

(A basin-wide research program co-sponsored by IOC-UNESCO, SCOR and IOGOOS)

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To advance our understanding of interactions between geologic, oceanic and atmospheric processes that give rise to the complex physical dynamics of the Indian Ocean region, and to determine how those dynamics affect climate, extreme events, marine biogeochemical cycles, ecosystems and human populations.

The first leg of Ocean glider 'Challenger' Mission concludes successfully

The underwater glider 'Challenger', on circumnavigation of the Indian Ocean, successfully completed its first leg travelling from Fremantle, Australia to Mirissa, Sri Lanka. It departed Australia on 5 November 2016 and reached Sri Lanka on 30 September 2017.

The ocean glider spent 330 days at sea which is a record for Rutgers University glider missions. It covered a distance of 7,570 km, setting a new world record for an underwater glider flight. This beats Rutgers University's own record of 7,420 km set by another glider, RU27, in 2009. In addition to this, even after 330 days at sea there was virtually no biofouling of the glider, it looked the same as the day it was deployed – give or take a couple of random barnacles.

This ocean glider mission is a joint project between Rutgers University, USA and The University of Western Australia (UWA) which operates the IMOS Ocean glider Facility. The Mission has been endorsed by IIOE-2 as an activity of key relevancy to the IIOE-2 Science Plan (<http://www.iioe-2.incois.gov.in/IIOE-2/EP08.jsp>; Project Leaders Dr. Charitha Pattiaratchi, chari.pattiaratchi@uwa.edu.au and Dr. Scott Glenn, glenn@marine.rutgers.edu).

Underwater gliders, like their airborne namesakes, are not propelled by an engine. Movement through the water is achieved through changes in buoyancy. By alternately reducing and expanding their volume, gliders can descend and ascend through the ocean using very little energy. In addition to controlling ascent and descent, rudders on the glider enable its direction to be changed. The glider can descend to 1,000 metres and then rise to the surface to transmit the data obtained. Challenger is piloted by remote control via satellite from Rutgers University and UWA.



(photo left) The pre-launch celebration for Challenger at the UWA glider port prior to its deployment (pictured left to right) Chip Haldeman (Rutgers), Nick D'Adamo (IOC, IIOE-2), Scott Glenn (Rutgers), Chari Pattiaratchi (The UWA), Senator Chris Back, Dennis Stanley (The UWA); and (right) the unveiling of the glider in Colombo (L-R) Travis Miles (Rutgers), Michael Cragun (US Embassy), Hon. Eran Wickremaratne (Sri Lankan State Minister for Finance), Hon Bryce Hutcheson (Australian High Commissioner), Chari Pattiaratchi (The UWA), Scott Glenn (Rutgers)

On its way to Sri Lanka, Challenger had been sending data back to the laboratory via satellite. Its position can be tracked via the [IMOS Ocean gliders Facility website](#) or through the [Rutgers University website](#).

The data is also available through the [IMOS Ocean Current website](#). Measurements of temperature and salinity at depths up to 1000 m are available in near real time. [Report courtesy Prof. Chari Pattiaratchi, The UWA]



Challenger just after its deployment off Fremantle



Recovery of Challenger off Sri Lanka



Path of the glider from Australia to Sri Lanka

Launching of the first leg of the Regional Research Cruises in the Western Indian Ocean

On the 19 October, 2017 South Africa's Oceanographic Research Vessel Agulhas II embarked from Durban, South Africa on the first leg of the Western Indian Ocean regional research cruise, a multi-national initiative endorsed by IIOE-2 (<http://www.iioe-2.incois.gov.in/IIOE-2/EP26.jsp>, Project Leaders Dr. Ashley Johnson, ajohnson@environment.gov.za; and Dr. Harrison Ong'Anda, hochiang2003@yahoo.com). On board is a team of scientists, technicians and interns from Egypt, Kenya, Tanzania and South Africa. The primary goal of this five-week cruise from Durban to Dar es Salaam, via Mozambique and back, is to collect enough information to develop a baseline across a number of environmental variables, as well as biodiversity assessment.

For a coverage of the launch, please visit:

(<http://www.news24.com/Video/SouthAfrica/News/watch-uncovering-the-mysteries-of-the-indian-ocean-aboard-the-sa-agulhas-ii-20171019>)

Prof. Rashid Sumaila is the 2017 Volvo Environment Prize laureate

Prof. Rashid Sumaila, the Principal Investigator of the first IIOE-2 endorsed activity on the "Socio-Economic Benefits of IIOE-2: A Study proposal" (<http://www.iioe-2.incois.gov.in/IIOE-2/pdfviewer.jsp?docname=IIOE2-EA01.pdf>) is the 2017 Volvo Environment Prize laureate (<http://www.environment-prize.com/laureates/by-year/2017/rashid-sumaila/>). Prof. Sumaila, an expert on the economy of fisheries is the Director of the Fisheries Economics Research Unit at the University of British Columbia, Vancouver. Congratulations Professor, from the IIOE-2 community.

Condolences on the passing away of Dr. Christopher Michael Duncombe-Rae

IIOE-2 deeply regrets to announce that Dr. Christopher Duncombe Rae, who was coordinating South Africa's IIOE-2 planning committee, passed away unexpectedly early on Wednesday, the 11 October 2017.

Dr. Duncombe-Rae was a Specialist Scientist in physical oceanography and data management in the Oceans and Coast branch of the Department of Environmental Affairs, in Cape Town. He was also one of the Co-Convenors of the International Symposium on "IIOE-2 and related Oceanic and Coupled Atmospheric Research in the Indian Ocean" which was organised along with the 2017 Joint IAPSO-IAMAS-IAGA Assembly in Cape Town from 27 August to 01 September.

Dr. Duncombe-Rae is survived by his wife, Deirdre Byrne, also an ocean scientist and an 11 year-old son.



Endorse your projects in IIOE-2

Don't miss the opportunity to network, collaborate, flesh out your research project and participate in IIOE-2 cruises!!

The endorsement of your scientific proposal or a scientific activity focusing on the Indian Ocean region is a recognition of the proposal's or activity's alignment with the mission and objectives of IIOE-2, of its potential for contributing to an increased multi-disciplinary understanding of the dynamics of the Indian Ocean, and of its contribution to the achievement of societal objectives within the Indian Ocean region. Over 25 international, multi-disciplinary scientific projects have already been endorsed to date by the IIOE-2. Yours could be the next one!

Visit <http://www.iioe-2.incois.gov.in/IIOE-2/EndorsementForm.jsp> for further details and for projects already endorsed by IIOE-2.

2018 Meeting Announcement - IIOE-2 Steering Committee, IGOOS, IORP, SIBER & IRF Annual Meetings

The second face-to-face meeting of the IIOE-2 Steering Committee is scheduled to be held along with the Annual Meetings of IGOOS, IORP, SIBER and IRF during 19-23 March 2018. The meetings will be hosted by the Government of Indonesia and will take place in Lombok. Watch out for further details on the IIOE-2 website: www.iioe-2.incois.gov.in



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