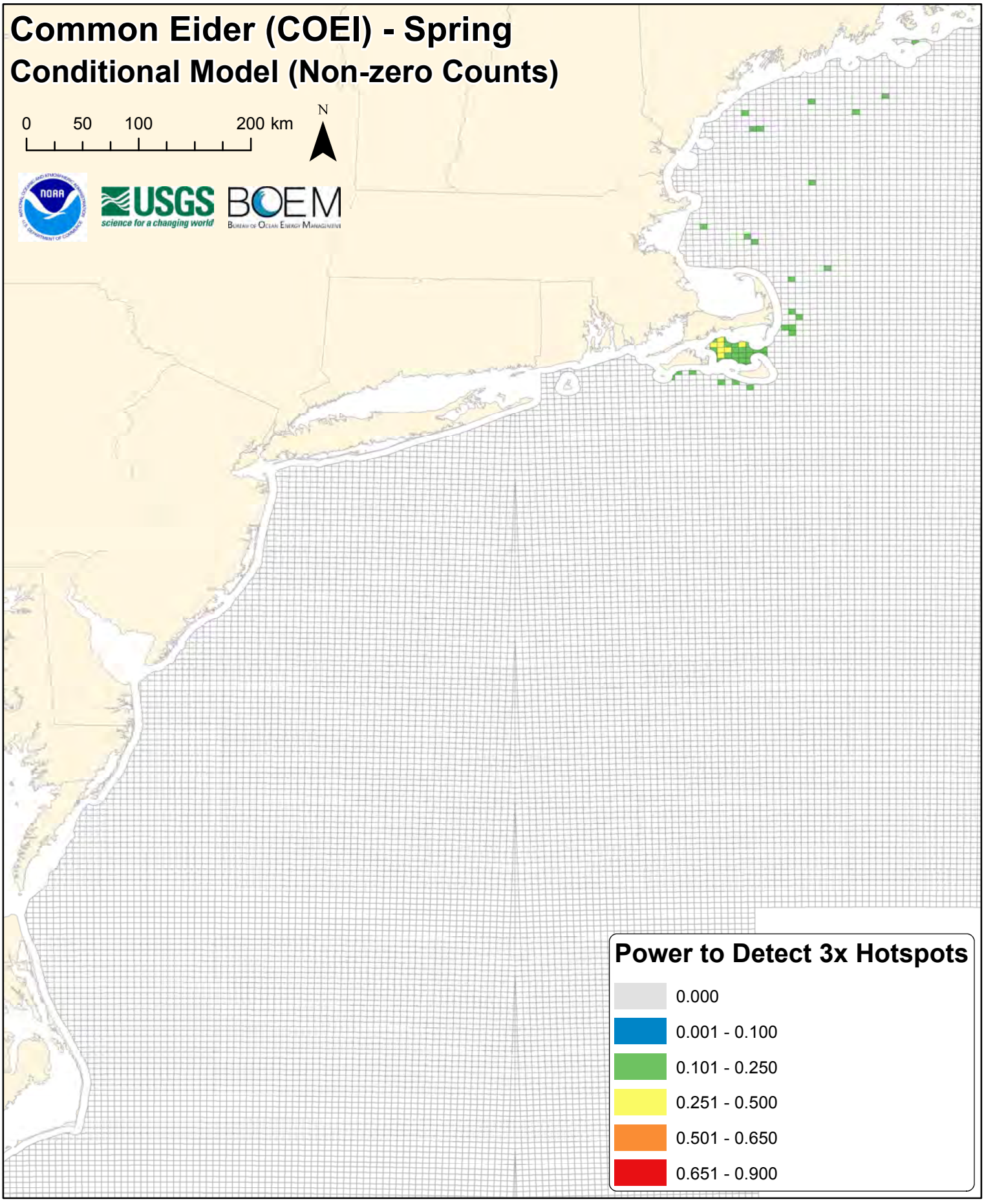

Long-tailed Duck (LTDU) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

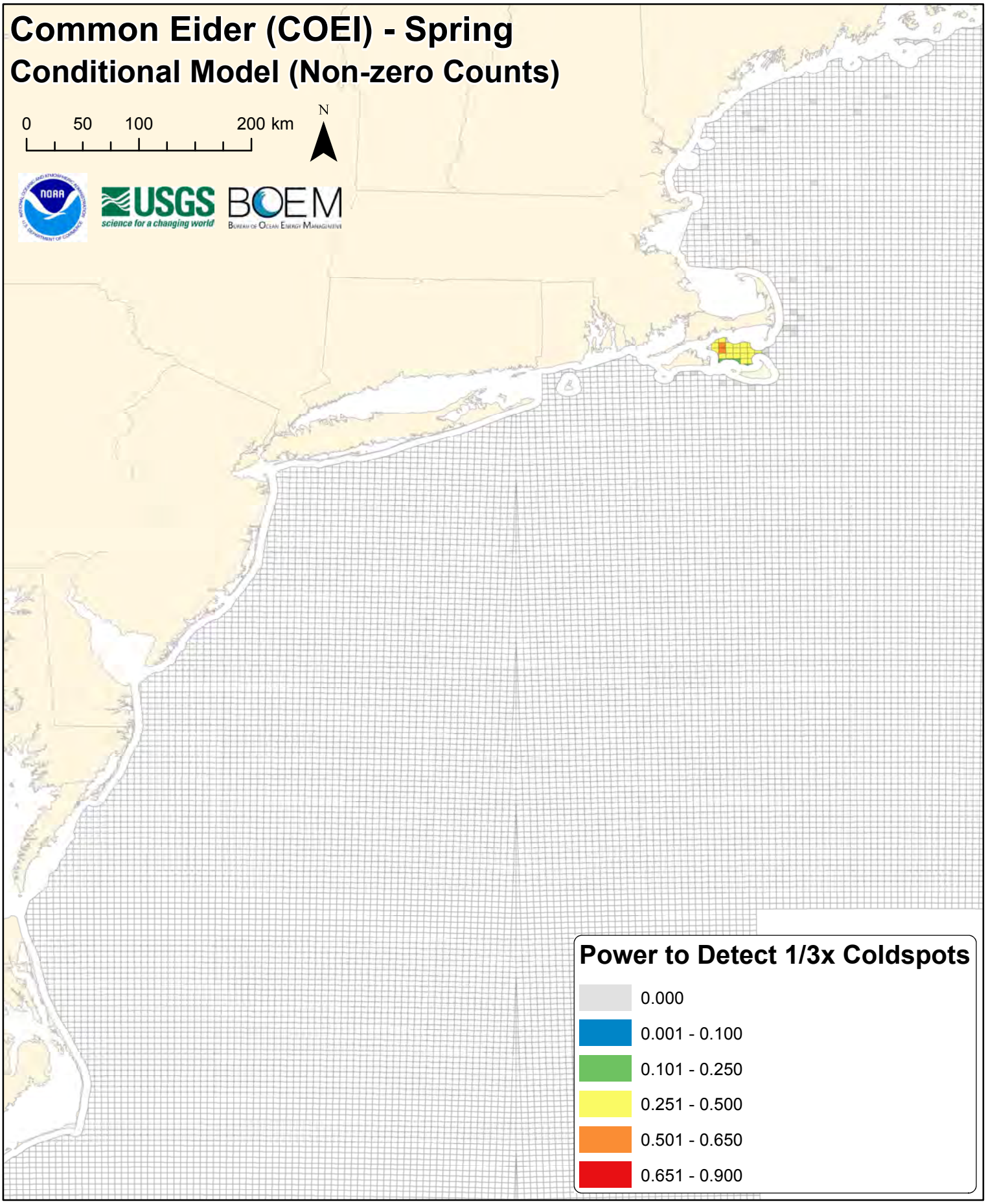

Long-tailed Duck (LTDU) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

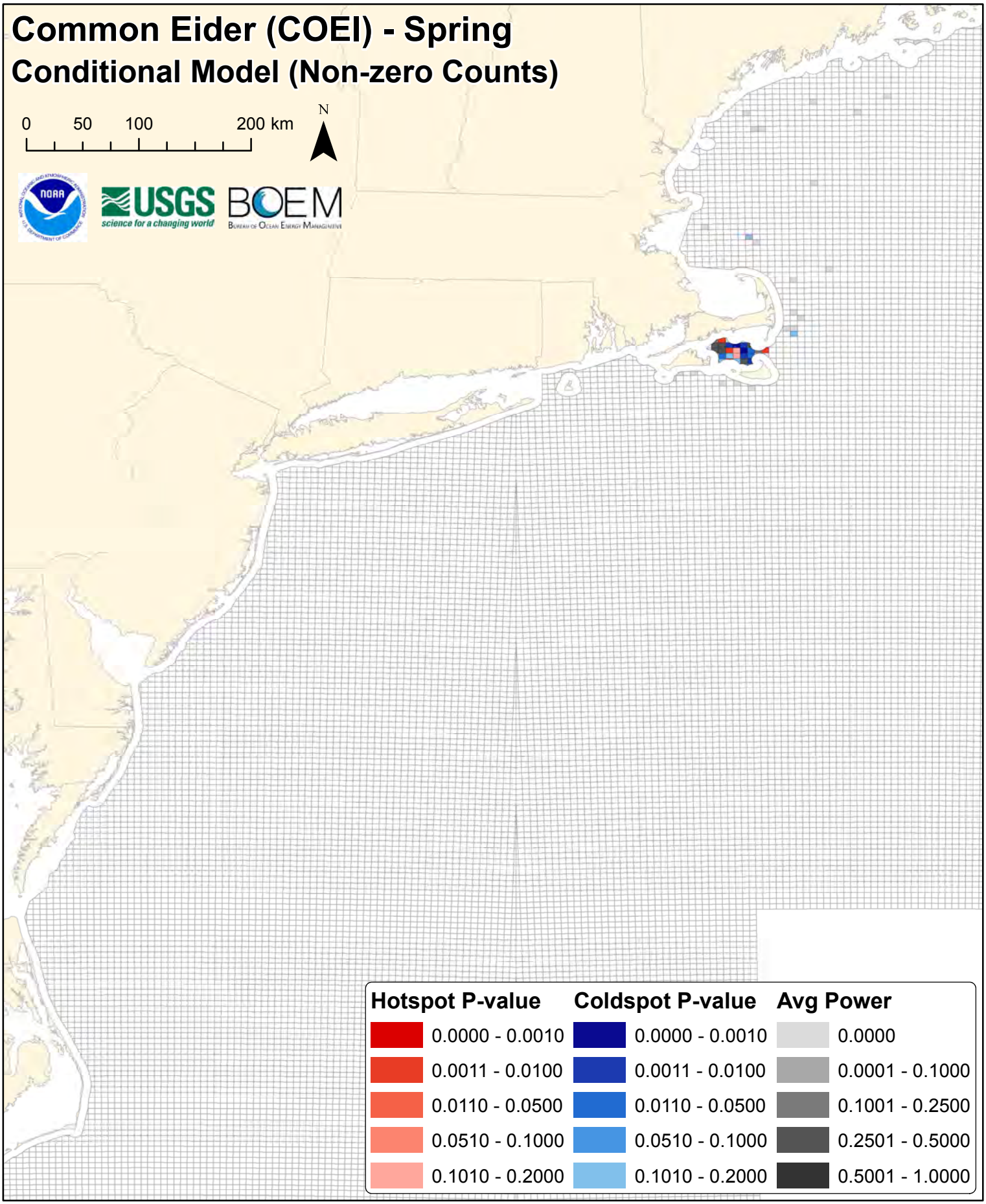

Common Eider (COEI) - Spring
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 3
4 - 14
15 - 22
23 - 36
37 - 50

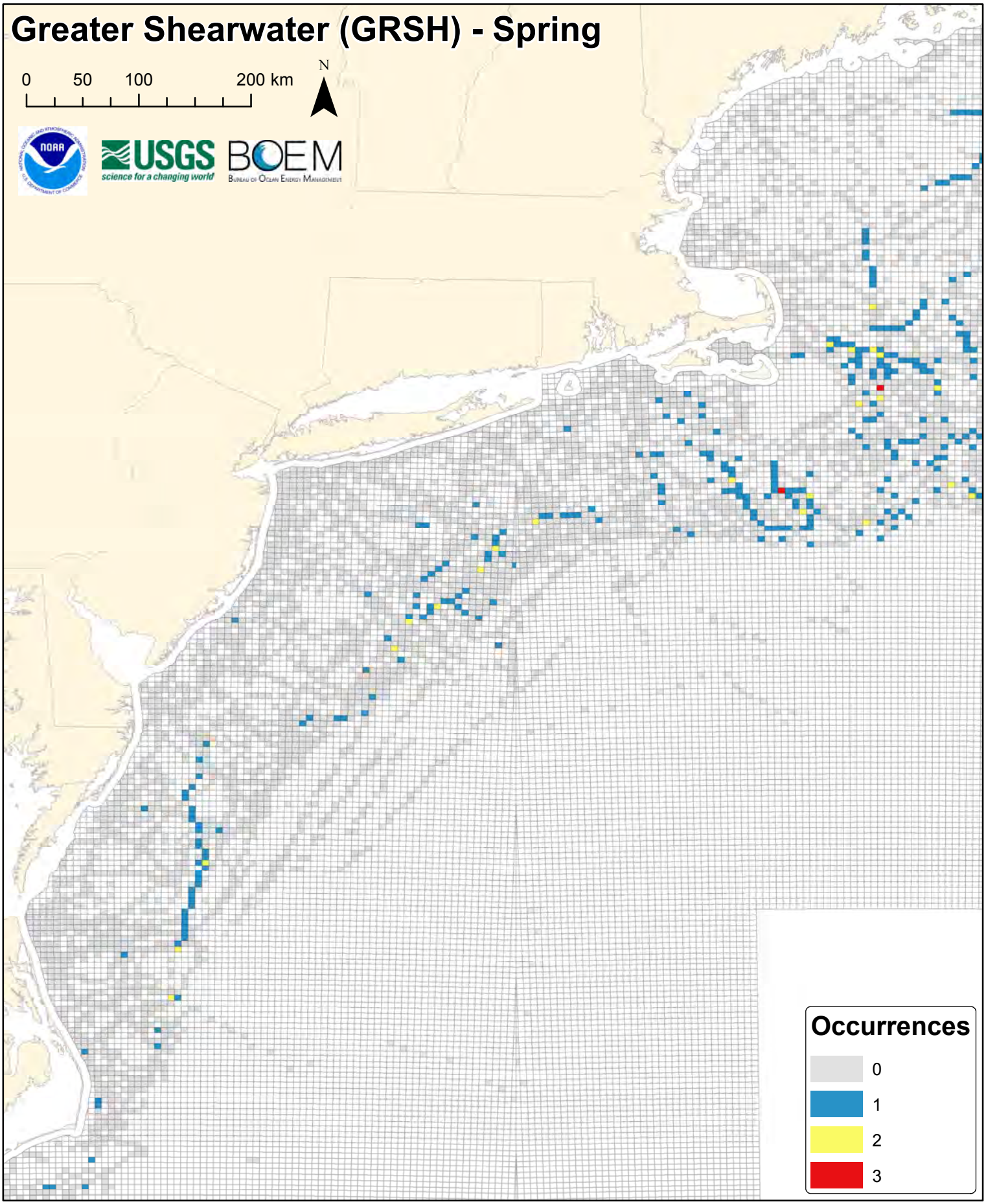

Common Eider (COEI) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 24.000
24.001 - 99.484
99.485 - 220.263
220.264 - 608.385
608.386 - 2266.750

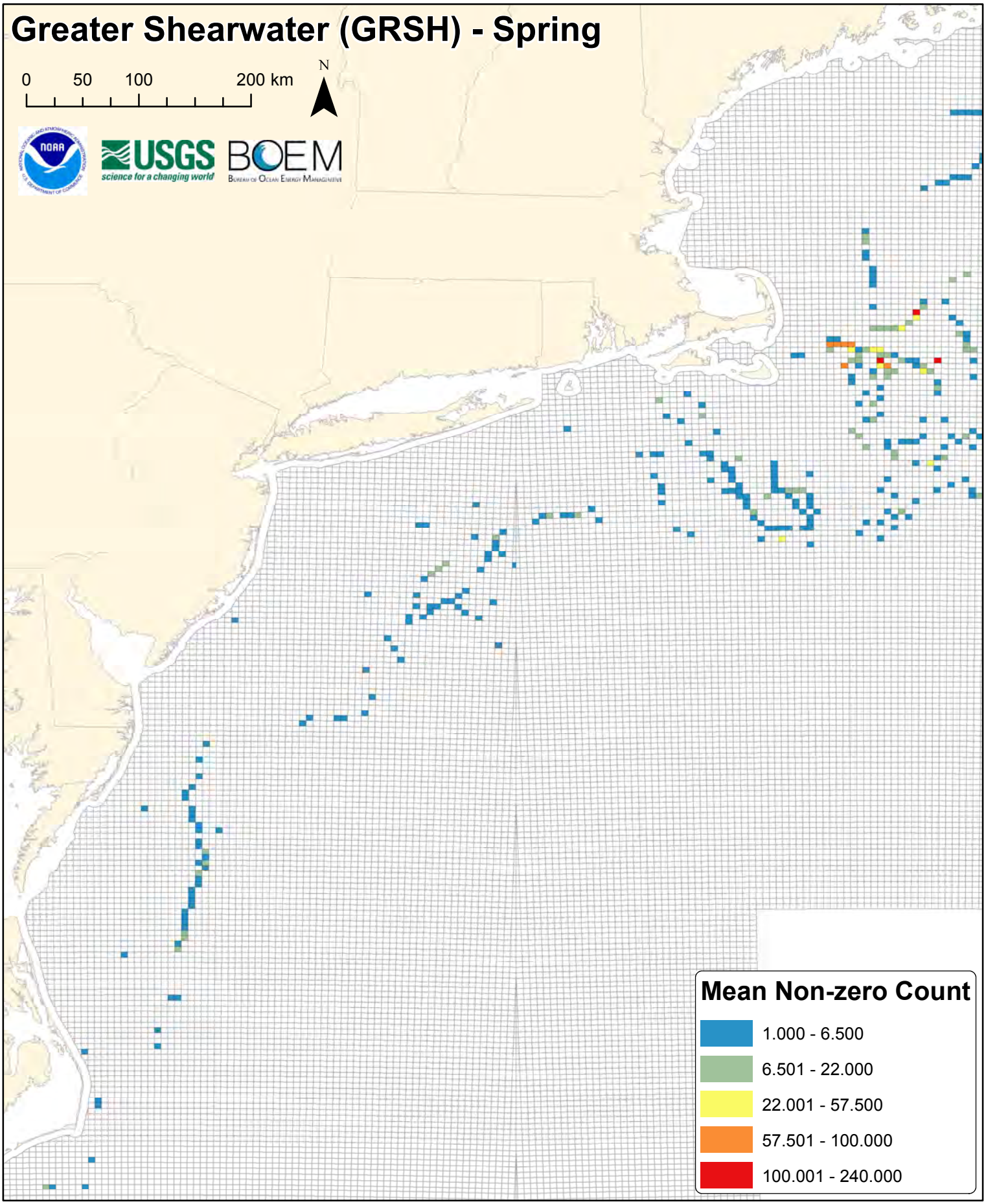

coei
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
50
Number of presences in a BOEM lease block

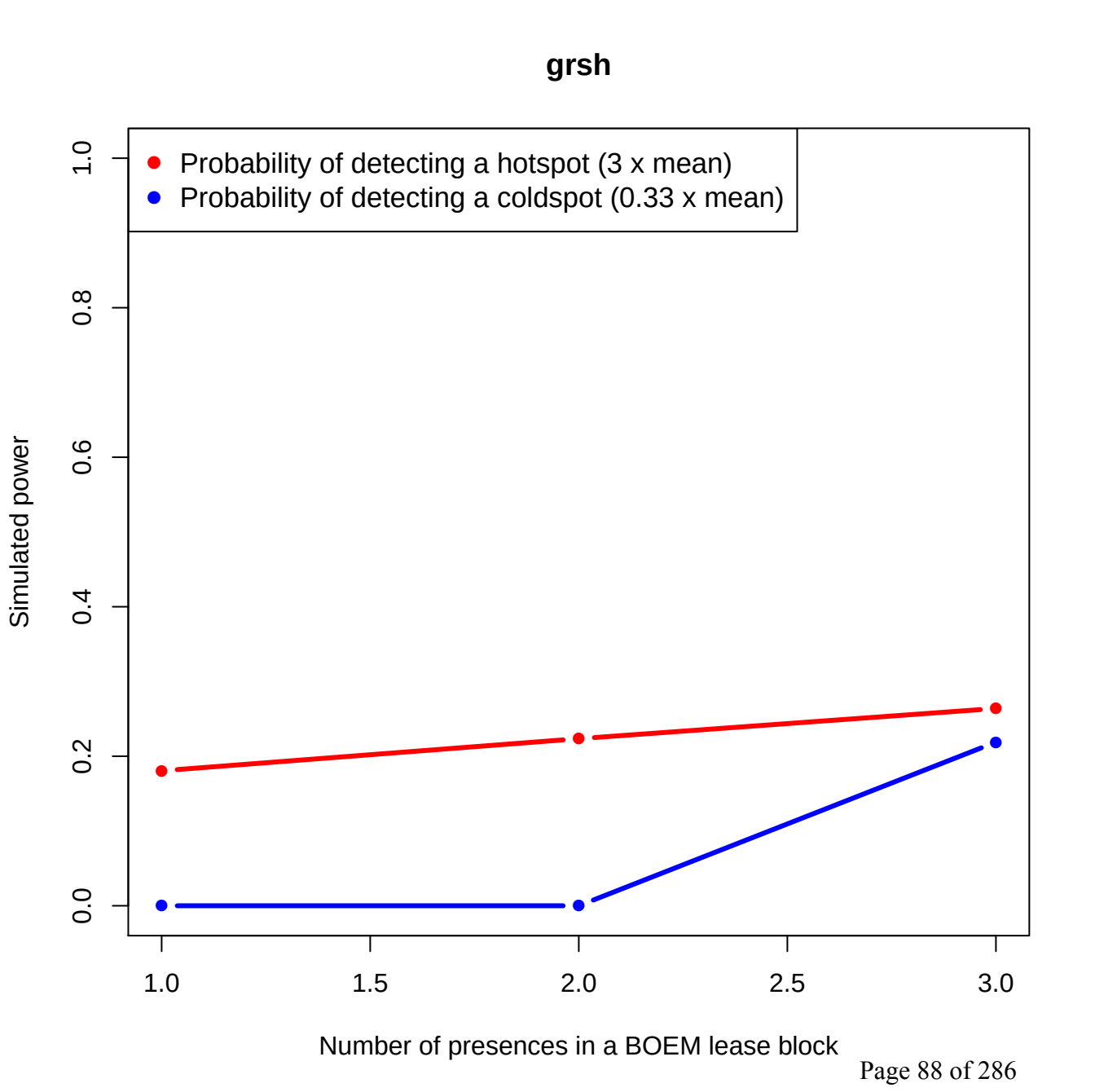

Common Eider (COEI) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

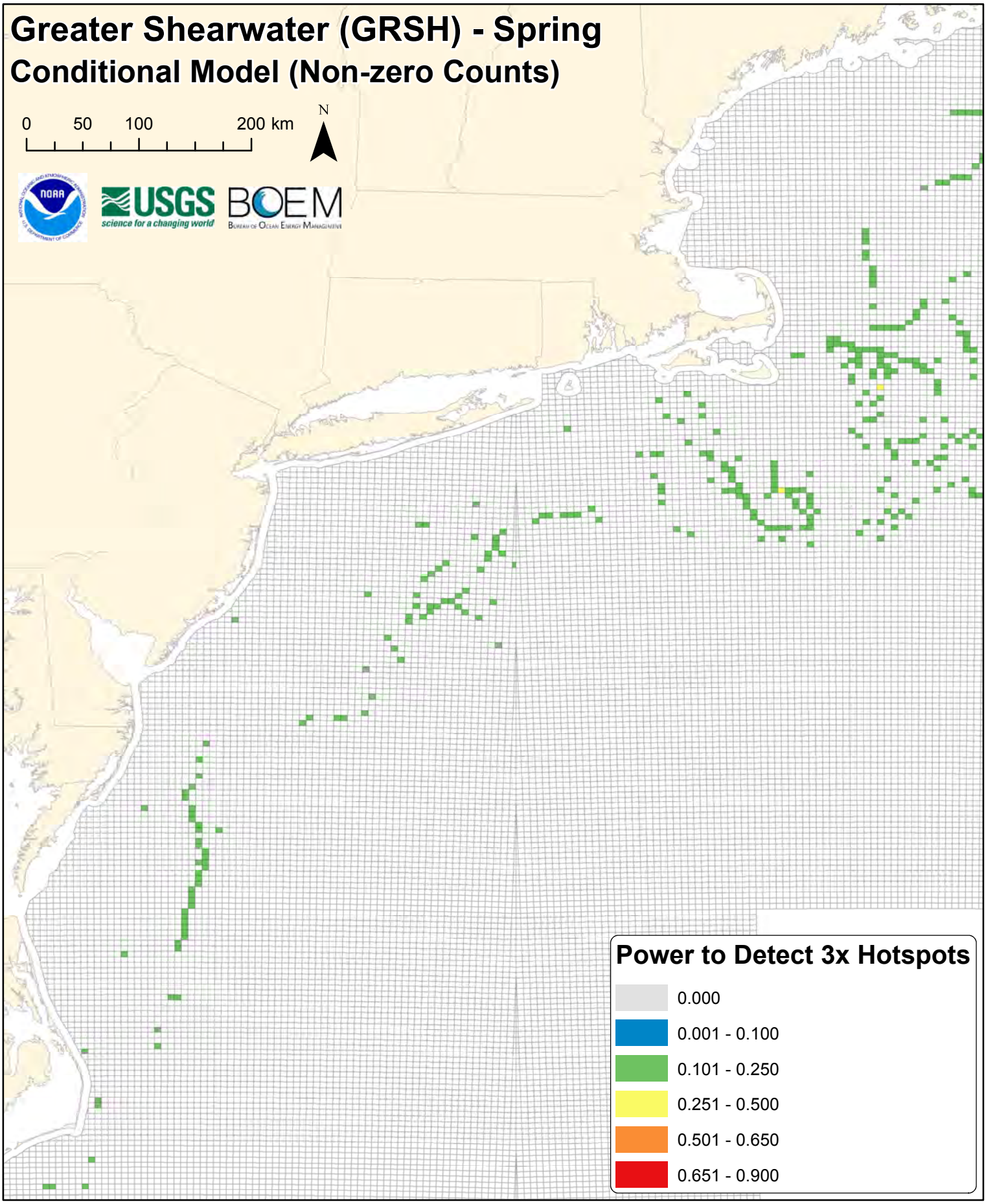

Common Eider (COEI) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

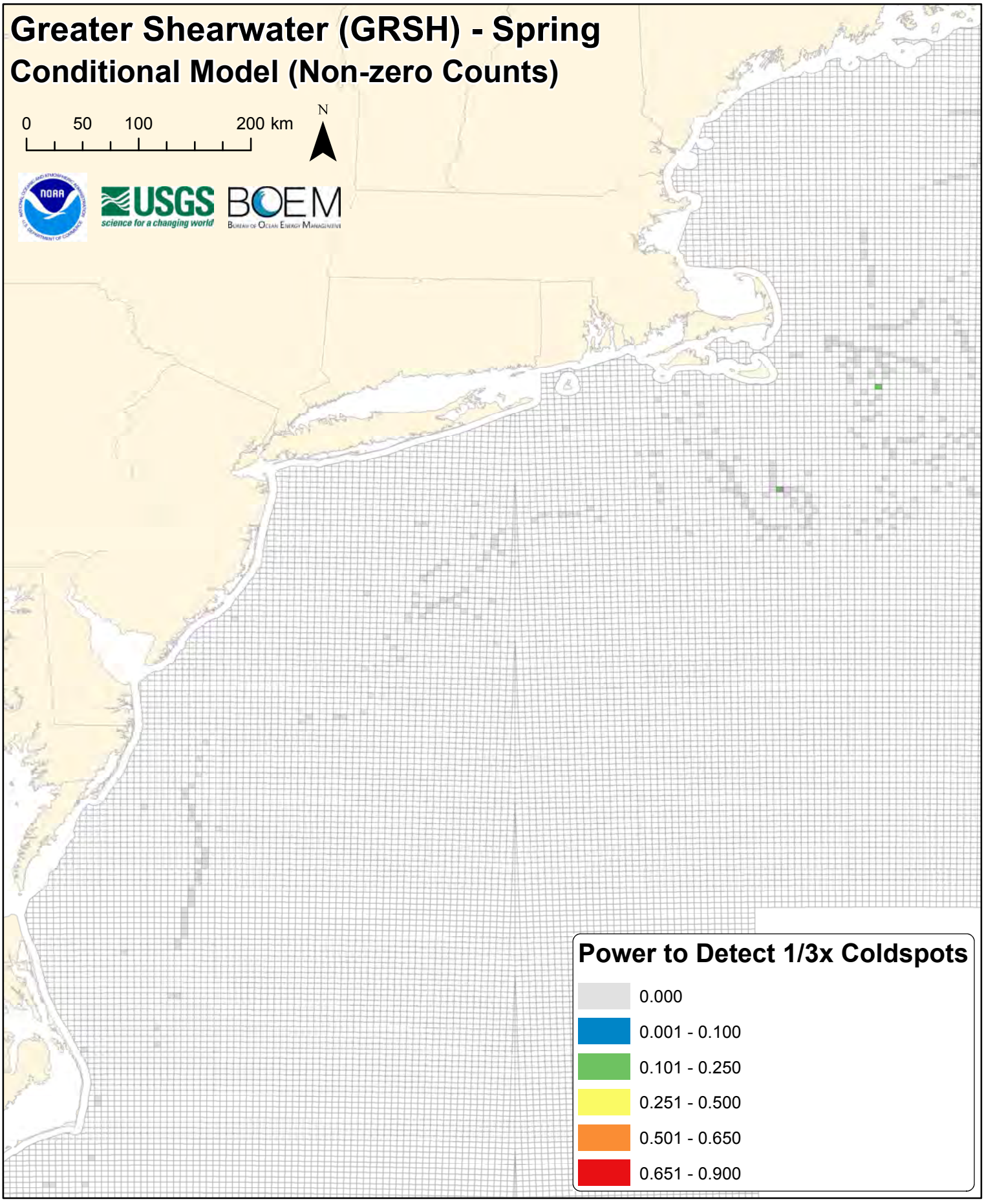

Common Eider (COEI) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

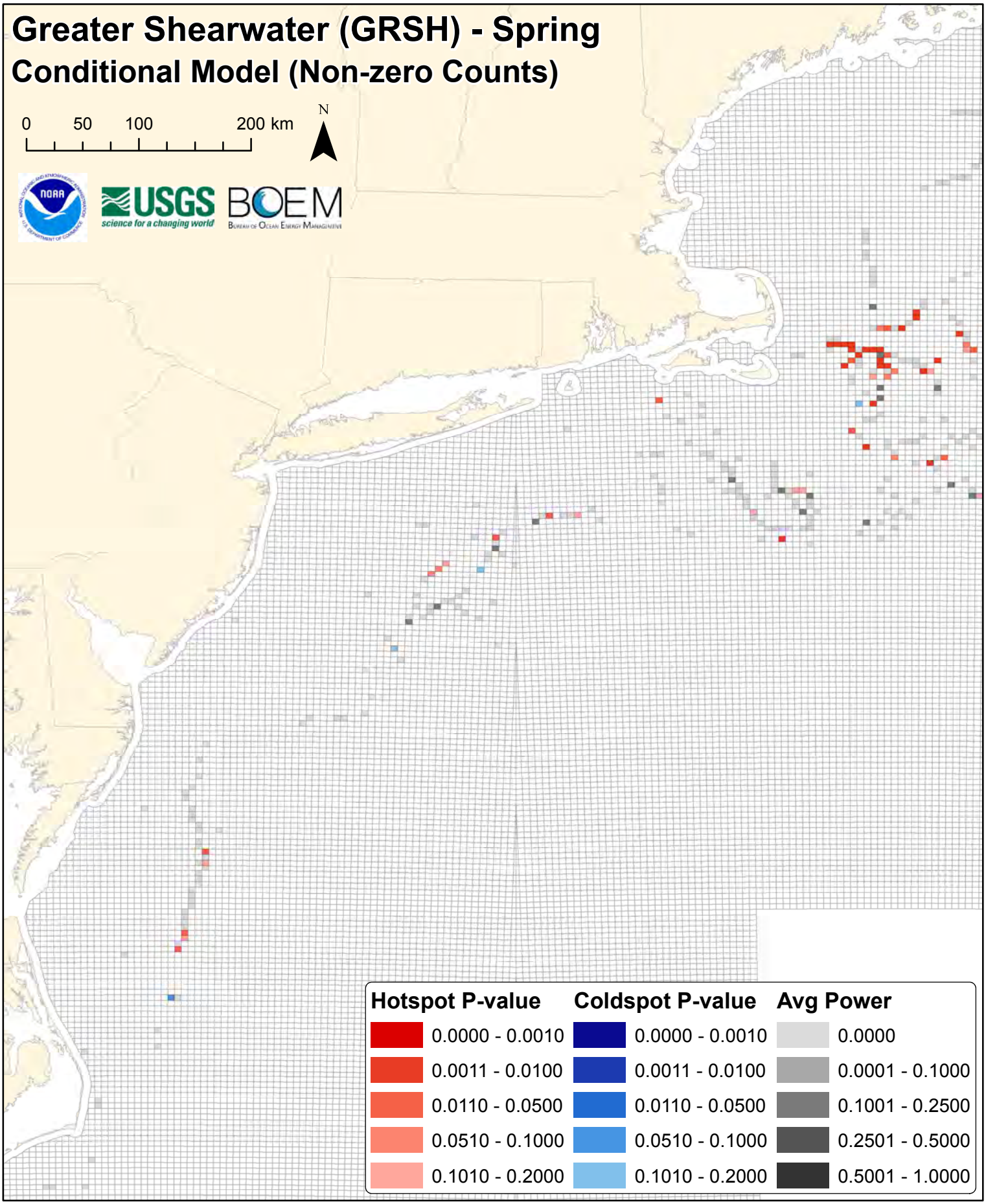

Greater Shearwater (GRSH) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2
3

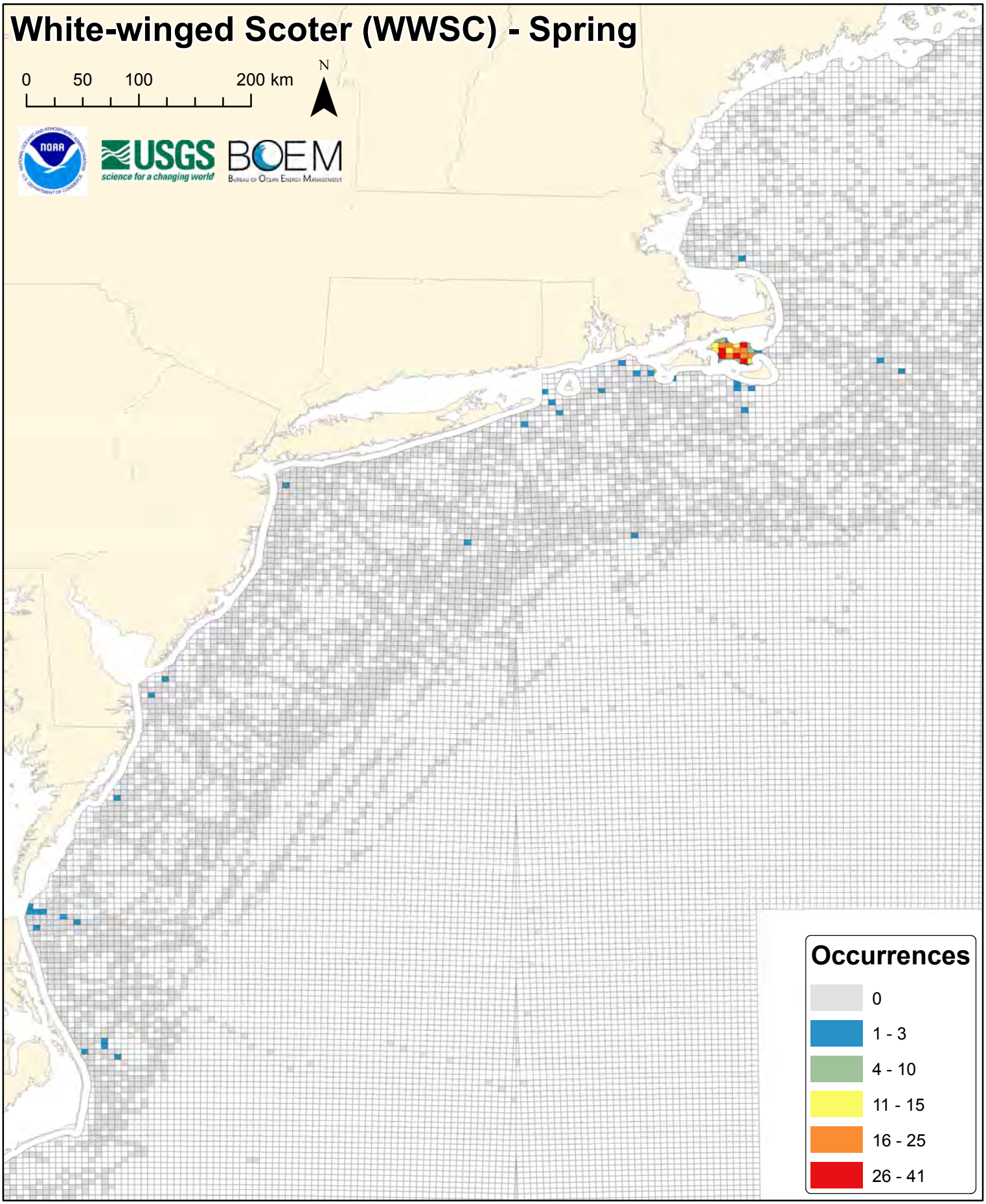

Greater Shearwater (GRSH) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 6.500
6.501 - 22.000
22.001 - 57.500
57.501 - 100.000
100.001 - 240.000

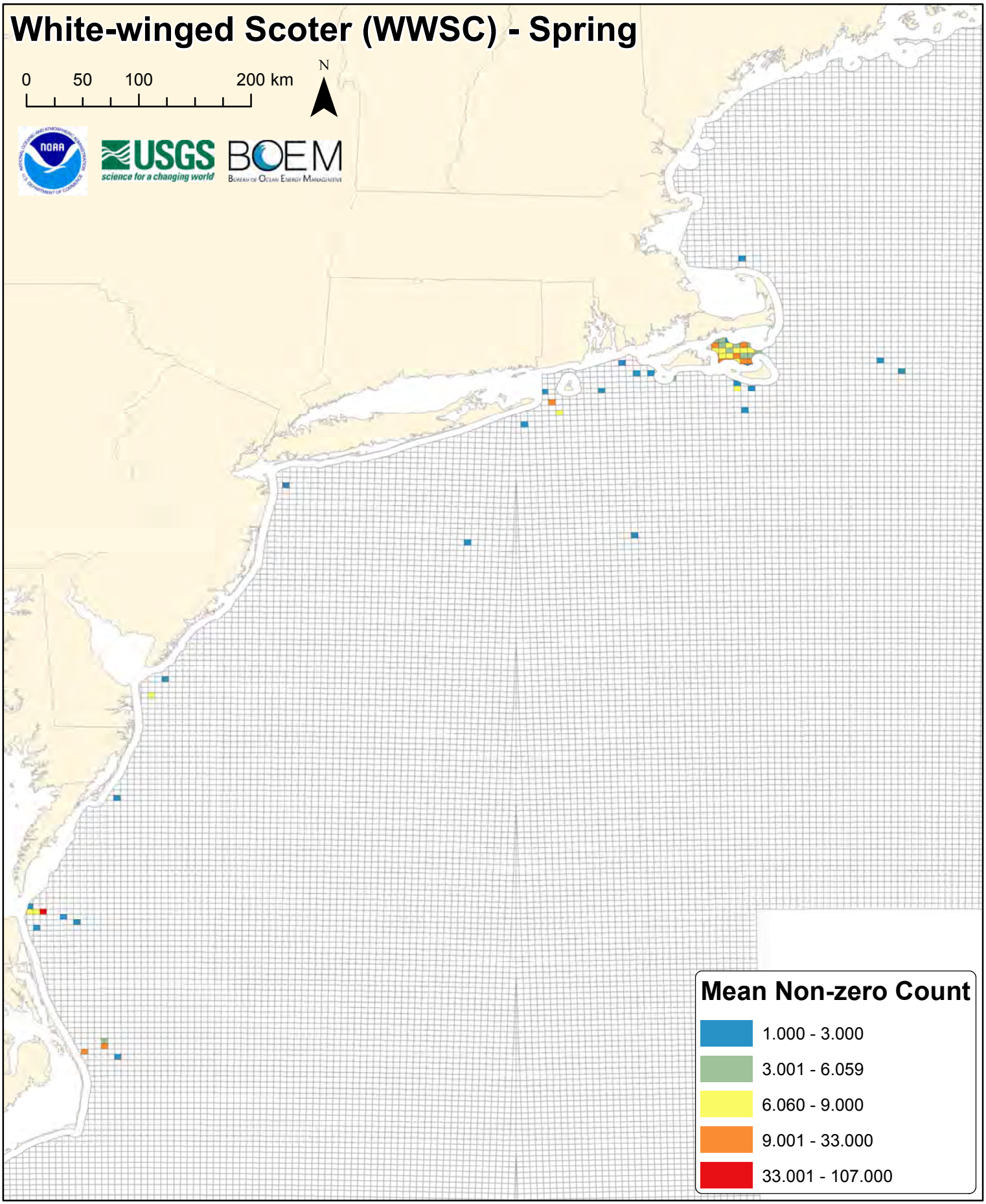

grsh
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
1.0
1.5
2.0
2.5
3.0
Number of presences in a BOEM lease block

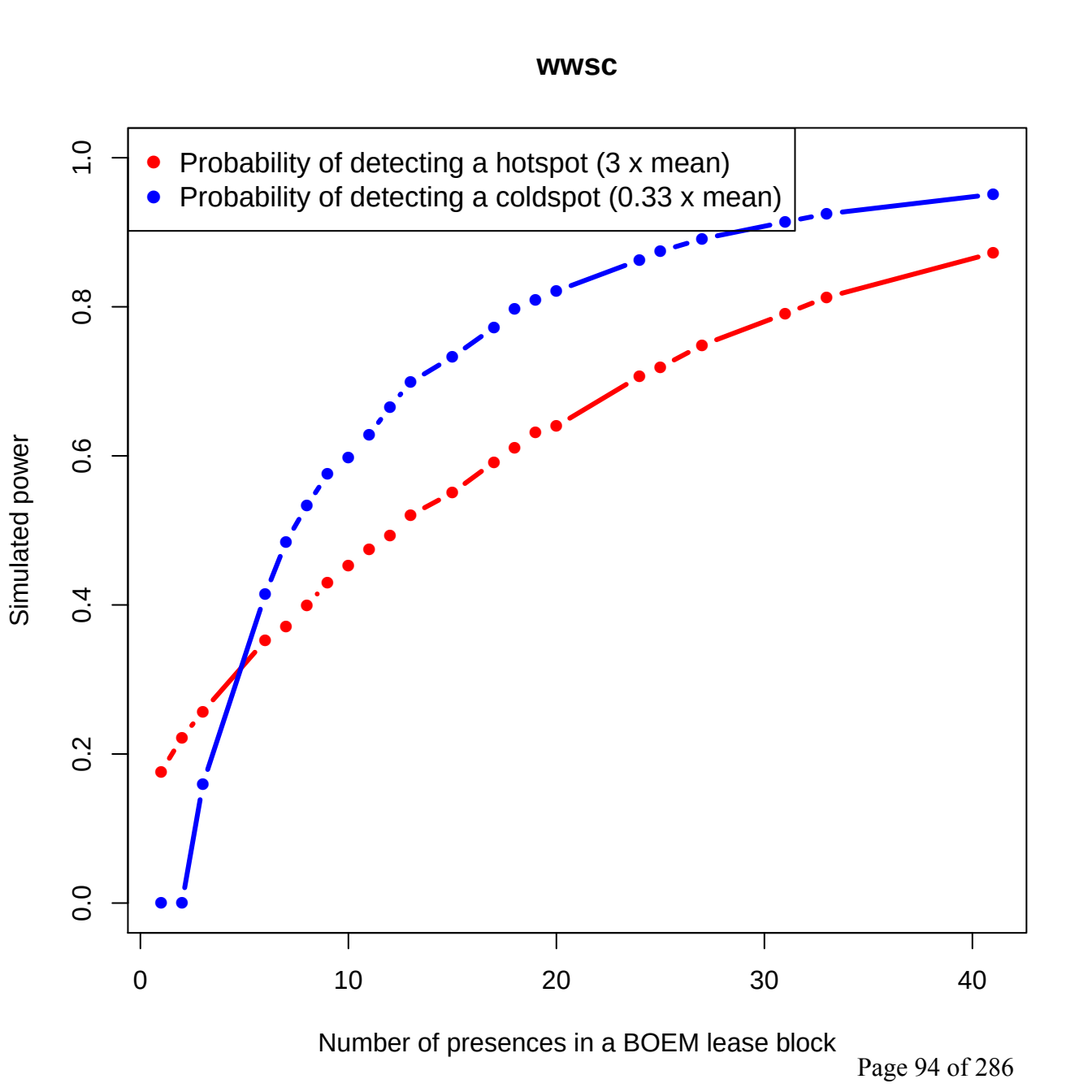

Greater Shearwater (GRSH) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

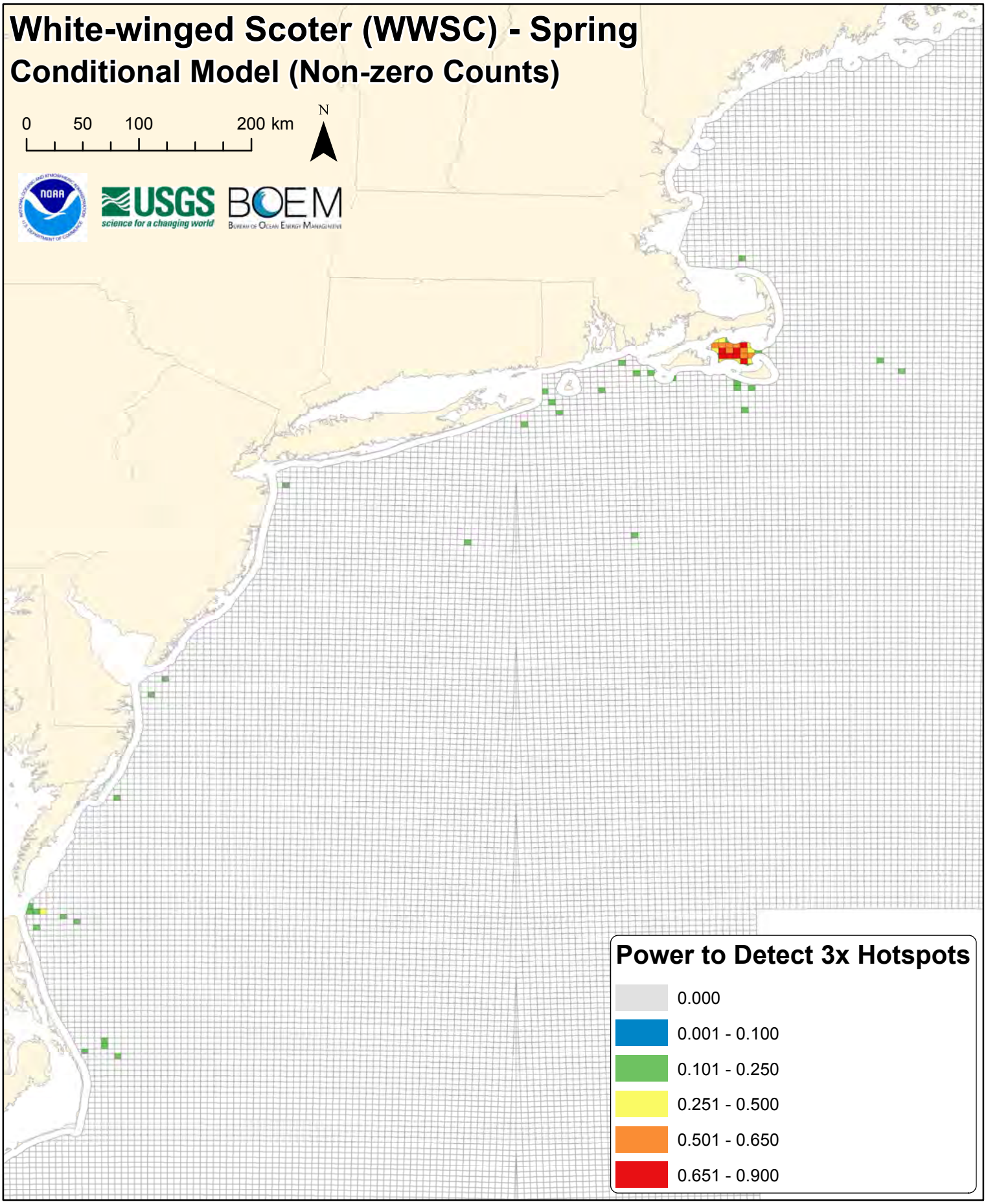

Greater Shearwater (GRSH) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

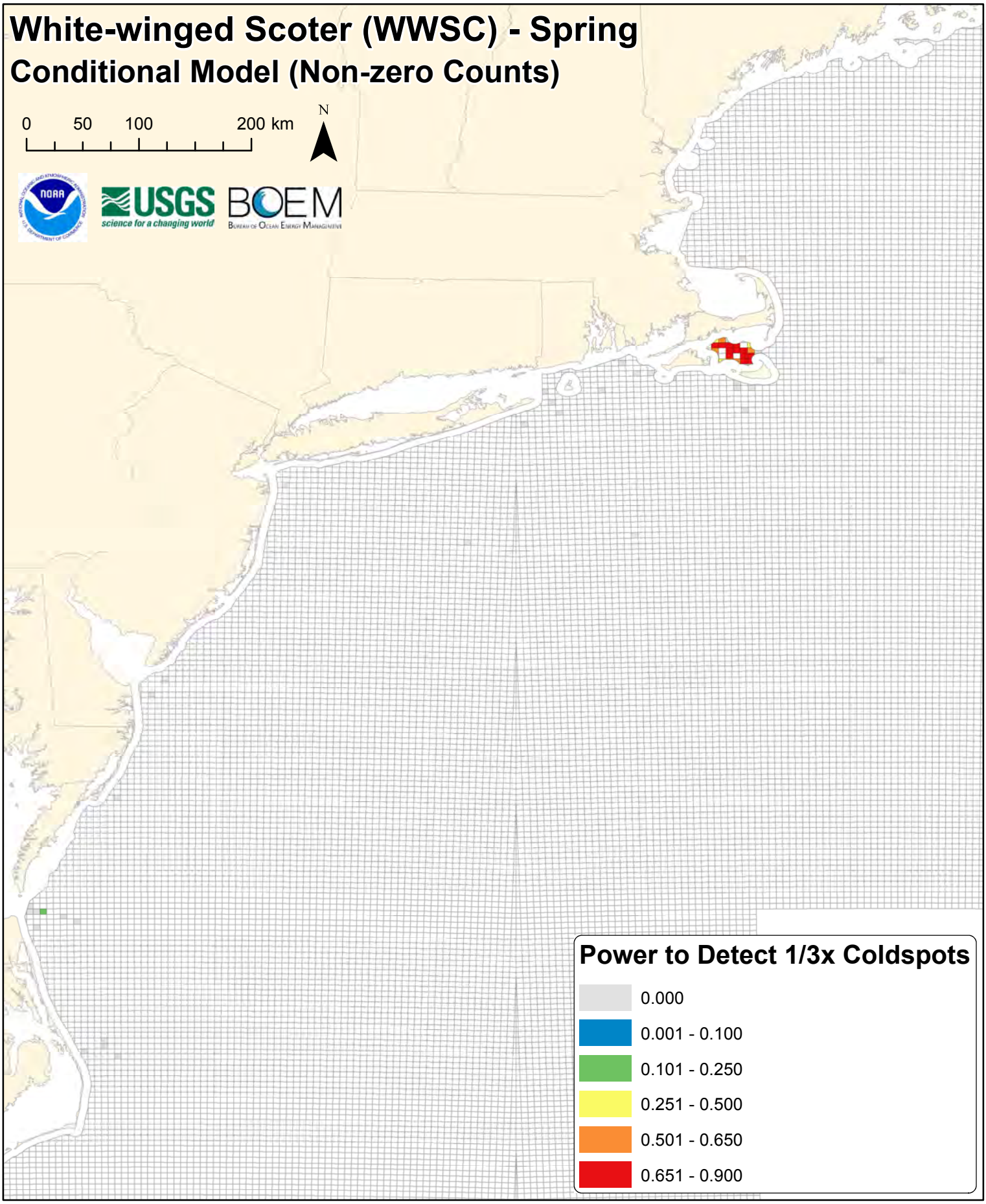

Greater Shearwater (GRSH) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

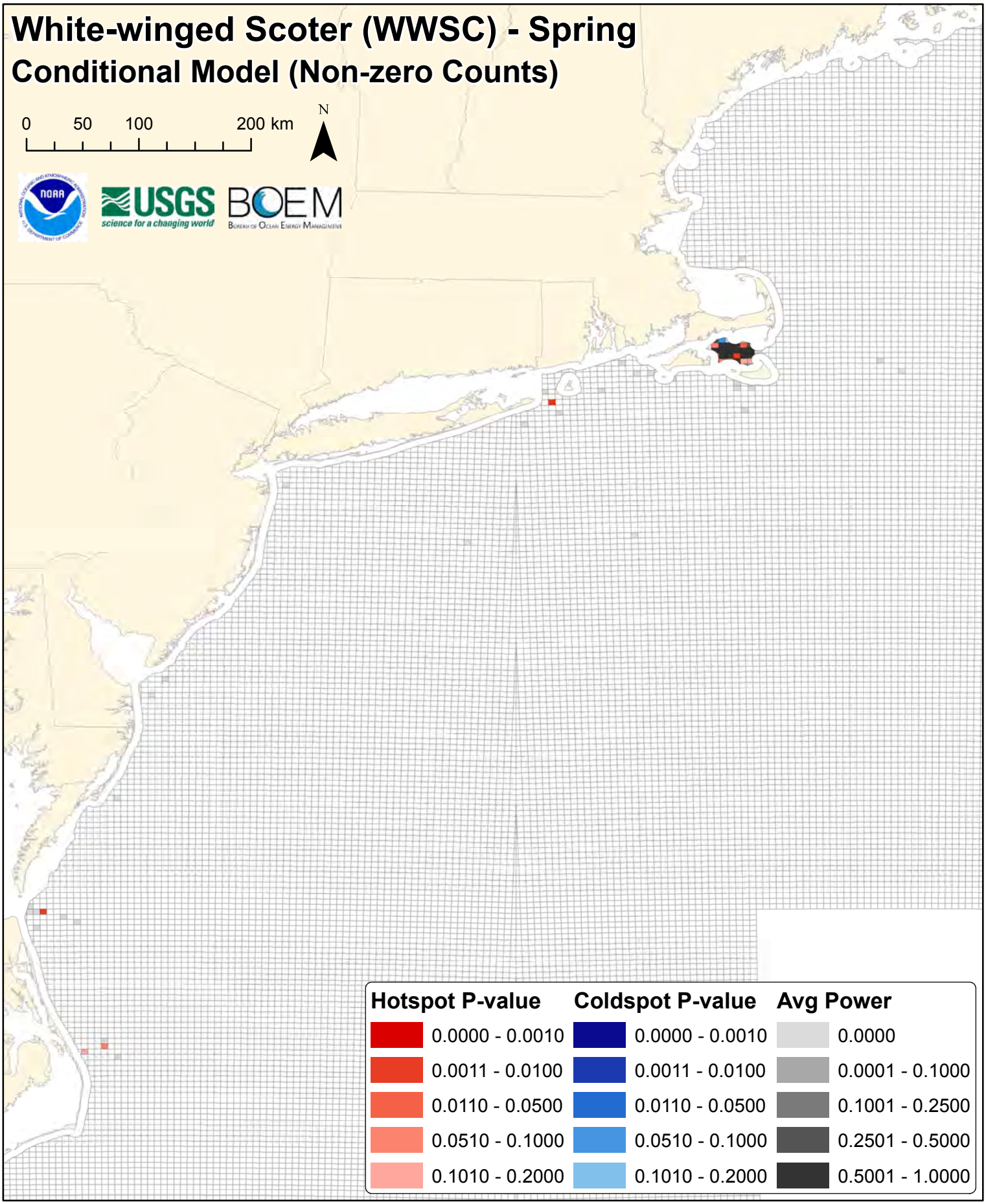

White-winged Scoter (WWSC) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 3
4 - 10
11 - 15
16 - 25
26 - 41

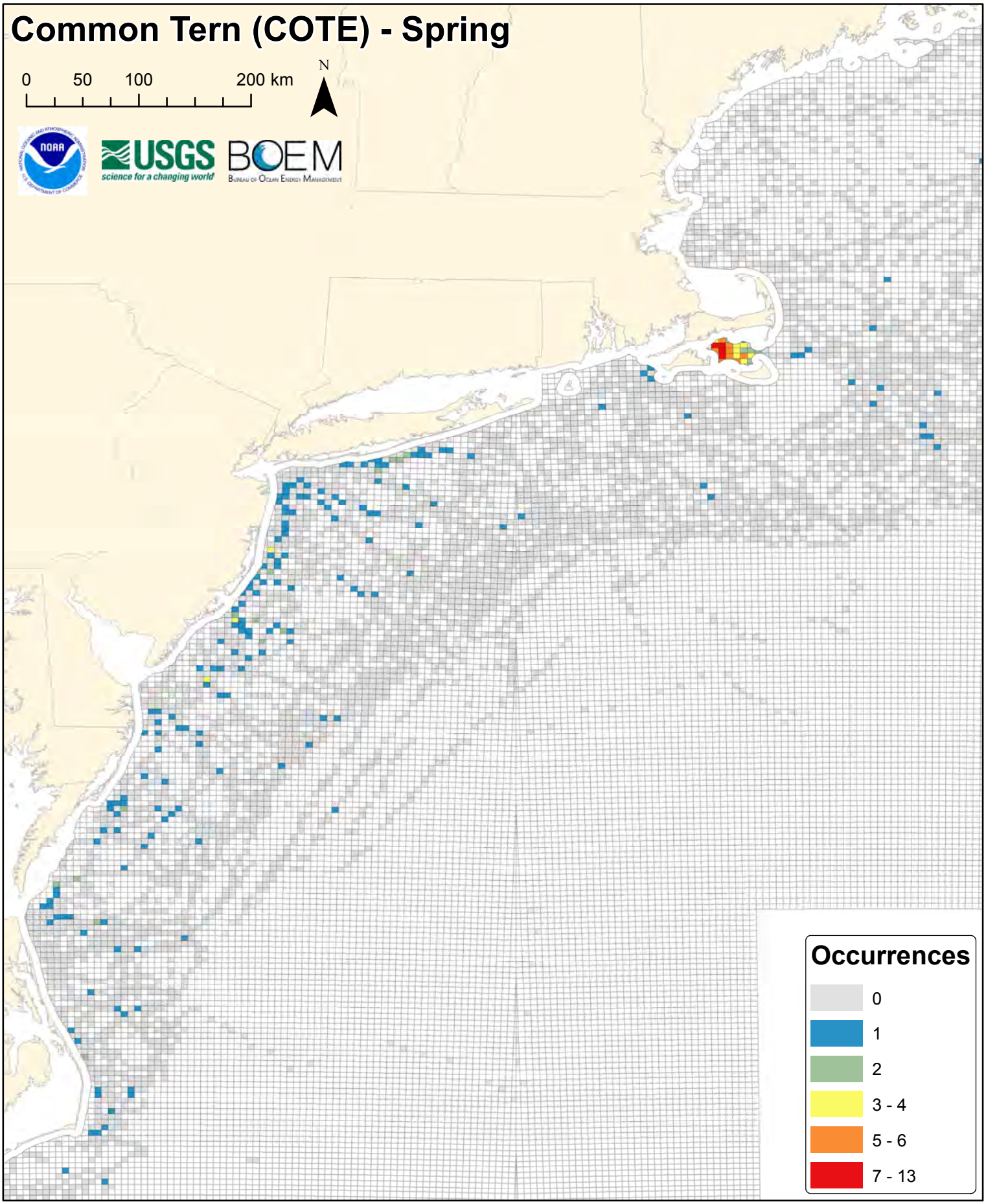

White-winged Scoter (WWSC) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 3.000
3.001 - 6.059
6.060 - 9.000
9.001 - 33.000
33.001 - 107.000

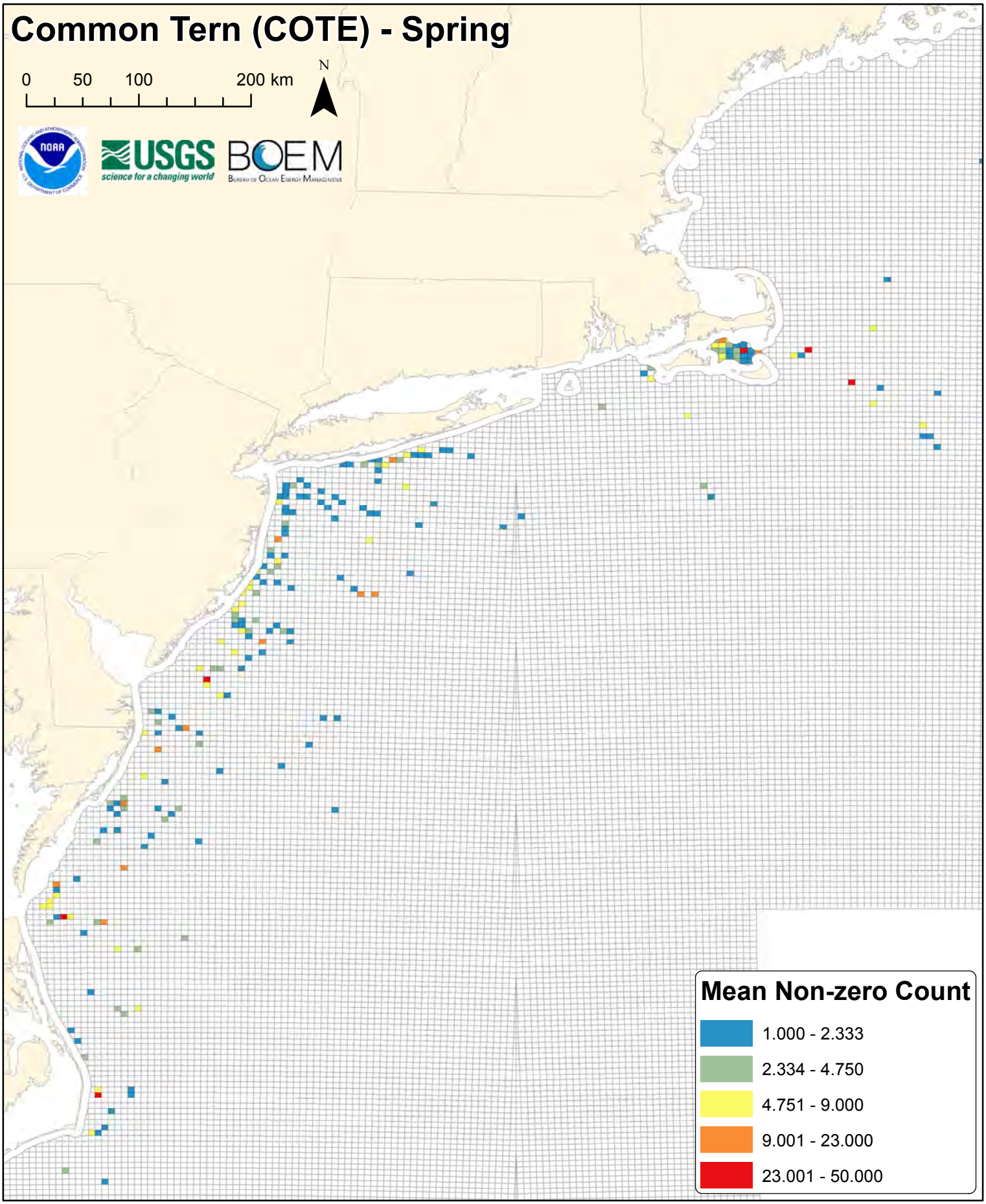

wwsc
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
Number of presences in a BOEM lease block

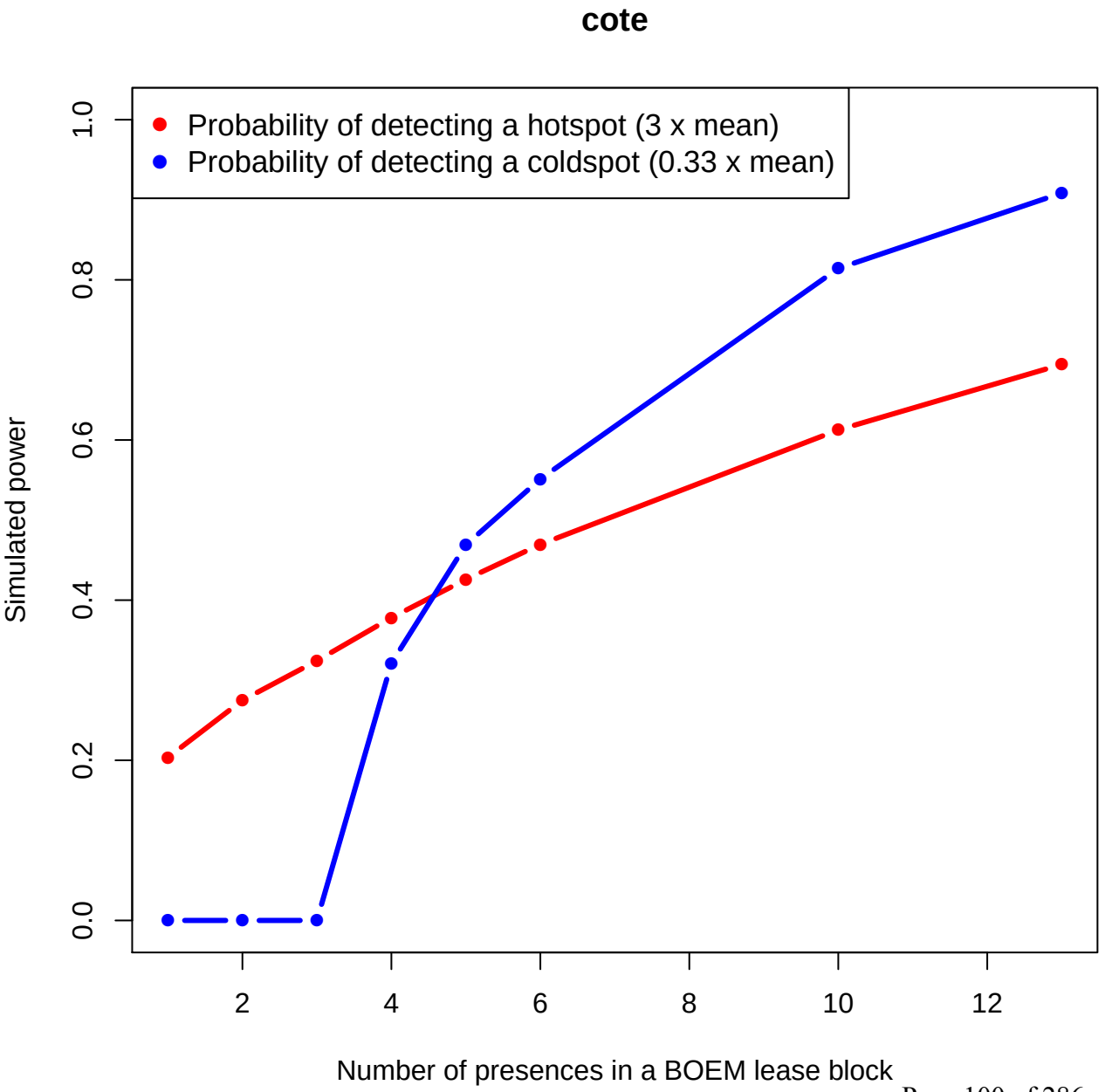

White-winged Scoter (WWSC) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

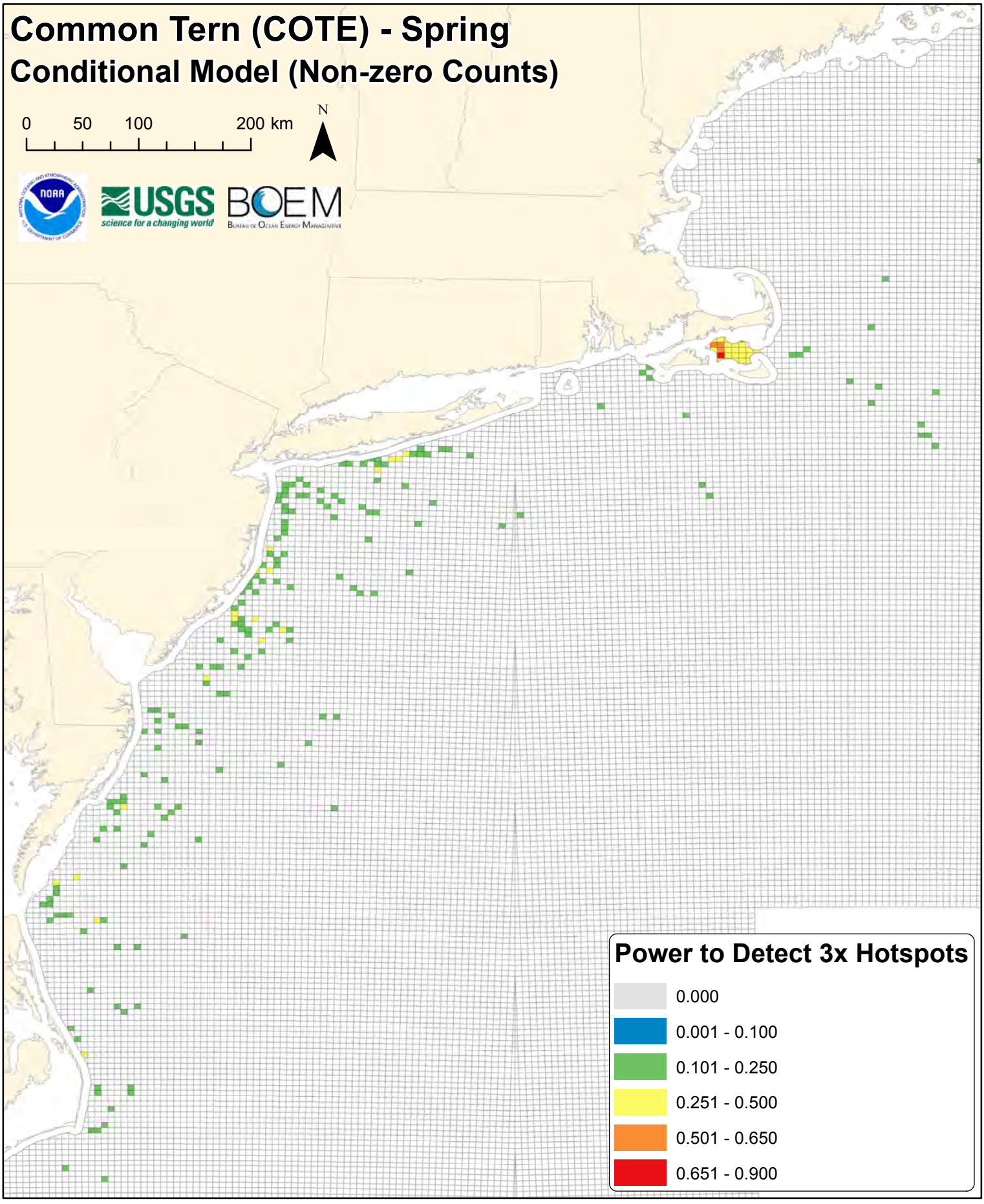

White-winged Scoter (WWSC) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

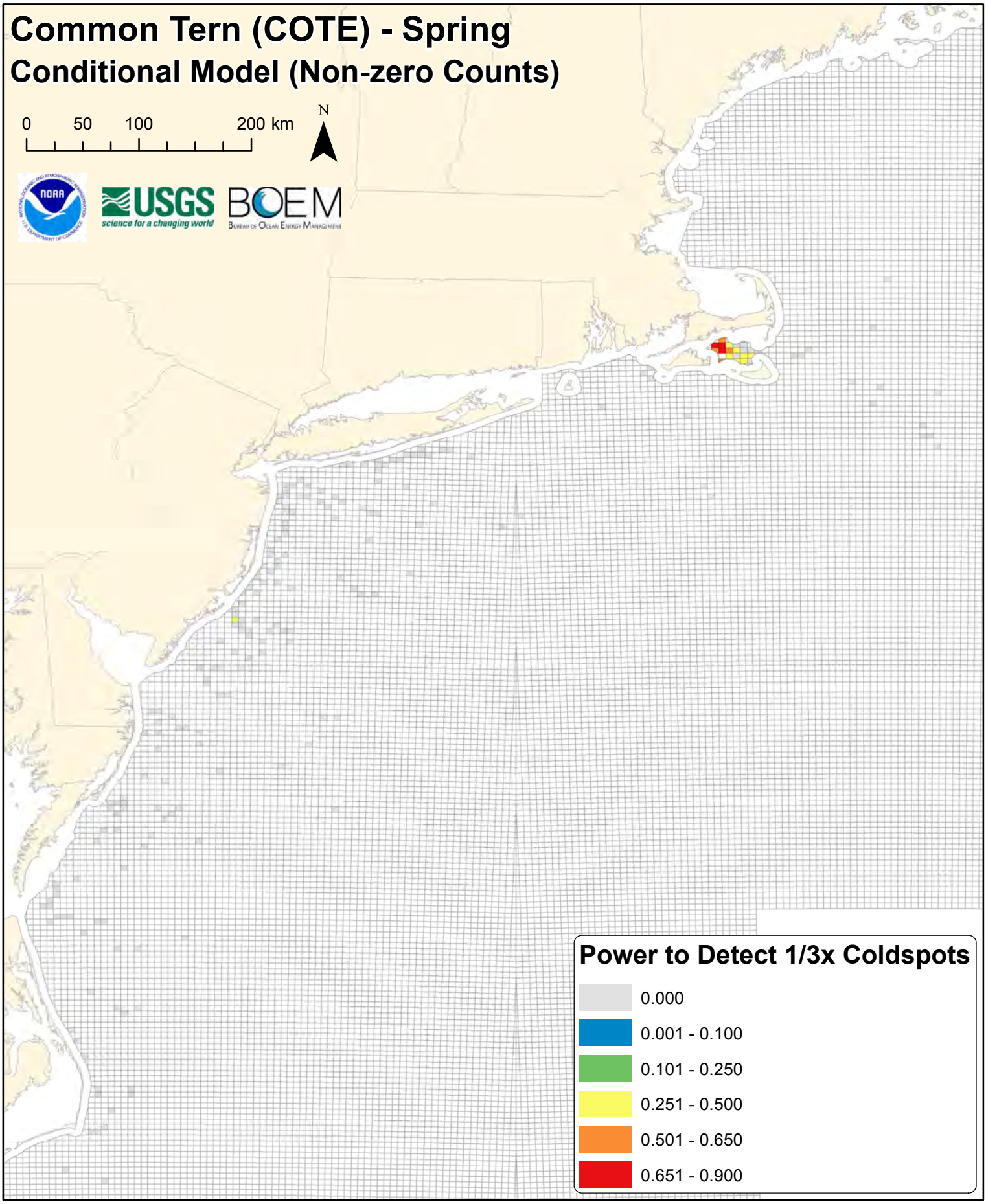

White-winged Scoter (WWSC) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

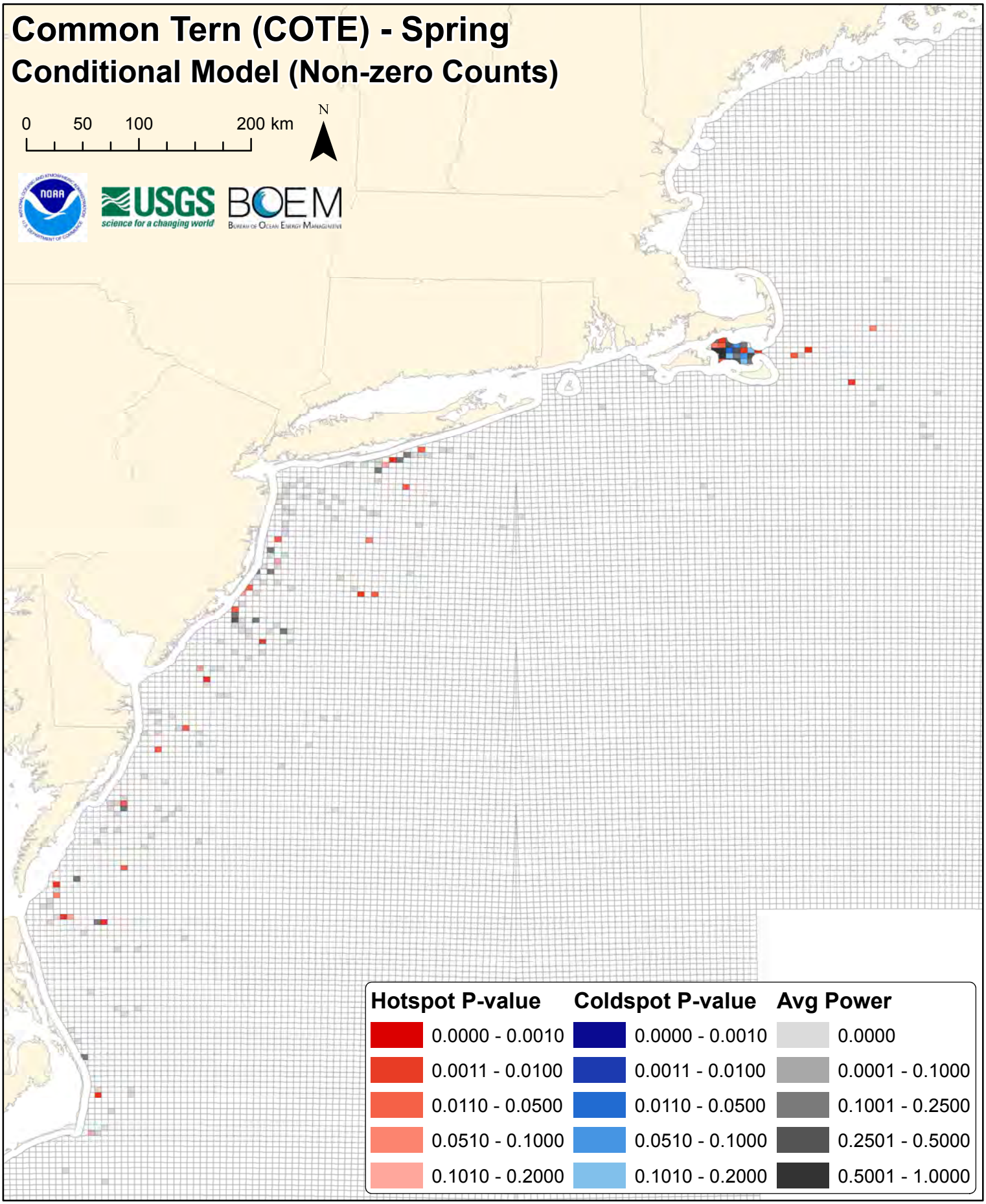

Common Tern (COTE) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2
3 - 4
5 - 6
7 - 13

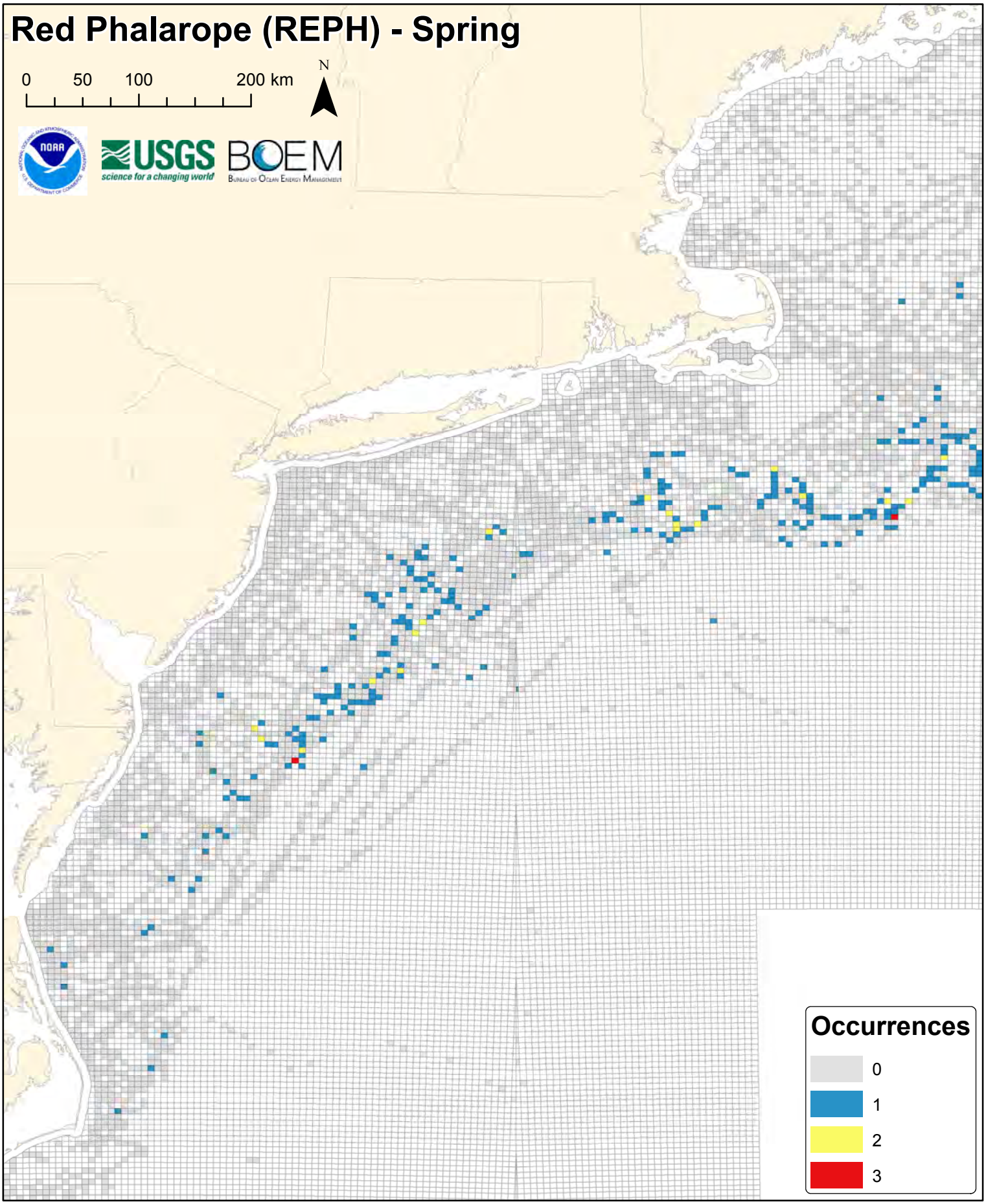

Common Tern (COTE) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 2.333
2.334 - 4.750
4.751 - 9.000
9.001 - 23.000
23.001 - 50.000

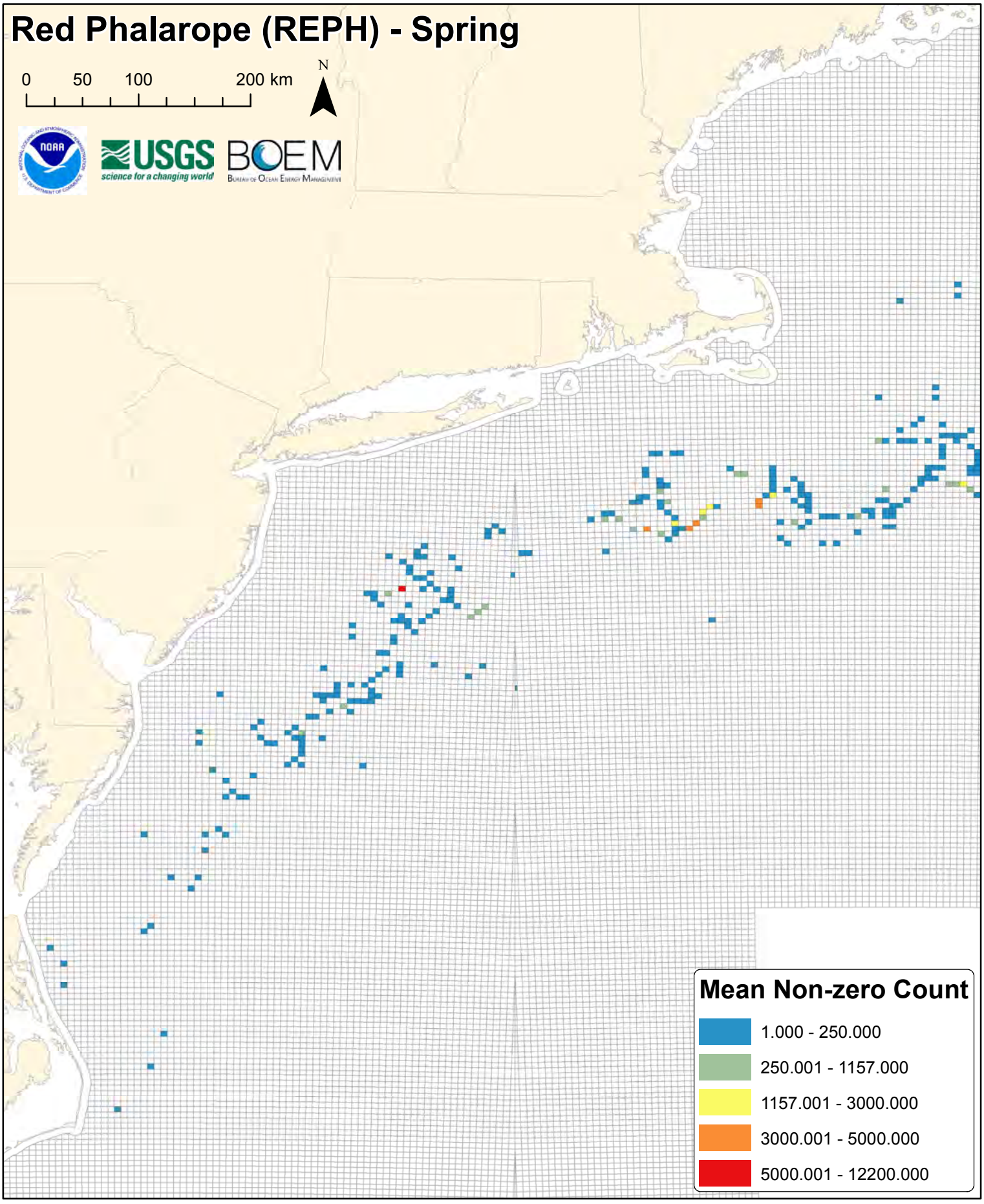

cote
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
2
4
6
8
10
12
Number of presences in a BOEM lease block

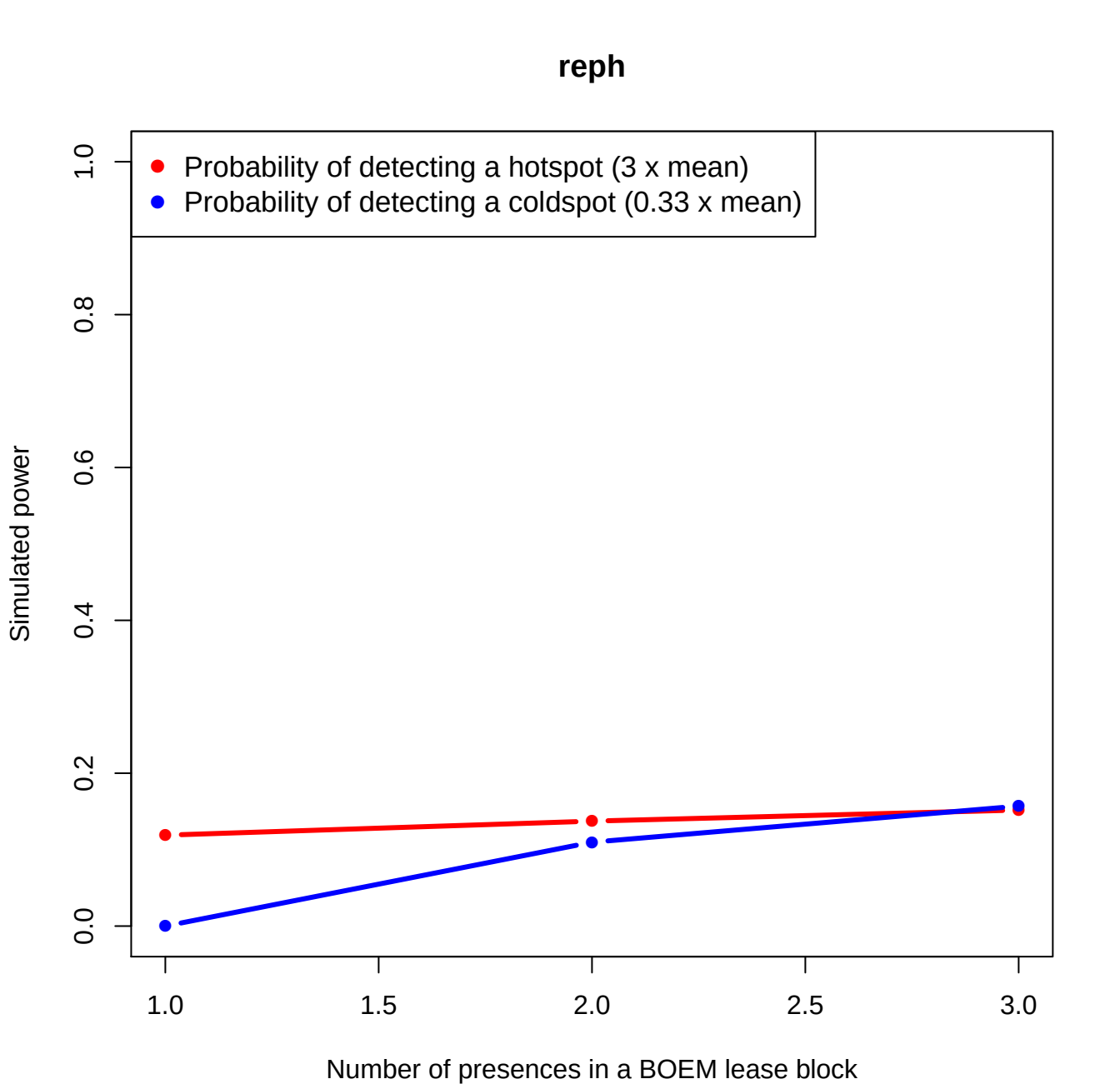

Common Tern (COTE) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

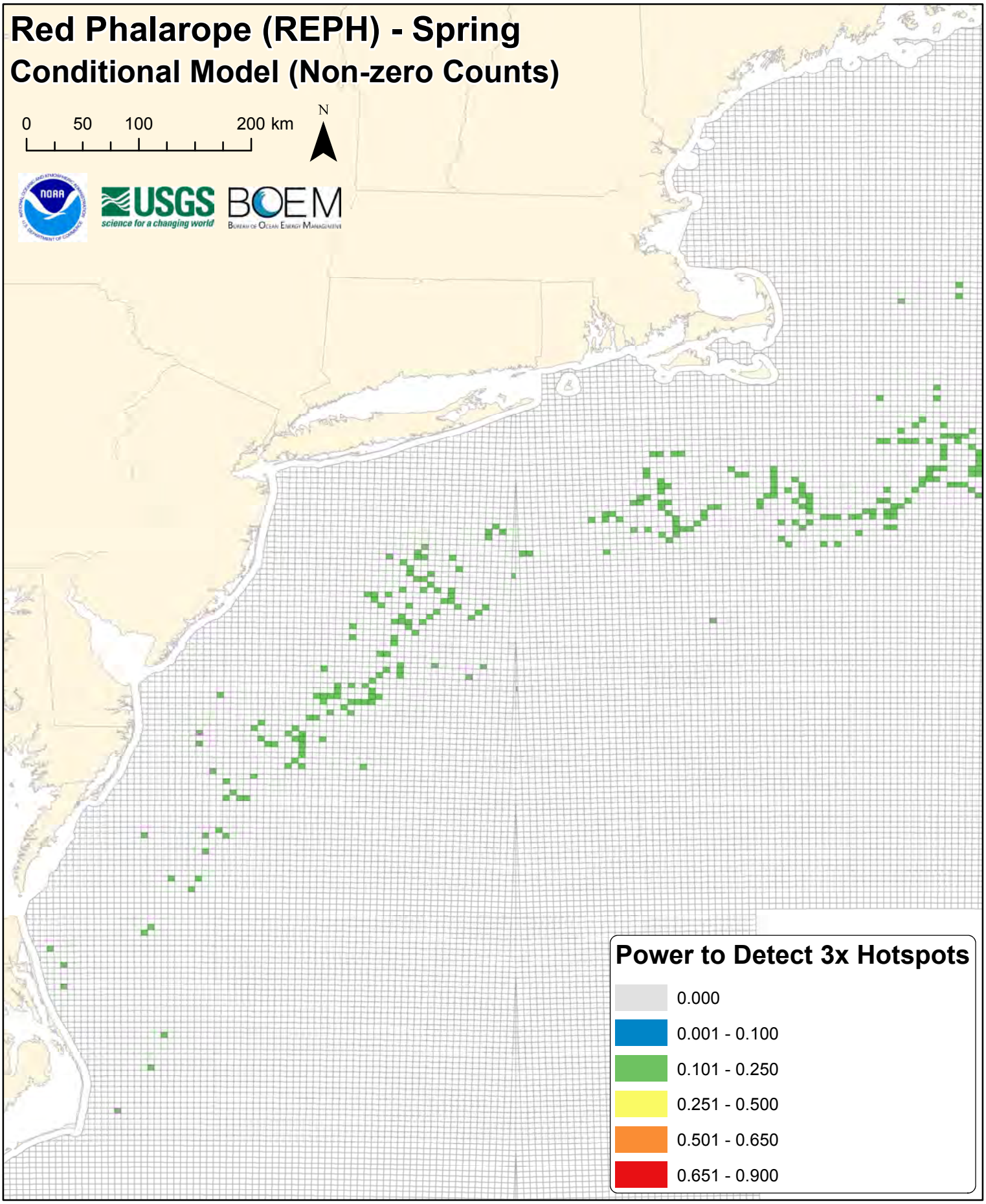

Common Tern (COTE) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

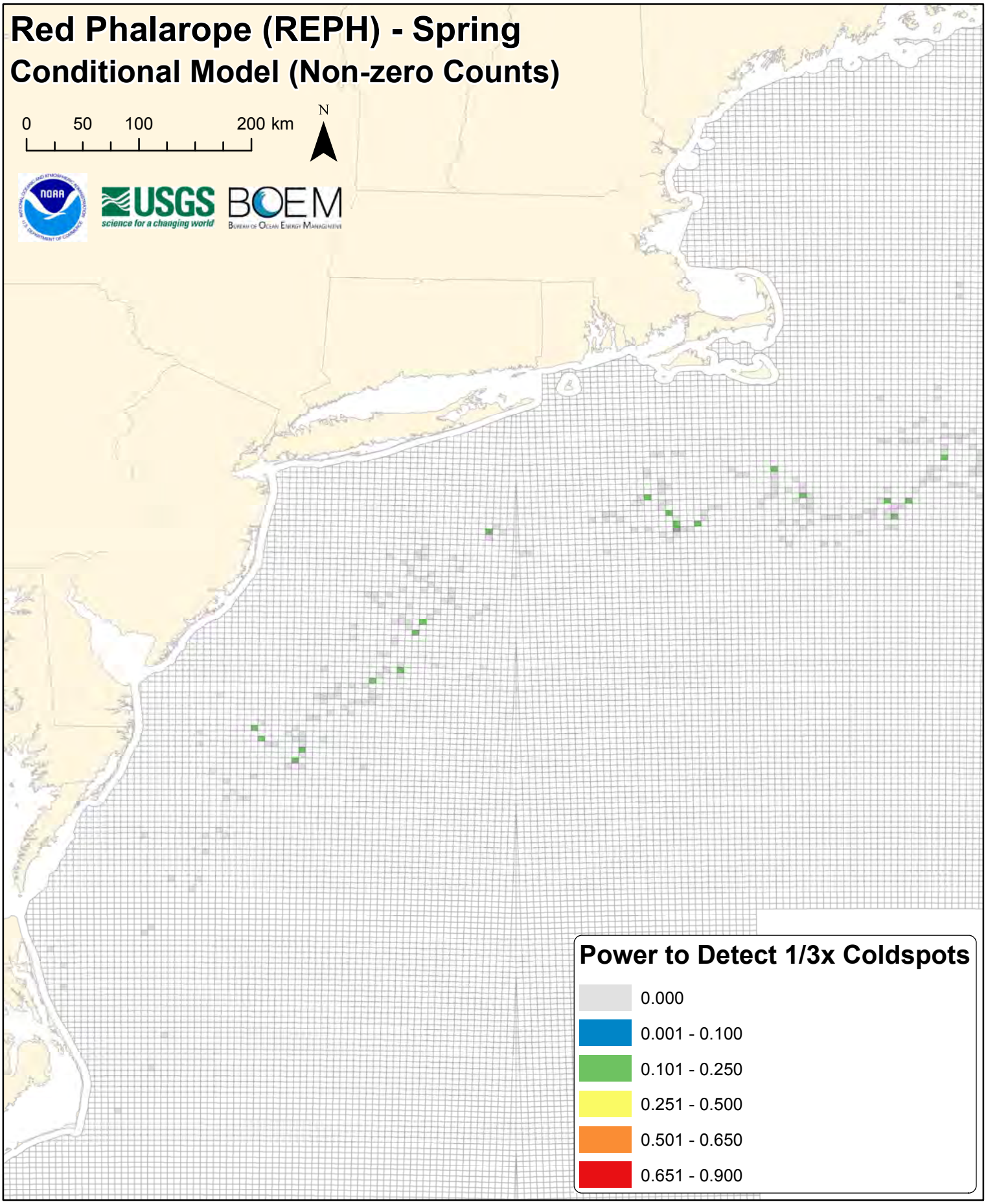

Common Tern (COTE) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

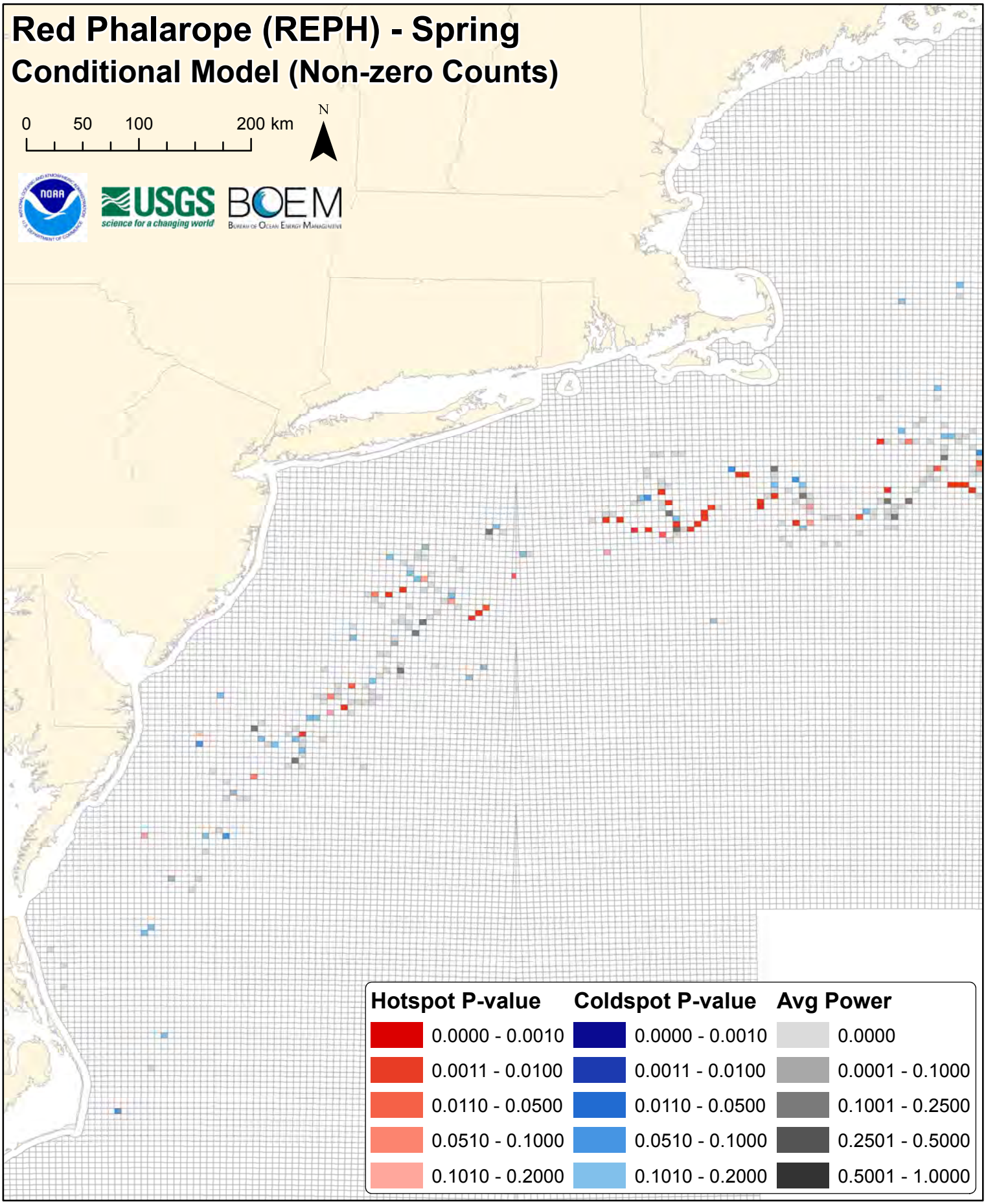

Red Phalarope (REPH) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2
3


Red Phalarope (REPH) - Spring
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 250.000
250.001 - 1157.000
1157.001 - 3000.000
3000.001 - 5000.000
5000.001 - 12200.000


reph
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
1.0
1.5
2.0
2.5
3.0
Number of presences in a BOEM lease block


