SEAMAIL ™

From: DEEPEND Science Team
To: DEEPEND Virtual Team Leaders
Subject: Meet MOCNESS

Hello again from the Gulf of Mexico!

Today, I thought I'd tell you about MOCNESS (pronounced: mock-ness). MOCNESS stands for Multiple Opening Closing Net Environmental Sampling System.

We use the MOCNESS to collect the animals we study. Just like its fancy name, the MOCNESS is a fancy net system.

MOCNESS is so big, the ship's crew uses a crane to lift it on to the back of the ship. (see photo) MOCNESS's huge empty frame doesn't look very impressive when it's just sitting on the back of ship. The first thing we have to do is add all the nets to it. (see photo).

Then we add the "cod ends." This is where the samples are collected. It opens and closes, keeping the samples cold and in the dark. We use a crane to lower the MOCNESS into the deep.

You can watch a fun video of us building MOCNESS and then lowering it into the sea on the WhaleTimes website: Deploying MOCNESS.

Why is it so big? MOCNESS consists of 6 nets. Five of the nets gather samples from different depths. At a pre-determined depth, one net will open to collect animals at that depth. Then it closes. At another depth, a different net will open, and then close. This helps us figure where in the deep certain animals hang out. The animals are kept cool and dark in the "cod end." Those are the blue canisters. (See photo)

MOCNESS helps us create a picture of what animals live in the deep and at what depth they live. We lower MOCNESS as deep as 4,921 feet (1,500 m) down. That's almost a mile (0.9 mile) down. That's almost as deep as the Grand Canyon!

There's more to MOCNESS than collecting and bringing samples to the surface. It has special sensors, too. The sensors tell us the temperature, salinity (how much salt is in the water), and

depth where each net collected the samples. This is important information. As we sort, identify, and count the animals taken at each depth, we might discover that the numbers and kinds of animals differ from one location to another or vary with the time of day. If that's the case, the first thing we do is look at the temperature or salinity. Maybe it's not the depth the animal prefers. It might be a certain temperature range, for example.

When MOCNESS returns, we sort, identify, and count the animals brought up. Each of us sorts and takes the animals we study. I take crustaceans. Tracey Sutton and Jon Moore take the fish. Heather Judkins and Michael Vecchione identify the squids.

Here's another fun video of us sorting and identifying animals after MOCNESS Returns.

It gets pretty busy in the lab! What kind of animal would you like to sort? Fish, squid, crustaceans, or jellies?

Tammy

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Creep into the DEEPEND Mission