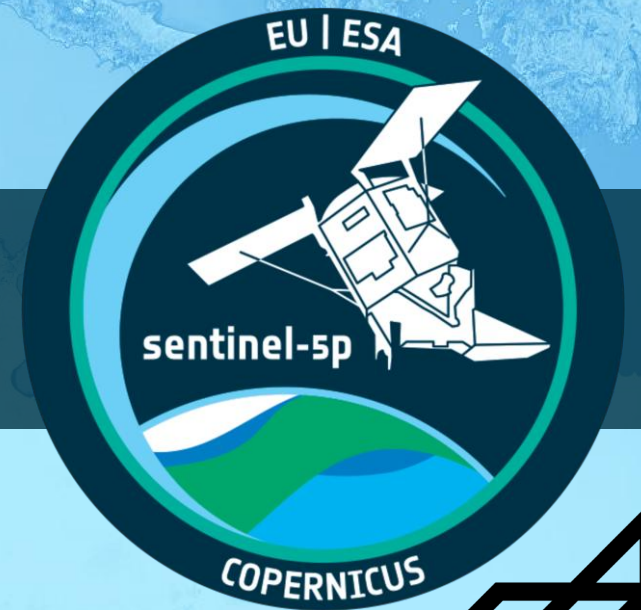


TROPOMI/SENTINEL-5P TCWV

Diego Loyola, Luca Lelli, T. Avramova (DLR)
CEOS AC-VC #22, Leiden, 2026-06-1



TROPOMI/S5P TCWV Retrieval Algorithm



- DOAS fitting
- Iterative AMF algorithm
- Surface GE_LER derived from TROPOMI (Loyola et al., AMT, 2020)

The Elsevier logo, featuring a tree with a figure sitting beneath it, and the word 'ELSEVIER' in orange capital letters below.

Contents lists available at [ScienceDirect](#)

Science of the Total Environment

journal homepage: www.elsevier.com/locate/scitotenv

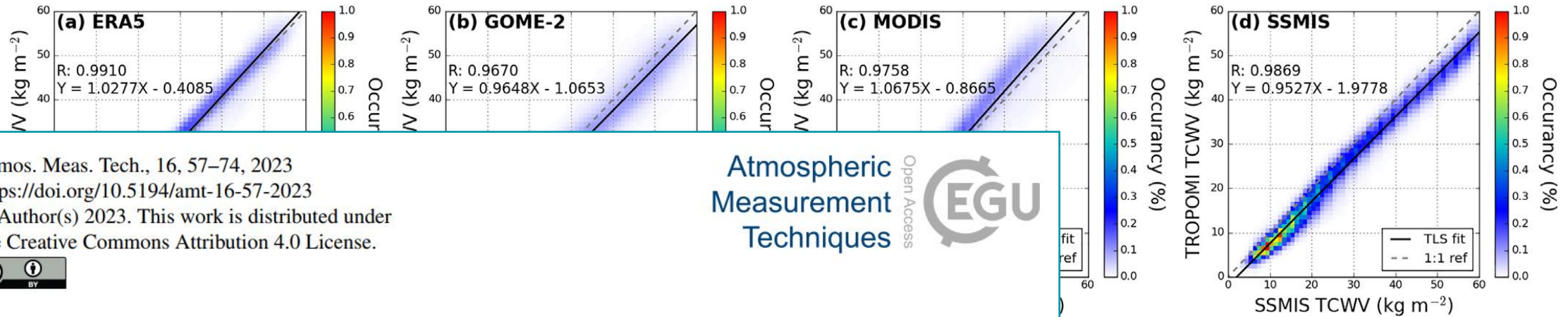
The cover of the journal 'Science of the Total Environment', showing a green background with a central graphic of overlapping circles.

TROPOspheric Monitoring Instrument observations of total column water vapour: Algorithm and validation

Ka Lok Chan ^{a,b,*}, Jian Xu ^{a,c}, Sander Slijkhuis ^a, Pieter Valks ^a, Diego Loyola ^a

A button with a circular arrow icon and the text 'Check for updates'.

