



DMS-PRO

DEVELOPING RESOURCES FOR THE STUDY OF METHYLATED
SULFUR COMPOUND CYCLING PROCESSES IN THE OCEAN



[DMS-PRO.ORG](https://dms-pro.org)



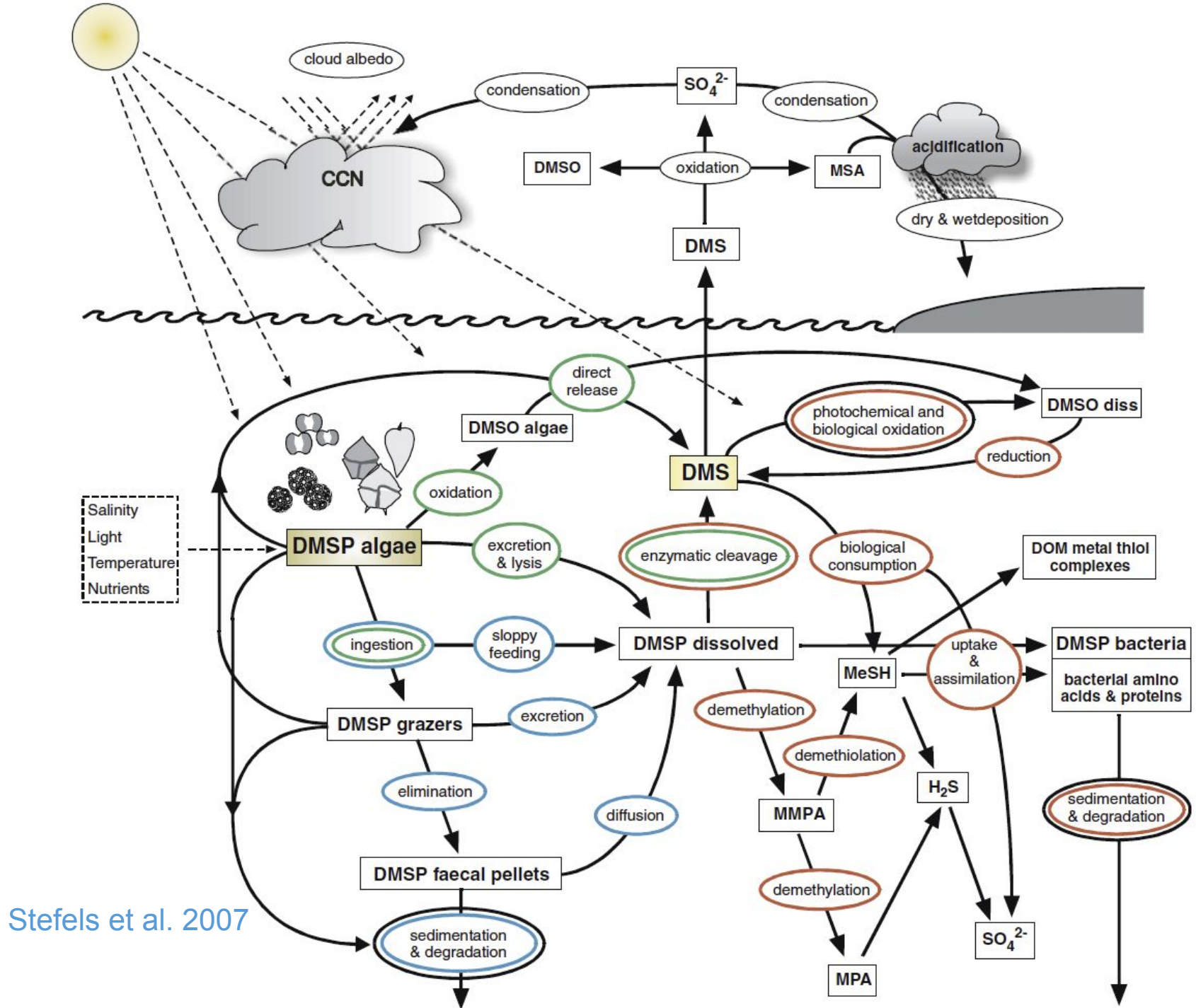
[@DMSPRO_SCOR](https://twitter.com/DMSPRO_SCOR)



