



Applied Geoscience and Technology Division (SOPAC)
Division Géosciences et Technologies Appliquées (SOPAC)

First Meeting of the SOPAC Division Nadi, Fiji Islands, 17-22 October 2011 (SOPAC-1)

AGENDA ITEM	TITLE
8.	OCEAN AND ISLANDS PROGRAMME
8.2	Ocean and Islands Programme Annual Report of Activities to SOPAC-1

PURPOSE

The purpose of this report is to provide the SOPAC Division Meeting delegates with an account of the implementation of the Ocean and Islands Programme (OIP), under its 2011 Work Plan (September 2010 – August 2011).

BACKGROUND AND COMMENTS

The Ocean & Islands Programme role

As per the last annual report it is important to introduce and reaffirm the unique function and role of the Ocean & Islands Programme (OIP) in the context of both the SOPAC Applied Geoscience and Technology Division as well as the broader SPC Parent Agency. The OIP delivers a distinct complementary service to our sister programmes both within the SOPAC Division (Water & Sanitation Programme and Disaster Reduction Programme) and the broader SPC (e.g. Economic Development Division, Fisheries, Aquaculture and Marine Ecosystems Division, Land Resources Division). The Ocean & Islands Programme continues to work across a broad range of marine, coastal and island resource use and applied science issues and offers a range of specialist technical capacities, skills and tools which are continually reviewed to ensure they are responsive to contemporary PIC needs and issues.

Our technical role is directed towards the collection of baseline data such as bathymetric products, maritime boundaries data, oceanographic and geophysical data, geodetic data, geological and geomorphologic assessments, environmental baselines such as marine ecosystem habitat mapping, modelling hydrodynamic processes, sealevel and shoreline monitoring, as well as data collection and support in the area of vulnerability reduction and climate change adaptation. Additionally, OIP supports improved decision making and policy development in these key sector areas and for example; is undertaking a major project of policy development to support growing regional interest in the deep sea minerals sector. The Ocean & Islands Programme delivers such work through multiple mechanisms including direct capacity supplementation to PICs, partnerships with PI Governments and agencies (e.g. SPREP, UNEP, Commonwealth Secretariat, Department of Climate Change & Energy Efficiency, Australia, NIWA, Geoscience Australia, etc.) and through multidisciplinary approaches where OIP delivers “end to end” services or fulfils a portion of a broader programme or project of work. In certain circumstances OIP also competes for commercial contracts where the objectives of those contracts are aligned with country assistance needs and OIP’s existing mandate.

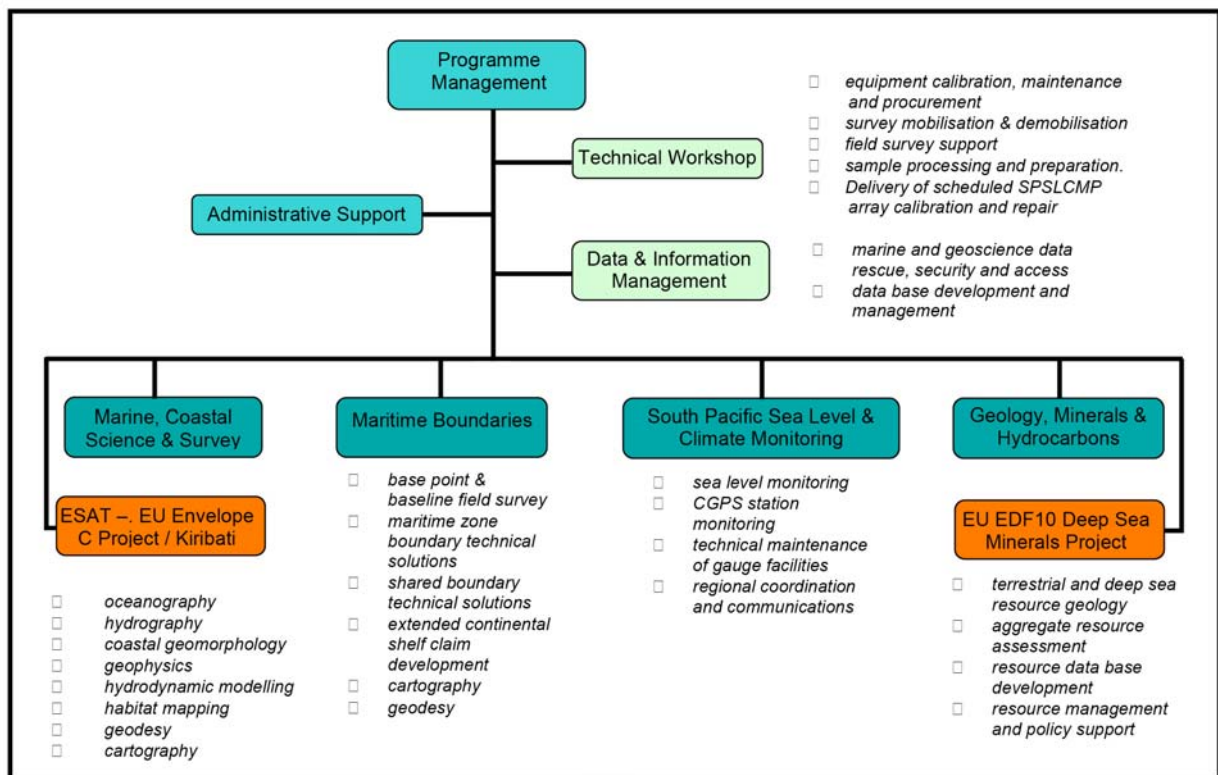
The Ocean & Islands Programme also integrates into its work important complementary tools such as resource economics, remote sensing and GIS and maintains a multi-million dollar technical workshop facility which provides crucial support to our in-house technical and scientific teams as well as direct support to PICs on technical issues. We acknowledge the importance and are active in the preservation and management of geoscience data and information and we are continuing to develop our own web accessible “Geonetwork” data management and access system (<http://geonetwork.sopac.org/geonetwork/srv/en/main.home>).

The SOPAC 2010 – 2015 Strategic Plan incorporates the concept of agency-wide “KRAs” (Key Result Areas);

1. Monitoring & Assessment of Natural Hazards, Resources & Processes.
2. Management & Development of Natural Resources.
3. Management of Vulnerability & Risks.

These present an opportunity to articulate the broad manner in which many OIP tasks contribute to, for example KRA 3 - Management of Vulnerability & Risks. In the detailed report log frame a column is now devoted to indication of the KRA(s) to which a task contributes. In the OIP 2011 report log frame, KRA allocations are subservient to functional task area and the preface text to the log frame is organised into the major functional sectors of OIP in line with the organisational chart below.

OIP organisational chart



SUMMARY OF KEY FUNCTIONAL SECTOR OUTPUTS

The outputs are summarised under the following sectors:

- Marine, Coastal Science and Survey
- Geology, Minerals and Hydrocarbons
- South Pacific Sea Level & Climate Monitoring Project
- Regional Maritime Boundaries
- Data & Information Management

- Technical Workshop
- Management/Administration/Advocacy
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MARINE, COASTAL SCIENCE AND SURVEY

The largest sector within OIP with 6 staff working in the main functional areas of oceanography, hydrography, coastal processes & geomorphology, geophysics, hydrodynamic modelling, habitat mapping, geodesy & cartography. It is also important to note that a large proportion of the Technical Workshop sector's tasks are also oriented towards support and facilitation of this sector's work given its heavy dependence on field work, use of technical equipment and substantive requirements for specialist logistical, mobilisation and deployment support.

The sector has undertaken or is currently in the process of delivering a range of assessments, reviews and surveys. These have been characteristically diverse in terms of the type of request, locations of work and stakeholder groups and aims involved, however a growing trend towards the secondment of services to address issues of climate change adaptation and extreme event vulnerability is evident. Likewise the greater proportion of these tasks and requests are associated with issues in the nearshore and coastal zone.

The range has included several surveys in Fiji including; the development of coastal geomorphology / hazard maps in the Navua Delta & nearshore environments; collaboration with the Fiji Government's Department of Fisheries, SPC's Aquaculture Sector and James Cook University under the Pacific Agribusiness Research for Development Initiative (PARDI) to improve pearl culture in Savusavu Lagoon through the collection and analysis of water flow and quality parameters; most recently the OIP also joined with NIWA to provide a successful bid to complete a number of technical components of the SPREP initiated Pacific Adaptation to Climate Change (PACC) Project, in this case OIP will collect crucial nearshore and estuarine bathymetric data as well as coastal zone topographic data in the Navua and Rewa delta areas.

The OIP has joined with our sister Programme (Disaster Reduction) and the SOPAC Division's Resource Economics Sector to deliver an EU funded (EDF9 C Envelope) comprehensive package of support to the Pacific OCTs. OIP's main role will be in French Polynesia where the sector team has been tasked to work in collaboration with the '*Service de l'Urbanisme*' of French Polynesia to assess the storm surge hazard in the Tuamotu Archipelago at an atoll scale. The work is largely concentrated in Ranigroa Atoll and includes bathymetric, topographic and oceanographic baseline collection; modelling of coastal inundation from tropical cyclone-induced surface waves and the contribution to an atoll storm surge hazard regulation framework for the Tuamotu Group. Fieldwork started in July and is expected to be completed by Dec 2011 and the Project works are expected to be completed in July 2012.

Work in the Kingdom of Tonga continues with a collaborative effort again between OIP and DRP in partnership with Geoscience Australia to deliver tsunami inundation models and subsequently improved tsunami response planning for the main settlement of Nukualofa, Tongatapu. This work is funded through the AusAID Pacific Public Sector Linkages Proposal (PPSLP) and through March and April this year the Marine, Coastal Science and Survey team completed a 40-day bathymetric survey of north Tongatapu Island and a comprehensive topographic survey of Nukualofa and surrounds. The OIP is now waiting for LIDAR data to be collected in the lagoon shallows under a separate Australian Government assistance package (International Climate Change Adaptation Initiative (ICCAI)) to then incorporate these multiple data sets into a continuous 3D model to facilitate accurate tsunami inundation modelling.

The team carried out extensive work in Saipan Lagoon in the Commonwealth of the Northern Mariana Islands (CNMI) through the 3rd quarter 2010 with the objective to establish a hydrodynamic model describing water flow in the lagoon, dilution dynamics of the town's wastewater outfall and to undertake a coastal erosion assessment. Fieldwork included the collection of oceanographic, coastal and topographic baseline data and the development of a three-dimensional hydrodynamic model. This work was completed in collaboration with the CNMI Coastal Resource Management Office and was funded in kind by the CNMI Government and NOAA (Technical Reports delivered in November 2010).

OIP has delivered a number of assessments to the Cook Islands in the reporting period including several tasks funded in-kind by the Cook Islands Government. These include work undertaken for the Ministry of Marine Resources; a desktop review of existing data and information holdings of SOPAC related to the Muri Lagoon; and the collection of oceanographic data and the development of a benthic habitat map of Muri Lagoon. Also completed was hydrographic work for the Ports Authority to assess possible locations

of alternative cruise ship tender landing sites on Rarotonga. OIP has also partnered with NIWA to develop a comprehensive geospatial framework to inform climate change adaptation in the coastal zone of selected areas of Mangaia Island. This work is implemented as a component of the SPREP initiated PACC Project and the team spent a month in the 1st quarter of 2011 collecting nearshore bathymetry, topographic and oceanographic data. This data is now being used by NIWA who are taking responsibility for the wave climate and modelling components.

The OIP will also mobilise its geophysical capacity to Yap State in Federated States of Micronesia to complete work under contract to the FSM Petroleum Corporation. The team has been requested to undertake a geotechnical survey to support the appropriate design and construction of a seawall/bund at the petroleum storage facility at Colonia. The work will include drilling of the substrate, core retrieval and analysis, standard penetration testing and nearshore bathymetric and topographic survey. This survey requires considerable mobilisation effort and requires significant support from the Technical Workshop staff to arrange logistics and to complete the field tasks. Similarly, the Regional Maritime Boundaries sector of OIP will also support the survey tasks associated with this task – the equipment is presently in transit to Colonia.

This sector also undertakes a range of “ad hoc” tasks in response to ongoing member requests for technical review of documents such as; EIA documents, coastal engineering plans and development applications and proposals. Too numerous and variable in content, size and effort required to fully articulate here, these services can take the form of an email response requiring a few hours of research, to site visits and briefing which require weeks of research, travel and follow up. These services are mostly supported through OIP’s recurrent budget and likewise some ongoing regional monitoring efforts such the PRISMS (Pacific Regional Island Shoreline Monitoring System) and salinity monitoring in swamp taro pits in Tuvalu are funded through our core Programme in recognition of the importance of such issues in the region and the fact that OIP is unique in having the technical capacity to implement such work. Unexpected cuts to OIP Programme funding from NZAid in mid 2011 are impacting these services and placing untenable strain on OIP’s crucially important Technical Workshop facility. Given that many of the tasks OIP, and particularly the Marine, Coastal Science and Survey sector, implements are dependant on a fully functional Technical Workshop facility these cuts are at a regional and country level a strategic mistake and will have far reaching consequences to service delivery to Members.

GEOLOGY, MINERALS AND HYDROCARBONS

The Geology, Minerals and Hydrocarbons sector traditionally covers task areas of terrestrial and deep sea mineral resources, geology and aggregate resources. The sector undertakes related technical assessments and provides support to members in mineral resource management and policy development. Much of the sector’s database development and maintenance is being systematically transferred to the OIP Geonetwork facility for administration. The responsibility of the Petroleum Data Base (which current lies with the Regional Maritime Boundaries sector) will also be transferred for Geonetwork administration as resources allow.