TROPOMI/S5P TCWV Validation

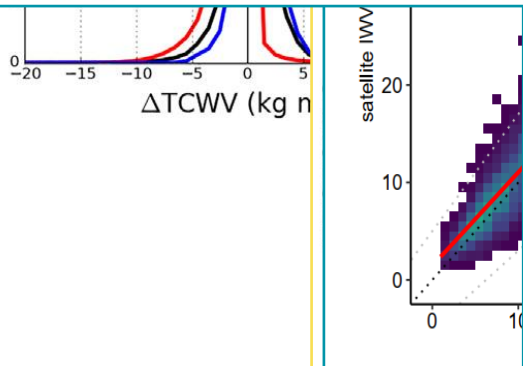
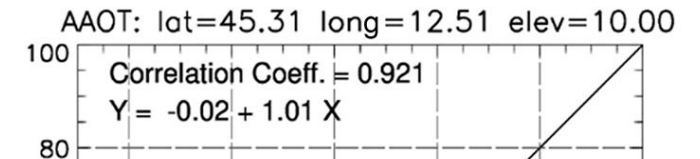


Atmos. Meas. Tech., 16, 57–74, 2023
<https://doi.org/10.5194/amt-16-57-2023>
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Atmospheric
Measurement
Techniques
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TROPOMI/S5P Total Column Water Vapor validation against AERONET ground-based measurements

Katerina Garane¹, Ka Lok Chan^{2,3}, Maria-Elissavet Koukouli¹, Diego Loyola², and Dimitris Balis¹

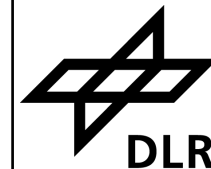
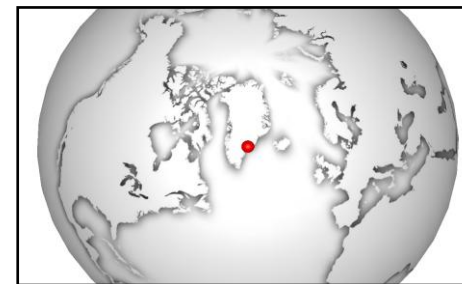


Article

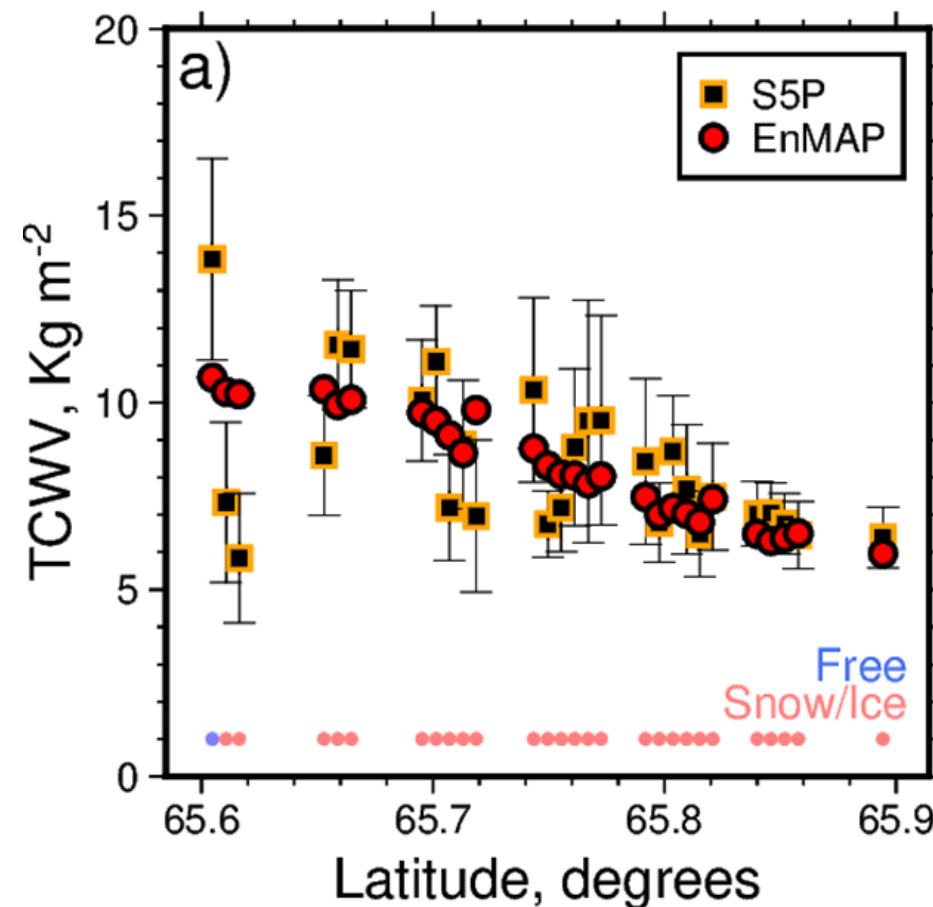
Evaluation of Water Vapor Product from TROPOMI and GOME-2 Satellites against Ground-Based GNSS Data over Europe

