SESS report 2023: Instructions for authors

Below you will find instructions to authors of update chapters for the State of Environmental Science in Svalbard (SESS) report published by the Svalbard Integrated Arctic Earth Observing System (SIOS).

All previous SESS reports can be found here: https://sios-svalbard.org/SESSreport

Editorial Procedure

- Each SESS report has an Editorial Board appointed by the SIOS Board of Directors (BoD). The Science Optimisation Advisory Group (SOAG) and other SIOS working groups function as advisers.
- The final decision on manuscript acceptance rests with the Editorial Board.
- Manuscripts will be screened by the Editorial Board and sent out for peer-review.
- The authors will be asked to revise their manuscript when called for.
- After acceptance, manuscripts will be copy edited.
- The SESS report will be published as online pdf document and some few printed copies. In addition, a summary for stakeholders containing the popular science summaries for each chapter will be published (printed and as online pdf document). Chapters will be separately entered in the Zenodo database and will have a DOI).

How to organise your SESS contribution

Your contribution to the SESS report should include two parts: (1) A scientific chapter, and (2) a popular science summary. You are welcome to additionally provide updated FAQs or other outreach material associated to your chapter.

(1) The scientific chapter

A brief update of a chapter published in a previous SESS report, which

- updates previously described data, i.e. presents unpublished data that contribute to SIOS core data and/or complement earlier SESS reports.
- updates information about the state of specific research fields described in previous SESS chapters, i.e. present new interpretations of data, new insights and/or new developments in the field;

- merges and refines previous recommendations in the light of new data, interpretation of data, new insights, or the implementation of previous recommendations.

The maximum length of the scientific chapter must not exceed 8 pages.

The authors must follow the template provided on https://sios-svalbard.org/SESS_Issue6, and the guidance therein.

The chapter shall consist of following sections:

- **Introduction**
- **The state of [add your field]**
- **Contributions to interdisciplinarity** - how does your work contribute to other spheres and where you would like to see other disciplines to contribute to your work? Which advancements were made since the previous chapter (e.g. development of SIOS core data, new knowledge, new methods, or implementation of recommendation(s) in previous SESS chapters); has your work contributed to optimise the Svalbard observing system?
- **Unanswered questions**
- **Recommendations for the future:** List up to 5 concrete and realistic recommendations on how to improve the observing system (e.g. which specific observations or instruments/research infrastructure should be newly established; which existing observations/RI should be modified or should be ensured to continue).
  Please revisit the recommendations from your previous SESS contribution(s); delete those that have been resolved or are now obsolete; refine those that are still valid according to the advancements made since the previous chapter; and add new ones that result from the advancements.
- **Data availability** - For all data used in the chapter, information about data availability has to be given. See details on data sharing and data description below.
- **Acknowledgments** - If the report receives funding from SIOS, the acknowledgement section of the report must contain the following sentence: "This work was supported by the Research Council of Norway, project number 322387, Svalbard Integrated Arctic Earth Observing System – Knowledge Centre, operational phase 2022."
- **References**

The target audience is researchers and others working in an Arctic Earth System Science related field. Please bear in mind they may not be an expert on your specific topic.

(2) Summary for stakeholders

A short popular science version of the manuscript that is visually appealing and can be read independently of the main essay. The summary shall include

- **Highlights -** the most important "take home messages" to convey to the audience (max. 300 characters)
- **Summary text, incl. a list of the main recommendations** described in the scientific report (max. 2300 characters), and a description of the larger implications and societal relevance of your work.
- **3-5 photos and additional popular science graphs.** The choice of which photos/graphs will be used in the summary lies with the editorial board.

The target audience is the general public, policy makers and stakeholders. The summaries will be printed in a booklet and distributed to stakeholders, policy makers and the public. It is thus an important tool to communicate the state and needs of environmental science in Svalbard.