The functions of the Geology, Minerals and Hydrocarbons sector related to metalliferous and non-metalliferous resources are relatively distinct and a major area of ongoing interest and Member requests relate to industrial resources or construction aggregates (sand, gravel, rock and unsorted fill materials). Sustainable supply of construction aggregate has become a major issue of importance regionally and is often inextricably linked to OIP’s Marine, Coastal Science and Survey sector as well as the Divisional Resource Economics sector. This is because beach mining undertaken to supply regionally growing demand for construction aggregate is an unsustainable and dangerous practice with immediate negative impacts on shoreline systems, processes and coastal vulnerability and the development of alternatives requires resource economics to elucidate optimum, cost-effective solutions.

Over the last reporting period, funding for the Aggregates Geologist position was exhausted and due to further cuts in NZAid programmatic allocations in 2011, OIP will for the foreseeable future, be unable to recruit for this key position within the Geology, Minerals and Hydrocarbons sector. Obviously, our subsequent ability to respond to requests with respect to aggregate supply is now diminished and work in this focal area has been largely dominated by OIP’s role in the EU-funded (EDF9 and 10 – Envelope B allocations) Environmentally Safe Aggregates for Tarawa (ESAT) Project – Kiribati. Jointly implemented by OIP and the Government of Kiribati’s Ministry of Fisheries and Marine Resource Development (MFMRD) the ESAT Project is a natural progression of the sustained technical effort by OIP to investigate the feasibility of developing a lagoon basin aggregate resource to replace the unsustainable volumes of beach aggregate mining (up to 70,000m³/year) which are taken from South Tarawa’s beaches every year.

In turn, beach mining presents one of the single greatest threats to shoreline integrity in urban atolls today and ESAT is a direct response to this manageable problem and will seek to provide an environmentally sustainable, alternative supply of construction aggregate to the rapidly growing urban community on South Tarawa. The obvious links to shoreline vulnerability issues in atolls and ongoing concern over sea-level rise and other threats associated with climate change impacts in atoll islands have seen this Project heralded as one of the most pragmatic “no-regrets” climate change adaptation responses in the region today.

Day-to-day management of ESAT is provided by a specifically recruited, Tarawa-based Project Manager who in turn is supported by both the broader OIP technical team and MFMRD. Very significant progress has been achieved over the reporting period with the highlight being the signing of a €2.3million (ca AUD \$3.04 million) contract with a Singapore ship building company (Heavy Load Pte.) to construct and deliver the ESAT dredge vessel, the MV *Tekimarawa*. A marine surveyor has also been contracted to oversee vessel construction and ensure its compliance to the International Ship Classification Standards. Other important milestones include; the approval of the Kiribati Attorney General’s Office of this new State Owned Enterprise; the completion of a comprehensive EIA study and process (draft report completed); undertaking of 22 associated community consultation meetings throughout South Tarawa and in collaboration with the Environment Department; a two-month programme of community consultation/participation conducted through the 1st quarter 2011 (aimed at behaviour change and awareness of the ills of beach mining); development of a strategic communications implementation plan and training of local NGOs to implement outreach efforts; ESAT has also progressed links with the “Sandwatch” initiative to provide awareness of shoreline processes to schools across South Tarawa.

The largest component within the sector at this time is the EU-funded (€4.7 million) EDF10 Deep Sea Minerals in the Pacific Islands Region Project which will develop legal and fiscal frameworks for sustainable deep sea mineral resource management. With funding for this Project finally becoming available in late 2010 OIP immediately implemented procedures for recruitment and the DSM Project Manager has been in place since February 2011. Subsequent recruitment of the Project DSM Legal Adviser and Project Officer were also finalised by the 2nd quarter 2011, the Legal Adviser will take up permanent post (ex UK) in October 2011. In order to brief Members on the scope and aims of the Project as well as to update PICs on the current status of understanding of regional deep sea mineral resources and state of the fledgling DSM regional industry, the Project held its inaugural meeting in June 2011. Participants from across the region joined with experts from around the globe to provide presentations and briefings on the status, opportunities and risks of these resources and industry. During the meeting a PIC Project steering committee was assembled and the first meeting held and likewise immediately following the inaugural Project meeting, technical experts who attended came together for the first technical steering committee meeting to discuss the development of a comprehensive review of the state of knowledge with respect to the three main DSM resource types. Prior to this meeting the Project had also undertaken extensive negotiations and had developed a ToR and signed a contract with UNEP GRID Arendal to oversee and develop this expert review and other associated products in collaboration with OIP and the technical steering committee.

Initiated in 2007, this year OIP also completed a long term and logistically challenging venture funded by the Government of Kiribati to undertake *An Evaluation of the Remaining Phosphate Deposits on Banaba Island* (SOPAC Technical Report 430). This work included drilling and survey at strategic locations on Banaba Island and complete with interpretation and geochemical analyses of the core samples stands as a major land mark in the understanding of the remaining resources on Banaba. The report was presented to the President of Kiribati and Officials of the Ministry of Marine and Natural Resource Development and the Kiribati High Commission during a special presentation in early 2011. Additionally, the sector has also supported Members in the terrestrial mining sector and has over the last reporting period assisted the Government of Solomon Islands in the development of the Isabel Nickel Mine tender and likewise, the Government of Fiji in their Mt Kasi Gold Mine Tender Process.

SOUTH PACIFIC SEA LEVEL & CLIMATE MONITORING PROJECT (SPSLCMP)

Implemented due to increasing regional concern over climate change associated sea-level rise and the poor understanding of sea-level variability in the region before the development of the SPSLCMP array, between 1991 and 2001 the Project established a network of high-resolution sea-level monitoring stations in Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshal Islands, Nauru, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. Overall management of this long term multi-million dollar AusAID-funded initiative is provided by Bureau of Meteorology Australia (BoMA); however, the Project’s ongoing works are also implemented in partnership with OIP, Geoscience

Australia (GA) and the participating PICs. Since establishment, the array has captured a mostly uninterrupted stream of high quality, accurate data on sea level, temperature (water & air), barometric pressure and wind speed and direction. Associated CGPS (Continuous GPS) stations have also been established in each country to account for tectonic movement.

The Project was expected to enter Phase V in January 2011; however, due to changes in the structure of the Project, BoMA requested AusAID for an extension for Phase IV through to 31st December 2011. In part this extension facilitates a planned transition of the SPSLCMP into the new Pacific Climate & Oceans Support Programme (COSPPac) which is expected to amalgamate several related Pacific Islands orientated initiatives within BoMA, however is not envisaged to greatly alter the ongoing role or resourcing of OIP or GA in the technical implementation of array maintenance. Assuming COSPPac does become operational in January 2012, this phase is expected to similarly run for 5 years until December 2017. Associated with the present phase of SPSLCMP is the Australian Government's ICCAI-funded Operational Network Upgrade Project (ONUP). ONUP began field work in early 2011 and will refurbish and upgrade the measurement and communication technologies at all 12 PIC stations to ensure their continued capacity to measure, record and transmit high-quality sea-level and climate data for another 10 to 15 years. To date ONUP has completed upgrades in Tonga and Fiji and work is underway in Samoa. OIP also provides additional support to ONUP including in country assistance with the technical retrofitting of the gauge stations and communications gear, the facilitation of contract arrangements of local service providers and communications with relevant Ministries and stakeholders.

Otherwise, OIP's role in the SPSLCMP remains stable with the ongoing provision of routine and non-routine maintenance and calibration of the gauges, which includes the sea-level stations and associated CGPS and is undertaken collaboratively with Geoscience Australia. Routine and non-routine maintenance visits (due to system failures, etc.) over the reporting period have been made to the gauges in; Nauru Nov '10; Kiribati Nov '10; Fiji Dec '10; Papua New Guinea Mar '11; Tuvalu Jun '11; Marshall Islands Jul '11; Federated States of Micronesia Aug '11; and routine precision levelling surveys in; Marshall Islands Oct '10; Solomon Islands Nov '10; Papua New Guinea Dec '10; Federated States of Micronesia Feb '11; Vanuatu April '11; Cook Islands June '11; Fiji July '11; Tonga Sept '11 (planned) have been completed by OIP.

The OIP also hosts the SPSLCMP Regional Communications Coordinator and this position is tasked with monitoring of the array communications system's accounts; routine liaison with country Project focal points and BoMA; budget development for OIP's components of the Project and coordinates with BoMA on issues like the recent restructuring of the Project and how to optimise this for PIC Members. OIP also provides a strong advocacy role for the Project especially given that OIP's Marine, Coastal Science and Survey sector is one of the major users of the excellent geodetic control and sea-level data the array brings to PIC coastal vulnerability work and surveys.

REGIONAL MARITIME BOUNDARIES SECTOR

Funded by AusAID and NZAid through OIP's recurrent programmatic budget the Regional Maritime Boundaries sector work has been implemented by OIP since 2001 at which time the project was transferred from the Forum Fisheries Agency (FFA). Subsequent work under this sector had until 2007 been mainly concerned with the development of PIC baselines including archipelagic baselines where applicable and computation of subsequent marine zones (territorial seas 12 nautical miles (M); contiguous zone 24M and exclusive economic zone 200M) in accordance with the provisions of the UN Convention on the Law of the Sea (UNCLOS). Much of this work started at first principles in 2001 and by 2005 OIP had developed data reports suitable for declaration purposes for Cook Islands, Nauru, Niue and Tuvalu. Irrespective, at the time of this 2011 annual report only one of these countries, Nauru, has used this information to declare its maritime zones and at the time of writing only Fiji, Nauru and Palau have declared their maritime baselines, zones and outer limits in accordance with UNCLOS. Additionally, Papua New Guinea, Solomon Islands and Vanuatu have declared only their archipelagic baselines and of these countries, Fiji, Palau, Solomon Islands and Papua New Guinea are all in the process of updating those respective baselines and maritime limits with the assistance of the OIP Maritime Boundaries Sector. Vanuatu lodged its new archipelagic baseline in November 2010.

A critical gap in OIP's Regional Maritime Boundaries sector capacity, which has contributed to the poor rate of declaration has been our restricted resources and mandate which only equips OIP to deliver technical/geodetic assistance to PICs. Whilst this assistance is fully utilised by most Members there is an almost ubiquitous issue preventing the use of the contemporary data OIP collects and uses to assist PIC with their boundary solutions. Throughout the region PIC maritime spaces legislation and regulations are

almost ubiquitously outdated and frequently specifically prevent the use of the newer more accurate technical data OIP produces irrespective of its technical excellence. Added to this is a poor regional awareness of this dynamic and the frequently limited capacity in countries to formulate the complex technical, legal and ultimately diplomatic solutions to update such legislation. Recognising this, OIP in 2010 requested the then SOPAC Governing Council to expand its Regional Maritime Boundaries sector to incorporate legal assistance to assist PICs undertake the necessary legislative changes and thus allow the use of contemporary boundaries data. Council declined this request; however, given OIP's work would not come to fruition without the provision of legal support, OIP turned to our partnership with Geoscience Australia/AusAID and the Commonwealth Secretariat to fill this vital gap.

As a result under the latest AusAID PPSLP grant the Australian Attorney General's Office has made available a part-time Legal Advisor with LoS (Law of the Sea) expertise and in June 2011 this Legal Advisor and OIP staff travelled to Niue to brief the Government on the status of their maritime boundaries and provide legal assistance to update legislation and subsequently incorporate the improved data developed by OIP with the intention of facilitating Niue's ability to declare their maritime baselines, zones and shared boundaries. Similar legal assistance was also available at the most recent maritime boundaries development workshop in July 2011 and along with the 10 PICs with eCS submissions (extended continental shelf), 4 additional countries (Nauru, Niue, Marshall Islands and Samoa) were also invited to attend in the second week of the workshop to progress their maritime boundaries legal/technical work. This approach was very successful with numerous countries now working on both their technical solutions as well as their legal frameworks to facilitate declaration. During the reporting period two, 2-week maritime boundaries workshops were organised. The 7th in the series was held in November 2010 and was another dedicated eCS development workshop and the most recent was the July 2011 workshop (the 8th over the last 5 years). Both of these were supported by OIP, our technical partners and funded by AusAID/PPSLP and as usual the technical teams from Cook Islands, Fiji, Federated States of Micronesia, Kiribati, Palau, Solomon Islands, Tonga, Tuvalu and Vanuatu who all have eCS submissions were invited to attend both workshops to continue on unfinished eCS submissions and to ensure they are prepared to defend their respective claims to the UN Commission on Limits of the Continental Shelf and the additional countries of Nauru, Niue, Marshall Islands and Samoa were invited to the second workshop to work on delimitation issues.

A further highlight of the last 12 months has been recent and exciting development and availability of satellite-borne imagery with a very high level of positional accuracy. This has brought a powerful new tool to bear on the issue of boundaries development in PICs as whilst imagery of adequate resolution has been available for some years its positional accuracy was not reliable, necessitating lengthy and often expensive and logistically difficult (due to the remote and far flung nature of many island groups in the Membership) geodetic control surveys. New imagery products combined high resolution (ca0.5m) and excellent positional accuracy (<15m error) in affordable image packages can now be used to derive baselines with an unparalleled level of accuracy and confidence negating the need for *in situ* survey. Such products and opportunities are already being used by OIP; for example with respect to the remote Rotuma Islands in the Fiji Group and Phoenix Group Islands, Kiribati. The Government of Kiribati developed their baseline solutions for the Phoenix Group collaboratively with OIP over the last quarter by using such imagery. In this case the purchases have been supported by the Commonwealth Secretariat with logistic and subsequent processing support of OIP and the Division's GIS and Remote Sensing (GIS & RS) sector. Similar approaches are now being adopted by other PICs which will expedite regional maritime boundary development.

