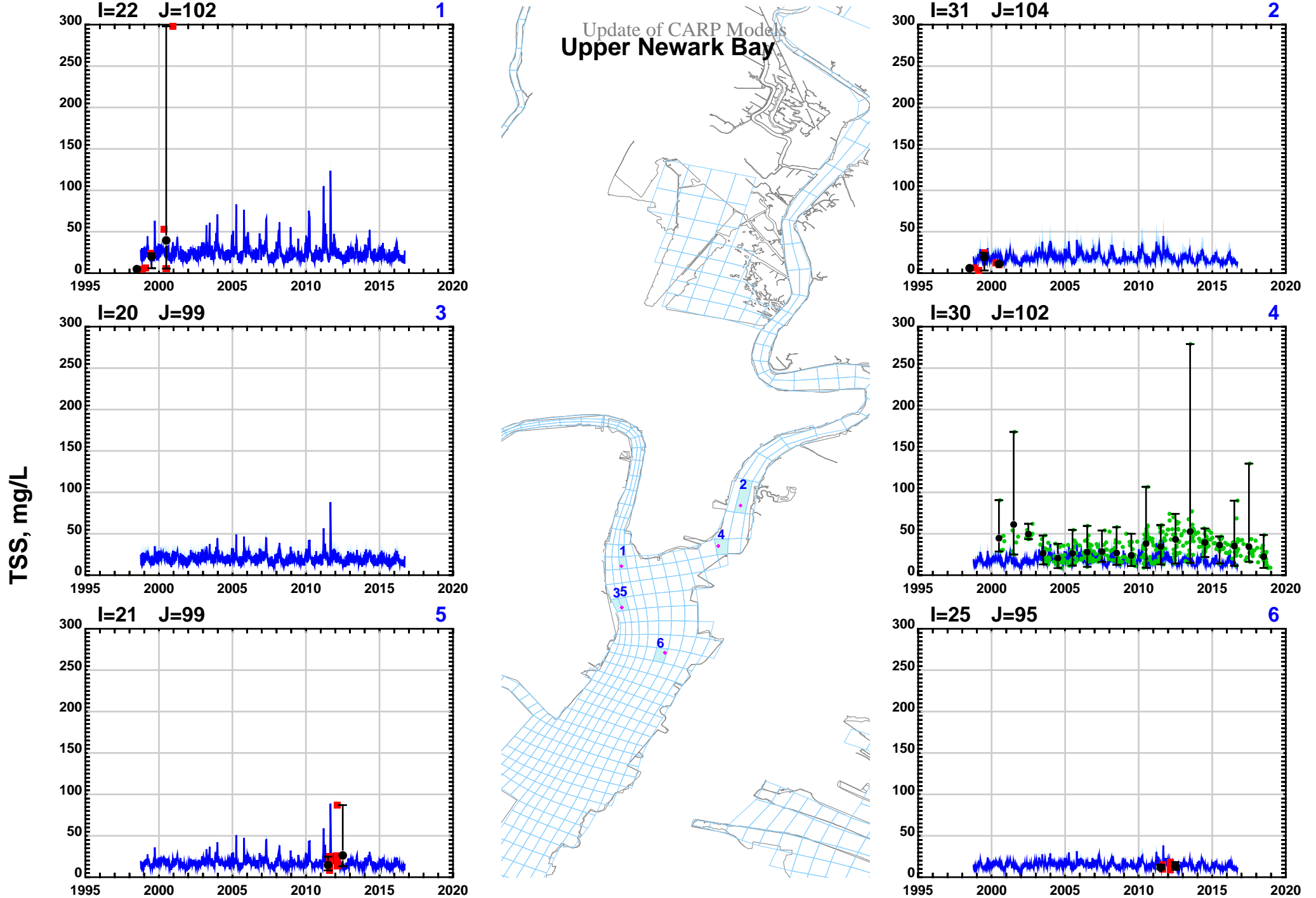


## **APPENDIX 11**

### **Suspended Sediment and Organic Carbon Concentrations Model and Measurement Comparisons Results Diagrams, Various Measurement Programs, Eighty-Nine Locations throughout NY/NJ Harbor, 1998-2016 Water Years**

- **suspended sediment**
- **particulate organic carbon**
- **dissolved organic carbon**

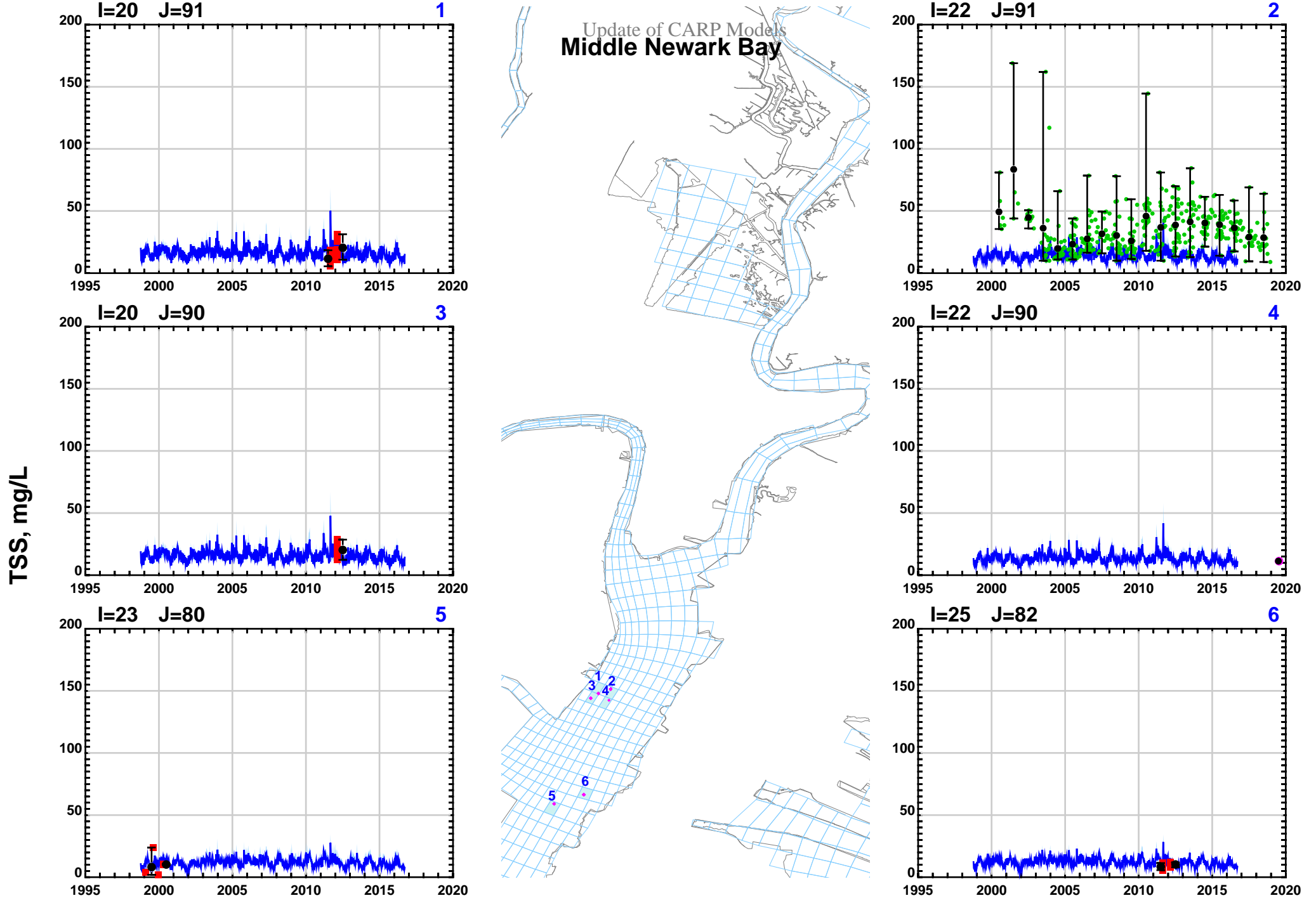
# Water Column Data Comparison With Model All Water Column Layers



**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 2 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data

# Water Column Data Comparison With Model All Water Column Layers



Update of CARP Models  
Middle Newark Bay

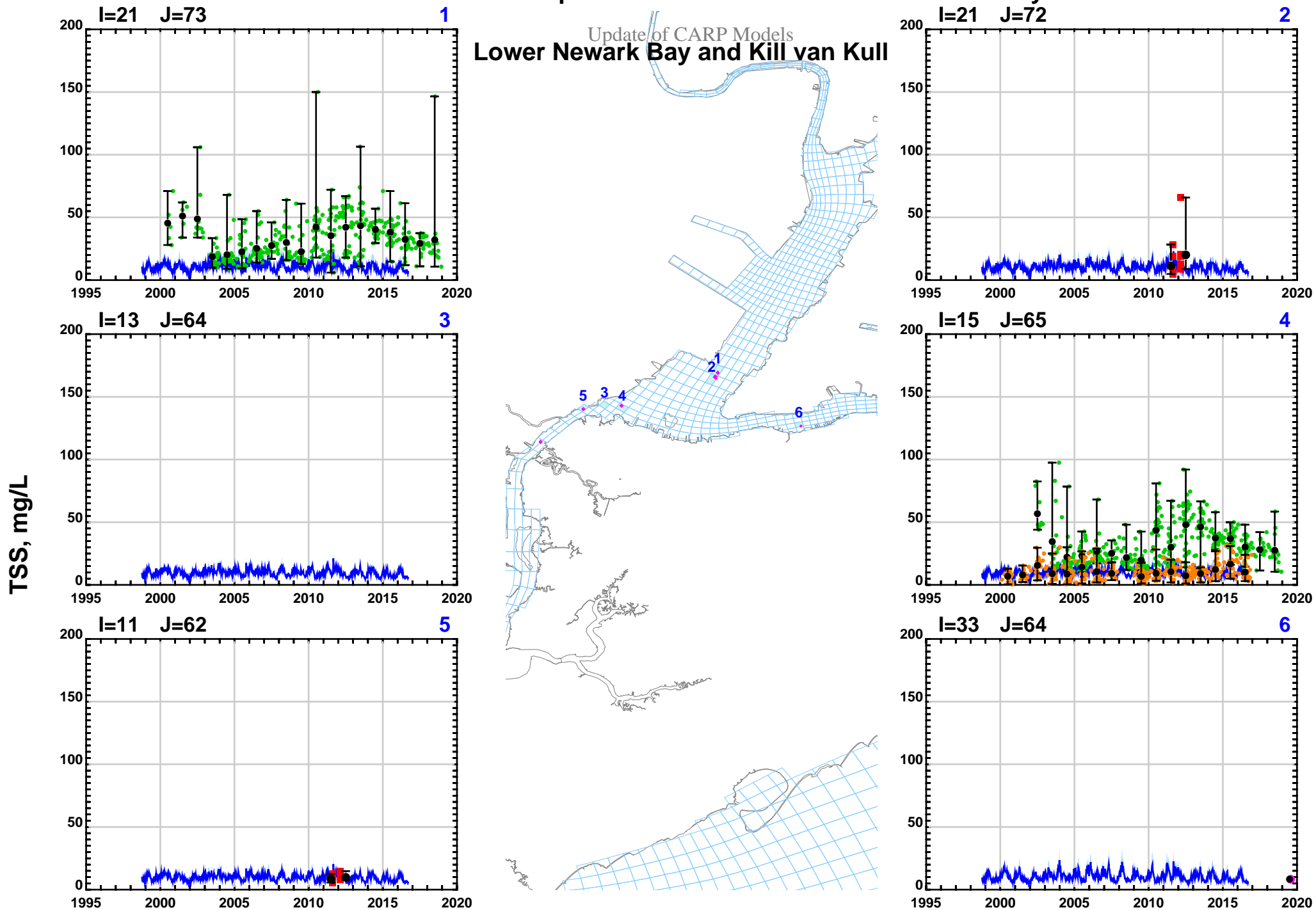
TSS, mg/L

Detect Data  
Model: mean and range of values in Water Column Appendix 11 Page 3 of 46

● Water Column Data: yearly mean and range  
● CARP2 Data  
● Harbor Data  
● NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models Lower Newark Bay and Kill van Kull



TSS, mg/L

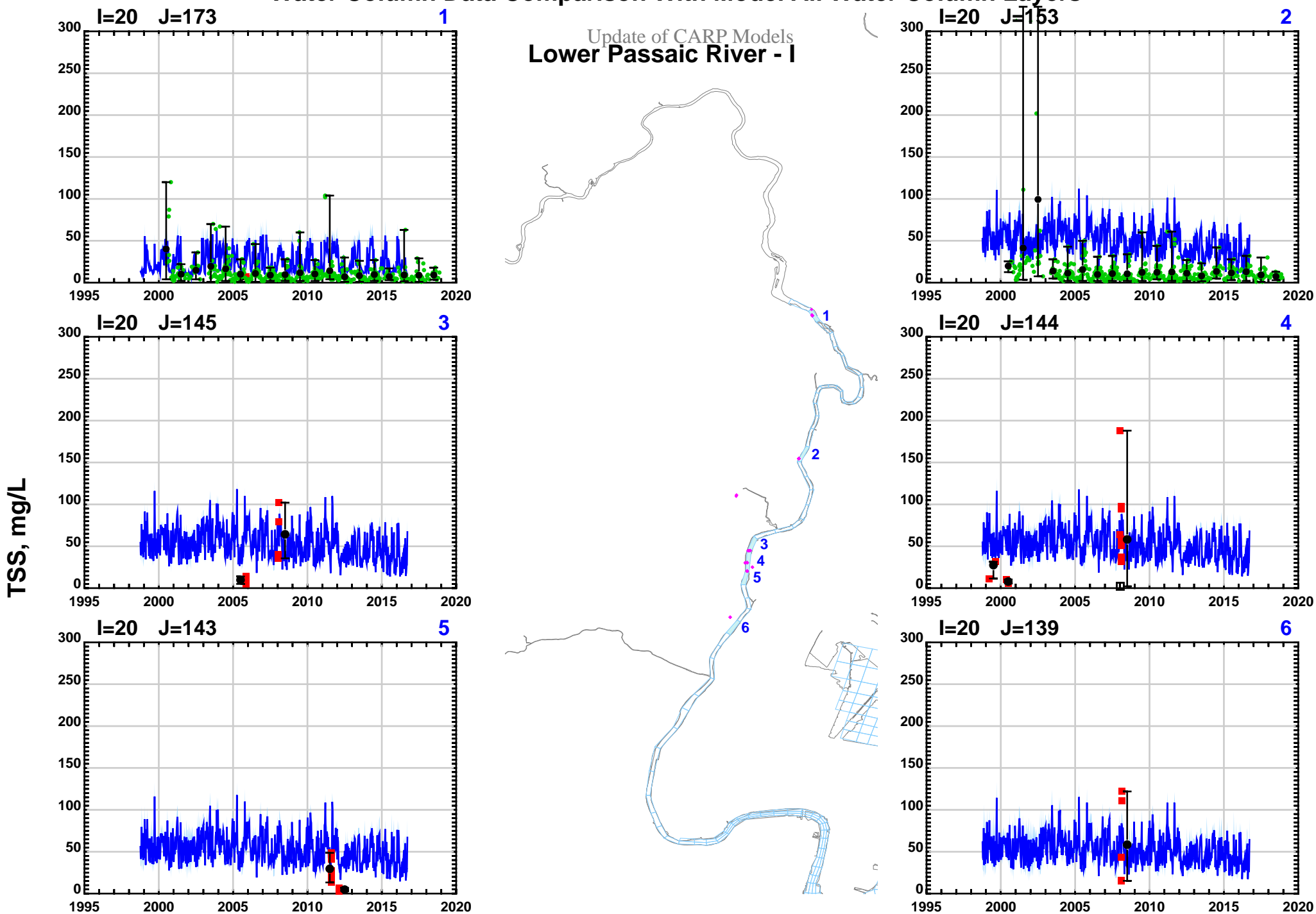
**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 4 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data



# Water Column Data Comparison With Model All Water Column Layers

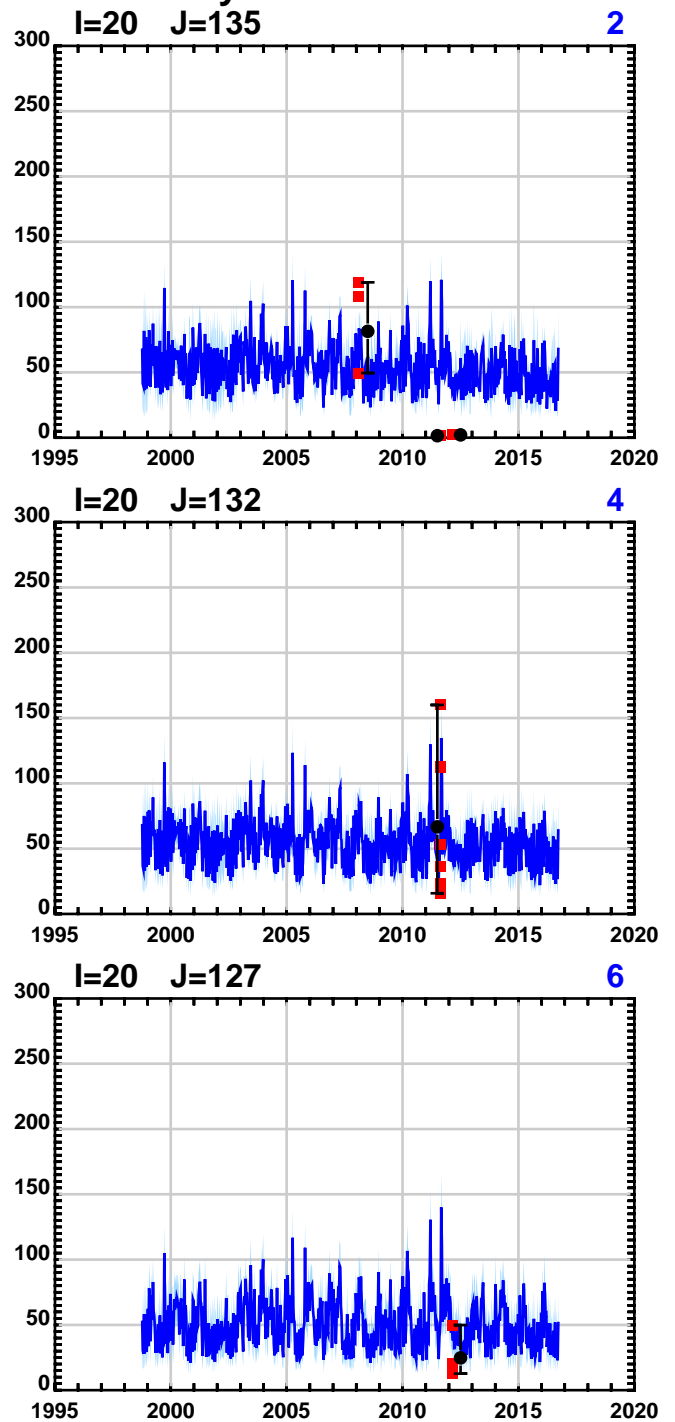
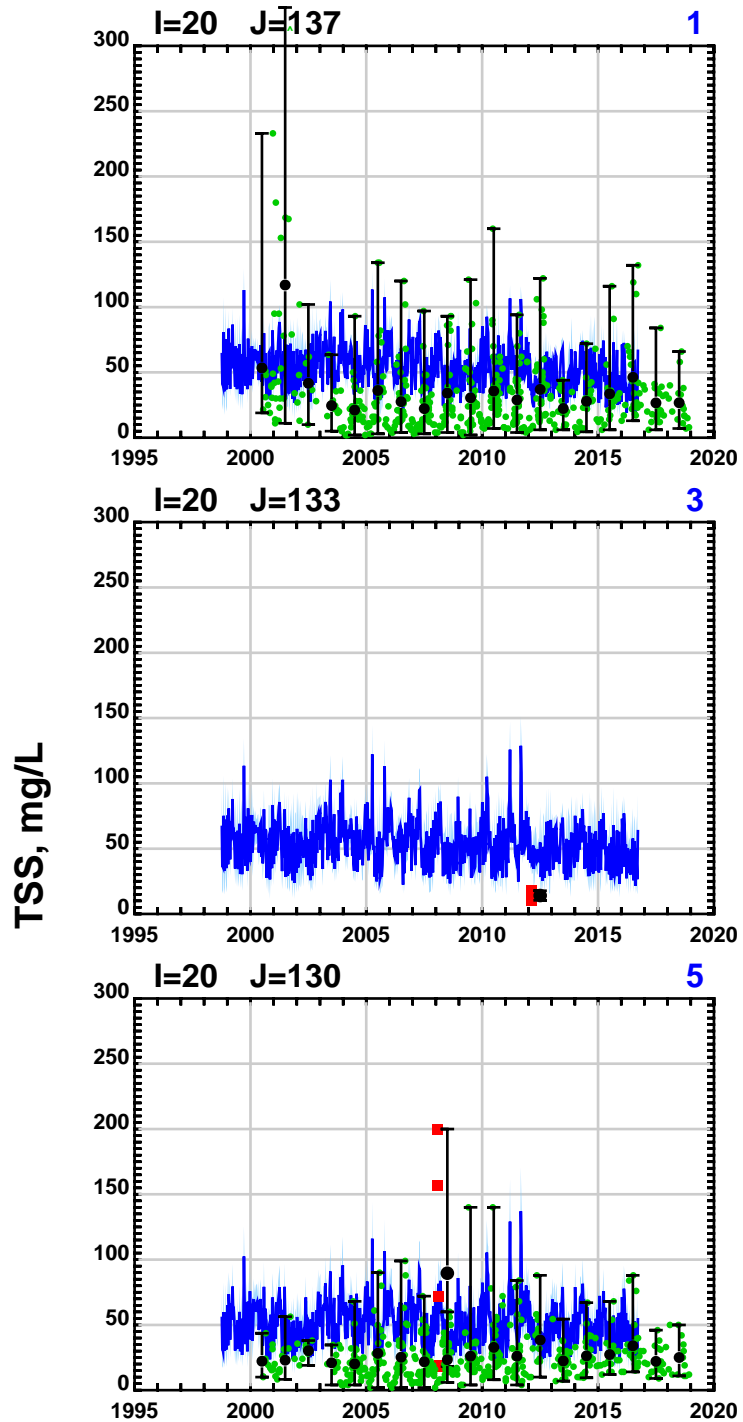
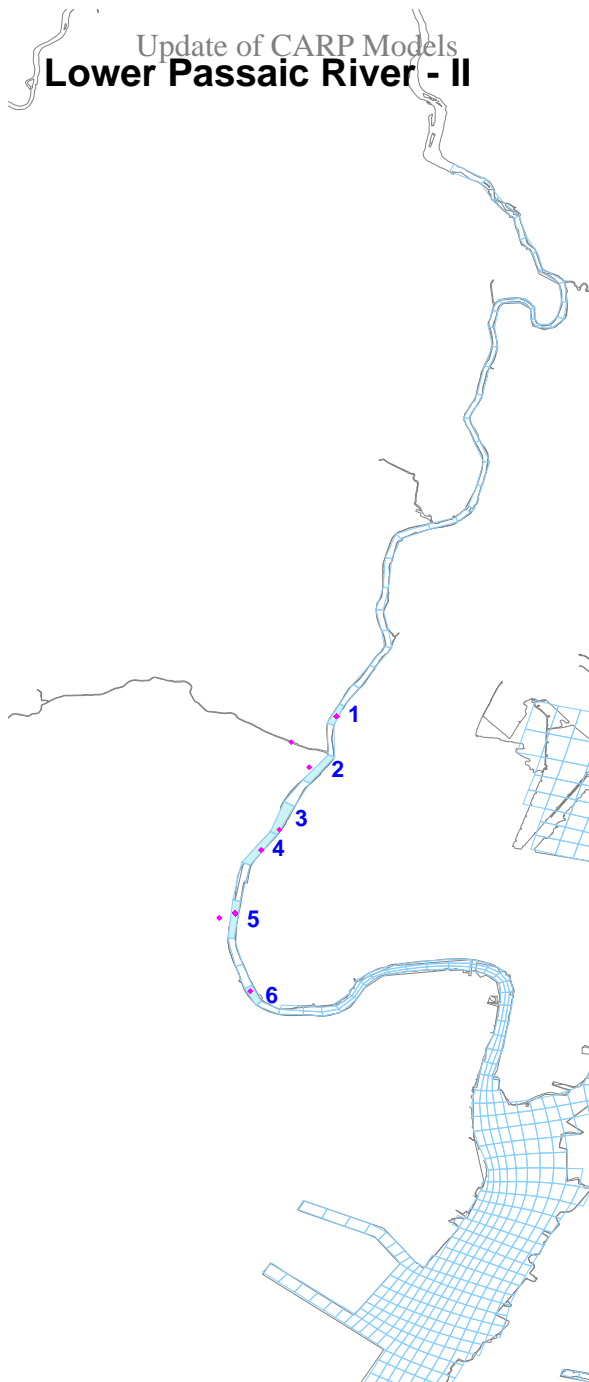
## Update of CARP Models Lower Passaic River - I



**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 5 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers

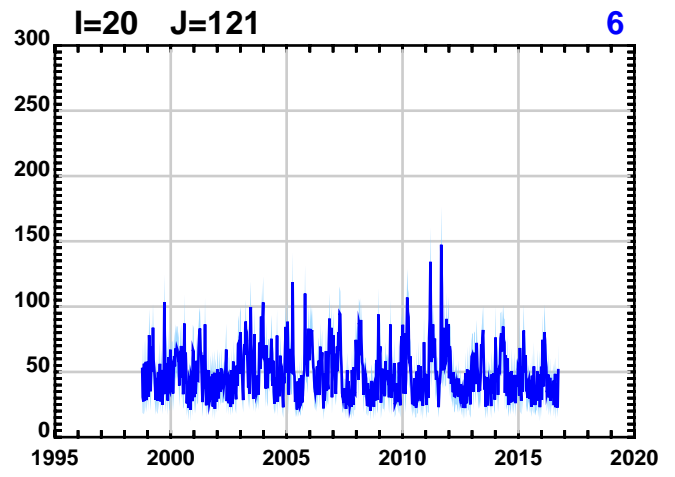
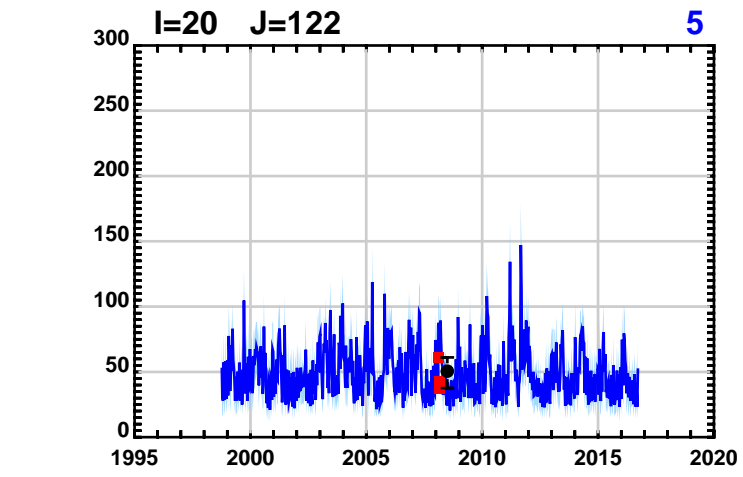
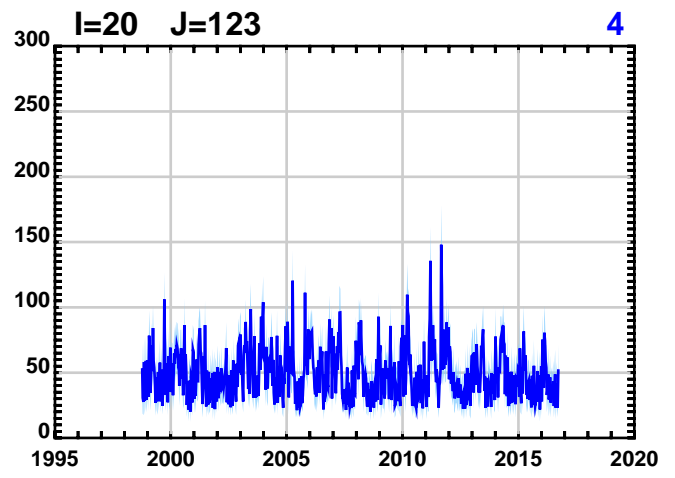
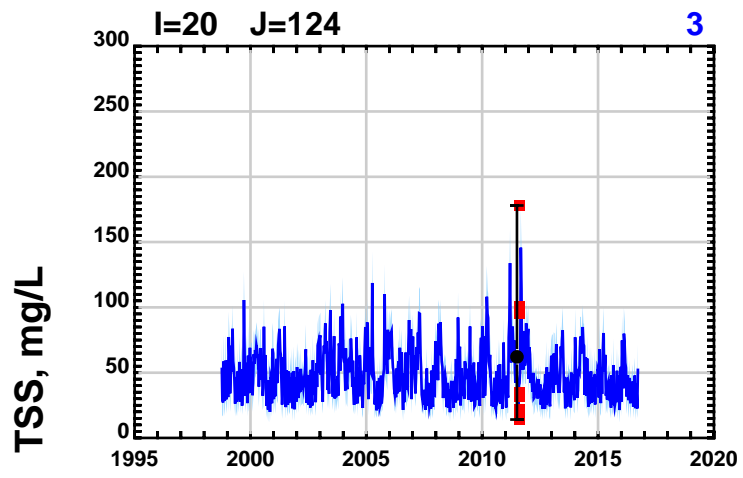
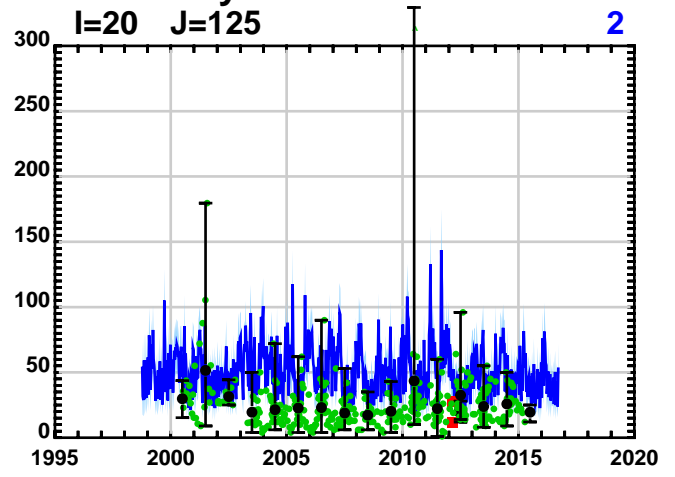
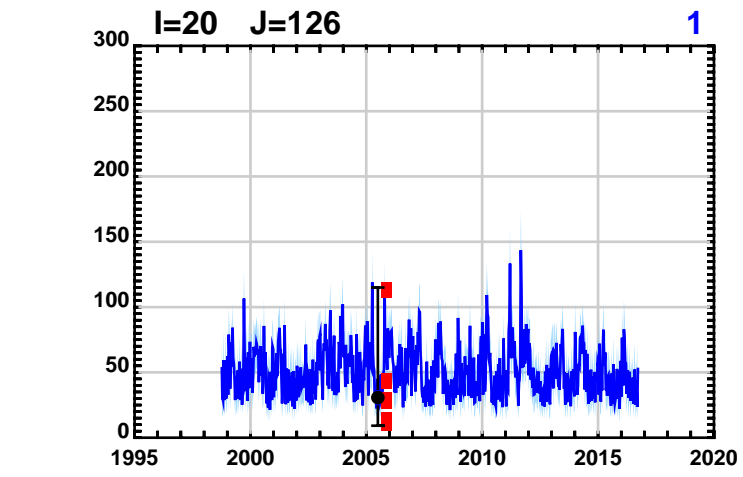
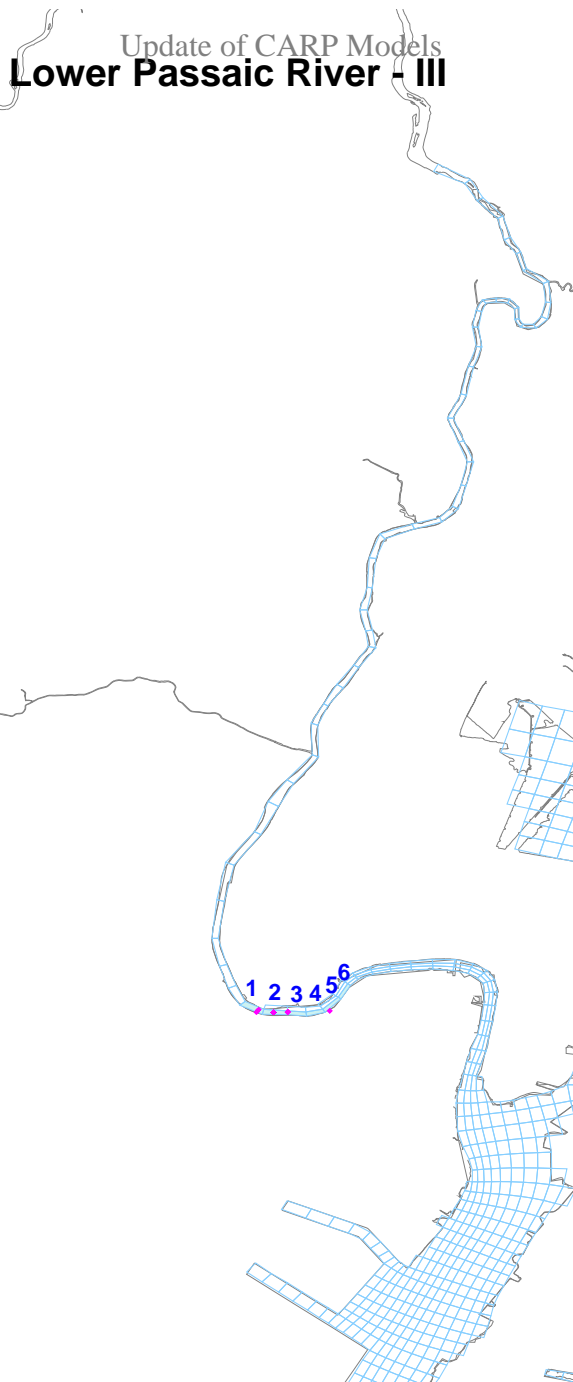


TSS, mg/L

**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 6 of 46

● Water Column Data: yearly mean and range  
 ● CARP2 Data  
 ● Harbor Data  
 ● NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers

