CORILa Line 3.8 Speciation and fluxes of contaminants

Modelling the Venice Lagoon: deterministic and probabilistic results for Contaminant Fate and Transport Model

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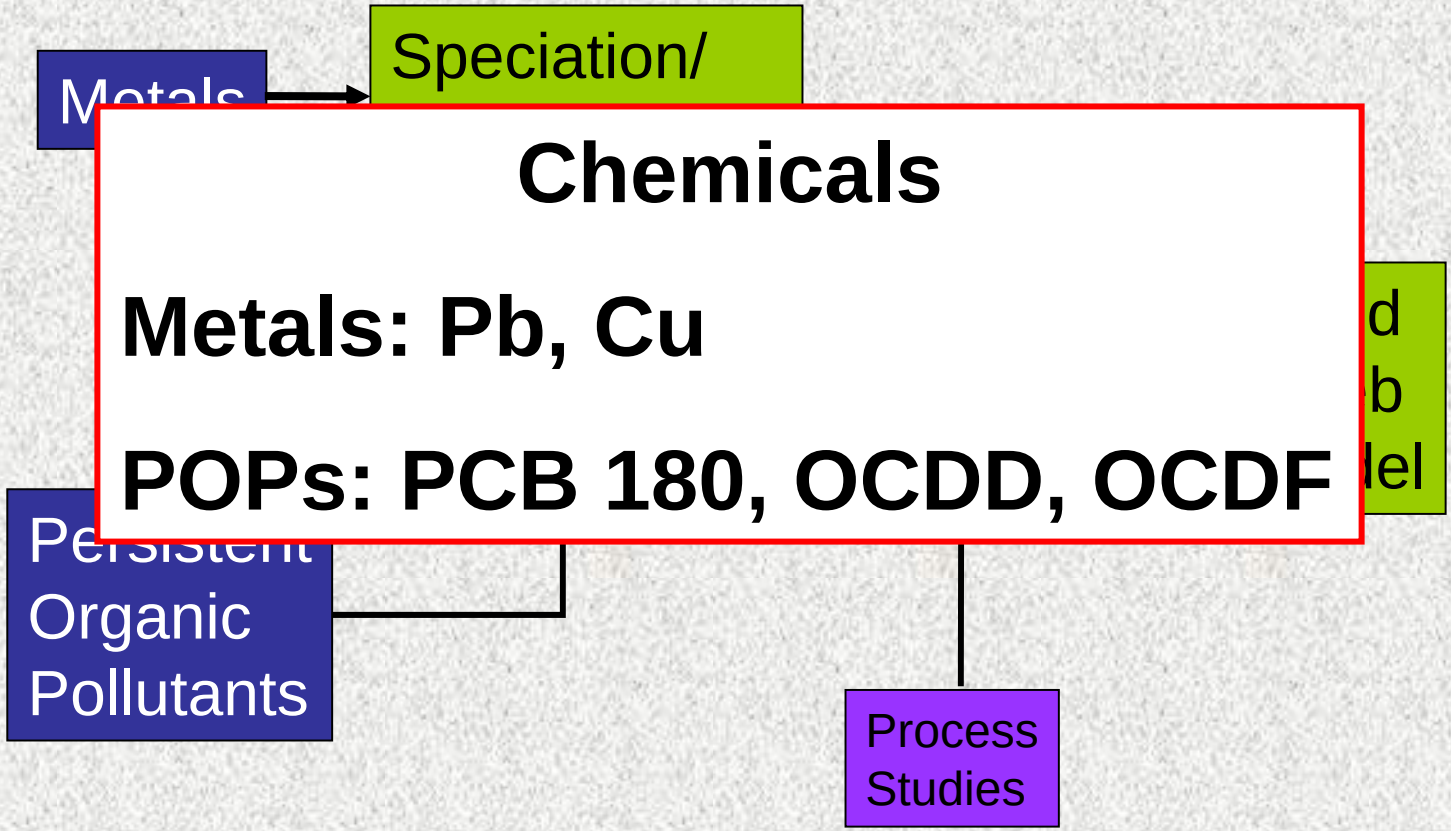
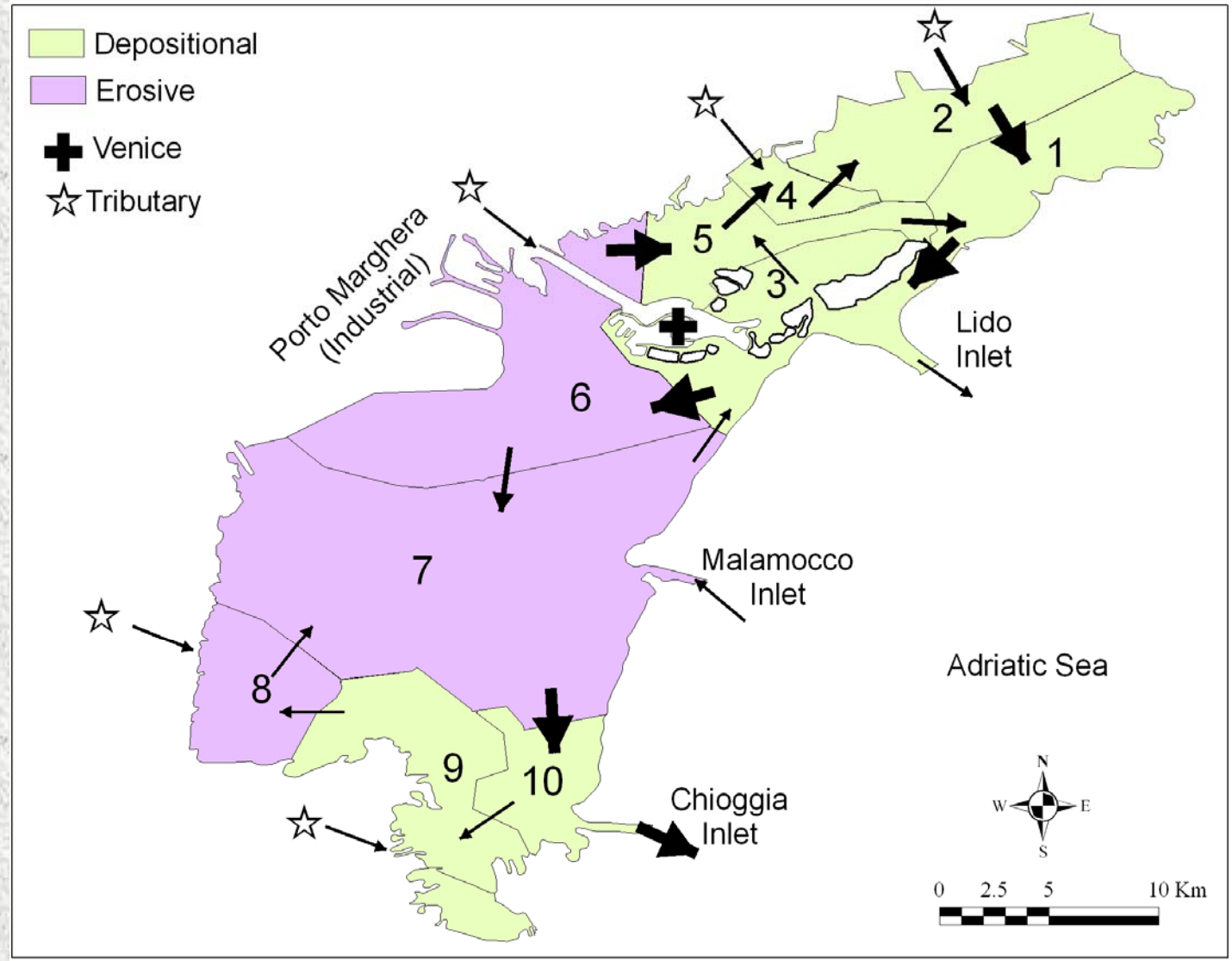
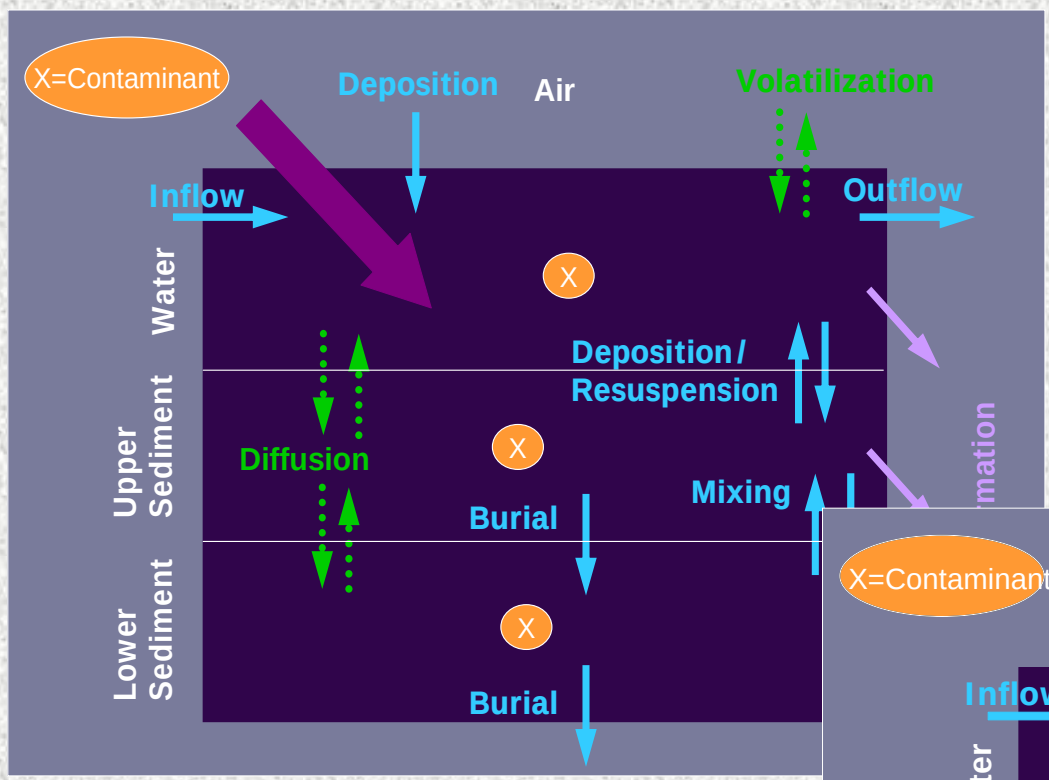
Conceptual scheme