SCOR Annual Meeting, 16-18 October; Qingdao (China) and online

MSC cycling

- Abiotic
- Phytoplankton
- Het. bacteria
- Zooplankton



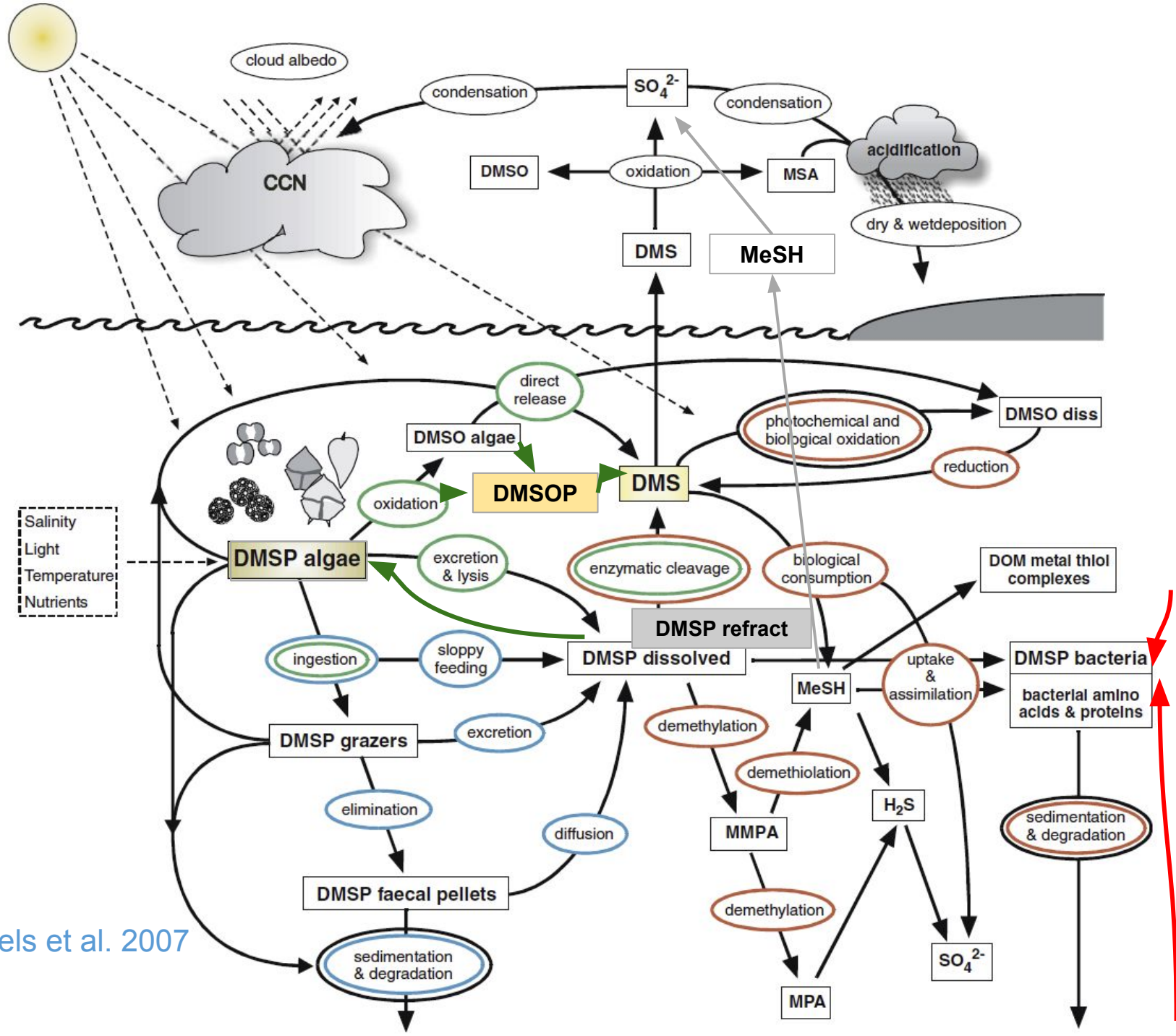
Stefels et al. 2007

MSC cycling

Update needed

- Abiotic
- Phytoplankton
- Het. bacteria
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Stefels et al. 2007



