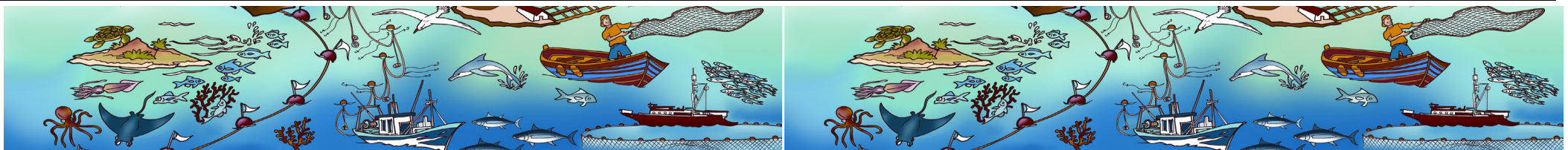
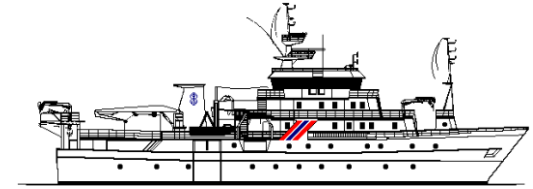
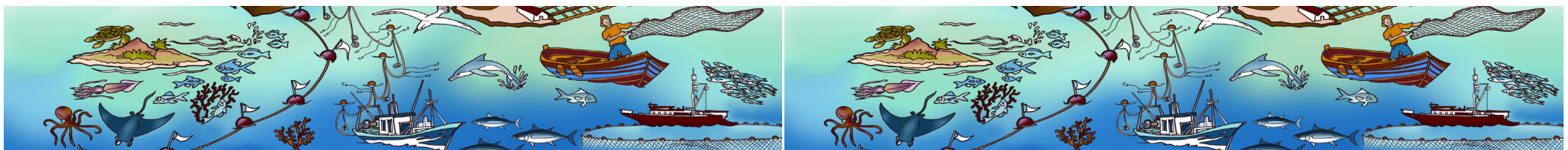


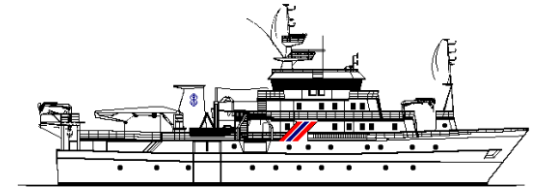
Survey No Title	Start/End dates (No of days)	Countries	Partners	Survey objectives
<b>2012401</b>  <b>BCC Survey No.1</b>  <b>Transboundary Survey Between Namibia and South Africa with Focus on the Shared Stocks of Deep water hake</b>	24 January – 28 February (35)	South Africa, Namibia	MCM, IMR, NatMIRC	<ul style="list-style-type: none"> <li>• To plan and conduct a transboundary survey from Cape Agulhas to Orange River to produce distribution maps and abundance estimates of the two species of hake to be later merged with similar data from a co-occurring Namibian national demersal survey, to enable complete mapping and assessment of shared stocks, thus providing a measure of the degree of sharing of the stocks at the time of the survey.</li> <li>• To collect data on the maturity stages of the hakes to check for possible spawning activity.</li> <li>• To collect other relevant data to better understand the environment impact on the distribution of hakes, and the fish community structure in the distribution areas of the hake.</li> <li>• To conduct early life investigations on hake by two 48-hours trawl stations using multisampler collecting hakes in 3 depths between Hondeklip Bay and Panther Head.</li> <li>• If time permits to collect live gobies for further studies in the lab of NatMIRC in Swakopmund.</li> </ul>
<b>2012402</b>  <b>Survey to monitor the pelagic fish resources of Angola</b>	1-30 March (30)	Angola	INIP, Angola, IMR, Norway	<ul style="list-style-type: none"> <li>• To estimate the abundance and map the distribution of the main commercially important pelagic and semi-pelagic fish species in Angolan waters, including the two sardinella species <i>Sardinella aurita</i> and <i>Sardinella maderensis</i>, the Cunene horse mackerel <i>Trachurus trecae</i>, the Cape horse mackerel <i>Trachurus capensis</i>.</li> <li>• To collect stomach samples from both horse mackerel species</li> </ul>



