



Dynamic of POC and DOC concentrations in the southern Baltic Sea.

II - Raport on measurments

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Why do we believe that POC and DOC are important components in seawater?

- Play key role in many natural processes occurring in marine environment

(vertical downwards transport of chemical substances: C, N, P, heavy metals, O₂ depletion, etc.)

- **Take part in the carbon cycling**
- POC and DOC are responsible for many chemical and physical (sea-color, light-availability etc.) properties

POC

- Particulate Organic Carbon
- Measure of particulate organic matter (POM) in the marine environment
- $POM \approx 2.12 \text{ POC}$
- Sum of phytoplankton, zooplankton, bacteria and dead organic matter (detritus) concentrations

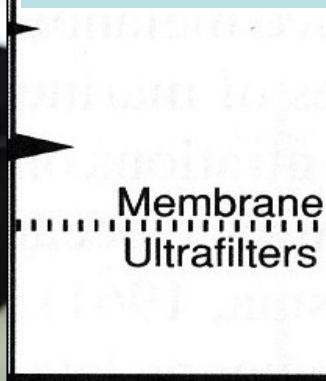


DOC



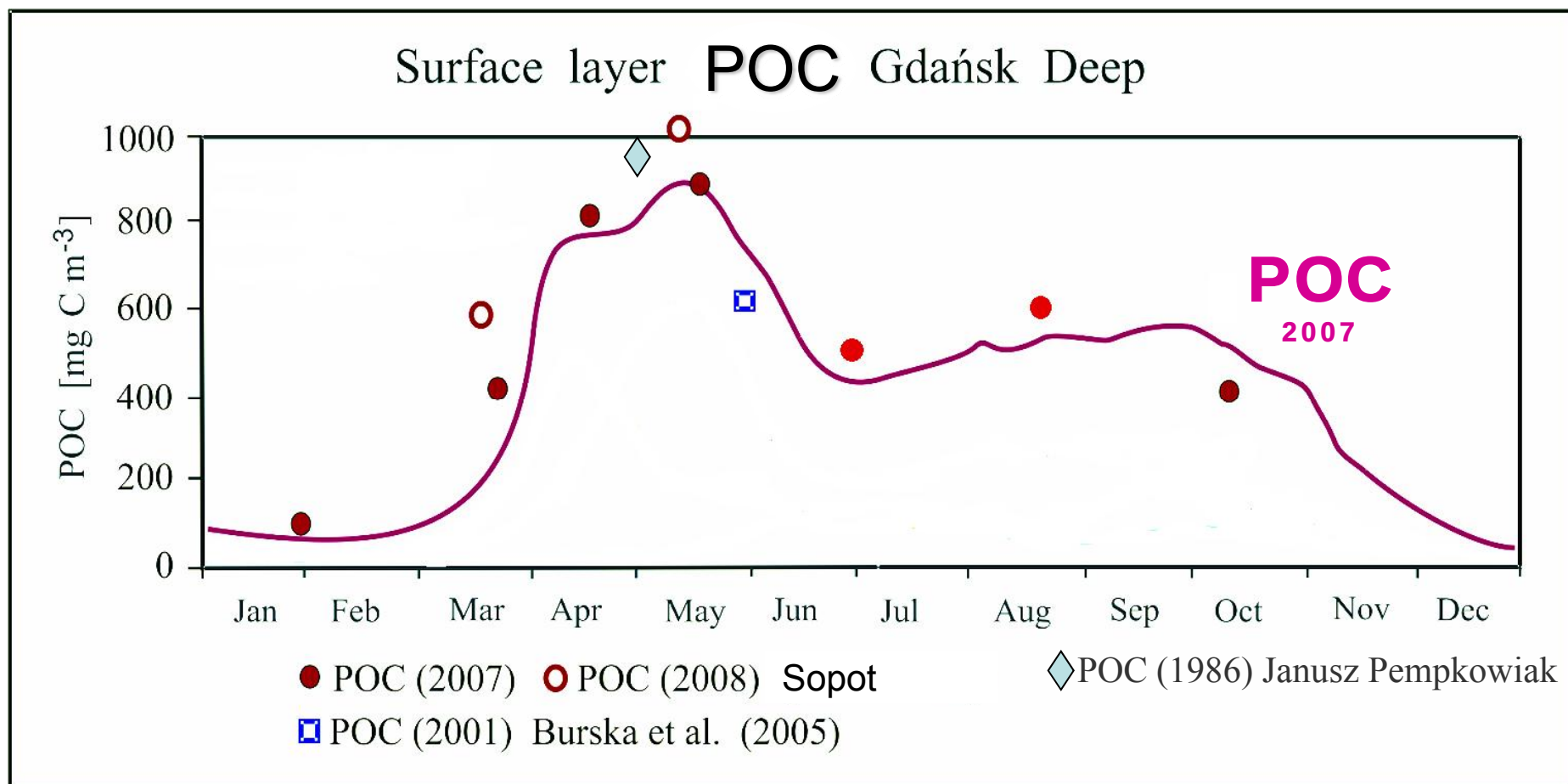
- Dissolved organic carbon
- Measure of dissolved organic matter
- $POC + DOC = (OC)$ - Organic carbon in sea-water