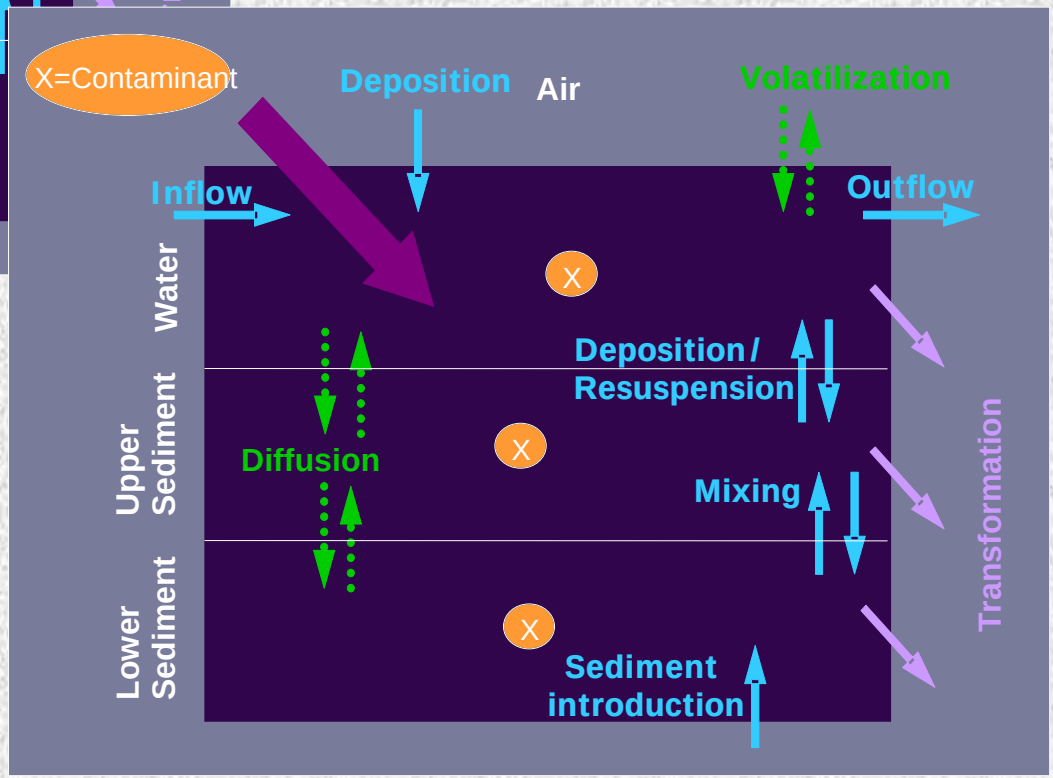
Segmentation (Solidoro *et al*., 2004)





