# EX-16-05 Leg 2 Summary

**CAPSTONE
Commonwealth of the Northern Marianas Islands (CNMI)
and Mariana Trench Marine National Monument (MTMNM) Mapping**

During EX-16-05-L2, the mapping team was able to conduct a successful cruise with the consistent support of the ship's crew.

## Science and Management

* For most of the 13 day cruise, the ship experienced excellent survey weather, allowing for continuous sonar data collection with the multibeam, subbottom, and EK 60 sonars
* Fair weather allowed for the collection ofexceptionally high quality data, including multibeam swath widths of up to 9.4 kilometers, a record for the Okeanos EM 302
* Mapped 29,104 square kilometers of seafloor within CNMI overall
	+ 4,697 linear km of data collected in CNMI overall
	+ Contributed to overall understanding of geological and geophysical characteristics of the complex region
* Mapped a significant portion of seafloor within MTMNM
	+ Mapped 29,104 square kilometers of seafloor within MTMNM
	+ 3,484 linear km of data collected within MTMNM
* Exploration transit data collection over the back arc axis, augmenting existing recent data coverage from R/V Falkor in 2015
* Field review of all water column data for the presence of anomalies [none found]
* Field production of draft multibeam bottom backscatter mosaics for use in Leg 3 ROV dive planning
* Trained 4 students in the methods of seafloor mapping, data processing, and application of seafloor mapping data, as well as providing in some cases their first experience at sea.
* Cross trained NOAA Office of Coast Survey hydrographer in deep water mapping techniques
* While in port for an extended time period in Saipan due to unplanned ship repairs:
	+ Generated high resolution grids of EX1604 bathymetry data focused on the Wake Island Unit of the PRIMNM in preparation for EX1606 ROV dive planning focused here.
	+ Generated spot mosaics of unique seamounts mapped during EX1604 in preparation for EX1606 ROV dive planning
	+ Generated ESRI templates for every monument or sanctuary in the Pacific the *Okeanos* has collected or expects to collect data within

## Community and Public Engagement

* June 2 (EDT) Reddit AUA:"We’re scientists using sonar technology to map the seafloor and water column from NOAA Ship Okeanos Explorer. From May 20 - June 11, the ship will be mapping previously unexplored areas of the Pacific. Ask Us Anything!"
	+ Posted responses to 126 questions
	+ 3,370 upvotes
	+ 621 comments
	+ Reached as high as #9 on Reddit home page
	+ Out of 12 total AMAs that have been hosted using the NOAA HQ account, the mapping AUA ranked #4 in terms of popularity
	+ ~30,000 oceanexplorer.noaa.gov views on June 2 (day of AUA), compared to ~21,000 views on June 1 and ~19,000 views on June 3
	+ On June 2, 40% of all referrals to the website came directly from Reddit
* June 7 (EDT) Q &A with Roy Adsit and 12 teachers from CNMI Public School System
	+ Part of AP Teacher summer program run at the Northern Mariana College
	+ Heidi Hirsch onsite for follow up questions and OER educational material availability discussion
* June 8 (EDT) World Oceans Day tri-ship Google Hangout with Okeanos Explorer in MTMNM, R/V Falkor operating in the South China Sea and E/V Nautlius operating in the northeast Pacific offshore from Oregon.
	+ Overall was a success, with 48 live viewers
* While in port for an extended time period in Saipan
	+ Collected and hiked out over 200 pounds of plastic trash from a remote beach in Saipan called Old Man By the Sea, accessed only by a 20 minute challenging hike in tropical heat