Expedition Log for IODP Expedition 325
Week 3
Great Barrier Reef Environmental Changes

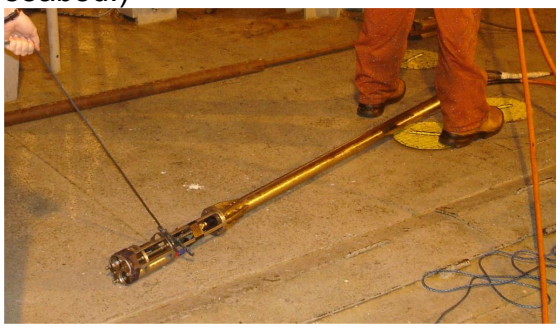
3rd March 2010

All in a Day's Work by Dave Wallis – Electrical Engineer

Well, this is my third foray into the world of IODP (Integrated Ocean Drilling Program) drill ships. And yet again it's different. As on previous IODP sea trips the actual drilling equipment and shipside machinery are well catered for with support staff and engineers. I am responsible for the myriad of other kit which we bring along. Whether I've seen it before or have any idea how it works; if it fails it's my problem! (Don't worry, I have had training and been given the odd circuit diagram for some of the stuff, it's just the other unanticipated bits of kit that really throw me.)

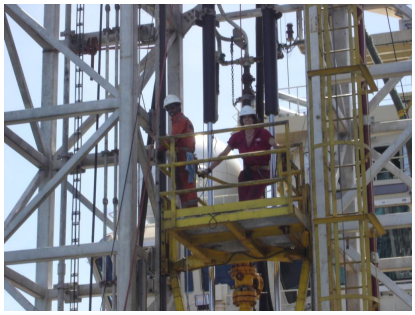
I share the Database container with Colin Graham and Mary Mowat, our two Database Managers and try to ensure that my 'shift' overlaps with both of theirs, rather than stick to one or other of the 12 hour periods religiously. You may have read the "Groundhog Day" Expedition Log from my cabin mate, Colin. (Who's also pretty well house trained.) My address being Top Bunk, Cabin 21, Boat Deck..... However I don't get the luxury of a fixed shift and routinely get woken whenever I'm needed, although I do try to keep life to 'normal' daylight working.

The main items of kit for me this time round are the downhole camera system (strictly speaking it should be down pipe, as we don't actually lower it into the seabed.)



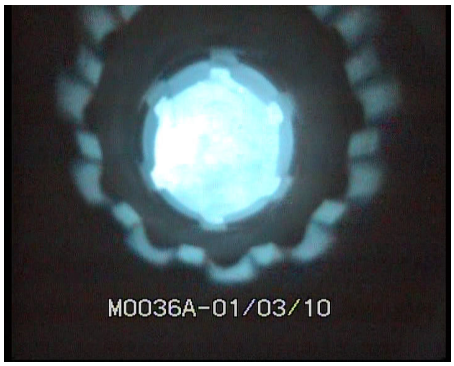
D_Wallis@ECORD_IODP: Camera and Light tube

M_Mowat@ECORD_IODP:SeaBotix LBV 'ERIC'
The LBV video platform. (ERIC); a small ROV (remotely operated vehicle) with cameras and lights which can provide an external view or video of the seabed and drill pipe.



D_Wallis@ECORD_IODP: The Rooster Box

The downhole camera system is used to verify that the selected site meets the GBRMPA (Great Barrier Reef Marine Park Authority) strictures and rules for drilling. After the hole is complete then a second excursion shows that we have not left any debris or mess behind. In practice what happens with the downhole camera is that we arrive on site and the drill pipe is 'run' down to just above the seabed. At this point the camera and light which are mounted at the base of a long thin tube are raised up to the 'Rooster Box' (small platform at top of drill assembly which allows easy access to the pipe) and lowered down inside the drill pipe.



The light should allow us to view the pipe sections as the camera descends but the remnants of drill mud in the pipe mean that vision is pretty much obscured. At the base of the pipe, (we have markings on the cable at 10metre intervals to let us know the camera depth) the visibility clears and we can see the locking rings and so on before the camera pokes through the centre of the drill bit to see the seabed.

In daylight and at depths less than about 200 metres then the light mounted beside the camera is not absolutely necessary as the sunlight at seabed is perfectly adequate for the camera. At night this light is essential. Video is recorded; the scientists view the image; do we really want to drill here or should we move 10 metres? We move, or we don't move and when everybody's happy that the site is a 'goer' the camera is retrieved back to deck and the main event can start. The end of hole procedure is pretty much identical to that described above.

Another responsibility here is to ensure that the hardware and cables involved in running the database and internet connection are all repaired or reconnected as necessary. The ship provides an internet connection through one of the onboard satellite dishes and we simply plug into it. Then we have the spaghetti-like cabling arrangement ensuring all our ESO staff and the

scientists have either wireless or cable contact with both the ship-based database and internet to the outside world.

D_Wallis @ECORD_IODP: Cabling at the Science Office