Red Phalarope (REPH) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900


Red Phalarope (REPH) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

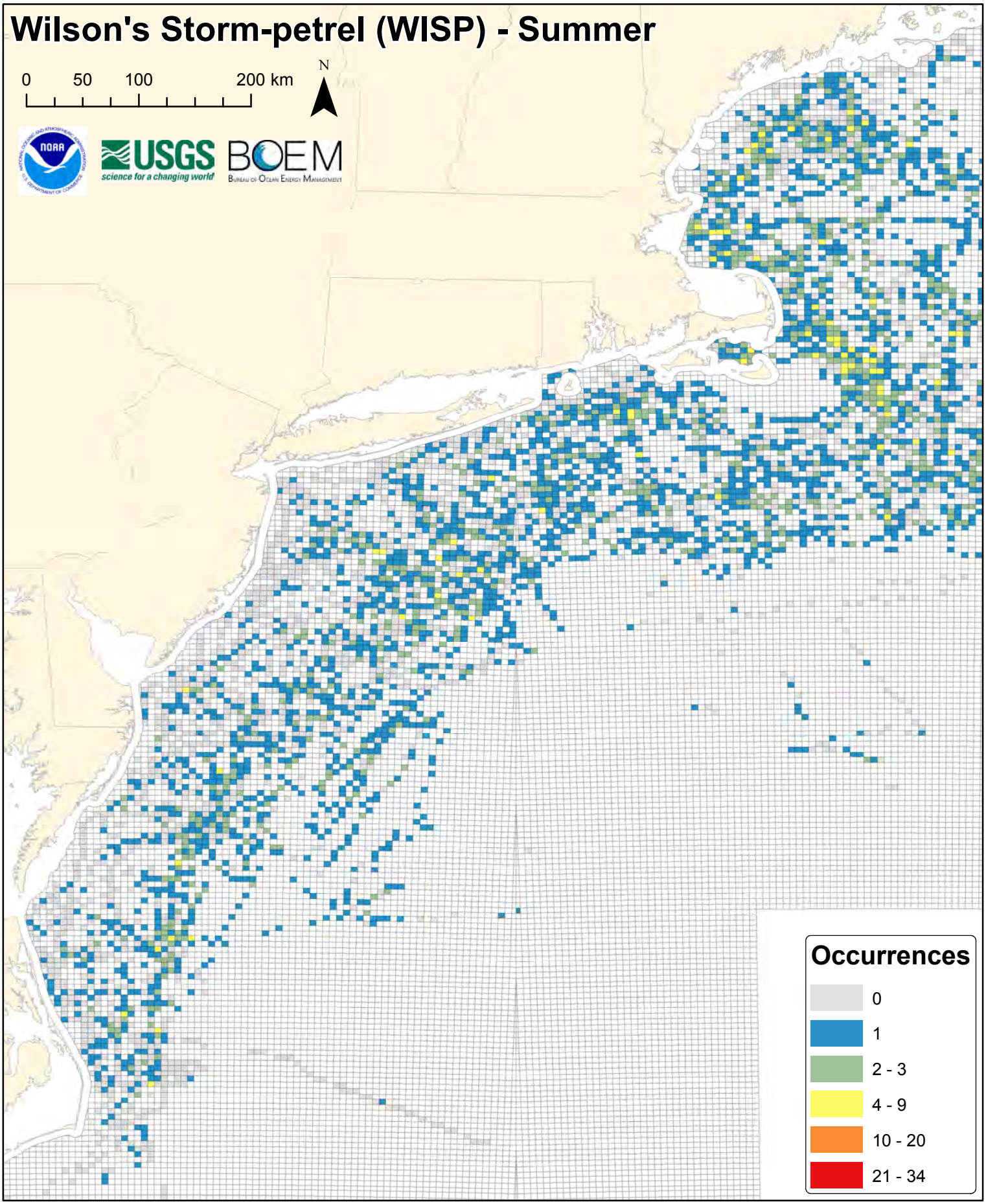

Red Phalarope (REPH) - Spring
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

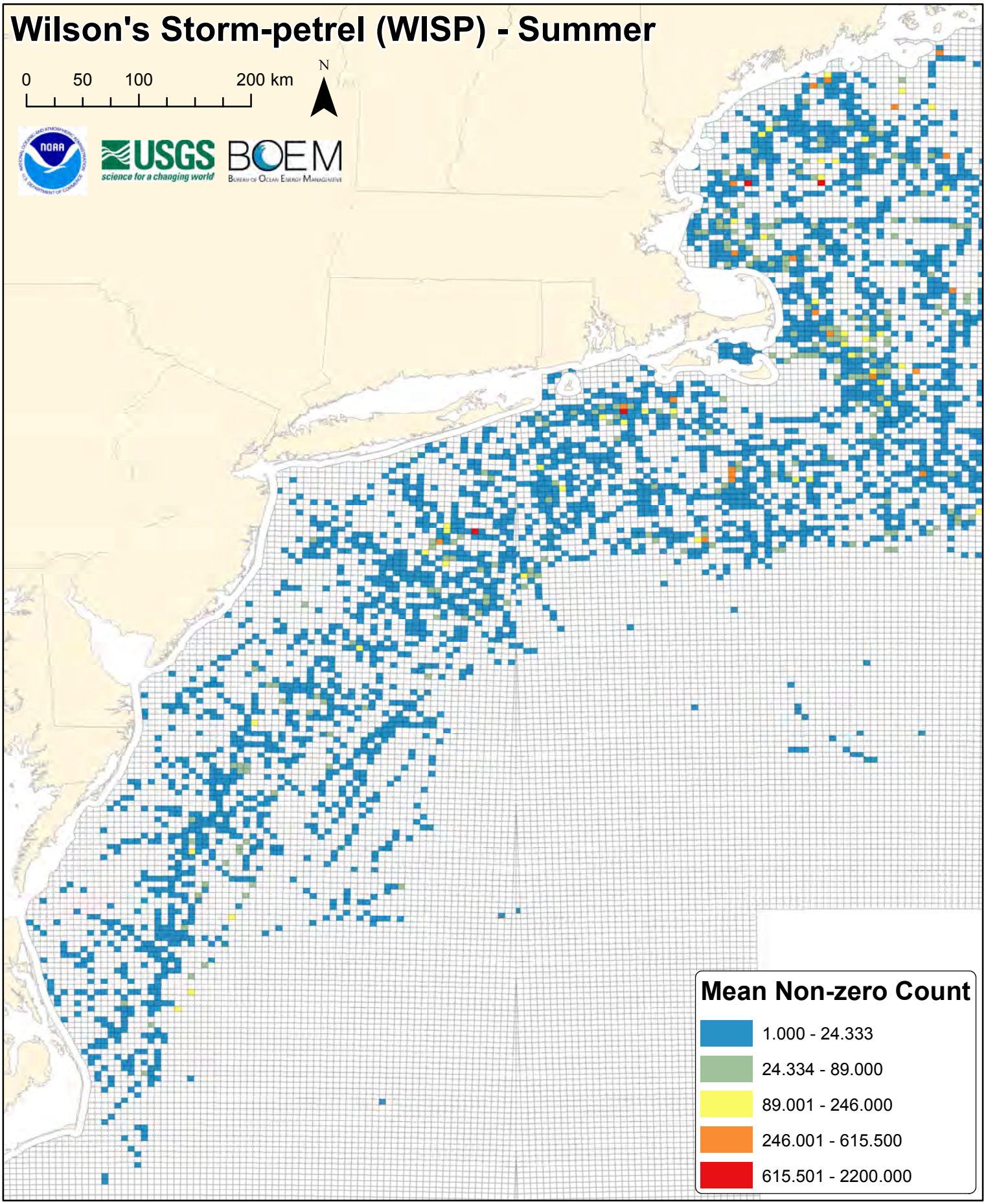
DIGITAL SUPPLEMENT F

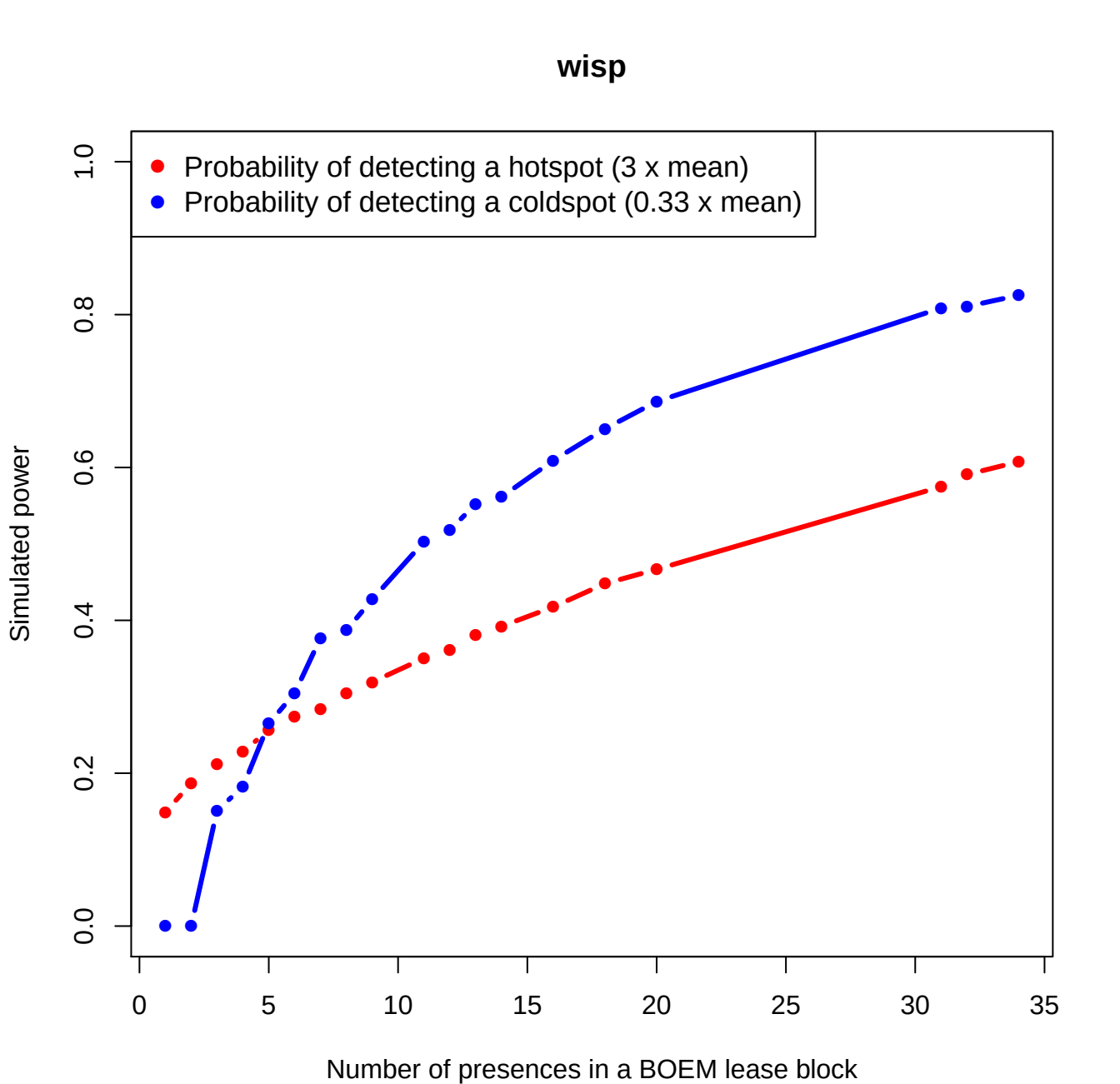
Conditional (Non-Zero Count) Model Results

SECTION II. Species-specific Power Analysis Maps and Figures

Figures F102-F143. Summer power analysis maps and figures (7 species x 6 figures per species).

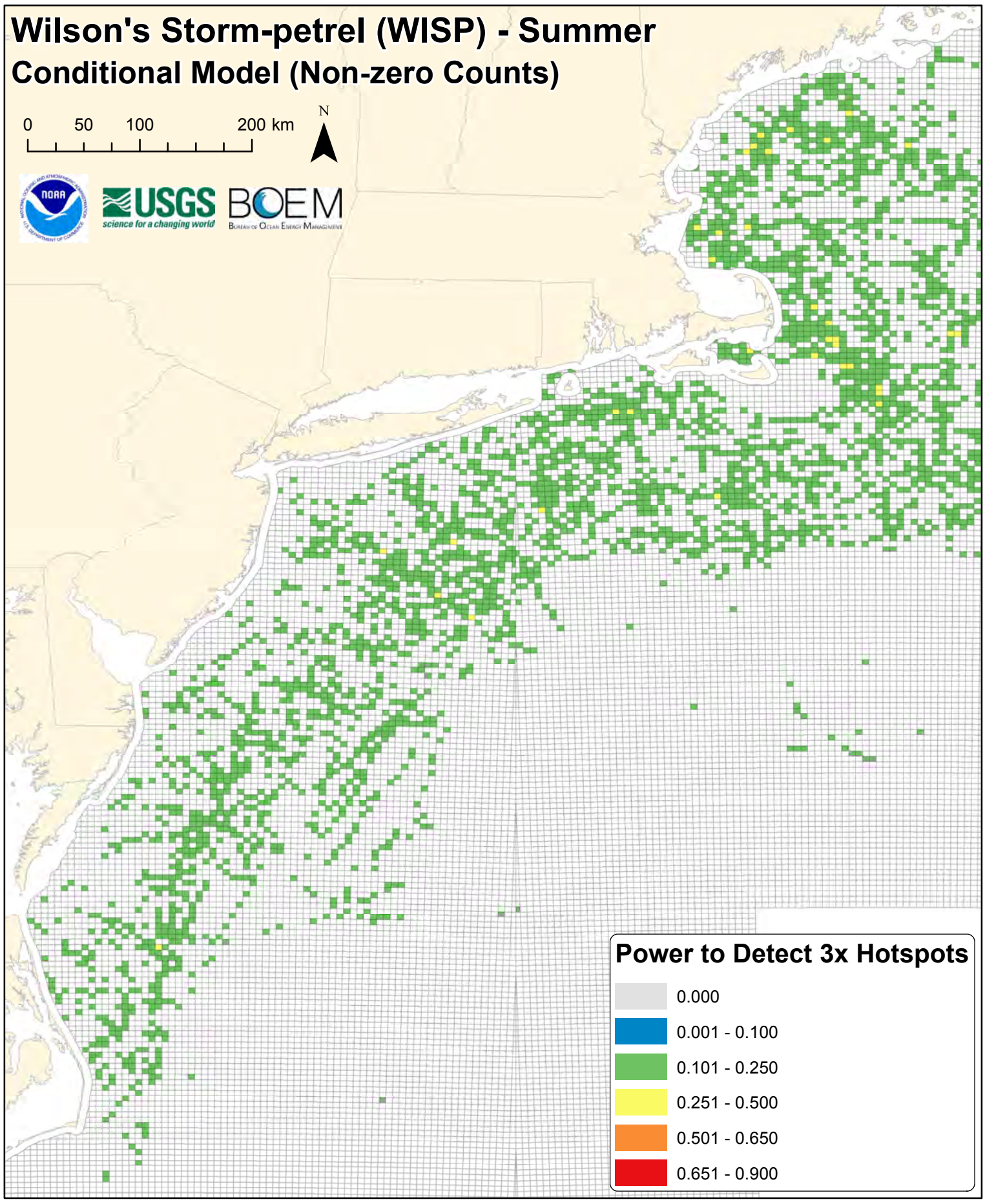

Wilson's Storm-petrel (WISP) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2 - 3
4 - 9
10 - 20
21 - 34

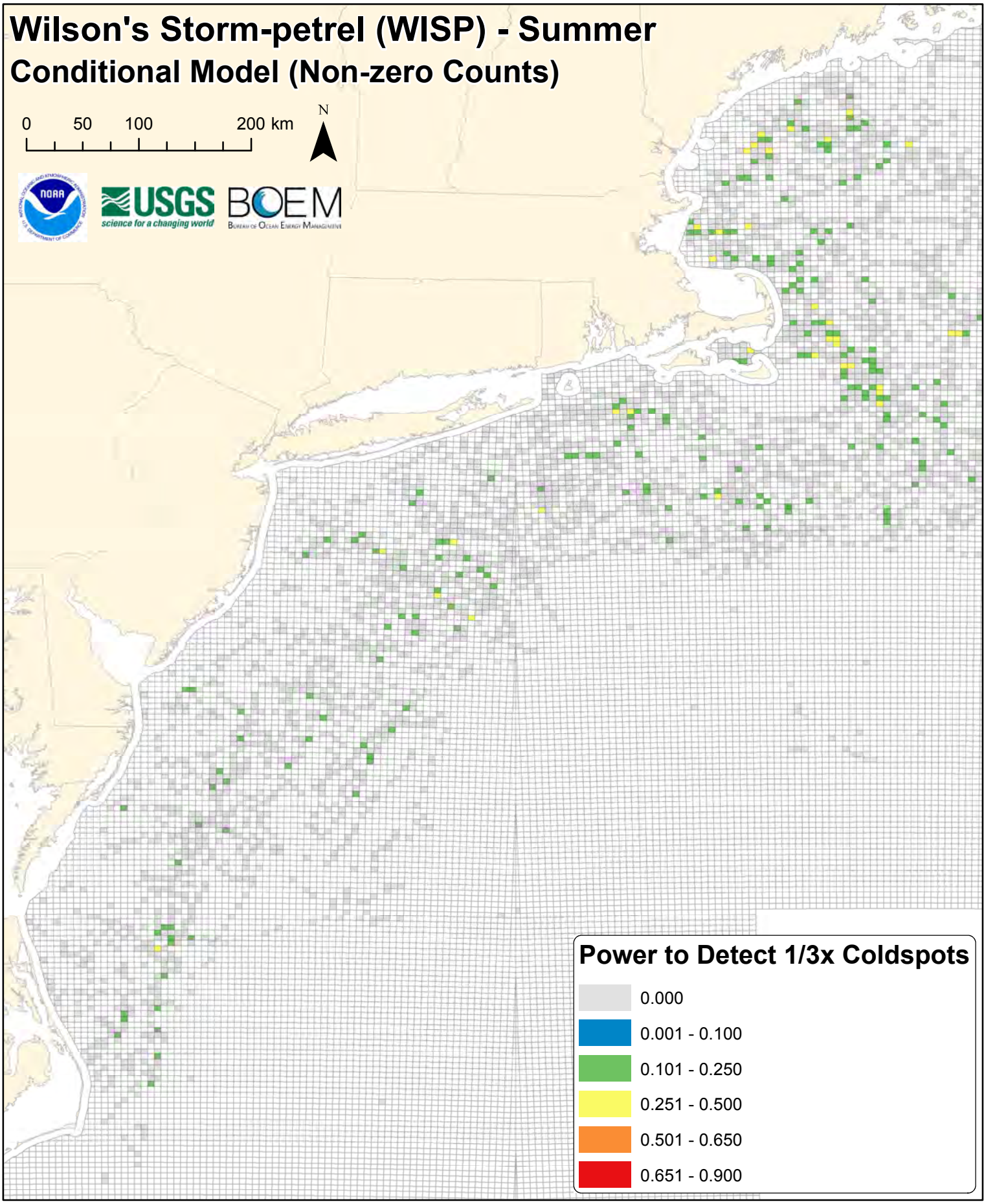

Wilson's Storm-petrel (WISP) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 24.333
24.334 - 89.000
89.001 - 246.000
246.001 - 615.500
615.501 - 2200.000

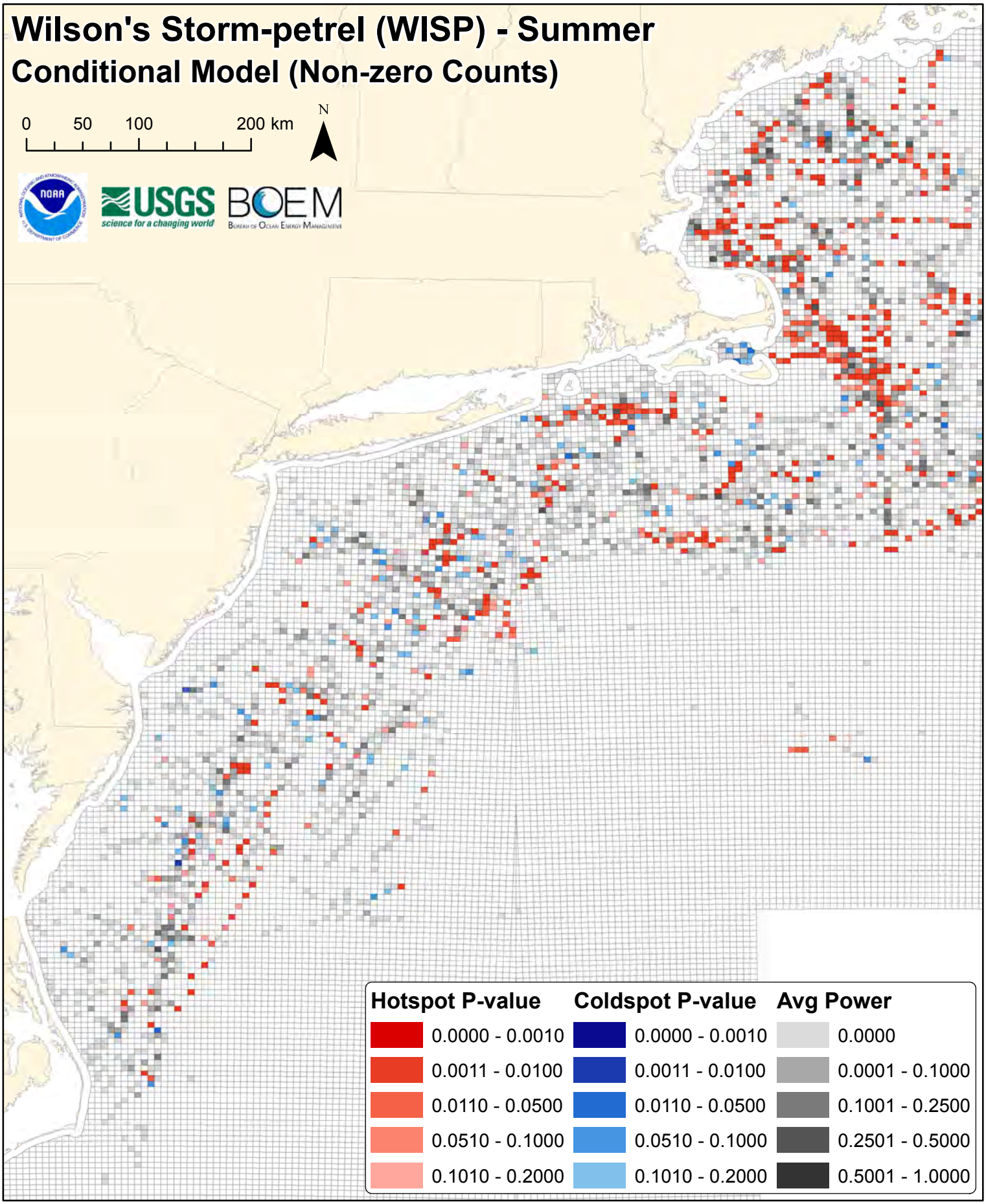

wisp
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
35
Number of presences in a BOEM lease block

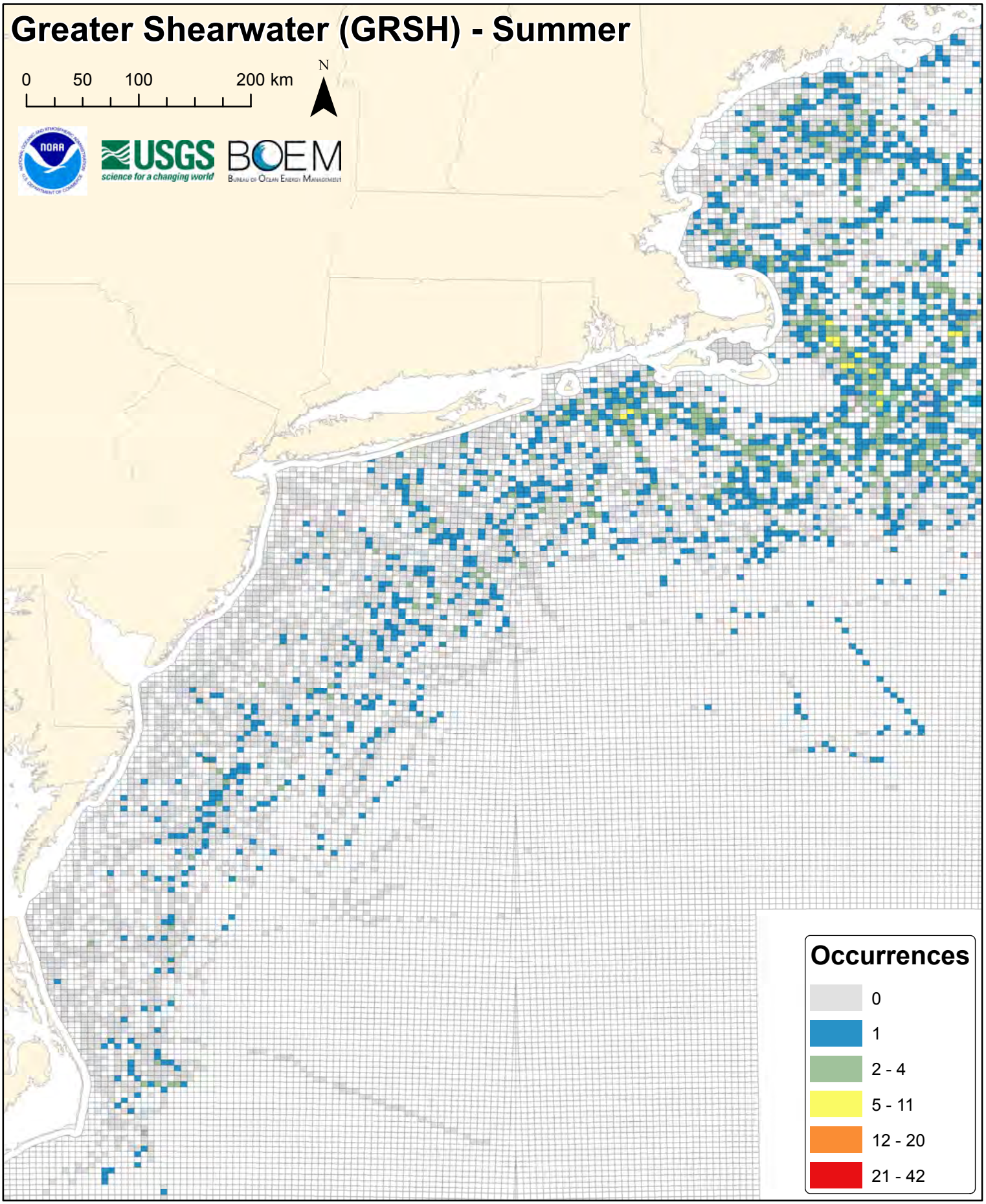
Wilson's Storm-petrel (WISP) - Summer

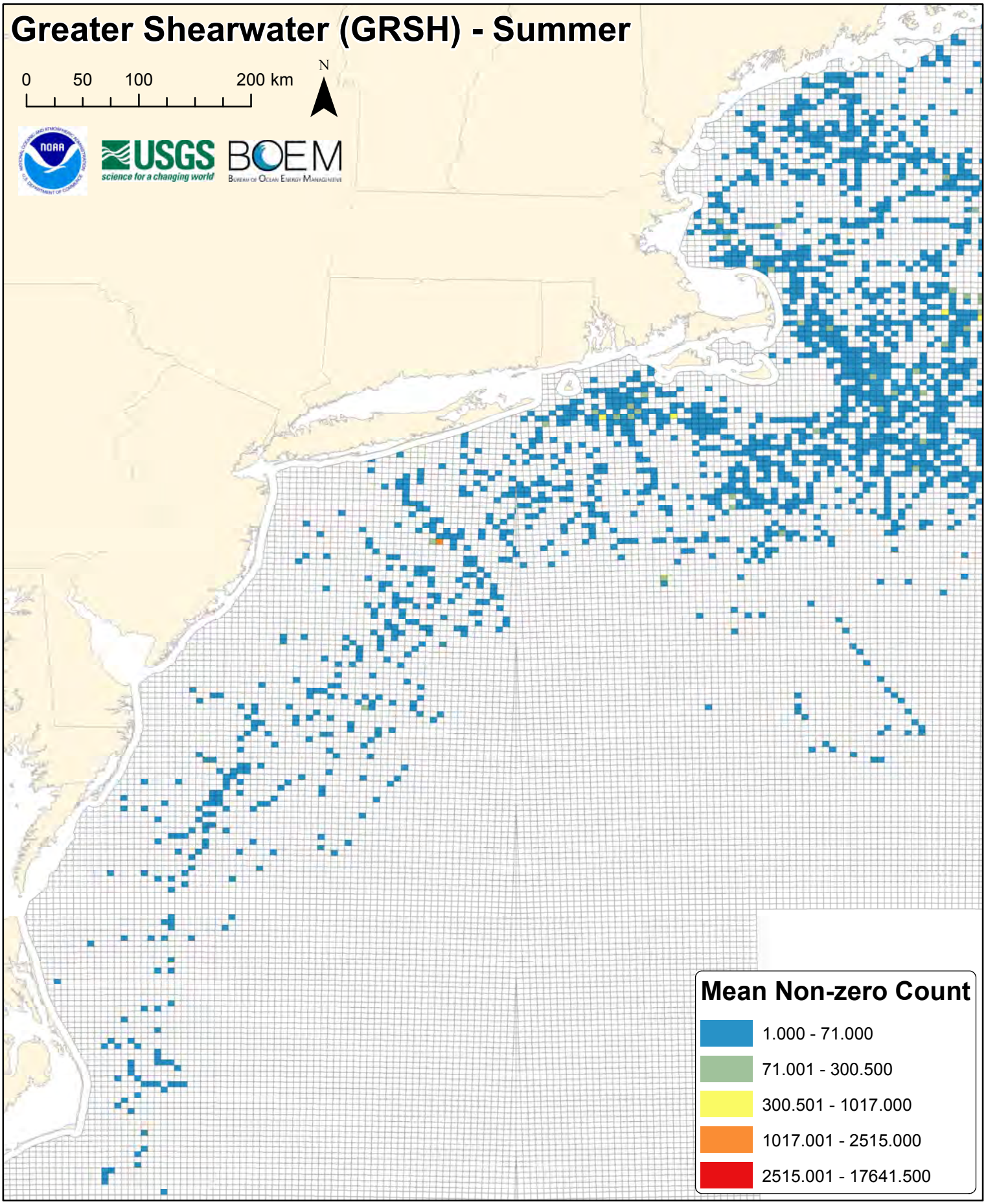
Conditional Model (Non-zero Counts)

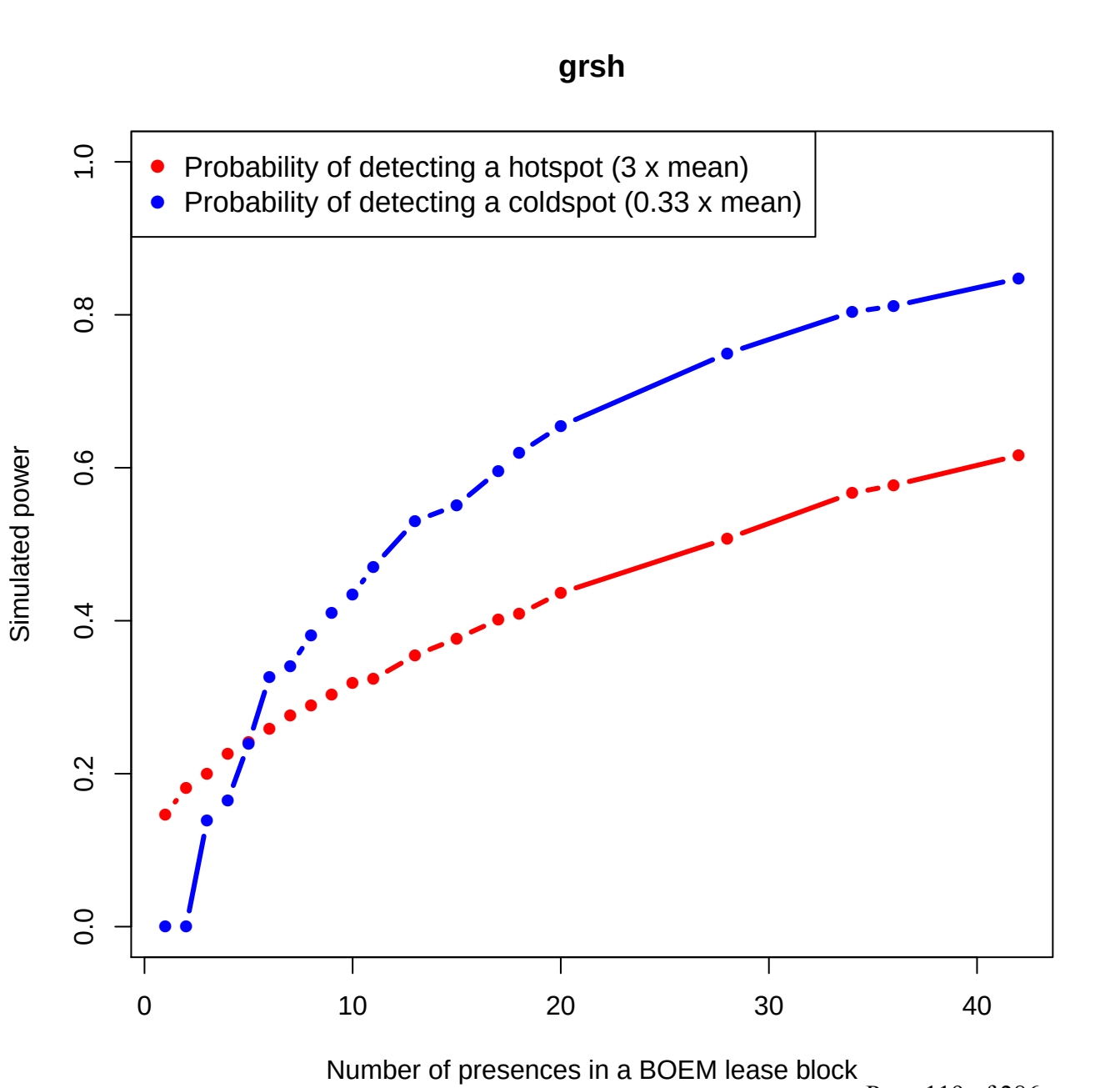


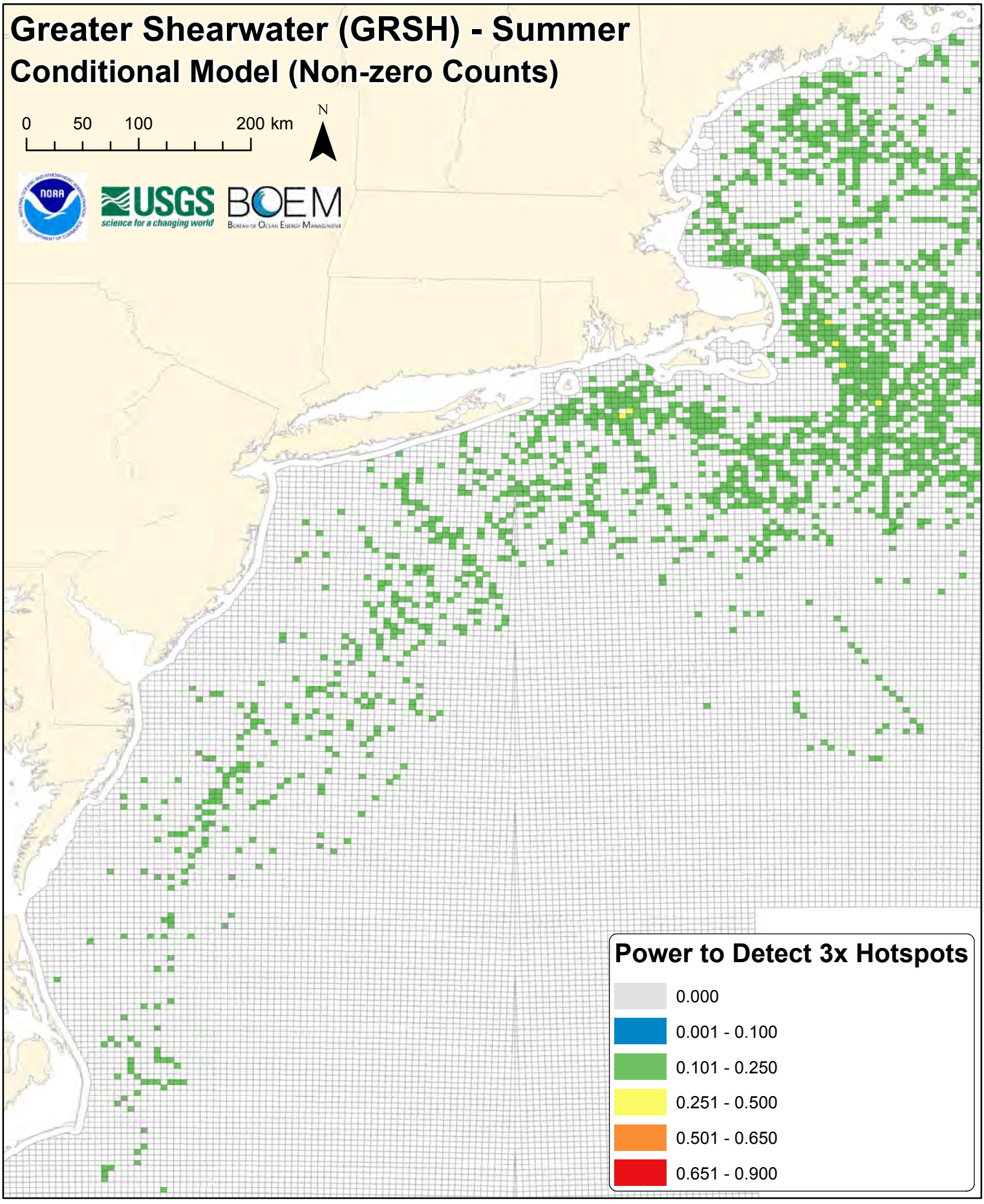

Wilson's Storm-petrel (WISP) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

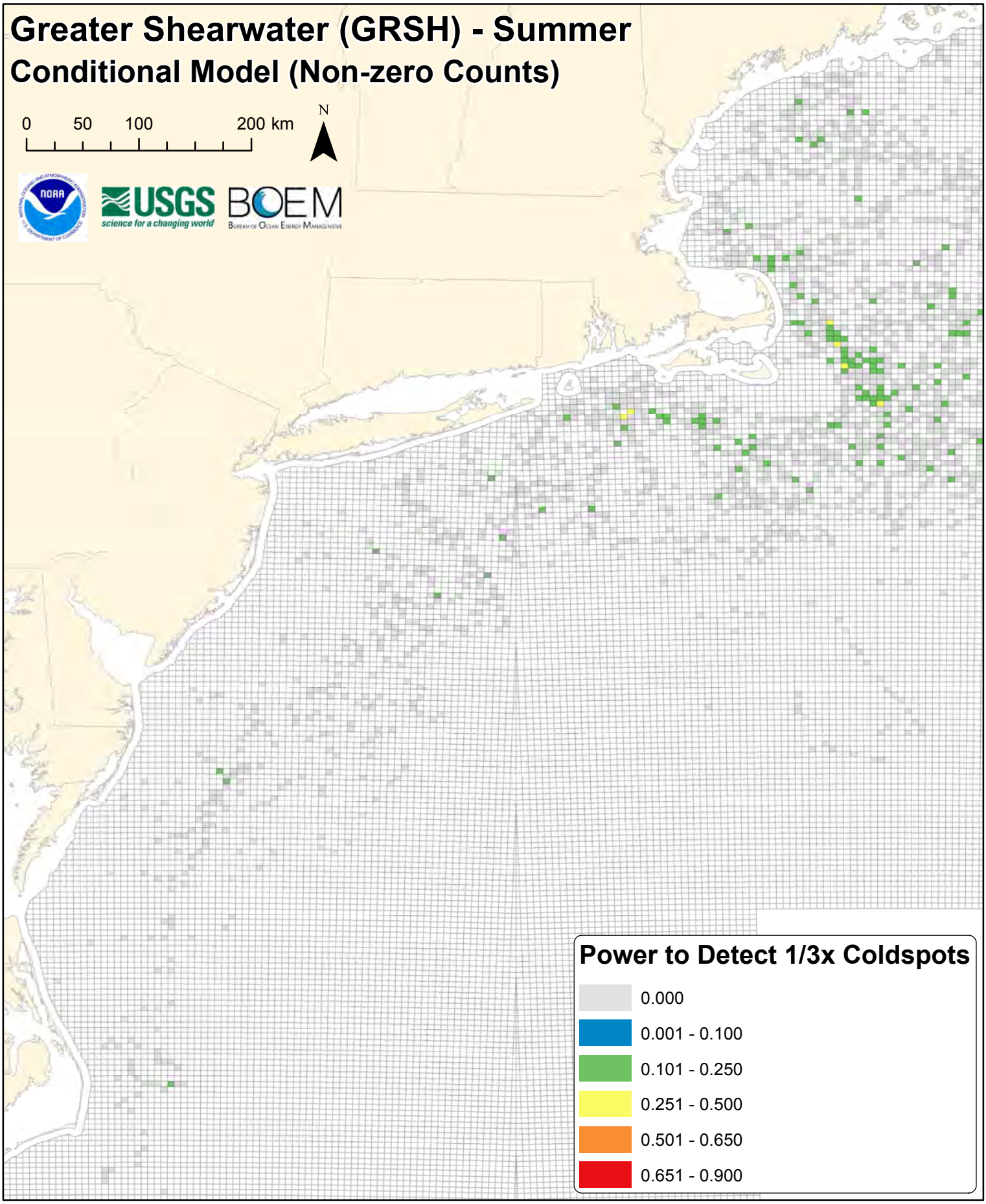

Wilson's Storm-petrel (WISP) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

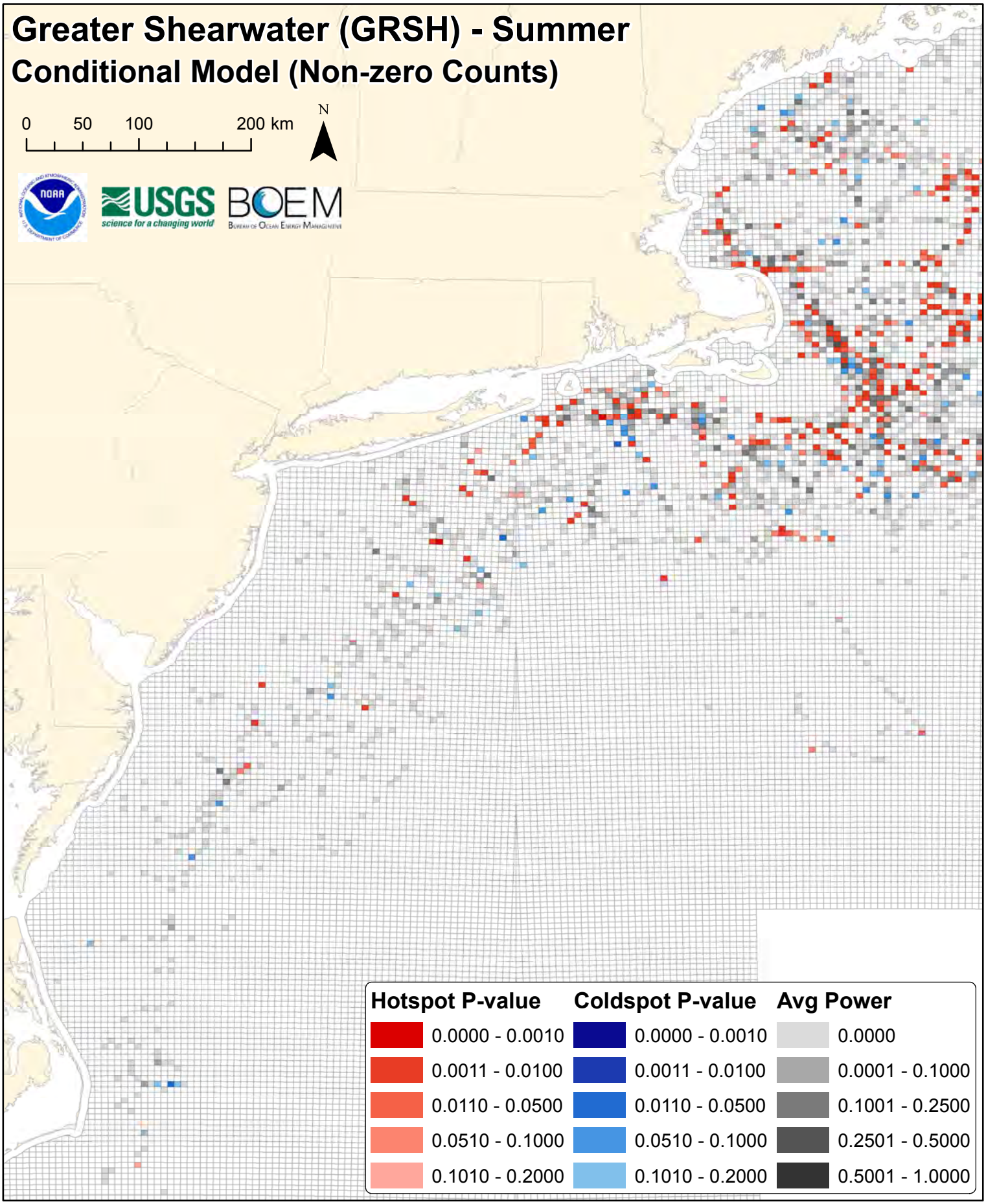

Greater Shearwater (GRSH) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2 - 4
5 - 11
12 - 20
21 - 42

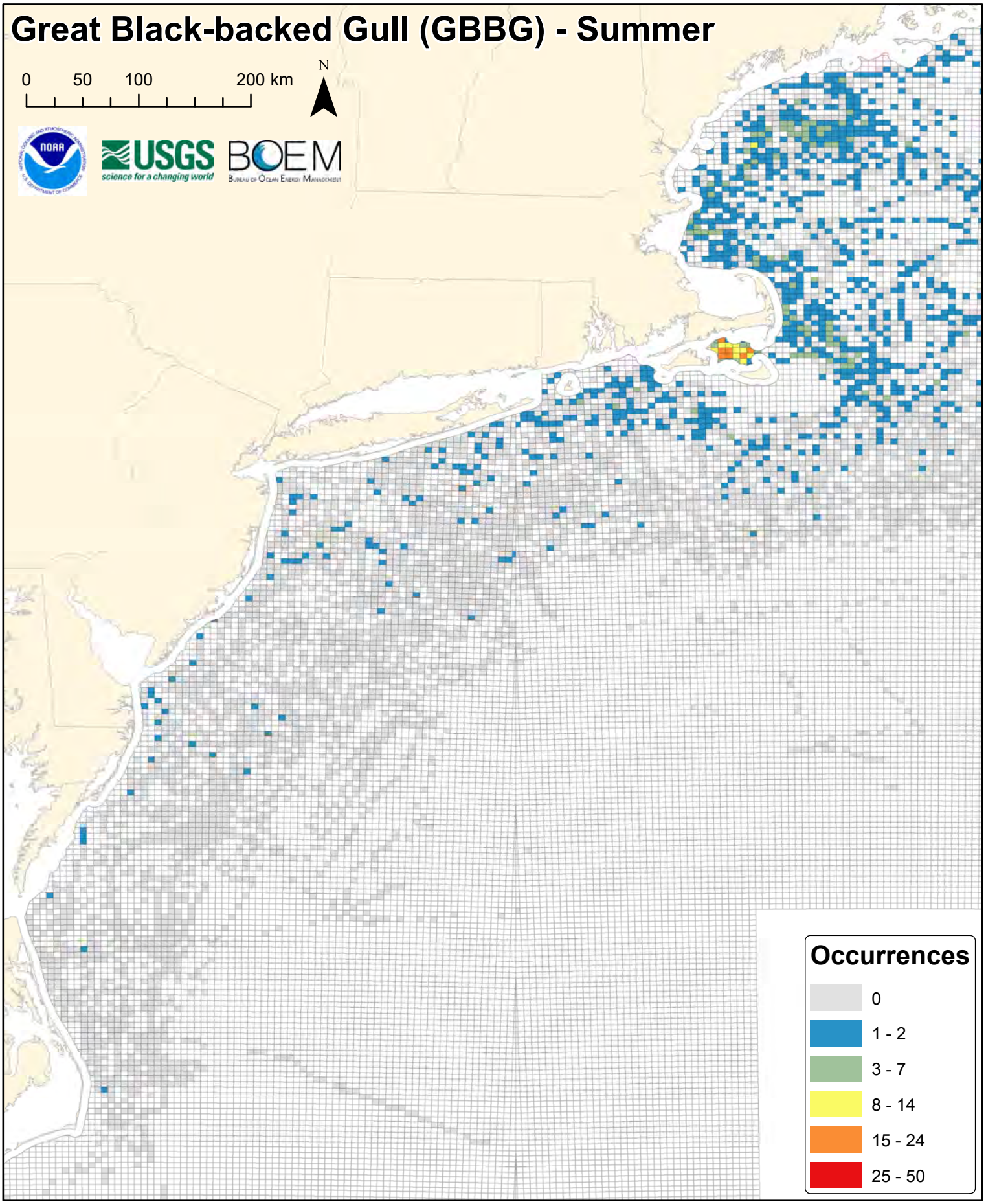

Greater Shearwater (GRSH) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 71.000
71.001 - 300.500
300.501 - 1017.000
1017.001 - 2515.000
2515.001 - 17641.500

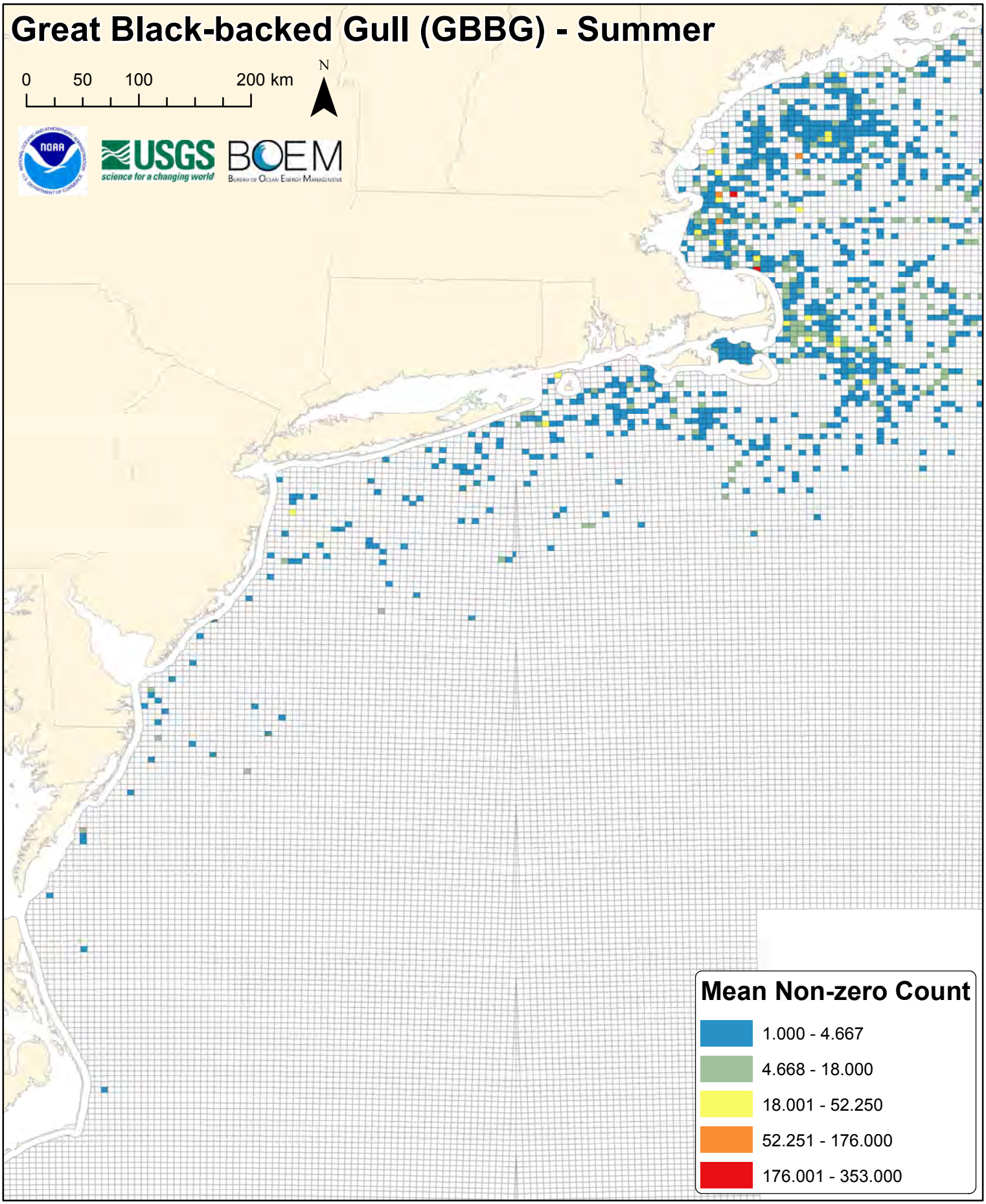

grsh
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
Number of presences in a BOEM lease block

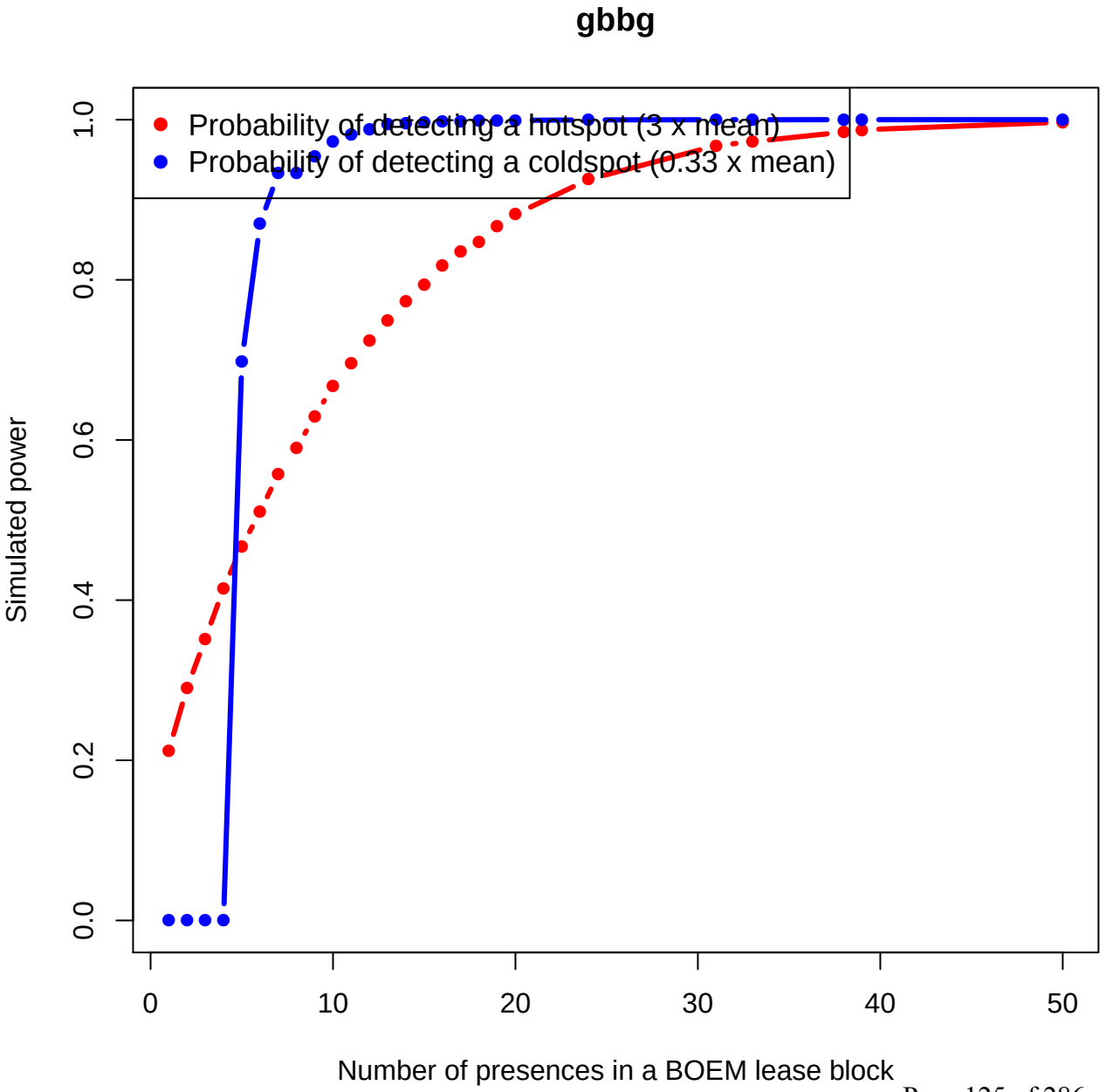

Greater Shearwater (GRSH) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

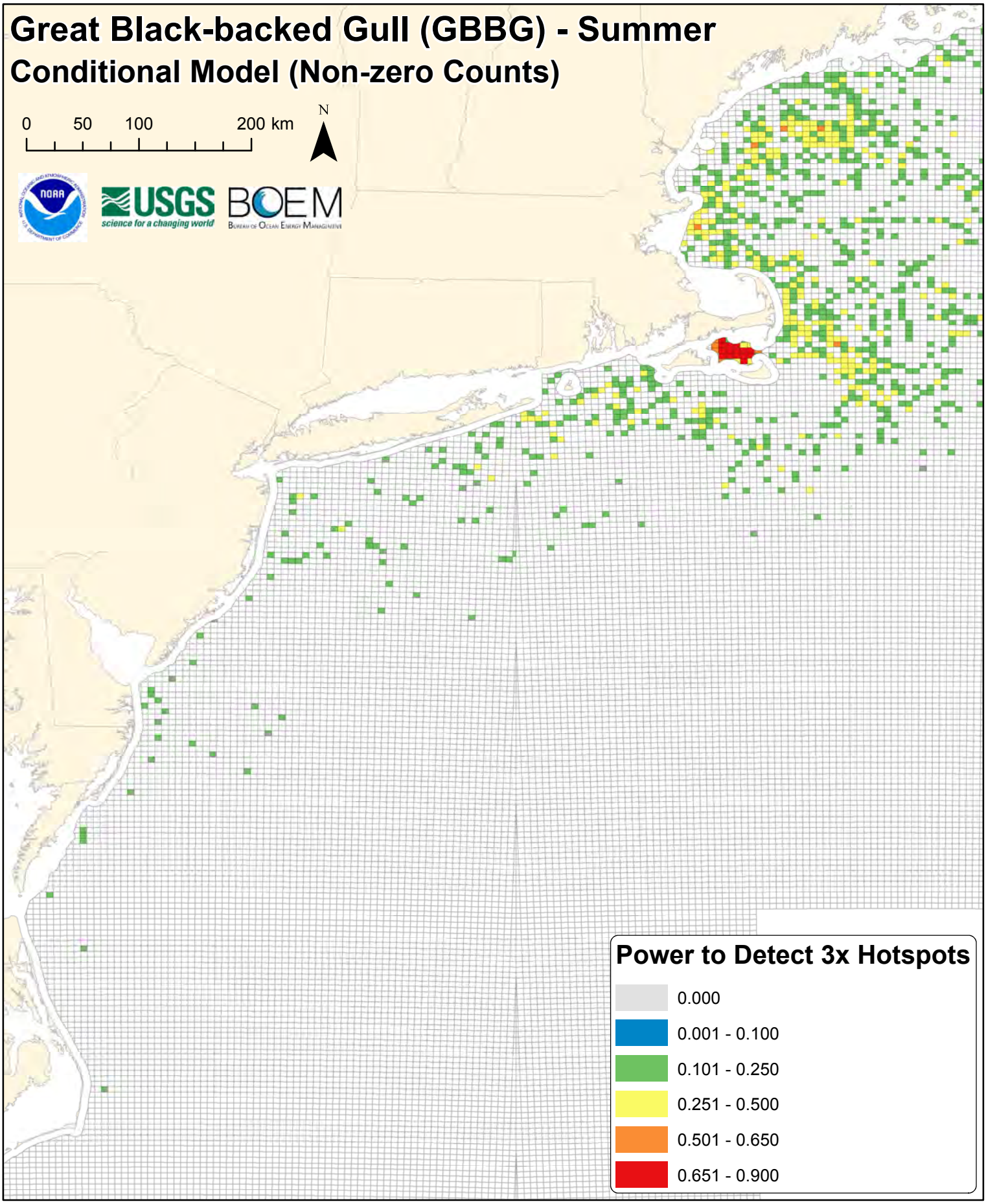

Greater Shearwater (GRSH) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

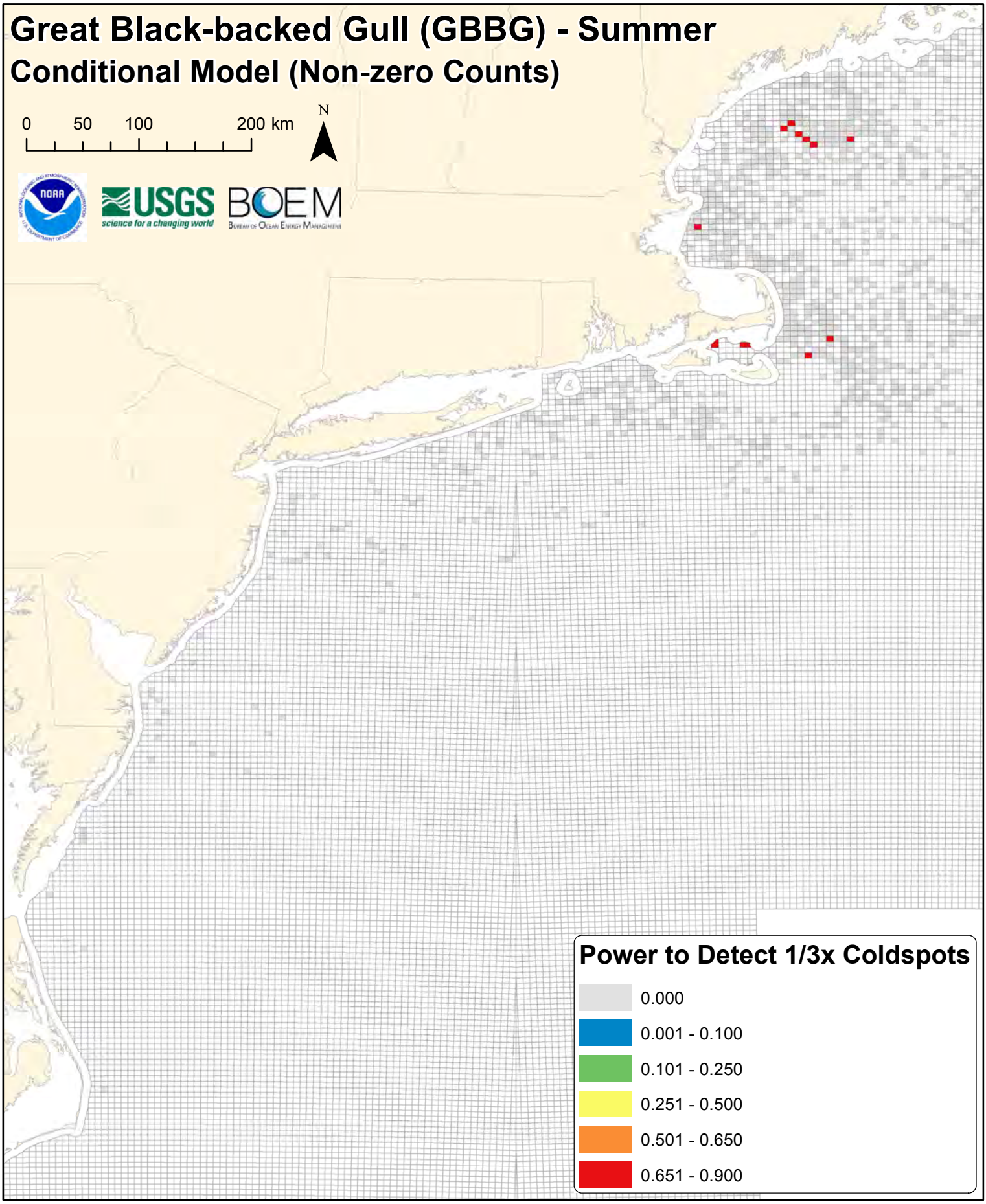

Greater Shearwater (GRSH) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

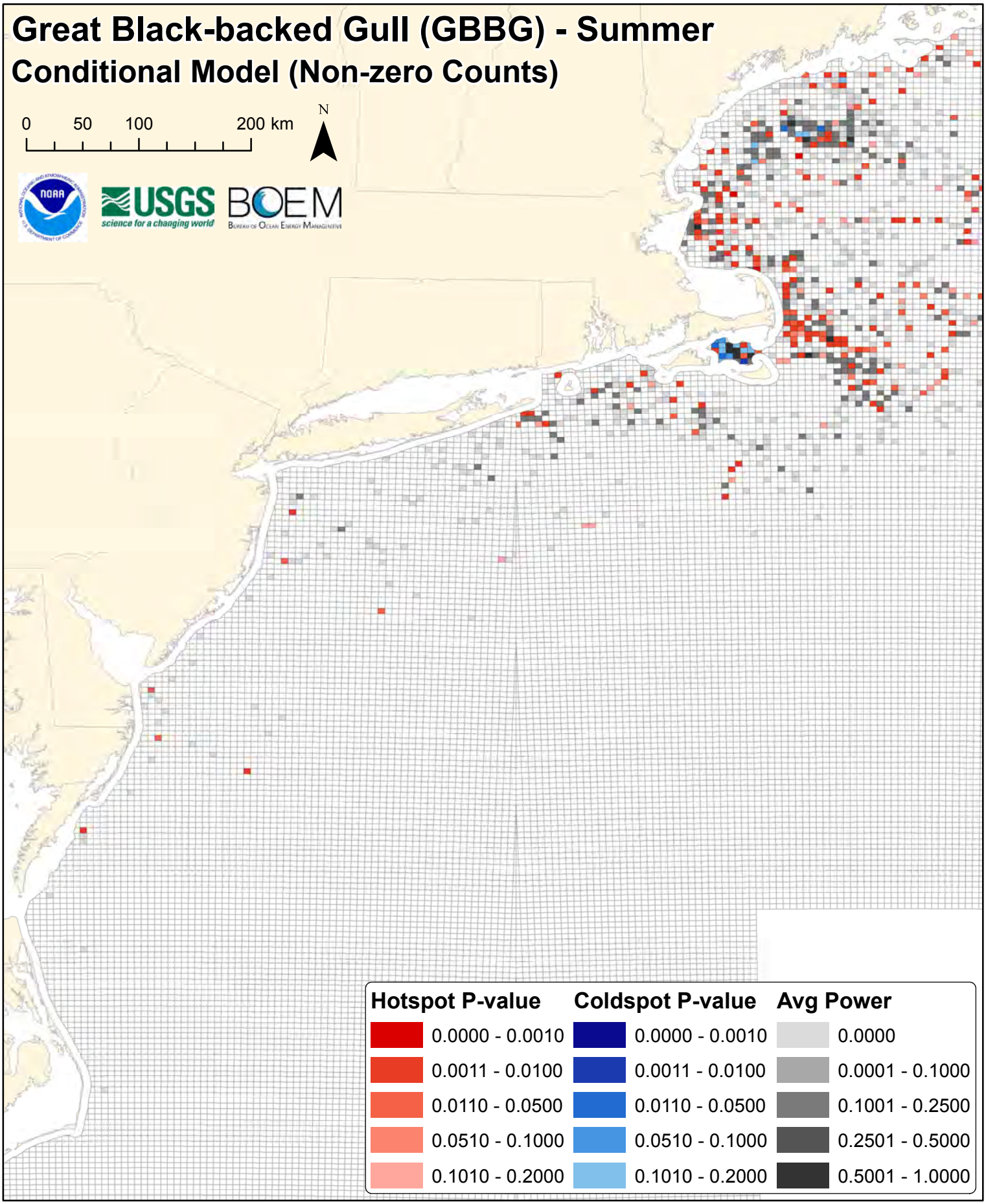

Great Black-backed Gull (GBBG) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 2
3 - 7
8 - 14
15 - 24
25 - 50

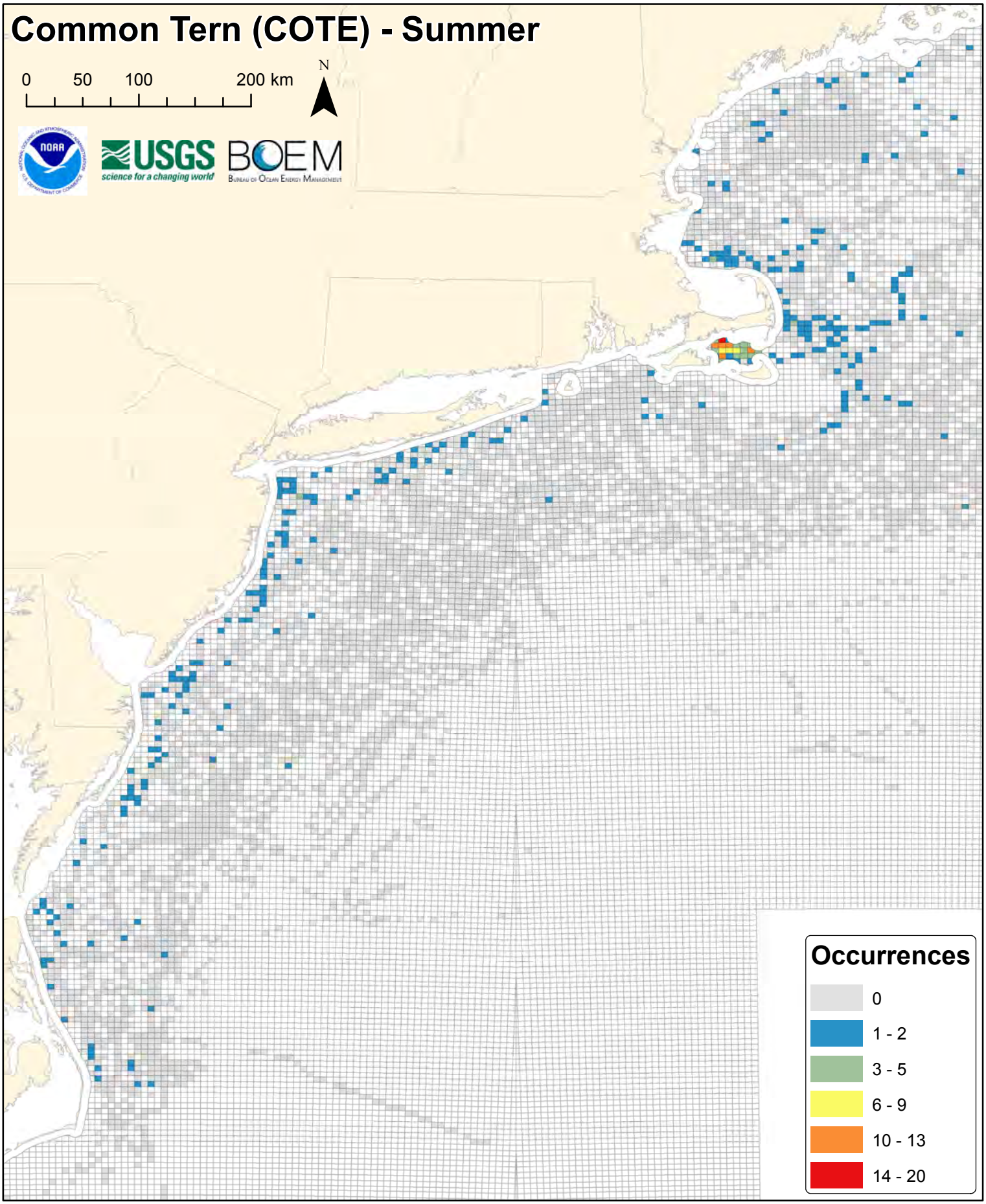

Great Black-backed Gull (GBBG) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 4.667
4.668 - 18.000
18.001 - 52.250
52.251 - 176.000
176.001 - 353.000

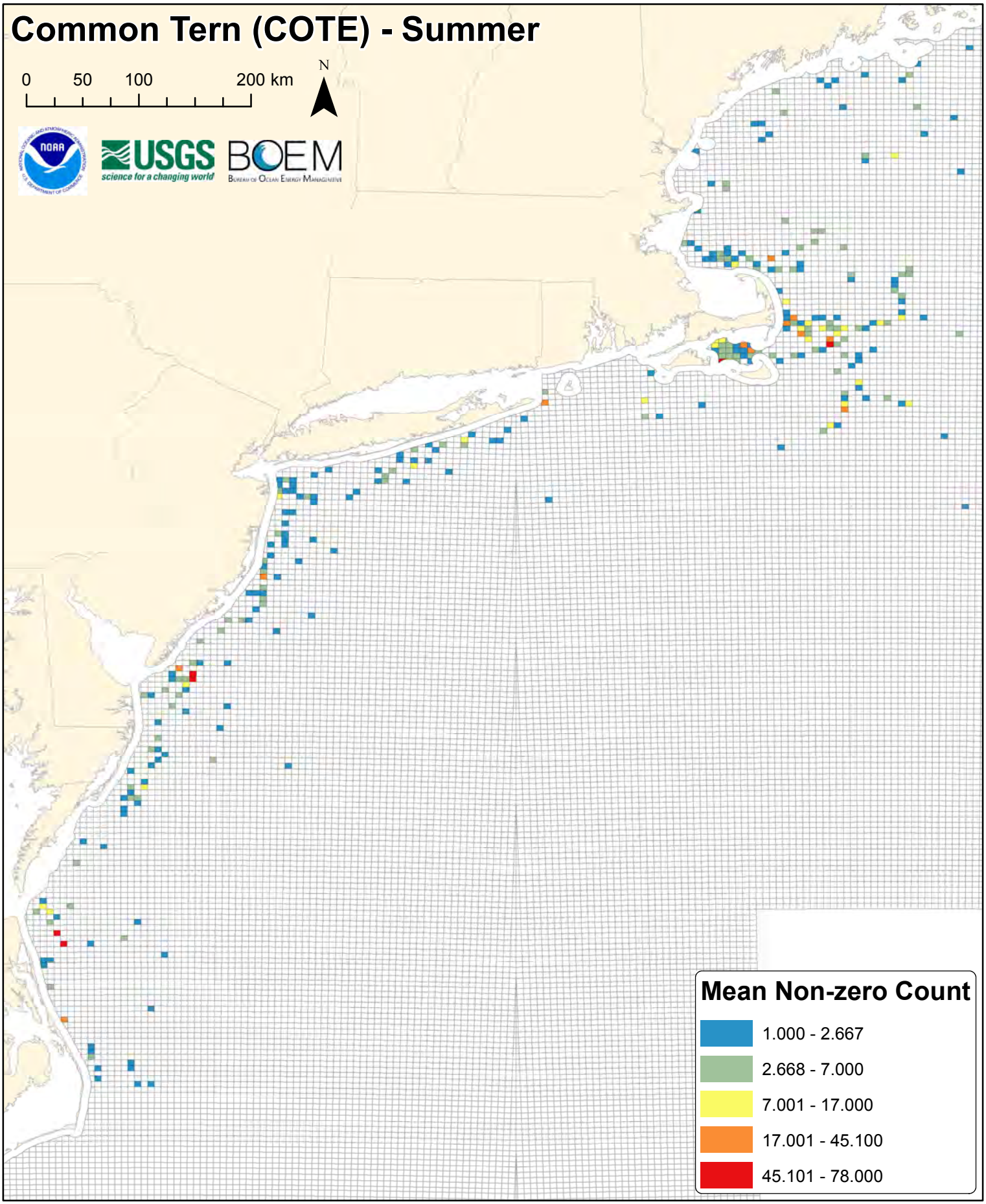

gbbg
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
50
Number of presences in a BOEM lease block

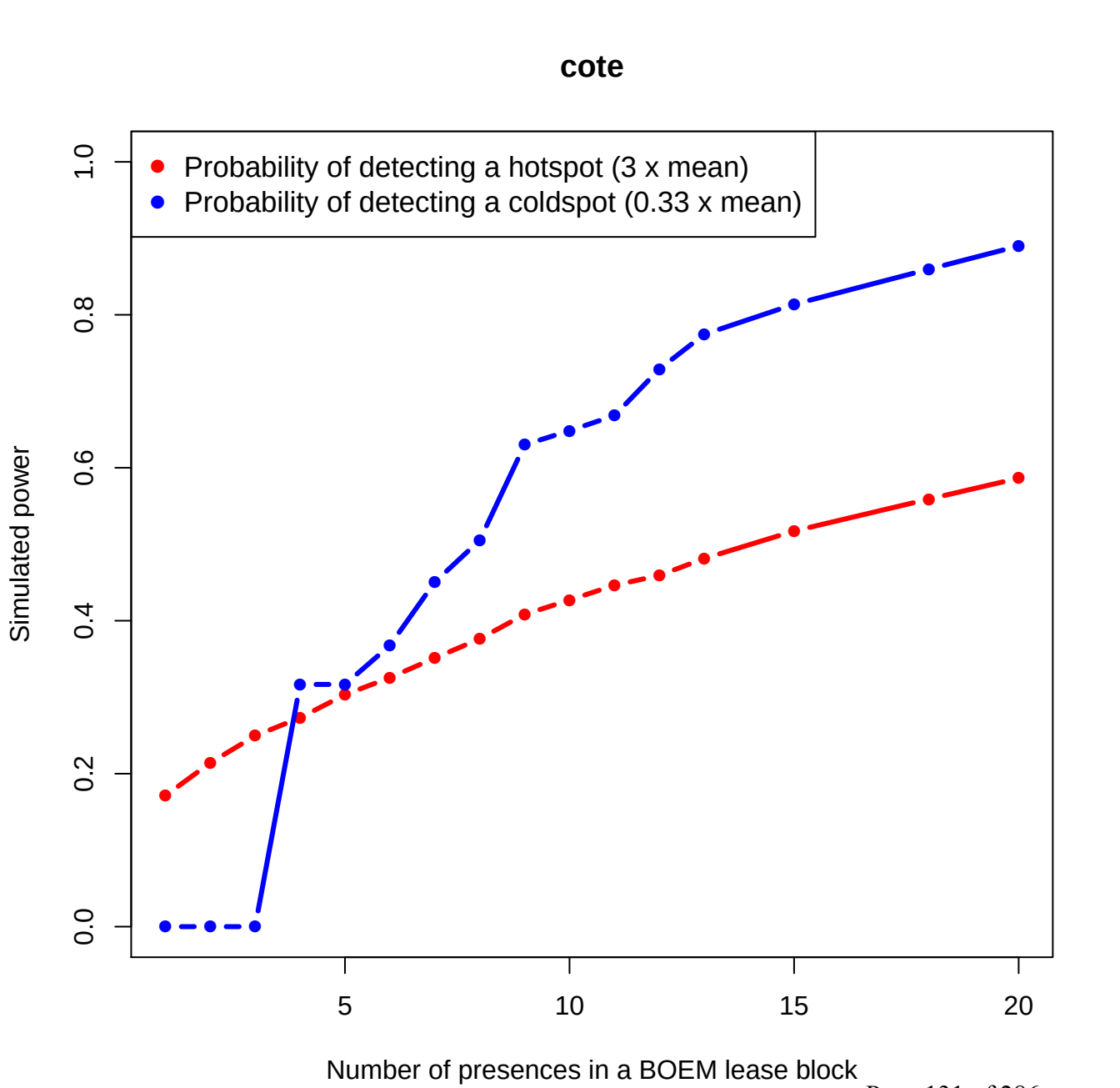

Great Black-backed Gull (GBBG) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

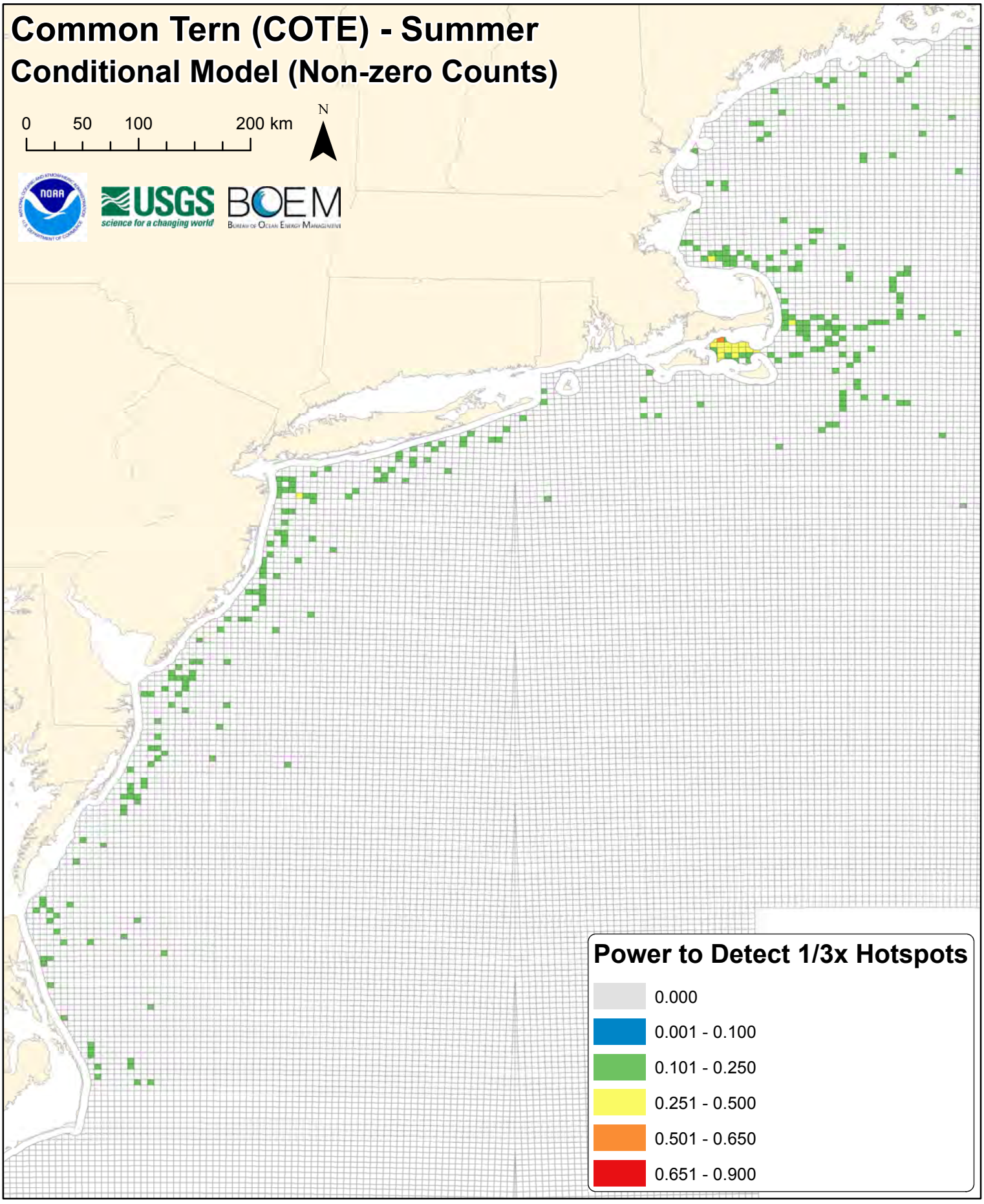

Great Black-backed Gull (GBBG) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

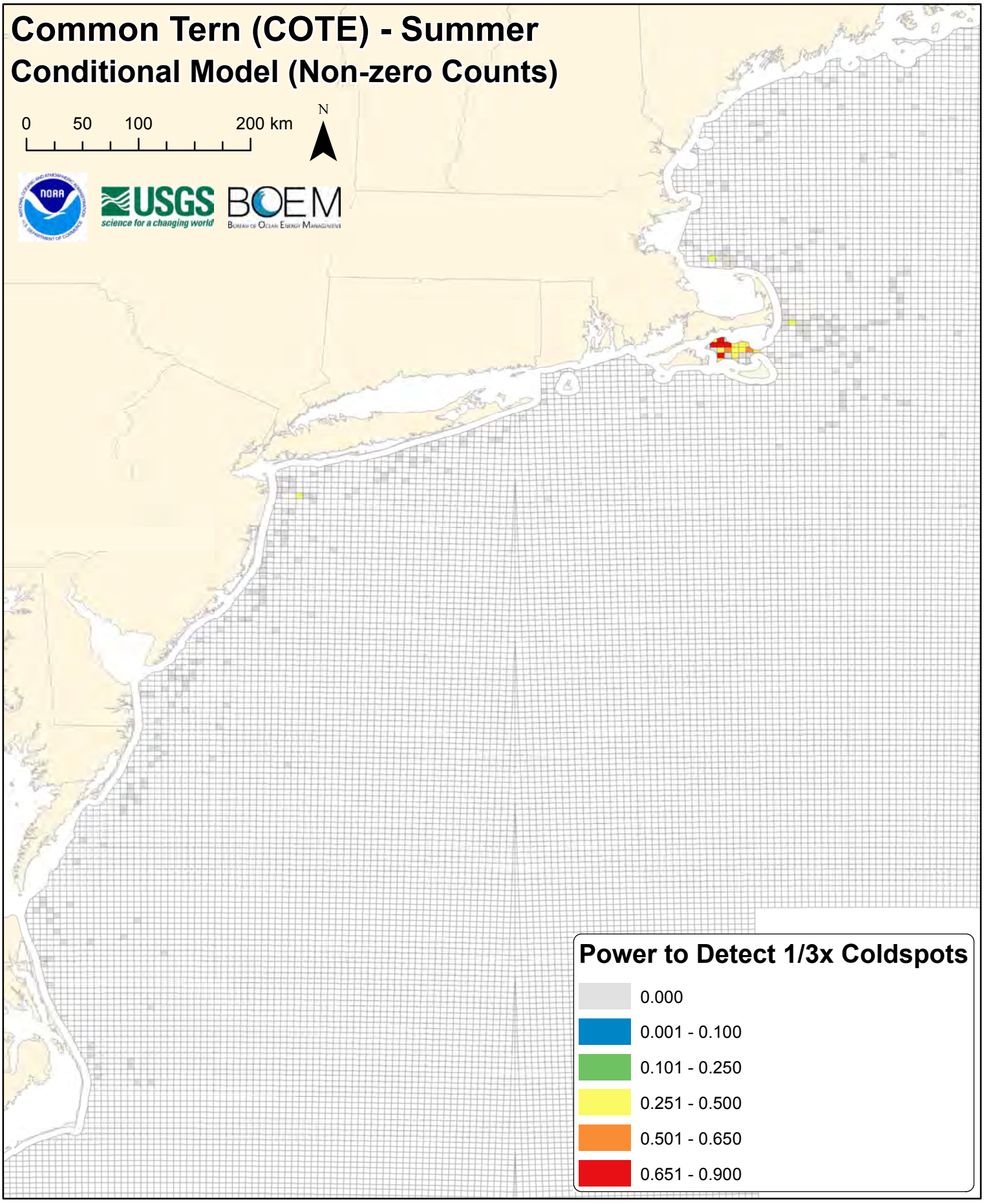

Great Black-backed Gull (GBBG) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