Why DMS-PRO? diagnosis

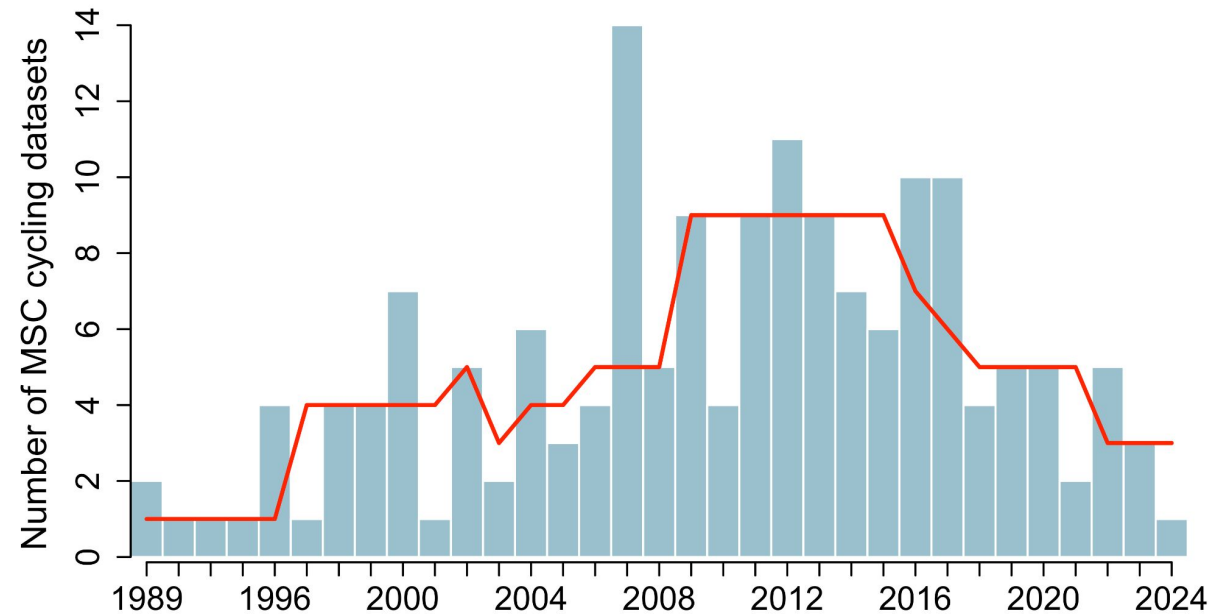


- ★ Pressing uncertainties in observations and models

Why DMS-PRO? diagnosis



- ★ Pressing uncertainties in observations and models
- ★ Stagnation of process measurements*



*Literature compilation from from DMS-PRO “bibliothon”, April 2024; see later

Why DMS-PRO? diagnosis



- ★ Pressing uncertainties in observations and models
- ★ Stagnation of process measurements
- ★ Scattered, unbalanced community of practice

Why DMS-PRO? diagnosis \Rightarrow actions/deliverables



- ★ Pressing uncertainties in observations and models
- ★ Stagnation of process measurements
- ★ Scattered, unbalanced community of practice

- \rightarrow Open database and scientific software
- \rightarrow Standard operating procedures (SOPs)
- \rightarrow Capacity building: engaging, training, uniting, sparking collaboration

Year 2 highlights

★ Internal re-organization (new co-chairs; new member)



Year 2 highlights

- ★ Internal re-organization
- ★ Communication: webpage



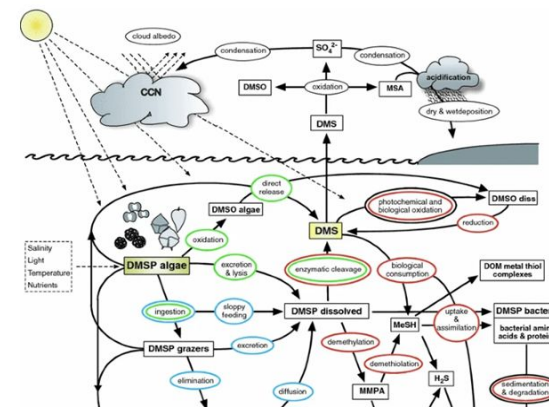
About DMS-PRO

One of the main objectives of the DMS-PRO working group is to establish a comprehensive and open-access database of quality-controlled MSC cycling rates. DMS-PRO will fully evaluate the analytical procedures and uncertainties in the quantification of MSC cycling rates and will synthesize and publish its findings and recommendations on standardized operating practices.