Non-erosive segments

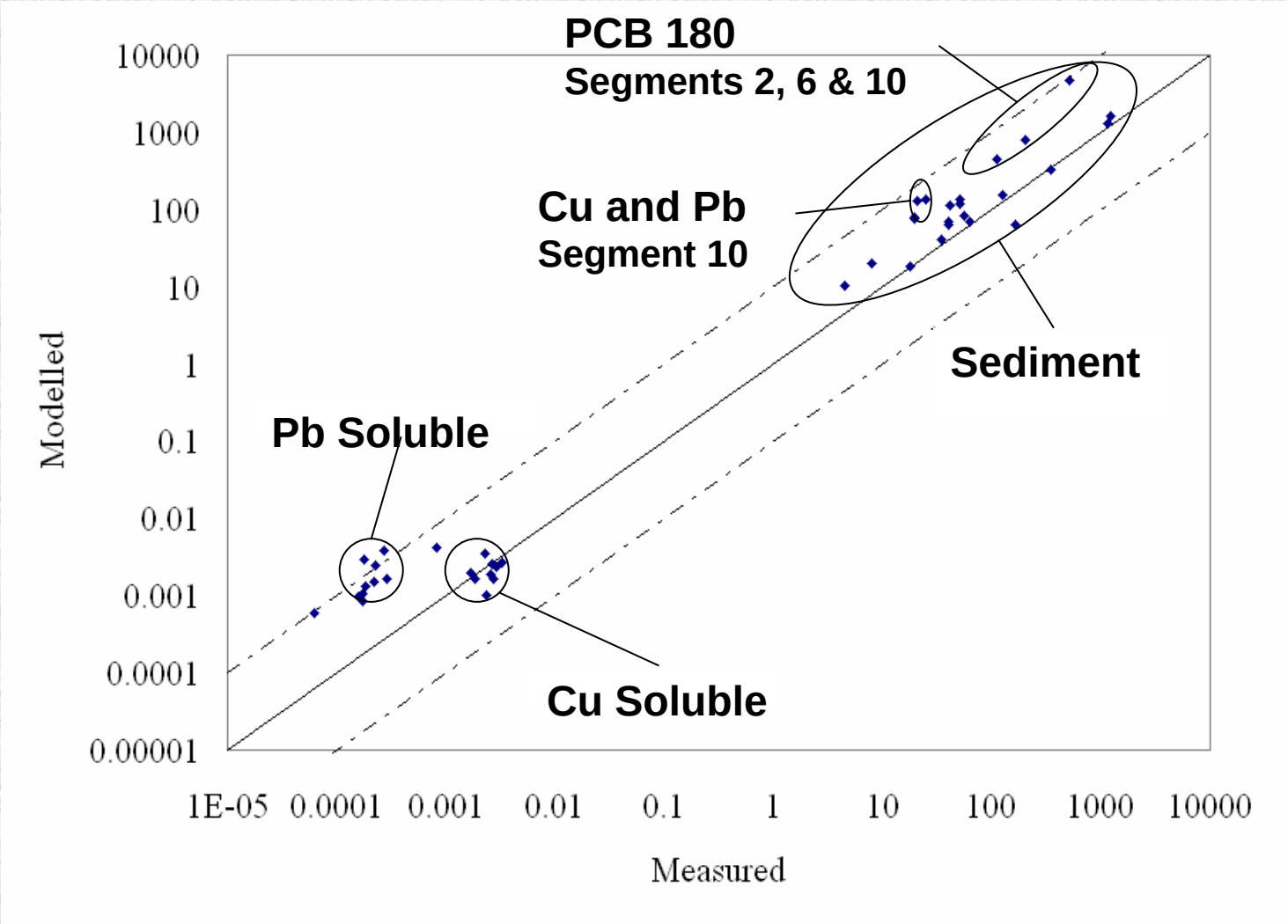
(1-5, 9-10)