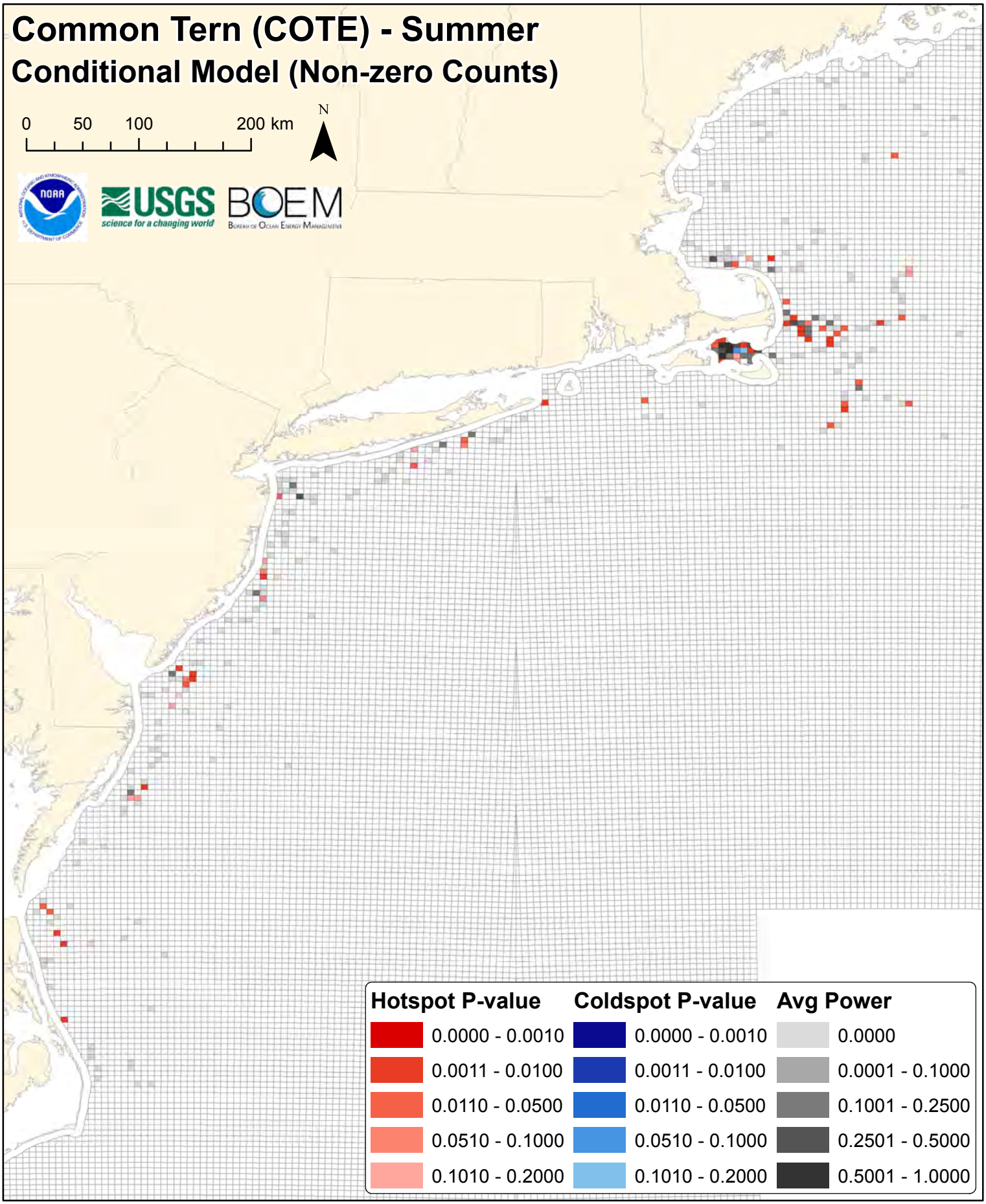

Common Tern (COTE) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 2
3 - 5
6 - 9
10 - 13
14 - 20

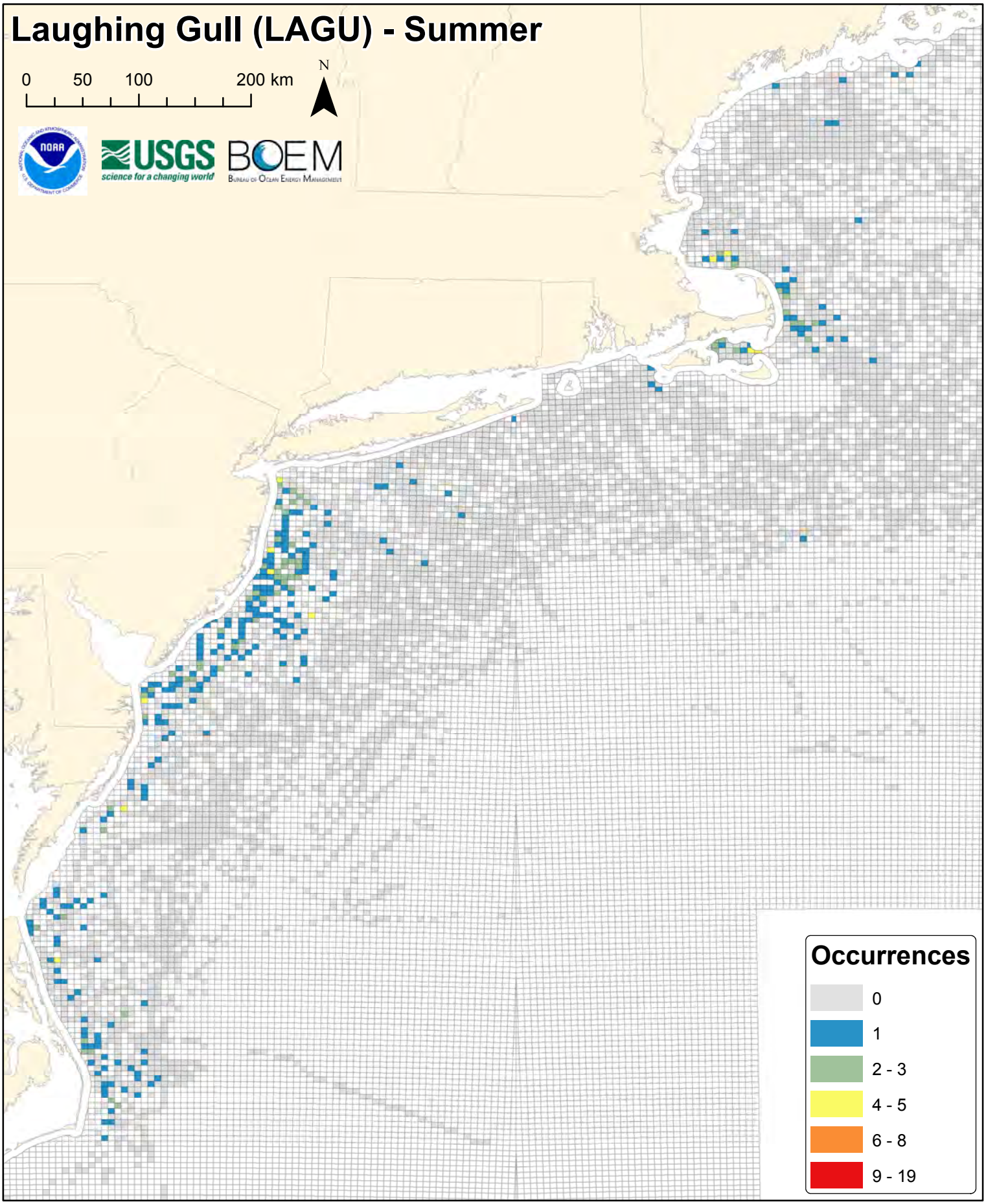

Common Tern (COTE) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 2.667
2.668 - 7.000
7.001 - 17.000
17.001 - 45.100
45.101 - 78.000

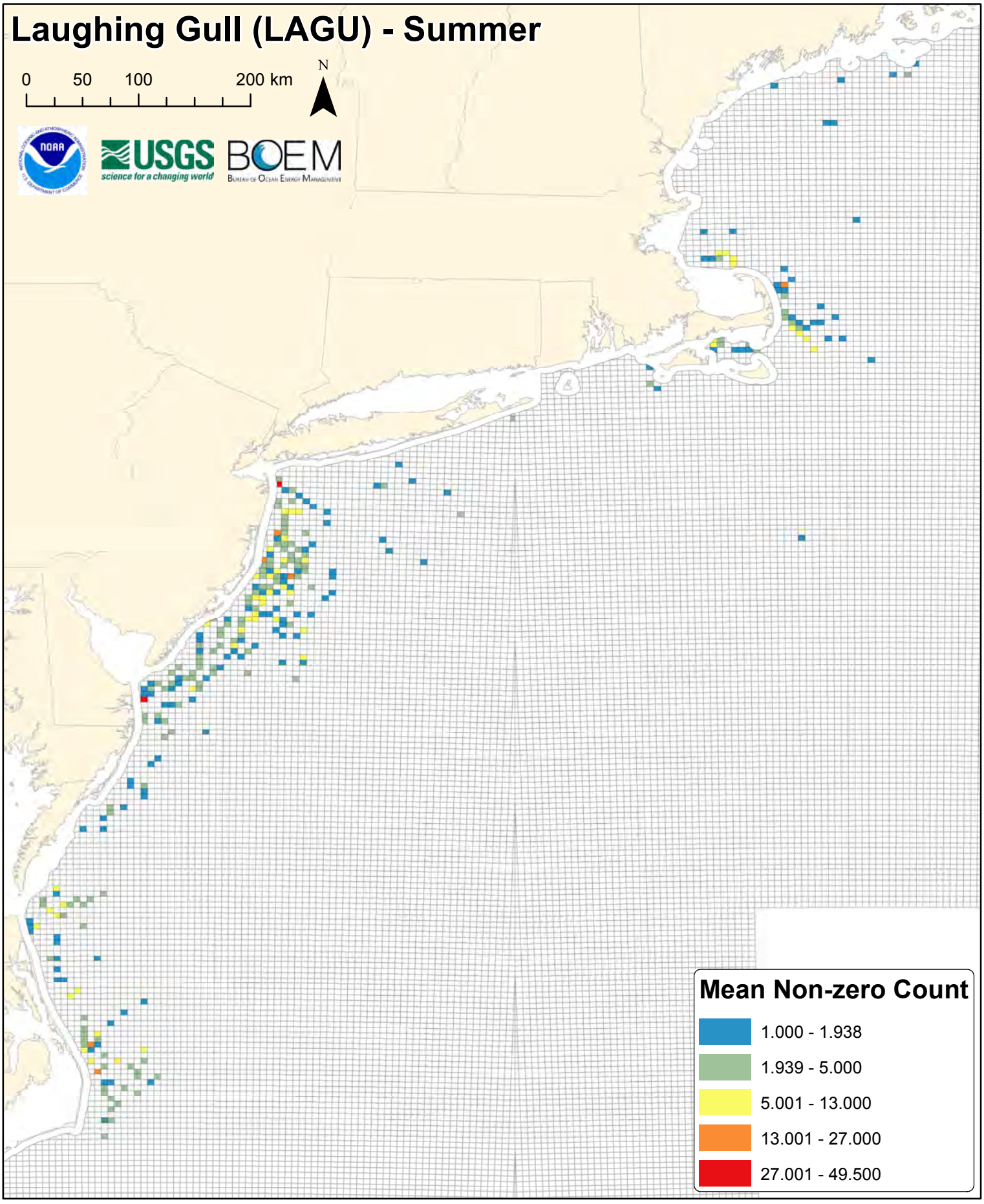

cote
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
5
10
15
20
Number of presences in a BOEM lease block

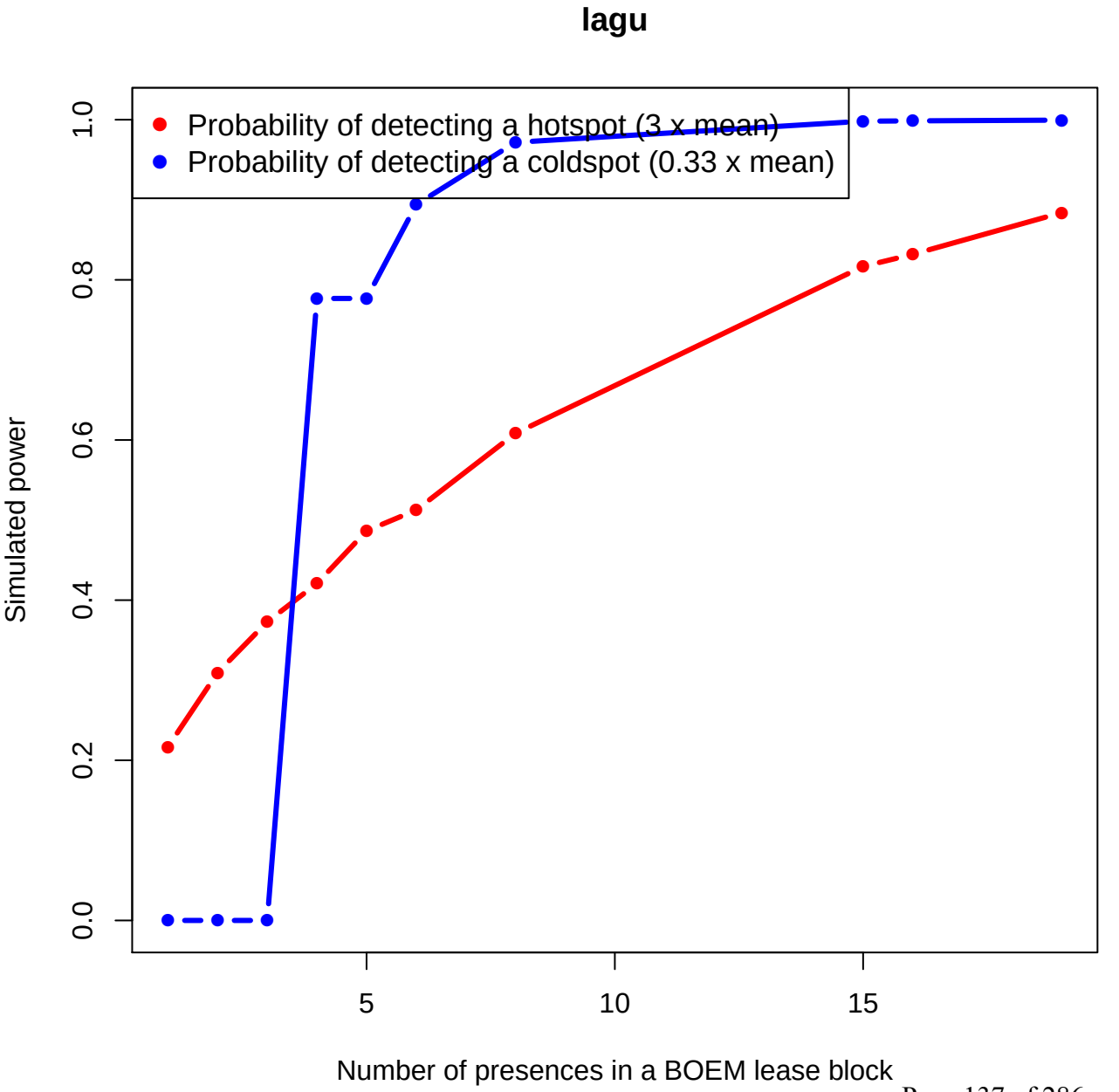

Common Tern (COTE) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

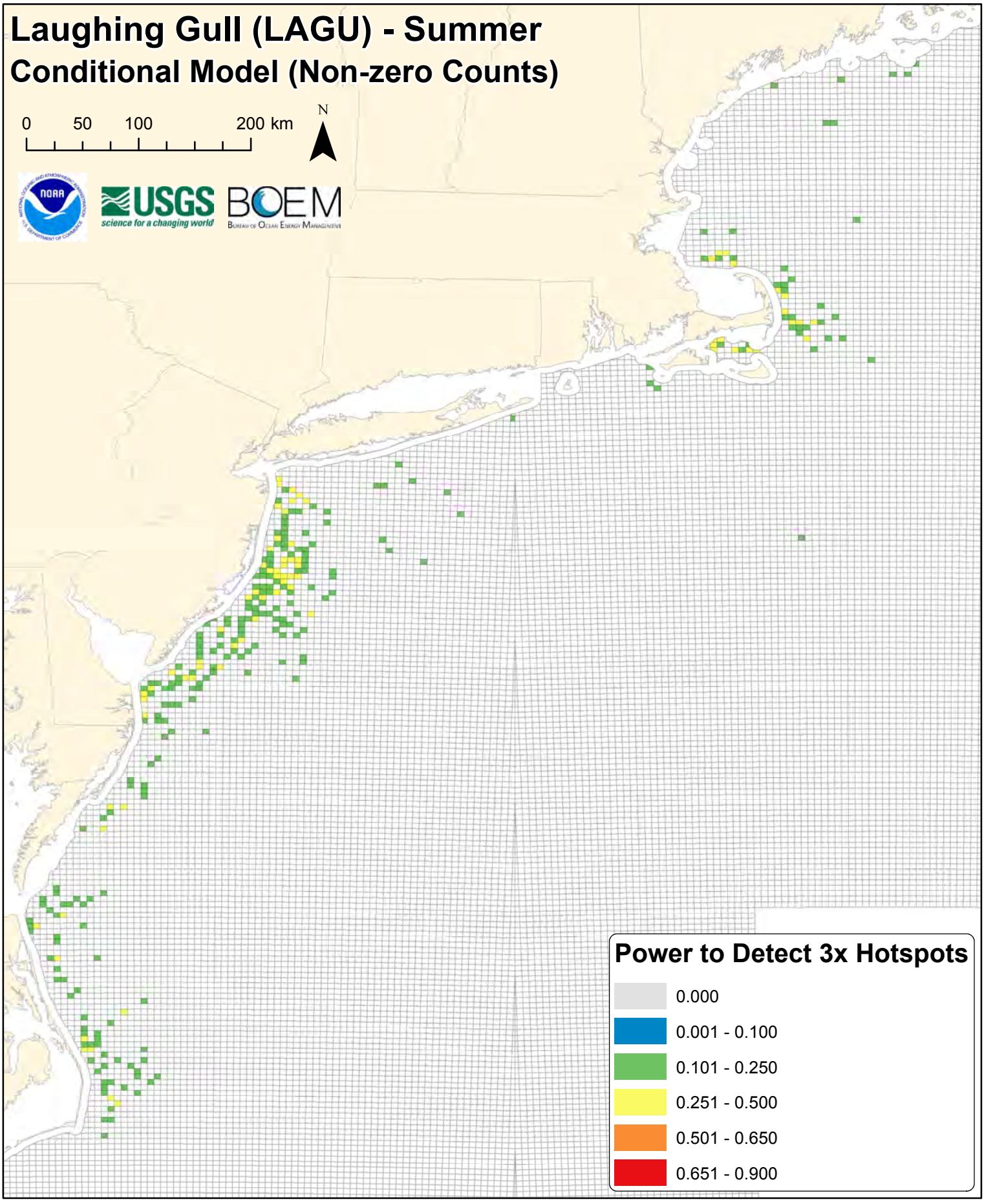

Common Tern (COTE) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

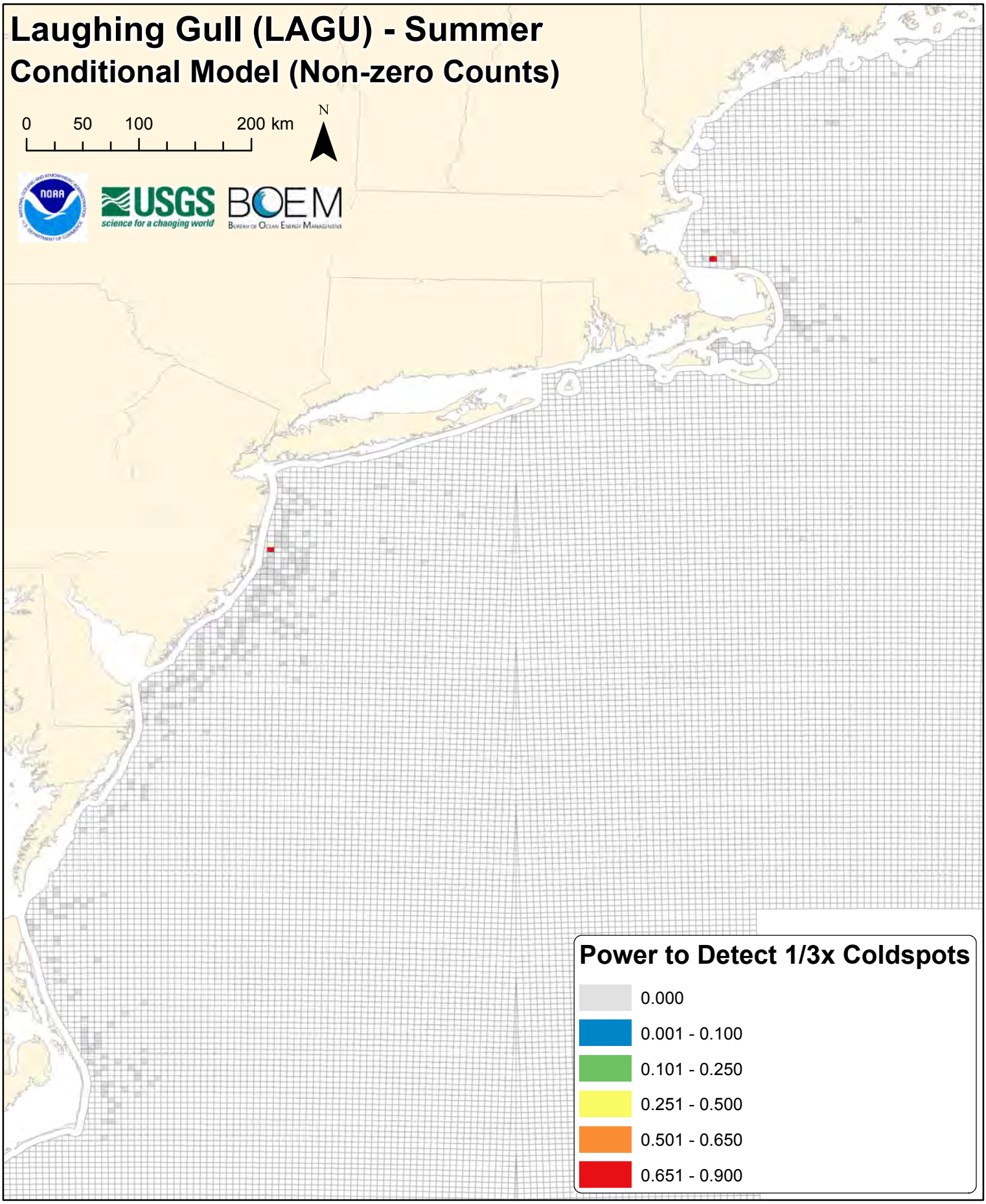

Common Tern (COTE) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

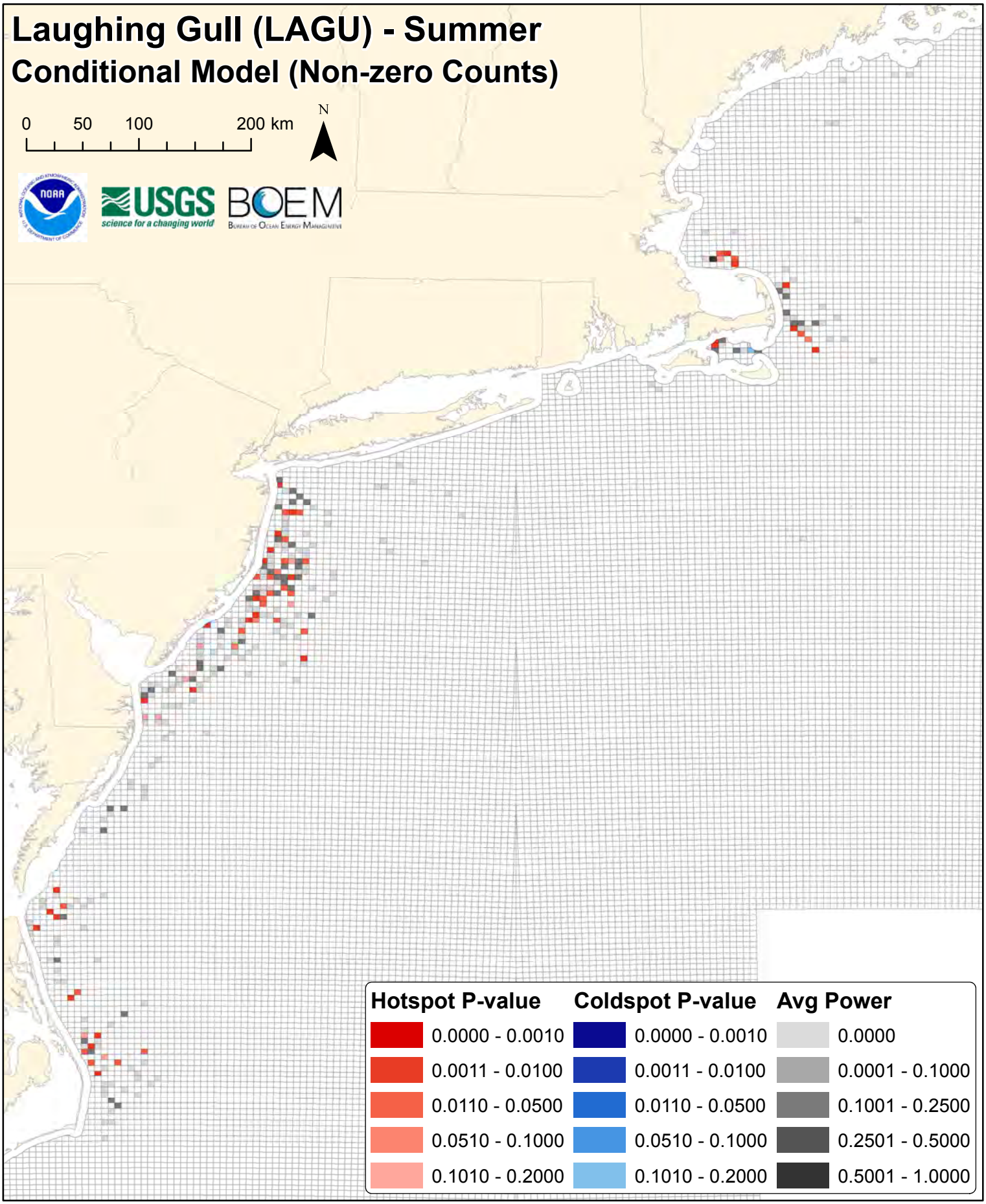

Laughing Gull (LAGU) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2 - 3
4 - 5
6 - 8
9 - 19

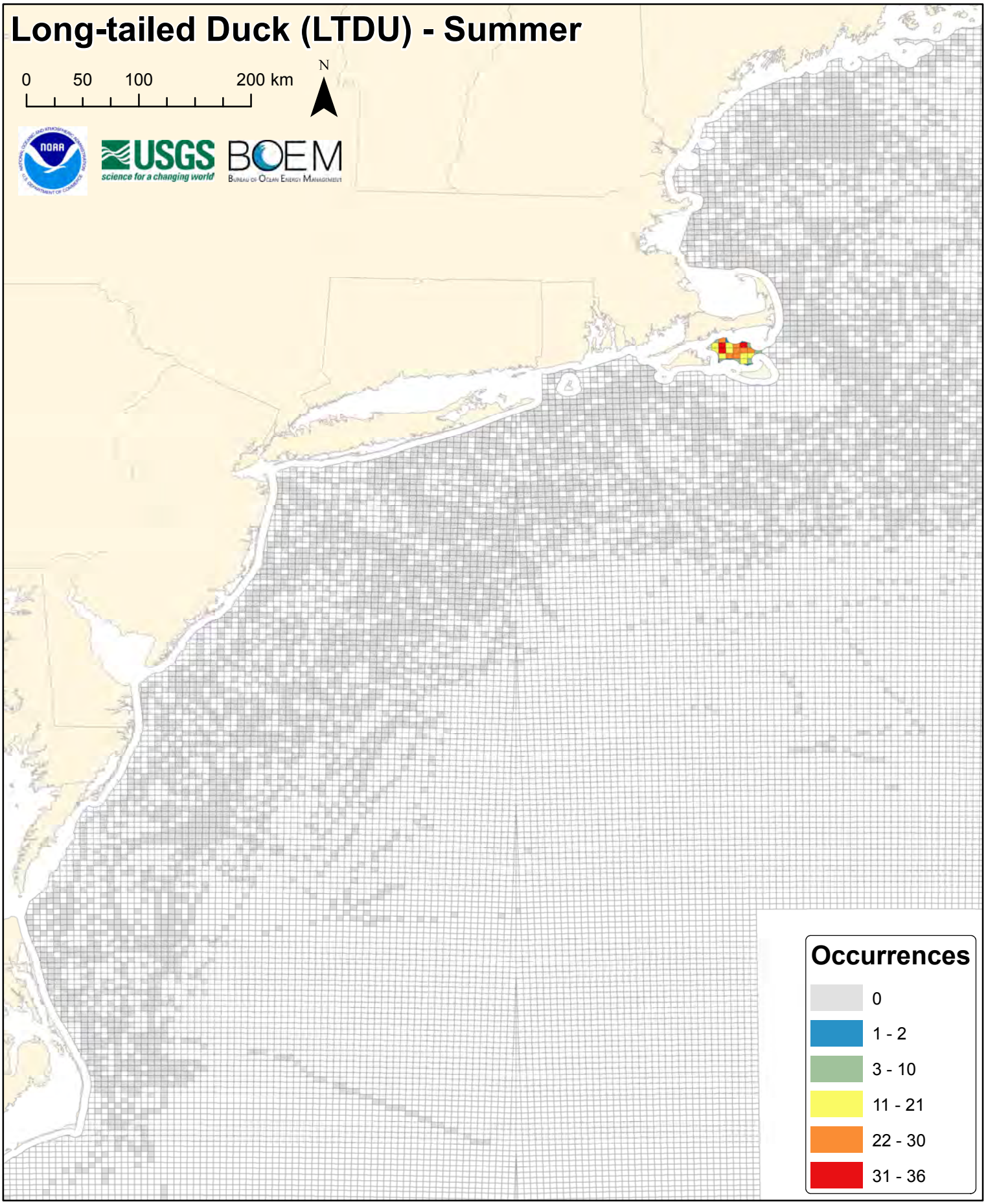

Laughing Gull (LAGU) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 1.938
1.939 - 5.000
5.001 - 13.000
13.001 - 27.000
27.001 - 49.500

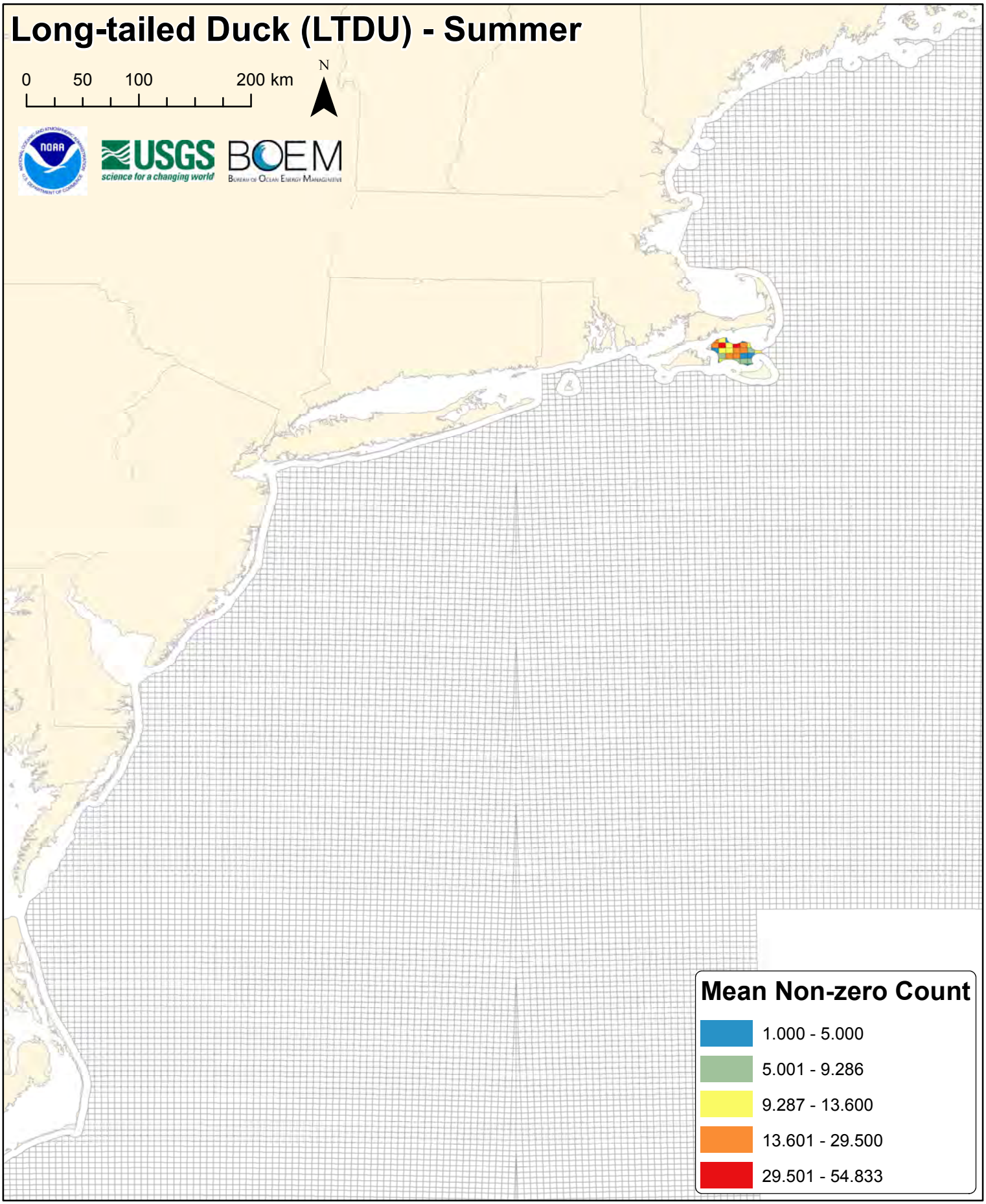

lagu
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
5
10
15
Number of presences in a BOEM lease block

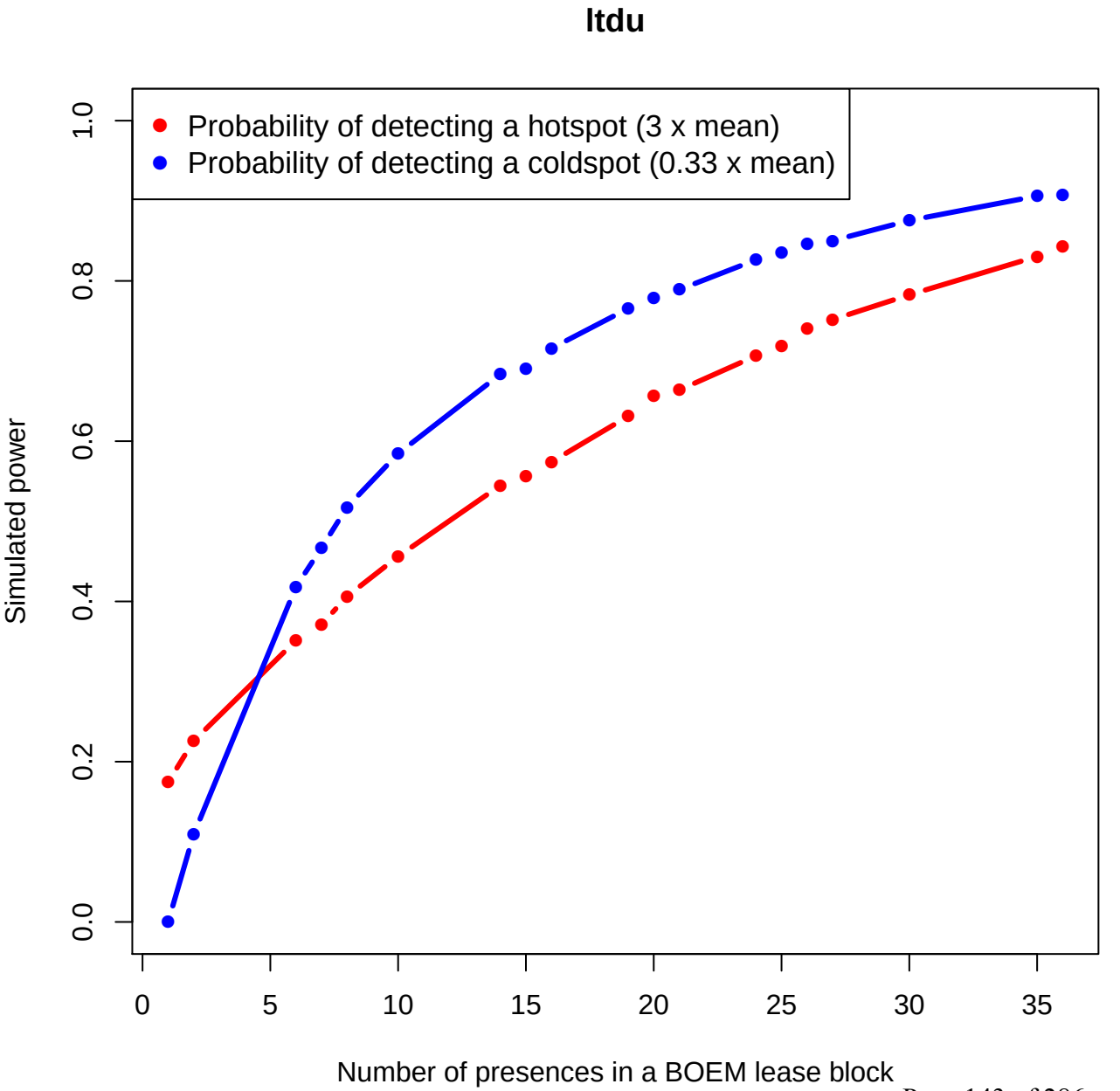

Laughing Gull (LAGU) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900


Laughing Gull (LAGU) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

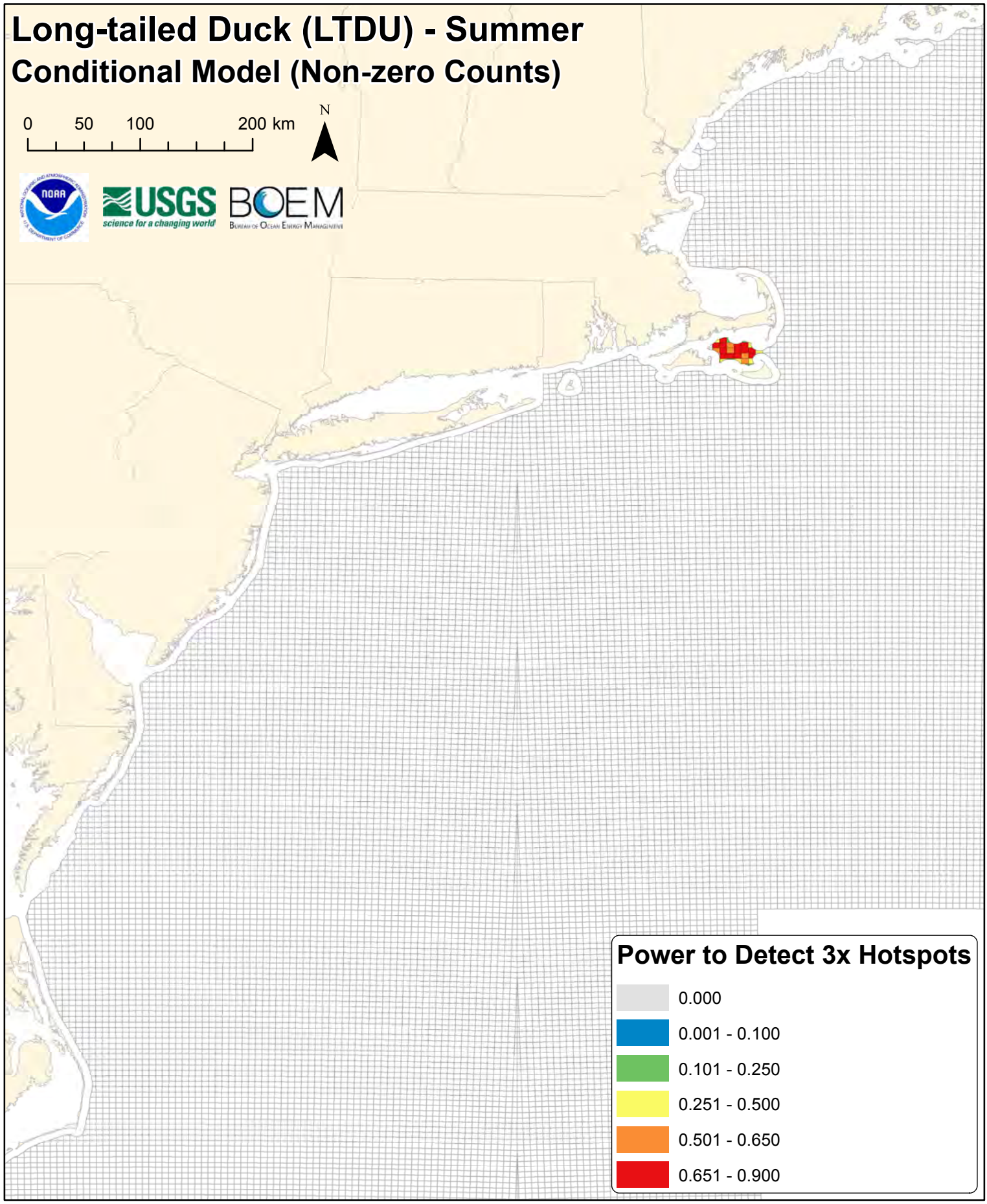

Laughing Gull (LAGU) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

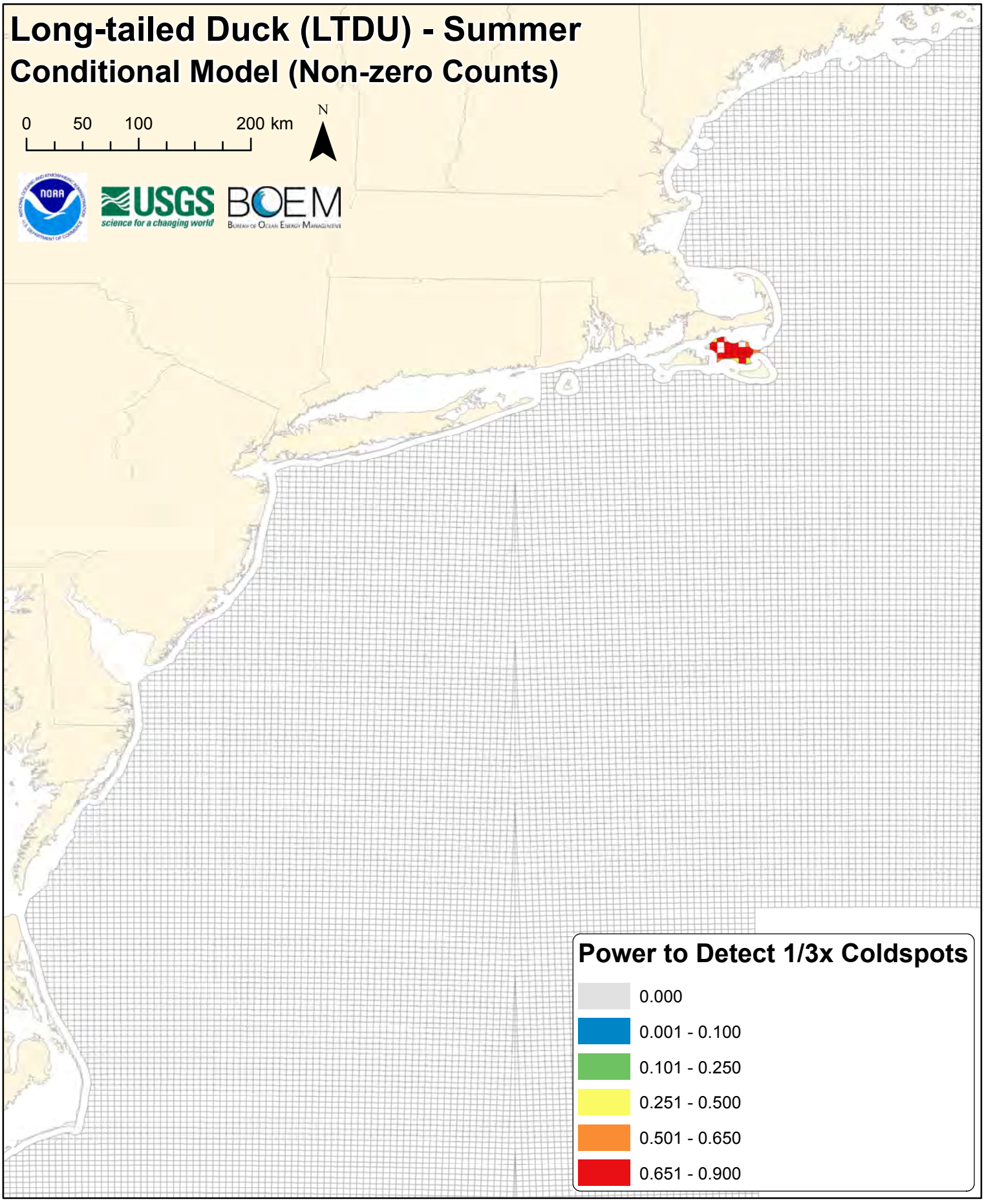

Long-tailed Duck (LTDU) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 2
3 - 10
11 - 21
22 - 30
31 - 36

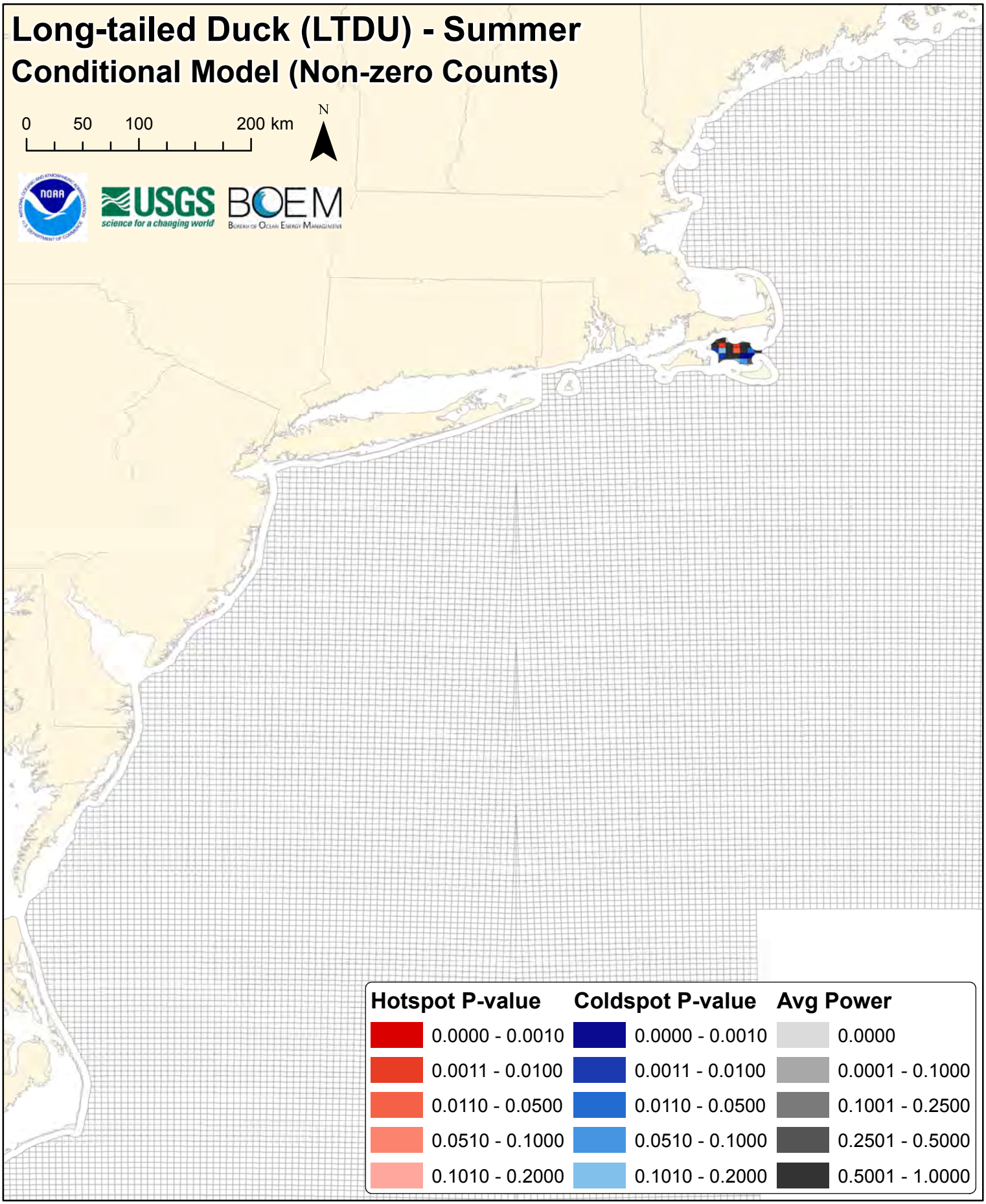

Long-tailed Duck (LTDU) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 5.000
5.001 - 9.286
9.287 - 13.600
13.601 - 29.500
29.501 - 54.833

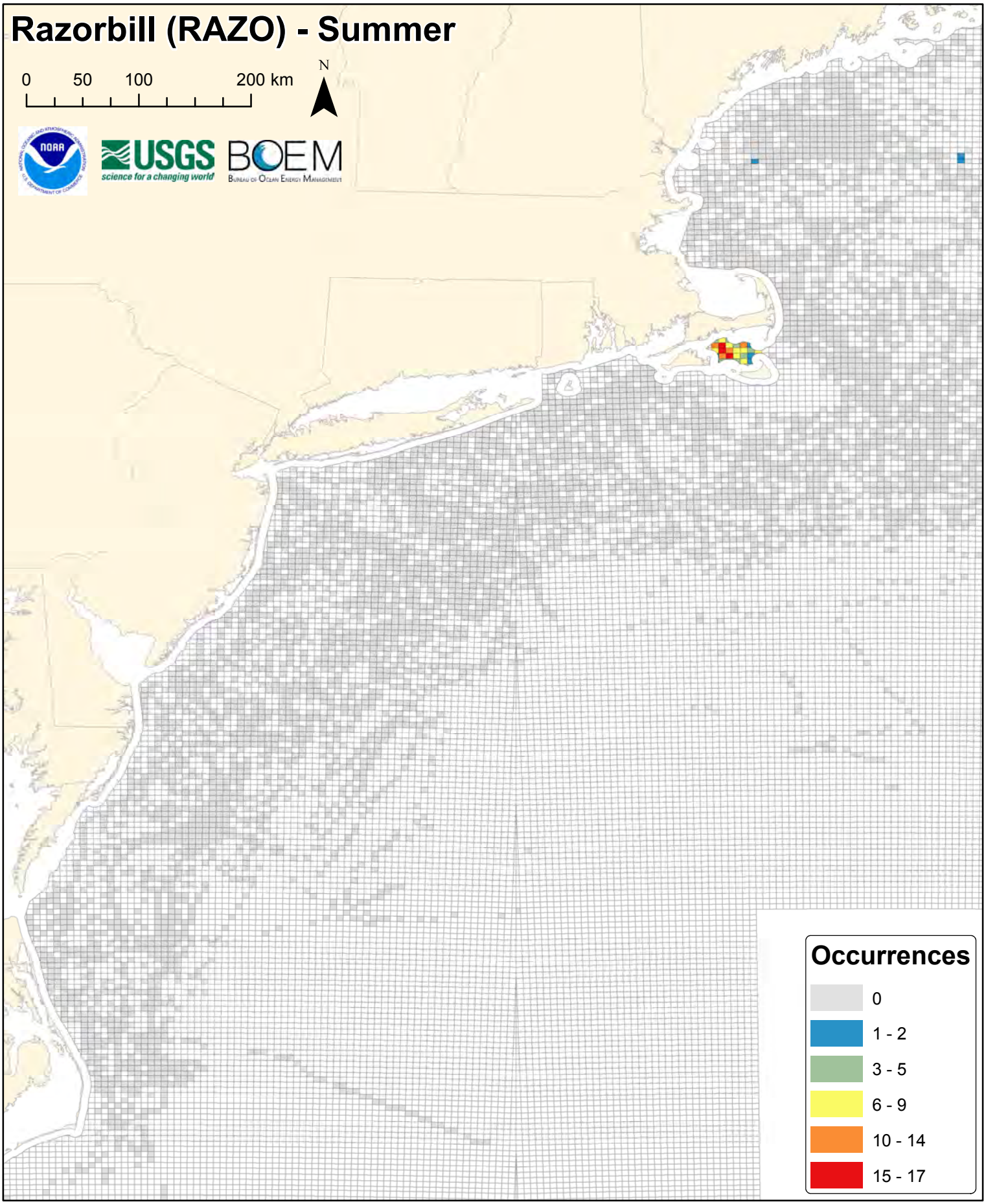

ltdu
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
35
Number of presences in a BOEM lease block

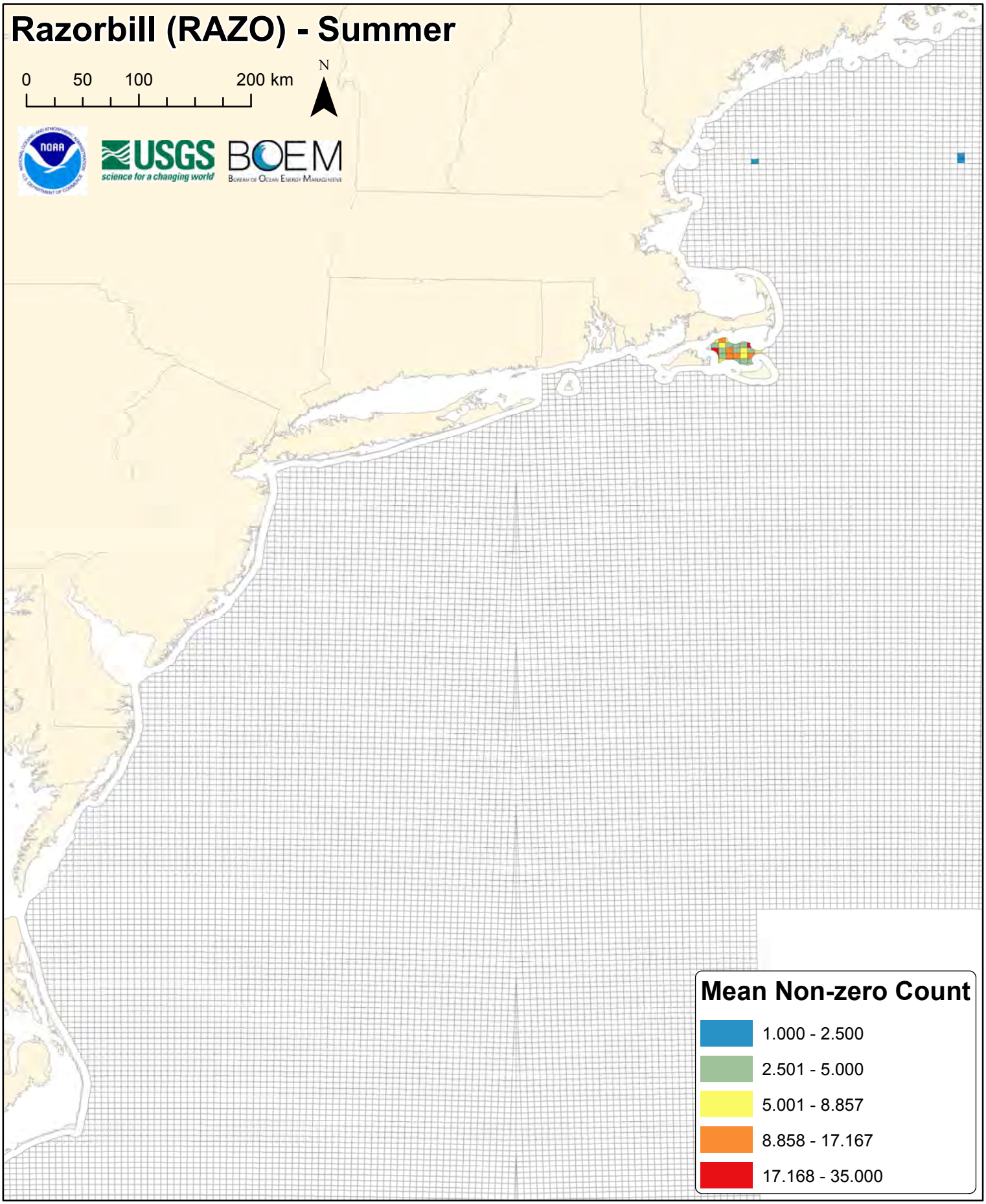
Long-tailed Duck (LTDU) - Summer
Conditional Model (Non-zero Counts)

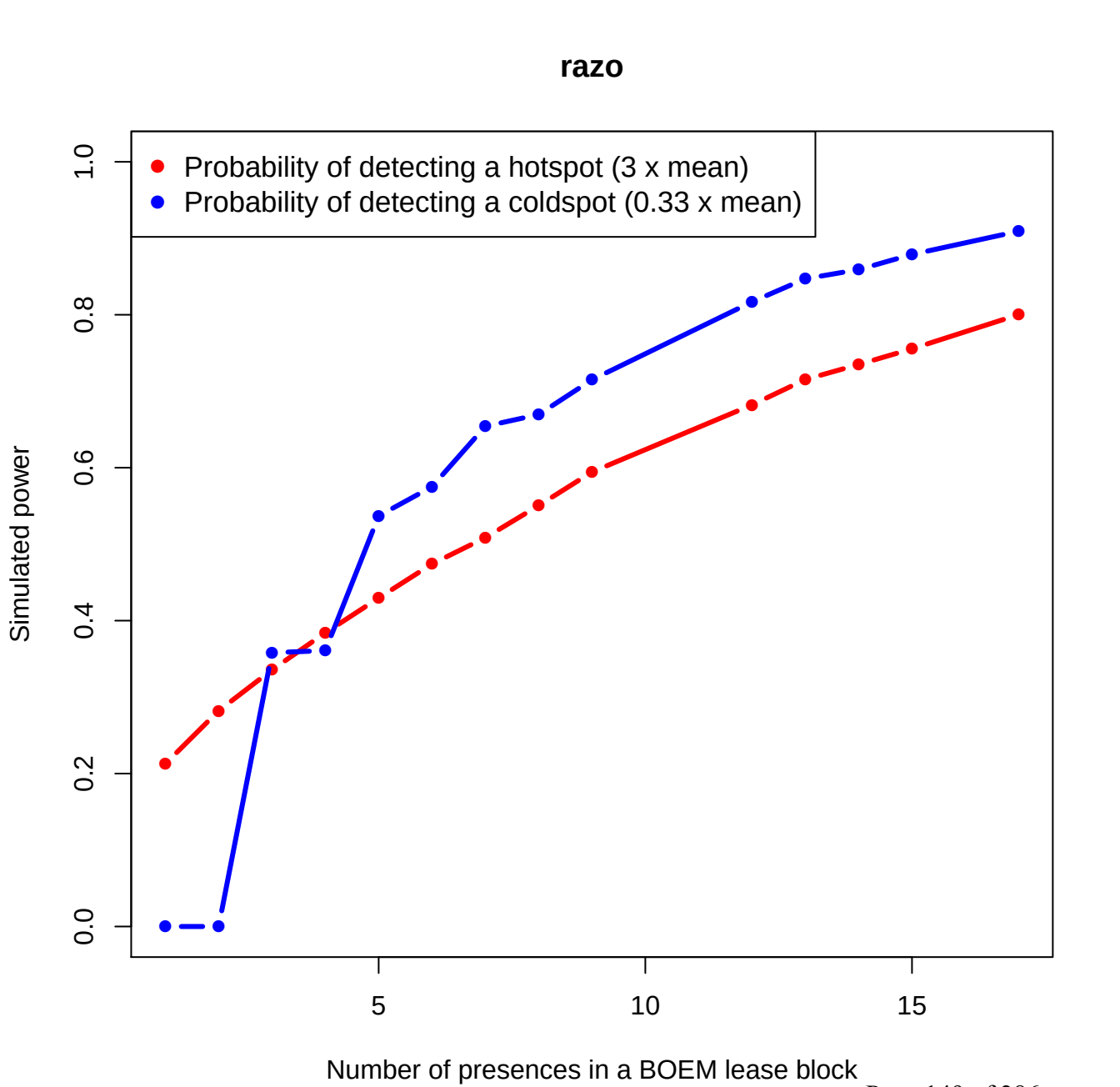


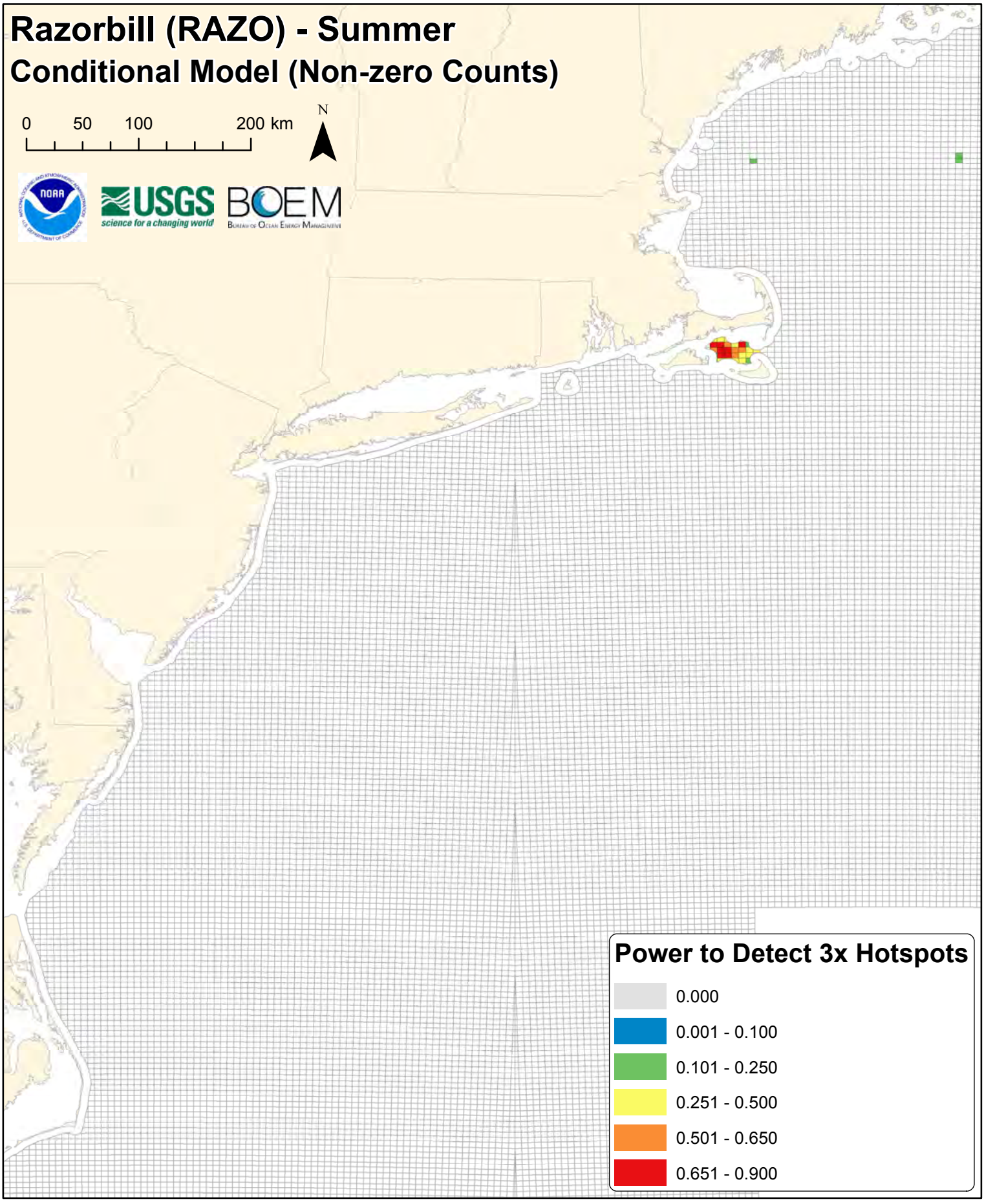

Long-tailed Duck (LTDU) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

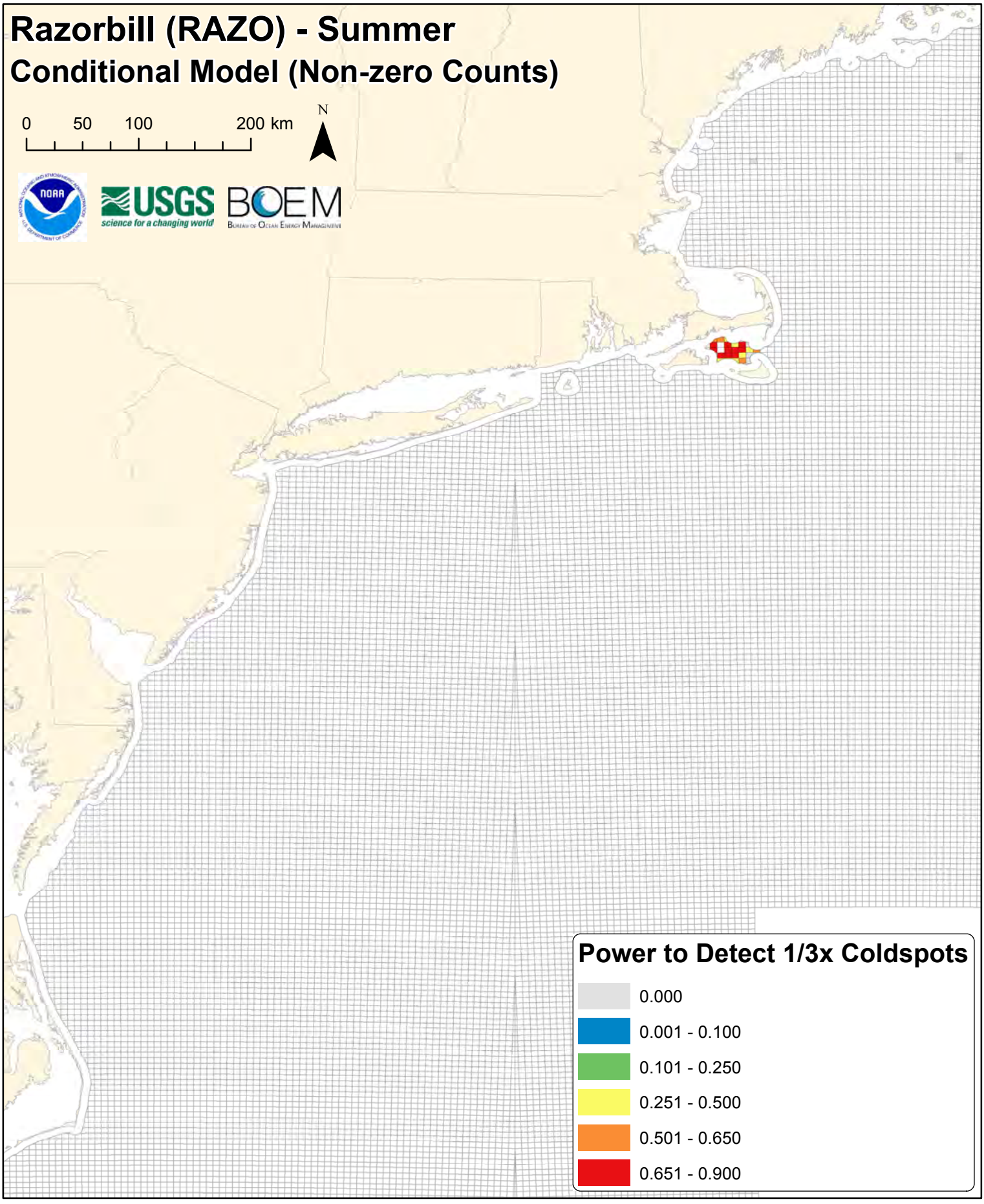

Long-tailed Duck (LTDU) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

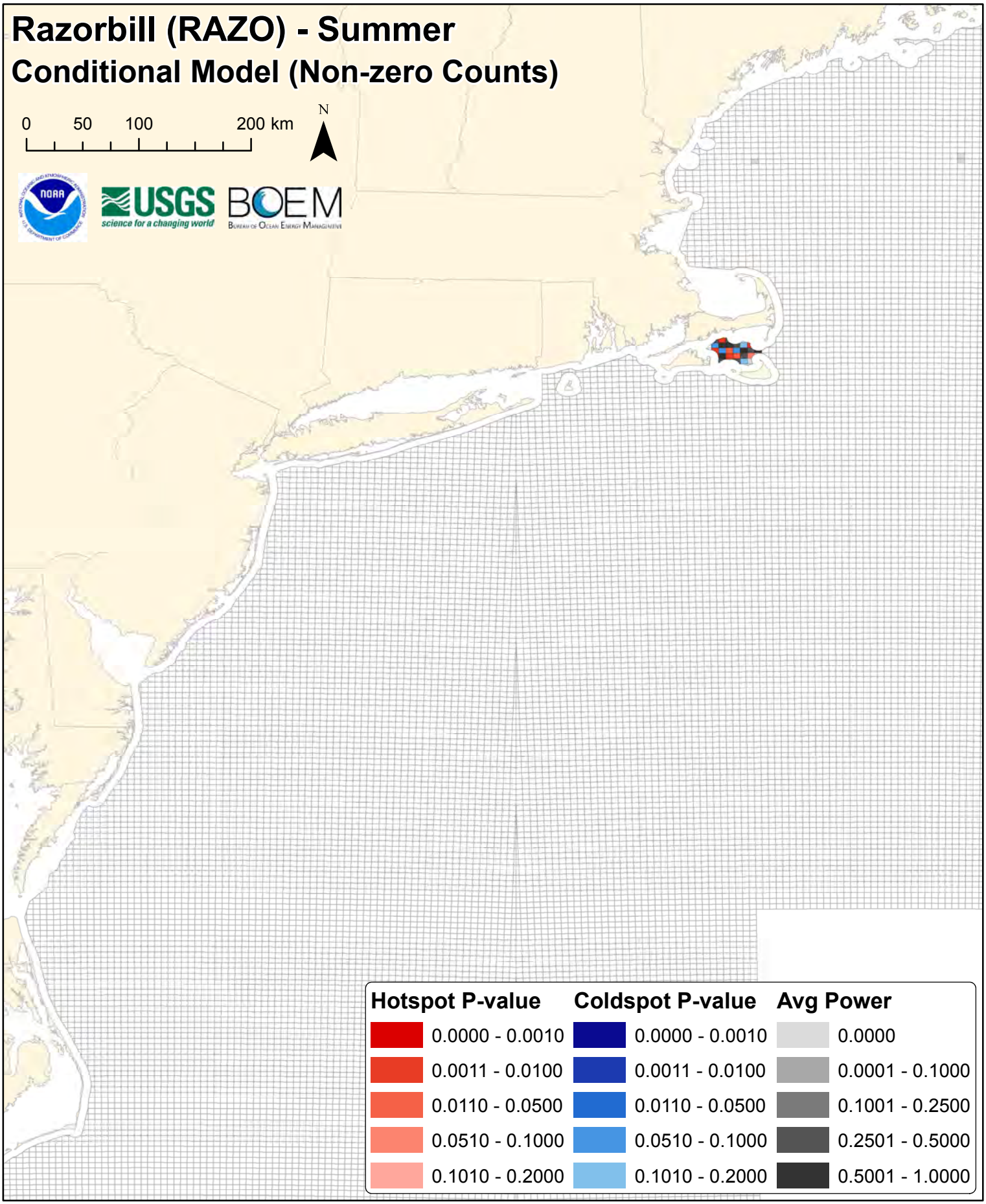

Razorbill (RAZO) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 2
3 - 5
6 - 9
10 - 14
15 - 17


Razorbill (RAZO) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 2.500
2.501 - 5.000
5.001 - 8.857
8.858 - 17.167
17.168 - 35.000


razo
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
5
10
15
Number of presences in a BOEM lease block


Razorbill (RAZO) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900


Razorbill (RAZO) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

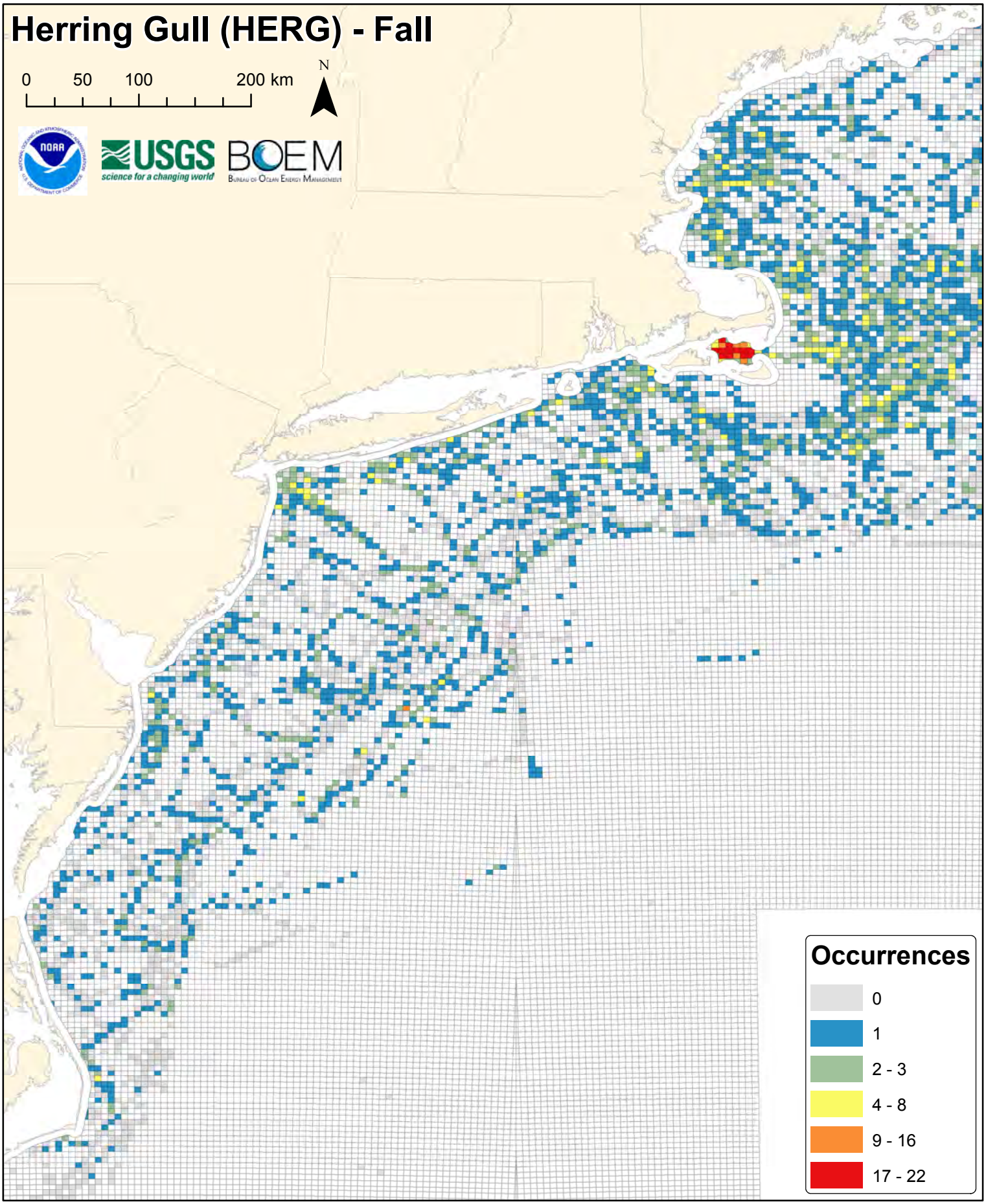

Razorbill (RAZO) - Summer
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

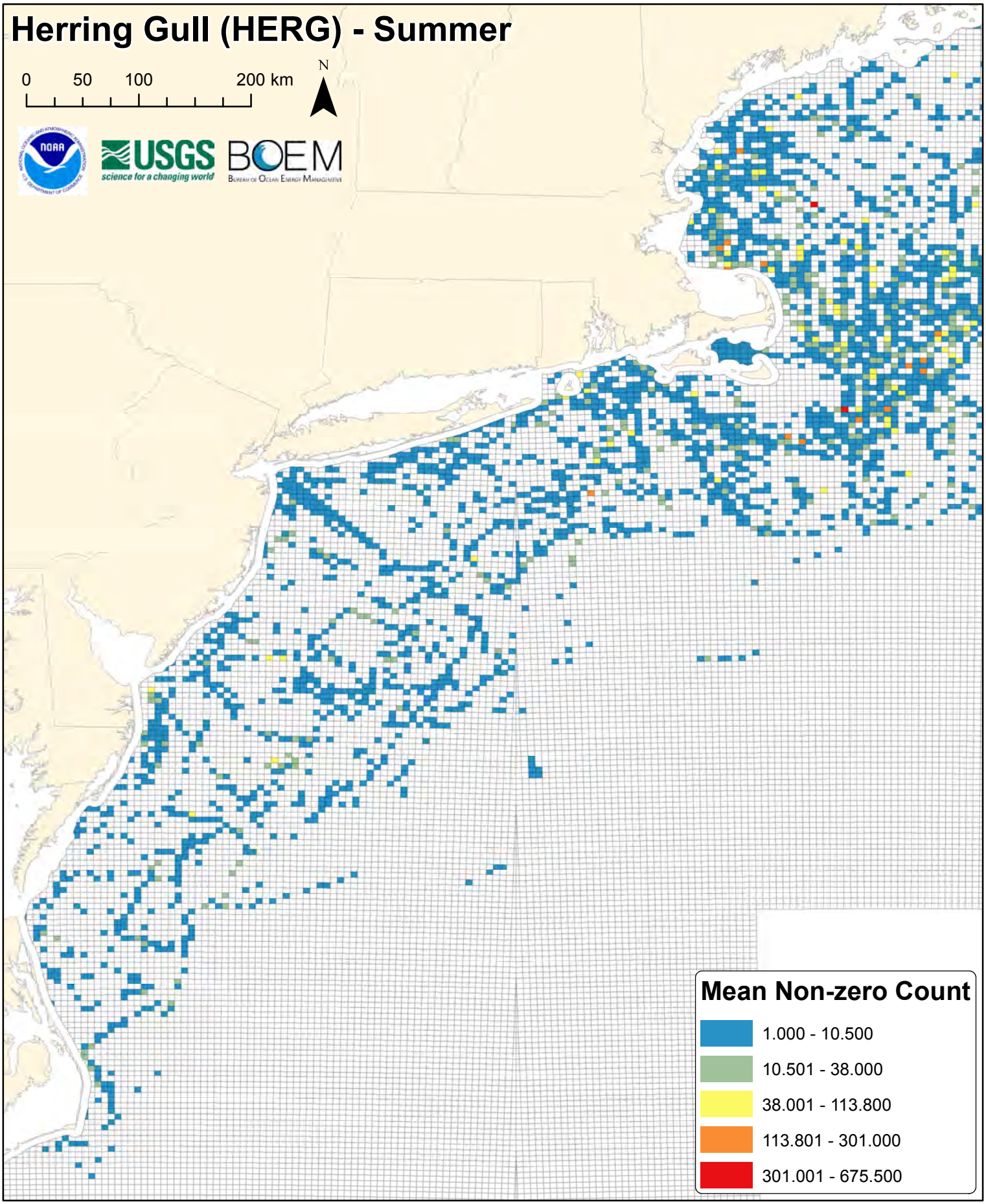
DIGITAL SUPPLEMENT F

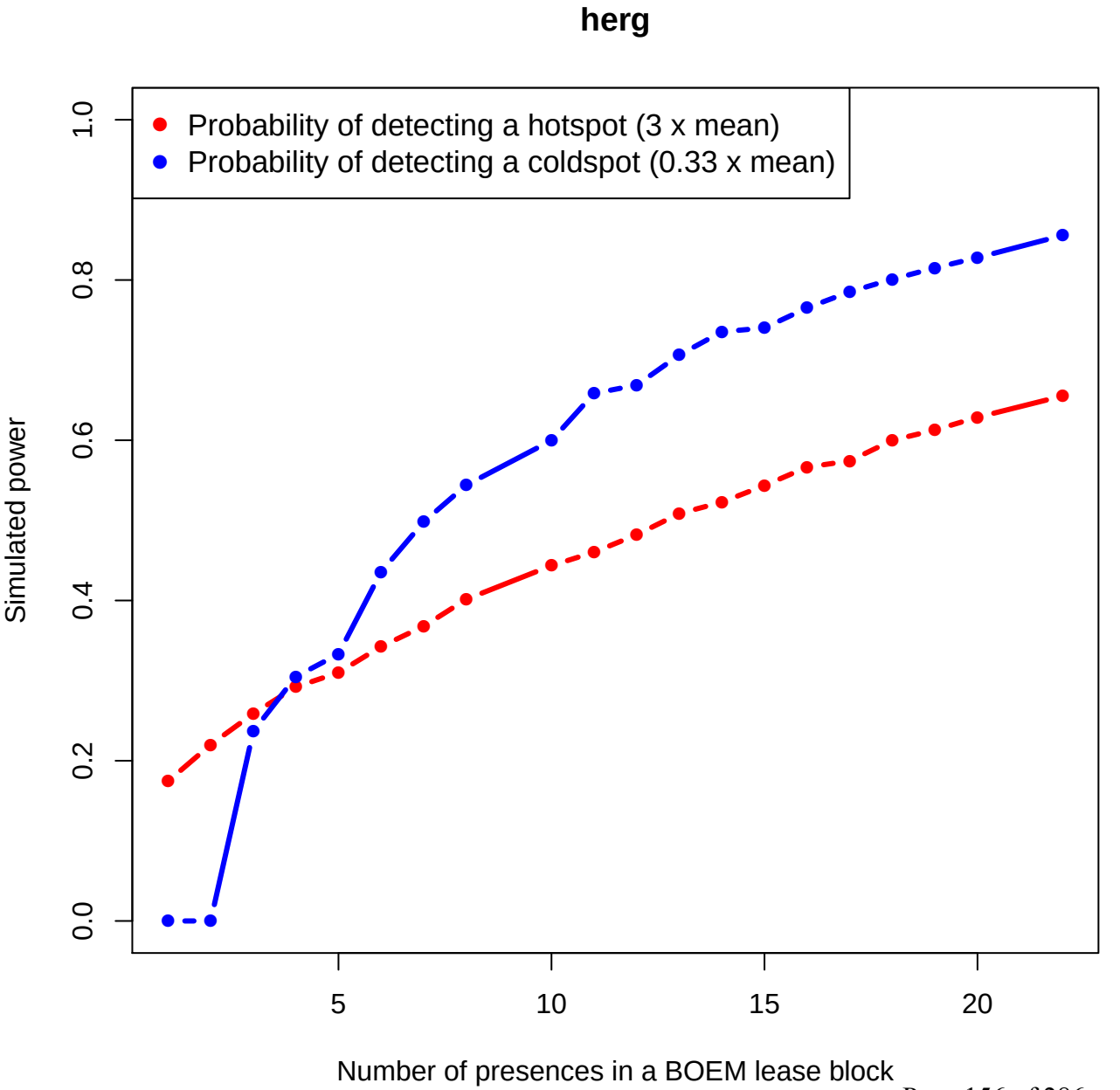
Conditional (Non-Zero Count) Model Results

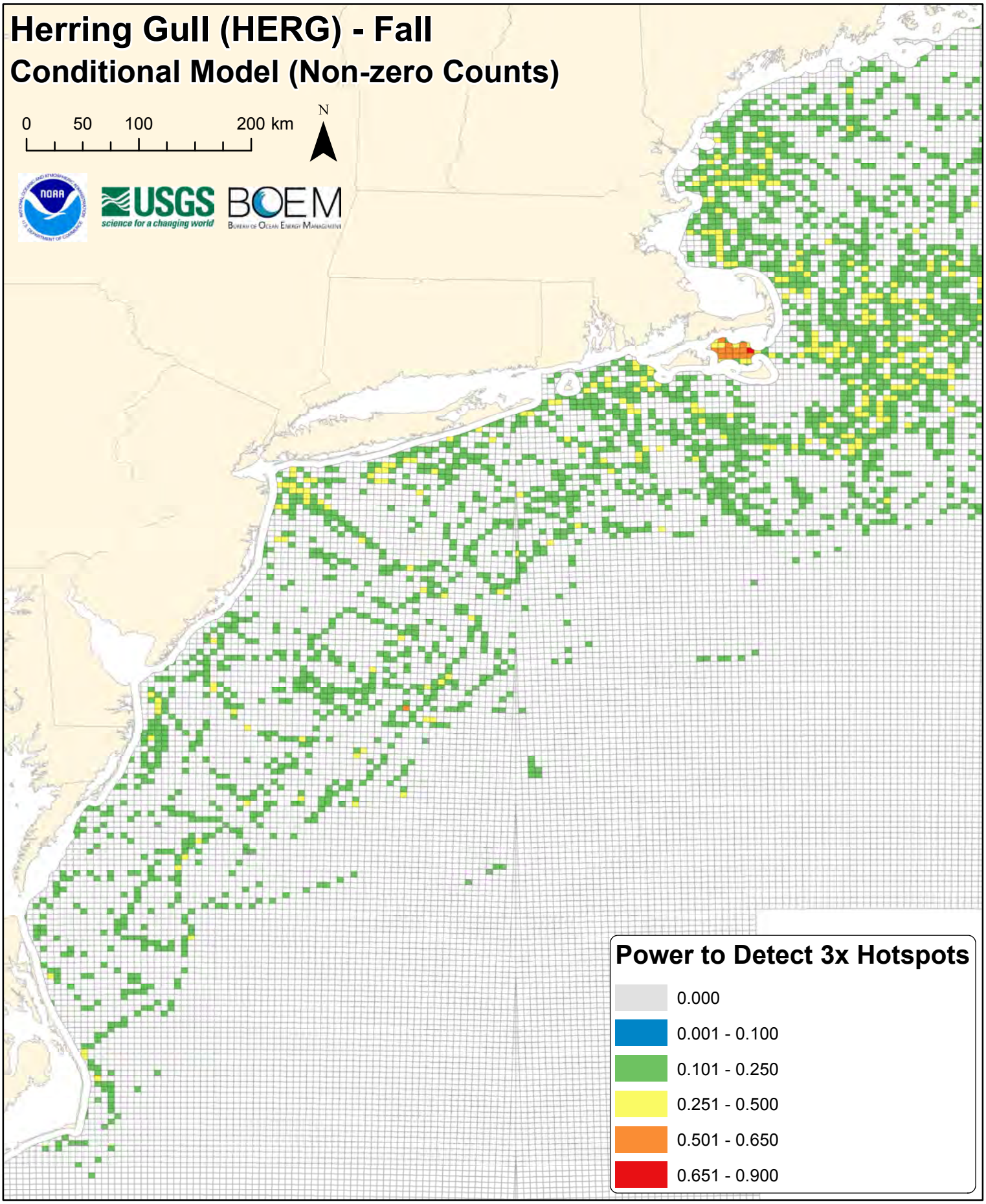
SECTION II. Species-specific Power Analysis Maps and Figures

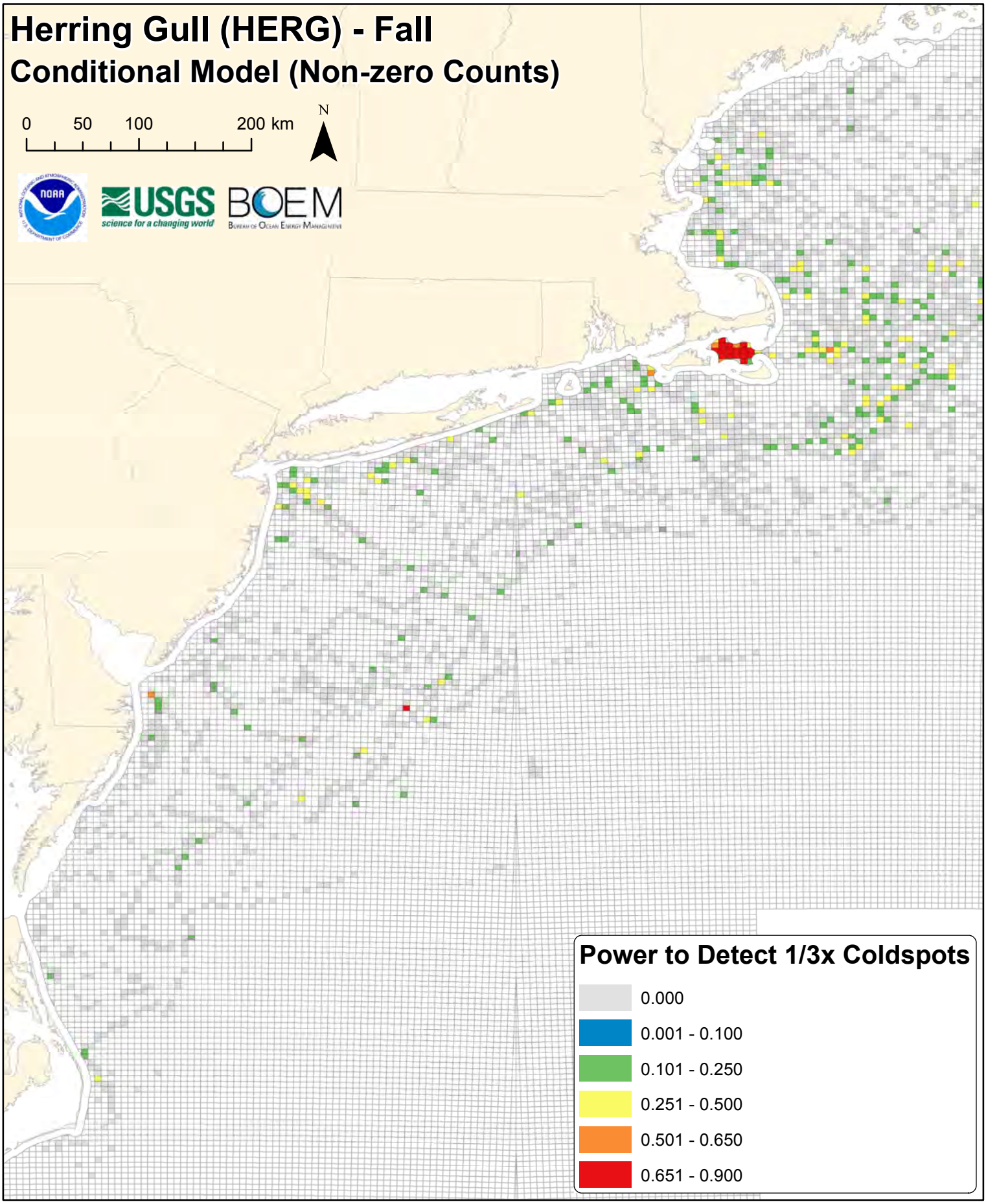
Figures F144-F215. Fall power analysis maps and figures (12 species x 6 figures per species).