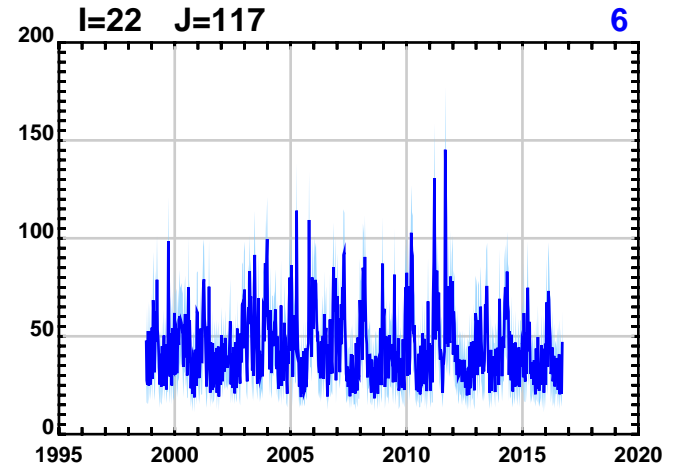
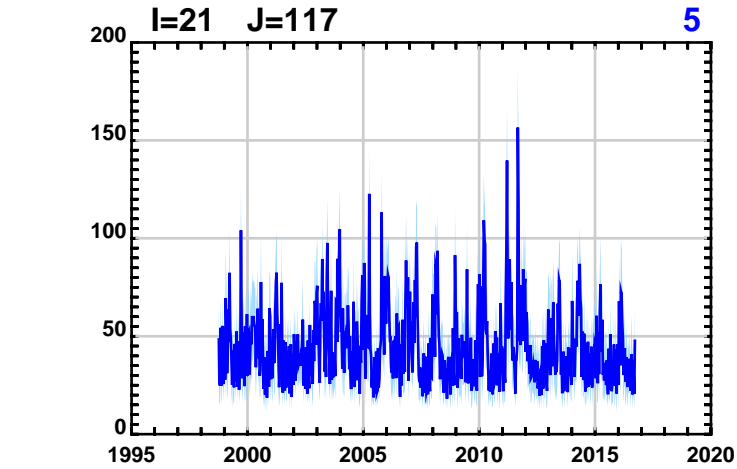
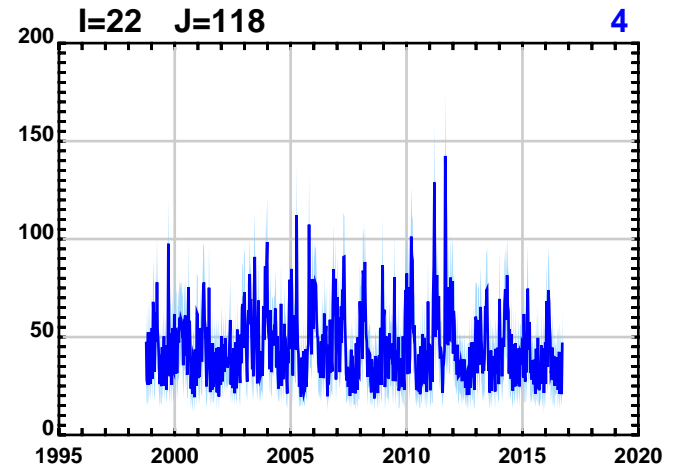
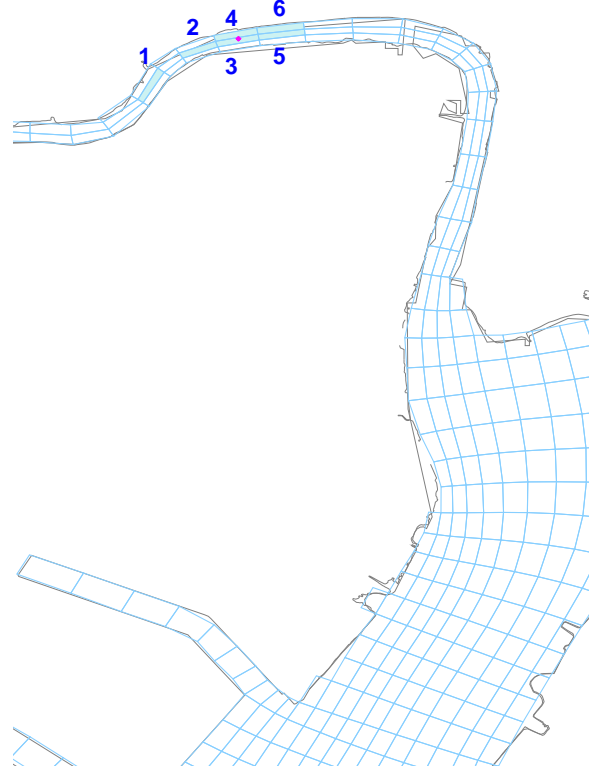
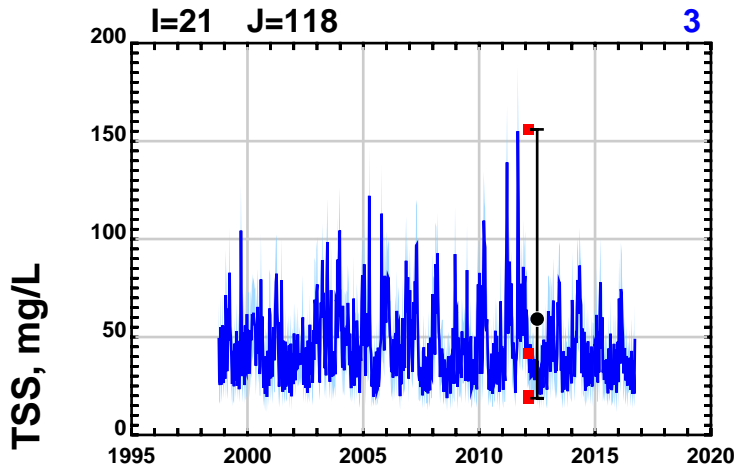
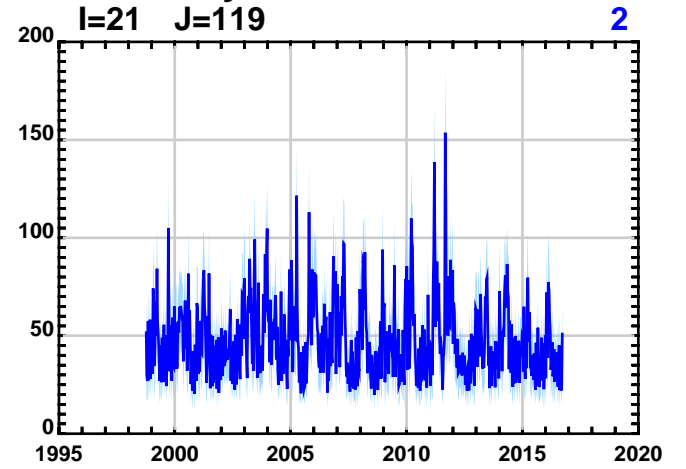
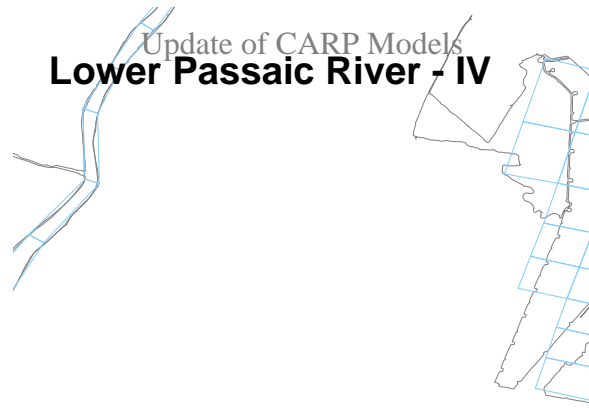
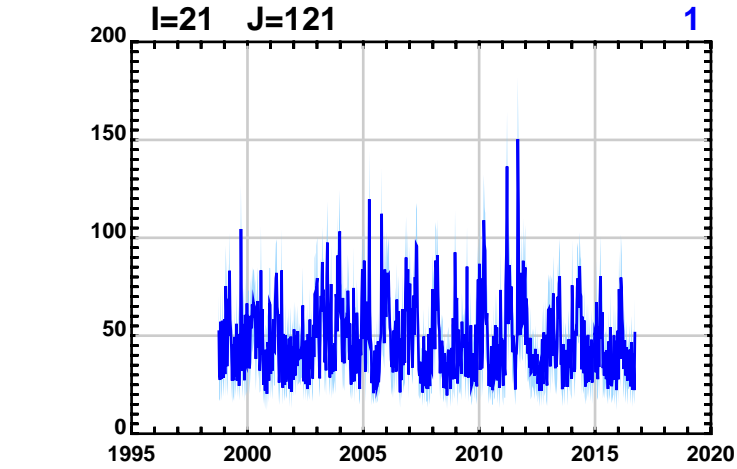


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 7 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models Lower Passaic River - IV

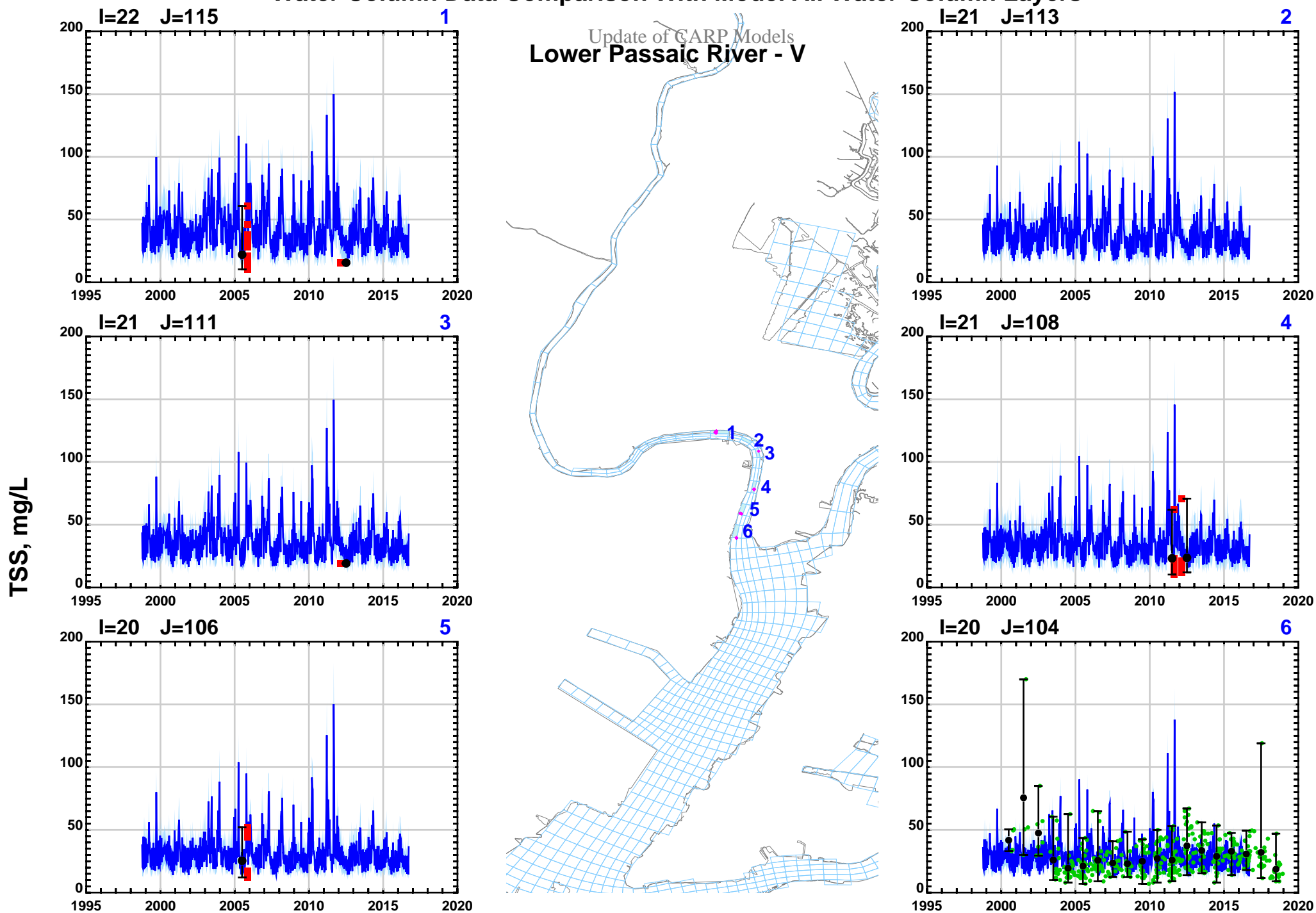


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 8 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data

# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models Lower Passaic River - V



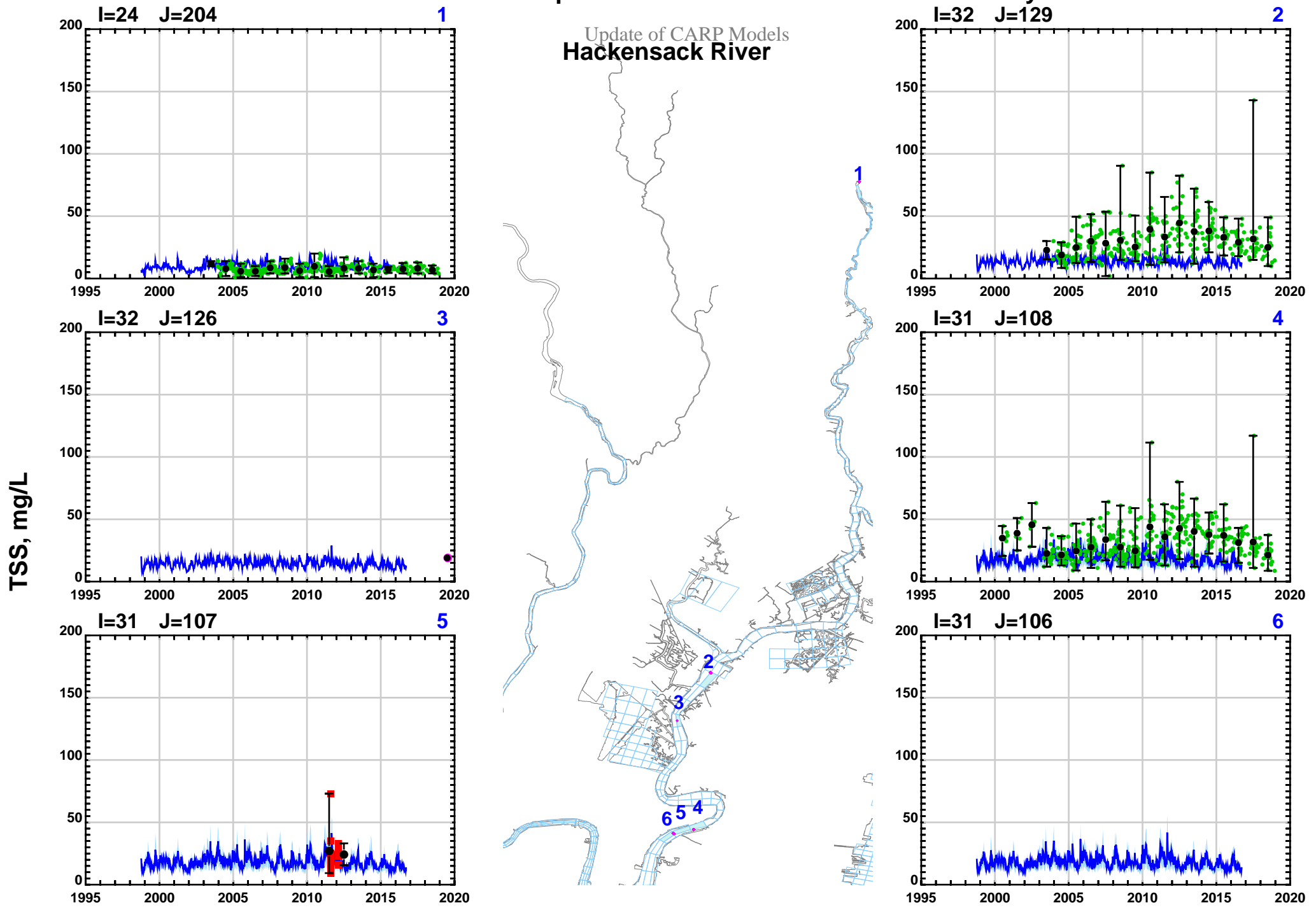
**Detect Data**

**Model: mean and range of values in Water Column**

● Water Column Data: yearly mean and range  
 ● CARP2 Data  
 ● NJHDG Data  
 ● Harbor Data

# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models Hackensack River

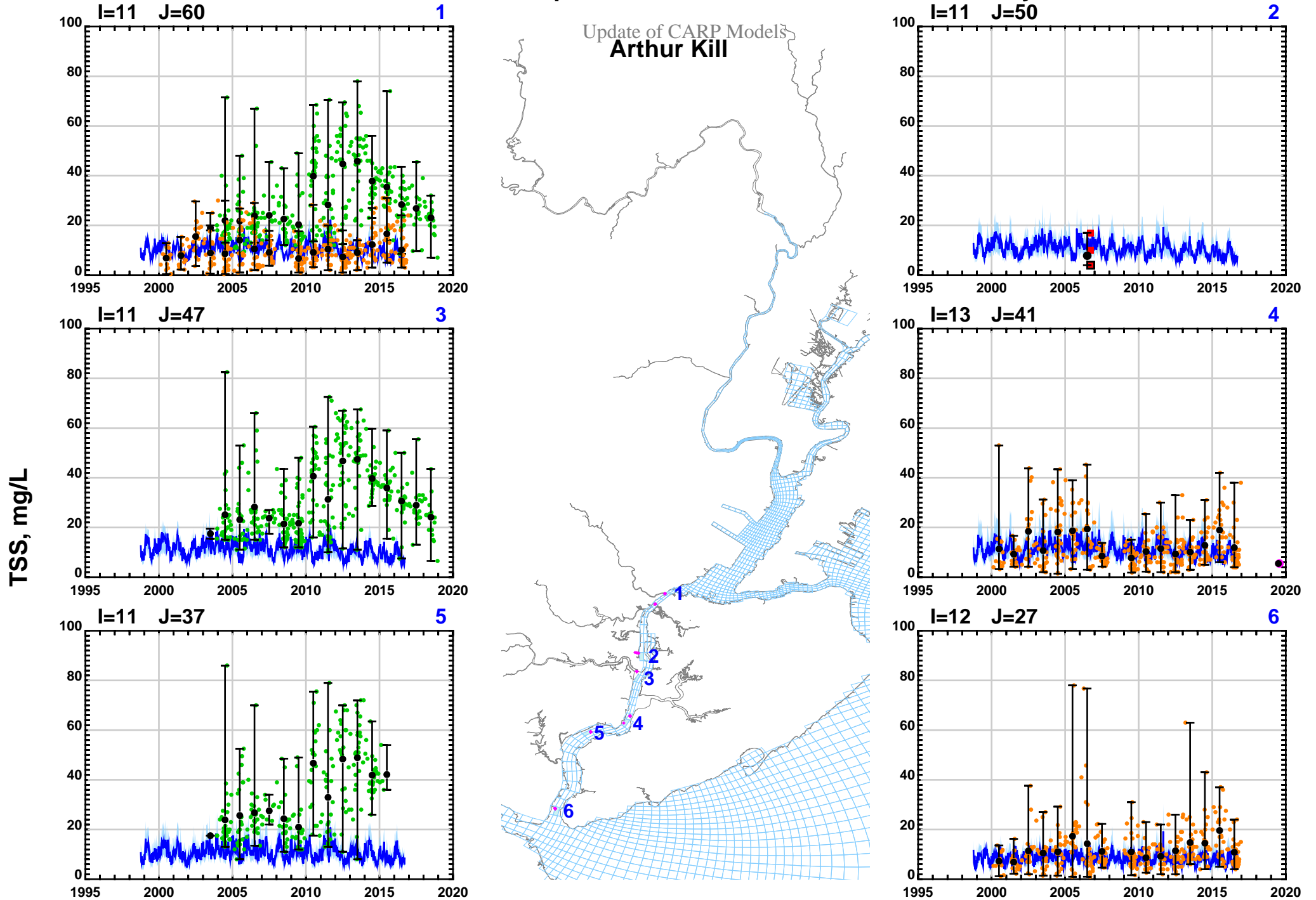


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 10 of 46

● Water Column Data: yearly mean and range  
 ● CARP2 Data  
 ● Harbor Data  
 ● NJHDG Data



# Water Column Data Comparison With Model All Water Column Layers



Update of CARP Models  
Arthur Kill

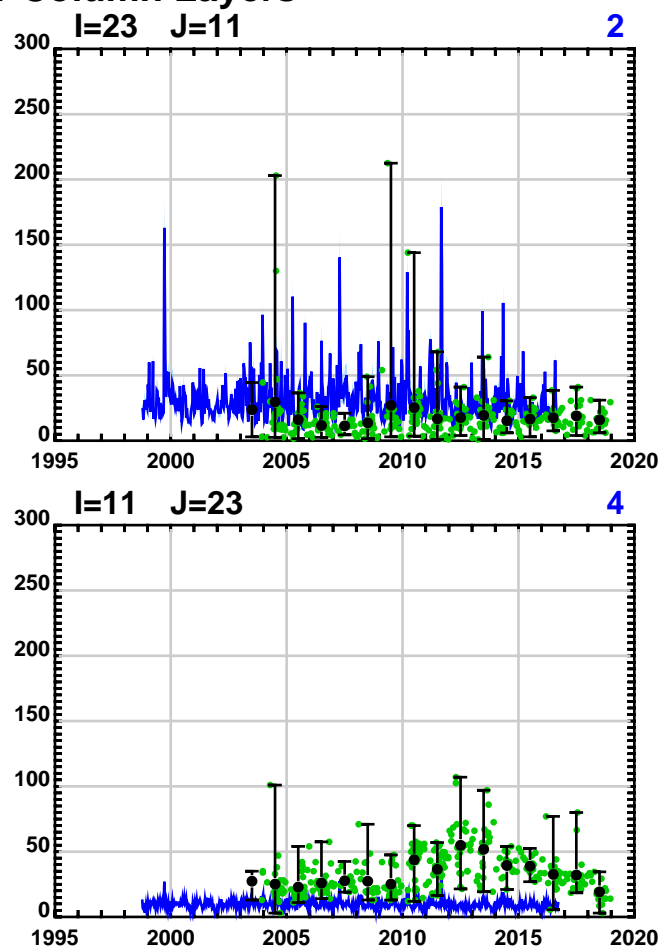
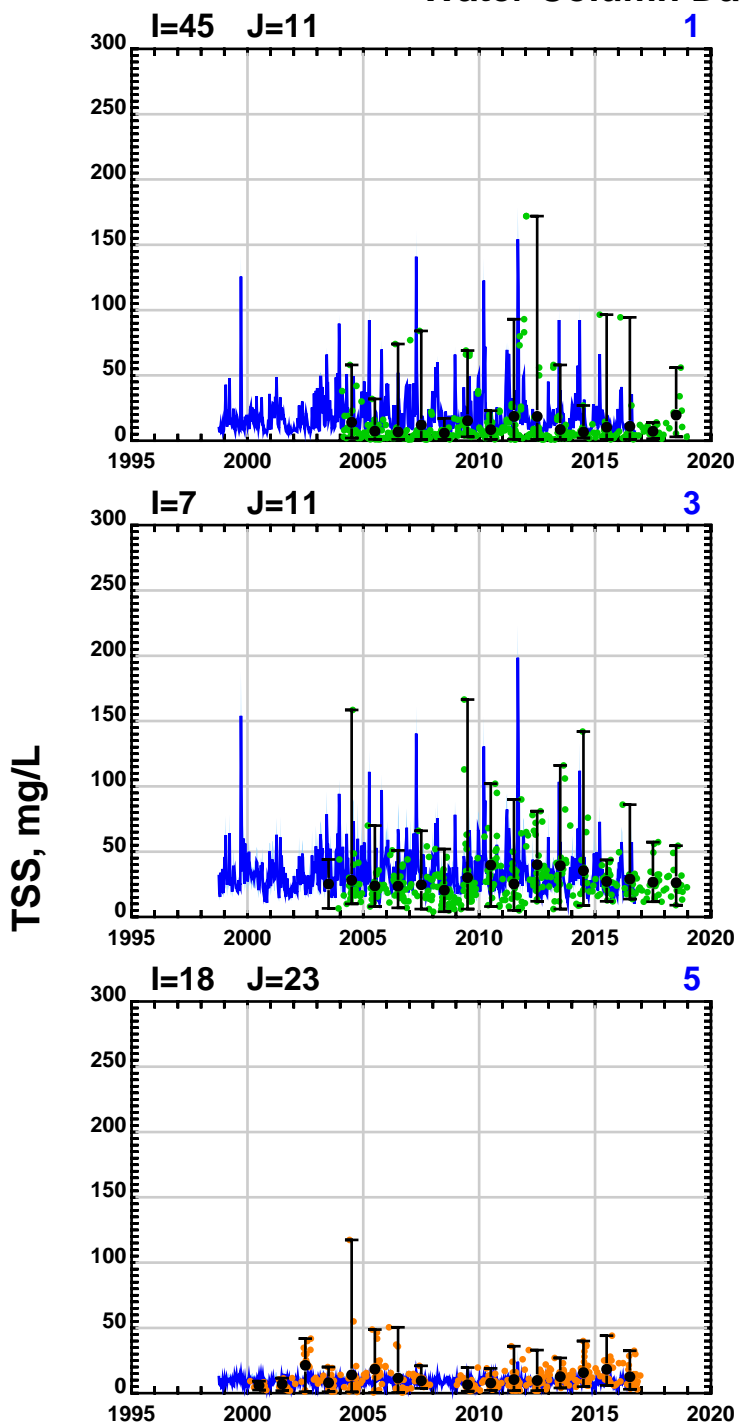
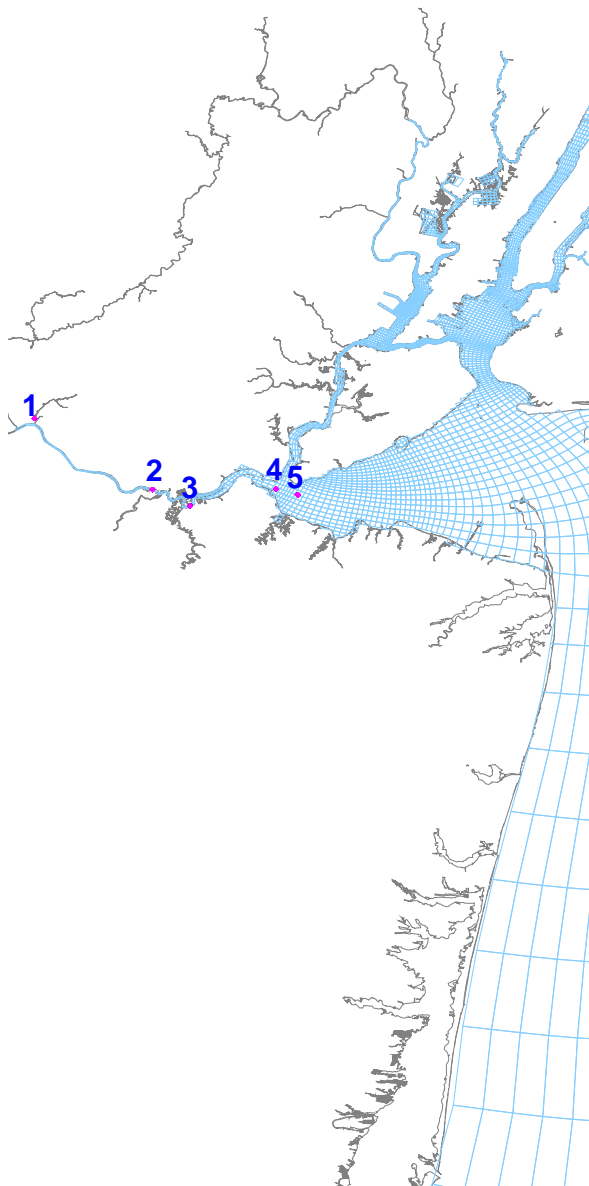
TSS, mg/L

Detect Data  
Model: mean and range of values in Water Column Appendix 11 Page 11 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers

Update of CARP Models  
Raritan River

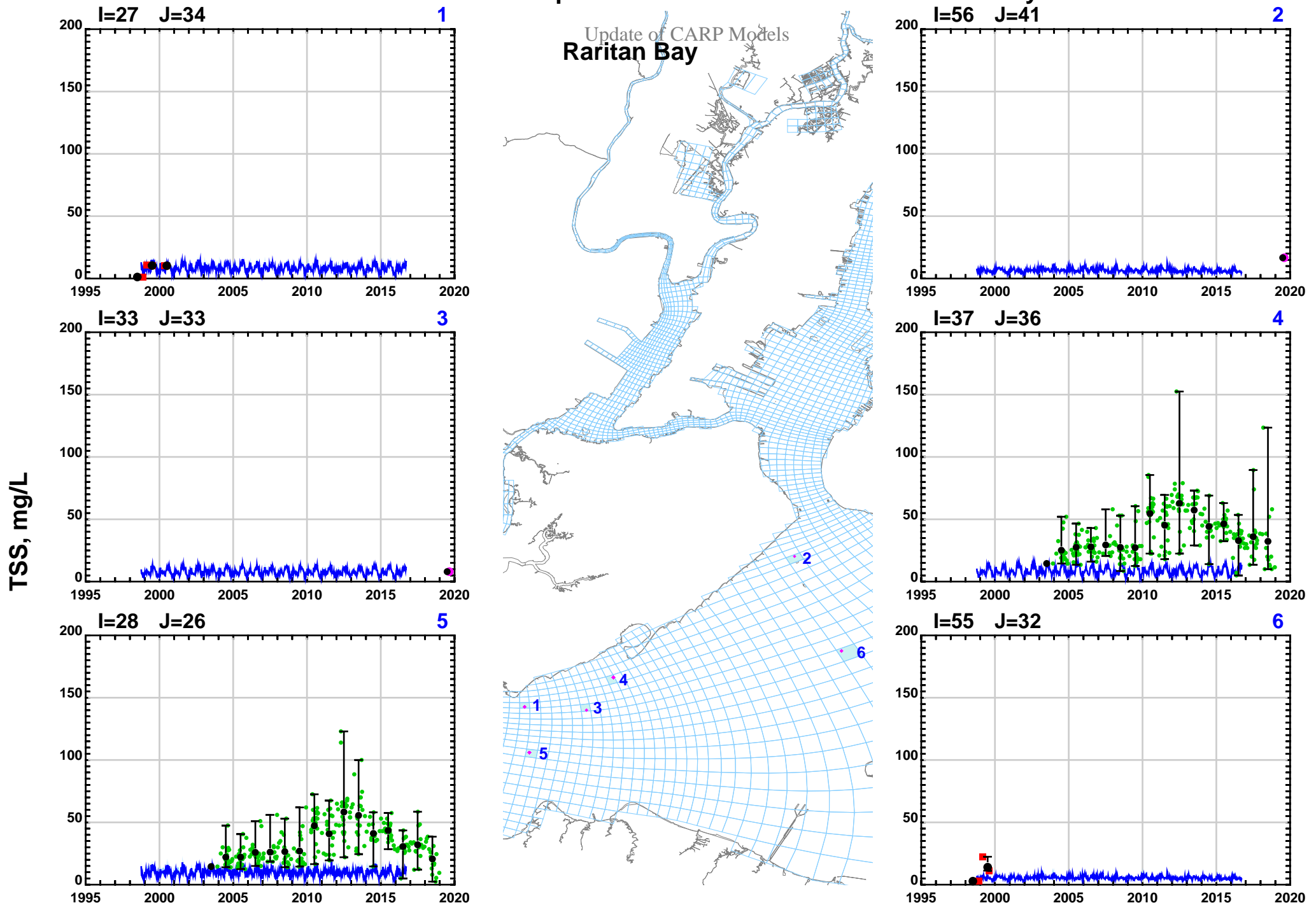


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 12 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data



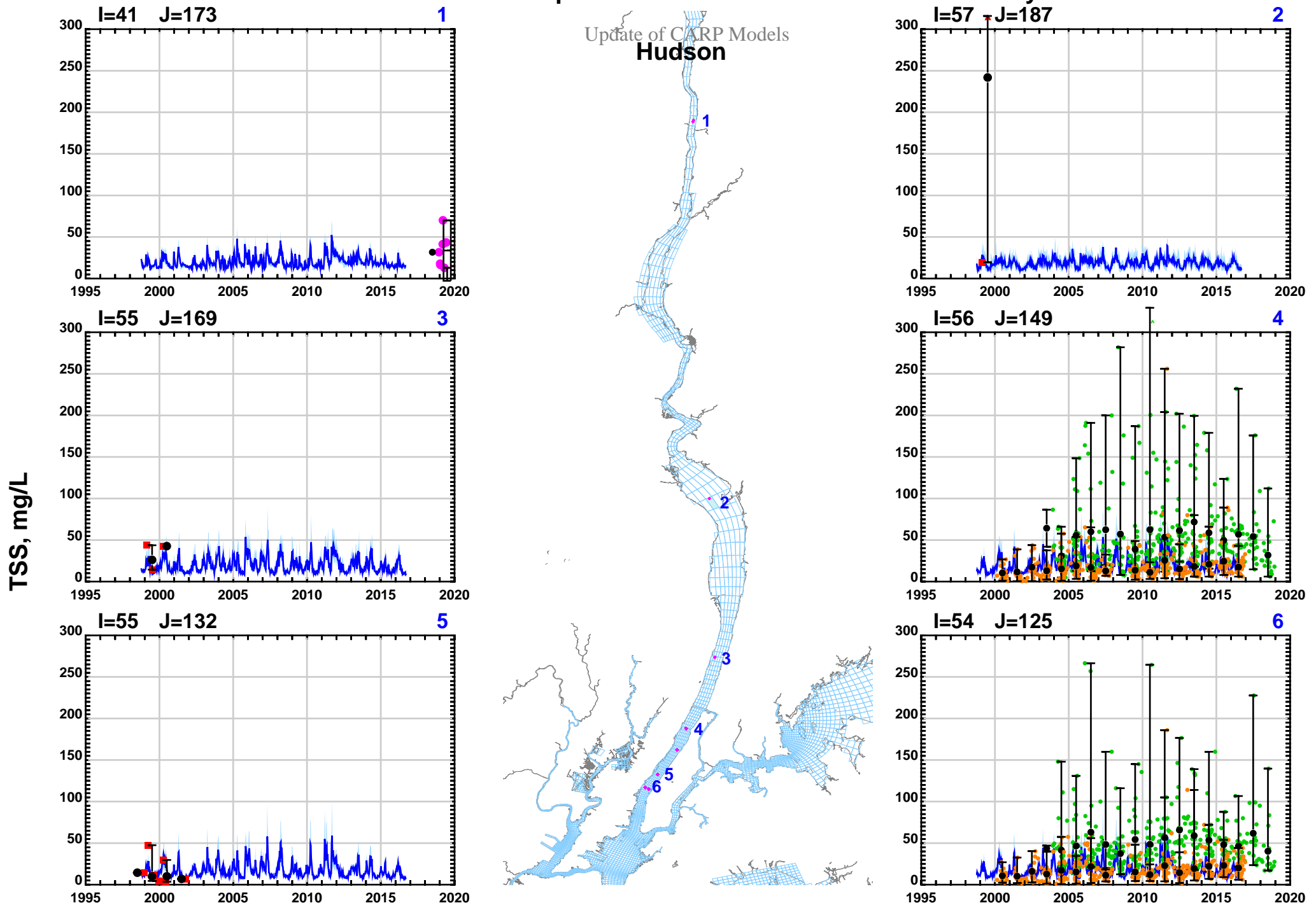
# Water Column Data Comparison With Model All Water Column Layers