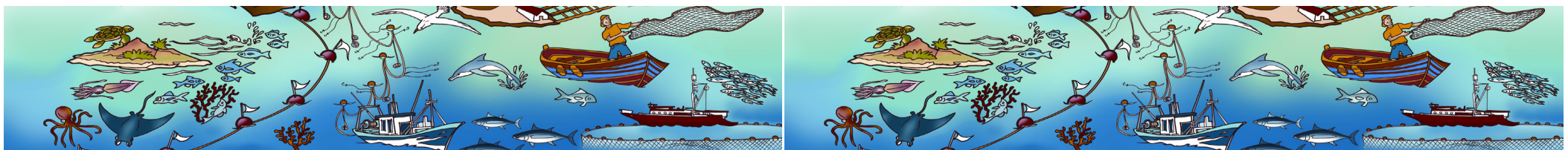


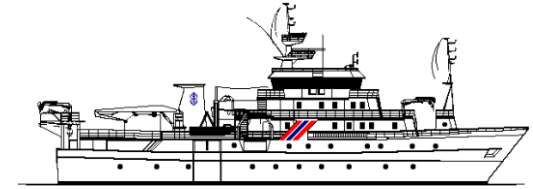
				<p>for analyses of diet composition.</p> <ul style="list-style-type: none"> <li>• To collect stomach samples and otoliths from both sardinella species for analyses of diet composition and length-age relationships.</li> <li>• To collect depth-stratified samples of zoo- and phytoplankton in order to continue the studies on feeding biology including relating stomach content to estimated zooplankton composition and observed density.</li> <li>• To map the general meteorological, hydrographical and biological conditions in the survey area by means of continuous recordings of weather data, CTD-casts (Temperature, Salinity and Oxygen), ADCP measurements (Acoustic Doppler Current Profiler) and plankton sampling along acoustical and hydrographical transect lines.</li> <li>• On-the-job training of cruise participants on the main survey routines, including using the Nansis database and scrutinizing acoustical data using IMR the post-processing system, the Large Scale Survey System (LSSS).</li> <li>• To collect seal scats from the breeding fur seal colonies (with pups) in the Tiger Bay area in order to study their diet composition as basis for subsequent evaluations of their impacts on the fish communities in the region.</li> </ul>
<p><b>2012403</b></p> <p><b>Survey of the fish resources of Angola</b></p>	<p>2 April – 29 April (27)</p>	<p>Angola</p>	<p>INIP, Angola, IMR, Norway</p>	<ul style="list-style-type: none"> <li>• To survey, map and describe the distribution, composition and abundance of the main demersal species, with special emphasis on sea breams (Sparidae), croakers (Sciaenidae), grunts (Haemulidae), groupers (Serranidae), hakes (Merlucciidae), cephalopods and shrimps (<i>Parapenaeus longirostris</i> and <i>Aristeus</i></li> </ul>



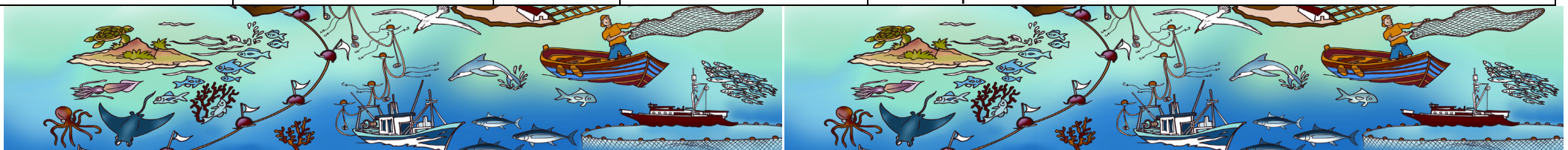


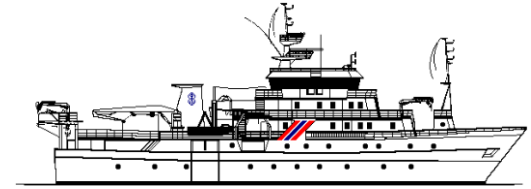
				<p><i>varidens</i>) on the Angolan shelf and slope (down to 800 m), from Cunene River (17°14'S) to Tombua(15°40'S), and from Benguela (12°35'S) to Congo River (06°00'S) using bottom trawl and the swept-area method.</p> <ul style="list-style-type: none"> <li>To collect biological data such as length, weight, sex and maturity stage of <i>Dentex macrophthalmus</i>, <i>D. angolensis</i>, <i>Pagellus bellottii</i>, <i>Umbrina canariensis</i>, <i>Merluccius polli</i>, <i>M. capensis</i>, <i>M. paradoxus</i>, <i>Brachydeuterus auritus</i>, <i>A. varidens</i>, <i>Parapenaeus longirostris</i> and <i>Chaceon maritae</i>.</li> <li>To collect the stomach contents for some species such as <i>U. canariensis</i> and <i>B.auritus</i> and <i>Merluccius polli</i> for subsequent analyses in the INIP Lab.</li> <li>To monitor the general hydrographical conditions using CTD-sonde on each trawl station and map the temperature, salinity and oxygen.</li> <li>To carry out a monitoring line at Cunene River using INIP's new standard hydrographical profiles for collection of temperature, salinity and oxygen, water nutrients and phytoplankton.</li> </ul>
<p>2012404</p> <p><b>CCLME North West Africa Ecosystem Survey</b></p>	<p>5 May – 22 July (78)</p>	<p>Morocco, Western Sahara, Mauritania, Senegal, The Gambia, Guinea Bissau,</p>	<p>Centre National de Sciences Halieutiques de Boussoura, Guinéa Centro de Investigação Pesqueira Aplicada, Guinéa Bissau Department of Fisheries Banjul, The Gambia</p>	<ul style="list-style-type: none"> <li>To obtain information on demersal fish abundance and biodiversity by demersal trawling where conditions for bottom-trawling are adequate.</li> <li>To determine the distribution and abundance of small pelagic fish resources using acoustic methods and a systematic grid survey strategy.</li> <li>Additional biological sampling from trawl catches to collect data on size distribution, further biological information and genetic material from selected species</li> </ul>





