Mariana Trench National Wildlife Refuge 2022 Special Use Permits

Special Use Permit #	Type of Permit	Issued To	Affiliation	Ship Name	Project Name
12541-22001	Mapping	Douglas Wood	Office of Coast Survey	*Rainier*	Hydrographic Surveys
Description	*Rainier* and two survey boats surveyed nearshore waters with high-frequency multibeam echo sounders ranging in frequency from 40 – 400 kilohertz (kHz). Conductivity, Temperature, and Depth instruments (CTDs) and disposable Expendable Bathythermographs (XBTs) for profiling the water column.				
12541-22002	Commercial Access	Chris Brungardt	RTI Solutions		RTI Telecommunications Cable Installation
Description	Subsea fiber optic telecommunications cable installation. All stipulations found within Right-of-Way Permit issued on October 21, 2022 to be adhered to in addition to those within accompanying NEPA (9/17/21), Section 7 ESA Consultation (6/11/21), Essential Fish Habitat Consultation (8/6/21), Fish and Wildlife Coordination Act Consultation (9/10/21), agreed upon USCG & Navy coordination, and Mariana Trench NWR Compatibility Determination (9/17/21).				
12541-22003	Research	Achim Kopf	MARUM University of Bremen	*Sonne*	SO292/2 DeepBlue
Description	Serpentinite mud volcanoes sampled at different distances from the trench in an effort of characterizing fluid and solid endmembers. Record high resolution bathymetry using hydroacoustic instrumentation and Atlas Parasound system for visualizing the upper 50-100 m of the sedimentary successions. Survey seafloor with heat flow transects as well as underwater camera. Deployment of one monitoring device for the measurement of pressure and temperature at the seafloor (14 degrees 34.84’ N, 147 degrees 0.72’ E). Collection of geologic samples.				
12541-22004	Research - Collection	Yuji Ichiyama	Chiba University	*Sonne*	SO292/2 DeepBlue
Description	Study of lithic clasts from serpentinite mud volcanoes in the Mariana forearc regions to understand the geological structures of the interface between the slab and mantle wedge in the Mariana convergent margin.				

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12541-22005	Research - Collection	Zhang	Shanghai Jiao Tong University	*RV Sonne*	SO292/2 DeepBlue
Description	Analyze the biodiversity, biomarker and isotopic composition of samples collected from Mariana forearc during cruise SO202/2, and compare them with those from sediments of other ocean basins (e.g.Western Pacific Ocean), in order to evaluation the effect of in-situ process on biomarkers.				
12541-22006	Research - Collection	Rebecca Zitoun	GEOMAR Helmholtz Centre for Ocean Research Kiel	*RV Sonne*	SO292/2 DeepBlue
Description	Record high resolution bathymetry using hydroacoustic instrumentation and Atlas Parasound system for visualizing the upper 50-100 m of the sedimentary successions. Survey seafloor with heat flow transects as well as OFOS underwater camera. Sample sediments and rocks in all working areas. Sample sediment cores in various areas to analyze the fluid phase (porewaters) for dissolved trace metals and copper speciation.				
12541-22007	Research - Collection	Dominik Zawadzki	University of Szczecin	*RV Sonne*	SO292/2 DeepBlue
Description	Analysis of sediments from the gravity cores (up to 5 m long) sampled in mud volcanoes				
12541-22008	Research - Collection	Anna Krug	University of Jena	*RV Sonne*	SO292/2 DeepBlue
Description	1) Investigate if the mud volcanoes host megafaunal communities including chemosymbiotic species 2) Describe observed communities with distance from hydrothermal activity and 3) Identify the collected faunal specimens to low taxonomic level and at their molecular bar code information international public databases to enhance our understanding of hydrothermal species biodiversity.				
12541-22009	Research - Collection	C. Greg Wheat	University of Alaska	*RV Kilo Moana*	Mud Volcano Research
Description	*ROV JASON* dive at Deep Blue seamount located at 14°35.073' N --147° 01.042' E and at water depth of 5940 m. Collect ~15 sediment push cores (≈5 gallons of sediment). Permittee will also collect discharging fluids and about 10 softball-size rocks. Water samples will go to University of Alaska and the Woods Hole Oceanographic Institution (WHOI) for chemical analysis.				