**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 13 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data

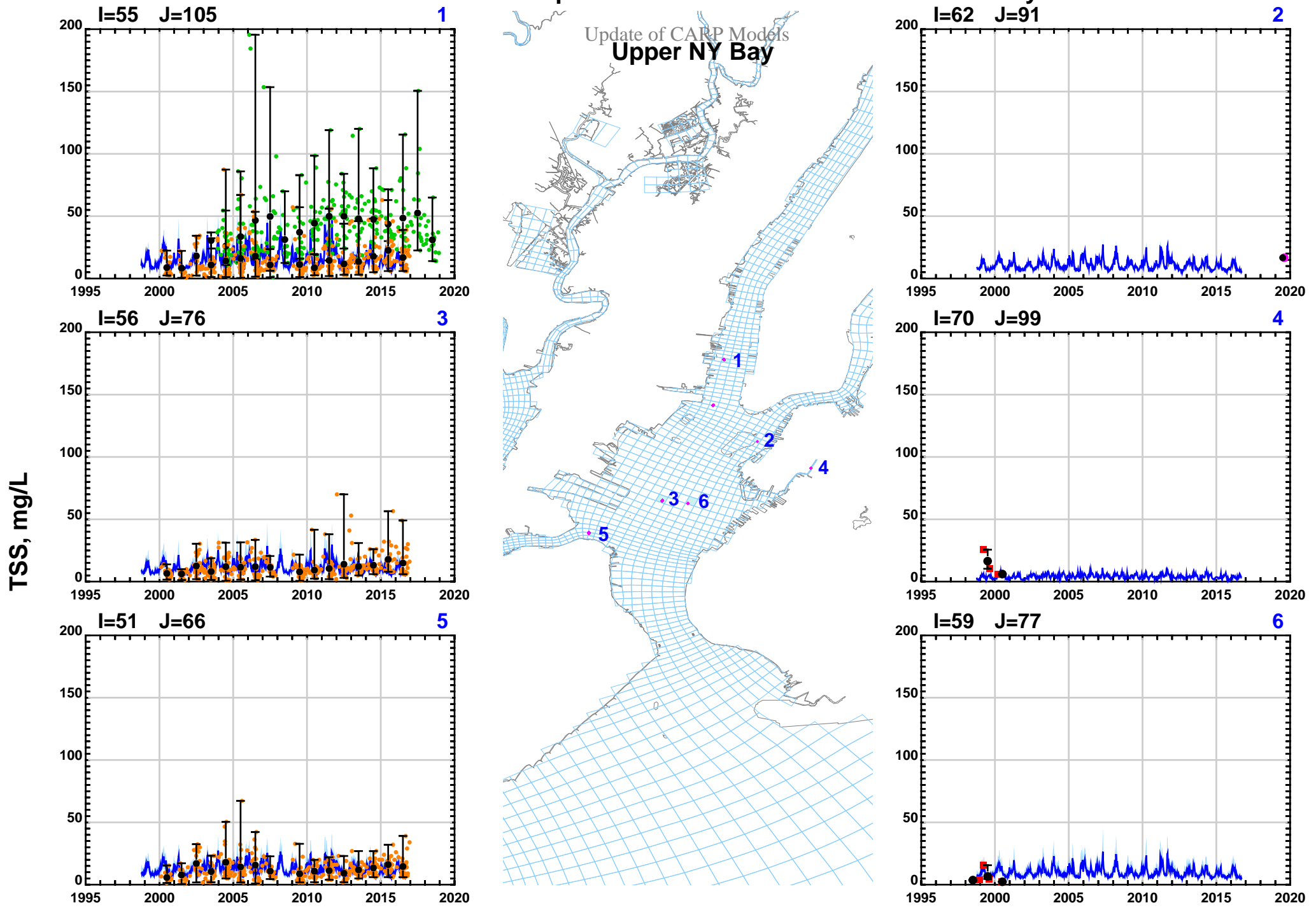
# Water Column Data Comparison With Model All Water Column Layers



**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 14 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers

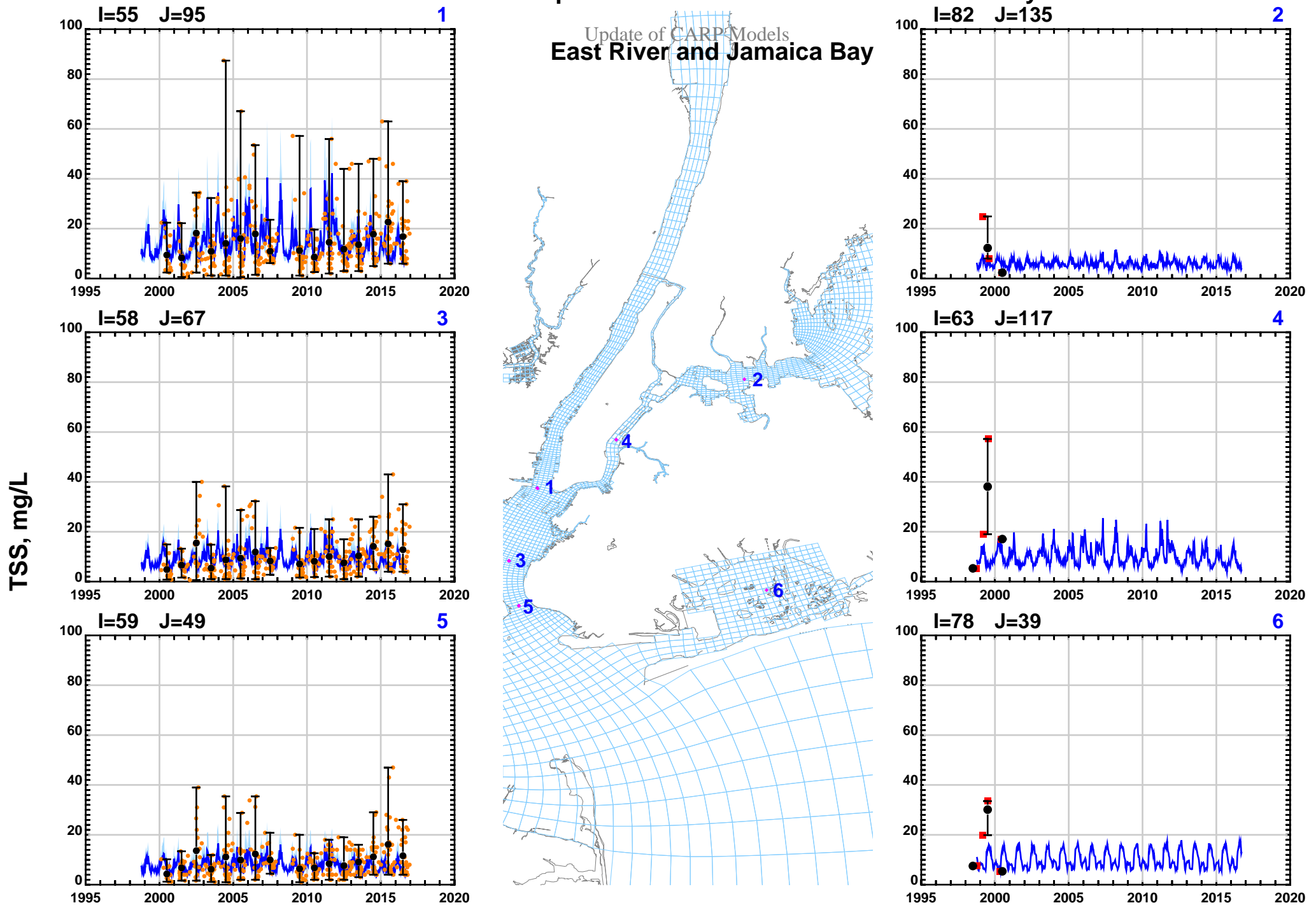


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 15 of 46

● Water Column Data: yearly mean and range  
 ● CARP2 Data  
 ● Harbor Data  
 ● NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models East River and Jamaica Bay

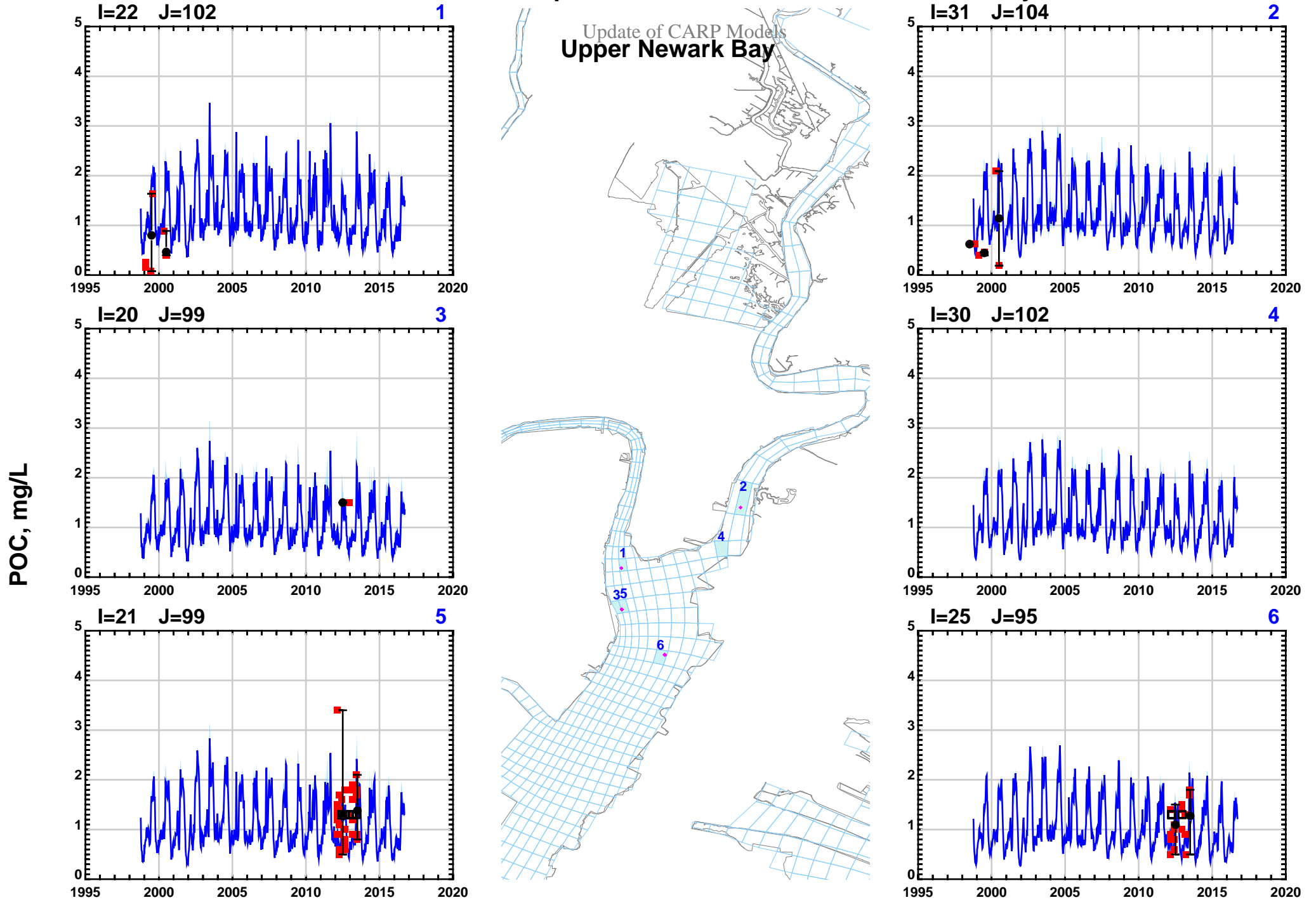


TSS, mg/L

Detect Data  
Model: mean and range of values in Water Column Appendix 11 Page 16 of 46

● Water Column Data: yearly mean and range  
● CARP2 Data  
● NJHDG Data  
● Harbor Data

# Water Column Data Comparison With Model All Water Column Layers

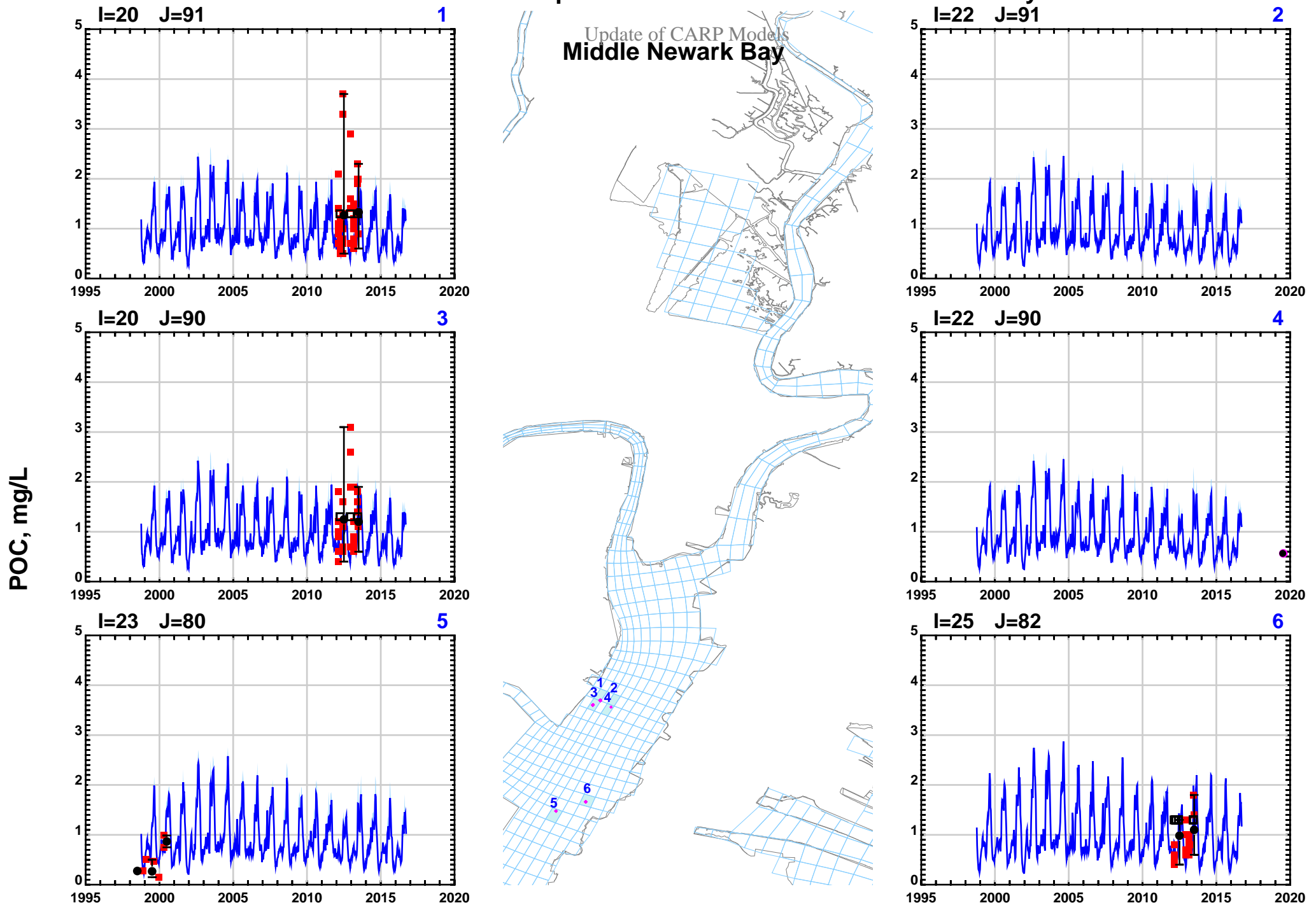


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 17 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data



# Water Column Data Comparison With Model All Water Column Layers



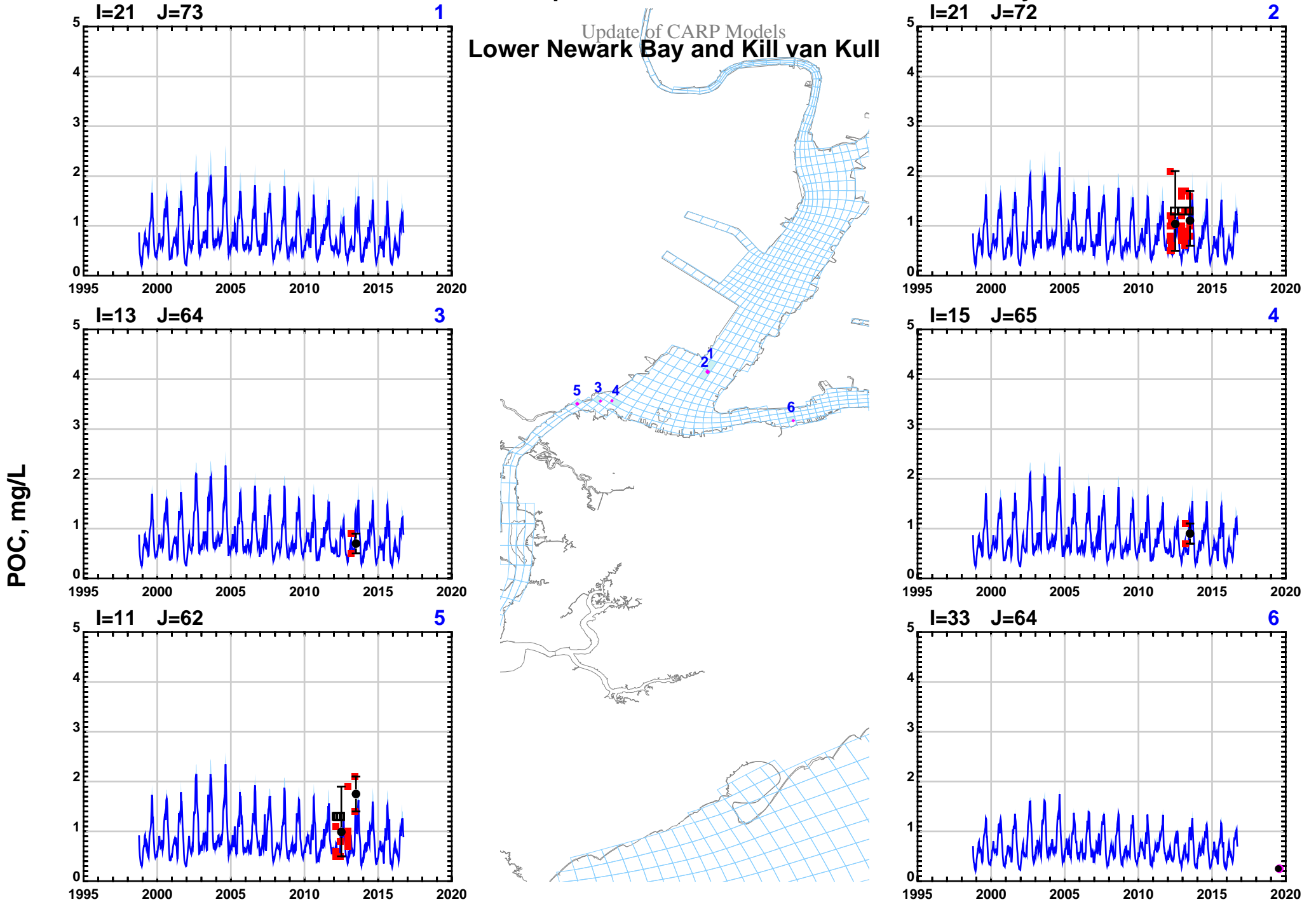
Detect Data

Model: mean and range of values in Water Column Appendix 11 Page 18 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data

# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models Lower Newark Bay and Kill van Kull



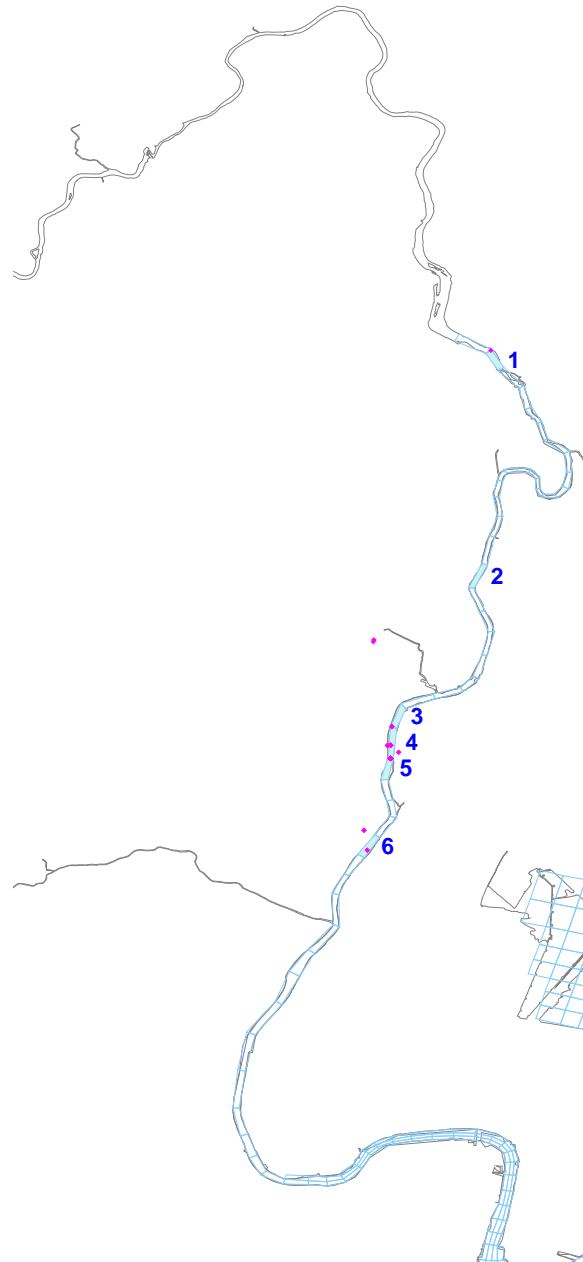
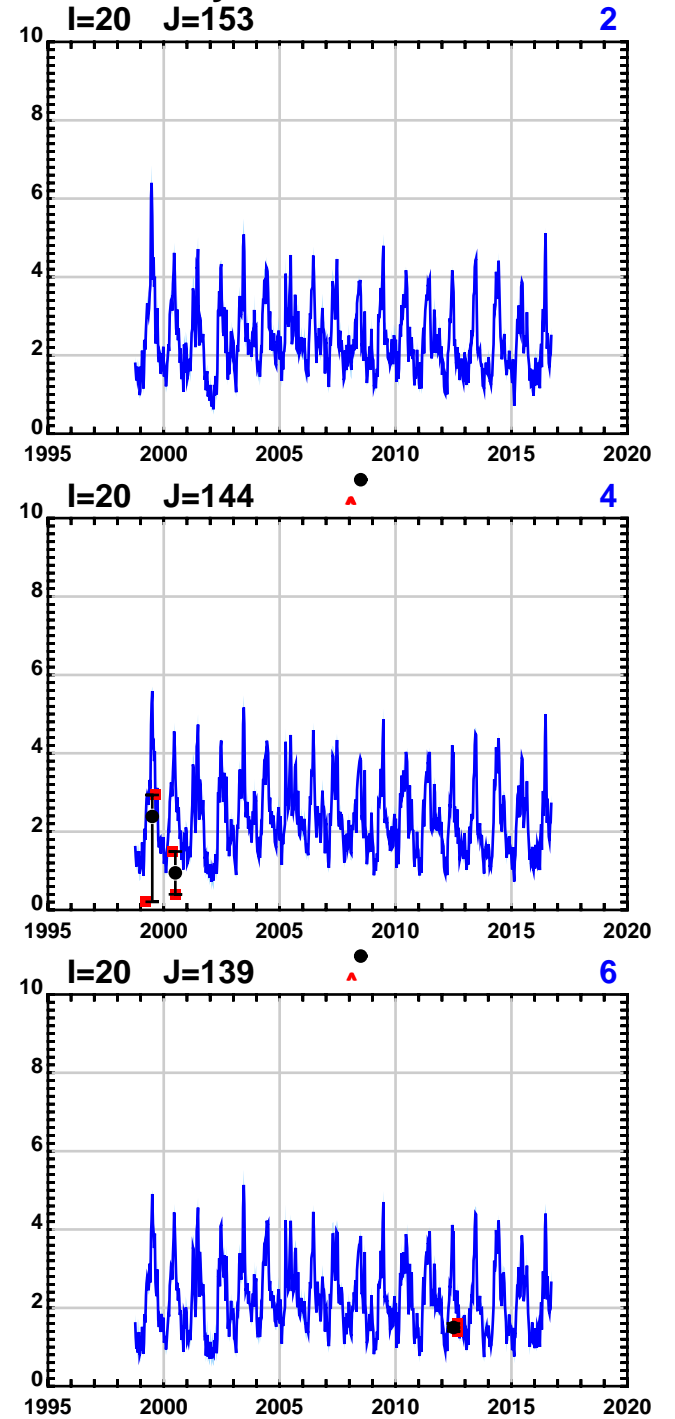
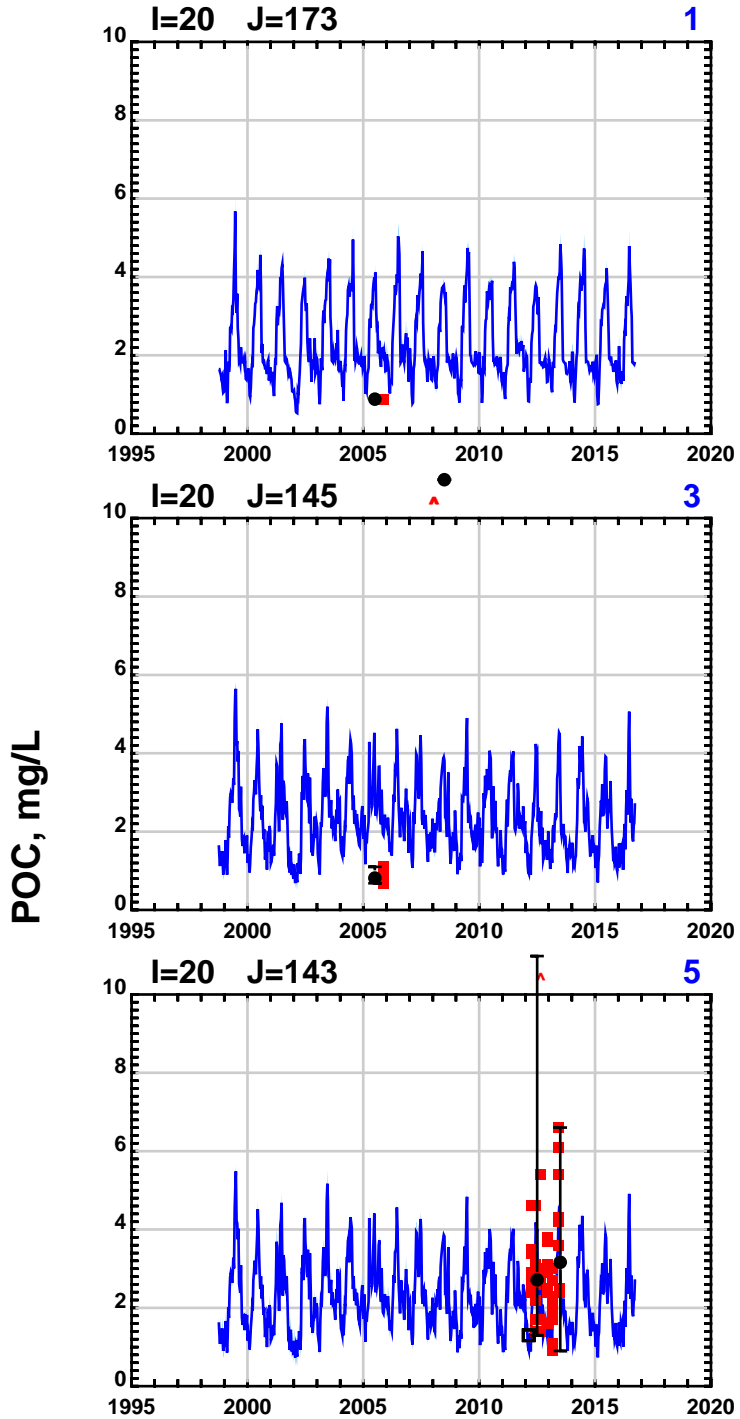
POC, mg/L

**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 19 of 46

● Water Column Data: yearly mean and range  
 ● CARP2 Data  
 ● Harbor Data  
 ● NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models Lower Passaic River - I

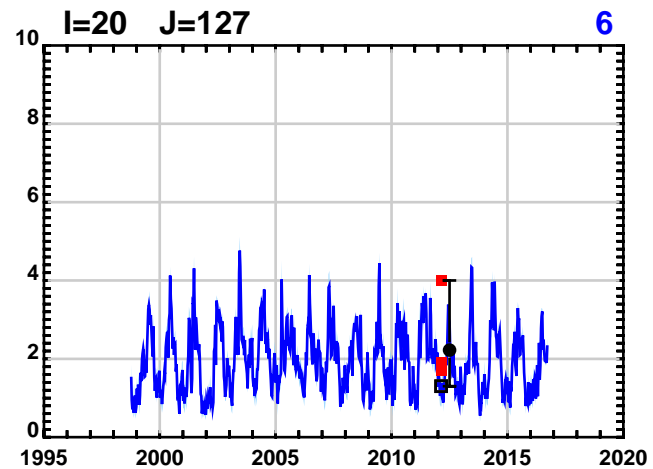
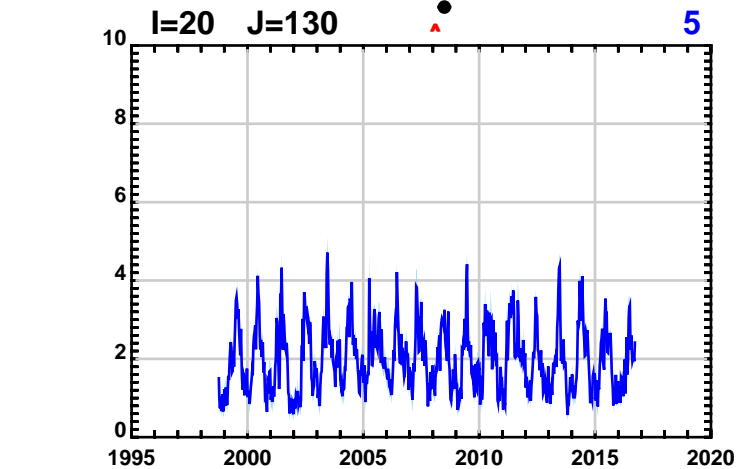
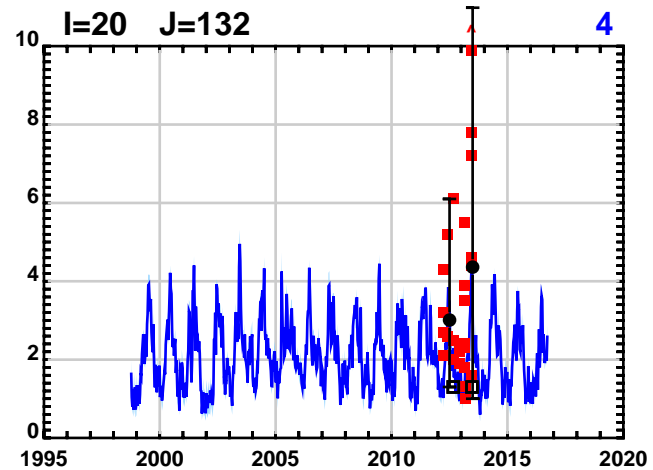
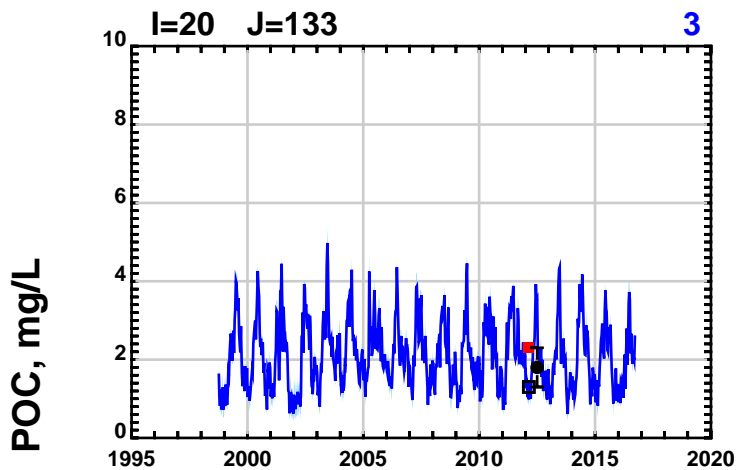
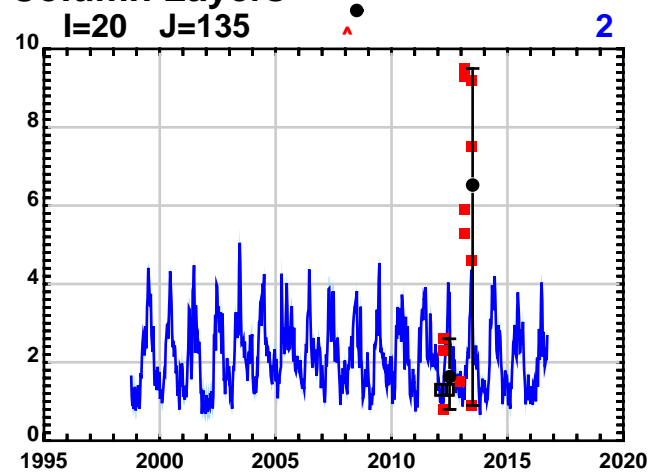
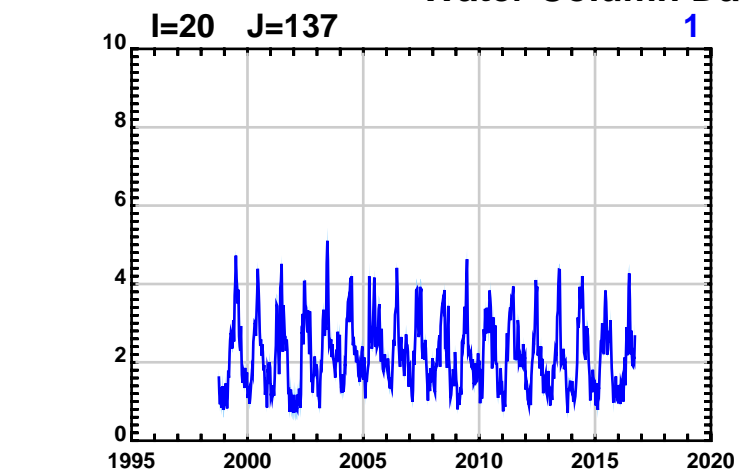
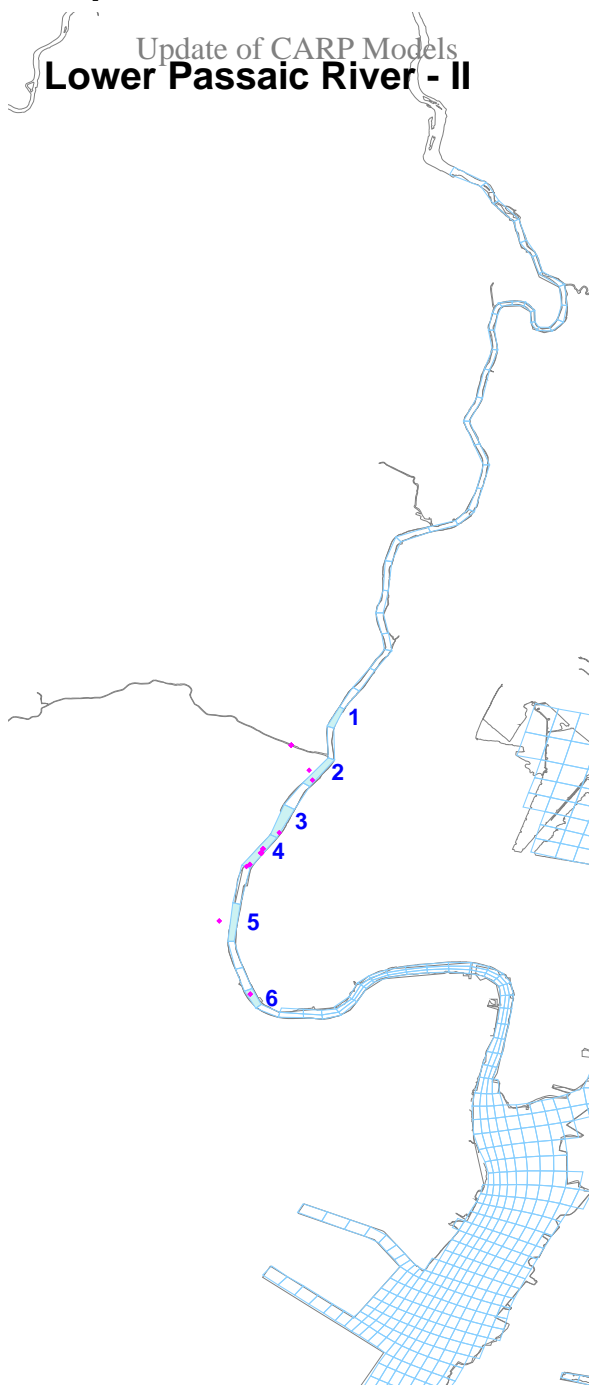