		Guinea	<p>Instituto Nacional De Desenvolvimento Das Pescas, Cape Verde          Instituto Español de Oceanografía, Spain          Mauritanian Institute for Oceanographic Research and Fisheries, Mauritania          National Institute of Fisheries Research, Morocco          Fondation international du Banc d'arguin          University of Vigo, Spain          CRODT          IMR, Bergen, Norway</p>	<ul style="list-style-type: none"> <li>• To establish as far as possible the distribution, abundance and composition of other taxa at different trophic levels along the shelf (phyto- and zooplankton, egg and fish larvae, cetaceans and sea birds, and benthic biodiversity).</li> <li>• Map the environmental conditions in the survey area (temperature, salinity, oxygen, chlorophyll, nutrients and sediments)</li> <li>• Capacity building of CCLME trainees and young scientists.</li> </ul>
<p><b>2012405</b>   <b>A transboundary study of the pelagic fish stocks of Southern Angola and Northern Namibia</b></p>	<p>22 September – 6 October (14)</p>	<p>Angola, Namibia</p>	<p>INIP, Angola, IMR, Norway NatMIRC, Namibia</p>	<ul style="list-style-type: none"> <li>• To map the distribution and estimate the abundance of the most commercially important pelagic species in the Namibia-Angola transboundary area (15°50'-19°00'), following the survey design utilized in Angolan waters (6 n.mi spacing between transect lines), with special emphasis on the two horse mackerel Cunene horse mackerel (<i>Trachurus trecae</i>) and Cape horse mackerel (<i>Trachurus capensis</i>), sardine "Pilchard" (<i>Sardinops sagax</i>) and other small pelagic species, including anchovy (<i>Engraulis capensis</i>) and round herring (<i>Etrumeus whiteheadi</i>).</li> <li>• To map the distributions and estimate the abundance of the same</li> </ul>





				<p>species in central Namibia south to Dune Point (20°15' S), following the established survey design with 10 n.mi spacing between the transect lines.</p> <ul style="list-style-type: none"> <li>• To study and analyse the biological state of the main species, including length frequencies, length-weight relationships, reproductive stages and length-at-maturity.</li> <li>• To map the meteorological and hydrographical conditions in the survey area by means of continuous recordings of weather data such as Sea-surface temperature (SST), Sea-surface salinity (SSS), wind speed and direction, using CTD-casts (Temperature, Salinity and Oxygen).</li> </ul>
<p><b>2012406</b></p> <p><b>Distribution and behaviour of juvenile cape hake (<i>M. capensis</i>) off Namibia</b></p>	<p>8 October – 20 October (12)</p>	<p>Namibia</p>	<p>IMR, Bergen, Norway NatMIRC, Namibia UWC, South Afrca</p>	<ul style="list-style-type: none"> <li>• To acoustically transect the area between 23-250S, and identify acoustic targets by pelagic (multisampler) and bottom trawling.</li> <li>• To collect biological information on target species: <i>M. capensis</i>, <i>S. bibarbatius</i>, <i>T.trachurus capensis</i></li> <li>• To determine the stomach content and collect otoliths from <i>M.capensis</i>.</li> <li>• To collect depth stratified samples of zoo plankton in order to able to relate hake stomach contents to the zooplankton composition and density.</li> <li>• To map the general meteorological, hydrographical and biological conditions in the survey area by means of continuous recordings of weather data, CTD-casts (Temperature, Salinity and Oxygen), ADCP measurements (Acoustic Doppler Current Profiler) and plankton sampling along acoustical and hydrographical transect lines.</li> </ul>