DATA & INFORMATION MANAGEMENT

As reported last year, OIP has made significant ongoing efforts towards improved, more systematic method of collating and providing access to its historical and newly collected data via the OIP, web accessible, Geonetwork system (<http://geonetwork.sopac.org/geonetwork/srv/en/main.home>). Geonetwork is an open source database platform which can handle large and complex datasets associated with the different technical sectors of OIP but has made particular improvement with the collation, accessibility and security of data from the Marine, Coastal Science and Survey Sector. Geonetwork became operational in 2008 and today boasts some 334GB of uploaded data representing a 42% increase over that reported in 2010. Geonetwork use statistics for the reporting period indicate: the total number of downloads has increased 60%; total number of web "hits" has increased from 212,435 to 756,490 (356%); of these hits 57% were from Member nations, 15% were internal SOPAC requests and the remaining 28% were international, spanning some 90 Nations. In summary, Geonetwork is proving successful, appropriate to needs and appears to be servicing the requirements of multiple stakeholders groups including, internal, regional and international users. New and related functions are also gradually

being transferred from other sectors across the SOPAC Division to the Data and Information Management sector/Geonetwork of OIP; the most recent addition being responsibilities around the monitoring of research cruises in PIC waters to allow OIP to more systematically explore opportunities of transiting vessels to collect strategic data such as bathymetry for maritime boundaries development.

Geonetwork content is reaching the capacity of its current server and OIP has invested in the Divisional "compendium" efforts with respect to the purchase of a new server array which will increase the capacity and security of Division data holdings. Geonetwork is expected to be migrated across to this new facility in the 3rd quarter 2011 and the software platform will also be upgraded at this time. These improvements will extend Geonetwork's operational life and provide expanded capacity for new content. OIP's broader efforts toward populating the new SOPAC Division MapServer ended in mid 2011 as funding to recruit the former data content position is in question following the cut in OIP's Programmatic funds. Likewise, administering content on Geonetwork requires sustained, skilled and dedicated resources and this ongoing commitment to PICs does not suit "project" orientated funding as it is a fundamental, ongoing function of the Programme. The quantum of resources OIP expends in the collection of data in PICs providing baseline data in support of issues of resource management, vulnerability and adaptation, etc. means activities like Geonetwork are a crucial component of the success of the Programme as a service and support to Members. Presently, there are very limited specific or sustained resources for Geonetwork and recent cuts to OIP's programmatic funds simply places more strain on our ability to sustain this critical and very successful undertaking.

TECHNICAL WORKSHOP

The Technical Workshop's predominant role is focused towards supporting work in the OIP in the Marine, Coastal Science & Survey; SPSLCMP; Geology, Minerals and Hydrocarbons and Regional Maritime Boundaries sectors; however, the Technical Workshop also supports functions in our sister Programmes as well. It is important to reiterate that it is implicit in the reporting of the preceding OIP Sector's achievements and work that the Technical Workshop was and is an indispensable component of that success and progress, particularly where mobilisation and deployment of equipment and field surveys have been undertaken. The Technical Workshop has a direct role in the procurement, servicing, modification, repair, calibration and cataloguing of the substantial array of marine, geodetic and geological equipment and instruments held by the SOPAC Division and it is an intrinsic part of the upkeep, deployment and mobilisation/demobilisation of millions of dollars worth of equipment safely and successfully every year. The Technical Workshop also oversees OHS issues and is instrumental in the upkeep of safety equipment and routine safety training of all field staff.

Over the reporting period the Workshop staff have delivered ongoing scheduled (and unscheduled) maintenance on the SPSLCMP gauges and associated climate monitoring sensors, power and communications systems to 7 PICs and technical support was also provided during upgrade work associated with ONUP (Operational Network Upgrade Project) in 3 countries (see SPSLCMP for details). The Technical Workshop staff and facility also provided support and field assistance on the; Tonga multi-beam survey, March '11; French Polynesia survey mobilisation, May '11 (work ongoing through the 3rd and 4th quarters '11); and the Federated States of Micronesia, Yap geotechnical survey (rig mobilisation) May '11 (and fieldwork 4th quarter 2011).

Scientific and technical equipment have established service lives beyond which data collection becomes less reliable/accurate and in many cases ongoing improvements in instrumentation means that gains in efficiency achieved by using more up-to-date equipment outweighs the costs of replacement. Thus an important function of the workshop is to contribute to the strategic purchase of equipment to ensure service life is maximised and that instruments are appropriate to contemporary PIC needs. Two such important purchases this year are a new USD150,000 multibeam echo-sounder system "R2 Sonic 2022" (ship-mounted system which allows seafloor mapping to 2.5 km depth) and new associated positional system AUD32,674 "Marine STAR 9200" (a system which uses an array of satellites to provide unparalleled positional data for moving survey platforms). The budget to support the workshop equipment inventory and work is generated through contracts, project and recurrent budget. Cuts in OIP's 2011 NZAid recurrent budget, (which previously made an important contribution to the Technical Workshop) place stress on our ability to maintain these crucial services.

MANAGEMENT/ADMINISTRATION/ADVOCACY

Involved with the day-to-day facilitation, management and oversight of the OIP as well as the longer-term administration towards the overall strategic delivery of OIP's services and work plan this sector initially consisted of the Programme Manager and the Programme Assistant; however, the success of the OIP is built around its multi-disciplinary teams and input of all senior staff who take active leading roles particularly in their areas of specific expertise. This sector interacts closely with Corporate Services, the Resource Economics sector, the broader Divisional Executive Management Team and the Directorate to align the Programme with Divisional and SPC Secretariat objectives. Strategic technical partnerships are also crucial to the ongoing development and delivery of work in OIP and again this sector plays an important overall role in the exploration and management of these relationships. Related is also the ongoing liaison with other regional and international partner agencies and interest groups on a range of matters within OIP's work mandate and interests. This sector also leads participation in working groups and other regional fora and contributes to regional reporting and strategic planning mechanisms such as the SPC CRGA, SPC JCS Process, Pacific Plan reporting, regional institutional review processes, and so on.

Crucial to OIP's success and function are the continual development of proposals and the exploration and management of vital strategic partnerships, again these duties are shared across the Management and Senior Staff level of the Programme depending on the technical area and relevant expertise and available time. To illustrate the importance of strategic partnerships in OIP some typical examples instrumental to our successful delivery through 2011 are: the AusAID/PPSLP funded Tsunami Phase III Project implemented by OIP, Disaster Reduction Programme and Geoscience Australia; the AusAID/PPSLP-funded Maritime Boundaries Development workshops and legal assistance to PICs implemented by OIP, Geoscience Australia, Australian Attorney Generals Office, UNEP Grid Arendal, Commonwealth Secretariat, Forum Fisheries Agency; the proposed development of OIP's Hydrographic Capacity through an AusAID/PPSLP proposal in partnership between OIP, Australian Hydrographic Office and assistance of the SW Pacific Hydrographic Commission; the EU-funded Deep Sea Minerals Project which is reliant on contracted assistance of UNEP Grid Arendal office and the voluntary input of a number world leading scientists who partner on the development of a comprehensive review of deep sea mineral issues in the Pacific Region; delivery of the AusAID-funded SPSLCMP which is implemented in partnership between Bureau of Meteorology Australia, Geoscience Australia and OIP; OIP has also partnered with NIWA to deliver on projects in PICs where our complementary skills provide synergistic advantage and improved delivery.

Proposal development is also important to highlight here as it requires significant commitment from a number of OIP Senior staff. The greater part of OIP's budget is composed from the continual competitive bidding for contracts and proposal development and OIP is successful in these endeavours. This is evidenced through growth in the Programme's size, staff numbers and range of technical output even though OIP's core/programmatic funding has been stagnant for over 10 years. Thus recent and unexpected cuts to OIP's 2011 programmatic contribution from NZAid are potentially very damaging and threaten the growth and response of the Programme. This is because OIP makes excellent use of its programmatic funds through the consistent successful delivery of its work plan associated with those moneys but also by using our core senior capacity to generate significant additional funding to augment service delivery to Members. In 2011, OIP's approved total FJD budget was approximately \$5.96 million; of this only \$1.2 million was approved recurrent programmatic funds (AusAID and NZAid). In 2011, for every \$1.00 of programmatic budget invested in OIP by AusAID and NZAid, OIP secured an additional \$3.96 independently through competitive proposals and contracts. Put another way any cuts in OIP's core programme budget have a 4-fold impact on our overall performance and Members must expect service reduction from OIP as indicated throughout this year's annual report as a result of the NZAid cuts to OIP.

UNSCHEDULED AND AD HOC REQUESTS

Where practical, OIP provides ongoing support to countries in response to individual country or regional (RG) requests outside of planned and budgeted work. Although not a comprehensive list, below are examples of the nature of such requests/obligations over the 2010 – 2011 reporting period.

COUNTRY SUPPORT TO:

- The Cook Islands, Muri Lagoon studies including the development of a benthic habitat map of Muri Lagoon and hydrographic work for the Ports Authority to assess possible locations of alternative cruise ship tender landing sites on Rarotonga.
- The Fiji Department of Environment to assess the vulnerability of Daku Village, Tailevu to the effects of coastal flooding; rapid assessment of Naililili Cathedral, Rewa for subsidence issues
- The Fiji Department of Environment to review the Vitoga Bay development proposal and road alignment project.
- Provide technical review for the Fiji Department of Environment and MLGA in relation to the Kulukulu Sand Dune Development.
- The Fiji Water Authority to develop TOR for the proposed wastewater treatment plant and outfall, Savusavu.
- The Government of Fiji in conducting rapid assessment of the extreme wave event at Loka, Coral Coast.
- At the request of NZAid/GoK, support to the Government of Kiribati to conduct an on site rapid assessment of development options for the wharf facility at Kiritimati Island.
- Collaborative work with USP and DRP to complete Fiji-based survey tasks including the post processing of Kinematic and Real Time Kinematic (RTK) GPS topographical survey data for Nadi and combined LiDAR control survey; post processing GPS data and transformation of coordinate set for the Fiji Lands Department.
- A rapid preliminary technical/legal review of Papua New Guinea's draft minerals policy.
- The Kiribati Department of Environment to review causeway development plans, Onotoa; assistance with planning the 3 urban waste water outfall in South Tarawa; review erosion studies in Marakei.
- The Government of Solomon Islands mining sector in the development of the Isabel Nickel Mine tender.
- The Government of the Cook Islands to conduct a re-run of OIP's existing HD model of Aitutaki harbour to inform new design options.
- The government of Niue to review of existing bathymetric data of Niue wharf.
- Assistance and technical interaction on Solomon Islands, Morovo Lagoon fish kill event.

REGIONAL SUPPORT:

- ACIAR/PARDI project based out of SPC Suva on pearl oyster spatfall programmes being implemented in Fiji, Tonga and PNG. At this time OIP has provided technical guidance and the loan of technical equipment in support of work in Savusavu Bay, Fiji.

- SPC (OIP) signed an MoU with IHO (International Hydrographic Organisation) and developed an associated proposal (AusAID PPSLP) in collaboration with the Australia Hydrographic Service to build Capacity within the MCSS Sector to improve regional hydrographic capacity.
- Develop a Trimble Global Navigation Satellite System (GNSS) Reference Station at SOPAC to meet the requirements of an IGS (International Geodetic Station) and provide a Continuous Operating Reference Station (CORS).
- Continued collaboration with SPC Lands Division to supervise a post-graduate student undertaking salinity monitoring in swamp taro pits in Tuvalu.
- Continued engagement with SPC's FAME Division (two co-authors provided by OIP) to develop a review (book) of the regional impacts of climate change on fisheries in the Pacific Islands region.
- IHO to assist with a planned technical visit to Fiji, Kiribati and Vanuatu as endorsed by the South West Pacific Hydrographic Commission.
- Join FFA/FAME annual coordination meeting to brief and align work interests in maritime boundaries.
- SOPAC Division. Complete geodetic survey of existing land boundaries of the SOPAC compound.
- Support and liaison to SPREP and associated partners concerning the new PIGOOS position.
- Ongoing technical support to programmes such as PASAP (AusAID/DCCEE) with respect to the design and implementation of technical aspects of the programme.
- Support various regional and international climate change related events and fora such as the Climate Change Round Table, IPCC, etc.
- Support of regional technical discussions on tsunami modelling, baselines and capacity building for members; ongoing research into tsunami impacts in atoll environments.
- Development of OIP hydrodynamic capacity for applied pollution studies – improved residence time modules for marine lagoon systems.

RESPONSES TO ISSUES RAISED AT THE 39TH SESSION

Several requests were made of the OIP at the 2010 SOPAC session. The responses of the Programme are provided below in relation to paragraph of the Summary Report recording the 2010 Session outcomes:

95. *Fiji had acknowledged the dependence of PICs on the OIP to progress maritime boundaries claims, observing that a lack of funds to continue this service would have a negative impact on PICs. Fiji had expressed hope that funds would be made available in the future to continue this service.*

Since the last reporting period, OIP core funding has received unexpected cuts and no opportunity to discuss improved programmatic funding for such work has been provided. It follows that a diminution in this service has therefore occurred.