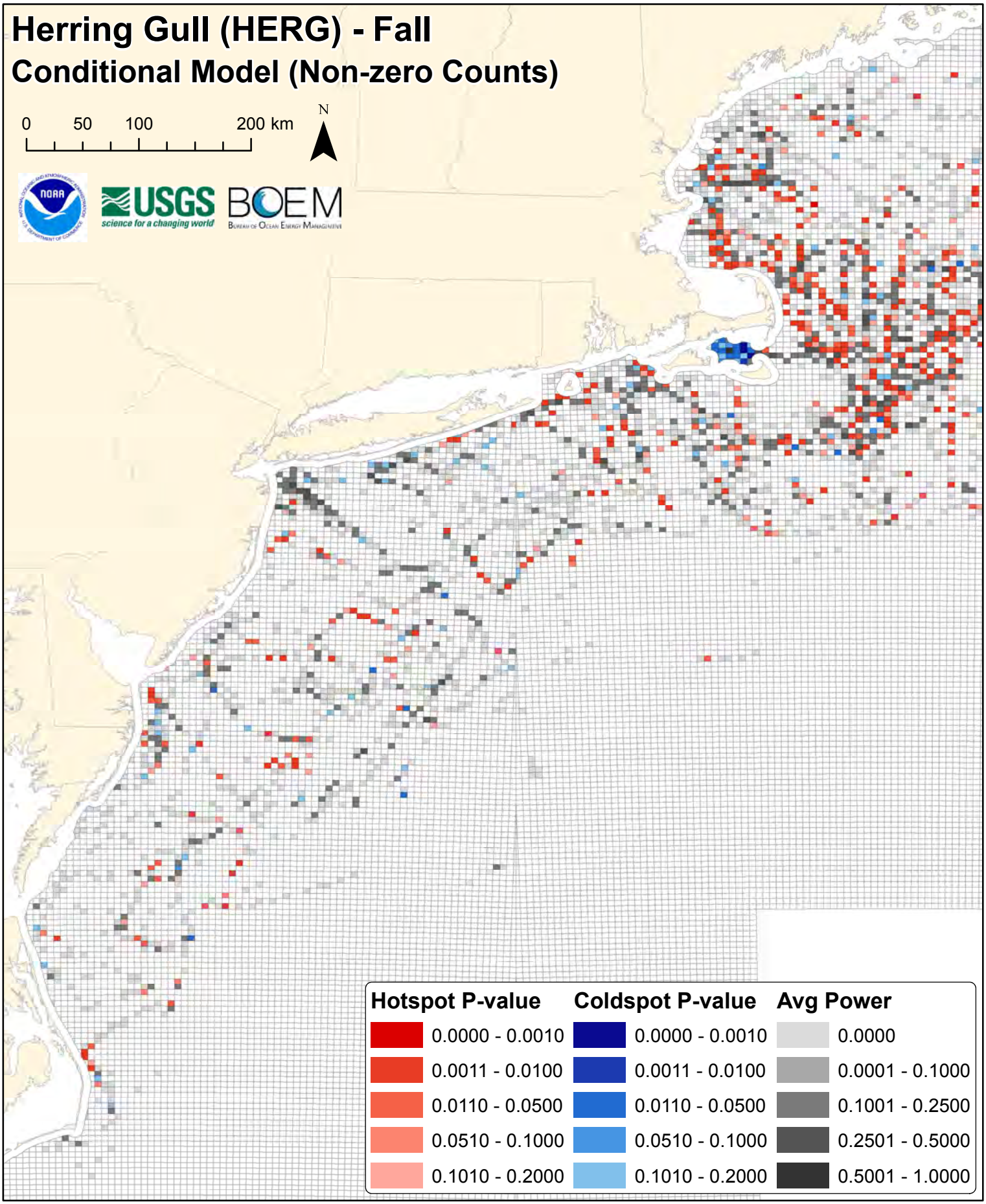

Herring Gull (HERG) - Fall
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2 - 3
4 - 8
9 - 16
17 - 22

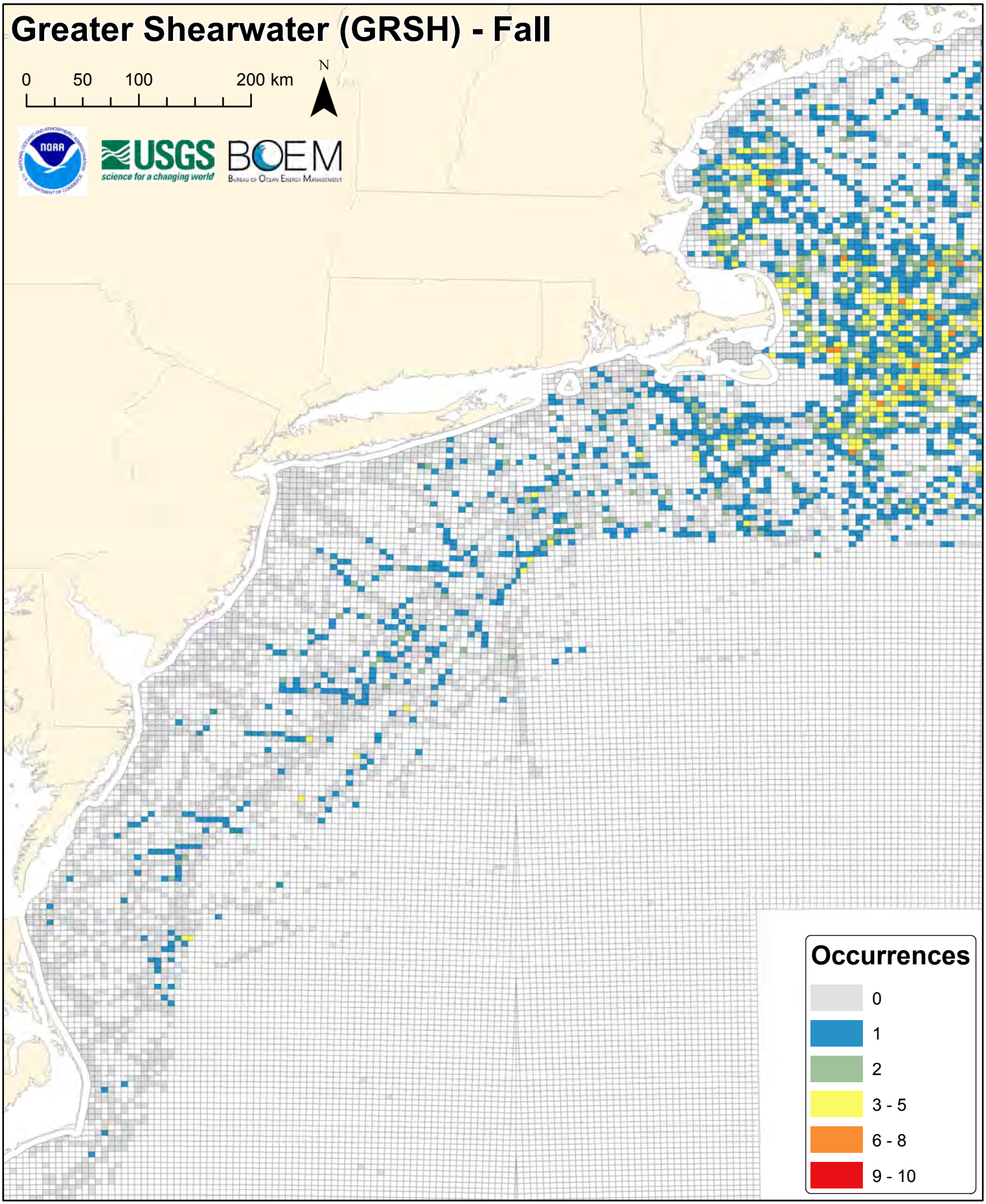

Herring Gull (HERG) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 10.500
10.501 - 38.000
38.001 - 113.800
113.801 - 301.000
301.001 - 675.500

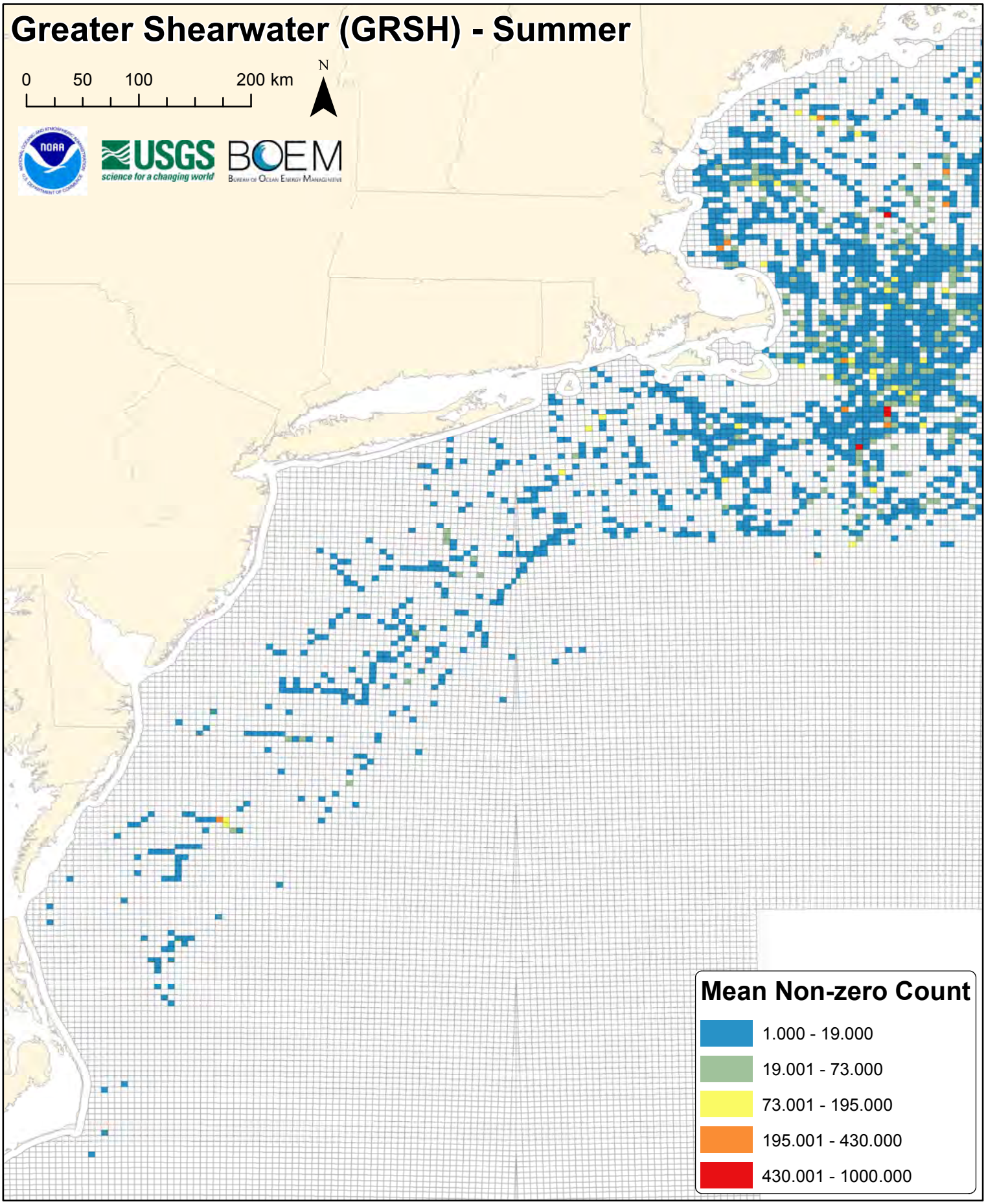

herg
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
5
10
15
20
Number of presences in a BOEM lease block

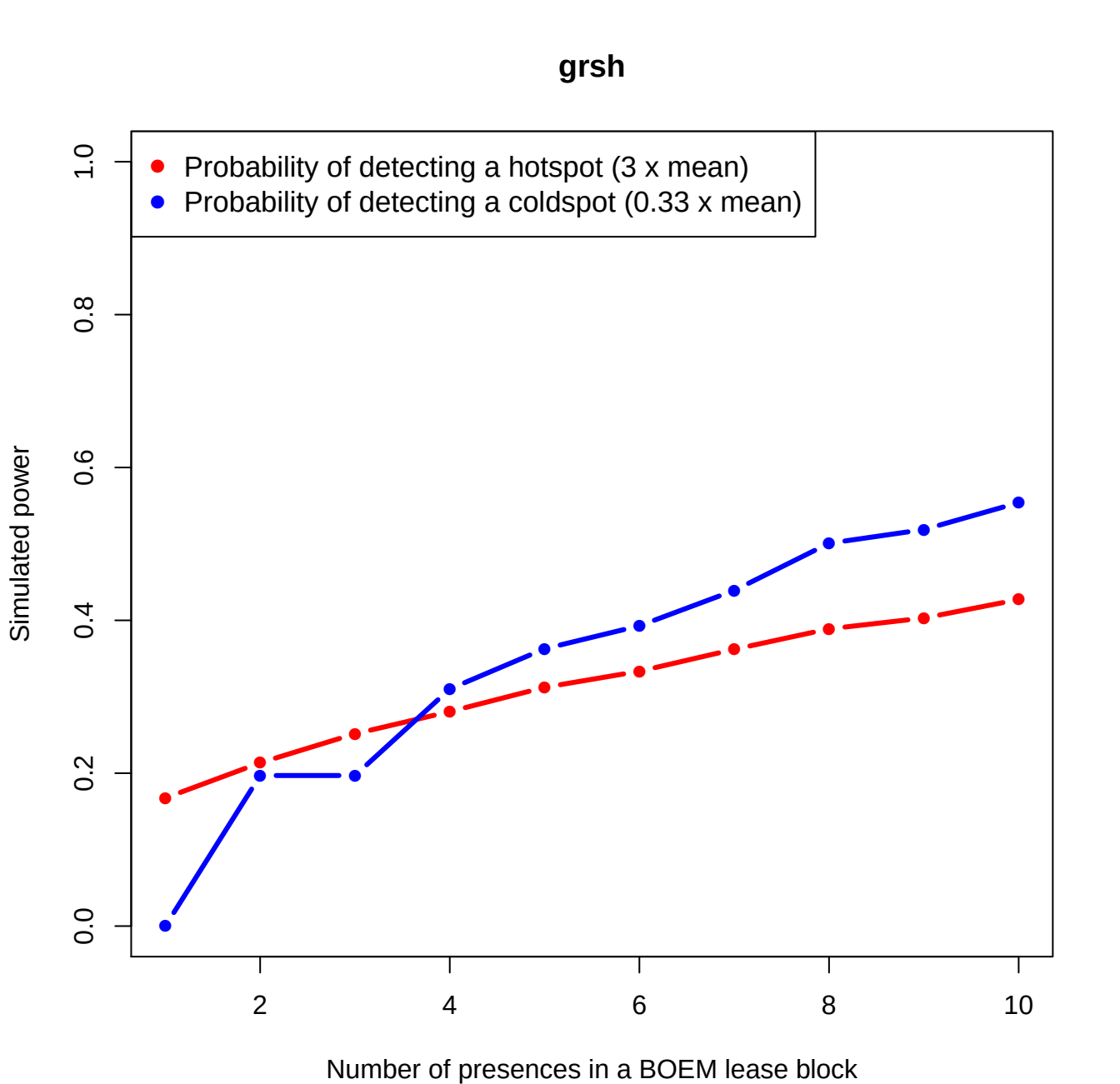

Herring Gull (HERG) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

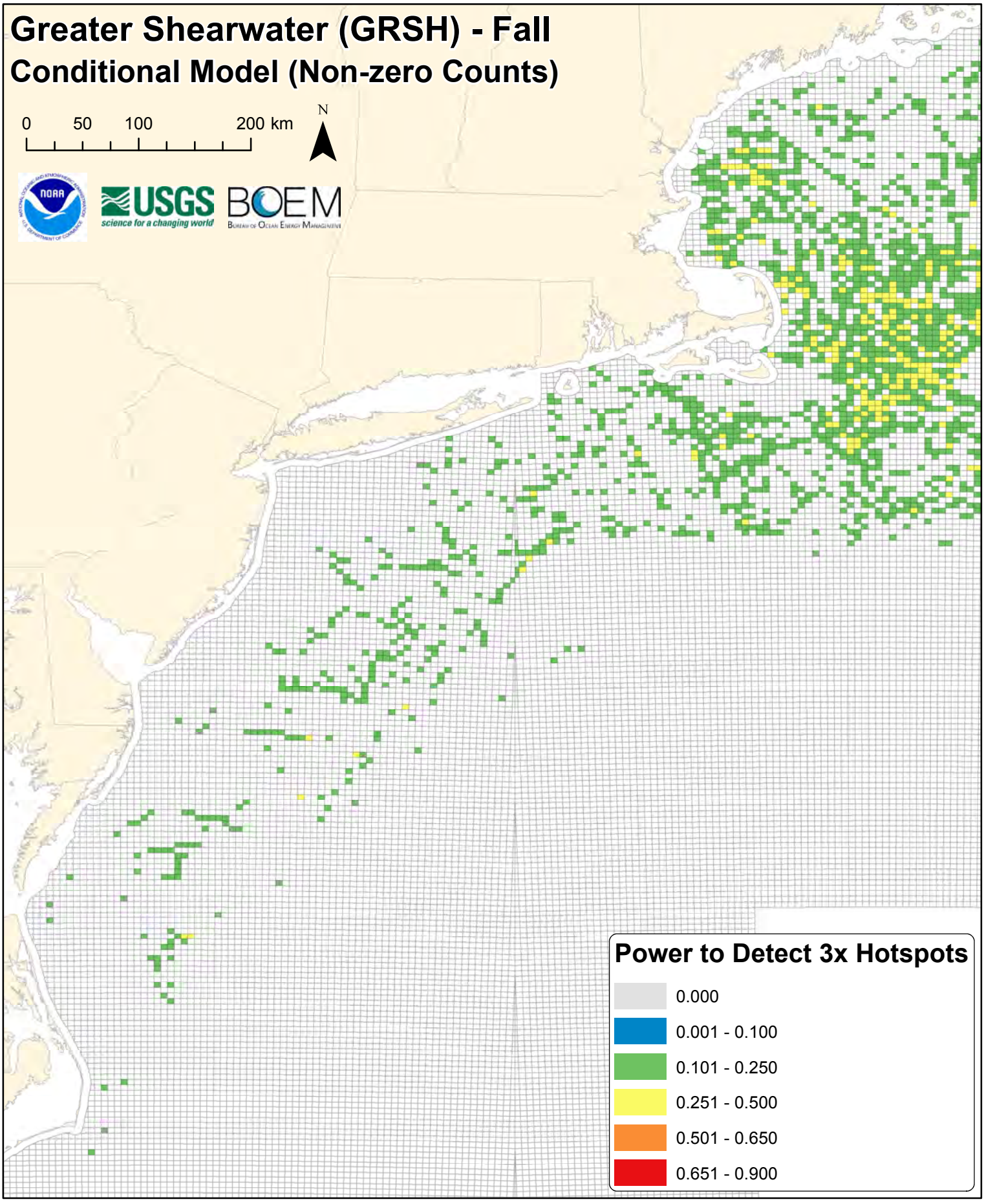

Herring Gull (HERG) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

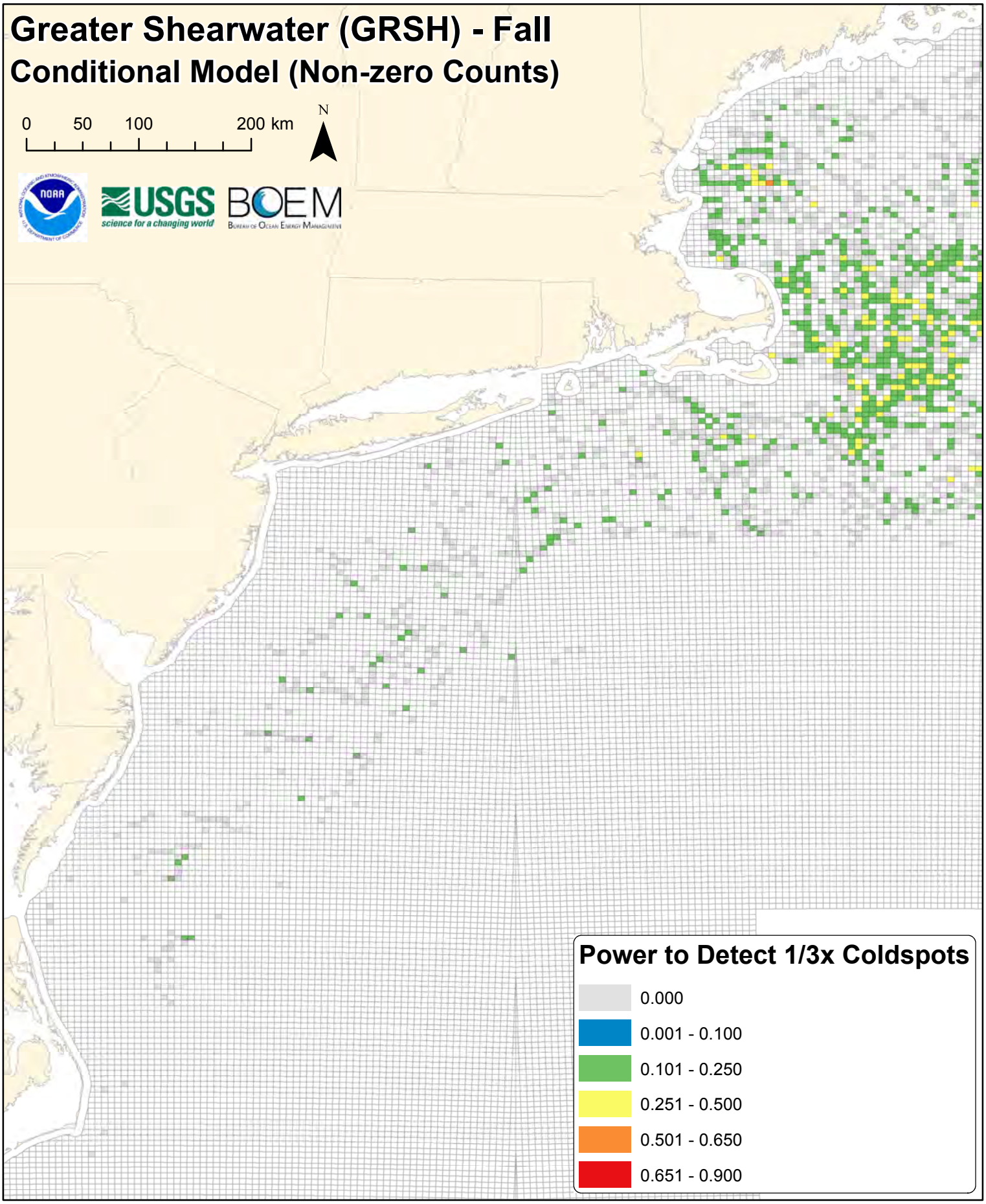

Herring Gull (HERG) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

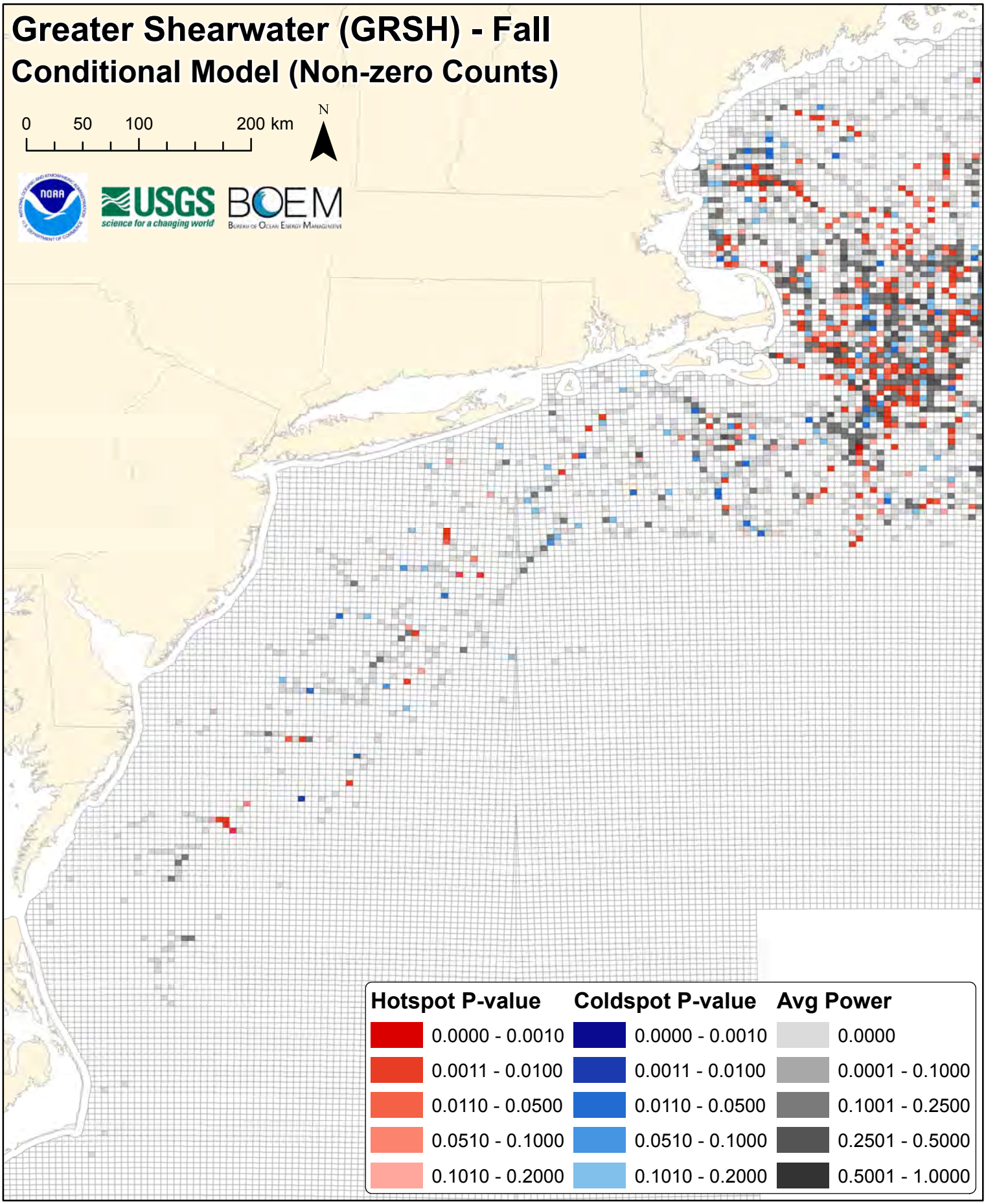

Greater Shearwater (GRSH) - Fall
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2
3 - 5
6 - 8
9 - 10

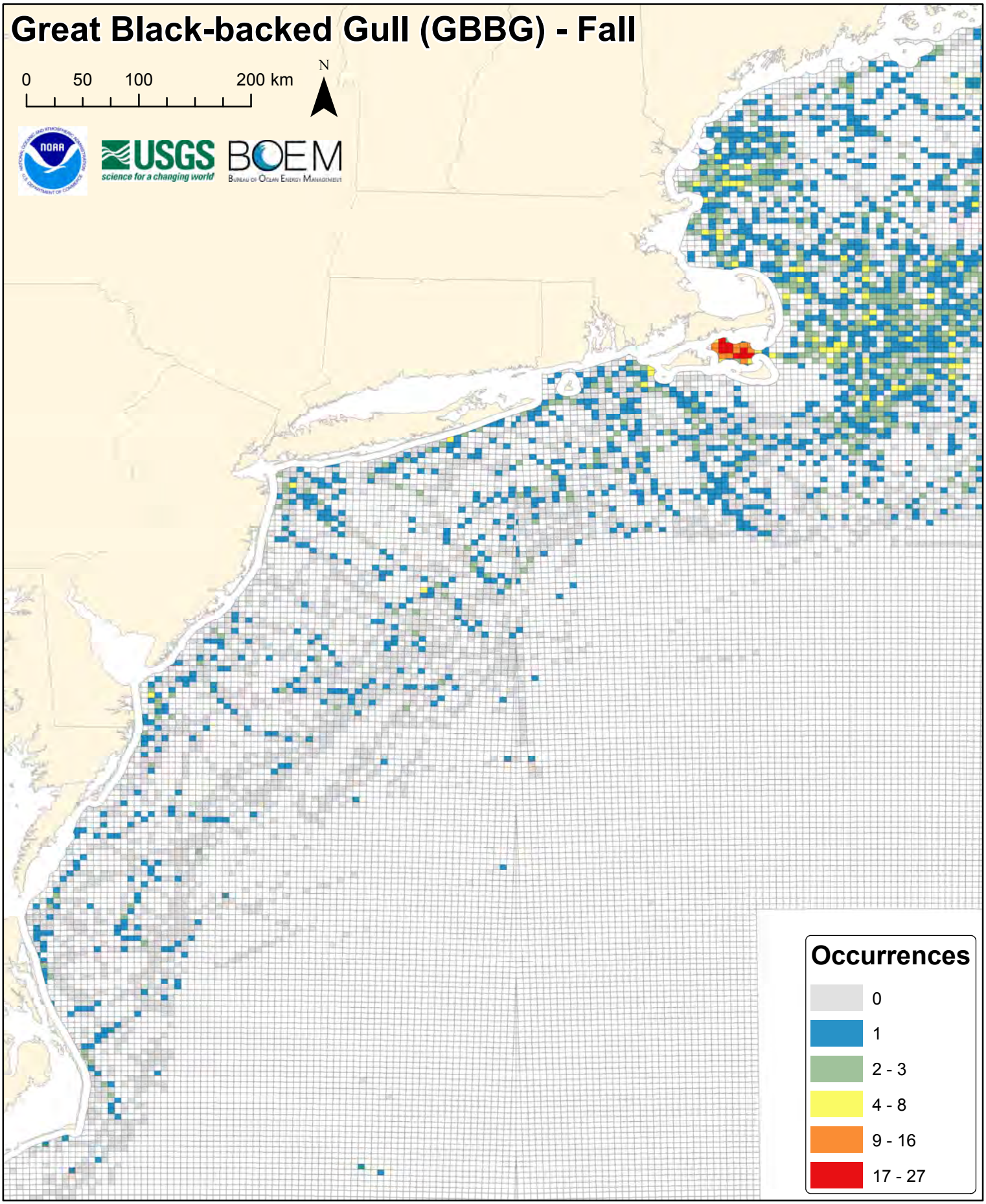

Greater Shearwater (GRSH) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 19.000
19.001 - 73.000
73.001 - 195.000
195.001 - 430.000
430.001 - 1000.000

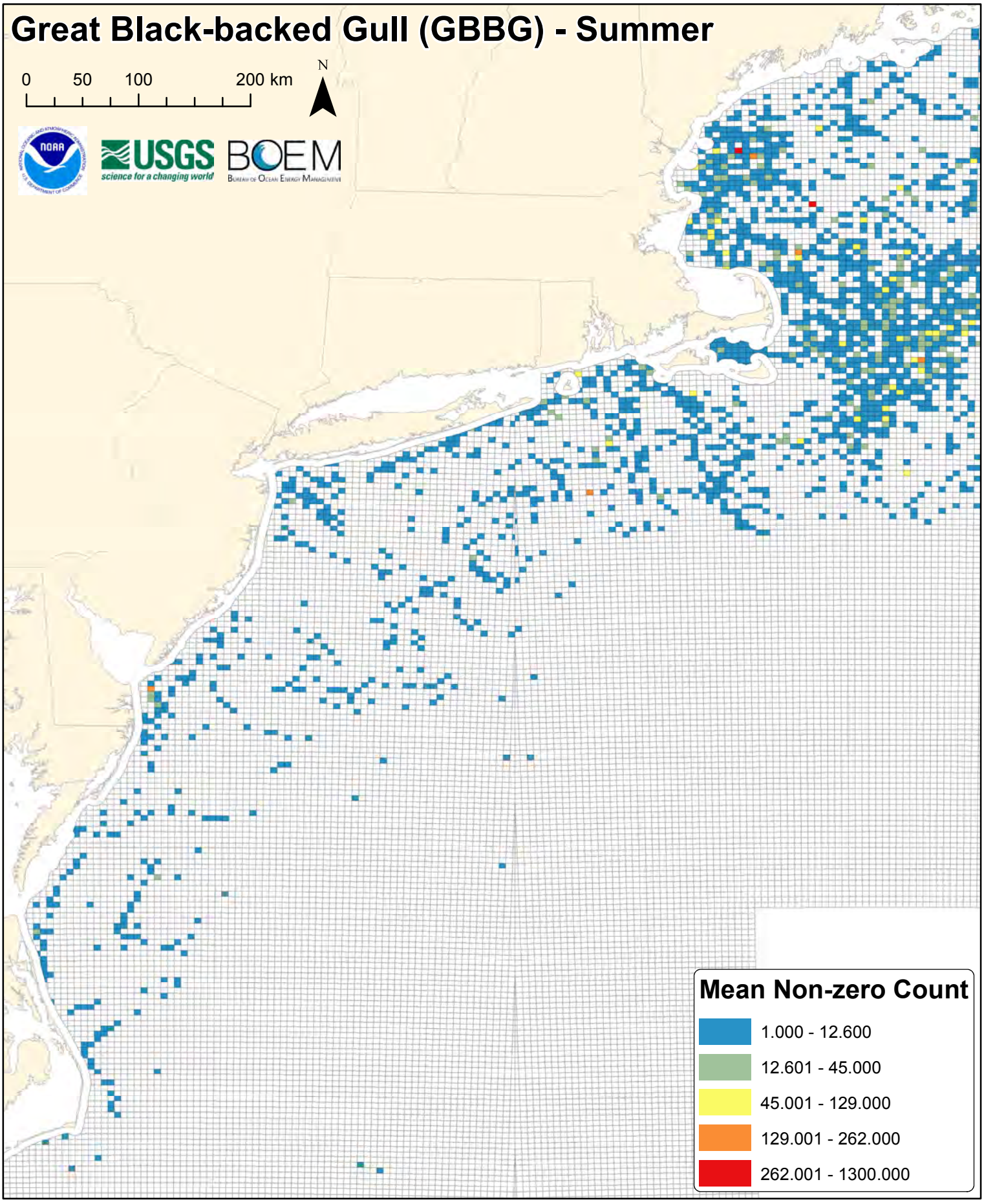

grsh
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
2
4
6
8
10
Number of presences in a BOEM lease block

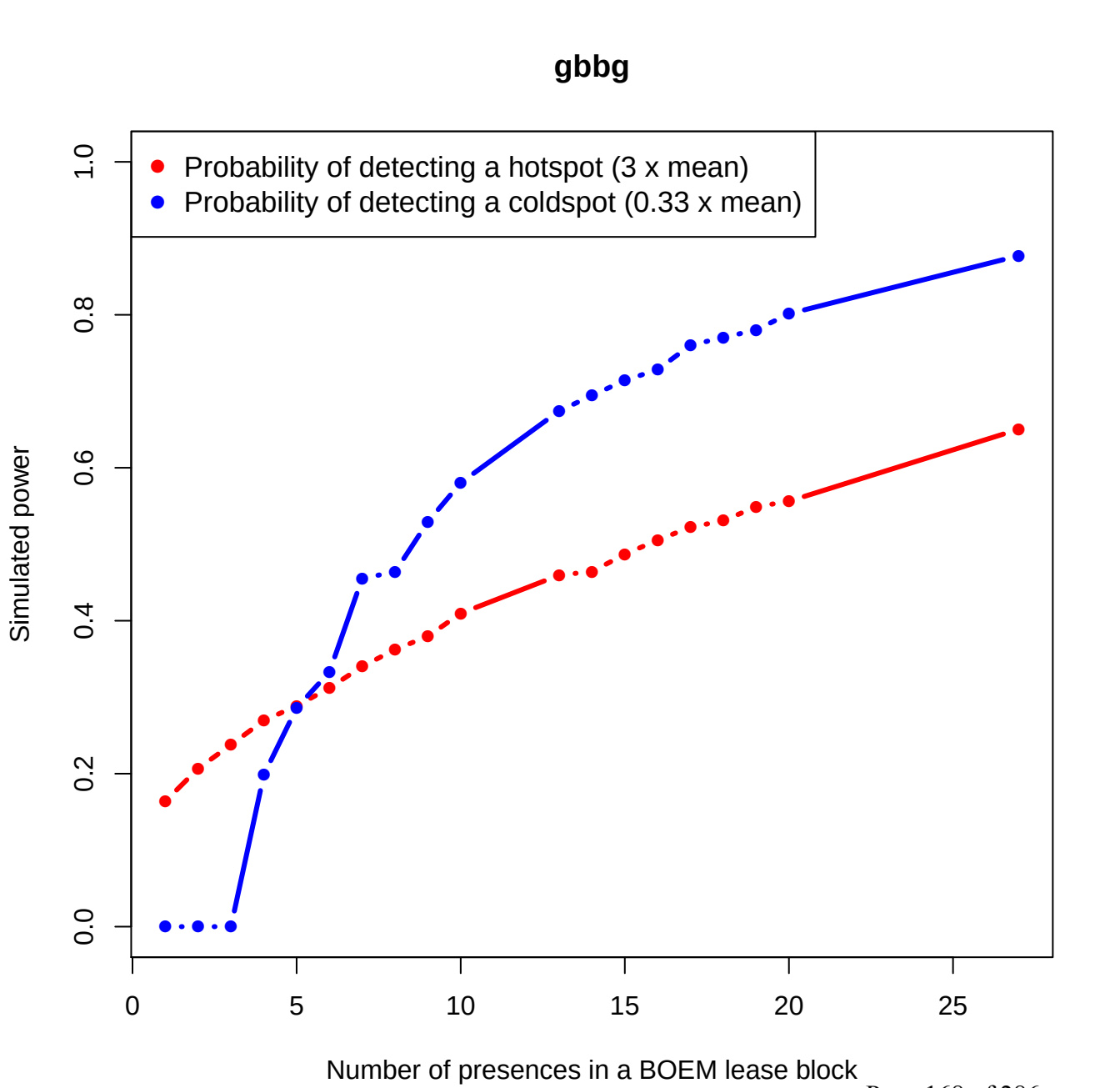

Greater Shearwater (GRSH) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

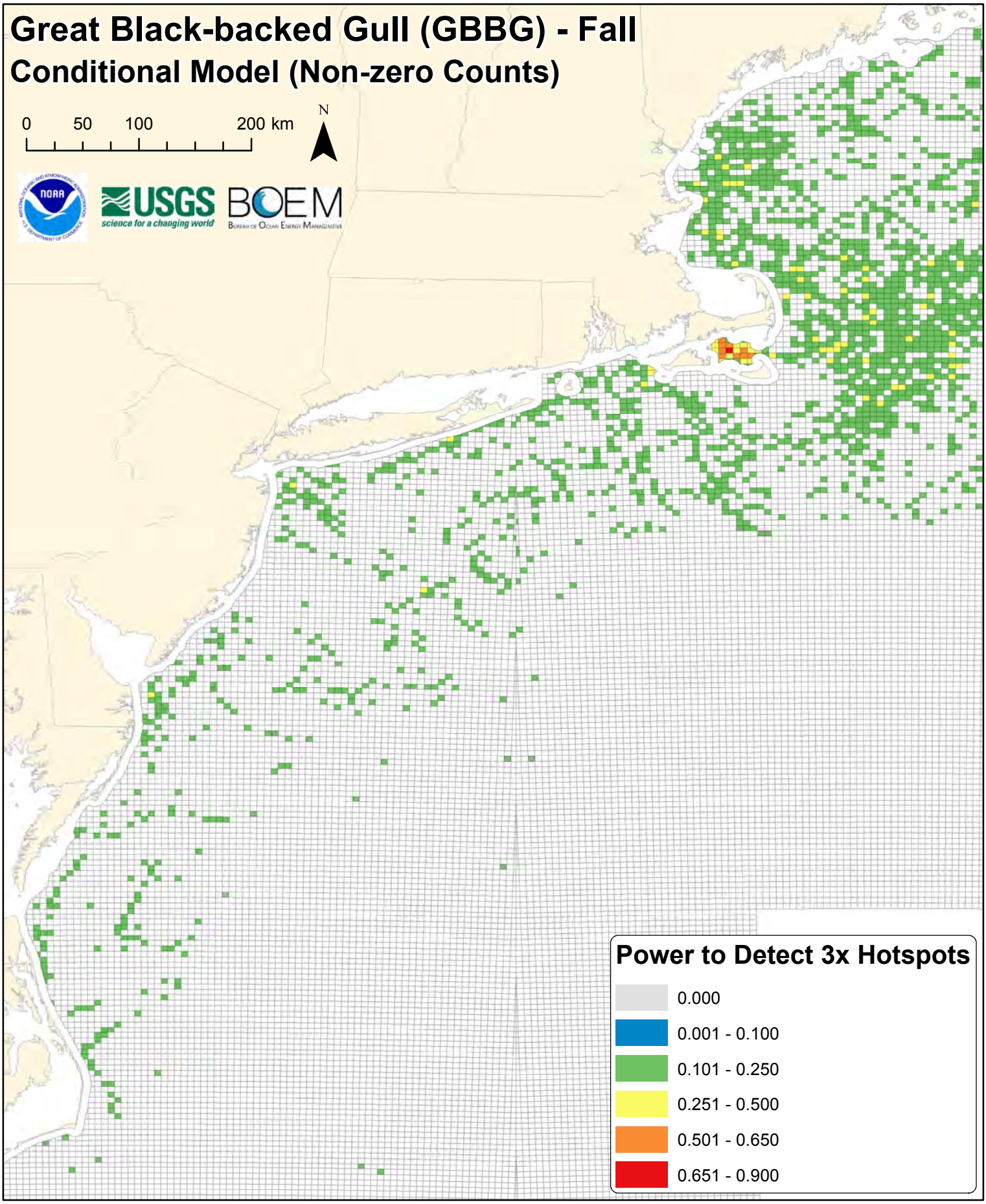

Greater Shearwater (GRSH) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

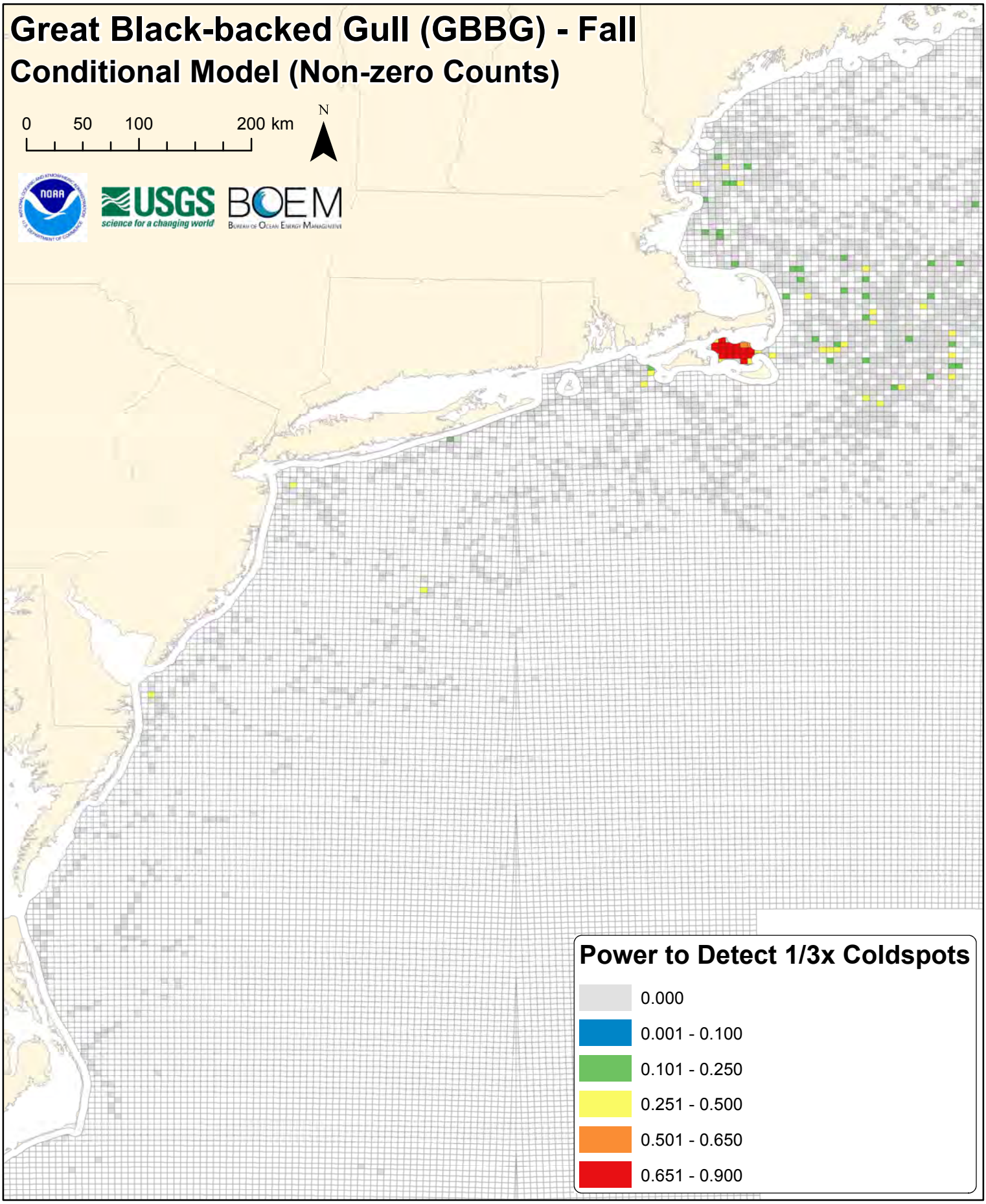

Greater Shearwater (GRSH) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

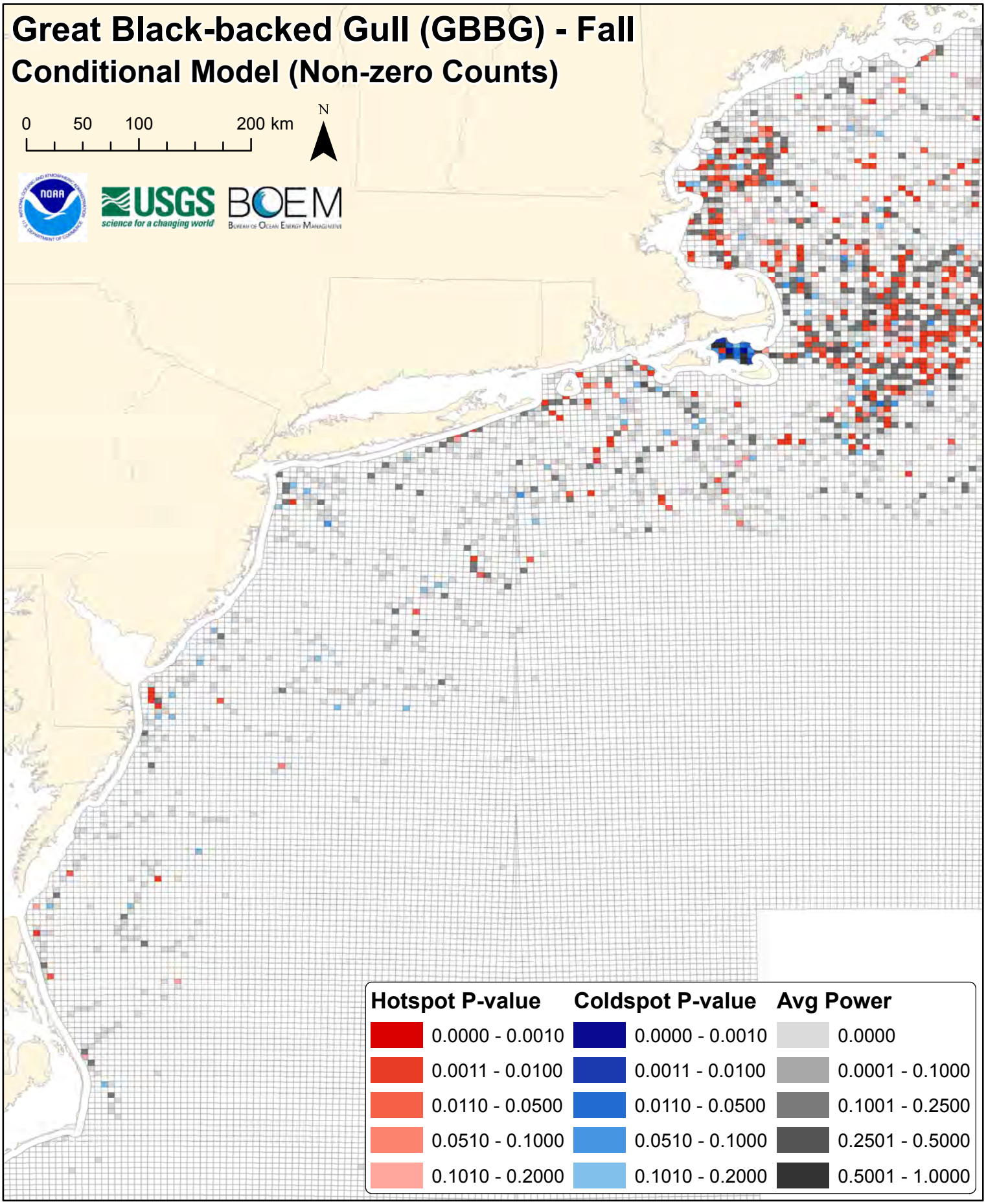

Great Black-backed Gull (GBBG) - Fall
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2 - 3
4 - 8
9 - 16
17 - 27

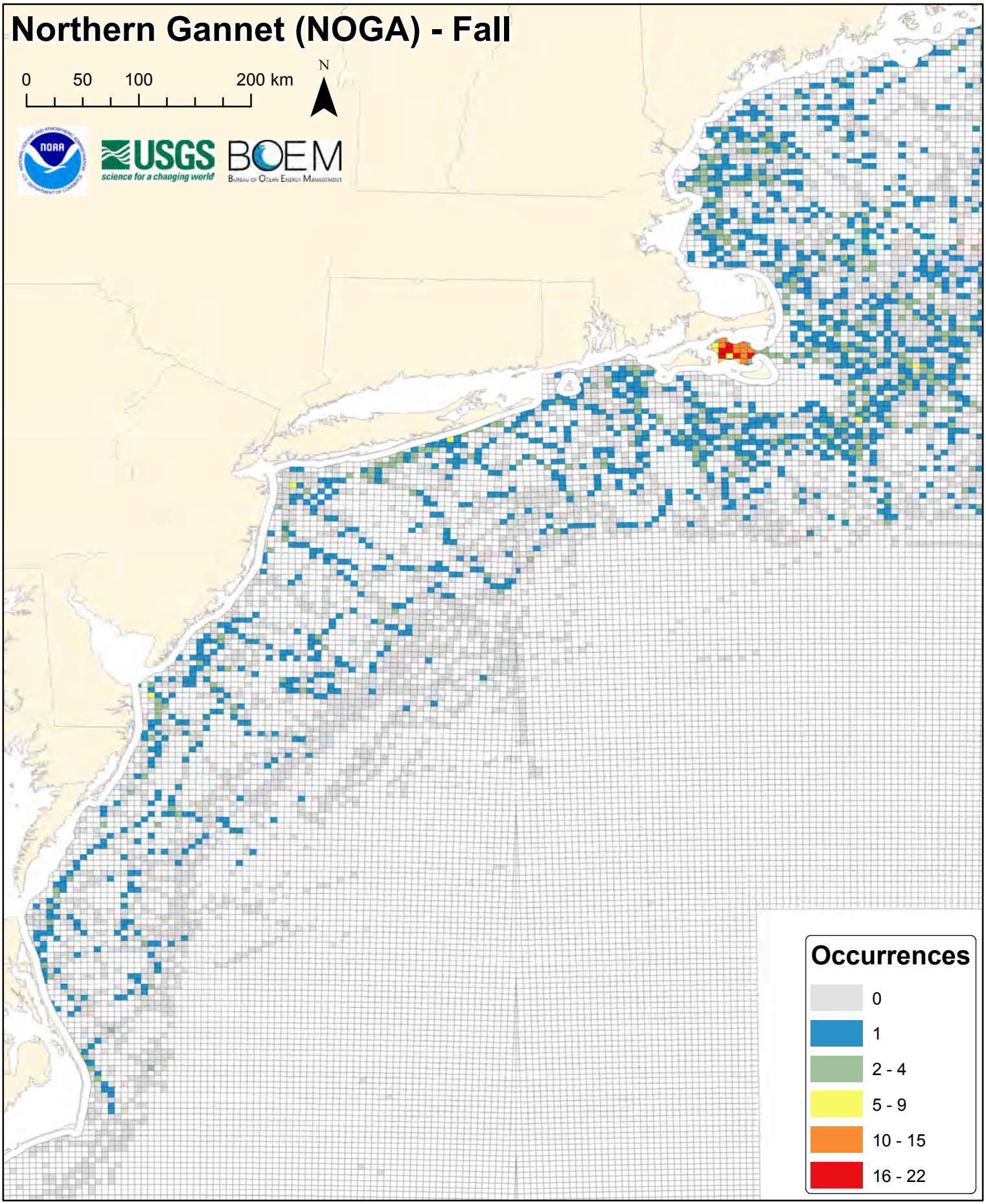

Great Black-backed Gull (GBBG) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 12.600
12.601 - 45.000
45.001 - 129.000
129.001 - 262.000
262.001 - 1300.000

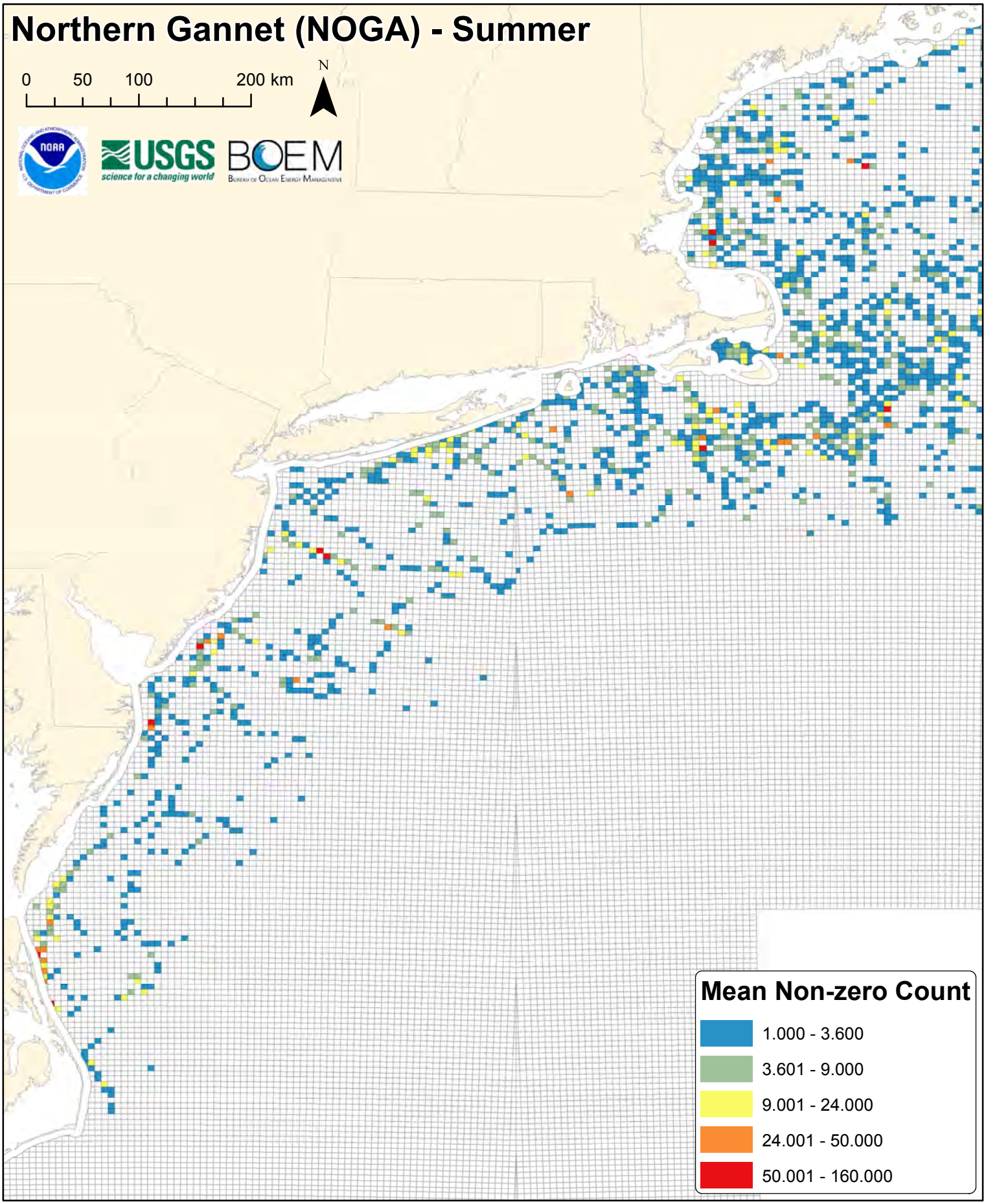

gbbg
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
Number of presences in a BOEM lease block

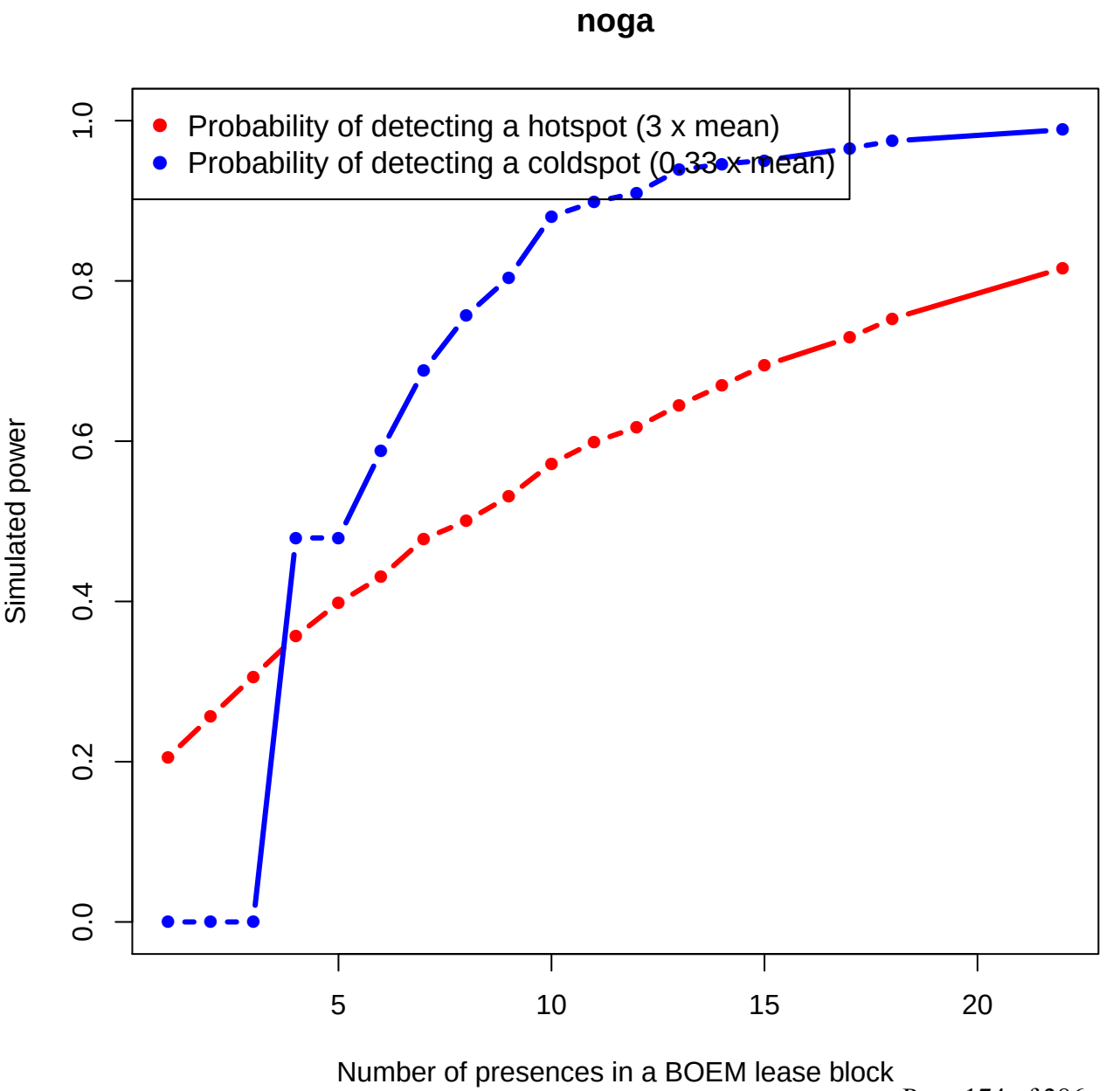

Great Black-backed Gull (GBBG) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

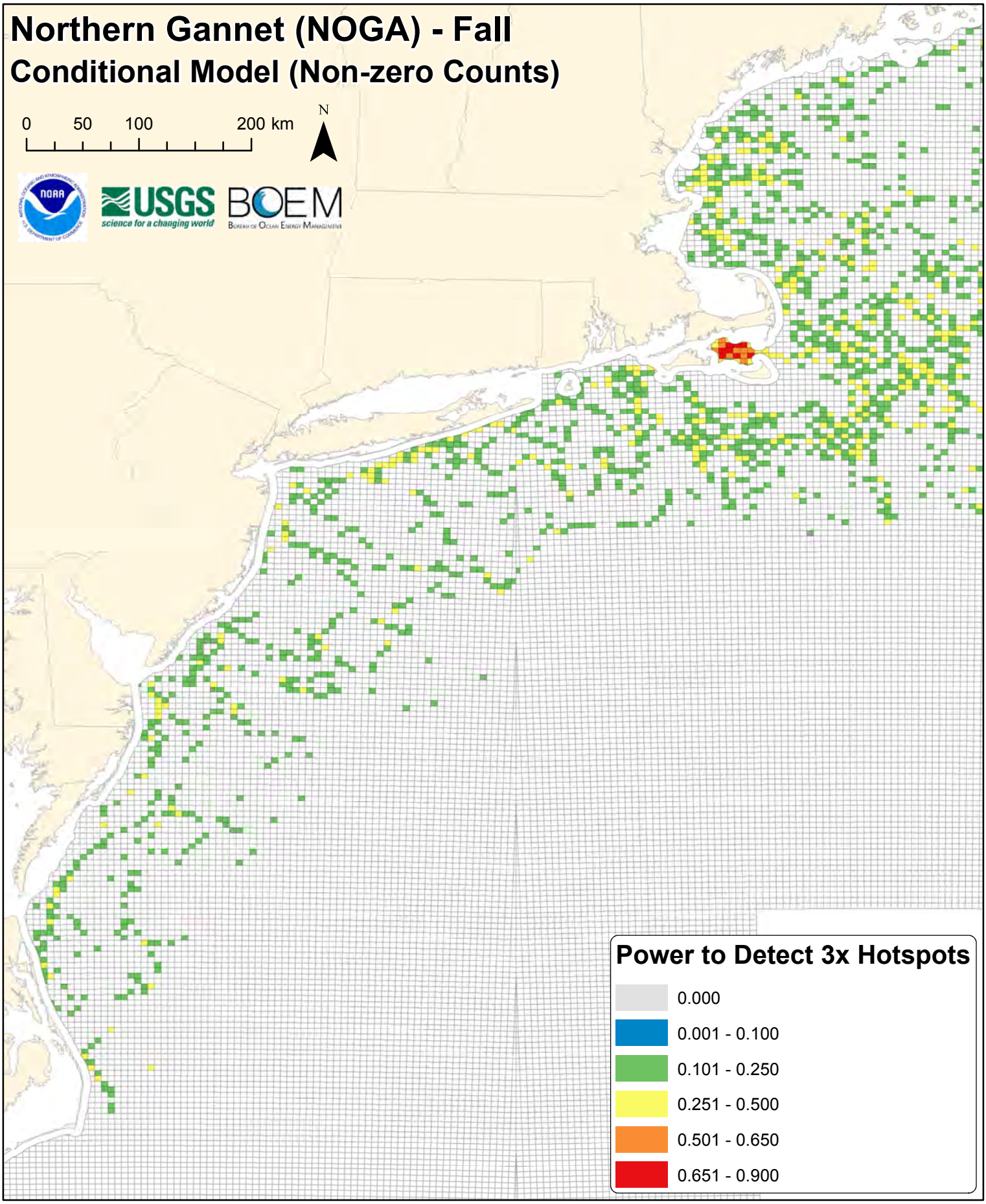

Great Black-backed Gull (GBBG) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

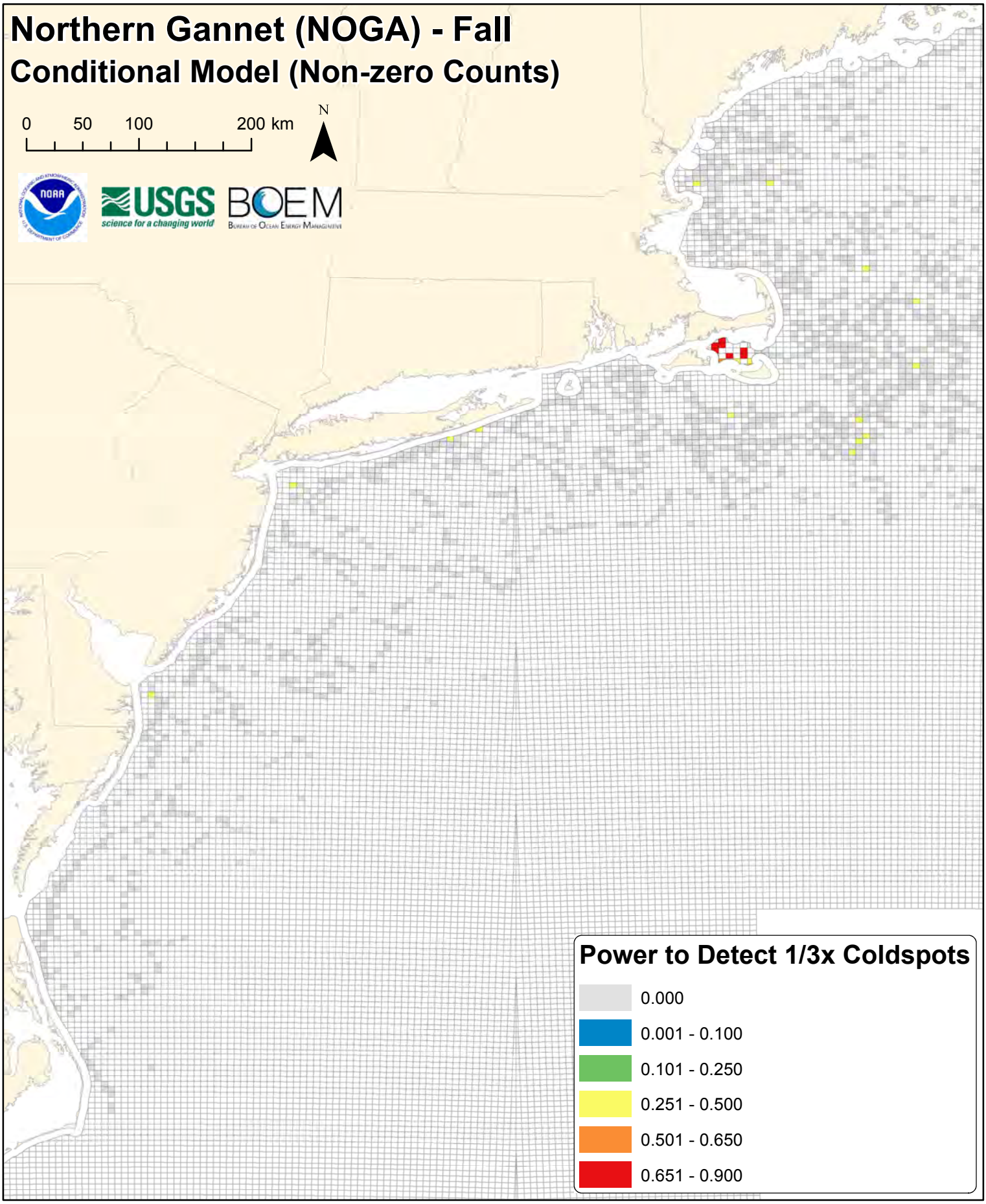

Great Black-backed Gull (GBBG) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

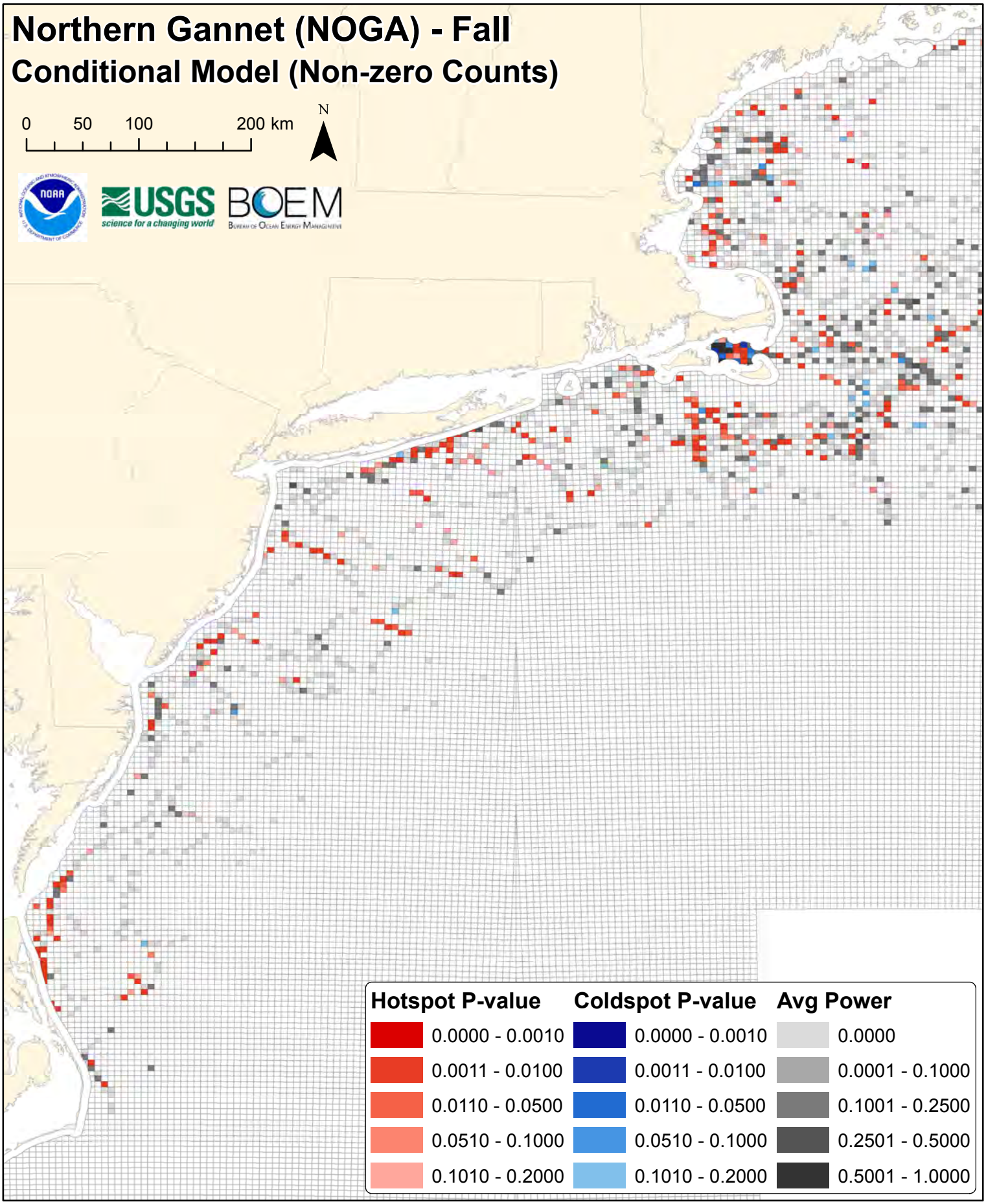

Northern Gannet (NOGA) - Fall
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2 - 4
5 - 9
10 - 15
16 - 22

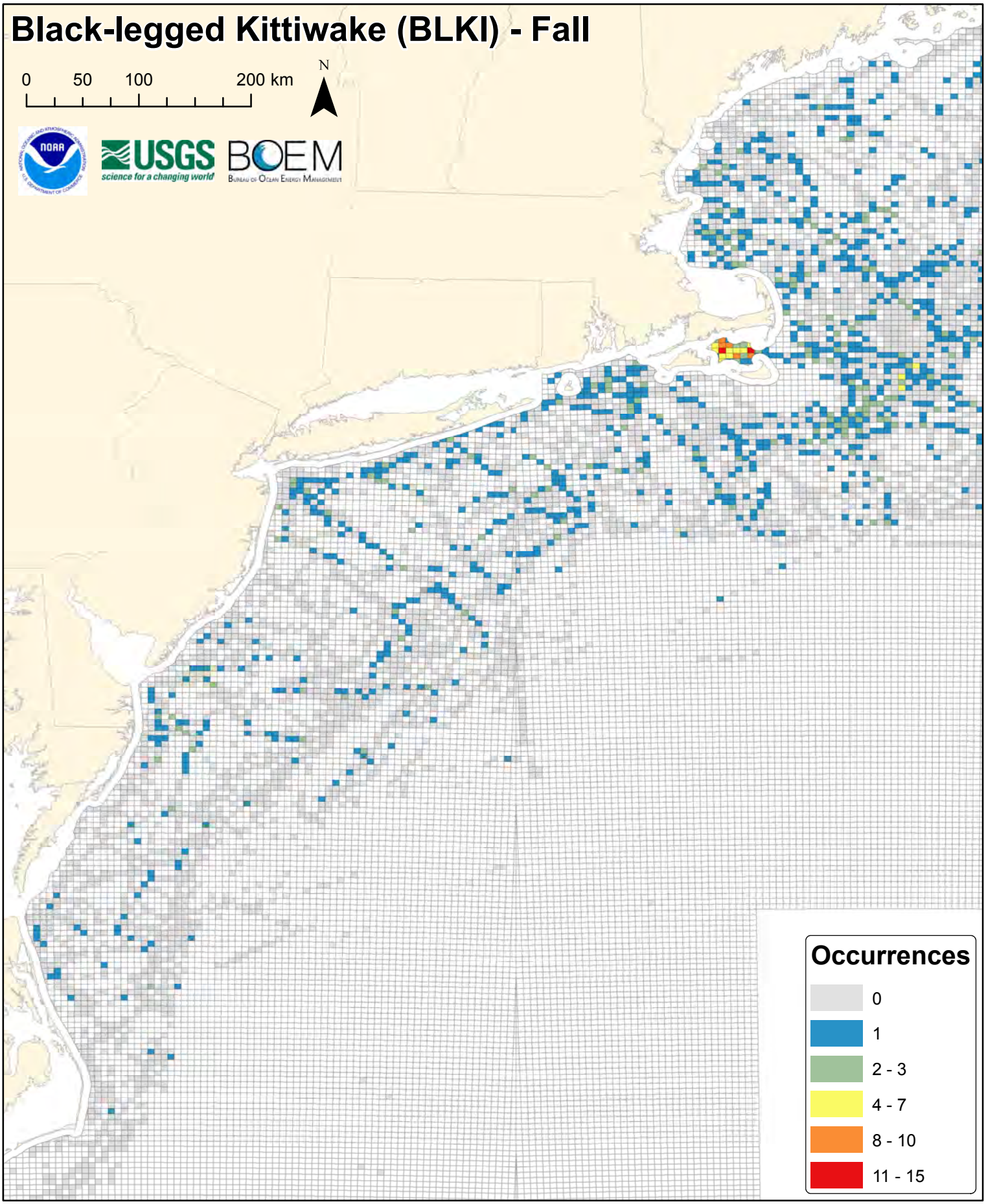

Northern Gannet (NOGA) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 3.600
3.601 - 9.000
9.001 - 24.000
24.001 - 50.000
50.001 - 160.000

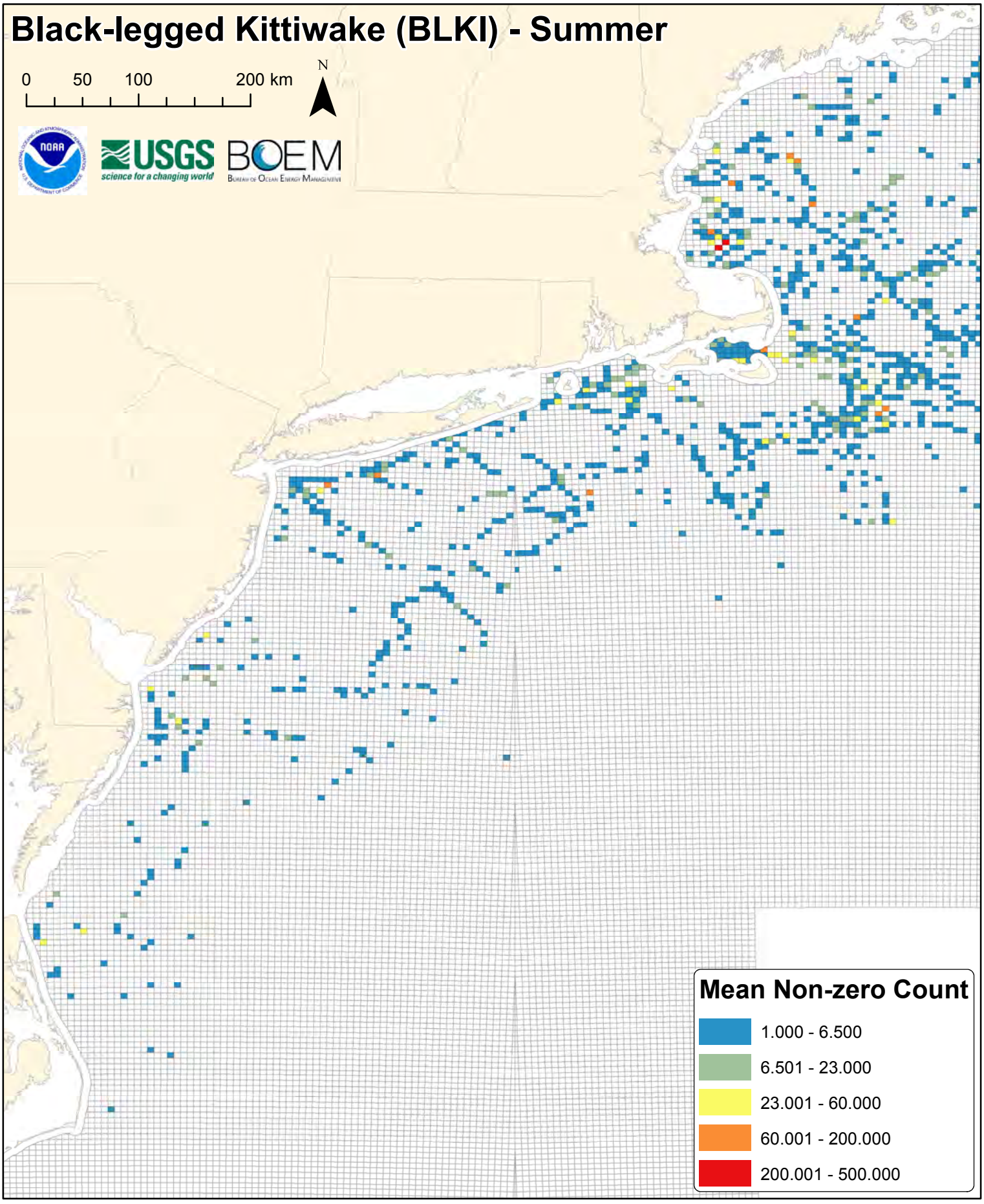

noga
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
5
10
15
20
Number of presences in a BOEM lease block

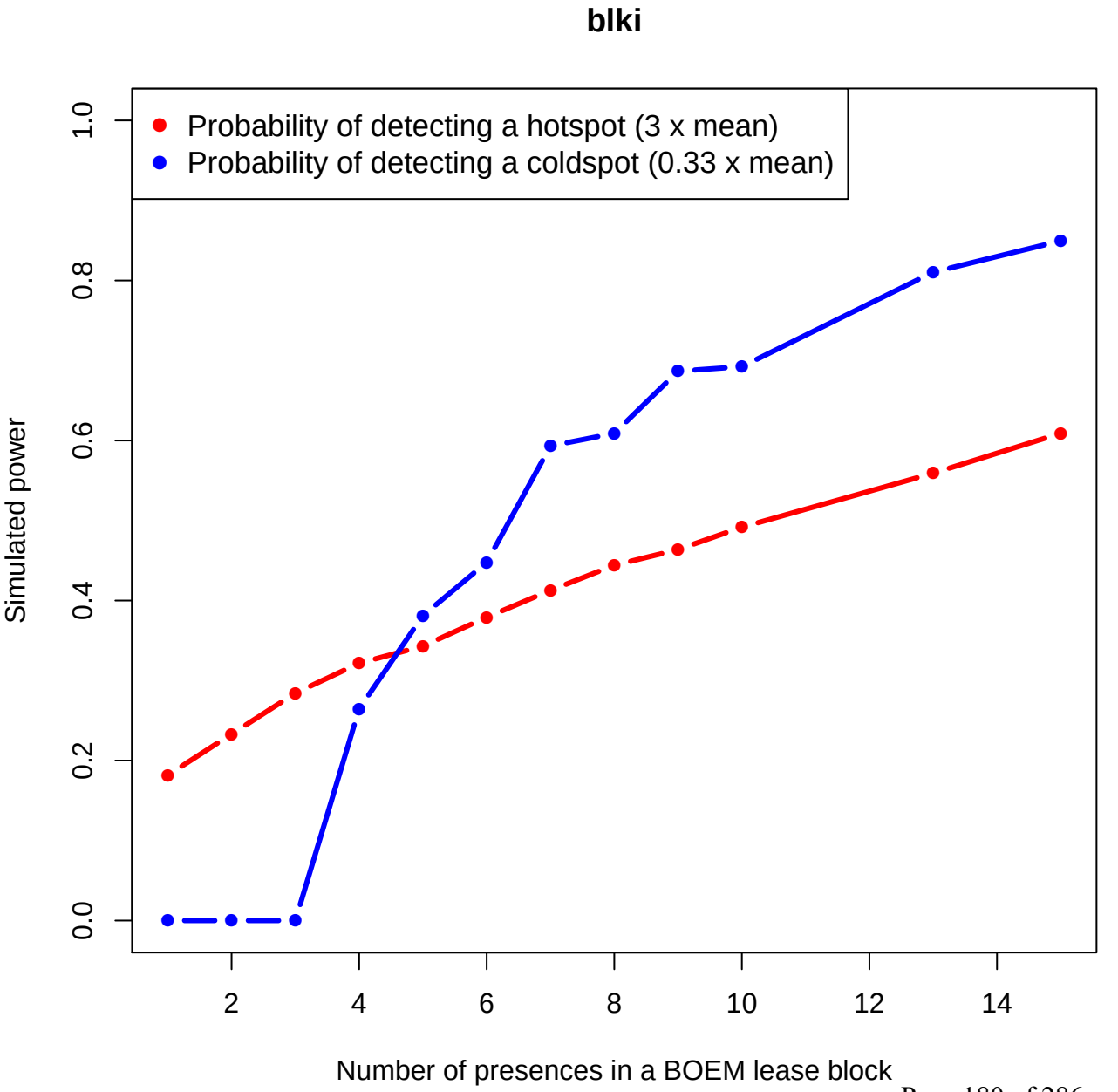

Northern Gannet (NOGA) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

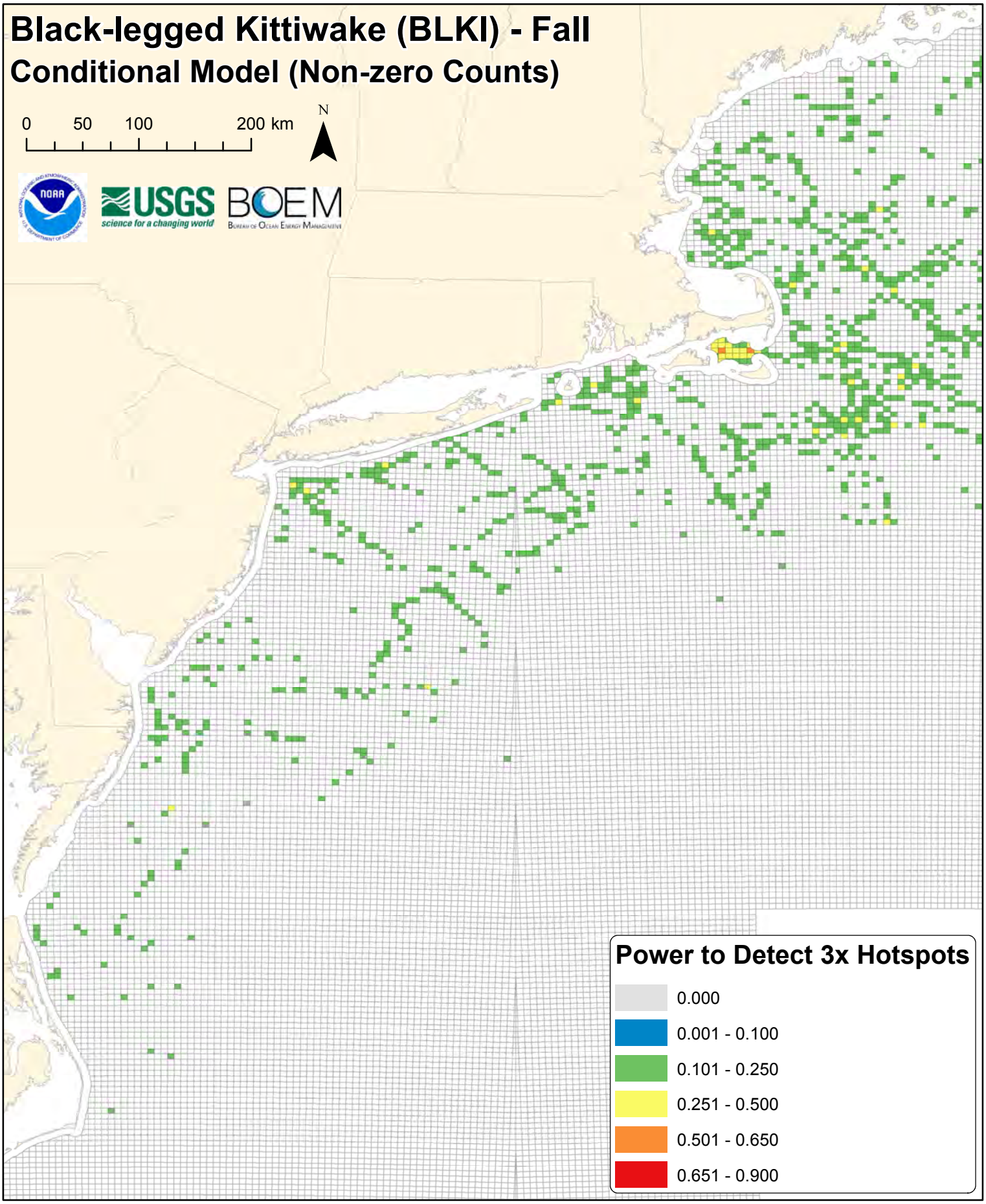

Northern Gannet (NOGA) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

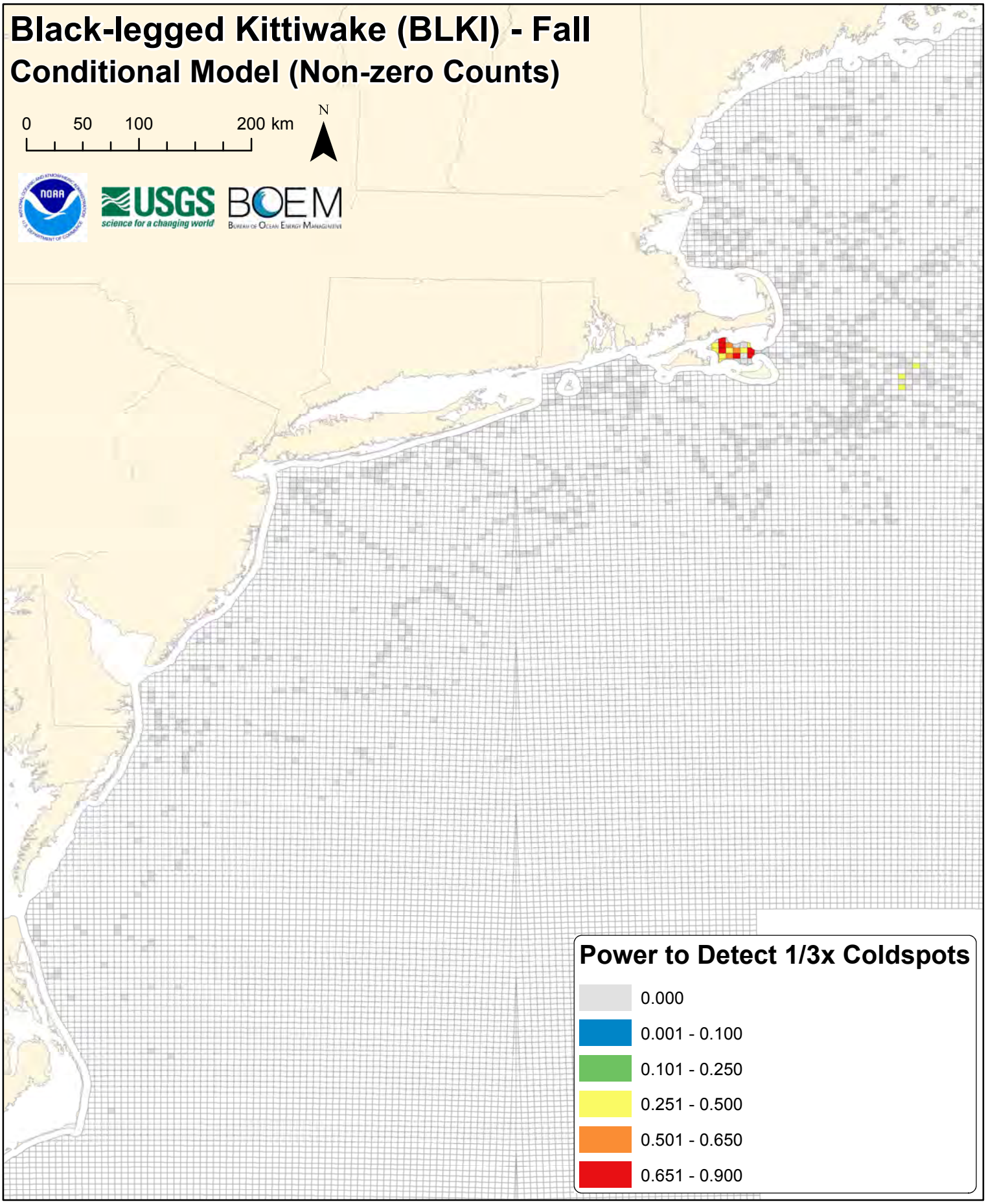

Northern Gannet (NOGA) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

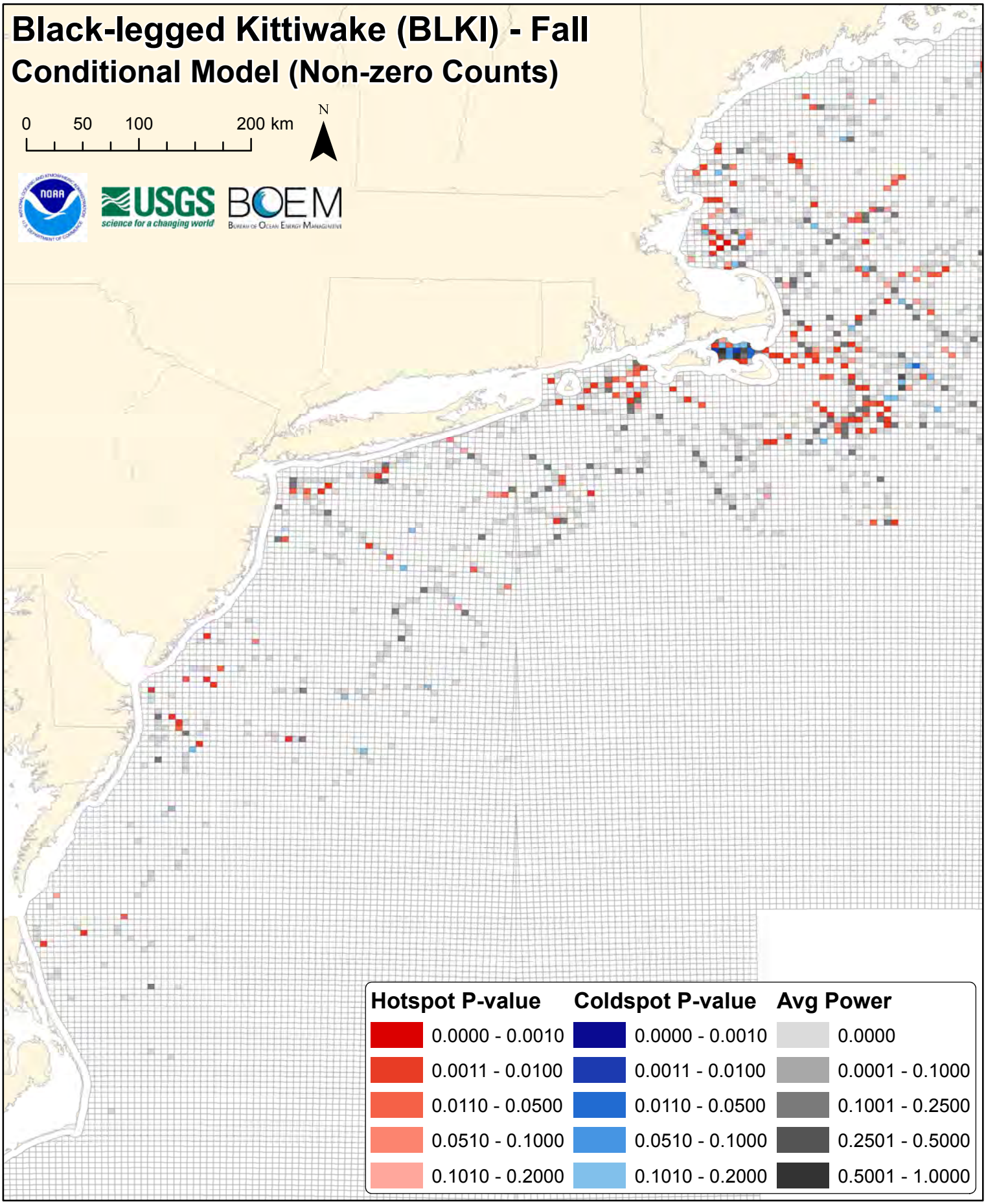

Black-legged Kittiwake (BLKI) - Fall
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2 - 3
4 - 7
8 - 10
11 - 15

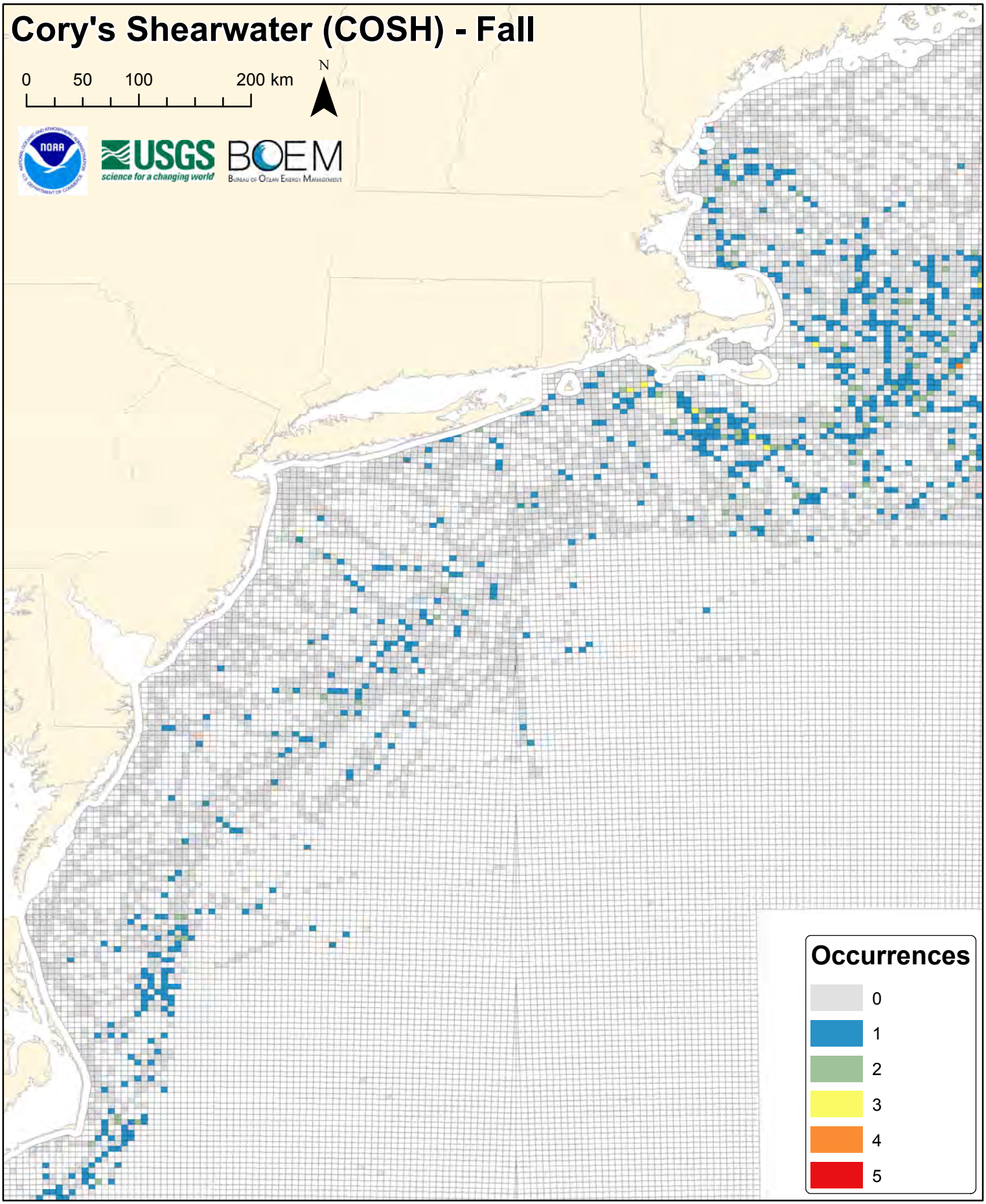

Black-legged Kittiwake (BLKI) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 6.500
6.501 - 23.000
23.001 - 60.000
60.001 - 200.000
200.001 - 500.000

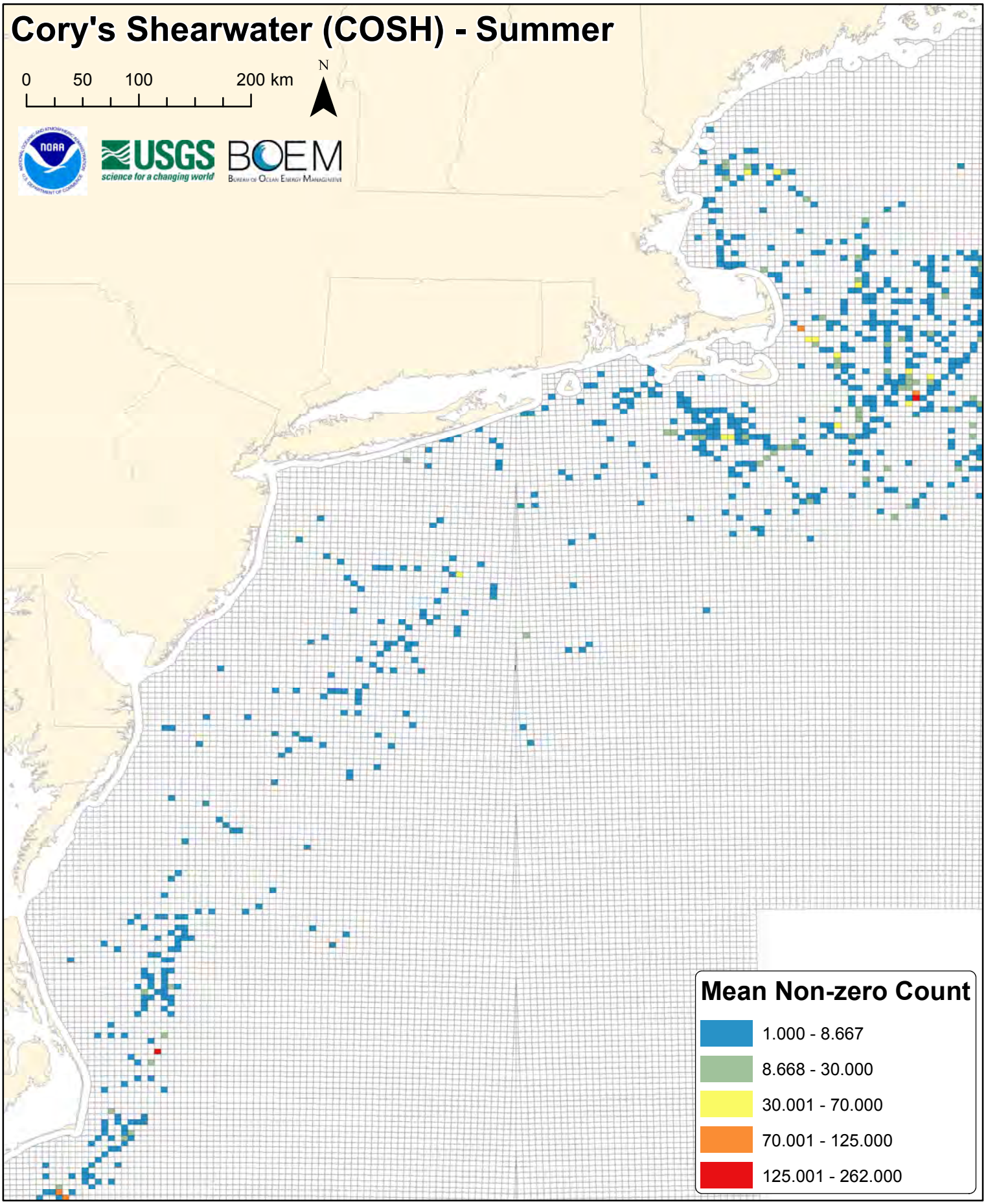

blki
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
2
4
6
8
10
12
14
Number of presences in a BOEM lease block

