

# Planet Press: geoscience news for children

Bárbara Ferreira  
EGU Media and Communications Manager

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## Planet Press: introduction

- Short versions of EGU press releases: geoscience news for children
- Texts written in child friendly language: target 7-13 year olds
- Topics: air pollution, glaciers, climate, earthquakes, ocean sciences, etc.



## Planet Press: introduction

- Short versions of EGU press releases: geoscience news for children
- Written in child friendly language: target 7-13 year olds
- Topics: air pollution, glaciers, climate, earthquakes, ocean sciences, etc.
- Aim to get kids, parents, and educators interested in and engaged with new geoscientific research
- An EGU educational project to complement other educational initiatives, such as GIFT
- Inspired by Space Scoop

## Planet Press: the process

- Paper published in EGU journals → Press release



Articles

Abstract

Introduction

Study location

Description of the proxies

Materials and methods

Results

Discussion

Implications

Conclusions

Data availability

Author contributions

Competing interests

Acknowledgements

References

Supplement

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Research article

A 1500-year multiproxy record of coastal hypoxia from the northern Baltic Sea indicates unprecedented deoxygenation over the 20th century

Sami A. Jokinen<sup>1</sup>, Joonas J. Virtasalo<sup>2</sup>, Tom Jilbert<sup>3</sup>, Jérôme Kaiser<sup>4</sup>, Olaf Dellwig<sup>4</sup>, Jari Hänninen<sup>5</sup>, Laura Arppe<sup>6</sup>, Miia Collander<sup>7</sup>, and Timo Saarinen<sup>1</sup>

<sup>1</sup>Department of Geography and Geology, University of Turku, 20014 Turku, Finland  
<sup>2</sup>Marine Geology, Geological Survey of Finland (GTK), P.O. Box 96, 02151 Espoo, Finland  
<sup>3</sup>Department of Environmental Sciences, University of Helsinki, P.O. Box 65, 00014 Helsinki, Finland  
<sup>4</sup>Leibniz Institute for Baltic Sea Research Warnemünde (IOW), Seestrasse 15, 18119 Rostock, Germany  
<sup>5</sup>Archipelago Research Institute, University of Turku, 20014 Turku, Finland  
<sup>6</sup>Finnish Museum of Natural History, University of Helsinki, P.O. Box 64, 00014 Helsinki, Finland  
<sup>7</sup>Department of Food and Environmental Sciences, University of Helsinki, P.O. Box 66, 00014 Helsinki, Finland

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Abstract

The anthropogenically forced expansion of coastal hypoxia is a major environmental problem affecting cycles throughout the world. The Baltic Sea is a semi-enclosed shelf sea whose central deep basin during its Holocene history, as shown previously by numerous paleoenvironmental studies. However, the intensity of hypoxia in the coastal zone of the Baltic Sea are largely lacking, despite the significant nutrients derived from the catchment. Here we present a 1500-year multiproxy record of near-basin-wide hypoxia in the northern Baltic Sea, encompassing the climatic phases of the Medieval Climate Anomaly, Modern Warm Period (MoWP). Our reconstruction shows that although multicentennial climate variability and delivery of organic matter (OM) to the basin the modern aggravation of coastal hypoxia in our study area began decades earlier than previously thought, leading to a major finding: no evidence of similar anthropogenic forcing during the MCA. These results have implications for coastal water quality. Furthermore, this study highlights the need for combined use of sediment proxies in order to robustly reconstruct subtle redox shifts especially in dynamic, non-euxinic coastal basins.

**How to cite.** Jokinen, S. A., Virtasalo, J. J., Jilbert, T., Kaiser, J., Dellwig, O., Arz, H. W., Hänninen, J.: A 1500-year multiproxy record of coastal hypoxia from the northern Baltic Sea indicates unprecedented deoxygenation over the 20th century, *Biogeosciences*, 15, 3975-4001, https://doi.org/10.5194/bg-15-3975-2018, 2018.