99. *Samoa had requested further assistance from OIP to: (i) conduct hydrodynamic modelling in Samoa; (ii) continue work under PRISMS to avoid mal-adaptation; and (iii) continue work in the SPSCMP (Phase 5). Samoa had also expressed that it was likely it would come to SOPAC for technical assistance to progress maritime boundaries delimitation.*

- i. Following the meeting no specific request has been issued by Samoa to define what issues it would like OIP to assess using hydrodynamic modelling. OIP retains its capacity and remains ready to respond, should Samoa specify issues that require the use of such tools.

- ii. PRISMS remains un-staffed and un-resourced despite its regional importance and it is important to note that given the unexpected core budget funding cuts in 2011 it is currently impossible for OIP to extend or prioritise this work. OIP has developed a US\$1.5million proposal submitted to the Pilot Programme for Climate Resilience – World Bank/ADB Strategic Climate Fund, which if successful would facilitate the improved role out of such work.
- iii. The SPSLCMP has undergone a degree of re-organisation within the Bureau of Meteorology Australia. However, the gauge in Samoa and the associated CGPS is, like the other 11 regional gauges, included in the next phase of this programme and will include work to upgrade the existing system in Samoa is scheduled to start in Aug. 2011.
- iv. In 2011, OIP invited Samoa to attend the June 2011 regional maritime boundary development workshop. Samoa accepted this invitation and progress was made in reviewing Samoa's existing baseline data and in starting work on a more accurate baseline product. Discussions on Samoa's existing maritime spaces legislation also occurred. This work is now on going and has been a shared effort between OIP, Geoscience Australia and the Australian Attorney General's Office.

101. *Marshall Islands had reminded Council of requests from 2008 and 2009 that programme managers include the breakdown in their presentations of the funding used and budgets on various activities (such as maritime boundaries, climate change adaptation etc.)*

A budget break down in line with this request will now be made available.

105. *New Zealand had requested that more outputs be articulated in the OIP work planning framework and enquired how OIP would link its work to the outcomes articulated in the Strategic Plan.*

The OIP report matrices now include a column which aligns each task to the relevant KRA areas and additionally a new section has been added to the annual report format which deals directly with the OIP "success indicators" column articulated in the 5 year Strategic Plan and how OIP works interact with those success indicators.

106. *Niue had advised that it sought assistance from SOPAC to (i) progress its maritime boundaries (ii) update the Mining Act of Niue, introduce mining policy in response to recent developments in this area and generally build Niue's capacity and response in the area of mining.*

- i. In 2011, OIP Maritime Boundaries Sector in collaboration with Legal Council from the Australian Attorney Generals Office organised a week long visit to Niue to work with Government to brief them on Niue's existing data and review and update Niue's existing maritime boundaries legislation. Additionally, as with Samoa, OIP invited Niue to attend the June 2011 regional maritime boundary development workshop for the first time.
- ii. Delegates from Niue along with all other SPC members were invited to attend and participate in the June 2011 Inaugural Deep Sea Mining Workshop Niue attended and it is anticipated that Niue will along with the other PI members continue to be engaged with this 4 year Project of work.

111. *Council had recommended that future adequate resources be secured from donor partners, including through the SPC Long Term Sustainable Financing exercise;*

112. *Council had recommended that significant improvements in programmatic funding for OIP be made available to facilitate a sustained and adequate response to the growing demand for support services in coastal adaptation, development and vulnerability projects and initiatives;*

114. *Council had recommended that OIP data and information management efforts receive adequate recurrent resourcing to facilitate the appropriate management of the significant regional data holdings and archived materials; and*

115. *Council had reaffirmed its support for adequate resourcing of regional baseline and monitoring efforts, to improve the understanding of impacts from climate variability, disasters and to provide empirical guidance for adaptation, response and development.*

No further funding to progress potential opportunities have been made available post RIF. OIP core funding has also received unexpected cuts while no opportunity to discuss improved programmatic funding for such work has been provided. Diminution of all of these services has therefore now occurred.

113. *Council had decided that options in the declaration of PIC maritime boundaries and shared boundary treaties should be considered in the context of the combined SPC/SOPAC legal services.*

In 2010, Council had declined OIP's proposal to augment its maritime boundaries team with legal capacity. As was observed at that time, no substantive opportunity exists within existing SPC legal teams to progress maritime boundaries work. Since regional progress in boundaries declaration would stall without a solution, OIP is thus coordinating with the Commonwealth Secretariat to provide legal assistance to PICs on issues of delimitation. Additionally, since membership limitations mean that not all countries can benefit from their services, OIP via its partnership with Geoscience Australia and AusAID (PPSLP) has secured additional legal assistance from the Australian Attorney General's Office. Unfortunately, the partnership's resources (the AusAID/PPSLP budget) to continue this support are very limited and by splitting these resources, OIP is now drawing unsustainably on core budgets to try and continue PIC work towards declaration. The situation is unfortunate in light of the extensive technical support from OIP to enable many PICs to reach the point of declaration. Nevertheless, final declaration cannot be achieved without dedicated, expert and sustained legal assistance. In the absence of approval and resources to secure adequate, sustained in-house legal expertise as part of the integrated Programme OIP is coordinating, OIP is unable to commit to regional expectations to see boundaries work rapidly finalised.

22. *Council had supported the need for a comprehensive assessment of wave climate change and variability in the Pacific as such an assessment will provide the basis for assisting the region in the formulation of adaptation and disaster risk reduction responses needed to sustain coastal areas and their contribution to economic growth, food security and livelihoods in the face of climate change and variability.*

OIP has in collaboration with USP and UNESCO-IHE developed a €0.5million proposal under the ACP Caribbean & Pacific Research Programme for Sustainable Development to contribute to this Sector. This Proposal will seek to improve understanding of regional wave dynamics and their influence on shoreline processes PICs. It will also contribute to regional and global understanding of potential climate change and climate variability impacts with respect to wave climate and provide information for improved understanding of coastal vulnerability and adaptation responses.

EMERGING ISSUES AND OPPORTUNITIES

Issues and opportunities relevant to the mandate and ongoing work of OIP are articulated both within the main dialogue of the OIP report as well as in the 2010 – 2011 Activity Task matrix. Some of the more prominent "headline" issues are discussed here.

REGIONAL HYDROGRAPHIC SERVICE

Regional interest and demand for hydrographic services (seafloor mapping) remains high in key Sectors such as various PIC, Ports Authorities, Fisheries Divisions, Environmental Management Agencies, Maritime Boundary Development Teams, National Disaster Management Offices and related Climate Change Adaptation projects and interests. While the origin of request and subsequent purposes to which the data is applied are different the Ocean & Islands Programme has always worked to capitalise on such opportunities by ensuring data is collected in a manner where it can be applied to multiple needs.

Nevertheless, a long term gap in OIP's bathymetric capacity is its ability to apply OIP data towards the production of true hydrographic or nautical charts. In the past, several PICs had expressed interest in developing their own national hydrographic capability so OIP had not applied its data to these ends. However, limited PIC access to funding for expertise and equipment hampered national efforts in hydrographic or nautical chart work and as an interim measure, the 2011 South Western Pacific Hydrographic Commission meeting has recommended that OIP extend its hydrographic capacity in order to undertake certified hydrographic survey for charting/navigation purposes in the region. SPC (OIP) has thus signed a MoU with the International Hydrographic Organisation.

It had been hoped that OIP would gain Programmatic support for a new position to support this work given the regional importance of this function. However, the budgetary constraints presently faced by

SPC have now put these plans on hold. Nonetheless, OIP has, in collaboration with the Australian Hydrographic Service, developed an AusAID PPSLP (Pacific Public Sector Linkage Proposal) project aimed at building OIP's capacity within its existing MCSS Sector. Of related interest are recent substantial purchases OIP has made to upgrade its bathymetric mapping, multibeam system and survey positional systems (an R2 Sonic 2022 multibeam echo-sounder [USD150,000] and a Marine STAR 9200 satellite positional system [AUD32,674]).

CLIMATE CHANGE ADAPTATION AND VULNERABILITY ASSESSMENT

Presently, the greater majority of climate change adaptation studies and concerns are related to coastal / shoreline zones, settlements and infrastructure. Within the context of the CROP agencies, OIP's long standing technical involvement in coastal geomorphology and assessment provides an effective foundation and indeed the only technical service which has appropriate scientific capacity to derive empirical baselines, modelling and technical analysis to inform planning and pragmatic decision-making with respect to coastal zone vulnerability. Further, when these technical approaches are combined with tools such as socio-economic assessment and cost-benefit analysis these multidisciplinary, data based approaches are becoming widely recognised as indispensable.

The OIP has made great effort to ensure it can meet this challenge through the continual upgrading of its tools and in-house capacities such as wave and inundation modelling and the procurement of state-of-the-art instruments and it actively maintains in-house technical understanding of climate change science and how this interacts with vulnerability in the context of PICs. OIP is involved in active research into wave climate, shoreline response to sea level rise and of course through an ongoing partnership to deliver the South Pacific Sealevel and Climate Monitoring Project. Additionally, it also maintains and builds on strategic partnerships with agencies such as (i) Geoscience Australia, Bureau of Meteorology Australia and NIWA to ensure OIP methods and skills base are contemporary and (ii) regional authorities such as SPREP to implement the relevant technical components of their initiatives in CCA.

Ocean & Island's success in engagement in the area of CCA has come about through active demand by members and the donor community for our technical services and the strategic decision by OIP to focus contemporary Marine Coastal Science and Survey sector towards this important issue. The 2010 – 2011 report matrix for this Sector provides details of 14 separate activities either directly addressing CCA or providing related coastal survey and science which also has immediate pertinence to CCA and coastal vulnerability. The OIP has over the last few years made a sound strategic response to the issue of CCA in PIC coastal zones and this is paying dividends with the Programme working at maximum capacity to deliver against this important priority area. Despite this proactive approach, the OIP budget against such tasks have been cut leaving in question the Programme's ability to continue to deliver even at the current capacity. The OIP is already unable to meet demand for service against current coastal CCA projects and requests. It is unfortunate that OIP will now have to reduce these services to members due to lack of funding to the core OIP team. This will force PICs to utilise outside technical services to fill this gap, possibly with the drawbacks of greater costs, the use of service providers who lack PIC experience and the absence of longstanding understanding of in-country situations, needs, capacity building and sustainability of service.

GEODETTIC SCIENCE

While not a separate sector within OIP, significant and growing demand is being placed on existing OIP geodetic survey capacity which cuts across the maritime boundaries, coastal science and the South Pacific Sea Level and Climate Monitoring Project sectors. The demand is driven by a diverse range of needs from both PICs and other regional agencies and Programmes and consists of a range of tasks from: (i) updating older local grid reference systems to more universal and accurate global geodetic systems (which in-turn integrate better with computer based GIS systems); (ii) moving to the use of electronic charts for the depiction and development of maritime boundary limits and zones; (iii) embracing the use of remotely sensed data (satellite) and, to a limited extent, LiDAR products which require extremely accurate reference control; and (iv) the more recent interest in the acquisition of highly accurate topographic information to support coastal vulnerability assessments and improved coastal zone planning related to CCA.

The OIP has the only dedicated geodetic survey capacity within the CROP mechanism and while this is fully utilised and integrated into existing OIP Sectors and work, OIP does provides additional support beyond these scheduled tasks on request. However, throughout 2010 and 2011, increasing demand for

stand-alone geodetic survey services from OIP's team has started to place unsustainable demands on existing staff and equipment with the effect that demand is now outstripping capacity to respond. Given the increasing trend for PICs to engage in CCA projects in the coastal zone and the related need for sound survey baselines (topography), it appears likely that this pressure on OIP geodetic survey resources will continue to increase. Given existing funding constraints, the ability of the OIP to respond positively to this regional need by recruiting an additional geodetic surveyor, purchasing additional equipment or even re-assessing OIP's current structure to include a specific "Geodetic Survey and Science Sector" appears unrealistic.

Nonetheless, OIP raises this important issue and opportunity for consideration at this meeting and assures Members that it will retain its state-of-the-art capacity in this area and OIP will continue to accommodate member requests where possible. However, without the necessary expansion in resources, OIP's ability to respond positively to the increasing number of requests will be limited.

MARITIME BOUNDARIES WEB-BASED INFORMATION SERVICE

The inclusion of legal assistance within the maritime boundaries delimitation tasks implemented by OIP began in earnest in early 2011 with the provision of legal experts from partner agencies (Commonwealth Secretariat and the Australian Attorney Generals Office). Significant progress has now been achieved with several countries ready to declare their respective maritime baselines, zones and outer limits. Likewise, several countries are now engaged on the issue of treaty development to finalise mutually agreed shared boundary solutions in accordance with the provisions of UNCLOS (UN Convention on Law of the Sea - further details of this work can be found elsewhere in this report). There is increasing regional awareness of the issue of maritime boundaries development and PIC's and important stakeholders such as the FFA and the WCPFC have made repeated requests for improved access to maritime boundaries information to be made available to facilitate their regional resource management efforts.

Obviously, the availability of maritime boundaries data is ultimately dependant on the member States finalising this work and declaring their data in accordance with the provisions of UNCLOS. Nonetheless, some regional public data is available and with members approval, OIP proposes to develop a web based PIC maritime boundary online service where data pertaining to any publicly declared maritime boundary of a PIC can be downloaded as GIS, text or other file formats. It is proposed that OIP could: (i) download any publically available, declared schedules of coordinates lodged by PICs to the UN DOALOS (United Nations Office of Legal Affairs/Division for Ocean Affairs and the Law of the Sea); (ii) Plot these public scheduled coordinates in GIS platforms and provide these vector layers as downloadable files for use by resource owners, managers and users alike; and (iii) update the data base on a regular basis to ensure it is up to date and that it meets the demand of regional users.

