

ANNUAL REPORT ON GEOTRACES ACTIVITIES IN POLAND

April 1st, 2018 to March 31st, 2019

New scientific results

- Environmental impact of wind farm on Baltic Sea Ecosystem 2017-2018
The research cruise performed in January 2018 was part of the study committed to the environmental impact of the planned wind farm on the southern Baltic Sea ecosystem. The farm will be built approximately 50 km from land. The study included water and suspended trace metals. The report is under preparation.
- Spring *r/v Oceania* cruise
The results obtained in March 2018 are still under interpretation. The results obtained within this cruise will be used in a study dedicated to mineralization of organic matter under oxic and hypoxic conditions. The publication is under preparation.
- Submarine Groundwater Discharge (SGD) in the Baltic Sea
Measurements of trace metals in submarine groundwater discharge (SGD) samples were made within 2016-2018. The study was devoted to verification of several hypotheses two of them were related to trace metals: 1) SGD is a significant source of trace metals to the marine environment in several sites located within the Bay of Puck 2) trace metals flux via SGD changes due to spatial and temporal variability. The publication is under preparation.

Cruises

- January 2018 southern Baltic Sea; analyses of Hg, Ni, Pb, Cd, Cr, As in bottom waters of several sites and in suspended matter:

55 07 .051N	16 43 .159E
55 05 .453N	16 36 .495E
55 05 .479N	16 40 .425E
55 03 .896N	16 33 .887E
55 03 .086N	16 36 .475E
55 01 .082N	16 51 .017E
54 56 .274N	16 54 .452E
54 50 .873N	16 54 .077E
54 45 .608N	16 52 .414E
54 40 .208N	16 50 .681E
54 35 .479N	16 47 .317E

- March 2018 Baltic Proper; analyses of Al, Fe, Mn in water column in several sites:

54 38.702 N	18 42.179 E
54 37.495 N	18 39.604 E
54 36.216 N	18 40.757 E
54 36.152 N	18 44.493 E

54 36.782 N	18 45.439 E
54 34.952 N	18 42.069 E
54 48.849 N	19 13.143 E
54 49.945 N	19 19.773 E
54 51.200 N	19 15.576 E
54 53.695 N	19 17.641 E
54 52.689 N	19 10.790 E
55 14.991 N	18 29.893 E
55 17.297 N	17 42.342 E
55 21.628 N	15 38.389 E
55 17.537 N	15 38.244 E
55 19.532 N	15 42.059 E
55 21.570 N	15 45.386 E
55 17.606 N	15 45.373 E
55 13.076 N	17 00.210 E

- March and May 2018 Bay of Puck; analyses of Pb, Mn, Ni, Zn, Co, Cr, Cd, Cu seawater, river water, shallow groundwater, deep groundwater and pore water in submarine groundwater discharge areas Figure 7.

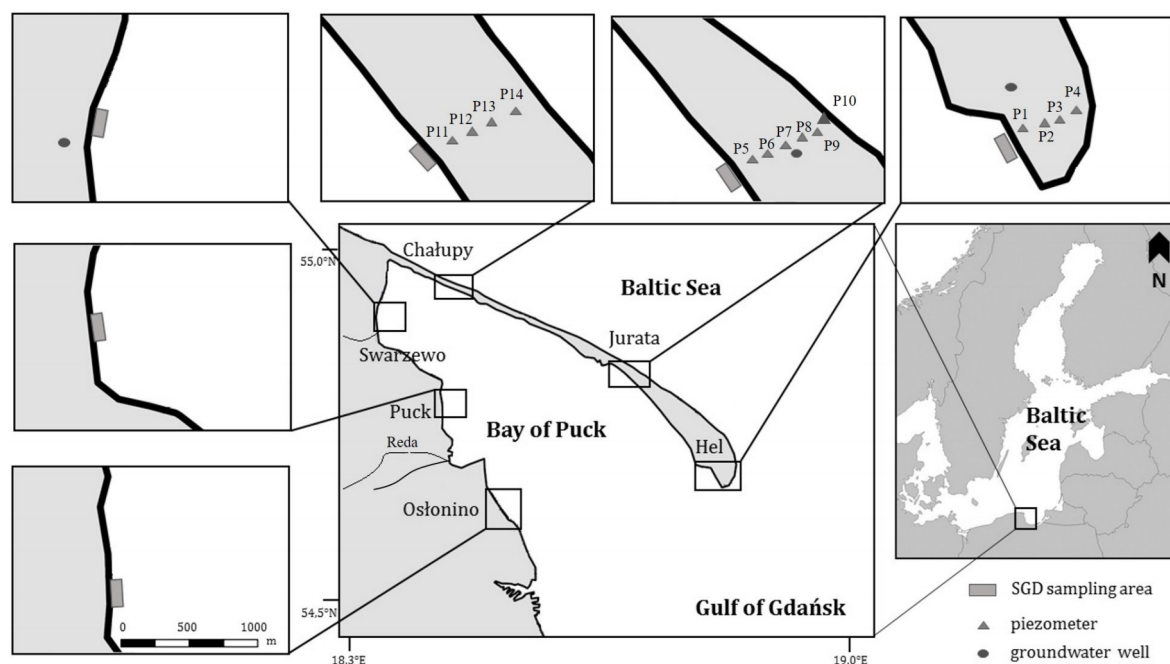


Figure 7. Map of the study sites located in the Bay of Puck, southern Baltic Sea. The submarine groundwater discharge (SGD) sites situated off Hel Peninsula (Hel, Jurata, Chalupy) and off mainland (Puck, Swarzewo and Osłonino) are marked as grey rectangles while piezometers and groundwater wells are marked as triangles and circles, respectively.