



New England Fishery Management Council

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John F. Quinn, J.D., Ph.D., *Chairman* | Thomas A. Nies, *Executive Director*

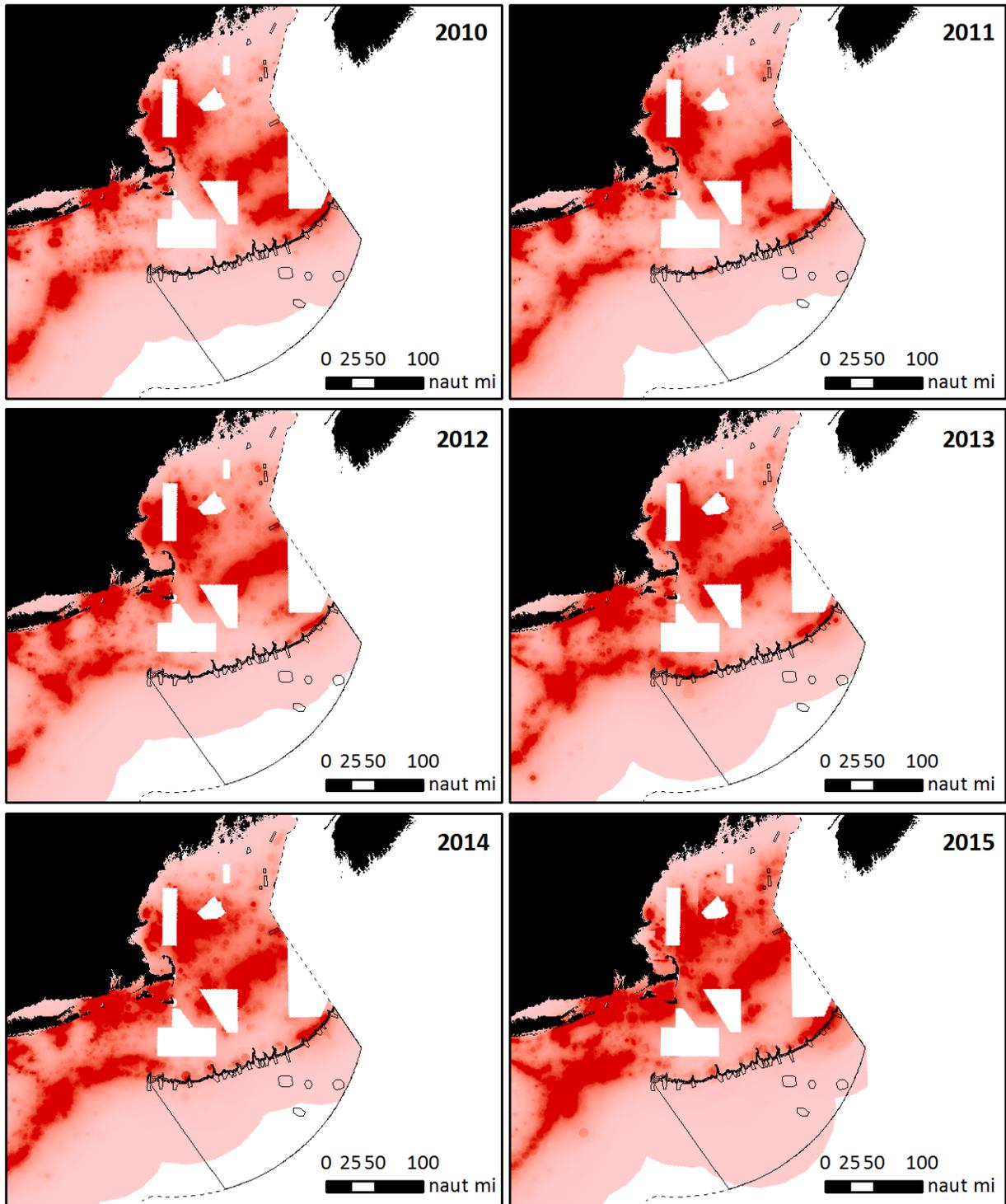
OMNIBUS DEEP-SEA CORAL AMENDMENT

Appendix F: Fishing Effort Map Book

1 VTR-based revenue maps

The data shown on these maps were used to evaluate fishery revenue by gear and species with respect to various coral zone boundaries.

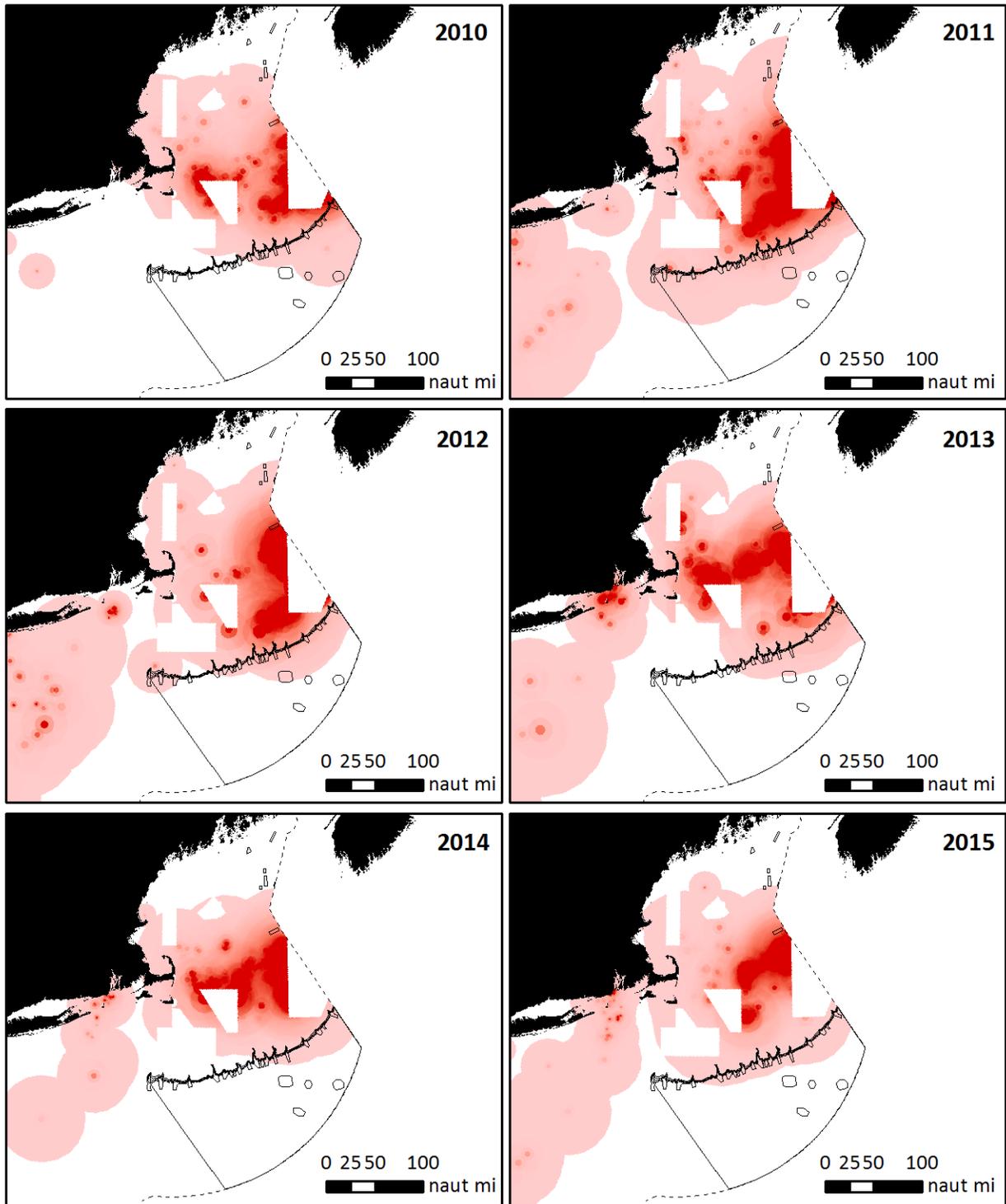
Map 1 – Bottom trawl gear revenue distribution, 2010-2015.



Gear: Bottom trawl

Map created October 26, 2016

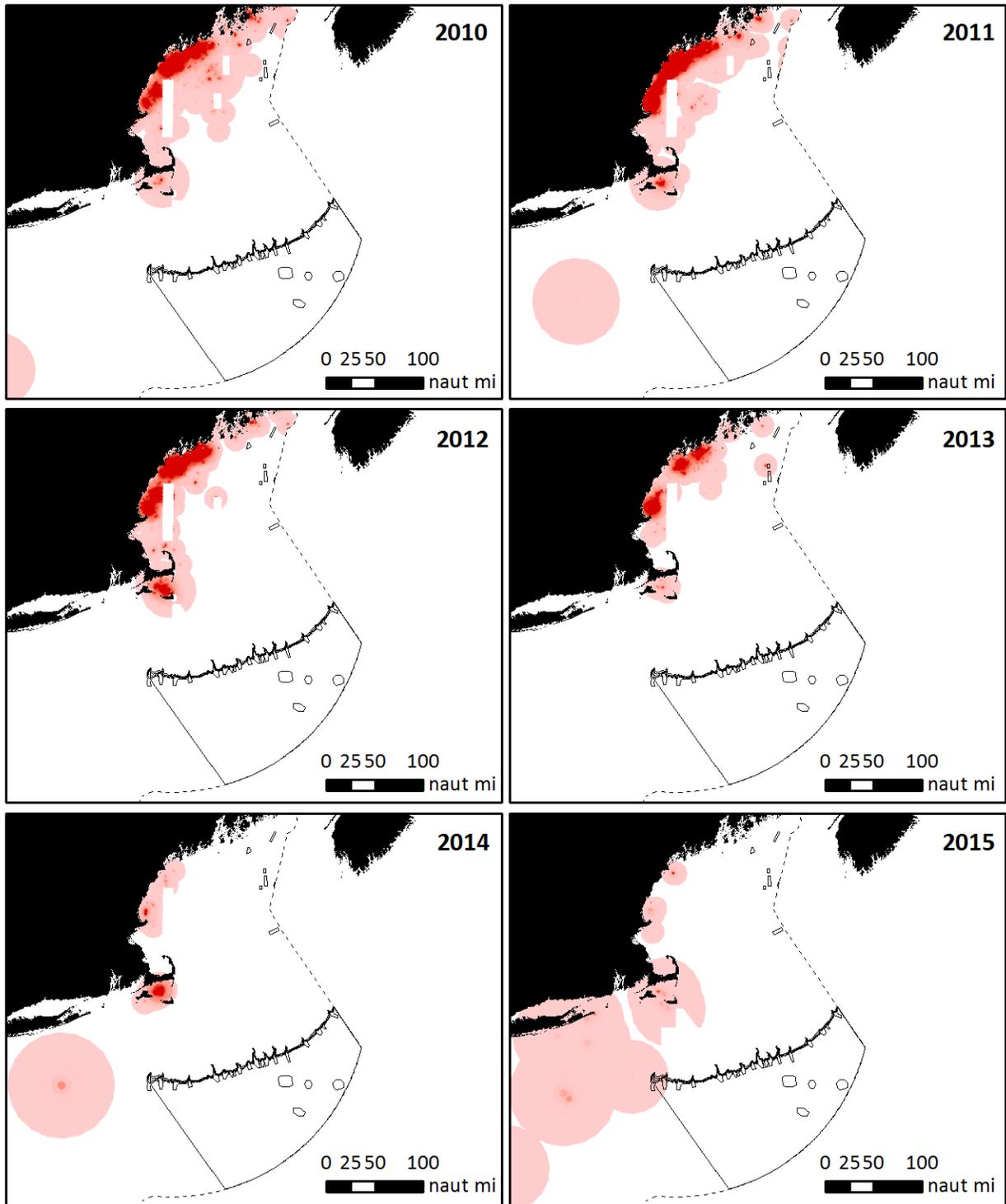
Map 2 – Ruhle and separator trawl gear revenue distribution, 2010-2015.



Gear: Ruhle and separator trawls

Map created October 26, 2016

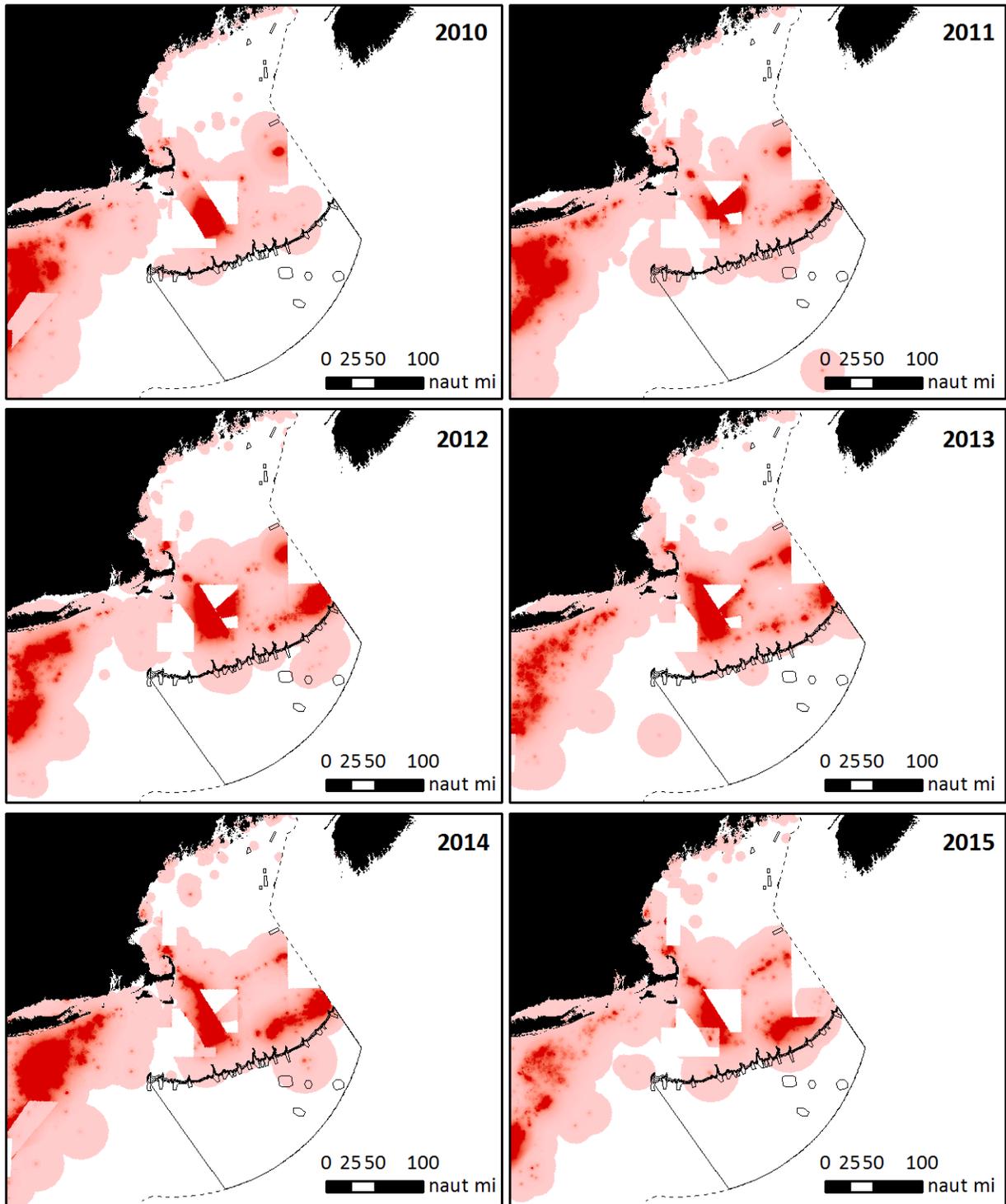
Map 3 – Shrimp trawl gear revenue distribution, 2010-2015.



Gear: Shrimp trawl

Map created October 26, 2016

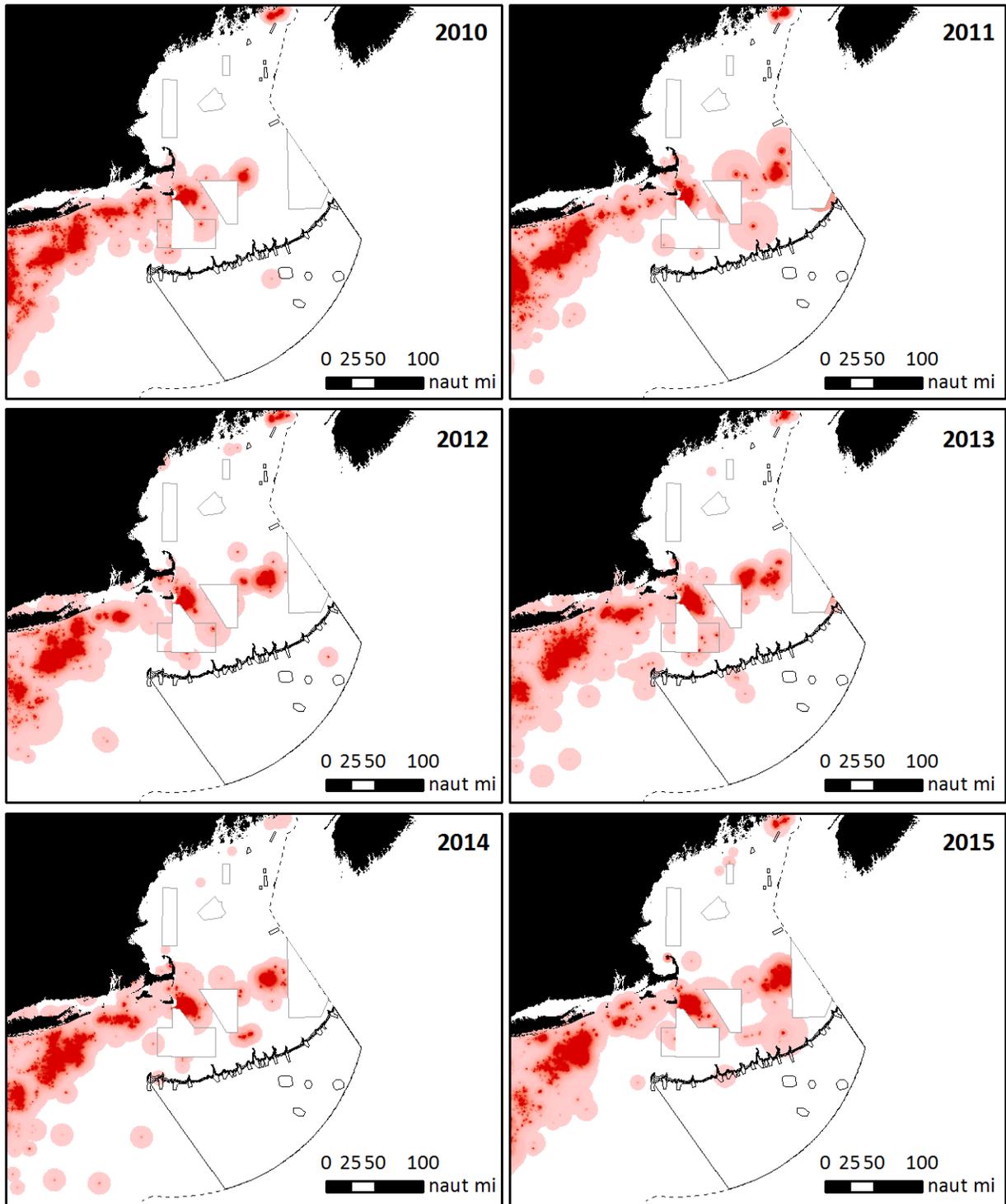
Map 4 – Scallop dredge gear revenue distribution, 2010-2015.



Gear: Scallop dredge

Map created October 26, 2016

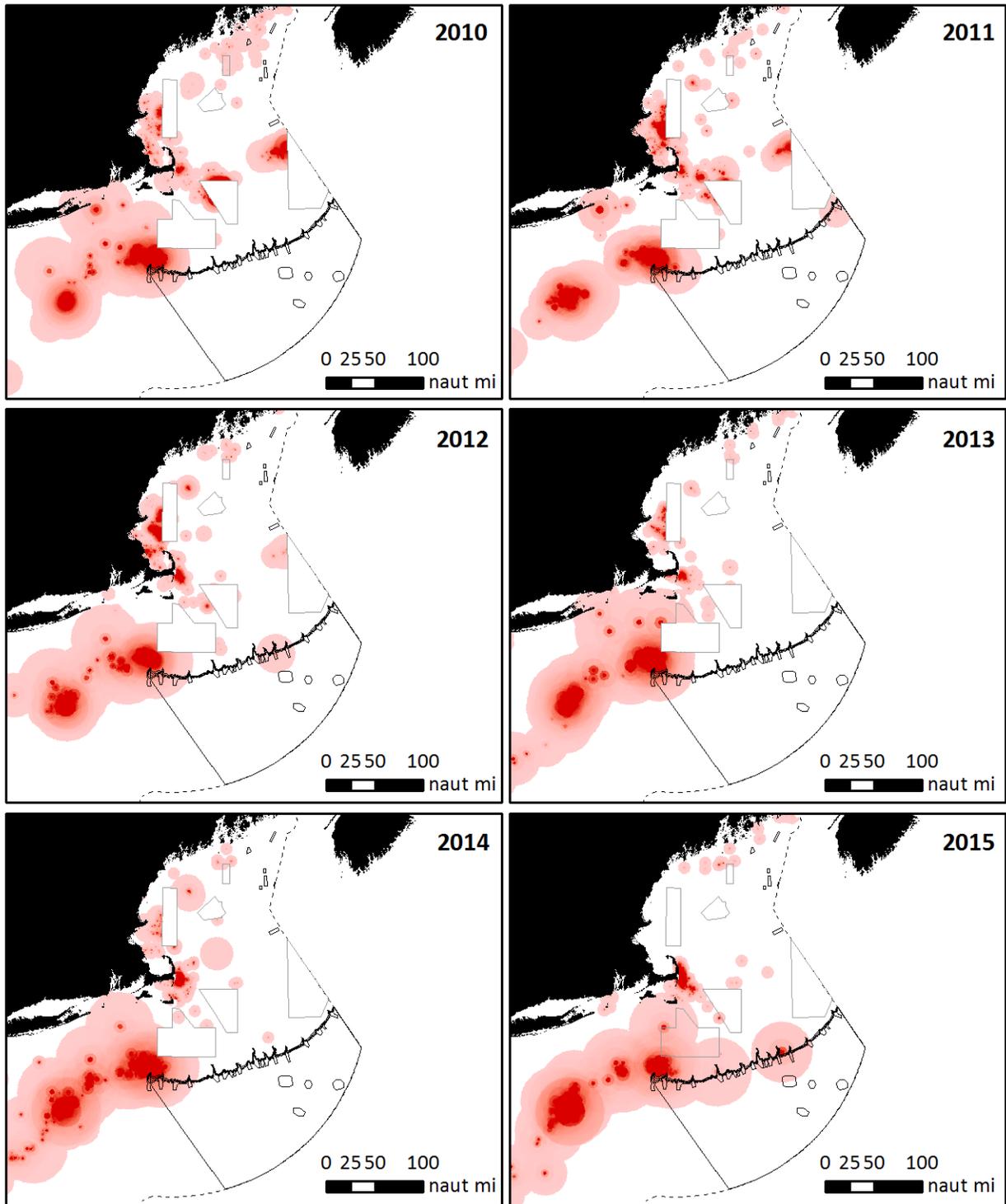
Map 5 – Clam dredge gear revenue distribution, 2010-2015.



Gear: Clam dredge

Map created October 27, 2016

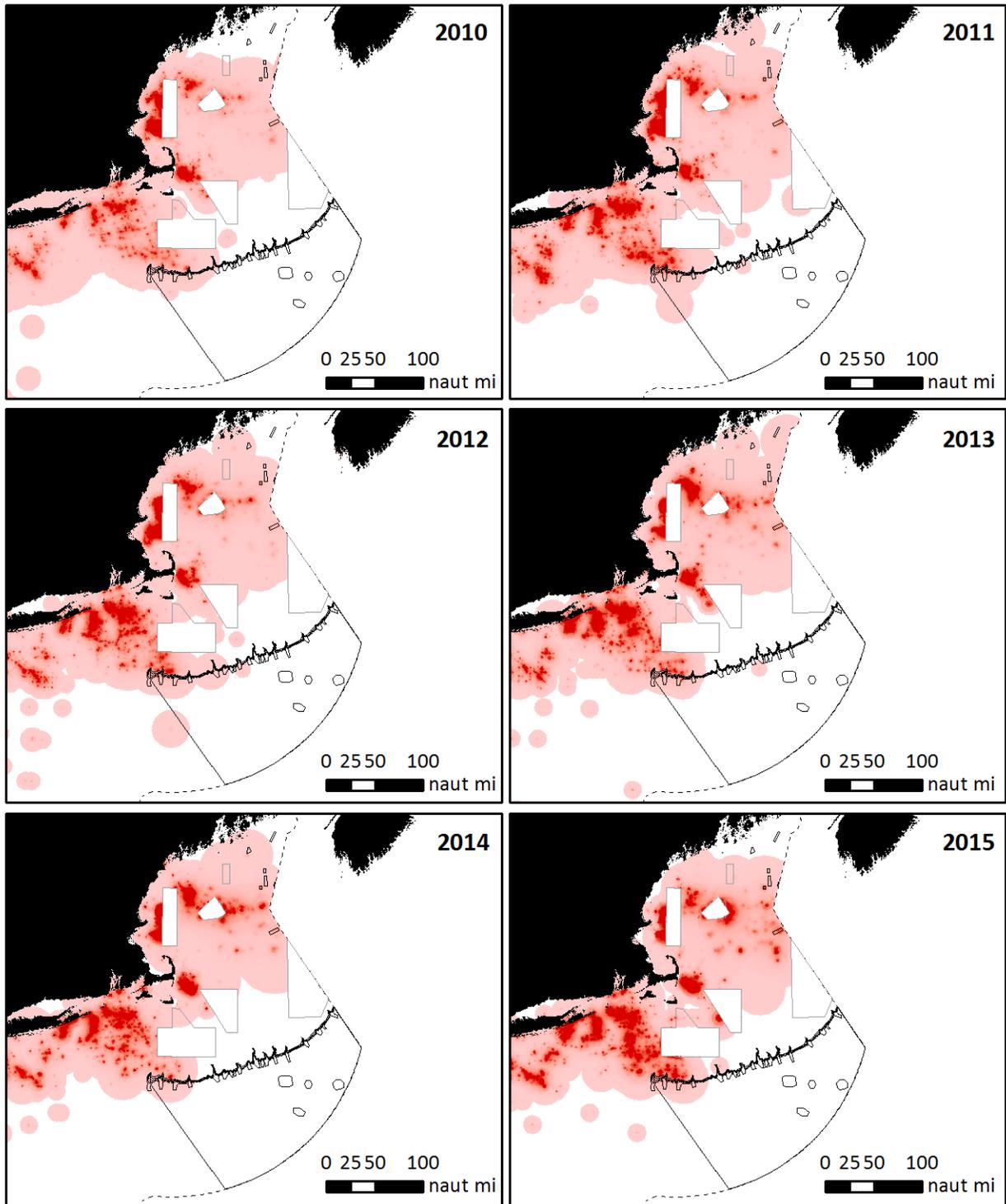
Map 6 – Bottom longline gear revenue distribution, 2010-2015.



Gear: Bottom longline

Map created October 27, 2016

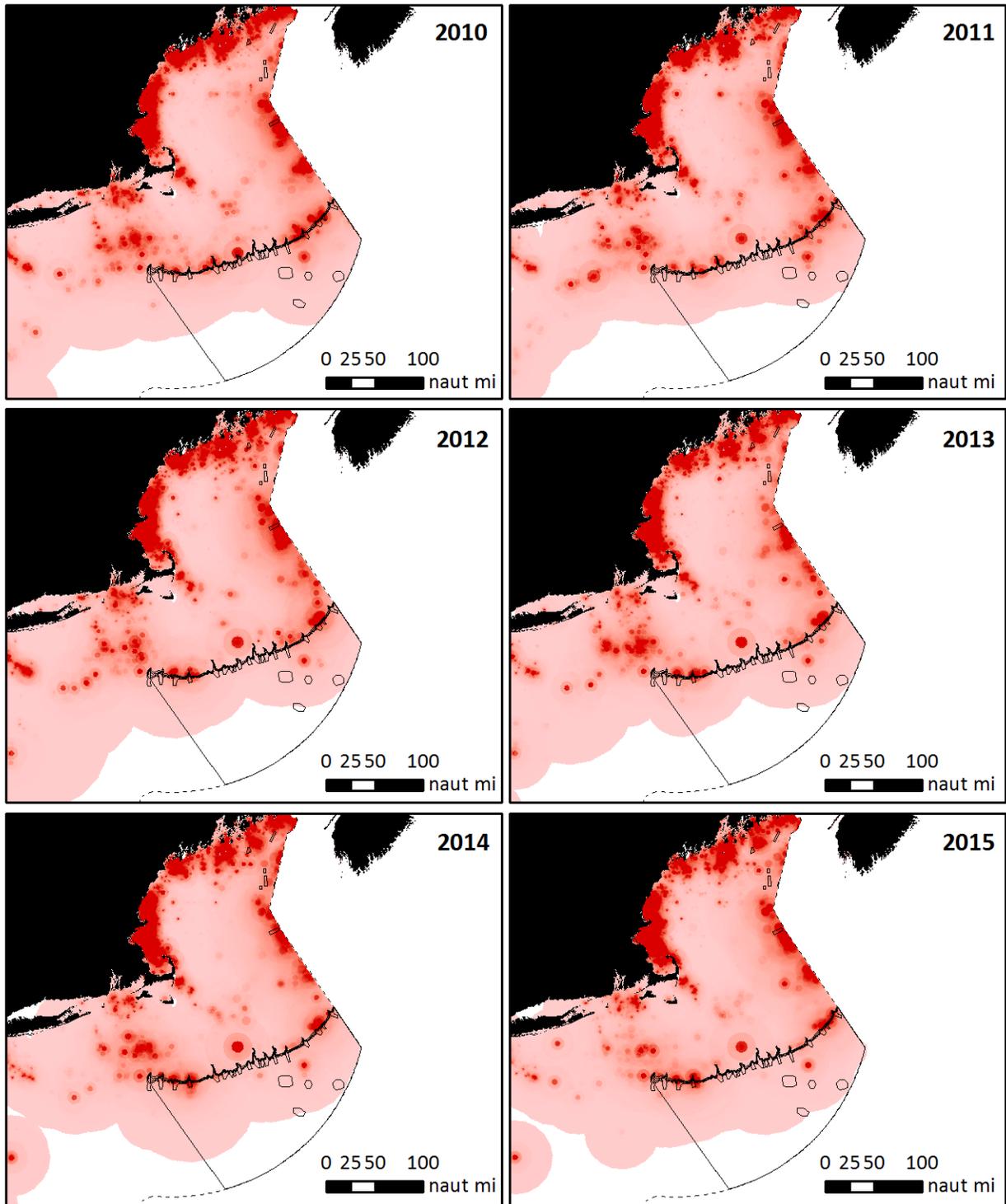
Map 7 – Sink gillnet gear revenue distribution, 2010-2015.



Gear: Sink gillnet

Map created October 27, 2016

Map 8 – Lobster pot gear revenue distribution, 2010-2015.

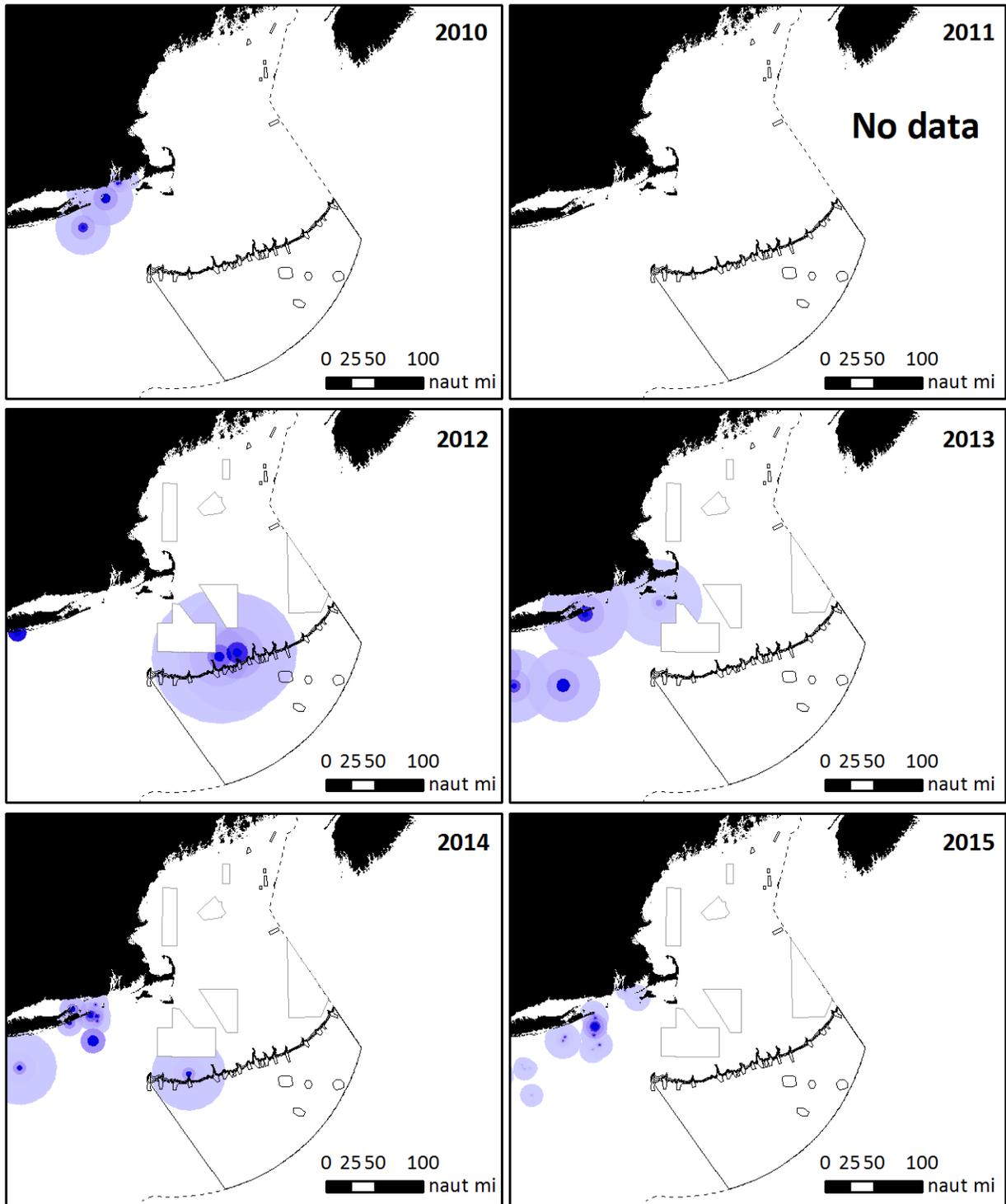


Gear: Lobster pot

Map created October 27, 2016

Note: Lobster data are not scaled, unlike as reported in the VTR analysis of the offshore coral zones.

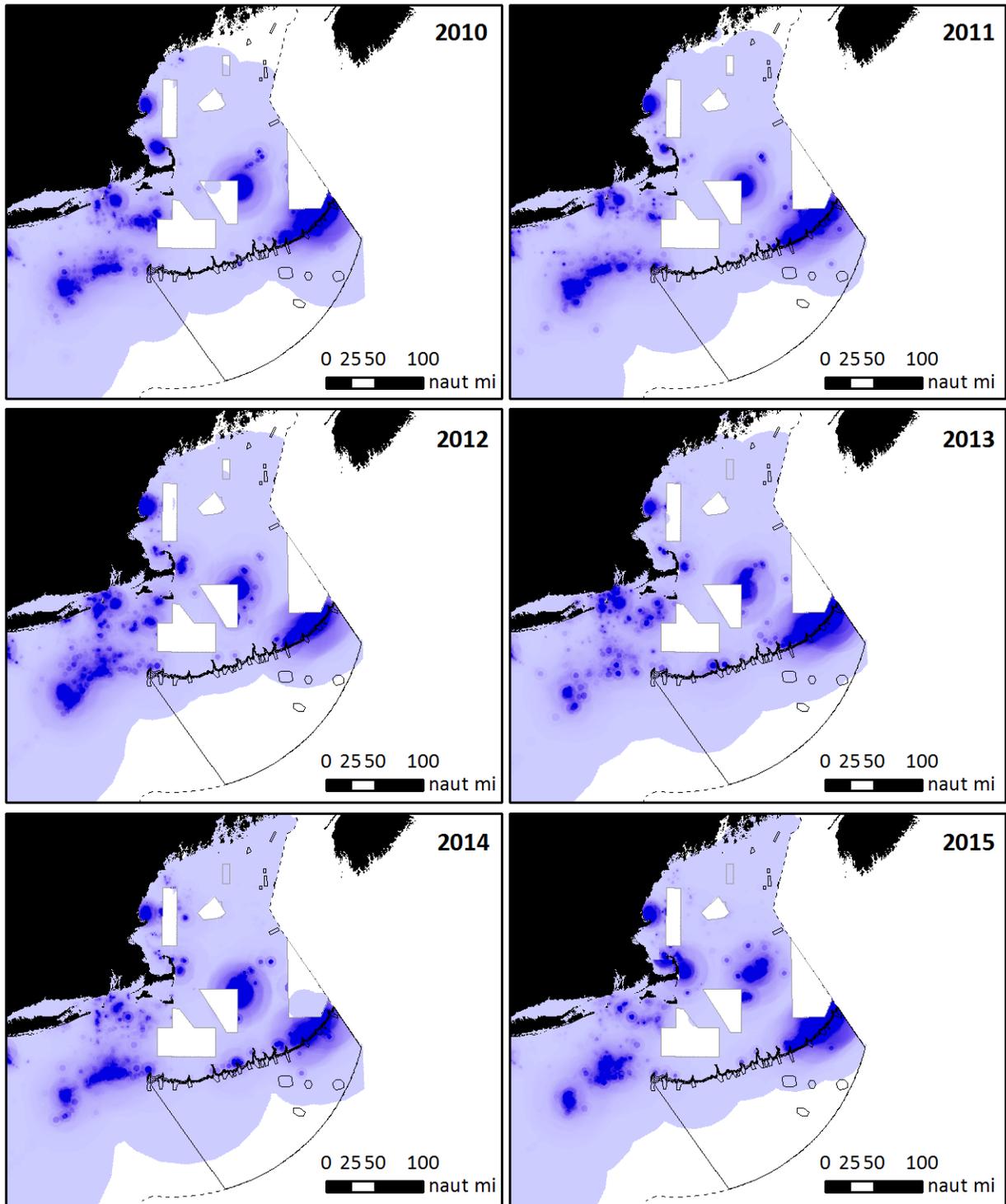
Map 9 – Smooth skate revenue distribution, 2010-2015.



Species: Smooth skate

Map created October 31, 2016

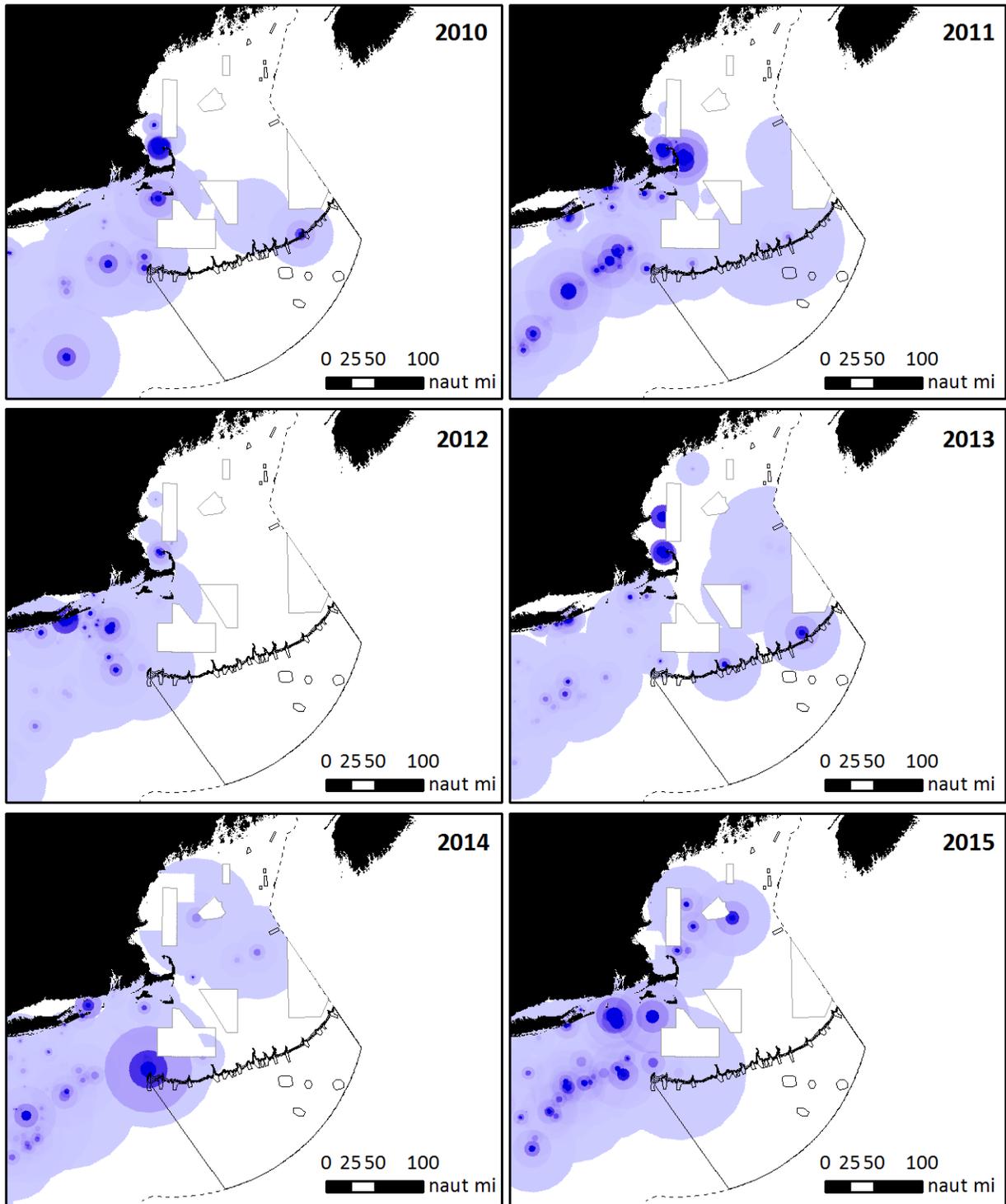
Map 10 – Silver hake revenue distribution, 2010-2015.



Species: Silver hake

Map created October 27, 2016

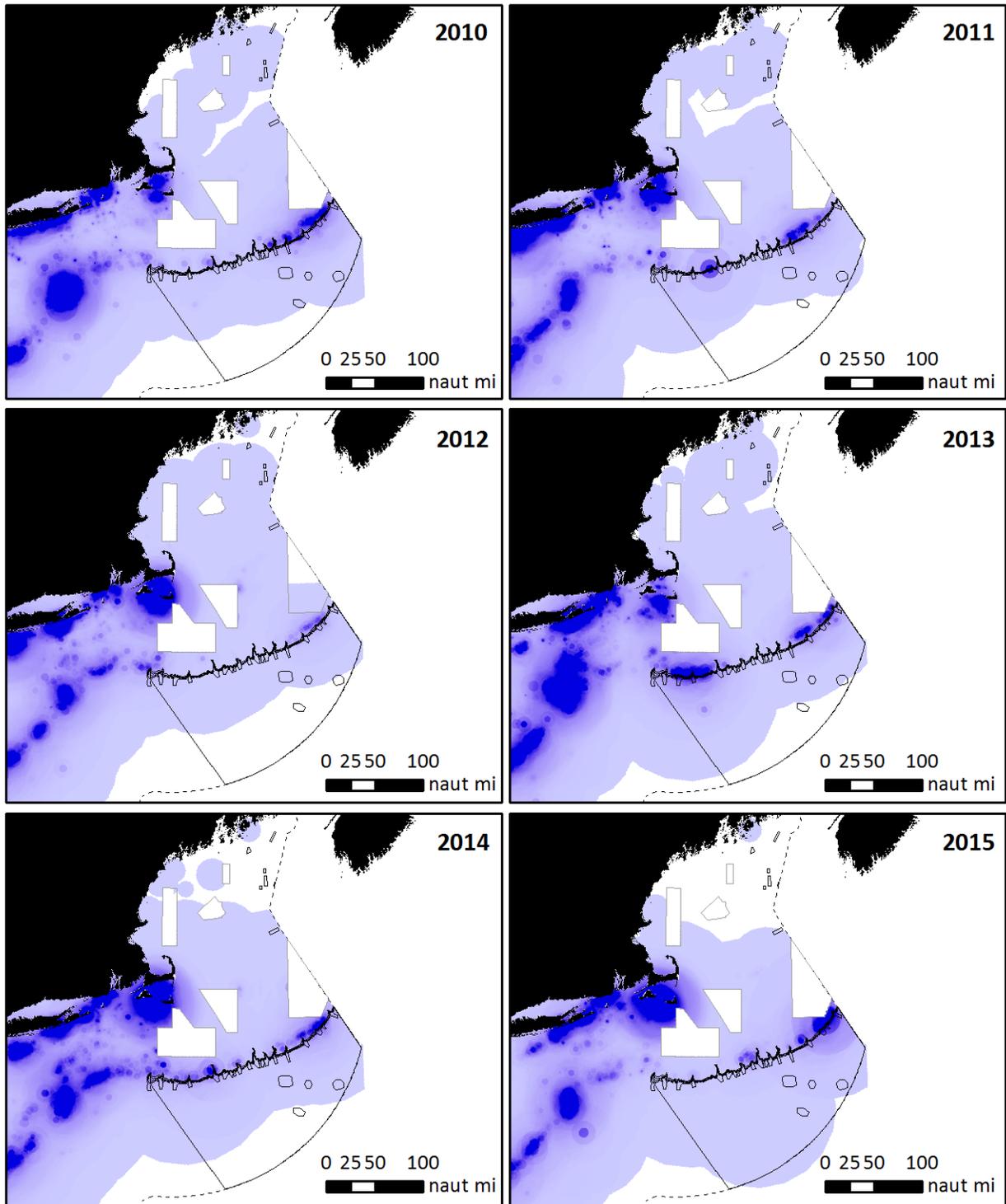
Map 11 – Offshore hake revenue distribution, 2010-2015.



Species: Offshore hake

Map created October 27, 2016

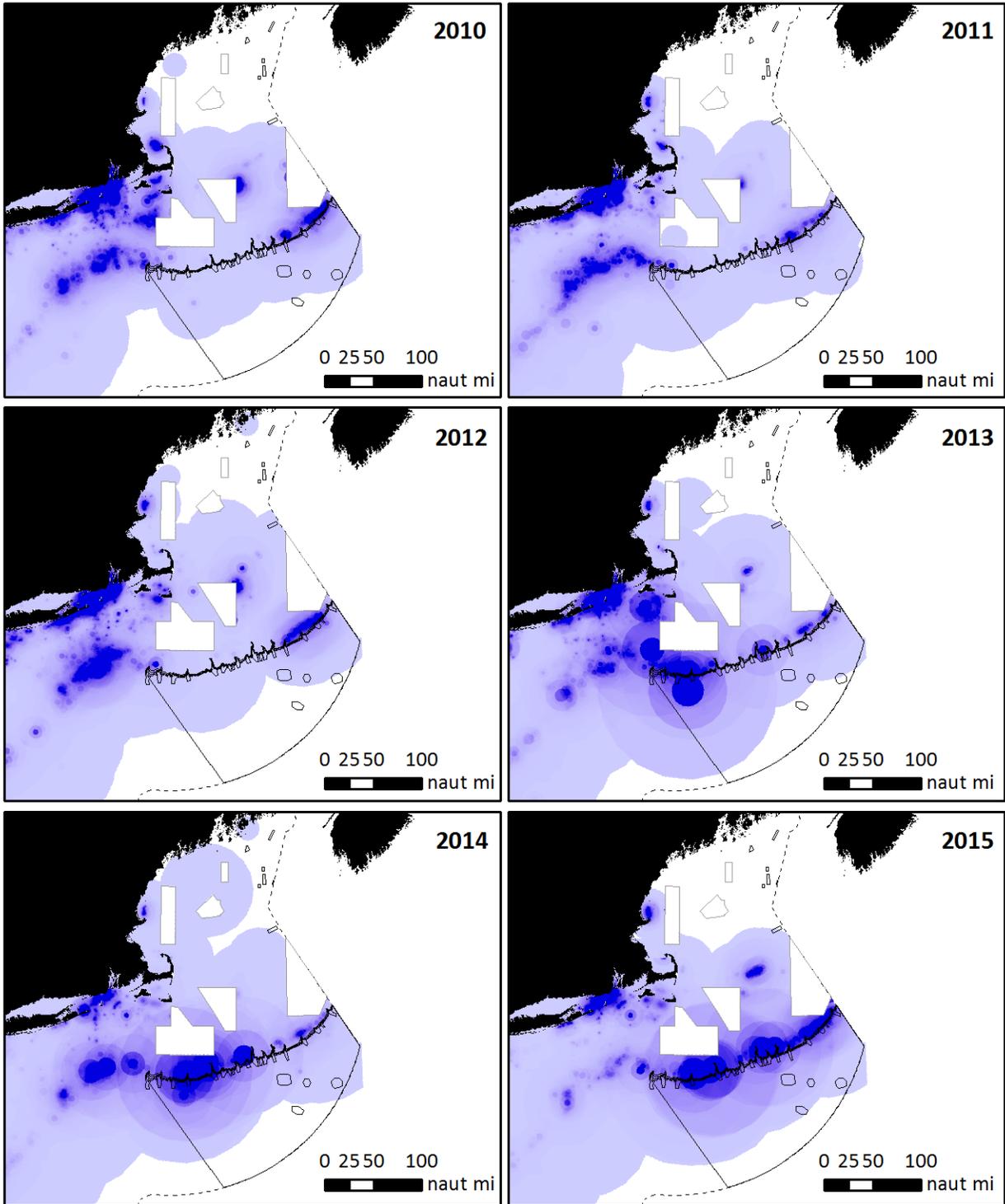
Map 12 – Longfin squid revenue distribution, 2010-2015.



Species: Longfin squid

Map created October 28, 2016

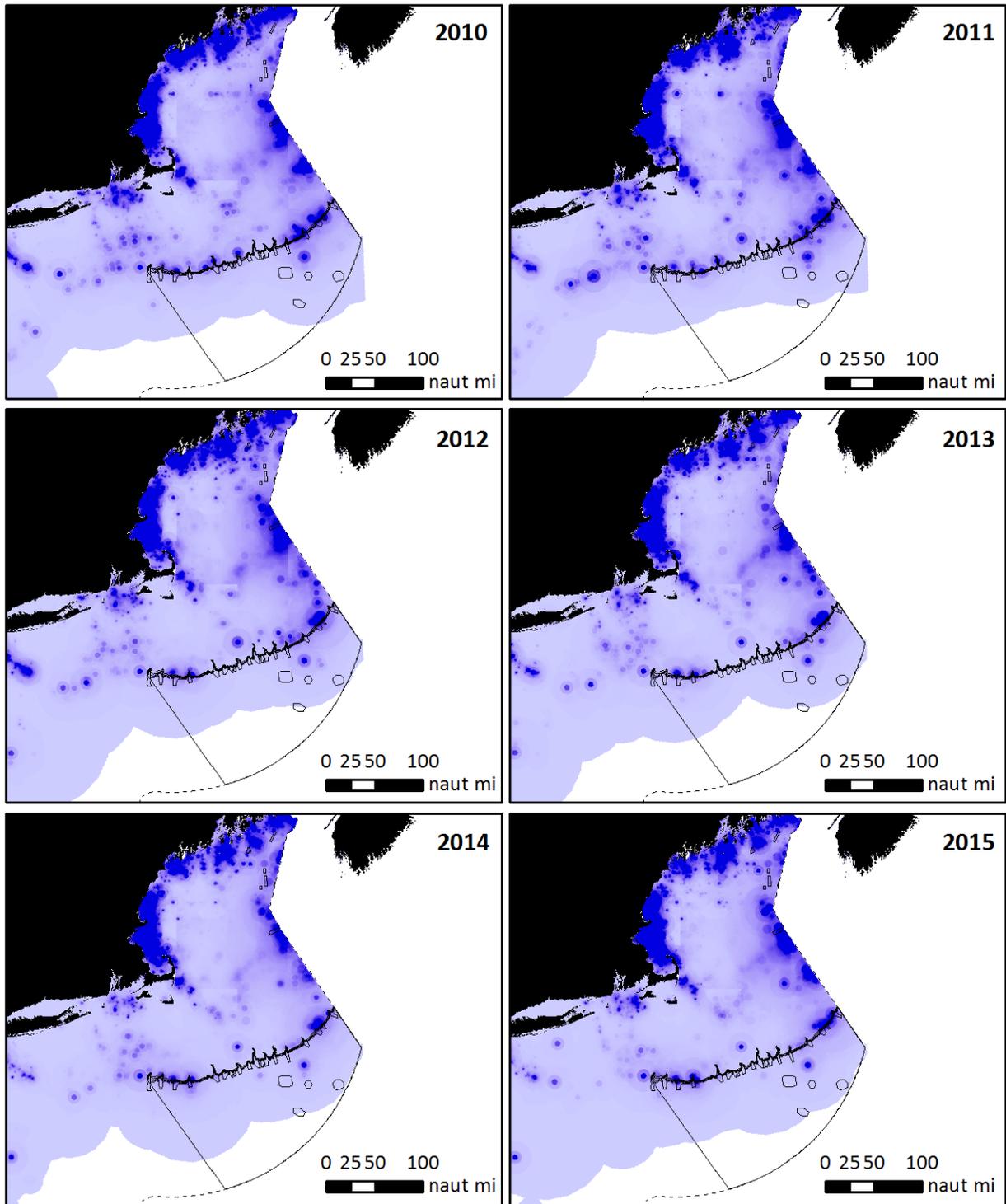
Map 13 – Butterfish revenue distribution, 2010-2015.



Species: Butterfish

Map created October 28, 2016

Map 14 – Lobster revenue distribution, 2010-2015.

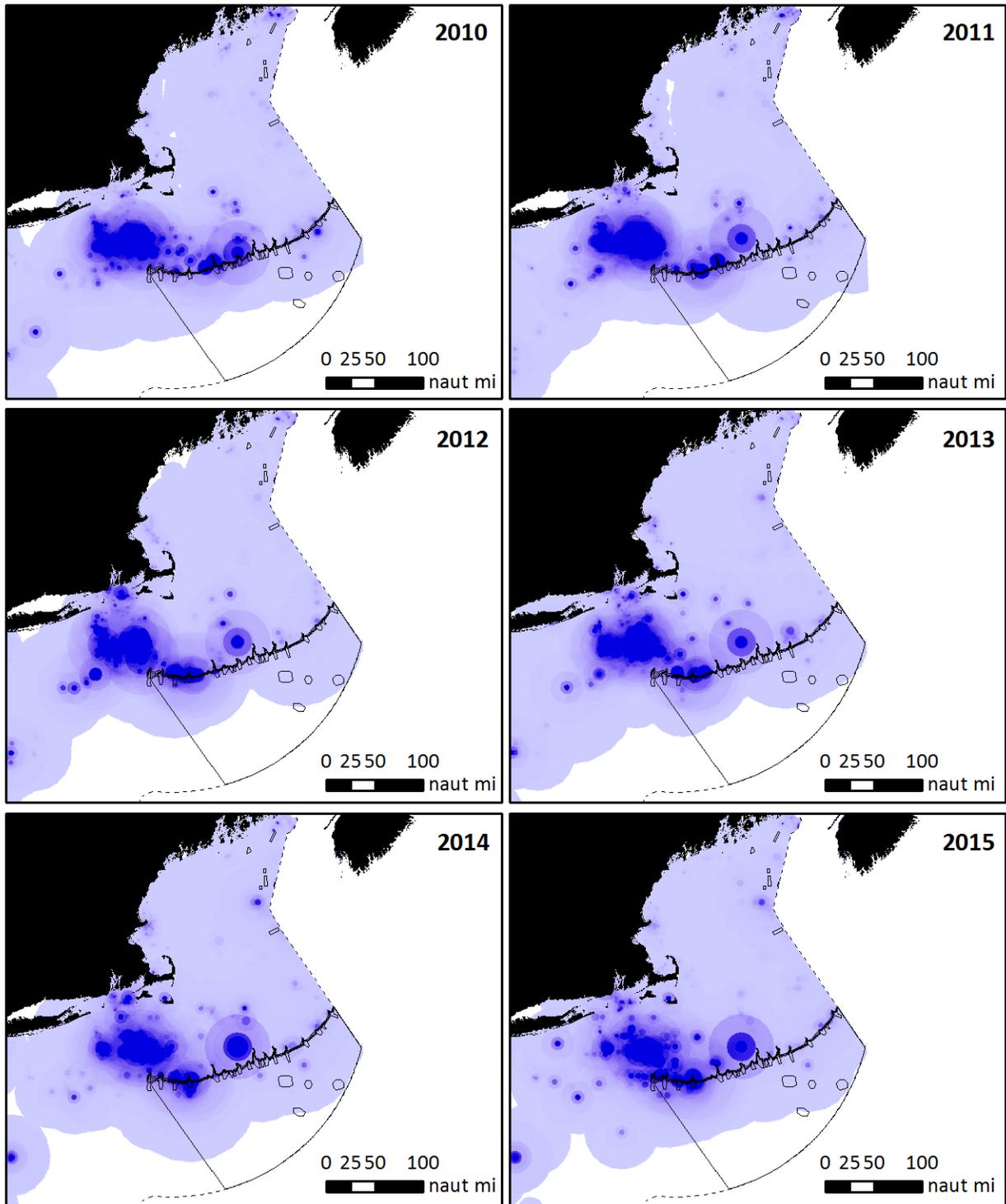


Species: American lobster

Map created October 28, 2016

Note: Zero values excluded. Lobster data are not scaled, unlike as reported in the VTR analysis of the offshore coral zones.