The capacity within the OIP Maritime Boundaries Sector is frequently requested to provide existing public schedules of coordinates in simple but accurate GIS vector (line) layers and this would in essence be a simple but important resource OIP could develop maintain for regional users. It is envisaged that OIP would work closely with the significant legal and technical expertise in the existing Maritime Boundaries Technical Partnership (Geoscience Australia, the Commonwealth Secretariat and the Australian Attorney General's Office) in the development of this service and it is encouraging to note Geoscience Australia is working towards a similar publically available facility to service their domestic needs.

RECOMMENDATION

The SOPAC Division meeting is requested to consider and accept this summary of implementation of the Ocean and Islands Programme 2011 Work Plan and make comments as necessary.

ANNEX 1 – 2011 OIP WORK PLAN PROGRESS REPORT AS AT 31st AUGUST

Reference	Activity/Task	Indicators	Work Status	KRA/status	Comments	Donor/RB
1. Marine, Coastal Science and Survey						
OI 1.1.7	FJ. Coastal geomorphology / hazard maps in the Navua Delta & nearshore environs, Viti Levu, Fiji	Develop understanding of vulnerability in the Navua Delta and coastal environs to provide GoFJ and local authorities with improved decision making and planning tools for this rapidly developing catchment.	Marine bathymetric, seismic and oceanographic surveys completed and data processed. GPS survey completed and current meter data collected from the Deuba Rv. Sediment sampling and satellite image acquisition undertaken and historical image analysis underway.	Ongoing 1, 2 & 3.	Technical report underway <i>“Coastal geohazards associated with the Navua River, Rovondrau Bay and offshore areas”</i>	FJ Bilateral KIGAM FJ bilateral (KIGAM) (Yr 2008 US\$50k)
OI 1.1.8	FP. Supporting Disaster Risk Reduction in Pacific OCTs Project (EDF C Envelope). OIP will implement coastal vulnerability baseline assessments in the Tuamotu Group, French Polynesia.	This programme of hazard, risk management and vulnerability reduction is being delivered in French Polynesia, New Caledonia, Wallis & Futuna and Pitcairn Is. OIP is implementing work via the MCSS Sector in the Tuamotu Group, French Polynesia. This aims to improve the geospatial baselines for some atolls in the Tuamotu Archipelago and to quantify the risk of cyclone waves. Activities will include the acquisition of bathymetric and topographic data to create seamless coastal terrain models that will allow the numerical modelling of extreme waves and inundation. As well as the multiple uses of these data sets OIP will produce inundation maps and assessment to inform decision making.	OIP has been involved in the scoping and development of tasks for French Polynesia through late 2010 and early 2011, this required significant OIP input and a proposal for work was finalised in early 2011 and mobilisation of the MCSS team to FP began in May 2011. The shipping and subsequent deployment of oceanographic instrument in the field of has been underway since June 2011 and OIP's new multibeam system was mounted and tested in Tahiti in preparation for deployment in Rangiroa Atoll. The bathymetric survey work in Rangiroa is envisaged to be well underway by August 2011.	Ongoing 1, 2 & 3.	New positional and survey equipment purchased (see Technical Workshop Sector) in part to support this major programme of work in FP has required significant testing to allow its optimal use in the Rangiroa environment. Loss of one of a key staff members from the MCSS Sector has added burden to the team, recruitment has been completed but inevitable “cold start” period is required. Administrative issues within the FP team delayed their departure to Rangiroa and subsequently delayed the start of the bathymetric survey.	RT 2009.001 Refer CR 3.1.6 EU EDF9 C Envelope (EUR 1million)
OI 4.2.15 (EDF9)	CK. Hydrodynamic modelling and habitat mapping of Aitutaki lagoon and boat channel Cook Islands.	Bathymetry, oceanographic data and benthic habitat data and HD model of the lagoon collected and processed to support detailed investigation of the performance of proposed boat channel design changes as well as improved understanding of flow regimes in the lagoon.	Bathymetry and oceanographic data collected and HD model and habitat map developed. Weather scenarios developed and lagoon / channel circulation, elevation, velocity, residence time and flow regimes have been modelled. The study also considered the construction of weirs to reduce boat channel flow rates. Technical work completed and delivered to CK	Completed 1, 2 & 3.	The channel and harbour have been re-designed following wide stakeholder consultation and taking into account the recommendations of the technical report. A further model run was requested in July 2011 to investigate the impact of the new design criteria on the hydrodynamics of the lagoon.	Recurrent Budget

			stakeholders in Rarotonga by the MCSS team first quarter 2011.			
OI 2.6.1	TN. Tsunami Hazard Assessment Project – Phase III.	A PPSLP (Pacific Public Sector Linkages Programme, AusAID) funded collaborative effort between Geoscience Australia and OIP to build regional tsunami modelling capacity. This is the 3 rd Phase of a multi-year programme to build OIP in-house tsunami modelling capacity and is implemented collaboratively between OIP, DRP and Geoscience Australia. This phase of work is concentrated on the development of an improved inundation model for Nukualofa Tonga.	Field work was undertaken and completed successfully in March / April 2011 including a 40 day multibeam survey in northern Tongatapu Is. outer slopes and intensive RTK topographic survey of the Nukualofa environs. This data has been processed and the team is now awaiting the completion of a LiDAR shallow water bathymetry survey (expected in the 3 rd quarter 2011). All of these data sets will then be integrated into a seamless bathymetric model of Tongatapu to support improved calibration and confidence of the proposed inundation modelling work.	On going 1 & 3	Some delay has been experienced due to the coordination of the LiDAR acquisition and the project's plans to develop and use the seamless 3D model of the lagoon and outer slope environments and land topographic data. AusAID also kindly agreed to contribute AUD10,000 from this PPSLP budget towards the purchase of a new navigational system which provided highly accurate positional data for this survey (see Technical Workshop Sector for more details).	AUD330K (AusAID) PPSLP Proposal with GA
SP	SP. Oceanographic survey, modelling and shoreline processes work in support of the Saipan Lagoon Use Management Plan (SLUMP).	The provision of baseline data to improve understanding of water flow patterns and possible pollution pathways. Work will also be undertaken to improved understanding of shoreline processes and sediment transport in Saipan Lagoon.	Oceanographic and coastal survey and mapping and hydrodynamic model work has been completed during the 2 nd half of 2011 and these products have been delivered to the CNMI Government and stakeholders.	Complete 1, 2 & 3	SOPAC Data Release Report <i>Oceanographic Survey, Shoreline Mapping and Preliminary Hydrodynamic Modelling Report, Saipan, Commonwealth of the Northern Mariana Islands.</i> (September 2010). SOPAC Technical Report 439 <i>Three Dimensional Wave-Current Hydrodynamic Model for the Management of Saipan Lagoon Saipan, Commonwealth of the Northern Mariana Islands</i> (DRAFT – 2011).	IK Saipan USD82,000
TV	Salinity monitoring in swamp taro pits in Tuvalu. Collaborative work and postgraduate supervision in collaboration with SPC Lands Division.	Provision of ongoing empirical information regarding the salinity status of swamp taro pits (analogous to fresh ground water salinity monitoring) in Tuvalu.	Salinity re-sampling undertaken in Nanumea, Nanumaga, Niutao, Nui, Funafuti and Nukulaelae. These results can now be analysed against the SOPAC salinity sampling undertaken in 2006. SPC Lands Division report in draft form and a scientific paper is in draft.	Work ceased at this time. 1, 2 and 3	This work was supported from the OIP's recurrent budget using the NZ annual allocation. The unexpected reduction in the 2011 NZ allocation has resulted in the cancellation of planned follow up salinity sampling in Tuvalu due to lack of funds.	unfunded
Regional	PRISMS (Pacific Regional Island Shoreline Monitoring System).	Provision of ongoing monitoring and detection of soft shoreline response to climate variability, development pressure and resource use and sea level rise. Developed due to regional demand to understand shoreline	The results continue to be used to inform improved data base decision making with regards to coastal vulnerability and adaptation response. Work in 2011 has consisted mostly of data retrieval and uploading images to the OIP Geonetwork system.	Work ceased at this time. 1,2 and 3	This work was supported from the OIP's recurrent budget using the NZ annual allocation. The unexpected reduction in the 2011 NZ allocation has resulted in the cancellation of recruitment for this post and cessation of work at this time.	unfunded

		change in response to sea level rise, coastal development stress.			Under the Pilot Program for Climate Change Resilience - Strategic Climate Fund (World bank & ADB) a further proposal has been developed and submitted to continue this crucial work and integrate with existing PRISMS/OIP tasks and outputs in the area of coastal science (see below).	
TN	<p>Assessing Vulnerability and Adaptation to Sea level Rise in Lifuka Island, Ha'apai – Tonga.</p> <p>The Pacific Adaptation Strategy Assistance Program of the ICCAI (Australian Government's International Climate Change Adaptation Initiative) project designed in collaboration with Tonga's MECC and SPC.</p>	<p>The Activity will develop a partnership between Tonga and SPC to deliver an evidence-based adaptation strategy to present options to reduce the impacts of coastal vulnerability on the western side of Lifuka Island. The project will support interagency planning in Tonga, and provide data as a basis for decision-making at the national and sub-regional level.</p> <p>Work which will be implemented by OIP includes; topographic (as well as groundwater mapping – WSP), shoreline mapping and assessment, control point establishment, use of LiDAR data to produce a 3D bathymetric model and wave inundation modelling.</p>	<p>The proposal includes the collection of baselines, the analysis of vulnerability based on this new data as well as community engagement and analysis of the social impacts and implications of response and adaptation. The SOPAC Division has joined with the SPC Human Development Division to deliver this multi-disciplinary project. Work to date has been largely focused towards the development and further tuning of the Project Proposal and a project inception meeting will be held in Tonga from 16th August – 19th August 2011. Ground work is expected to begin during the 3rd quarter 2011 and continue for 18 months.</p>	On Going 1, 2 & 3		OIP component, AUD182,000 AusAID / DCCEE (Aust.) ICCAI; PASAP
CK 2011.001	<p>Benthic Habitat Mapping and Water Circulation in Muri Lagoon, Rarotonga, Cook Islands and a desktop study (review of SOPAC data) of Muri Lagoon.</p> <p>Work requested by and implemented in collaboration with the Cook Islands Ministry of Marine Resources (MMR).</p>	<p>The CK MMR has requested a baseline benthic habitat map of Muri Lagoon, Rarotonga to determine and monitor change in reef and algae coverage over time. The MMR has also requested an investigation of baseline water flow characteristics (speed and direction) through Muri Lagoon. These are required to monitor and observe possible changes expected with removal of existing engineered structures (fish traps). The MCSS Sector has deployed tide and wave recorders and one current profiler for minimum of 1 month (one full tidal</p>	<p>Desk top study or review of existing SOPAC data holdings in respect to Muri Lagoon completed and delivered.</p> <p>Field data collection and habitat mapping has been completed in the 1st quarter 2011 and the draft baseline benthic habitat map of Muri Lagoon has been produced and sent to MMR CK for their comment.</p> <p>The technical report pertaining to the oceanographic data is being developed now and is expected to be complete by the 4th quarter 2011.</p>	On Going 1, 2 & 3	Loss of one of a key staff member from the MCSS Sector has added burden to the team, recruitment has been completed but inevitable "cold start" period is required and this has added delay to the completion of this project.	CK IK NZD 14,022 NZD 8,720

		cycle) and will produce a technical report with interpretation.				
CK	A Geospatial Framework for Climate Change Adaptation in the Coastal Zone of Mangaia Island, Cook Islands. SPREP implemented PACC Project contract, delivered by OIP in partnership with NIWA.	This study is designed to provide timely and actionable geospatial information for the management and planning in the coastal zone of Mangaia Is. CK. The project will enhance the capacity of the Cook Islands to adapt to climate change and climate variability in selected coastal areas. Work includes the collection of nearshore bathymetric data, and topography, the collection of oceanographic data and wave inundation modelling.	The field work component of this project including the collection of oceanographic, bathymetric and topographic baselines to support assessment and modelling has been completed by OIP. A technical report outlining this data has been drafted and NIWA, with whom we are collaborating on the delivery of this project are now responsible for the wave and inundation modelling component which is currently underway.	On Going 1 & 3		FJD\$380K Contract SPREP – PACC Project
CK	Hydrographic and topographic baseline survey of alternative boat landing sites in Rarotonga, CK. In collaboration with discovery Marine Ltd., NZ.	Collect bathymetric and topographic baseline data to provide information in support of decision making for the Ports Authority of CK. This data will assist with site selection and ultimately any plans to develop alternative boat landing sites for Rarotonga.	Field work complete and data has been delivered.	Complete 1 & 3	This small study was developed by OIP and the Cook Islands Ports Authority to take advantage of OIP's hydrographic equipment and capacity which was in Rarotonga en route to Mangaia Island. (see above).	CK IK NZD 11,600
Regional	Changing waves & coasts in the Pacific, Project. (WACOP). OIP proposal development in collaboration with USP and UNESCO-IHE. Developed under the ACP Caribbean & Pacific Research Programme for Sustainable Development.	This Proposal will seek to improve understanding of regional wave dynamics and their influence on shoreline processes. The outcomes will contribute to regional and global understanding of potential climate change and climate variability impacts with respect to wave climate and provide information for improved understanding of coastal vulnerability and adaptation responses in PICs.	Proposal was developed and submitted in the 1 st quarter 2011 and is now in the final assessment stage of evaluation.	Proposal 1 & 3	Proposal development is a significant draw on Programme Senior Staff resources and is supported by our Recurrent Budget.	Unsecured – potentially €0.5million
Regional	Coastal Zone Management: Shoreline assessment and mapping to provide data based coastal disaster reduction baselines and inform climate change adaptation response. Pilot Programme for	This Proposal will build on existing work to improve understanding of regional shoreline / coastal vulnerability and inform improved decision making to reduce such vulnerability. The project will build on existing state of the art mapping techniques to improve regional understanding of ongoing shoreline response to stress and will assist to monitor possible change	Proposal was developed and submitted in the 1 st quarter 2011 and is now in evaluation.	Proposal 1, 2 & 3	Proposal development is a significant draw on Programme Senior Staff resources and is supported by our Recurrent Budget.	Unsecured – potentially USD 1.5million

