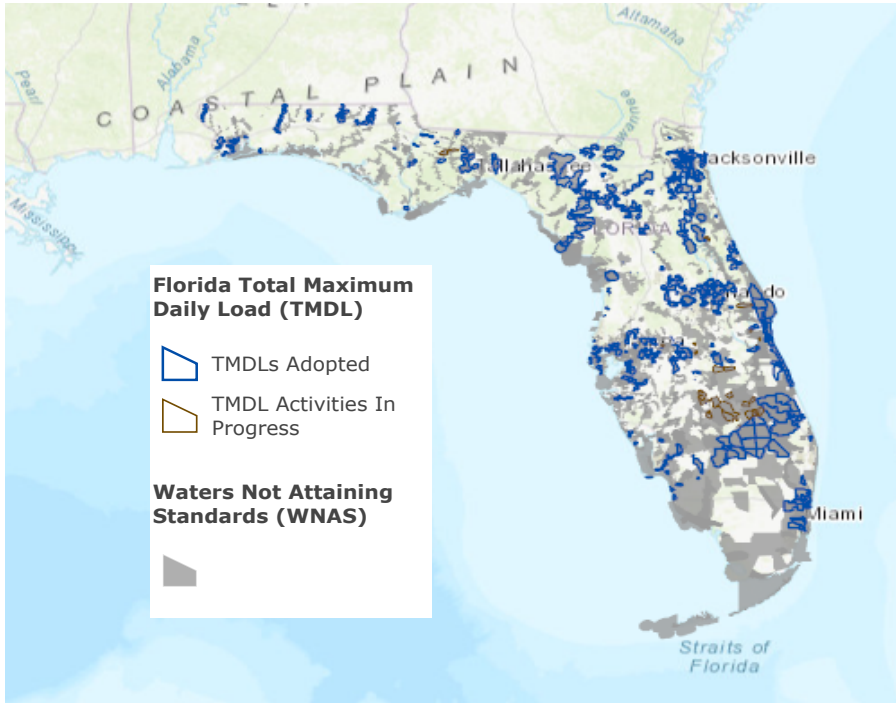
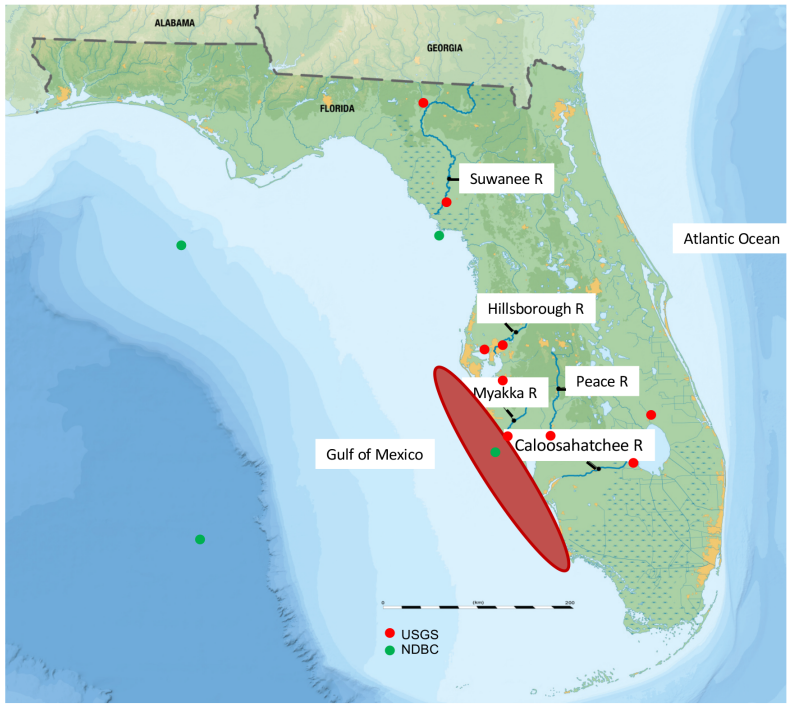
