A Glimpse into IODP^3-NSF Expedition 501: Science and Life on the Liftboat Robert

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IODP^3-NASF Expedition 501, titled *New England Shelf Hydrogeology*, set out to investigate hidden freshwater beneath the seafloor near Massachusetts and how it connects to coastal water systems around the world. By collecting samples and data offshore, we hope to better understand and protect these valuable underground water resources for future generations. As a member of the Physical Properties Group, my primary responsibility onboard is operating the MSCL (Multi-Sensor Core Logger) to measure the physical properties of the recovered cores.

The expedition takes place aboard the Liftboat Robert (Pic. 1), a self-elevating vessel specially outfitted for shallow-water drilling. Unlike conventional IODP vessels, Robert operates closer to shore and anchors directly onto the seafloor using its jack-up legs, creating a unique working environment both scientifically and logistically.

Unique Logistics: Helicopters and the Transfer Basket

One of the most exciting—and slightly nerve-wracking—features of Expedition 501 is the way personnel are transferred during offshore operations. Because Robert remains stationed offshore throughout the expedition, crew changes are carried out exclusively via helicopter or transfer basket, a steel-framed platform lifted by crane between vessels (Pic. 2 & 3).

I arrived at Robert by helicopter, which was a truly thrilling and unforgettable experience—the aerial view of the vessel surrounded by open ocean is something I'll always remember. When it's time to leave, I'll be transferred by transfer basket, and I'm genuinely looking forward to that next adventure.

Daily Life and Leisure at Sea

Despite the demanding research schedule, life onboard Robert includes moments of relaxation and connection. One of the most cherished daily rituals is gathering on deck to watch both the sunrise and sunset over the Atlantic (Pic. 4). Whether it's the golden calm of early morning or the soft glow of dusk, these quiet moments offer a peaceful contrast to the busy rhythm of shipboard work.

Another creative and collaborative activity has been building our own "mile board" (Pic. 5)—a colourful signpost showing the distance from Robert to where each participant is based. Scientists, technicians, and crew members all contributed to the project, decorating their signs with personal touches and symbols that reflect their region or culture. It's become a lively symbol of the diverse team that has come together here offshore, united by science and shared experience.

This expedition combines serious science with unforgettable experiences—onboard camaraderie, thrilling transfers, and the beauty of life at sea. I'm deeply grateful to be part of this adventure and to witness firsthand how international collaboration and curiosity continue to drive ocean science forward.

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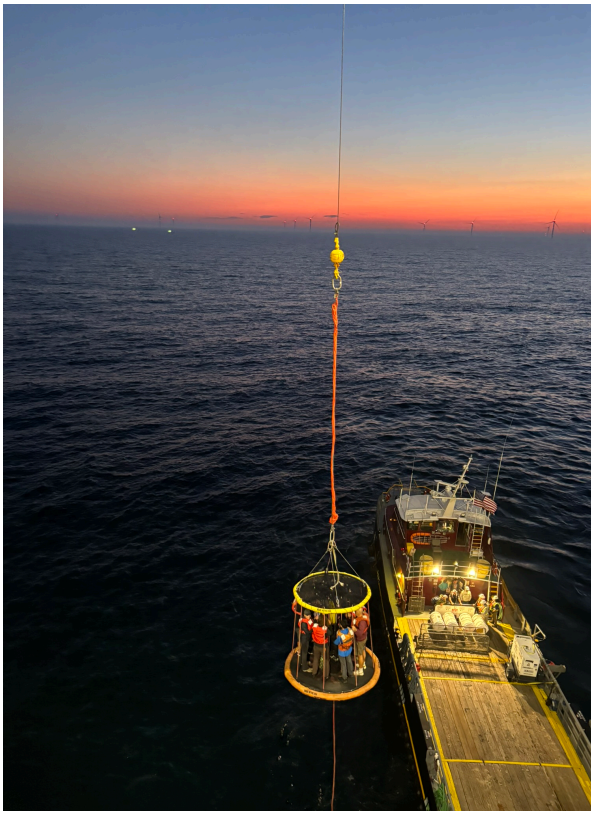
Pic. 1 – Liftboat Robert. Everest@ECORD_IODP3_NSF

Pic. 2 – A helicopter lands on Liftboat Robert's helideck during a crew change operation.



Pic. 3 – Scientists and crew members are lifted by transfer basket from a supply boat to Liftboat Robert at sunset.

Pic. 4 – Crew members gather on deck to watch the sunrise over the Atlantic.

Pic. 5 – The “mile board”. (I made the Kyoto one)