	Climate Resilience – World Bank / ADB Strategic Climate Fund.	occurring due to sea level rise / climate change.				
FJ	Joint, Fiji Govt. Fisheries Dept. / SPC / PARDI (Pacific Agribusiness Research for Development Initiative) and James Cook University effort to improve the pearl culture.	OIP's role will be to integrate its efforts with the SPC Aquaculture Sector to improve baseline understanding of water quality and flow characteristics in Savusavu Lagoon.	Initial partner discussions and planning has been undertaken and OIP has deployed current meters in Savusavu Lagoon. Multibeam work is planned for early 2012 pending funding availability.	Ongoing 1, 2 & 3	Proposal development is a significant draw on Programme Senior Staff resources and is supported by our Recurrent Budget.	RB
FJ	Assessment of Climate Change Impacts on Drainage Networks & Infrastructure; Rewa and Navua deltas. SPREP – PACC (Pacific Adaptation to Climate Change – Project).	This proposal was initiated by the Ministry of Primary Industries Fiji under the SPREP – PACC Project. The proposal was developed by NIWA in consultation with the Fiji Govt. and OIP in partnership with NIWA will deliver technical survey and data analysis components of this Project under contract to PACC. These baselines are predominantly nearshore and estuarine bathymetry and topographic survey lines to provide accurate data to assess risk in respect to flooding and inundation due to sea level rise and catchment related flooding.	The contract was signed in the 2 nd quarter 2011 and NIWA has undertaken its first scoping visit to Fiji in collaboration with OIP and the Land & Water Resource Management Division, Fiji Govt. Fieldwork is expected to begin in the 3 rd quarter 2011.	Ongoing 1 & 3	Proposal development is a significant draw on Programme Senior Staff resources and is supported by our Recurrent Budget.	FJD117,000 Contract SPREP – PACC Project
FSM	Geotechnical survey to support the design and appropriate construction of a seawall / bund at the Yap State petroleum storage facility Colonia. Work will be completed under contract to the FSM Petroleum Corporation.	The Petroleum Corporation terminal in State of Yap is constructed on reclaimed land in the main harbor of Colonia. The existing protecting seawall has suffered damage from wave action, particularly extreme events and the Corporation is commencing works to upgrade and rehabilitate the Yap facility. OIP has been contracted to undertake geotechnical drilling at the site as well as to provide bathymetric and topographic surveys and analysis of these data products.	Work to date includes the negotiation and finalization of the proposal / work plan and subsequent contract. Mobilization of the OIP drill rig and associated consumables and drilling team has been undertaken and the OIP drill unit is awaiting shipment to FSM. Field work in Yap State is expected to start in the 4 th quarter 2011.	Ongoing 1 & 3	Proposal development is a significant draw on Programme Senior Staff resources and is supported by our Recurrent Budget.	Contract FJD 152,000 FSM Petroleum Corporation
Regional	On going ad hoc technical advisory services to PICs.	Ongoing MCSS Sector service to members in response to technical queries and requests, as well assess	OIP has supported regional hydrographic interests for many years however over the last period SPC (OIP) signed an MoU with IHO	On going service to membership	Generally this form of work does not usually generate technical reports since it is largely not supported by specific funding	RB

		EIAs and DAs, support local and regional meetings and initiatives, We also provide 3 rd party technical review of reports. Proposals etc. in support of improved marine / geo-science decision making and planning in member nations.	(International Hydrographic Organisation) and developed an associated proposal (AusAID PPSLP) in collaboration with the Australia Hydrographic Service to build Capacity within the MCSS Sector to improve regional hydrographic capacity. Otherwise, reviews and technical advice include: FJ Govt; Kulukulu Sand Dune Development (MLGA; DoE); Costing provided to undertake 3 proposed jetty site surveys in Viti Levu (MWTPU); assisted provided to the Fiji Water Authority to develop a TOR for the proposed wastewater treatment plant and outfall, Savusavu. Rapid assessment of the extreme wave event at Loka, Coral Coast. On site rapid assessment completed for the Govt of Kiribati at the request of NZAid/GoK, OIP assisted the project to identify development options for the wharf facility at Kiritimati Is.	1,2 and 3	but rather our recurrent budget. However, significant time and effort is expended to produce these technical briefings, reviews, maps and products and to engage in advisory consultations and is supported by recurrent budget. It follows that with the cuts in NZ 2011 Programme funds to OIP there will be a negative impact on the quantum of such work completed this and in subsequent years.	
Regional	Regional geodetic science and survey support.	Requests to OIP for support in the distinct technical area of geodetic science and survey have increased and are supported primarily by our Survey Advisor who is otherwise split between the SPSLCMP 50% and Maritime Boundaries Sector 50%. Whilst survey tools are commonly used by many Divisional Sectors for the collection of baseline data there is an increasing need for specialist, high quality geodetic / survey support for OIP tasks, broader Divisional requests and by our members.	Specialist survey tasks completed in the last period include; Post Processing of Kinematic and Real Time Kinematic (RTK) GPS Topographical Survey data of Nadi – collaborative work with USP and DRP, Jan '11; Post Processing GPS data and Transformation of Coordinate Set for the Fiji Lands Dept., April, '11; GPS Base Station Set up in SOPAC (CORS and Ground Receiving Station for Omnistar), May '11; Mangaia Topographical Survey data analysis and data interpretation, June '11; Static GPS Surveys of Nadi (Photo Control and Ground Control Points for Calibration Nadi LIDAR Surveys for DRP), Aug '11.	Complete 1, 2 and 3	Additional planned tasks are; participation in the Asia Pacific Regional GPS Survey Campaign, Sept '11; Yap Topographical Surveys (linked to the FSM Geotechnical survey tasks outlined above), Oct '11; Rewa & Navua Topographical Surveys (linked to the Fiji - Impacts on Drainage Networks & Infrastructure Project outlined above), 4 th quarter 2011. Combined, these tasks amount to a substantive additional work load on existing Programme resources and they can not be sourced from any other Sector / Division. Thus OIP will need to monitor this situation and implement a more sustainable solution if the current trend of requests for OIPs geodetic and survey services particularly in relation to coastal vulnerability and climate change adaptation continues to grow. It is our observation / expectation this demand will grow.	

2. Geology, Minerals and Hydrocarbons						
OI 1.2.6	KI. Evaluate the potential remaining phosphate reserves on Banaba Island, Kiribati.	Undertake drilling and survey at strategic locations on Banaba Island. Complete interpretation and analyses the resulting core samples and provide an updated review of existing information and a re-evaluation of the quality and quantity of phosphate on Banaba Island.	All field work has been completed and core preparation, interpretation and geochemical analysis have been undertaken. A desktop review of existing data has been compiled with the new sample and survey results into a comprehensive technical report (SOPAC Technical Report 430 – <i>An Evaluation of the Remaining Phosphate Deposits on Banaba Island</i>). This comprehensive volume including, detailed maps and all digital files was delivered to the President of Kiribati, Officials of the Ministry of Marine and Natural Resource Development, KI and the Kiribati High Commission during a special presentation in the 1 st quarter 2011.	Complete 1 and 2	This programme of work has been lengthy, complex and logistically challenging given the remote location and limited facilities. The resultant OIP report provides substantive new information to the Govt. of KI. Whilst this project is now complete OIP retains ongoing interest in providing assistance to the central Pacific urban atolls in the development of sustainable construction aggregate supplies and we will continue work with the Governments of KI, TV and RMI on this important issue given Banaba's extensive and high quality potential aggregate resources.	IK KI
OI 1.2.9	KI. ESAT (Environmentally Safe Aggregates for Tarawa), Kiribati. This EU funded Project is jointly implemented by OIP and the Govt. of Kiribati's Ministry of Marine and Natural Resource Development.	ESAT aims to establish an alternative supply of construction aggregate by dredging an identified resource area in Tarawa lagoon. This State Owned Enterprise is ultimately expected to reduce untenable aggregate mining pressure on the beaches of South Tarawa and lessen shoreline erosion and coastal vulnerability as well as provide a safe and sustainable supply of construction material for development.	Significant progress has been gained over the last reporting period with the highlight being the signing of a €2.3million (<i>ca</i> AUD \$3.04million) contract with a Singapore ship building company (Heavy Load Pte.) to construct and deliver the ESAT dredge vessel, the MV Tekimarawa (June 2011). A Marine Surveyor has also been contracted to oversee vessel construction and ensure its compliance to the International Ship Classification Standards. Other important milestones include the approval of the KI Attorney General's Office of this new State Owned Enterprise. Completion of a comprehensive EIA study and process (report draft completed) and 22 associated community consultation meetings held in collaboration with the Environment Dept. throughout Sth Tarawa. A two month programme of community consultation / participation was also conducted in the 1 st quarter 2011, aimed at behaviour change and awareness of the ills of beach mining. The contracted community consultation expert drafted a communication implementation plan, started initial works and trained local NGO's who are now contracted to continue outreach efforts. ESAT has also linked with the	Ongoing 1, 2, and 3	During the last annual report it was outlined that the ESAT Project required additional funding from the Project contingency fund (€120K) and also a top up from the EDF10 Envelope B (€1.1million). Both allocations were ultimately approved however the Envelope B component was only €1million (approved in Jan, 2011). This allowed a 3 rd round tender process to be initiated and once written advice regarding the availability of these funds was available a contract was negotiated with Heavy Load Pte. to supply the vessel. The success of this Project to date has hinged very much around the close collaborative working relationship between the Government of Kiribati, the EC Commission and SPC/SOPAC/OIP.	EDF9 Envelope B; EDF 10 Envelope B (top-up). Total Project budget. €3.08million Budget ??? '10 -'11

			"Sandwatch" initiative to provide complementary awareness of shoreline processes to school children in Tarawa			
OI 3.3.1	Deep Sea Minerals in the Pacific Islands Region: a Legal and Fiscal Framework for Sustainable Resource Management. EU funded EDF10 Regional Project.	<p>This Project will support the first major coordinated effort to develop deep sea mineral policy at a regional and national level in the PICs. The Project is expected to have important international partners to ensure delivery of the best possible products and will also link into OIPs ongoing maritime boundaries and marine research interests.</p> <p>Few PICs have adequate legislative frameworks and policy in place to adequately guide the fledgling deep sea minerals industry. This Project will seek to provide comprehensive assistance to PICs to develop national and regional legislative, fiscal and environmental policy and guidelines to ensure that PIC interests are protected.</p>	<p>Funding to allow implementation of the DSM Project finally became available in late 2010. OIP immediately implemented procedures for recruitment and the DSM Project Manager has been in place since Jan 2011. Subsequent recruitment of the Project DSM Legal Adviser and Project Officer were also finalised by the 2nd quarter 2011 – the PO is in place and the LA will take up permanent post (ex UK) in Oct 2011. The Project also held a very successful inaugural regional meeting in June 2011 to brief regional members and observer Nations and interested stakeholders on the developing DSM industry, the nature of DSM resources in the region, the environmental considerations of exploitation, fiscal management and policy considerations and DSM mining technology and state of the art understanding of how mining will be implemented in the PICs. The Project has also developed a ToR and signed a contract with UNEP GRID Arendal to provide a comprehensive review on the state of knowledge on the 3 main DSM resource types in the PIC region. This review is an evolving process but will cover broad aspects of DSM issues (as above) and the first experts / authors meeting was held immediately following the inaugural DSM PIC - membership consists of world leaders in the field of DSM resources and policy who are freely giving their valuable time to this project. Likewise, the DSM Project also formulated a Project steering committee at the inaugural meeting, comprising member nations and other stakeholders.</p>	Ongoing 1, 2 & 3	On special request at the inaugural meeting the Project Team Leader and Legal Adviser provided a rapid review of PNG's draft Offshore Mining Policy.	EU EDF10 Opening Budget 1.52 million 2011
SI	Isabel Nickel Mine Tender Process. Solomon Islands.	Provision of expert advice and support to the Solomon Island in the development of their Tender Documents for the Isabel Nickel Mine.	Significant input has been delivered to the Govt. of Solomon Islands in the development of this Tender. OIP completed review of document and the process and our Minerals Geologist travelled to SI in late 2010 to provide support to the GoSI on this issue.	Complete 1 & 2		RB