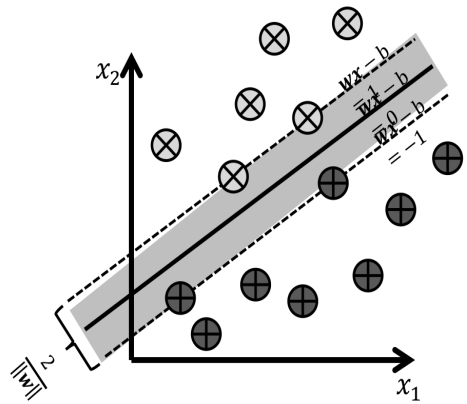
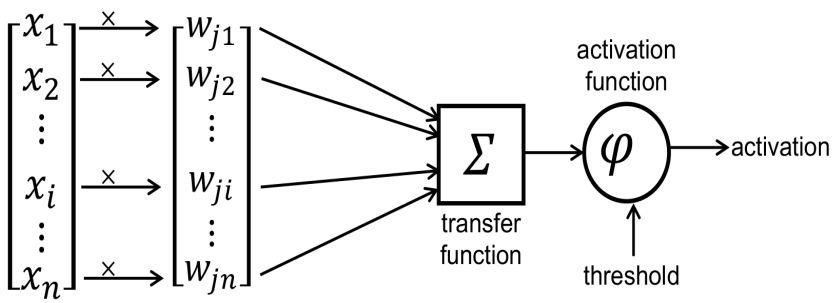
