Appendix 2. Descriptions of variables used in the Model-to-Marsh Decision Support System-Version 2 (M2M-2 DSS) artificial neural network models.

[SC, specific conductance; USGS, U.S. Geological Survey; WL, water level; GPA, Georgia Ports Authority; XWL, tidal range; MWA, moving-window average]

Variable	Description
AQ8500A168L72	168 hour average flow at station 02198500 lagged 72 hours
B1MSC	hourly SC at USGS marsh site B1
B1MWL	SC at station B1 - hourly
B2MSC	hourly SC at USGS marsh site B2
B3MSC	hourly SC at USGS marsh site B3
B4MSC	hourly SC at USGS marsh site B4
D3SC8840	3-hour difference in SC at station 02198840
D3SC8840(006)	3-hour difference in SC at station 02198840-lagged 6 hours
D3SC8840(012)	3-hour difference in SC at station 02198840-lagged 12 hours
D3SC8840(018)	3-hour difference in SC at station 02198840-lagged 18 hours
D3SC8840(024)	3-hour difference in SC at station 02198840-lagged 24 hours
D3SC8920	3-hour difference in SC at station 02198920
D3SC8920(006)	3-hour difference in SC at station 02198920-lagged 6 hours
D3SC8920(012)	3-hour difference in SC at station 02198920-lagged 12 hours
D3SC8920(018)	3-hour difference in SC at station 02198920-lagged 18 hours
D3SC8920(024)	3-hour difference in SC at station 02198920-lagged 24 hours
D3SC89791	3-hour difference in SC at station 021989791
D3SC89791(006)	3-hour difference in SC at station 021989791-lagged 6 hours
D3SC89791(012)	3-hour difference in SC at station 021989791-lagged 12 hours
D3SC89791(018)	3-hour difference in SC at station 021989791-lagged 18 hours
D3SC89791(024)	3-hour difference in SC at station 021989791-lagged 24 hours
D3WL8840	3-hour difference in WL at station 02198840
D3WL8840(006)	3-hour difference in WL at station 02198840-lagged 6 hours
D3WL8840(012)	3-hour difference in WL at station 02198840-lagged 12 hours
D3WL8840(018)	3-hour difference in WL at station 02198840-lagged 18 hours
D3WL8840(024)	3-hour difference in WL at station 02198840-lagged 24 hours
D3WL8920	3-hour difference in WL at station 02198920
D3WL8920(006)	3-hour difference in WL at station 02198920-lagged 6 hours
D3WL8920(012)	3-hour difference in WL at station 02198920-lagged 12 hours
D3WL8920(018)	3-hour difference in WL at station 02198920-lagged 18 hours
D3WL8920(024)	3-hour difference in WL at station 02198920-lagged 24 hours
D3WL8977	3-hour difference in WL at station 02198977
D3WL8977(006)	3-hour difference in WL at station 02198977-lagged 6 hours
D3WL8977(012)	3-hour difference in WL at station 02198977-lagged 12 hours
D3WL8977(018)	3-hour difference in WL at station 02198977-lagged 18 hours
D3WL8977(024)	3-hour difference in WL at station 0219897-lagged 24 hours
D3WL8979	3-hour difference in WL at station 02198979
D3WL8979(006)	3-hour difference in WL at station 02198979-lagged 6 hours
D3WL8979(012)	3-hour difference in WL at station 02198979-lagged 12 hours
D3WL8979(018)	3-hour difference in WL at station 02198979-lagged 18 hours
D3WL8979(024)	3-hour difference in WL at station 02198979-lagged 24 hours
DAQ16	16-day change in daily flow at station 02198500
DAQ2	2-day change in daily flow at station 02198500
DAQ30	30-day change in daily flow at station 02198500
DFSC89791	1-day difference in filtered SC at station 021989791
DFSC89791DA48	1-day difference in filtered 48-hour differences of SC at station 021989791
DFWL8840	1-day difference in filtered WL at station 02198840
DQ8500A	1-day difference in daily average flow at station 02198500
DSC8920GPA10B	difference in SC between 02198920 and GPA10b
DSC8920GPA10S	difference in SC between 02198920 and GPA10s
DSC8920GPA11RB	difference in SC between 02198920 and GPA11b
DSC8920GPA12B	difference in SC between 02198920 and GPA12b
DSC8920GPA12RS	difference in SC between 02198920 and GPA12rs
DSC89791GPA11B	difference in SC between 021989791 and GPA11b
DWL8920GPA10	difference in WL between 02198920 and GPA10
DWL8920GPA11R	difference in WL between 02198920 and GPA11r
DWL8920GPA12	difference in WL between 02198920 and GPA12
DWL8979GPA11	difference in WL between 02198979 and GPA11
DWLA	1-day change in WL
DWLAD1	1-day change in WL, lagged 1 day
DXWLA	1-day change in tidal range (XWL)
DXWLAD1	1-day change in tide range, lagged 1 day
F1MSC	hourly SC at USGS marsh site F1M
FB2MWL	filltered WL at station F2 - hourly
FB3MWL	filtered WL at station B3 - hourly
FB4MWL-0P1	filtered WL at station B4 - hourly
FF1MWL	filtered WL at station F1 - hourly
FM1MWL	filtered WL at station M1 - hourly
FSC89791	filtered SC at station 021989791
FSC89791A1WKD2WK	difference between 1- and 2-week lagged MWAs of FSC89791
FSC89791A24DA4WK	difference between 24-day and 2-week lagged MWAs of FSC89791
FSC89791A48D1WK	difference between 2-day and 1-week and lagged MWAs of FSC89791
FSC89791A4WK	4-week MWA of FSC89791
FSC89791DA48	difference between hourly and 2-day MWA of FSC89791
FSCDIF8840	difference with SC at station 02198840 and station 021989791
FSCDIF8920	difference with SC station 02198840 and station 02198920
FWL8840	filled WL at station 02198840
FWL8980A	filled, filtered daily WL
FWLDIF8920	filled WL difference between station 02198840 and station 02198920
FWLDIF8977	filled WL difference between station 02198840 and station 02198977
FWLDIF8979	filled WL difference between station 02198840 and station 02198979
LAQ2	2-day lag of the daily flow at station 02198500
LG10D3NWL	10-hour lag in the 3 hour change in WL at station 02198980
LG13D3NWL	13-hour lag in the 3 hour change in WL at station 02198980