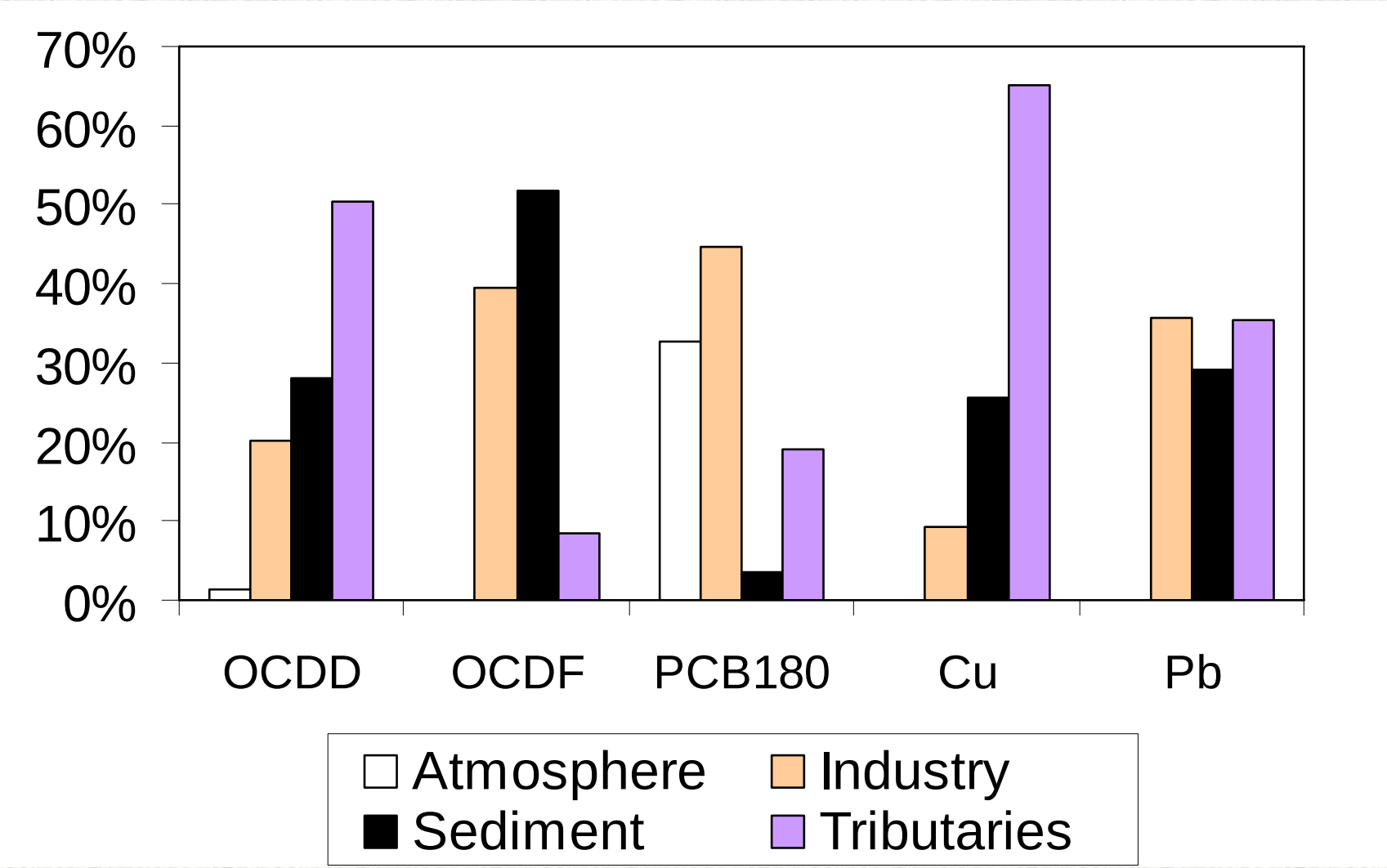
Erosive segments