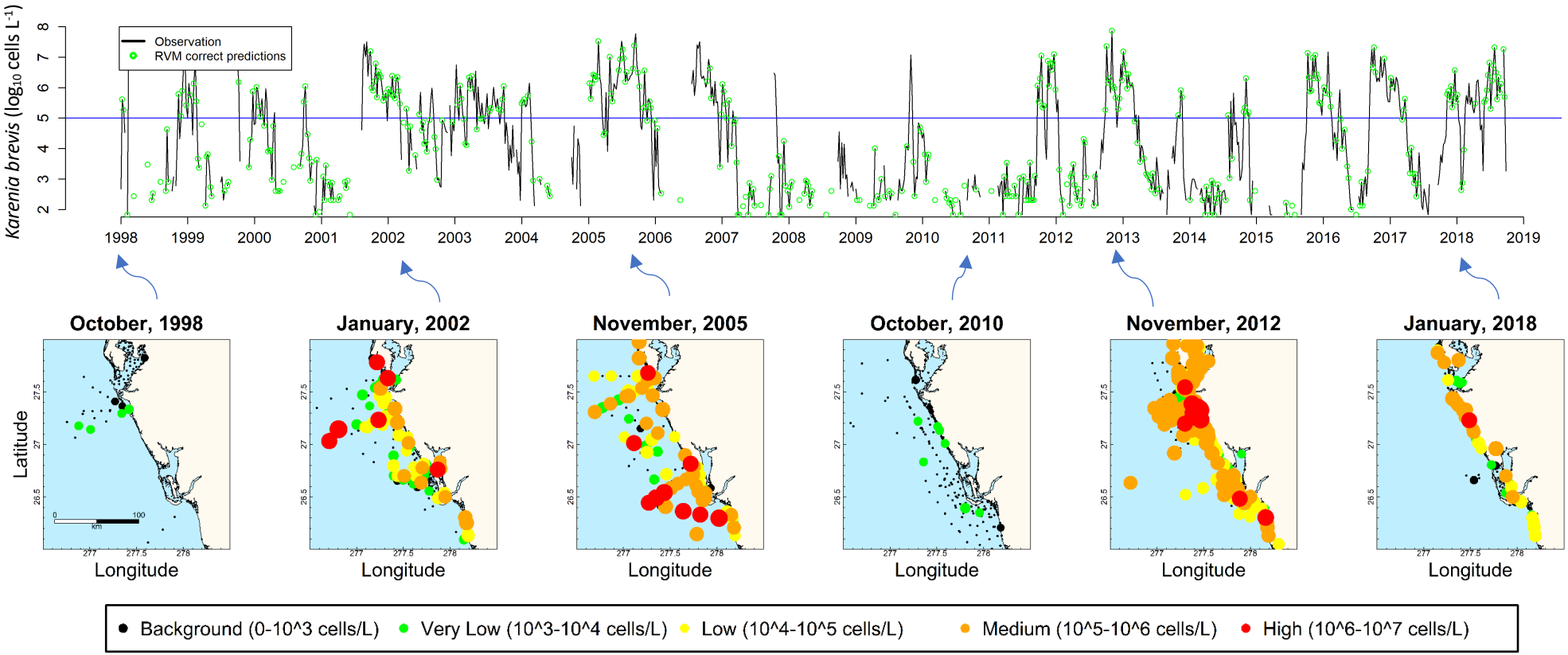
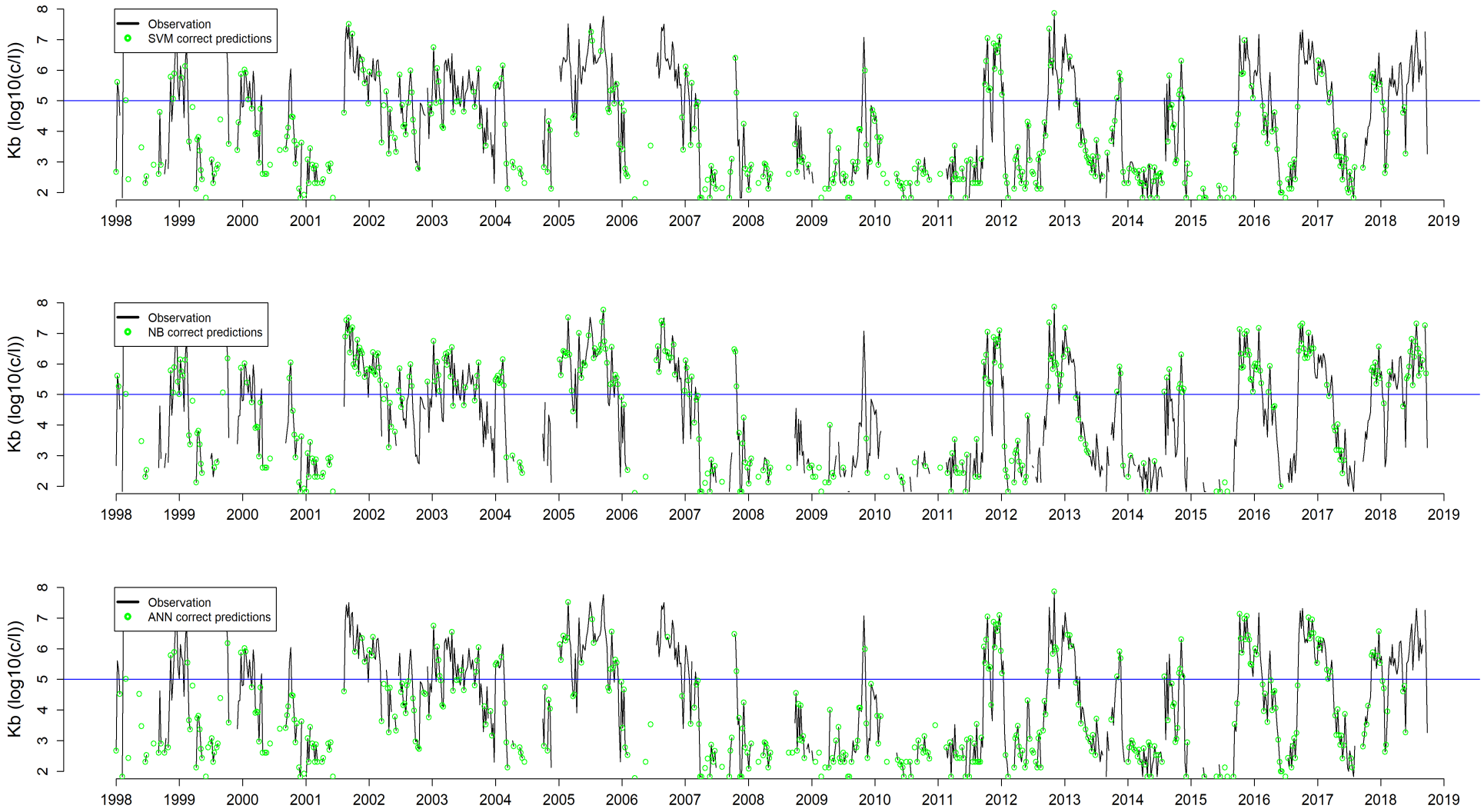

