

+ + OCEANS WORMLEY + +

Number 1 (December 2010)

A newsletter linking people who worked at NIO, IOS and IOSDL and those who still carry on their proud traditions.

OCEANS WORMLEY was the telegraphic address of the Institute. Telex was the means through which much of the communication, particularly with ships, was sent. It seems appropriate to use it as the title of this newsletter.

In this issue

- Editorial - Keeping in touch
- Lives remembered - Laurie Draper, Tom Allan, Clifford Mortimer,
- RRS Discovery - then and now
- "The book"
- From Swallow floats to Argo.
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Editorial

The people who attended the launch of "Of Seas and Ships and Scientists" showed that many former NIO staff wanted to keep in touch with one another. Over the past 6 months I have e-mailed many of you about establishing a "Wormley alumni" group. This Newsletter is the first of my promised actions. Those who receive it are on a list of almost 150 people who worked at Wormley up to the 1980s. The next task is to contact those who joined later. The newsletter is written by a self-appointed editor so please forgive any bias and my personal foibles.

The production and publication of the book was a catalyst for several of us to think about the impact of work done at Wormley on the science being carried out today. I have used this continuity theme for two of the articles. The book also highlighted the unique nature of the early days at Wormley. As David Marshall, a young Professor at Oxford University, said to me after he had read the book "I wish I had worked there, it sounds as if it was a fantastic place". The word alumni almost always refers to universities but I feel it is entirely appropriate for our group since we all learned something from our time at Wormley.

Eventually I hope we can have a web site where we can place material to make it visible to a wider "audience". John Moorey at his home in Nice has been fine-tuning a personal anecdote of his working life at Wormley and that will be a good first candidate to be put on the web site. In the meantime please bear in mind that the archives at the NOC are the ultimate repository for significant Wormley memorabilia, photographs and documents. So if you have anything significant.....

Finally I must pay tribute to John Ewing for his organisation of the regular "wrinklies" reunions. They have been a very effective means for people to keep in touch.

I wish you all a Happy Christmas and a good 2011.

John Gould.

Lives remembered

Sadly in the past few months we have lost some valued former staff.

Tom Allan joined IOS in 1974 following a PhD from Cambridge and a period at the SACLANT-CEN in La Spezia, Italy. He was an early pioneer of satellite oceanography and in 1988 formed the company Satellite Observing Systems. In August 2008 he self-published an autobiography "Memories of a life" charting his family and working life.



Laurie Draper's work at the Institute in the 1970s and 80s on waves and particularly their impact on ships and structures was revolutionary. He was an expert witness in many public enquiries. In 1989 he and Pam moved to the Black Isle in Scotland following his retirement. An obituary was published in the Scotsman.

In the NIO book there are reminiscences by **Clifford Mortimer** who was part of Group W in which NIO had its roots. He went on to become an eminent limnologist, Director of the Freshwater Biological Association at Windermere and then to the University of Madison Wisconsin where he studied the Great Lakes.

Links to obituaries

<http://memorialwebsites.legacy.com/tomallan/Homepage.asp>

<http://news.scotsman.com/obituaries/Obituary-Laurence-Draper.6377551.jp>

<http://www4.uwm.edu/freshwater/news/20100604-clifford-h-mortimer-1911-2010.cfm>

RRS *Discovery* - then and now

Discovery has had a long and adventurous career and despite her age - she was built by Hall Russell's in Aberdeen in 1962 - she has kept pace with modern technology and remains a mainstay of the UK's research fleet. Her contributions to science started with the 1963-4 International Indian Ocean Expedition. Cruise 1 was led by Ron Currie and studied upwelling in the Arabian Sea. The first station was number 5006 (station numbers continued from those of her predecessor RRS *Discovery II*).

To meet these demands *Discovery* was almost completely rebuilt and lengthened by 10m in Viano do Castelo in Portugal between October 1990 and September 1992. This enabled her to undertake parts of the 8 year-long global survey of the international World Ocean Circulation Experiment (WOCE) in the Atlantic, Indian and Southern Oceans that ended in 1998.