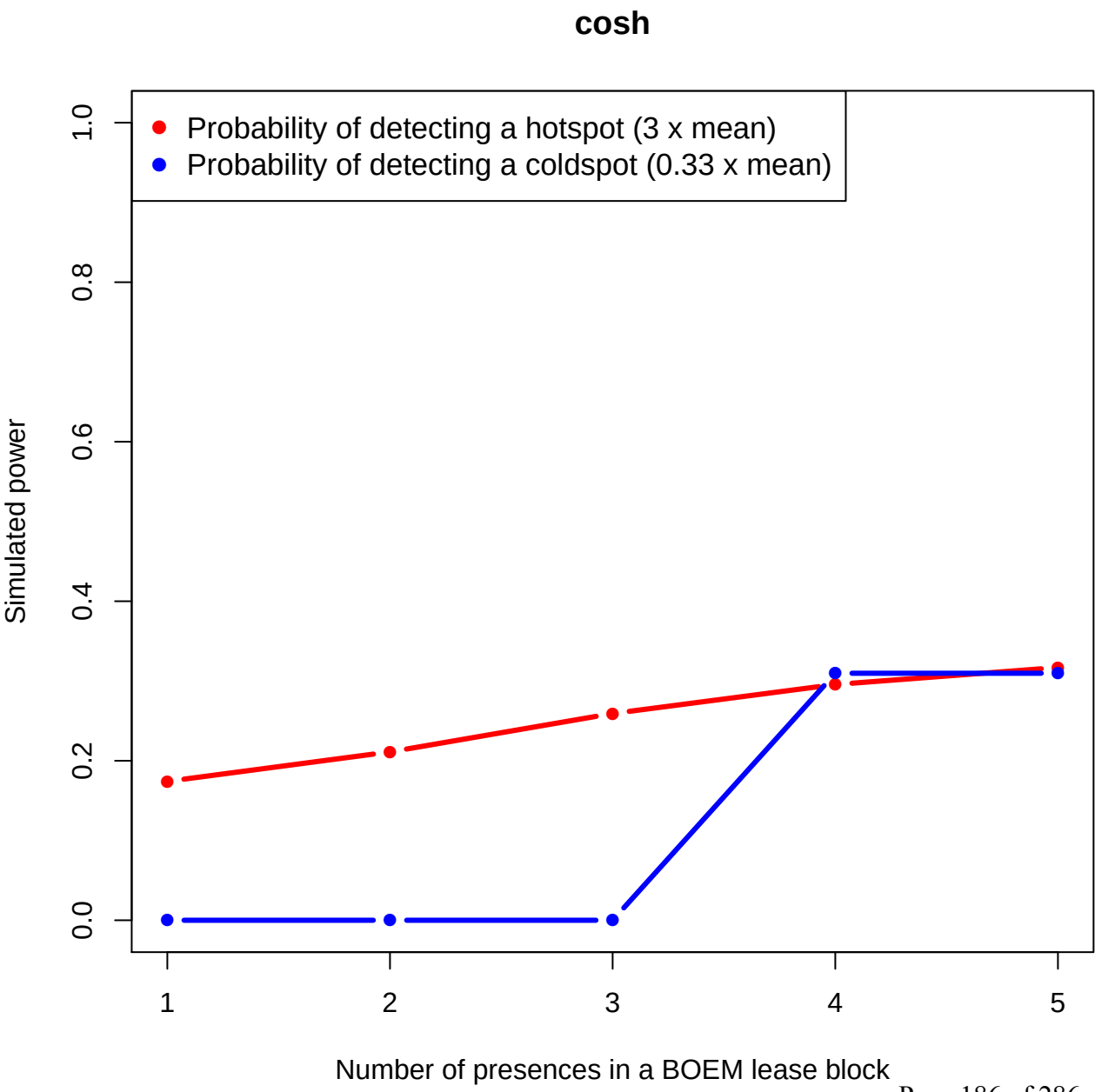

Black-legged Kittiwake (BLKI) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

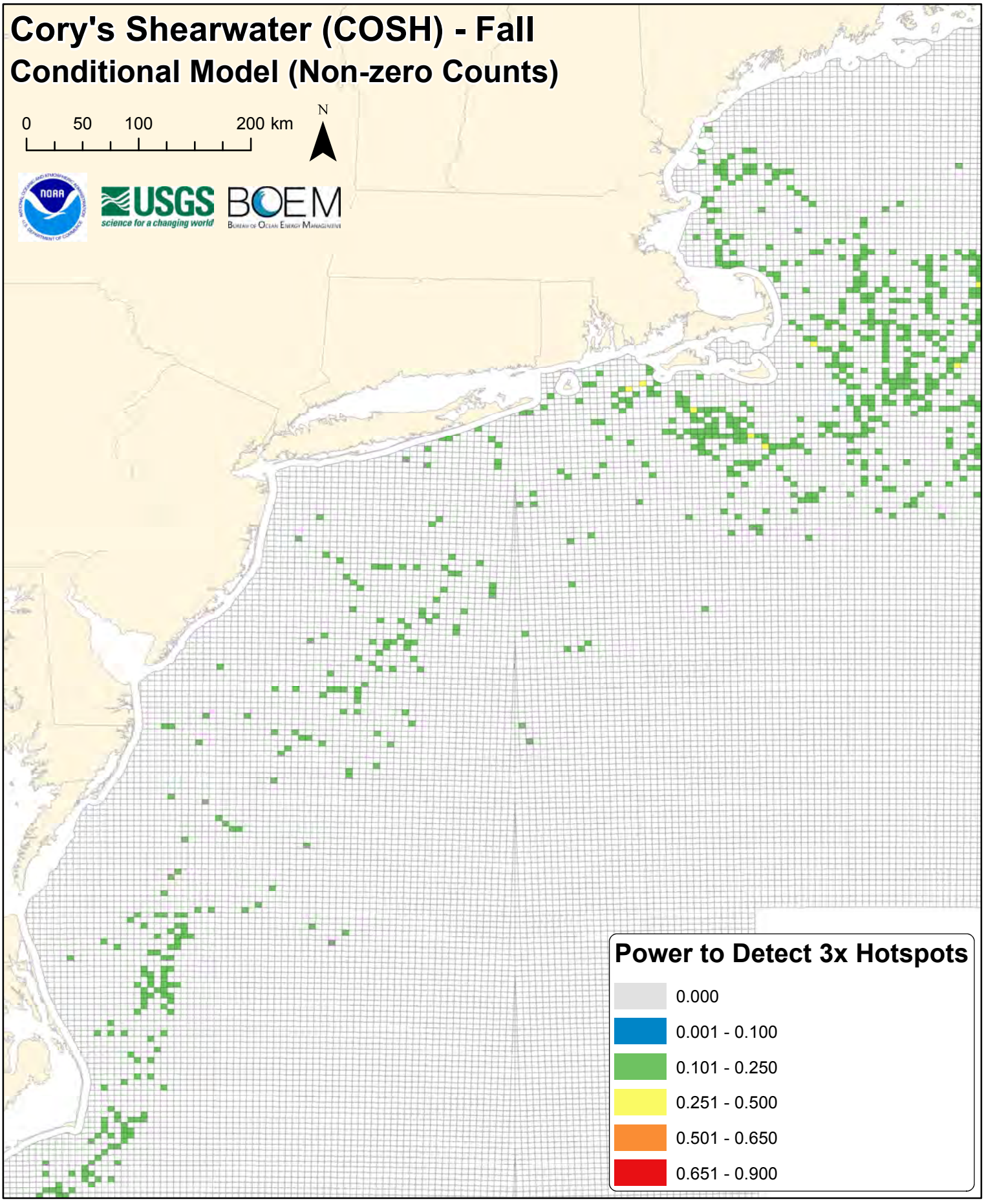

Black-legged Kittiwake (BLKI) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

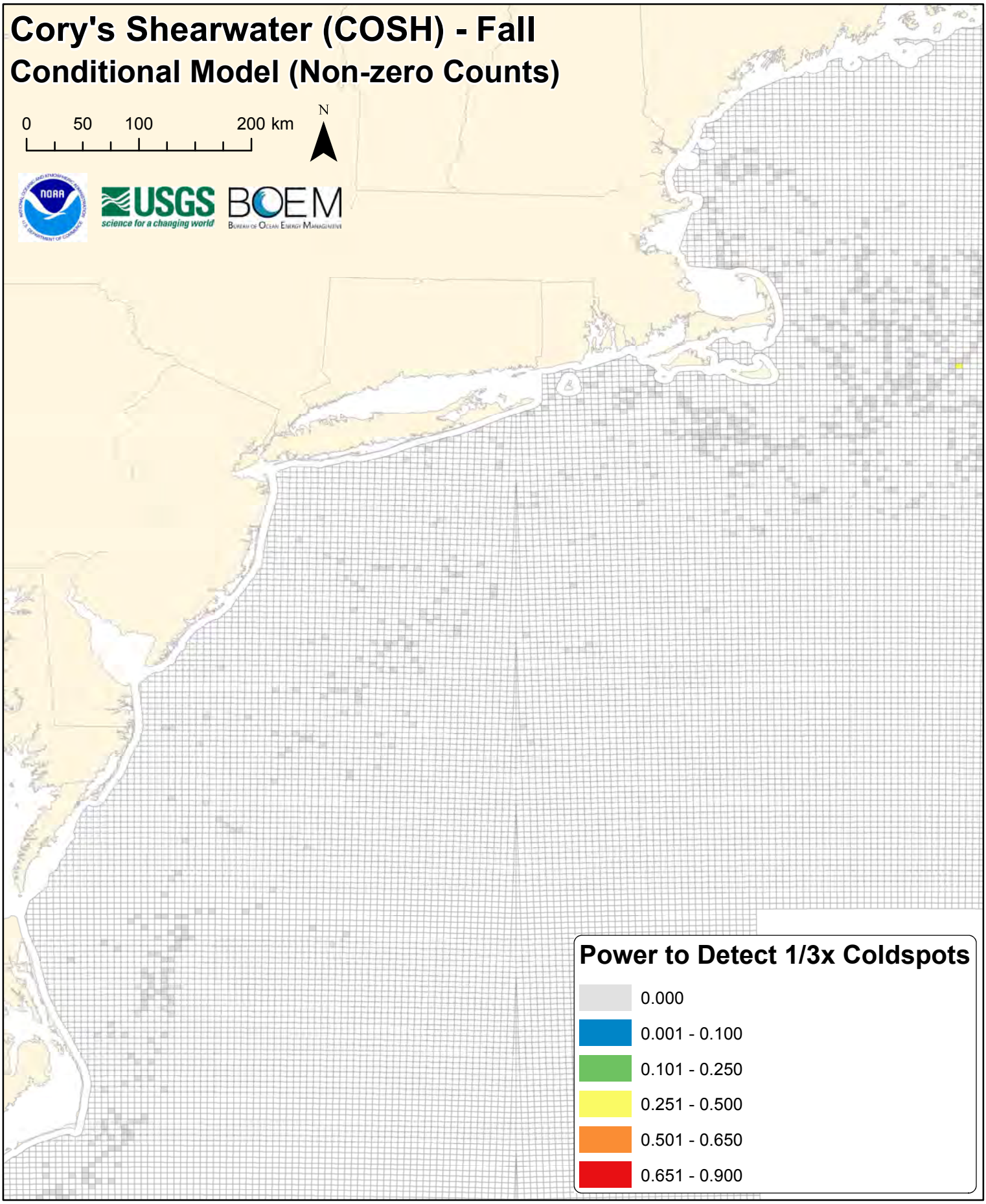

Black-legged Kittiwake (BLKI) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

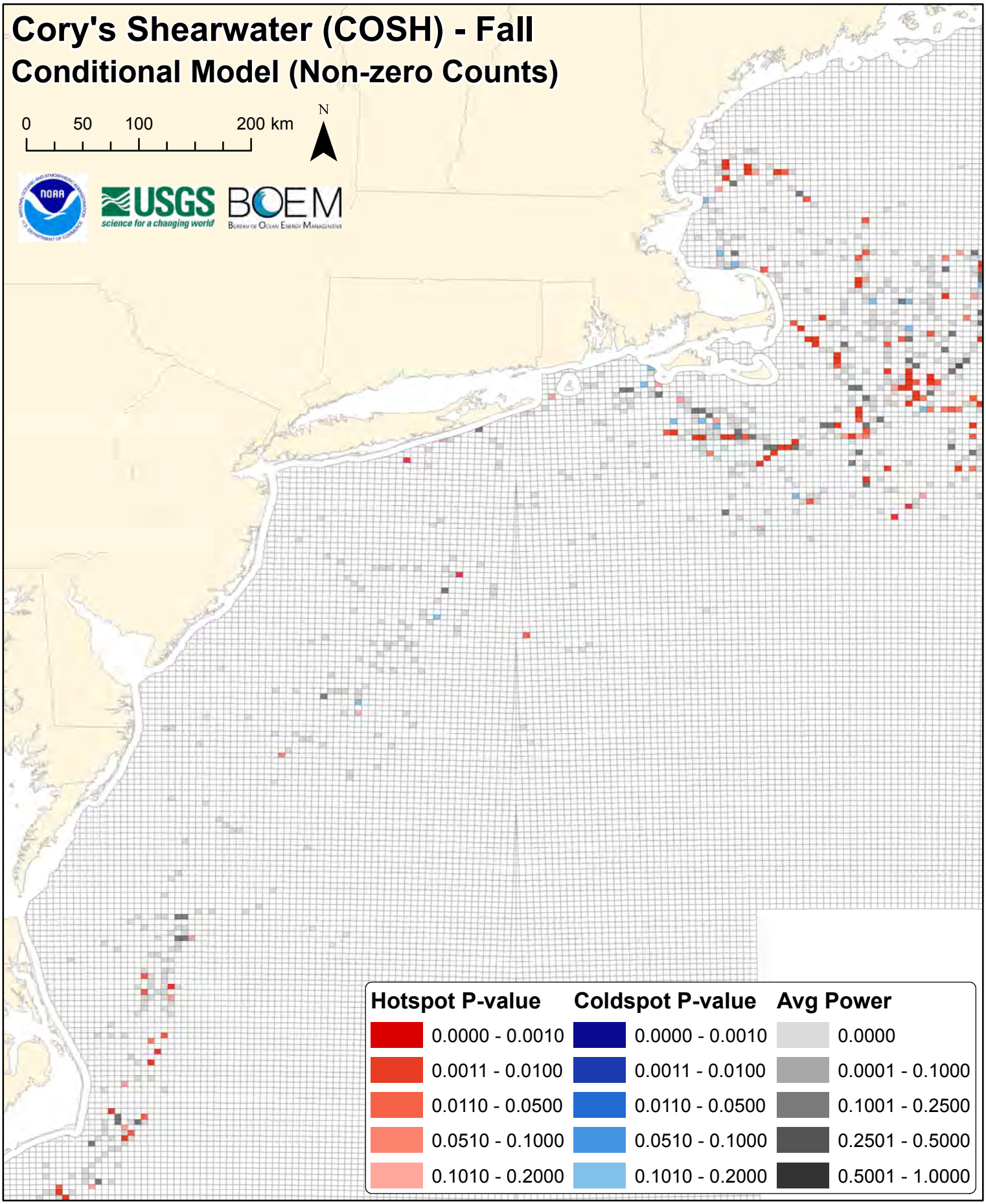

Cory's Shearwater (COSH) - Fall
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2
3
4
5

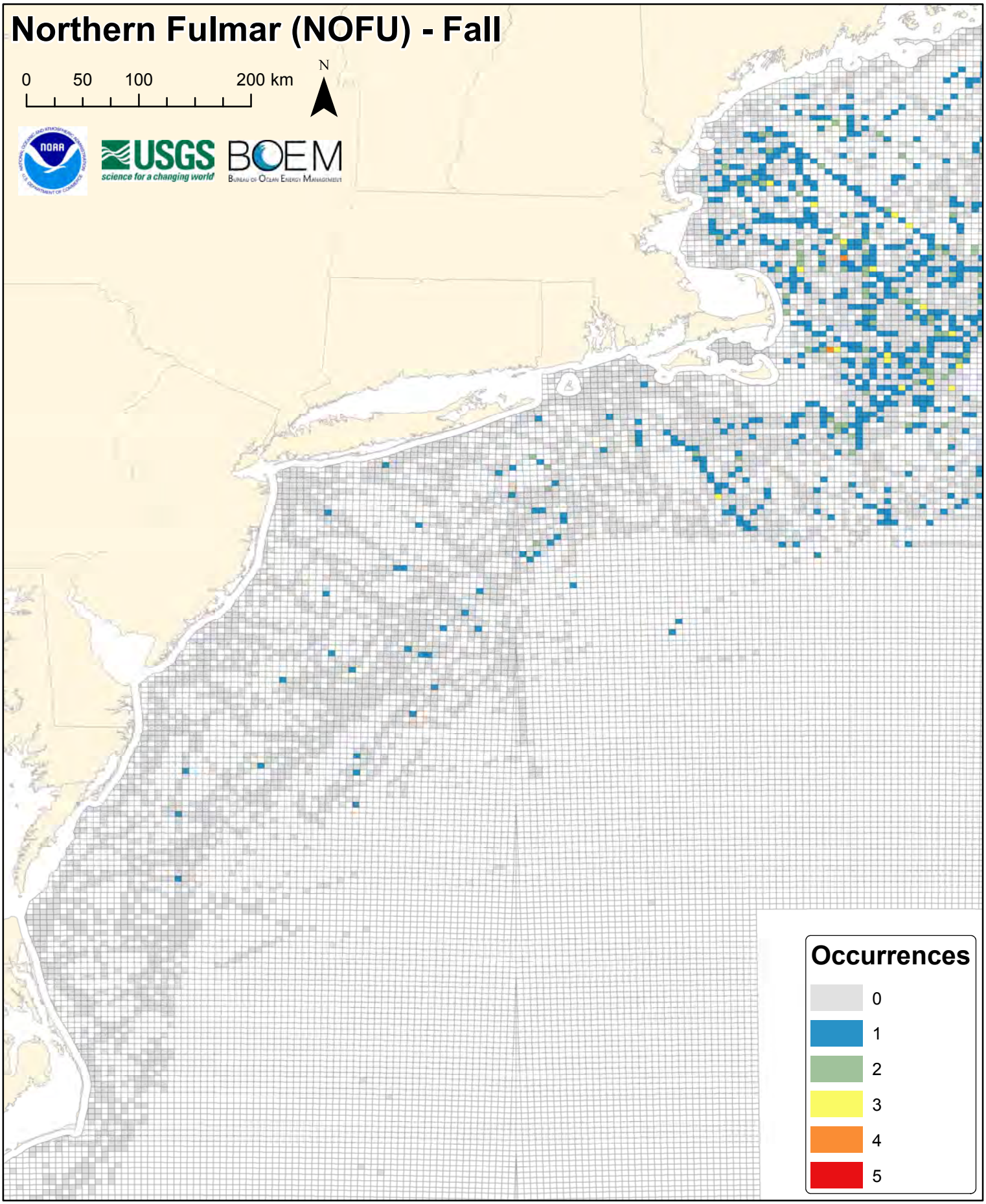

Cory's Shearwater (COSH) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 8.667
8.668 - 30.000
30.001 - 70.000
70.001 - 125.000
125.001 - 262.000

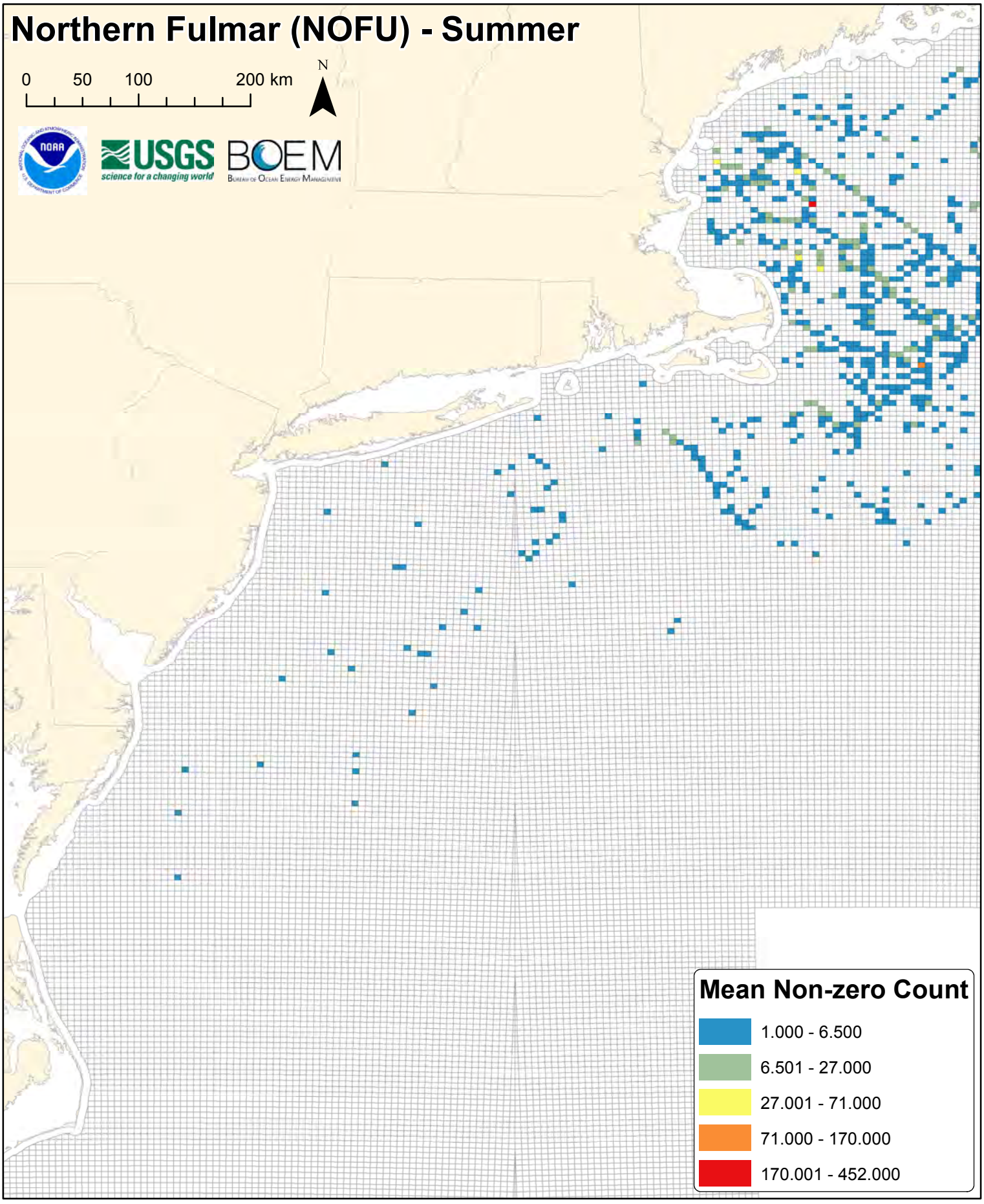

cosh
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
1
2
3
4
5
Number of presences in a BOEM lease block

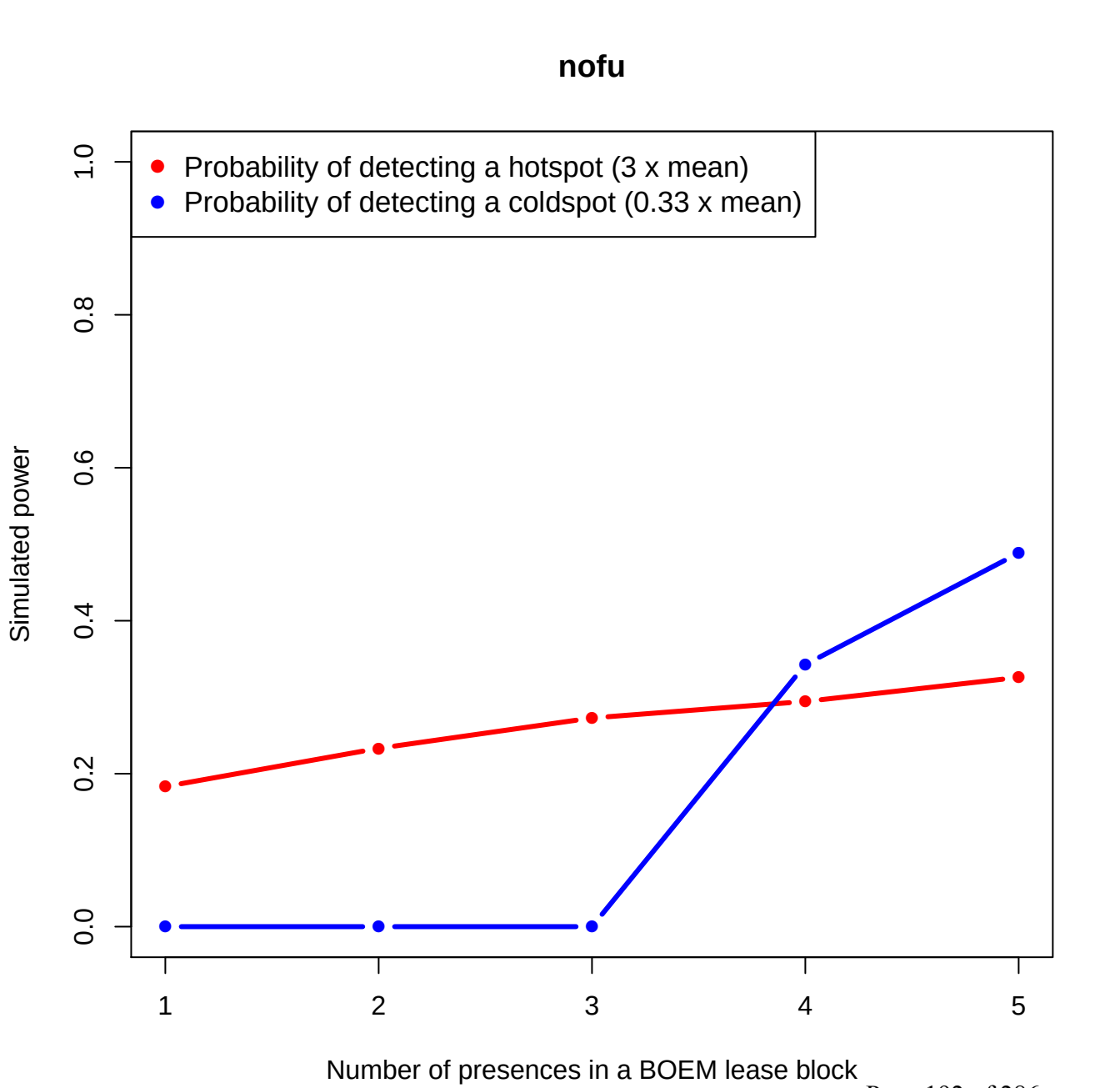

Cory's Shearwater (COSH) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

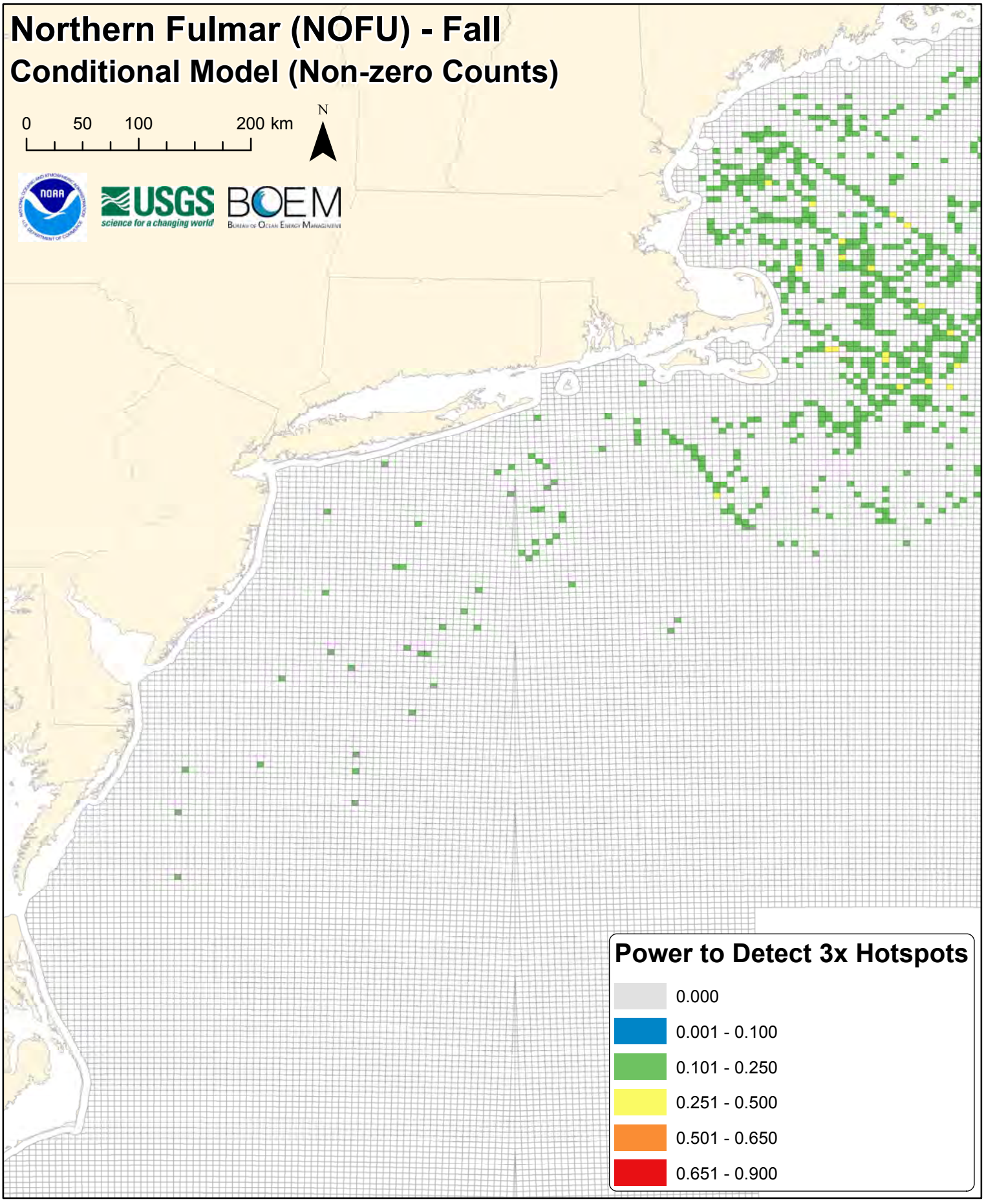

Cory's Shearwater (COSH) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

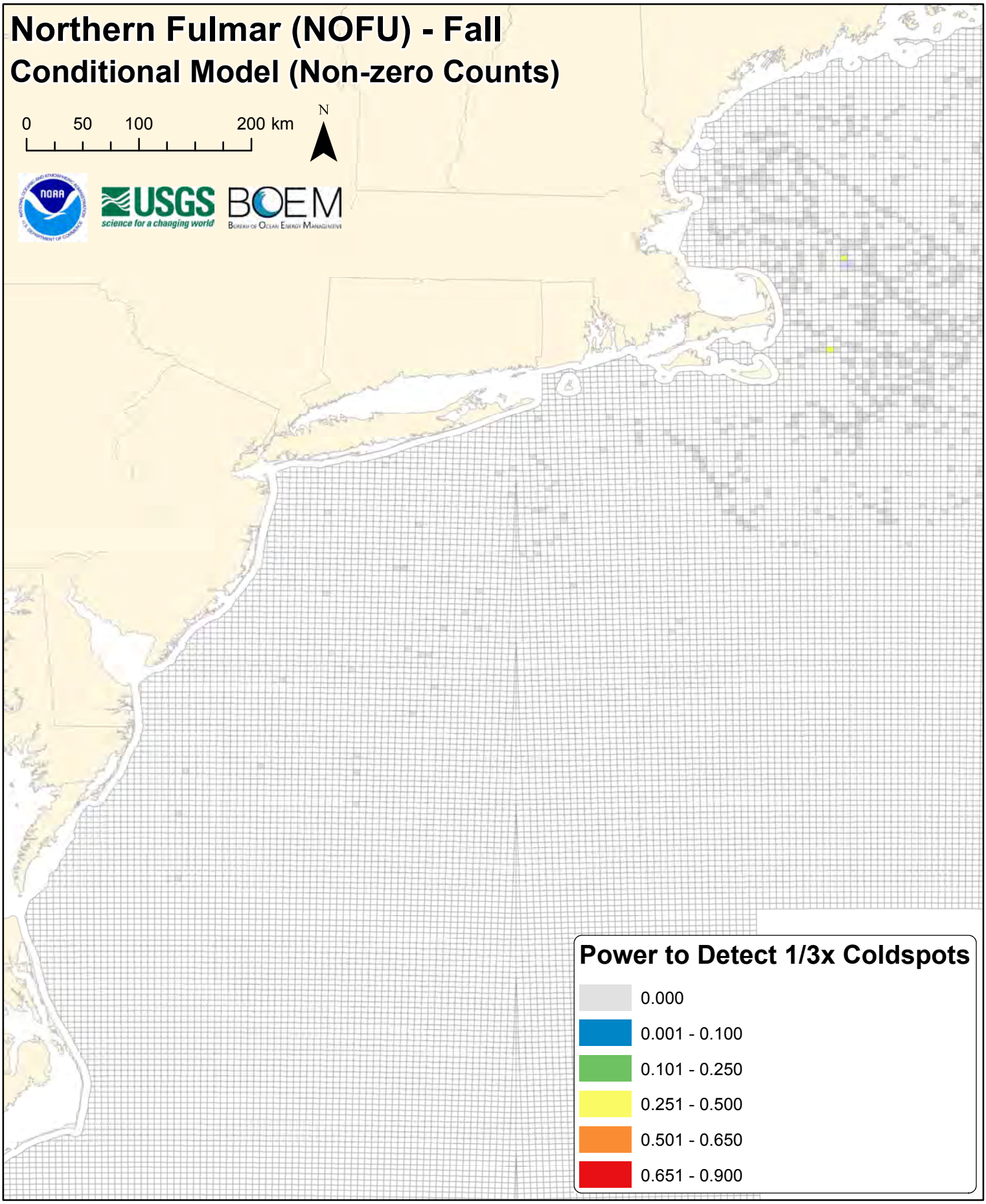

Cory's Shearwater (COSH) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

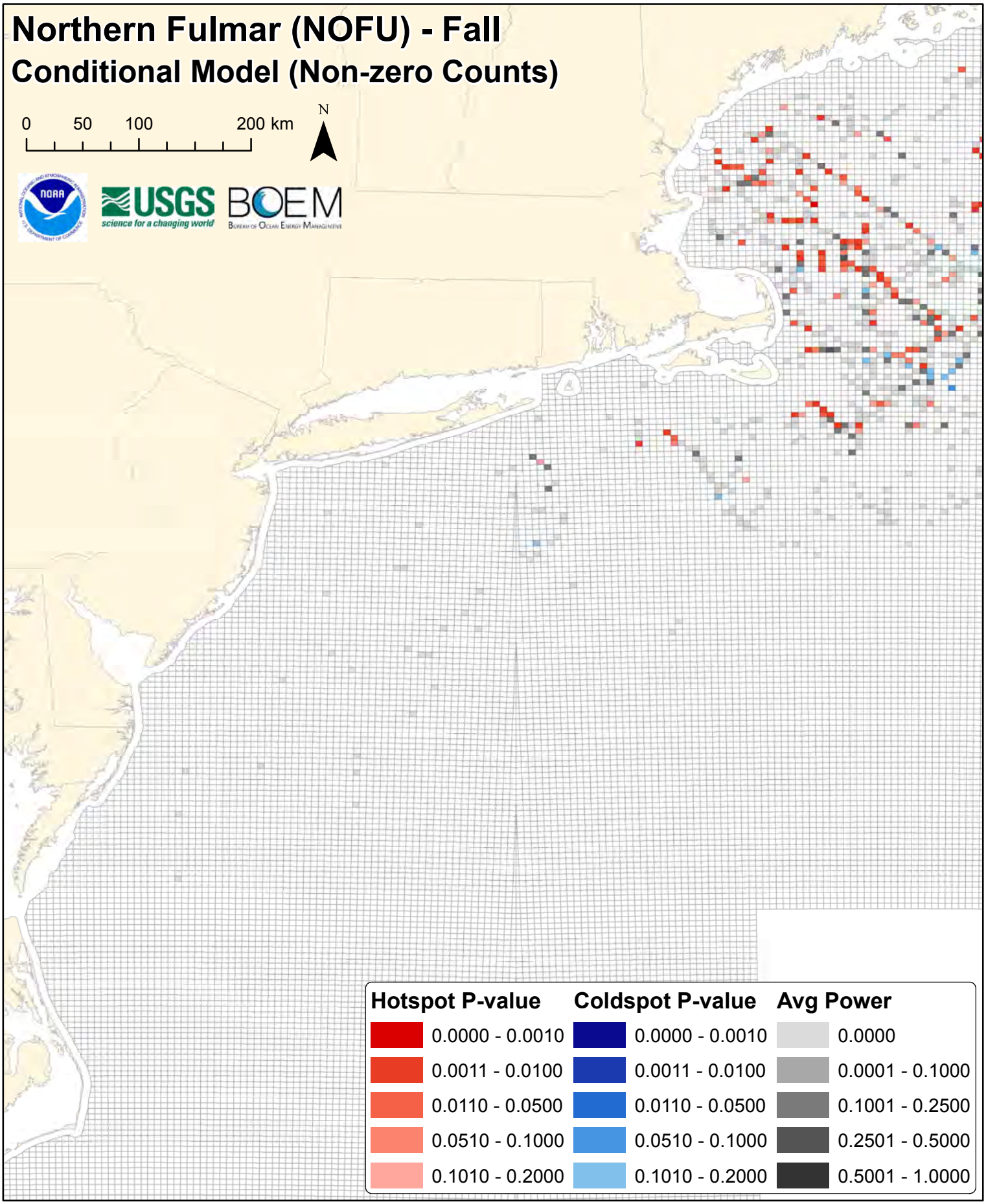

Northern Fulmar (NOFU) - Fall
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2
3
4
5

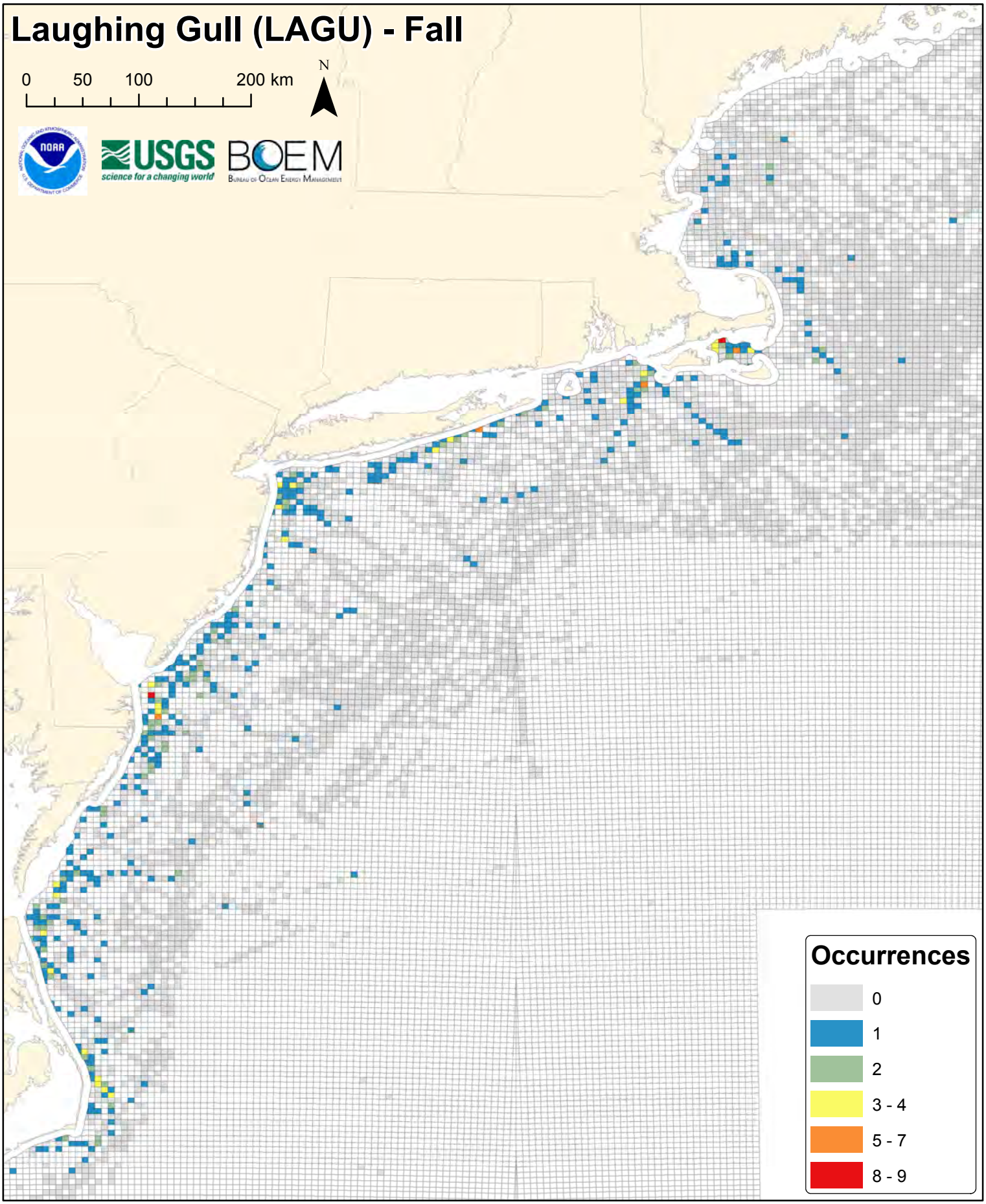

Northern Fulmar (NOFU) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 6.500
6.501 - 27.000
27.001 - 71.000
71.000 - 170.000
170.001 - 452.000

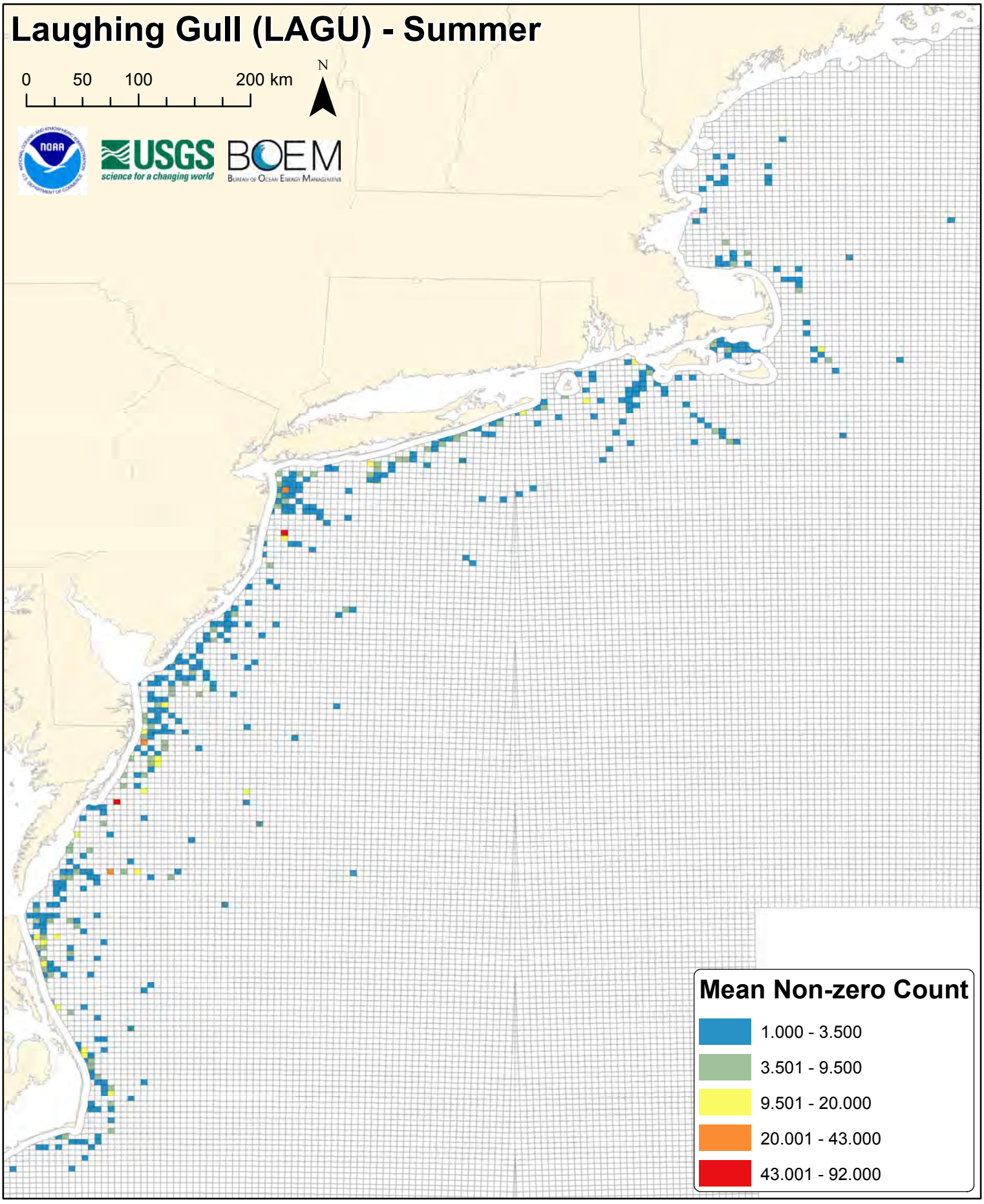

nofu
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
1
2
3
4
5
Number of presences in a BOEM lease block

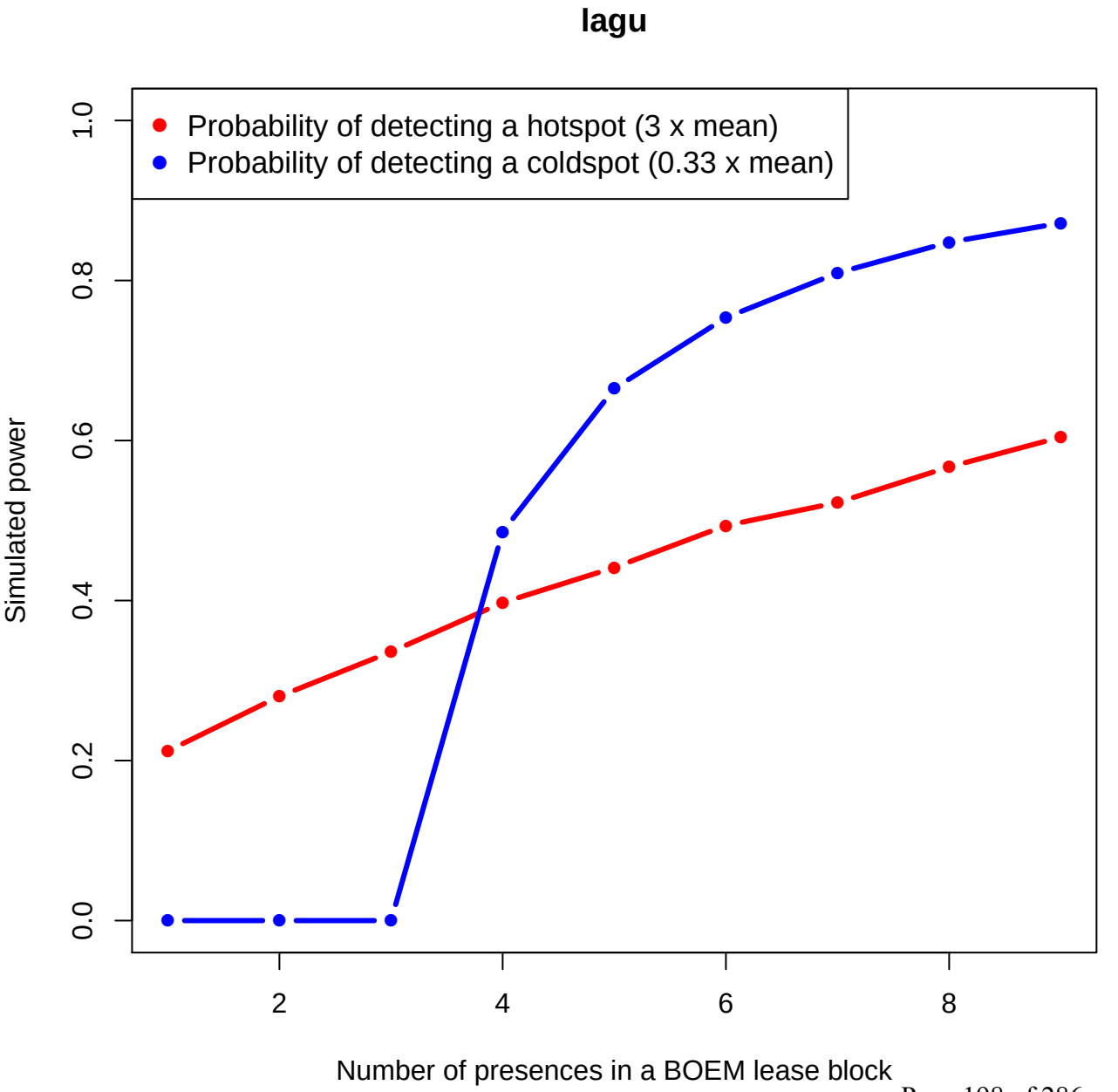

Northern Fulmar (NOFU) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

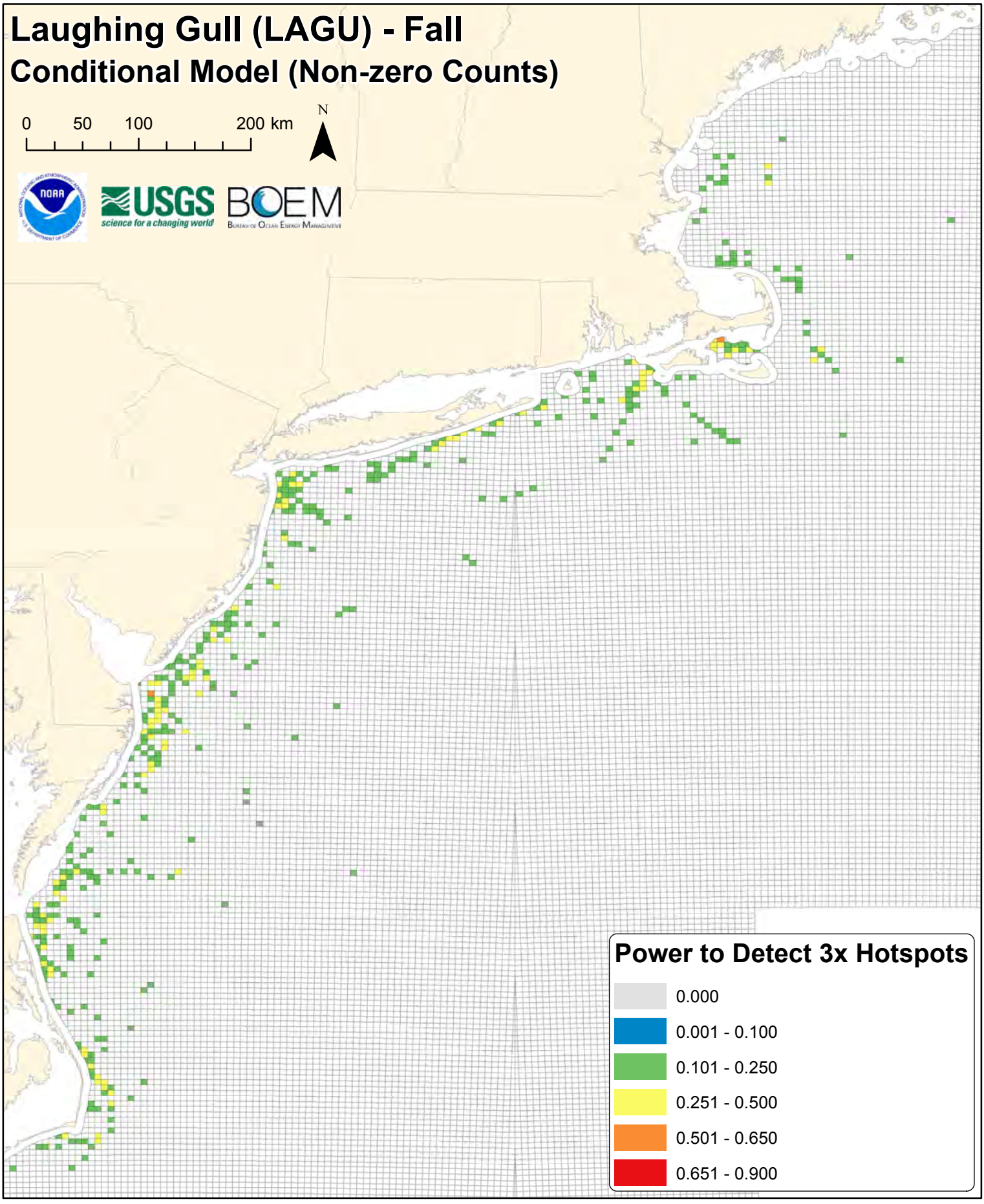

Northern Fulmar (NOFU) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

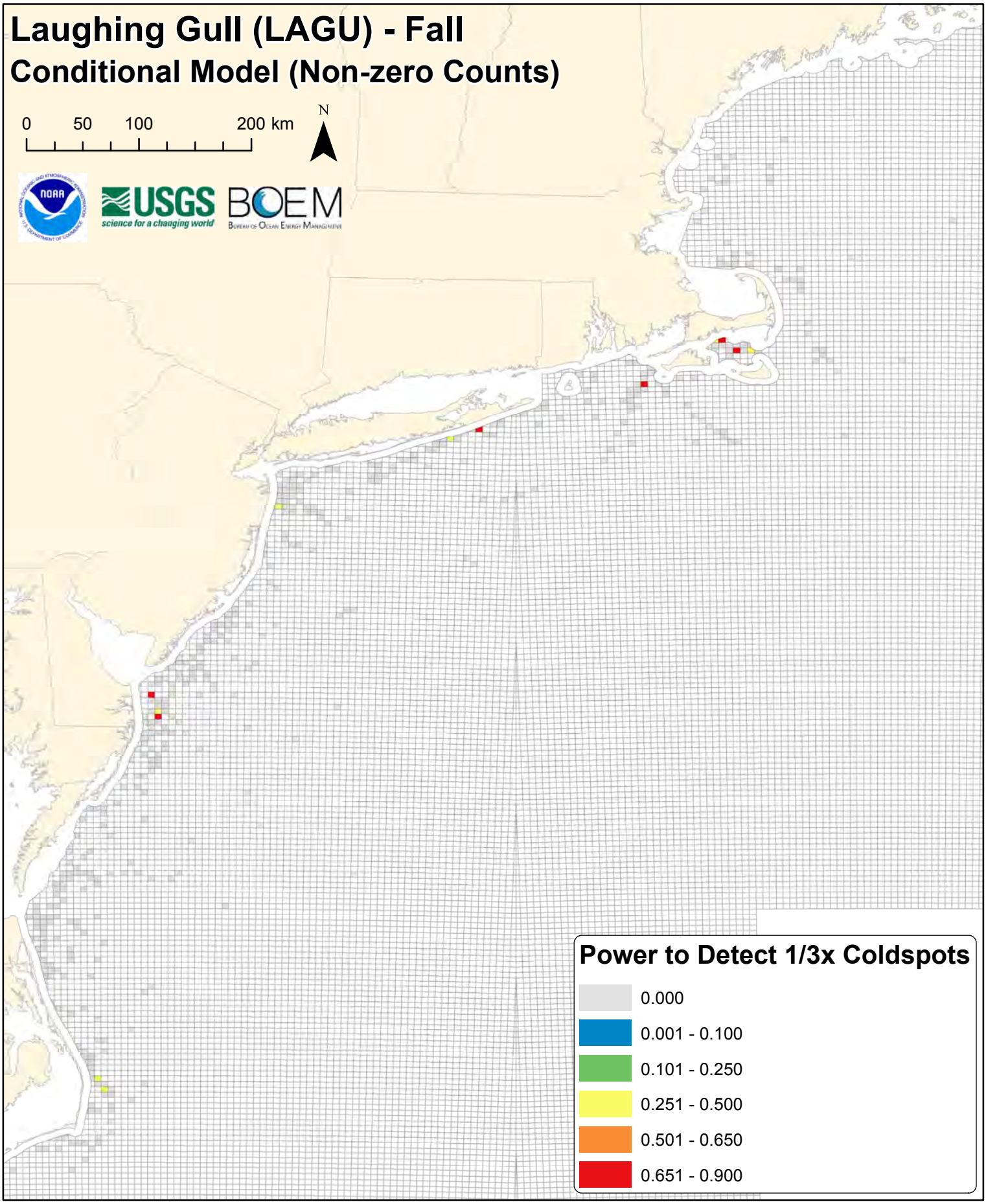

Northern Fulmar (NOFU) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

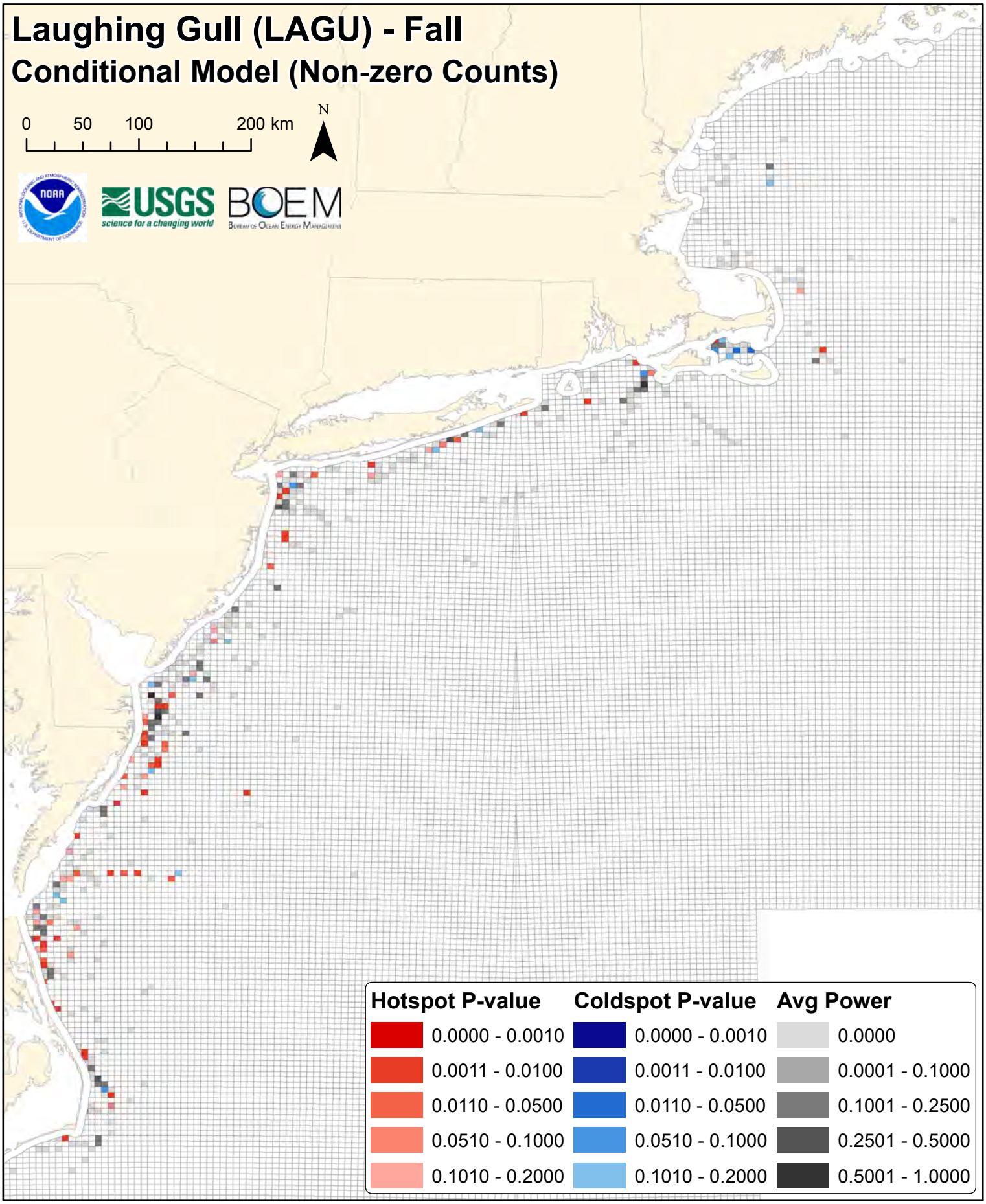

Laughing Gull (LAGU) - Fall
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2
3 - 4
5 - 7
8 - 9

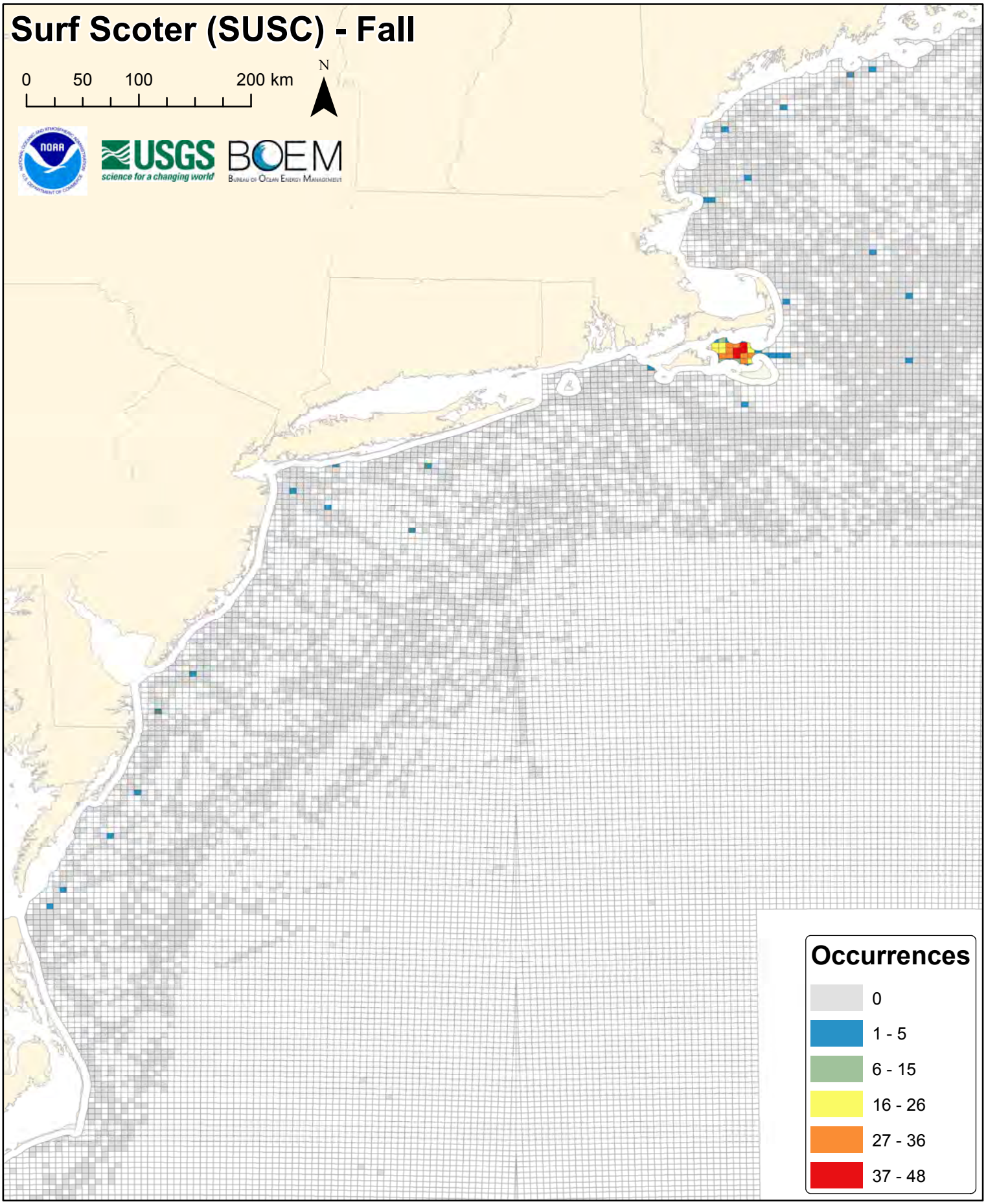

Laughing Gull (LAGU) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 3.500
3.501 - 9.500
9.501 - 20.000
20.001 - 43.000
43.001 - 92.000

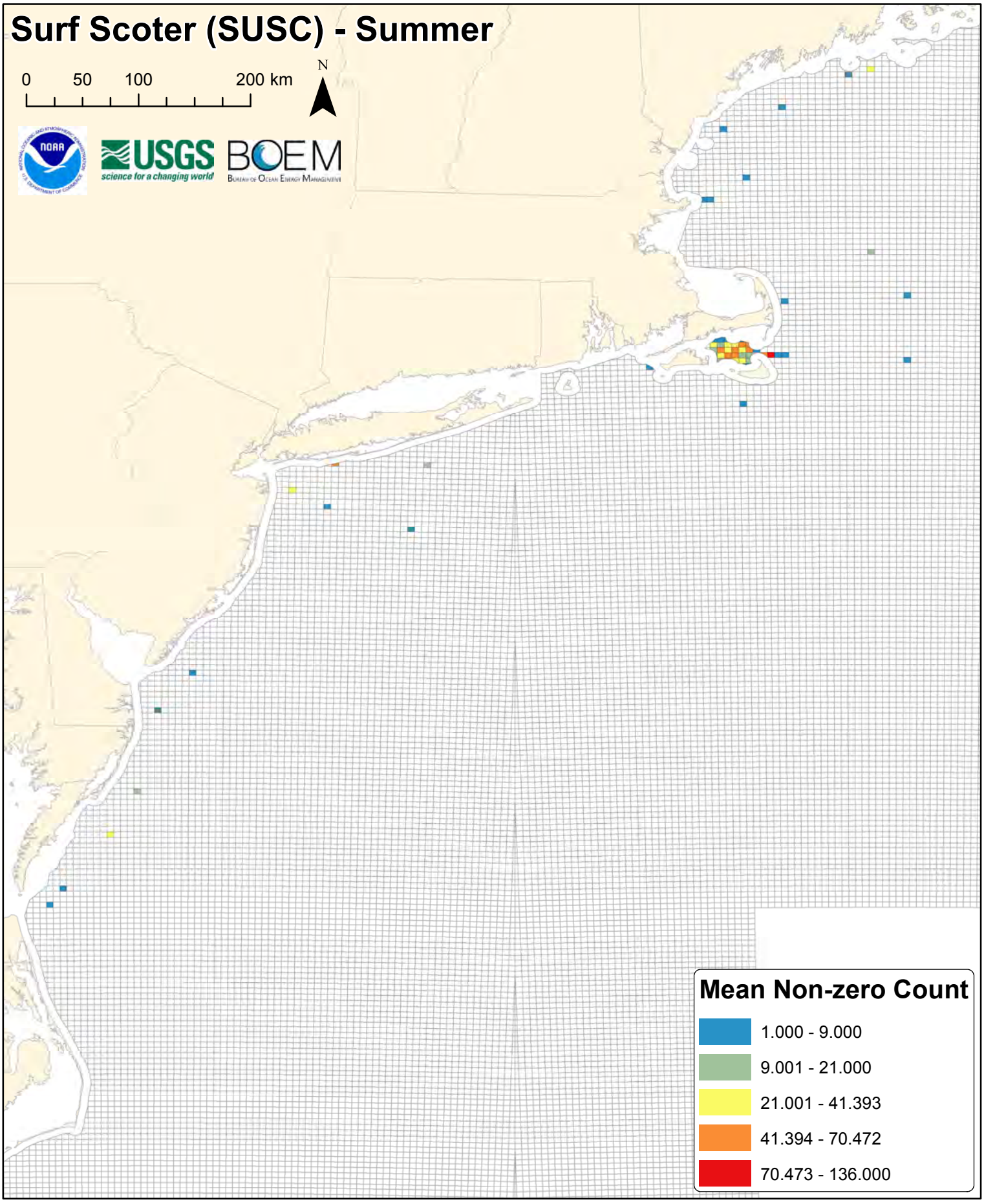

lagu
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
2
4
6
8
Number of presences in a BOEM lease block

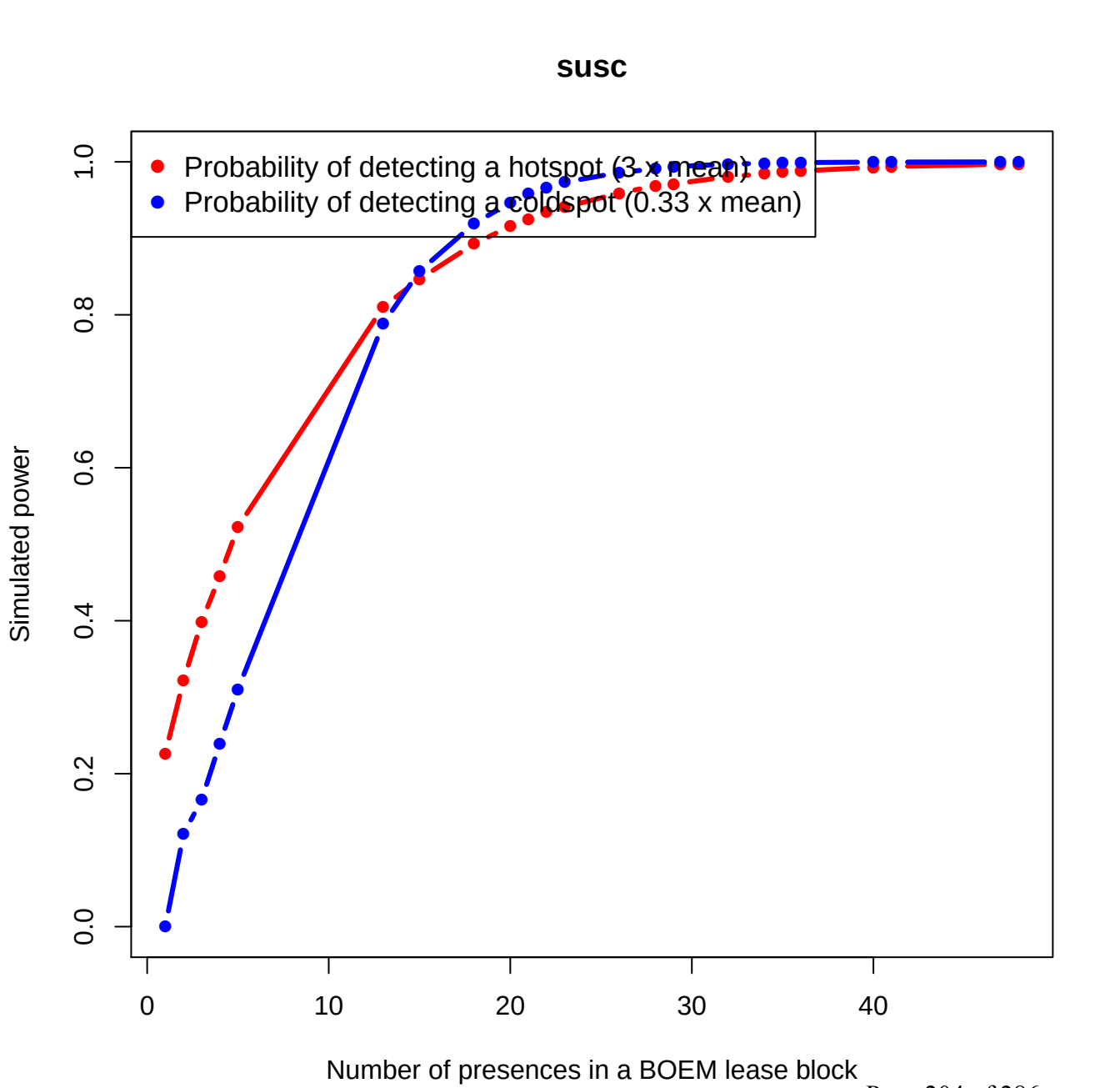

Laughing Gull (LAGU) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

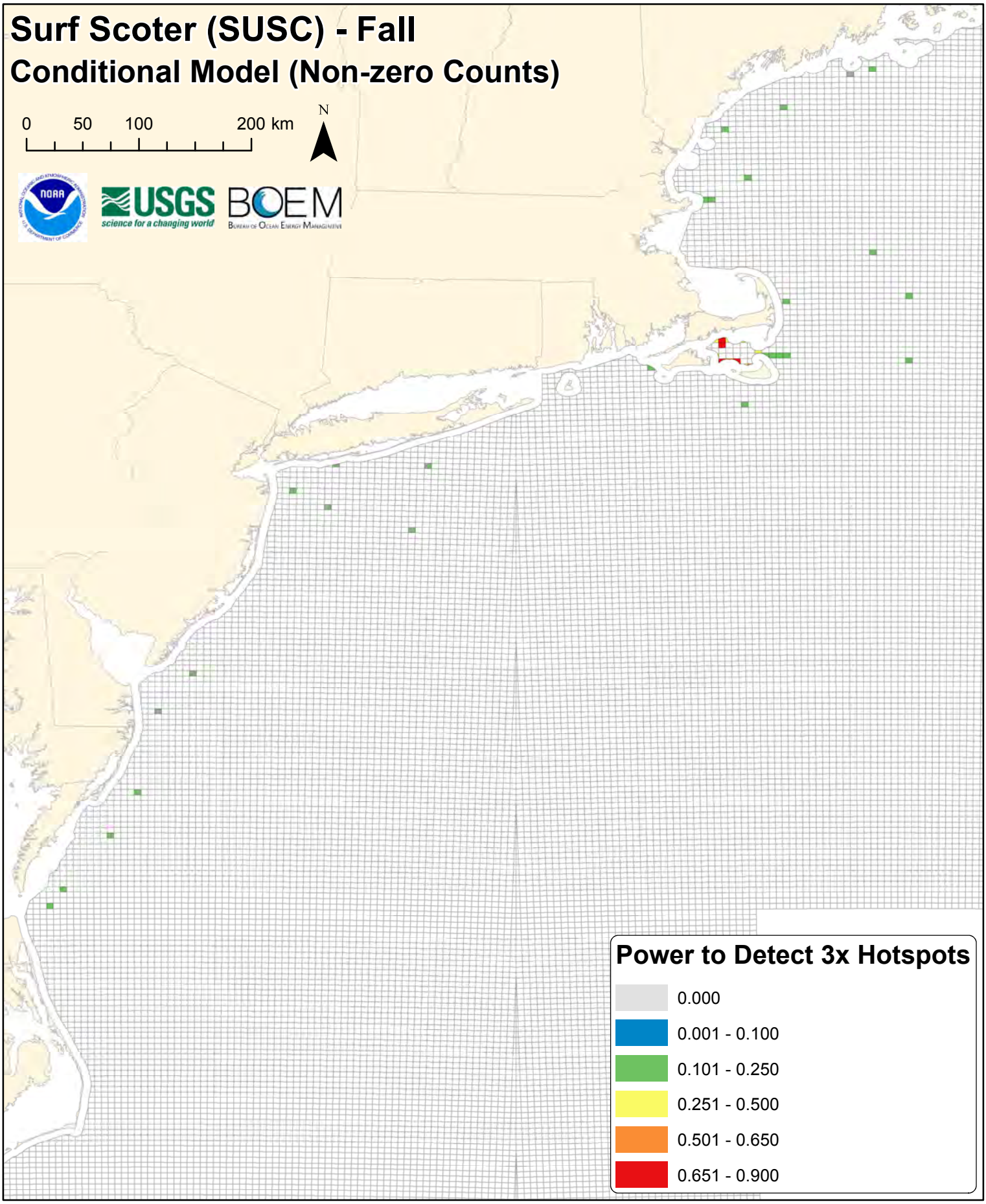

Laughing Gull (LAGU) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

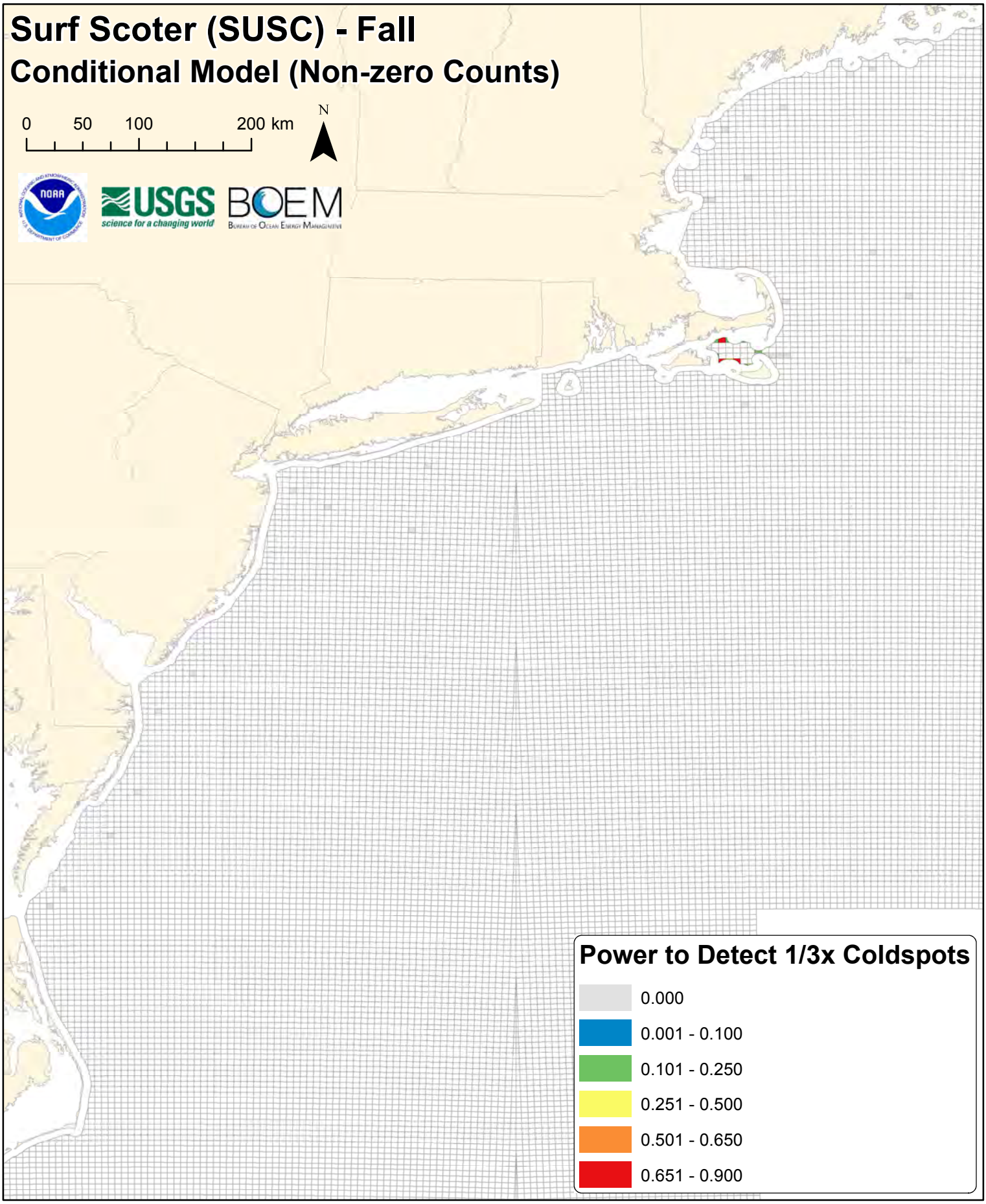

Laughing Gull (LAGU) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000


Surf Scoter (SUSC) - Fall
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 5
6 - 15
16 - 26
27 - 36
37 - 48


Surf Scoter (SUSC) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Mean Non-zero Count
1.000 - 9.000
9.001 - 21.000
21.001 - 41.393
41.394 - 70.472
70.473 - 136.000

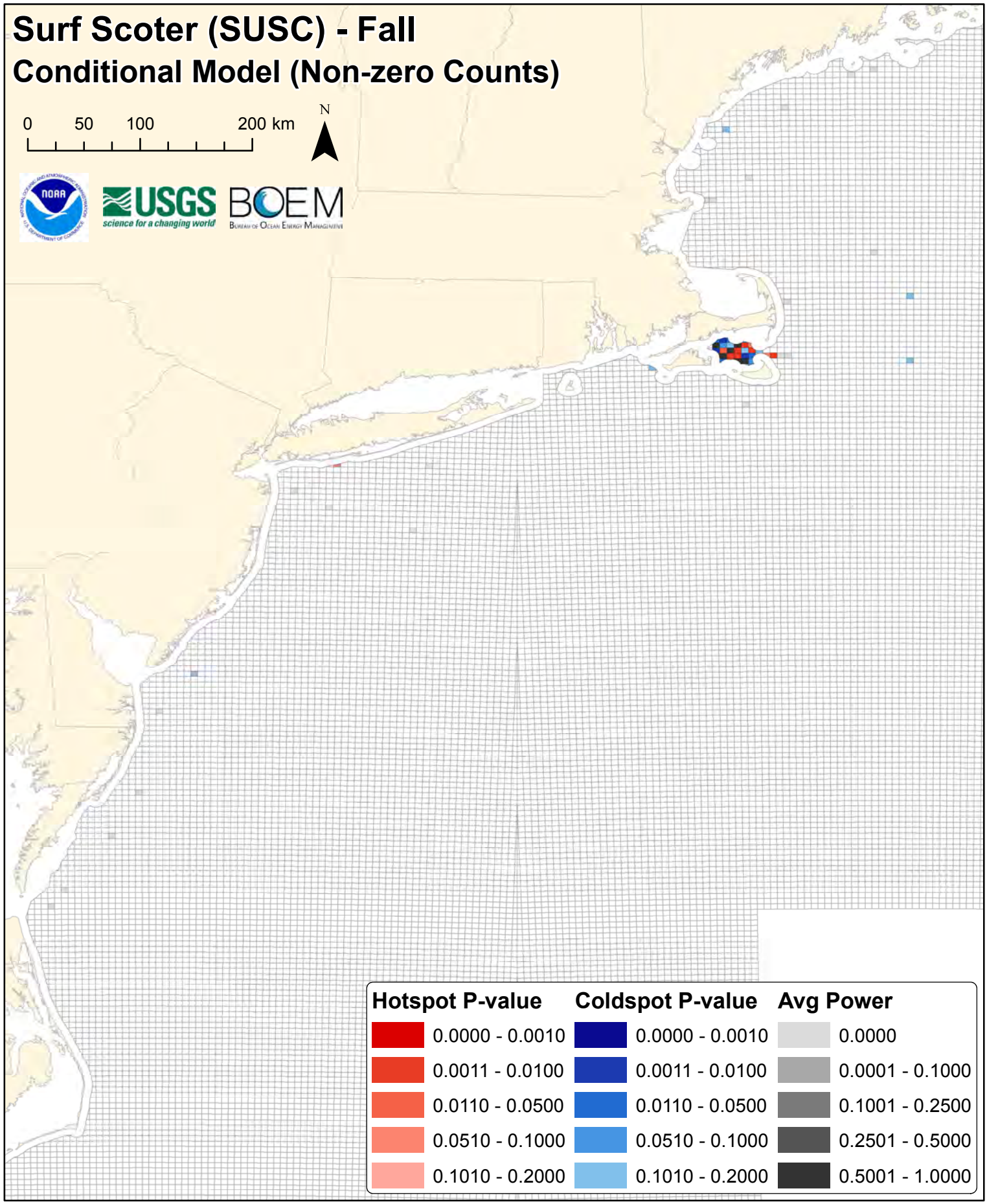

susc
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
Number of presences in a BOEM lease block

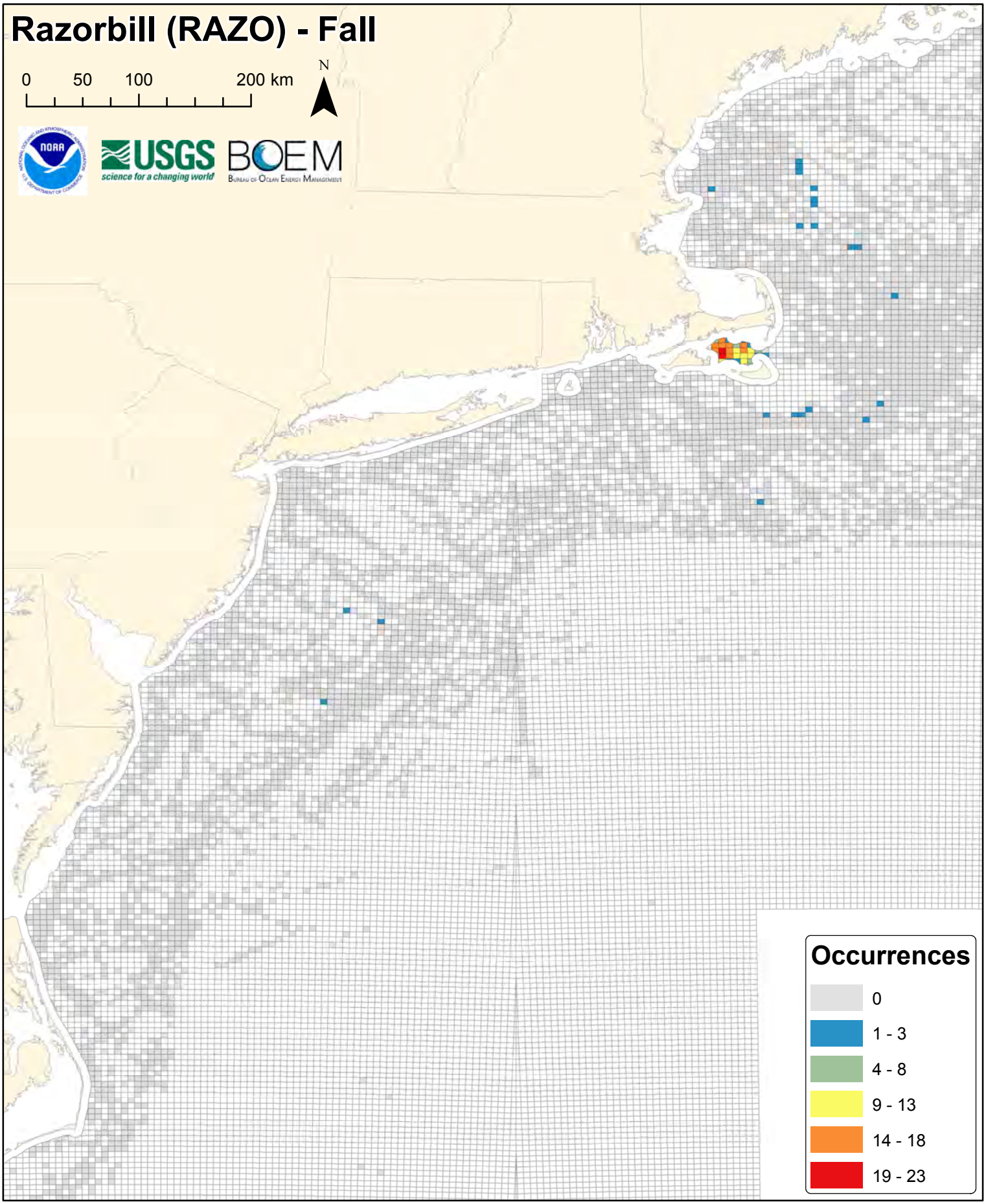

Surf Scoter (SUSC) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

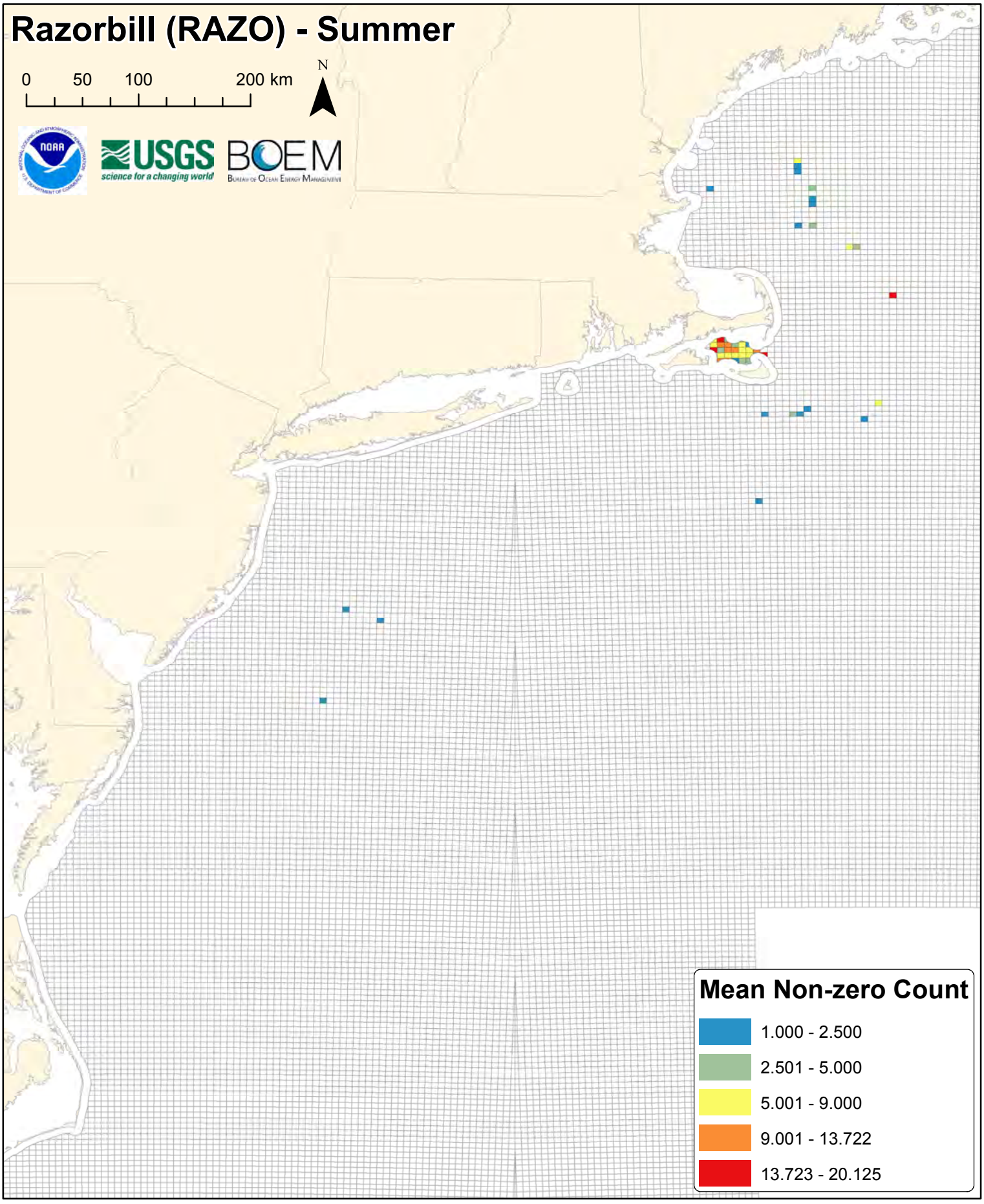

Surf Scoter (SUSC) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

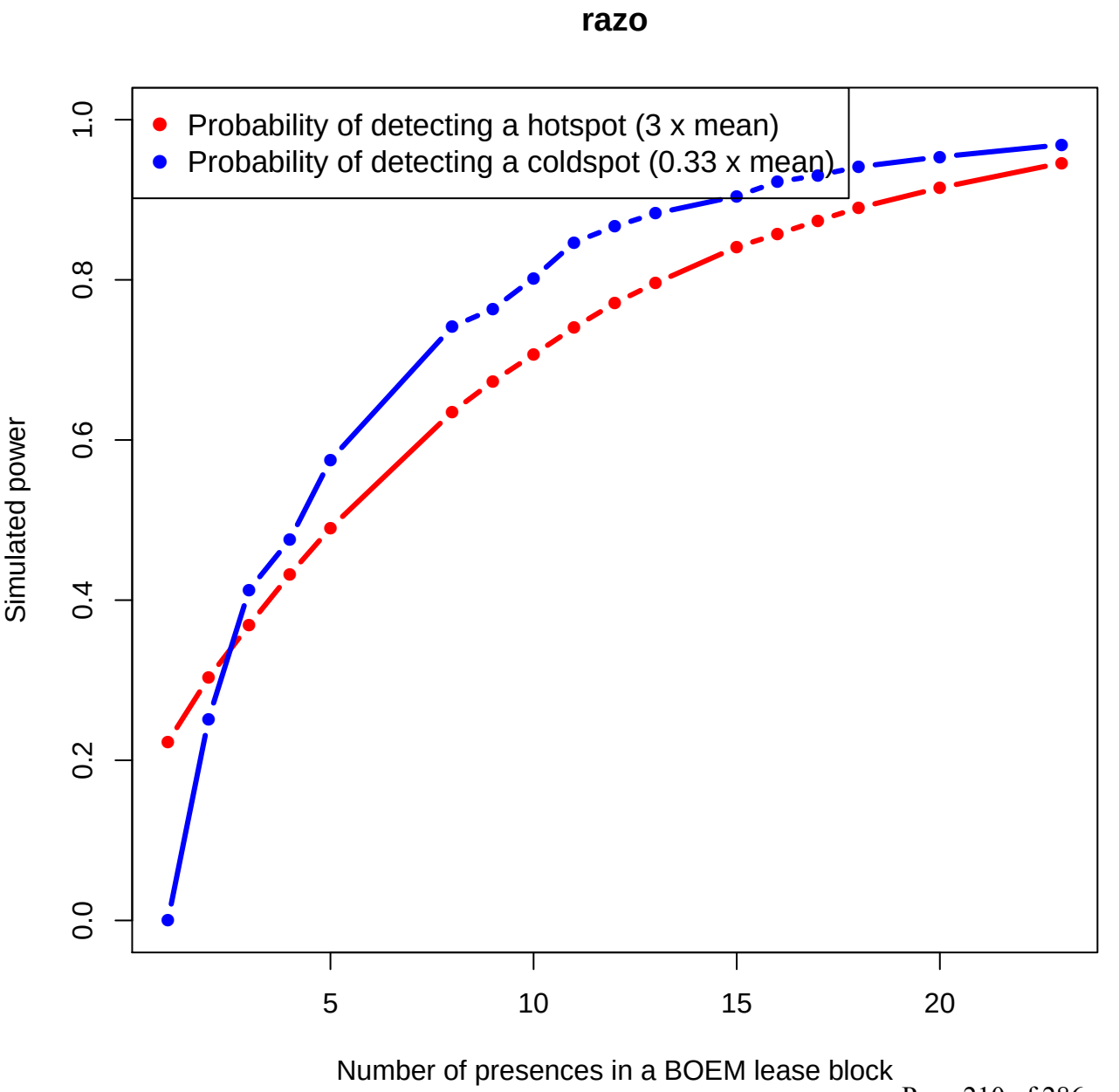
Surf Scoter (SUSC) - Fall

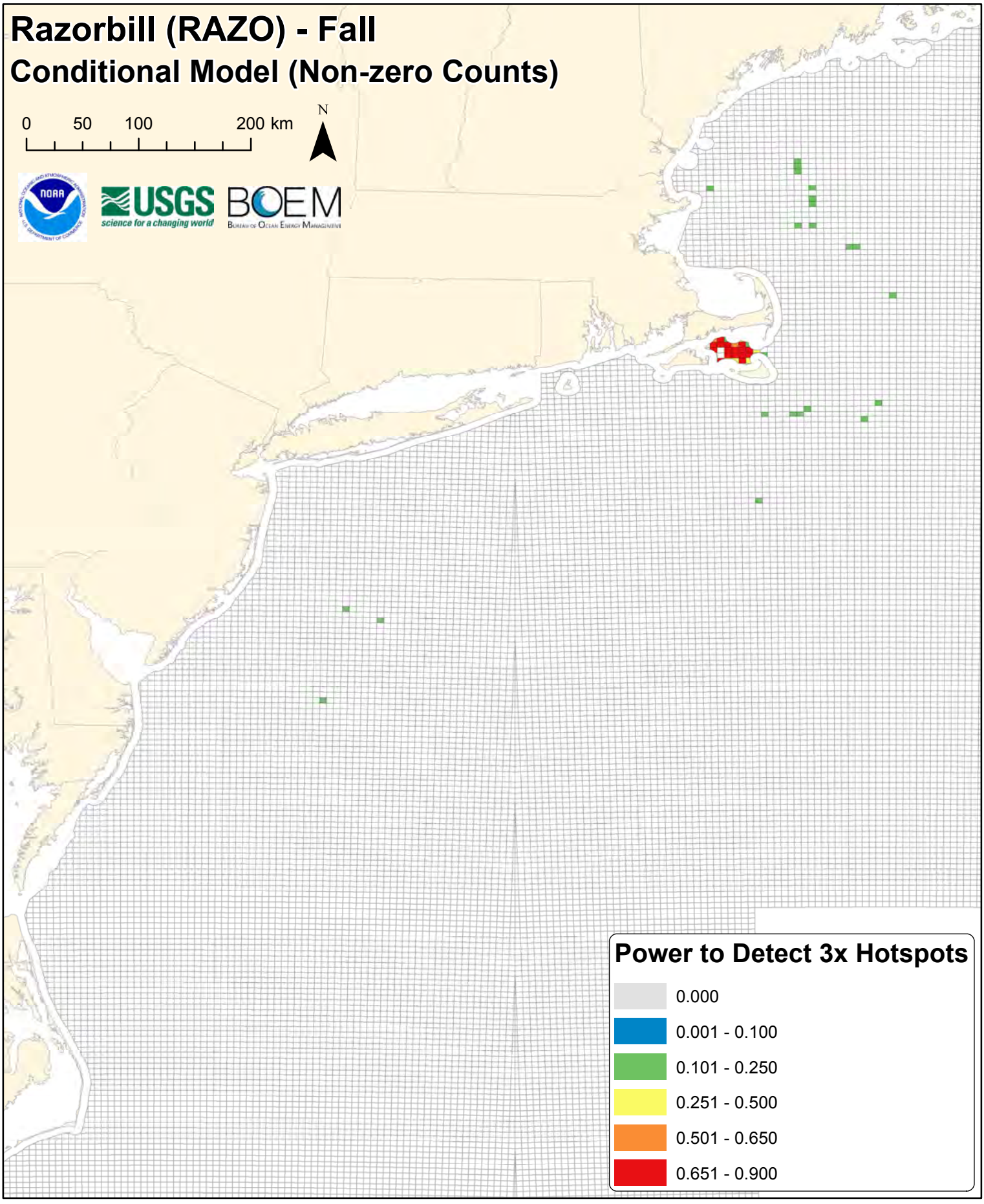
Conditional Model (Non-zero Counts)