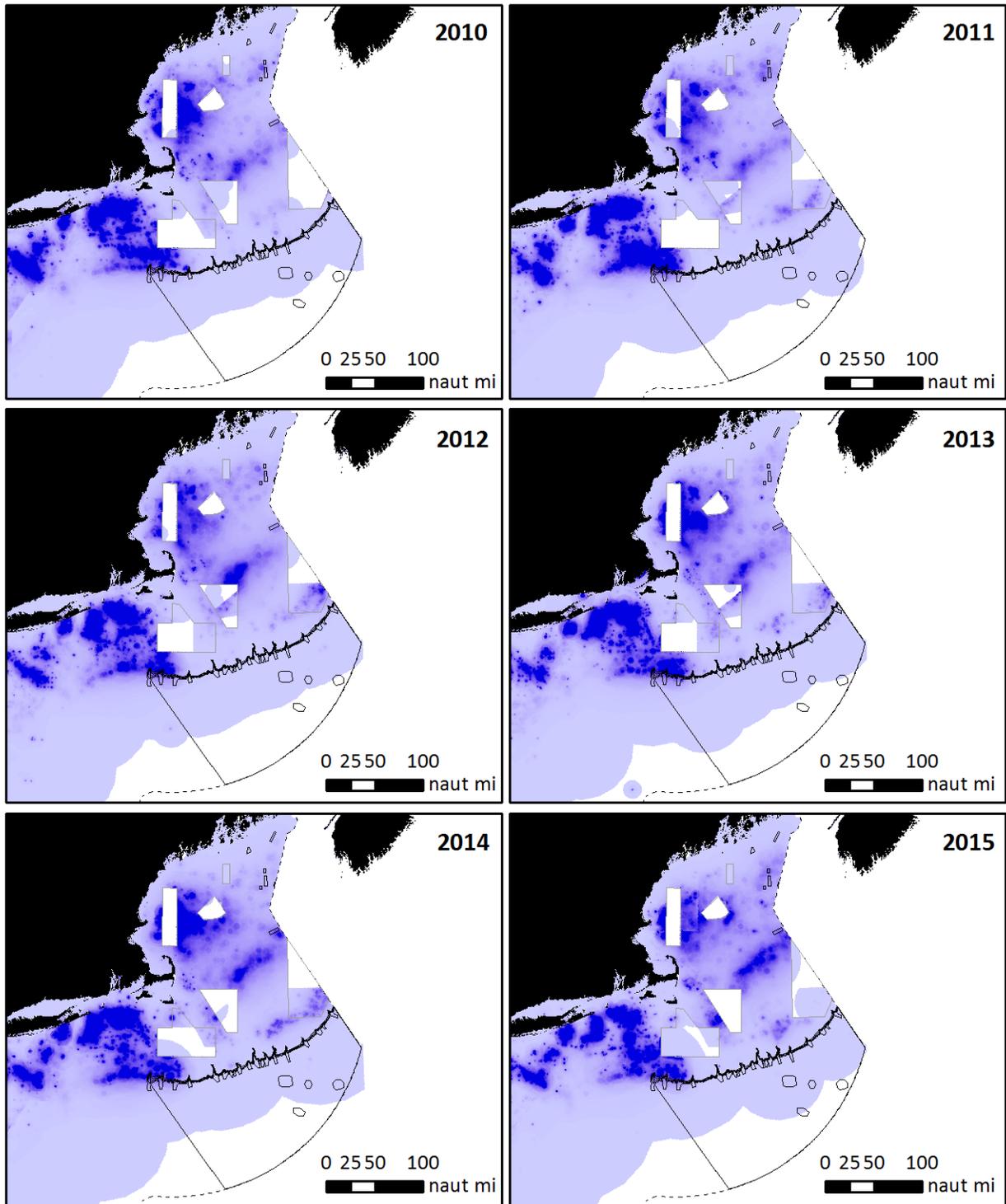
Map 15 – Jonah crab revenue distribution, 2010-2015.



Species: Jonah crab

Map created October 28, 2016

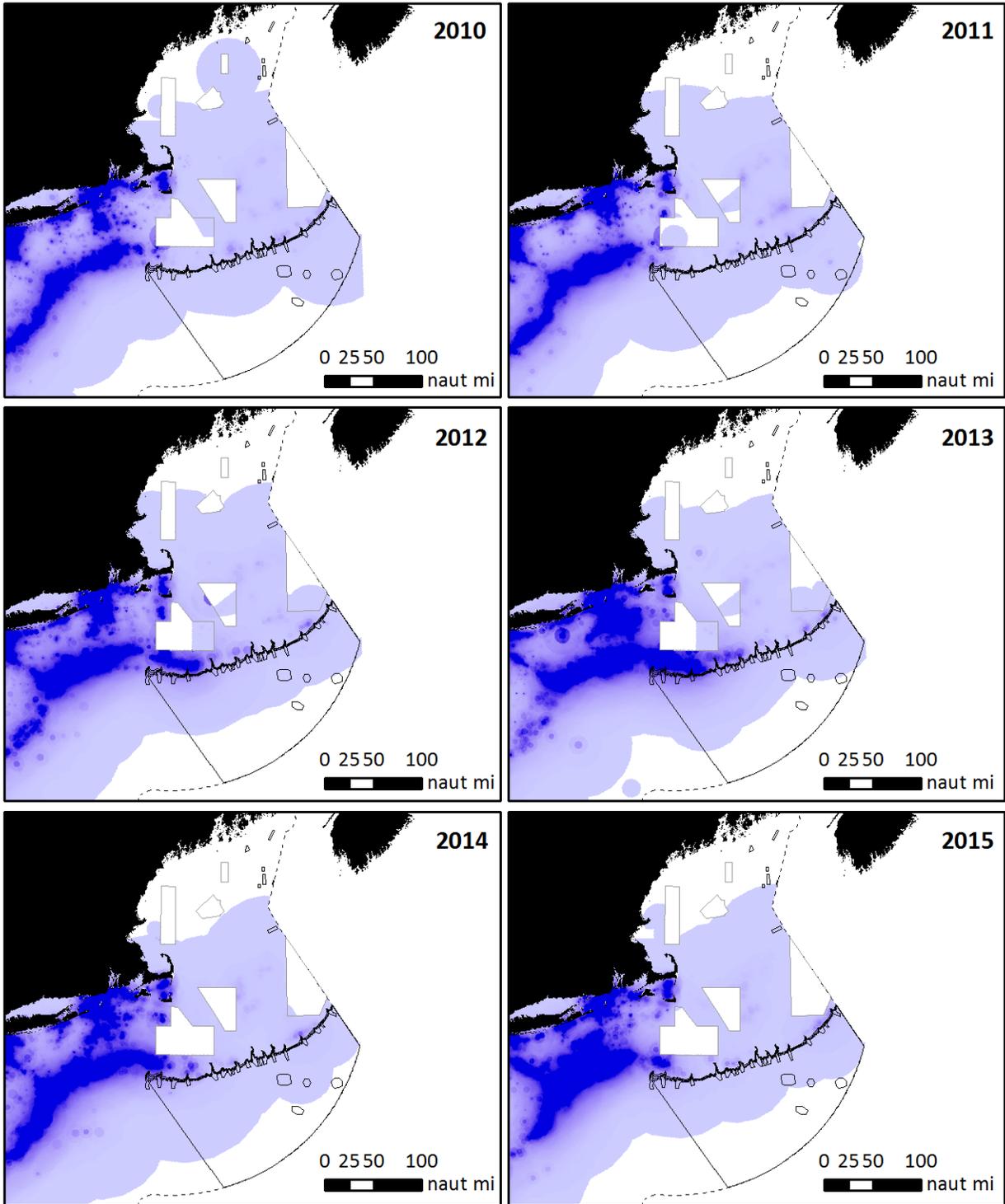
Map 16 – Monkfish revenue distribution, 2010-2015.



Species: Monkfish

Map created October 28, 2016

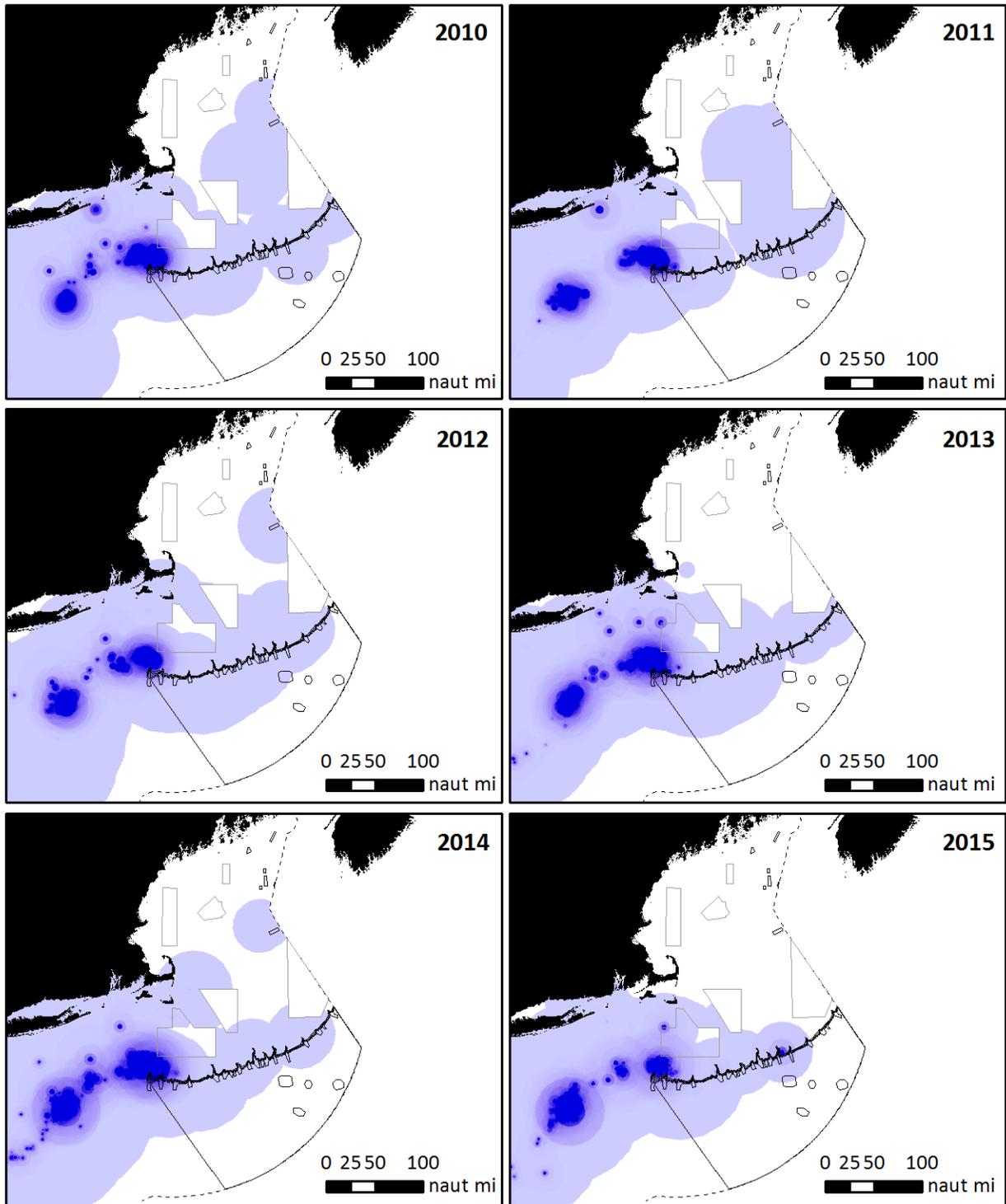
Map 17 – Summer flounder revenue distribution, 2010-2015.



Species: Summer flounder

Map created October 28, 2016

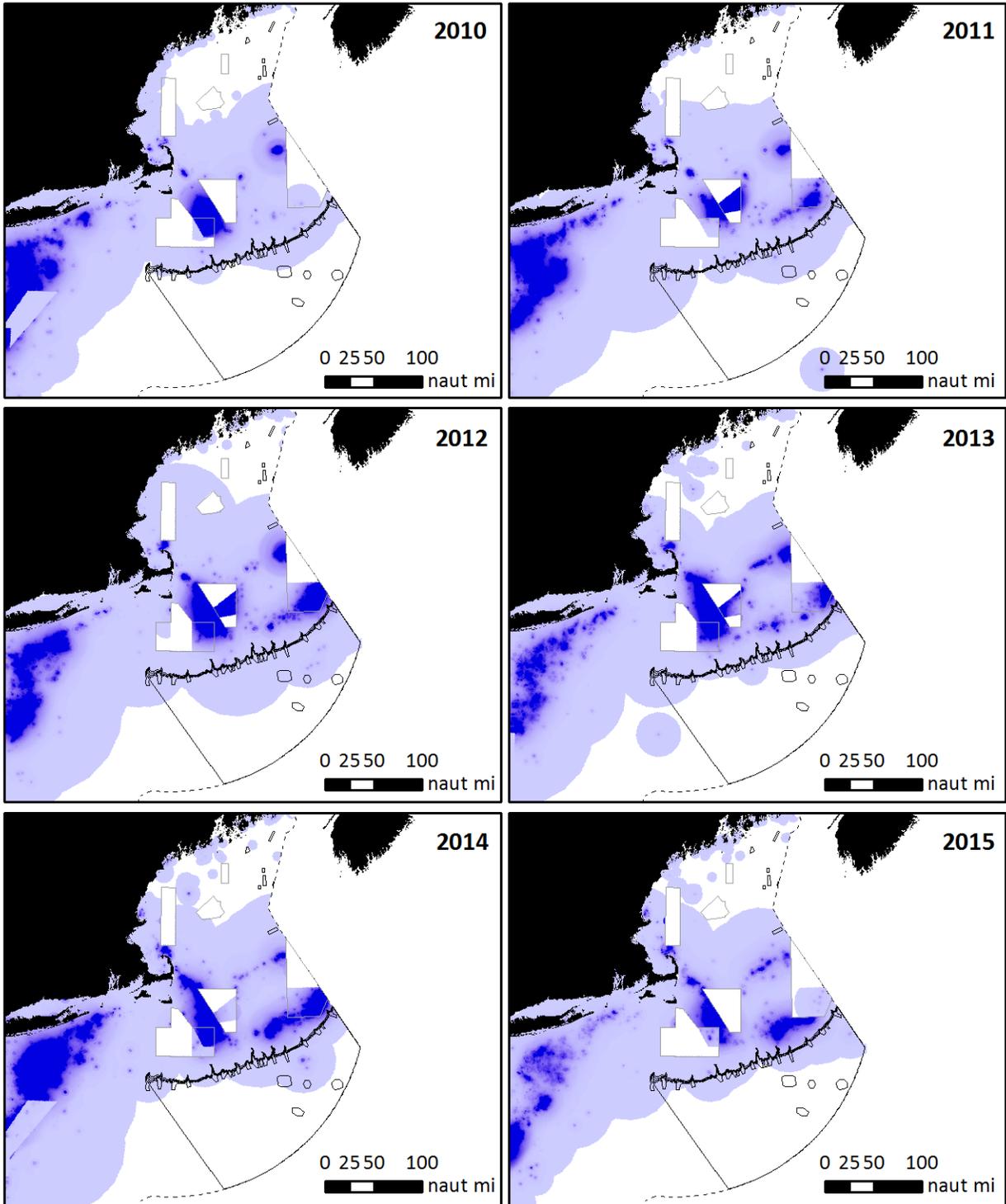
Map 18 – Golden tilefish revenue distribution, 2010-2015.



Species: Golden tilefish

Map created October 28, 2016

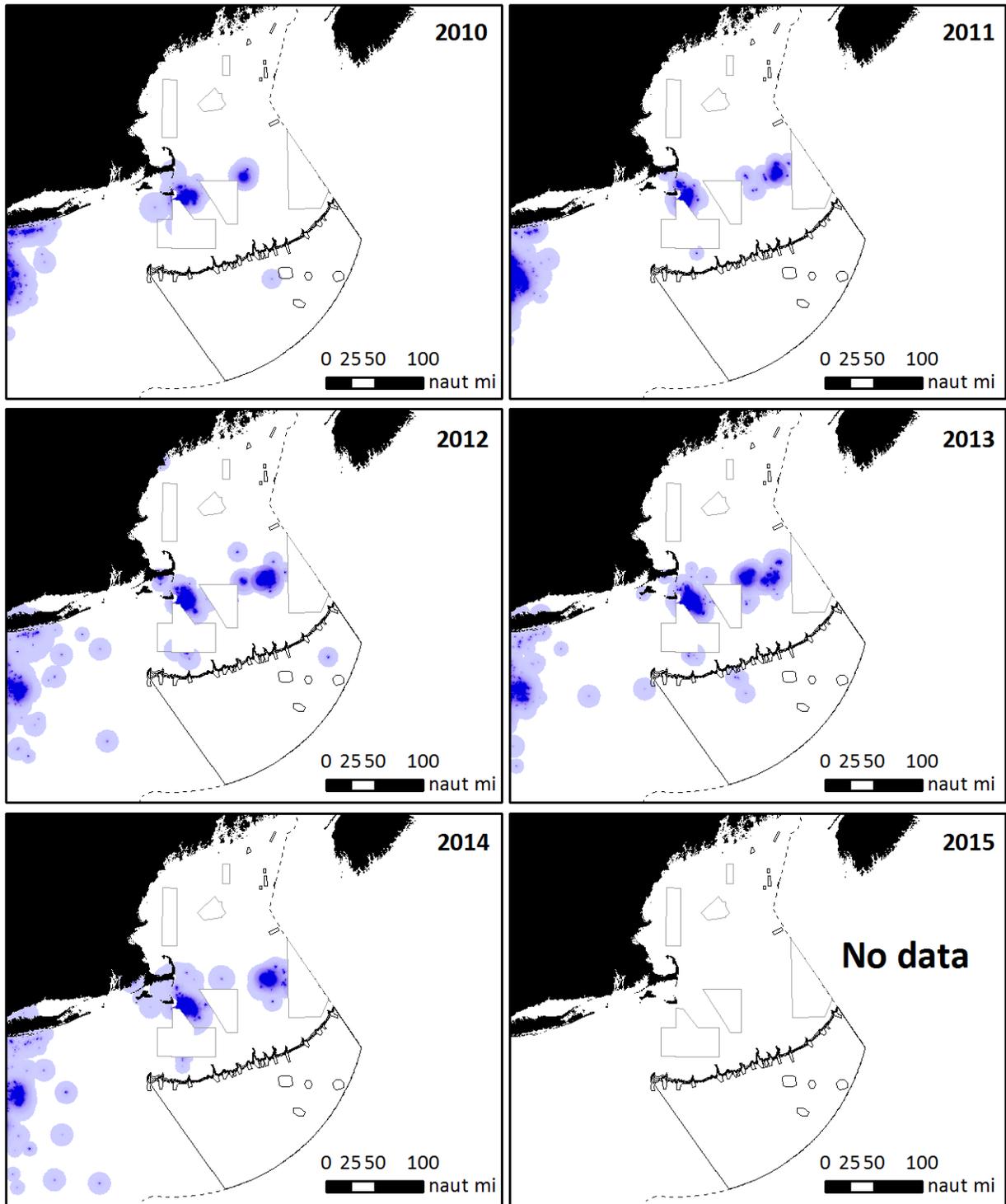
Map 19 – Sea scallop revenue distribution, 2010-2015.



Species: Sea scallop

Map created October 28, 2016

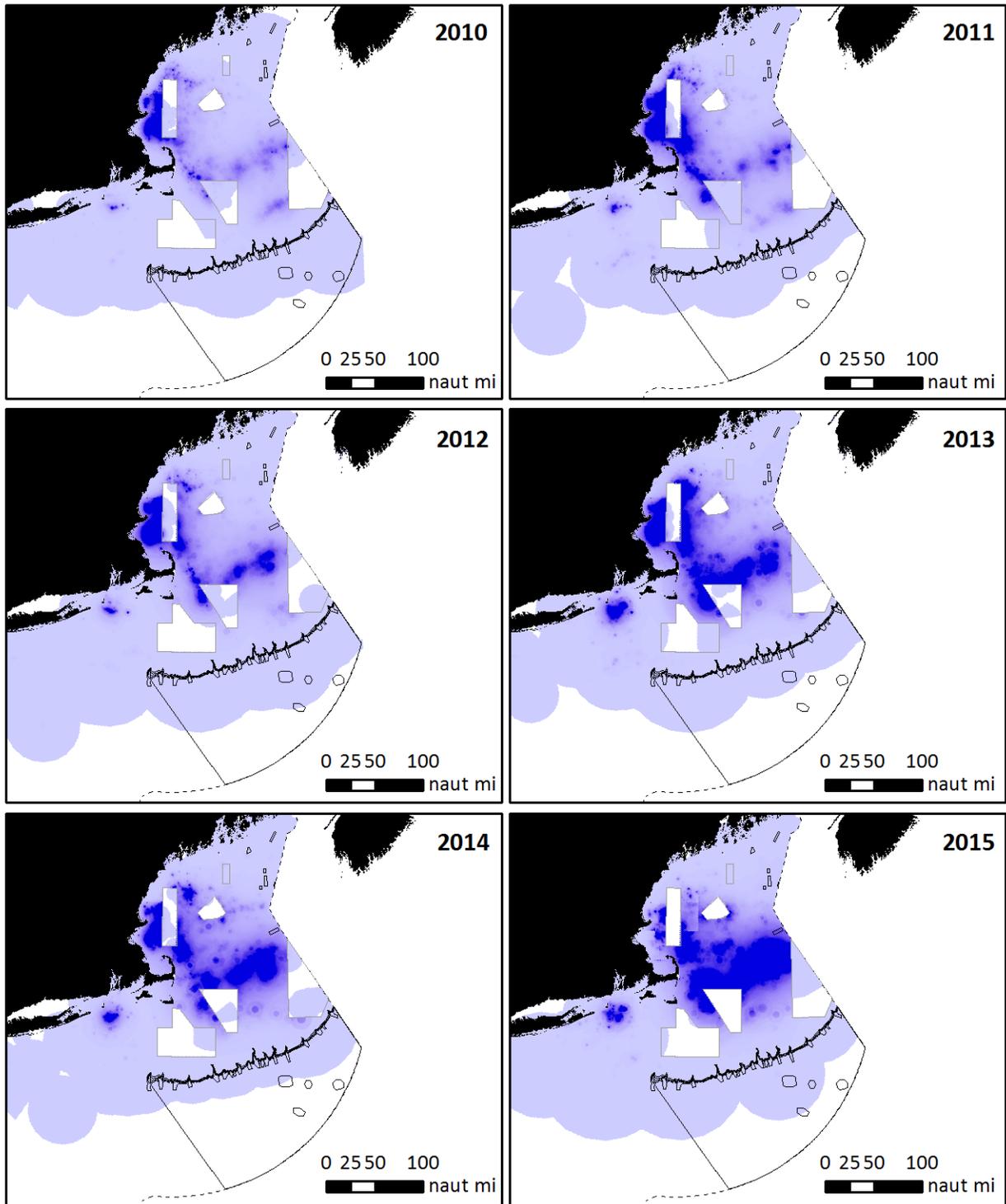
Map 20 – Atlantic surfclam revenue distribution, 2010-2015.



Species: Atlantic surfclam

Map created October 28, 2016

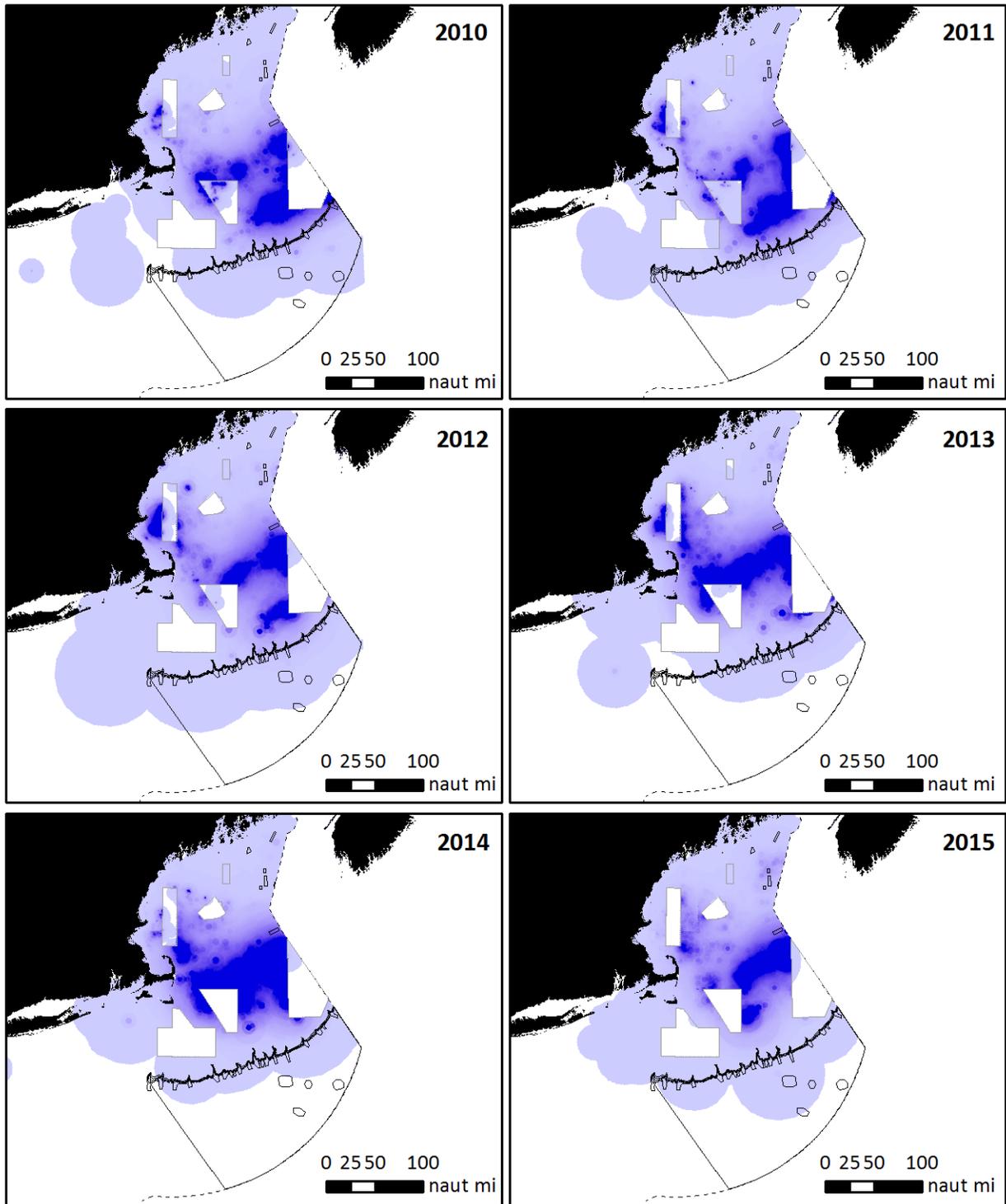
Map 21 – Atlantic cod revenue distribution, 2010-2015.



Species: Atlantic cod

Map created October 27, 2016

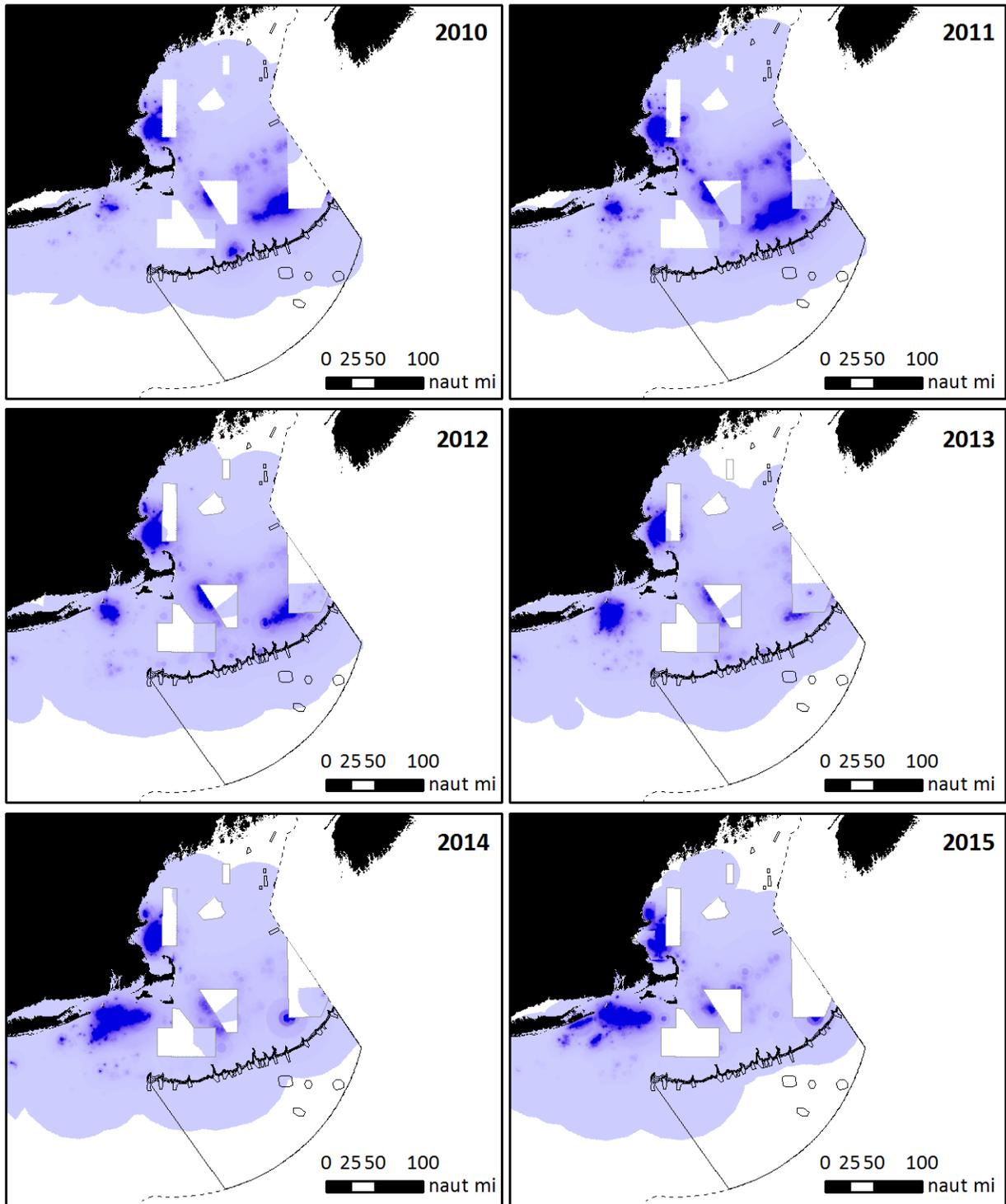
Map 22 – Haddock revenue distribution, 2010-2015.



Species: Haddock

Map created October 27, 2016

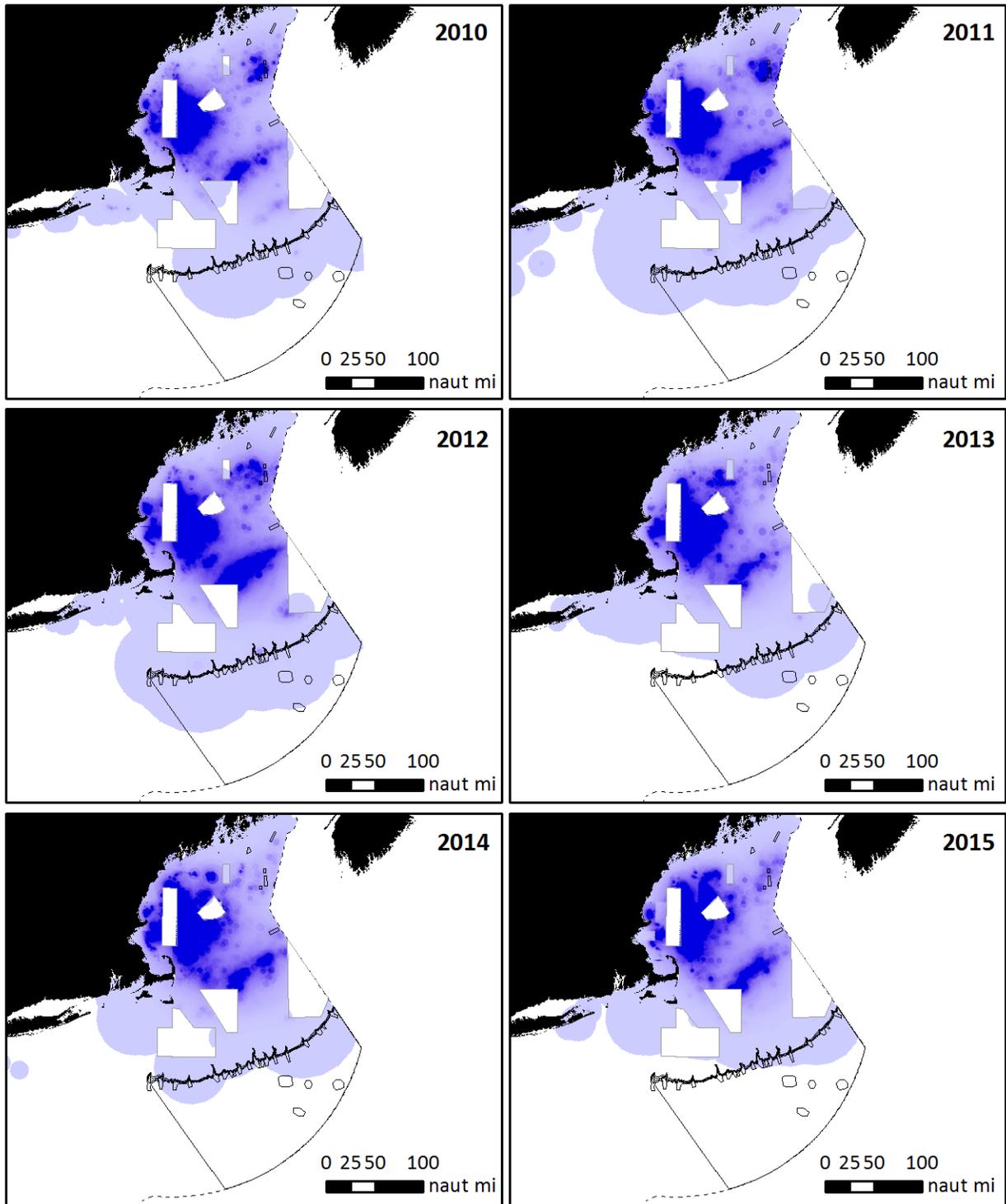
Map 23 – Yellowtail flounder revenue distribution, 2010-2015.



Species: Yellowtail flounder

Map created November 4, 2016

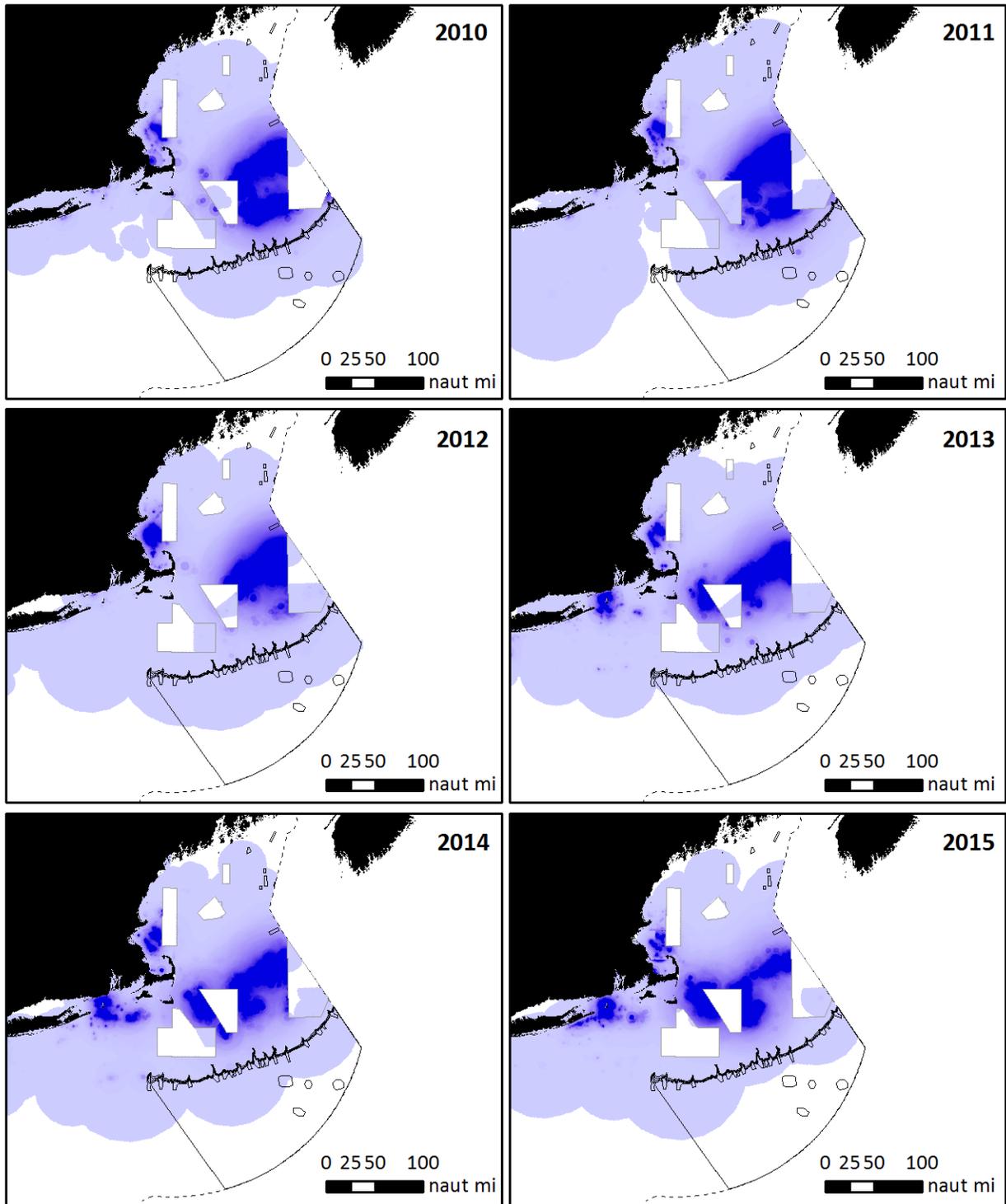
Map 24 – American plaice revenue distribution, 2010-2015.



Species: American plaice

Map created October 27, 2016

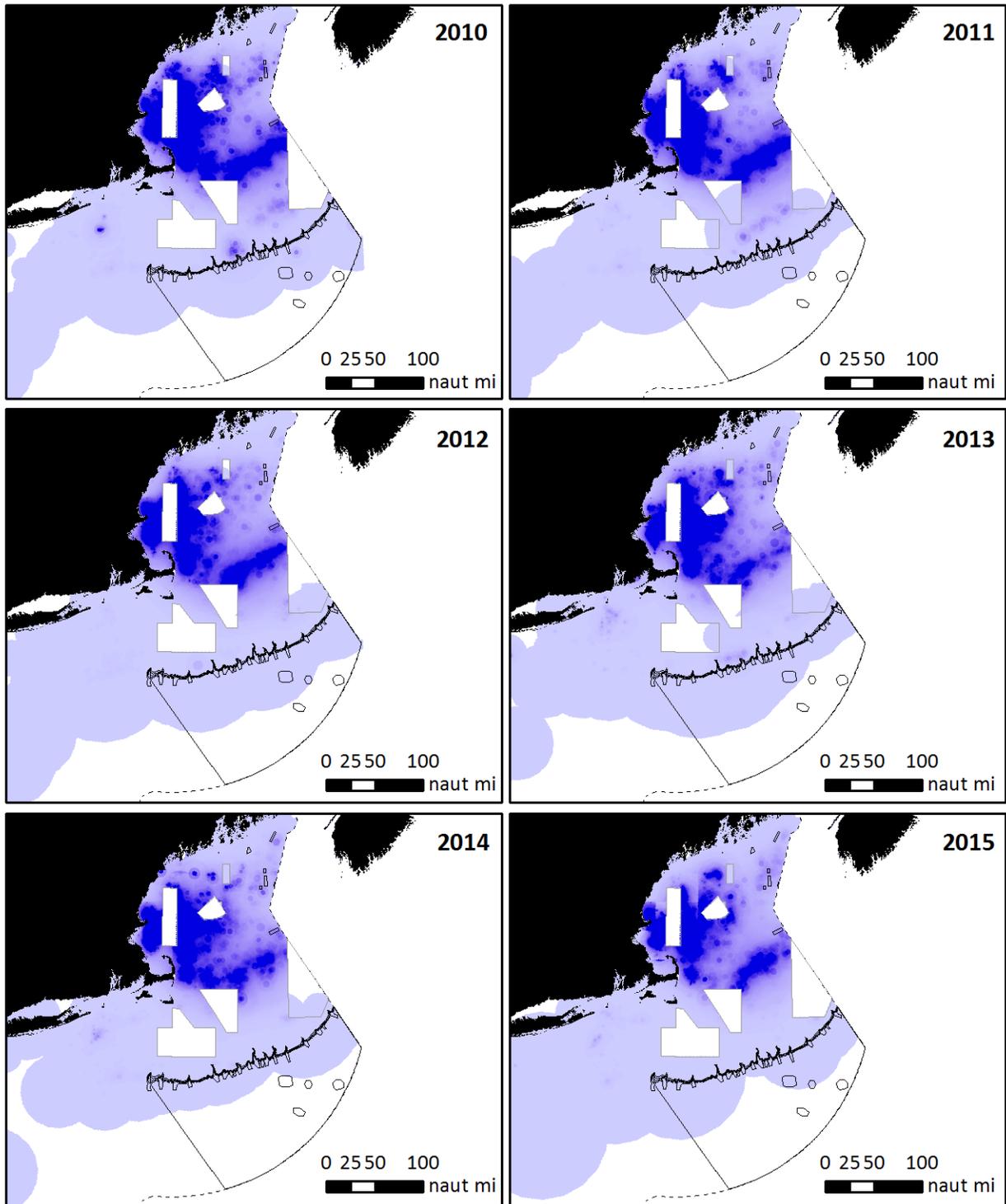
Map 25 – Winter flounder revenue distribution, 2010-2015.



Species: Winter flounder

Map created October 27, 2016

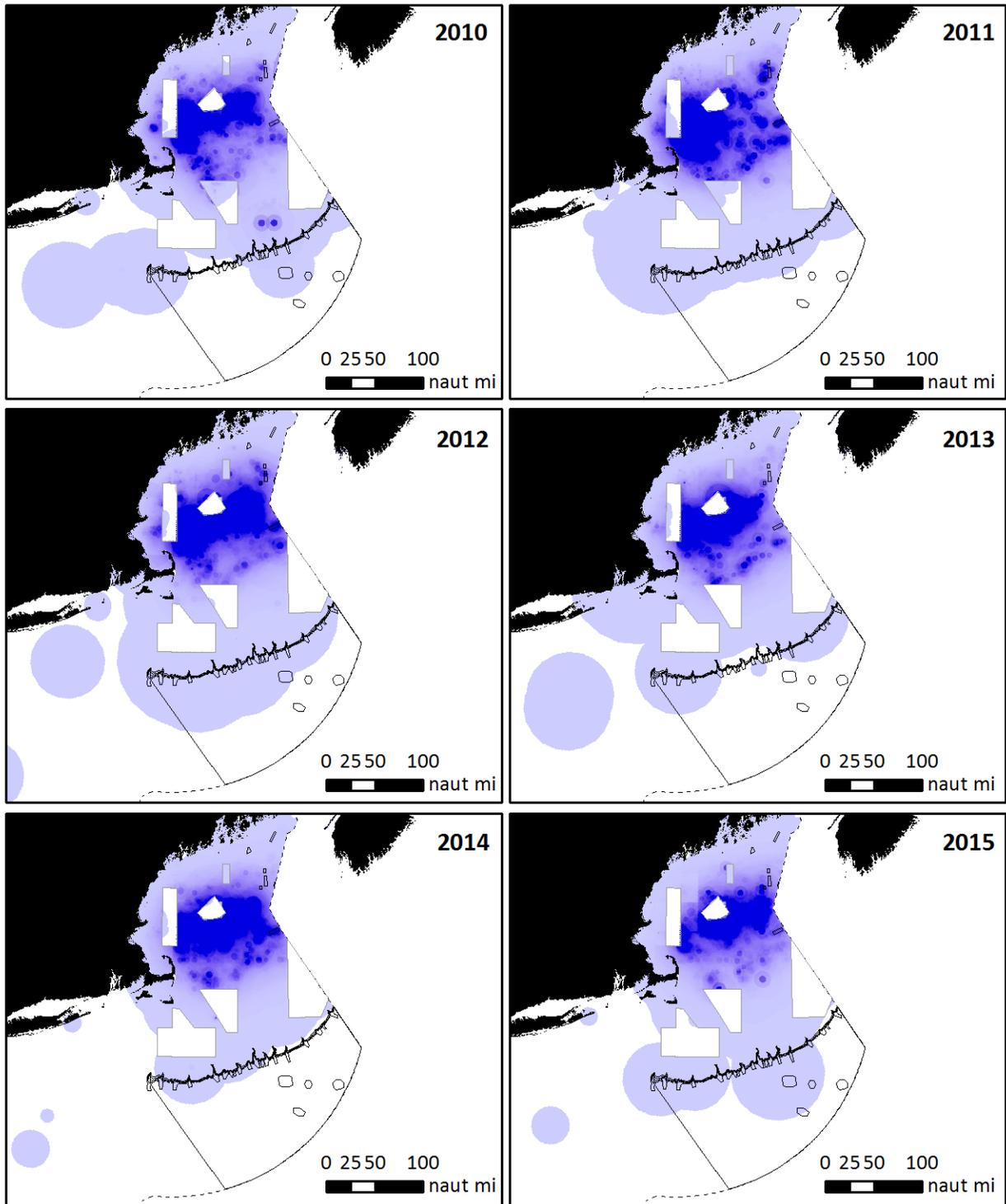
Map 26 – Witch flounder revenue distribution, 2010-2015.



Species: Witch flounder

Map created October 27, 2016

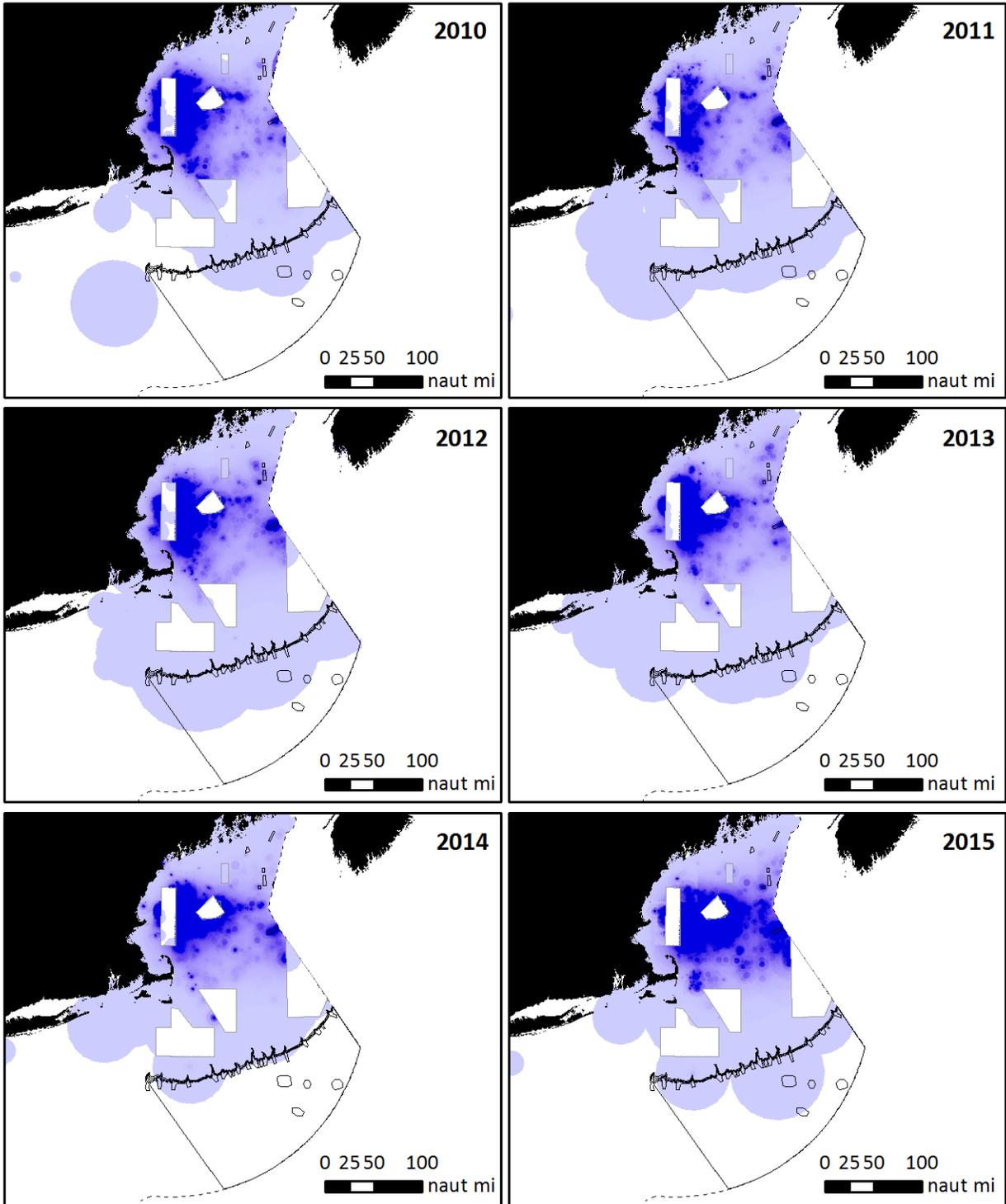
Map 27 – Redfish revenue distribution, 2010-2015.



Species: Acadian redfish

Map created October 27, 2016

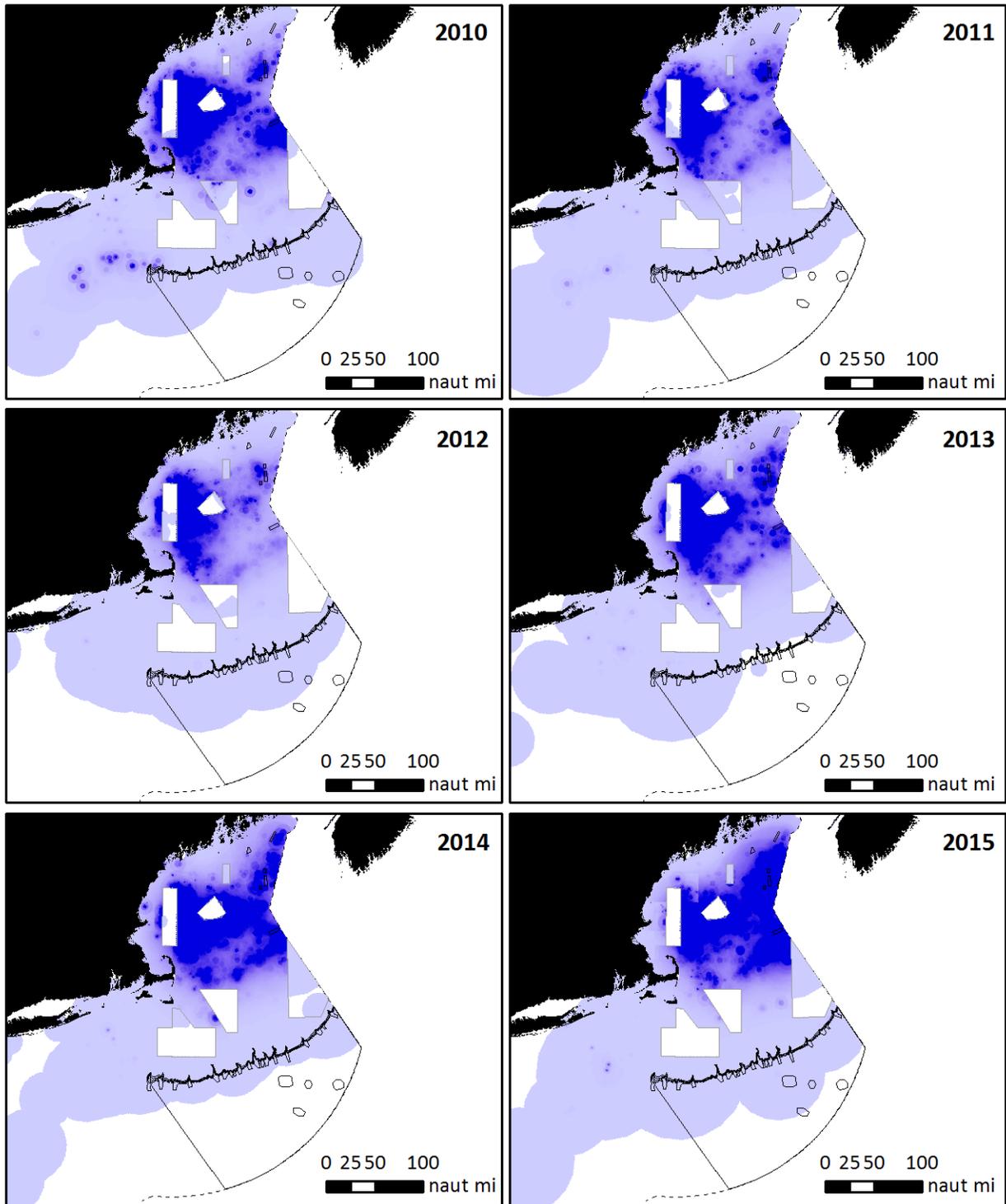
Map 28 – Pollock revenue distribution, 2010-2015.



Species: Pollock

Map created October 27, 2016

Map 29 – White hake revenue distribution, 2010-2015.