Top *Discovery* in Mombasa during the IIOE.
Below As she looked for much of her life



Top The 1992 refit with superstructure removed.
Below As she is now. The fwd section still the same.



The first major changes to her layout were during her refit in Aberdeen in late 1969 when the Officers' and Scientists' smoke room was sacrificed to make room for her first computer, an IBM 1800. It needed a large dedicated air-conditioned room but according to Moore's law it had a capability perhaps 100 million times less than the PC on which you view this newsletter.

As you read this newsletter *Discovery* will be embarking on Cruise 359 sailing from the Cape Verde Islands and returning to the Canary Islands in mid-January as part of the RAPID project that, since 2004, has been using an array of moorings to monitor the Atlantic's transport of heat.

During cruise 75 off West Africa in November 1975 she suffered a serious engine room fire in which, sadly, a crew member died. After drifting without power for 6 days she was towed to the Canary Islands and ultimately back to the UK, resuming research duties in June of 1976.

<http://www.noc.soton.ac.uk/rapidmoc/>.

Discovery will soon be reaching the end of a 50 year working life and in August, NERC placed a contract with Spanish shipyard, C.N.P. Freire, S.A. to build a new ship due to be delivered in summer 2013.

Happily she will be called *Discovery*!

Below NERC's most recent ship RRS *James Cook*, delivered in 2007

The multidisciplinary, global-scale marine science of the late 20th century called for ships that had a greater endurance than the maximum of 30 days with which *Discovery* had been built. They needed to reduce crewing costs, carry larger scientific parties and have large general-purpose labs and working decks.



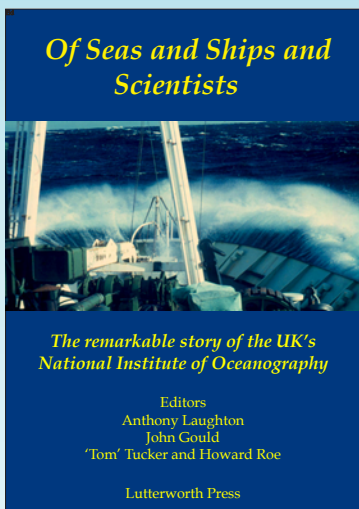
The book, its launch and first reviews - and other literary connections

The book launch of *Of Seas and Ships and Scientists*, describing the origins and achievements of the NIO was held at the National Oceanography Centre in Southampton and co-hosted by NOC and the publishers, Lutterworth Press. There were moments of panic as the start time of 2pm approached but with no sign of the publishers who were coming from Cambridge and bringing the books with them, but after a tour of the back streets of Southampton they and the books appeared. The 100 or so attendees had a great afternoon recalling times past. Rob Curry of NOC had produced a timeline of UK marine science highlighting the contributions made by NIO. The NOC librarian, Jane Stephenson, with help from Adrian Burkett had prepared both a rolling display of images of NIO life and a collection of NIO memorabilia from archives.

As yet there is no firm information on the number of books sold, but the publishers seem pleased with progress. The royalties, when they materialise, will be used to support the NOC archives.

The book was featured in a full page article in the Independent on July 26 and later mentioned in the "Weather Eye" column of the Times. Reviews are starting to appear. The first, in *Marine Scientist*, was very complimentary and suggests that the title might have been "Intuition, Inspiration and Invention" or perhaps "Adversity Adventure and Application".

It is planned to enter the book to be considered for the 2011 Mountbatten Maritime Award for the literary work that "contributes most significantly to public awareness of maritime issues".

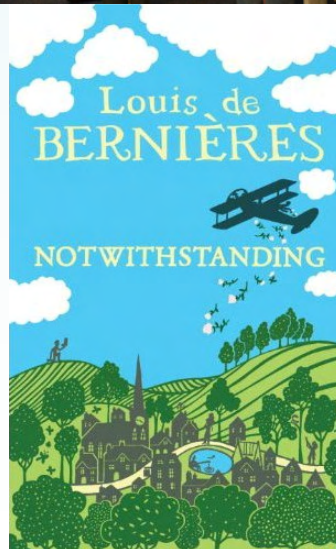


Left. The book cover. **Top.** Authors and editors (unfortunately Tom Tucker was unable to attend. **Others.** Do you recognise your former colleagues?

