

# All in a Day's Work

## Kevin Sheehan – Marine Geophysicist

### PROFILE

Kevin Sheehan works at the Marine Institute in Oranmore, County Galway.

Kevin is a Marine Geophysicist, which means he studies the properties of the earth under the sea. Kevin works on the national seabed mapping programme called INFOMAR (INtegrated mapping FOR the sustainable development of Ireland's MArine Resource). [www.marine.ie](http://www.marine.ie)



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Equipment attached to the bottom of the research vessel sends out sound waves towards the seafloor. The time it takes these sound waves to return to the ship allows us to calculate the water depth. The amount of sound waves that return to the ship tells us about the hardness of the seabed. The harder the seabed is the more sound waves that are returned. The sound wave data is collected using special computers that can then make images of the seabed. We sometimes take samples from the seabed using equipment dropped from the vessel, so we can see what type of rocks and soil are on the seafloor.

### What is your main aim?

Ireland has a sea area which is almost 10 times larger than its land area. The INFOMAR project aims to map Ireland's seabed. The information collected will: make our seas safer for navigation, help us discover new ship wrecks, improve our understanding of seabed habitats and help us protect important areas, allow us to find areas suitable for positioning wave energy devices and any seabed cables or pipelines and much more.

### What do you like about your job?

I get to see whales and dolphins in

their natural environment. Dolphins often come right up to the ship and play in the waves created by our movement through the water. I also get the chance to discover new ship wrecks and to see images of the seabed that no one else has seen.

### What don't you like about your job?

Feeling sea sick. It doesn't happen too often but when it does you've just got to lie down and rest for a while. It usually happens if the sea is rough on the first or second day of the survey. After that you get used to the ship's motion.

### Do you work alone or as part of a team?

I work as part of a team. Everyone has their own role to play. We have Surveyors to tell the ship where to go, Engineers to put equipment in the water and fix things when they break. Data Processors use computers to make maps of the seabed. Depending on which ship I am on there could be between 4 and 12 scientists at sea together. Of course we have the ship's crew also and they take care of everything from steering the ship, looking after the engine to cooking and a lot more.

### Where do you work?

I spend 2 or 3 months of the year working offshore onboard the Marine Institute research vessels; the *RV Celtic Explorer* and *RV Celtic Voyager*. The remainder of my year is spent in our office, which looks out on Galway Bay.

### What training did you do to get where you are today?

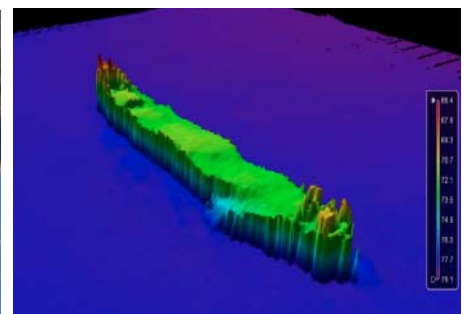
I studied Geology at the National University of Ireland, Cork for 4 years and then did a Masters degree in Geophysics at National University of Ireland, Galway, which took another year.

### What is a day in your life like?

When we are working onboard the research vessels studying the ocean, we can spend up to four weeks at sea at any one time. I am usually the scientist managing the science team on board. As the survey runs 24 hours a day my first job when I wake up is to talk with the night shift team to check that everything went to plan during the night and there are no problems with any of our computers and equipment. I check the weather forecast, talk to the Captain on the Research Vessel and discuss a plan for the day ahead. I write a daily progress report and email it to the office management team. The rest of my day is spent planning the survey.



From top left (clockwise): The *RV Celtic Explorer*; Multibeam image of ship wreck on the seabed; Common Dolphins swimming alongside our ship; Seabed sample containing sand and gravel.



Images courtesy of the Marine Institute