

## Reviewer 2 Mariele Neudecker

Dear Dr. Neudecker,

we kindly acknowledge you for your time, the critical reading of our work, and the valuable comments, criticisms, and suggestions that will be of help in improving our manuscript. In the following, we reply to your comments, point by point.

- 1) *I would imagine that this text would include some more detail and comparison of the subject and also of the urgently needed steps for us all to take. It is one side of the issue to document “so-called: vanishing beauty”, it is really key to also to show the other side and document the wrong-doings of humanity, for example, the way food gets produced, handled, shipped and distributed; also the way we deal with waste of our products, etc. transport and travel, etc.*

Our concepts of world and environment must necessarily change for a new coexistence of human society and nature. OGS is significantly involved in educational and outreach activities aimed at increasing awareness in public about the environmental impacts in the ocean (e.g., pollution, plastic, overfishing), and we choose to use different communication strategies to convey this message. The purpose of this particular exhibition was to attract the interest of the general public to environmental problems and, in this case, not to teach and disseminate good practices for our everyday life, what we do on other occasions.

- 2) *I would look at for example at the organisation Project Pressure and make various international comparisons as there are various groups doing this kind of documentation. Compare notes?! E.G.: <https://www.project-pressure.org/> (quote from website: Since 2008 Project Pressure has been commissioning world-renowned artists to conduct expeditions around the world for the purpose of creating an exhibition visualizing the climate crisis.) It would be good to show awareness of this and see the bigger picture in the thesis and investigate that in a critical way.*

Thank you for your valuable suggestion and your involvement in such an interesting project. Art and science events, as you point out, are not a novelty and we are aware that several photo exhibitions have been organized during the last years by professional photographers and artists within projects devoted to enlarge the public awareness on this theme, using the art to strengthen the message ( e.g., <https://sulletraccedeighiaccai.com> , <http://www.project-pressure.org>). As additional examples of initiatives aimed at integrating art and science, we will also include the Extreme Ice Survey program (<http://extremeicesurvey.org/>), which produced a photography book (Balog et al., 2012) and a documentary film, “Chasing Ice” (<https://chasingice.com/>), winner of an Emmy Award in 2014. We will add citations to all these activities in the manuscript, and we will better clarify that it is unusual for scientists to organize exhibitions, as we did, making available the materials collected during scientific campaigns for study purposes different than the themes of the exhibition, thanks to the personal sensibility of the authors of the pictures. Some other online collections of pictures from scientists are available, but the archives are known (and accessed) by the scientific community only and not public at large (e.g., [https://nsidc.org/data/glacier\\_photo/](https://nsidc.org/data/glacier_photo/), [https://www.usgs.gov/centers/norock/science/repeat-photography-project?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/centers/norock/science/repeat-photography-project?qt-science_center_objects=0#qt-science_center_objects), <https://imagerie.egu.eu/>).

A different example is given by the way some scientists succeed in visualizing their data, so to make them almost artistic: it is the case of Ed Hawkins (National Centre for Atmospheric Science at the University of Reading - <https://earthier.gizmodo.com/this-climate-visualization-belongs-in-a-damn-museum-1826307536>), Antti Lipponen (Finnish Meteorological Institute- <https://earthier.gizmodo.com/a-new-visualization-turns-global-warming-into-pop-art-1828625479> ). Our goal was to fill the gap between research and society: the exhibition becomes the way to

bring scientists closer to the public, and precisely, adult people, in working age, in an environment extraneous to science. The venue, in fact, was chosen among the places not usually used for scientific dissemination activities as the ones used for Science Cafè or conferences, but it was the hall of a chamber of commerce usually crowded during working hours. We wanted also to talk about science, describing where the photos were taken, in which conditions, for which specific research project. In fact, some of us received many technical questions not only on climate change but on the geology and geomorphology of glaciers as well, thus adding value and a scientific significance to the artistic quality of the images. This experience may be further stimulated within the research community, also to keep track and record of the fast changes occurring in the global glaciers, as well as finding among our pictures other themes to be exposed in similar exhibitions.

- 3) *The loss of mass with glaciers would be important to visualise, hence to show some in comparison would be essential?*

We agree with you that having the photo comparison of the same glaciers over the years is of excellent communication impact (as already done in other initiatives, as <https://sulletraccedeighiacciai.com> or "Chasing Ice" - <https://chasingice.com/>)).

As our exhibition is an a-posteriori collection of photos shot during short term scientific OGS campaigns for study purposes different than the time-lapse documentation of melting glaciers, it was impossible for us to document the transformation over the years of the different places. However, we believe worth exploiting the significant number of our pictures to witness the grandeur of a landscape that is in danger of extinction. We will better clarify this point in the manuscript.

- 4) *Somehow the last sentence is asking for more: we need to see the climate crisis, we need to understand the problems and we all need to be aware what to do, what is it to do first? I am saying this provocatively I hope, as a lot of us do know, and still don't do it.*

Disappearing of glaciers is a piece of striking evidence that global warming is happening here and now, and will (probably) profoundly affect how our entire society will function in the future. Global warming is an entity of such vast temporal and spatial dimensions, so interconnected with all human activities, that seems to defy not only our control but also our understanding. Our concepts of world and environment must necessarily change for a new coexistence of human society and nature. Communication activities like our exhibition and other actions we, at OGS, and others are doing, are vital to highlight the problem and make it relevant to the general public. The debate about climate change communication strategies is still active, and catastrophic frames are controversial (see Public Understanding of Science 2019, Vol. 28(4) 401–416).

The exhibition project is still ongoing: pictures are now exposed at OGS premises, and our colleagues are encouraged to collect new material during scientific expeditions to propose updated versions of the exhibition. In future events, we shall try to further involve the visitors, through short surveys, aimed to verify whether the message has passed, and the awareness level has increased after visiting the exhibition.