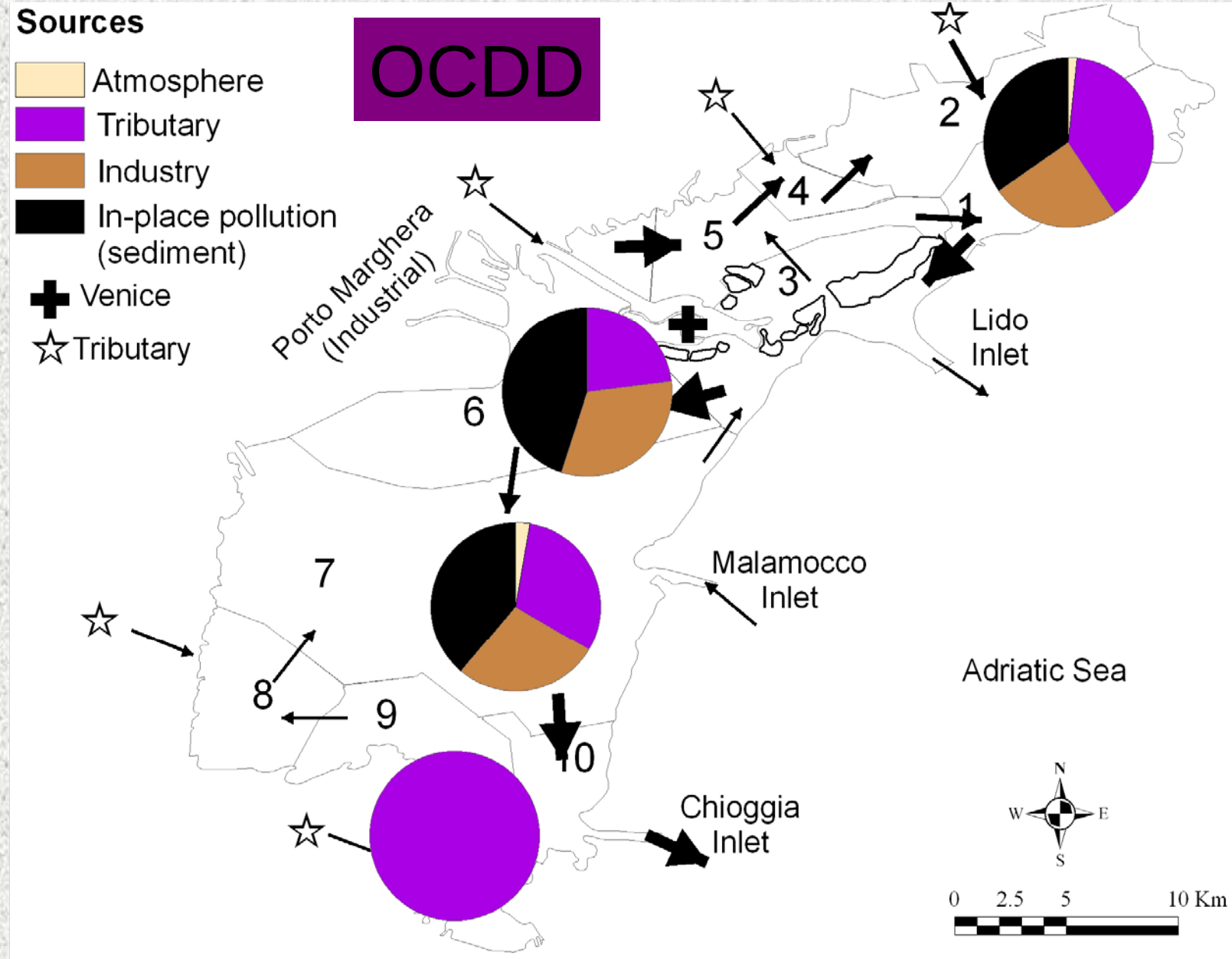
(6-8)