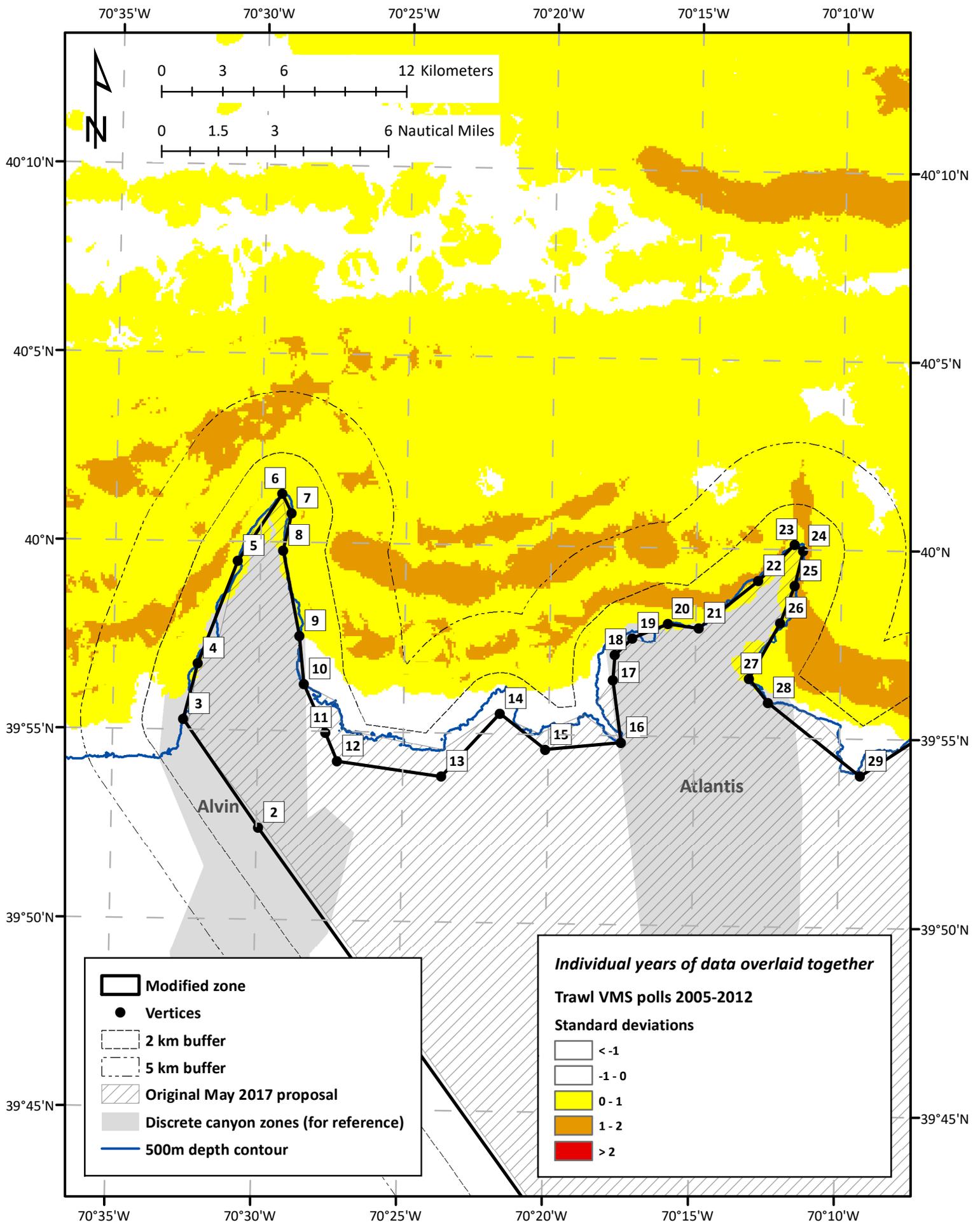


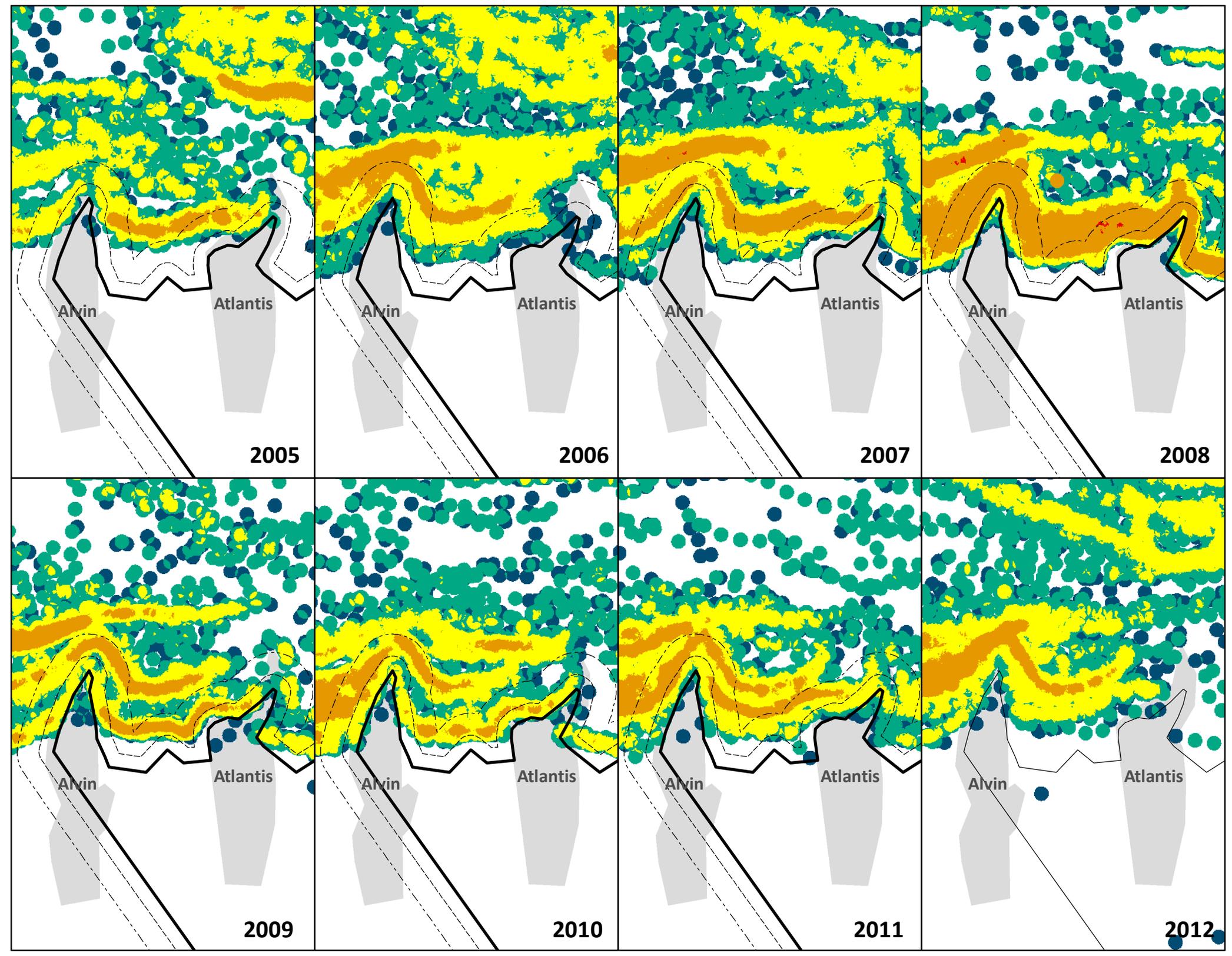
Species: White hake

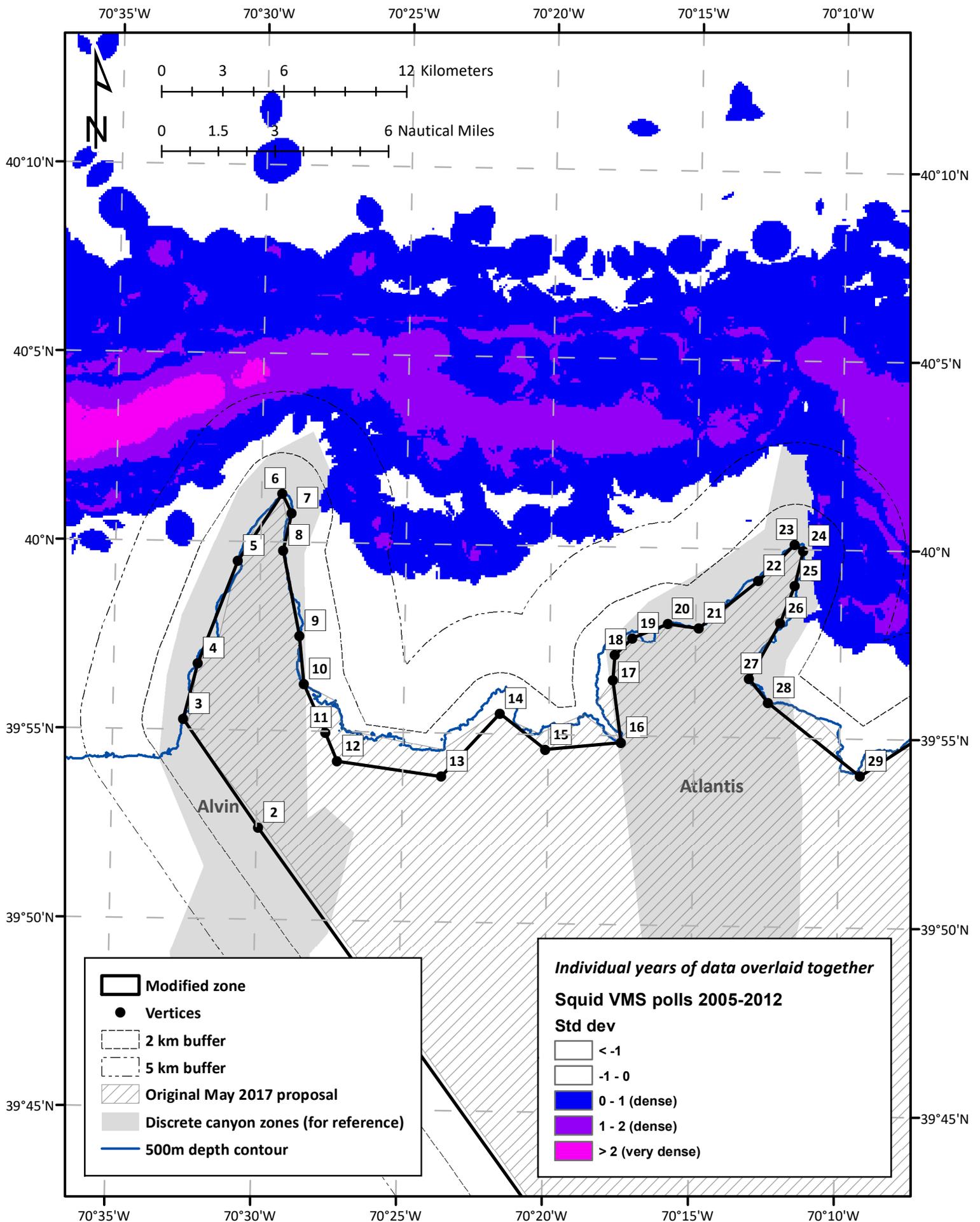
Map created October 27, 2016

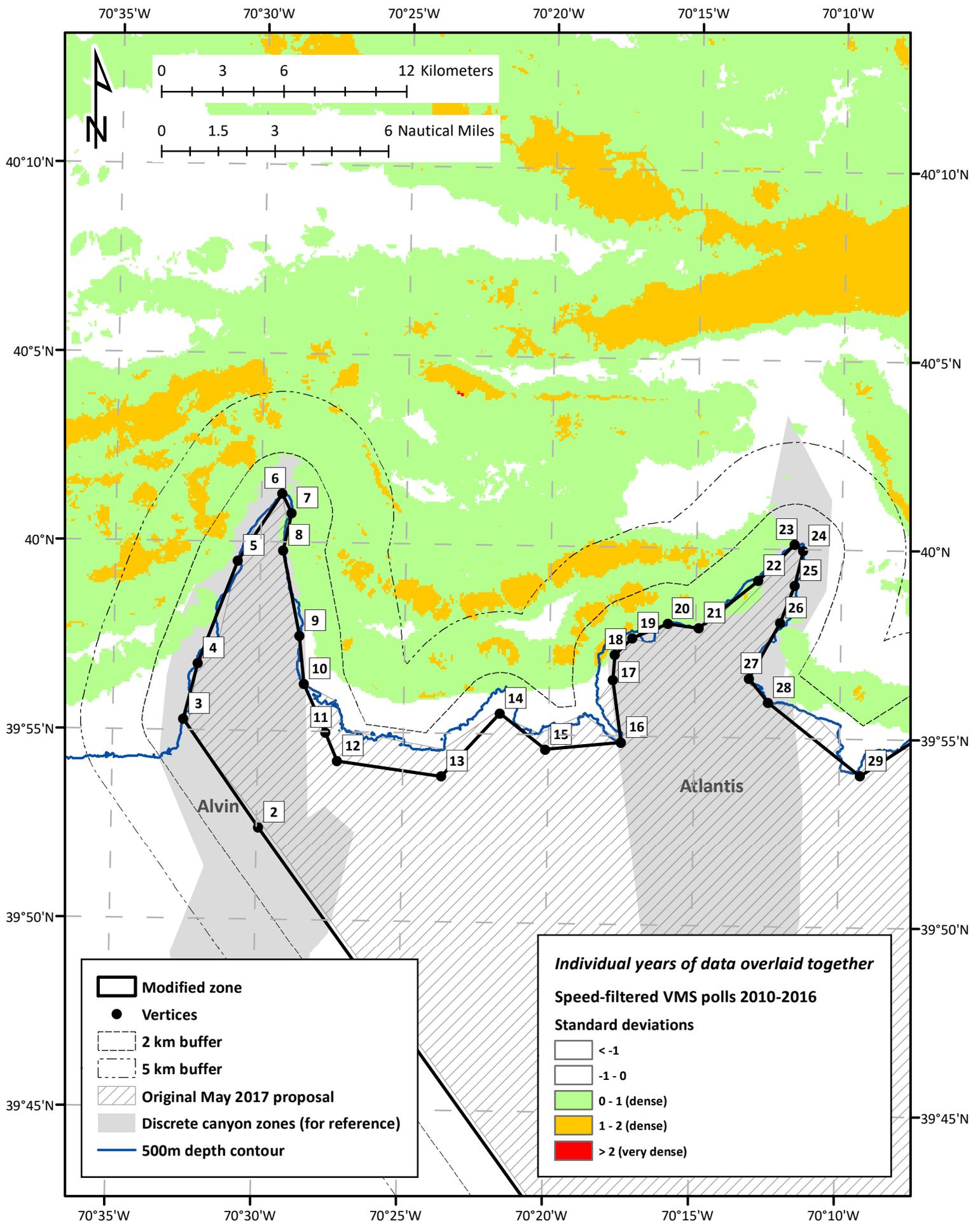
2 VMS-based fishing effort maps

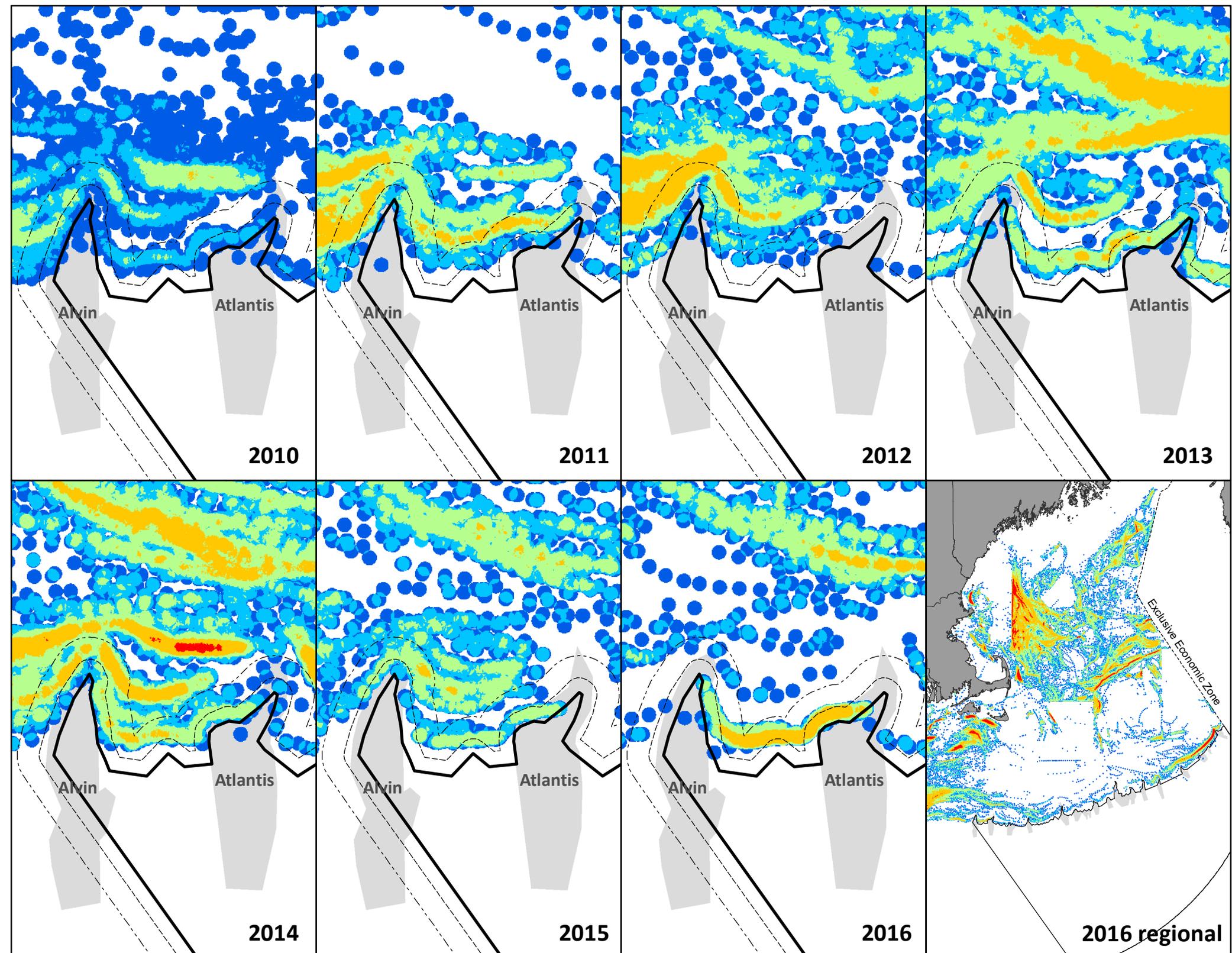
These maps were used to evaluate broad zone Option 7.

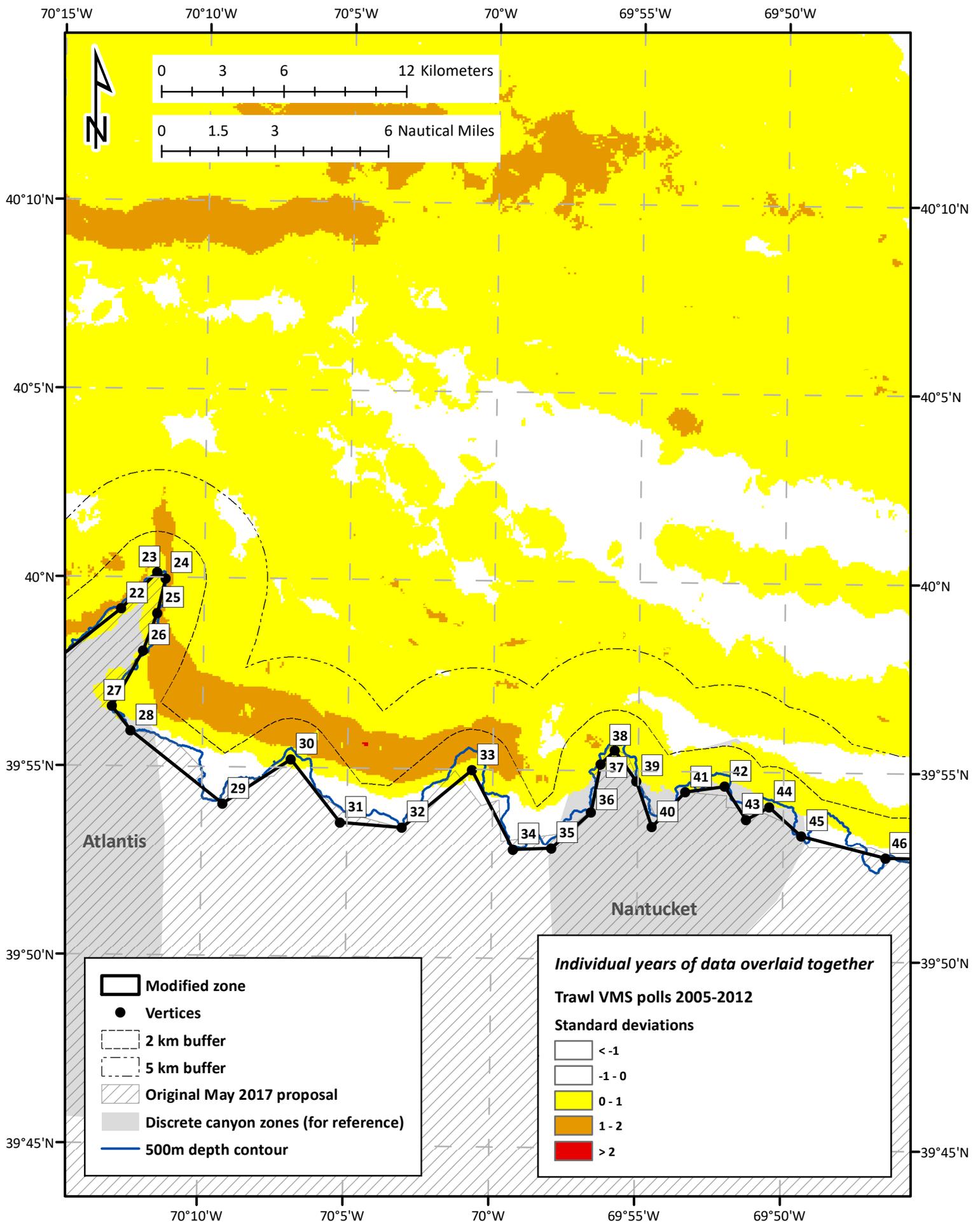


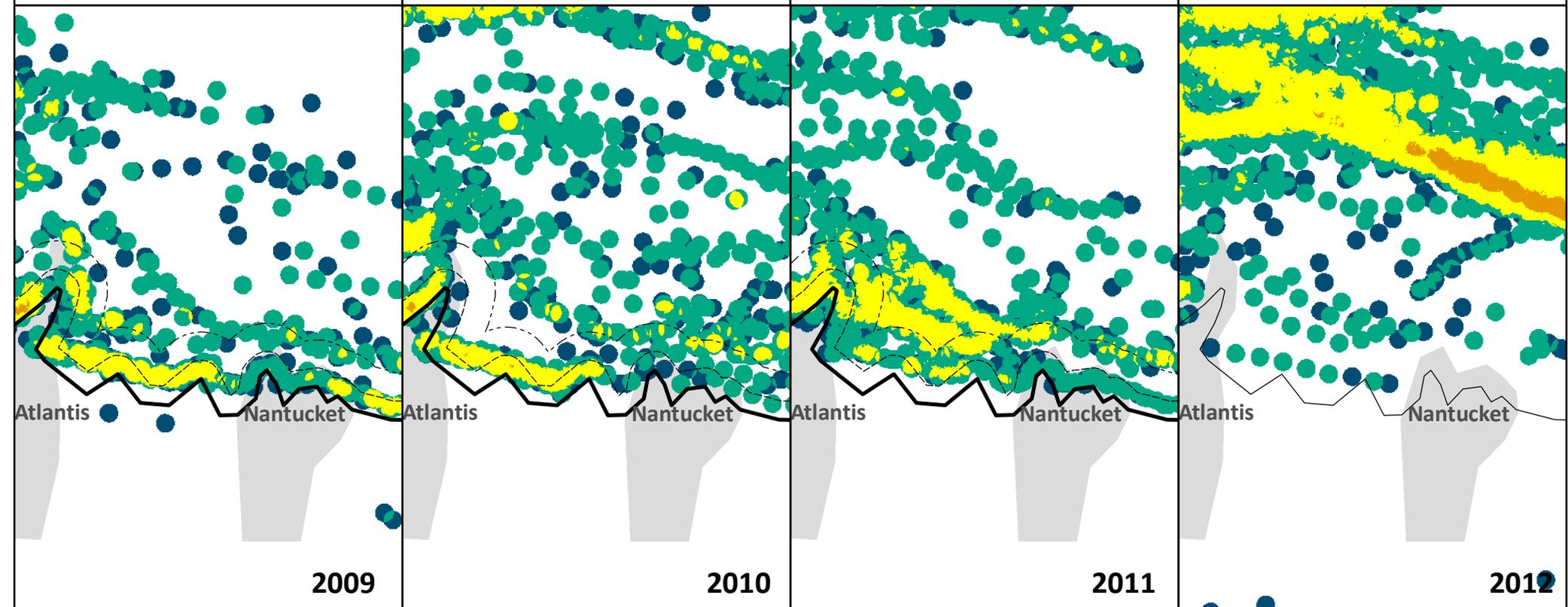
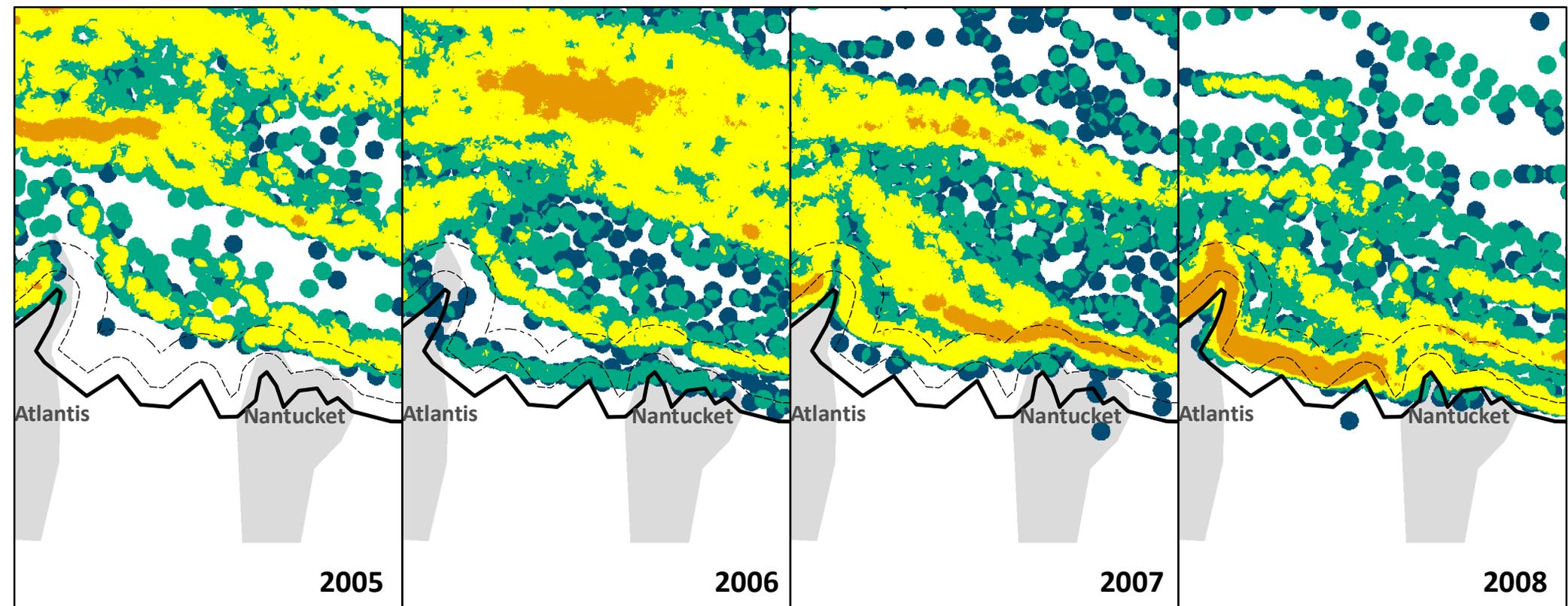


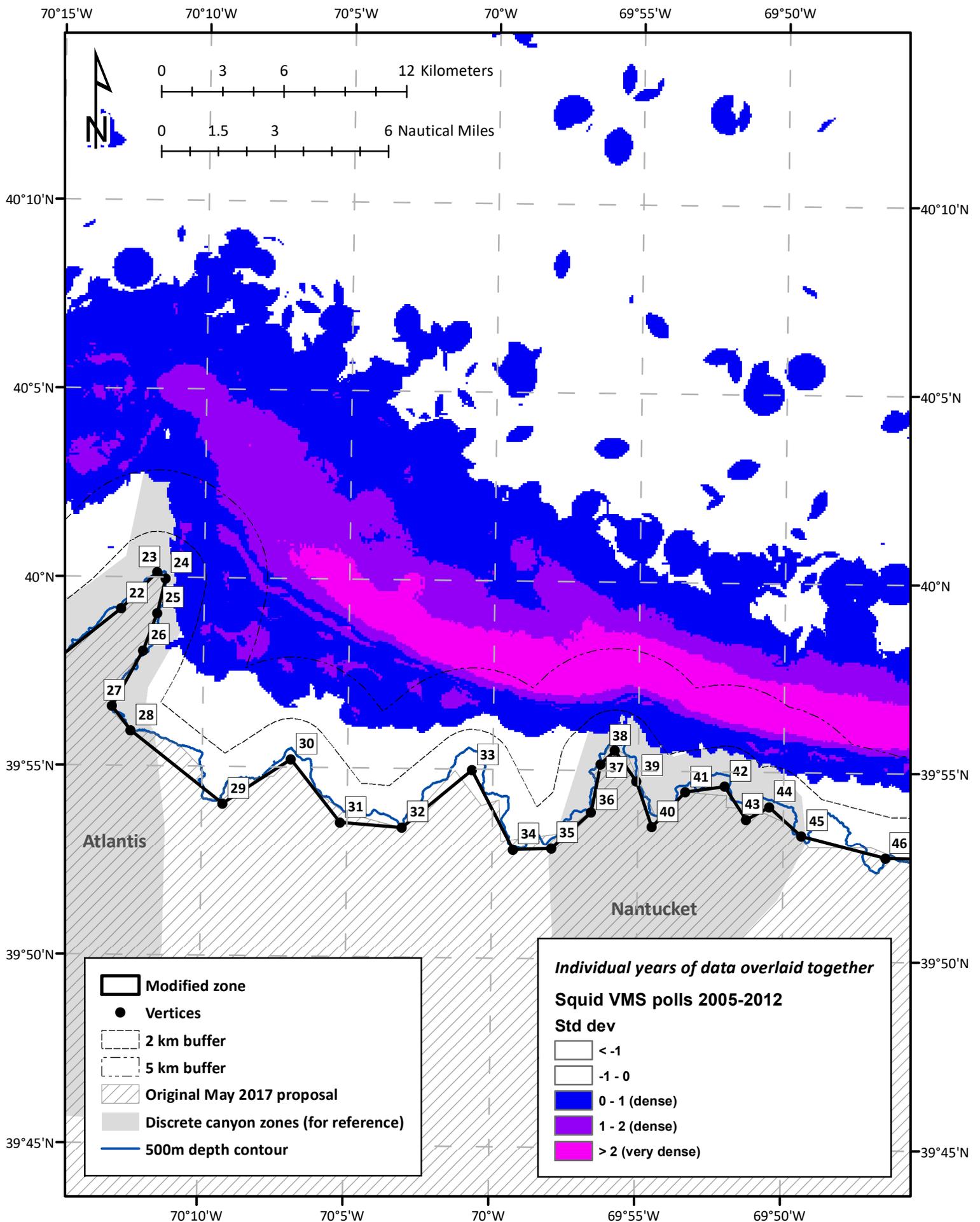


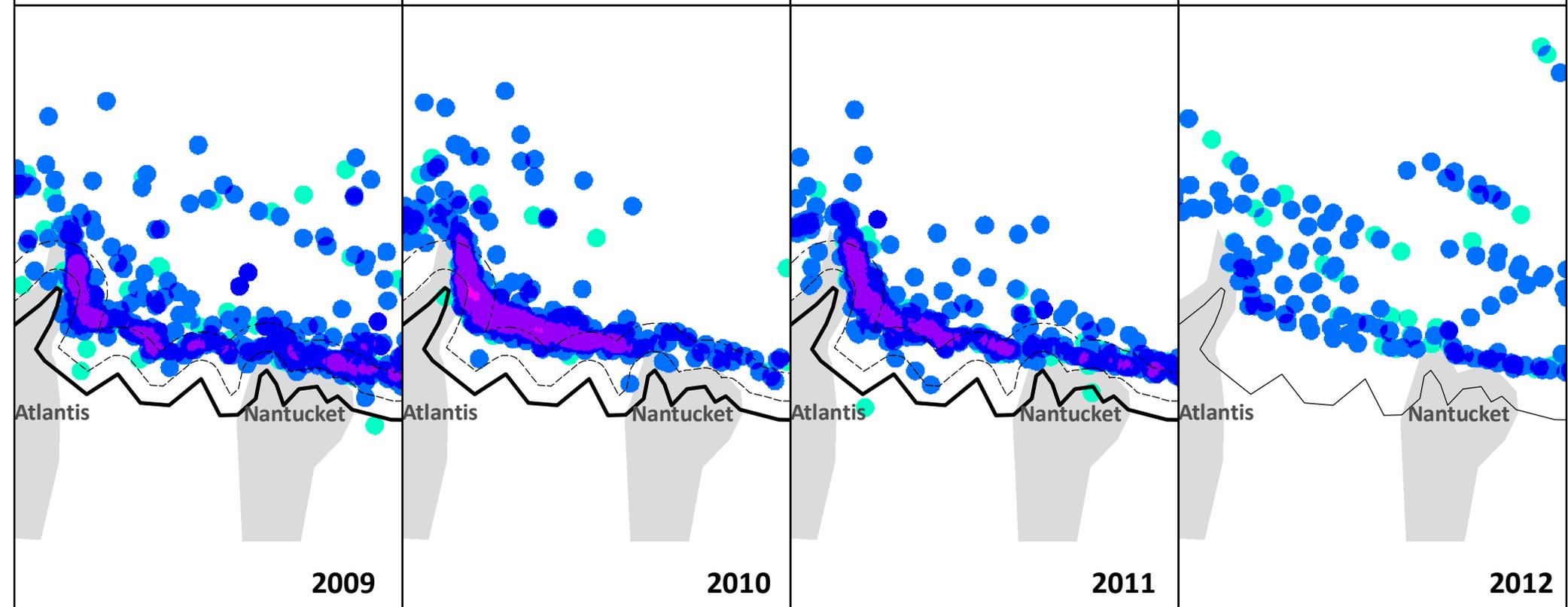
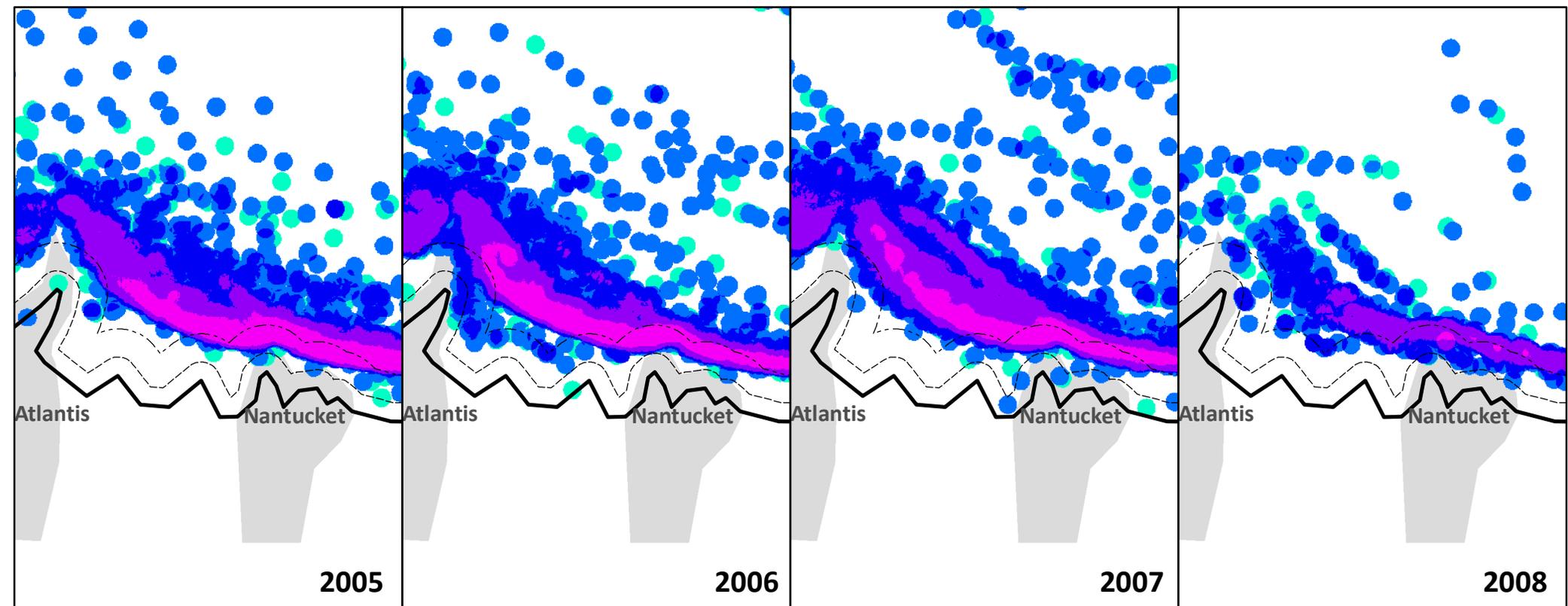


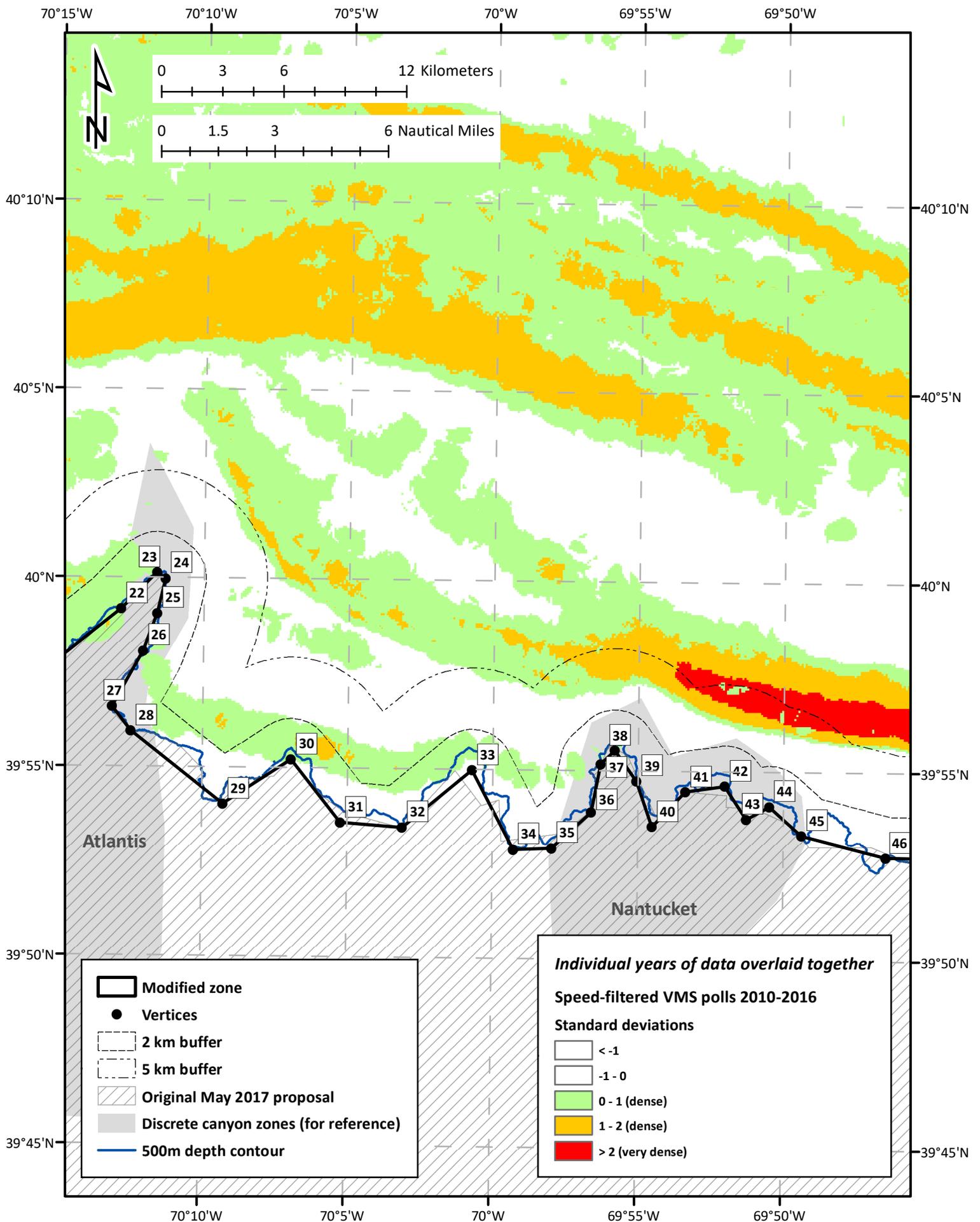












Modified zone

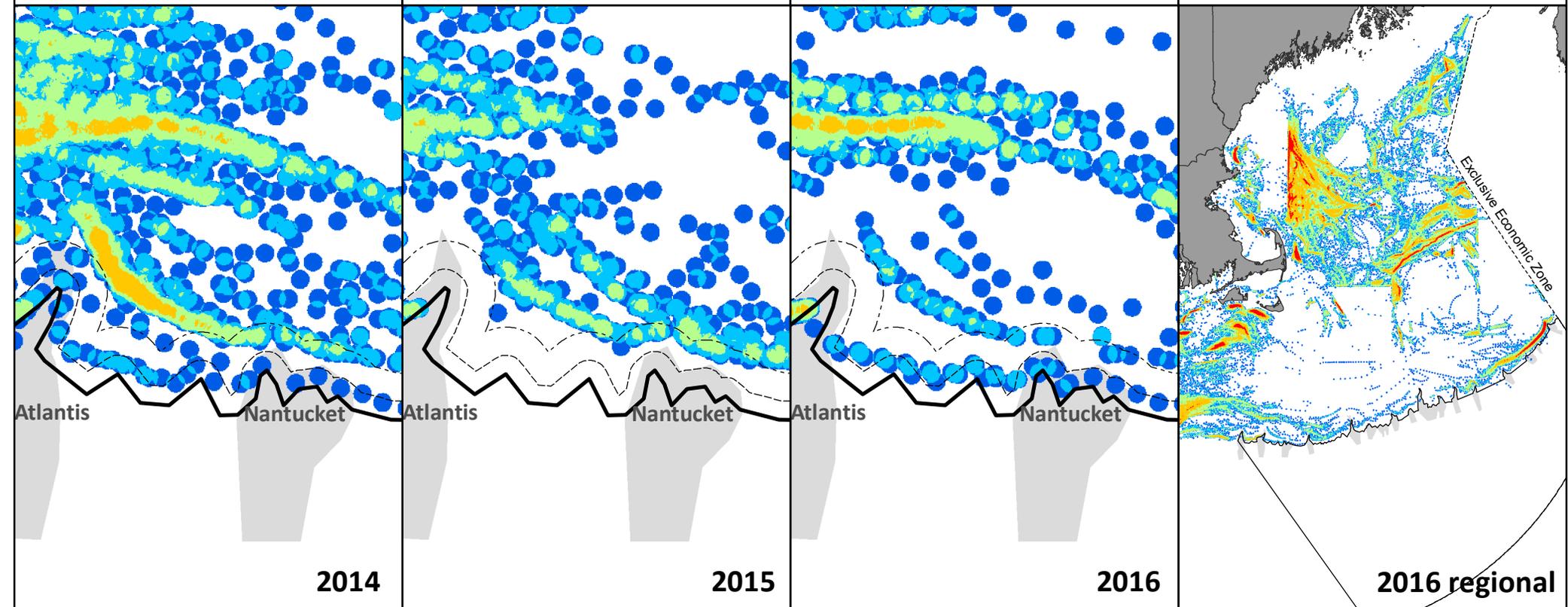
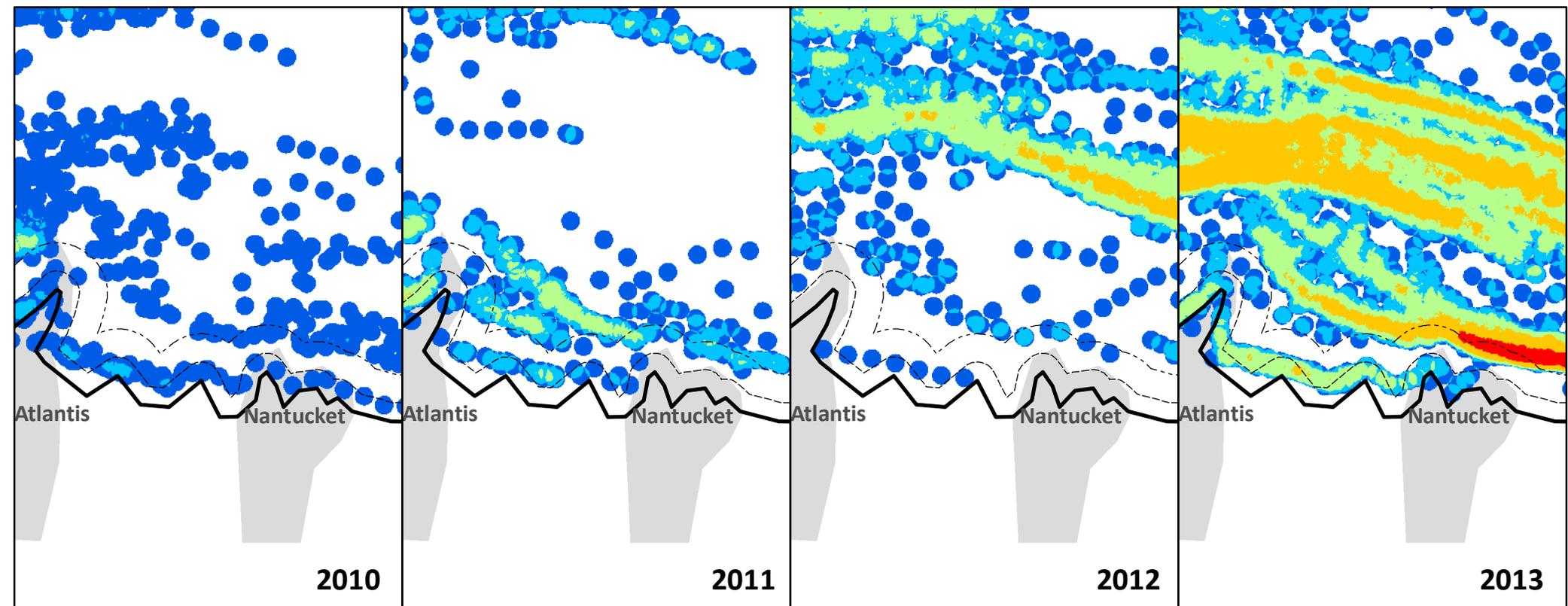
- Vertices
- - - 2 km buffer
- - - 5 km buffer
- ▨ Original May 2017 proposal
- ▨ Discrete canyon zones (for reference)
- 500m depth contour

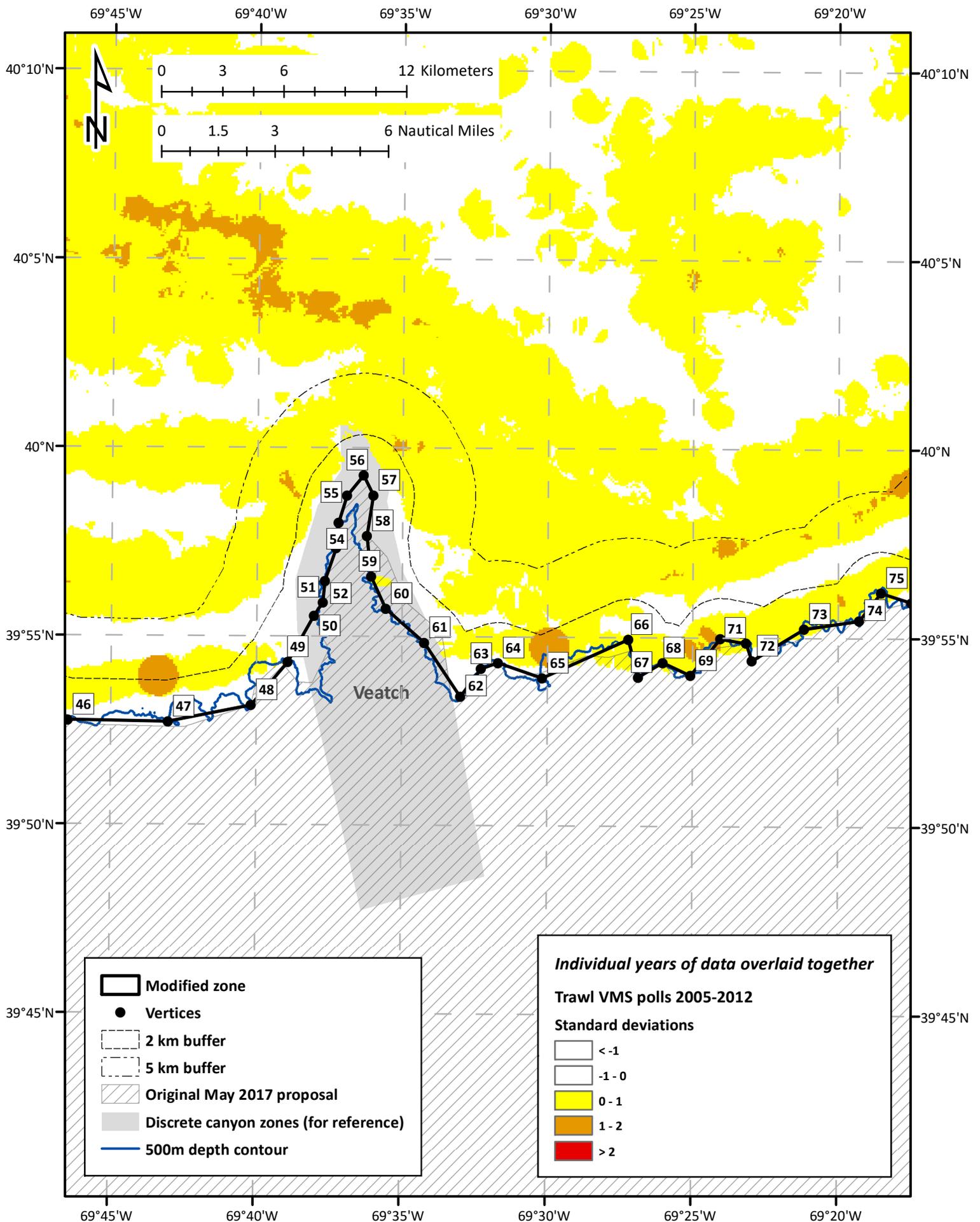
Individual years of data overlaid together

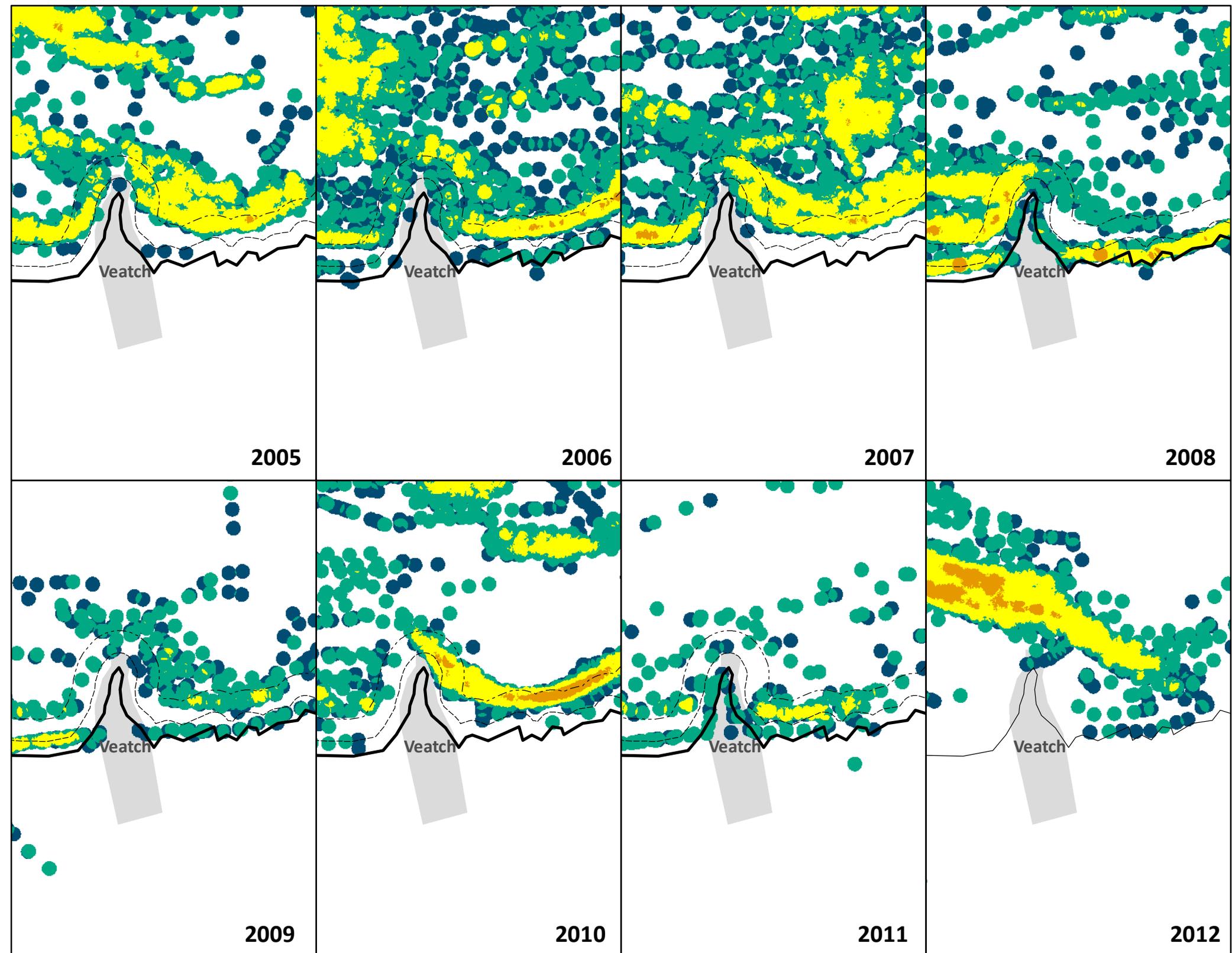
Speed-filtered VMS polls 2010-2016

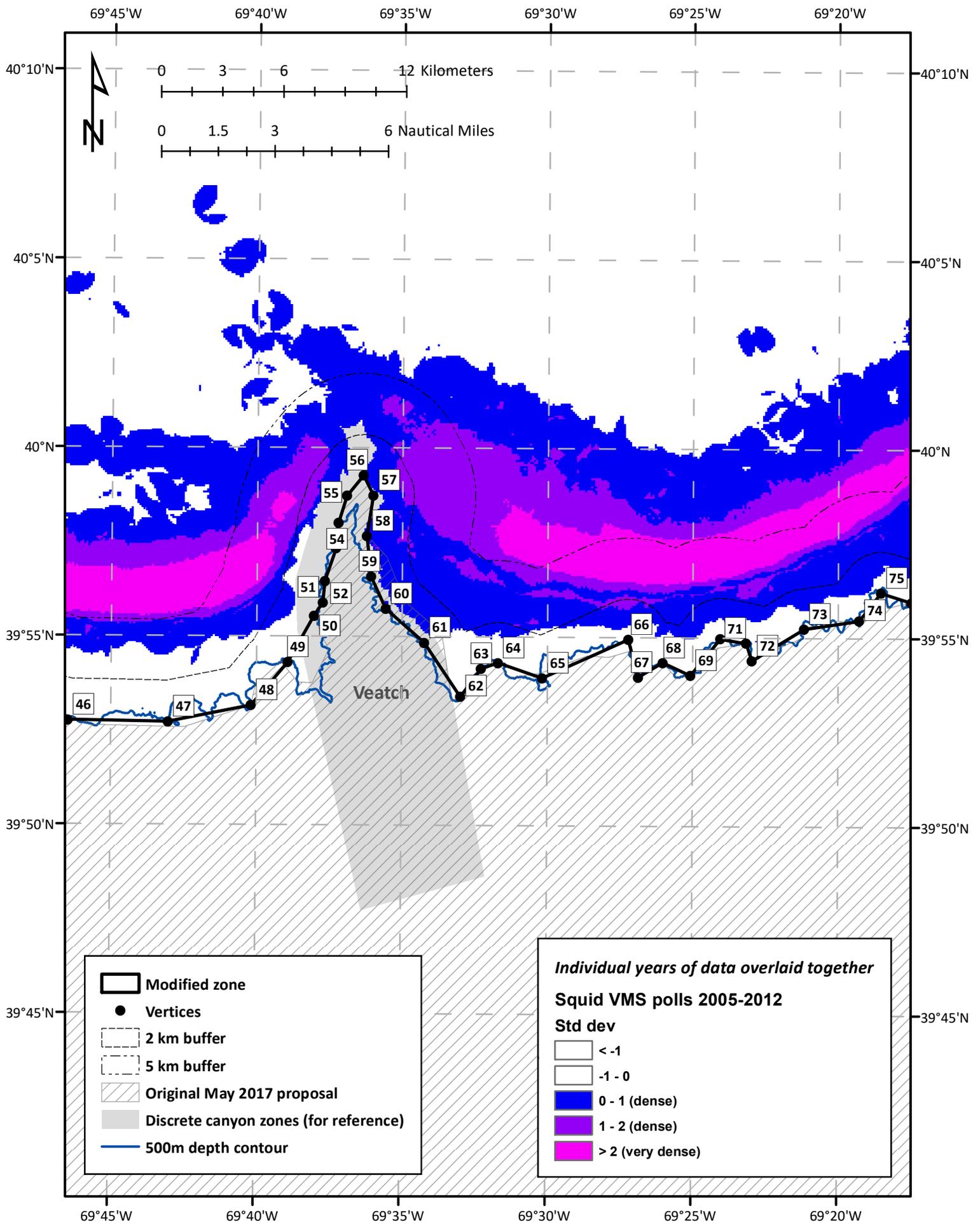
Standard deviations

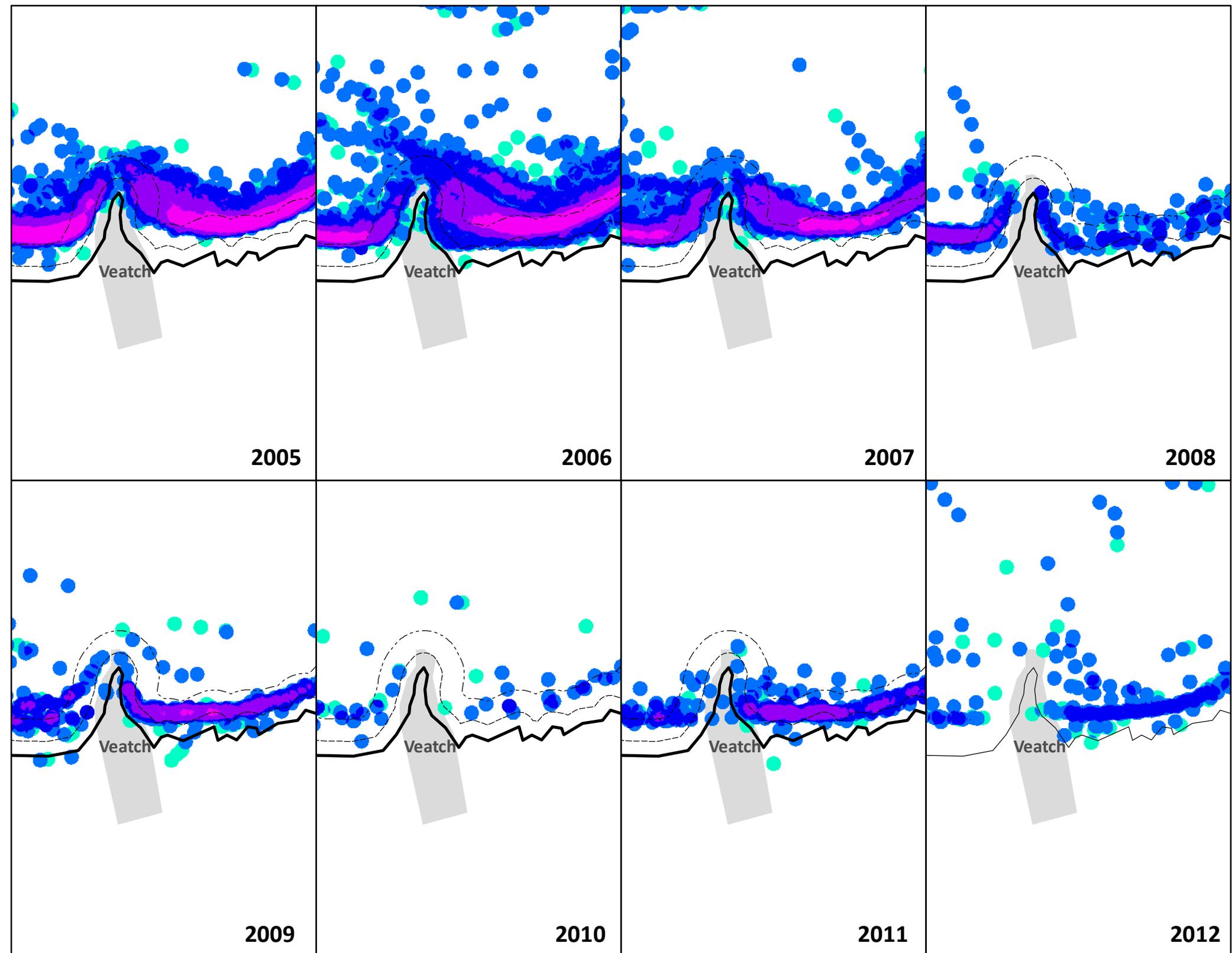
- < -1
- -1 - 0
- 0 - 1 (dense)
- 1 - 2 (dense)
- > 2 (very dense)

