

Data Management Plan

RV Sonne Cruise SO268 – JPIO project Mining Impact 2 – OFOS image data (photos)

1. General Project Information:

RV Sonne Cruise SO268 – JPIO project Mining Impact 2 – OFOS Data	
Summary of Project	The cruise is fully integrated into the second phase of the European collaborative JPI-Oceans project MiningImpact. The cruise is designed to monitor the field trials of the polymetallic nodule collector of DEME-GSR in the Belgian and the German contract areas of the Clarion-Clipperton Fracture Zone (CCZ) and assess its environmental impacts. Leg 1 will acquire baseline data in the trial areas before the collector deployment and the reference areas. During Leg 2 the collector trials will be monitored, particularly to determine the spatial and temporal evolution of the suspended sediment plume. Subsequently, the environmental impacts in the mined area and its vicinity blanketed by the resettling sediment plume will be assessed. In the German contract area a restoration experiment will be set up for future evaluation of its usefulness in recolonization of seafloor disturbances. A large range of state-of-the-art deep-sea technologies for geochemical, biological, oceanographic sampling and seafloor mapping are applied.
Location	Central Eastern Pacific Ocean, CCZ
Start / End Date	15.02.2019 – 27.05.2019
Project Lead	Matthias Haeckel
Data Representative	Pina Springer (MI2), Timm Schoening (Images)
Collaborating Institutes	See https://miningimpact.geomar.de/consortium
Total data volume	Ca. 15 TB
Training	none

2. Existing Collections to be used as Data Inputs:

None.

3. New Collections to be acquired:

SO268 OFOS Still images	
Data Representative	Timm Schoening, tschoening@geomar.de , 0000-0002-0035-3282
Description	Photos acquired during deployments of the RV Sonne OFOS. Deployments were mostly done in transect mode (straight lines of >1km lengths) while sometimes also visually mapping the dredged area for plume settling in a zigzag mode. All photo footage is accompanied by additional HD video material (see next data collection), USBL positioning, laser points (40cm distance between point pairs) for scaling.
Collection Method	Photo camera SO_CAM-1_Photo_OFOS, deployed on OFOS (Ocean Floor Observation System, SONNE_PFM-01_OFOS) frame, both owned and operated by RV Sonne.
Data acquisition Standards	None
Data Format & Type	jpg
Licenses / Fees	CC-BY
Quality checks	Manual check of images data, automated processing of navigation data (smoothing, gap filling, outlier removal)
Data Workflow	Manual, unspecified
Backup & Storage	Backup in Proxsys and on NAS owned by DSM group
Volume Estimate	Ca. 1TB
Data Repository	Elements
Metadata (Schema)	https://marine-imaging.com/fair/ → iFDO
Metadata Representative	Timm Schoening
Metadata URL	see OSIS iFDO files for each event
Non-existent Metadata	None
Embargo	None
Access / Restrictions	None
File Name Convention	Cruise_Station_Sensor_Date_Time.jpg
Data Lifespan	50 years
Long-term data format	Jpg
Additional Documents	
DOI	See OSIS for dataset handles for each event https://doi.org/10.1594/PANGAEA.935856

4. Models:

None.

5. Software:

None.

6. Derived Data Products:

Nodule detection along OFOS tracks of RV SONNE cruise SO268	
Data Representative	Timm Schoening
Description	Photos were acquired by a camera (ID: SO_CAM-1_Photo_OFOS) mounted on a towed OFOS camera platform (ID: SO_PFM-01_OFOS) during research cruise SO268 of RV SONNE. Twelve deployments in different areas of the Pacific Ocean were conducted. Individual nodules were delineated in the images by the CoMoNoD algorithm (see 'Related to' references). Results of single nodule detection were aggregated to compute these results per image analyzed. Nodule detections below 2 square centimeters are neglected as are detections above 707 square centimeters. The result values for the nodule width correspond to the median of all nodules in that image.
Data Format / Type	ASCII
Quality Checks	Manual
Data Workflows	https://repository.oceanbestpractices.org/handle/11329/1782 https://repository.oceanbestpractices.org/handle/11329/1781 https://doi.org/10.1038/sdata.2018.181
Backup & Storage	PANGAEA: https://doi.pangaea.de/10.1594/PANGAEA.935231
Volume Estimate	Megabytes
Data Repository	PANGAEA: https://doi.pangaea.de/10.1594/PANGAEA.935231
Citation	Schoening, Timm (2021): Results of nodule detection along OFOS tracks of RV SONNE cruise SO268. PANGAEA, https://doi.org/10.1594/PANGAEA.935231
Metadata (Schema)	Not available
Metadata Representative	Not available
Metadata URL	Not available
Non-existent Metadata	Metadata exists in PANGAEA
Embargo	None
Access / Restrictions	None
Data Lifespan	25+ years
Long-term data format	ASCII / TXT
Additional documents	SourceCode: https://doi.org/10.1038/s41598-017-13335-x
DM Resources	None
DOI	https://doi.pangaea.de/10.1594/PANGAEA.935231