*Concentration of **OC** constitute around 45% of organic matter in sea*





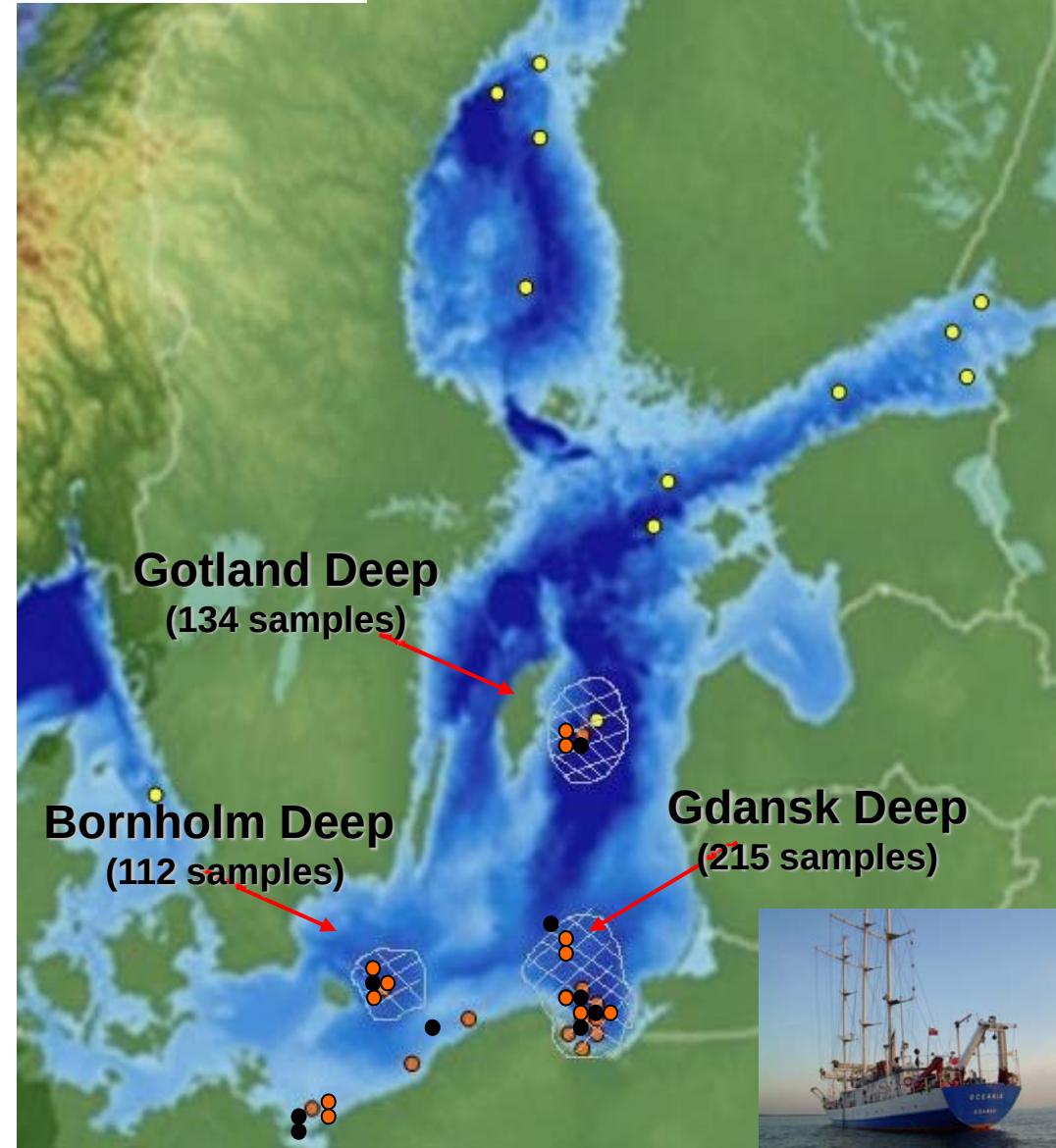
Model validation





Location of sampling station

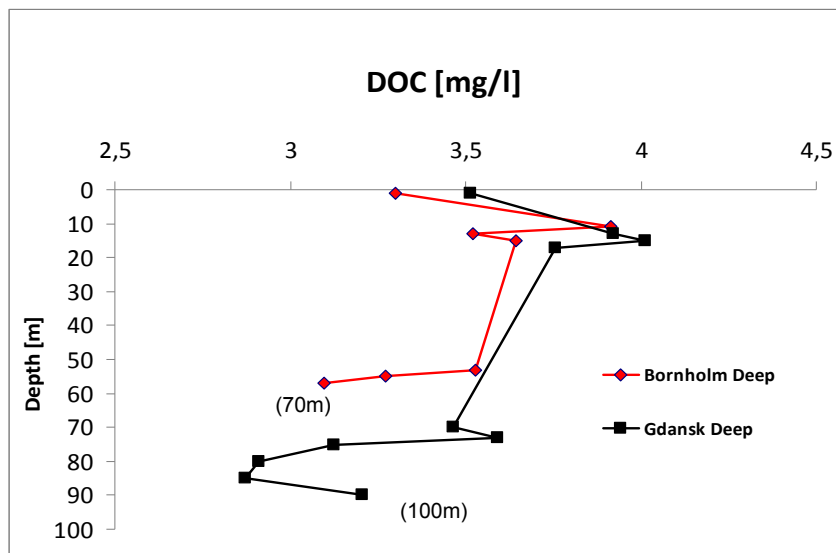
- r/v **Oceania** cruise
(March, April, October 2009)
Samples: sediments and water
- r/v **Aranda** cruise
(January 2009)
Samples: sediments and water
- r/v **Oceania** cruise
(April/May 2008)
Samples: sediments and water