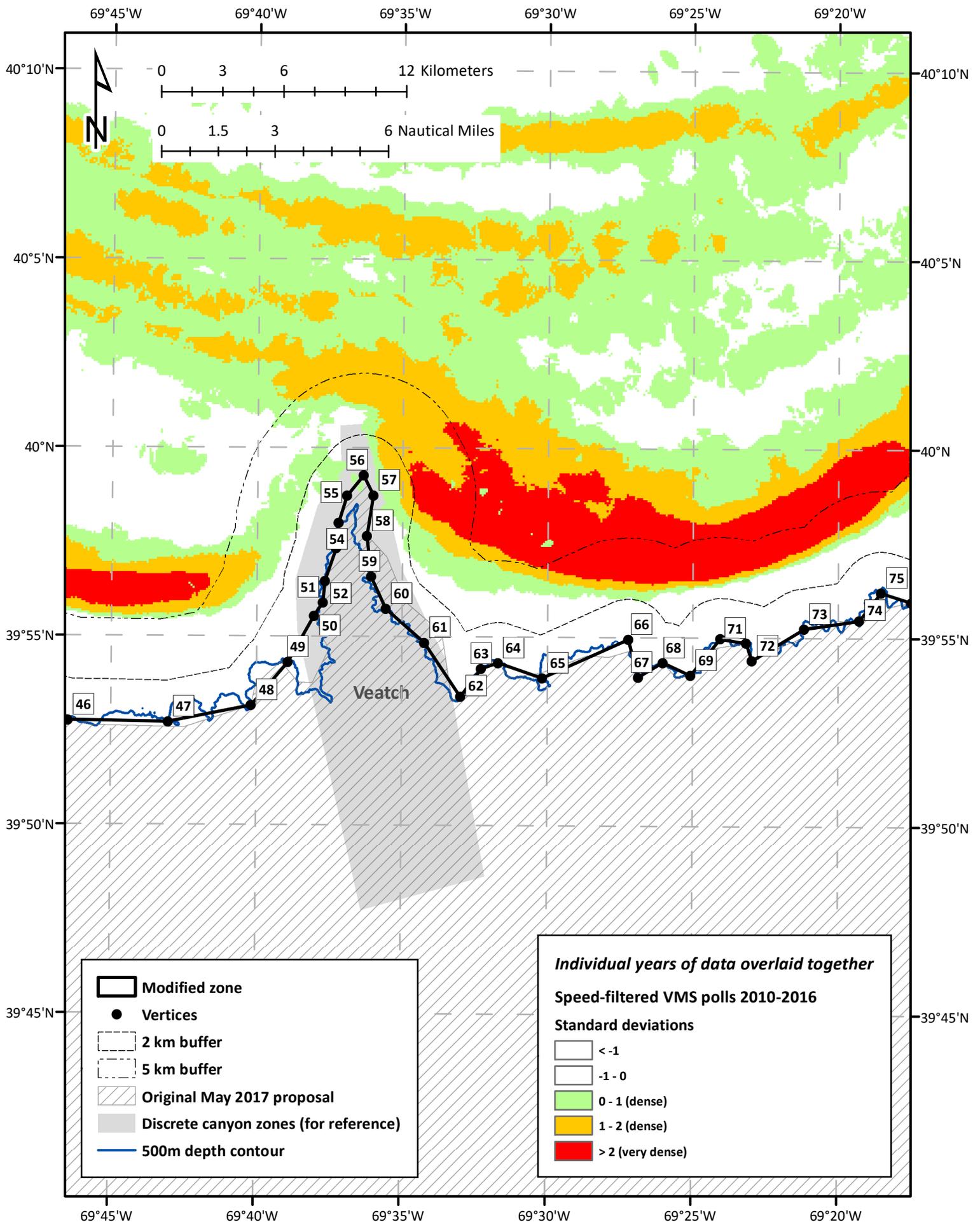






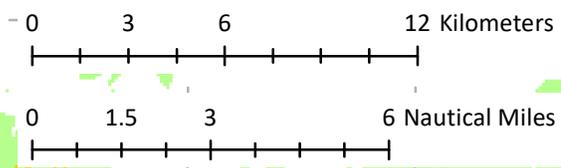






69°45'W 69°40'W 69°35'W 69°30'W 69°25'W 69°20'W

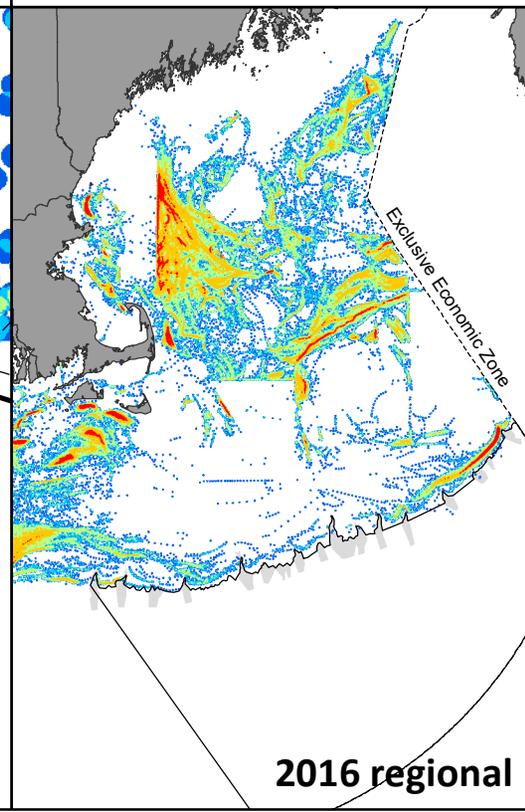
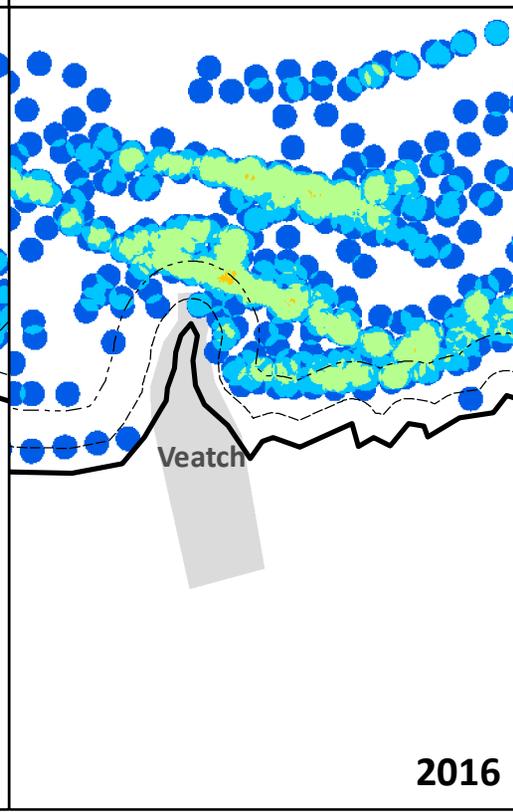
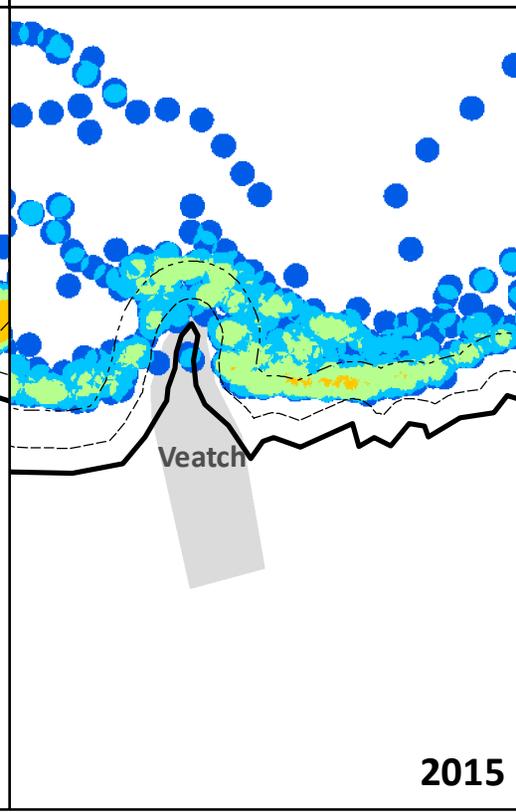
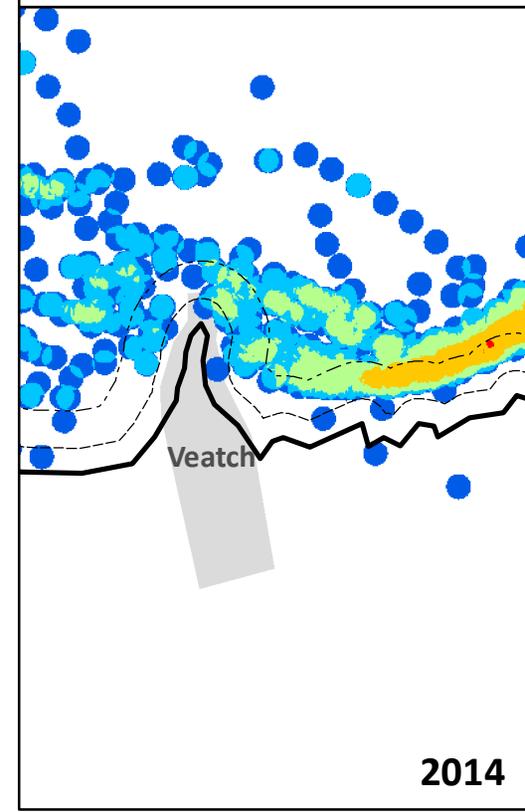
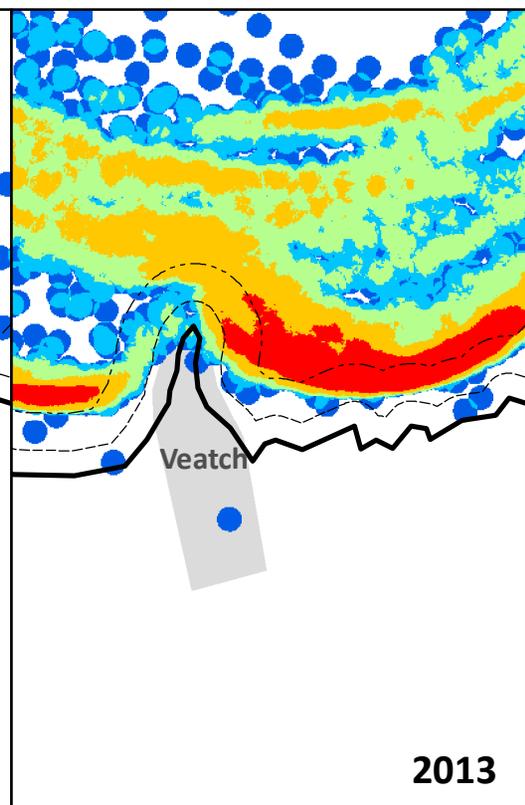
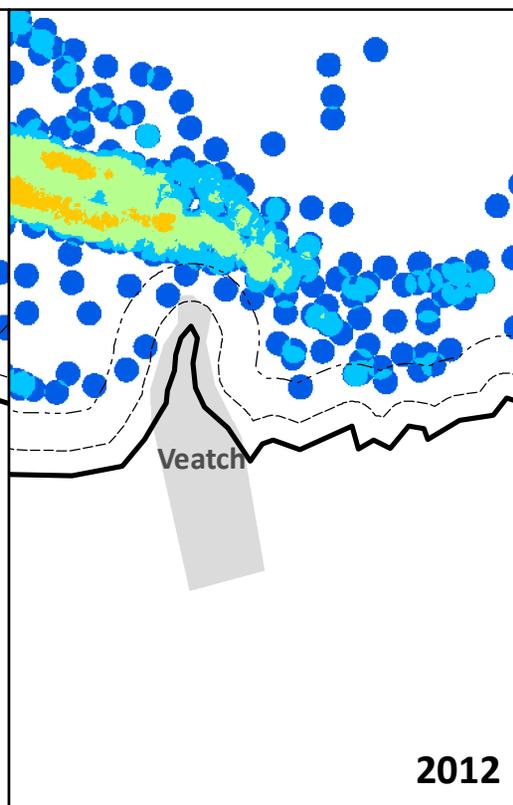
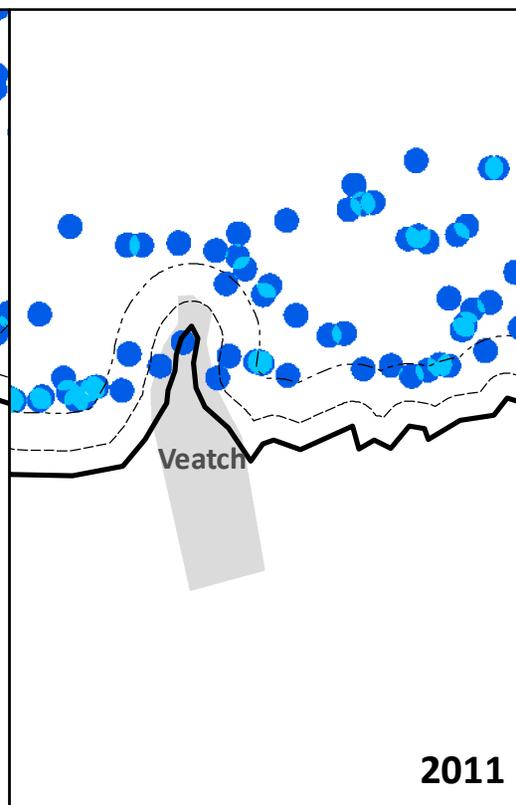
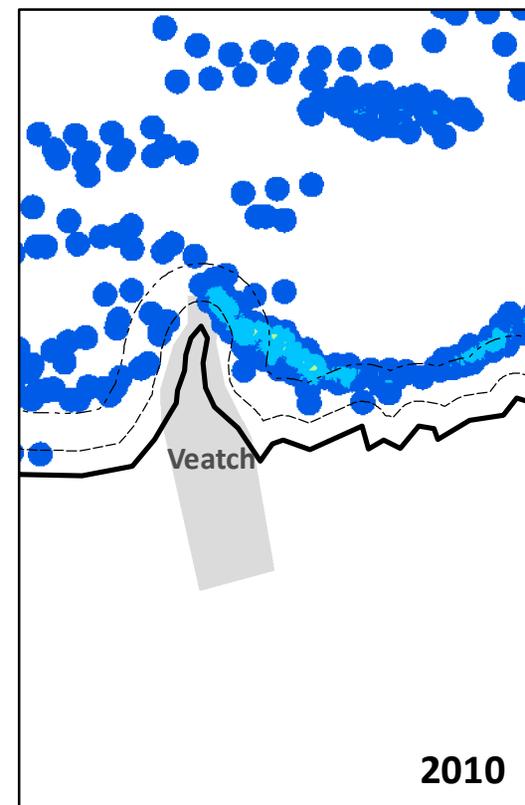
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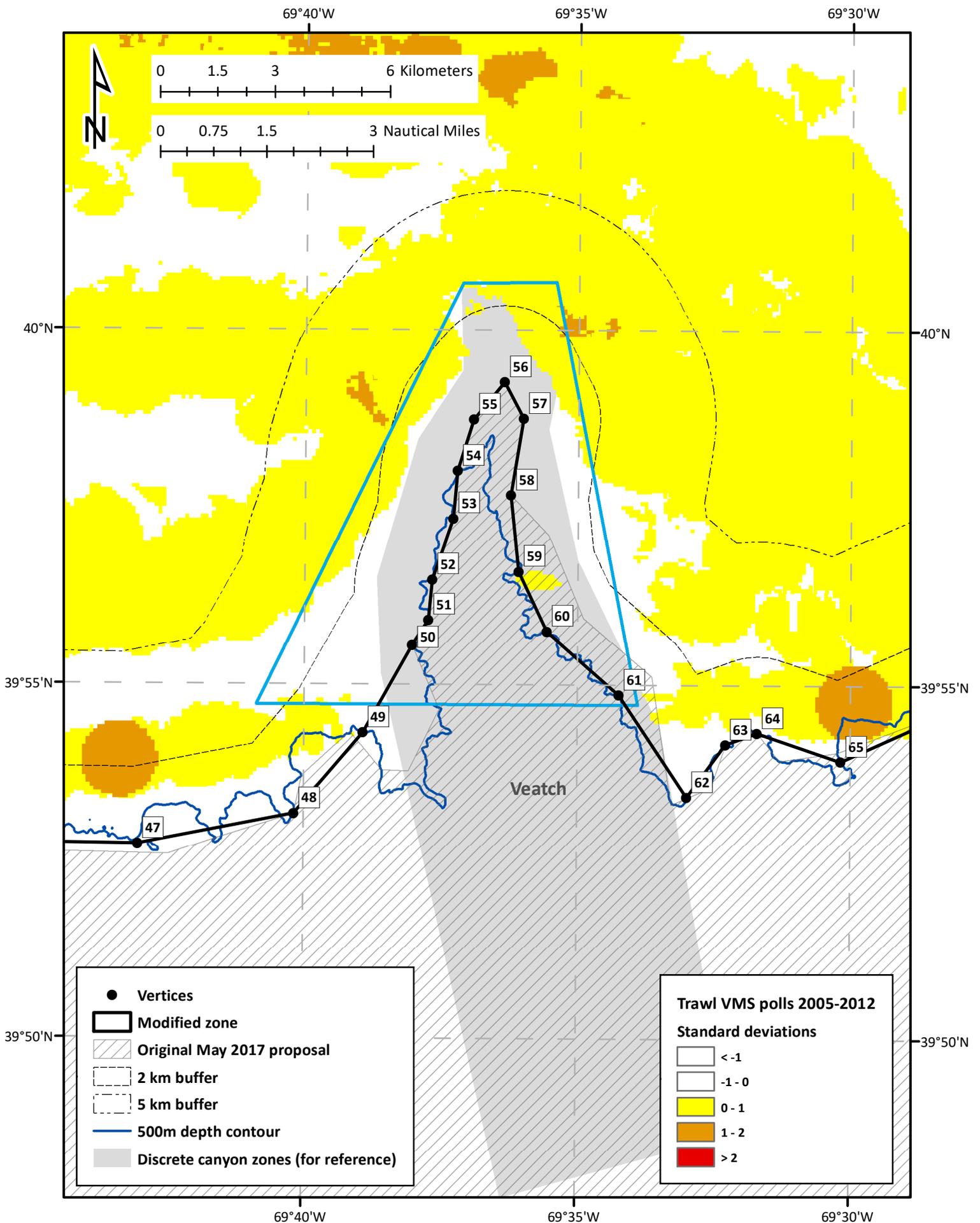


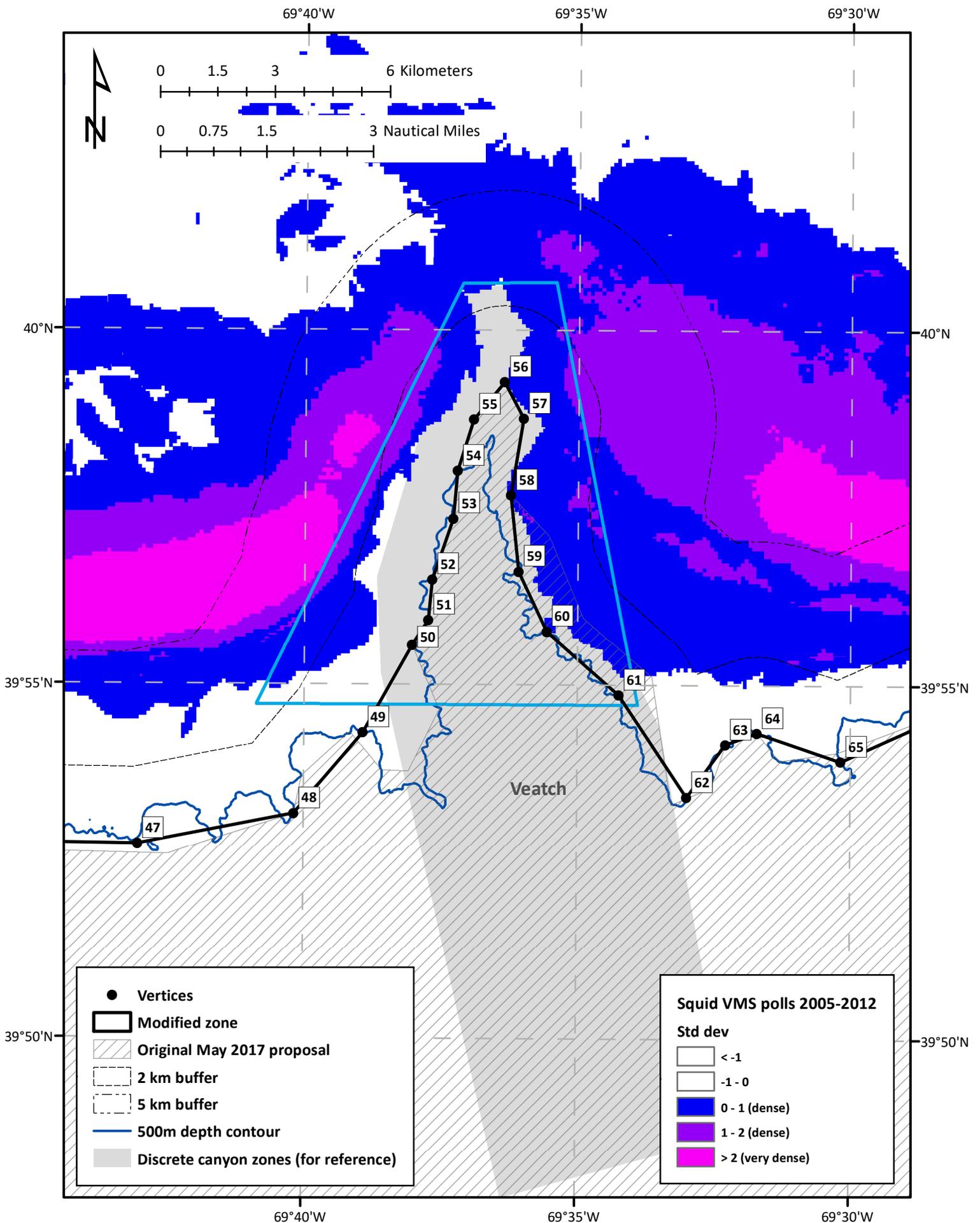
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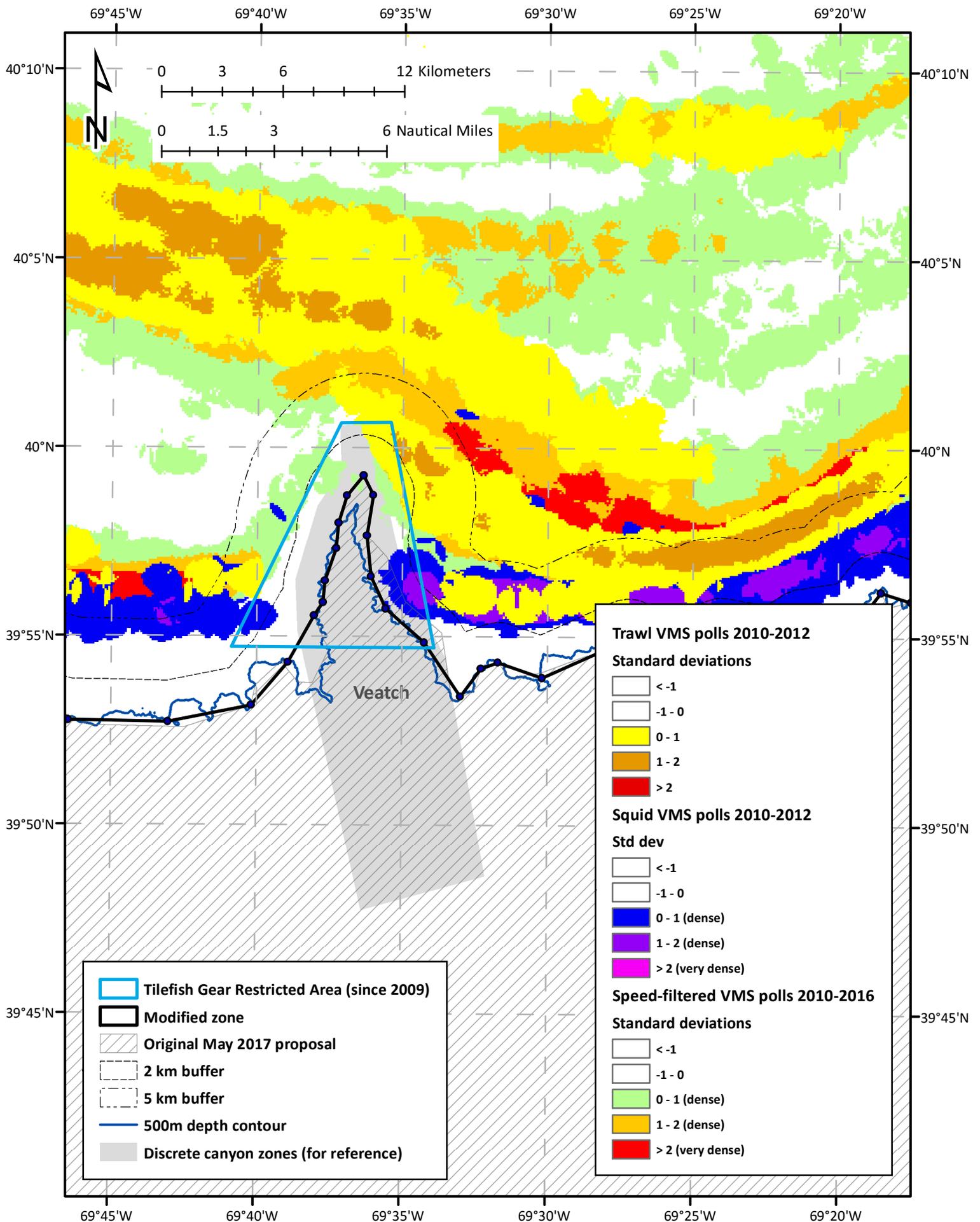
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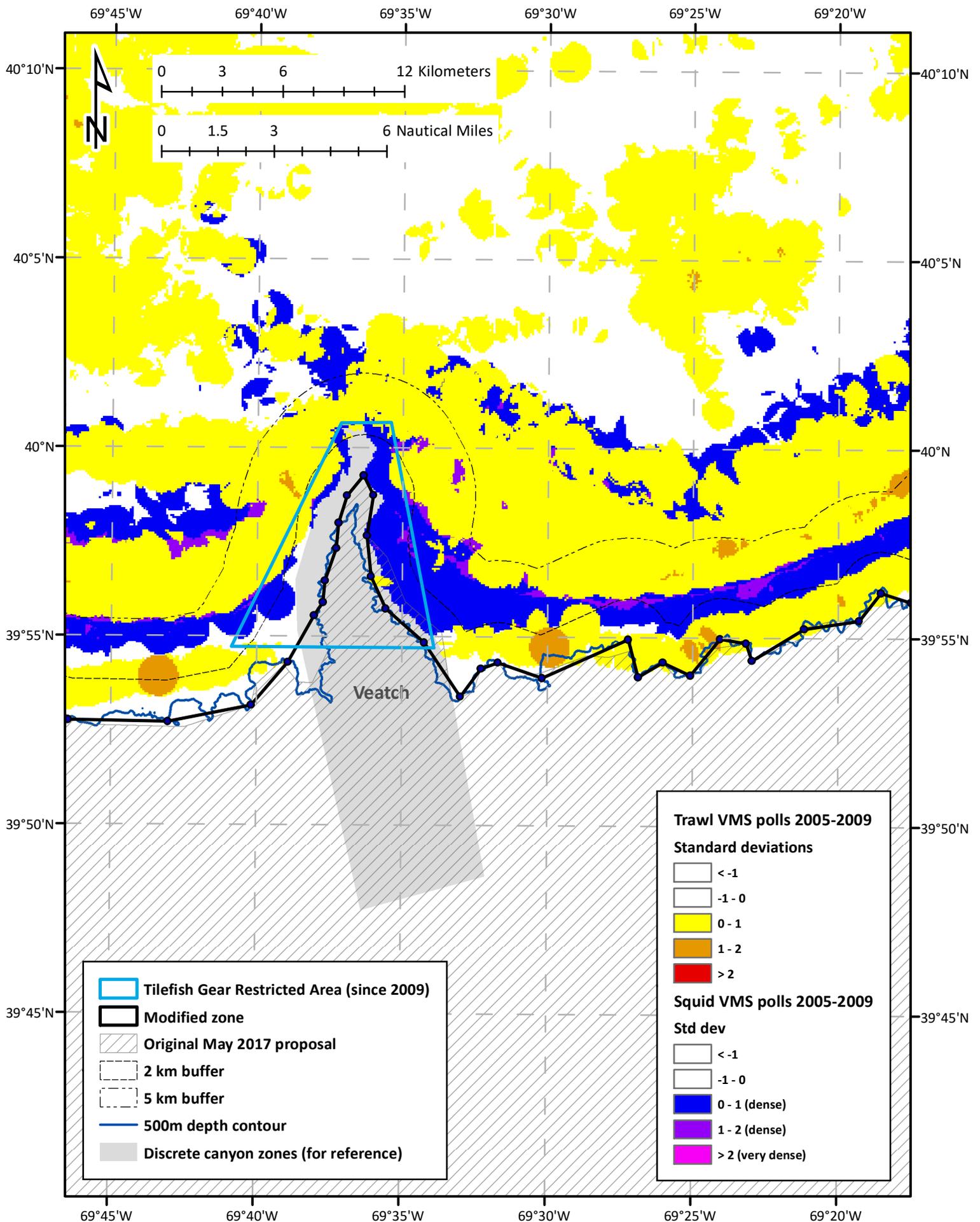
69°45'W 69°40'W 69°35'W 69°30'W 69°25'W 69°20'W