<u>Some tips on how to write a popular science summary</u>

- Think carefully about what the primary points are that you want to communicate (they should be in accordance with the aims of the SESS report)
- Start where you would in a scientific presentation end: With conclusions and results
- Keep it simple! Assume the reader knows nothing about your message
- Use everyday language as much as possible (no acronyms, technical terms, scientific terminology or jargon)
- Use short sentences
- Do not include references
- Use everyday analogies to communicate your message.
- "Better roughly right than precisely wrong": Something that has been written more or less right may be understood more precisely than

something that has been written accurately using difficult academic language

Text Formatting

- Use standard grammatical English (U.K.).
- Use 10-point Arial for text.
- Use the automatic page numbering function to number the pages.
- Please add line numbers in the document.
- Do not use field functions.
- Abbreviations should be defined at first mention and used consistently thereafter. Keep the number of abbreviations as low as possible.
- Footnotes can be used to give additional information. URL-addresses should be added as footnote.
- Please use internationally accepted signs and symbols for units, preferably SI units.
- Genus and species names should be in italics.
- References
    - Reference style: see Polar Biology – Instructions to Authors – References: https://www.springer.com/journal/300/submission-guidelines#Instructions for Authors_References
    - Please add doi-links in the format: https://doi.org/10.2307/2285891, if available
    - Citation of data/manuscripts that are not published yet: use "(unpublished data)". In case the manuscript is accepted and receives a DOI number, before finalisation of the SESS report, please send the full citation to SESSeditors@SIOS-svalbard.org.
    - Citation of previous SESS chapters:
        - Full report: e.g. Orr et al (eds) 2019: SESS report 2018, Longyearbyen, Svalbard Integrated Arctic Earth Observing System.
        - Citation of a chapter in report: e.g. All authors (2019) Title of chapter. In: Orr et al (eds) 2019: SESS report 2018, Longyearbyen, Svalbard Integrated Arctic Earth Observing System, Longyearbyen, pp. xx-xx. https://doi.org/12345678

Figures

- Please add figures in the text and upload high-resolution versions separately.
- When reusing already published figures, it is the author's responsibility to check the publisher's rules and get the necessary permissions.
- As the SESS report is intended to be an online publication it is possible to include video-clips or animations. Please consult with the SIOS information officer on formats before submission.

Manuscript submission

- Manuscripts should be submitted in Word (doc, docx) or Open office (odt). If other formats are desirable, please contact the SIOS information officer prior to submission.
- Please submit your SESS contribution online using the web form(s) provided on https://sios-svalbard.org/SESS_Issue6 .

Revisions

After the review process authors will be asked to make revisions to their submitted manuscript in line with the reviewer comments. Authors must use track changes when making revisions. All remarks from reviewers must be answered in a separate document.

Data sharing and data description in the report

All chapters must contain a table with information about the datasets as shown in the example below:

Dataset	Parameter	Period	Location	Metadata access (URL)	Dataset provider
Biogeochemistry	– Chlorophyll a (mg/m^3) – Nutrients ($mmol/m^3$) – POC/PON (µg/L)	2000-present	Kongsfjorden and adjacent shelf	https://data.npolar.no/dataset/6a4eaafa-10da-40d5-9a52-0268afbed4aa	Haakon Hop (NPI) haakon.hop@npolar.no Anette Wold (NPI) anette.wold@npolar.no
Svalbard cameras	– Camera locations and ancillary information	2000–2020	Svalbard archipelago	http://iadc.cnr.it/cnr/metadata_view.php?id=113 SIOS data access portal: https://bit.ly/3fJugLZ	10.5281/zenodo.4036510

Fuglebekken catchment	– Fractional snow cover	2014–2016	Hornsund	https://doi.pangaea.de/10.1594/PANGAEA.874387 SIOS data access portal: https://bit.ly/39rYEt4	Kępski et al. (2017)

Data (incl. metadata) generated by using SIOS infrastructure as well as data owned by the authors, have to be submitted to a data centre integrated with the SIOS Data Management System. You find a list of SIOS partner centres in following document: https://sios-svalbard.org/sites/sios-svalbard.org/files/common/sdms-guidelines4providers.pdf.

When other data are used in the SESS report, metadata and the URL to the datasets have to be provided to the SIOS Data Management System through the metadata collection form. Note that using the metadata collection form does not exempt you from sharing the data in an open repository. The metadata collection form is used to make the data findable and accessible through the SIOS data access portal if the data are stored in data repositories that are not connected to the SIOS Data Management System.

You find detailed information on metadata and data sharing in the document “SIOS Guidelines for metadata and data sharing” on the web page https://sios-svalbard.org/metadata-collection-form.

Research infrastructure/observation facilities

We expect authors to control/update existing entries or add new entries in the SIOS Observation Facility Catalogue for research infrastructure used to collect data for the SESS report chapter.