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 20 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data



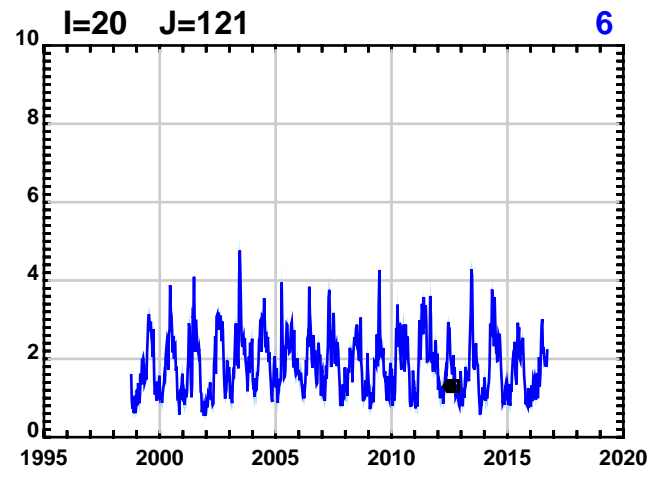
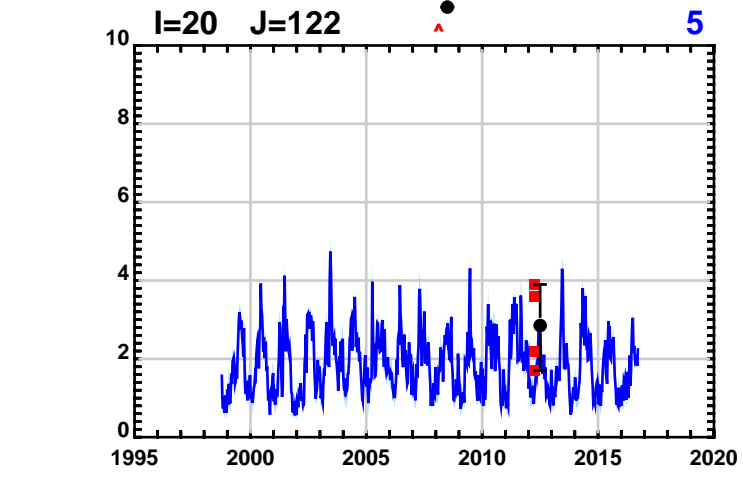
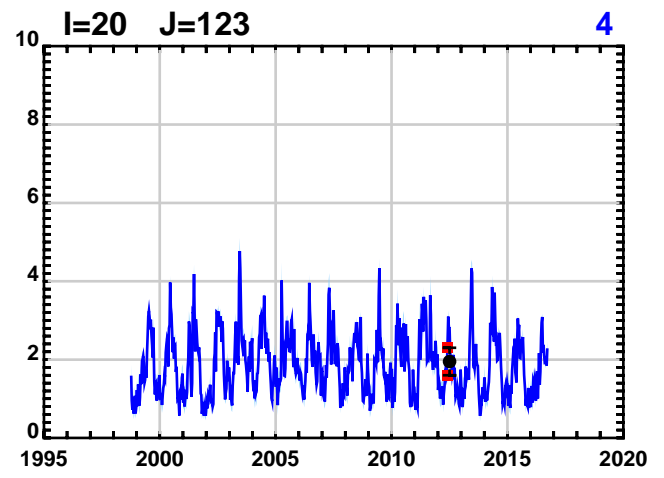
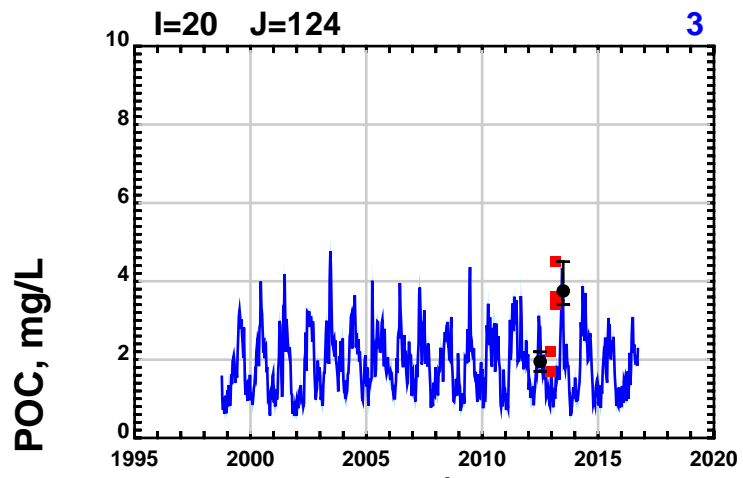
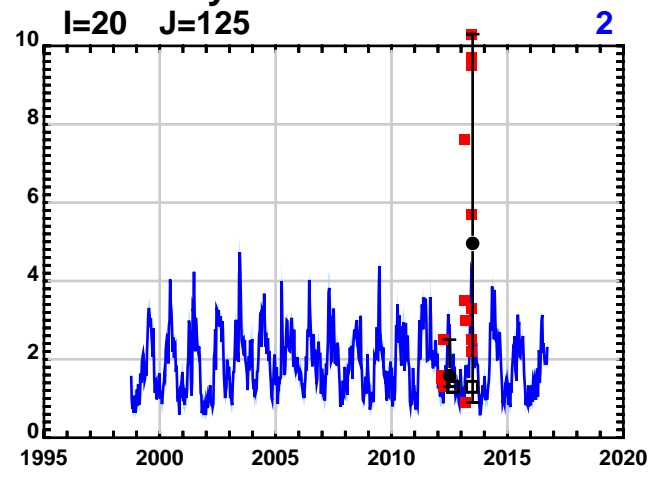
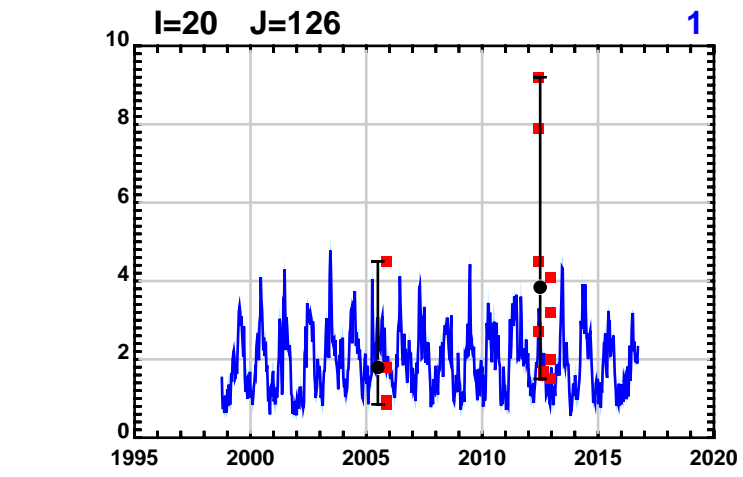
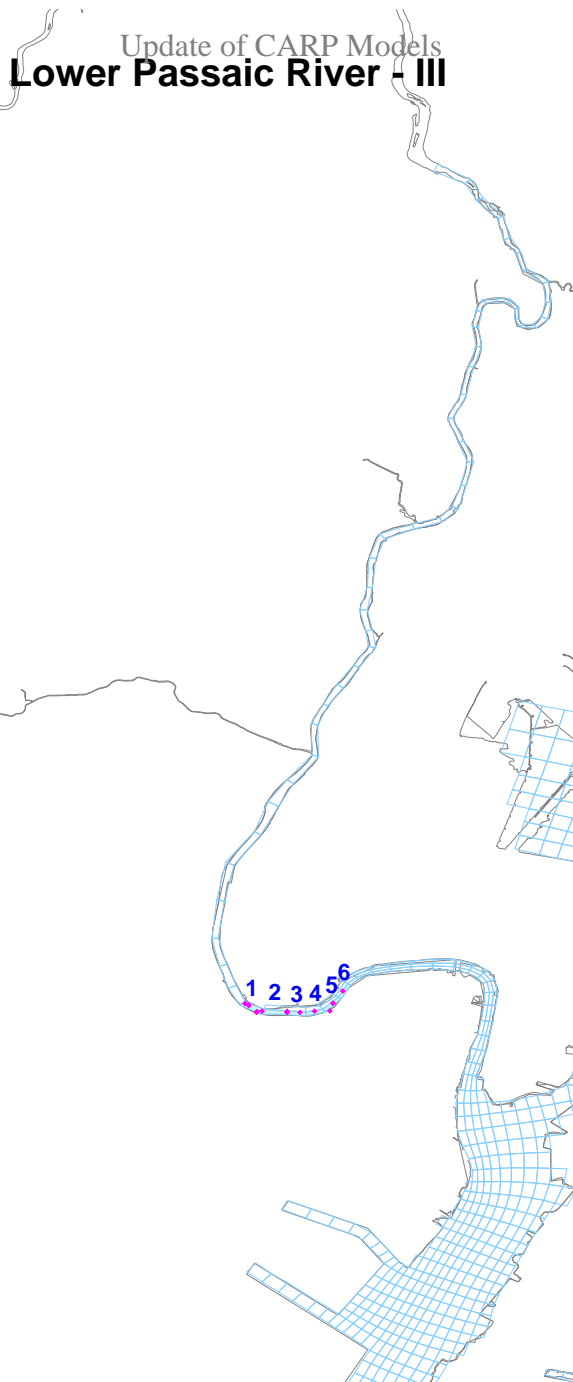
# Water Column Data Comparison With Model All Water Column Layers



**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 21 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers

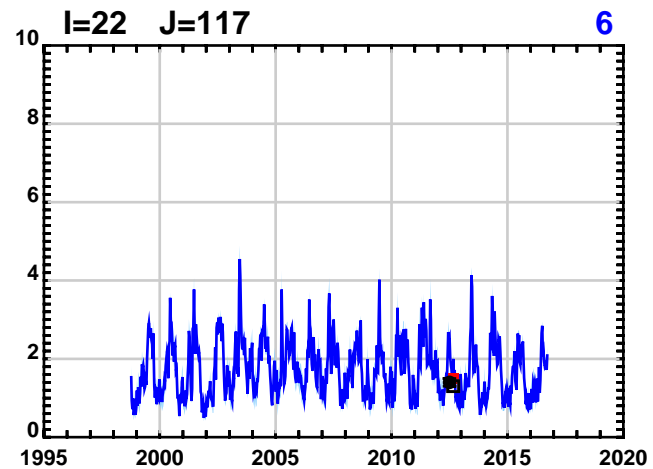
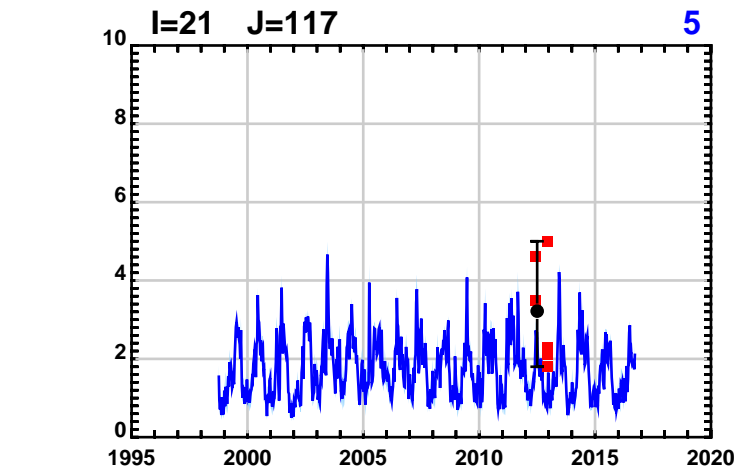
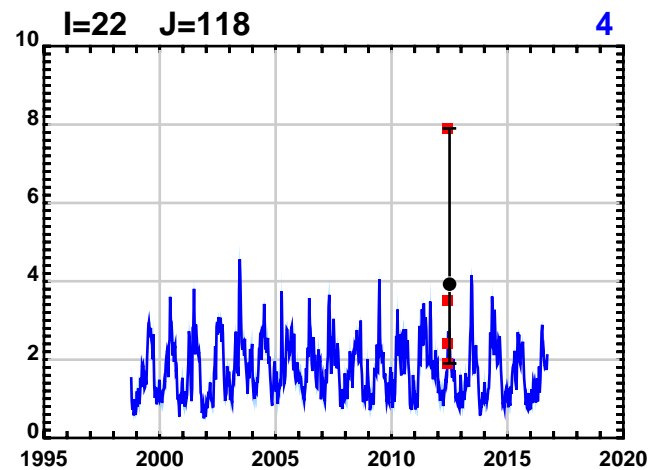
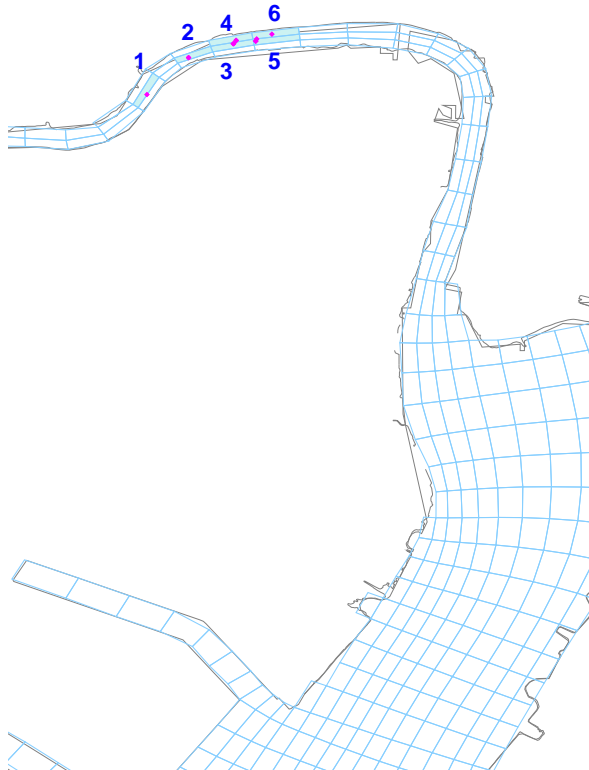
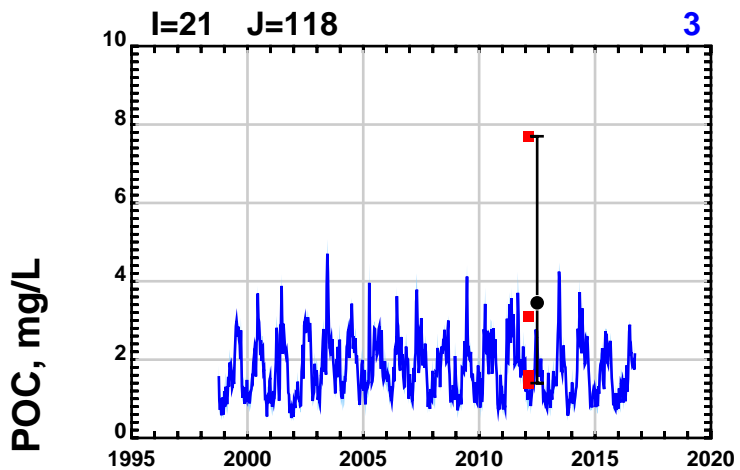
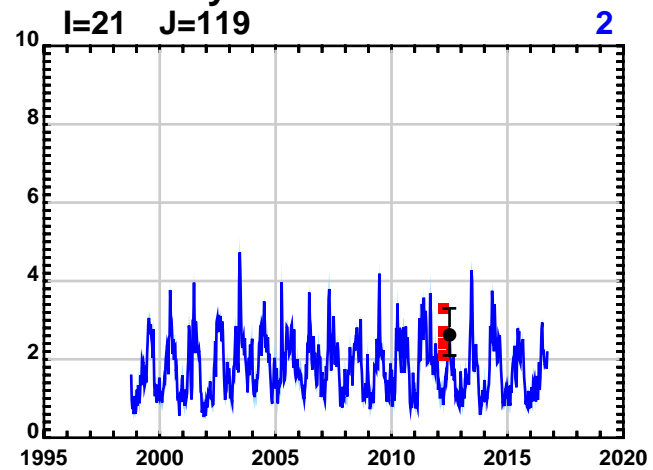
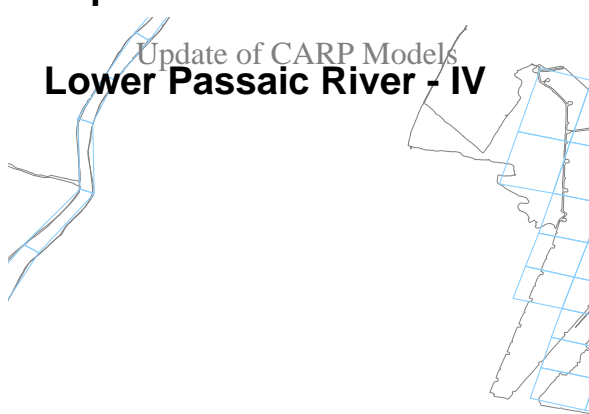
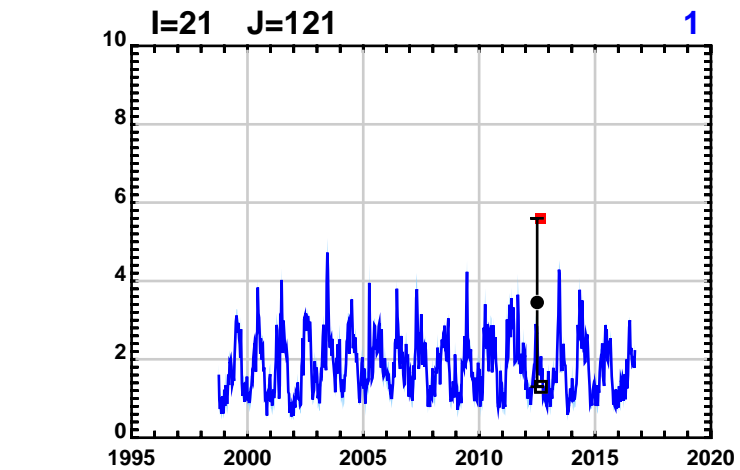


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 22 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data

# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models Lower Passaic River - IV



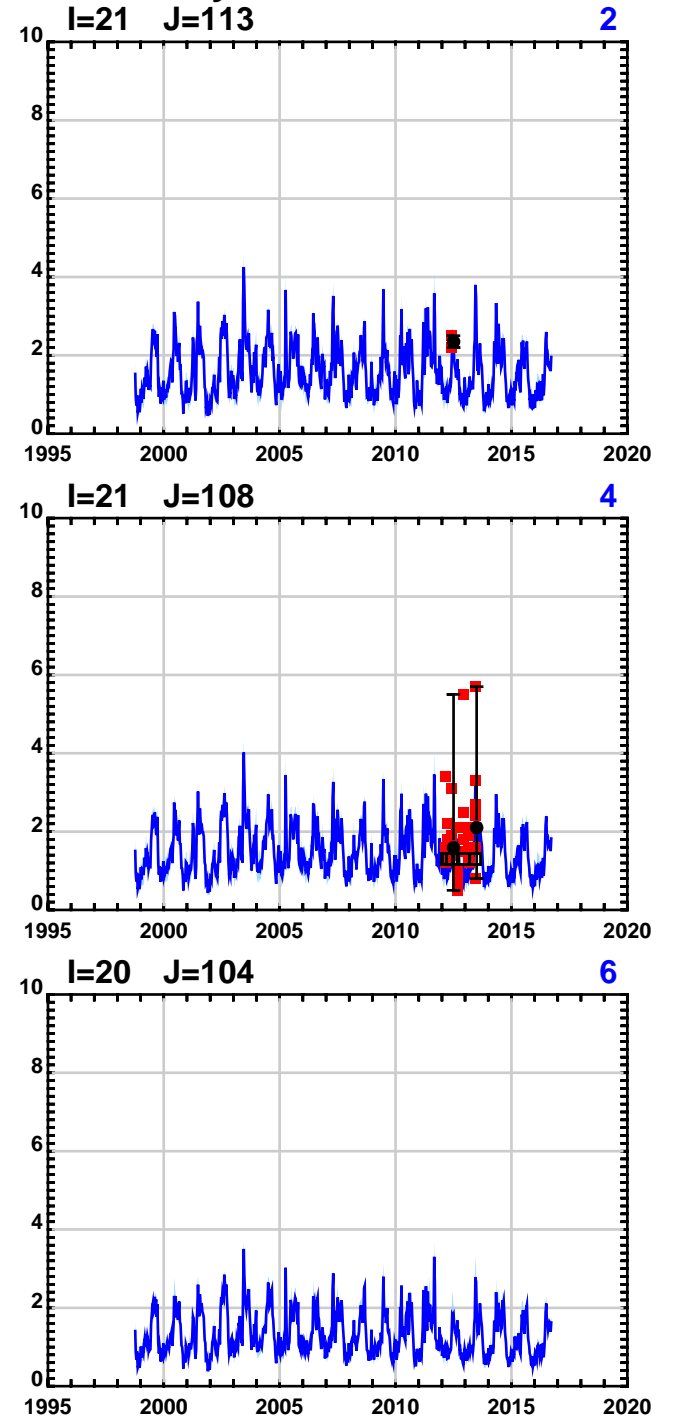
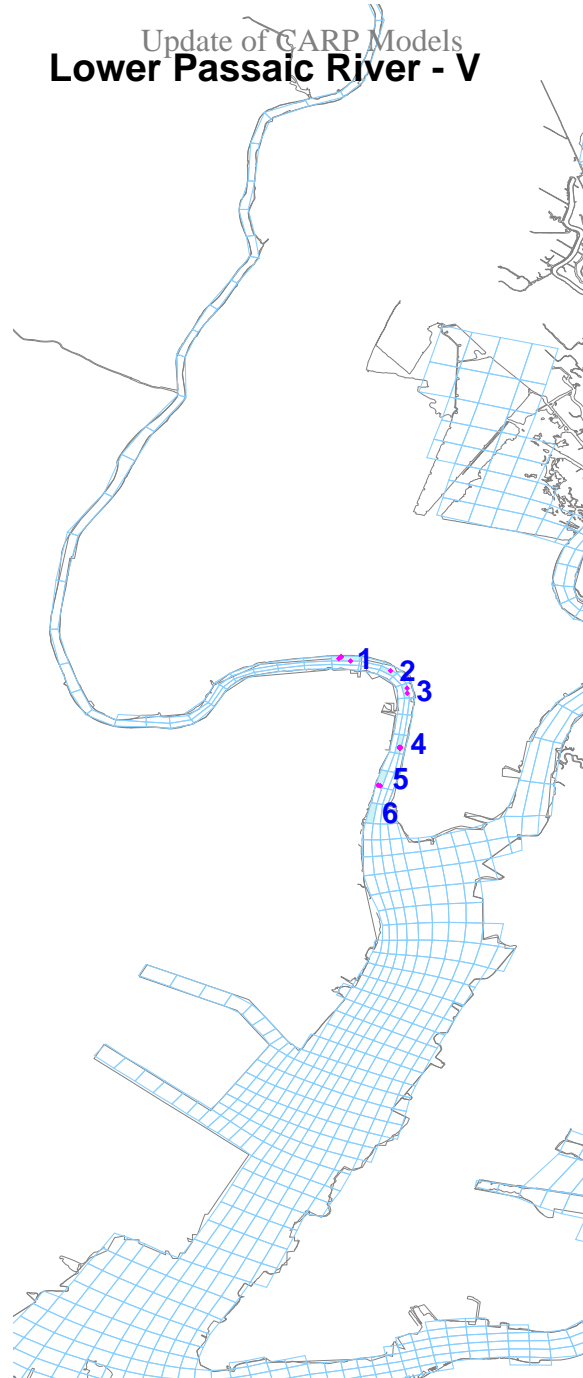
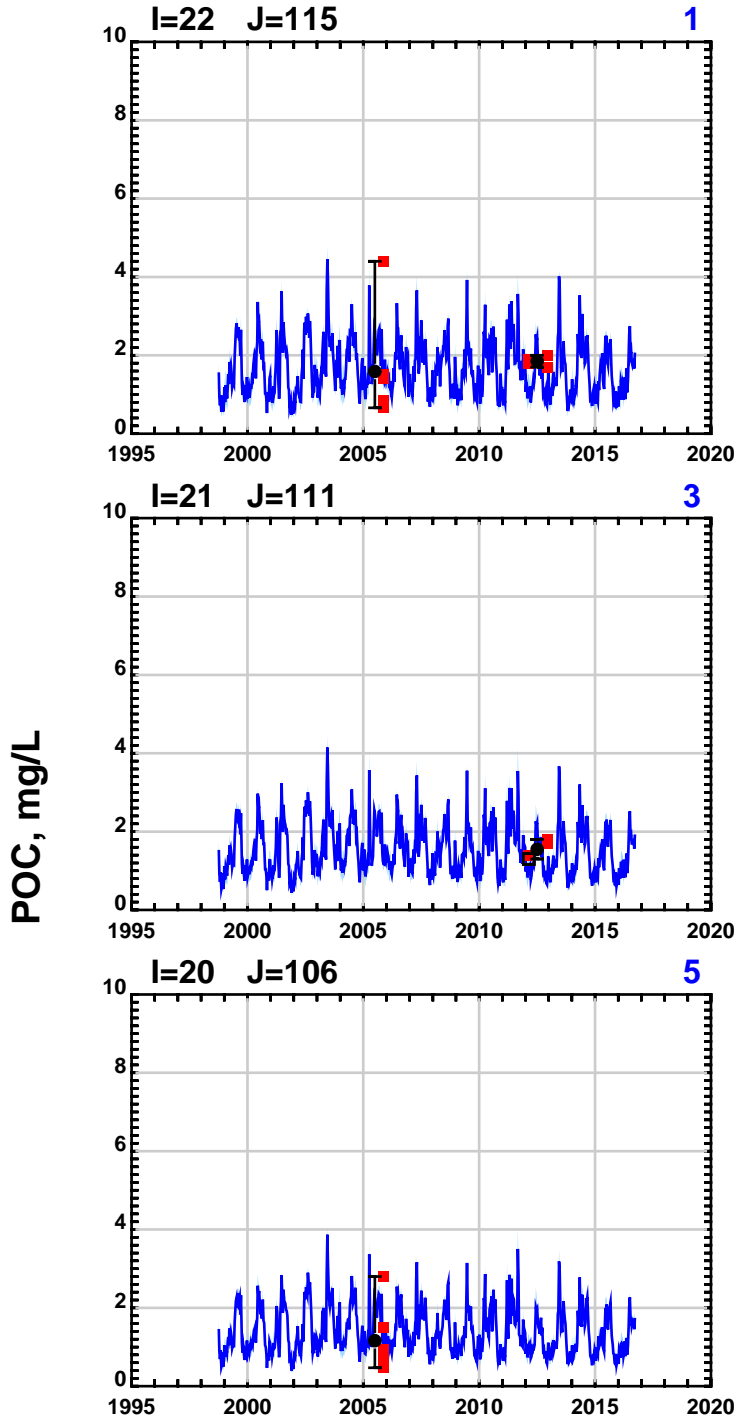
**Detect Data**

**Model: mean and range of values in Water Column**

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data

# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models Lower Passaic River - V

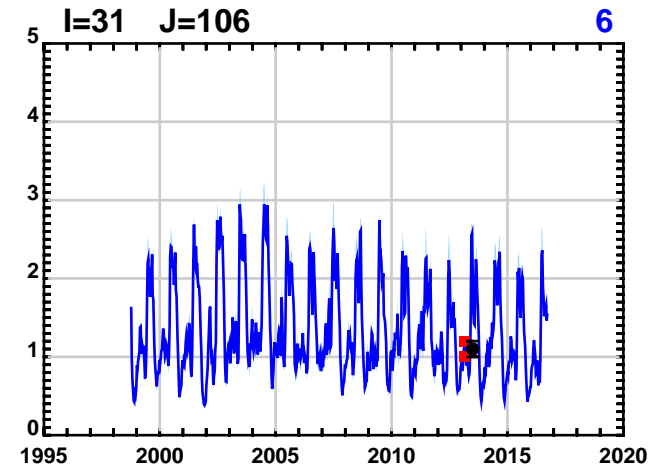
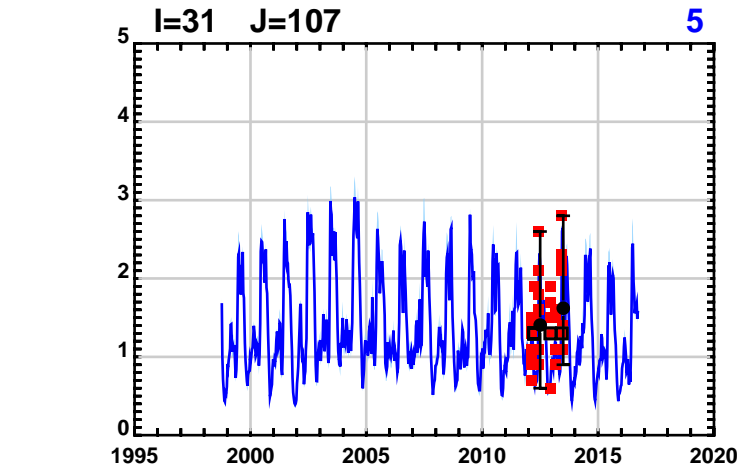
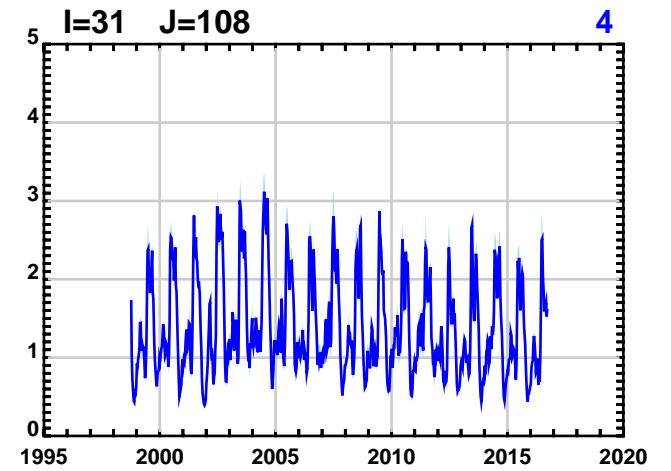
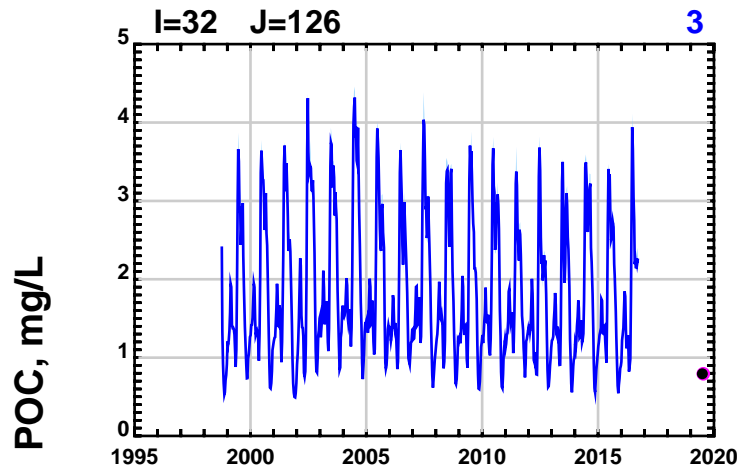
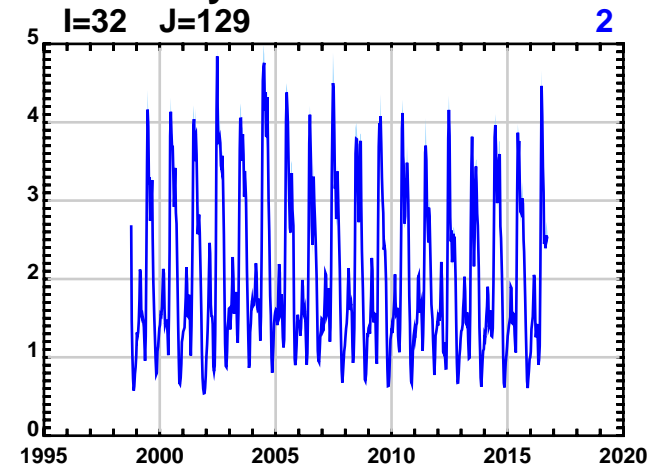
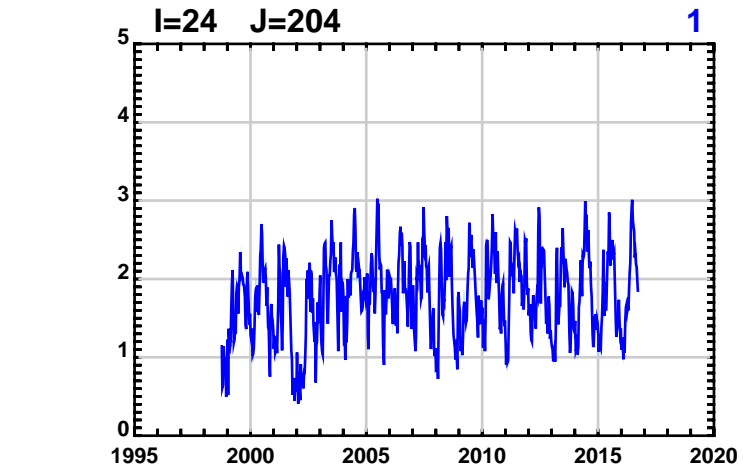