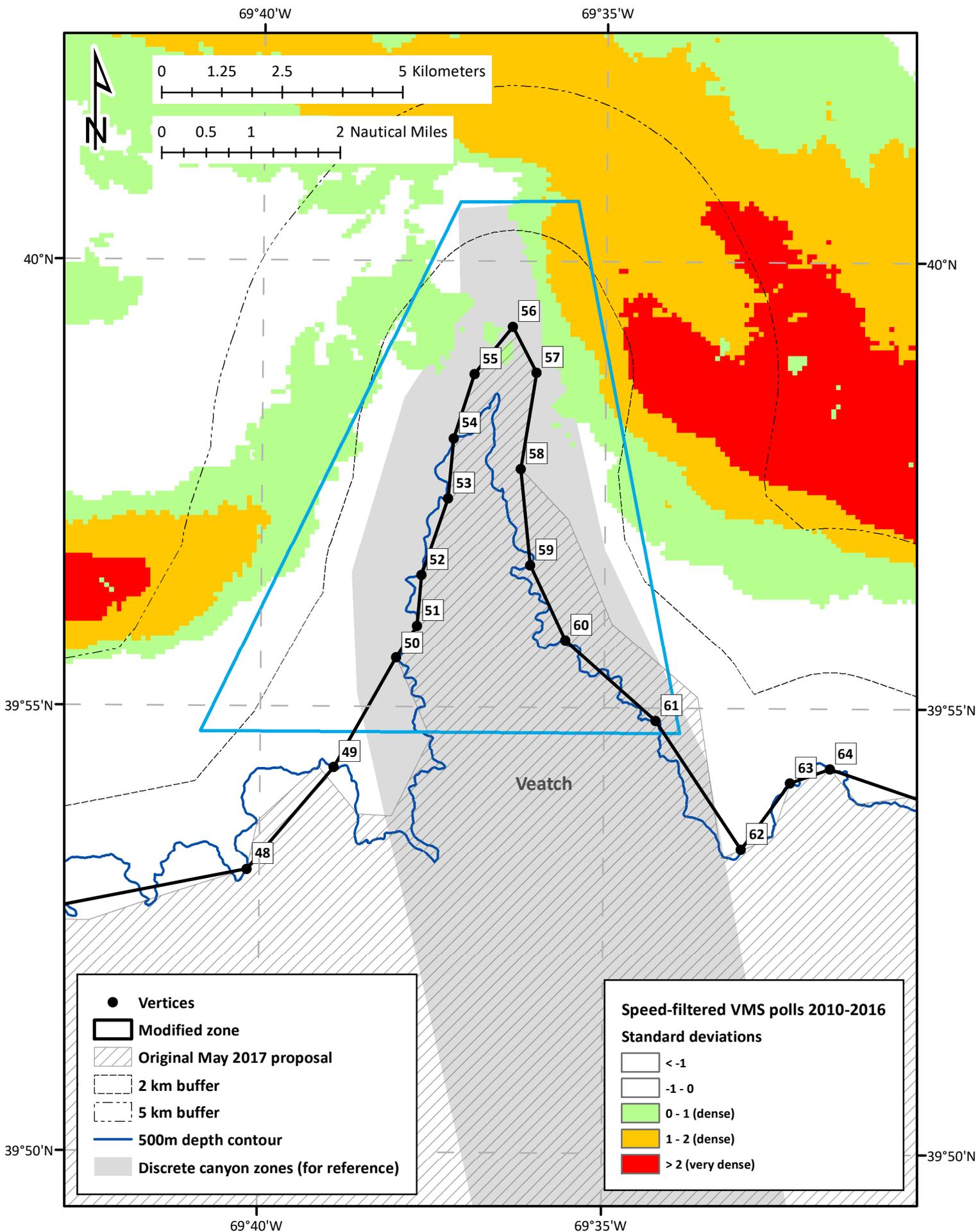


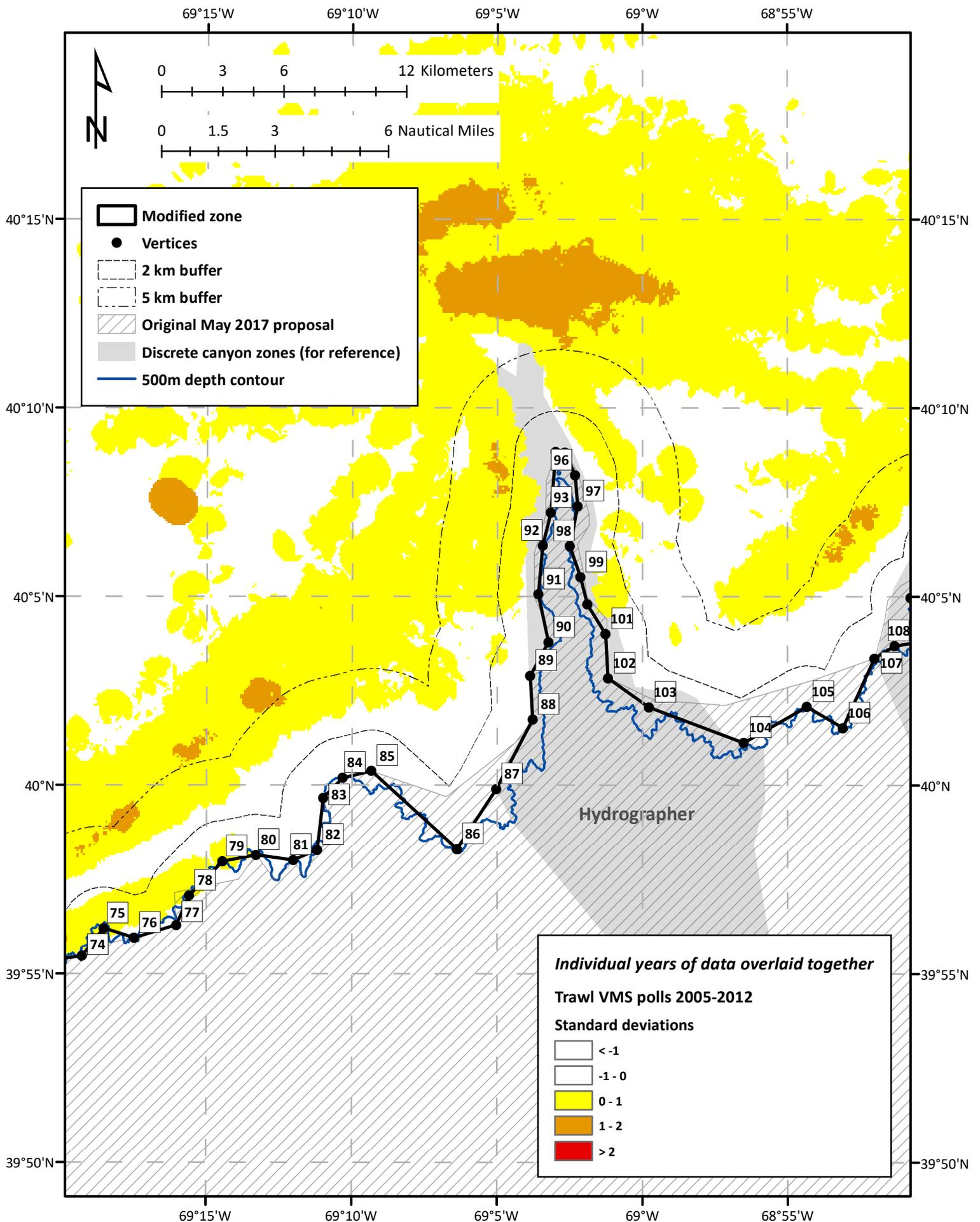


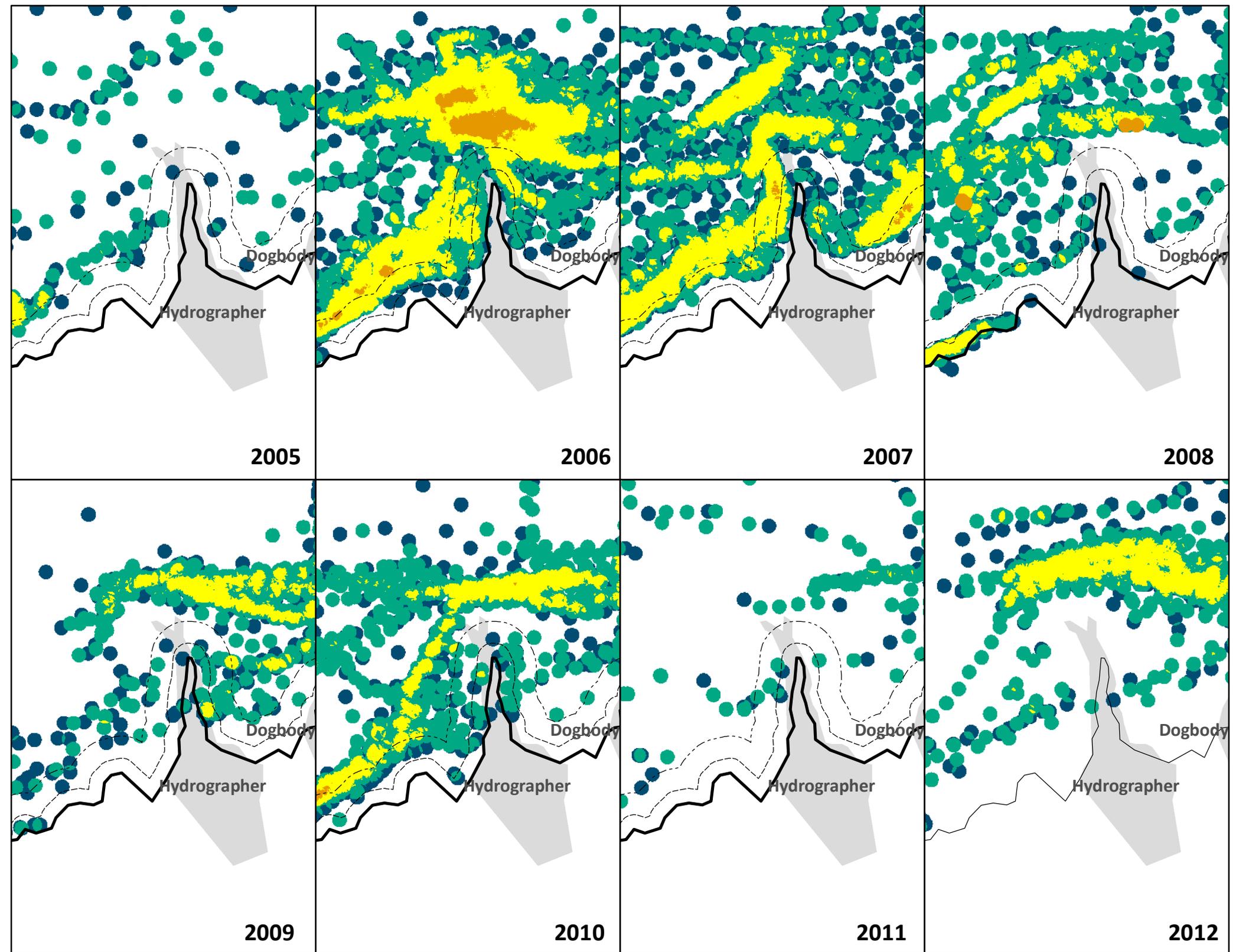


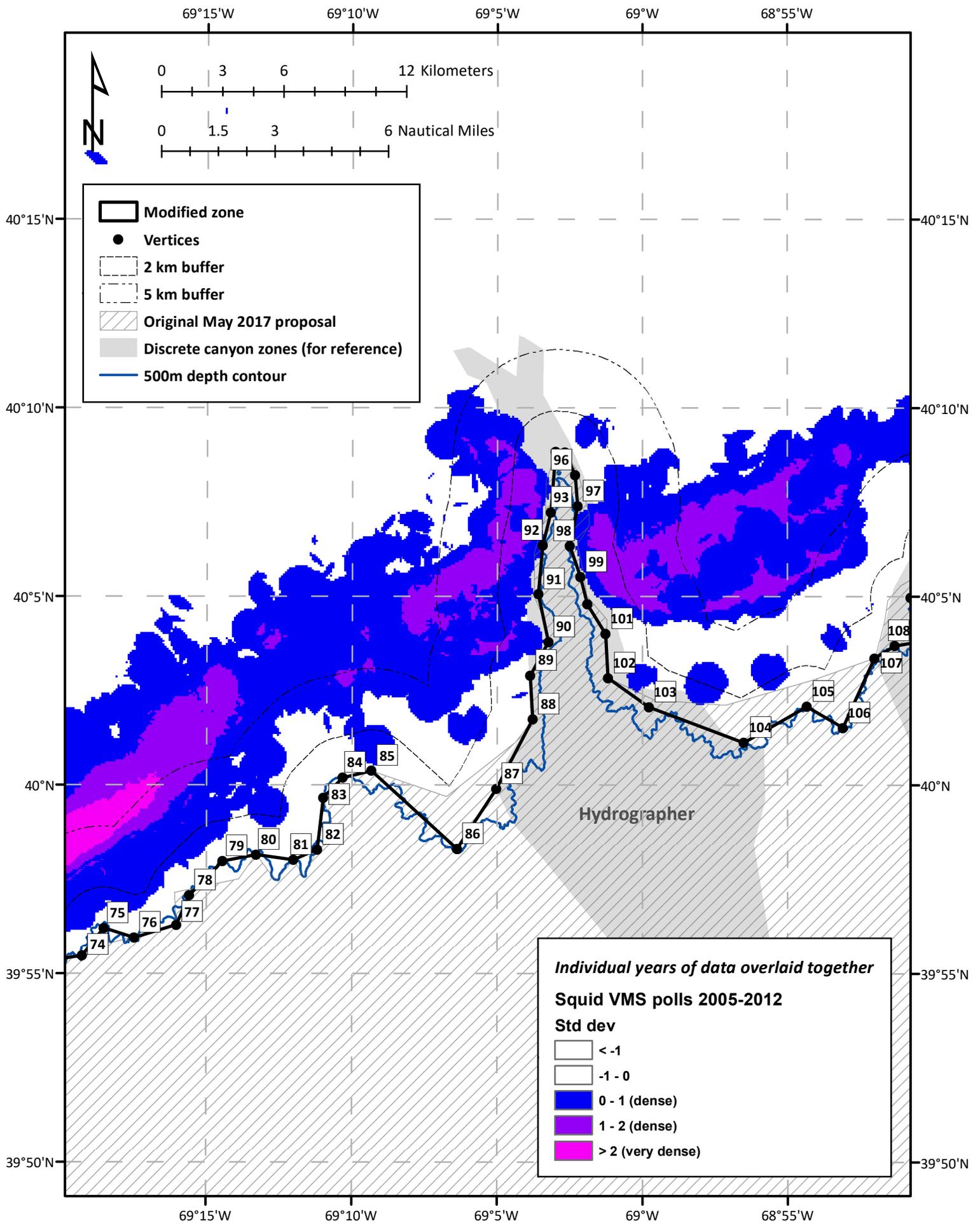


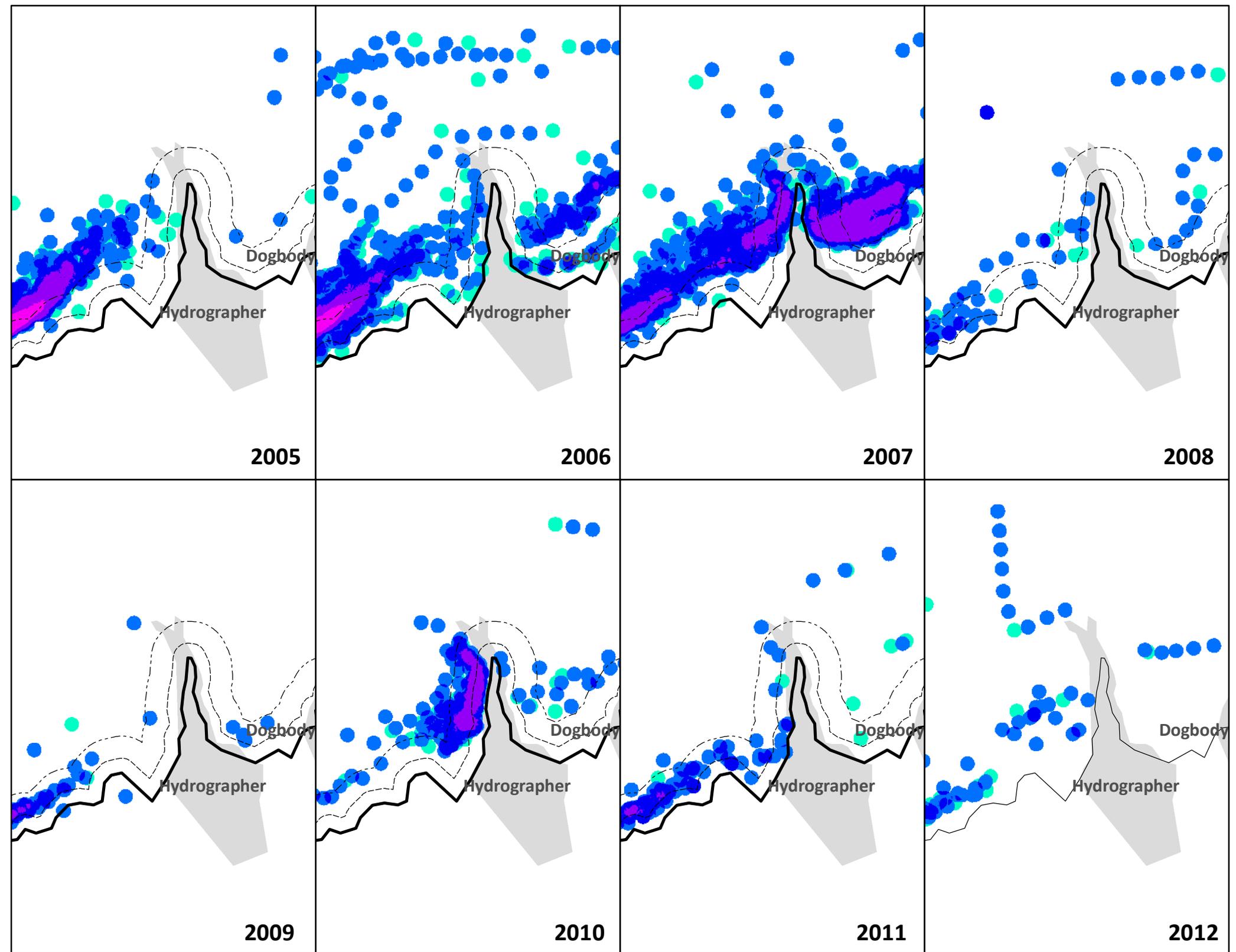


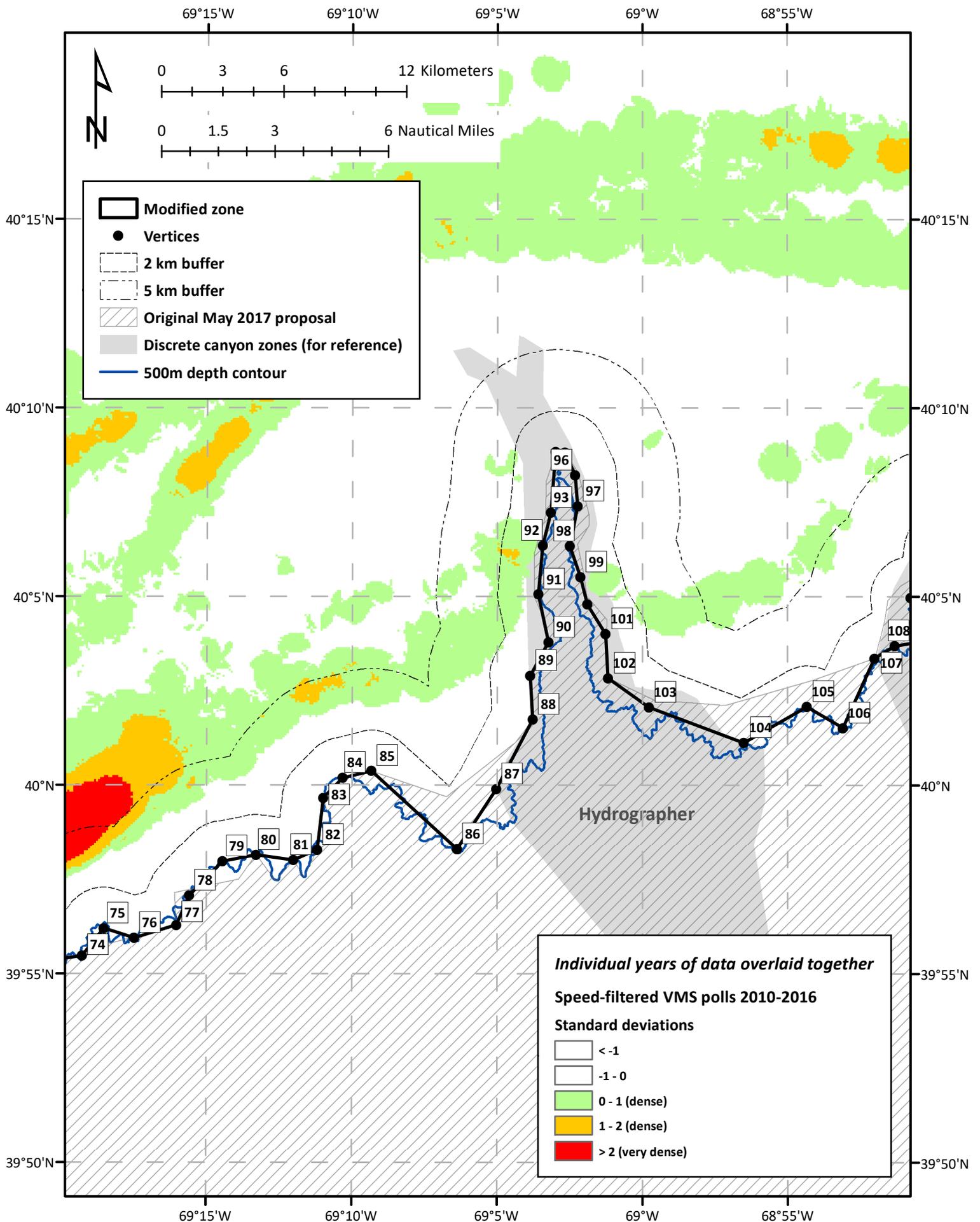


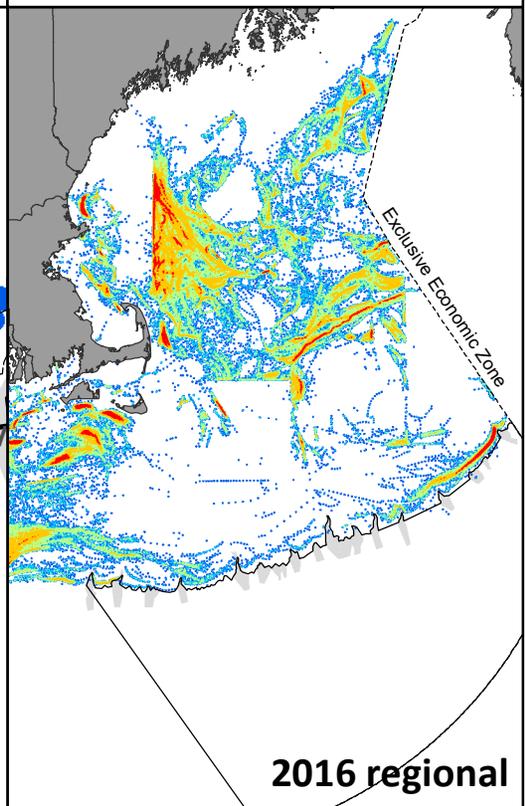
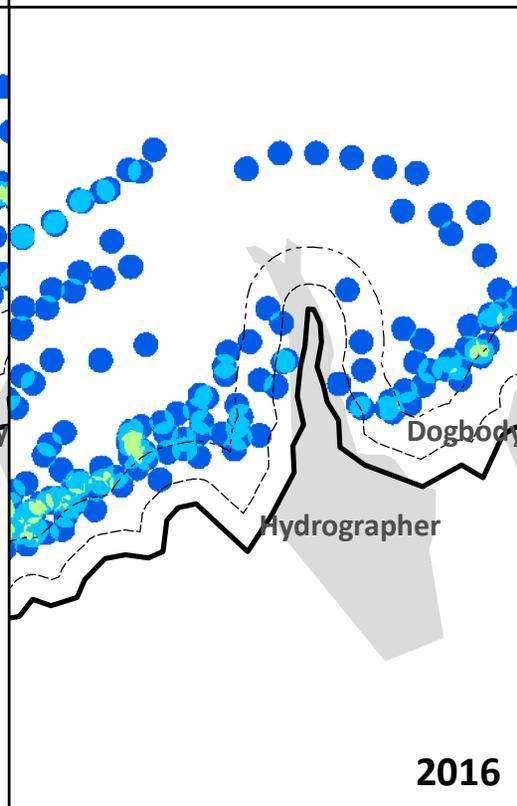
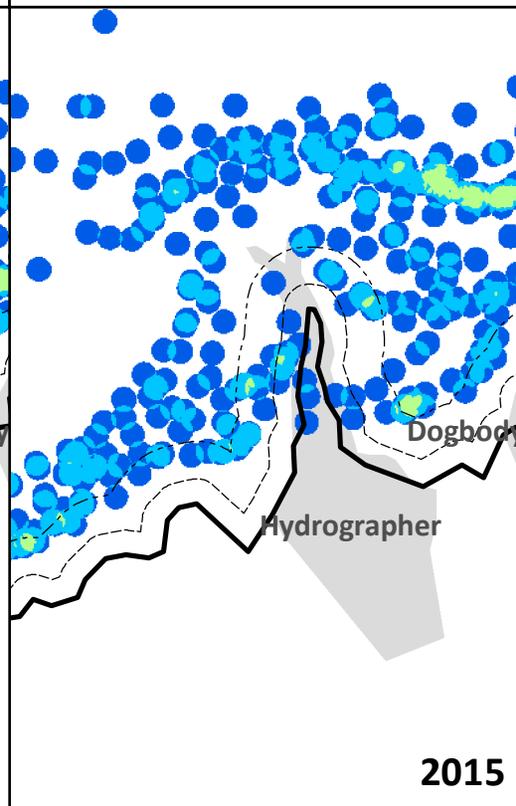
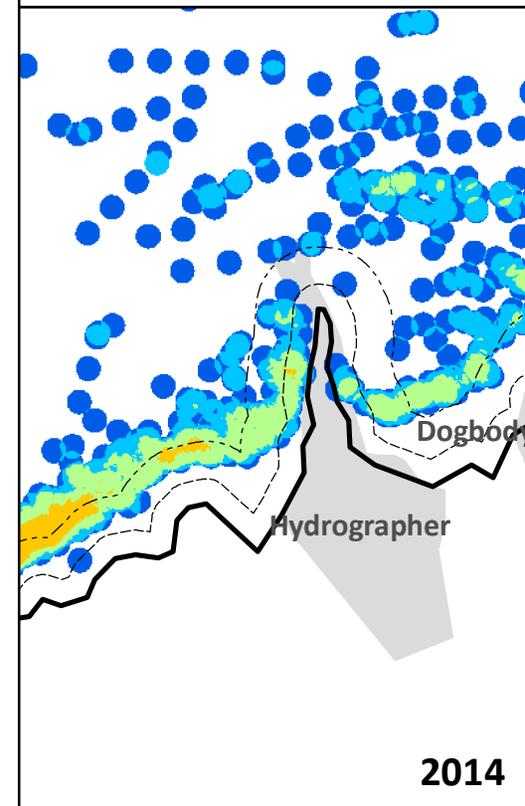
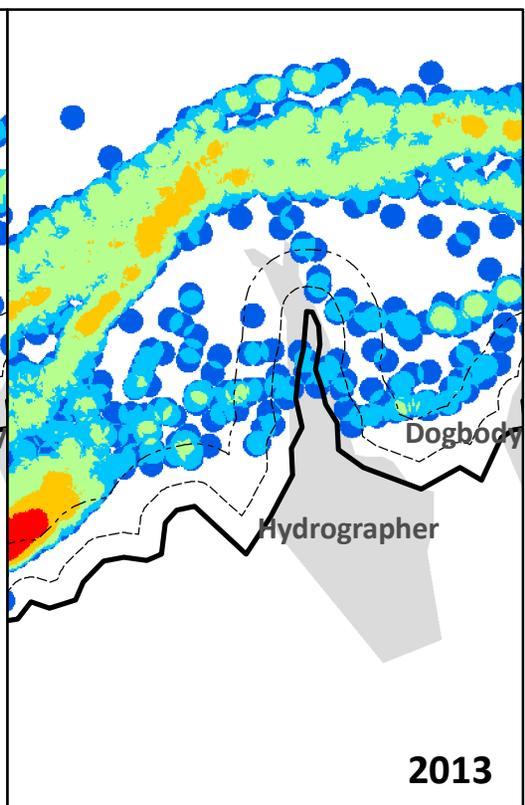
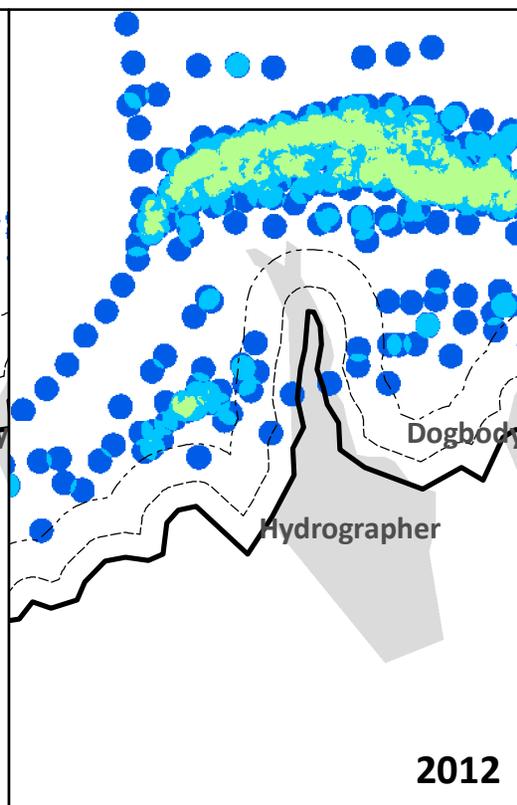
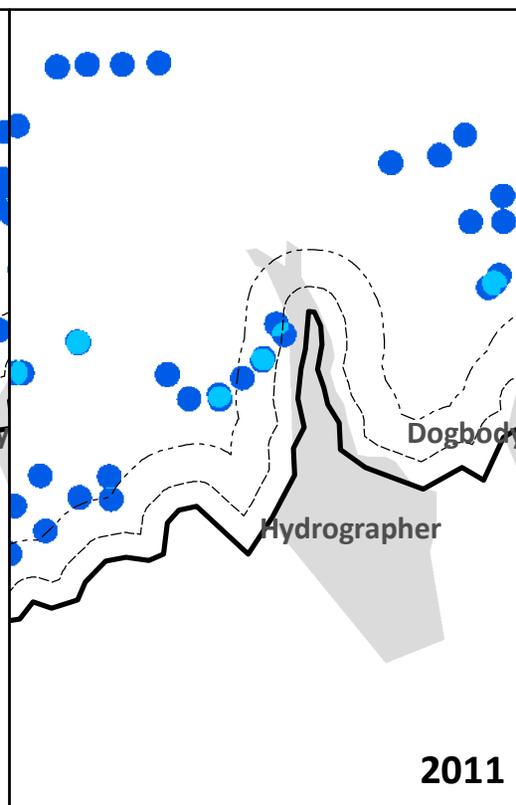
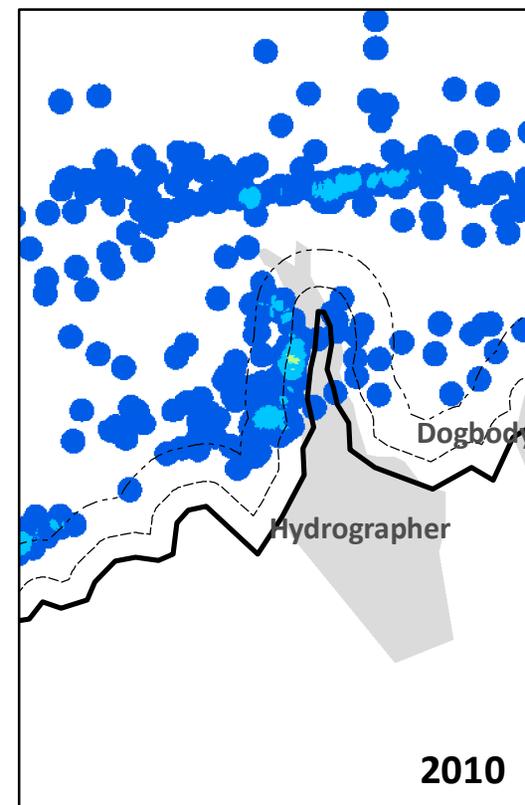


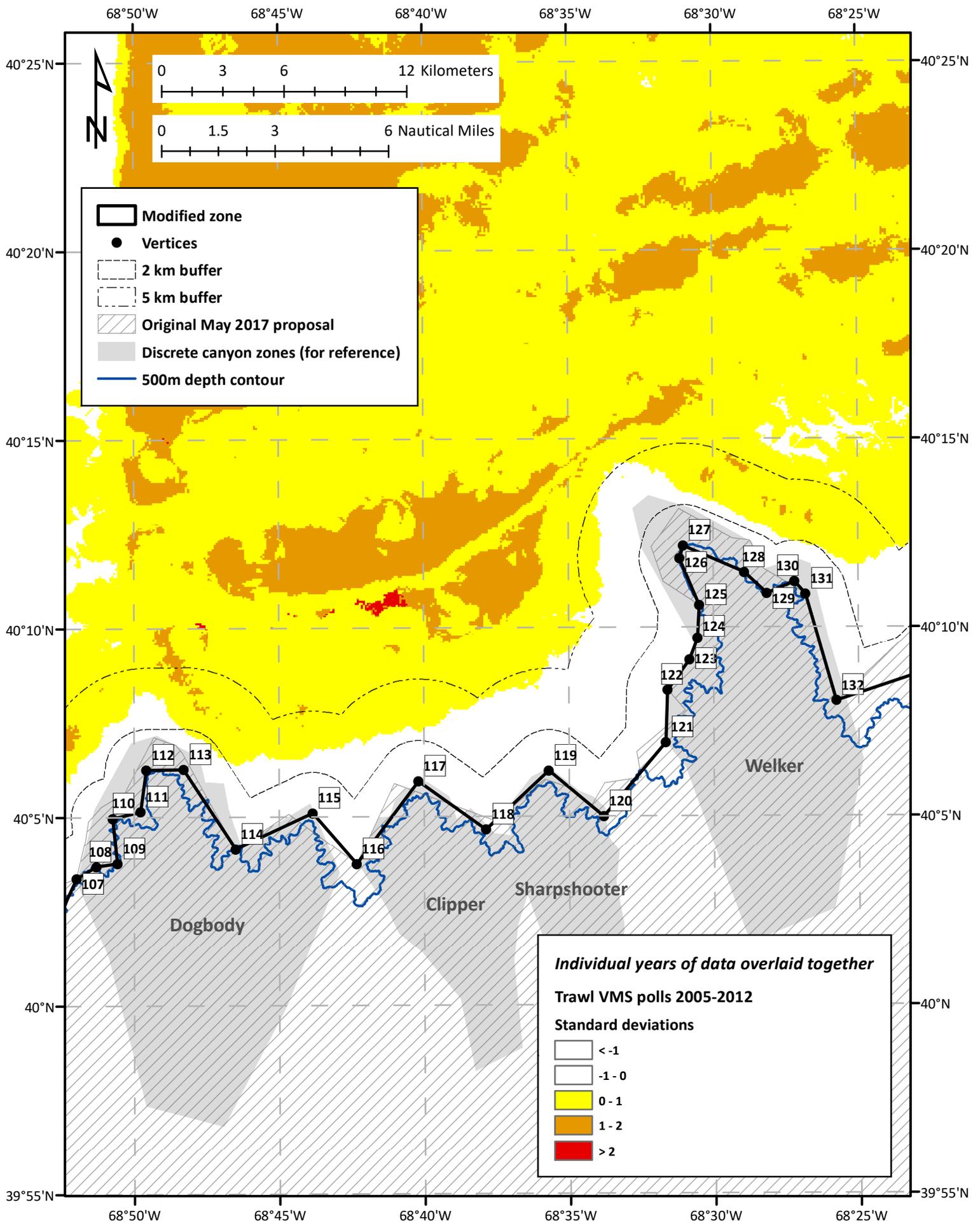


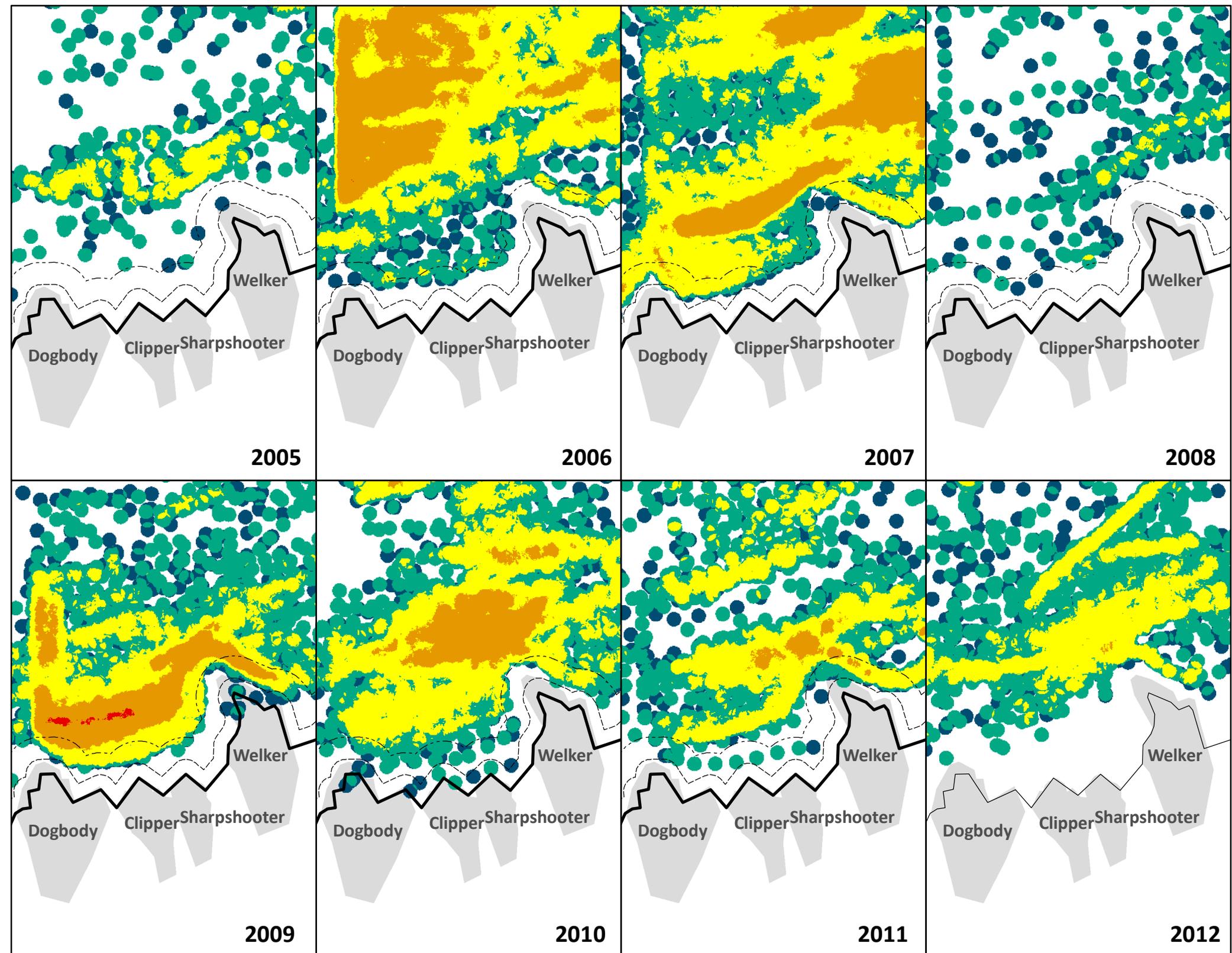


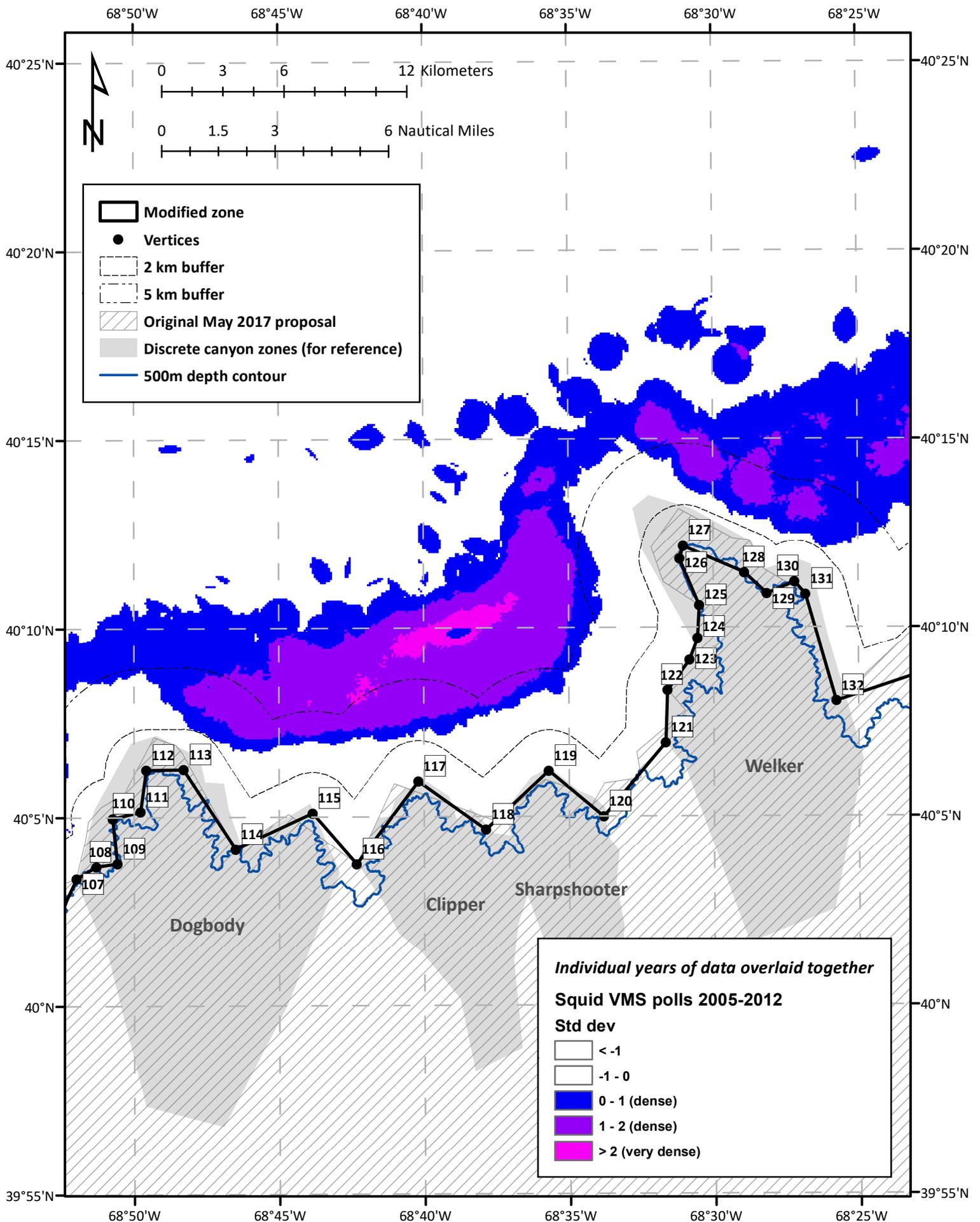


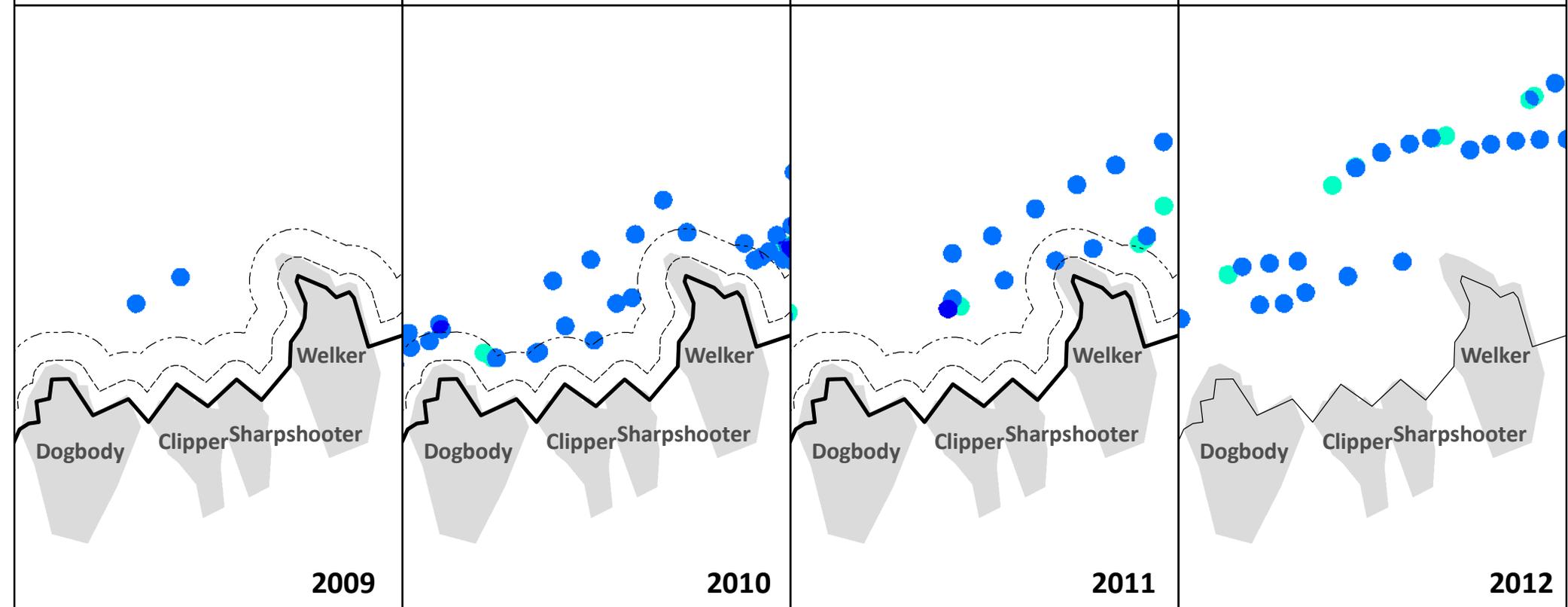
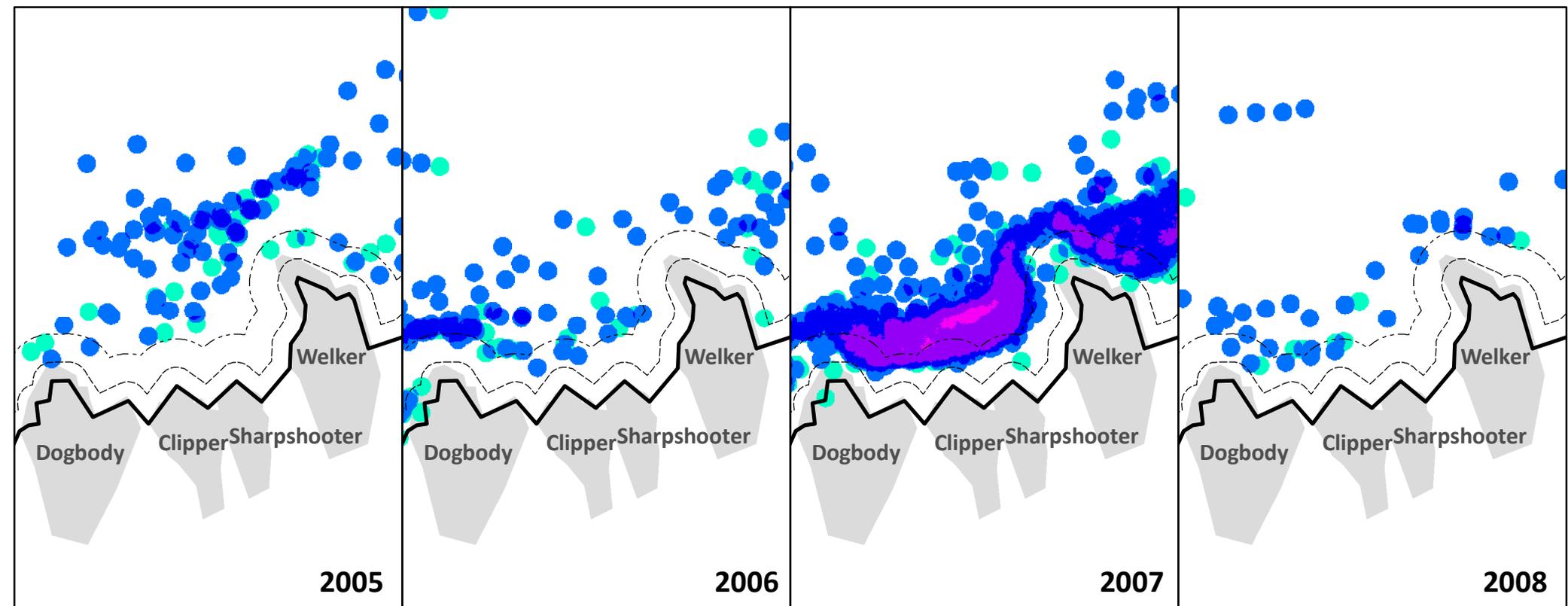




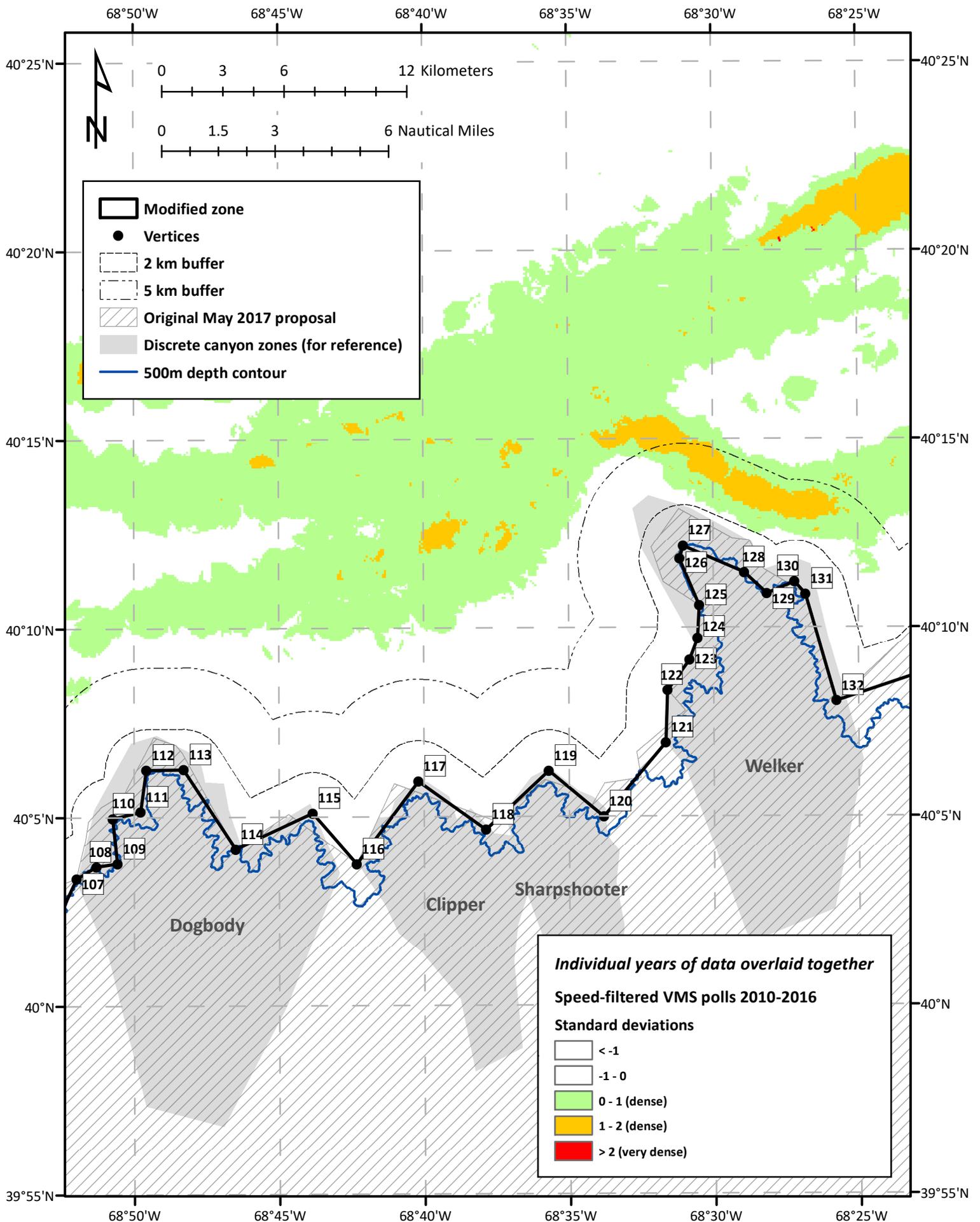


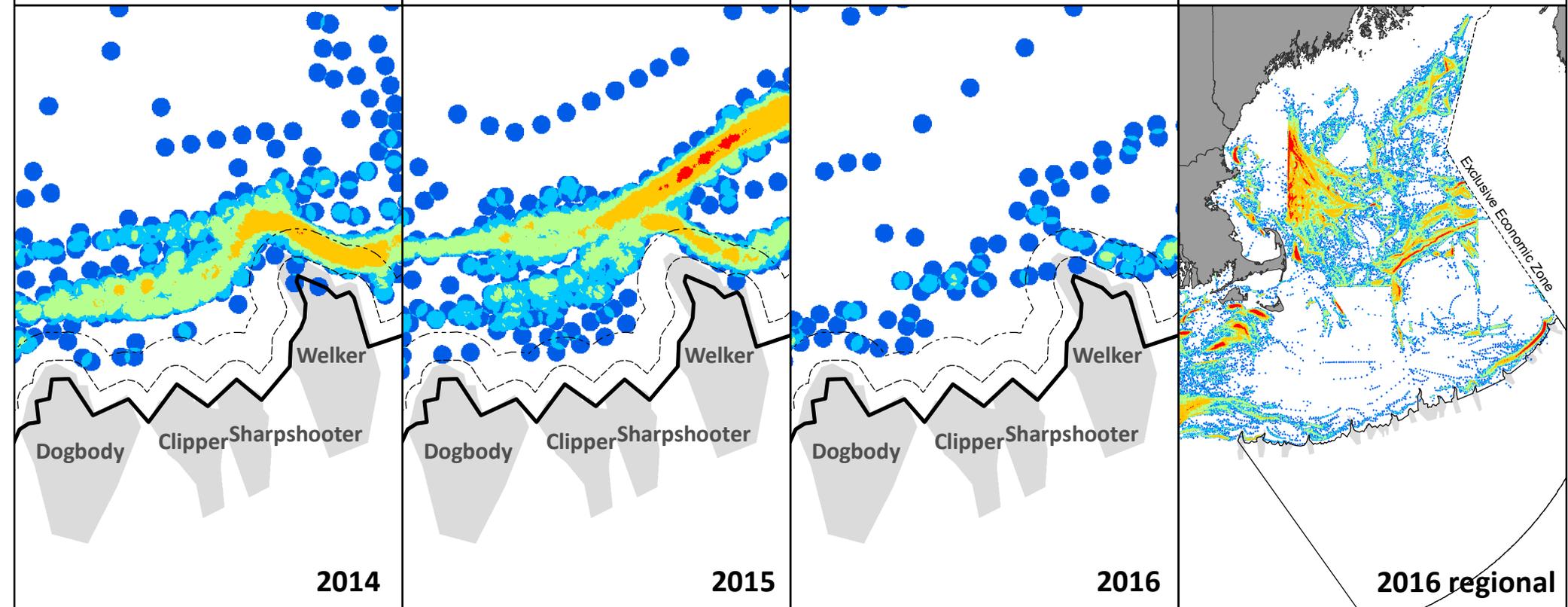
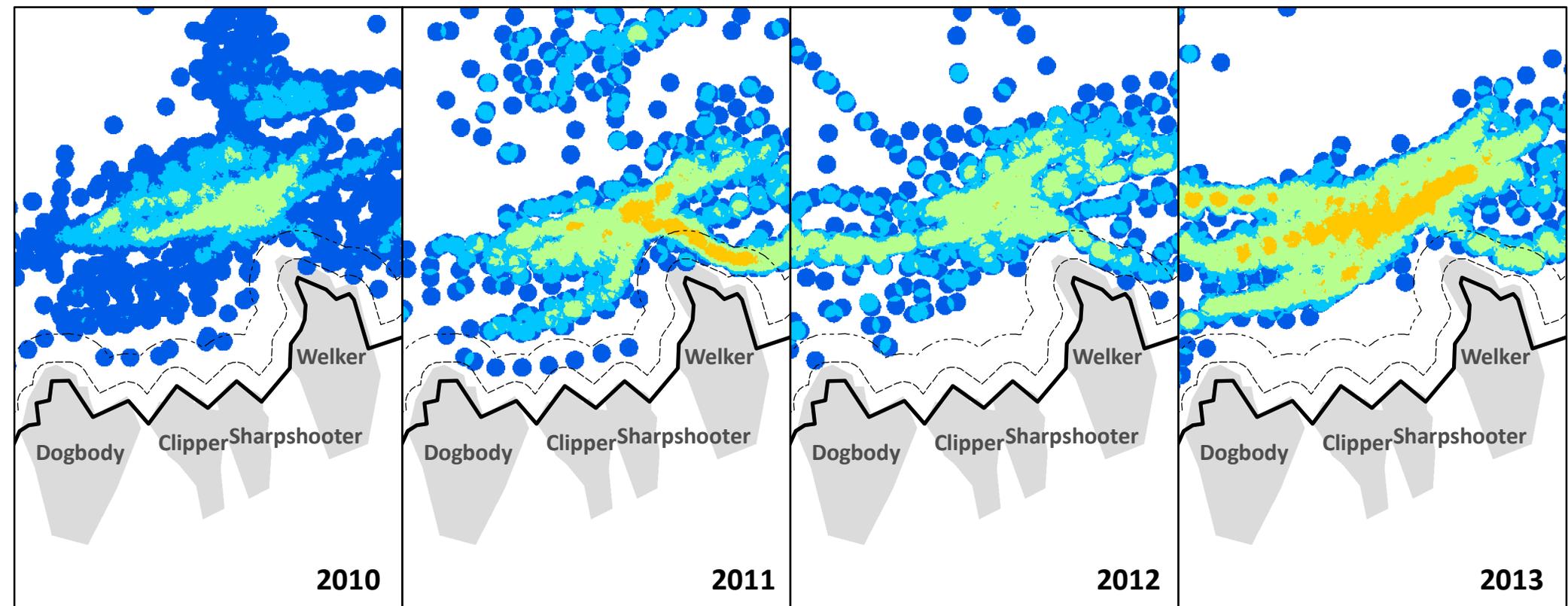