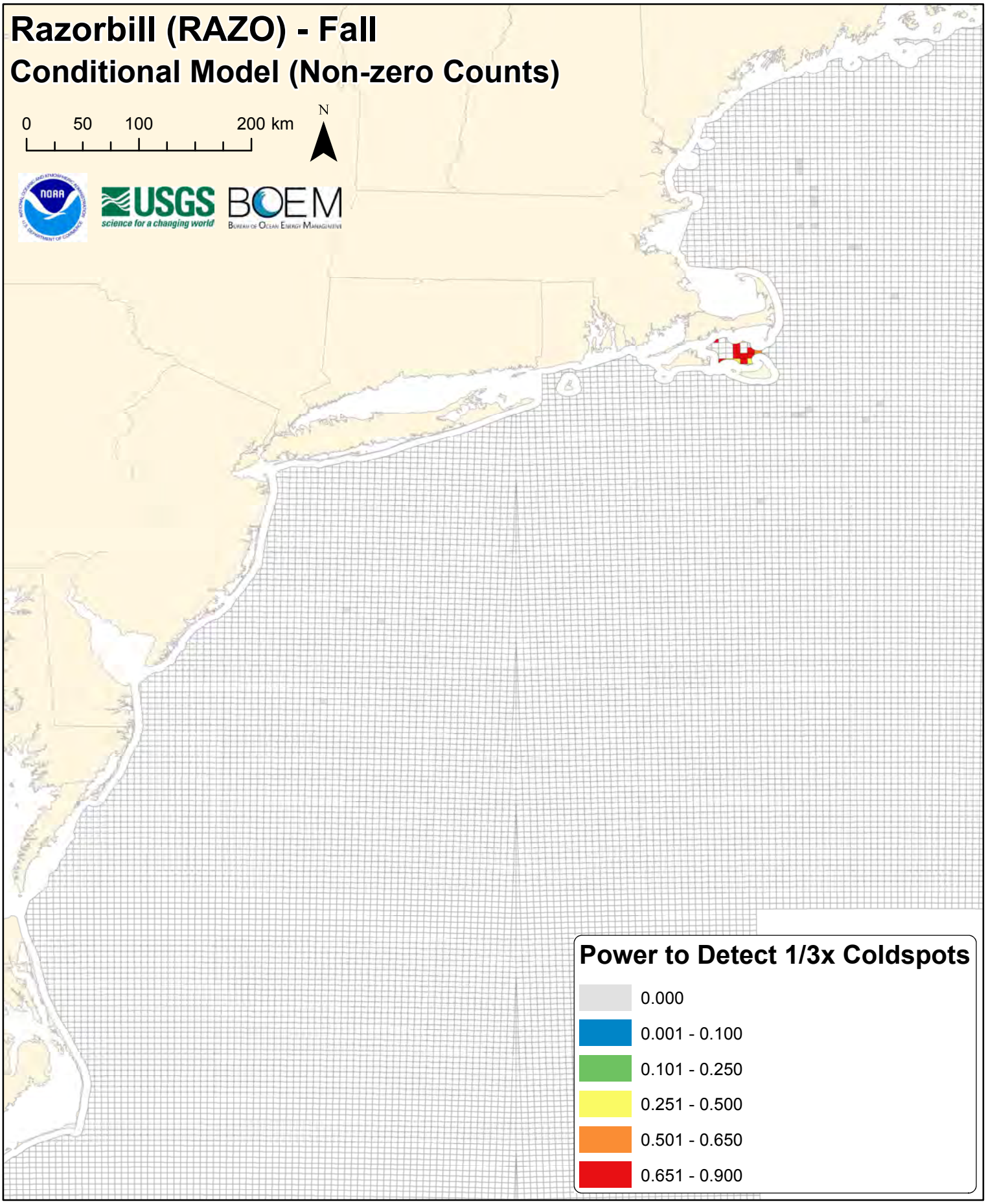


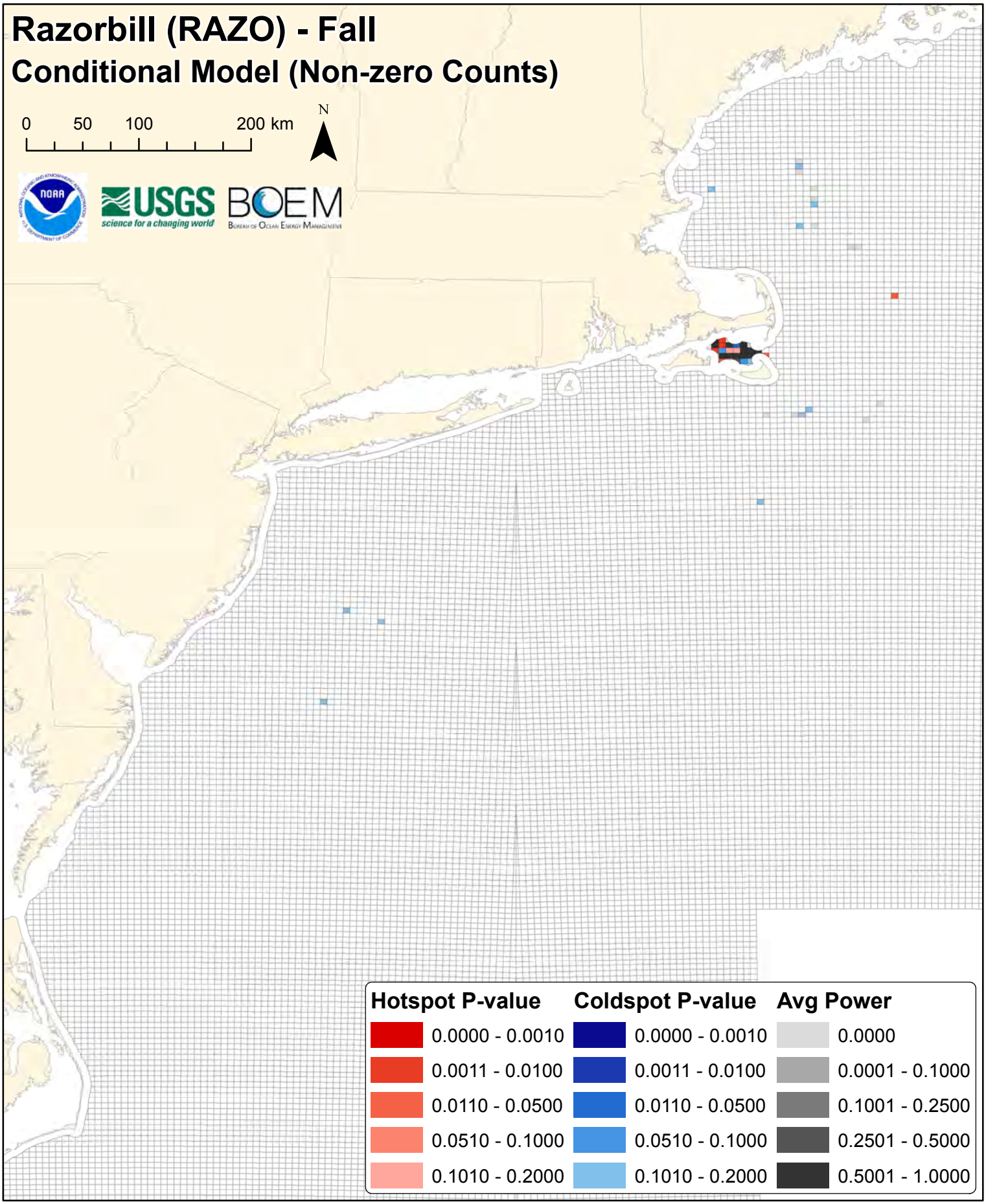

Razorbill (RAZO) - Fall
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 3
4 - 8
9 - 13
14 - 18
19 - 23

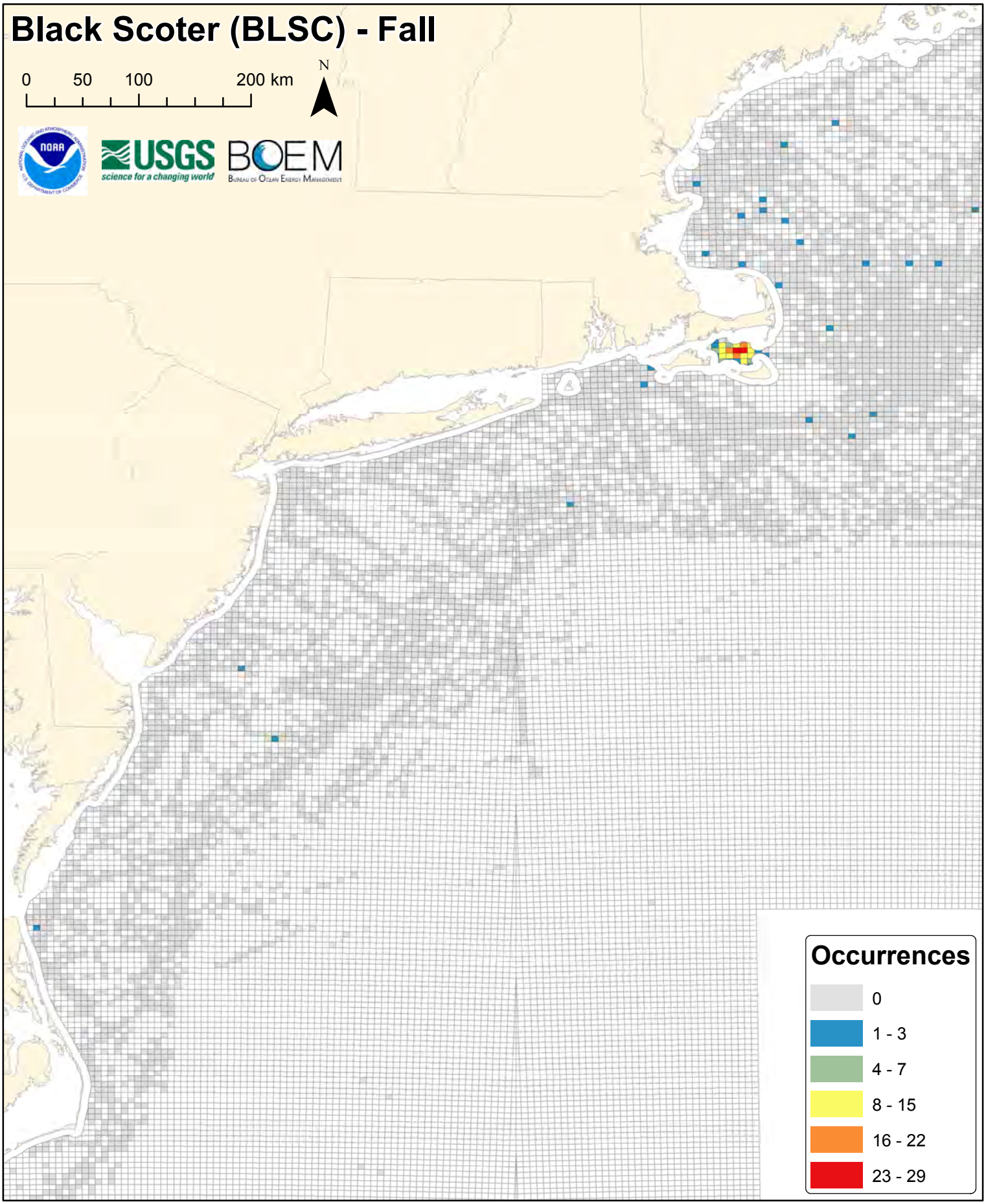

Razorbill (RAZO) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 2.500
2.501 - 5.000
5.001 - 9.000
9.001 - 13.722
13.723 - 20.125

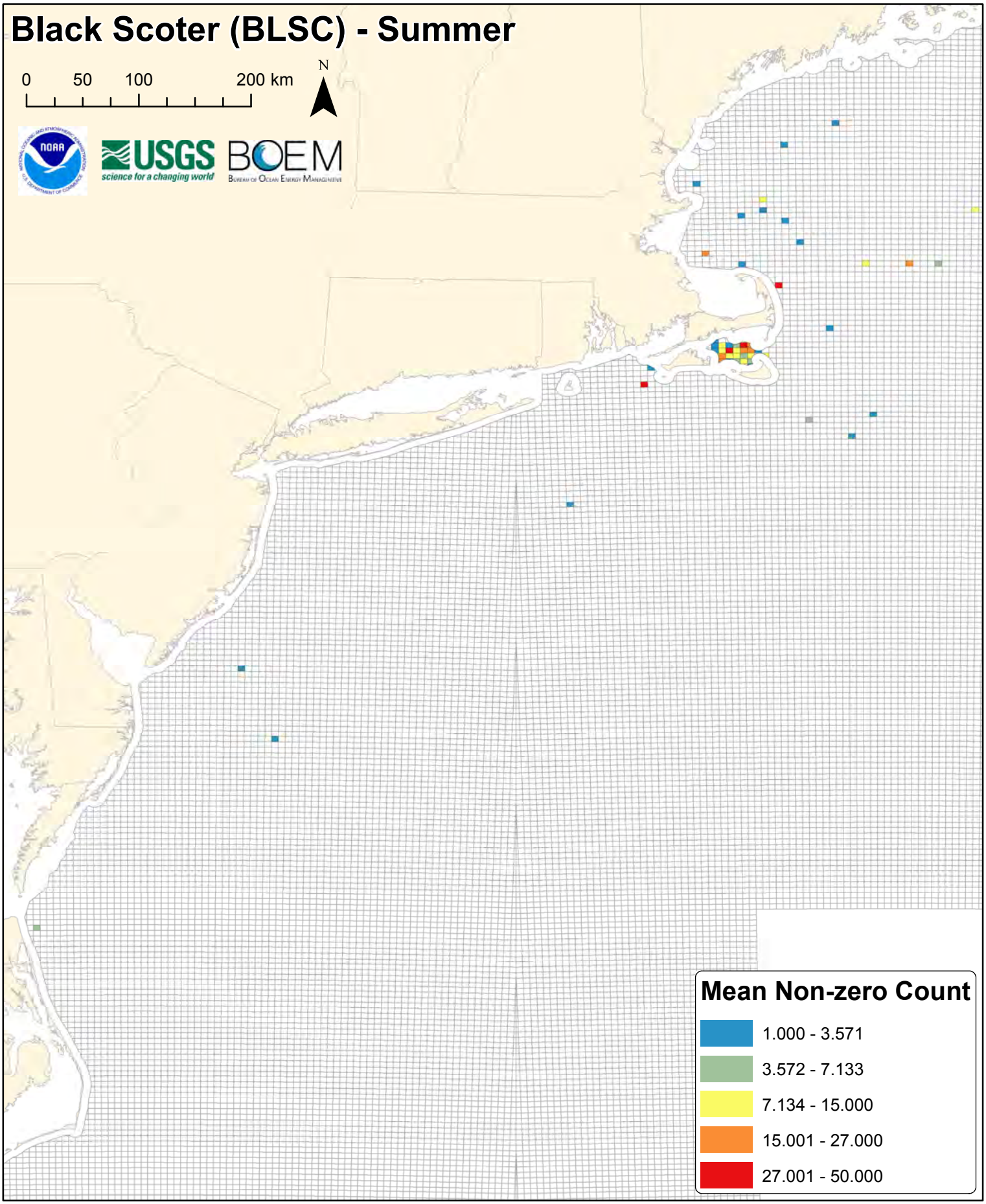

razo
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
5
10
15
20
Number of presences in a BOEM lease block

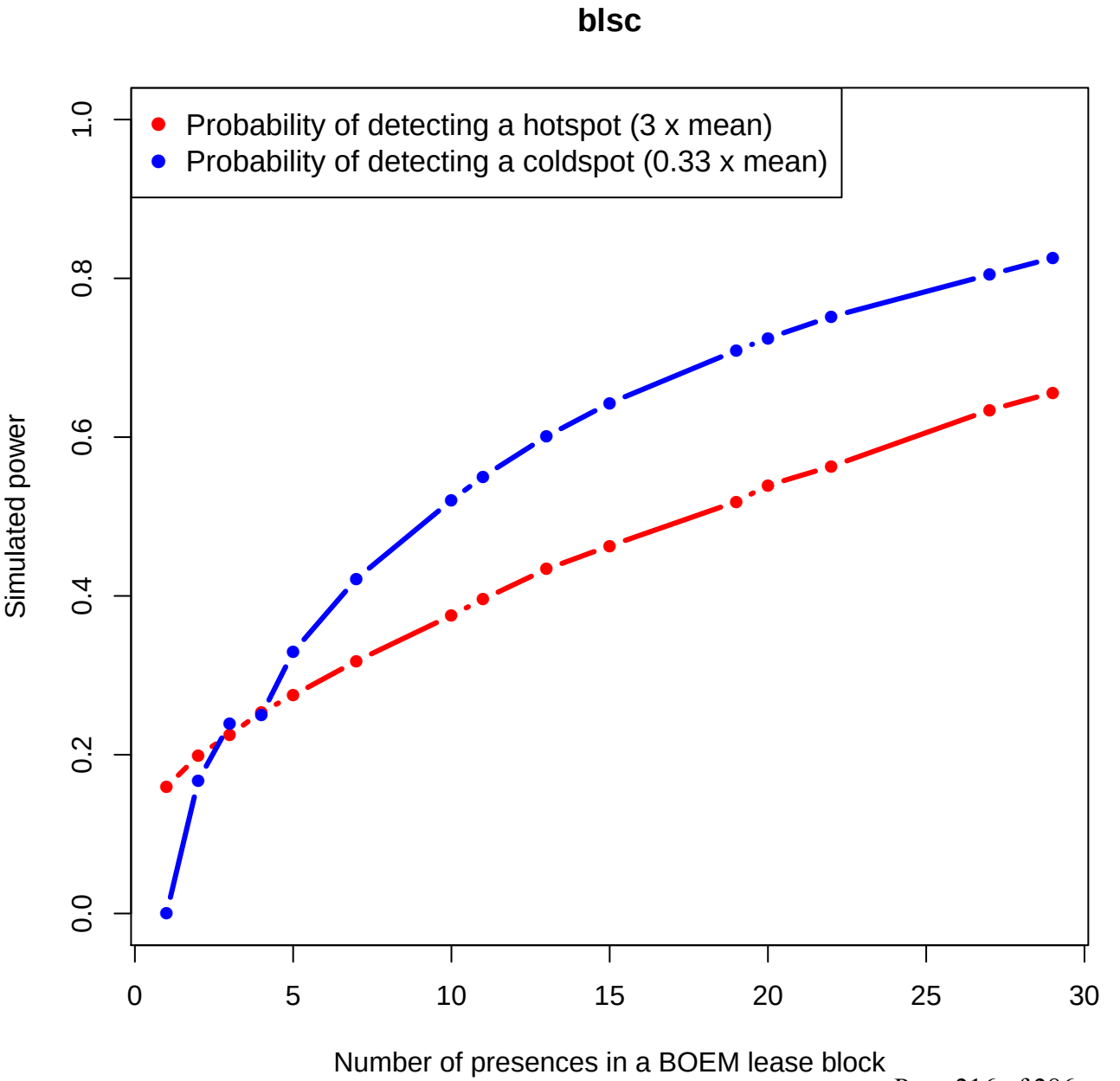

Razorbill (RAZO) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

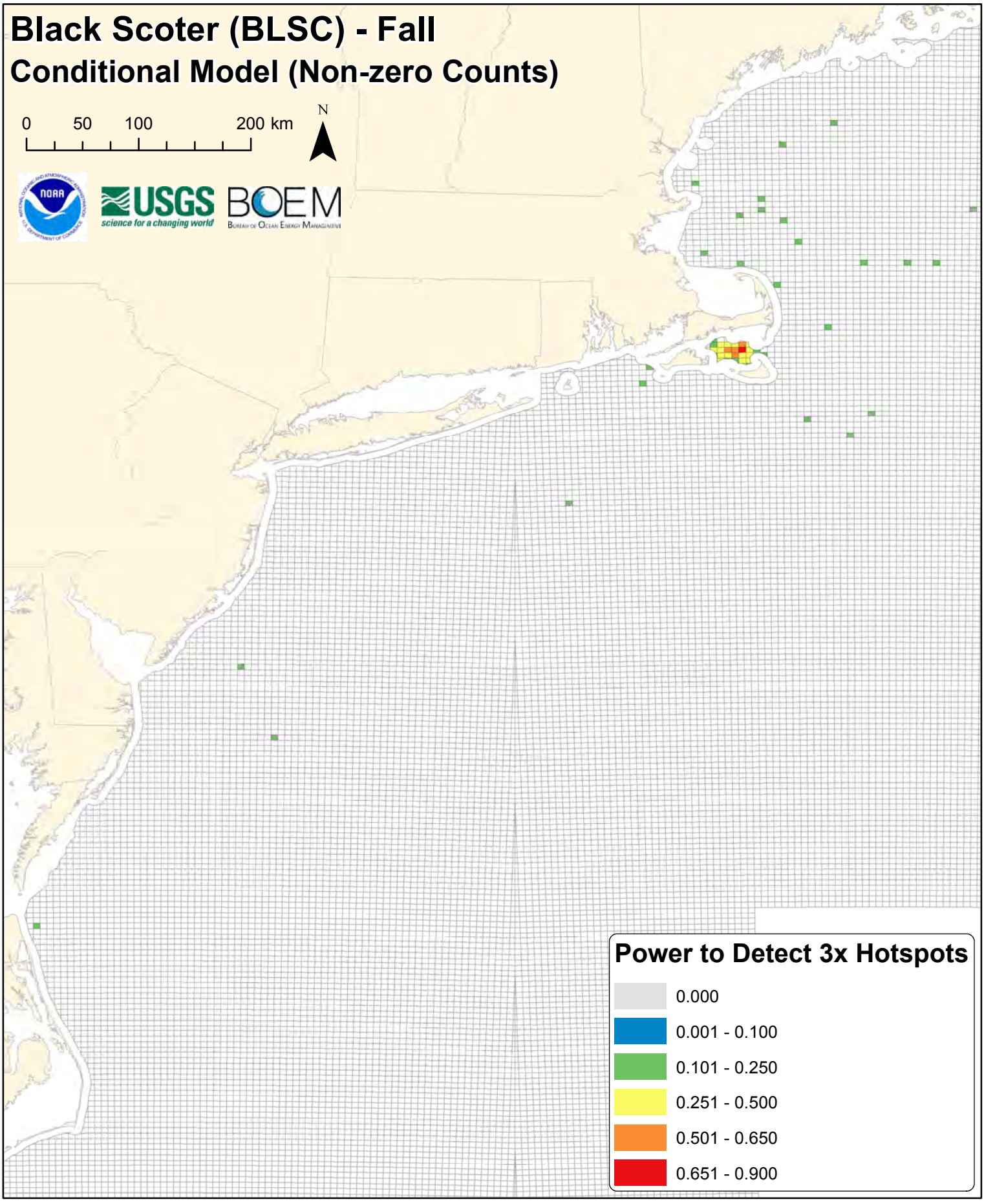

Razorbill (RAZO) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

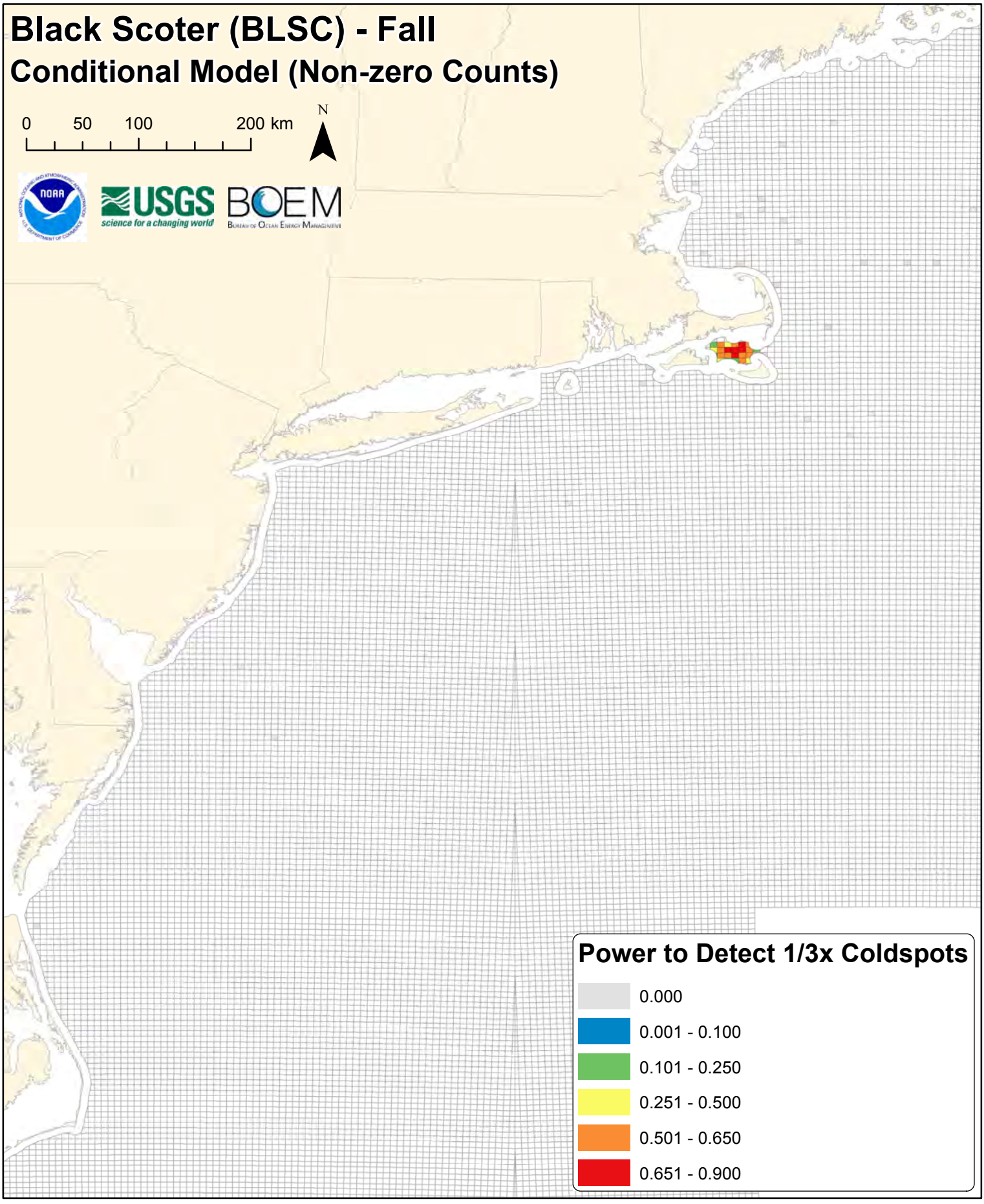

Razorbill (RAZO) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

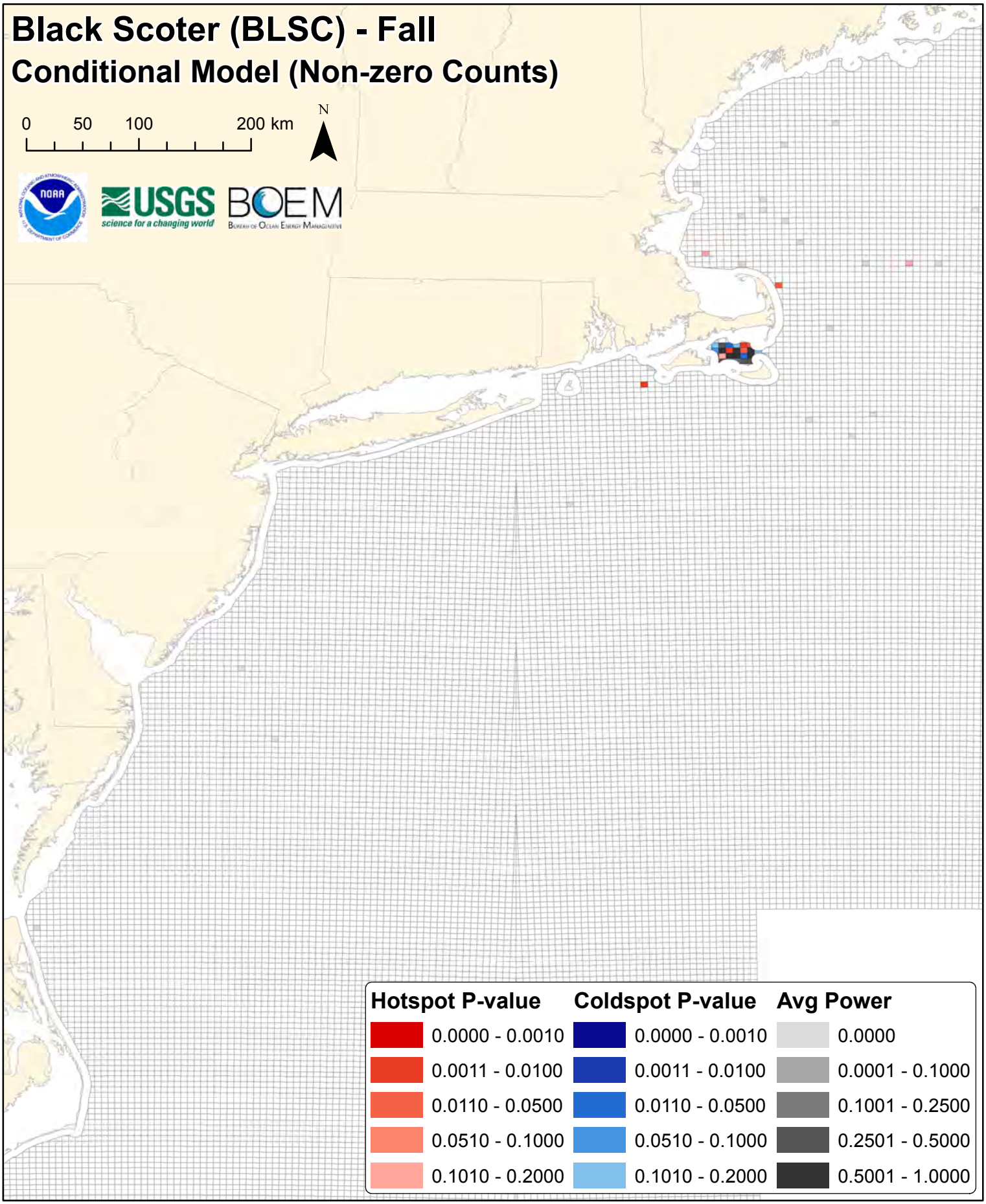

Black Scoter (BLSC) - Fall
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 3
4 - 7
8 - 15
16 - 22
23 - 29

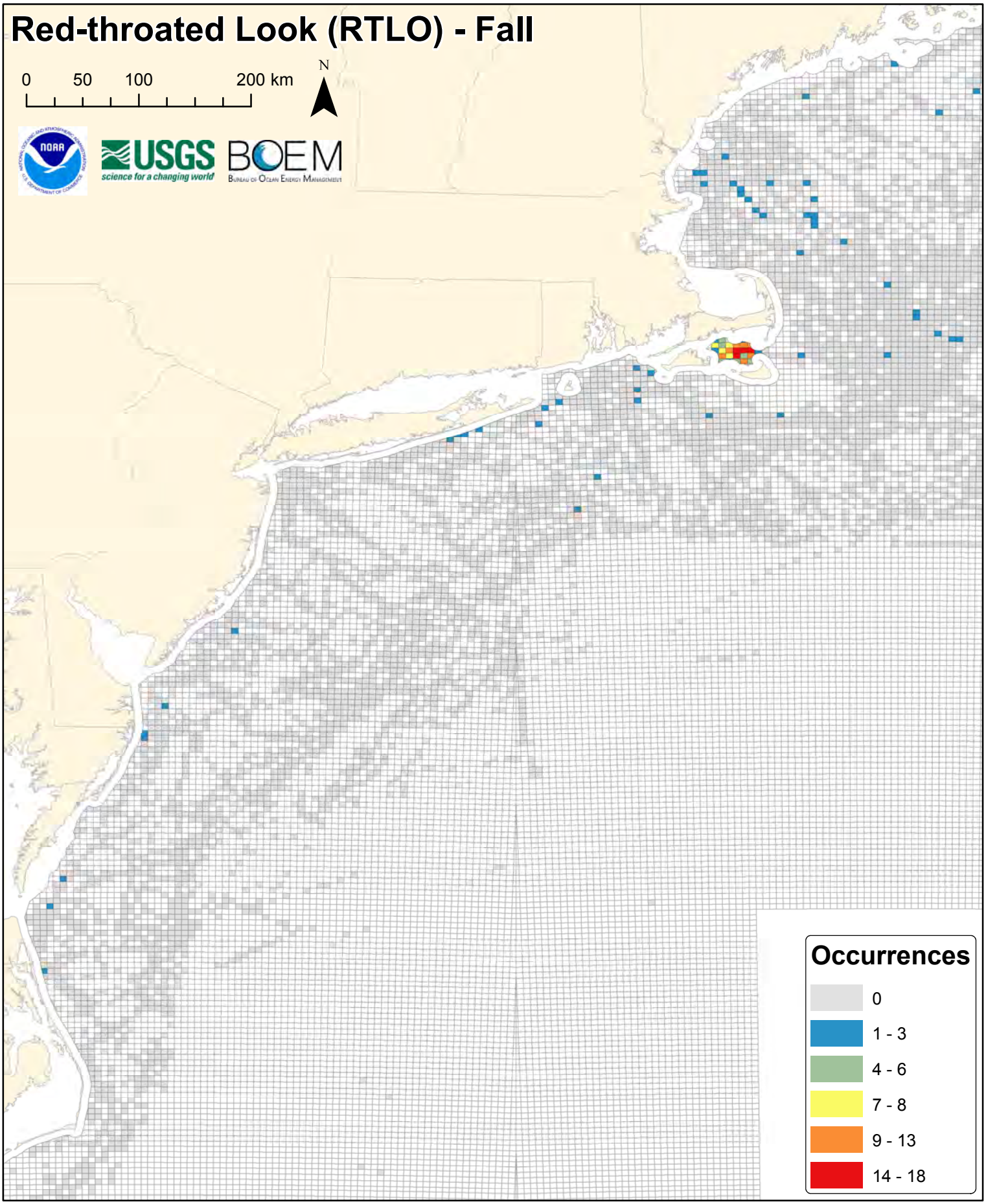

Black Scoter (BLSC) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 3.571
3.572 - 7.133
7.134 - 15.000
15.001 - 27.000
27.001 - 50.000

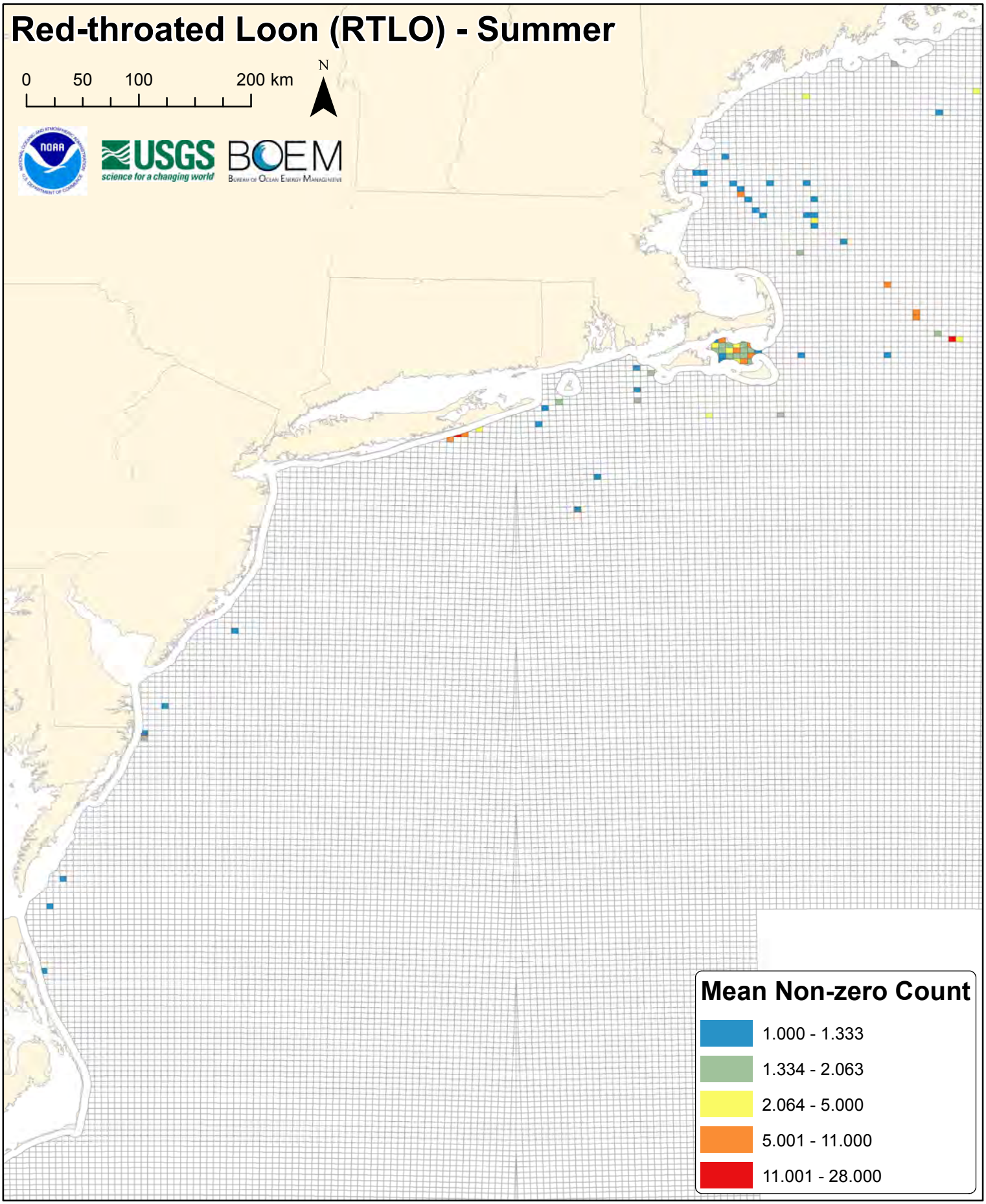

blsc
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
30
Number of presences in a BOEM lease block

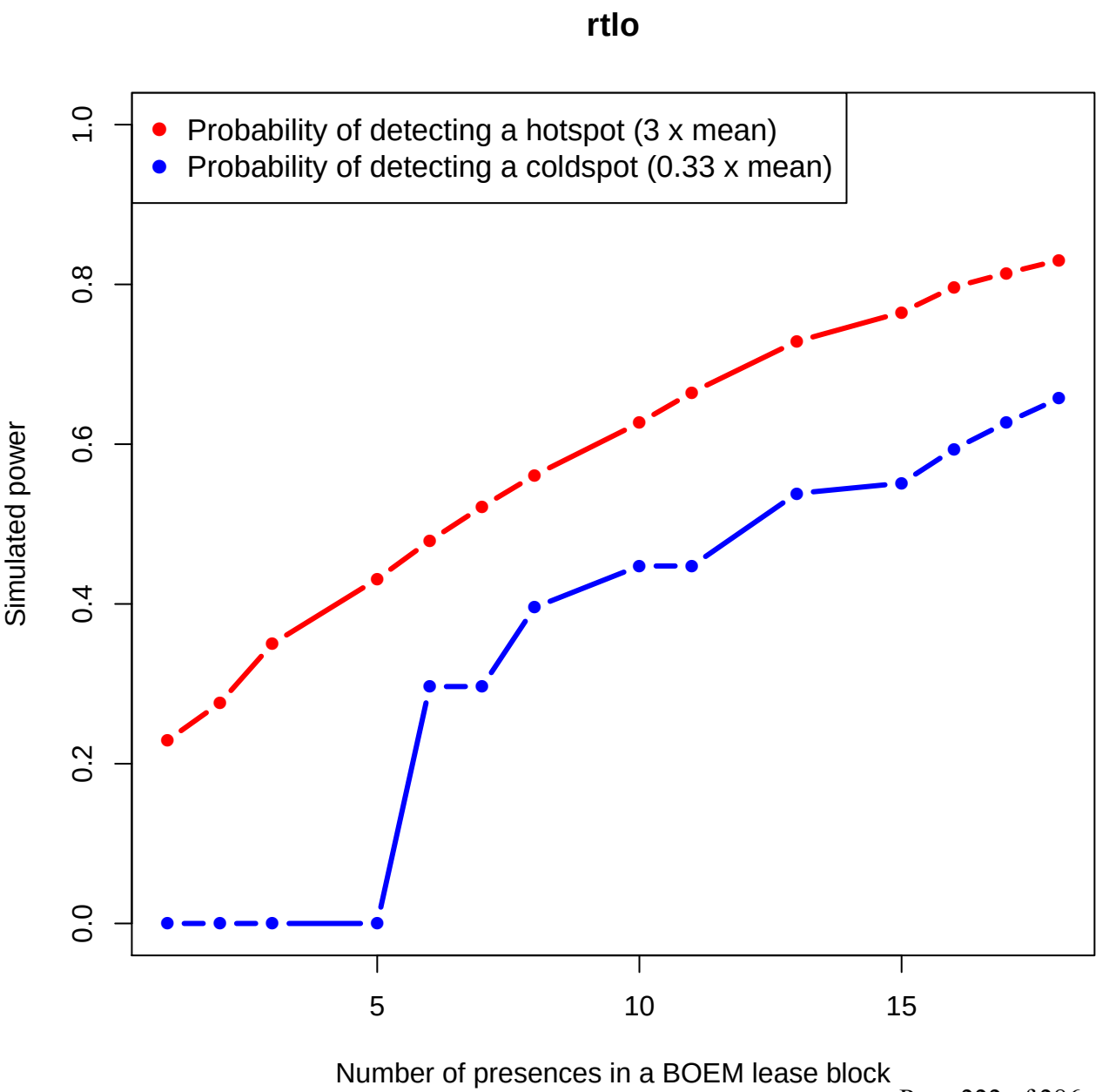

Black Scoter (BLSC) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

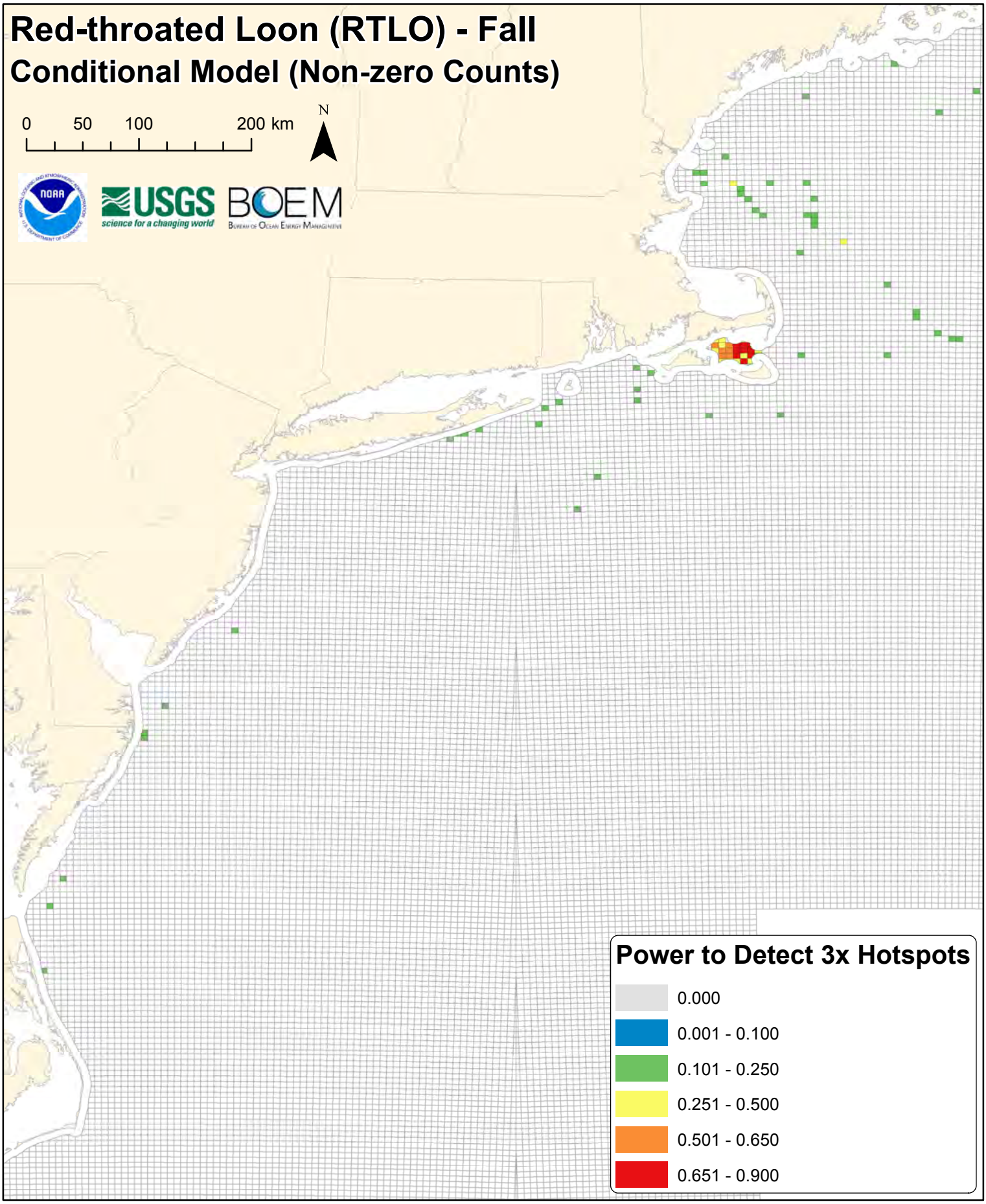

Black Scoter (BLSC) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

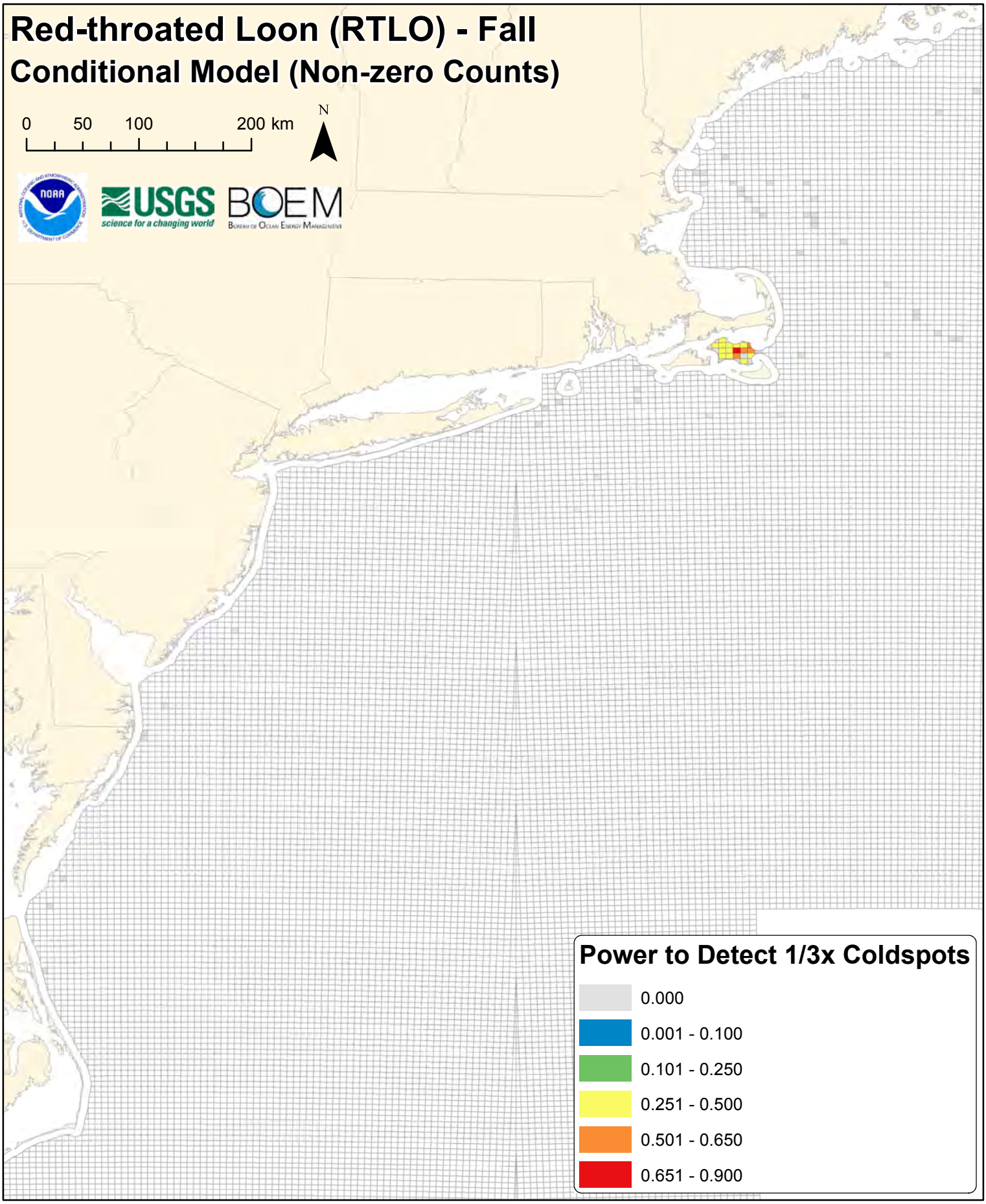

Black Scoter (BLSC) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

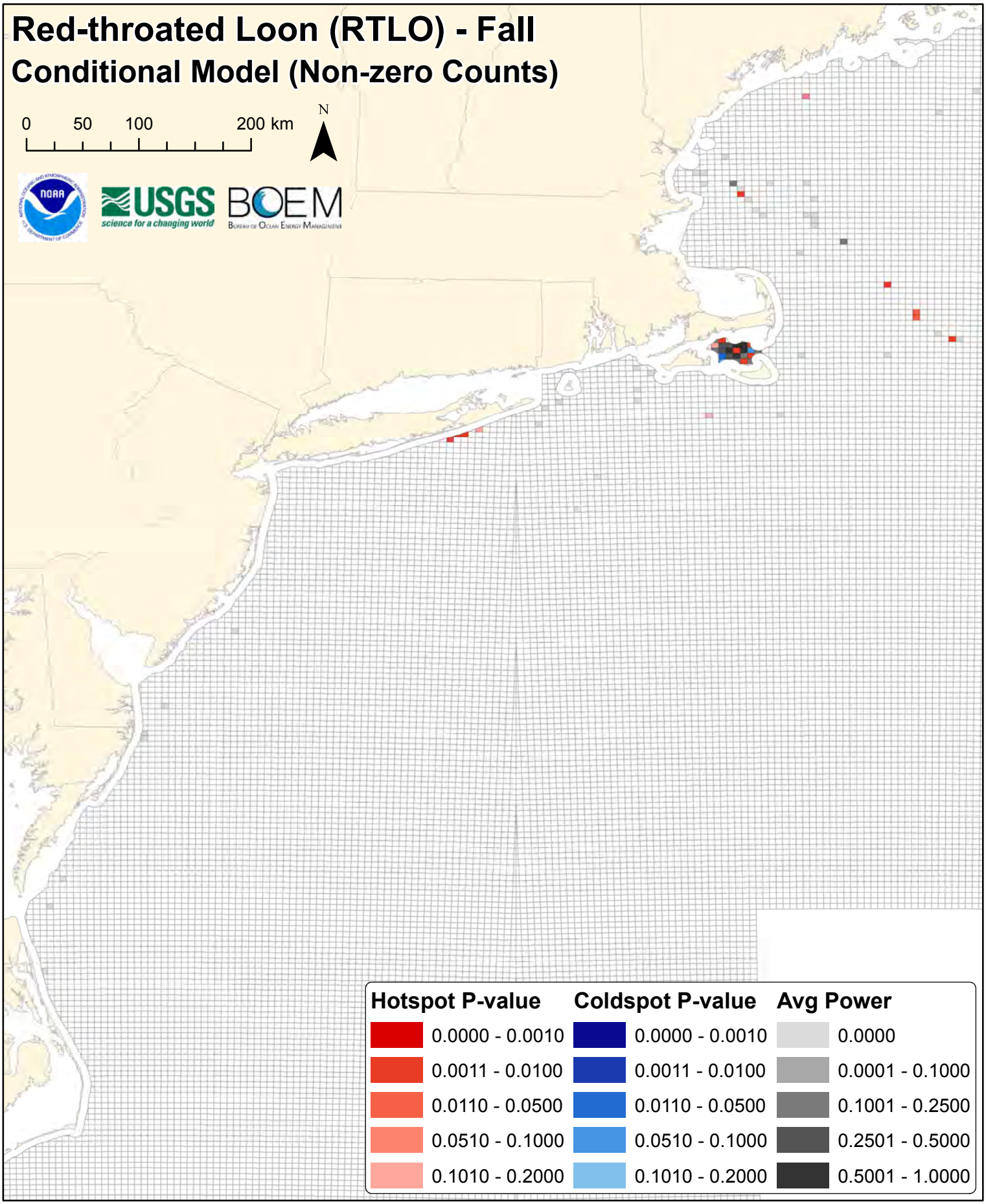

Red-throated Look (RTLO) - Fall
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 3
4 - 6
7 - 8
9 - 13
14 - 18


Red-throated Loon (RTLO) - Summer
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 1.333
1.334 - 2.063
2.064 - 5.000
5.001 - 11.000
11.001 - 28.000


rtlo
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
5
10
15
Number of presences in a BOEM lease block


Red-throated Loon (RTLO) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900


Red-throated Loon (RTLO) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

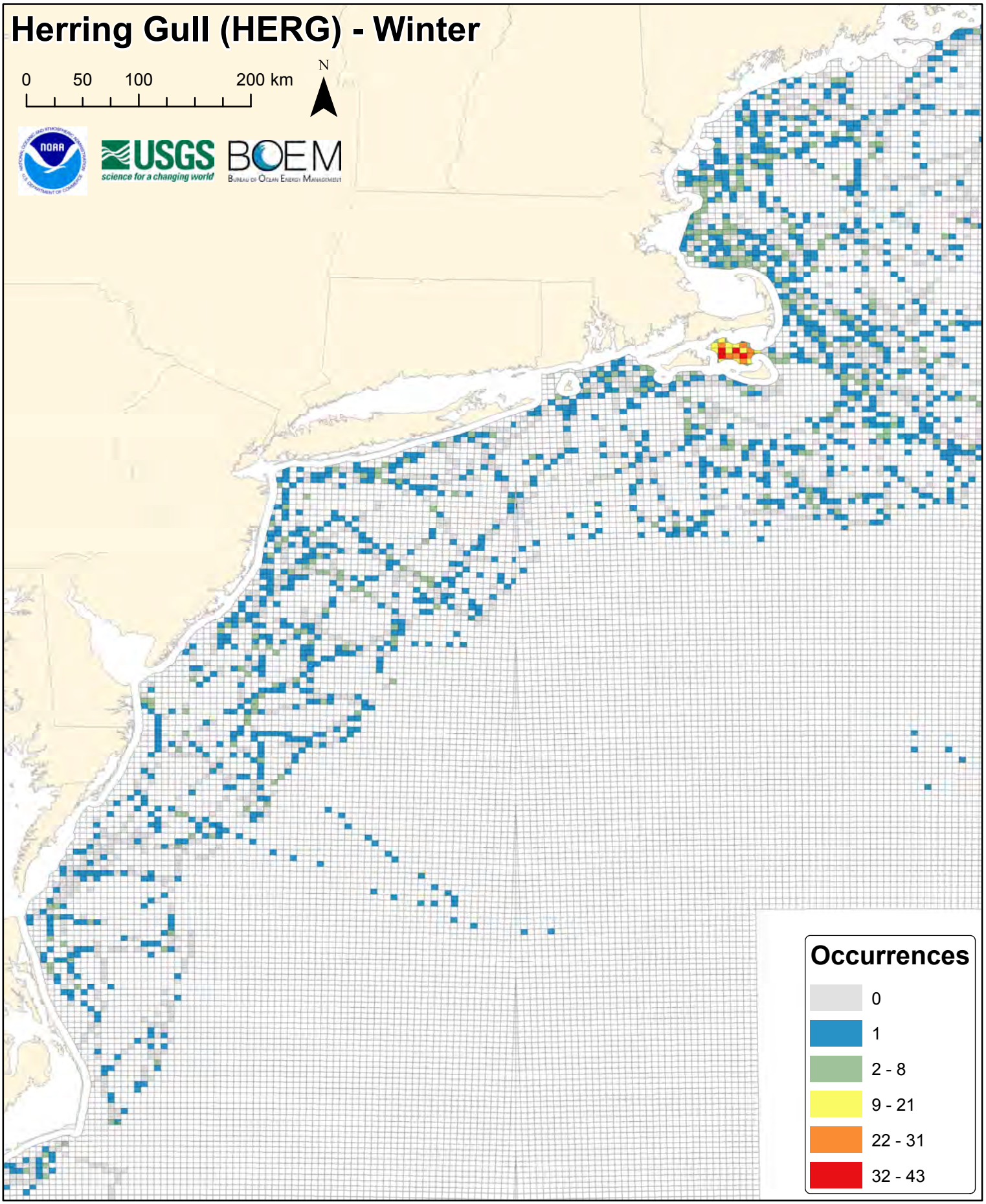

Red-throated Loon (RTLO) - Fall
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

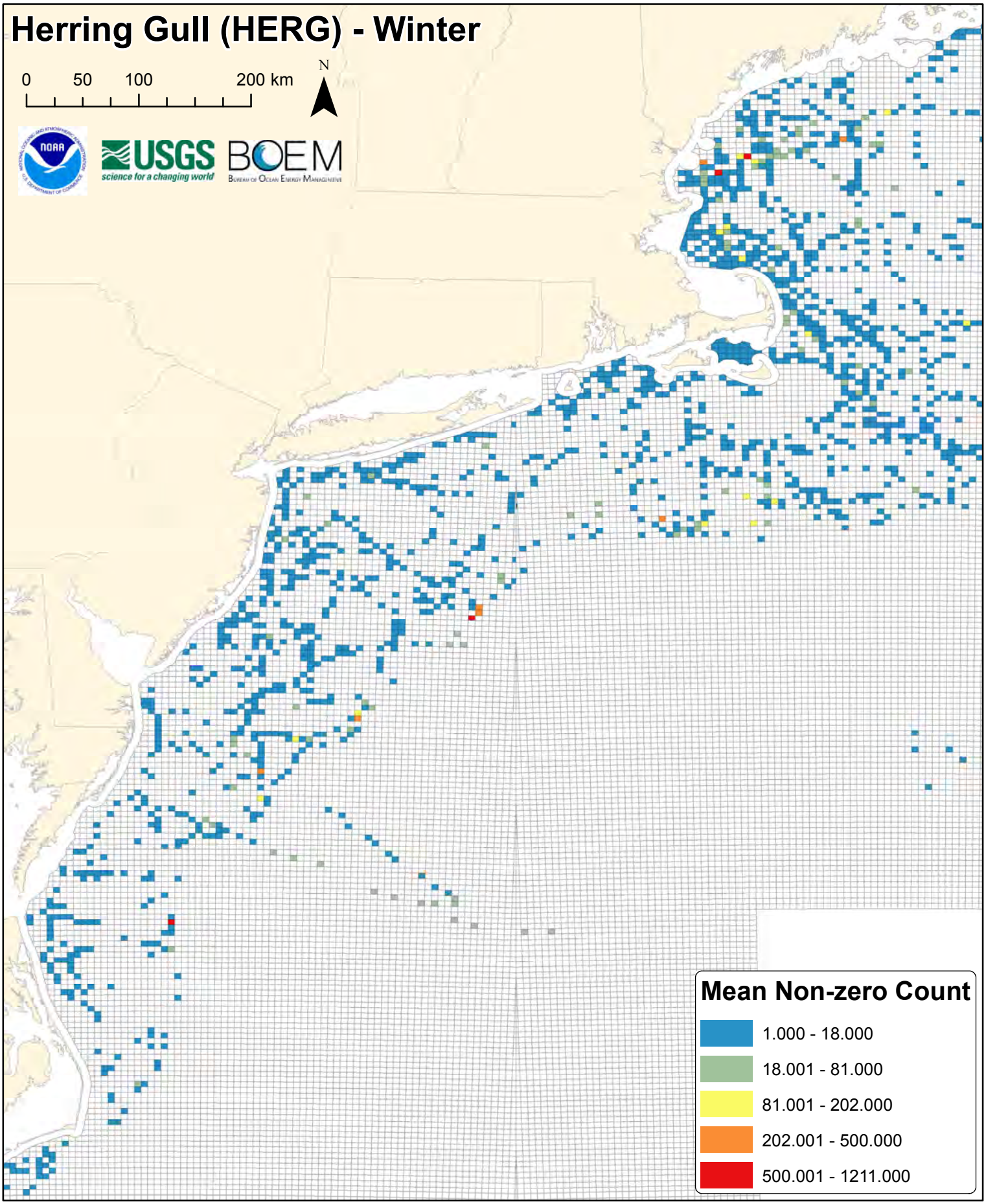
DIGITAL SUPPLEMENT F

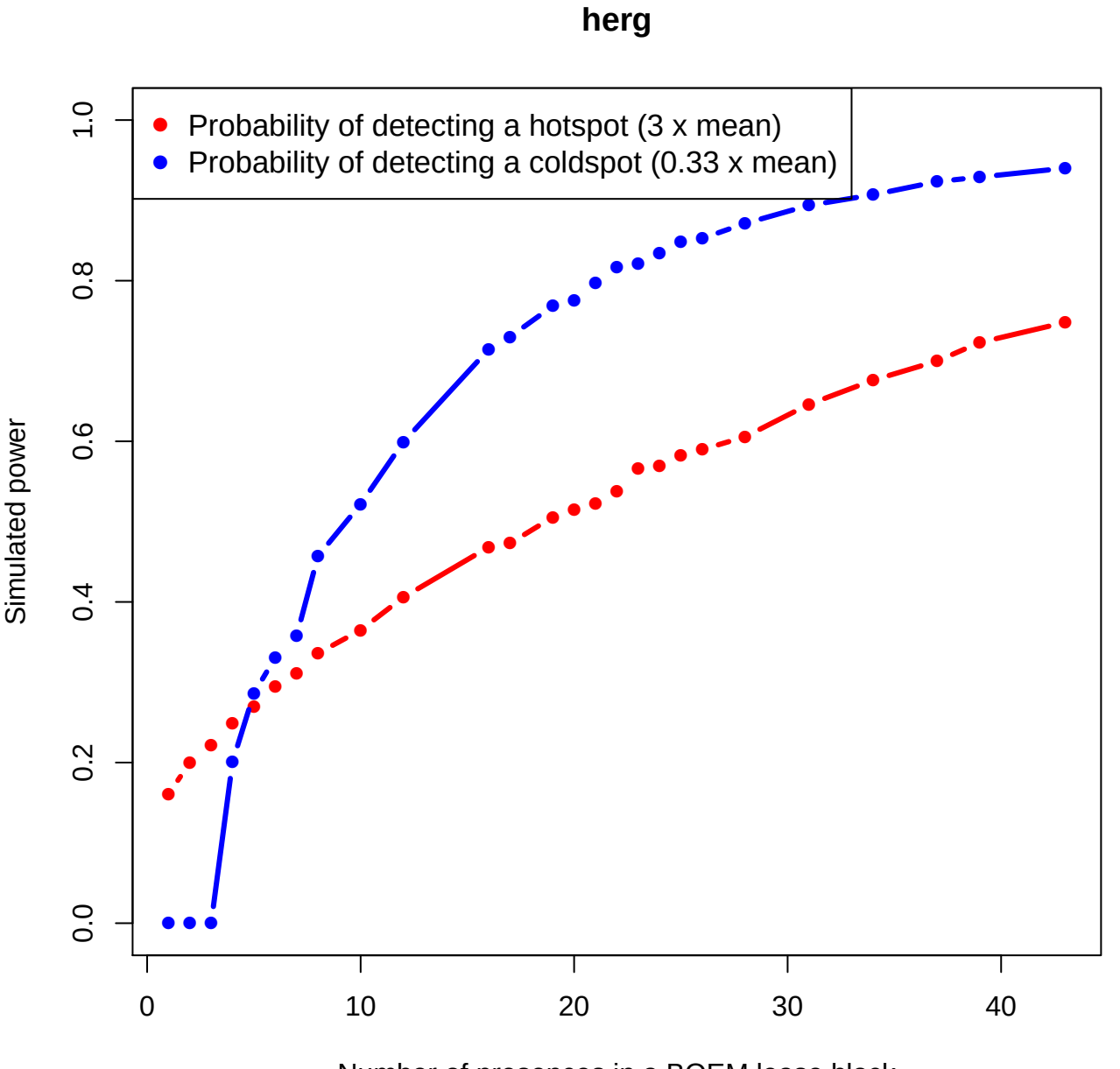
Conditional (Non-Zero Count) Model Results

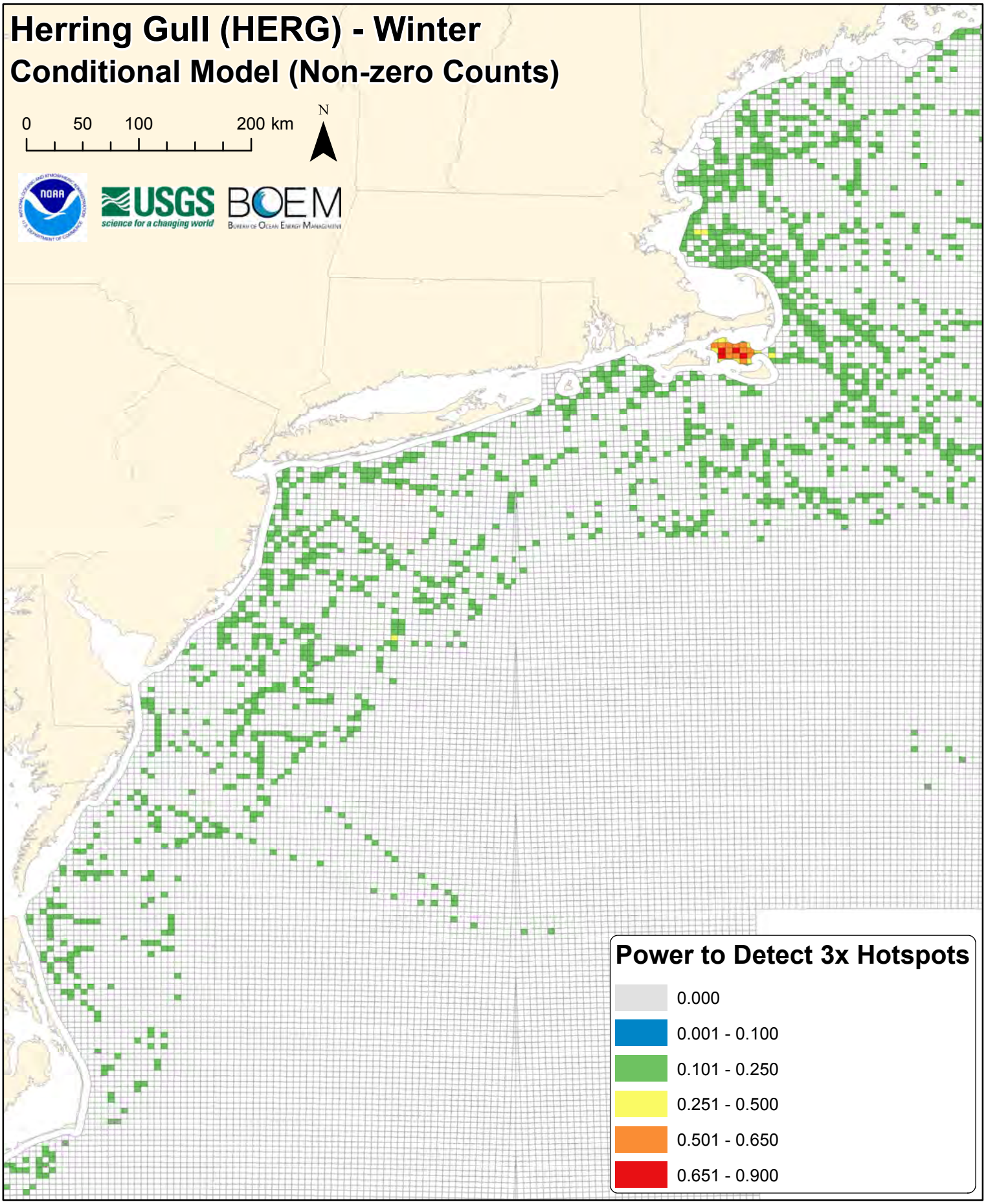
SECTION II. Species-specific Power Analysis Maps and Figures

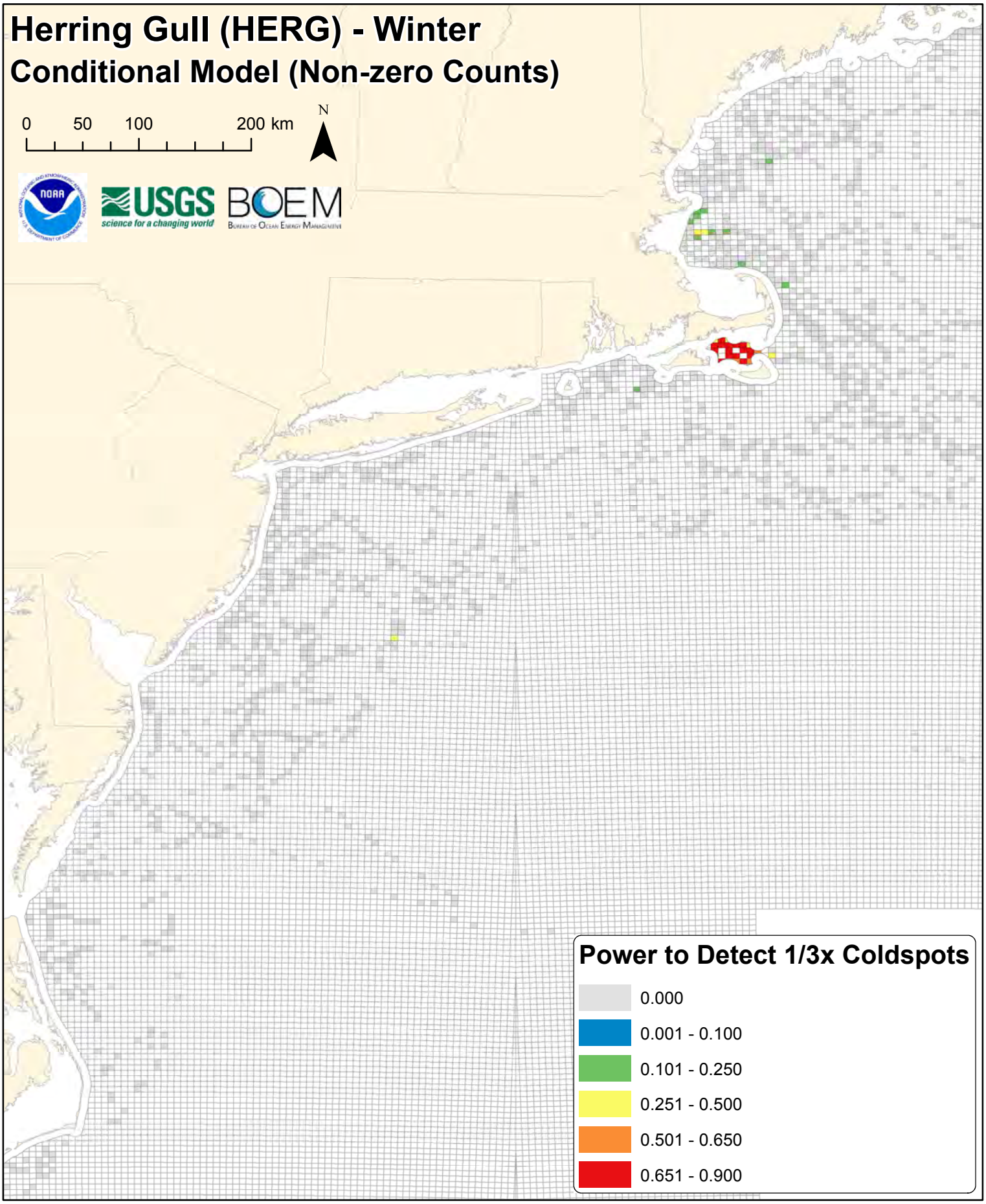
Figures F216-F275. Winter power analysis maps and figures (10 species x 6 figures per species).

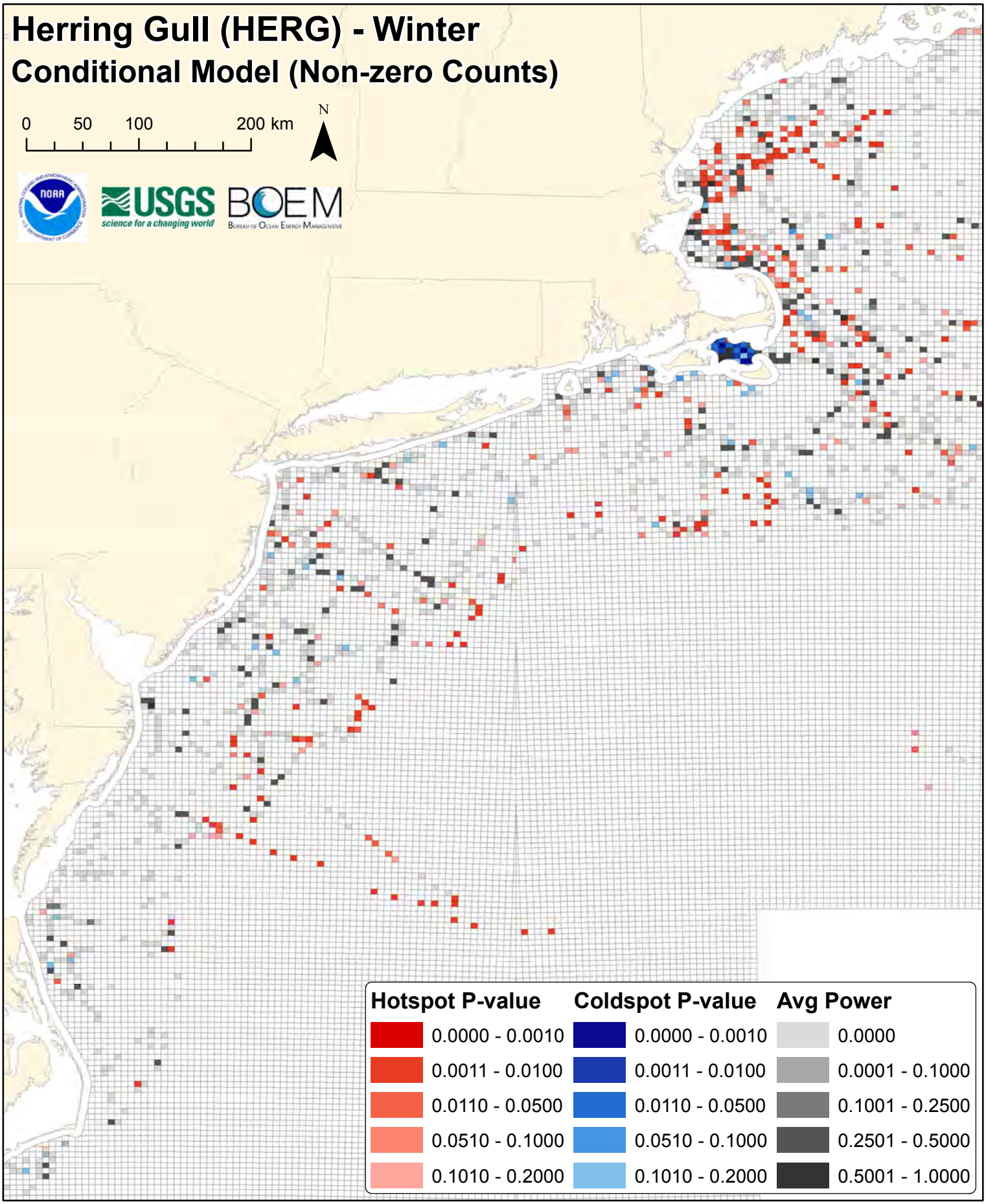

Herring Gull (HERG) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2 - 8
9 - 21
22 - 31
32 - 43

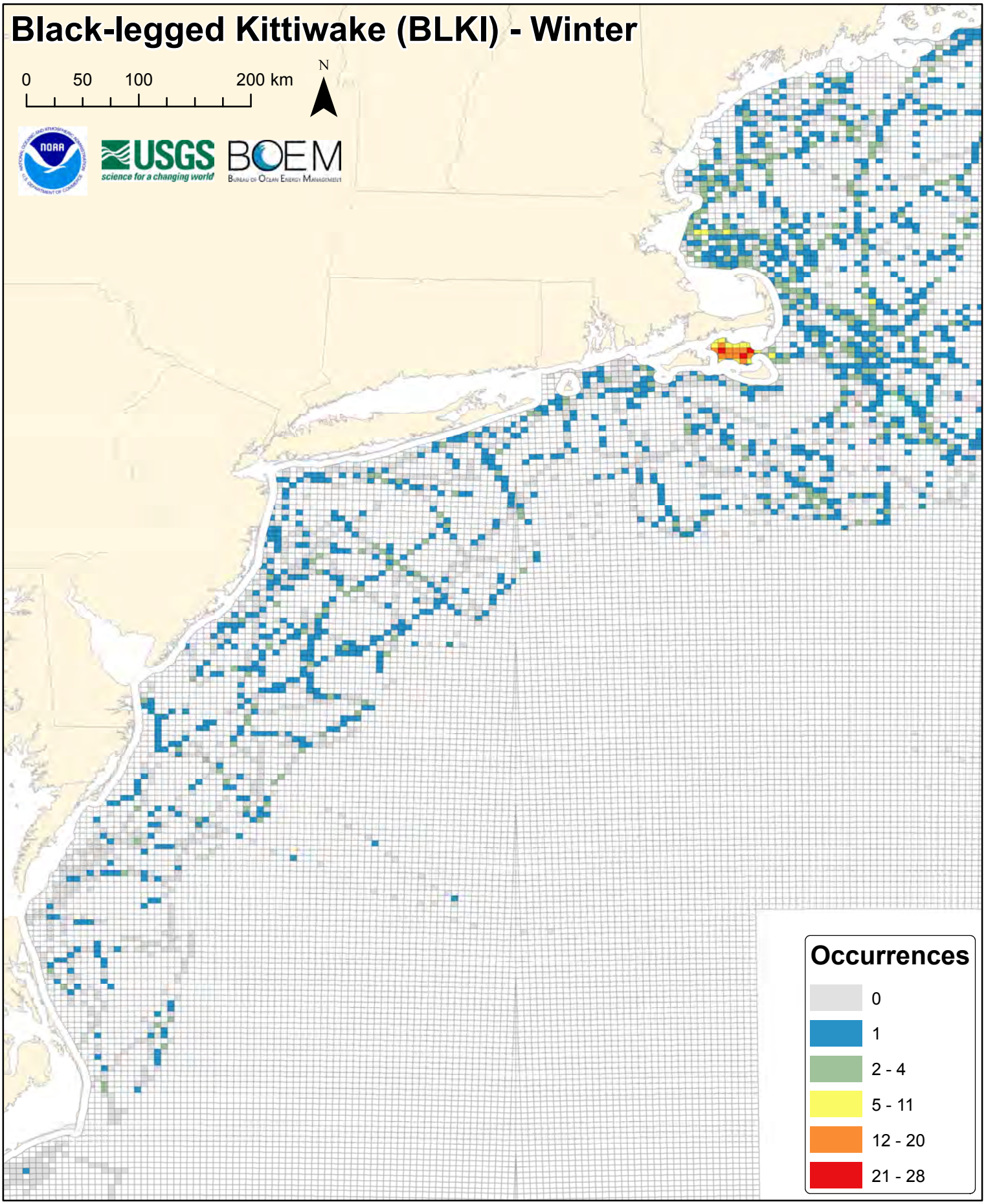

Herring Gull (HERG) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 18.000
18.001 - 81.000
81.001 - 202.000
202.001 - 500.000
500.001 - 1211.000

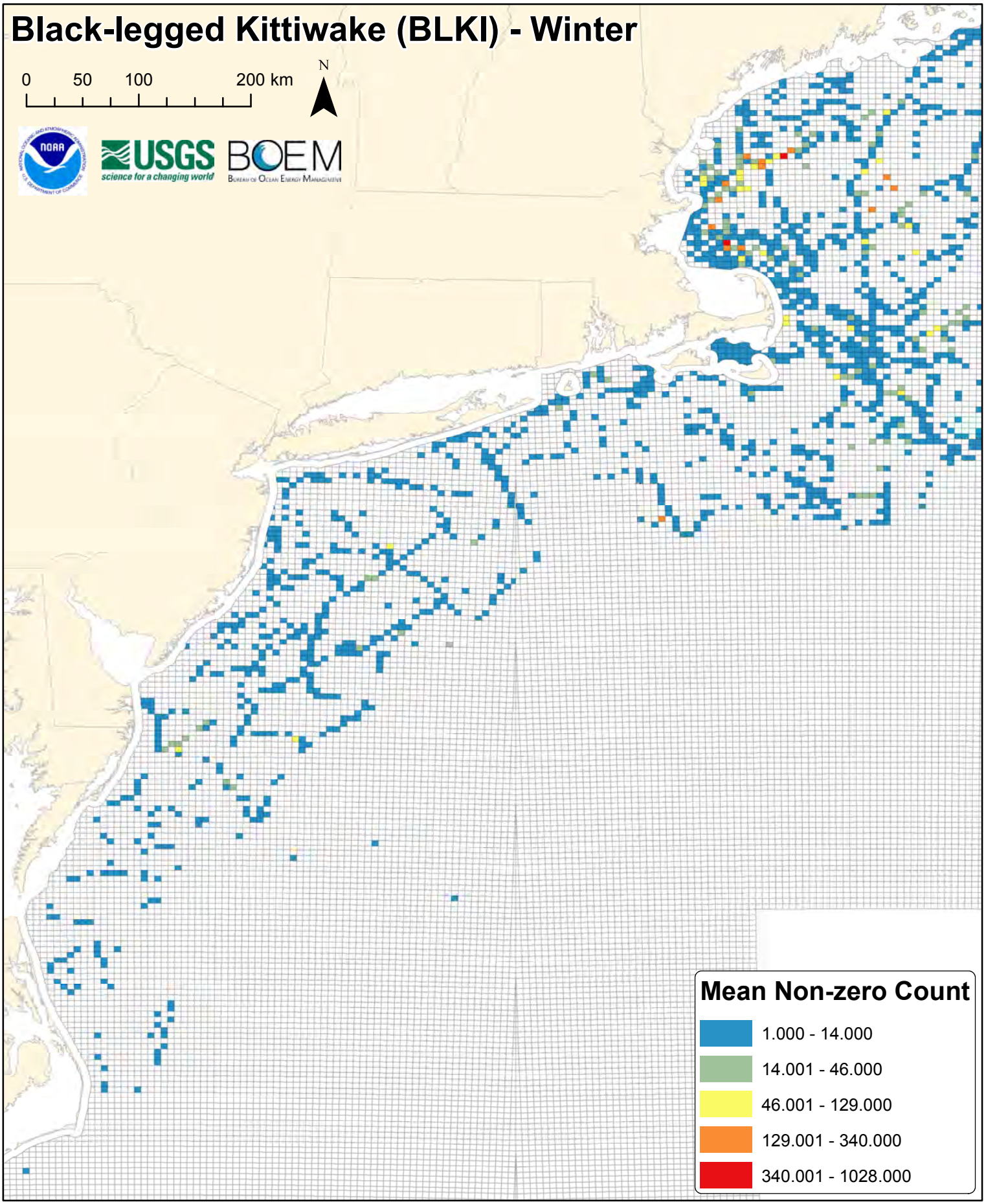

herg
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
Number of presences in a BOEM lease block