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 24 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data

# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models Hackensack River

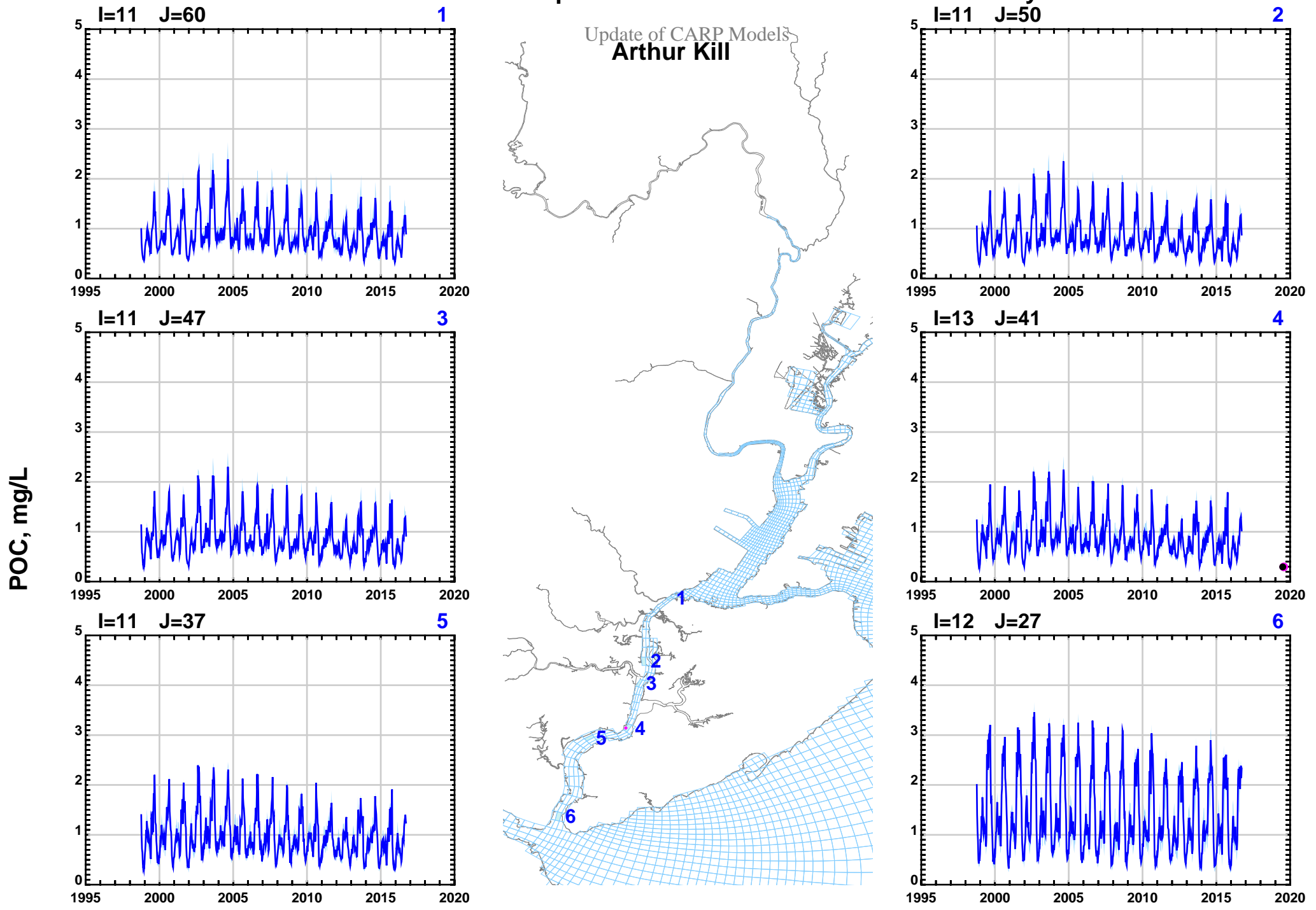


POC, mg/L

**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 25 of 46

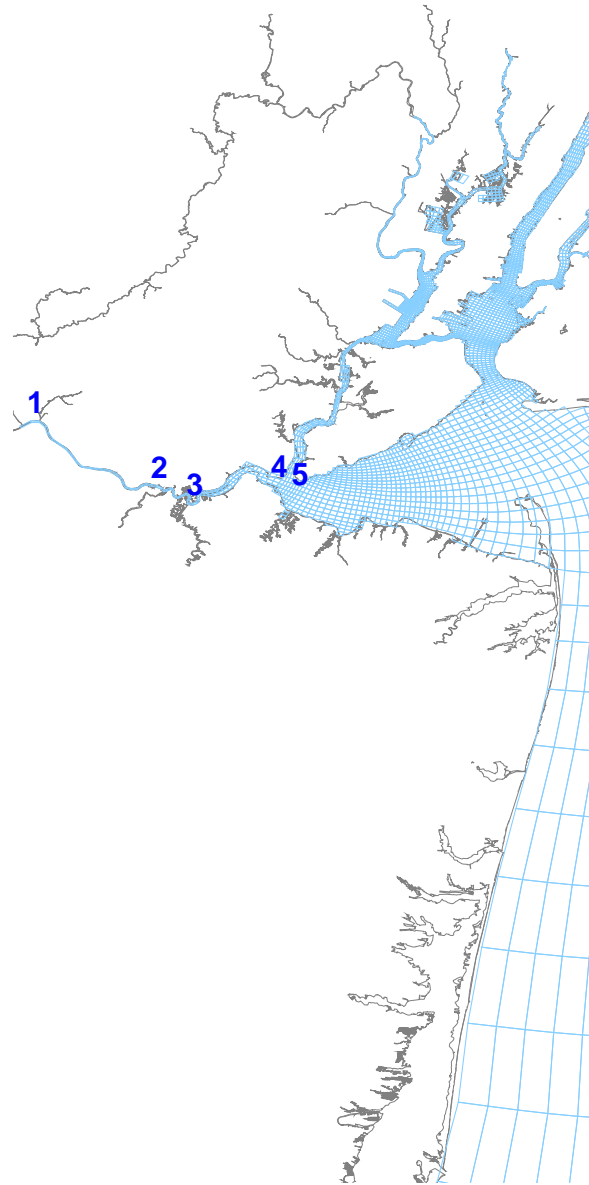
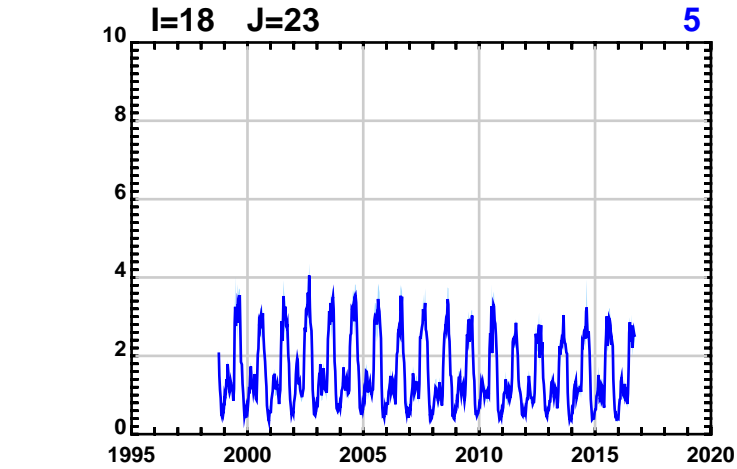
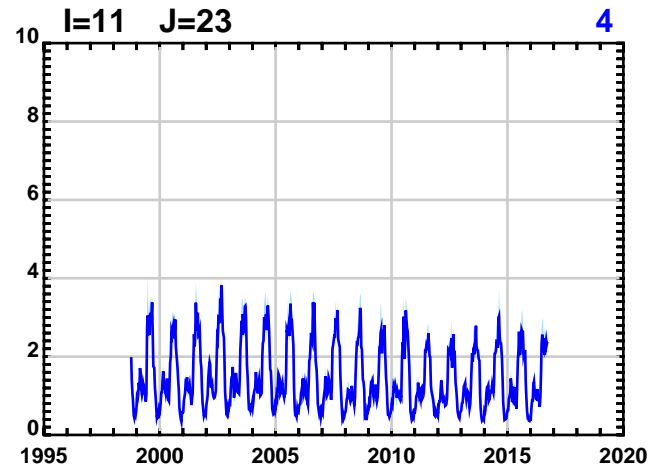
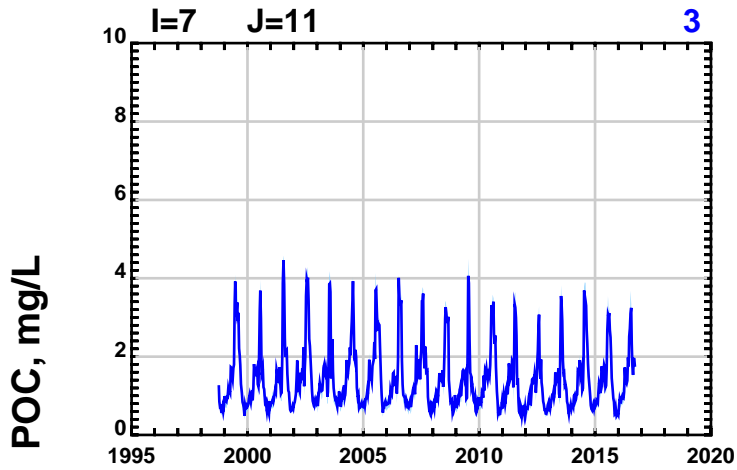
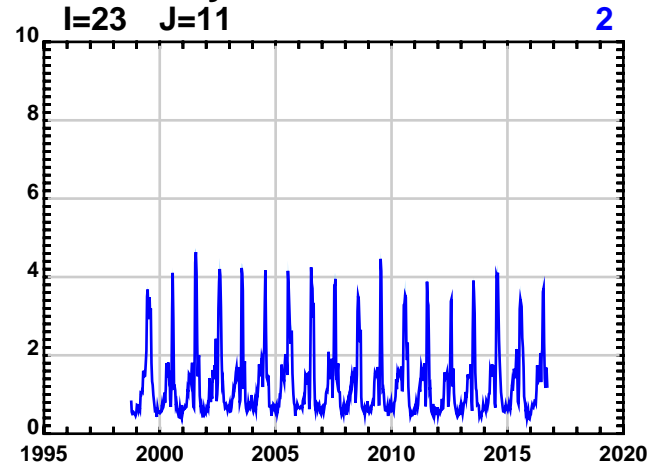
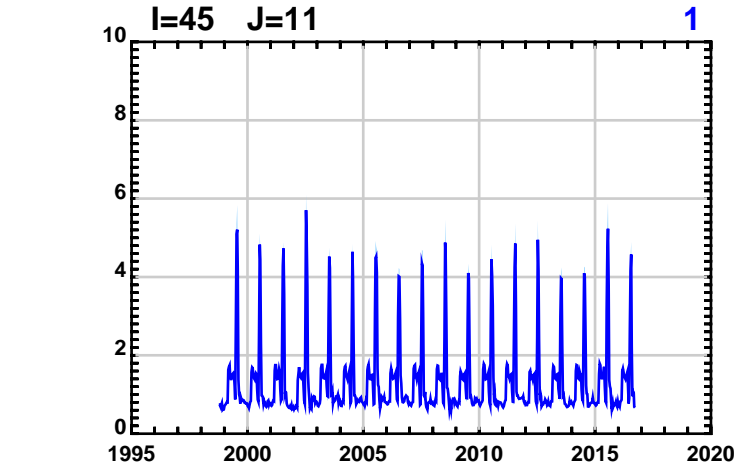
- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data

# Water Column Data Comparison With Model All Water Column Layers



# Water Column Data Comparison With Model All Water Column Layers

Update of CARP Models  
Raritan River

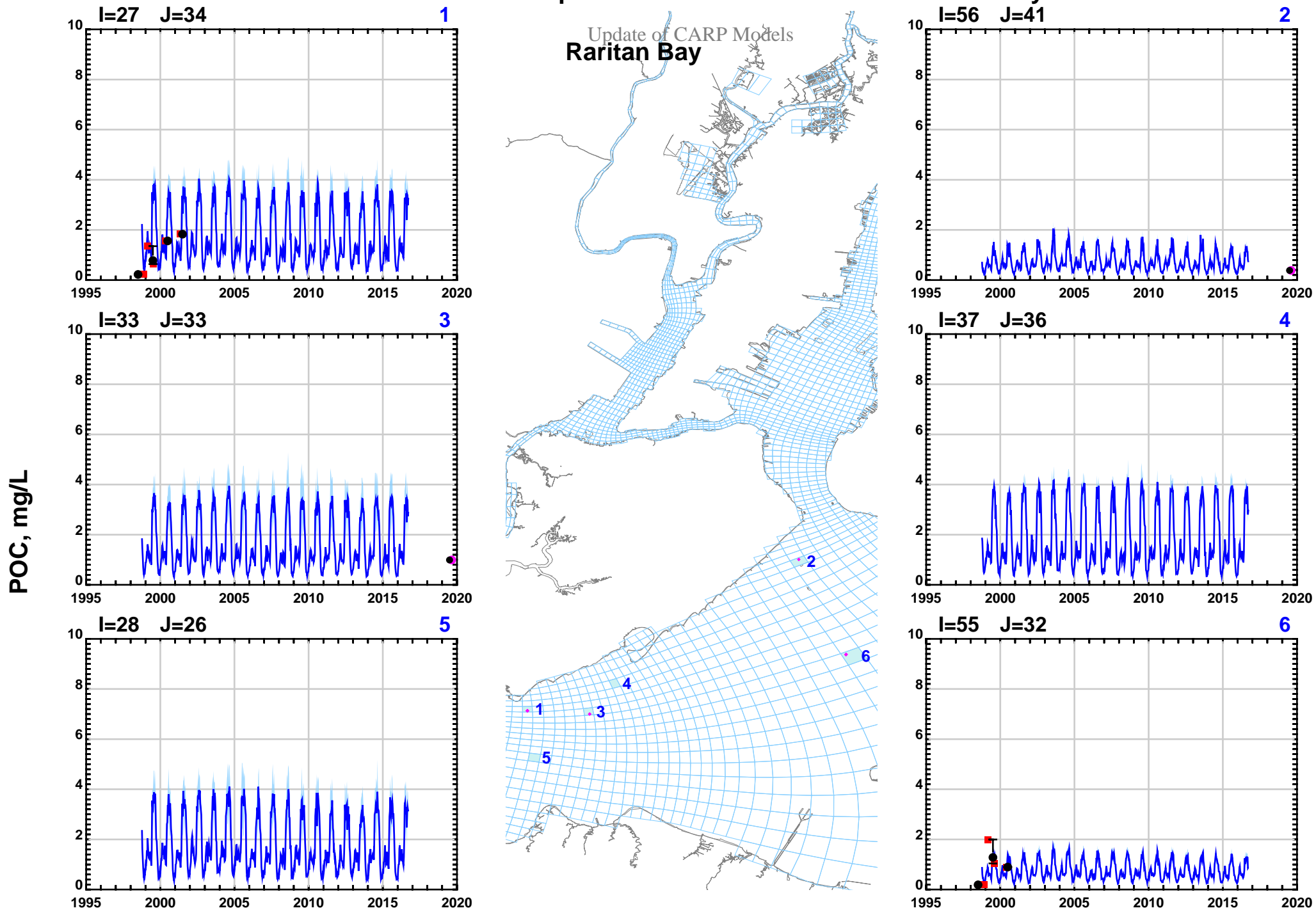


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 27 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data



# Water Column Data Comparison With Model All Water Column Layers



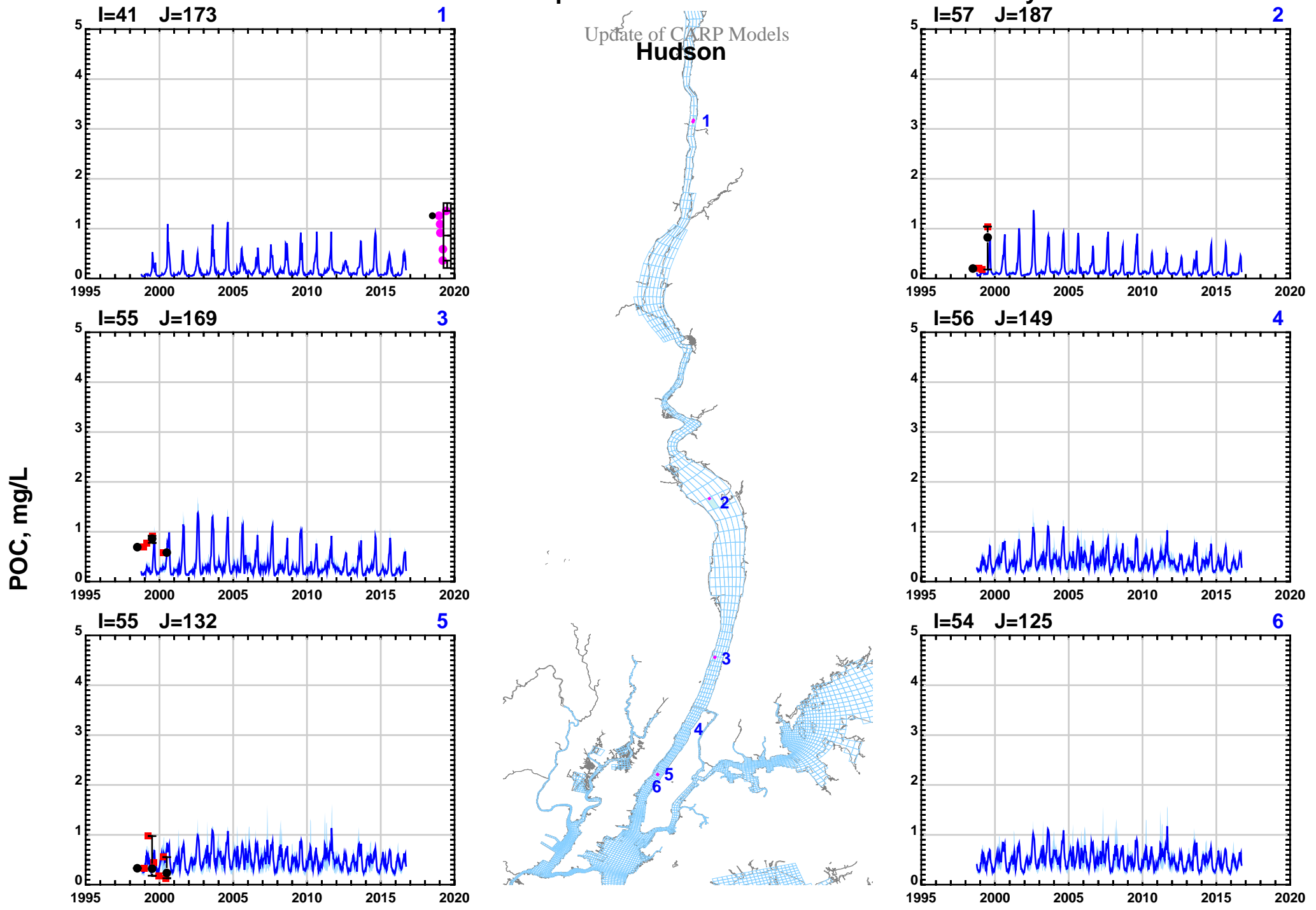
**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 28 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data



# Water Column Data Comparison With Model All Water Column Layers

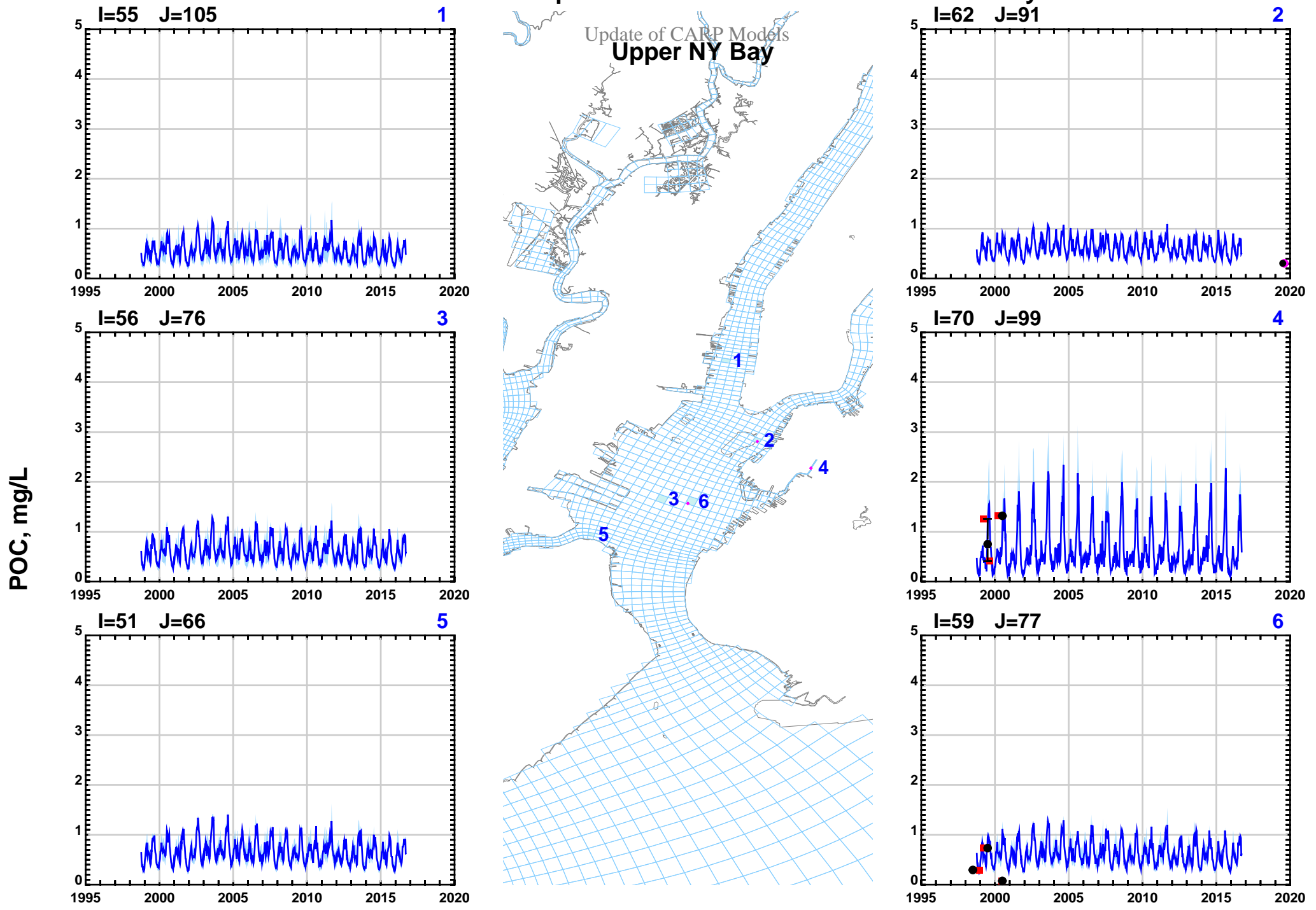
Update of CARP Models  
Hudson



**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 29 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data

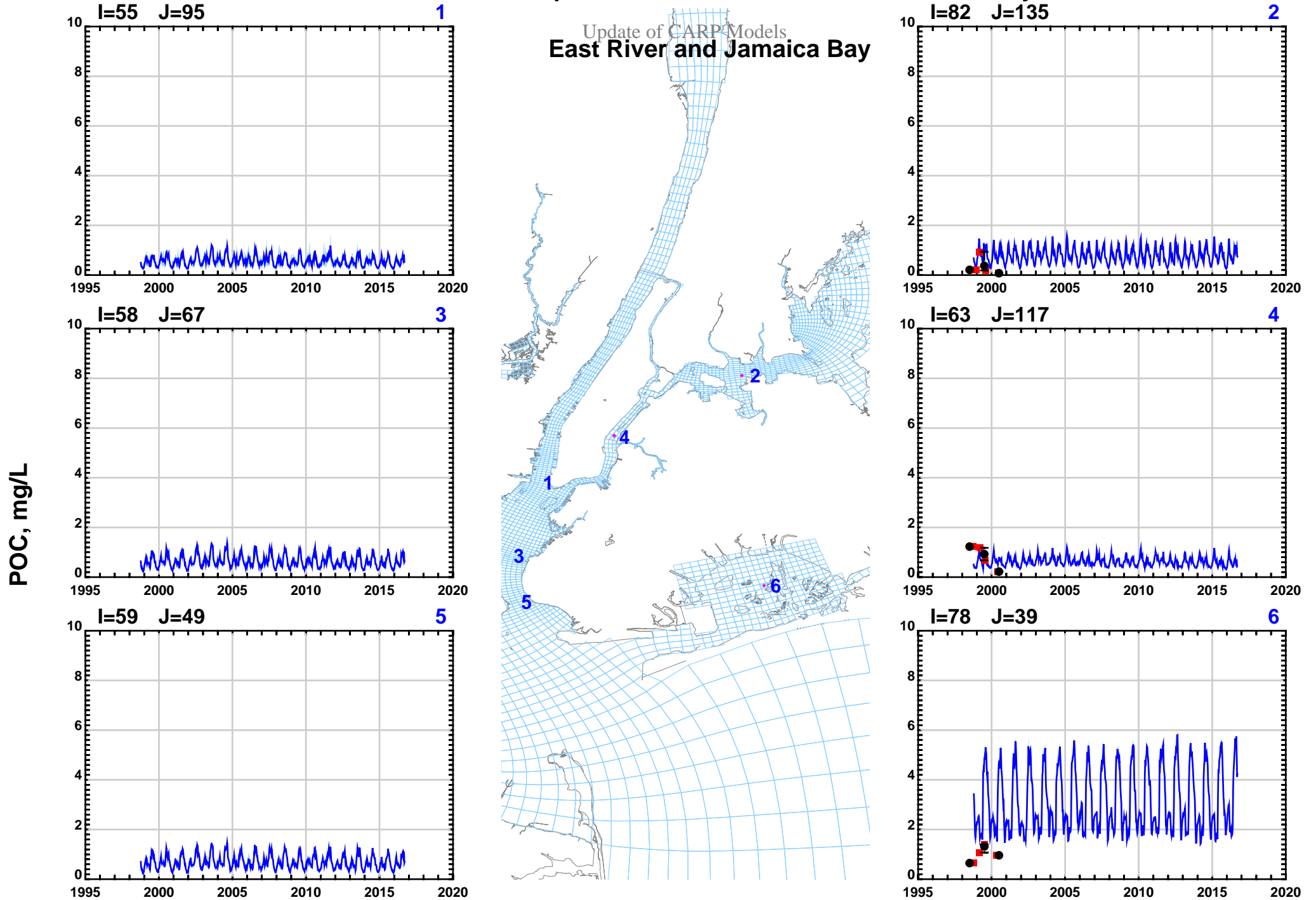
# Water Column Data Comparison With Model All Water Column Layers



Detect Data  
 Model: mean and range of values in Water Column Appendix 11 Page 30 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data

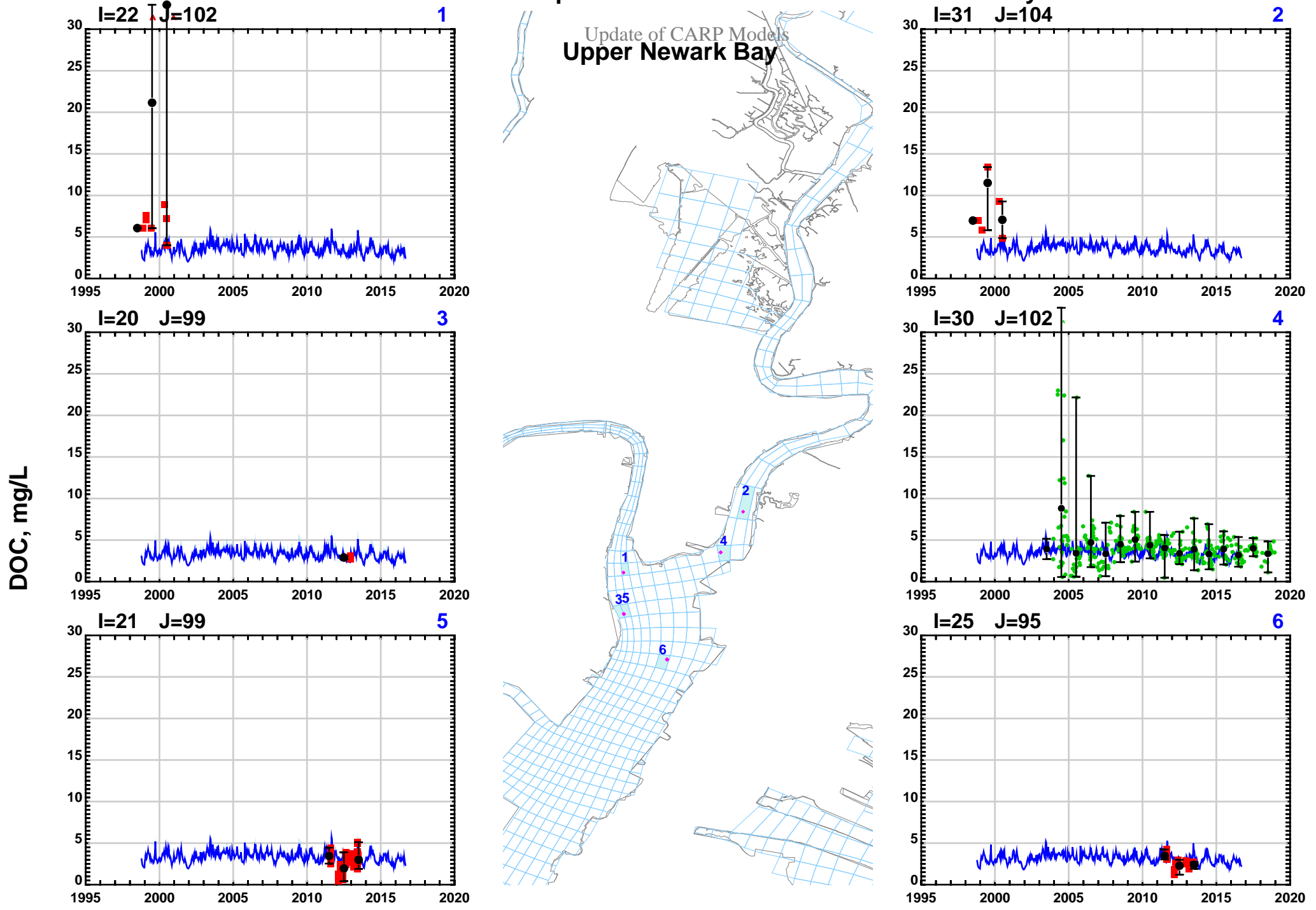
# Water Column Data Comparison With Model All Water Column Layers