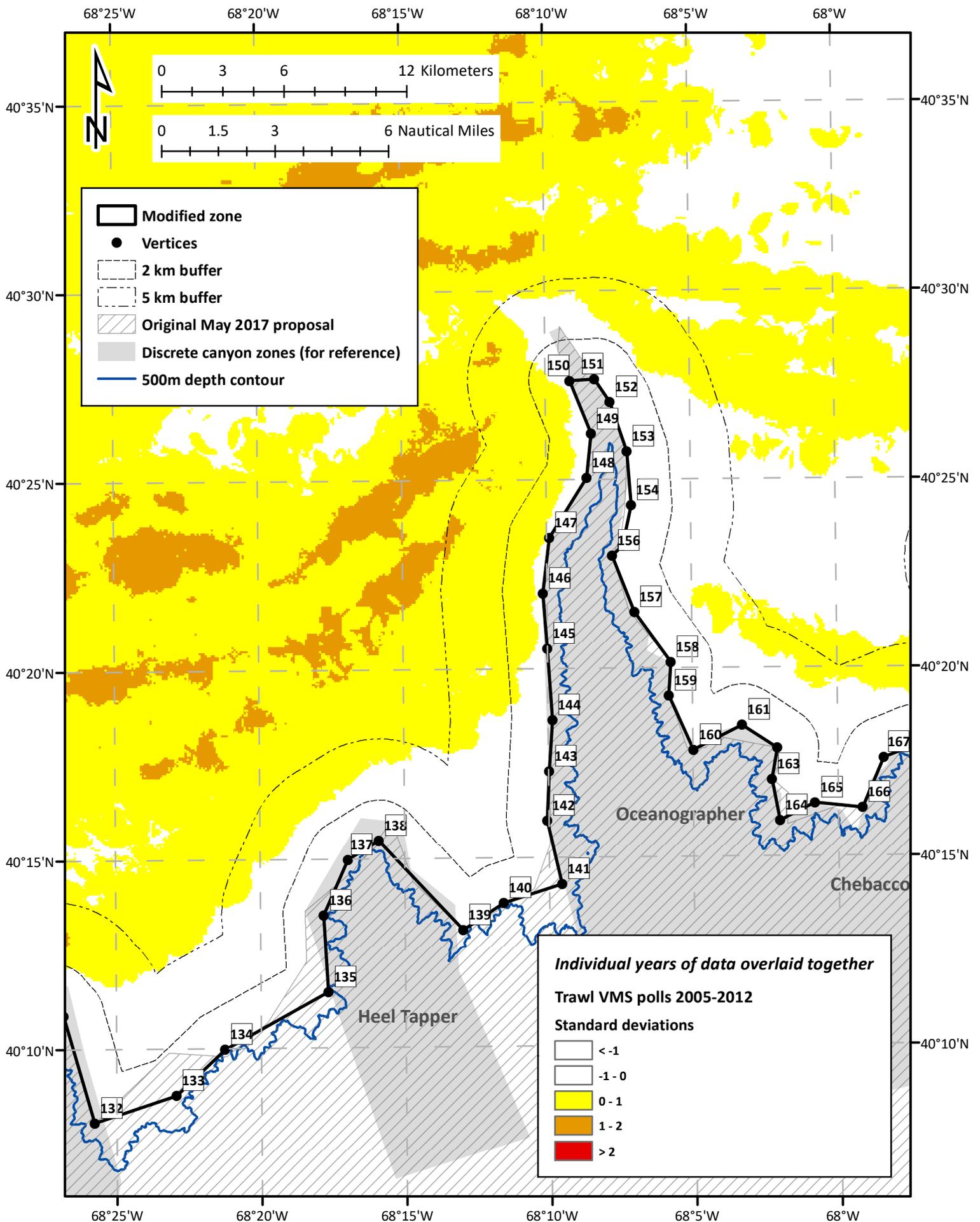


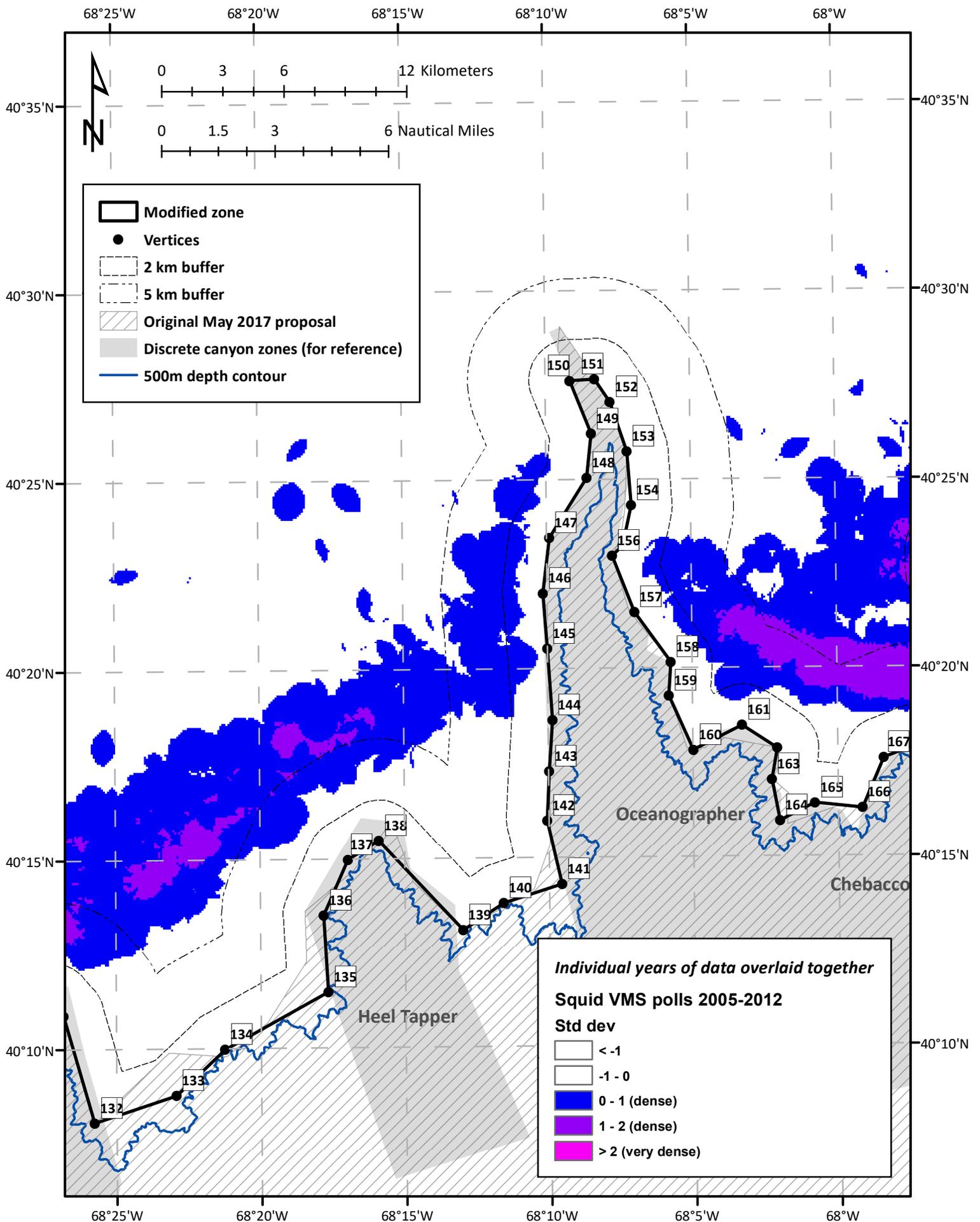


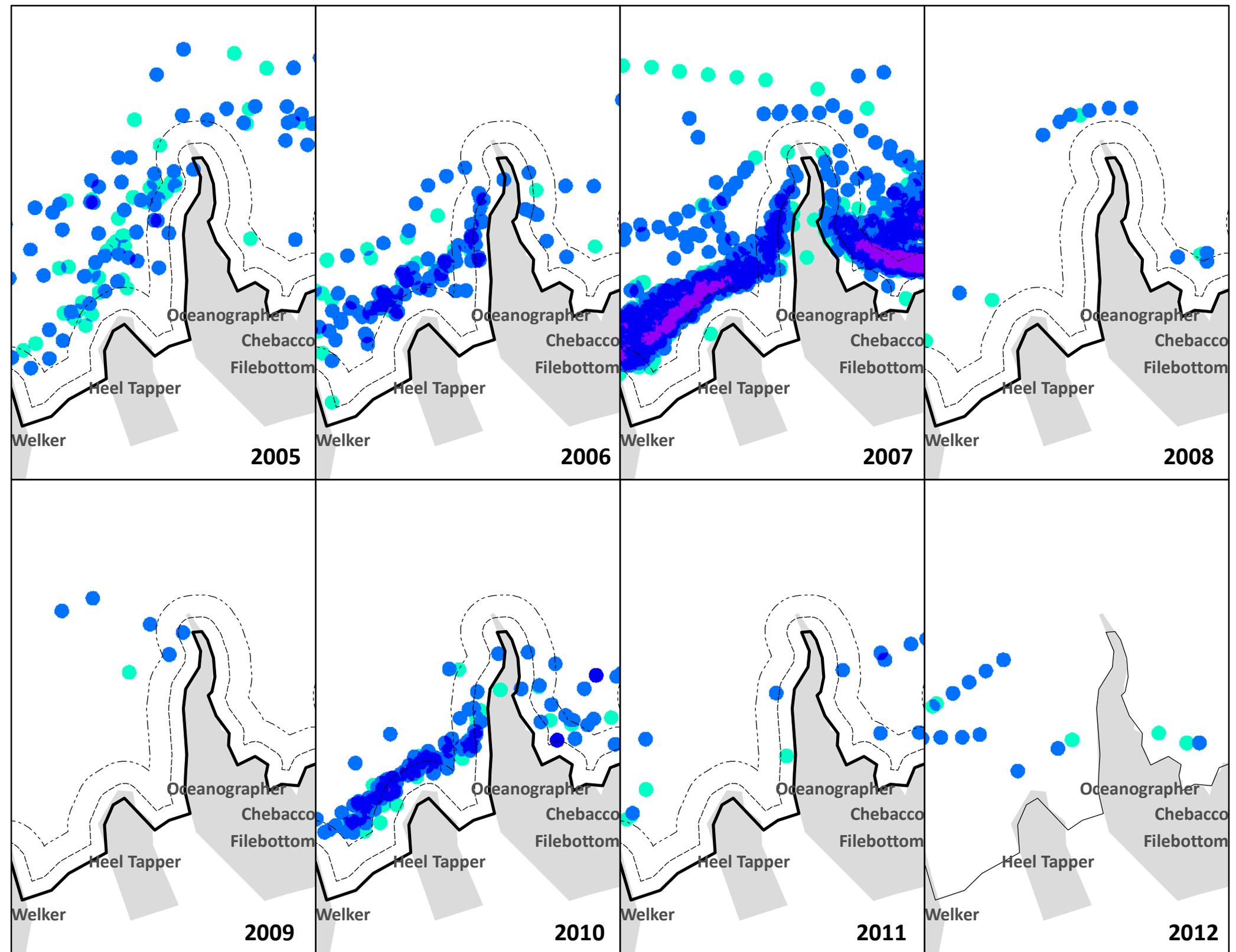
2012

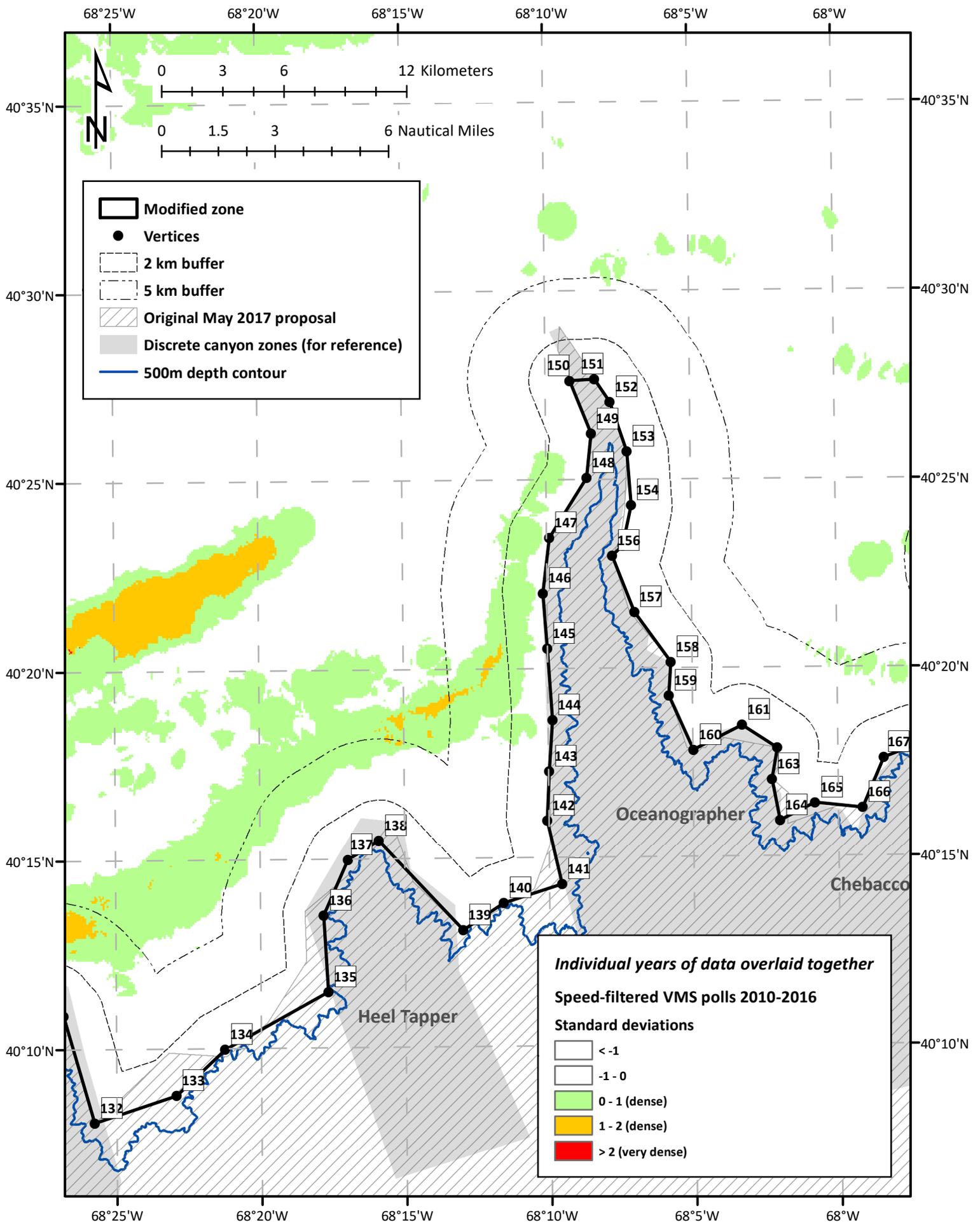


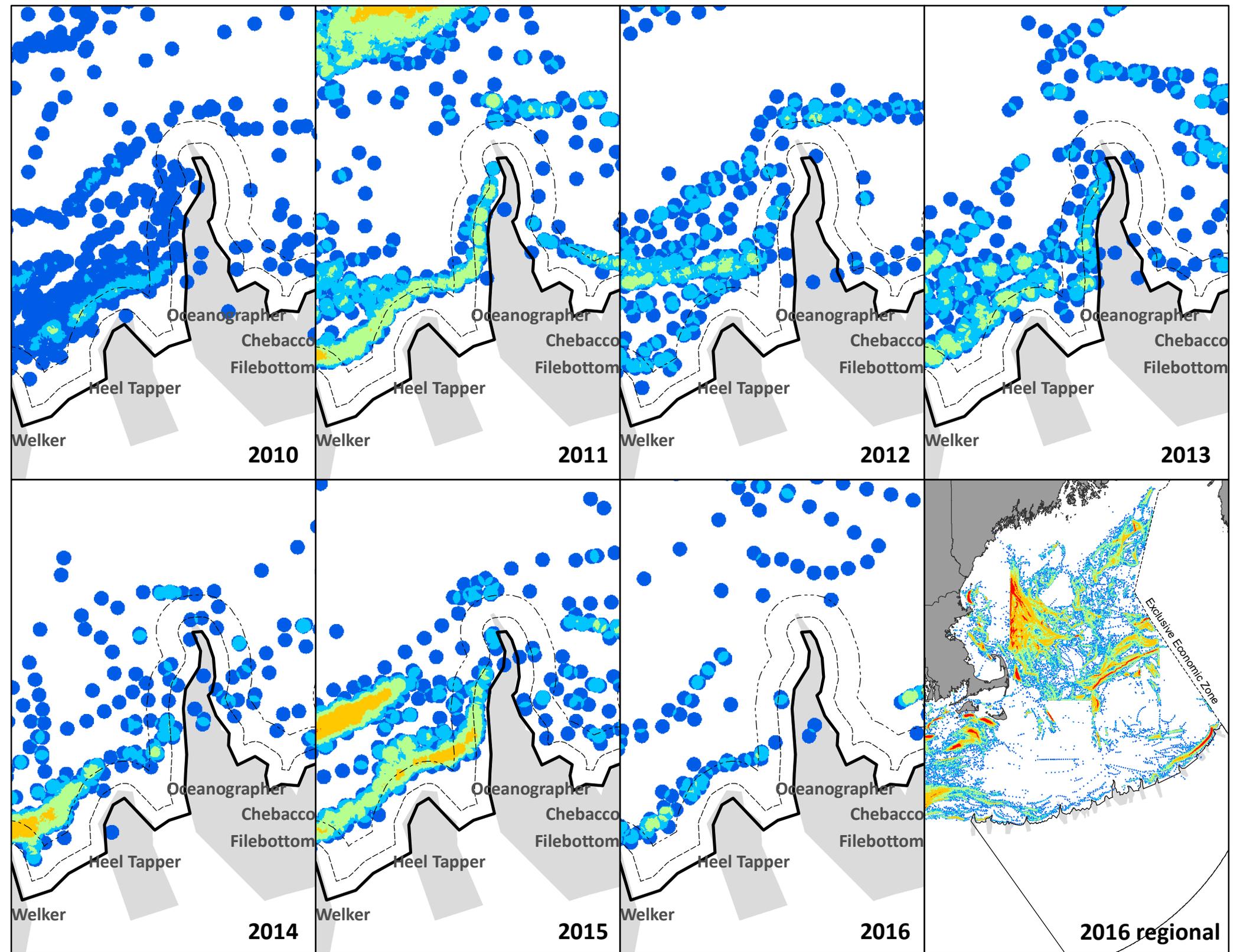


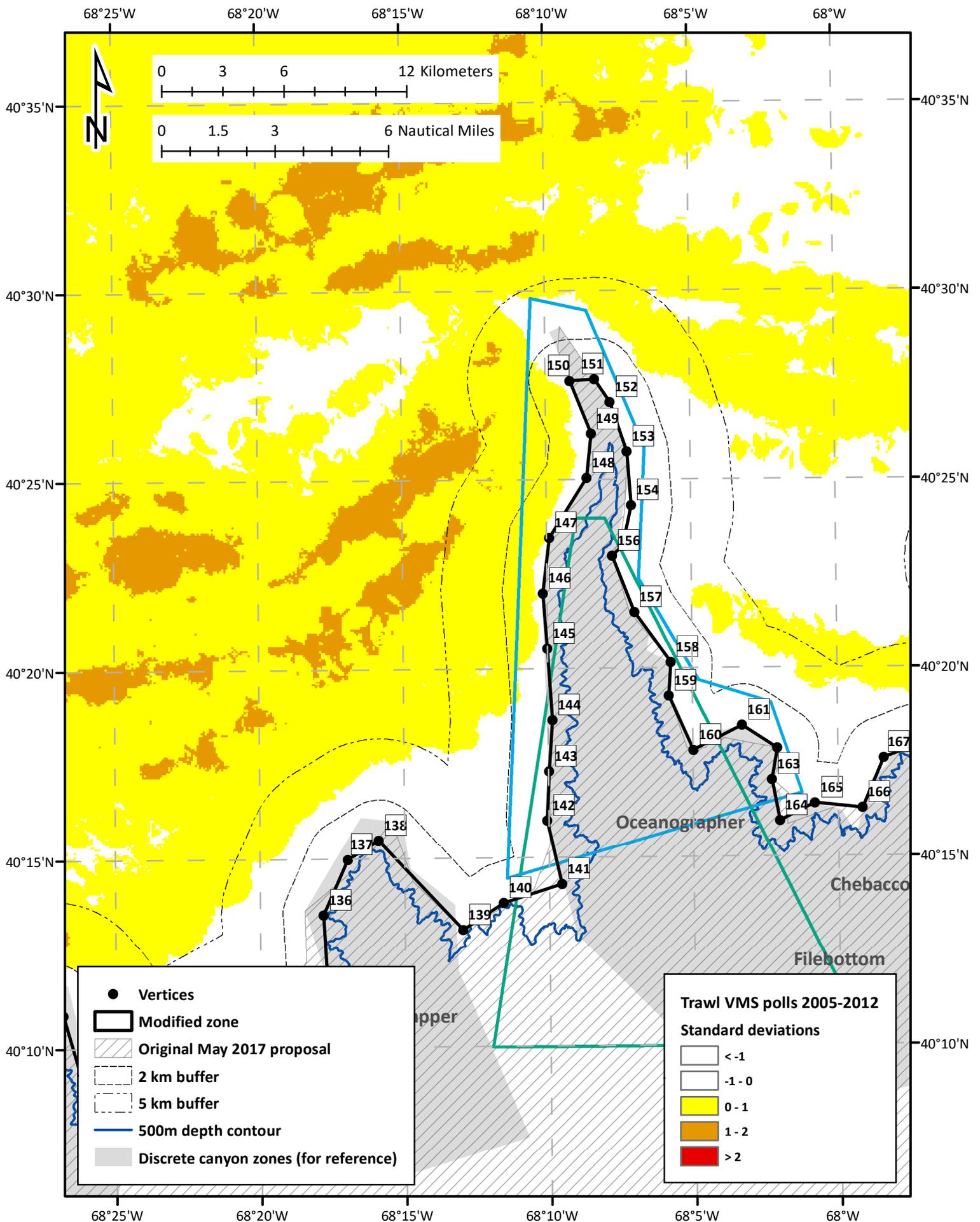


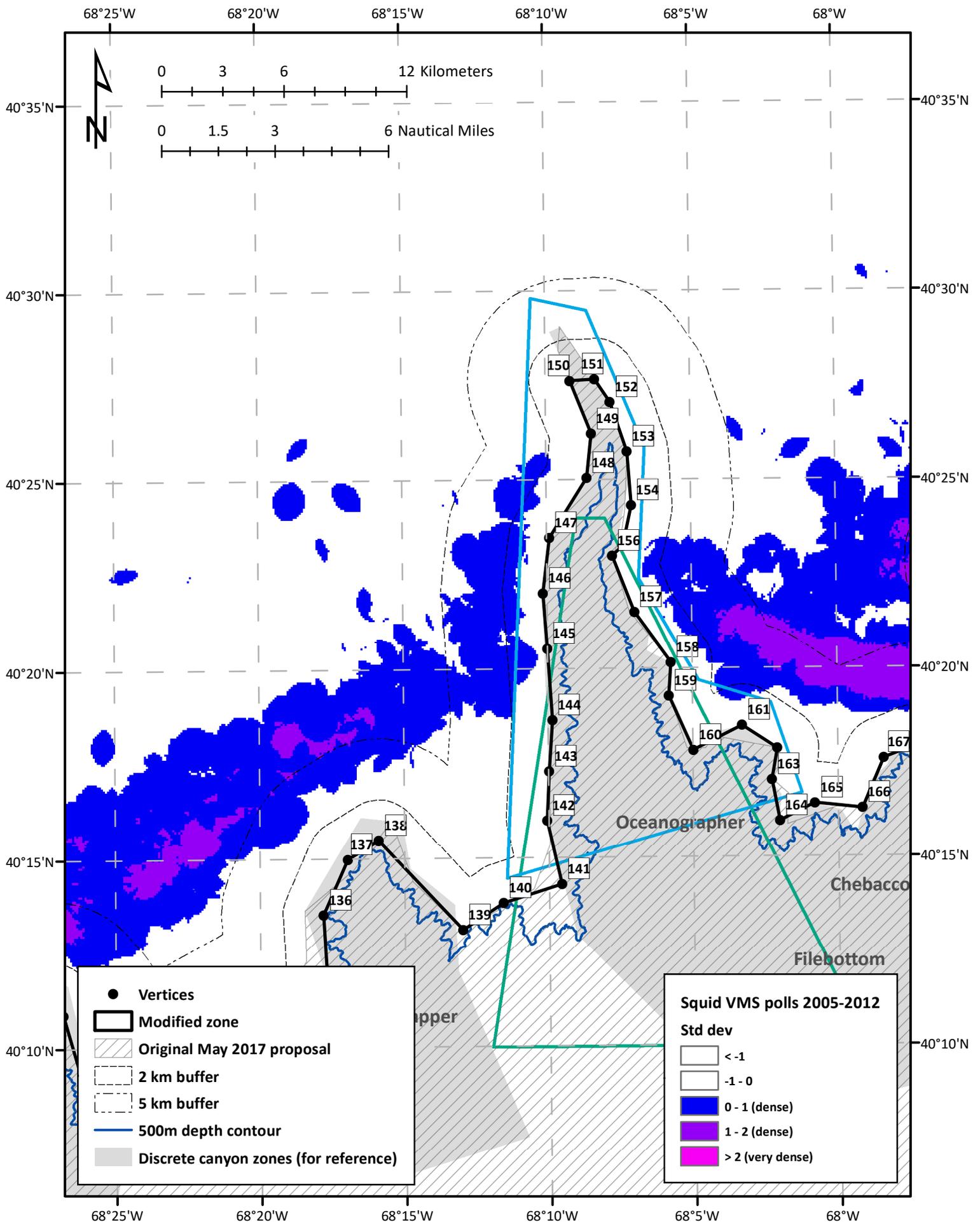




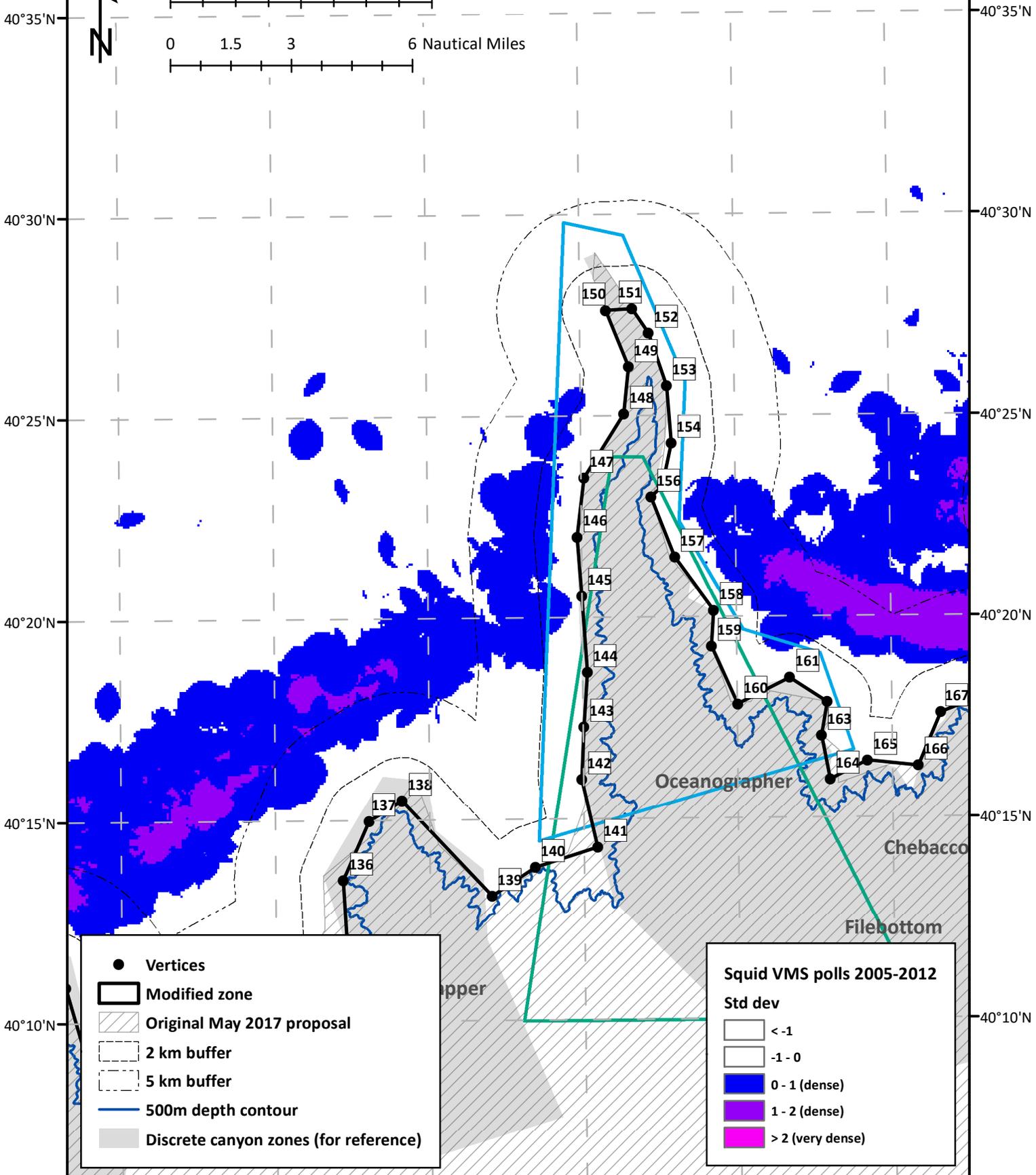
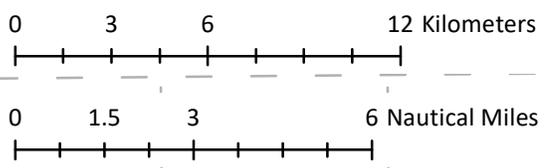








68°25'W 68°20'W 68°15'W 68°10'W 68°5'W 68°W

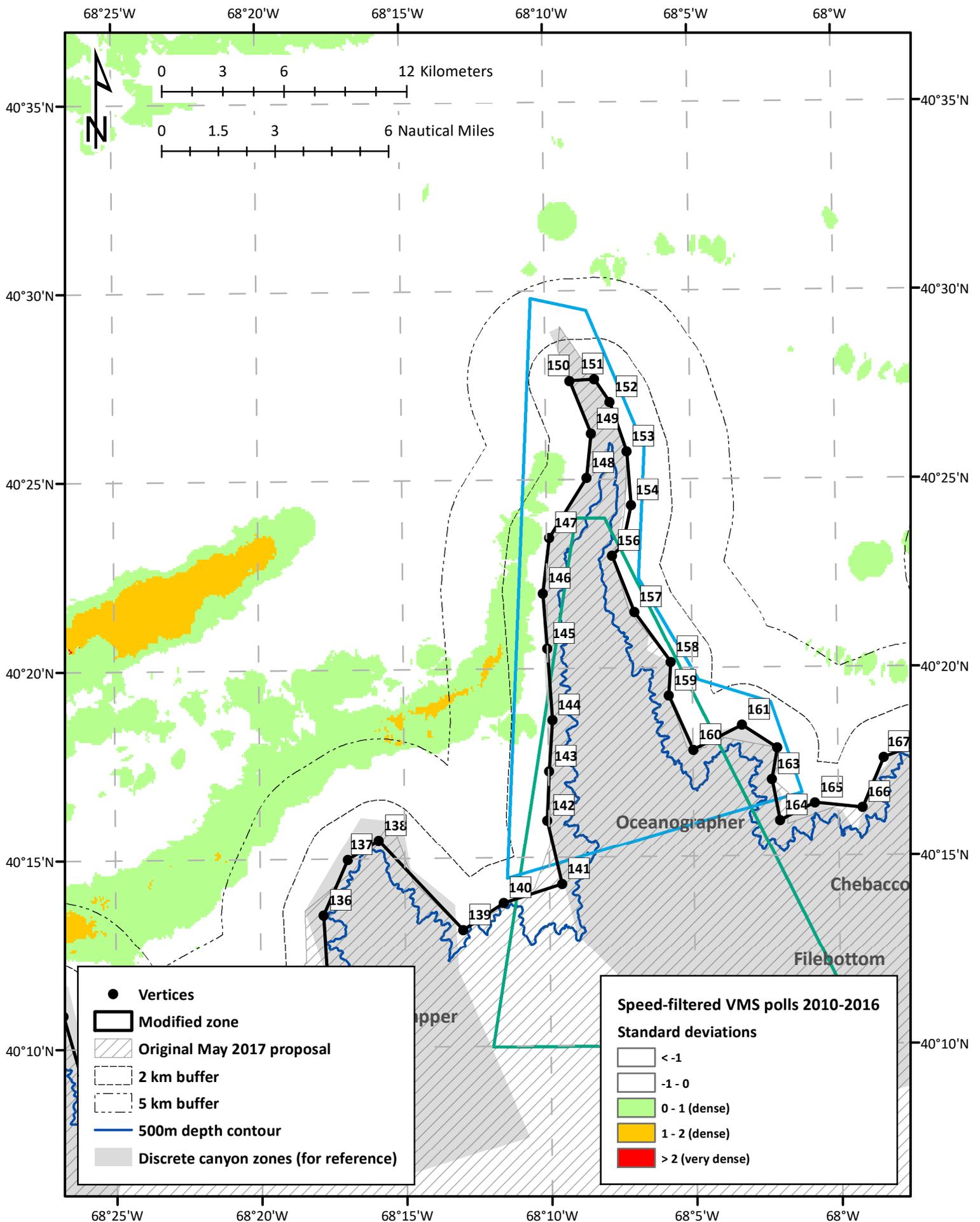


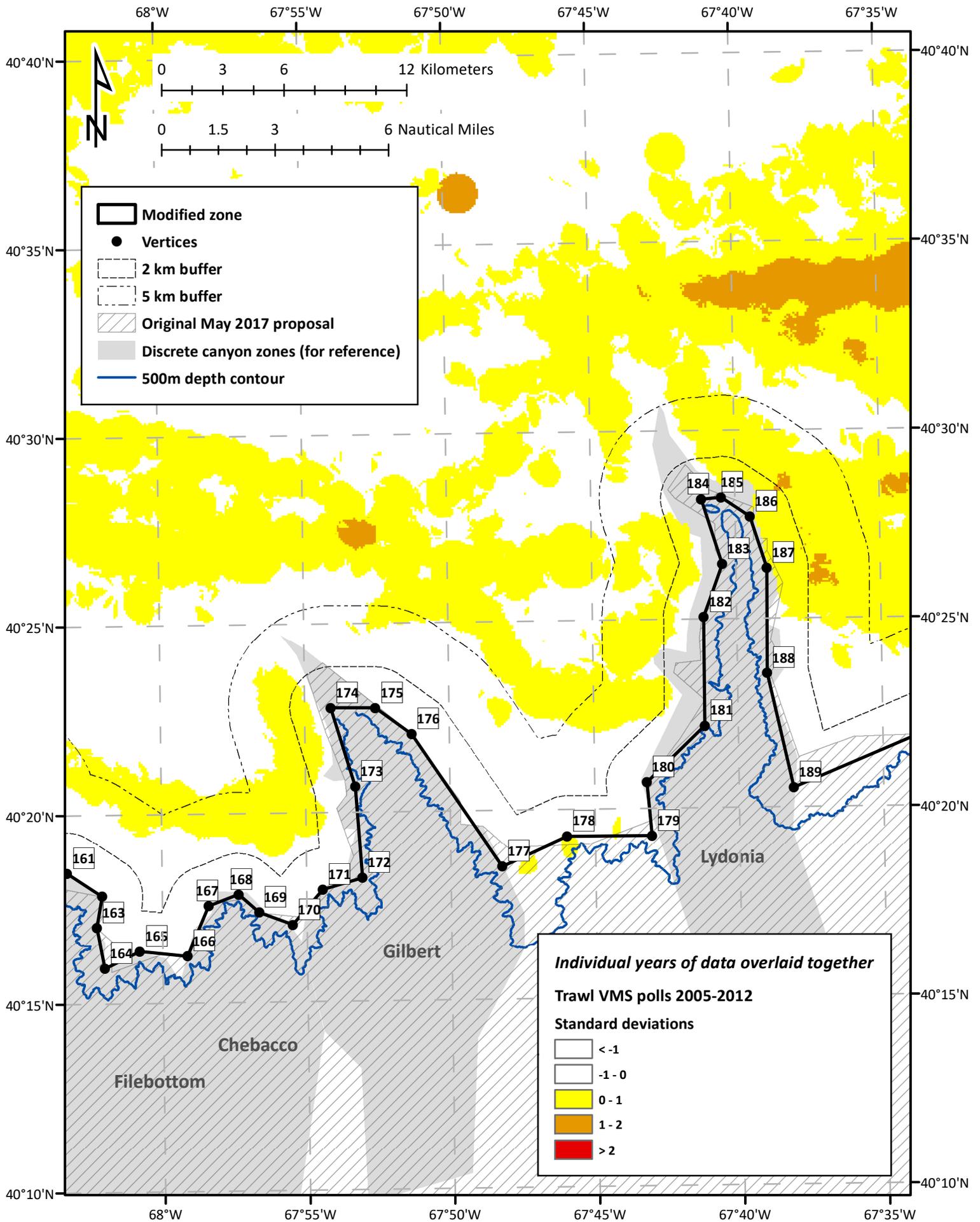
- Vertices
- ▭ Modified zone
- ▨ Original May 2017 proposal
- - - 2 km buffer
- ⋯ 5 km buffer
- 500m depth contour
- Discrete canyon zones (for reference)

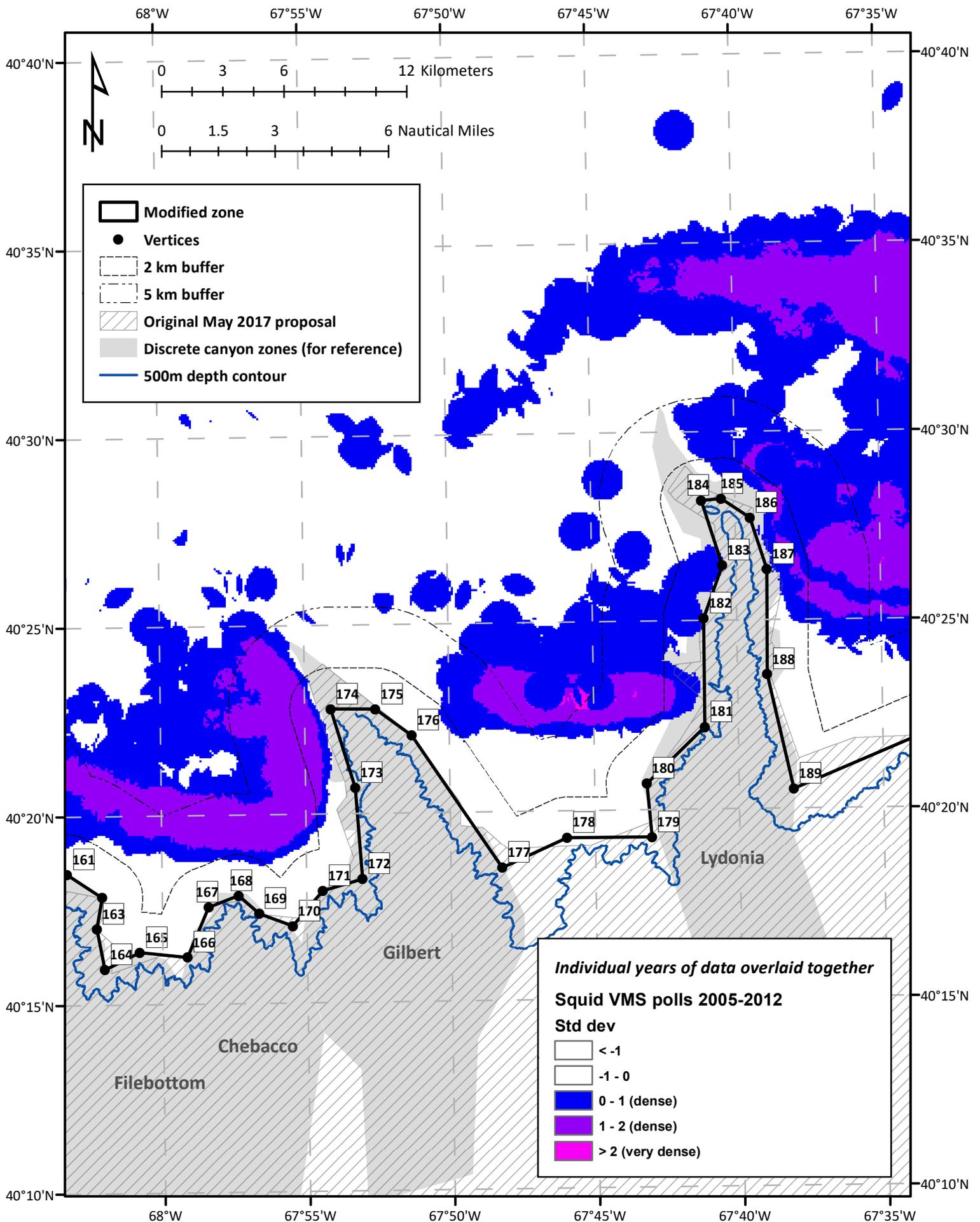
Squid VMS polls 2005-2012

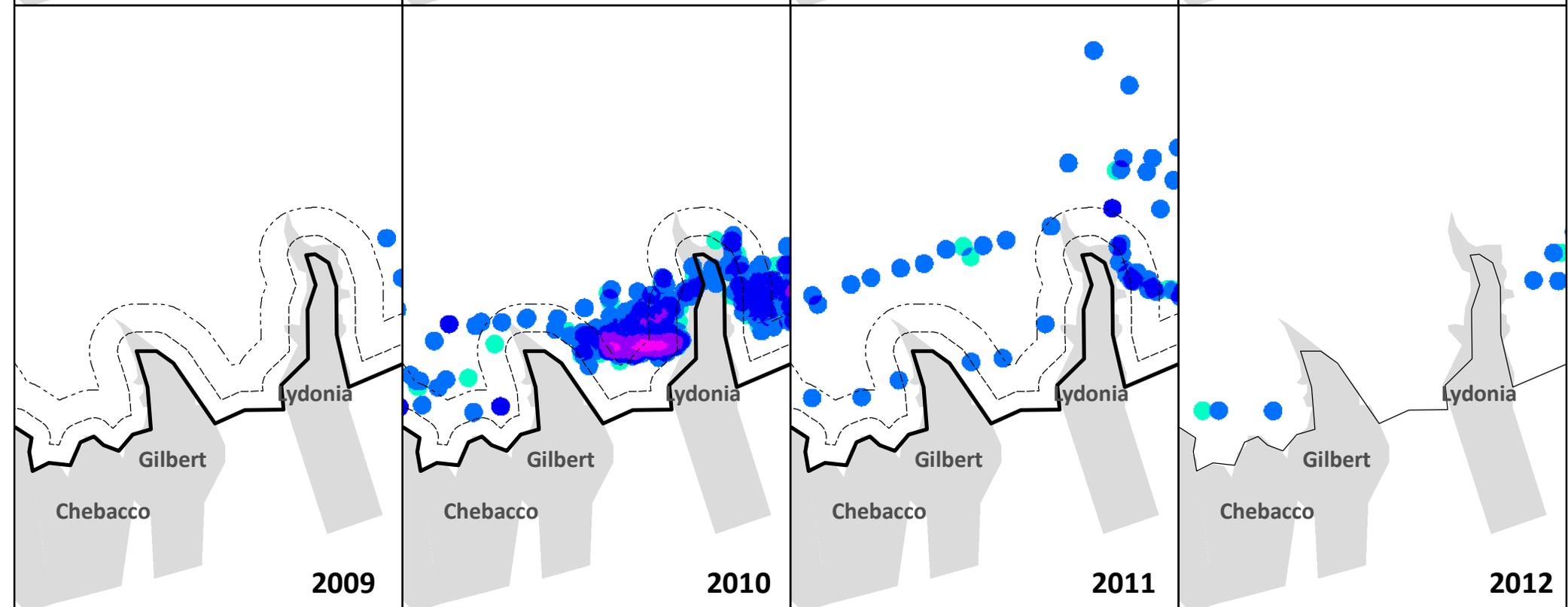
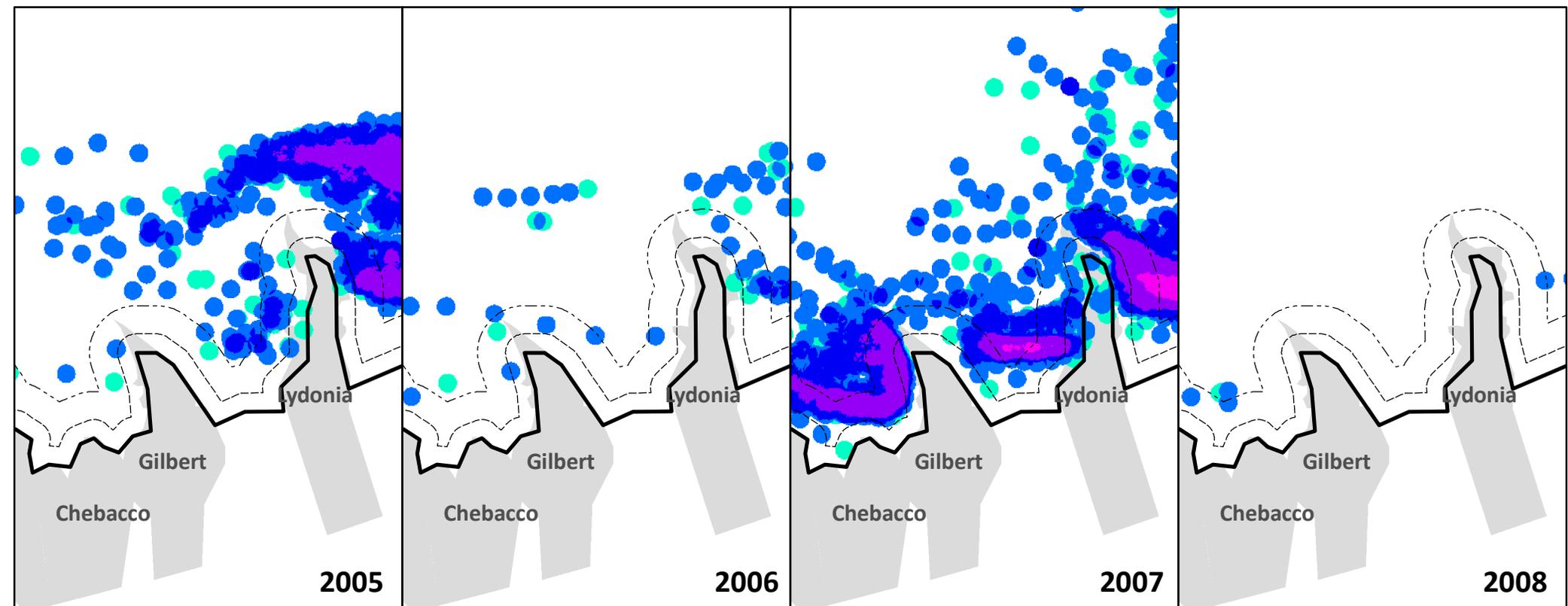
Std dev

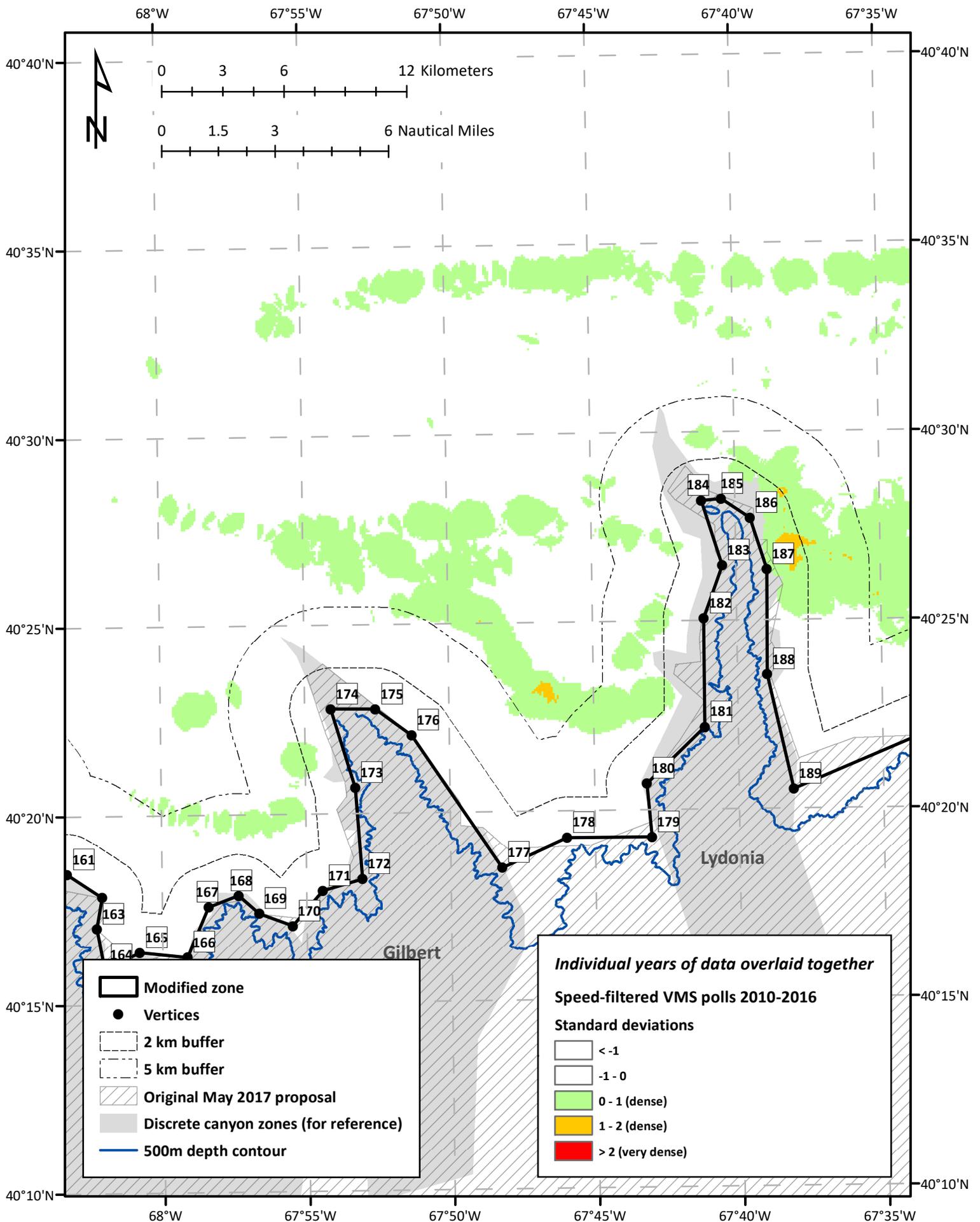
- < -1
- -1 - 0
- 0 - 1 (dense)
- 1 - 2 (dense)
- > 2 (very dense)

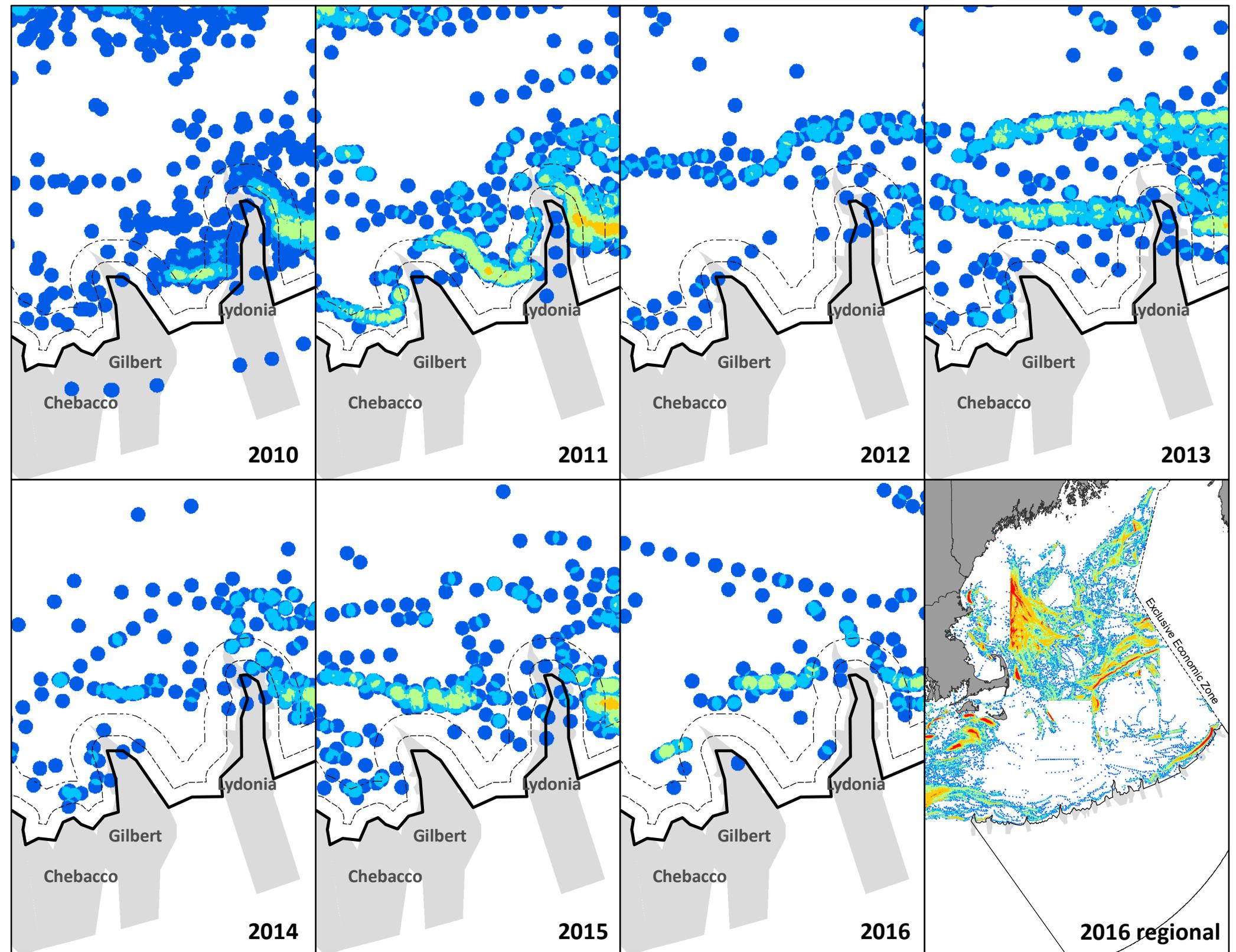


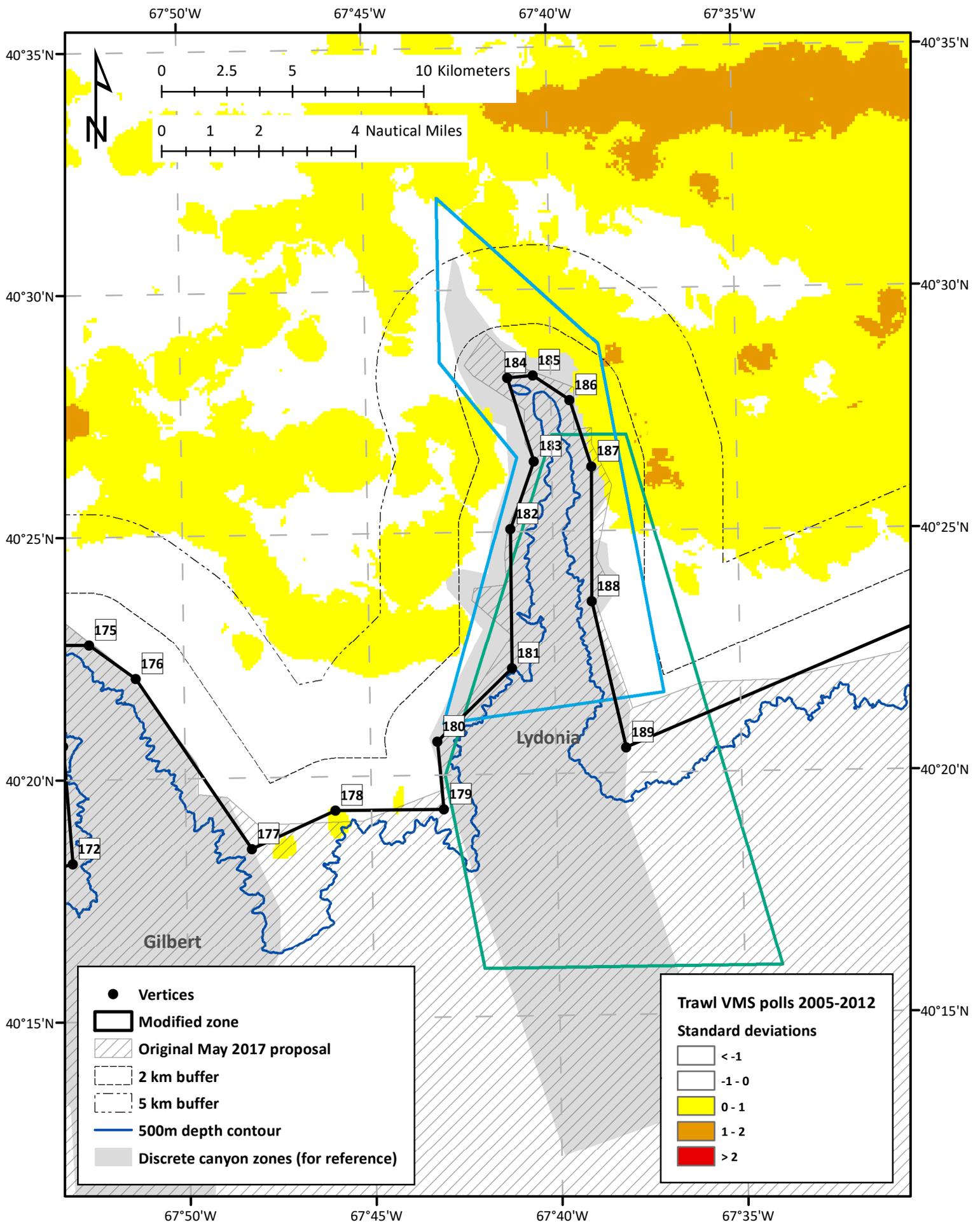


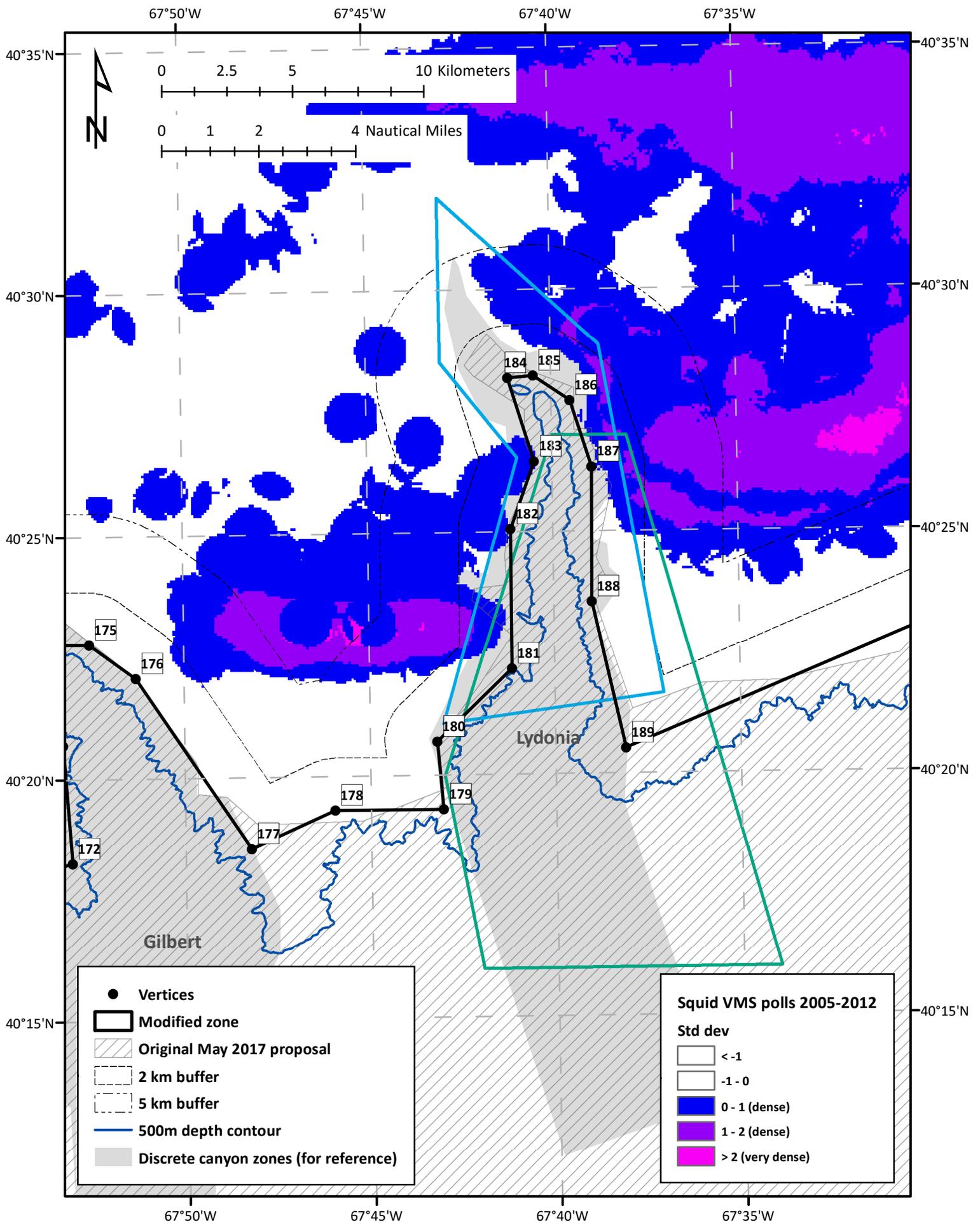


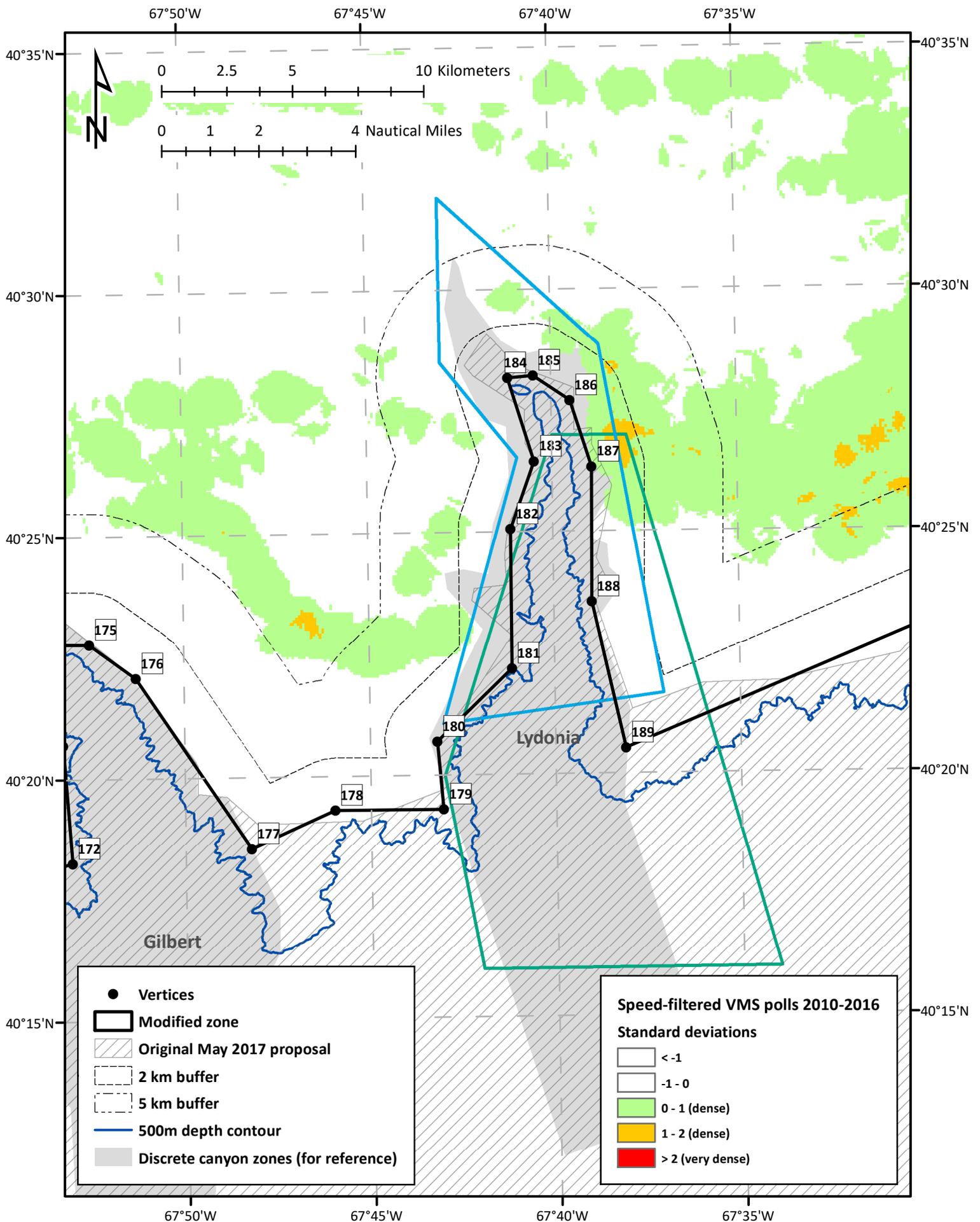


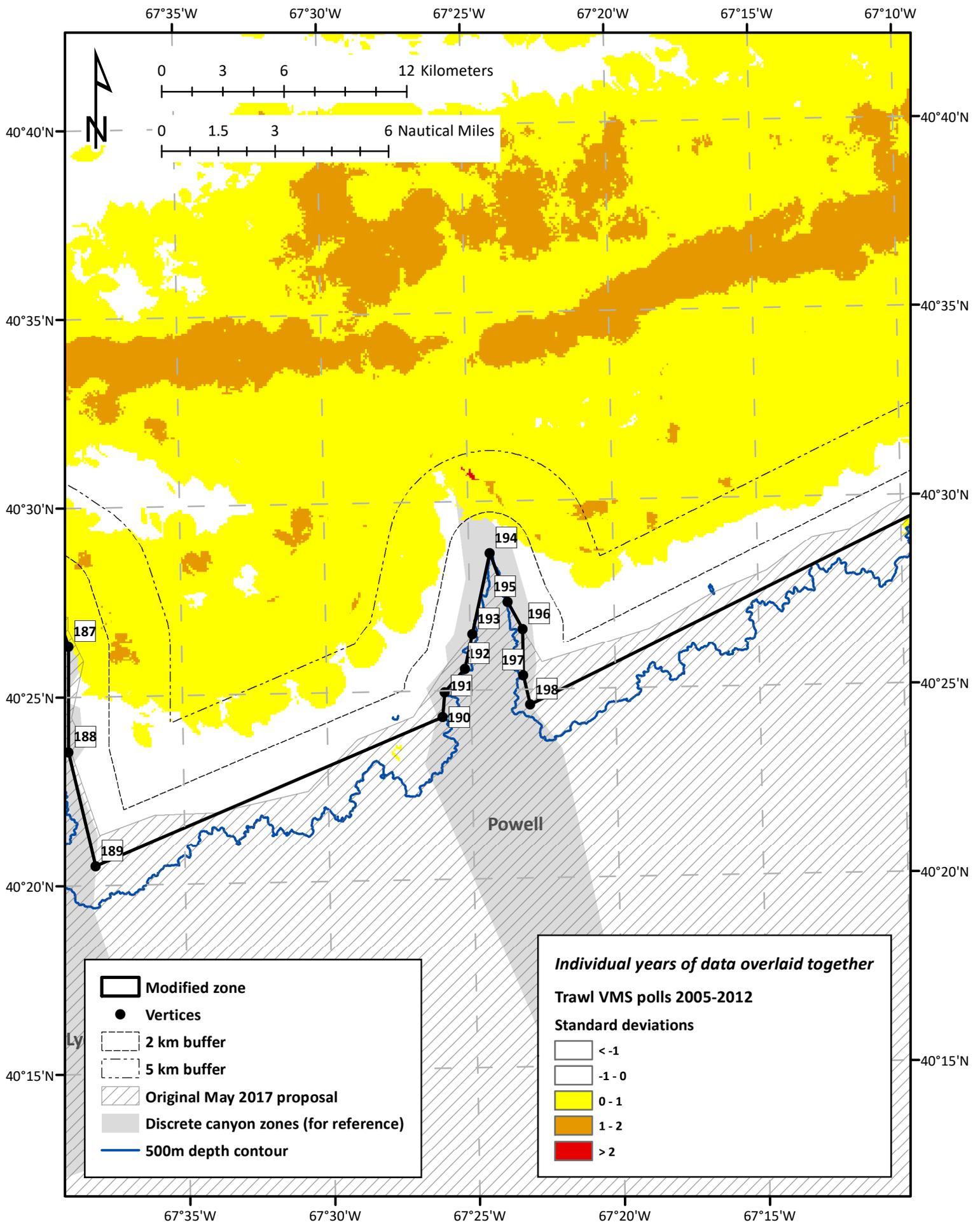


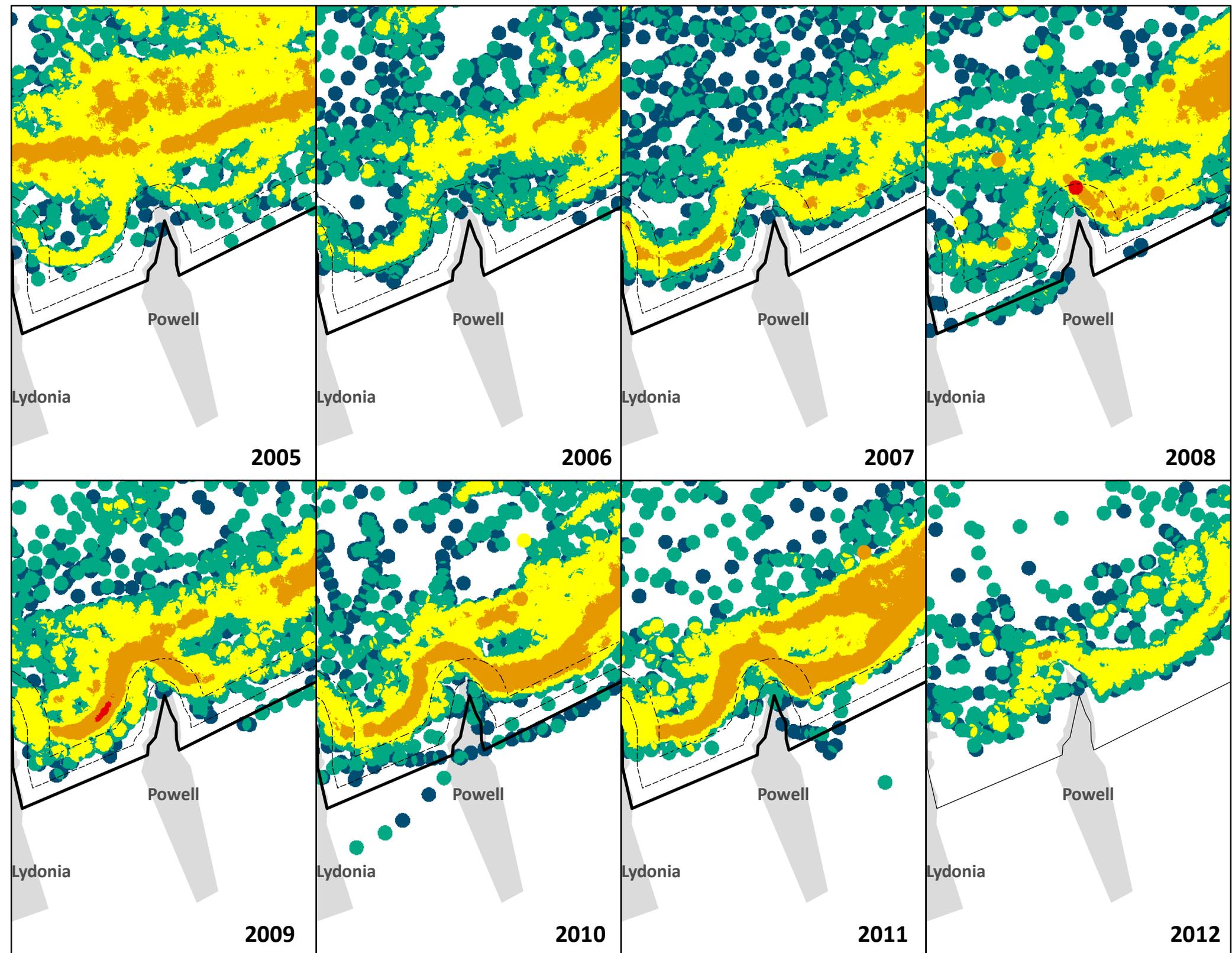


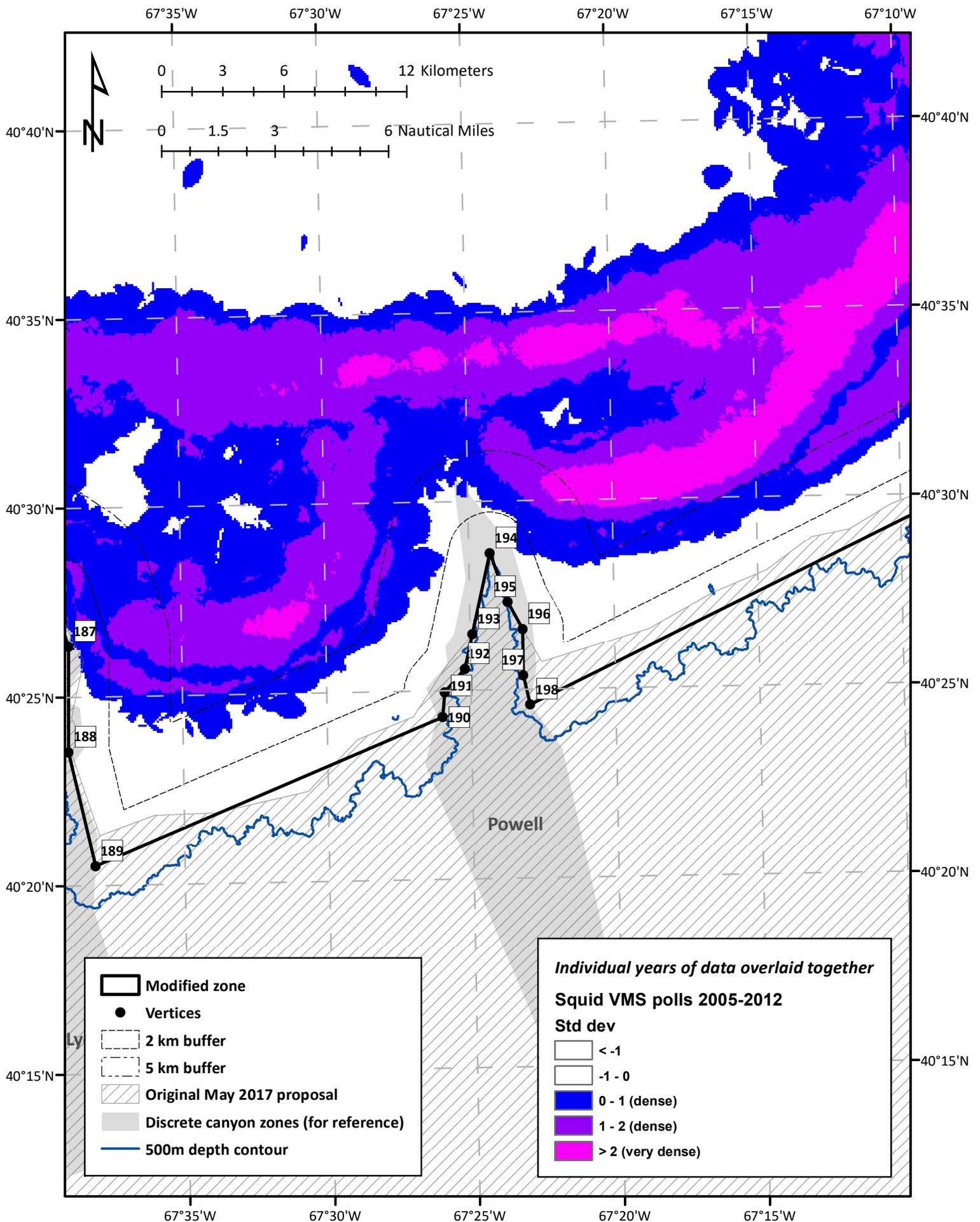


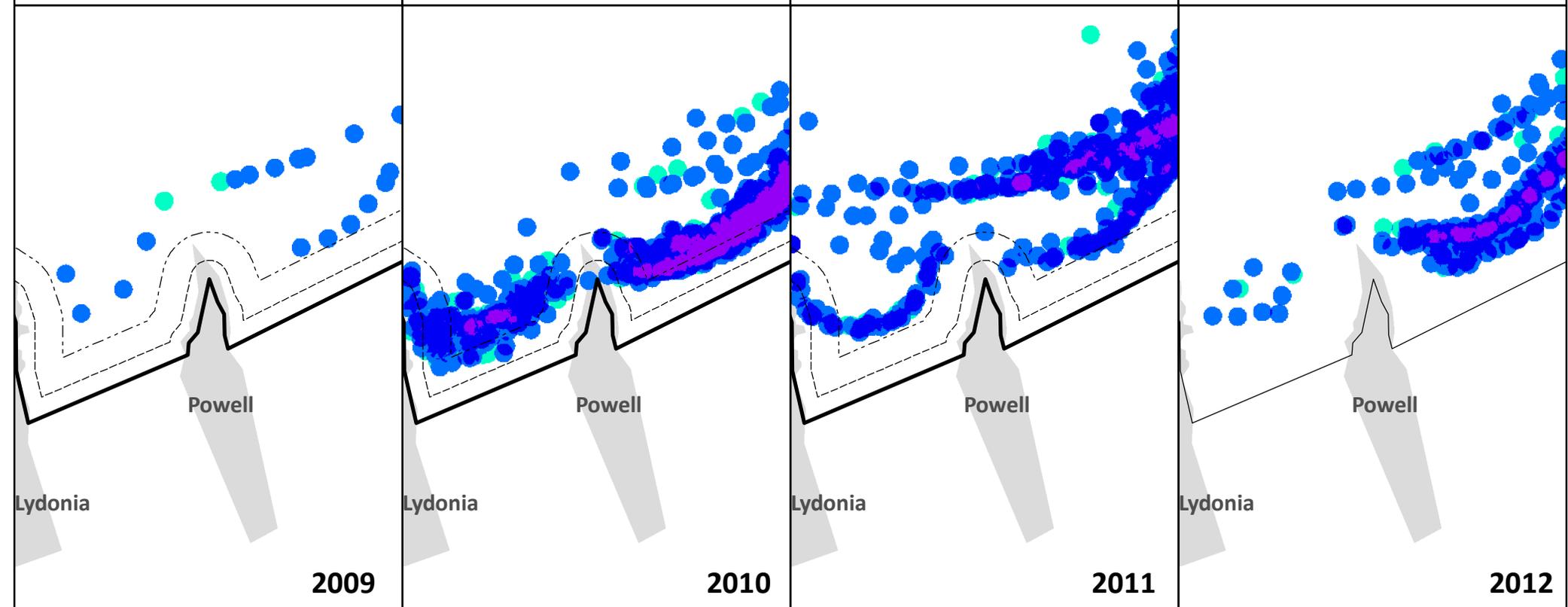
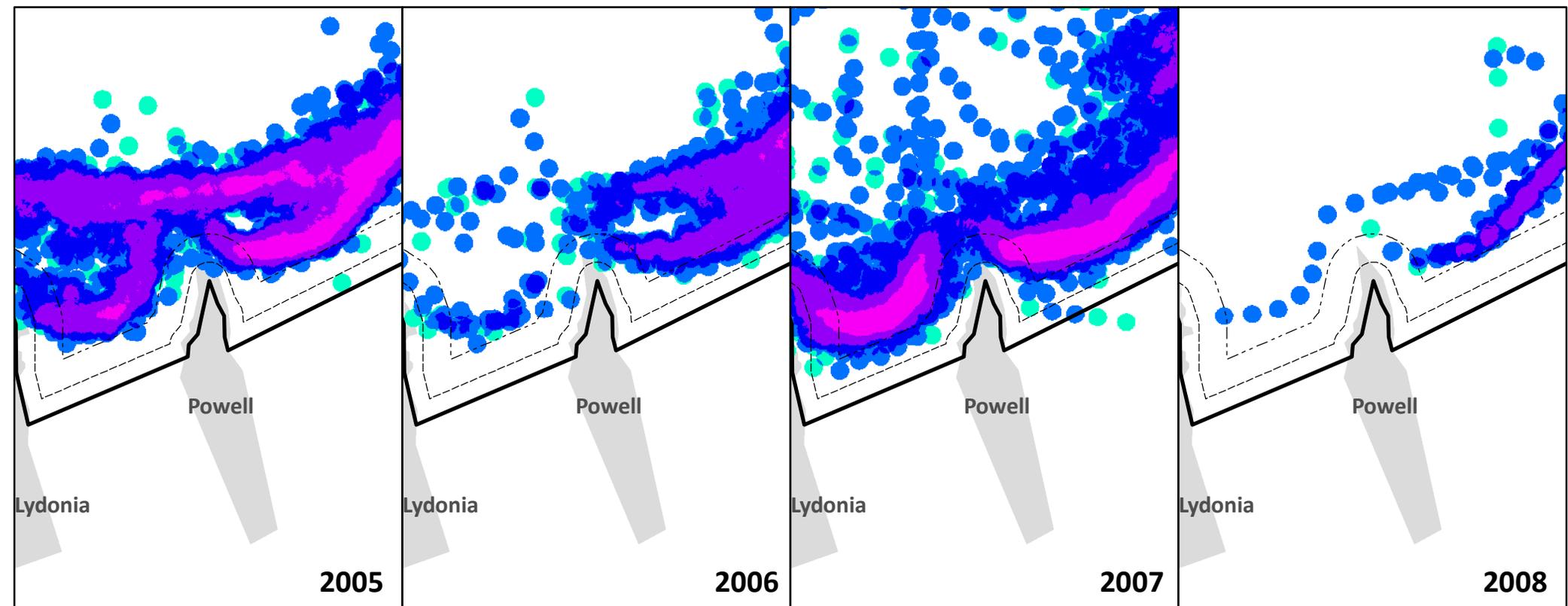