Appendix 2. Descriptions of variables used in the Model-to-Marsh Decision Support System-Version 2 (M2M-2 DSS) artificial neural network models.

[SC, specific conductance; USGS, U.S. Geological Survey; WL, water level; GPA, Georgia Ports Authority;XWL, tidal range; MWA, moving-window average]

Variable	Description
LG1D3NWL	1-hour lag in the 3 hour change in WL at station 02198980
LG1NWL	1-hour lag in the in hourly WL at station 02198980
LG2DWLA	1-day change in WL, lagged 2 day at station 02198980
LG2DXWLA	1-day change in tidal range, lagged 2 day at station 02198980
LG3DFSC89791	1-day change in SC at station 021989791 lagged 3 hours
LG3DFSC89791DA48	48-hour average of 1-day change in SC at station 021989791 lagged 3 hours
LG3DFWL8840	difference with WL at station 02198840 lagged 3 days
LG4D3NWL	4-hour lag in the 3 hour change in WL
LG672FSC89791A4WKD4WK	difference between 4-week and lagged 4-week MWAs of SC at station 021989791
LG6DFSC89791	SC difference at 021989791 lagged 6 hours
LG6DFWL8840	WL difference at 02198840 lagged 6 days
LG7D3NWL	7-hour lag in the 3 hour change in WL at station 02198980
M1MSC	hourly SC at marsh site M1
M2MSC	hourly SC at marsh site M2
M2MWL	hourly WL at marsh site M2
NXWL	tidal range at station 02198980
PSC8840A	predicted daily SC at station 02198840
PSC8920A	predicted daily SC at station 02198920
PSC89784A	predicted daily SC at station 021989784
PSC89791A	predicted daily SC at station 021989791
PSCGPA10S_FLR_A1WK	1-week MWA of floored predicted hourly SC at GPA10S
PSCGPA11B_FLR_A1WK	1-week MWA of floored predicted hourly SC at GPA11B
PSCGPA11RB_FLR_A1WK	1-week MWA of floored predicted hourly SC at GPA11RB
PSCGPA12RS_FLR_A1WK	1-week MWA of floored predicted hourly SC at GPA12RS
PWL8840A	predicted daily WL at station 02198840
PWL8920A	predicted daily WL at station 02198920
PWL8977A	predicted daily WL at station 02198977
PWL8979A	predicted daily WL at station 02198979
Q8500A	daily average flow at station 02198500
RB1MSC	residual error of predicted hourly SC at USGS marsh site B1
RB2MSC	residual error of predicted hourly SC at USGS marsh site B2
RB3MSC	residual error of predicted hourly SC at USGS marsh site B3
RB4MSC	residual error of predicted hourly SC at USGS marsh site B4
RF1MSC	residual error of predicted hourly SC at USGS marsh site F1
RM1MSC	residual error of predicted hourly SC at USGS marsh site M1
RM2MSC	residual error of predicted hourly SC at USGS marsh site M2
RSC10S_11B_A1WK	residual error of predicted weekly average floored SCGPA11B (for decorrelation)
RSC10S_11B_A1WK	residual error of predicted weekly average floored SCGPA11B (for decorrelation)
RSC10S_11RB_A1WK	residual error of predicted weekly average floored SCGPA11RB (for decorrelation)
RSC10S_11RB_A1WK	residual error of predicted weekly average floored SCGPA11RB (for decorrelation)
RSC10S_12RS_A1WK	residual error of predicted weekly average floored SCGPA12RS (for decorrelation)
SC8840	SC at station 02198840-hourly data
SC8840A	SC at 02198840-daily data
SC8920	SC at station 02198920-hourly data
SC8920A	SC at station 02198920-daily data
SC89784	SC at station 021989784-hourly data
SC89784A	SC at station 021989784-daily data
SC89791	SC at station 021989791hourly data
SC89791A	SC at station 021989791daily data
SCDIF8840A	difference between daily (filtered) SC at gages 89791 and 8840
SCDIF8920A	difference between daily (filtered) SC at gages 89791 and 8920
WL8840	WL at station 02198840-hourly data
WL8840A	WL at station 02198840-daily data
WL8920	WL at station 02198920-hourly data
WL8920A	WL at station 02198920-daily data
WL8977	WL at station 02198977-hourly data
WL8977A	WL at station 02198977-daily data
WL8979	WL at station 02198979-daily data
WL8979A	WL at station 02198979-hourly data
XWL8980A	daily tidal range