**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 31 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers



Update of CARP Models  
Upper Newark Bay

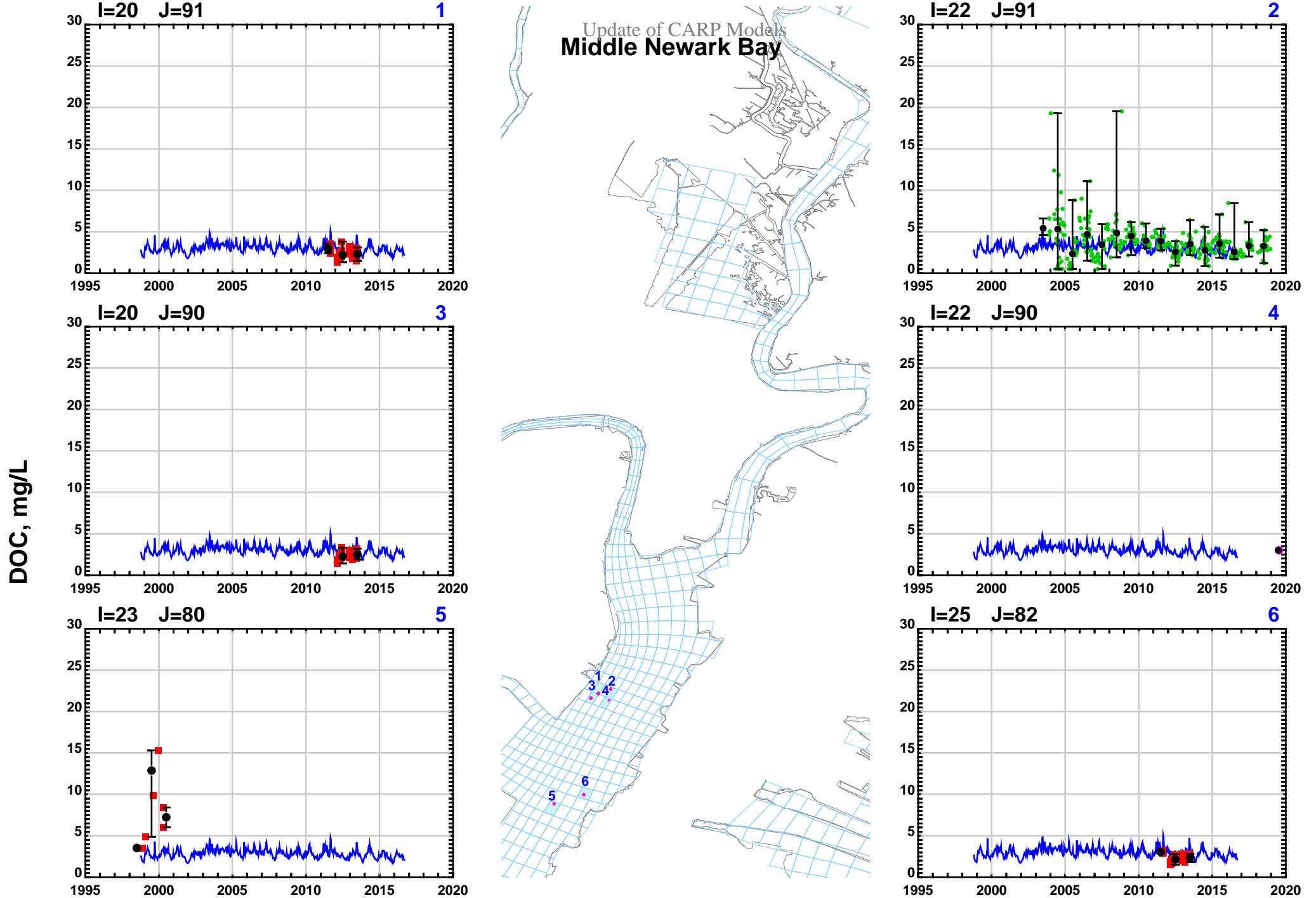
DOC, mg/L

Detect Data

Model: mean and range of values in Water Column Appendix 11 Page 32 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data

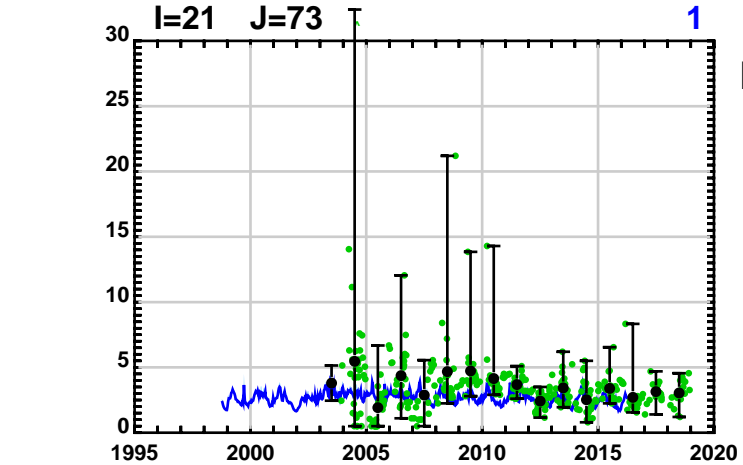
# Water Column Data Comparison With Model All Water Column Layers



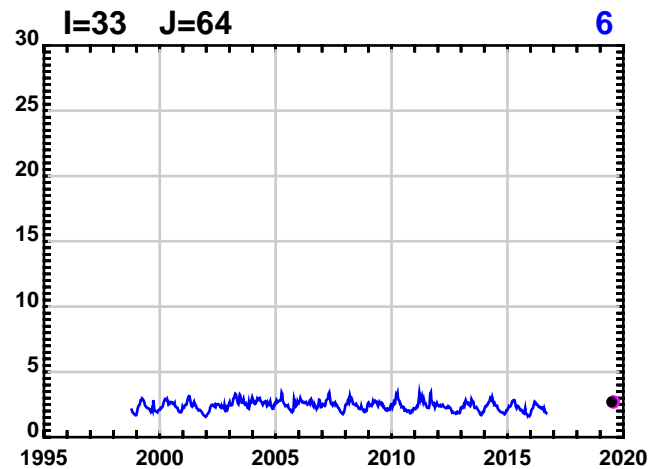
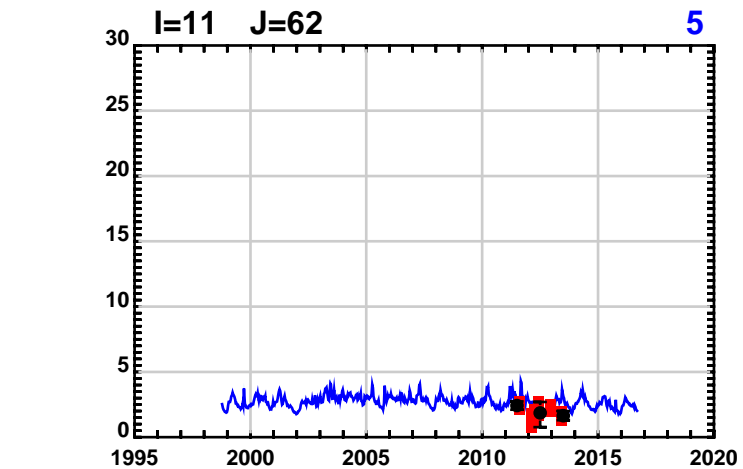
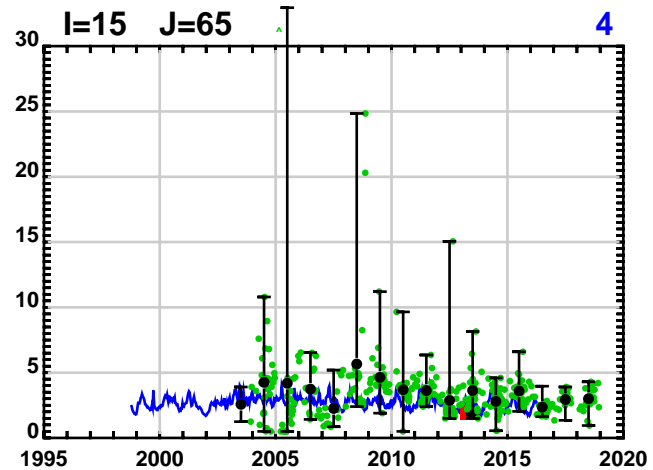
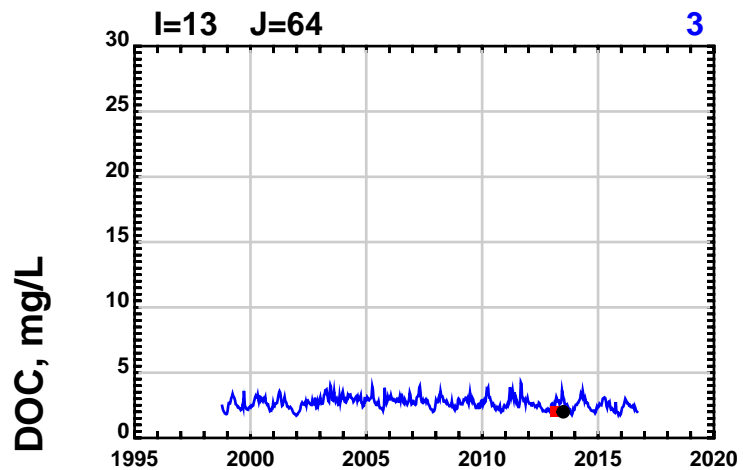
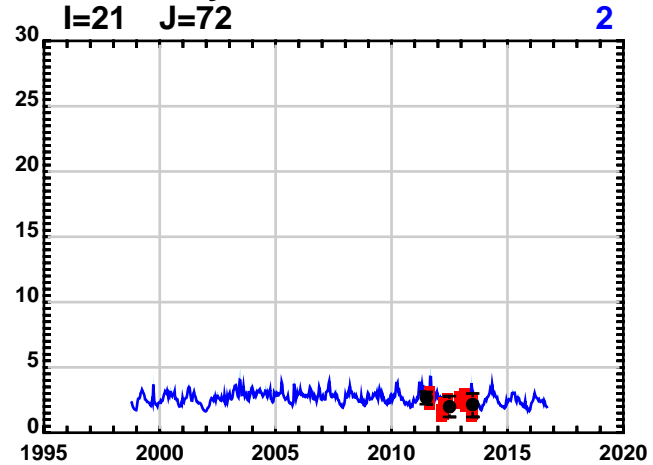
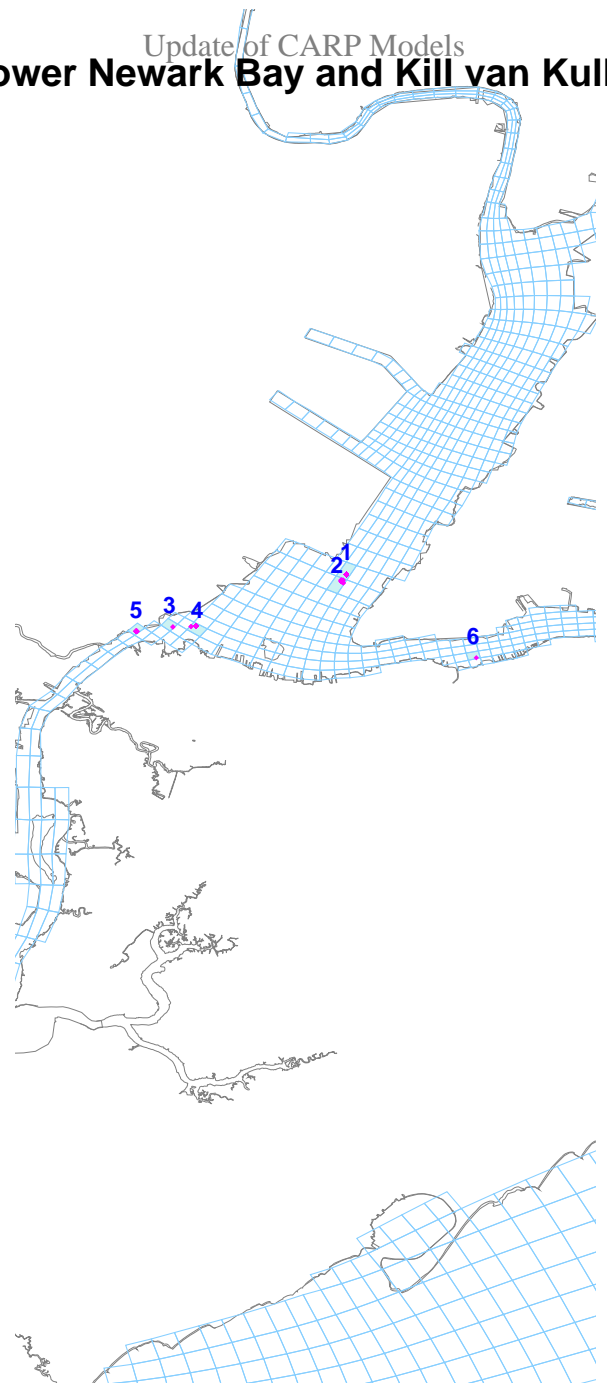
**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 33 of 46

● Water Column Data: yearly mean and range  
 ● CARP2 Data  
 ● Harbor Data  
 ● NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers



Update of CARP Models  
Lower Newark Bay and Kill van Kull



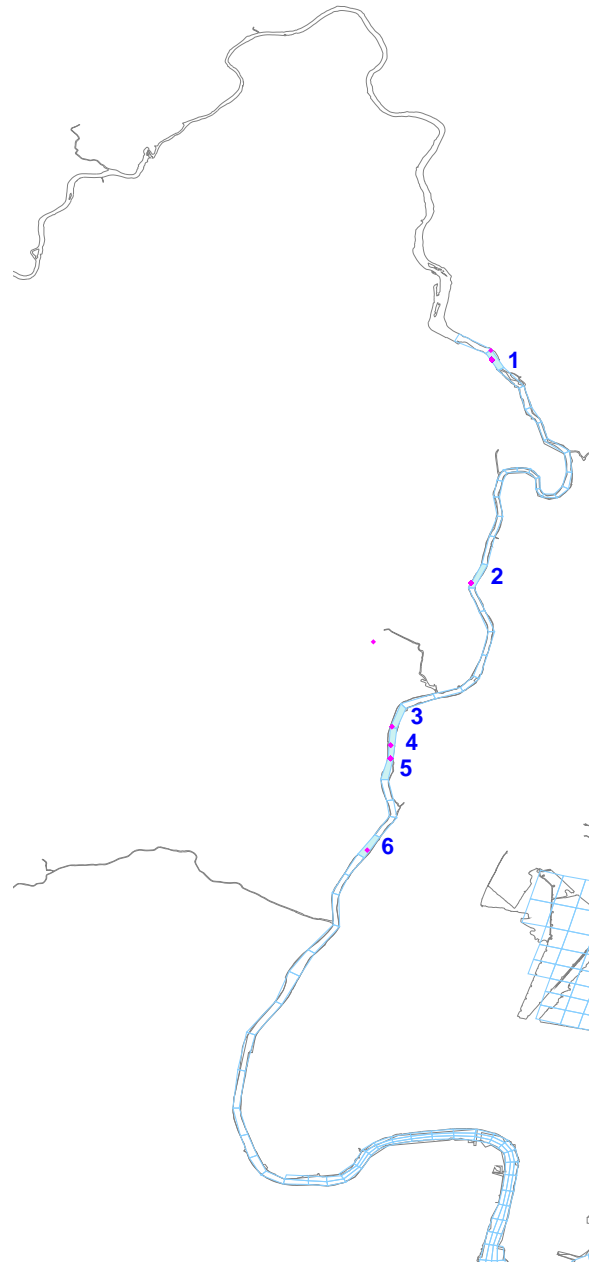
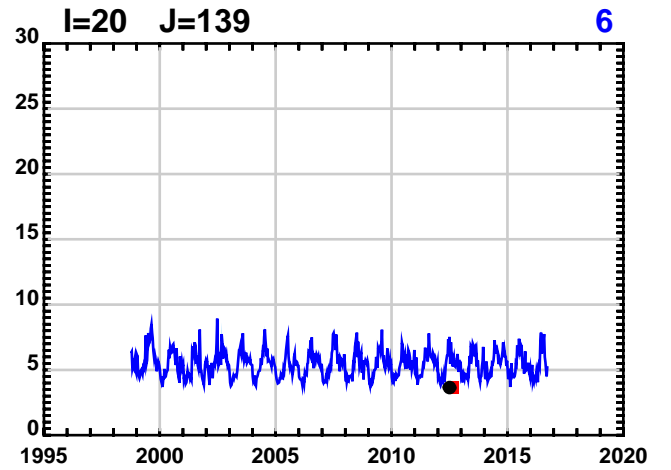
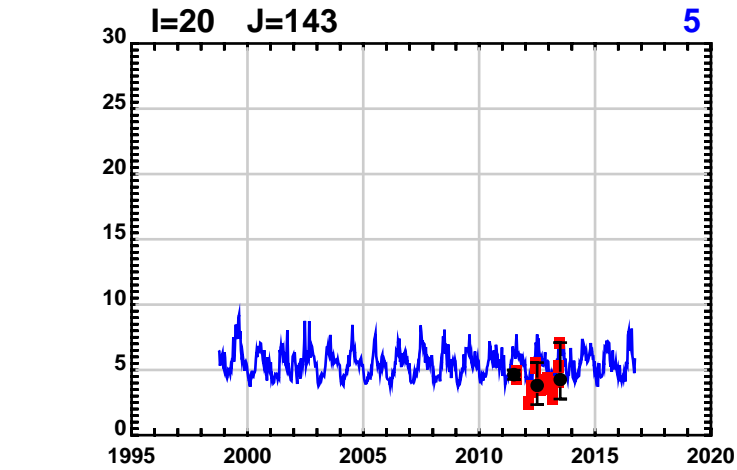
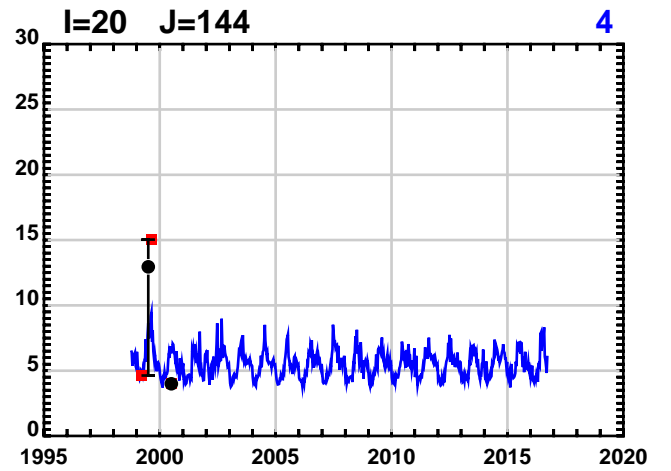
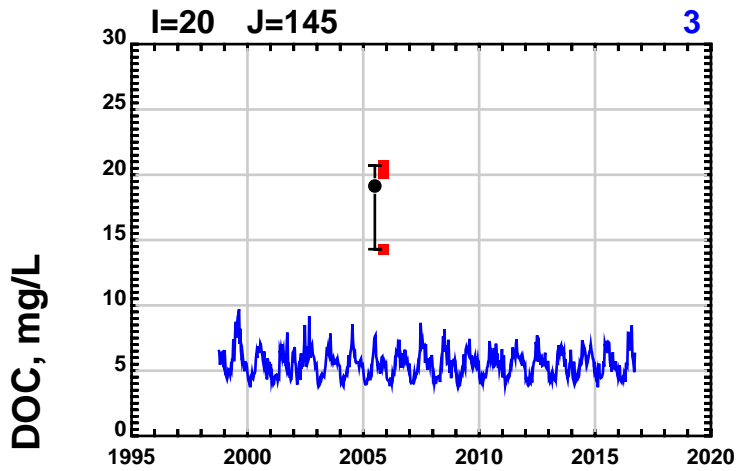
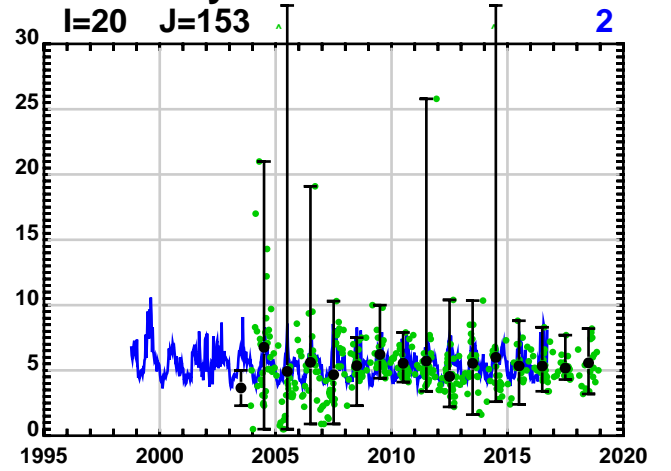
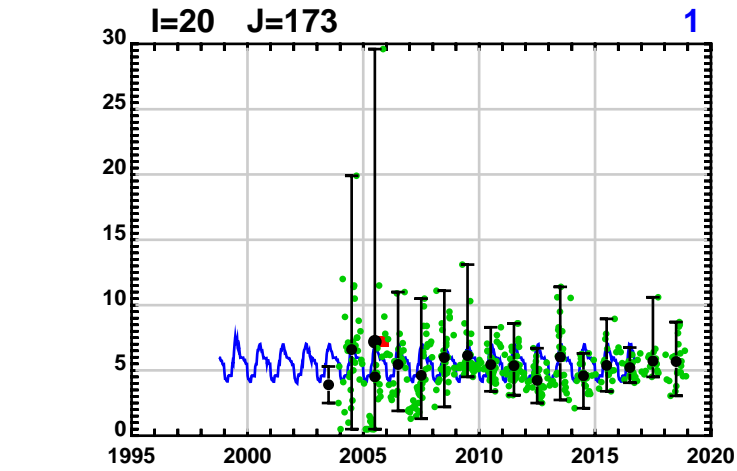
**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 34 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data



# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models Lower Passaic River - I

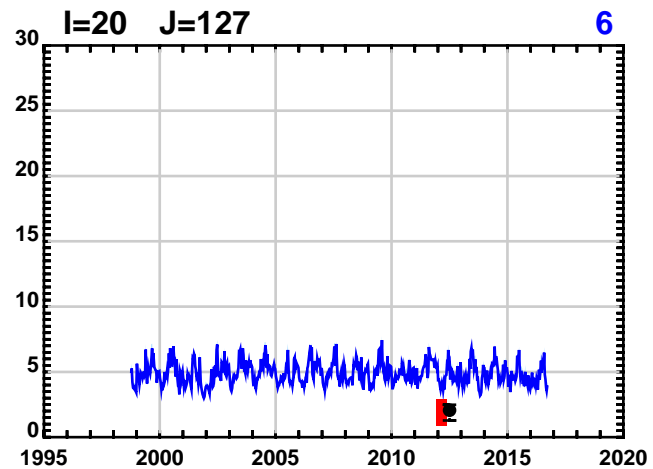
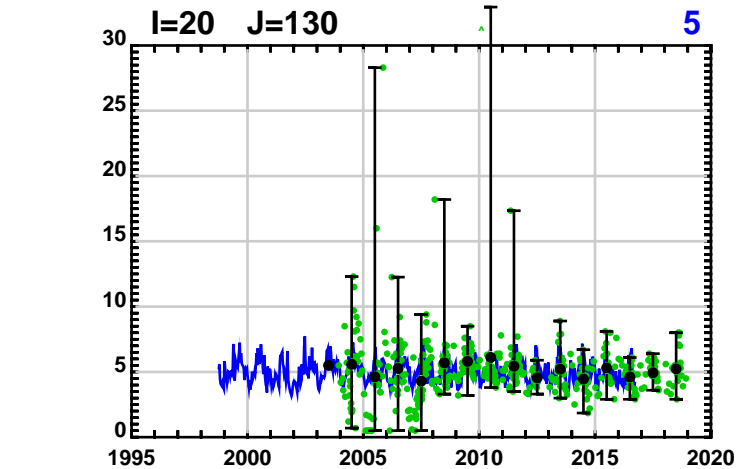
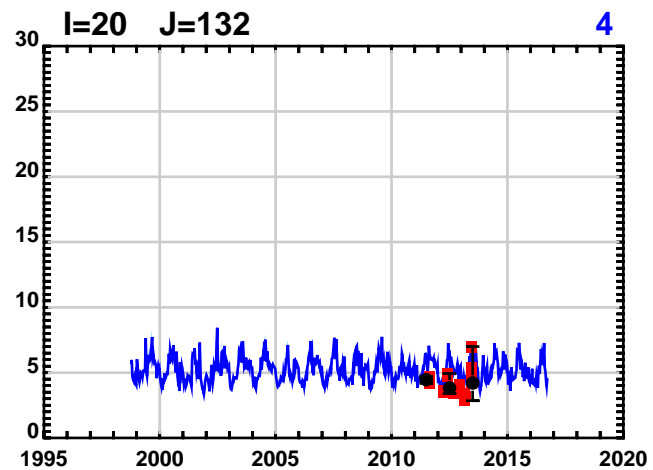
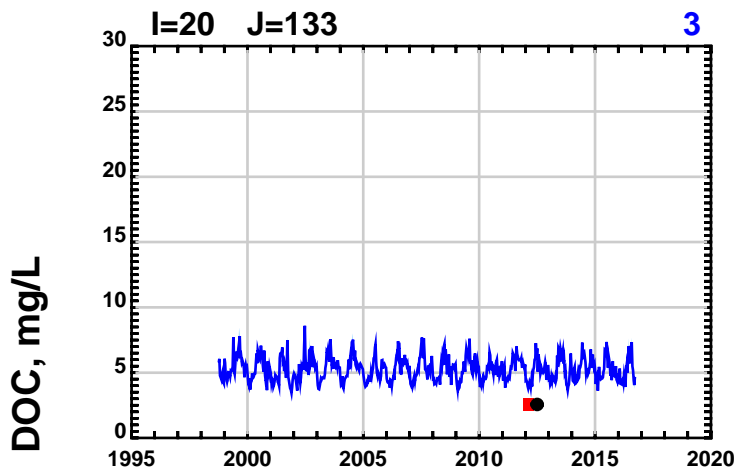
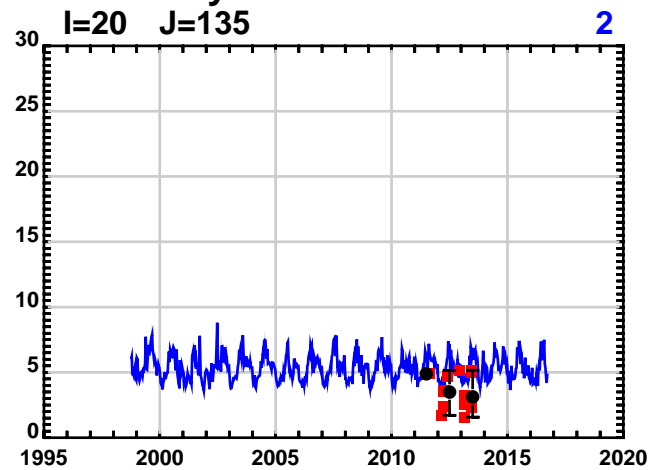
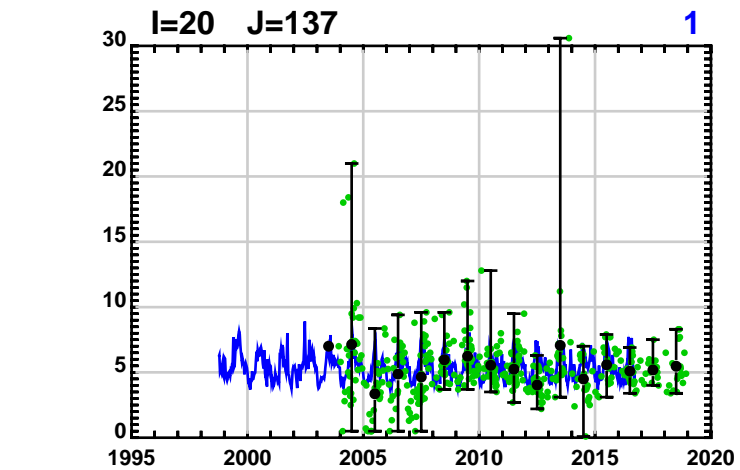
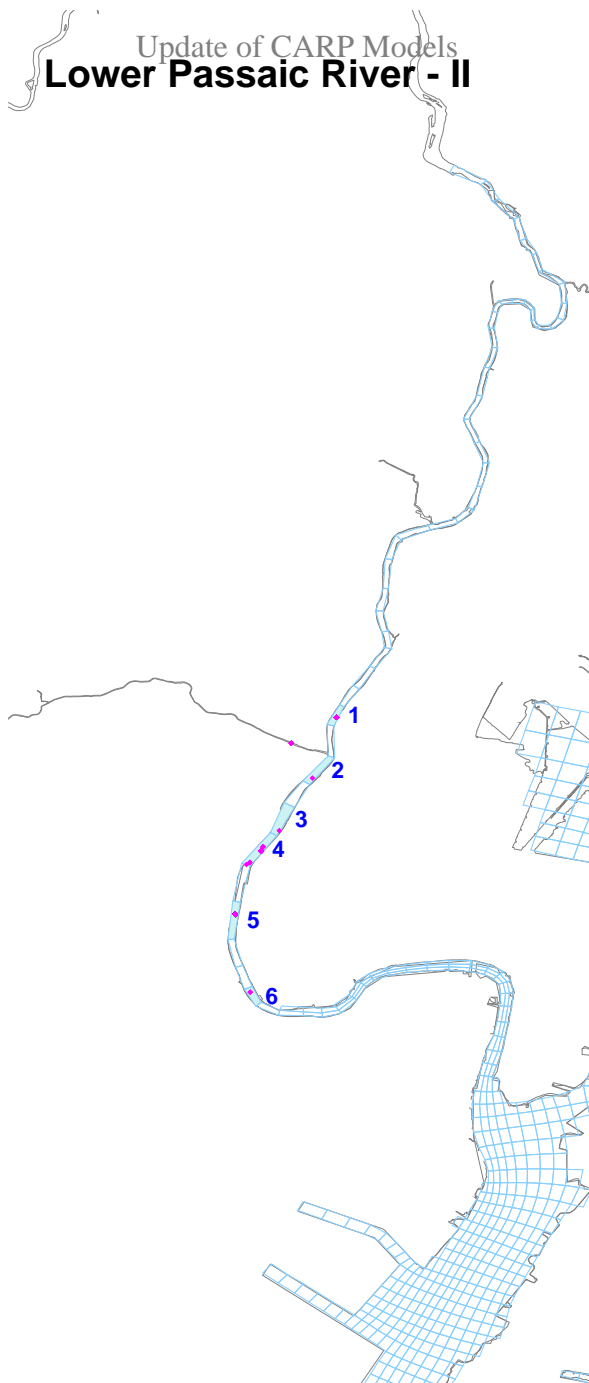


DOC, mg/L

Detect Data  
Model: mean and range of values in Water Column Appendix 11 Page 35 of 46

● Water Column Data: yearly mean and range  
● CARP2 Data  
● Harbor Data  
● NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers

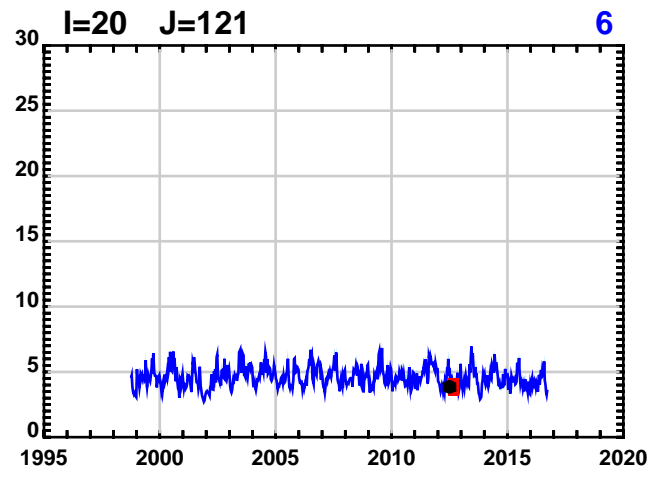
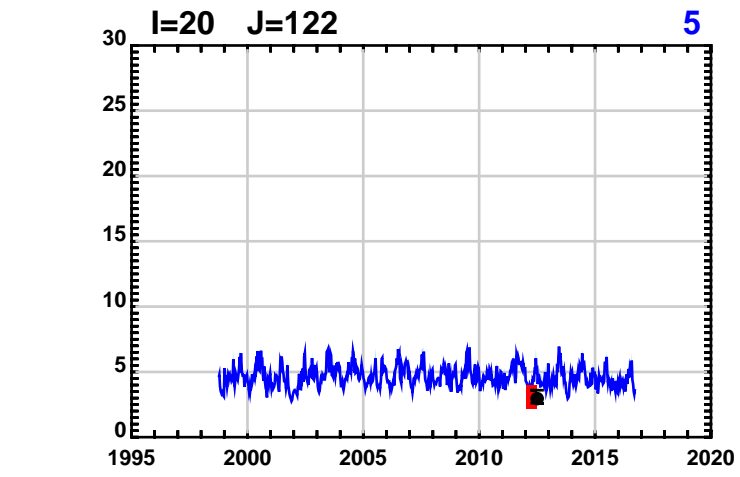
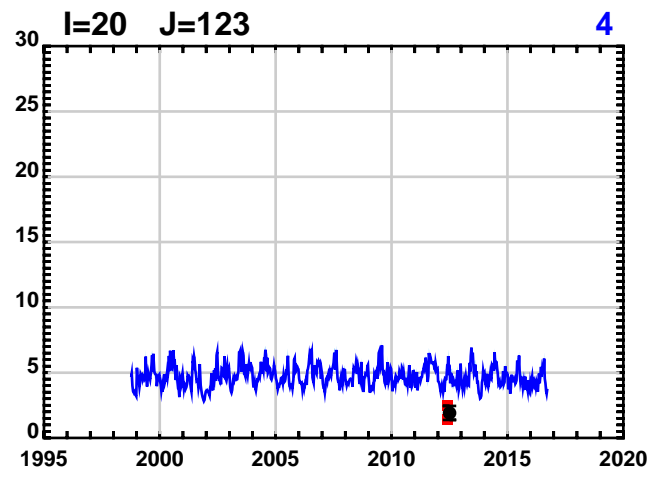
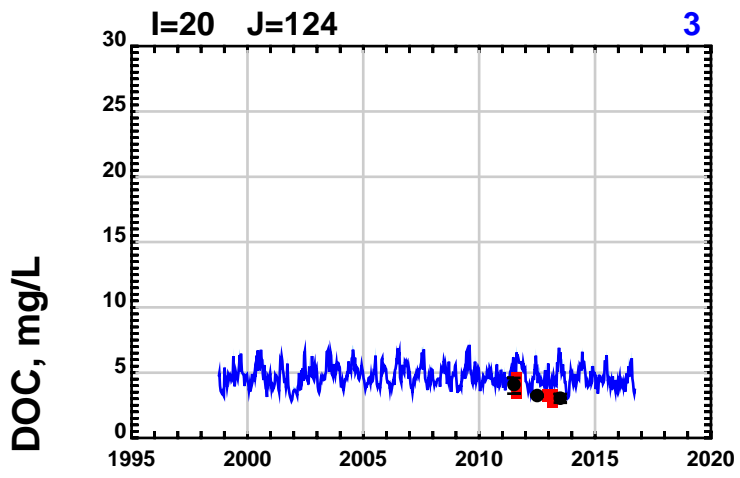
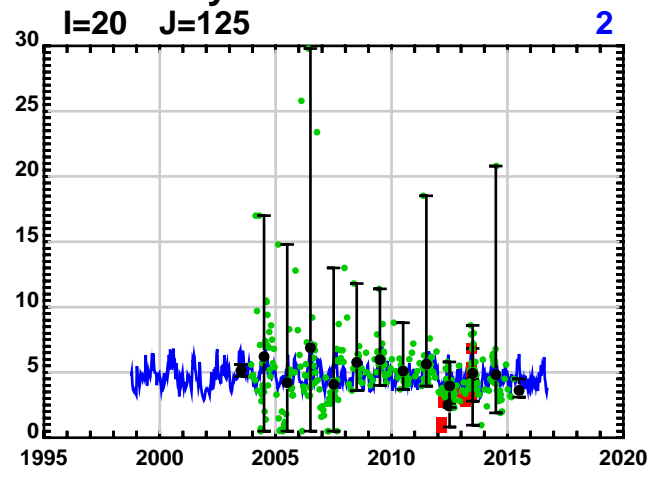
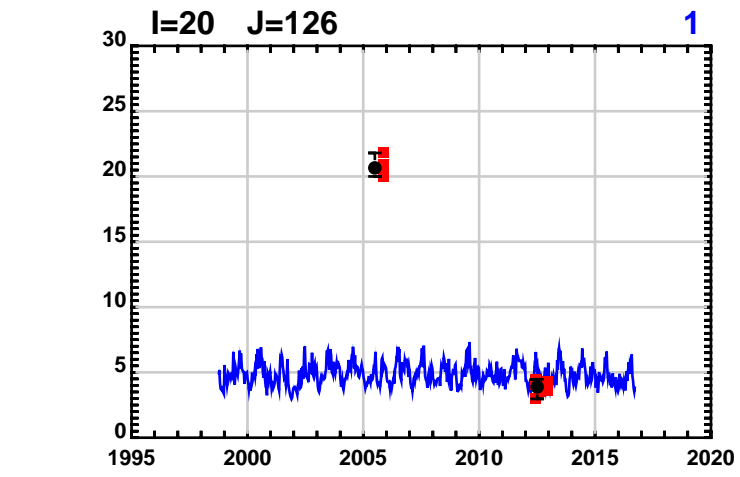
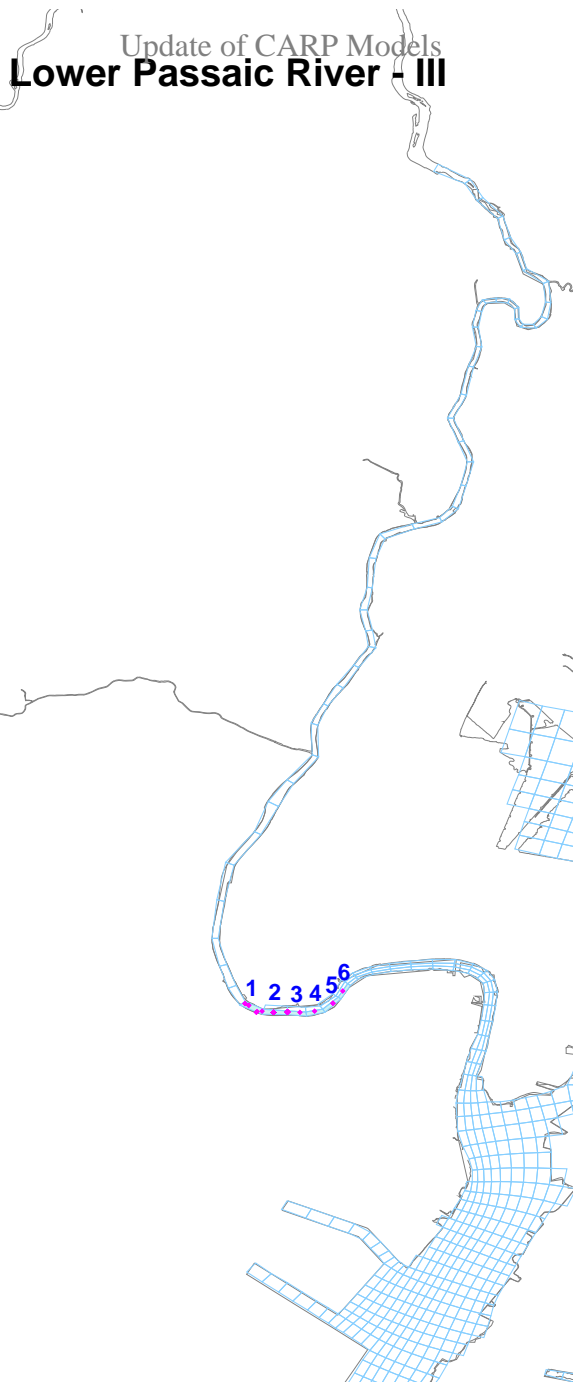