Javier Vaquero-Martinez^{1,*} , Manuel Anton¹ , Ka Lok Chan² and Diego Loyola²

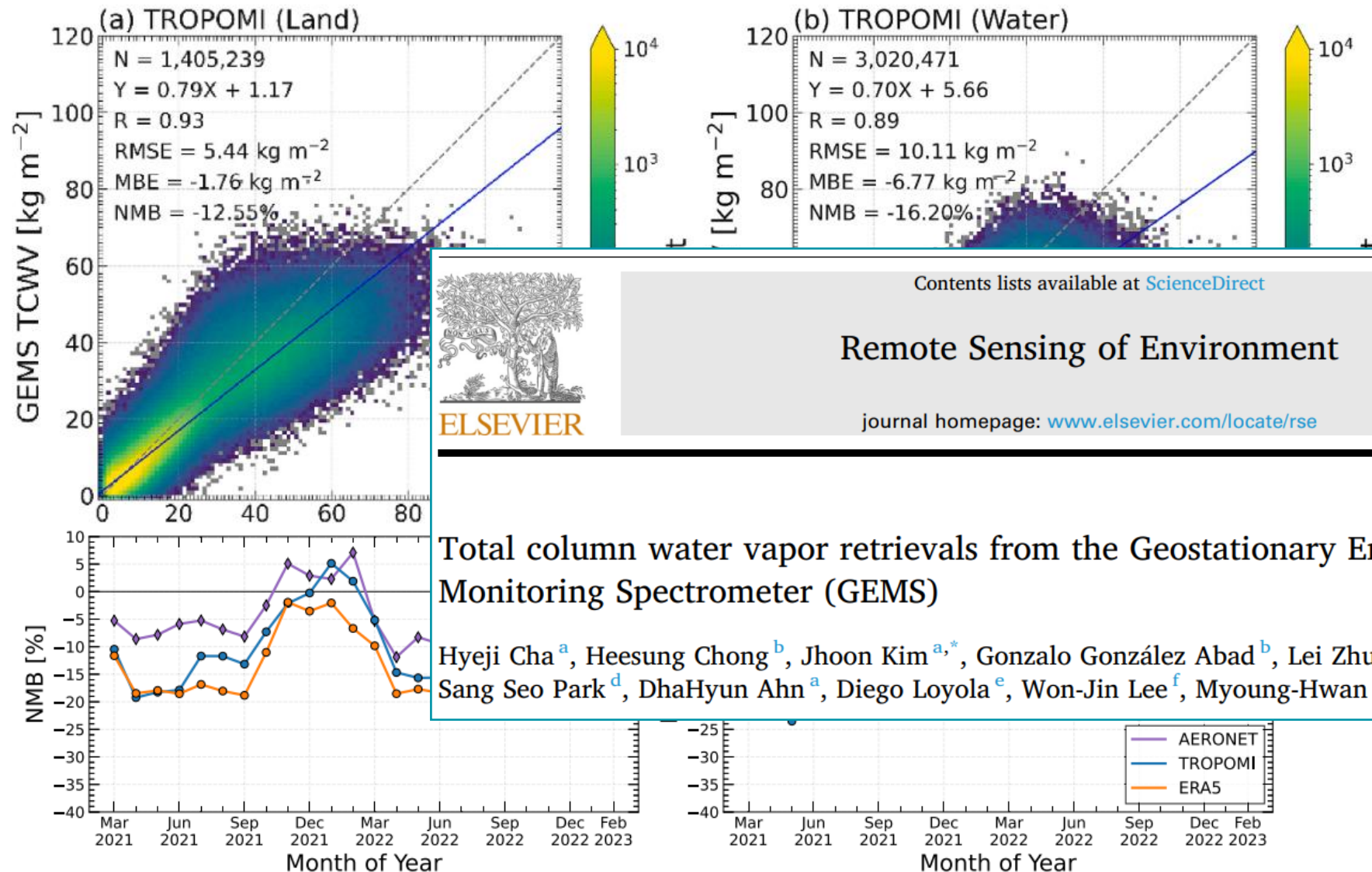
TROPOMI/S5P vs EnMAP over Arctic glacier