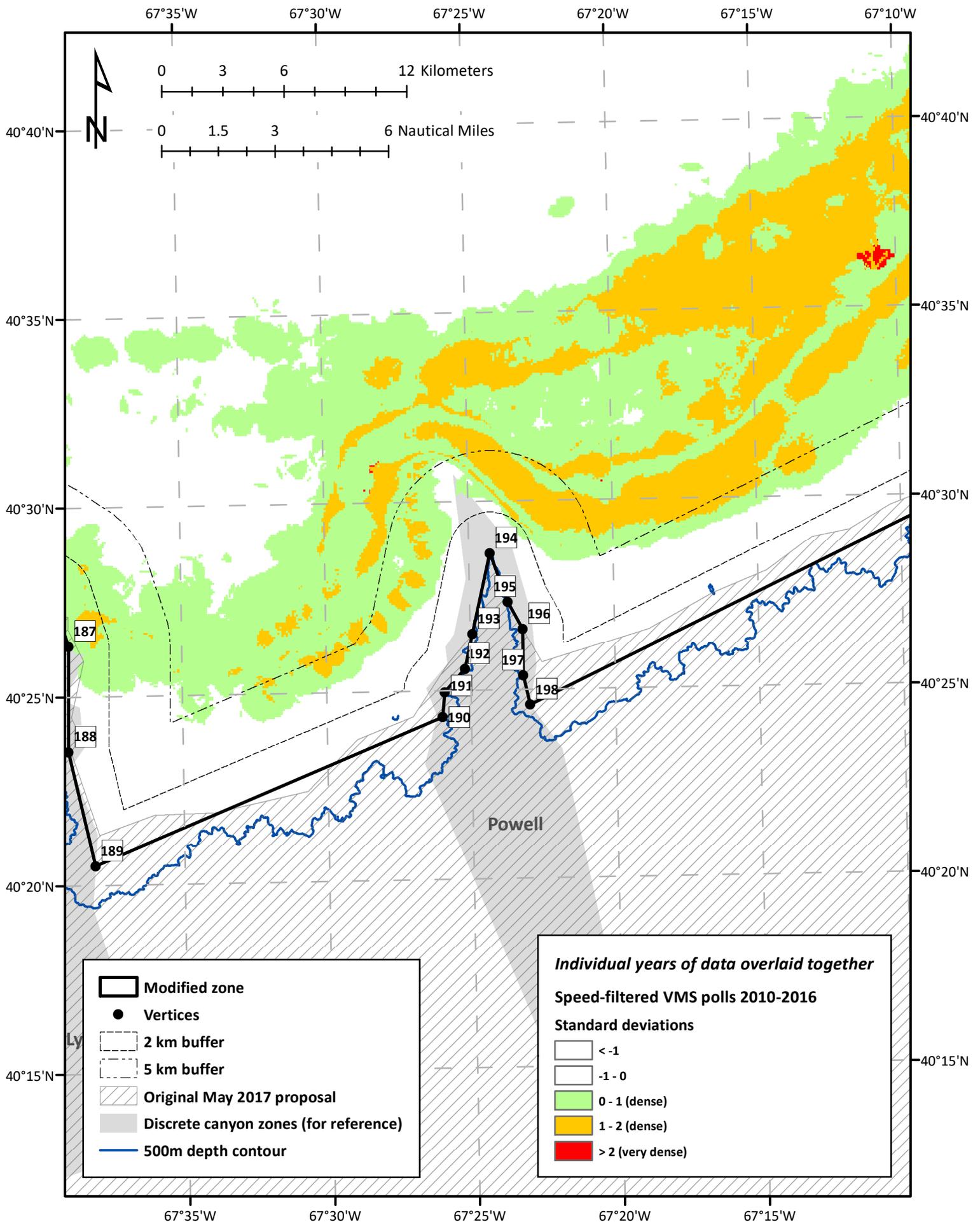


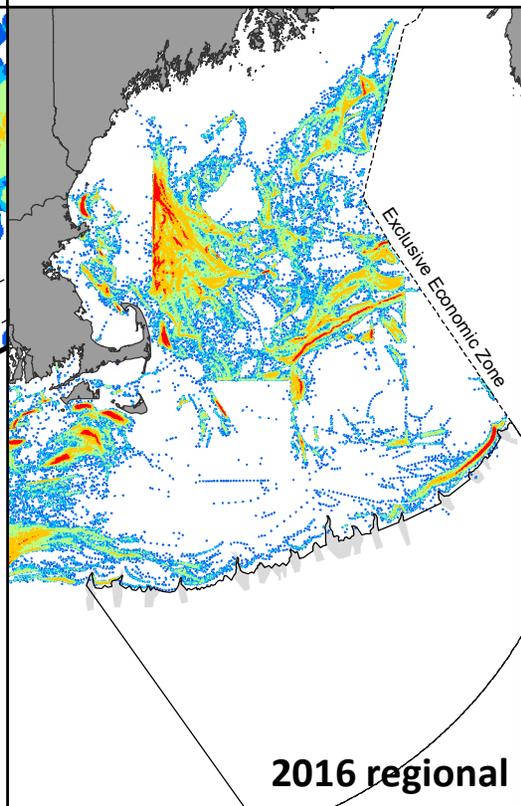
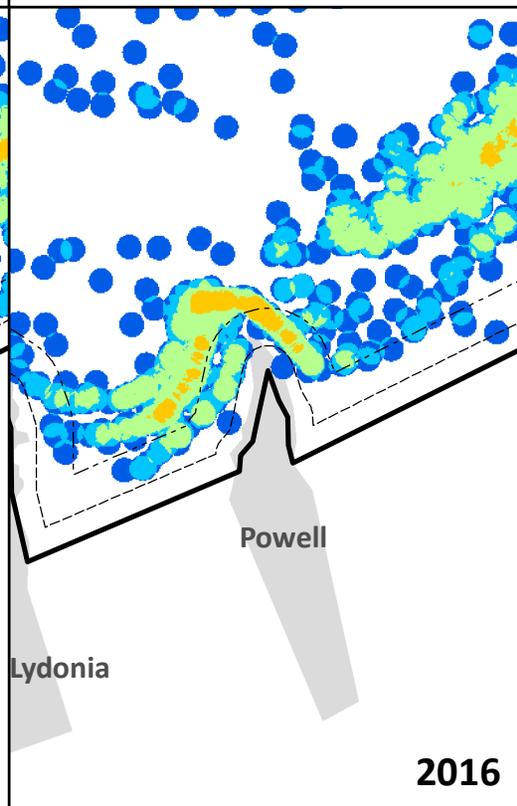
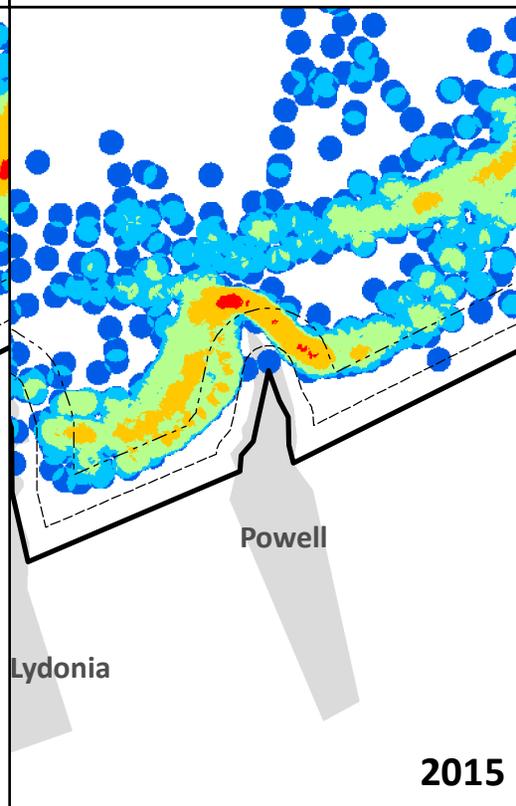
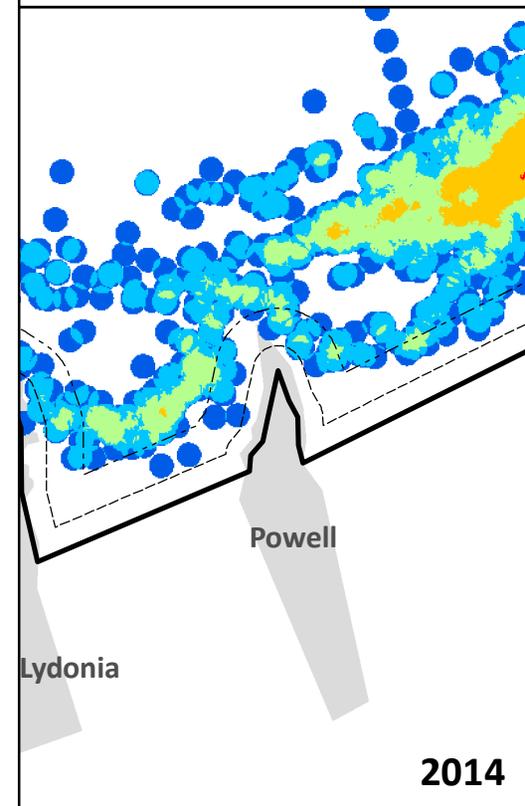
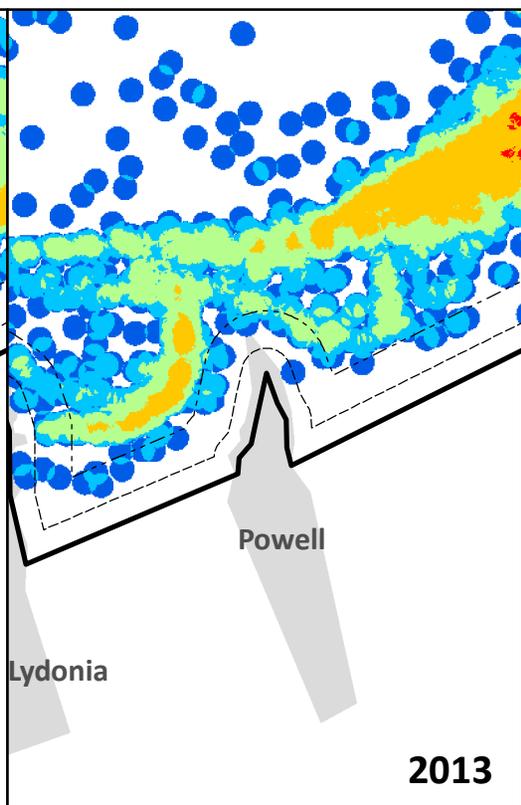
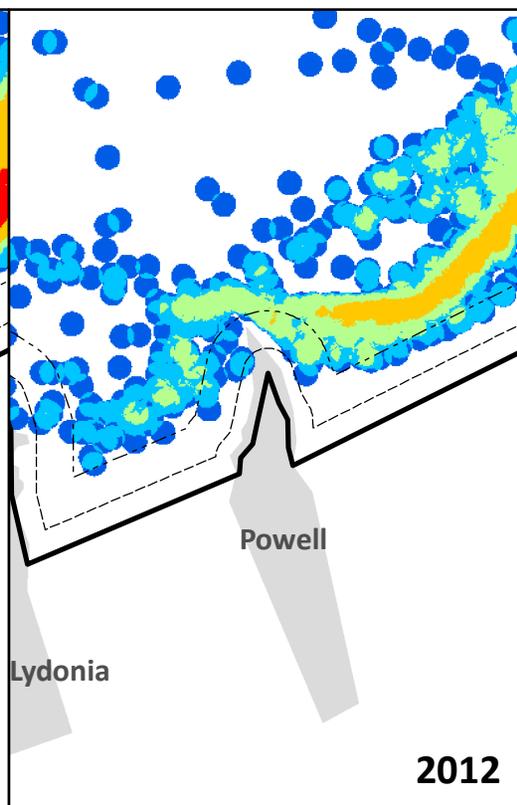
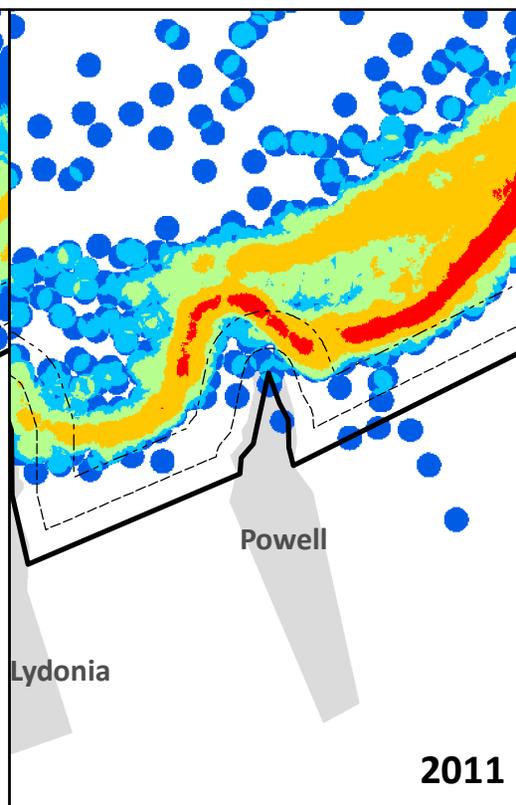
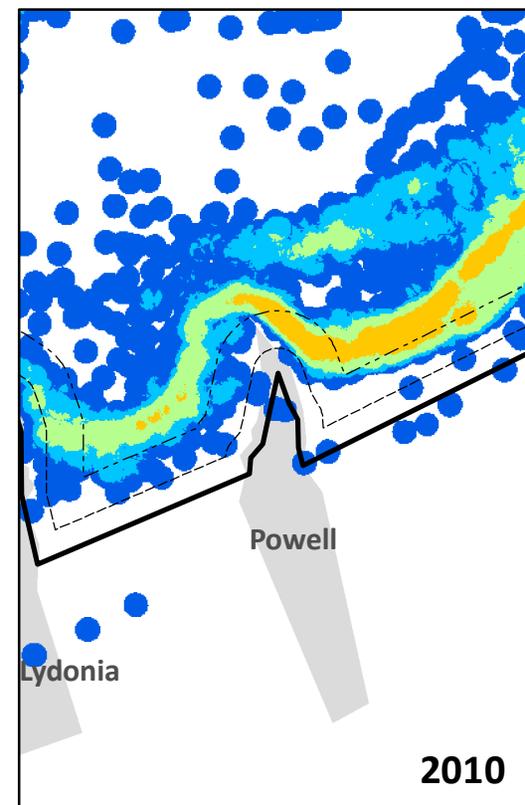


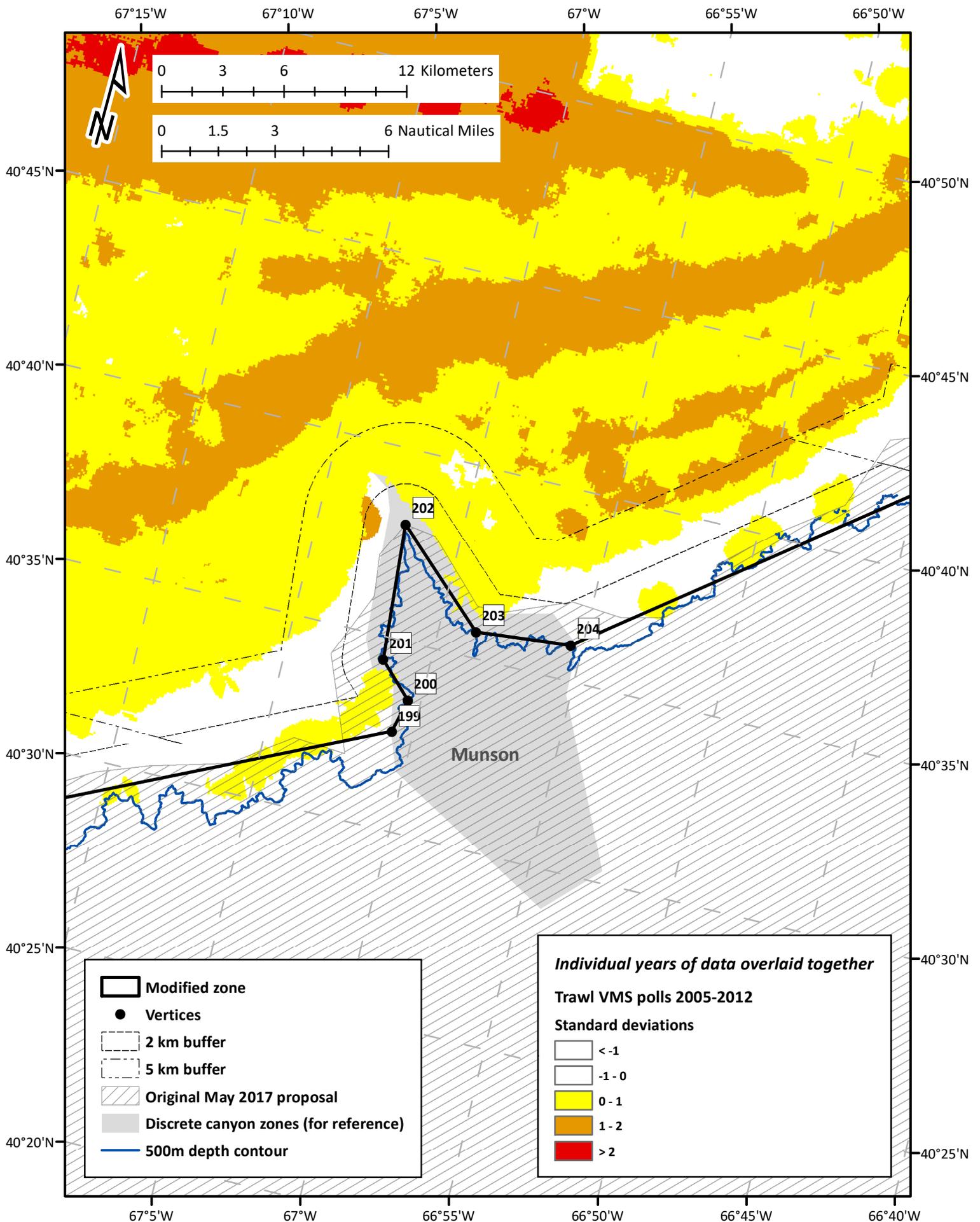


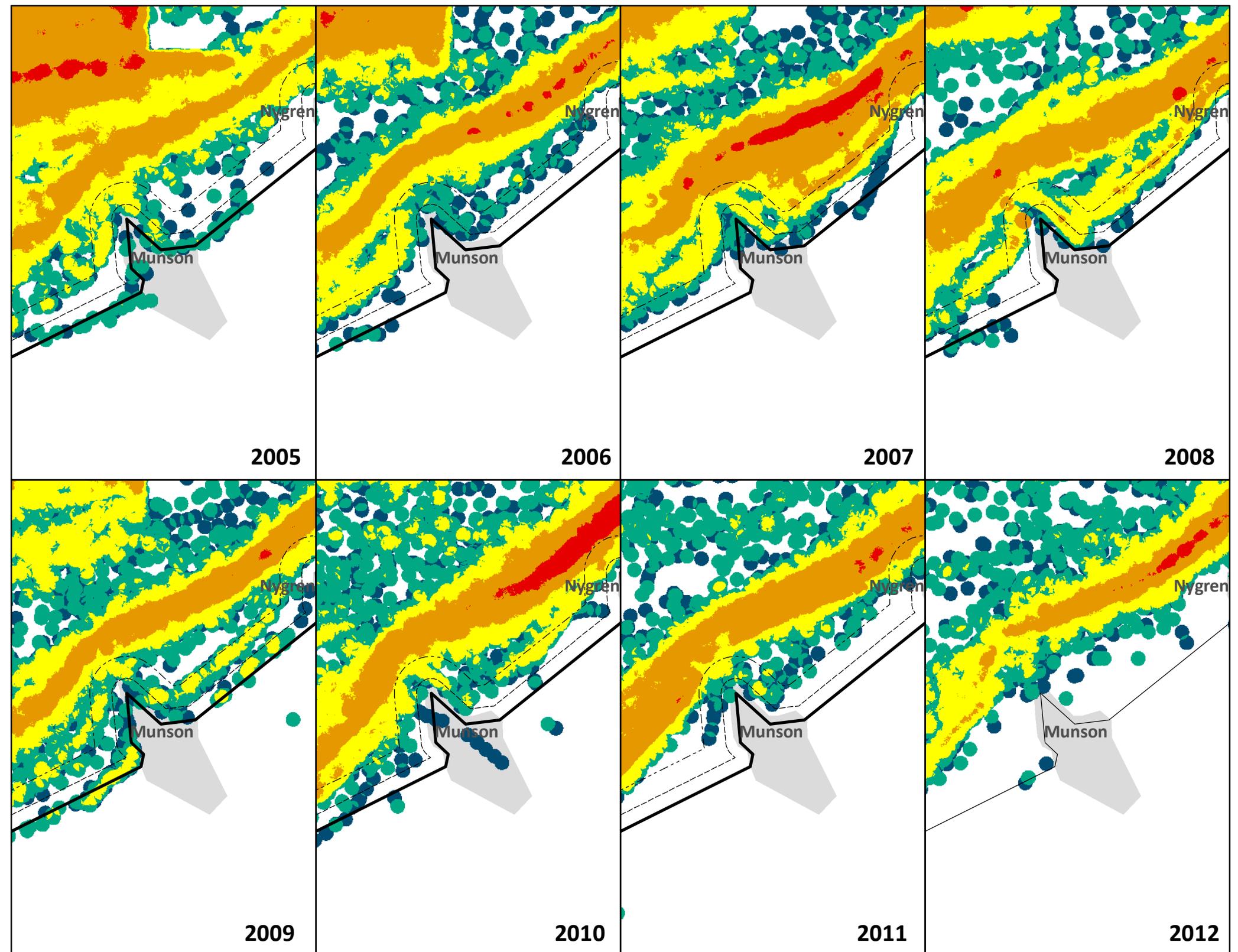


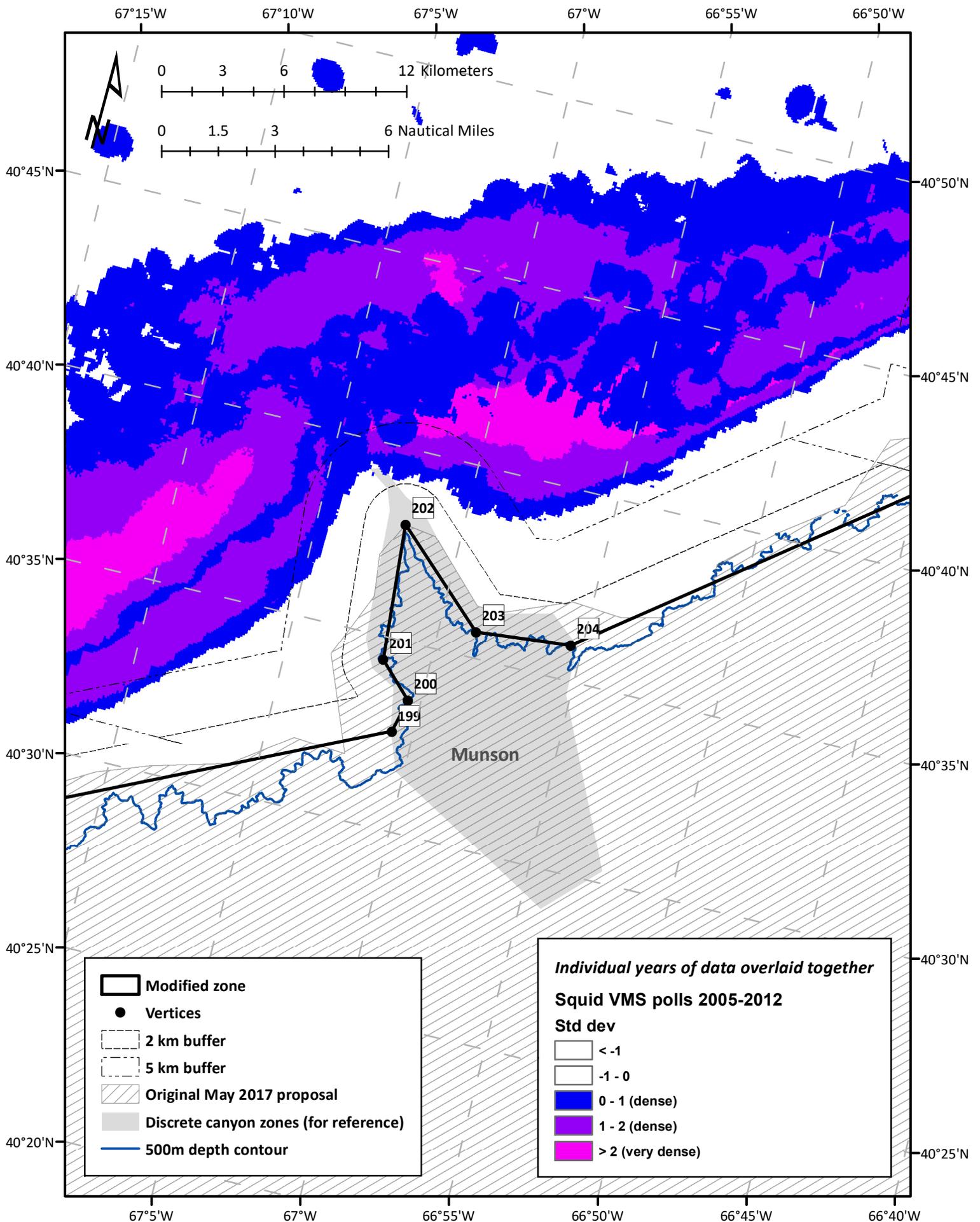


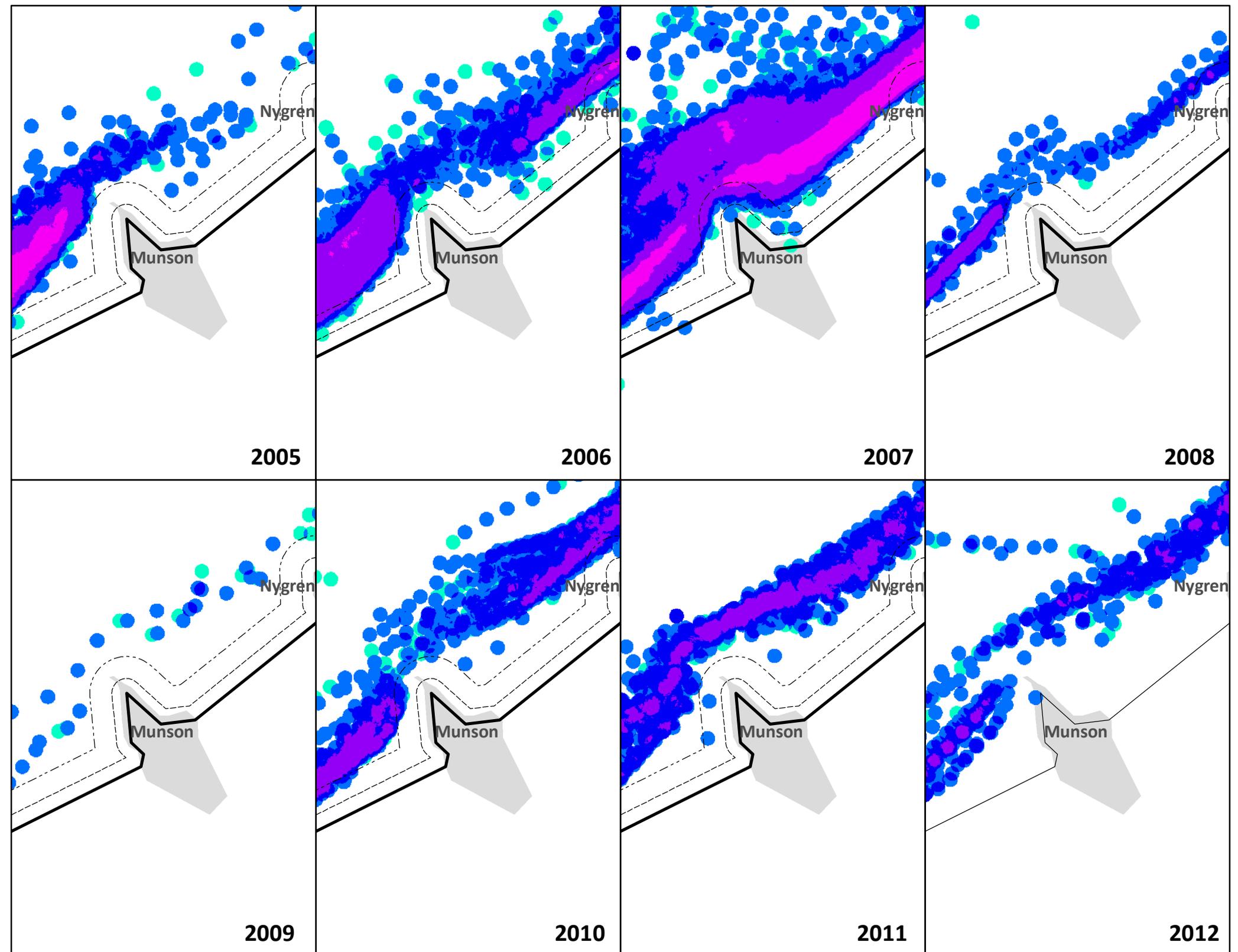


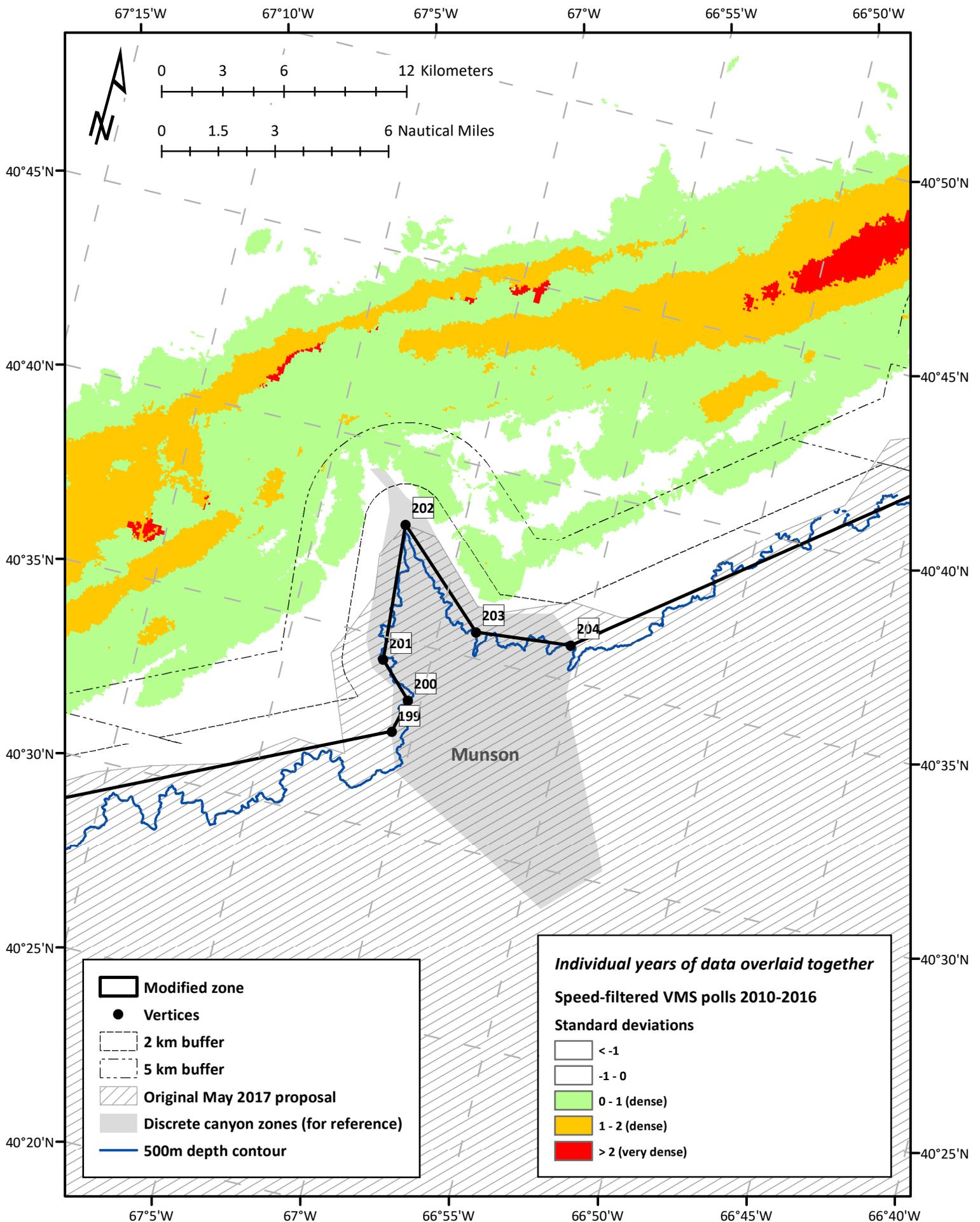


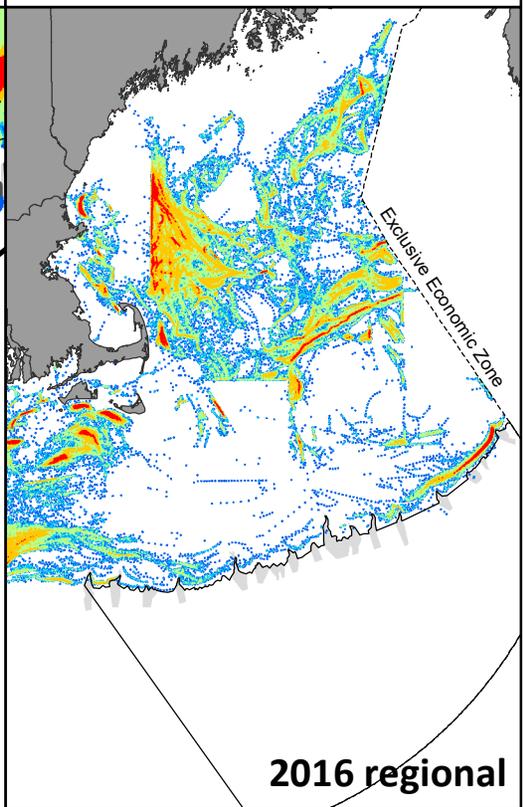
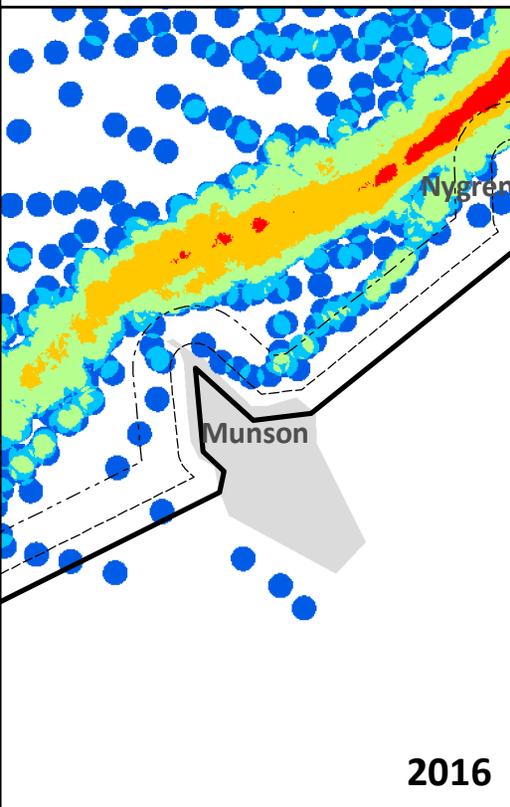
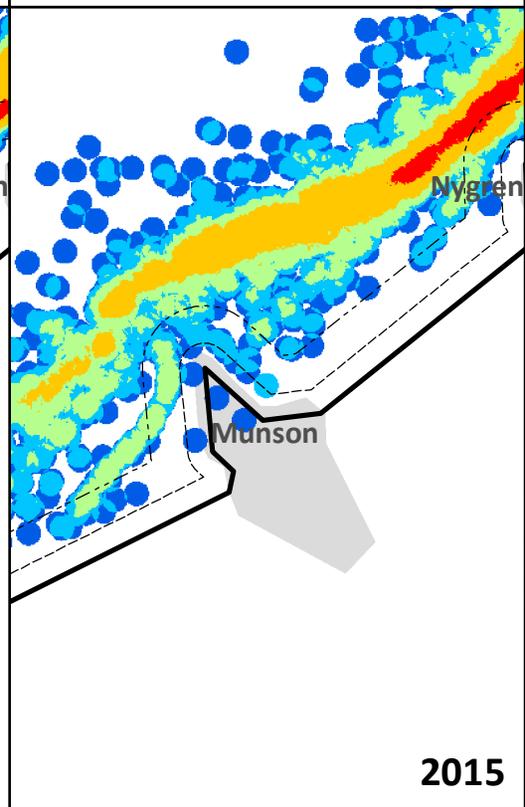
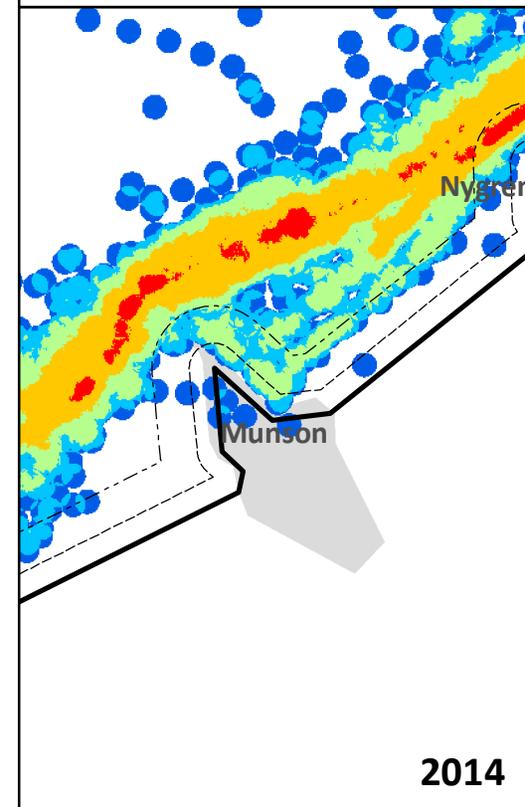
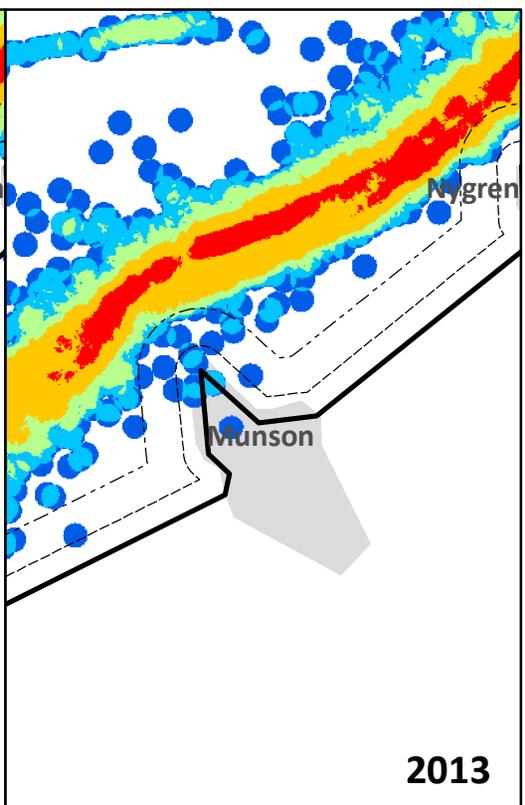
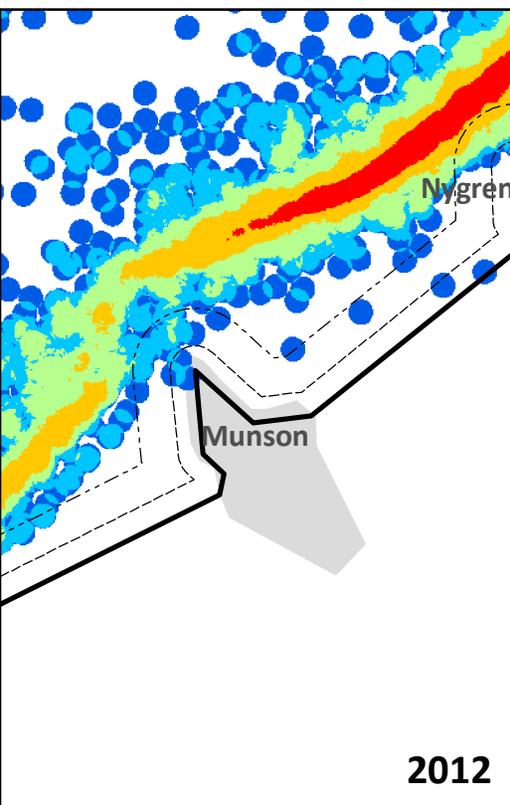
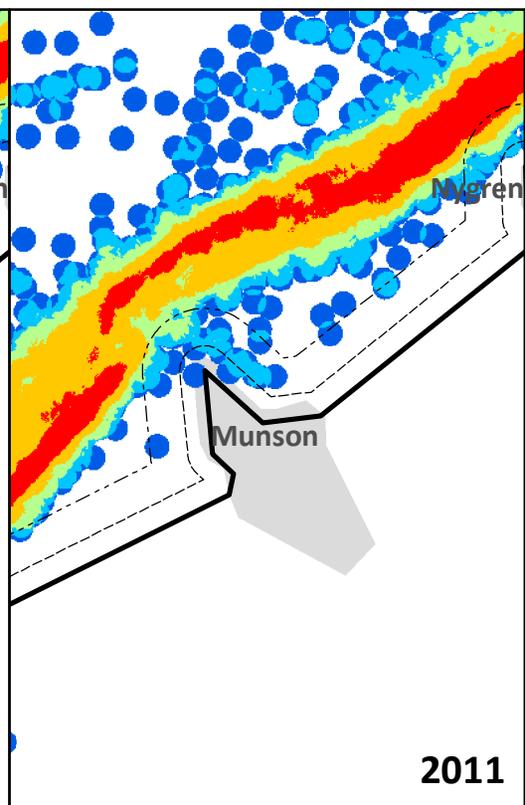
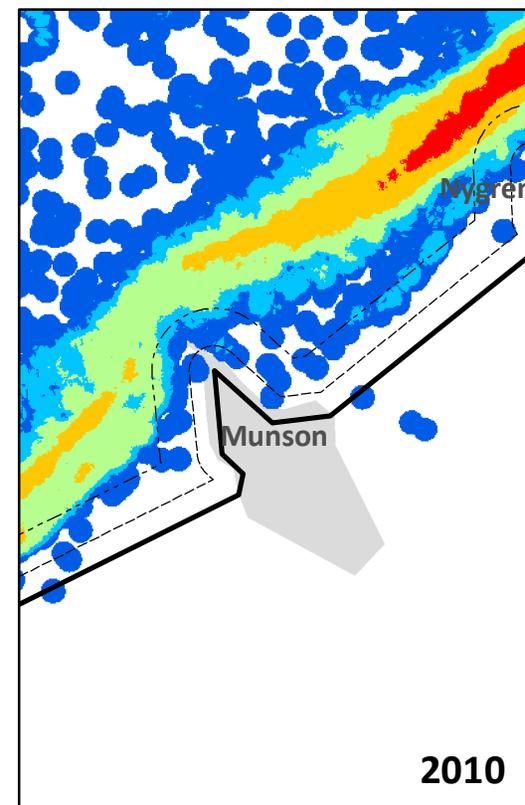


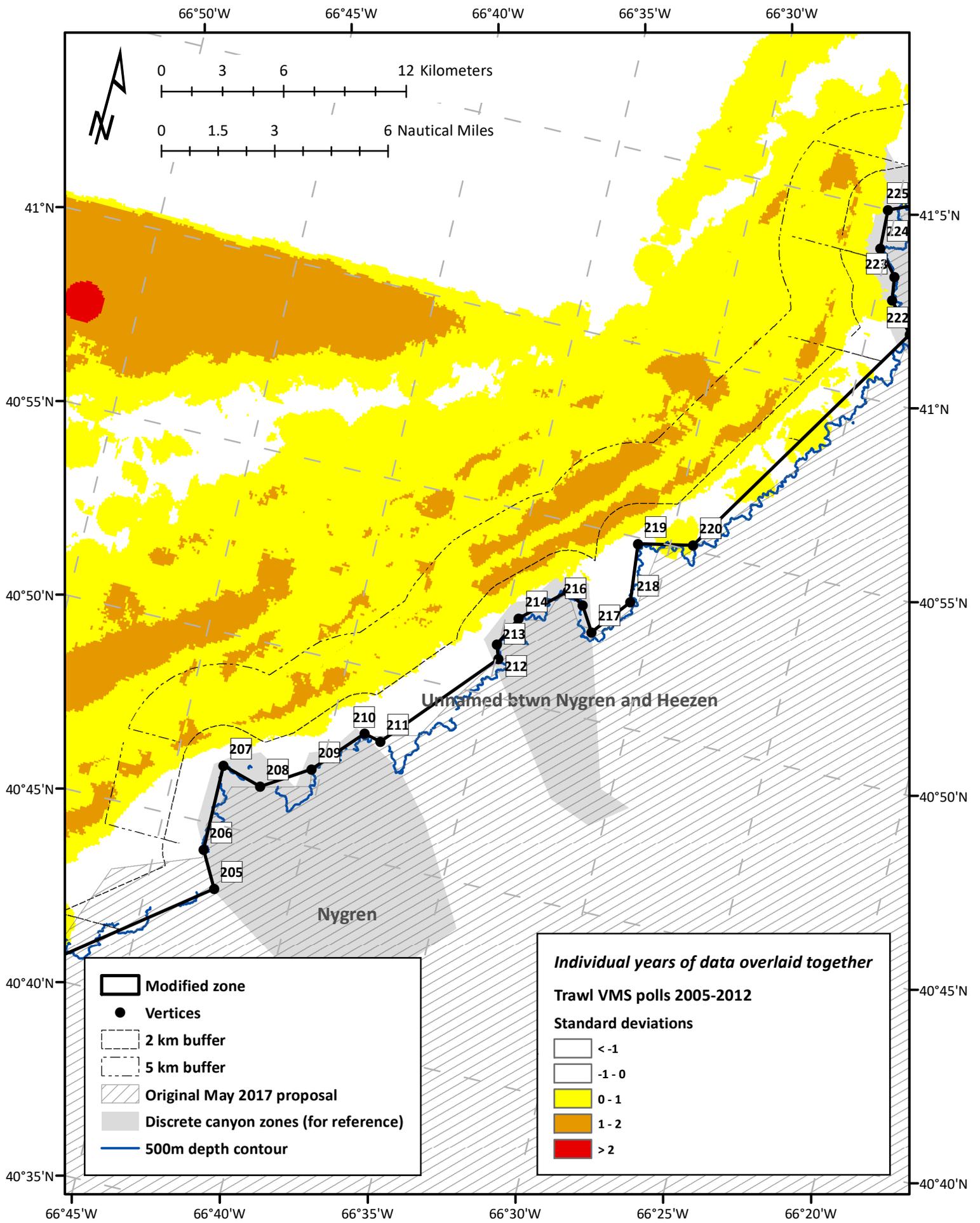


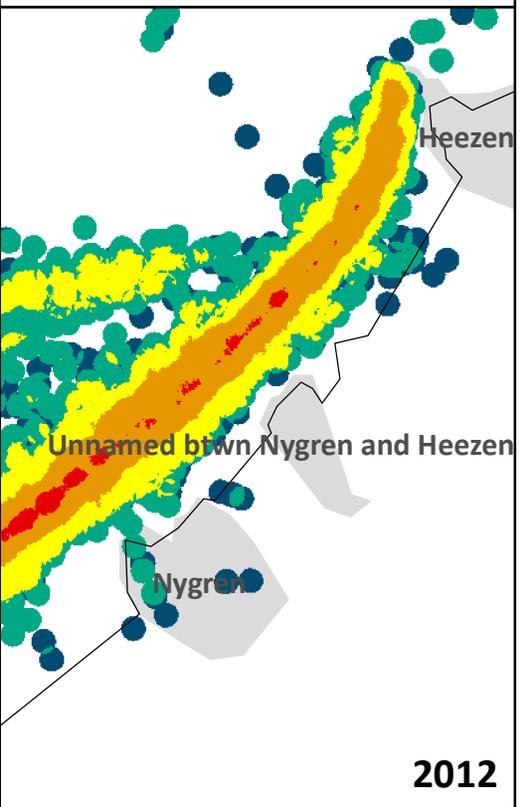
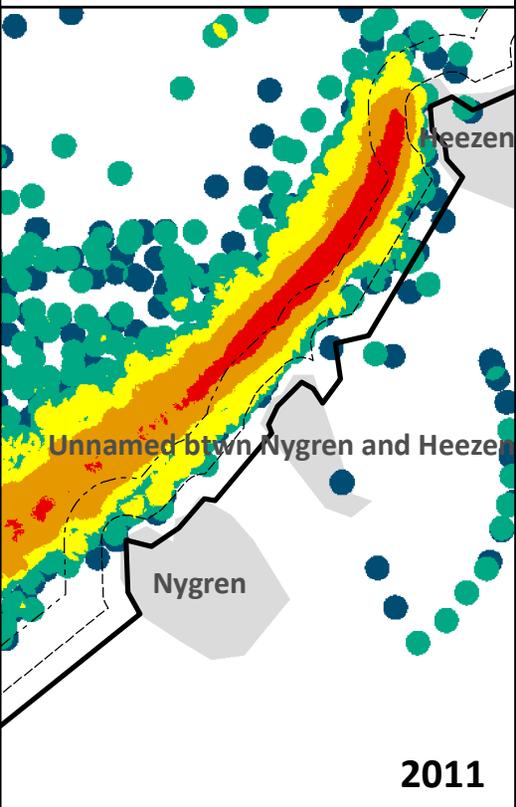
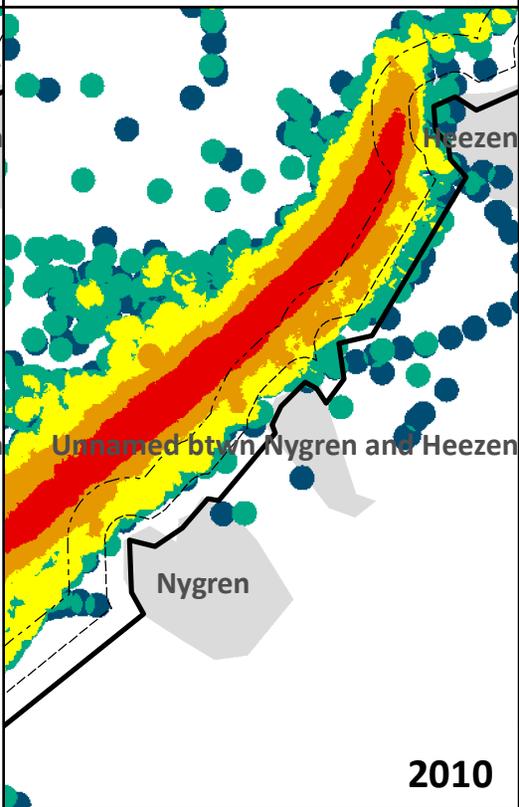
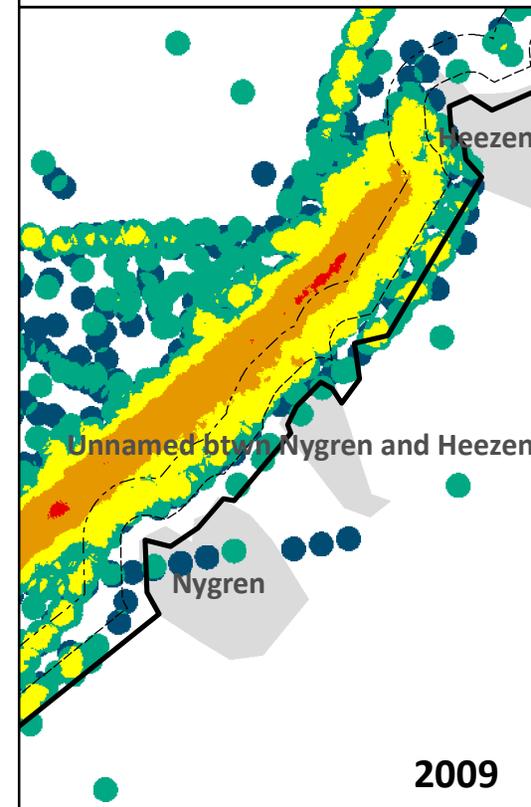
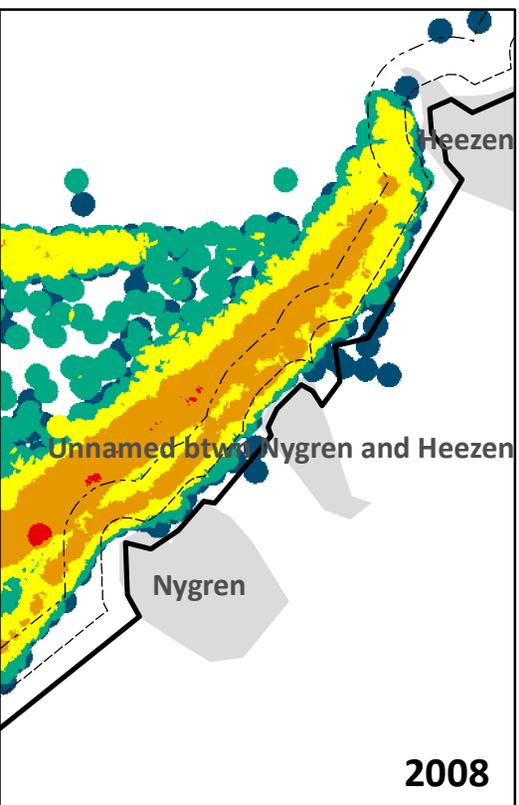
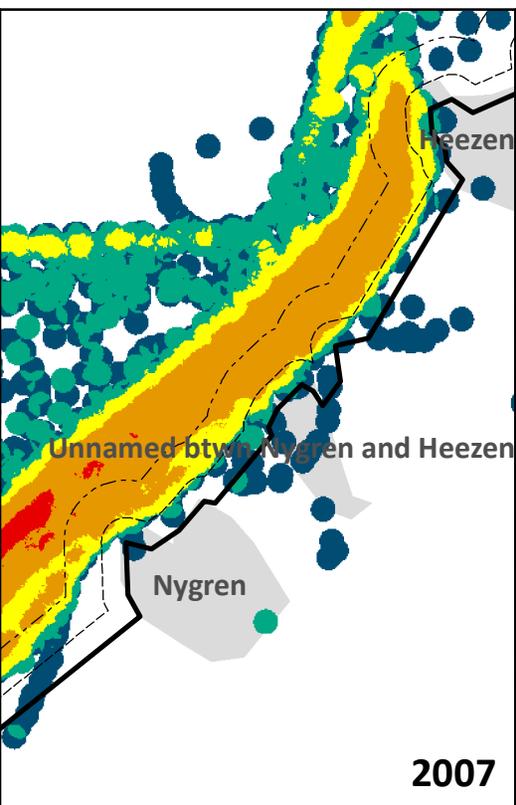
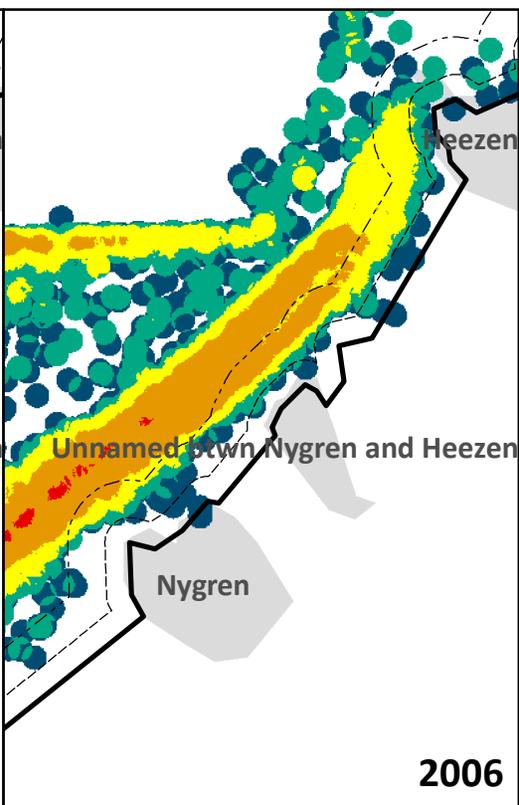
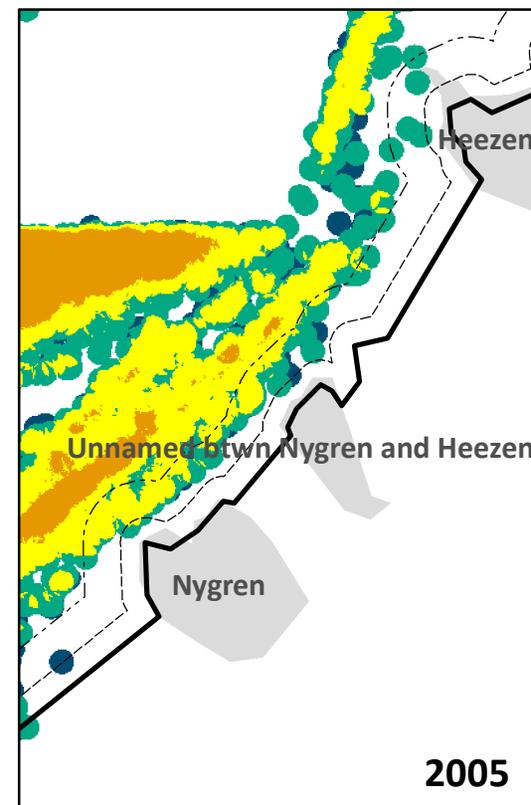