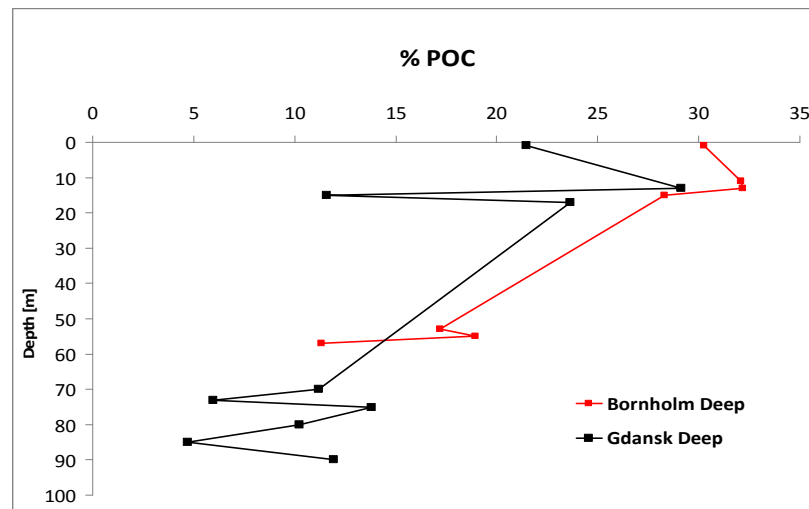


Results April 2008

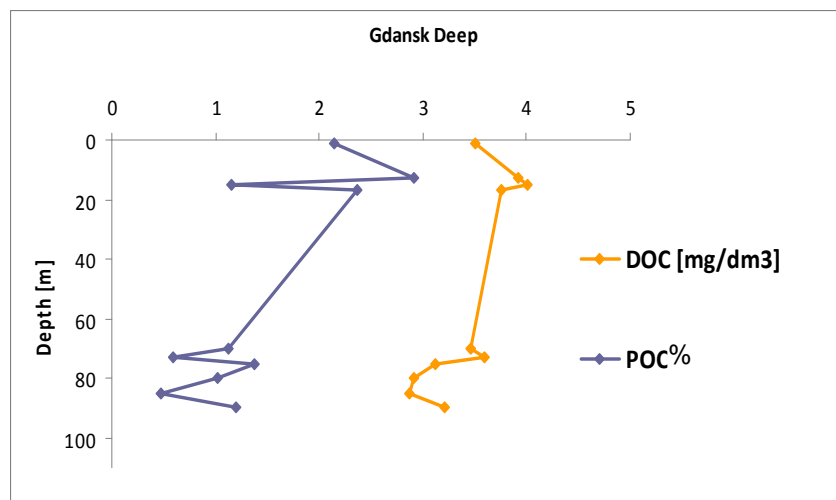
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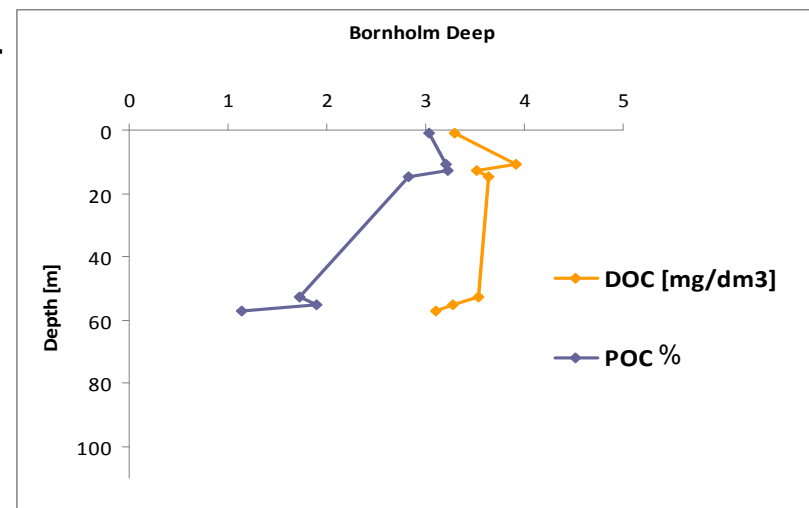
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Raport on measurments

diffrient seasons, diffrient samples depths, diffrient sampling locations

Baltic Sea

Component	Analyzed samples	Samples to analyze	Average concentration	SD
POC	155	83	Surface - 0,39 Water column- 0,32	0,35 0,27
DOC	134	86	Surface - 3,41 Water column - 3,21	1,52 1,39

Gdansk Deep

Component	Analyzed samples	Samples to analyze	Average concentration	SD
POC	76	32	Surface - 0,45 Water column - 0,36	0,41 0,31
DOC	71	36	Surface - 3,76 Water column - 3,42	1,68 1,42



Summary

- To create good working model and establish POC and DOC distribution we have to based on prolonged and extended measuring programs
- So far 40% of required samples have been analyzed
- I performed extensive measurments for model validation
- In my data based there is a lack of samples from summer therefore i would like to take part in summer cruises covering Gdansk Deep Borholm Deep and Gotland Deep

Thank you