COASTAL PLAIN
Altamaha
Alabama
Pearl
Mississippi
Suwannee
Jacksonville
Miami
Straits of Florida
Florida Total Maximum Daily Load (TMDL)
TMDLs Adopted
TMDL Activities In Progress
Waters Not Attaining Standards (WNAS)

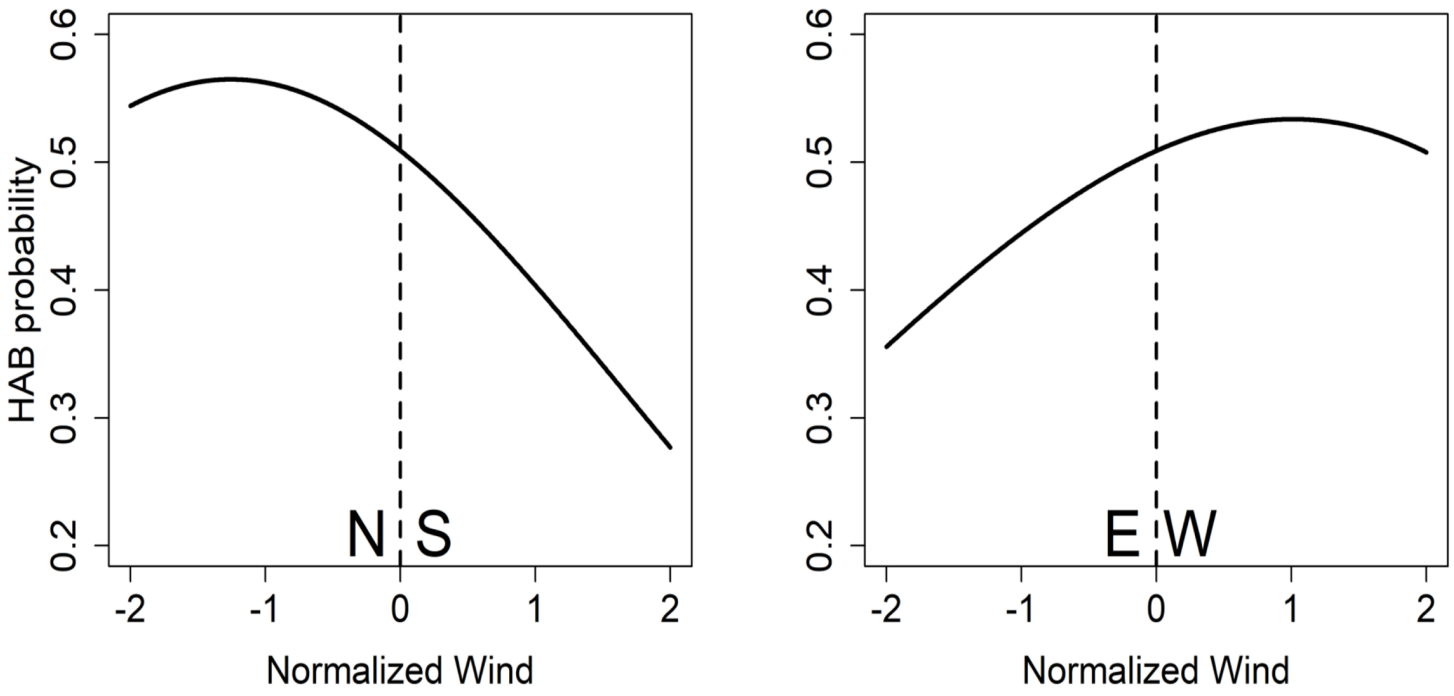

ALABAMA
GEORGIA
FLORIDA
Suwanee R
Atlantic Ocean
Hillsborough R
Peace R
Myakka R
Caloosahatchee R
Gulf of Mexico
USGS
NDBC