- EnMAP
30 x 30 m
224 bands in range 418–2440 nm
cloud-free retrievals at 1128 nm
no DOAS
- Average scene TCWV 8.3 Kg m⁻²
- S5P – EnMAP = 0.07 Kg m⁻²



TROPOMI/S5P TCWV & GEO Air Quality Constellation

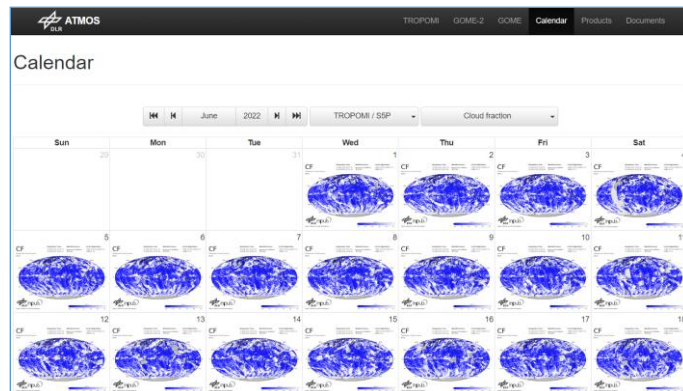
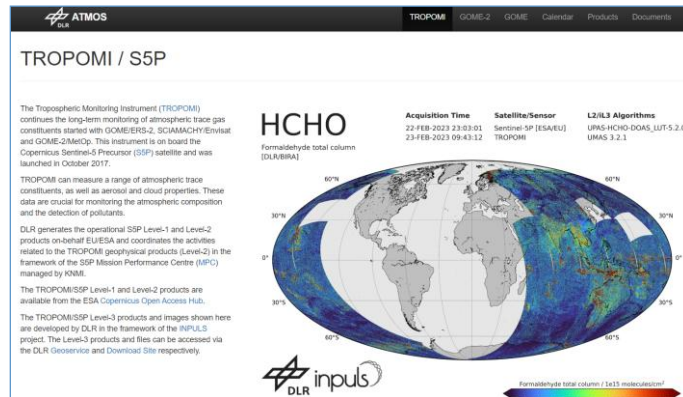