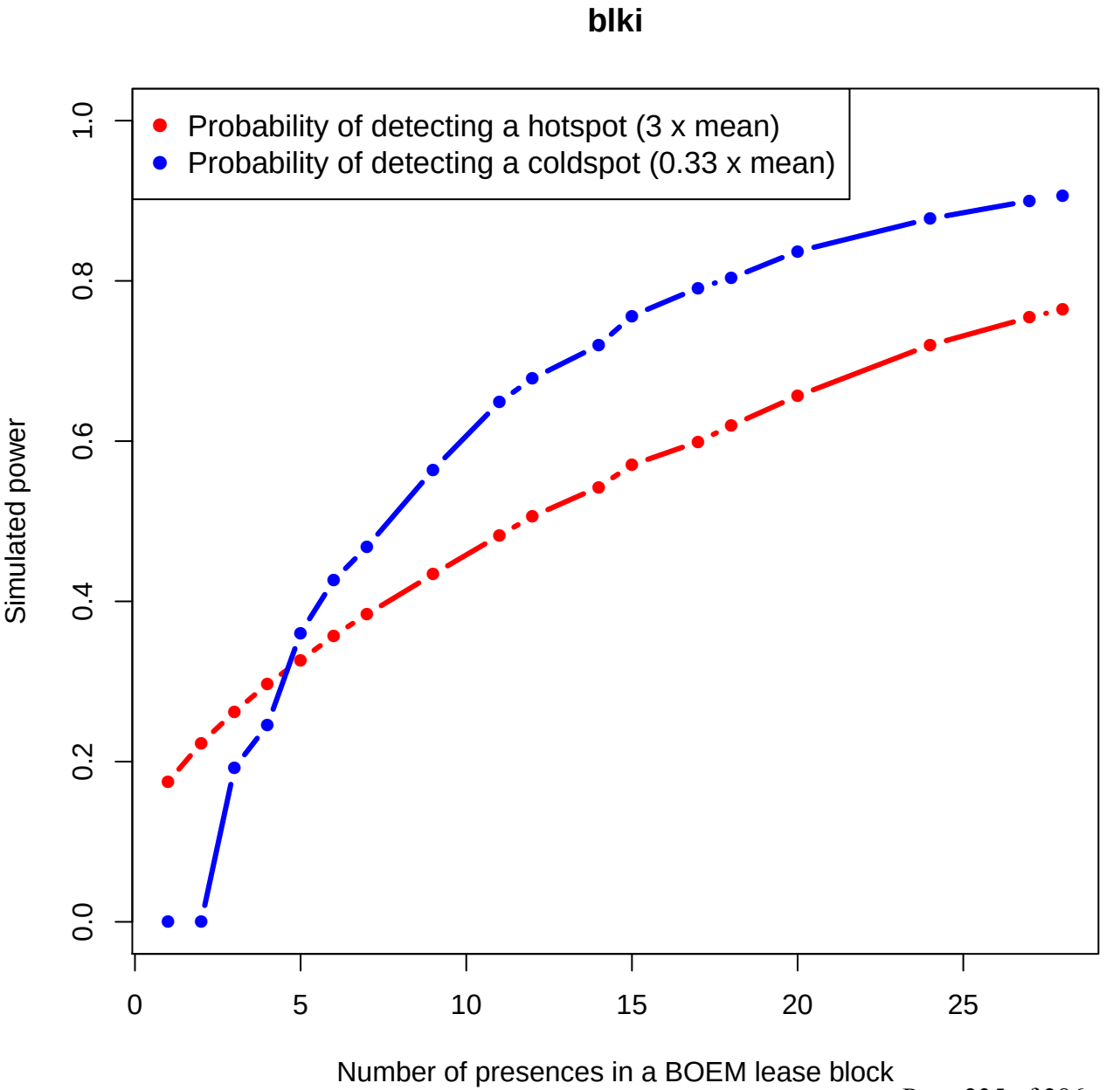

Herring Gull (HERG) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

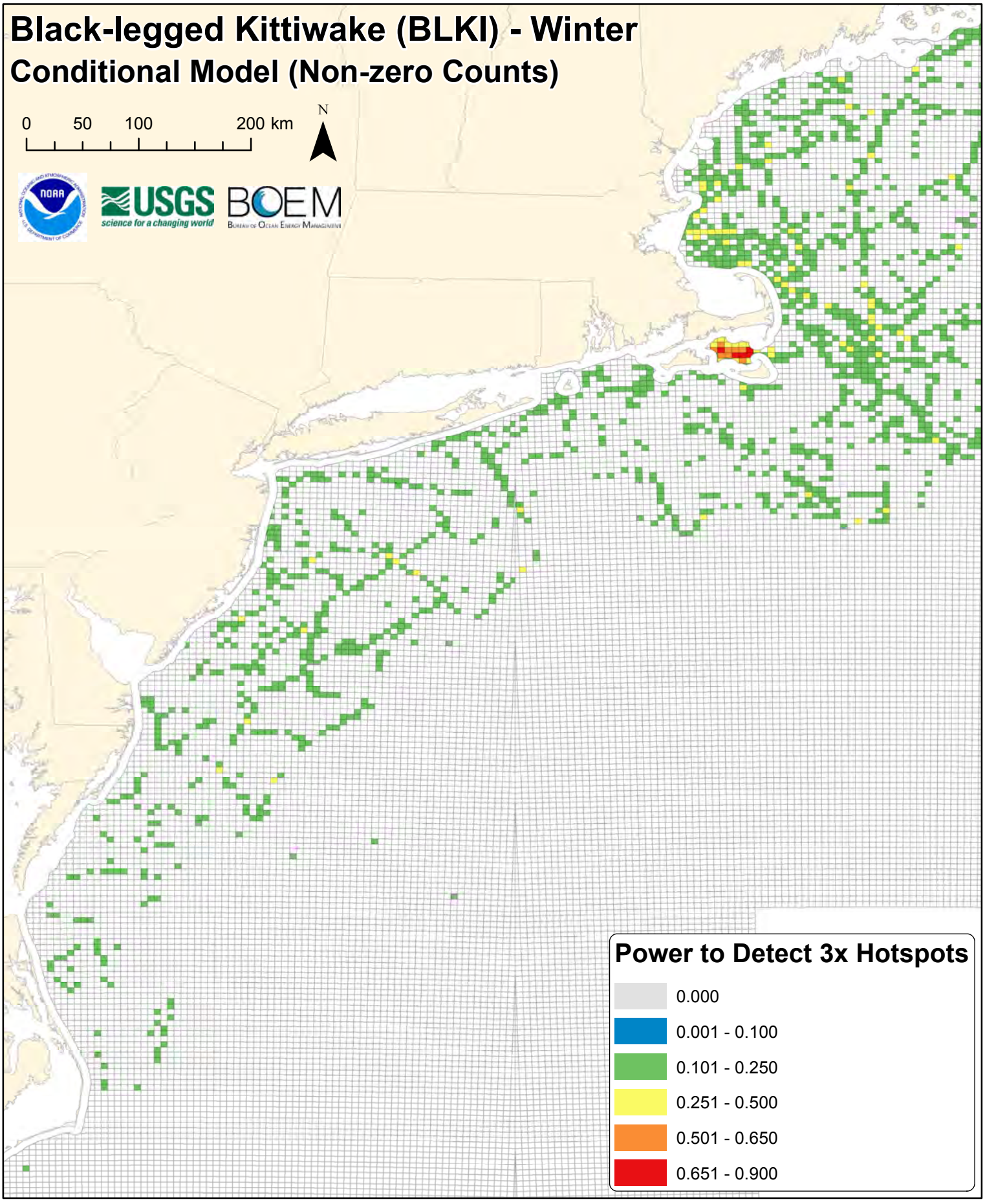

Herring Gull (HERG) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

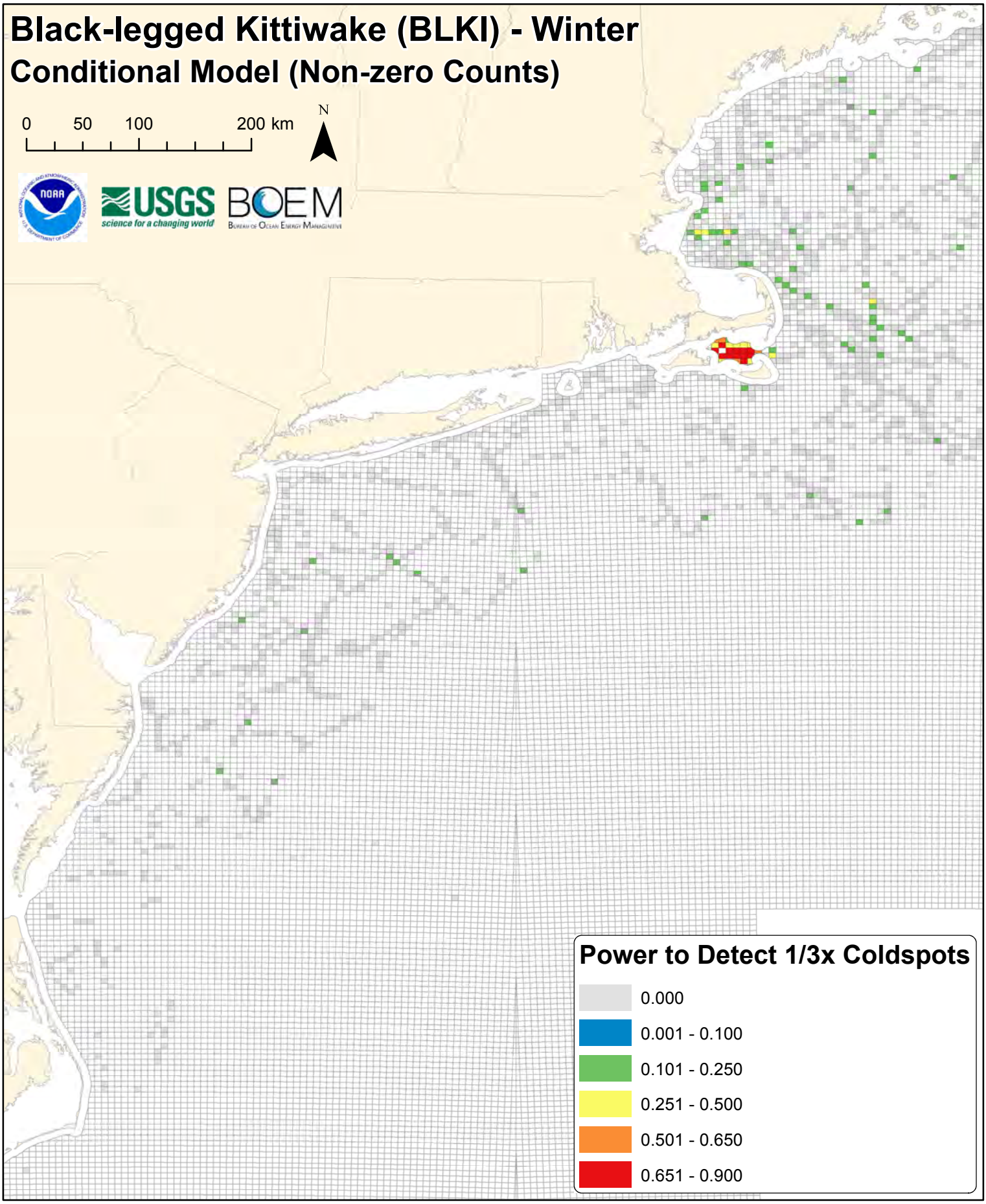

Herring Gull (HERG) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

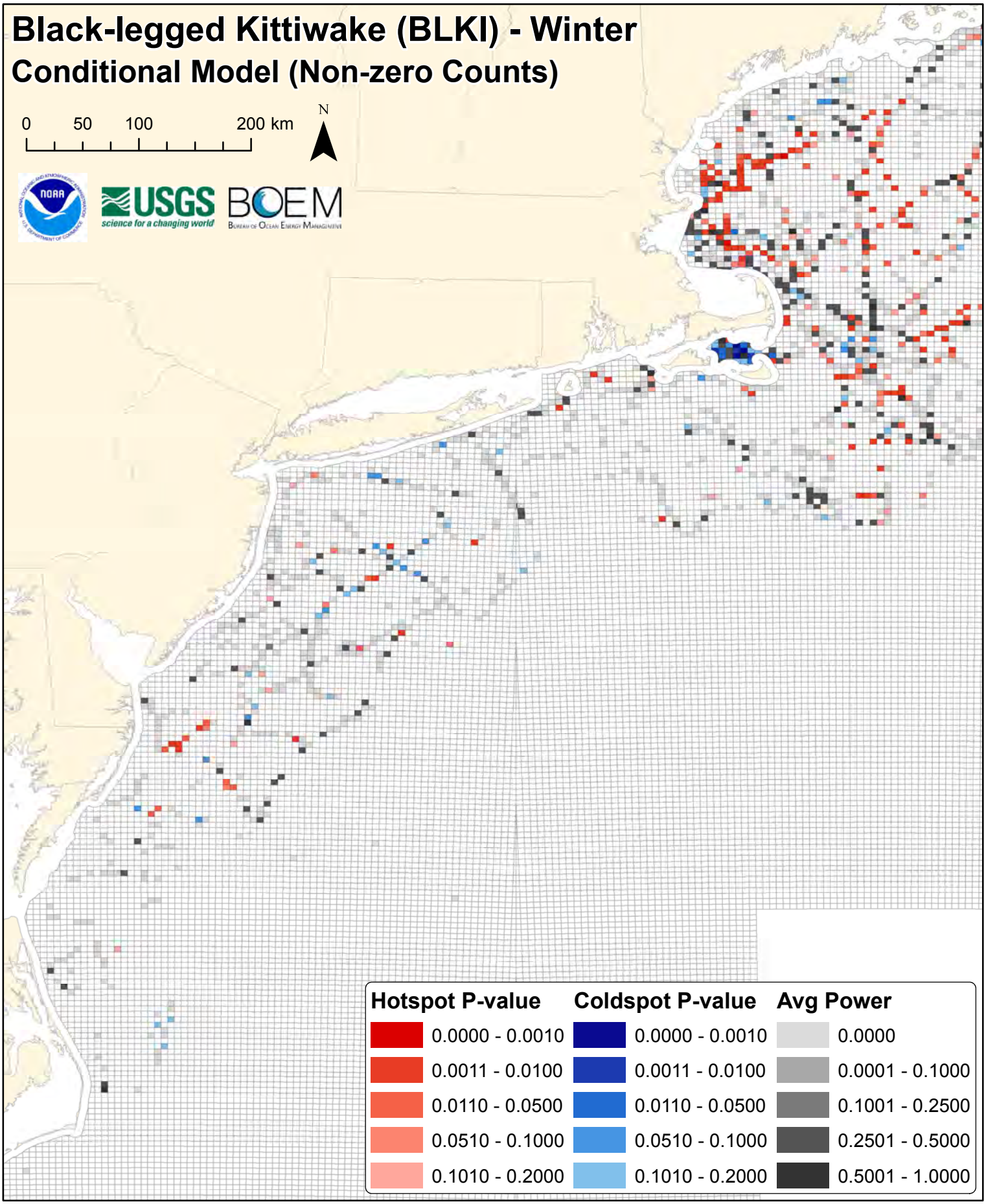

Black-legged Kittiwake (BLKI) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2 - 4
5 - 11
12 - 20
21 - 28

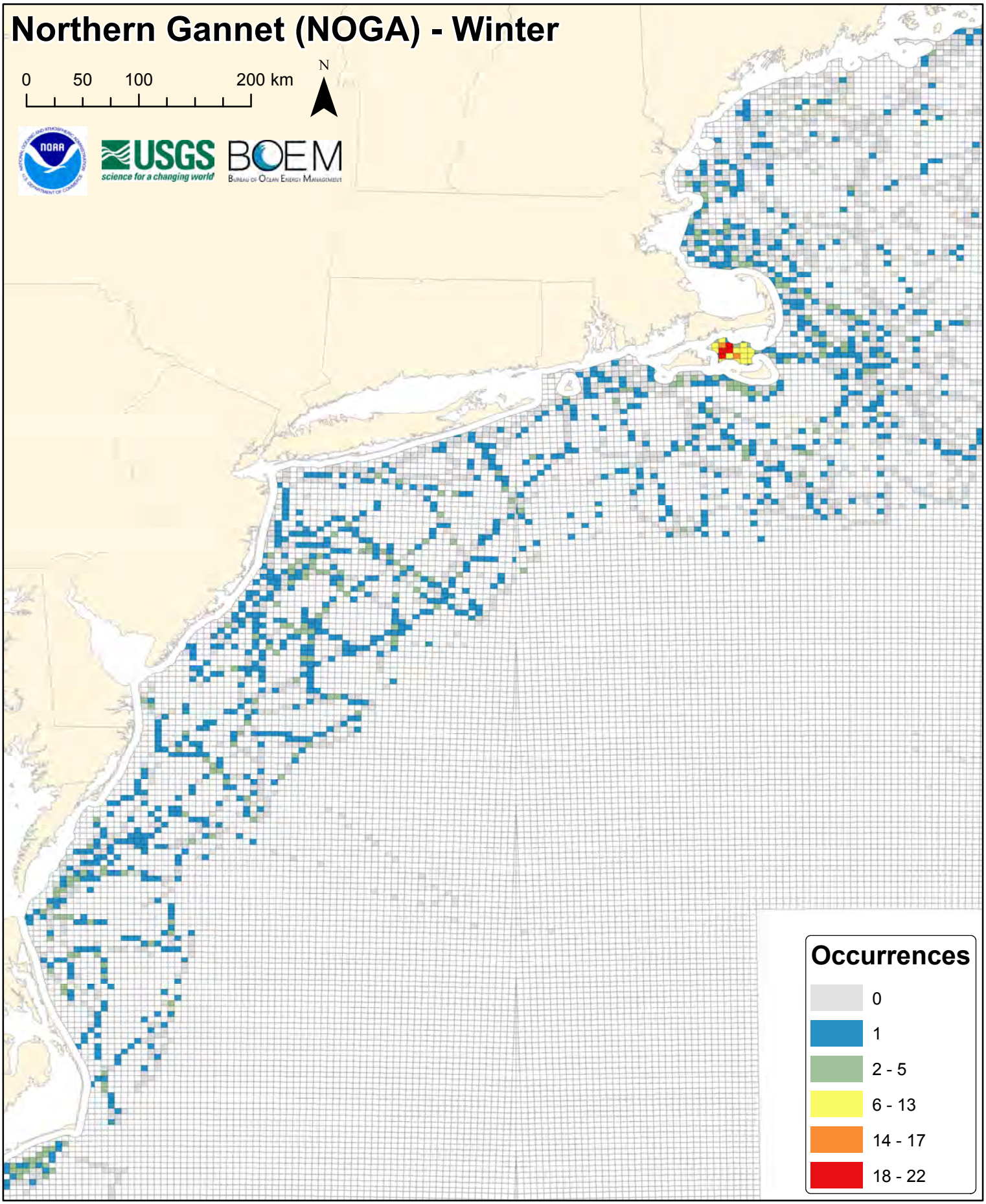

Black-legged Kittiwake (BLKI) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 14.000
14.001 - 46.000
46.001 - 129.000
129.001 - 340.000
340.001 - 1028.000

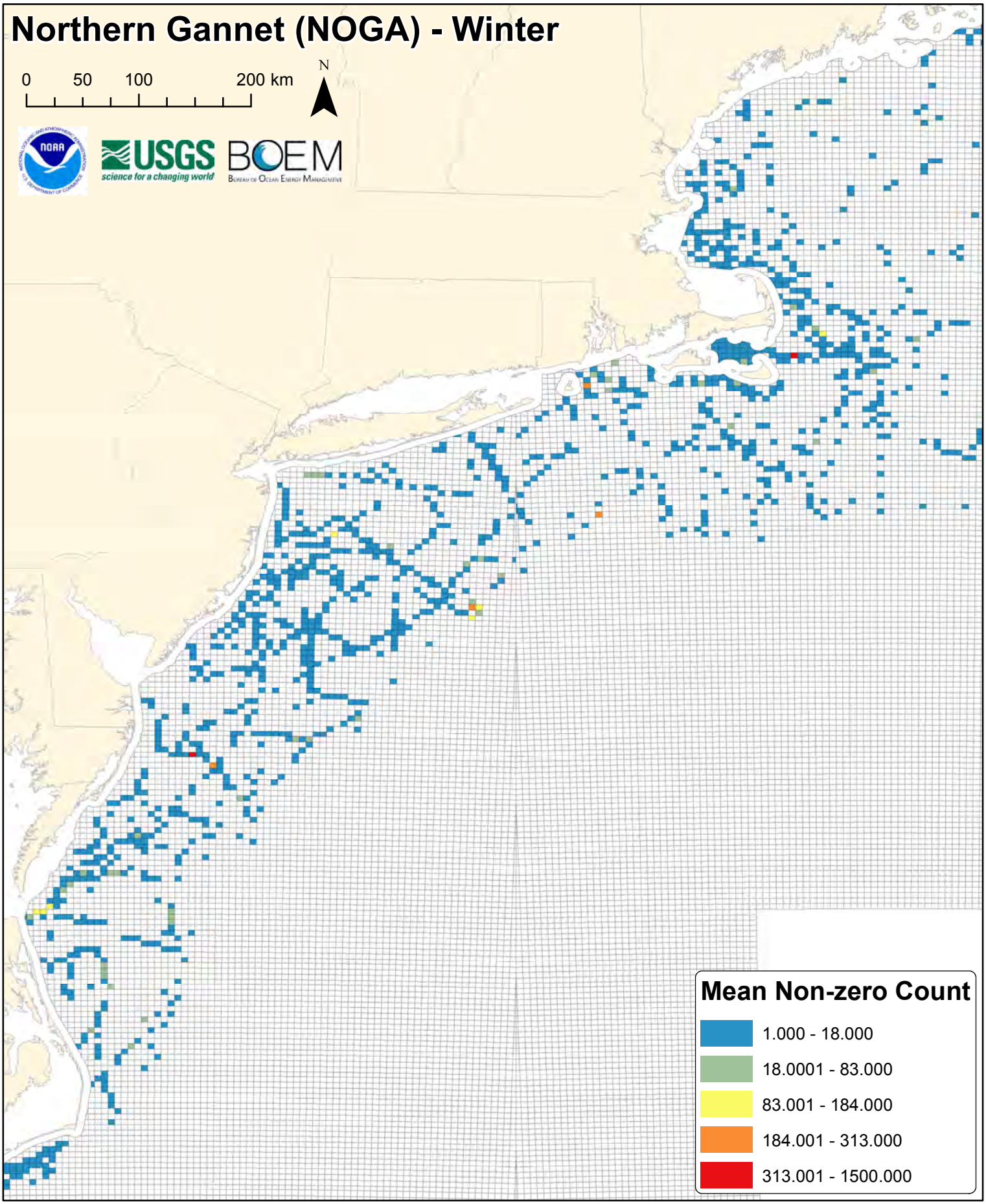

blki
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
5
10
15
20
25
Number of presences in a BOEM lease block

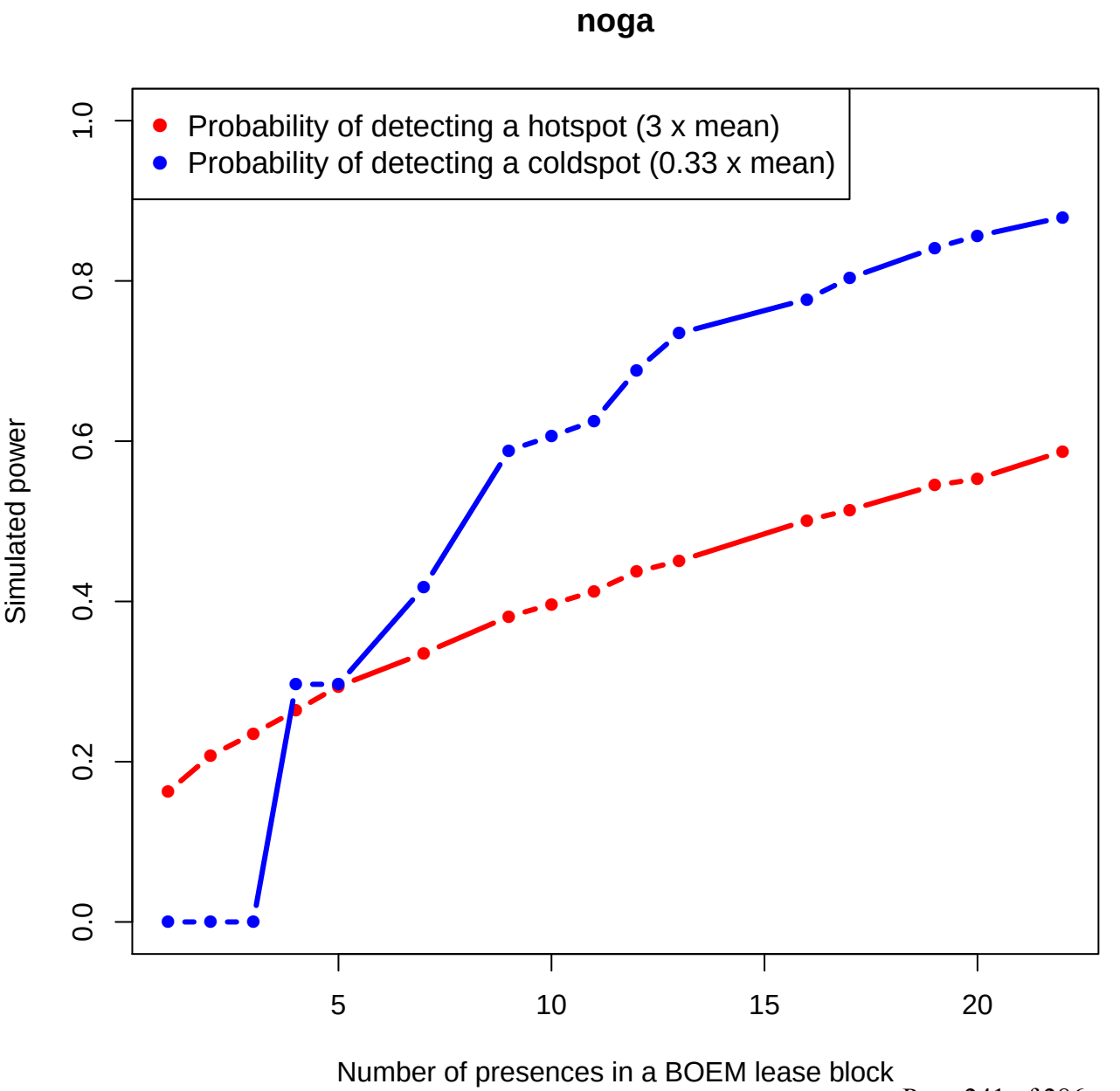

Black-legged Kittiwake (BLKI) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

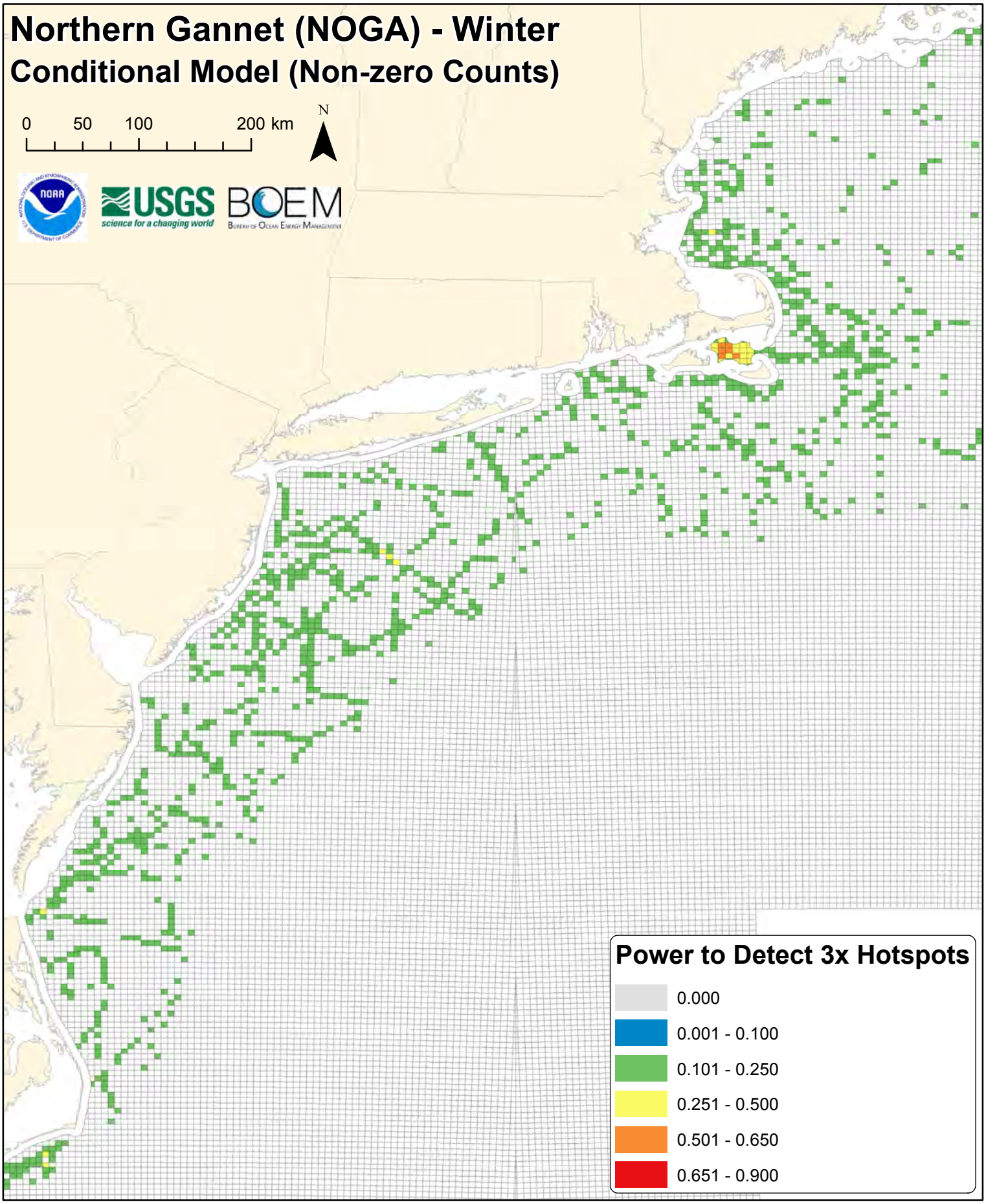

Black-legged Kittiwake (BLKI) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

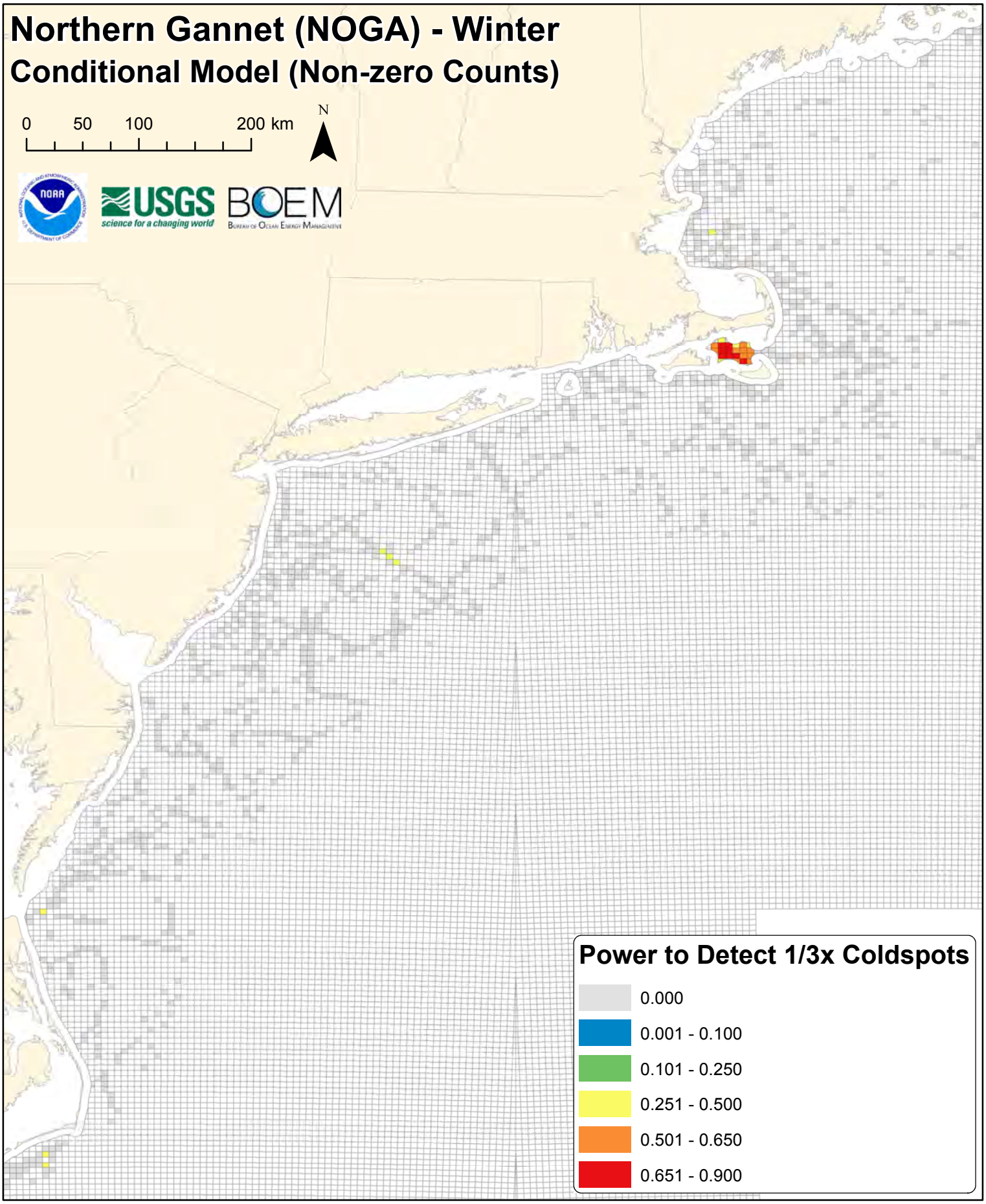

Black-legged Kittiwake (BLKI) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

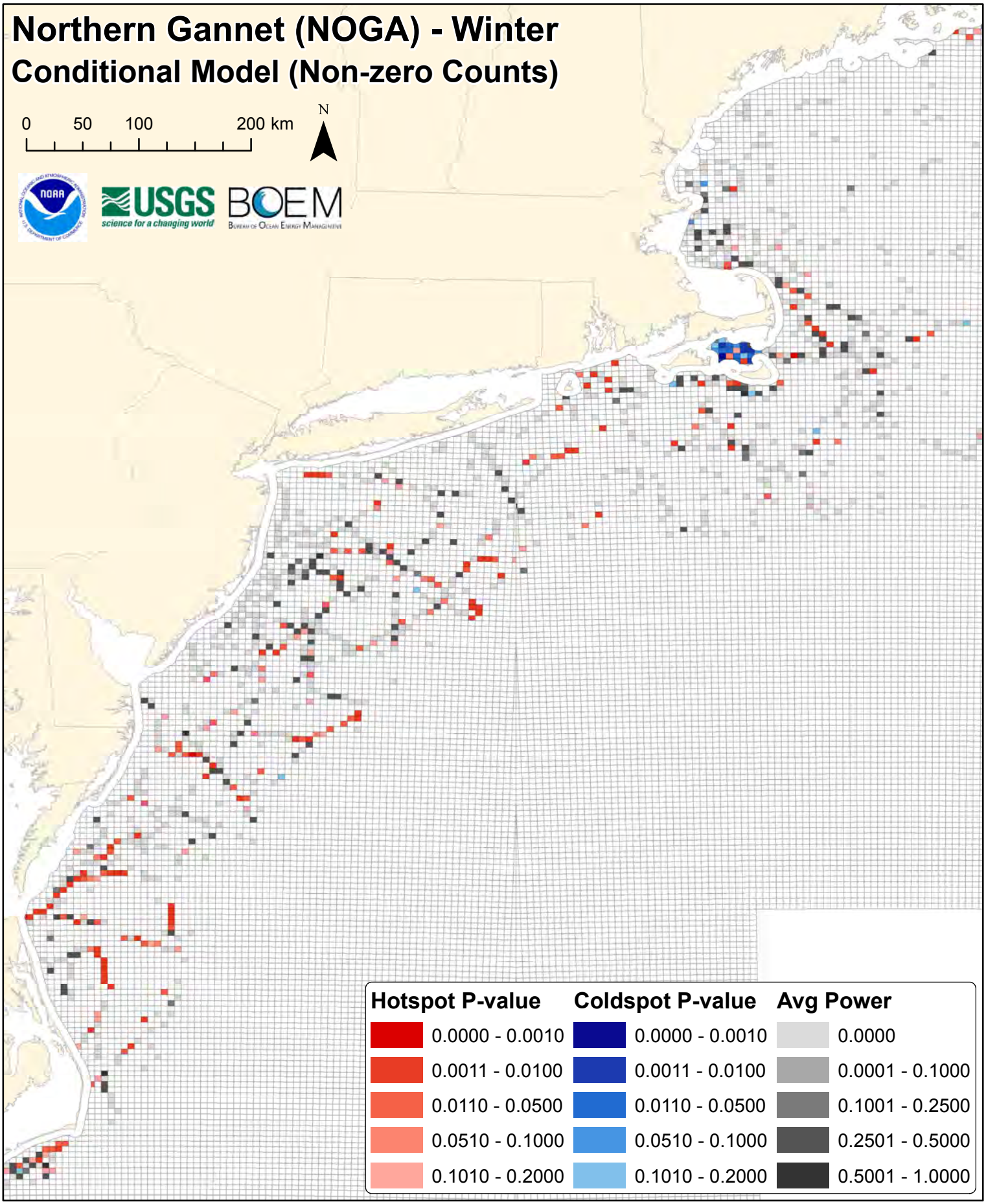

Northern Gannet (NOGA) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2 - 5
6 - 13
14 - 17
18 - 22

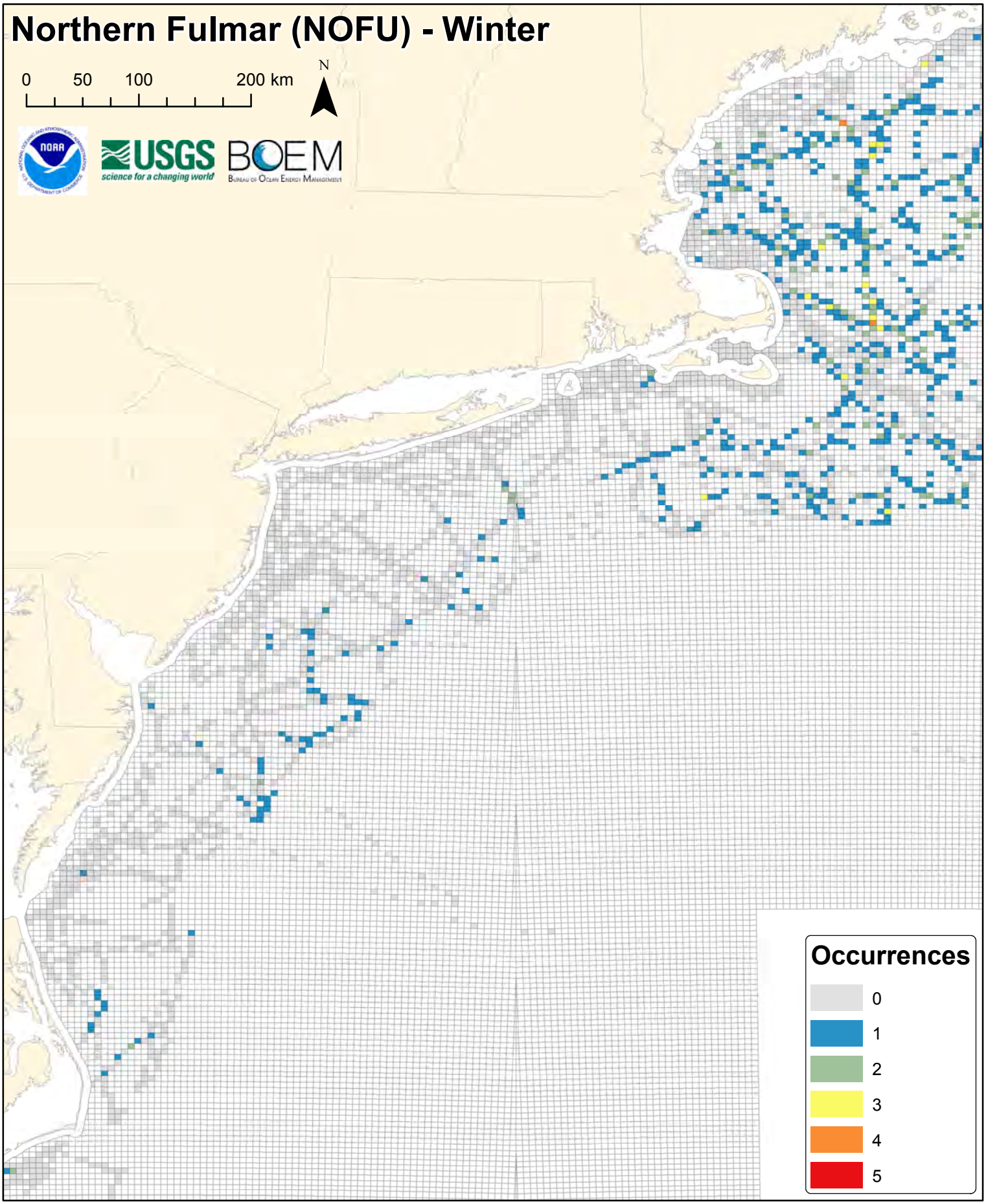

Northern Gannet (NOGA) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 18.000
18.0001 - 83.000
83.001 - 184.000
184.001 - 313.000
313.001 - 1500.000

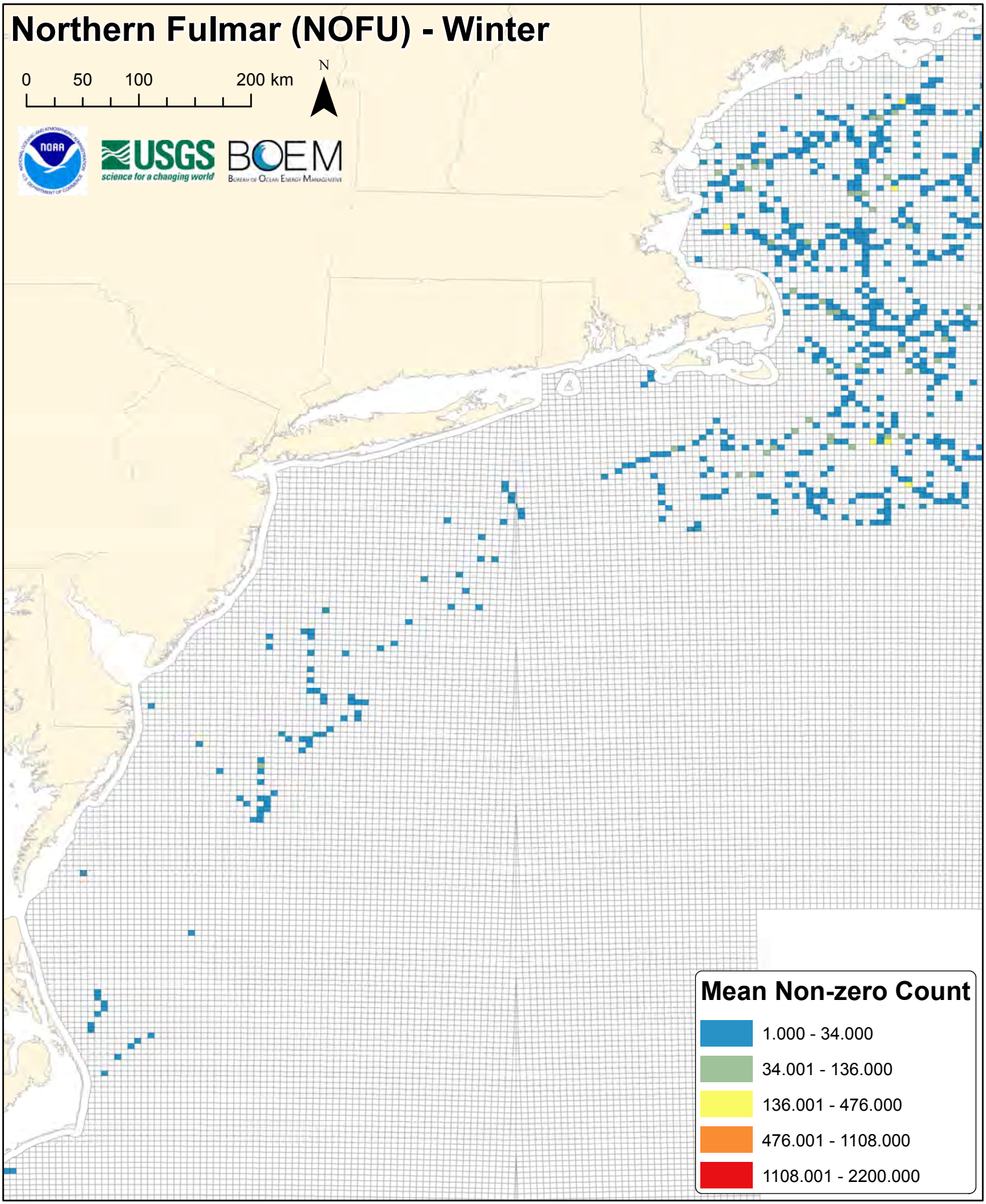

noga
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
5
10
15
20
Number of presences in a BOEM lease block

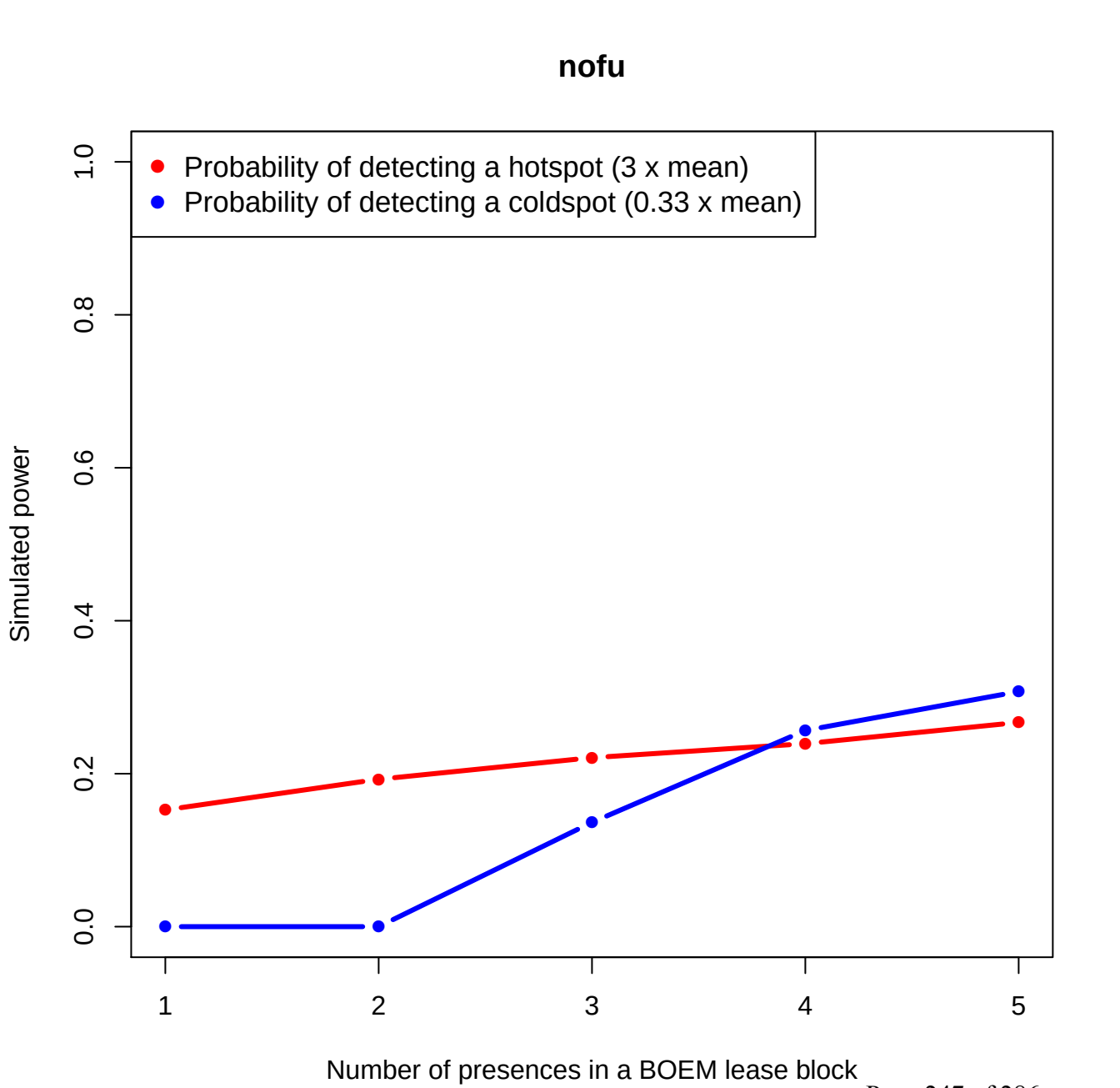

Northern Gannet (NOGA) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

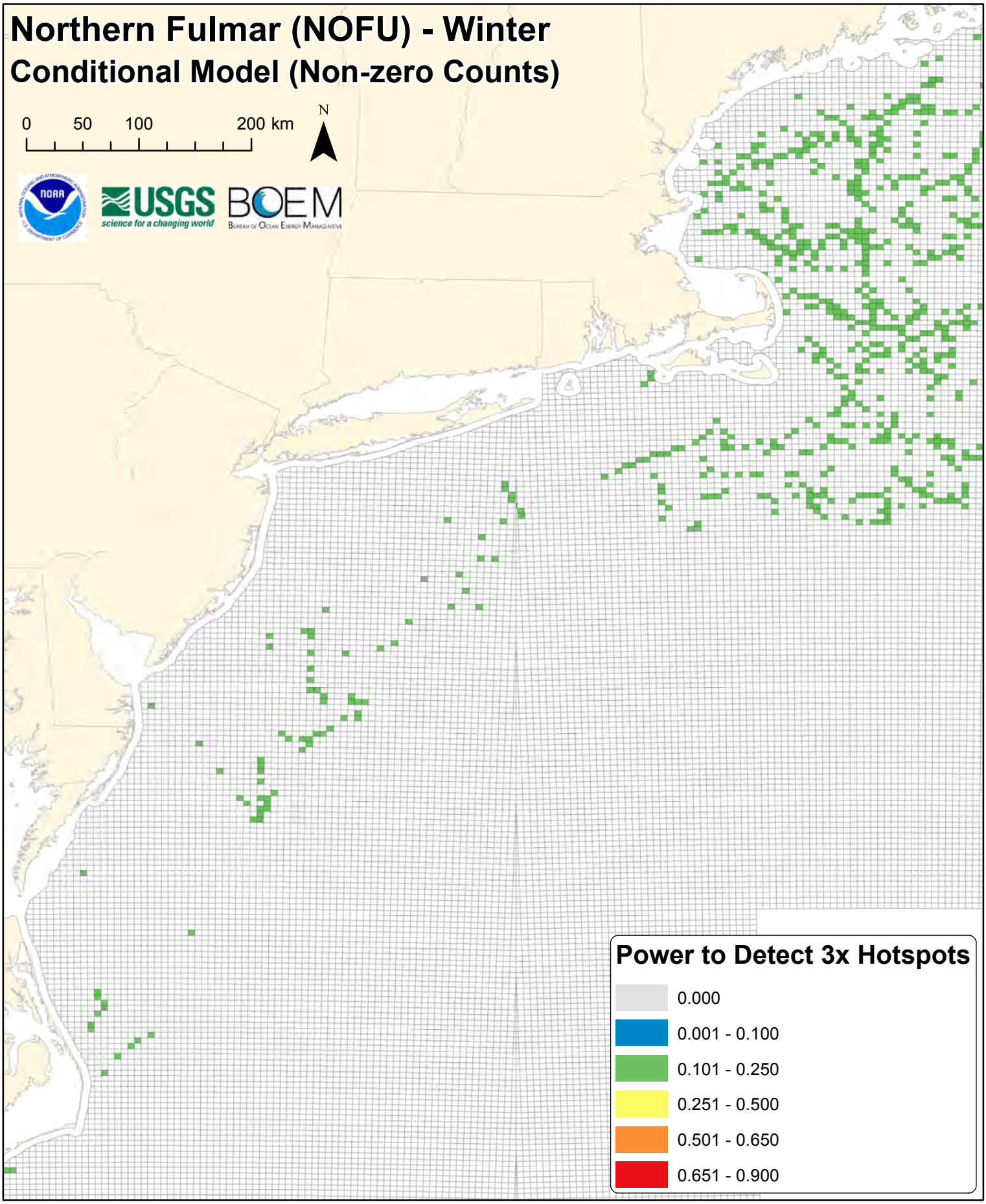

Northern Gannet (NOGA) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

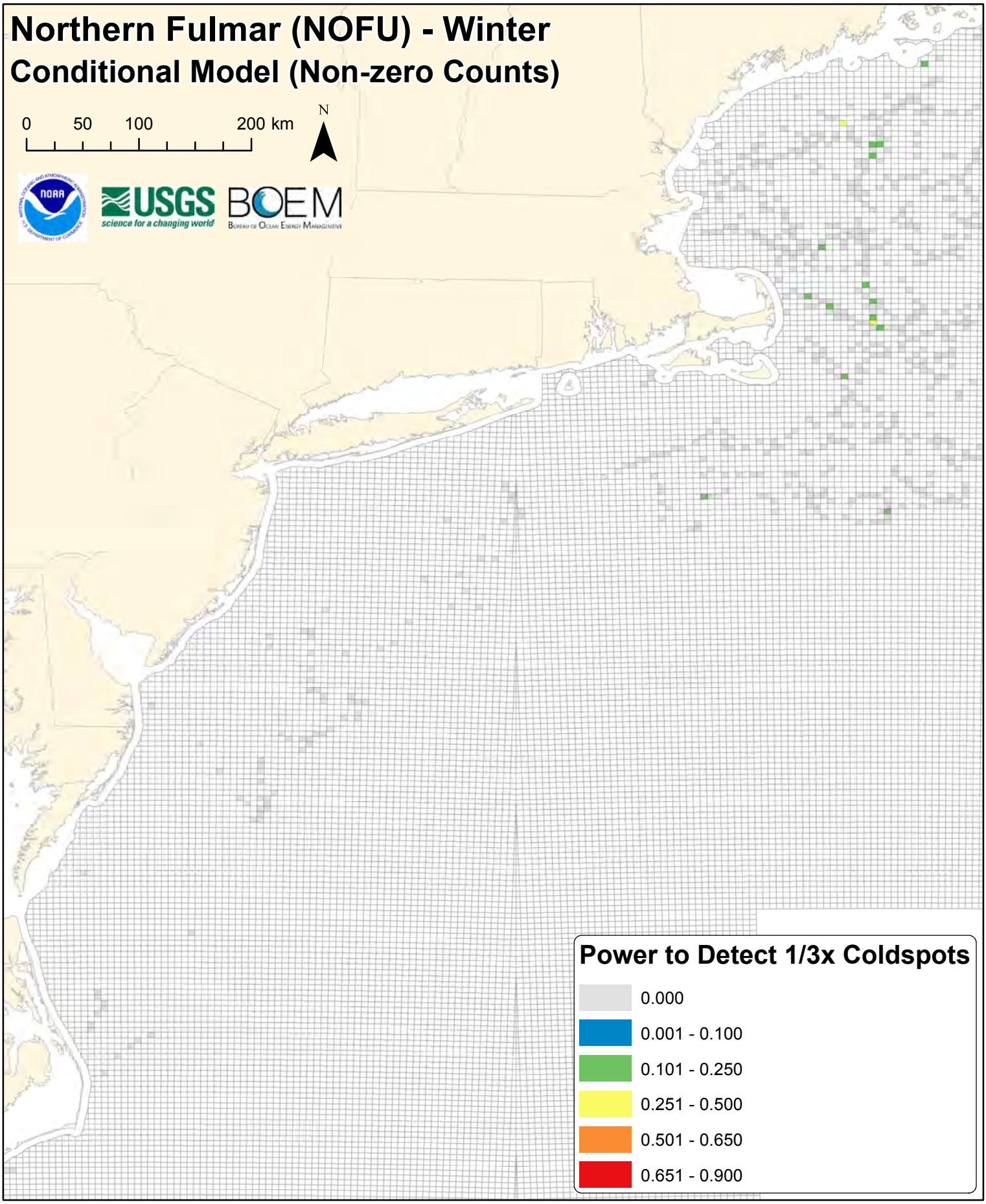

Northern Gannet (NOGA) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

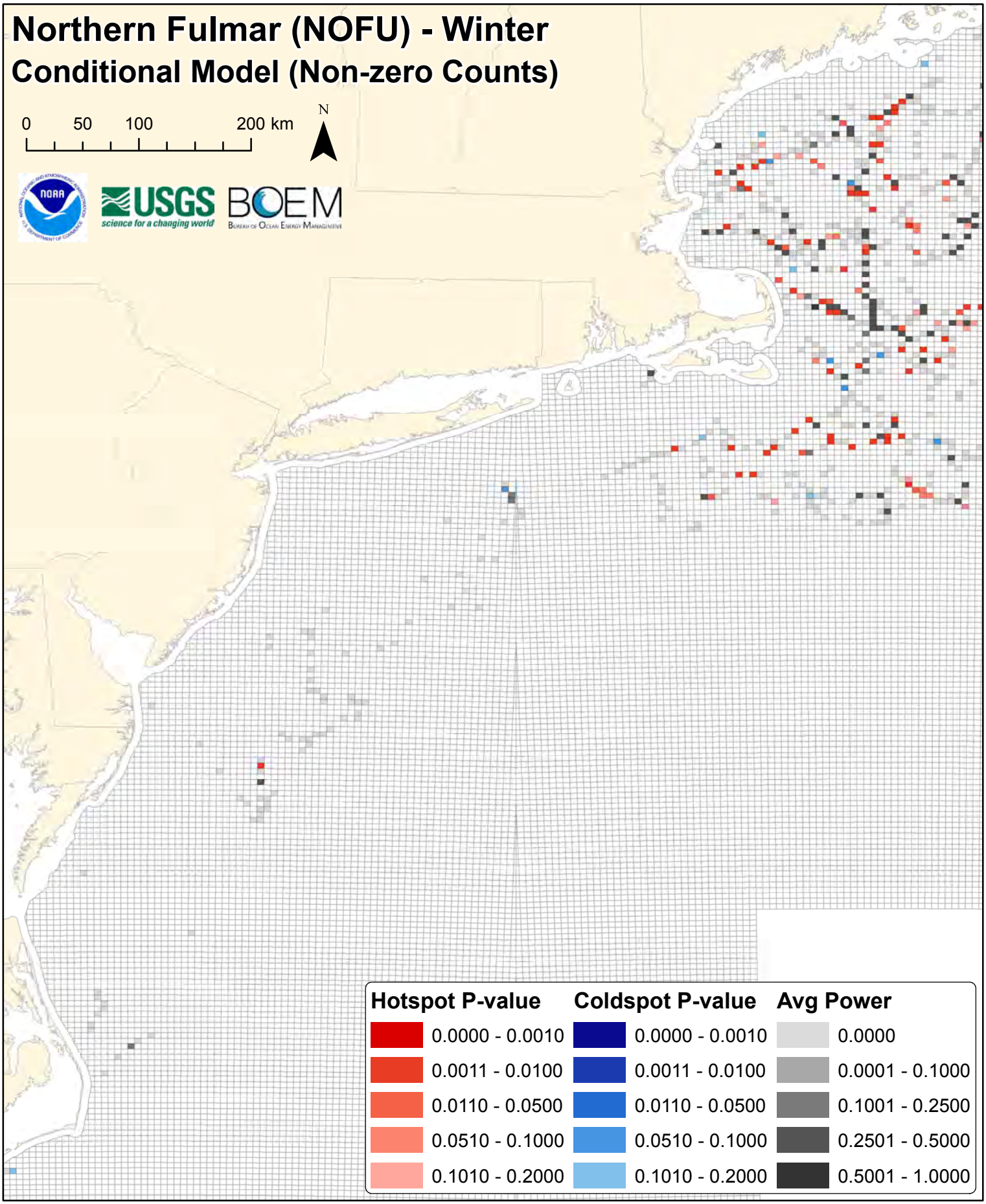

Northern Fulmar (NOFU) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2
3
4
5

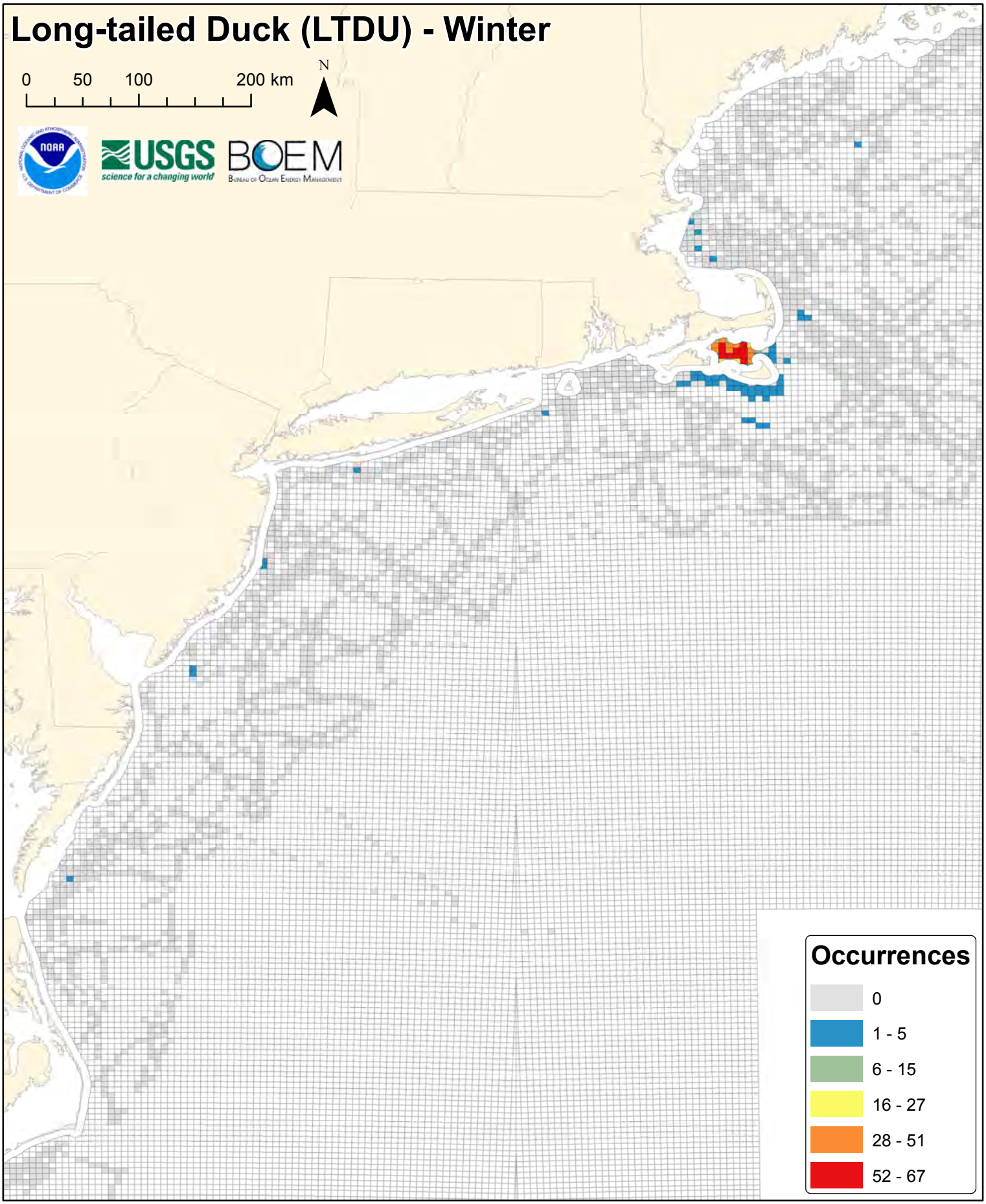

Northern Fulmar (NOFU) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 34.000
34.001 - 136.000
136.001 - 476.000
476.001 - 1108.000
1108.001 - 2200.000

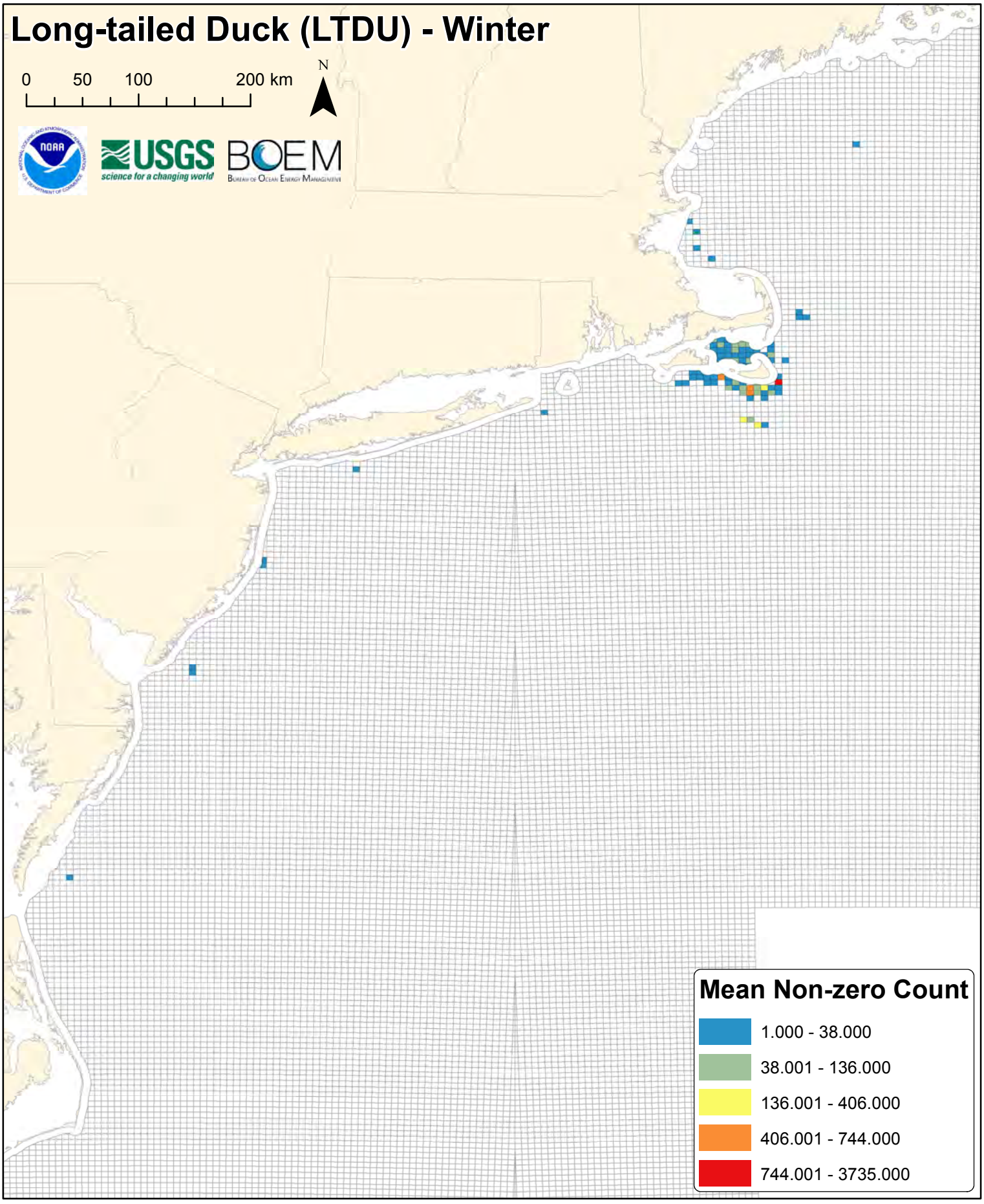

nofu
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
1
2
3
4
5
Number of presences in a BOEM lease block

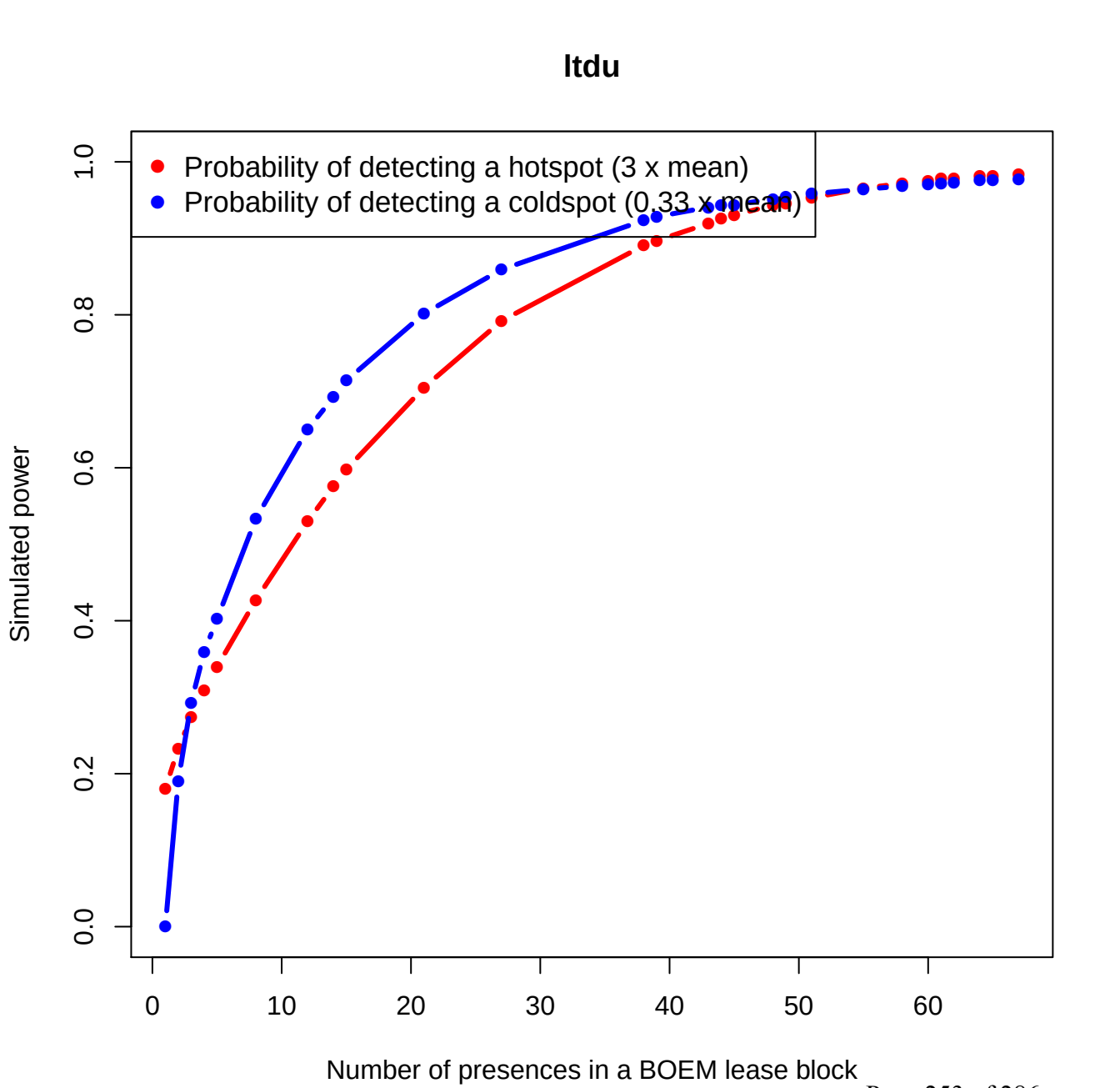

Northern Fulmar (NOFU) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

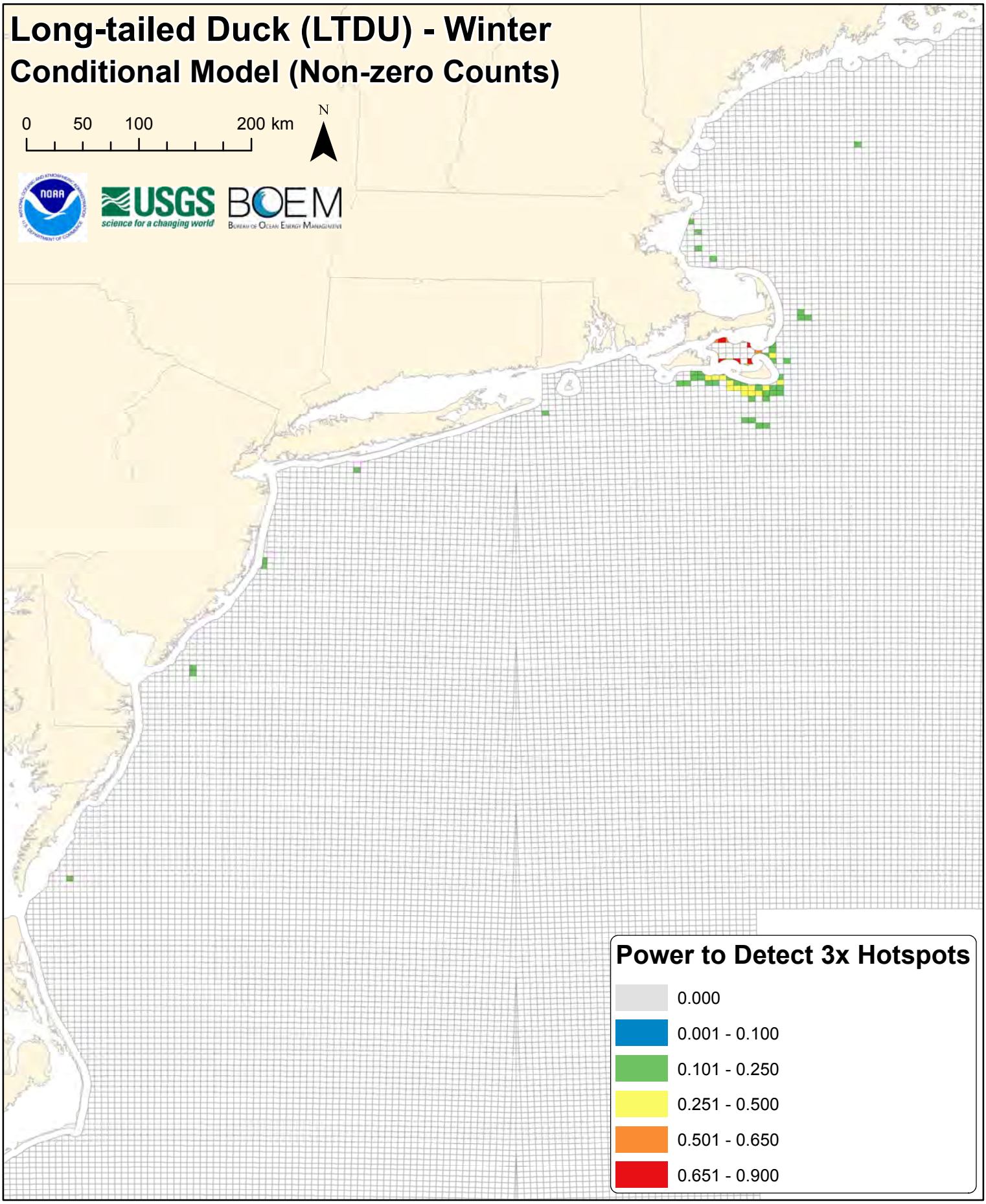

Northern Fulmar (NOFU) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

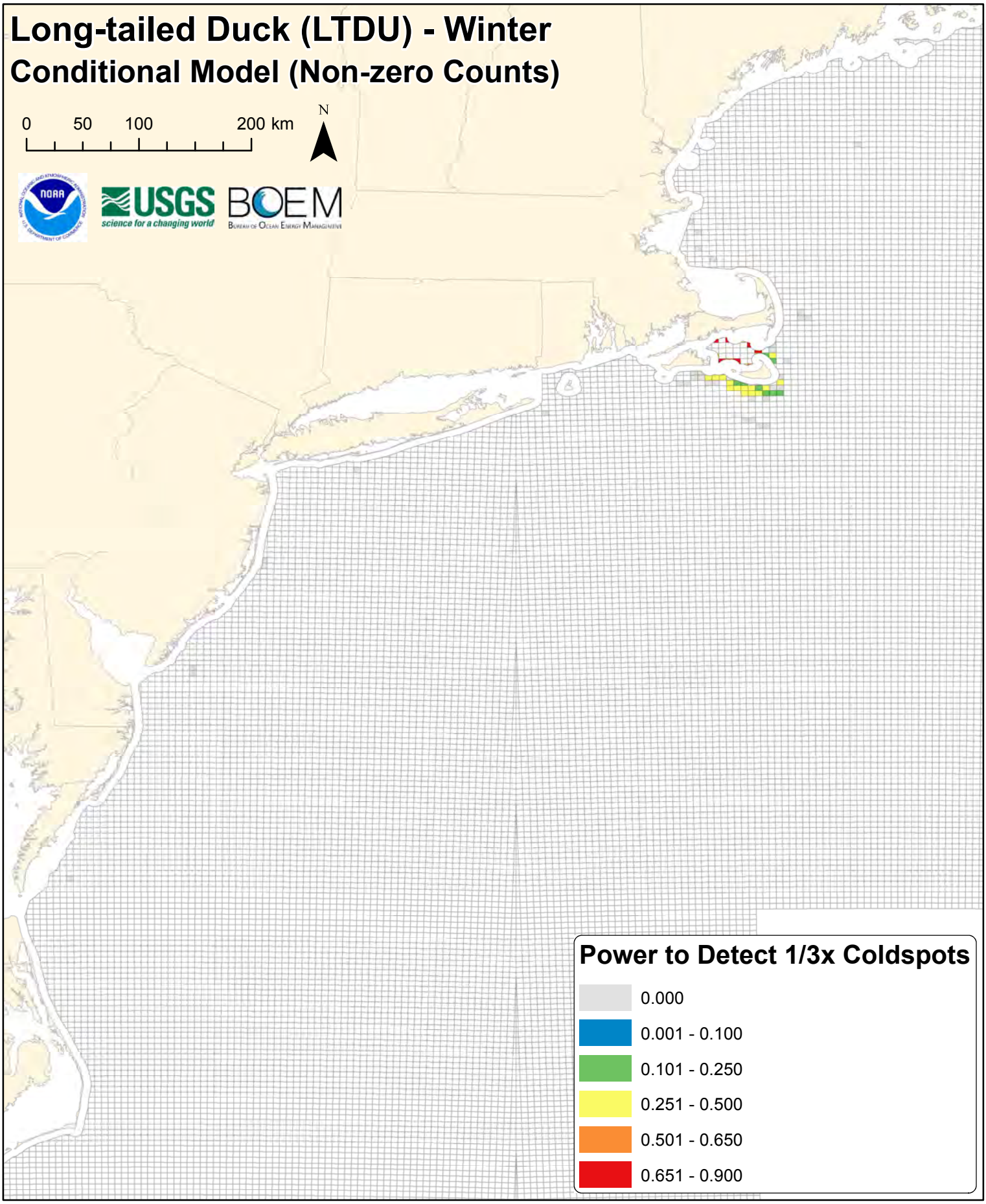

Northern Fulmar (NOFU) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

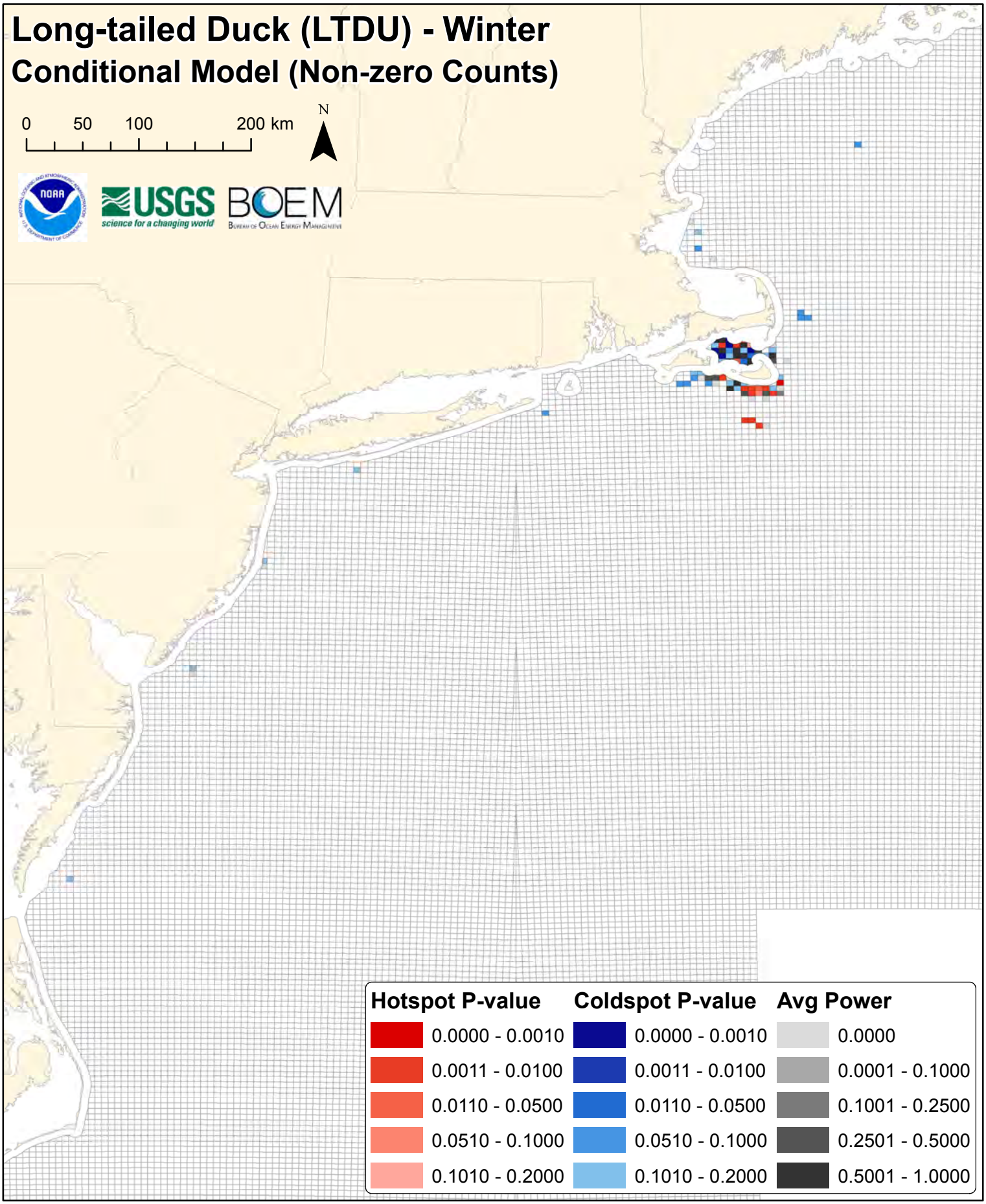

Long-tailed Duck (LTDU) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 5
6 - 15
16 - 27
28 - 51
52 - 67

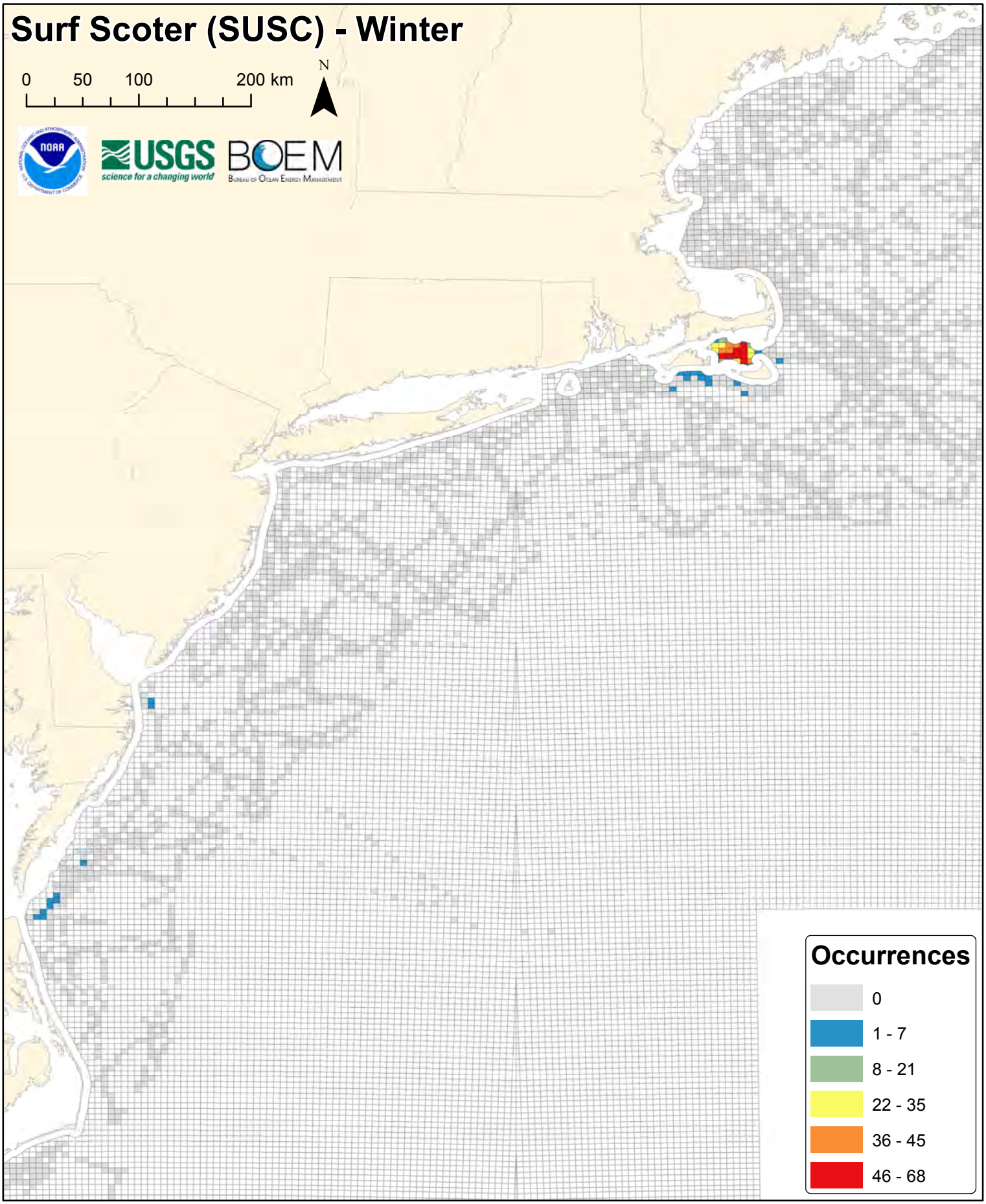

Long-tailed Duck (LTDU) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 38.000
38.001 - 136.000
136.001 - 406.000
406.001 - 744.000
744.001 - 3735.000

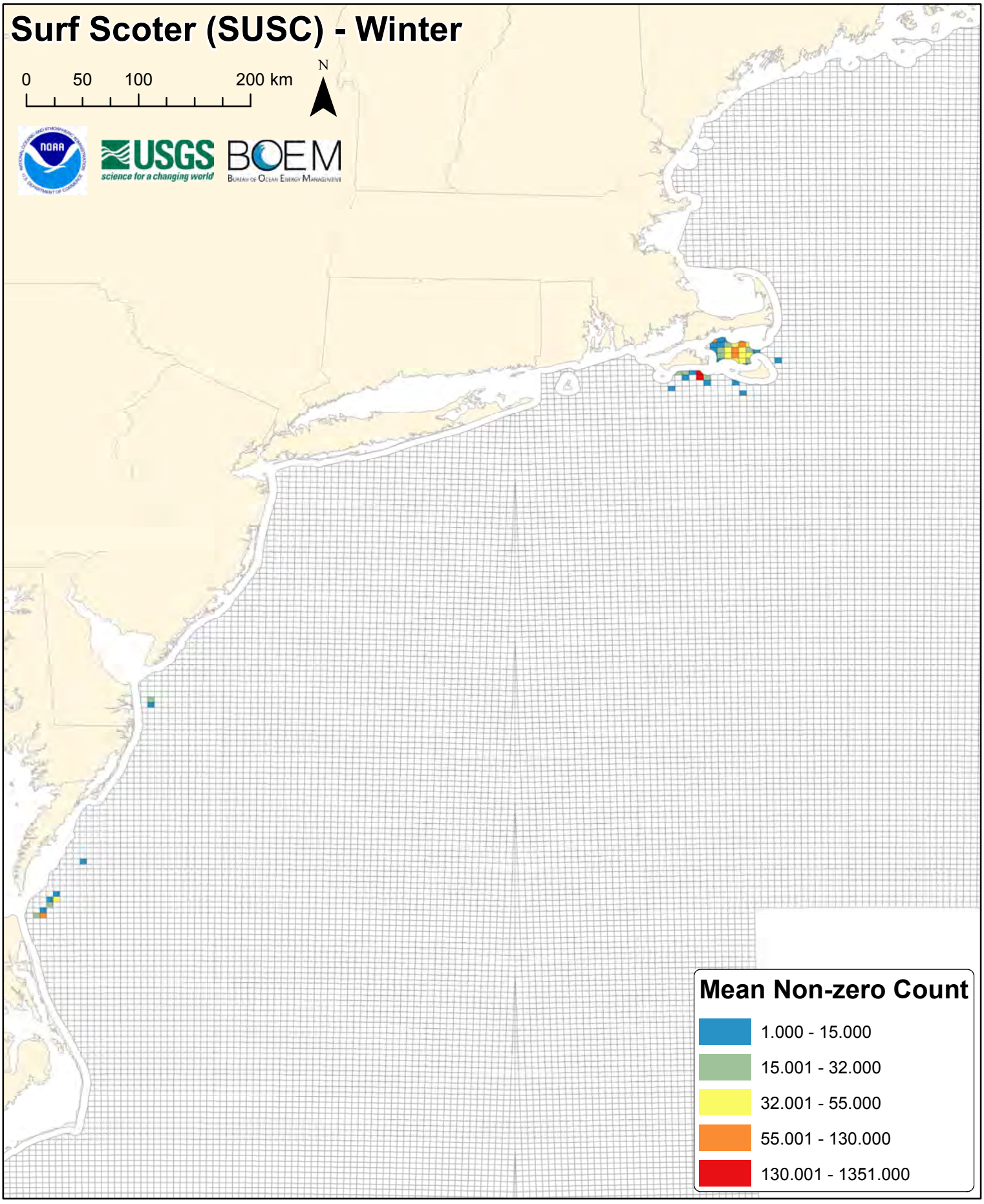

ltdu
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
50
60
Number of presences in a BOEM lease block

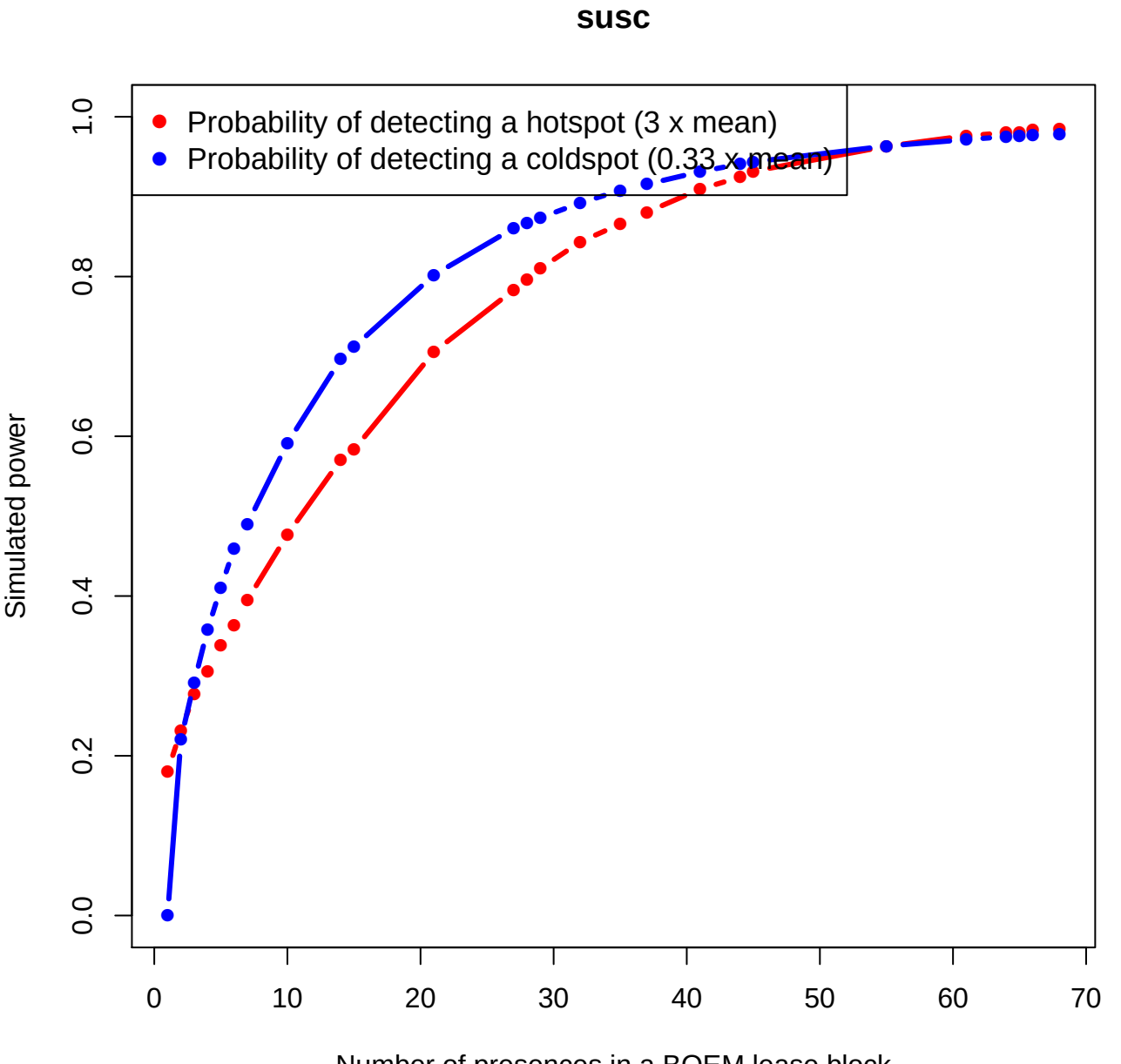

Long-tailed Duck (LTDU) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

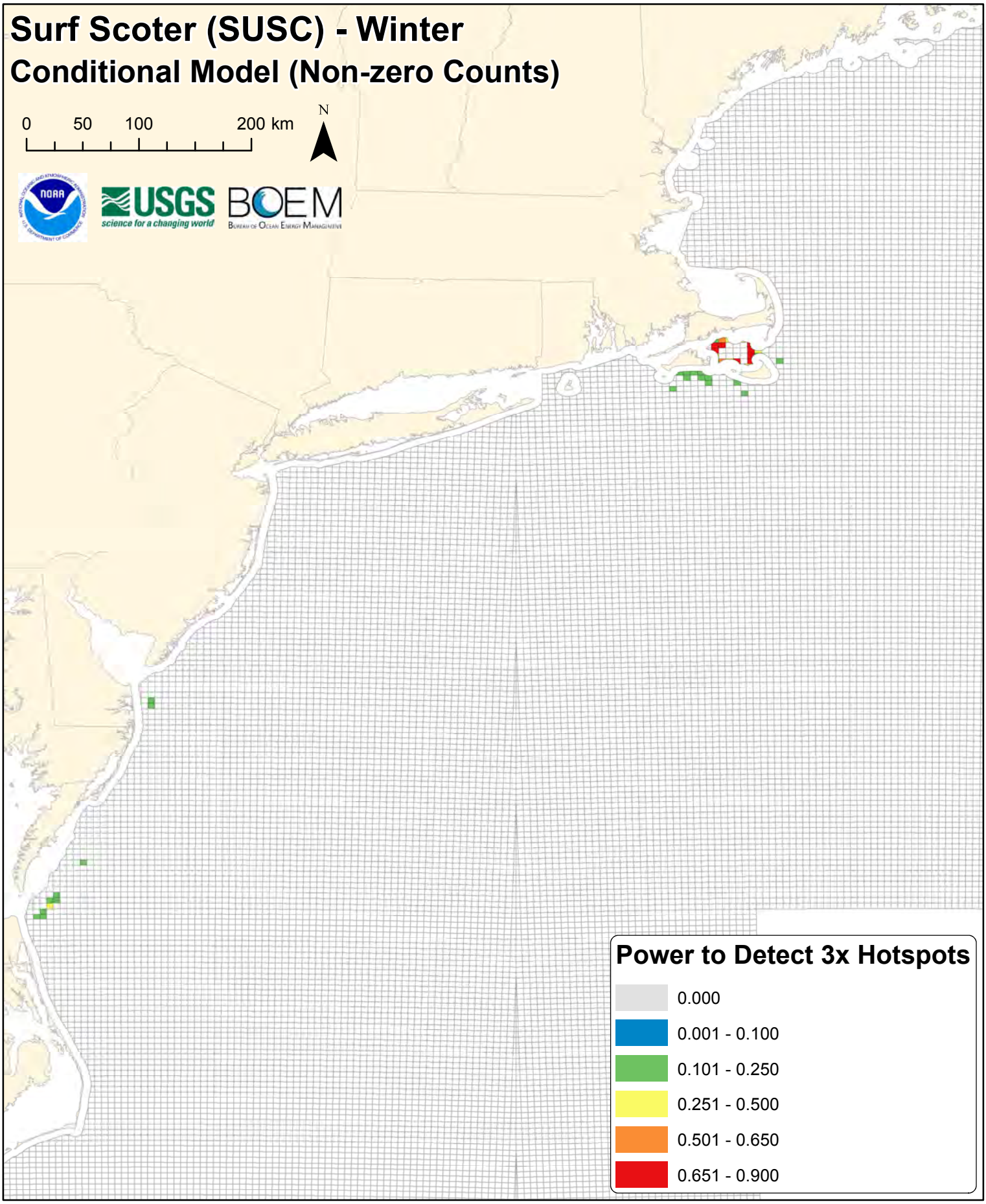

Long-tailed Duck (LTDU) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

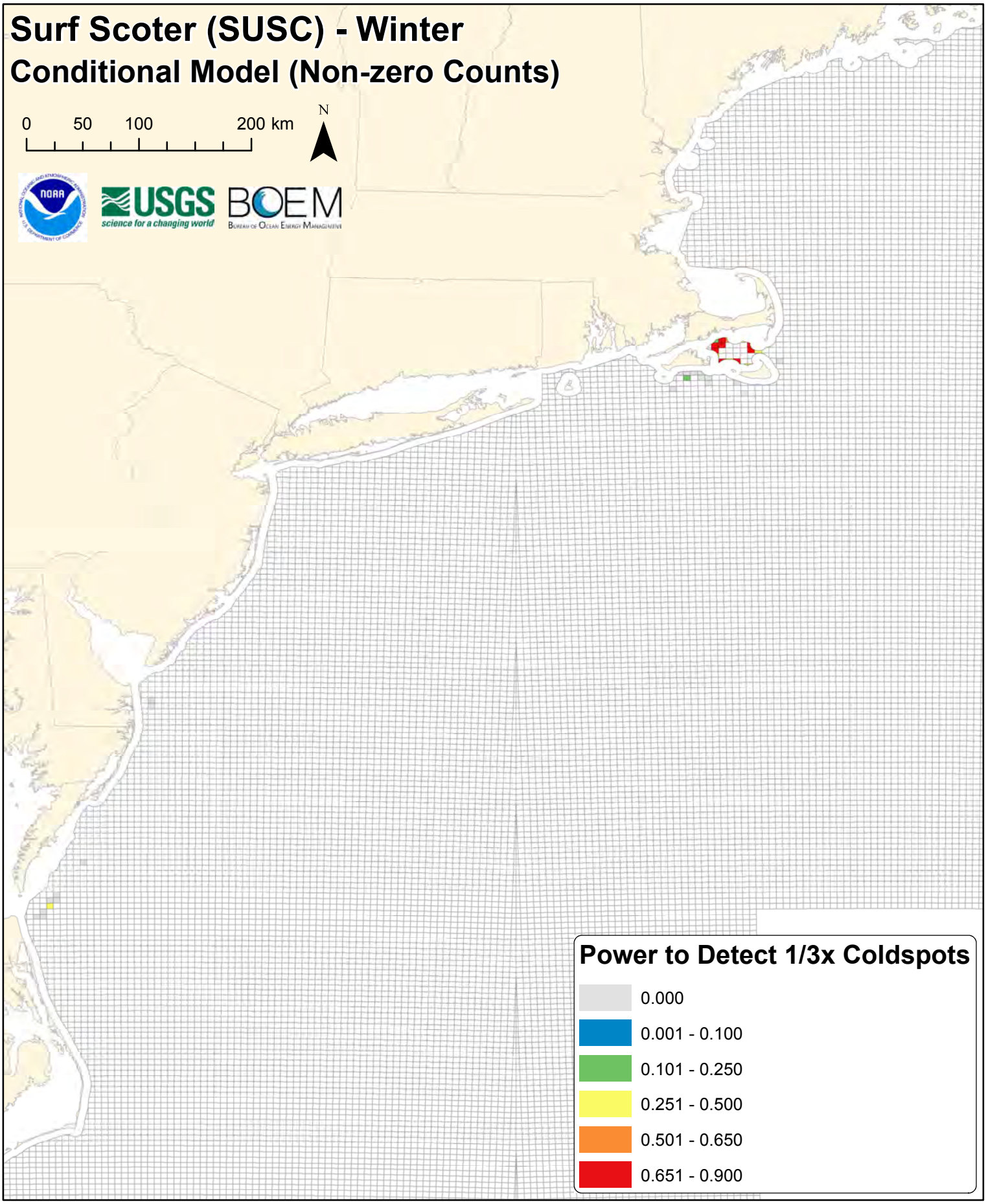

Long-tailed Duck (LTDU) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000


Surf Scoter (SUSC) - Winter
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 7
8 - 21
22 - 35
36 - 45
46 - 68