PRESS RELEASE

New study: oxygen loss in the coastal Baltic Sea is “unprecedentedly severe”

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5 July 2018

Planet Press

Contact

The Baltic Sea is home to some of the world's largest dead zones, areas of oxygen-starved waters where most marine animals can't survive. But while parts of this sea have long suffered from low oxygen levels, a new study by a team in Finland and Germany shows that oxygen loss in coastal areas over the past century is unprecedented in the last 1500 years. The research is published today in the European Geosciences Union journal *Biogeosciences*.

According to the researchers, human-induced pollution, from fertilisers and sewage running off the countries surrounding the Baltic into the sea, is the main driver of recent oxygen loss in the region's coastal waters. The spread of low-oxygen areas can have dire consequences for the environment and for local populations as it can reduce fish yields and even lead to massive mortality of marine animals.

“The Baltic was strongly impacted by human nutrient inputs in the 20<sup>th</sup> century and is still experiencing the legacy of those inputs today,” says Tom Jilbert, an assistant professor at the University of Helsinki, Finland, who took part in the research. But despite recent measures to reduce the release of polluting nutrients, the researchers write in the new study that they found “no evidence of recovery” from oxygen depletion in the Archipelago Sea, a coastal area between mainland Finland and Sweden that is part of the Baltic.

Scientists

**Sami Jokinen**  
PhD Student, Department of Geography and Geology  
University of Turku, Finland  
+358(0)443 713 545  
sami.jokinen@utu.fi

**Tom Jilbert**  
Assistant Professor in Aquatic Biogeochemistry  
University of Helsinki, Finland  
+358(0)294 157 923, +358(0)504 480 348  
tom.jilbert@helsinki.fi

Press officers

## Planet Press: the process

- Paper published in EGU journals → Press release
- Draft kids' friendly text (mostly me)
- Send to two researchers for scientific review and one teacher for educational review
- Proof, typeset, publish (HTML and PDF)!





Blooms of algae in the Baltic in summer 2018. In recent years, algae blooms such as these ones have contributed to the appearance of "dead zones" in the Baltic Sea (Credit: NASA Earth Observatory)

## Oxygen levels in Baltic Sea at 1500-year low

The Baltic Sea, a sea to the south of Sweden and Finland surrounded by northern European countries, is home to some of the world's largest dead zones. These are areas where most marine animals can't survive because the waters have very low amounts of oxygen.

Now, researchers who published their work in the EGU journal *Biogeosciences* have discovered that the oxygen problem in the coastal waters of the Baltic sea is more serious than previously thought. The new research shows that during the past 100 years or so the coastal Baltic Sea lost oxygen at a rate that had not been seen in 1500 years!

The researchers say some human activities could be to blame: pollution due to agriculture and sewage runs off into the sea and results in the water in the coastal areas losing oxygen. Climate change or global warming is making the problem worse because warm waters are not as good at holding on to oxygen as colder seas.

Waters low in oxygen can be very bad for the local environment and populations. They can result in marine animals dying in large numbers. Another effect can be that less fish is available for people to eat because the fish swim away from areas with low oxygen.

Many countries in the Baltic region have taken steps to reduce pollution, but the study suggests more is needed to save coastal waters.