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 36 of 46

● Water Column Data: yearly mean and range  
 ● CARP2 Data  
 ● Harbor Data  
 ● NJHDG Data



# Water Column Data Comparison With Model All Water Column Layers

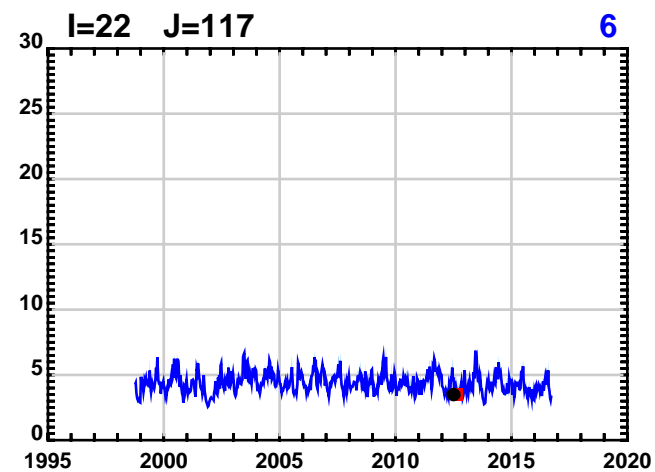
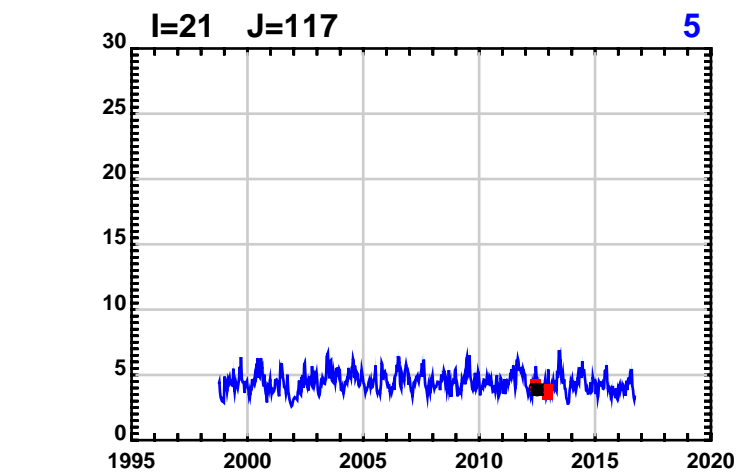
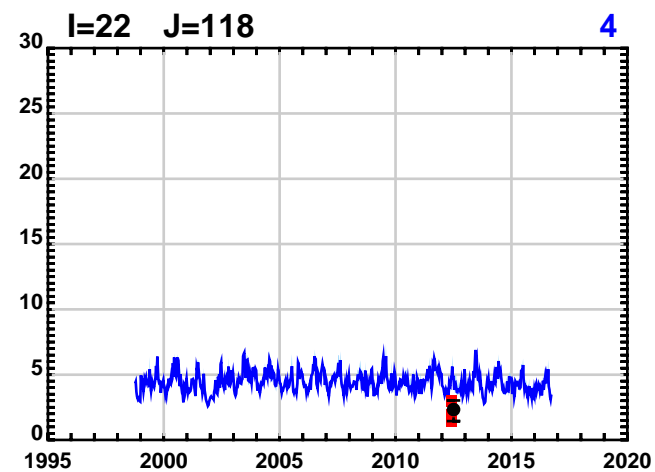
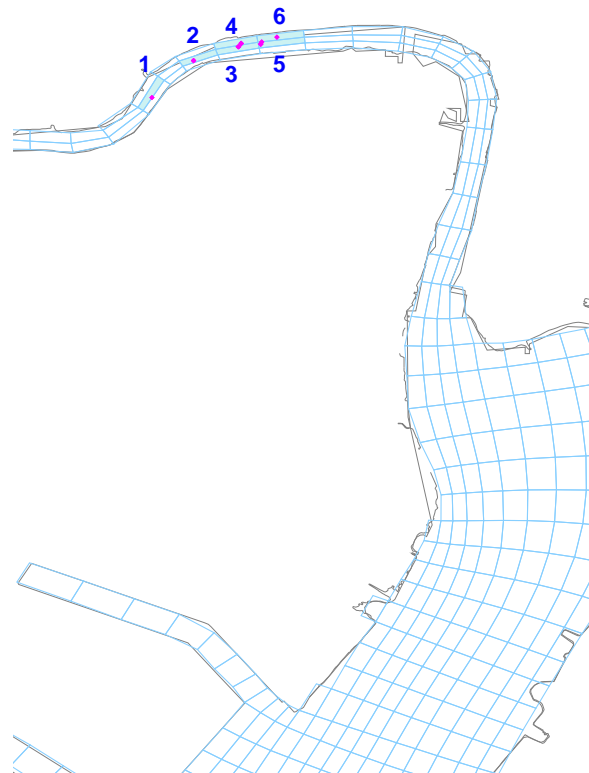
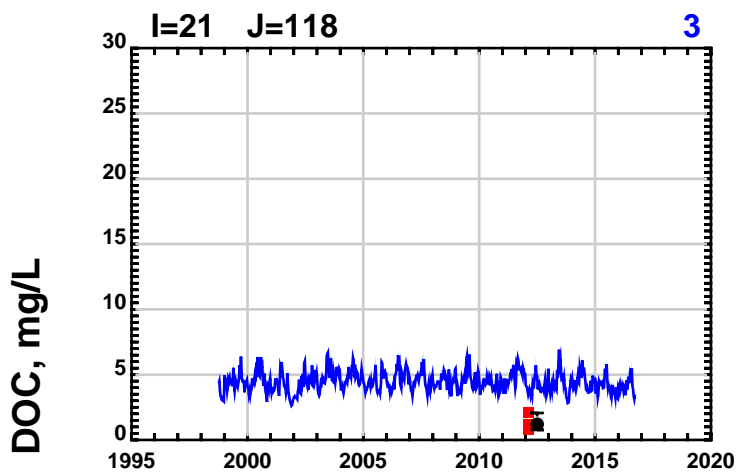
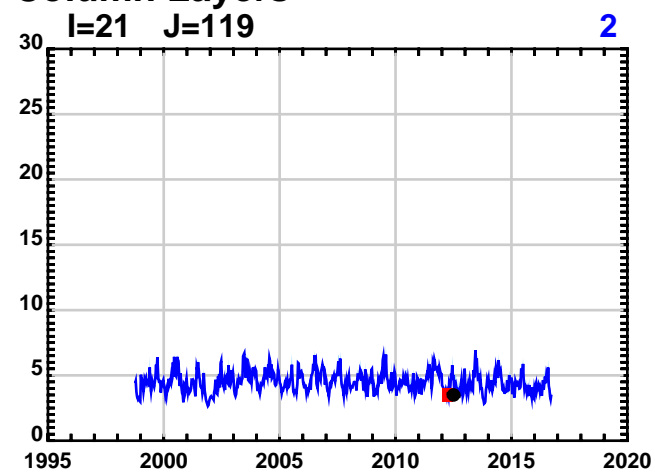
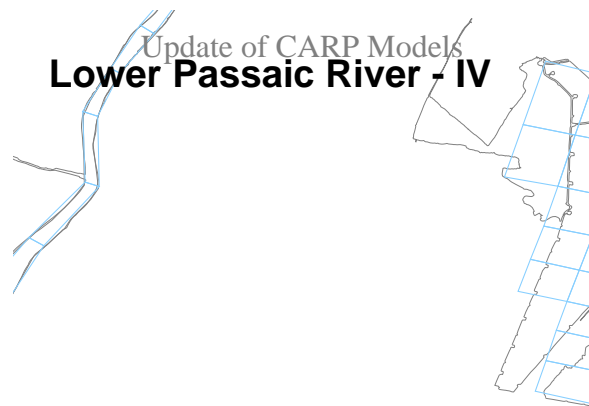
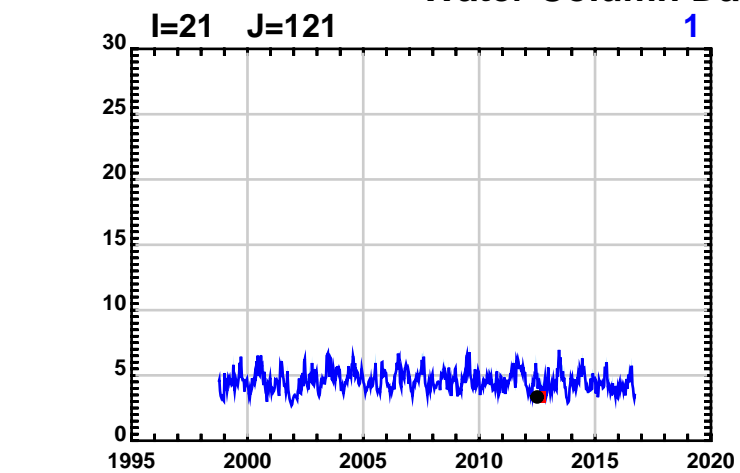


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 37 of 46

● Water Column Data: yearly mean and range  
● CARP2 Data  
● Harbor Data  
● NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models Lower Passaic River - IV

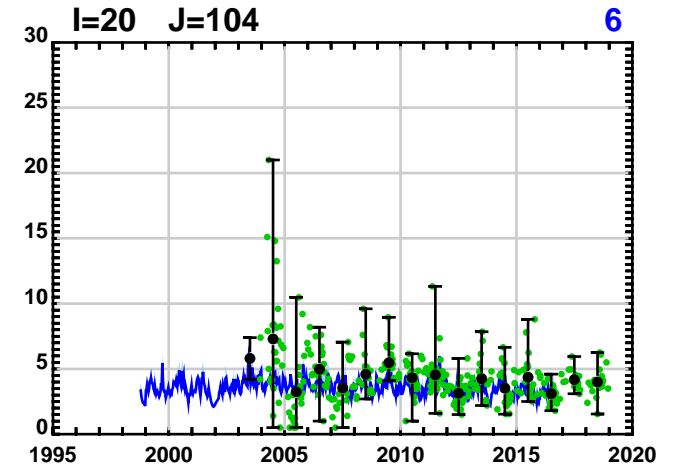
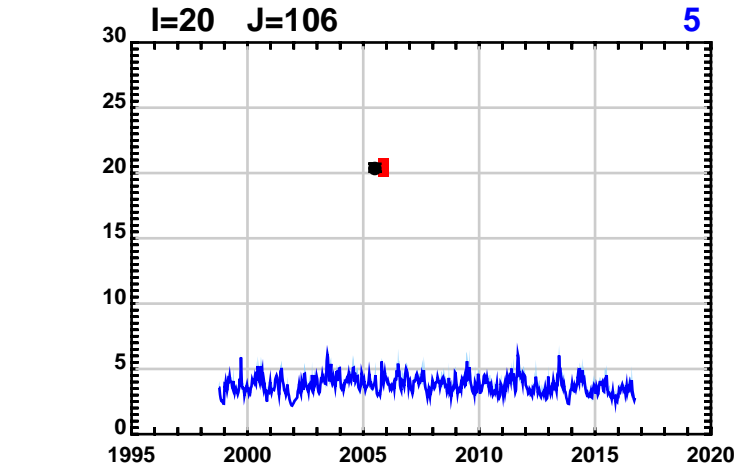
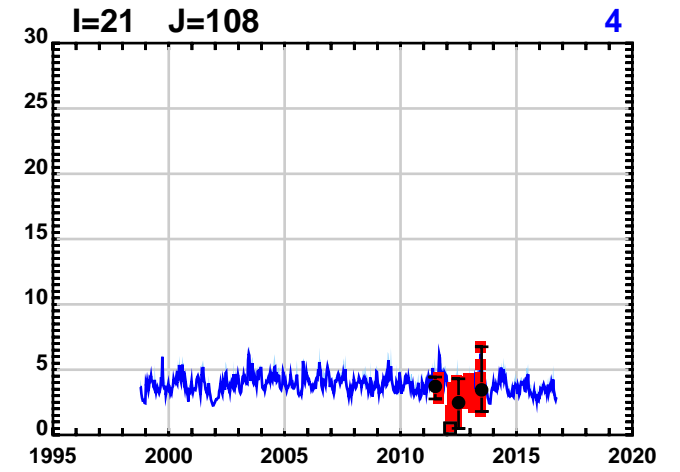
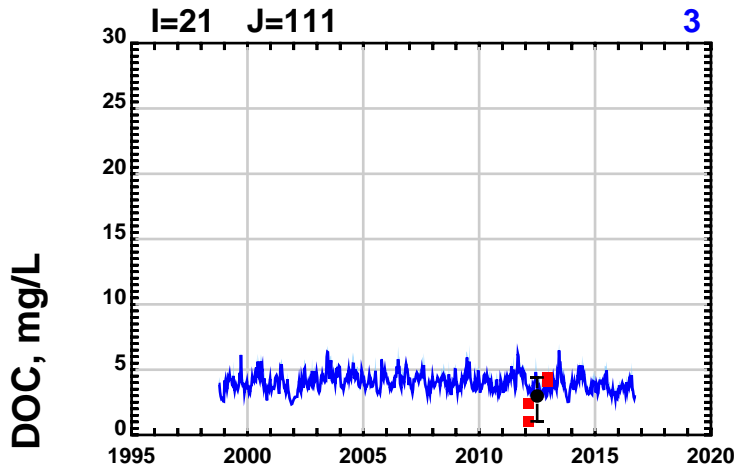
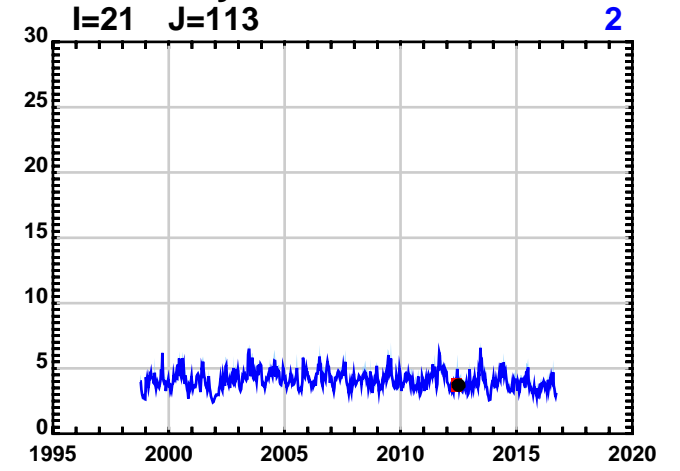
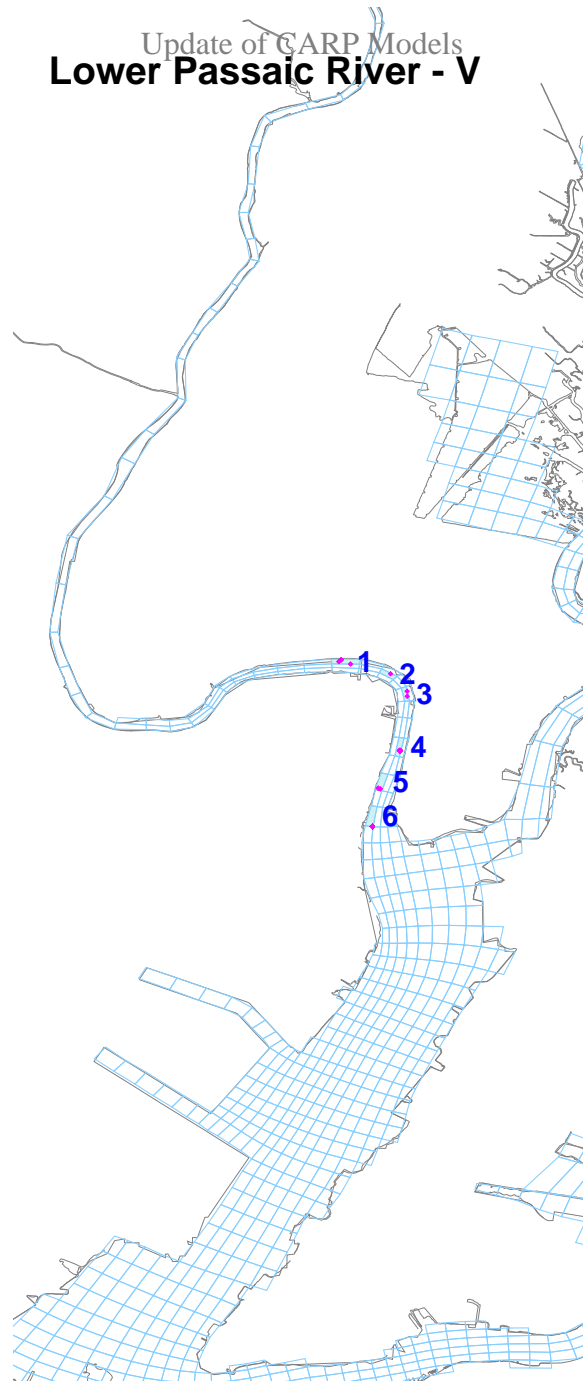
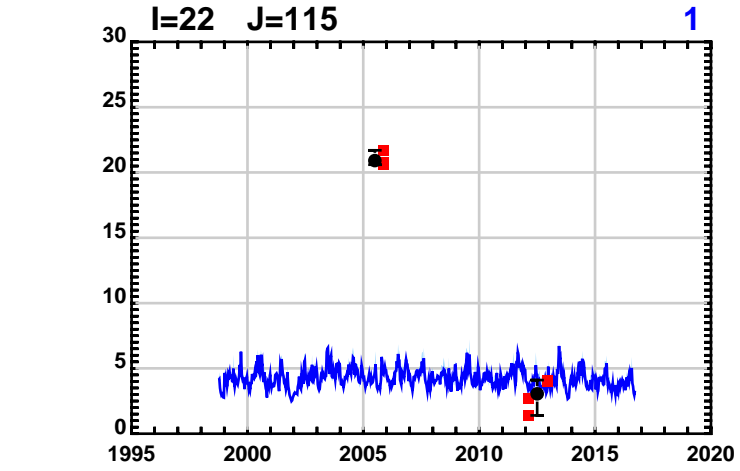


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 38 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data

# Water Column Data Comparison With Model All Water Column Layers

## Update of CARP Models Lower Passaic River - V



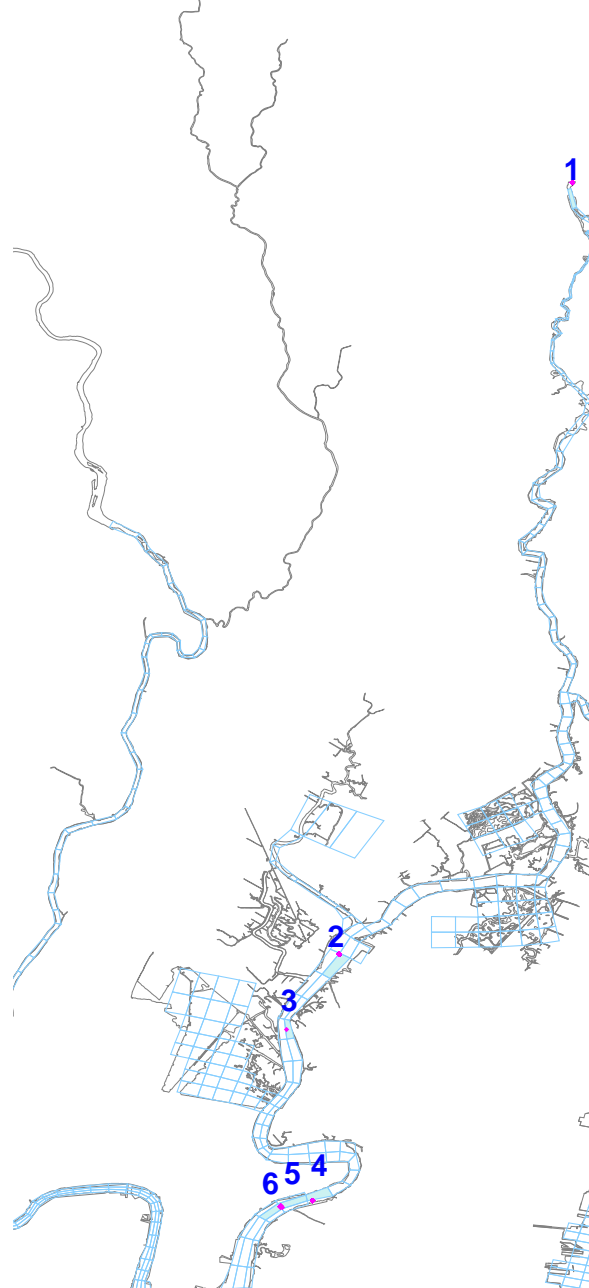
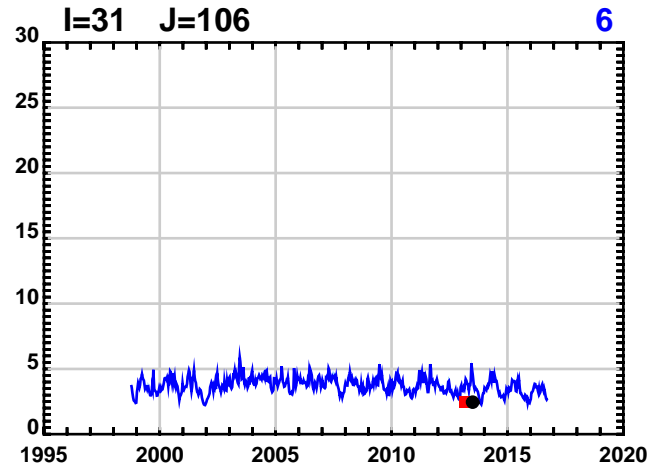
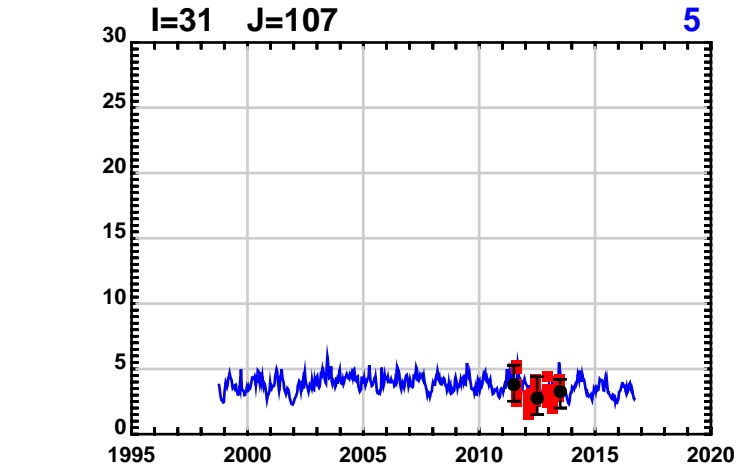
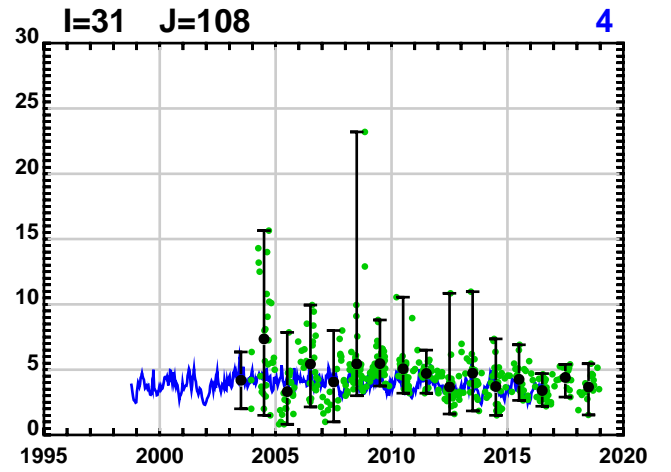
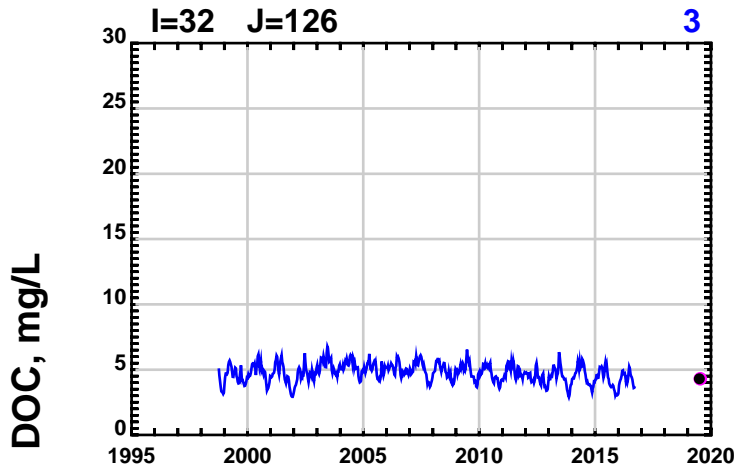
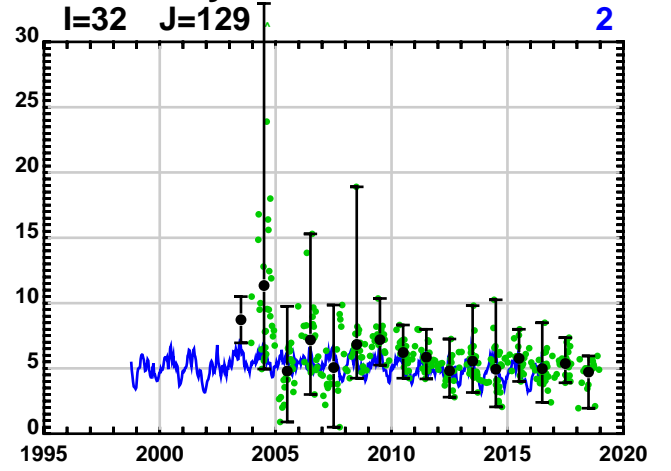
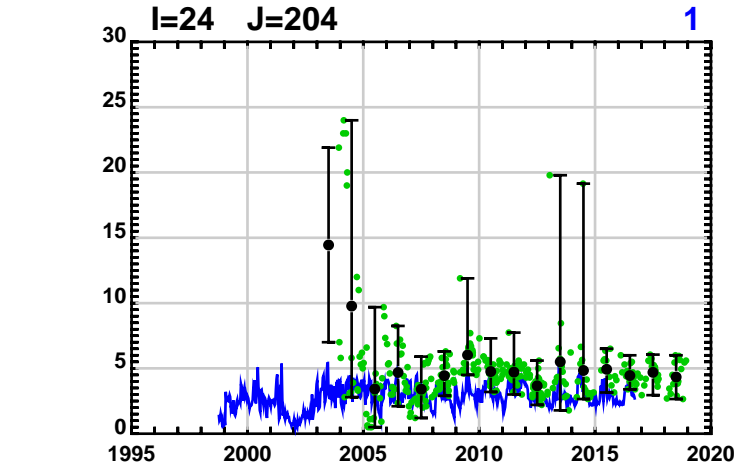
Detect Data

Model: mean and range of values in Water Column Appendix 11 Page 39 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data

# Water Column Data Comparison With Model All Water Column Layers

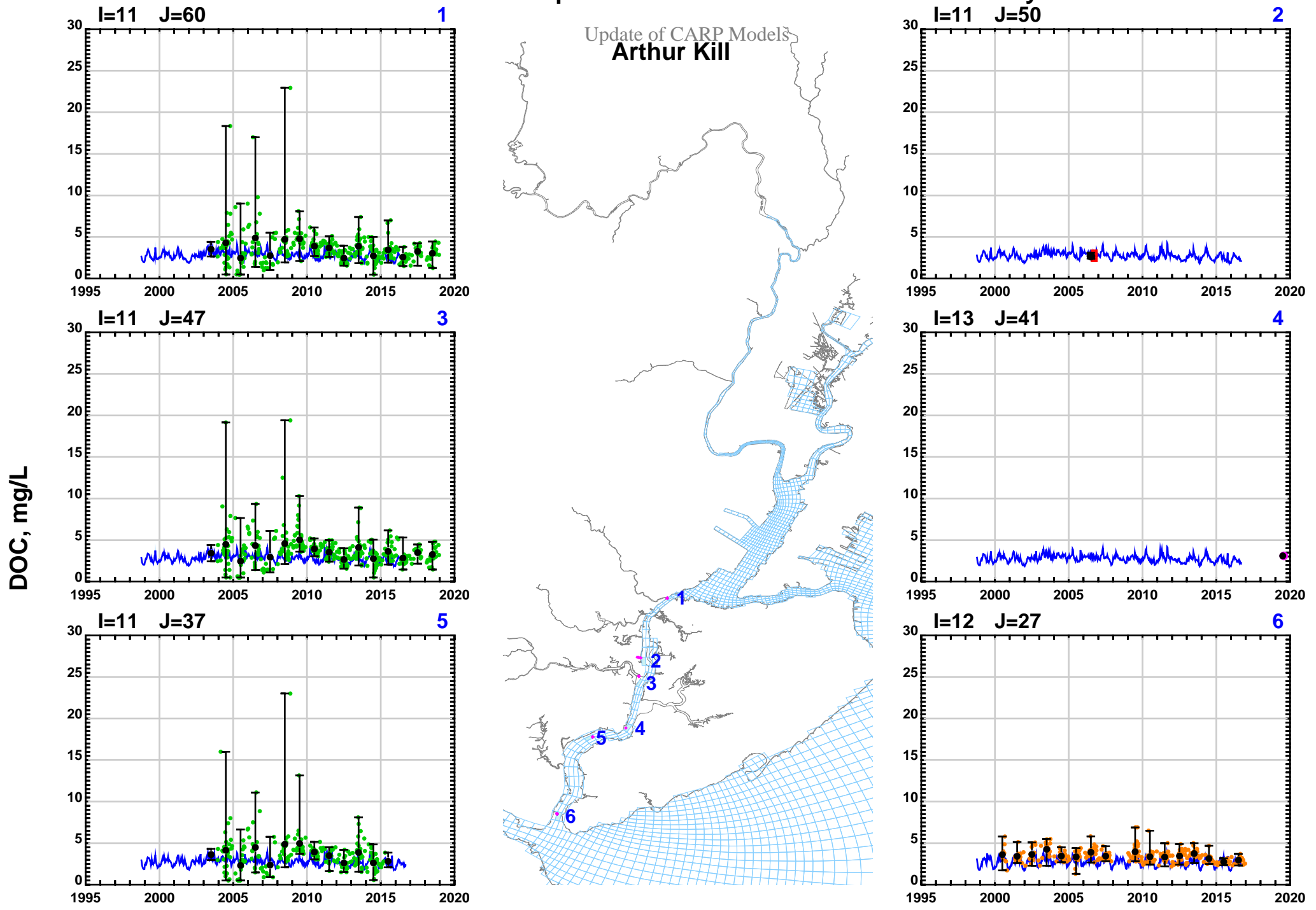
Update of CARP Models  
Hackensack River