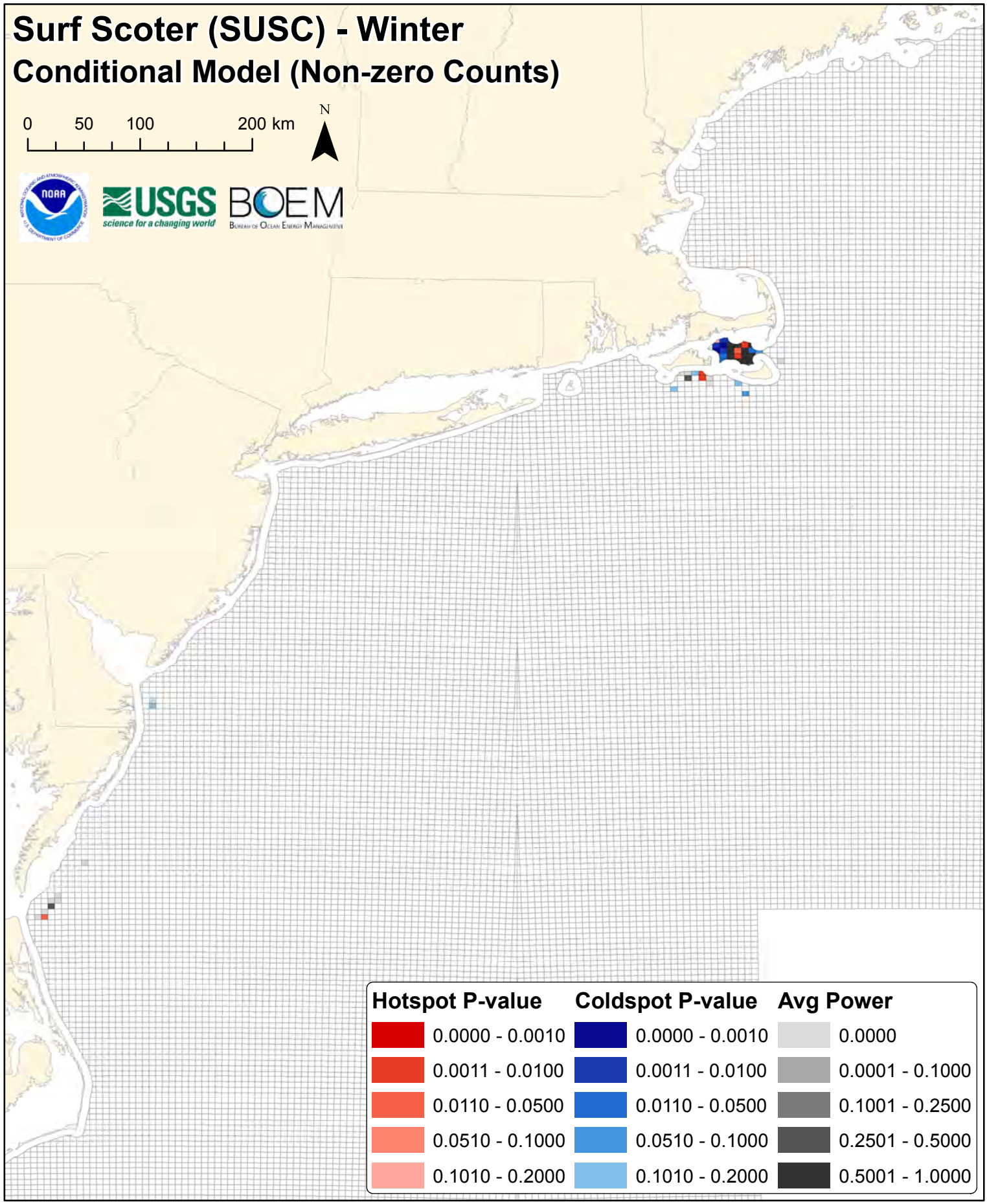

Surf Scoter (SUSC) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 15.000
15.001 - 32.000
32.001 - 55.000
55.001 - 130.000
130.001 - 1351.000

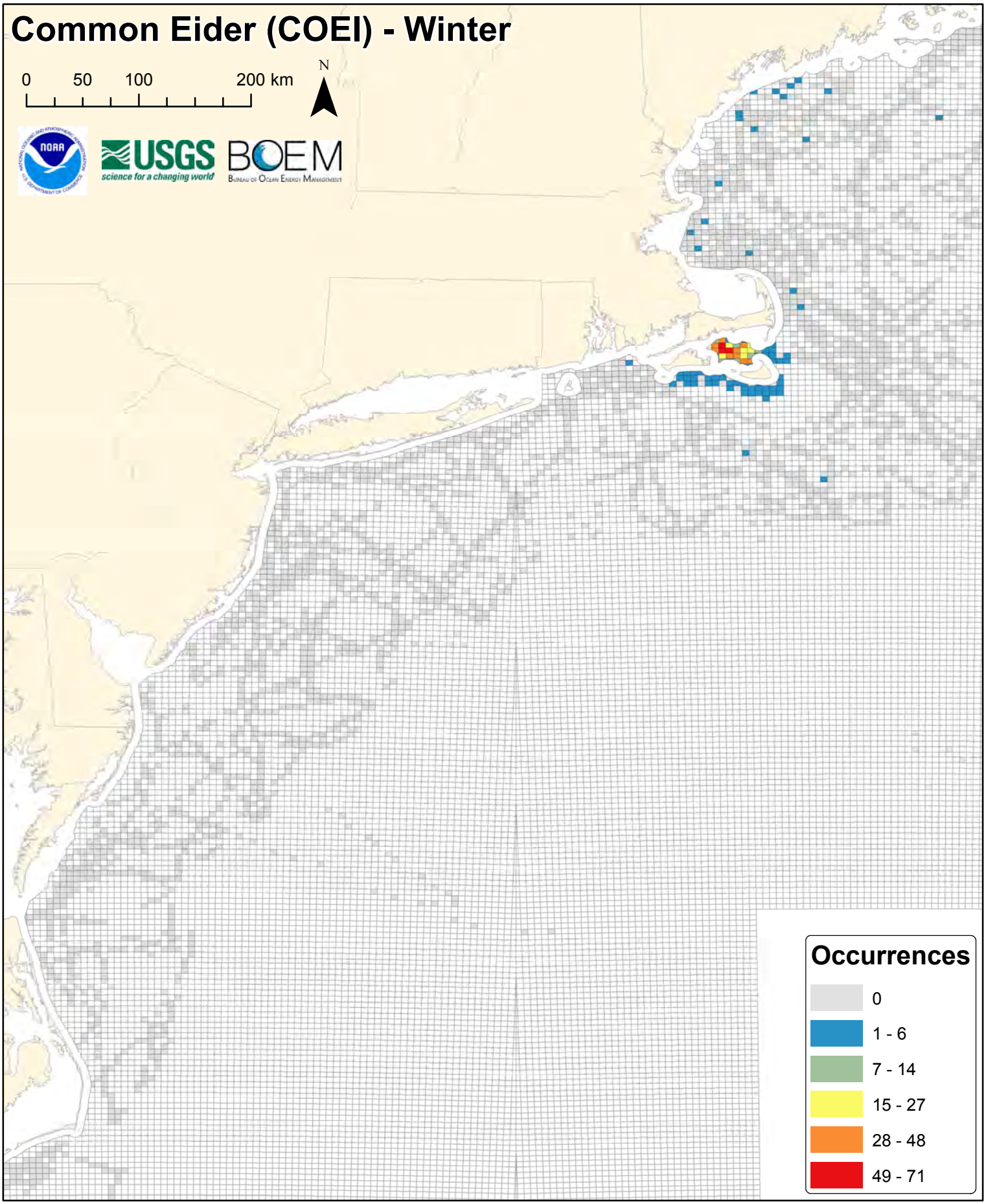

susc
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
50
60
70
Number of presences in a BOEM lease block

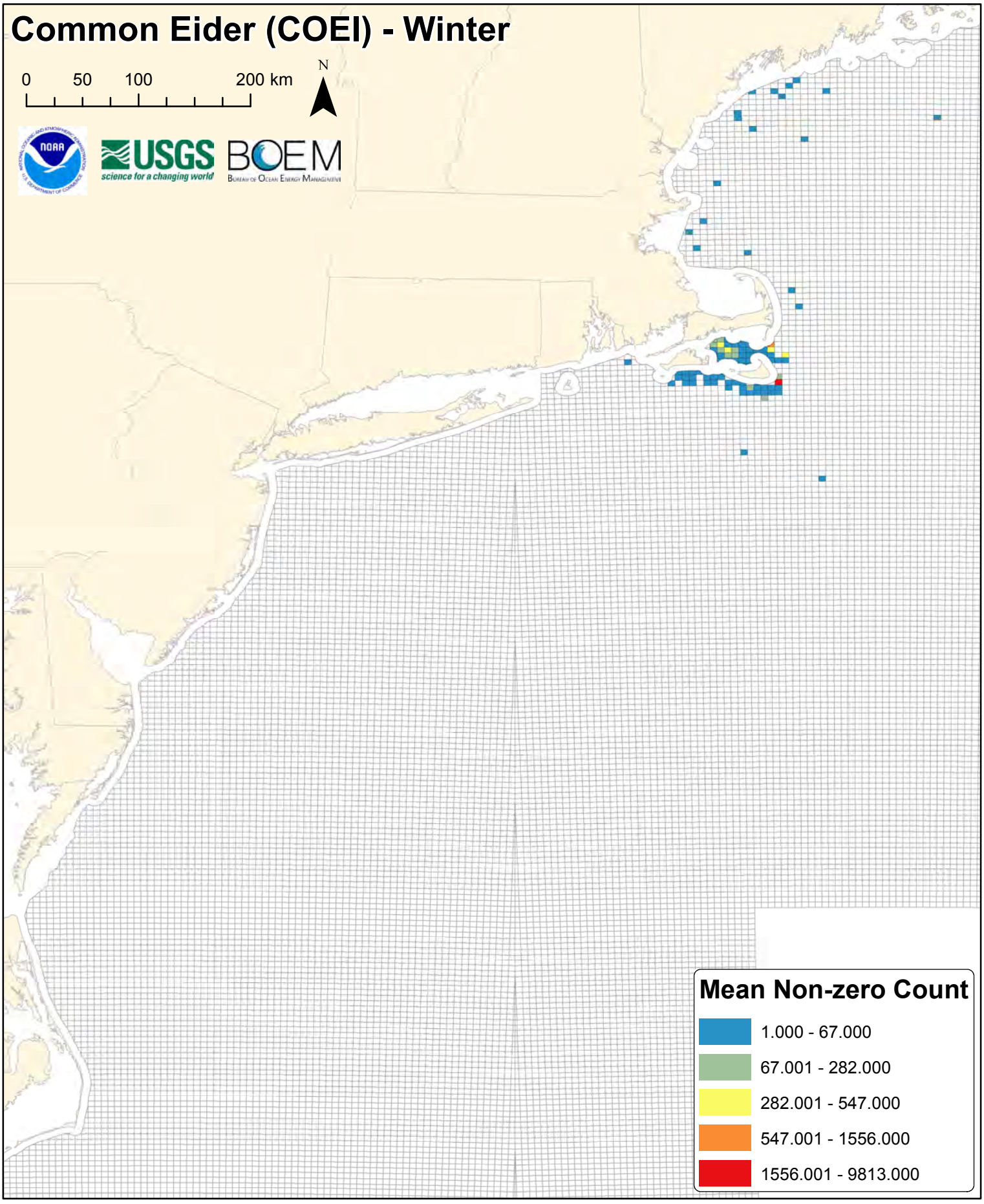

Surf Scoter (SUSC) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

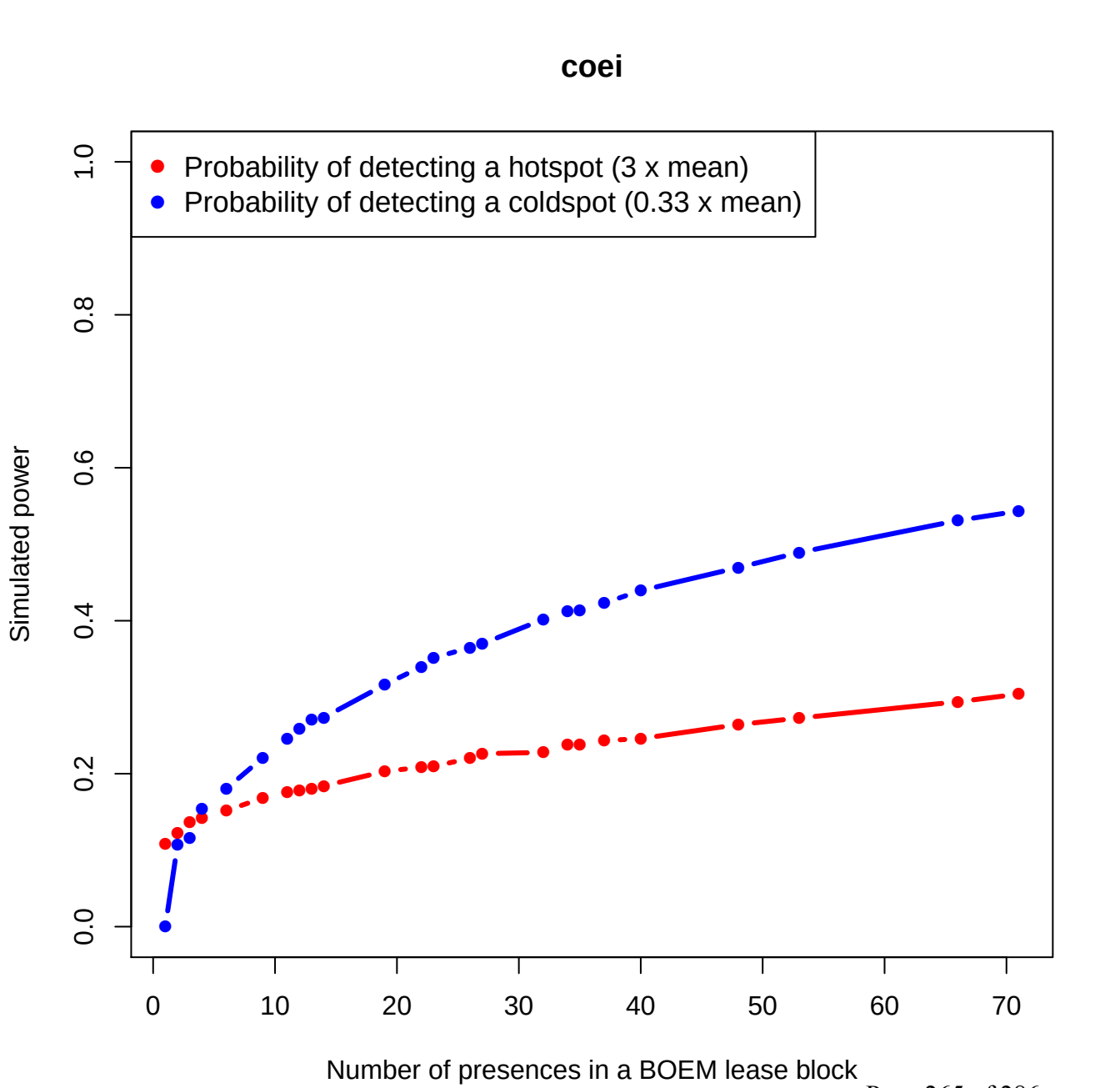

Surf Scoter (SUSC) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

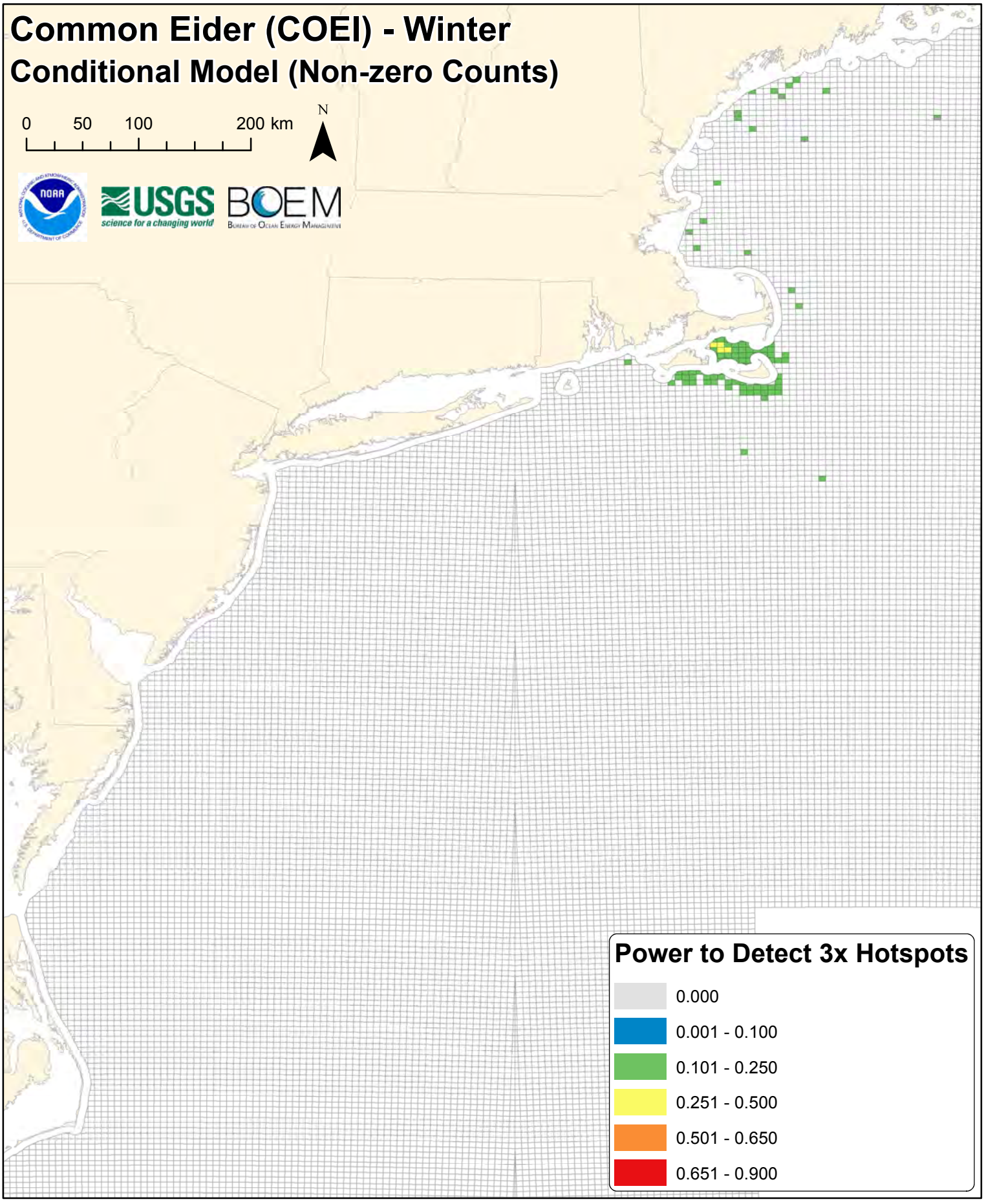
Surf Scoter (SUSC) - Winter
Conditional Model (Non-zero Counts)

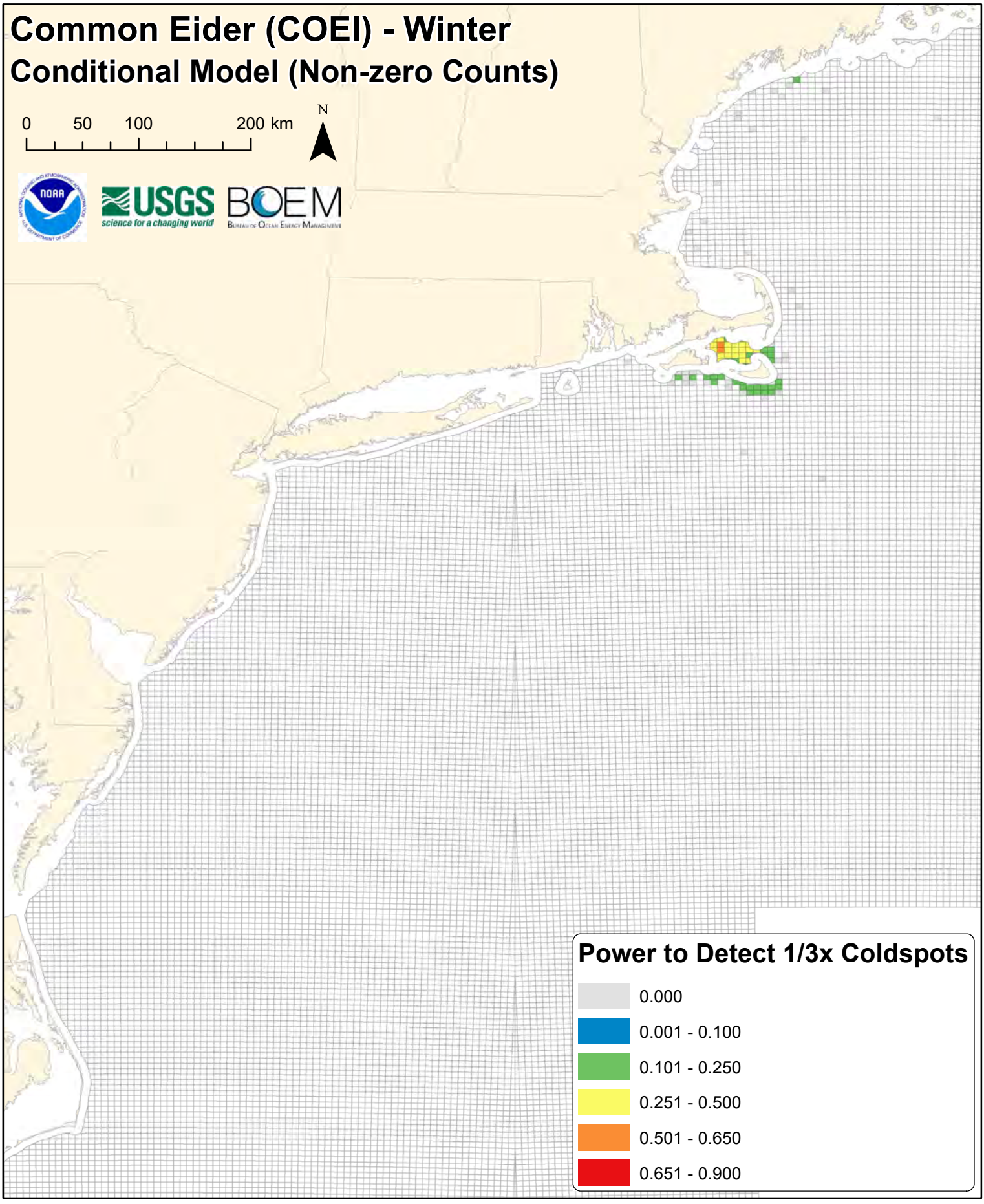


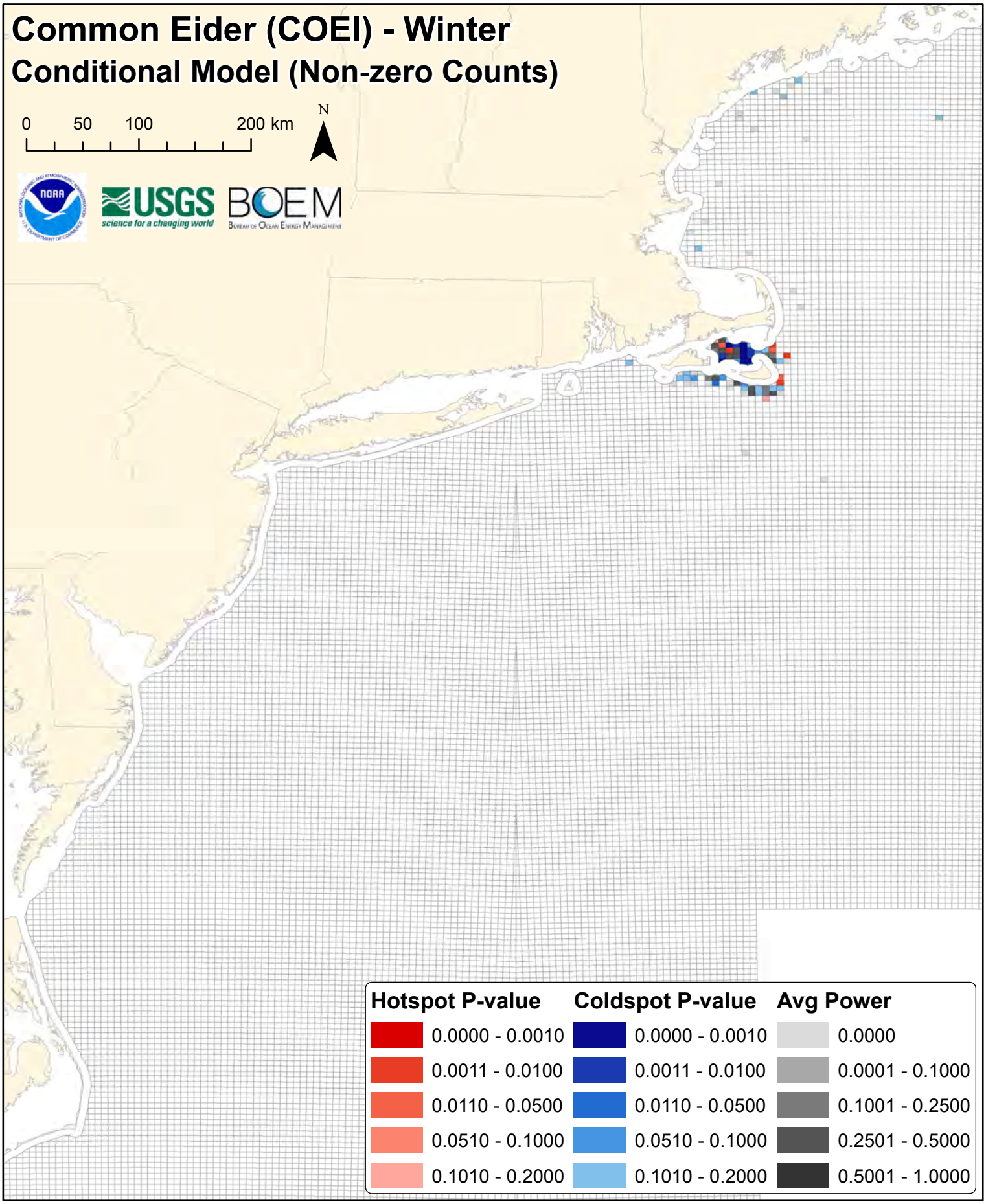

Common Eider (COEI) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 6
7 - 14
15 - 27
28 - 48
49 - 71

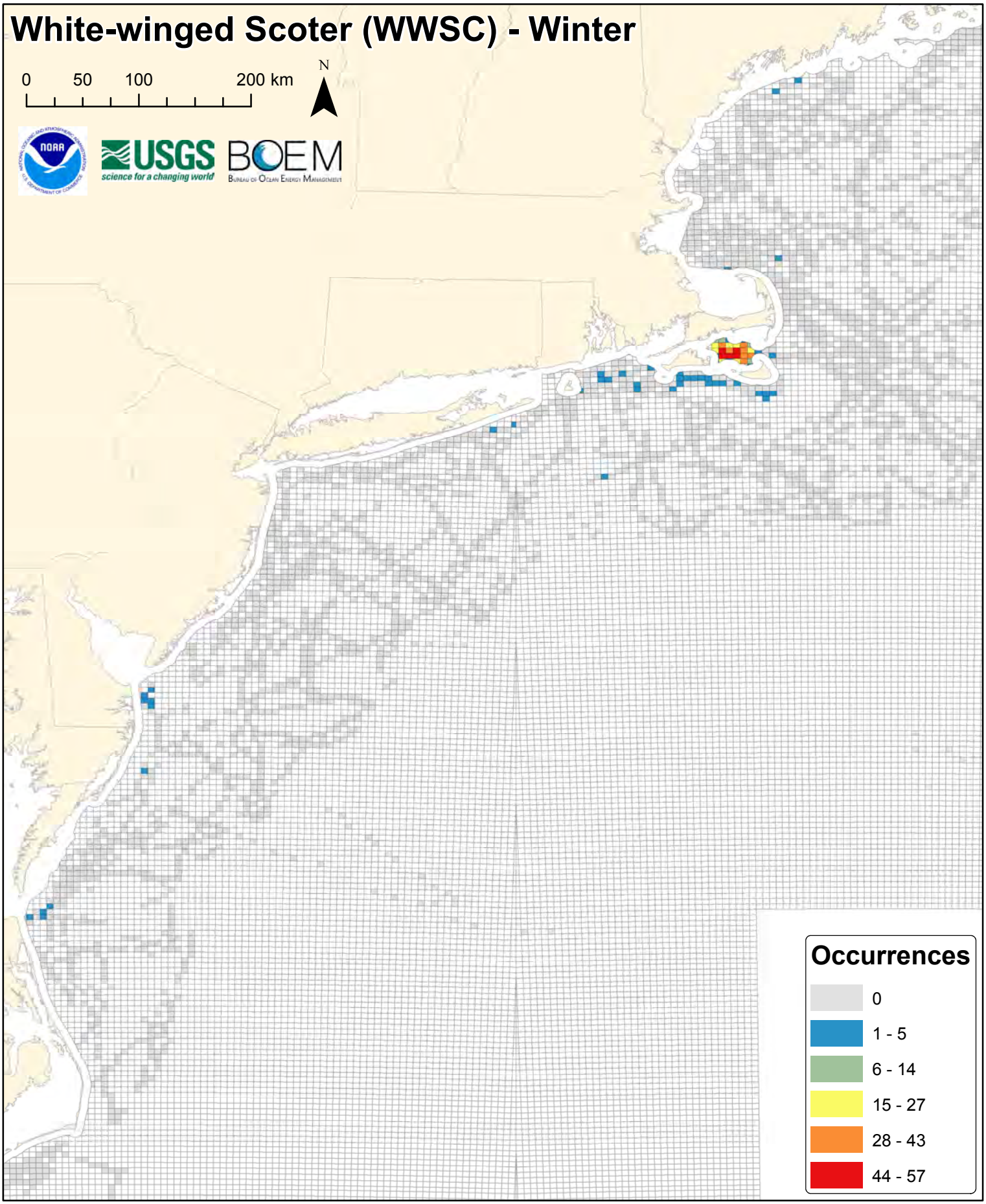

Common Eider (COEI) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 67.000
67.001 - 282.000
282.001 - 547.000
547.001 - 1556.000
1556.001 - 9813.000

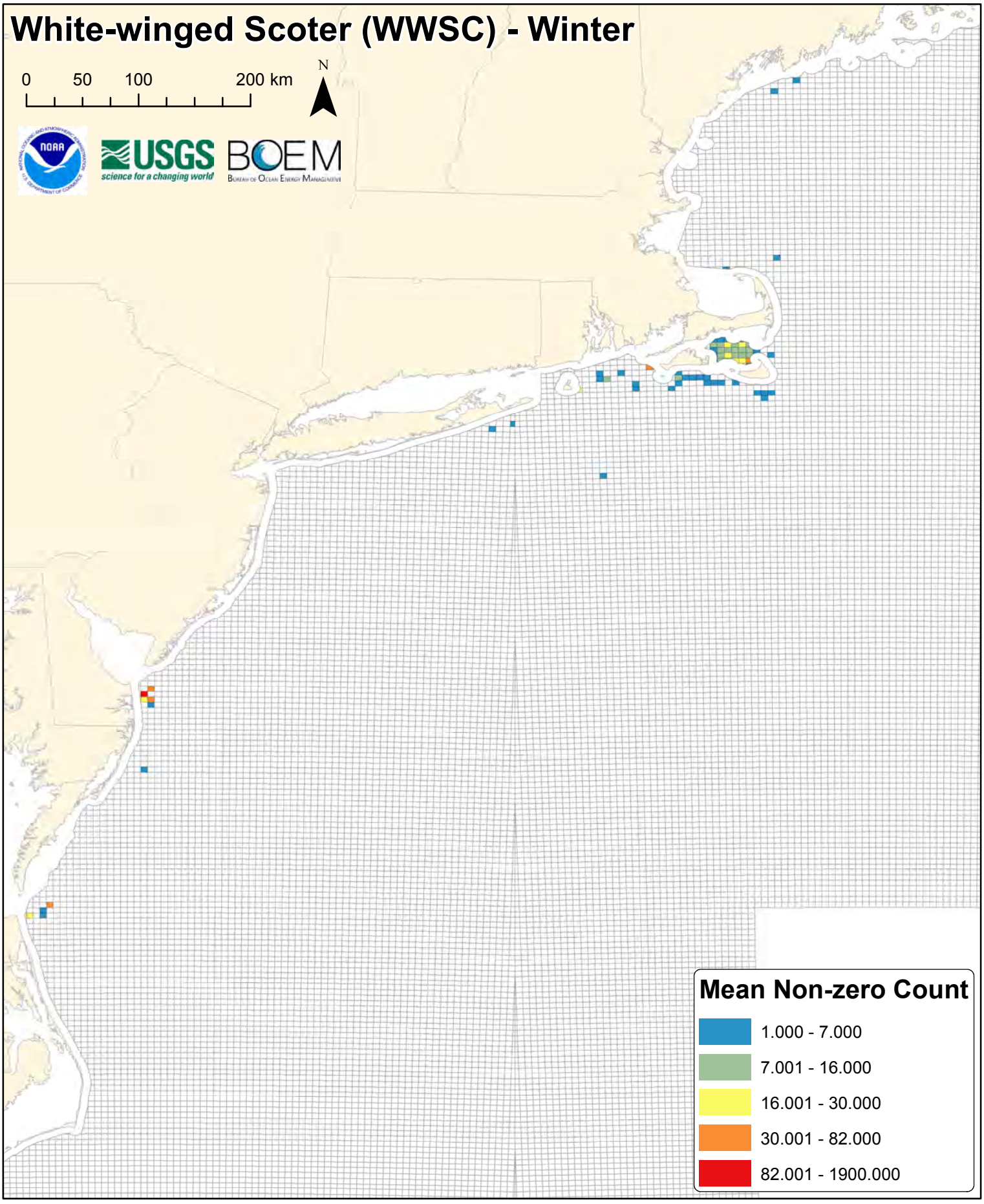

coei
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
50
60
70
Number of presences in a BOEM lease block

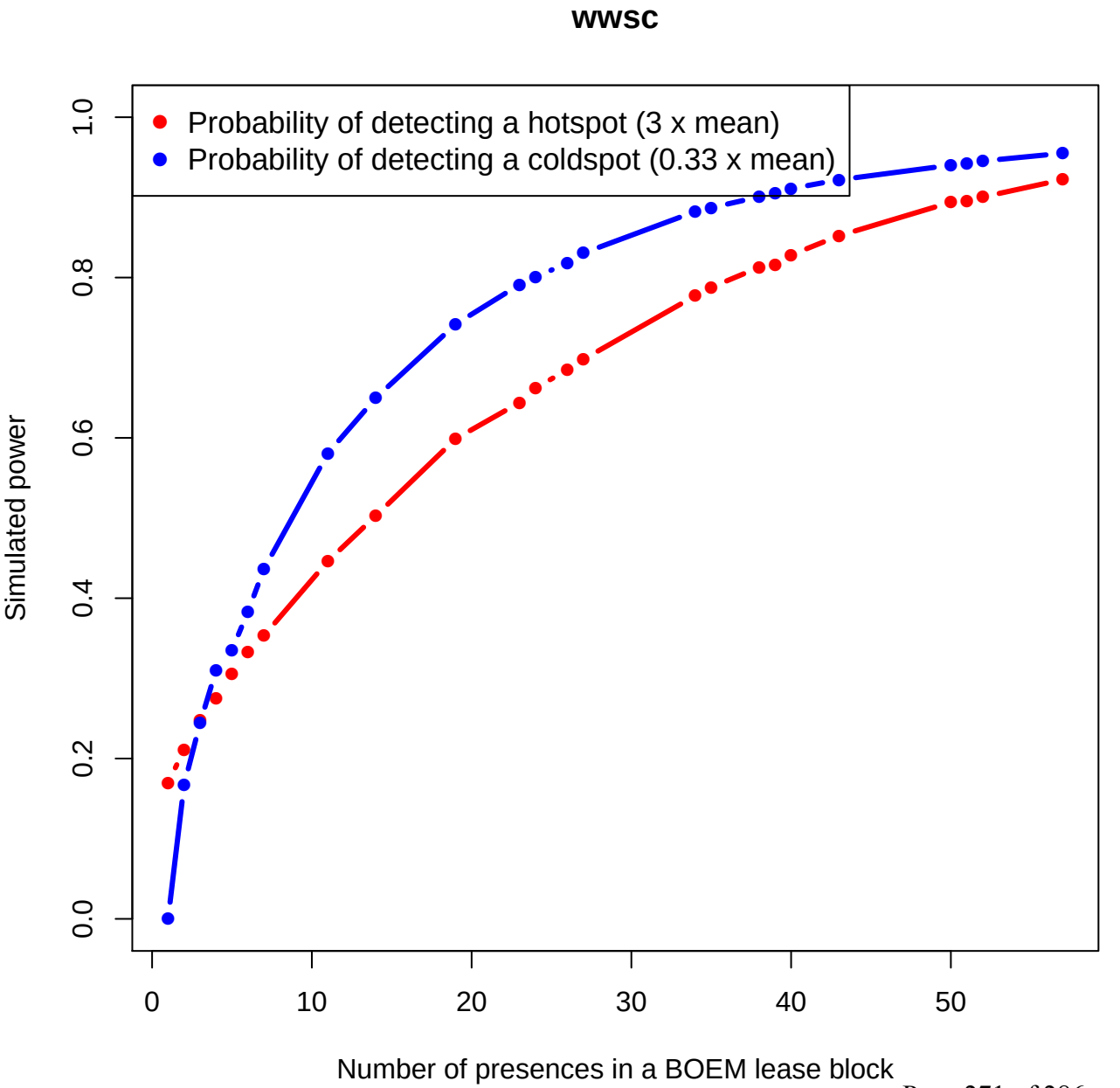

Common Eider (COEI) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

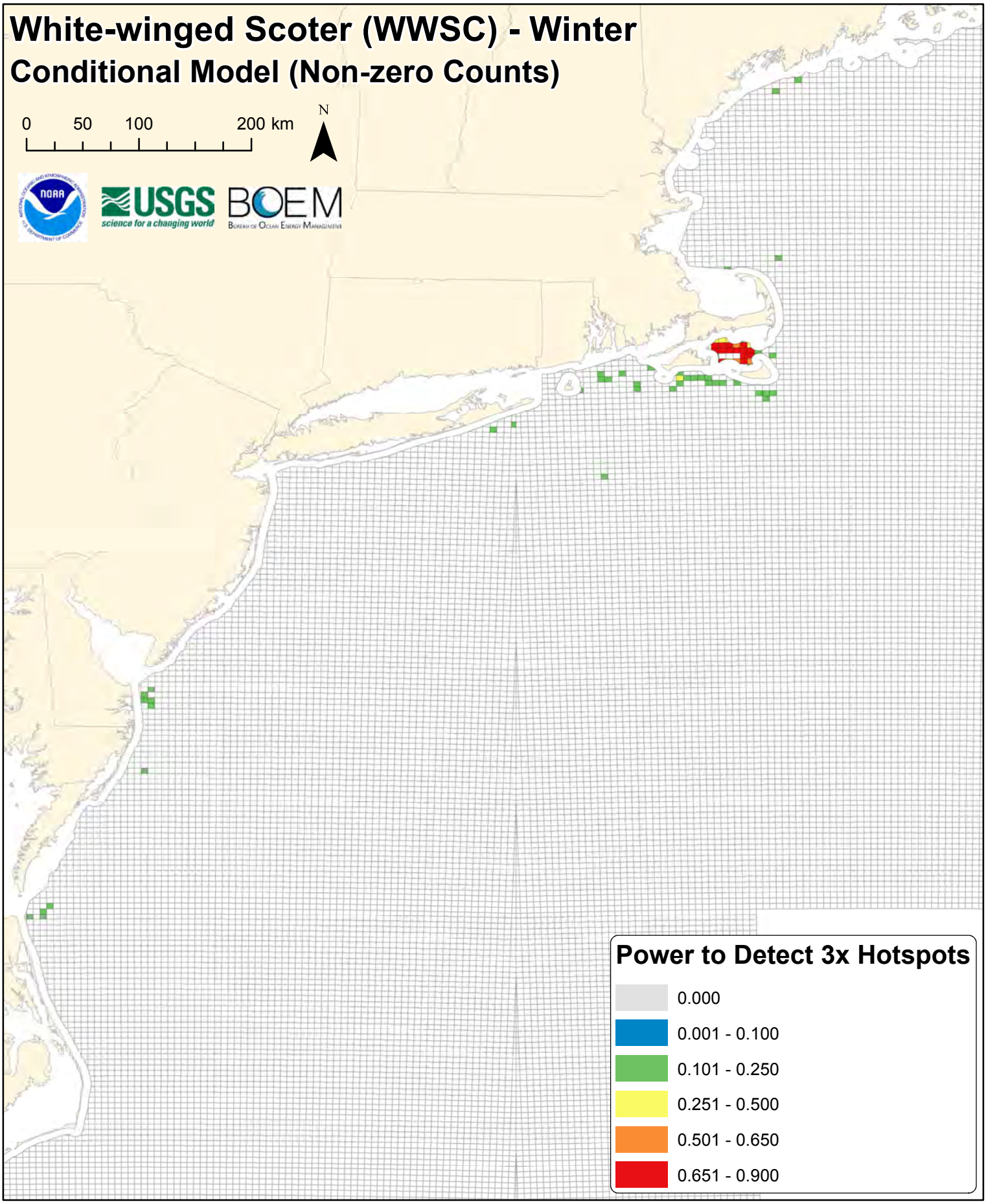

Common Eider (COEI) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

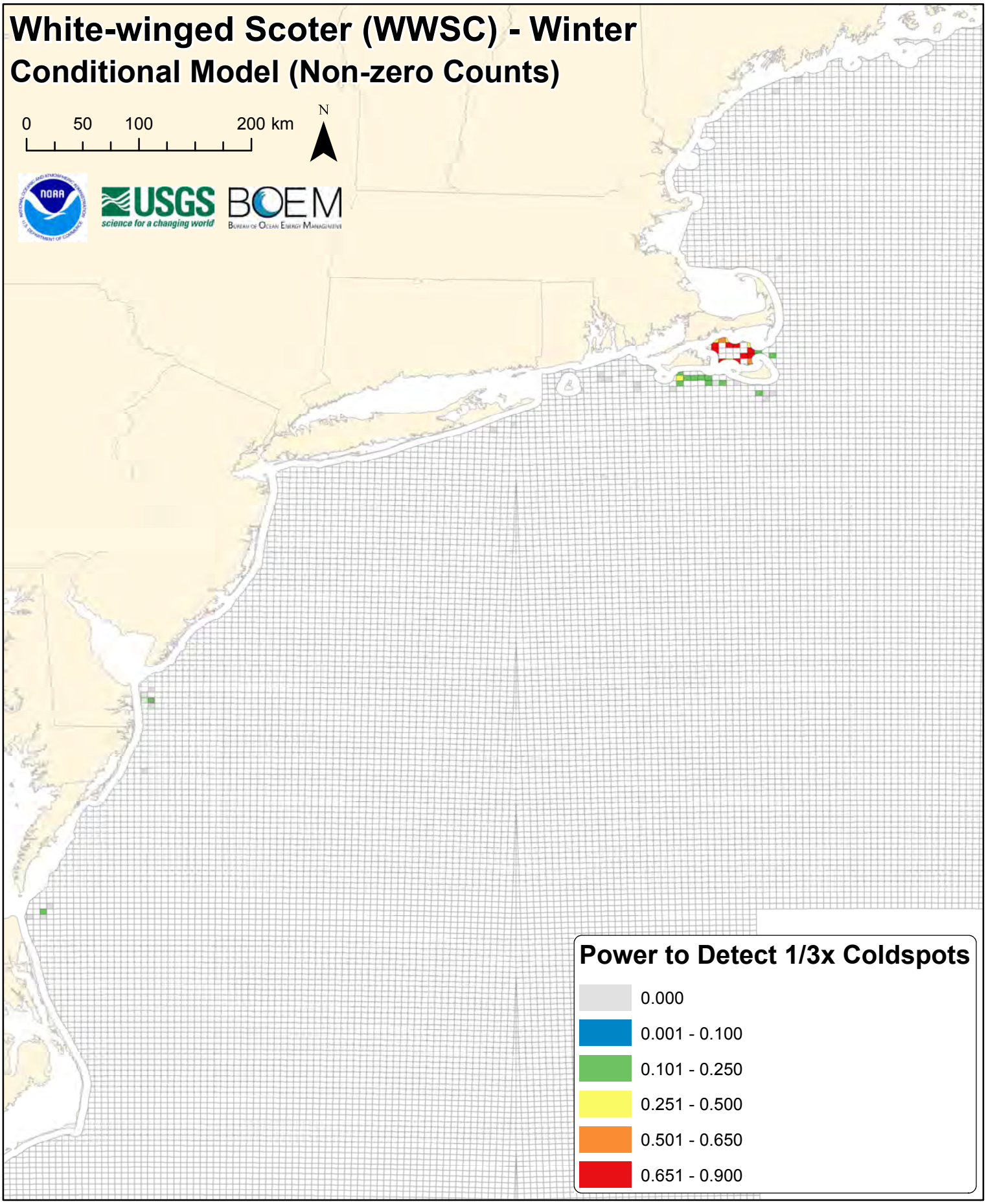

Common Eider (COEI) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

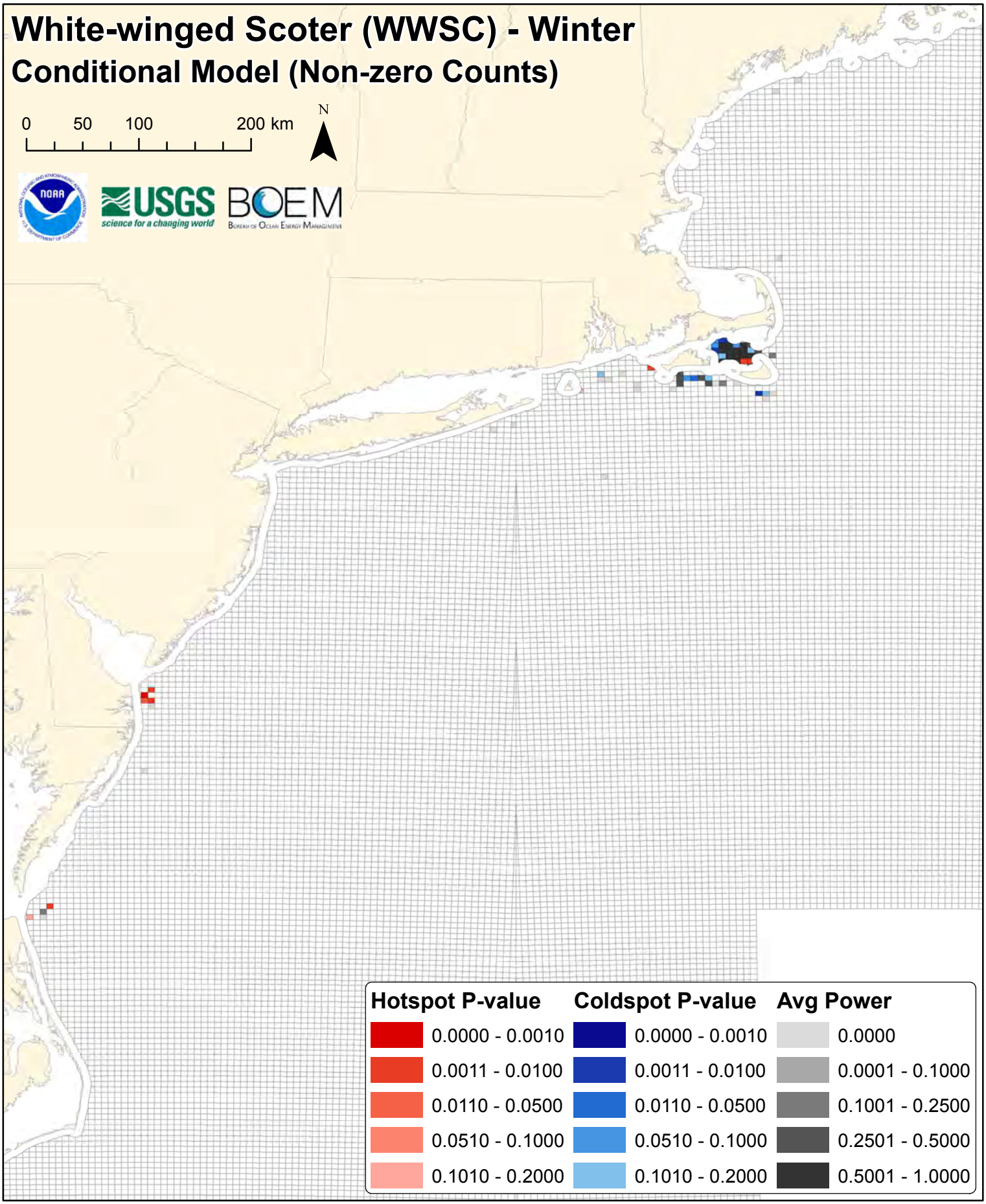

White-winged Scoter (WWSC) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 5
6 - 14
15 - 27
28 - 43
44 - 57

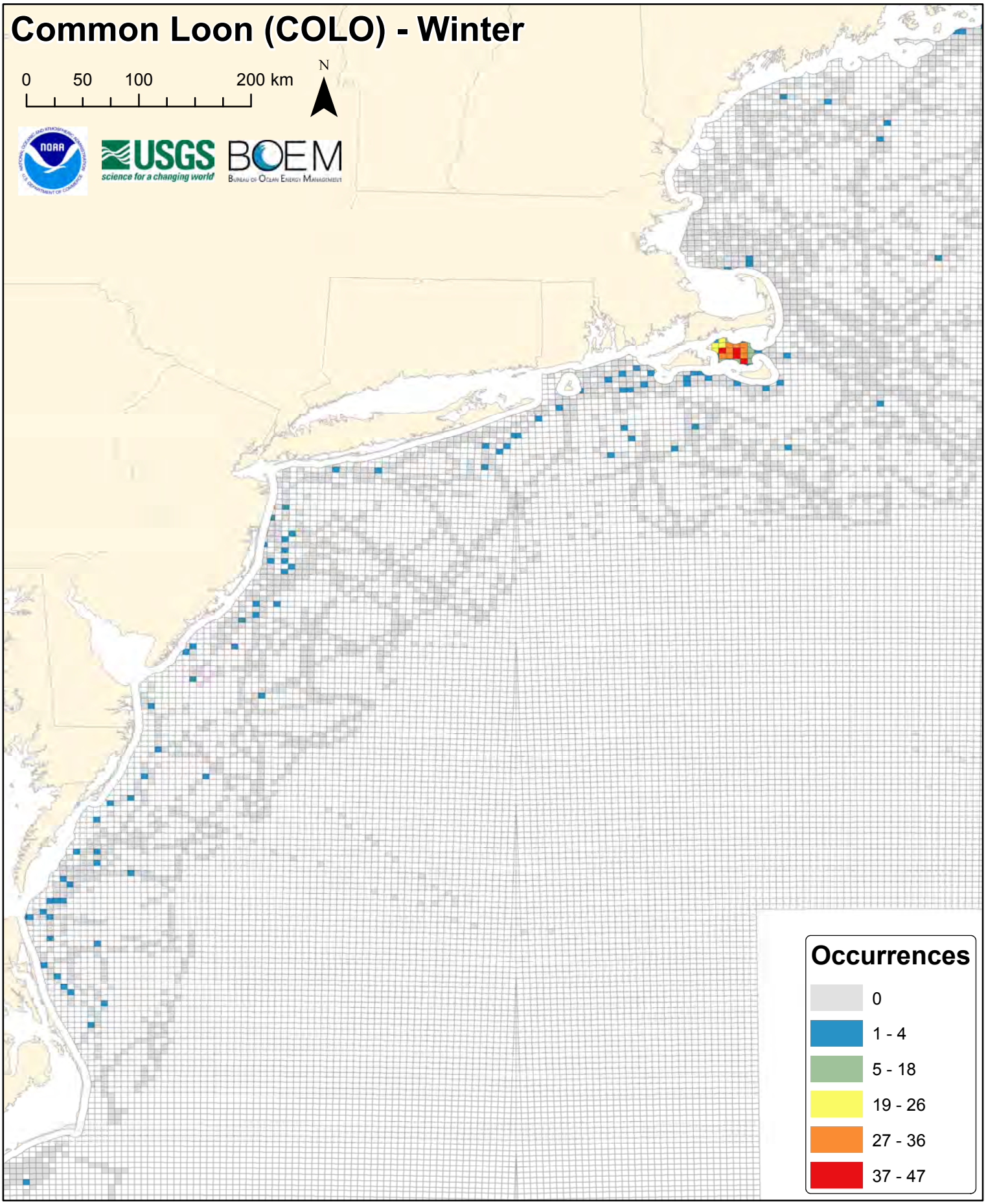

White-winged Scoter (WWSC) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 7.000
7.001 - 16.000
16.001 - 30.000
30.001 - 82.000
82.001 - 1900.000

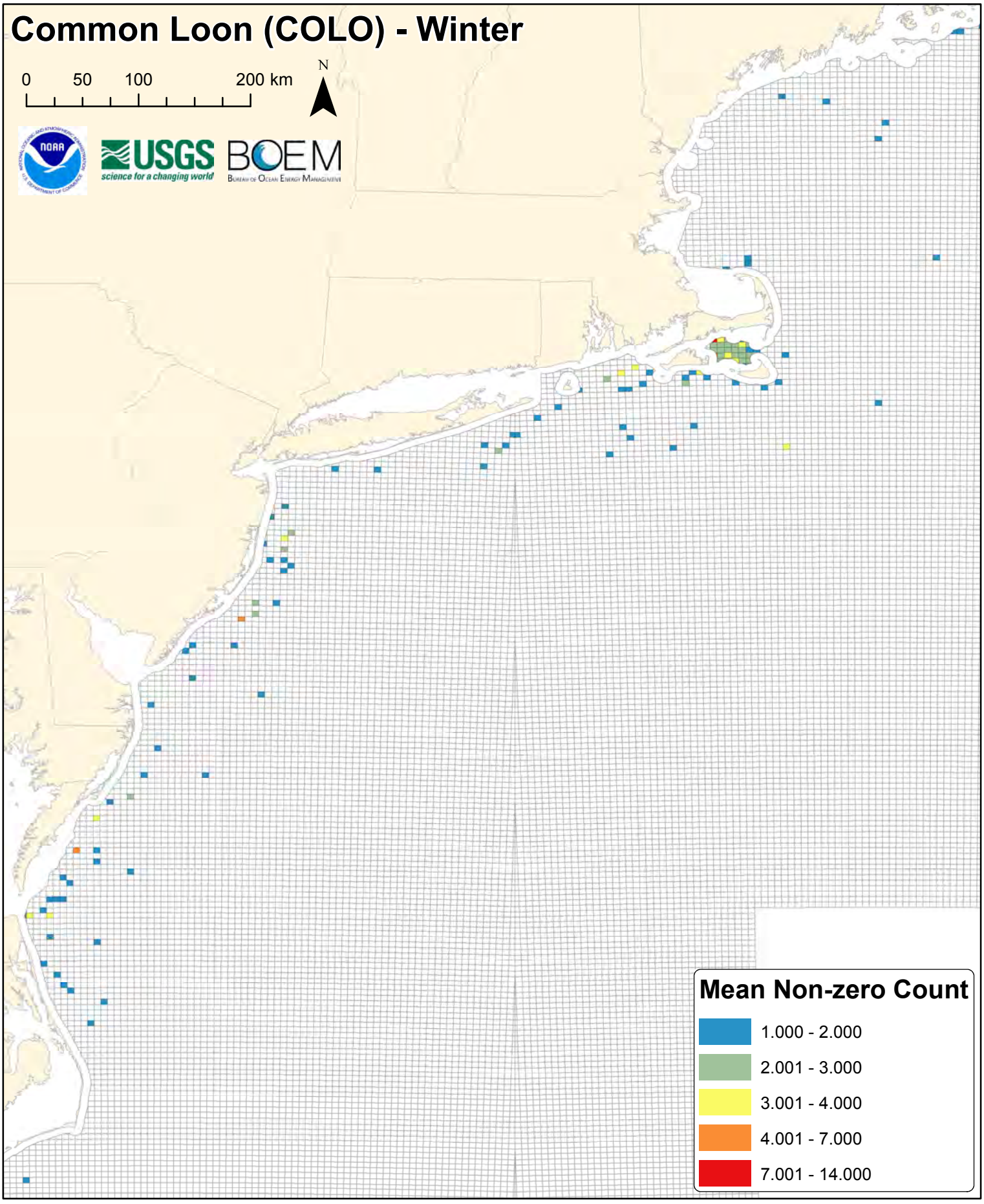

wwsc
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
50
Number of presences in a BOEM lease block

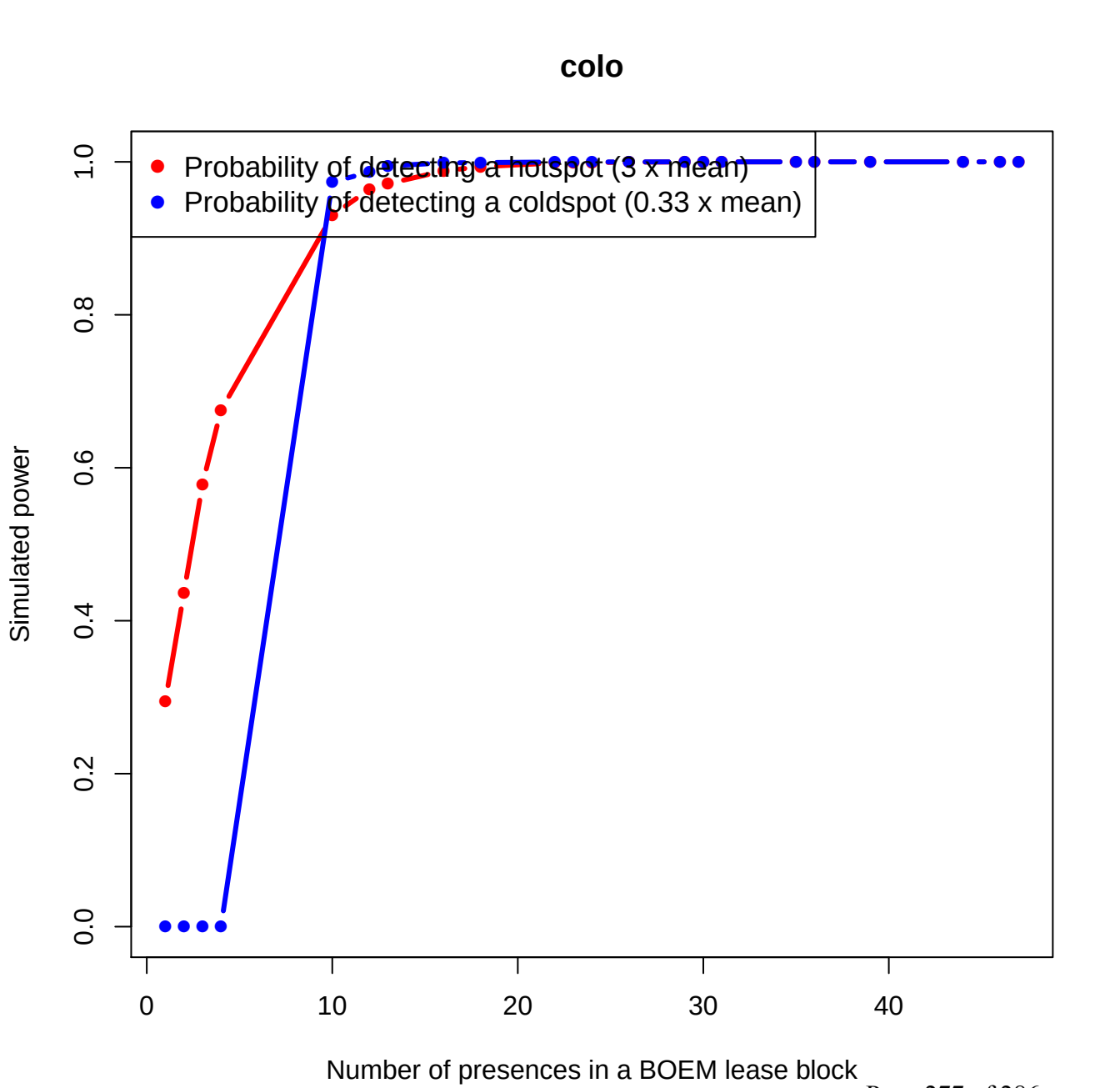

White-winged Scoter (WWSC) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

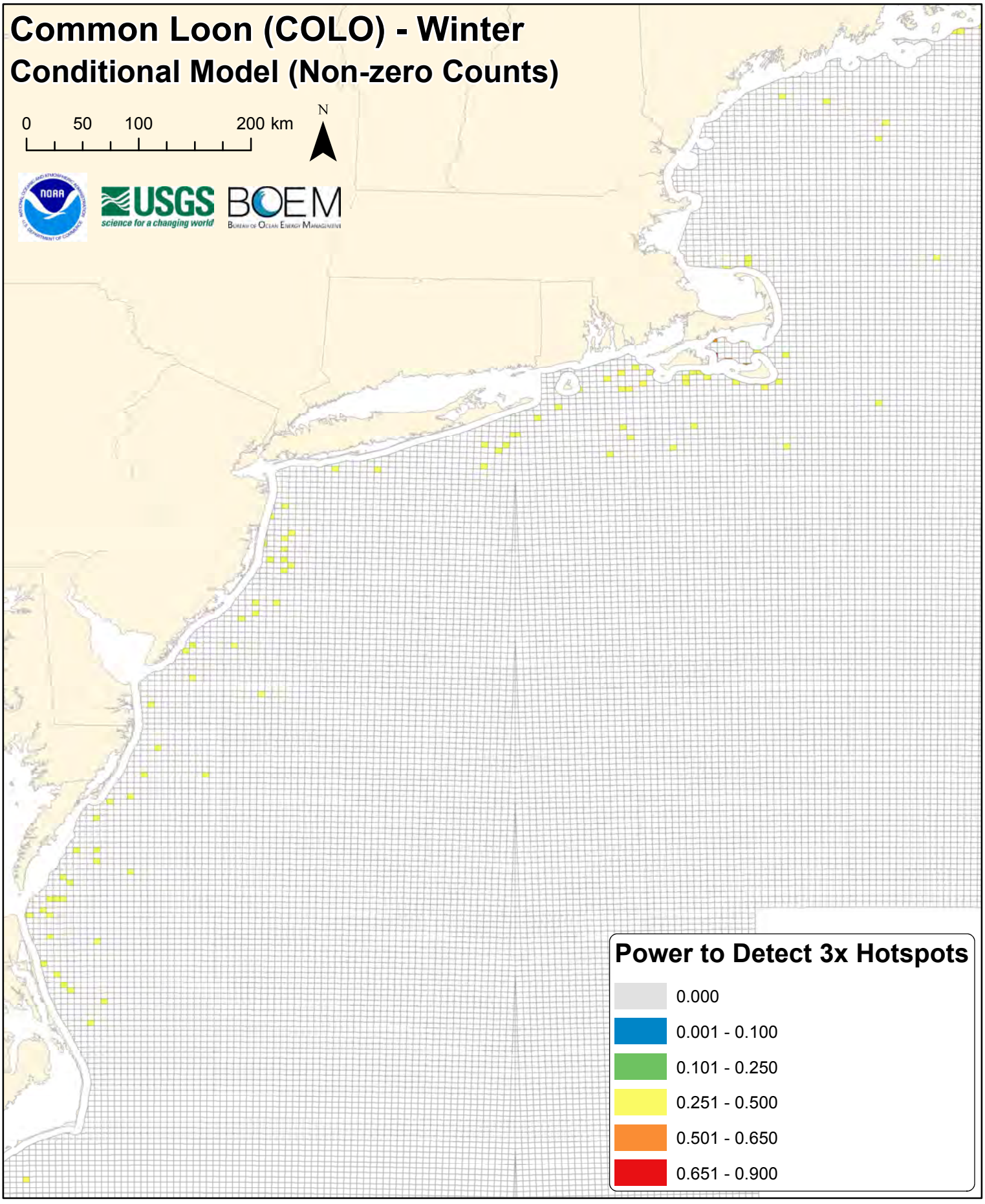

White-winged Scoter (WWSC) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900


White-winged Scoter (WWSC) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

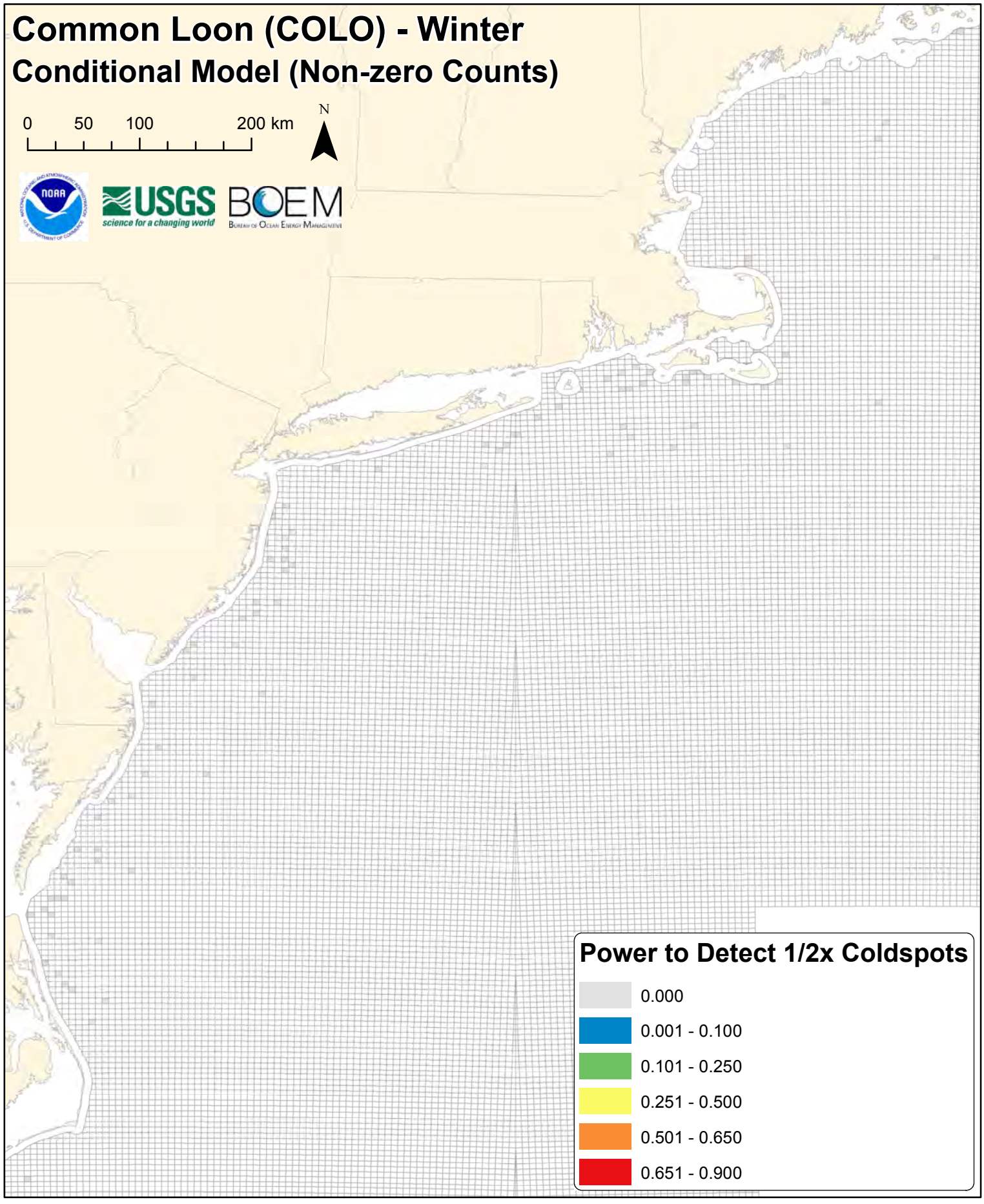

Common Loon (COLO) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1 - 4
5 - 18
19 - 26
27 - 36
37 - 47

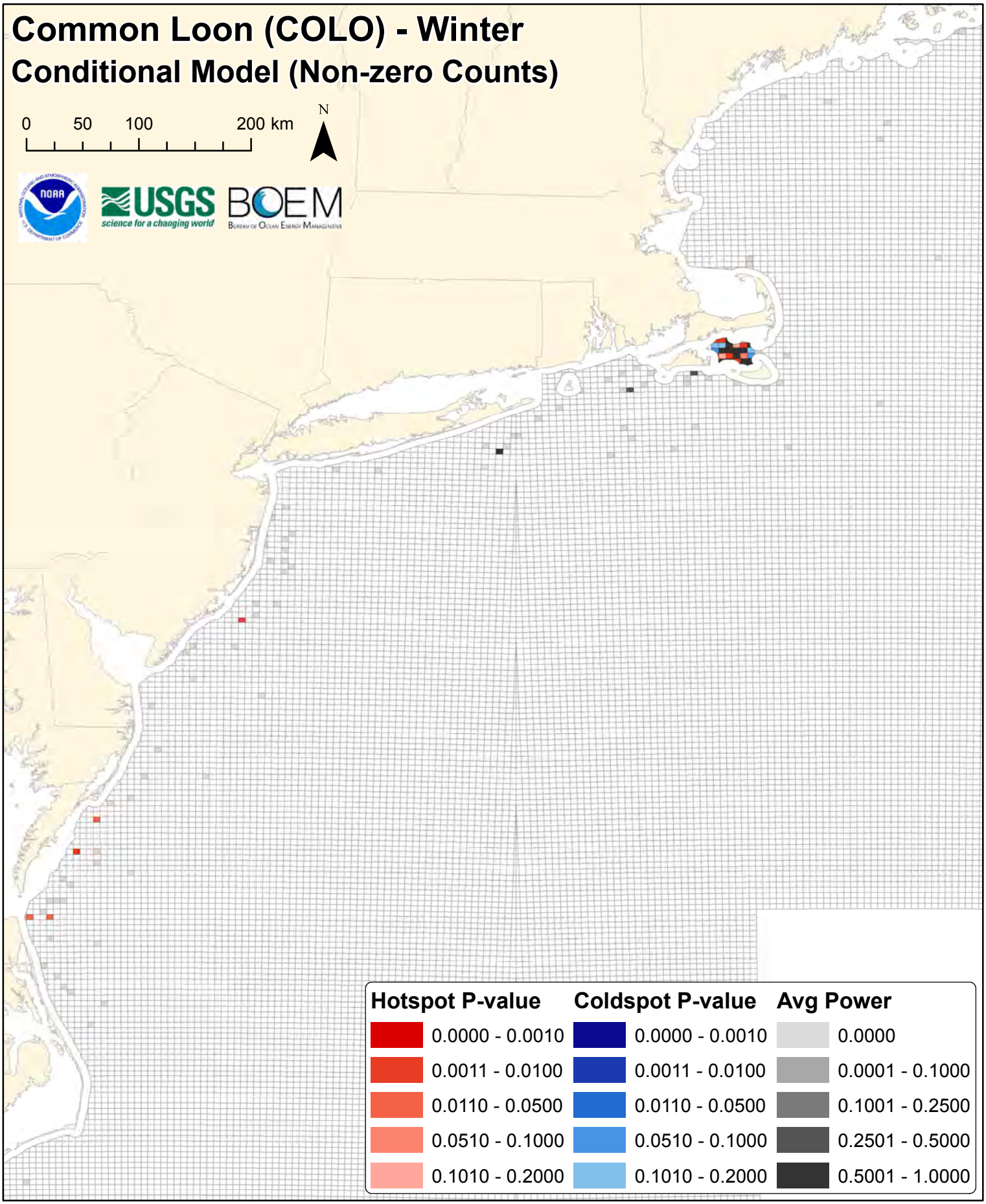

Common Loon (COLO) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 2.000
2.001 - 3.000
3.001 - 4.000
4.001 - 7.000
7.001 - 14.000

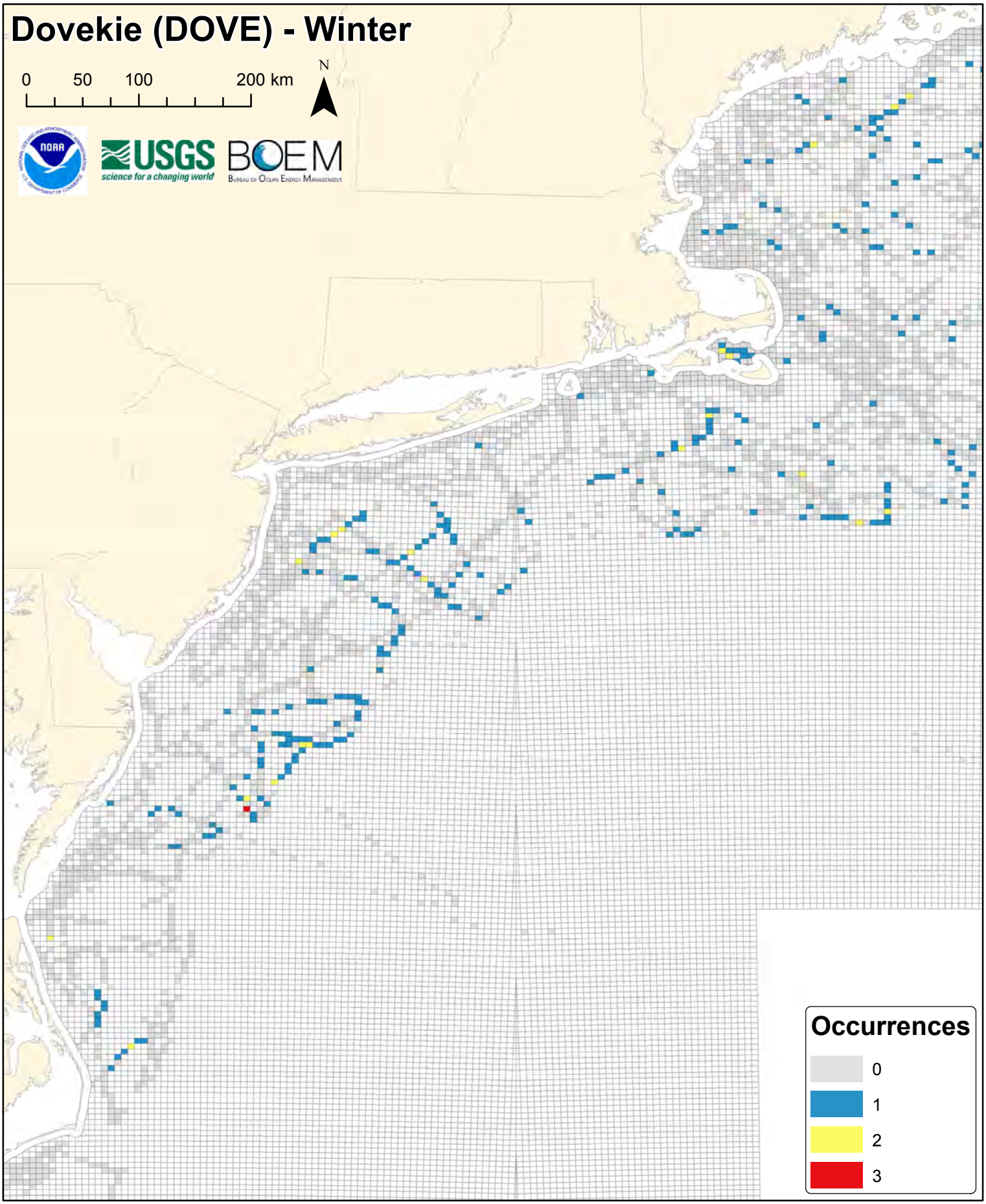

colo
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
Number of presences in a BOEM lease block

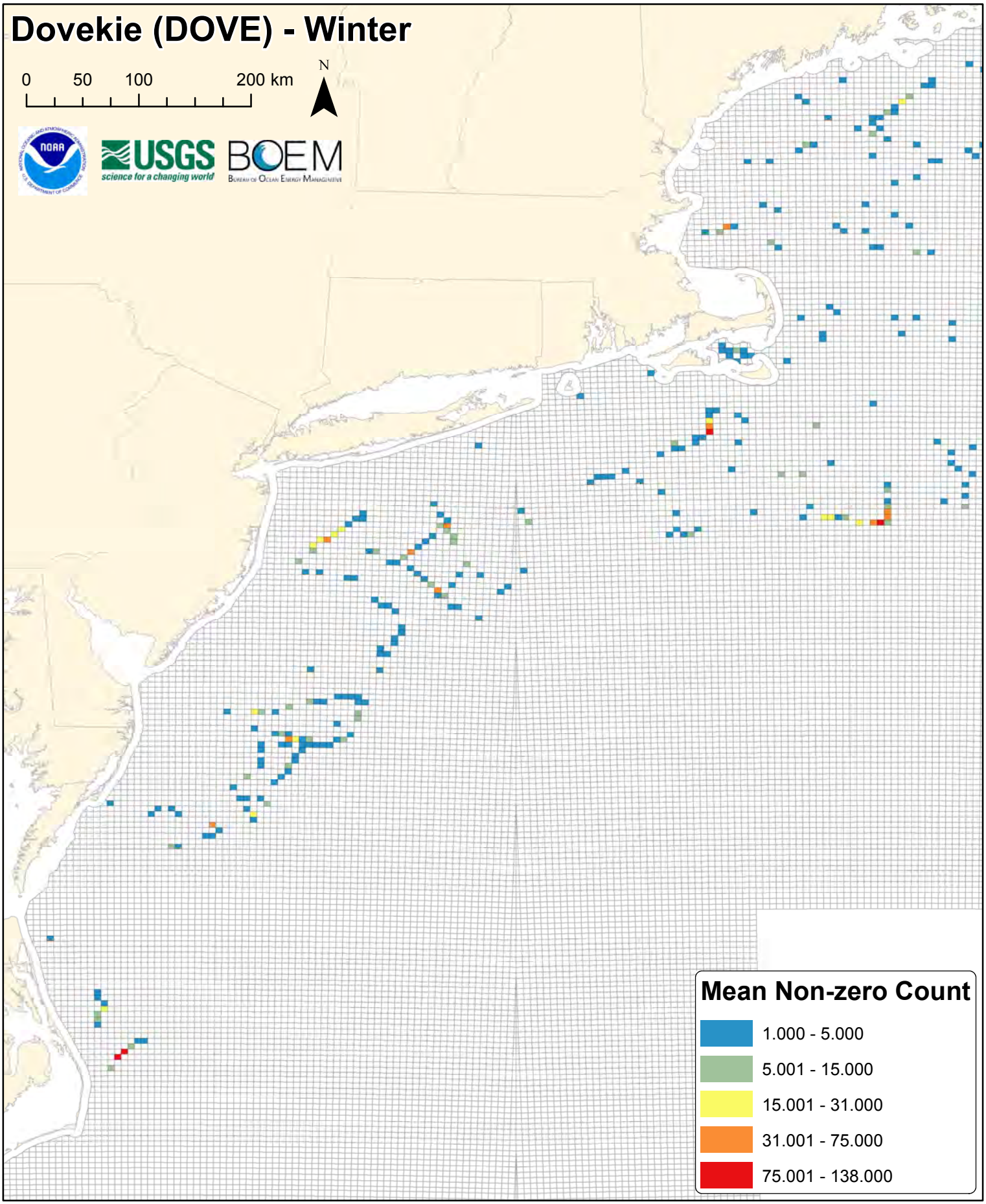

Common Loon (COLO) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900

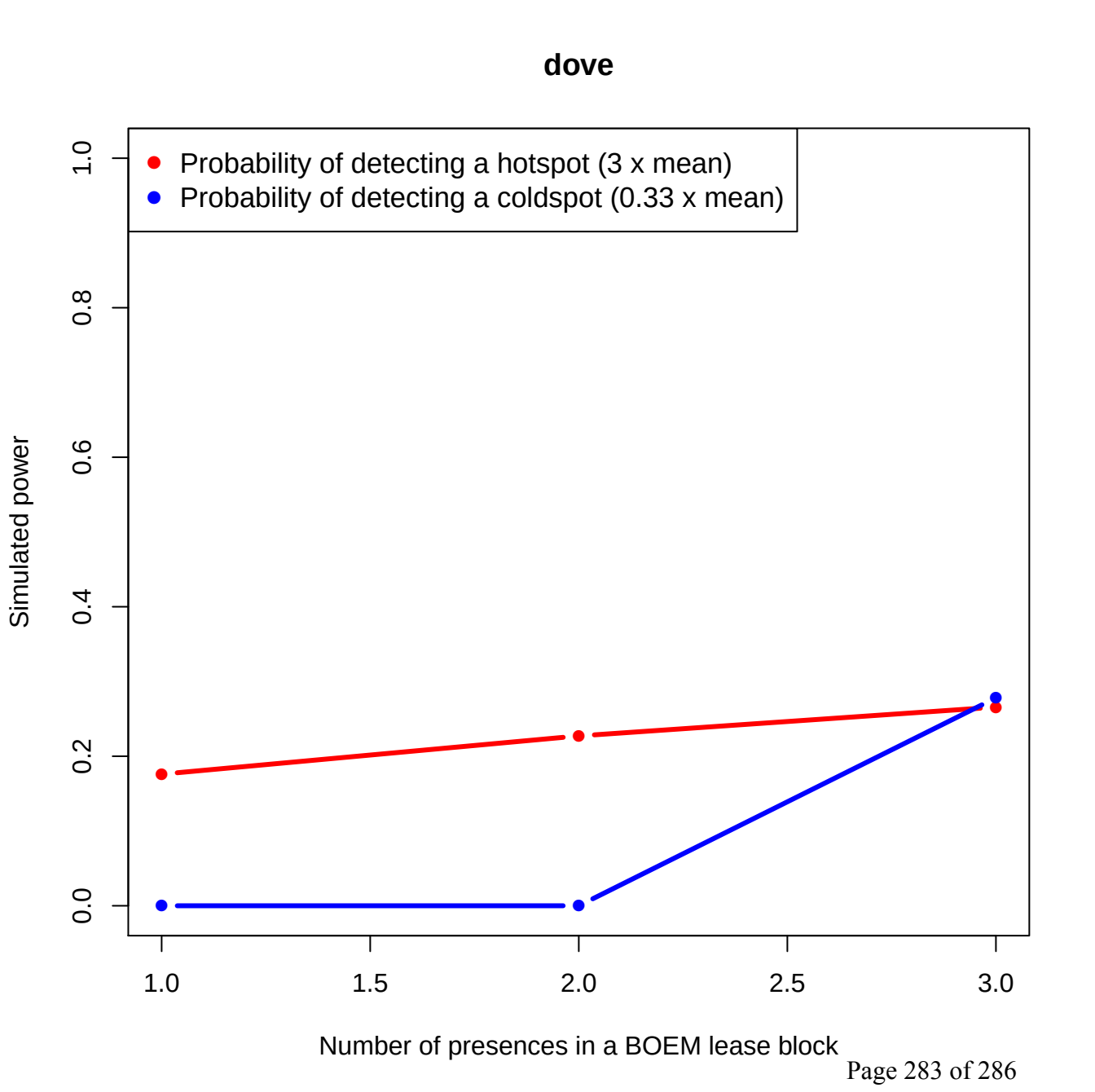
Common Loon (COLO) - Winter
Conditional Model (Non-zero Counts)

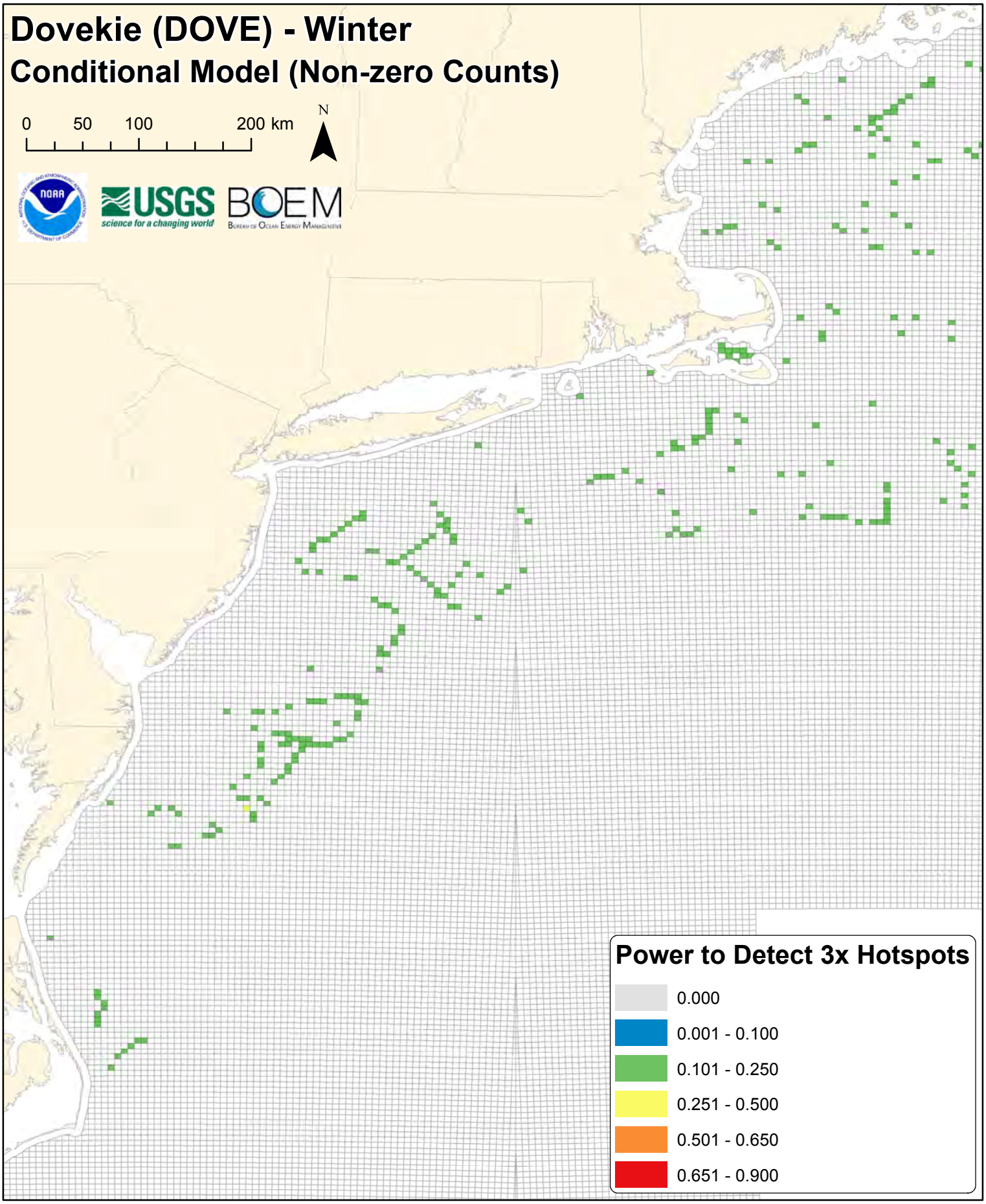


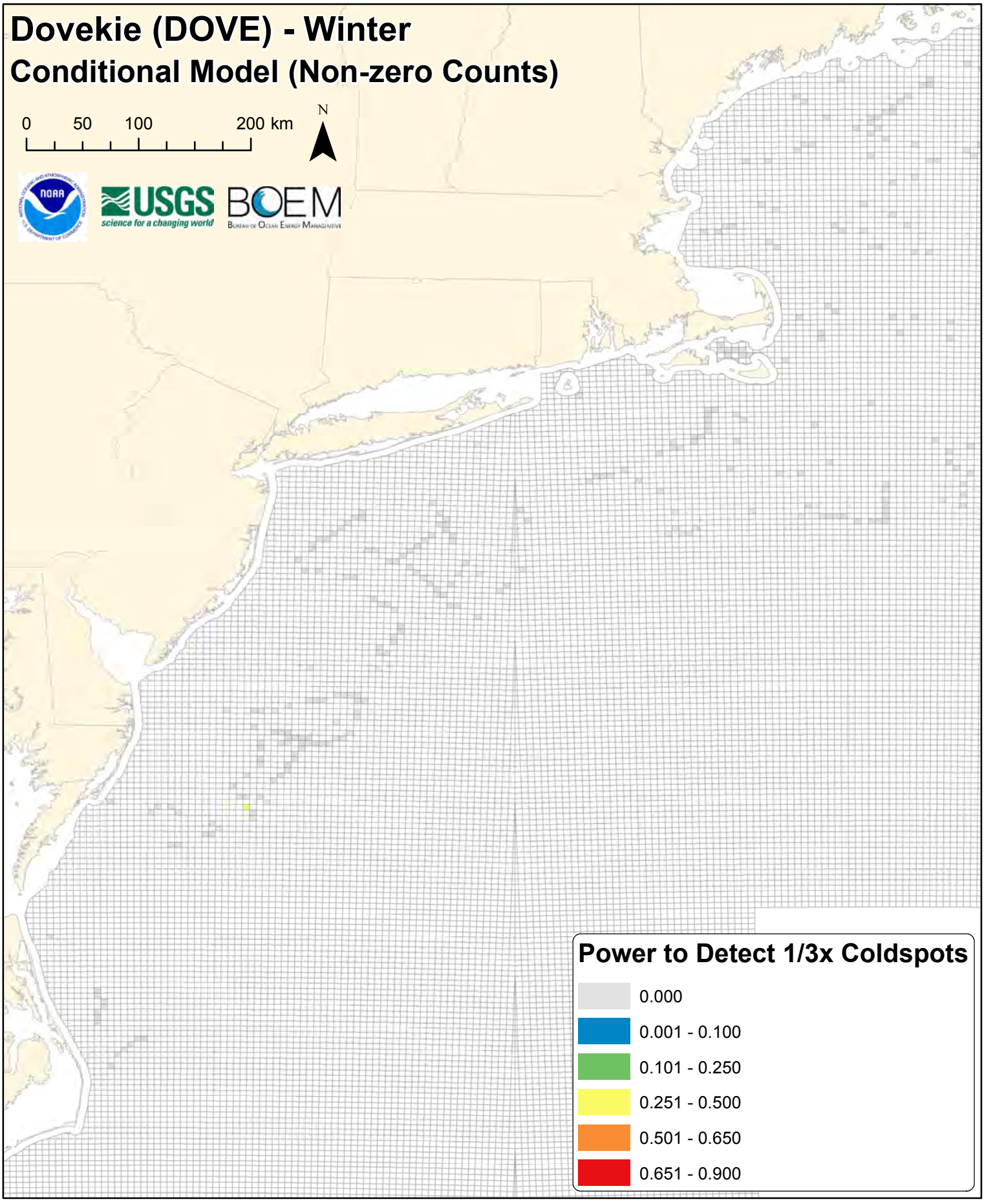

Common Loon (COLO) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000

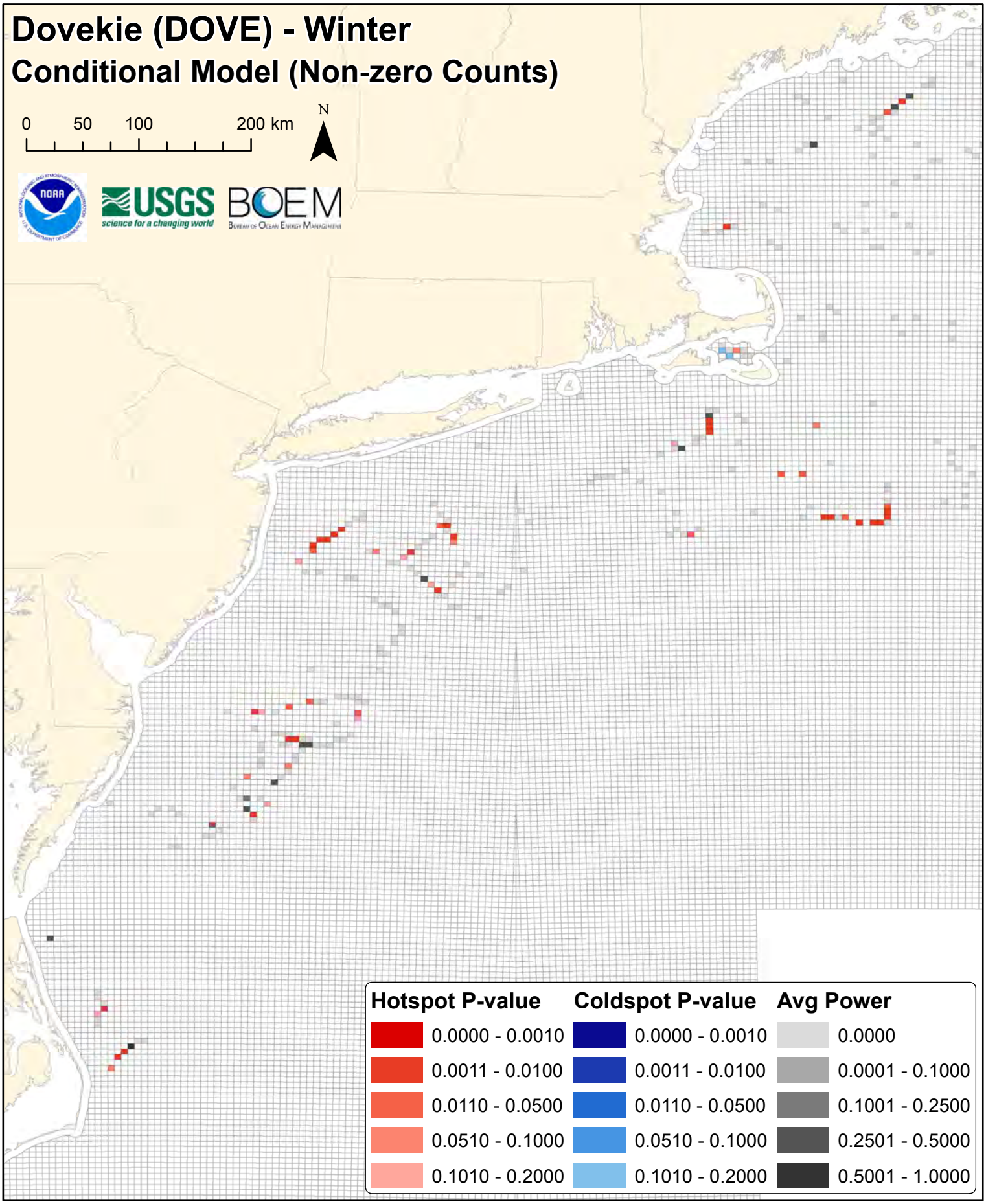

Dovekie (DOVE) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Occurrences
0
1
2
3


Dovekie (DOVE) - Winter
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Mean Non-zero Count
1.000 - 5.000
5.001 - 15.000
15.001 - 31.000
31.001 - 75.000
75.001 - 138.000


dove
Probability of detecting a hotspot (3 x mean)
Probability of detecting a coldspot (0.33 x mean)
Simulated power
0.0
0.2
0.4
0.6
0.8
1.0
1.0
1.5
2.0
2.5
3.0
Number of presences in a BOEM lease block


Dovekie (DOVE) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 3x Hotspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900


Dovekie (DOVE) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Power to Detect 1/3x Coldspots
0.000
0.001 - 0.100
0.101 - 0.250
0.251 - 0.500
0.501 - 0.650
0.651 - 0.900


Dovekie (DOVE) - Winter
Conditional Model (Non-zero Counts)
0
50
100
200 km
N
NOAA
USGS
science for a changing world
BOEM
Bureau of Ocean Energy Management
Hotspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Coldspot P-value
0.0000 - 0.0010
0.0011 - 0.0100
0.0110 - 0.0500
0.0510 - 0.1000
0.1010 - 0.2000
Avg Power
0.0000
0.0001 - 0.1000
0.1001 - 0.2500
0.2501 - 0.5000
0.5001 - 1.0000