FJ	Mt Kasi Gold Mine Tender Process. Fiji.	Provision of expert advice and support to the Govt. of Fiji during the tender process for the Mt Kasi Gold Mine.	Support provided to the Govt. of Fiji during the tender process including the review of associated documents. Tender process completed in Jan 2011.	Complete 1 & 2		RB
3. South Pacific Sea Level & Climate Monitoring Project. http://www.bom.gov.au/oceanography/projects/spslcmp/spslcmp.shtml						
OI 2.2.1 Regional	SPSLCMP (South Pacific Sea Level and Climate Monitoring Project – Phase IV). AusAID funded (The Project overview appears to the right and the component responsibilities of OIP are articulated below).	Implemented due to increasing regional concern over climate change associated sea level rise and the poor understanding of sea level variability in the region prior to the SPSLCMP array, between 1991 and 2001 the Project established a network of high resolution sealevel monitoring stations in CK, FSM, FJ, KI, RMI, NR, PNG, WS, SI, TN, TV & VU. Overall management of this AusAID funded Project is provided by BoM Aust. However, the Project's ongoing works are implemented in partnership with Geoscience Australia and OIP. Since establishment the various gauges have captured a mostly uninterrupted stream of extremely high quality and accurate data on sealevel, temperature, barometric pressure and wind speed and direction. Associated CGPS (Continuous GPS) stations have also been established in each country to account for tectonic movement (vertical ground movement) and likewise these stations provide an ongoing stream of quality data.	Data collection has been maintained at all stations over the last reporting period and the data continues to be processed and made available via the Project web site (and OIPs Geonetwork site) along with annual country status reports, consolidated reports and other associated products such as the popular SPSLCMP tidal calendars. The Project was expected to enter Phase V in Jan 2011 however due to unforeseen delays BoM requested an extension for Phase IV to July 2011 and a subsequent second extension to the 31 st Dec 2011 – OIP has provided its budget revisions to support these extensions. The SPSLCMP is expected to transition into a new broader programme of work called the Pacific Climate & Oceans Support Programme and once underway is expected to continue for a further 5 year period until 2017. Associated with the SPSLCMP is the ONUP (Operational Network Upgrade Project) which started implementation of the array upgrade in early 2011 (Fiji gauge). OIP has taken on additional support responsibilities with the ONUP including in country assistance with the technical retrofitting of the gauge stations and communications gear and the facilitation of contract arrangements of local service providers and communications with relevant Ministries and stakeholders.	Ongoing 1 & 3	The OIP Manager and the OIP based Project Communications Coordinator attended an AusAID funded Programme Design meeting in the second quarter 2011, related to the ongoing SPSLCMP's management structure and ways that the Project could be improved. This meeting also brought together the PIC Met. Directors who likewise provided feed back and suggestions. One technical aspect of the Project which has been the subject of a number of country requests as been web based real time access to the gauge data. This remains an important and thus far unresolved issue for several countries in the region.	BoM Aust. AusAID AUD\$331,500

	1) Array calibration, maintenance and data communications support.		Ongoing scheduled (and unscheduled) maintenance of SPSCMP gauges and associated climate monitoring sensors, power and communications systems. Through the last reporting period visits have been made to the gauges in, NR Nov '10; KI Nov '10; FJ Dec '10; PG Mar '11; TV Jun '11; RM Jul '11; FM Aug '11, for both scheduled and "emergency" maintenance.	Ongoing 1 & 3	Implemented through the OIP Technical Workshop (see 6. Technical Workshop). The OIP Engineer / Team Leader is contracted 50% to SPSCMP and 50% as Team Leader of the Technical Workshop facility. Thus this position has a substantive input into tasks reports in the MCSS Sector as well as the Technical Workshop outputs.	
	2) Precision levelling of gauges and associated CGPS stations.		Routine precision levelling surveys and maintenance of gauge and associated CGPS facilities undertaken in; RMI Oct '10; SI Nov '10; PNG Dec '10; FSM Feb '11; VU April '11; CK June '11; FJ July '11; TN Sept '11 (planned). All survey reports have been completed and fieldwork is undertaken in partnership with GA, counterpart training is also provided where countries have an interest in these field activities. In July 2011 a technical meeting to clarify datum information for the Kiribati gauge was also supported by OIP – the resolution of this matter is ongoing in collaboration between Govt. of KI, GA and OIP.	Ongoing 1 & 3	Implemented by OIP Survey Advisor in partnership with Geoscience Aust. technical staff. The OIP Surveying Advisor is contracted 50% to SPSCMP and 50% to maritime boundaries and contributes substantially to work reported in the Maritime Boundaries Sector particularly in regards to field survey / geodetic data processing components.	
	3) Coordination and communications component.		Data and information from SPSCMP Project uploaded to OIP Geonetwork database. Represented OIP/PIC interests at the routine TCC (Technical Coordinating Meetings) and participation at a technical workshop to develop "value adding" approaches to the existing data products. Monitoring of the array communications system's accounts and regular liaison with country Project focal points continued. Budget development for OIPs components of the SPSCMP Phase IV extensions, Phase V and ONUP and ongoing routine liaison with BoM and member countries on the roll out of the ONUP and Phase V SPSCMP.	Ongoing 1 & 3	The dynamic of the communications position has changed significantly over the last couple of years as this roll has shifted to the overall coordination of activities in the SPSCMP from the PIC side as well as associated activities such as ONUP and liaison with focal points in country. Thus the position still coordinates the communications component but also covers these broader administrative duties.	

	<p>ONUP – Operational Network Upgrade Project.</p> <p>Funded by AusAID under the Aust. Dept. of Climate Change & Energy Efficiency – ICCAI Project.</p>	<p>ONUP will refurbish and upgrade the measurement and communication technologies at all 12 SPSLCMP stations. This will be done to ensure a continued capacity to measure, record and transmit high quality sea level data for another 10 to 15 years. The project will also audit occupational health and safety standards at each site and carry out remedial work to address any issues. ONUP will also upgrade the SPSLCMP's 12 CGPS (Continuous GPS) stations and Project works will be implemented over an expected three year time frame by BoM Aust., GA and OIP.</p>	<p>Following discussions with BoM Aust. in late 2010 and early 2011 SOPAC has signed an updated MOU and has been provided with additional budget to assist in the implementation of ONUP, which started in the PIC in early 2011. To date OIP has provided additional support including in-country assistance with the technical retrofitting of the stations and communications gear and the facilitation of contract arrangements of local service providers and communications with relevant Ministries and stakeholders. To date ONUP country support provided in; TN Mar '11 (work complete); FJ Apr '11; FJ Jun '11 (work complete); WS Aug '11 (work ongoing).</p>	<p>Ongoing 1 & 3</p>	<p>The OIP technical team has also travelled to Melbourne (May 2011) to attend a training session on the new technology to be installed during the ONUP refurbishment work.</p>	
4. Regional Maritime Boundaries Sector						
<p>OI 1.4.1 OI 3.1.1 Regional</p>	<p>Regional Maritime Boundaries</p> <p>EEZ (Exclusive Economic Zone) Delimitation.</p> <p>EEZ here refers to work on base-points and baselines, territorial sea limits (12 nautical mile), contiguous zone limits (24 nautical mile and EEZ limits (200 nautical mile).</p> <p>Using this information the assessment of the potential for archipelagic status is also undertaken and it also supports the computation of equidistant lines or</p>	<p>The provision of appropriate maritime boundaries data consistent with the provisions of UNCLOS (UN Convention on Law of the Sea, 1982).</p> <p>Maps, charts, imagery, digitised GIS coverage and other data collected and processed for use in boundary development.</p> <p>High precision geodetic field surveys undertaken in collaboration with members – capacity building of local survey teams to continue the collection of supporting baseline data.</p> <p>Post-processing of GPS survey data in collaboration with country technical teams and compilation of multiple data sources for boundary zone and limit computation.</p>	<p>Country Highlights 2010 – 2011</p> <p>CK – verification of baselines underway and imagery ordered in collaboration with ComSec for Penrhyn and Palmerston Is. to facilitate treaty development. Legal assistance is being provided to CK via ComSec. FJ – Completion of the main group, Ceva-i-ra and Rotuma archipelagic baselines; production of survey plans and verification of baselines; transformation of coordinates and schedule of coordinates for declaration purposes delivered. FSM – legal assistance for declaration provided by Aust. AG Office. KI – imagery acquired (ComSec funded) for Phoenix, Line and some islands of the Gilberts Groups.</p> <p>Baselines boundary solutions and charts completed and delivered for Phoenix, work underway for Line & Gilberts Group. Two month attachment of KI boundaries team completed</p>	<p>Ongoing 1 & 2</p>	<p>Summary Regional Status</p> <p>The following countries are in receipt of full boundaries reports completed by OIP and adequate for declaration of maritime zones and high seas limit; CK, NR, NU and TV. Of these countries CK and TV are current working with OIP to review baseline accuracy and archipelagic potential with new state of the art tools.</p> <p>The countries of KI, VU, FJ, SI, PW and PNG have received or are in the processes of working with OIP to update their respective baselines and compute their marine zones. OIP is also working with these countries to develop shared boundary / equidistant solutions for use in treaty negotiations. The countries of WS and FSM joined these efforts in 2011.</p>	<p>RB AusAID Annual Grant</p> <p>AusAID PPSLP / Geoscience Australia.</p>