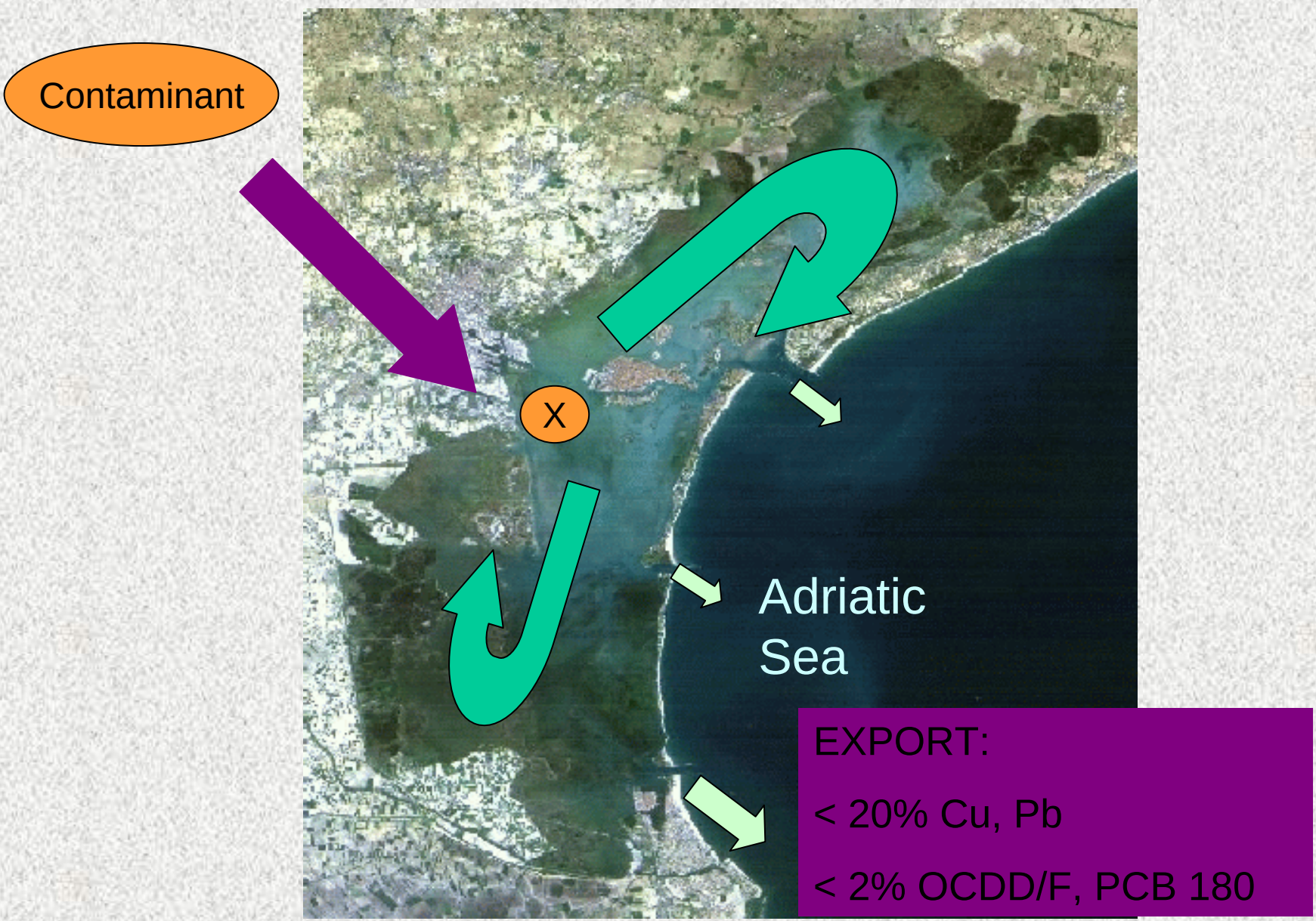
Deterministic model evaluation



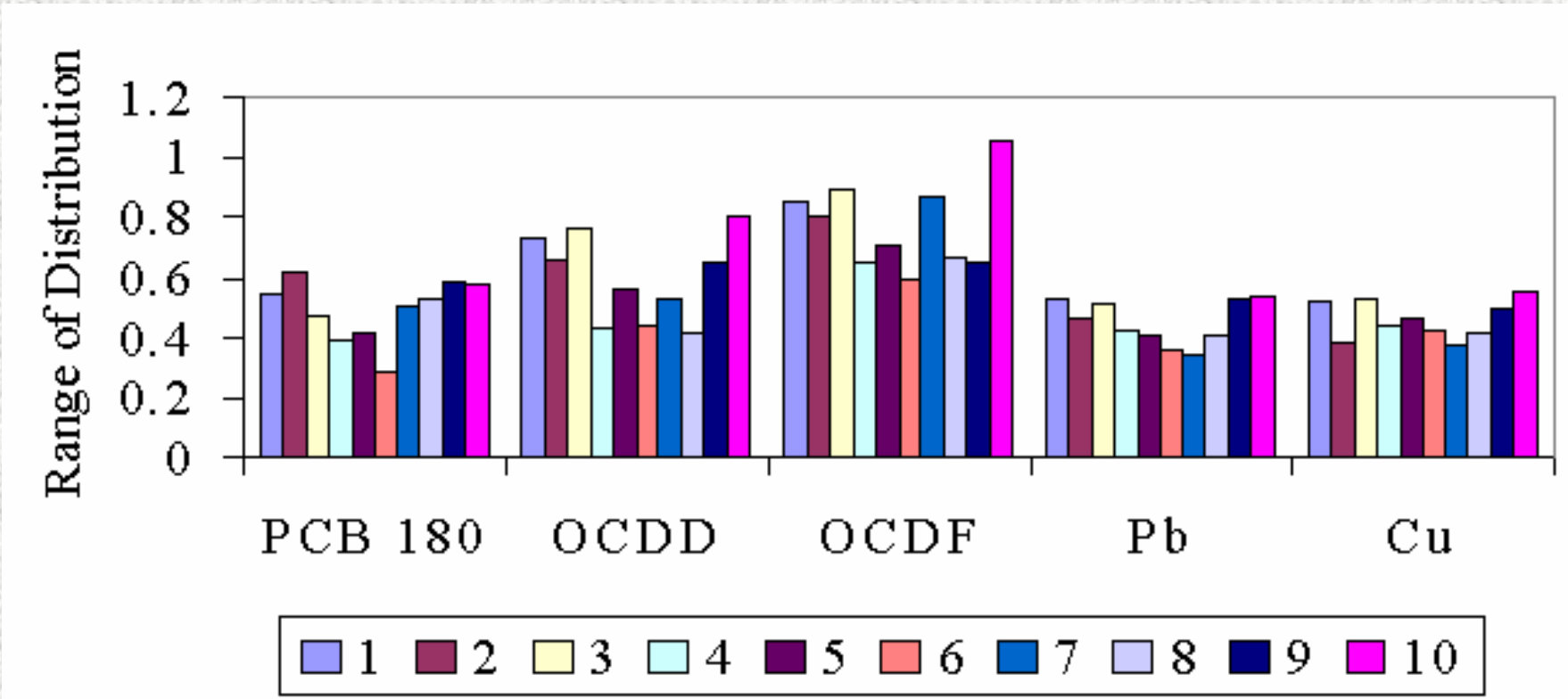
Relative Contaminant Loadings



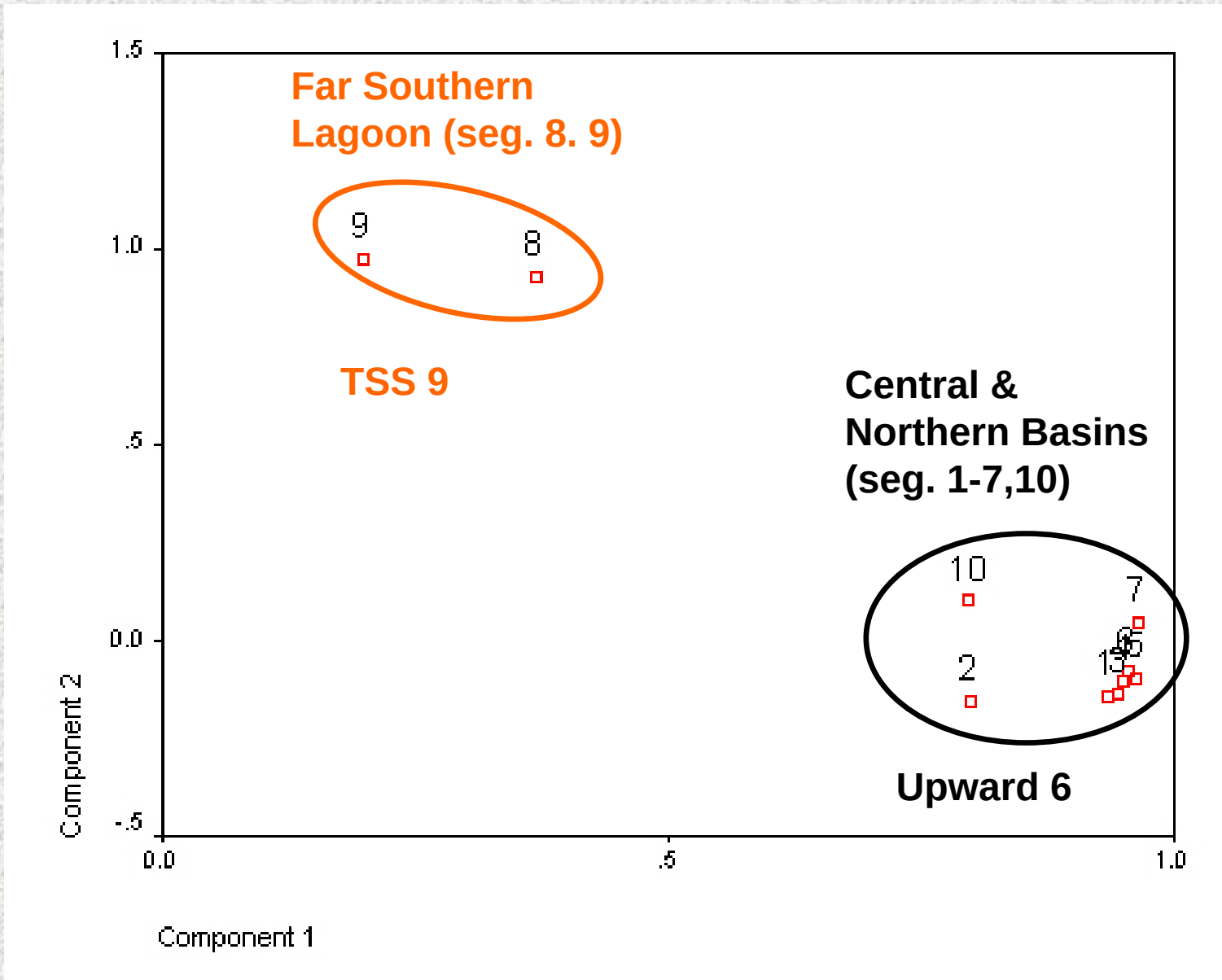

Sources
Atmosphere
Tributary
Industry
In-place pollution (sediment)
Venice
Tributary
OCDD
Porto Marghera (Industrial)
Lido Inlet
Malamocco Inlet
Chioggia Inlet
Adriatic Sea
1
2
3
4
5
6
7
8
9
10
N
W
E
S
0 2.5 5 10 Km


Contaminant
X
Adriatic
Sea
EXPORT:
< 20% Cu, Pb
< 2% OCDD/F, PCB 180

Range of Distribution - Water



Bulk Water Cu (88%)



Summary

- Source
  - In-place pollution – erosion & resuspension
- Fate
  - Sediment-water exchange
  - Circulation patterns
- Contaminant transport to the far southern lagoon and Adriatic Sea is limited
- Probabilistic and deterministic interpretations are consistent