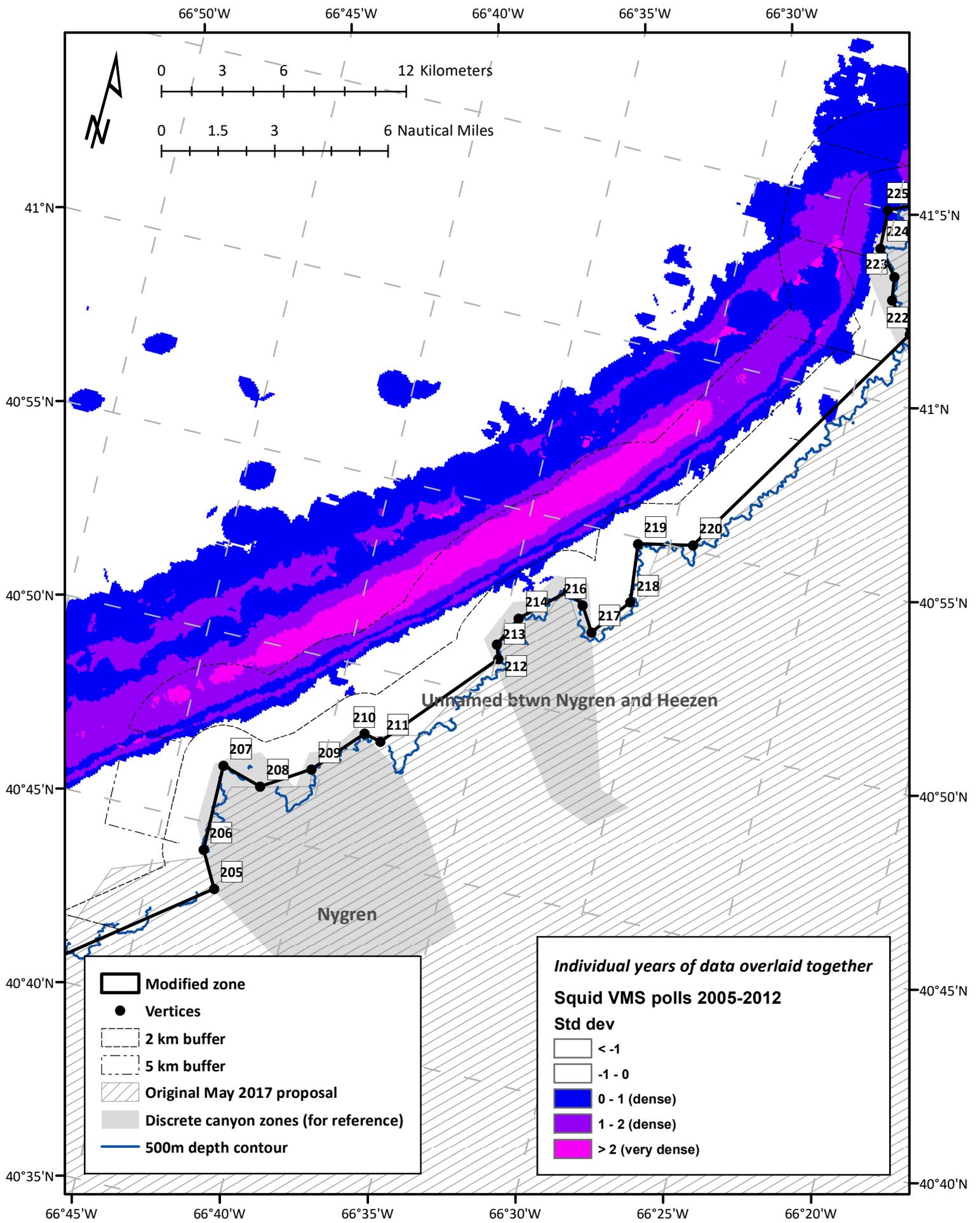












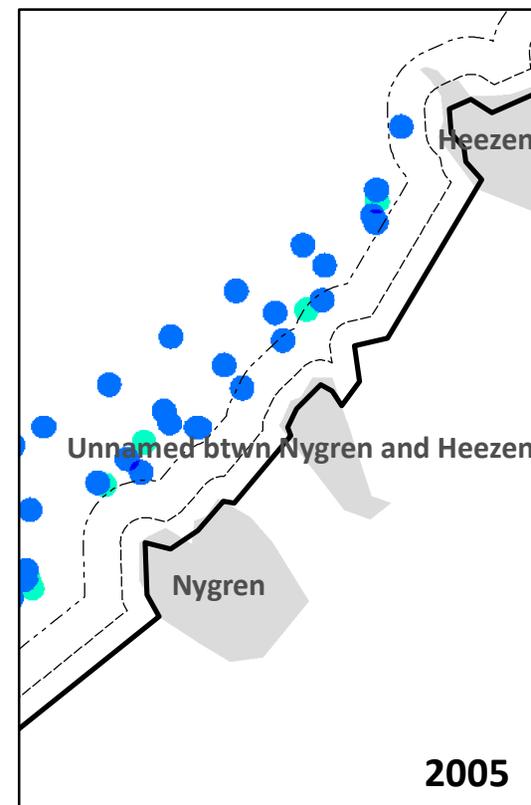
	Modified zone
	Vertices
	2 km buffer
	5 km buffer
	Original May 2017 proposal
	Discrete canyon zones (for reference)
	500m depth contour

Individual years of data overlaid together

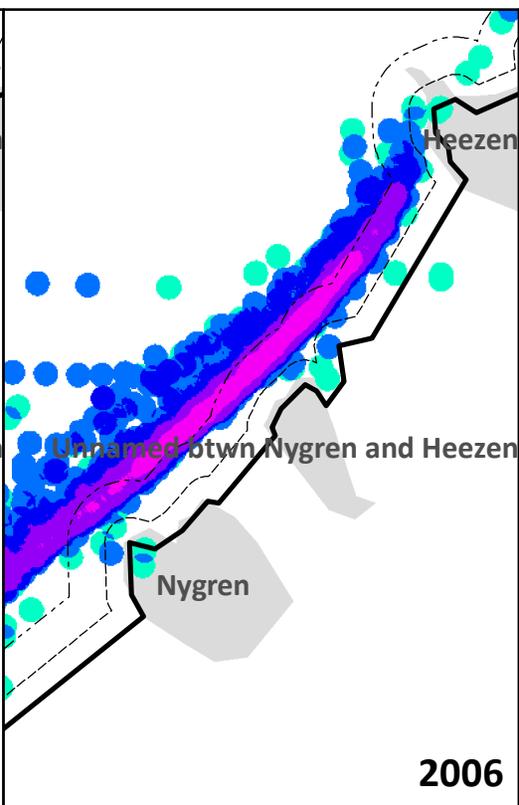
Squid VMS polls 2005-2012

Std dev

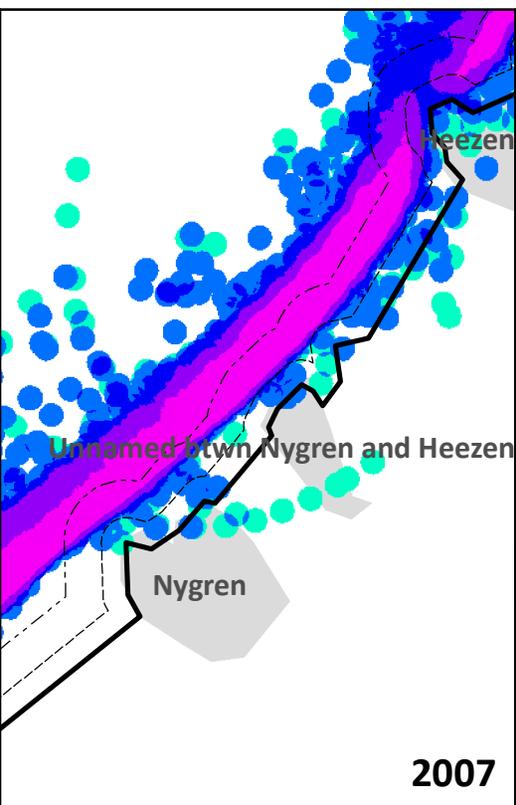
	<math>< -1</math>
	$-1 - 0$
	0 - 1 (dense)
	1 - 2 (dense)
	> 2 (very dense)



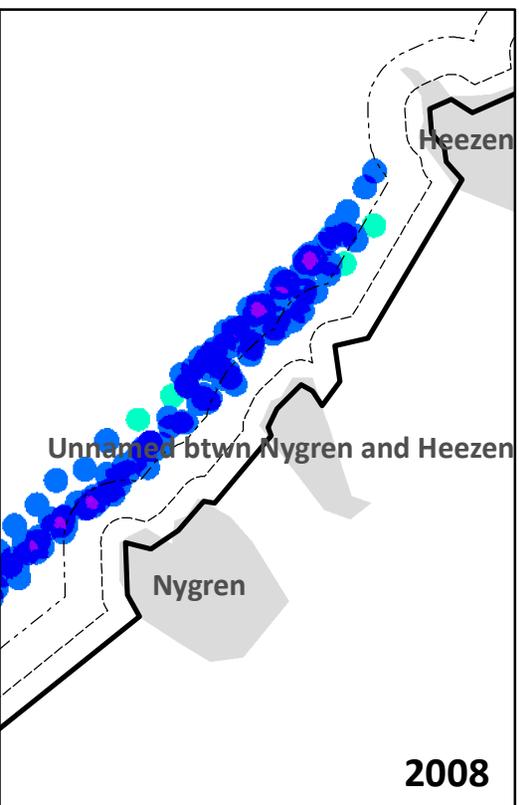
2005



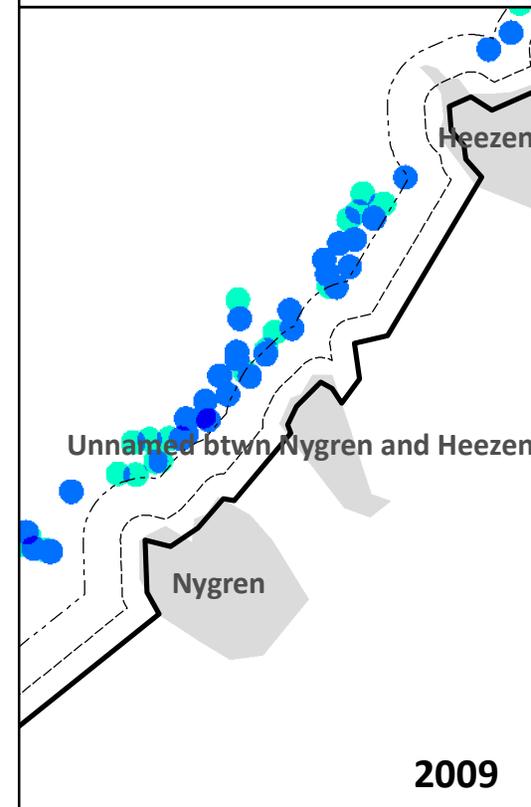
2006



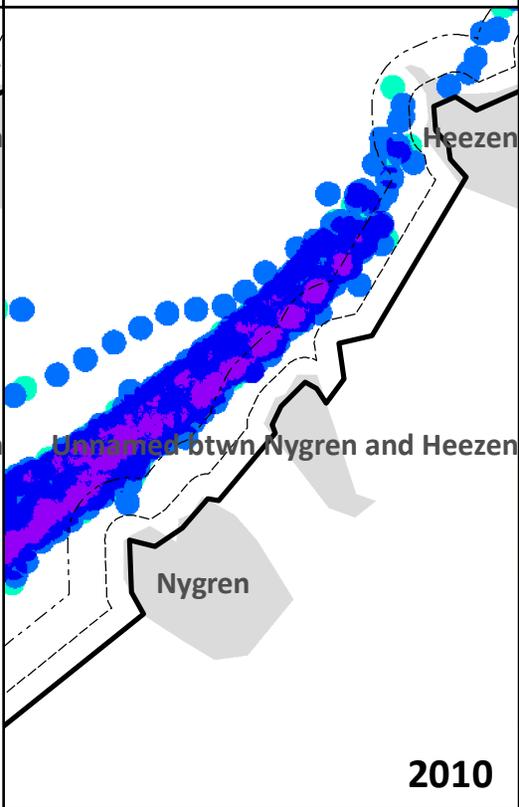
2007



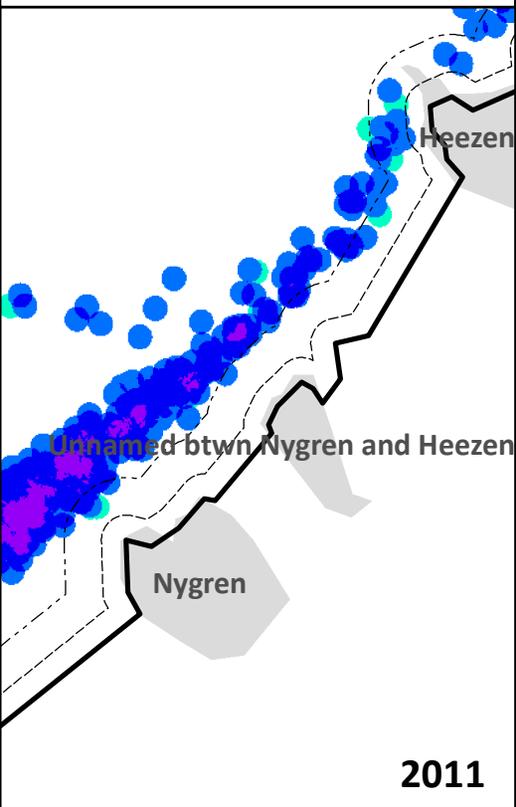
2008



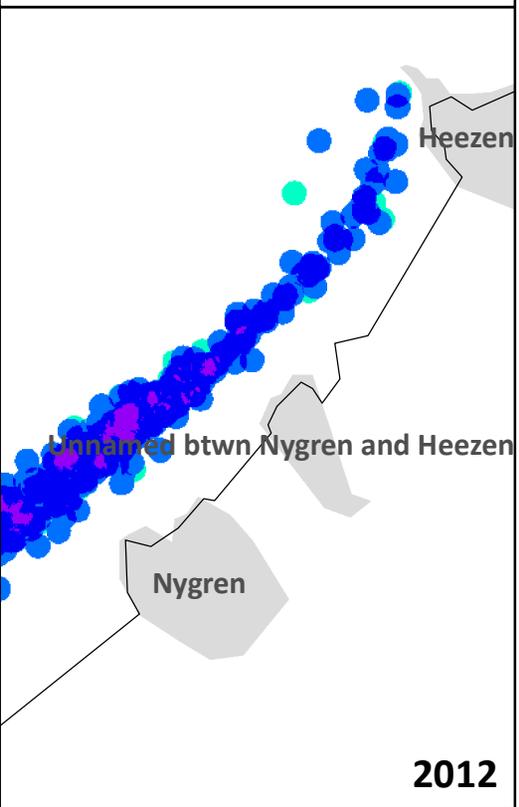
2009



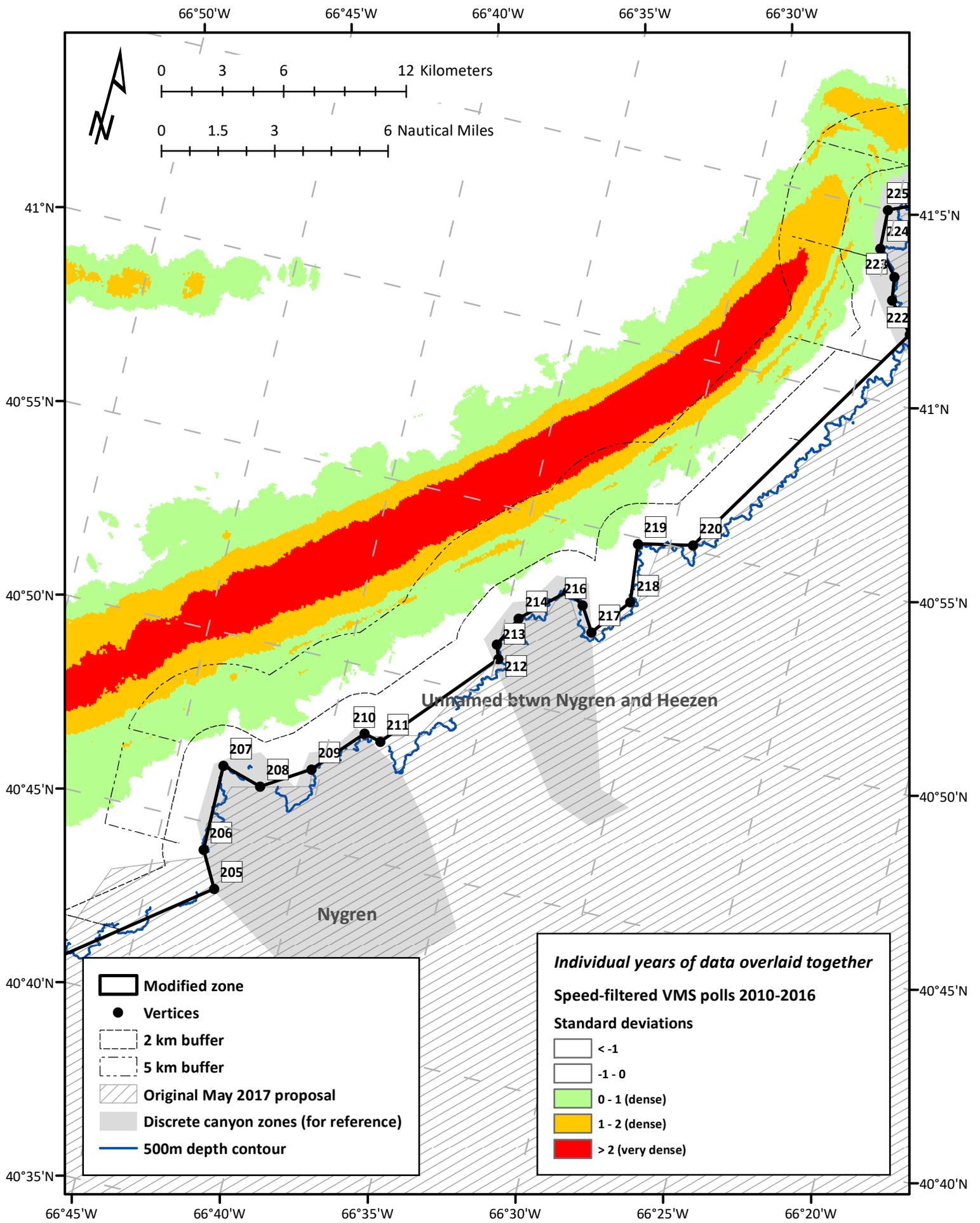
2010

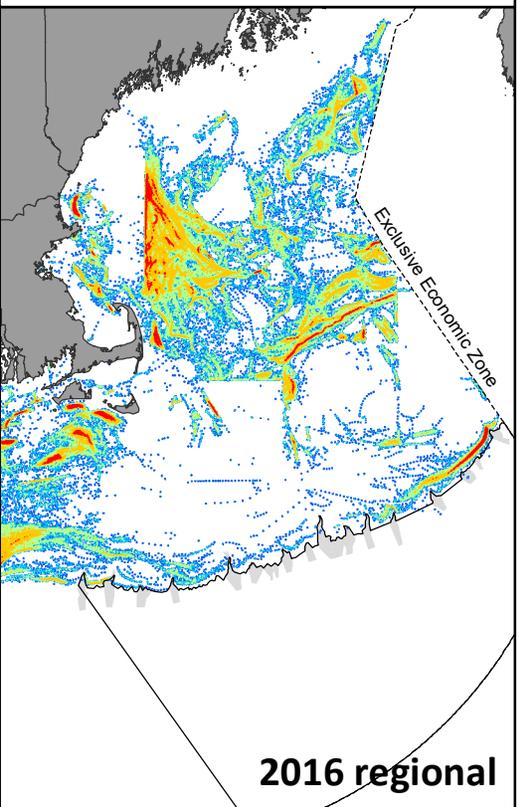
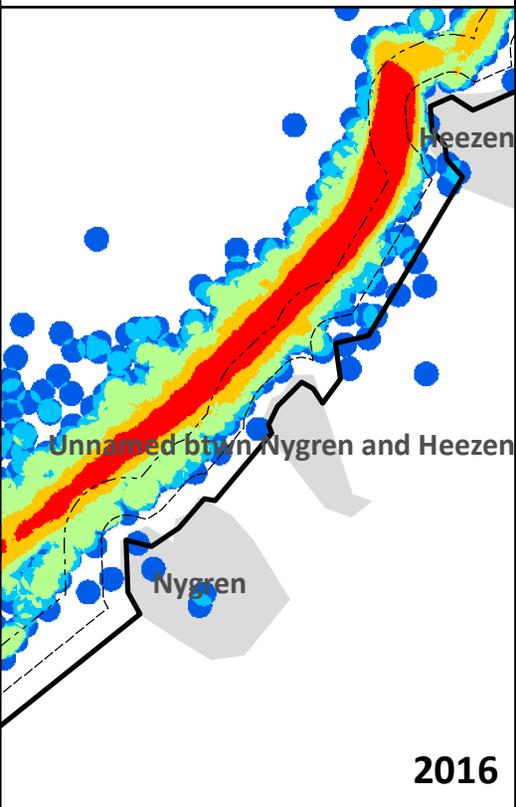
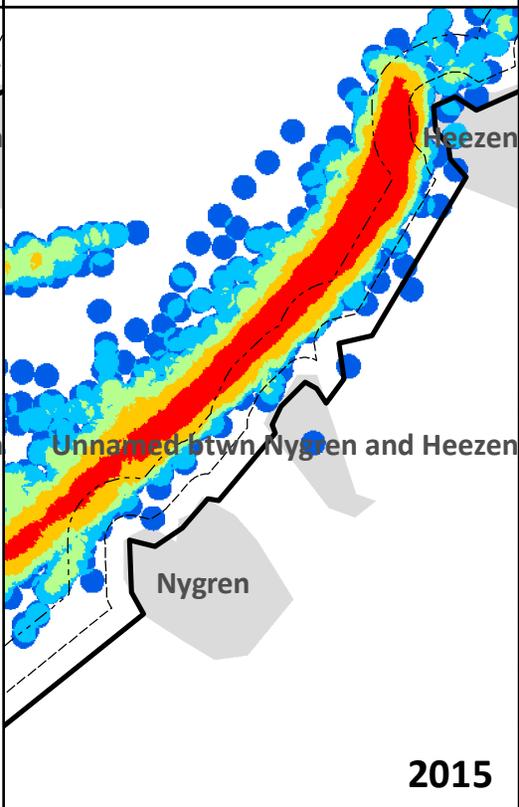
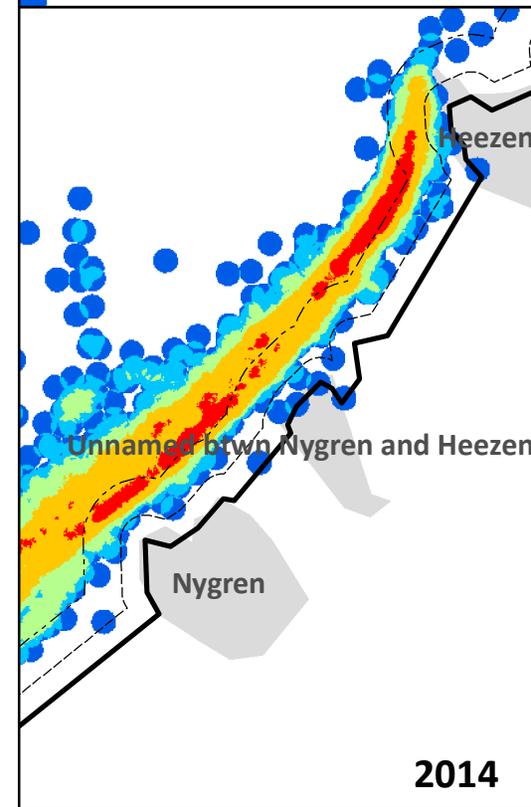
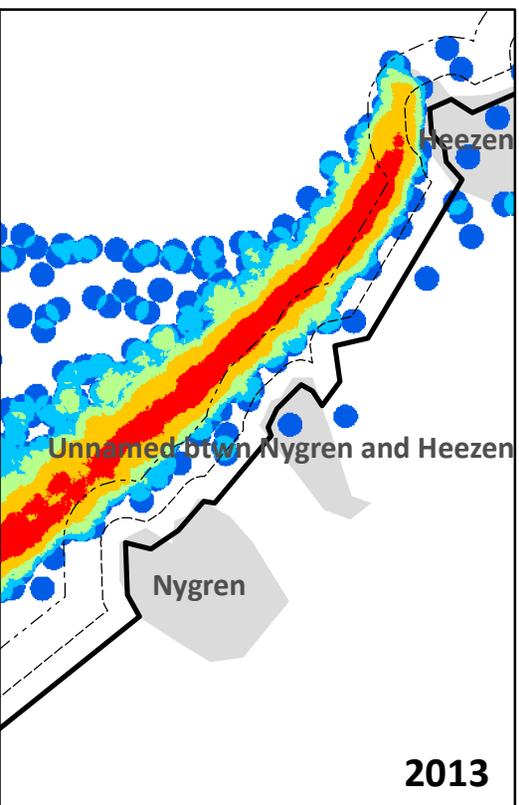
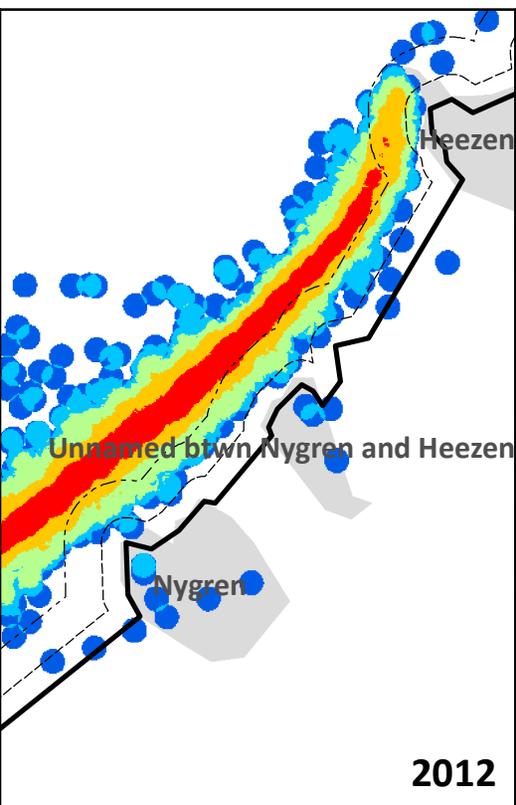
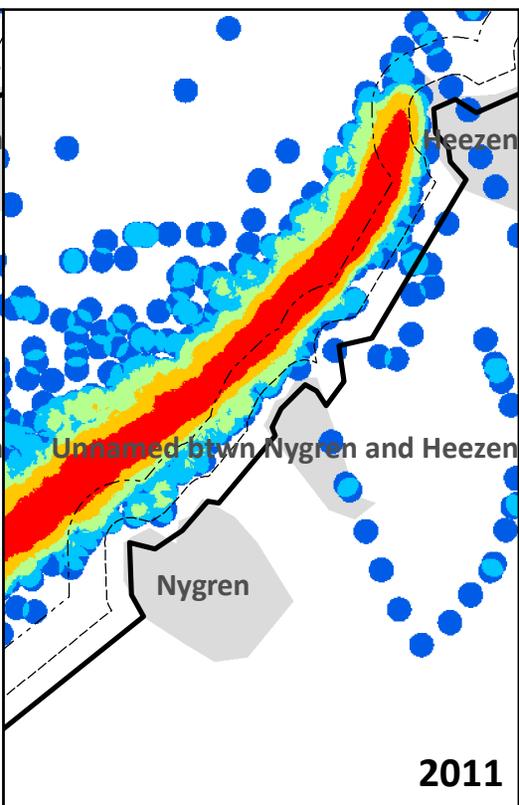
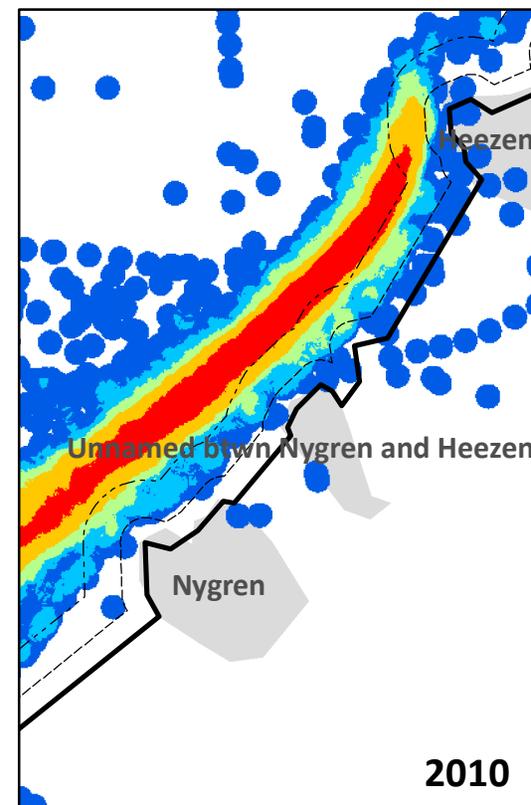


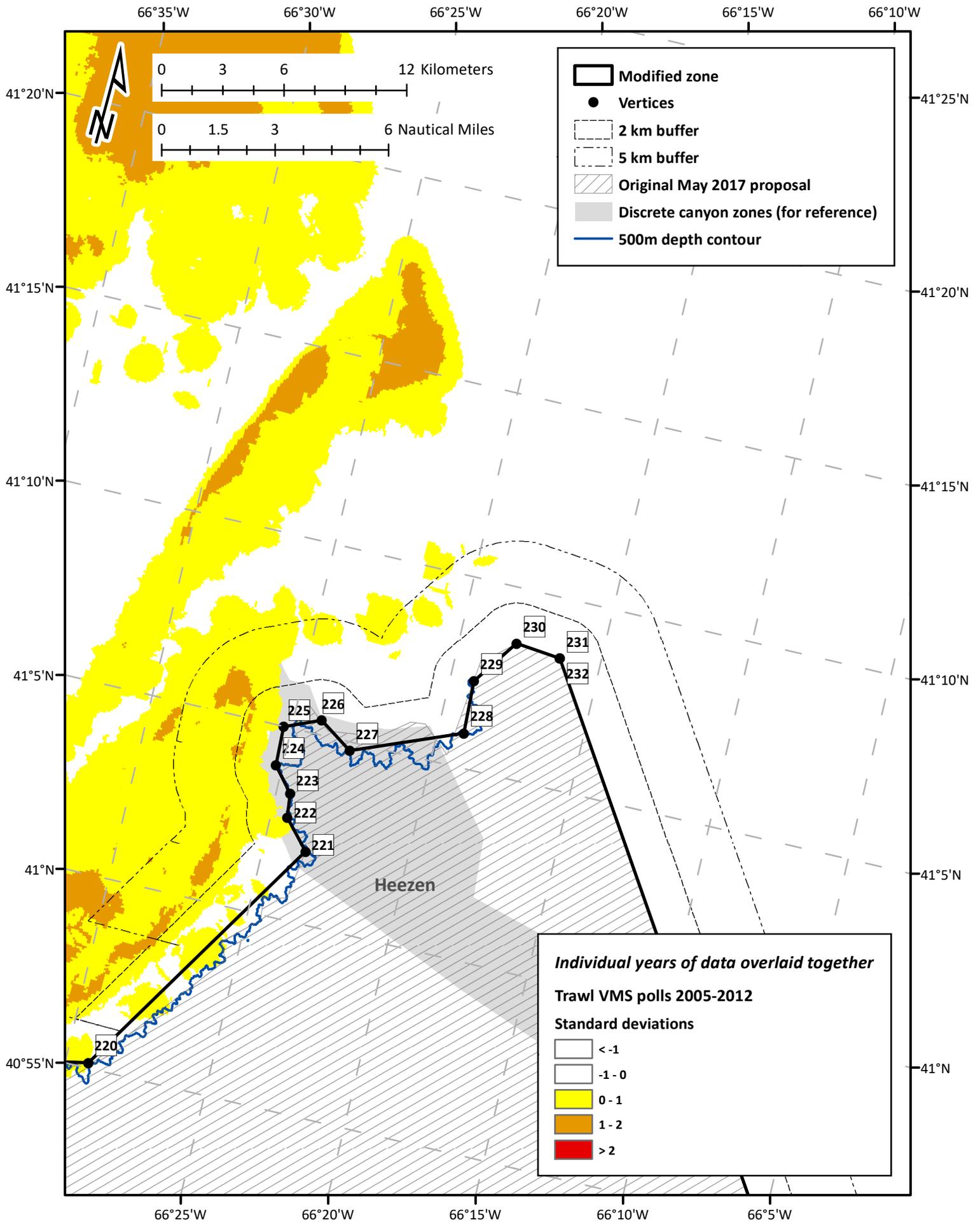
2011



2012





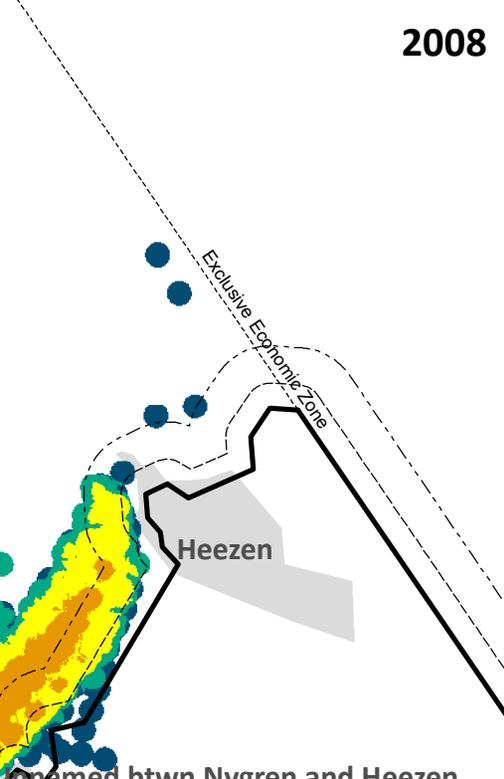
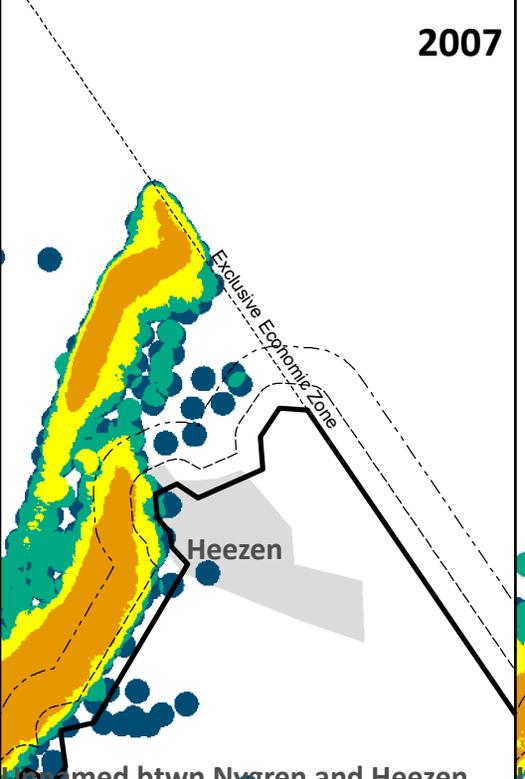
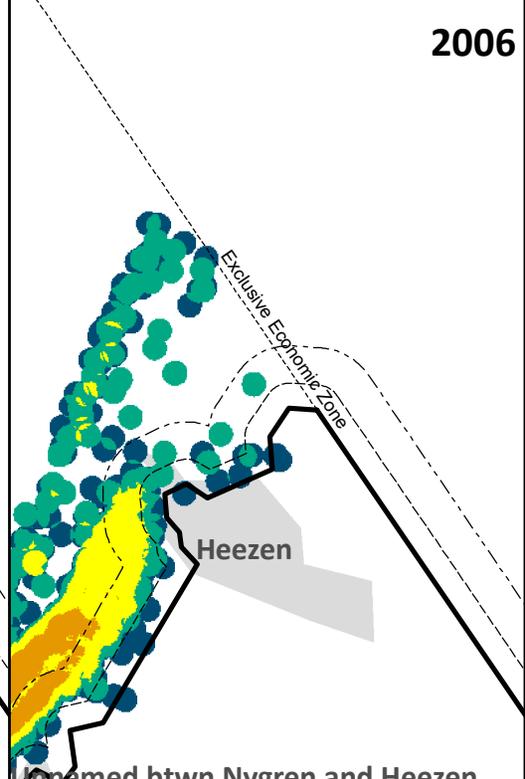


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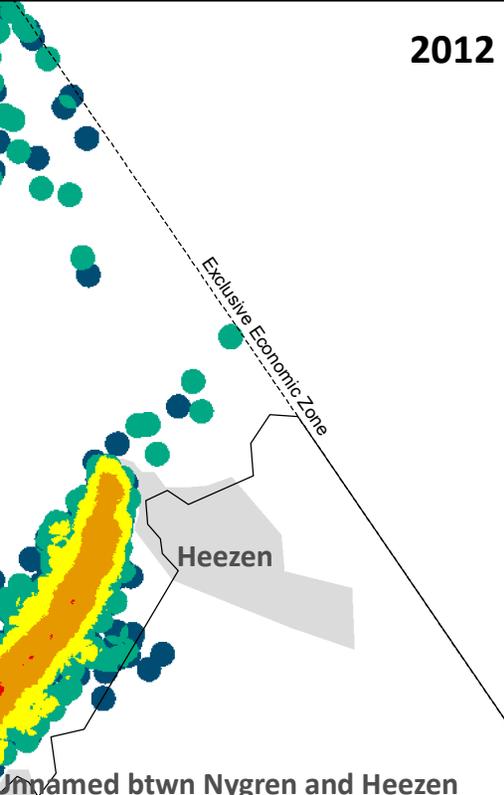
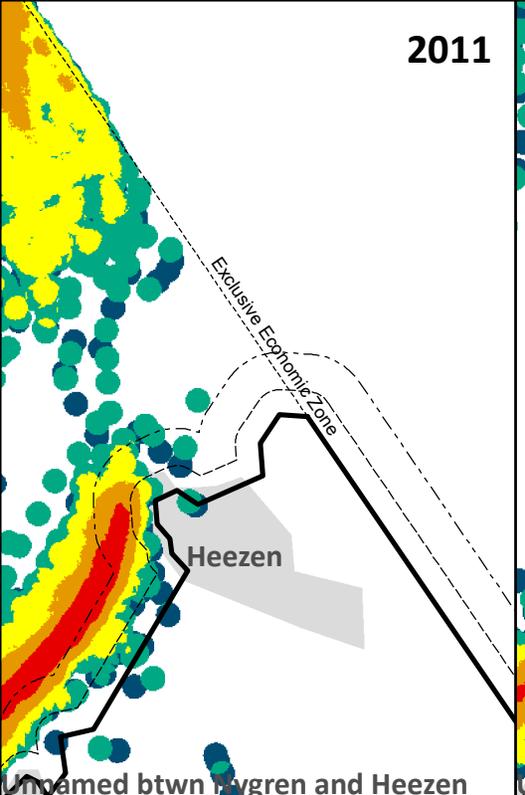
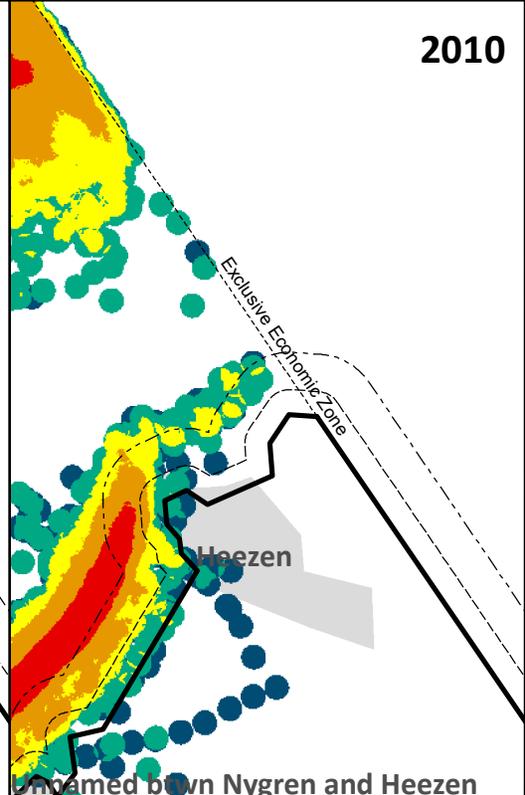
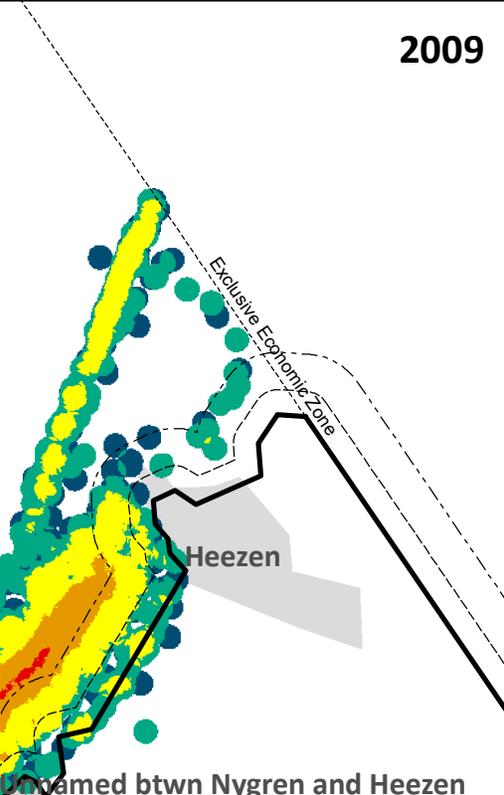


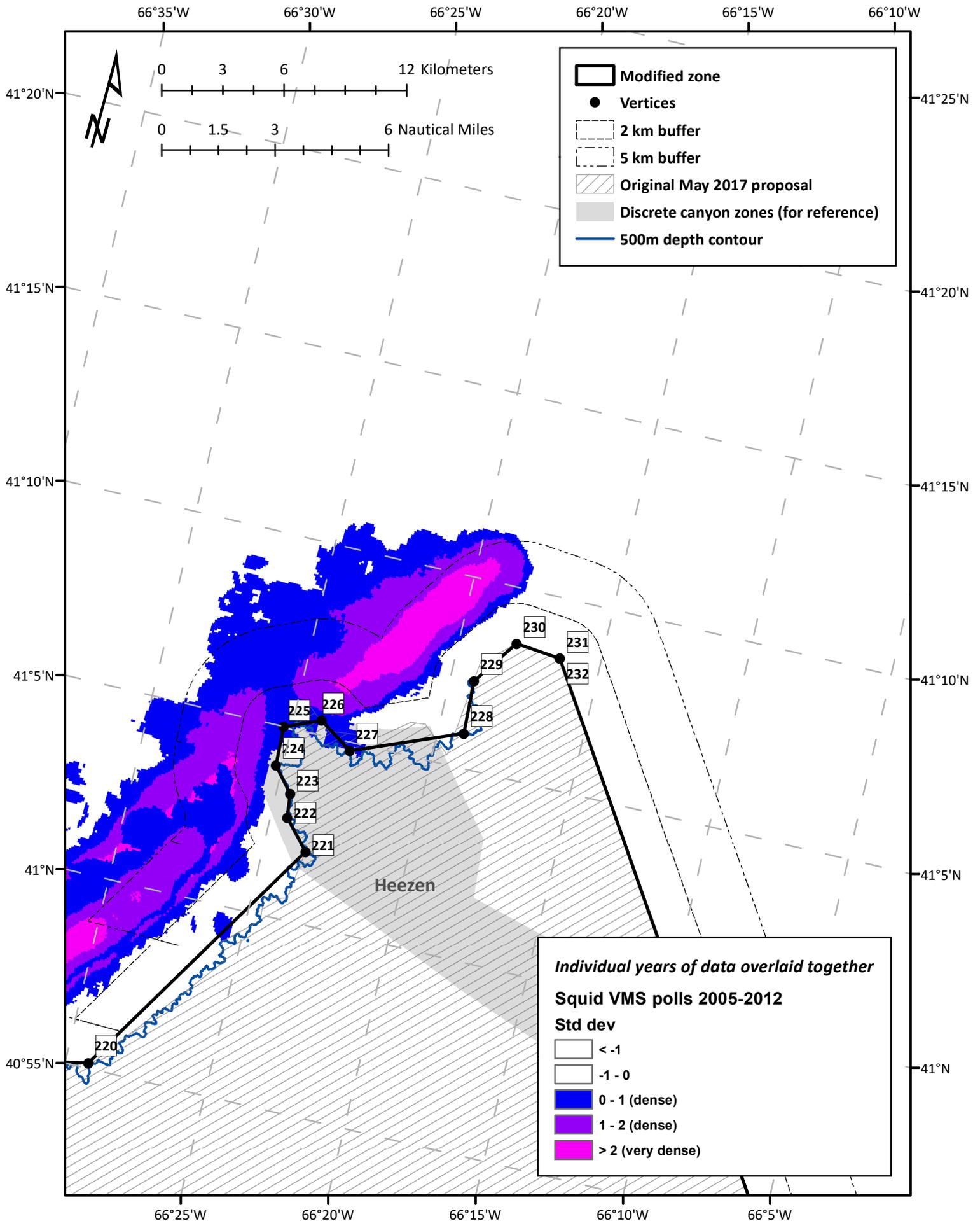
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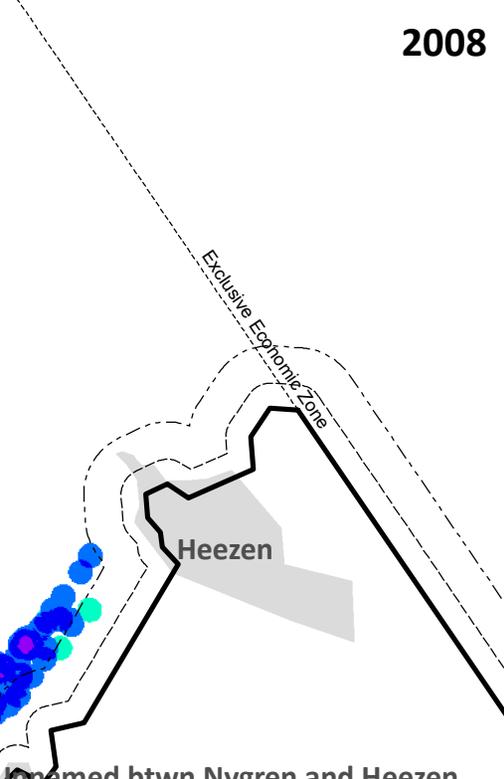
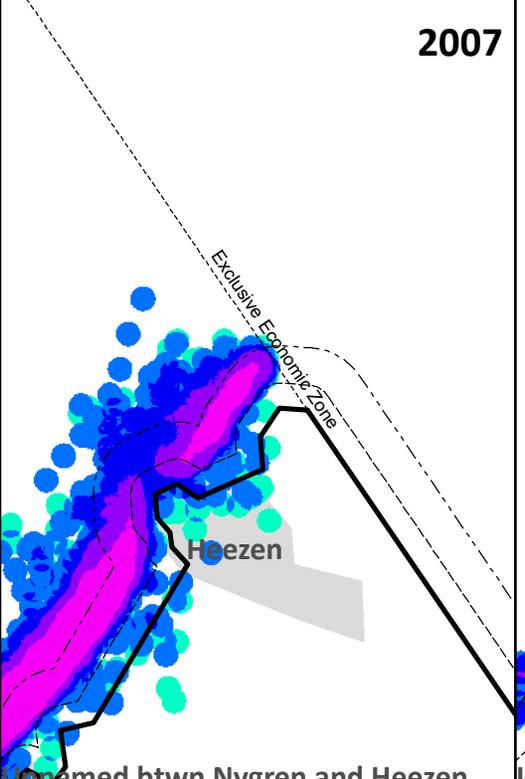
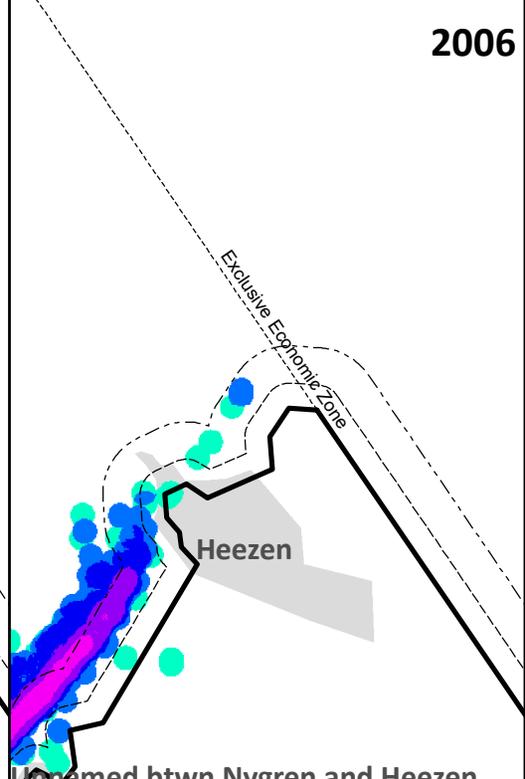
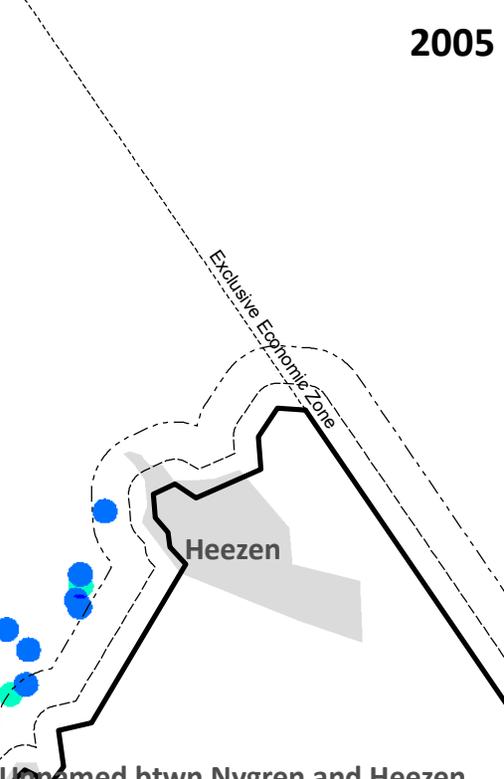


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