And another book....

Interestingly, Louis de Bernières, author of *Captain Corelli's Mandolin*, has published a book about the fictional village of Notwithstanding. It is actually a lightly-disguised description of Hambledon and its inhabitants during the 1970s when de Bernières lived there. He mentions the Institute of Oceanography a couple of times - actually not the main building in Brook Road but the new extension at Hambledon Homes.

Perhaps fortunately there aren't any references to IOS employees, but anyone who lived close to IOS at that time will certainly recognise several of the local characters and tradespeople in Hambledon and Godalming.



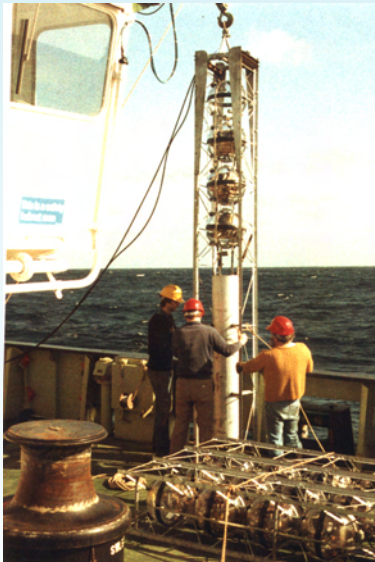
From Swallow floats to Argo

When John Swallow joined NIO in 1954 he was given the task of devising a method for measuring currents deep below the ocean surface. By 1955 he had worked out how to do it by constructing instruments that were less compressible than seawater and that would drift with the currents and could be tracked by an attendant ship listening for the “pings” emitted from what came to be known as the Swallow float. All who worked at Wormley will have seen John painstakingly weighing his floats in a tank of artificial seawater set up in the stairwell (surprisingly there seem to be no photographs of this activity).



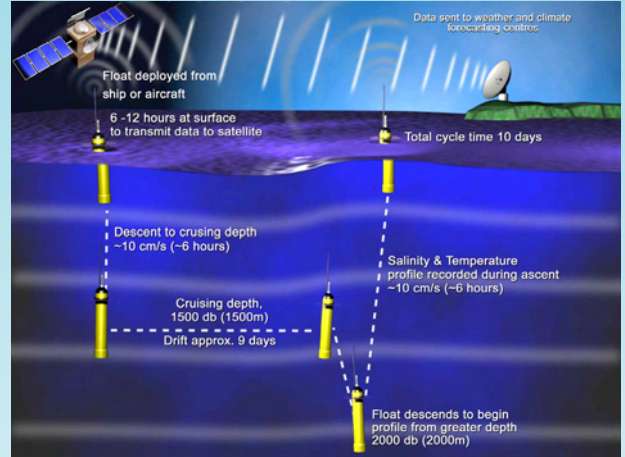
Above. John Swallow with a prototype float on RRS Discovery II. **Right.** A bigger SOFAR float on Discovery in the 1980s.

This technique was used by John to explore the variability of deep ocean currents and in so doing he showed that the ocean was turbulent in the same way that the atmosphere is full of depressions and anticyclones. However it was not until the 1970s and 80s that his floats, now in a much larger format and tracked from fixed listening stations, were used particularly in France and the USA. The need for acoustic tracking meant that float use was never going to be truly global.