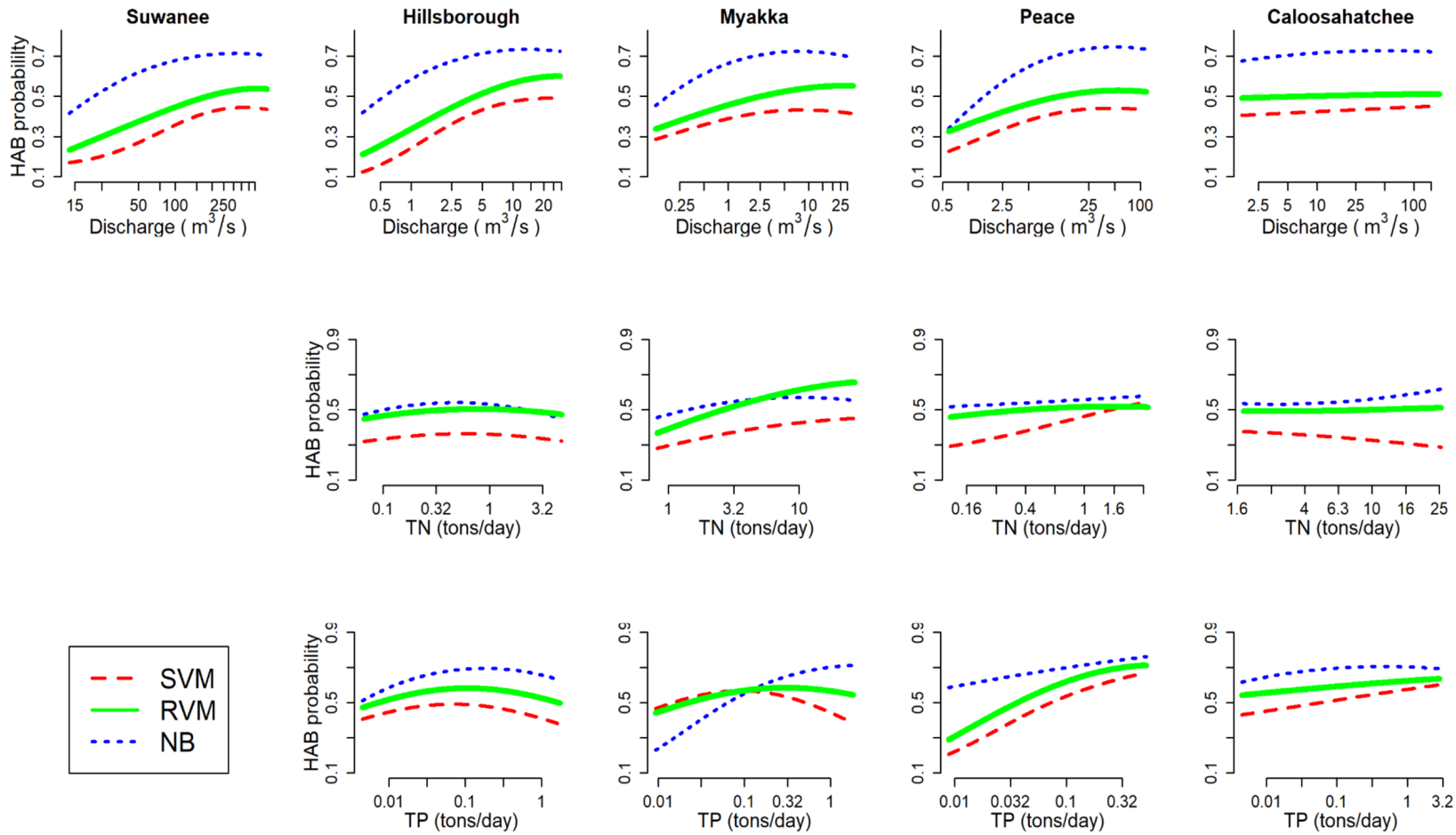

x_2
x_1
$\frac{2}{\|\mathbf{w}\|}$
$\mathbf{w}\mathbf{x} - b$
$\bar{\mathbf{w}}\mathbf{x} - b$
$\bar{\mathbf{w}}\mathbf{x} - b$
$= -1$