### Discuss with your teacher or parents

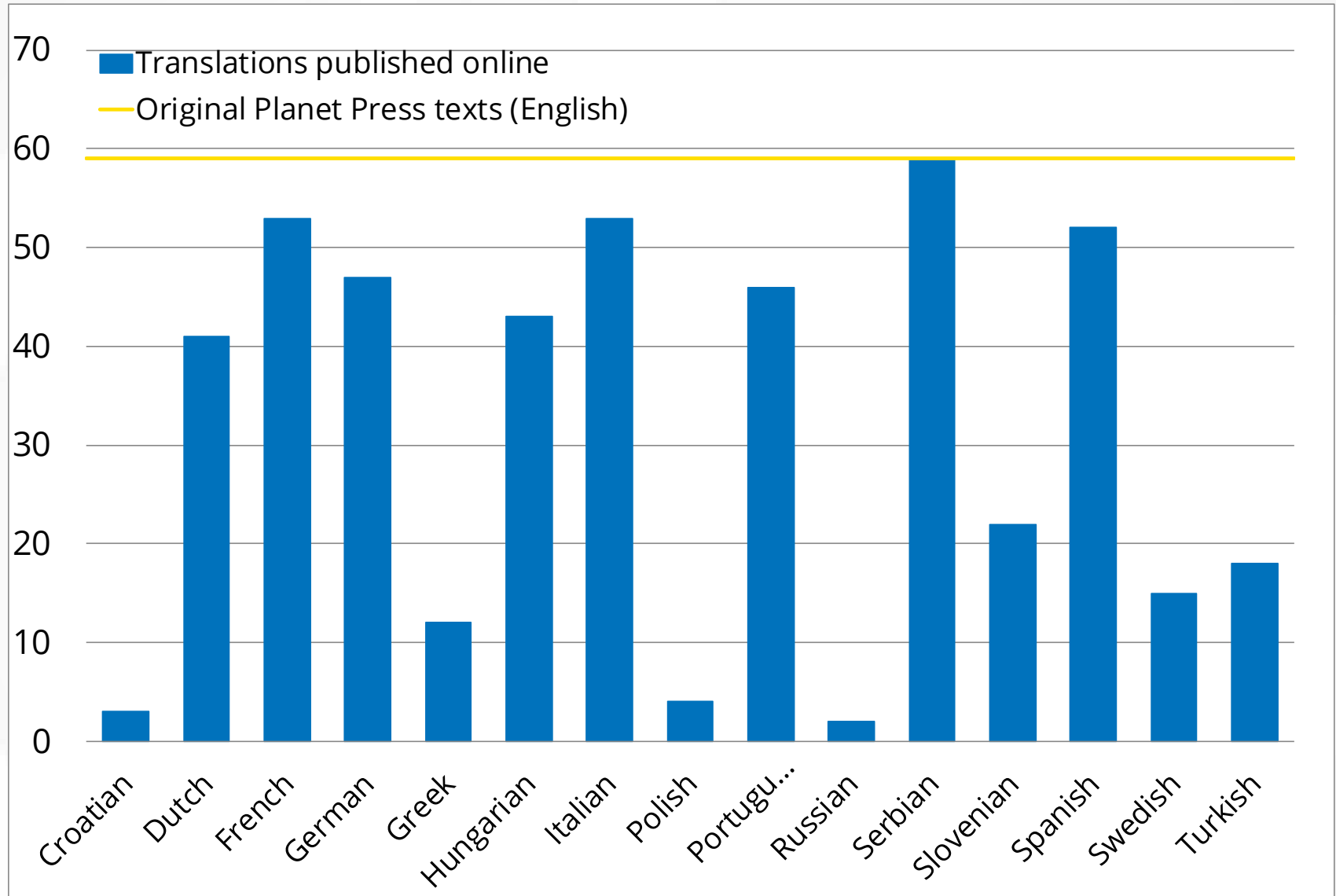
What are dead zones and what causes them? How do pollutants (excess nutrients) contribute to lower oxygen in coastal waters? Find out more at [egu.eu/5SJAPR](http://egu.eu/5SJAPR).

What is climate change? Find out more on the NASA Climate Kids website [egu.eu/5NSIW8](http://egu.eu/5NSIW8).

*This is a kids' version of the European Geosciences Union (EGU) press release 'New study: oxygen loss in the coastal Baltic Sea is "unprecedentedly severe"'. It was written by Bárbara Ferreira (EGU Media and Communications Manager), reviewed for scientific content by Sara Mynott (University of Exeter) and Sami Jokinen (University of Turku), and for educational content by Sally Soria-Dengg (School Cooperations, GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany). For more information, please check: <http://www.egu.eu/education/planet-press/>.*

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- Translate in various languages (volunteer scientists and teachers)



## Print version



Planet Press Baltic hypoxia.pdf (PDF, 894.1 KB)

This is a kids' version of the EGU article: 'New study: oxygen loss in the coastal Baltic Sea is “unprecedentedly severe”'. It was written by Bárbara Ferreira (EGU Media and Communications Manager), reviewed for scientific content by Sara Mynott (University of Exeter) and Sami Jokinen (University of Turku), and for educational content by Sally Soria-Dengg (School Cooperations, GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany).