Detect Data  
Model: mean and range of values in Water Column Appendix 11 Page 40 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- NJHDG Data
- Harbor Data

# Water Column Data Comparison With Model All Water Column Layers

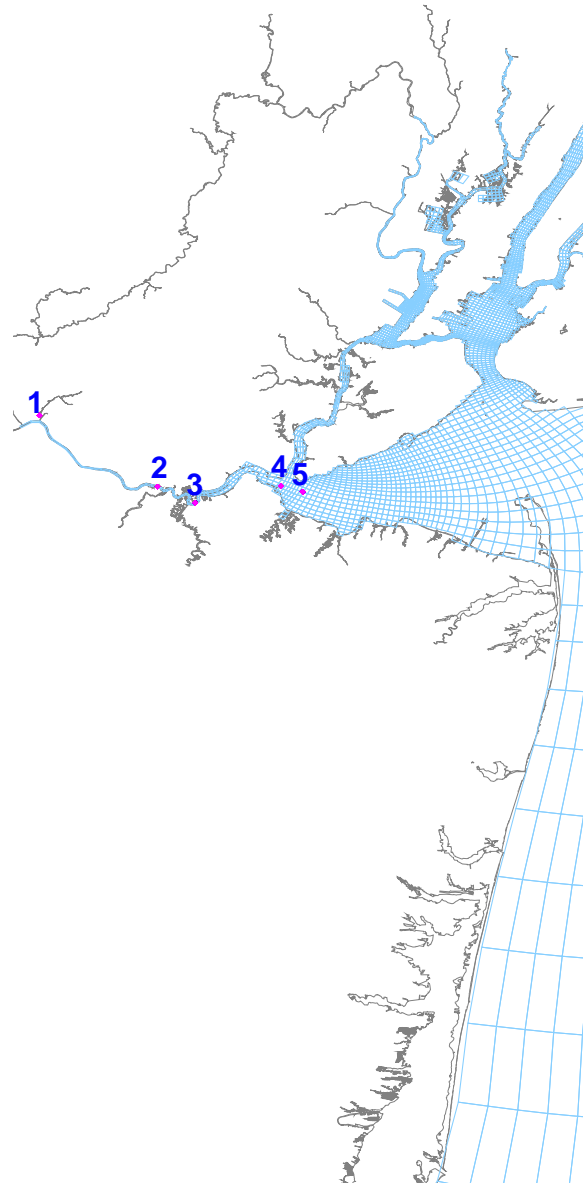
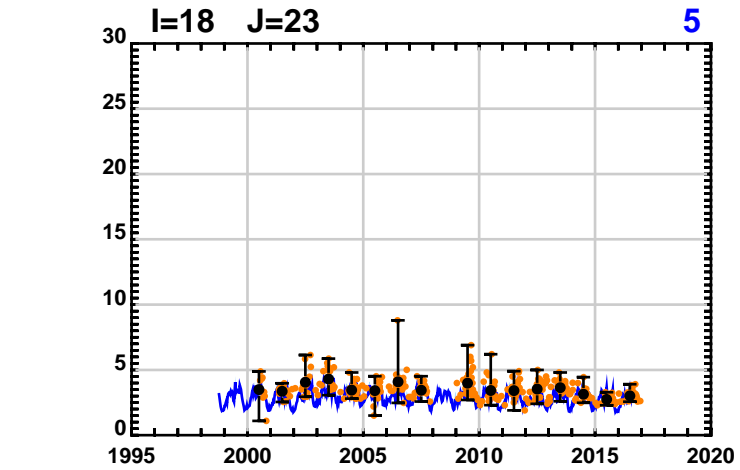
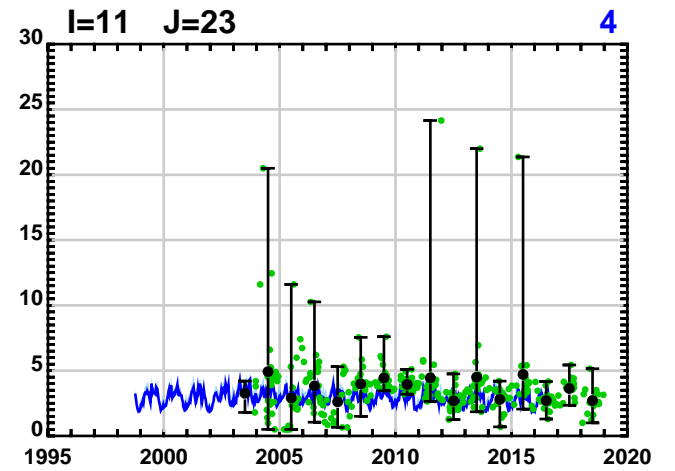
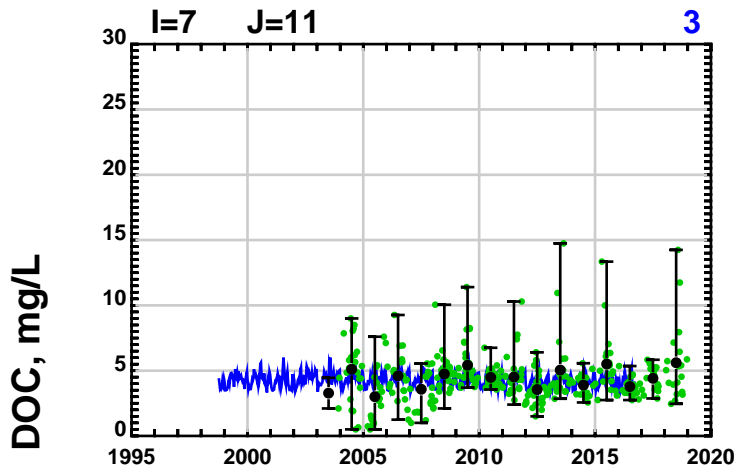
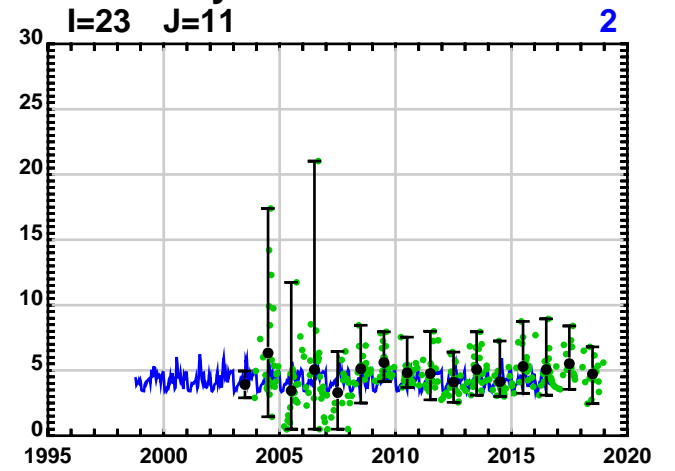
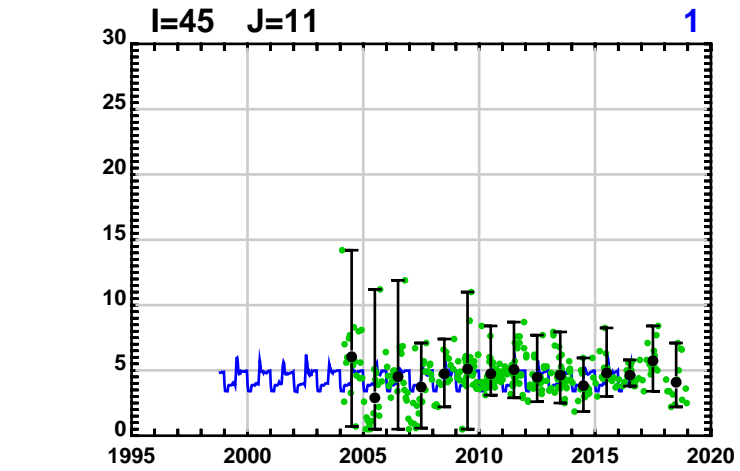


Detect Data  
 Model: mean and range of values in Water Column Appendix 11 Page 41 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers

Update of CARP Models  
Raritan River

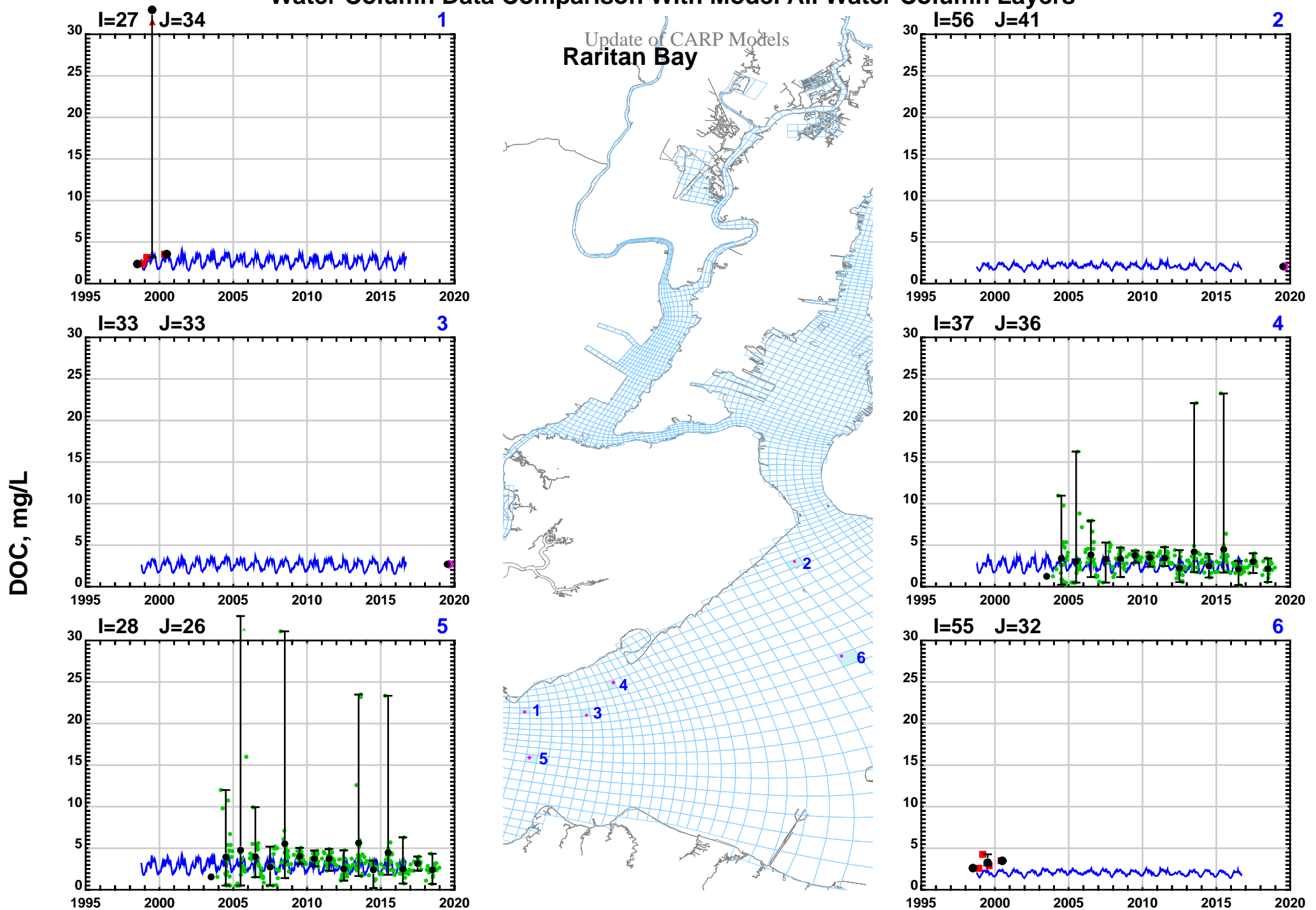


Detect Data  
Model: mean and range of values in Water Column Appendix 11 Page 42 of 46

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data



# Water Column Data Comparison With Model All Water Column Layers

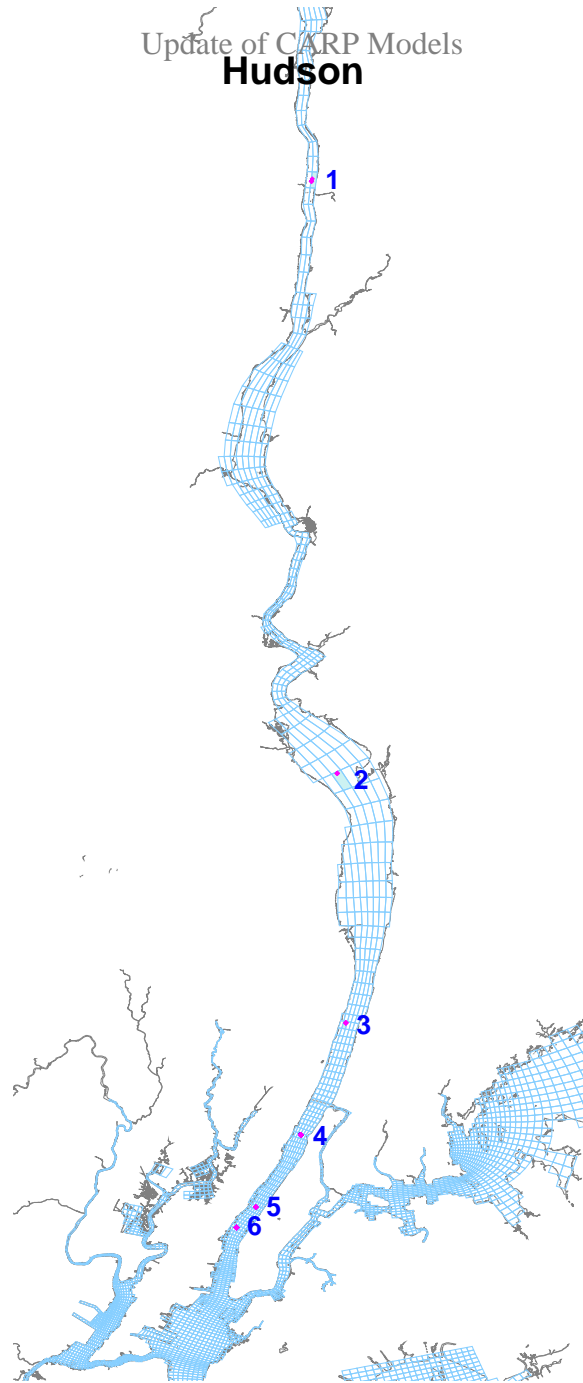
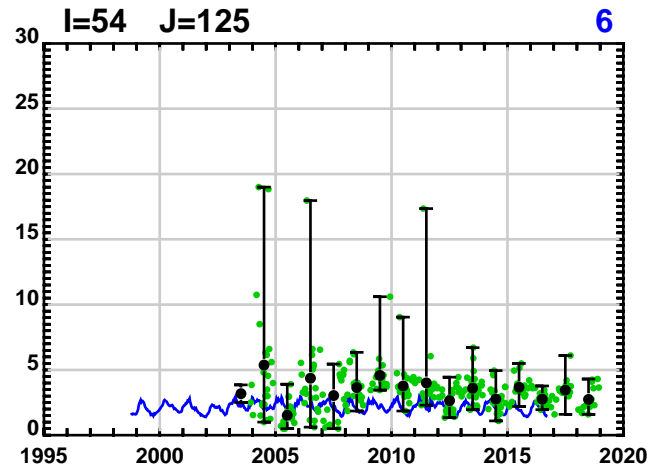
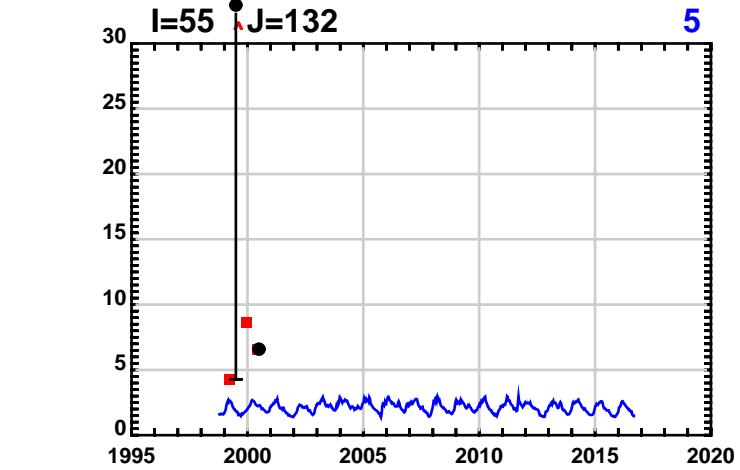
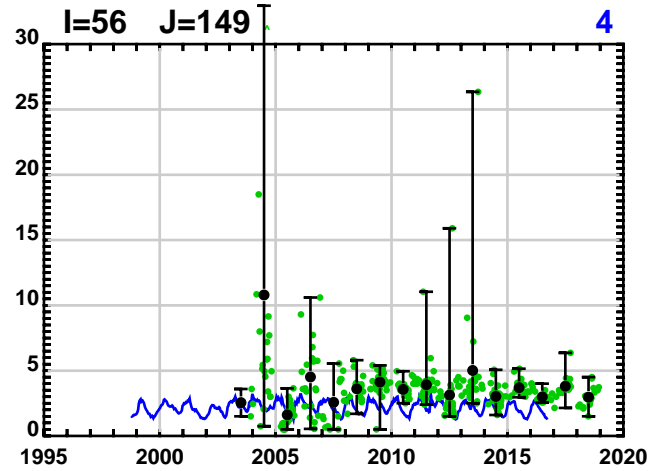
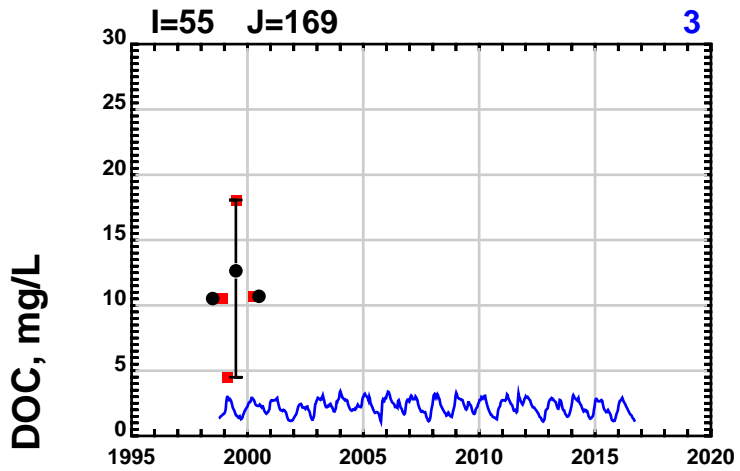
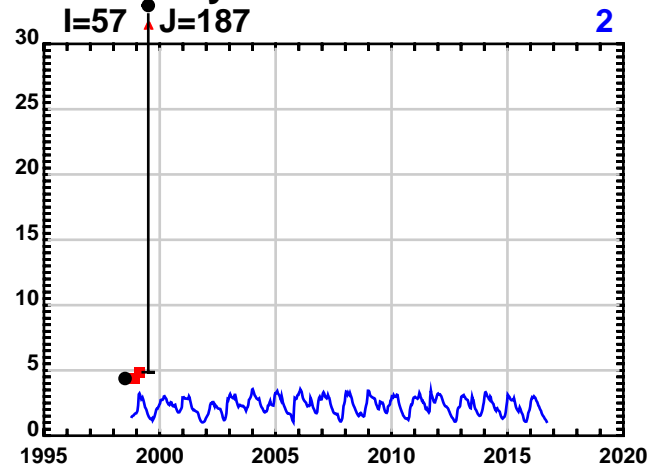
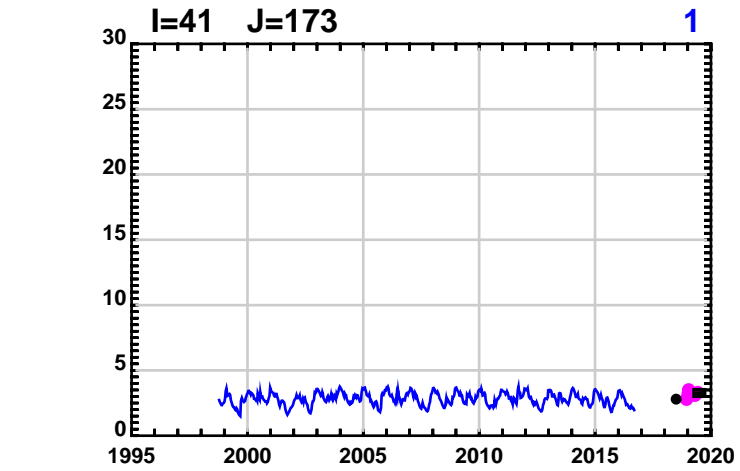


**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 43 of 46

● Water Column Data: yearly mean and range  
 ● CARP2 Data  
 ● NJHDG Data  
 ● Harbor Data

# Water Column Data Comparison With Model All Water Column Layers

Update of CARP Models  
**Hudson**

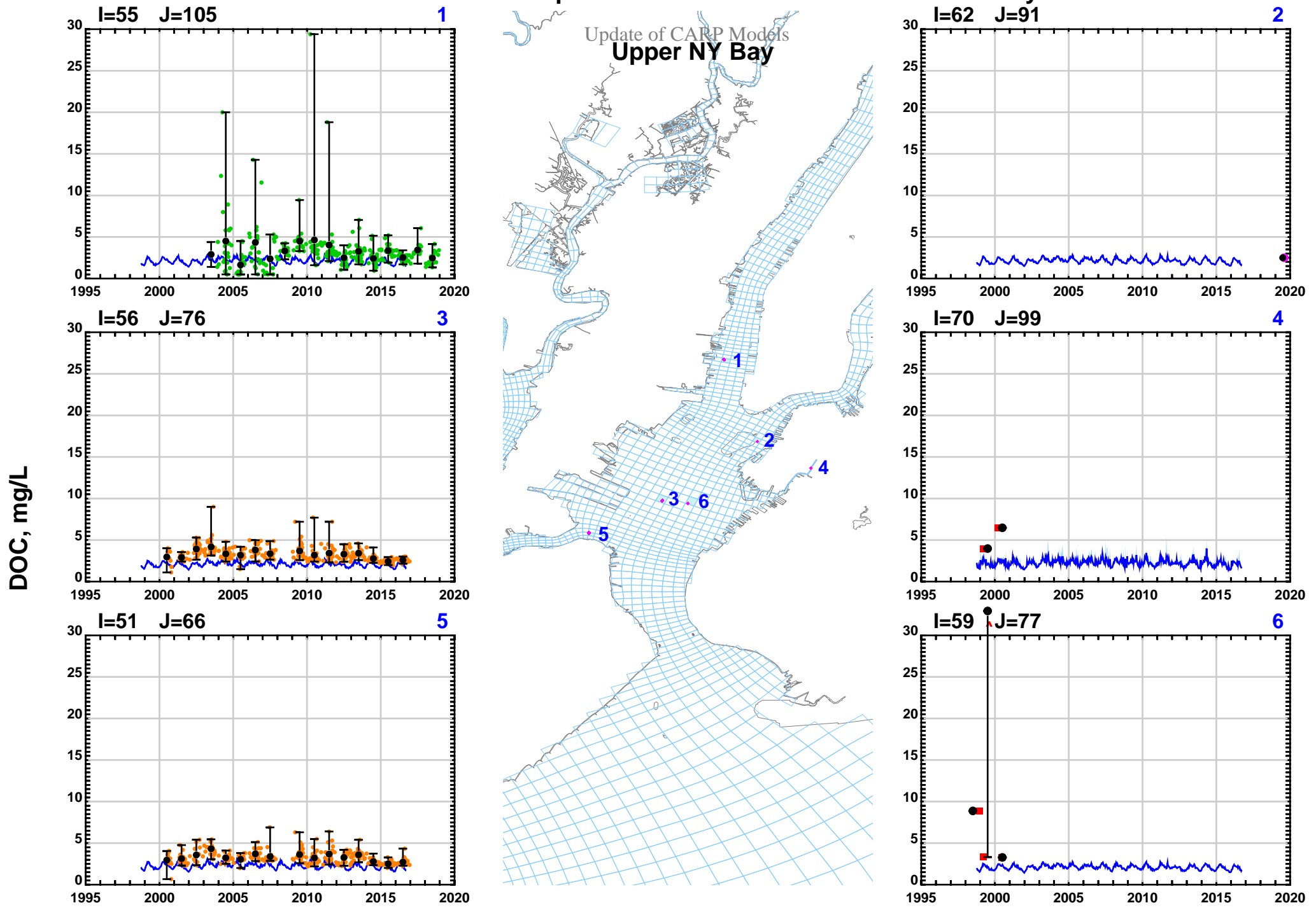


**Detect Data**

**Model: mean and range of values in Water Column**

- Water Column Data: yearly mean and range
- CARP2 Data
- Harbor Data
- NJHDG Data

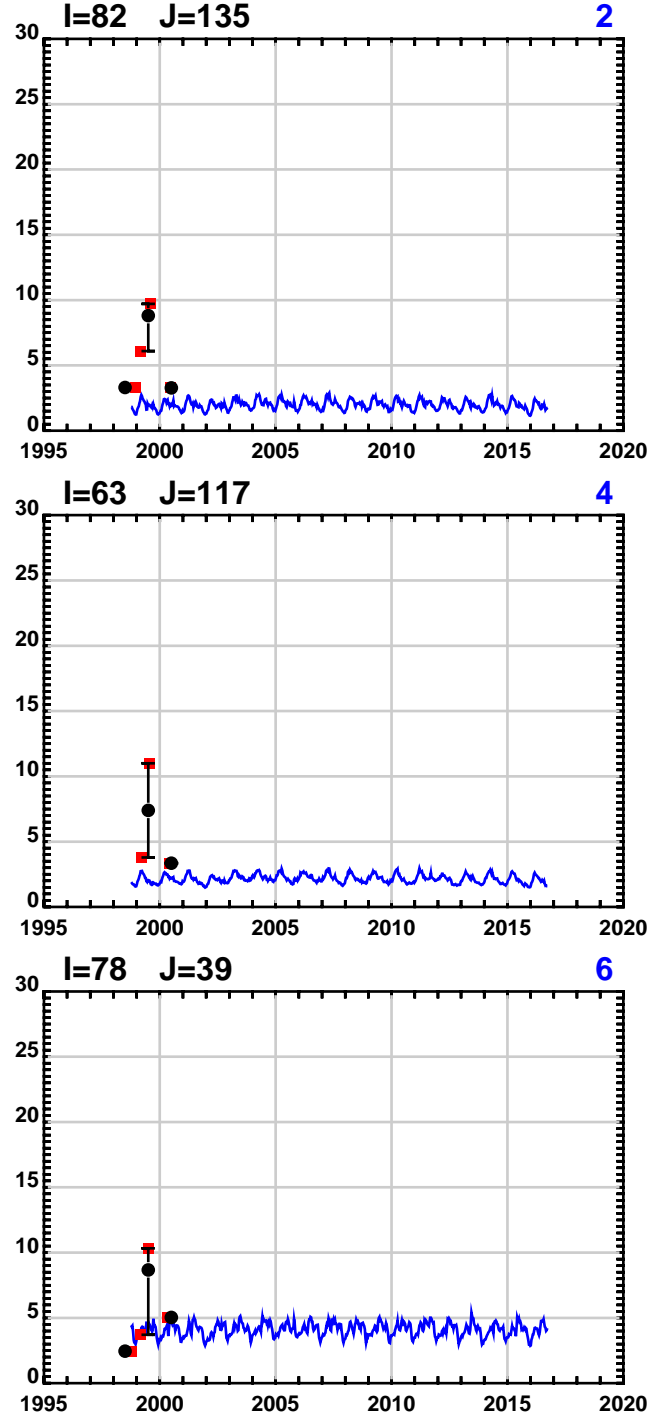
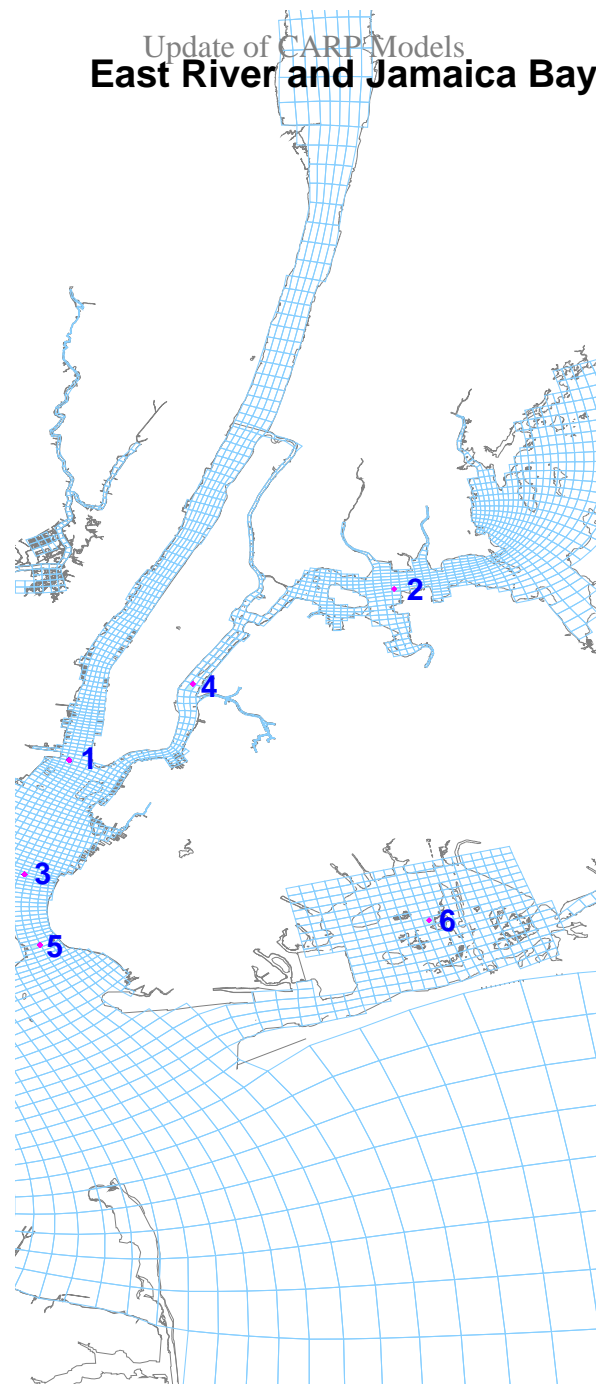
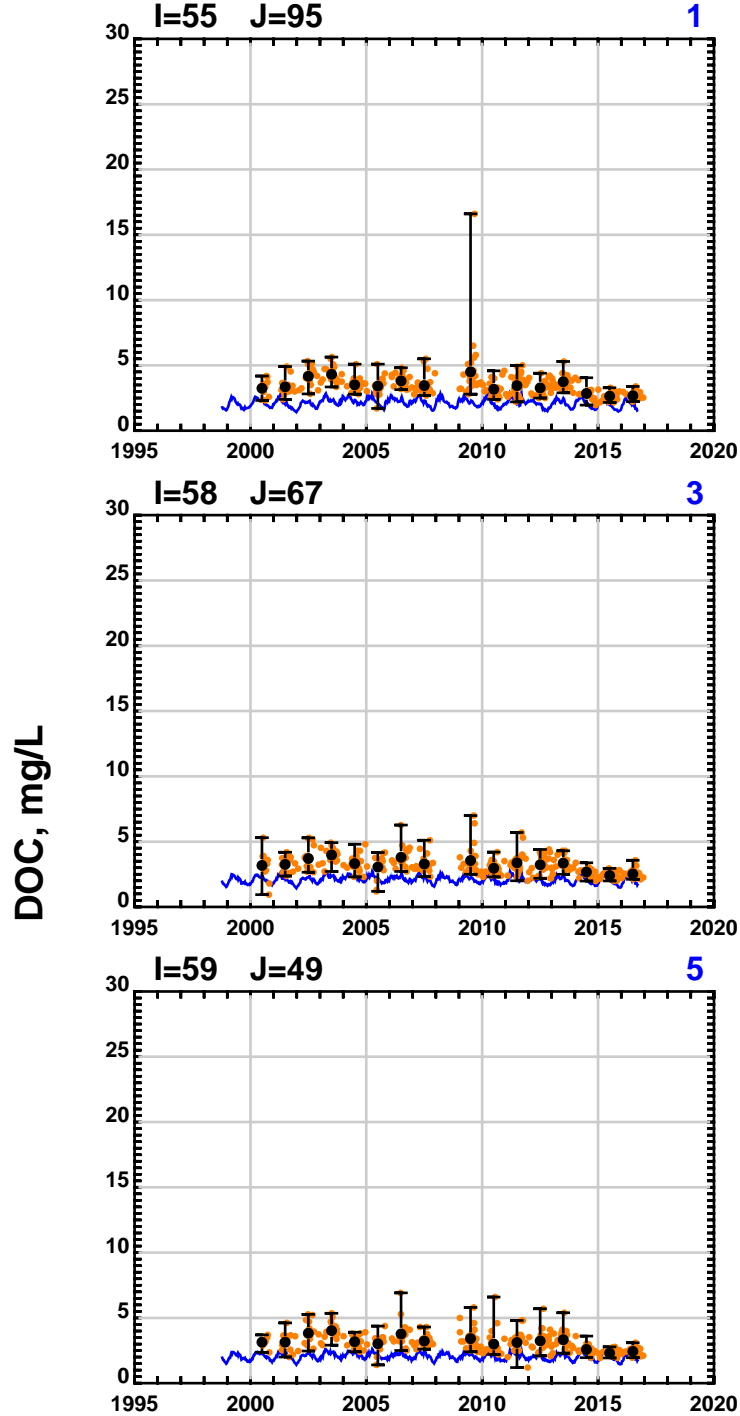
# Water Column Data Comparison With Model All Water Column Layers



**Detect Data**  
**Model: mean and range of values in Water Column** Appendix 11 Page 45 of 46

● Water Column Data: yearly mean and range  
 ● CARP2 Data  
 ● Harbor Data  
 ● NJHDG Data

# Water Column Data Comparison With Model All Water Column Layers



Detect Data  
Model: mean and range of values in Water Column Appendix 11 Page 46 of 46

- Water Column Data: yearly mean and range
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