The overarching objective of DMS-PRO is to establish an international community of practice focused on research, capacity development, and oceanographic multidisciplinary collaboration focused on the oceanic biogeochemical sulfur cycle.

Objectives

Organic methylated sulfur compounds (MSCs) play key roles in planktonic food webs as important carbon and sulfur substrates and also as infochemicals that mediate biological interactions. In addition, the oceanic emission of biogenic volatile MSCs to the atmosphere acts as a source of aerosols, which impact cloud formation and precipitation, and hence



Year 2 highlights

- ★ Internal re-organization
- ★ Communication: webpage
- ★ **Communication and community building: workshop series**



Marine Sulfur Cycling Workshops

Join the debate and help shape new research tools!

13:00-14:30 GMT (2x10' talks + open discussion)
Registration form: <https://forms.gle/tQ8ecP1hr9sKBMVRA>*


Convener: Martí Galí (DMS-PRO co-chair)


 dms-pro.org  [@DMSPRO_SCOR](https://twitter.com/DMSPRO_SCOR)

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*If google form is not accessible, please email dmspro.scor@gmail.com


Sept. 26, 2024

 **Biological consumption of methylated sulfur compounds:** measurements using isotope tracers and competitive inhibitors
Rafel Simó & Daniela del Valle





Oct. 03, 2024

 **DMSP synthesis:** pathways, players, and measurement methods
Jacqueline Stefels & Jon Todd



Oct. 10, 2024

 **Particulate turnover of methylated sulfur compounds:** from the microscale to zooplankton grazing rates
Katherina Petrou & Steve Archer





Year 2 highlights

- ★ **Internal** re-organization
- ★ **Communication:** webpage
- ★ **Communication and community building:** workshop series
- ★ **SOPs:** Continued work to improved outline, get community feedback (workshops)
- ★ **Database:** functional installation of ERDDAP data server ready to distribute data



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ERDDAP > tabledap > Data Access Form

Dataset Title: **Data from a local source. Test Martí Galí** [✉](#) [RSS](#)
Institution: Institut de Ciències del Mar (ICM-CSIC) (Dataset ID: Gal13DielcyclesGPexample)
Information: [Summary](#) | [License](#) | [FGDC](#) | [ISO 19115](#) | [Metadata](#) | [Background](#) | [Subset](#) | [Files](#) | [Make a graph](#)

Variable	Optional Constraint #1	Optional Constraint #2	Minimum or a List of Values	Maximum
<input checked="" type="checkbox"/> Name	>=	<=	17	19
<input checked="" type="checkbox"/> contrib_num	>=	<=	0	20
<input checked="" type="checkbox"/> year	>=	<=		
<input checked="" type="checkbox"/> month	>=	<=		
<input checked="" type="checkbox"/> day	>=	<=		
<input checked="" type="checkbox"/> time_GMT	>=	<=		
<input checked="" type="checkbox"/> latitude (degrees_north)	>=	<=		



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- ★ **Database:** functional installation of ERDDAP data server ready to distribute data
- ★ **Ongoing cross-cutting activities:**
 - **Literature compilation:** DMS-PRO bibliothon (April 2024)
 - **Renewed MSC cycling schemes** (simplified + complete)

Terms of Reference

Deliverables

CORE

- (1) To develop community consensus on the measurement of MSC cycling rates
- (2) To compile a comprehensive database of MSC cycling rates and to disseminate it
- (3) To develop a framework for quality assessment and control of MSC cycling rate datasets

- (1) Standard Operating Practices (ONGOING)
- (2) Database and web portal (ONGOING)
- (3) Software repository & package (ONGOING)

DERIVED

- (4) To analyze global patterns of MSC cycling rates
- (5) To provide guidance on the use of the database

- (4) Database description paper
- (5) Modeling guidelines paper
- (6) Perspective paper (ONGOING)

CROSS-CUTTING

- (6) To connect with other biogeochemical, molecular and 'omics measurements
- (7) To establish an international, multidisciplinary community of practice

- (7) Capacity building: hybrid trainings & workshops, online tutorials (ONGOING)



Things to come in 2025...



- SOP drafting, community reviews
- Database: testing design and workflow (from data submission to upload)
- 7th DMS(P) Symposium (spring 2025?)
 - ◆ Need for in-person meeting!
- Perspective paper draft...



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