TROPOMI/S5P Data Access



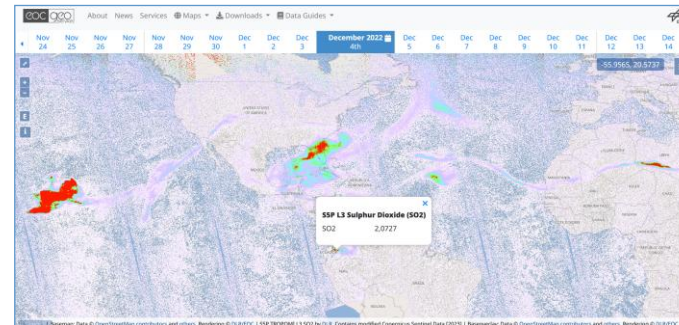
Quicklooks & Calendar

<https://atmos.eoc.dlr.de/tropomi>

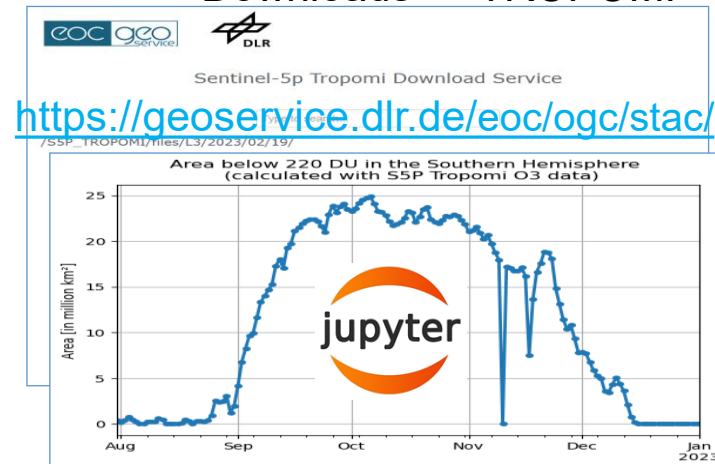


Geoservice & Datacube

geoservice.dlr.de → Maps → TROPOMI

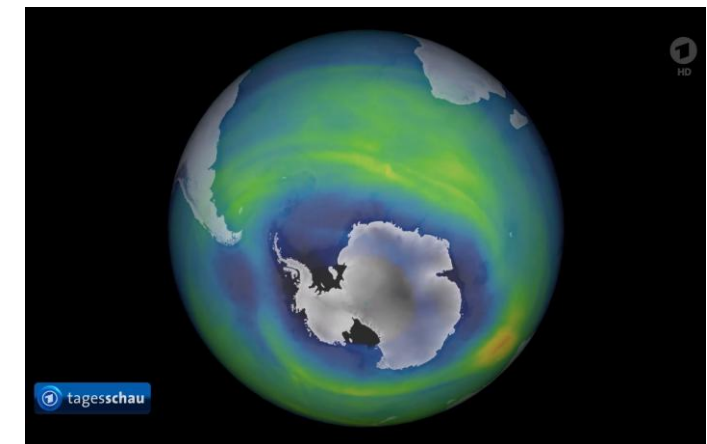


→ Downloads → TROPOMI



Animations

www.dlr.de/eoc → Mediathek → Zeitreihen

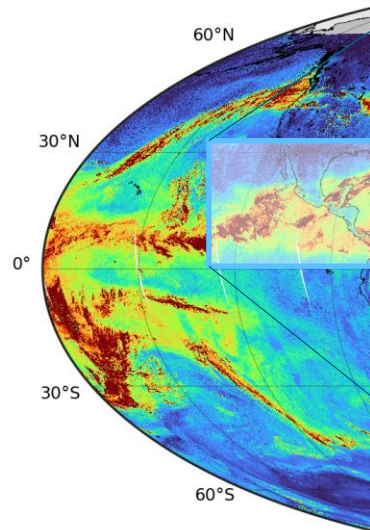


TROPOMI/S5P Atmospheric River in December 2025



H₂O

Water vapor total column
[DLR]



<https://atmos.eoc.dlr.de/tropomi>

Time	Mission
09-DEC-2025 00:09:31	Sentinel-5
10-DEC-2025 00:48:55	TROPOMI



CW3E Event Summary: 8–12 December 2025

Left Image: <https://www.facebook.com/photo/?fbid=1293970842763413&set=pcb.1293971272763370>
Center Image: https://x.com/WSDOT_East/status/1999631246788558142/photo/1
Right Image: <https://x.com/EastsideFire/status/1998827869922025688/photo/3>

Flooding in Washington and Oregon

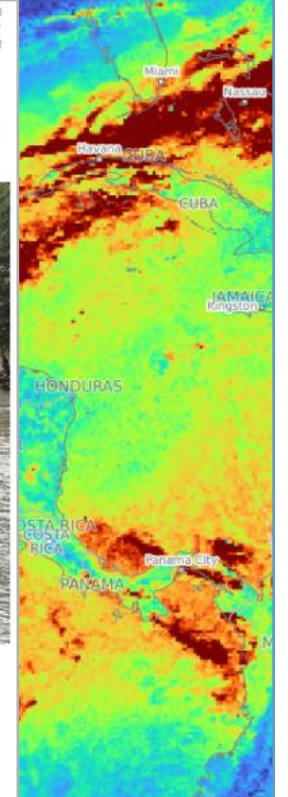
Flooding in Tillamook County, OR



Flooding and Road Damage on US 2 near Stevens Pass, WA



Water Rescue on Middle Fork Snoqualmie River



- The heavy rains from the atmospheric rivers led to extensive flooding in western Washington and Oregon.
- Flooding impacted travel and shut down roads (*left*). Some roads are closed for extended periods of time for repairs following damages sustained as a result of flooding (*center*).
- The Washington governor released a statement saying that there had been over 250 emergency rescues as of the evening of Fri 12 Dec (*right*).



UC San Diego



Sentinel 5P [ESA/EU]
TROPOMI

H₂O [DLR/BIRA]
WATER VAPOUR
21-01-2025

total column
[kg/m⁻²]

80

0