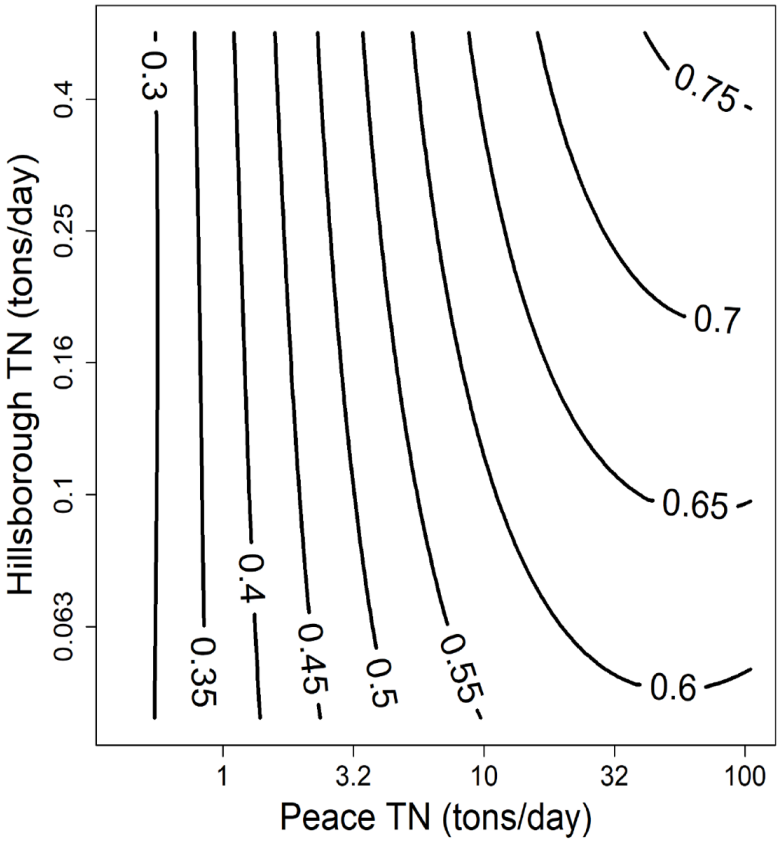

x_1
x_2
x_i
x_n
w_{j1}
w_{j2}
w_{ji}
w_{jn}
Σ
transfer function
activation function
φ
activation
threshold

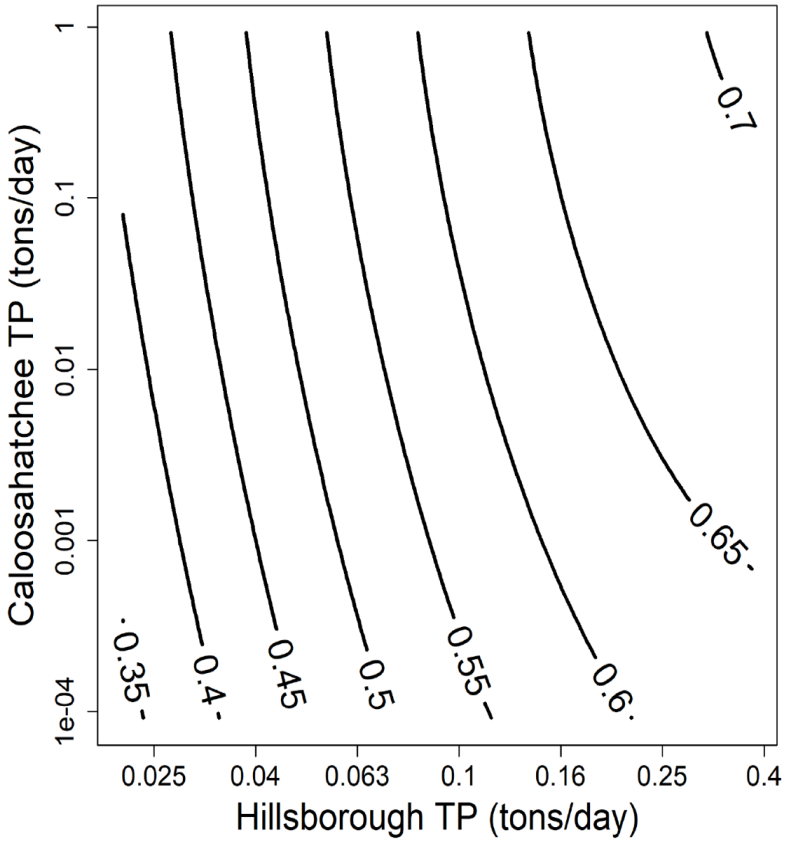

Karenia brevis (log10 cells L-1)
Observation
RVM correct predictions
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
October, 1998
January, 2002
November, 2005
October, 2010
November, 2012
January, 2018
Latitude
Longitude
Background (0-10^3 cells/L)
Very Low (10^3-10^4 cells/L)
Low (10^4-10^5 cells/L)
Medium (10^5-10^6 cells/L)
High (10^6-10^7 cells/L)


Observation
SVM correct predictions
Observation
NB correct predictions
Observation
ANN correct predictions
Kb (log10(c/l))
2
3
4
5
6
7
8
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019


HAB probability
0.2
0.3
0.4
0.5
0.6
N
S
-2
-1
0
1
2
Normalized Wind
E
W
Normalized Wind


Suwanee
Hillsborough
Myakka
Peace
Caloosahatchee
HAB probability
Discharge (m3/s)
TN (tons/day)
TP (tons/day)
SVM
RVM
NB


Hillsborough TN (tons/day)
0.063
0.1
0.16
0.25
0.4
Peace TN (tons/day)
1
3.2
10
32
100
0.3
0.35
0.4
0.45
0.5
0.55
0.6
0.65
0.7
0.75


Caloosahatchee TP (tons/day)
1e-04
0.001
0.01
0.1
1
Hillsborough TP (tons/day)
0.025
0.04
0.063
0.1
0.16
0.25
0.4
0.35
0.4
0.45
0.5
0.55
0.6
0.65
0.7