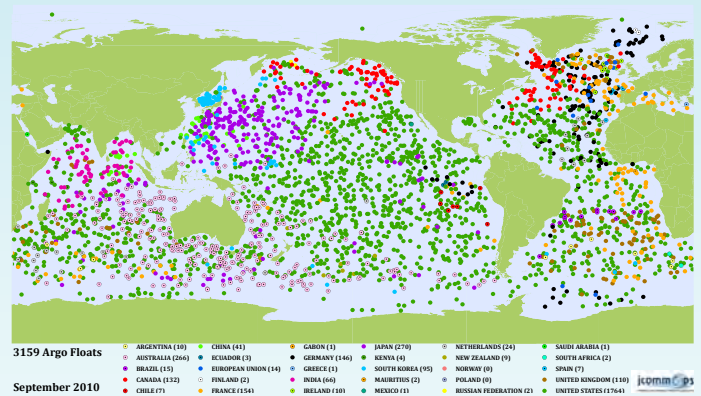


In the 1990s, Doug Webb and Russ Davis in the USA devised a clever technique to allow floats to come to the surface at regular intervals and to be tracked by satellites. (This was done by pumping oil from an internal reservoir into an external bladder to reduce the float’s density and allow it to surface. Pumping the oil back again allowed the float to return to depth). Later the floats collected data on temperature and salinity as they surfaced.

Over 3000 of these profiling floats, direct descendants of Swallow’s invention, are now used by an international project called Argo. They monitor ocean heat storage - the key to understanding sea level rise and to making seasonal climate predictions. The Argo floats are contributed by 30 countries and their data are freely exchanged and available for anyone to use.



Above. Schematic of Argo float operation. **Below.** The Argo array in Autumn 2010.



This free access to ocean information from Argo opens up the possibility for the general public and school children to learn about the oceans and why they are important. At NOC a web site has been developed using European funding to do just this. You might like to explore the oceans yourself and see what is possible these days using the internet at :- <http://www.noc.soton.ac.uk/o4s/euroargo/>



Photo gallery - mostly from the NOC archives



1970s, can you recognise your car?



A "modern" laboratory



Loading for sea before the container age



John Swallow tobogganing in Greenland on half an echosounder fish. (WHOI archives)



Things at sea do not always go according to plan



Who can you recognise?



Dick Burt receives the BEM



The end of an era (Photo from King Edward's School)

The National Oceanography Centre



What's in a name?

The National Oceanography Centre traces its roots back to the National Institute of Oceanography at Wormley but there have been many name changes on the way. NIO became the Institute of Oceanographic Sciences (IOS) in 1973 as part of a nationwide laboratory incorporating the Institute of Coastal Oceanography and Tides (ICOT) at Bidston on the Wirral, the Unit of Coastal Sedimentation in Taunton and the Marine Scientific Equipment Services at Barry in South Wales. In 1987 there was a de-merger and the IOS became the IOS Deacon Laboratory and Bidston became the Proudman Oceanographic Laboratory, later moving from Bidston to become part of the University of Liverpool. And so it remained until 1994 when the lab in Wormley closed and

was incorporated in the new Southampton Oceanography Centre - a joint venture between NERC and the University of Southampton. Soon after his appointment as Director in 2004 Prof Ed Hill, renamed it the National Oceanography Centre. Five names in 60 years. On April 1 2010 the NOC became a joint venture again between the labs in Southampton and Liverpool.

The Centre in Southampton has around 450 employees and is a world-leading research and teaching lab. A survey of geoscience departments published last year ranked NOC 9th in the world for most cited publications (Woods Hole was 15th and MIT was 20th).

More information on NOC can be found at <http://noc.ac.uk/>

The next ++ OCEANS WORMLEY ++

If you find this newsletter interesting I hope that we can continue it. This one has had a very "physical oceanography" emphasis and for that I apologise. I am prepared to do the layout for the next issue but will need text and photos. Here are some ideas for possible items

- Reminiscences of memorable cruises
- Reminiscences of life at Wormley (not necessarily about science)
- Photographs, preferably including people.
- Articles linking science in the Wormley days to science today (like Swallow floats to Argo)
- Glorious failures (the bits of kit that didn't work).

Please send any material to me at wjg@noc.soton.ac.uk

Maybe we should aim for the next issue in June 2011.

Spreading the word

Not everyone has e-mail access so please print copies and give them to anyone you know who might be interested.

Two more photos



*GLORIA Mk I trials cruise 1969
Marine Physics Group 1982*