## Translations



Planet Press Baltic hypoxia - French.pdf (PDF, 903.5 KB)



Planet Press Baltic hypoxia - Hungarian.pdf (PDF, 898.9 KB)



Planet Press Baltic hypoxia - Serbian.pdf (PDF, 898.9 KB)



Planet Press Baltic hypoxia - Slovenian.pdf (PDF, 902.4 KB)

All English-language Planet Press releases are carefully edited, reviewed and proofed, by scientists, educators and EGU staff. Please note that once translated, Planet Press releases receive no further checks from EGU staff. For this reason, we cannot guarantee their accuracy, though we trust the quality of our voluntary translators and are grateful for their work.

## Planet Press: the numbers

- 59 Planet Press texts written, reviewed, published
- 470 translations published online (+ a few more not yet online)
- ~60 volunteer reviewers and translators (scientists and educators) – THANK YOU!!

## Planet Press: example of classroom use

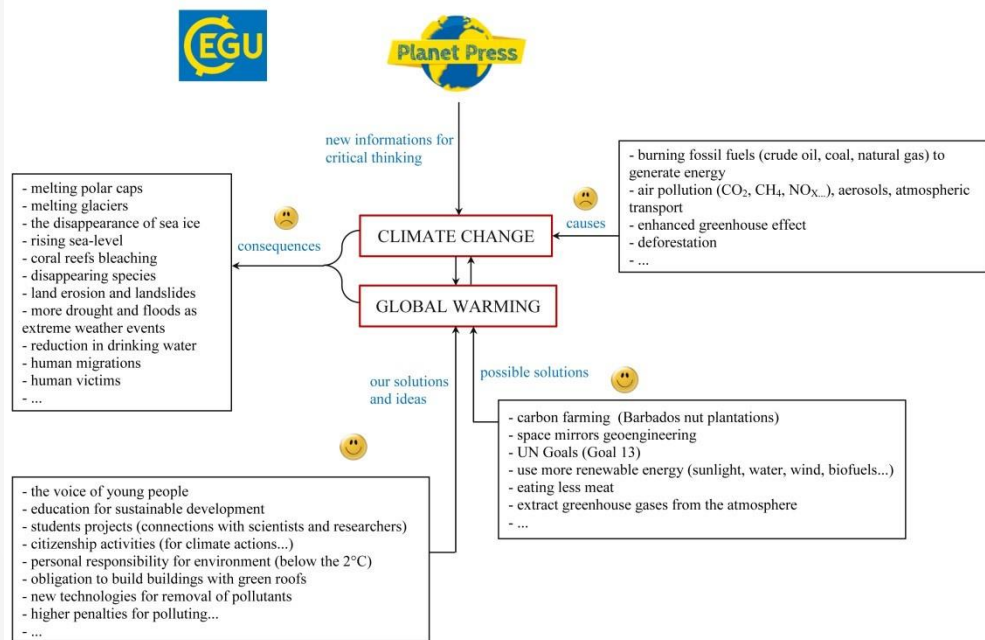
- Marina Drndarski, school teacher in Serbia, past GIFT participant and Planet Press volunteer
- Interviewed on the EGU blog GeoLog about her experience sharing geoscience with kids: read the post at <https://egu.eu/66IUSA/>



*“All the articles from Planet Press (...) provide real examples of field research and show students that science is actually happening somewhere in the world. Most importantly for students, are that most of the articles often show how science can influence everyday life, and that there are possible solutions and recommendations for what we can do to relieve pressure on the planet.”*

*Additionally the questions in the “Find out more” section provide me with an opportunity to develop discussions in class.”*

Marina Drndarski



## Planet Press: your turn

- Help us share new and exciting research with kids through Planet Press, to inspire children to develop an interest in geoscience
- Use Planet Press as a teaching tool: to teach geoscience, critical thinking, or even English if you want to try translating a text with your students
- Spread the word to other teachers, children and parents!
- Want to volunteer (e.g. educational reviewer)? Email [media@egu.eu](mailto:media@egu.eu)