	<p>shared boundary solutions between countries.</p> <p>It should also be noted that baselines, archipelagic status and 200M limits are also a fundamental prerequisite to successful eCS (extended continental shelf) claim development.</p>	<p>Production of boundary data reports which are consistent with the provisions of UNCLOS and are adequate for countries to lodge and declare their marine zones and limits.</p> <p>All data uploaded and secured on the OIP – Pacific Islands Regional Maritime Boundaries Information System (PIRMBIS).</p> <p>Training of technical counterparts is embedded in all aspects of this work through hands-on collaboration in the development of each country's boundary solutions.</p> <p>OIP's mandate is technical yet finalised maritime boundary solutions require legal assistance and ultimately diplomatic input.</p>	<p>and legal assistance provide by ComSec) / 1 month survey assistance provided in the Line and Gilberts Group. RMI – Status remains unknown and was absent at our July 2011 workshop. NR – instigating negotiations with KI for shared boundary treaty (tri-junction point), legal assistance from AGO Aust. NU – legal (AGO Aust.) / technical (OIP) country visit completed in June 2011 and legislative review underway to facilitate declaration. PW – technical/legal assistance provided at the July 2011 workshop. PG – Two technical training/data gathering missions completed on reef delineation survey techniques. Completion of Kinematic GPS surveys and associated data processing; completion of Main Group Archipelagic baseline and Tasman/Mortlock and Pocklington reef baseline; baseline verification and coordinate transformation undertaken, schedule of coordinates submitted to PNG Technical team. SI – Completed verification of archipelagic baselines against new topographic map sheets and satellite imagery; resulting schedule of coordinates submitted to SI Govt technical team. Subsequent legal assistance towards declaration and treaty development - AGO Aust. and ComSec. TV – archipelagic baseline completed and shared boundary solutions also underway. Legal assistance towards declaration and treaties from AGO Aust. and ComSec. (OIP / AAGO visit planned in Sept '11); TN – Status unknown - own arrangements. VU – Completion and verification of main group archipelagic baseline and southern island baselines. Schedule of coordinates and chart produced and submitted to VU technical team. WS – only joined SOPAC lead work on boundaries in July 2011. However, GA and OIP are reviewing existing baseline and work is underway to develop a new baseline and new computations of marine zone limits.</p>		<p>TN has their own arrangements for the development of their respective EEZ solutions.</p> <p>The status of RMI is not known, however OIP would welcome the inclusion of RMI should they require assistance to continue development of their boundary solutions.</p> <p>Of the 48 shared boundaries in PICs, 21 are presently subject to treaty, accurate data to support and facilitate treaty development exists for many locations and AGO Aust. & ComSec are providing legal assistance to develop treaties.</p> <p>Given the continued success of the Nov. 2010 and July 2011 workshop, the 7th and 8th in this series, OIP and our technical partners and country teams agree we will continue the format at the next maritime boundaries workshop provisionally scheduled for July 2012. The July 2011 workshop divided time between ECS development and EEZ delimitation work and due to this change of focus from purely ECS development the 4 new countries of NR, NU, RMI and WS were invited with excellent and the three who attended made excellent progress.</p> <p>The Maritime Boundaries Sector has discontinued a staff support position from the second quarter 2011 due to funding constraints imposed by the NZ cuts to programmatic funding. This will result in a reduction in the Sectors out put and delay in finalise country boundary technical solutions.</p>	
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<p>OI.1.4.2 OI 3.1.2 Regional</p>	<p>Regional Maritime Boundaries.</p> <p>eCS (Extended Continental Shelf) Delineation.</p> <p>eCS (UNCLOS Art. 76) refers to the potential for countries to develop and claim additional sea bed territory beyond their 200 nautical mile EEZ limits.</p> <p>There are complex combinations of geodetic, legal and geomorphologic criteria prescribed by Art. 76 of UNCLOS which govern the potential of coastal states to claim eCS territory.</p> <p>All eCS claims must be lodged by their prescribed deadlines to the Commission on Limits of the Continental Shelf (UNCLCS). Two PICs have deadlines in early 2013.</p>	<p>Provide the necessary support to PICs to assess their potential for eCS and assistance to delineate the extent of those claims.</p> <p>Assistance provided to those countries with potential to develop their respective eCS claims and ensure these are lodged in accordance with Art. 76 / SPLOS/183e by the prescribed deadline. SPLOS/183e is a provision which allows the submission of partial claims. However, these must be completed before review by CLCS (many PIC claims took advantage of this provision).</p> <p>Maintain support to those countries with claims to ensure their respective submissions are updated and complete and provide support to assist countries to defend their claims to the UN CLCS.</p> <p>Provision of these services is beyond the capacity of the OIP Boundaries Sector alone and OIP takes regional responsibility for the continued maintenance and coordination of a technical consortium of international partners who combine resources with OIP to provide a comprehensive support service to PICs in the continued development and defence of their respective eCS claims. These partners include: Geoscience Australia; the Australian Attorney Generals Office; UNEP GRID Shelf Programme and the Commonwealth Secretariat and most recently the Forum Fisheries Agency. The funding to facilitate our main eCS workshop series has been provided through the AusAID PPSLP facility and all partners also provide "in-kind" inputs</p>	<p>In collaboration with OIP and its technical partners the countries of PW, PNG, FSM, SI, VU, FJ, CK & TN have all lodged their respective and in some cases joint eCS submissions totalling some 1.8 million km² (by May 2009).</p> <p>TV and KI have later deadlines (January and March 2013, respectively) and whilst much of their technical work is now complete ComSec will provide assistance to TV and KI to complete other aspects of their submissions.</p> <p>Submissions which are essentially complete include the joint Ontong Java submission (PNG, FSM and SI); Manihiki Plateau (CK); Palau-Kyushu Ridge (PW); Lau-Colville / Kermadec Ridge (TN) and (FJ). There is a possibility that CK, FJ and the joint PNG, FSM, SI submissions could come up for review by the UNCLCS (UN Commission on Limits of the Continental Shelf) by late 2011.</p> <p>Otherwise, FJ, FSM, PW, PNG, SI and VU also have additional individual and joint submissions to be completed before review by the UNCLCS. A variable combination of technical, legal and geological tasks remain on these submissions and these were progressed and reviewed at the Nov 2010 ECS Development Workshop and the July 2011 Maritime Boundaries Development Workshop. Both workshops were again funded by AusAID PPSLP and a collaborative effort between OIP, GA, UNEP GRID Arundal, ComSec and in the case of the 2011 workshop FFA as well. In response to the need to complete the various ECS submission the technical partners but particularly ComSec has made significant legal / technical resources available to assist these countries towards completion of these remaining submissions.</p> <p>A number of important data gaps remain in some submissions and OIP and the technical</p>	<p>Ongoing 1 & 2</p>	<p>In 2010 the SOPAC Council declined a request by OIP to secure in-house legal council to progress both EEZ and eCS work. This critical gap in our ability to deliver complete solutions to PICs has now been partially filled through the kind assistance of the Australian Attorney Generals Office (under the AusAID PPSLP facility).</p> <p>Given OIP receives no sustained resourcing to support specific work around eCS development and a component of our Maritime Boundaries Sector budget (NZaid Programmatic finds) have been cut in 2011 we are less able to provide any assurance of our ability to sustain our services to PICs on this important task. Likewise, funding for future boundaries development workshops only extends though 2012 after which we have no budget allocation for this work.</p> <p>Given eCS claims and ongoing delimitation work will require continued resourcing over the next 5 – 10 years OIP joins with PICs to thank AusAID for their continued support but appeals to Council to support OIPs calls for sustained resourcing of our core efforts in this work.</p>	
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		with the Commonwealth Secretariat providing substantial ongoing legal capacity to assist PIC eCS submission development.	partners continue to search existing data archives as well as monitor potential opportunities associated with new surveys. To this end, improved information sharing from member Nation's to OIP regarding notification of marine scientific research opportunities in their waters would be invaluable.			
5. Data & Information Management						
OI 1.7.1	PIC Petroleum and Minerals Data Base	<p>Database of hydrocarbon information and products maintained for FJ, PNG, SI, VU and TO.</p> <p>Deep Sea Minerals Database is also maintained for all relevant membership countries. Information products provide to countries and approved clients on request. Products also now viewable via the OIP Geonetwork.</p>	GA continues to work with OIP on the rescue of data from the original hard copy sources of the PDB, over the last report period 18 PIC surveys associated with the PDB have been digitised and once verified the digital files will be sent to OIP. This work greatly improves the usability of the information allowing its use in GIS platforms. Otherwise, 7 requests have been logged against the PDB over the last 12 months – details available on request.	Ongoing service to membership 2	Council is requested to provide funding advice for the storage of the original hard copy materials of the PDB. This is currently supported by OIP RB but this can not continue given current resource limits beyond Dec 2011. Alternate arrangements to the present situation where the materials are stored in a private facility in Canberra Australia are required urgently.	RB
OI 2.4.1	<p>Geonetwork</p> <p>OIP based and administered data and information system for geoscience, marine and related data sets and products.</p>	<p>The OIP Geonetwork system provides easy and secure access to ocean, coastal, hydrographic and other geoscience observational data and products both collected by OIP and other agencies.</p> <p>This initiative also collaborates in the wider SOPAC efforts to rescue, digitise and collate historic data held by OIP the Division and member countries.</p>	<p>Geonetwork is an ongoing commitment and the work of continued data rescue, digitising and cataloguing is in essence without end, given new data is constantly collected. Highlights of the last reporting period include; uploading of historic aerial photographic sets with some 2720 images from 11 member countries now rescued, scanned and catalogued. The SPSLCMP data and information products are routinely updated and available for download as are marine survey archives, the JICA Deep Sea Minerals Data Base and some satellite imagery.</p> <p>Some impressive statistics which highlight the progress and success of the Geonetwork facility;</p> <ul style="list-style-type: none"> • since Dec 2010 Geonetwork content has increased by 42%; • total number of downloads has increased 60%; 	Ongoing service to membership 2, 3 & 4	<p>The hardware to support Geonetwork is reaching its capacity and OIP has invested in the Divisional "compendium" efforts which include the purchase of a new server system which will increase the capacity and security of Division data holdings. Geonetwork is expected to be migrated across to this new facility in the 3rd quarter 2011 extending Geonetwork's operational life and providing expanded capacity for new content. An upgrade of the existing Geonetwork software platform will also be undertaken at this time by the Divisional IT Sector.</p> <p>The work of administering content on Geonetwork requires sustained, skilled and dedicated resources, it is an ongoing commitment to members and does not suit</p>	RB

			<ul style="list-style-type: none"> and total number of web "hit" has increased from 212, 435 in 2010 to 756, 490 in 2011, a 356% increase! of these hits 429,606 were from PICs; 112,734 were internal SOPAC requests and the rest were international spanning some 90 countries. 		<p>"project" orientated funding. Given the quantum of resources OIP expends in the collection of data in PICs and the recognition of the importance of historical and baseline data sets when considering issues of resource management, vulnerability and adaptation, geonetwork is a crucial component of the success of OIP work.</p> <p>Presently, there are no sustained resources for Geonetwork and recent cuts to OIPs NZAid programmatic funds places additional strain on our ability to sustain this important and successful undertaking.</p>	
	Regional co-ordination of marine scientific research and retrieval of offshore data. (Previously task OI 3.2.1).	These tasks have now been transferred to the Geonetwork Administrator's ToR and relate to the ongoing acquisition and monitoring of regional marine scientific vessel research and where appropriate the uploading of such data products to Geonetwork.	Ongoing efforts are reflected within the Geonetwork content however, ongoing monitoring of research sites which post details of pending research cruises is now undertaken and links to the DSM Project and Maritime Boundaries Sector are being more usefully explored.	Ongoing service to membership 1, 2, 3 & 4	Presently these efforts have no sustained resources	RB
	OIP Map Database	As part of the wider SOPAC efforts to rescue, digitise and collate data in a more systematic, homogenous and accessible manner, OIP had up until early 2011 actively contributed content to the new SOPAC Map Database system.	OIPs contribution continued through second quarter 2011 but due to funding constrains including cuts in OIP core programme budget (NZ Programmatic funds) this position could not be retained and OIP is no longer able to actively support this important and complementary activity.	Work ceased at this time. 2, 3 & 4	OIP input has largely ceased at this time due to funding cuts.	RB
6. Technical Workshop						
OI 1.5.3	Technical Workshop Services Attorney	Provision of specialist technical support to procure, maintain, calibrate, mobilise/demobilise oceanographic, geophysical and other technical equipment and instrumentation. The workshop staff also provide technical support during various field surveys, prepare and preserve field	Ongoing scheduled (and unscheduled) maintenance of SPSLCMP gauges and associated climate monitoring sensors, power and communications systems (see 3. South Pacific Sea Level and Climate Monitoring Project for details). As well as the ongoing upkeep of the equipment, calibration and repair within the workshop, the facility and staff also supported the following	1, 2 and 3 Ongoing service to technical programmes and membership	The technical workshop is effectively a support service which contributes substantially to the successful implementation of OIP's technical programme works. The technical workshop also provides support to all SOPAC Programmes particularly through the upkeep of commonly shared equipment such as GPS and HYCOS equipment. Otherwise, the larger volume	RB AusAID Taiwan

		<p>samples and work closely with OIP scientific staff on a range tasks.</p> <p>The workshop also maintains an inventory of all equipment, keeps stock of consumables and provides expert advice on the state of contemporary technology, strategic updating of instrumentation and the most appropriate systems for deployment in PIC environments.</p>	<p>field surveys; TN Multibeam Survey – Mar 2011; FP Survey mobilisation May 2011 and ongoing work in FP throughout the 3rd and 4th quarters 2011; Yap Geotechnical Survey (Rig Mobilisation) May 2011.</p> <p>Technical workshop staff also assisted with the procurement of equipment with recent major purchases this year being a new USD150,000 multibeam echo-sounder system “R2 Sonic 2022” (ship mounted system which allows seafloor mapping to 2.5 km depth) and new associated positional system AUD32,674 “Marine STAR 9200” (a system which uses satellites to provide unparalleled positional data on moving survey platforms). In the case of the multibeam swath mapping system our previous system had developed hairline cracks and thus had reached the end of its service life and the new MarineSTAR is a strategic decision to upgrade our equipment to a more contemporary level and thus provide improved services to members. Workshop staff subsequently attended training on the MarineSTAR system in Jan 2011 and travelled to two US based instrument companies to assist in decision making on the R2 Sonic 2022 purchase.</p> <p>OIP has struggled to find an adequate period to undertake small boat handling and safety training however this is being targeted for late 2011 under a successful Taiwan Proposal to provide safety training for all workshop and marine science staff. Basic first aid training has been undertaken with our new recruit and the workshop will also look to upgrade some of our existing marine safety equipment in late 2011.</p>		<p>of its tasks lay in supporting the various Sectors of OIP and it also has direct service delivery responsibilities under the OIP -- SPSCMP (see 3. South Pacific Sea Level and Climate Monitoring Project).</p> <p>Three technical support positions in the Workshop were funded by NZAid programmatic funds, given the 2011 budget cuts, funds are now being reallocated to allow the continuation of these positions. It is not feasible to reduce staff numbers in the Workshop as demand for OIP technical service is currently very high and it would simply be impossible to respond to this demand without these positions, indeed OIP needs to consider additional staff given increasing regional demand being driven by issues of vulnerability and CC Adaptation.</p> <p>As an emergency measure funding set aside for equipment repair and replacement will likely be utilised towards these positions, however this is not a sustainable solution. Ultimately, OIP will need to reassess the volume of work it can deliver with reduced resources.</p>	
<p>7. Management/Administration/Advocacy</p>						
<p>Programme Administration</p>	<p>Management and strategic leadership of the OIP mandated task areas.</p> <p>Advocacy of PIC interests</p>	<p>Routine strategic planning, leadership and day to day oversight of the Ocean & Islands Programme, work teams, budgets and programme work and development plans.</p>	<p>Beyond the routine day to day activities, some specific contributions at programmatic, agency and regional level include; development of the 2011 CRGA Reporting; SOPAC HoGs Annual Report and Budget; Proposal Development in</p>	<p>1, 2 and 3 Ongoing service to technical programmes</p>		<p>RB Various</p>

	<p>in related OIP Sector areas and particularly ocean and island geoscience and technology applicable to regional needs and issues.</p>	<p>This Sector also provides support, leadership and high level advisory to national, regional and global fora other agencies and stakeholder groups and contributes to a range of aligned initiatives and issues.</p> <p>OIP manager is also expected to hold related marine/geoscience expertise and contribute at a technical level within the Programme. Presently, this lays in the Coastal Science Sector.</p>	<p>Sector areas of OIP; Responding to the SPC Sustainable Financing Strategy reporting; SPC / JCS reporting and scoping; Pacific Plan Reporting; SPC Climate Change Strategy development and multiple other routine agency matrices, documents, etc. which require OIP input. OIP also contributes to the CROP Marine Sector Working Group; the Development Partners on Climate Change and other Sector group meetings.</p> <p>Contributions at an international level include; ongoing collaborative work with OPRF (Ocean Policy Research Foundation – Japan) and representation, liaison and input to a range of additional fora, e.g. Regional Universities / Research Groups, Global Coasts & Oceans Conference, UNICPOLOS initiatives; UNCLCS, UNDAOLOS, IOC, ISA, Uni. of the Sea, CSIRO Hobart, Geoscience Australia, Australian Attorney Generals Office, GNS, NIWA, Dept. of Climate Change Aust., UNEP GRID Arendal; Commonwealth Secretariat, Forum Secretariat, Forum Fisheries Agency, KIGAM, etc. OIP also liaises directly with a range of donors at both an advisory level, as a technical support authority and in relation to development proposals.</p> <p>OIP also provides input to the important international climate change science initiatives such as the IPCC (Intergovernmental Panel on Climate Change) by providing Lead Authorship on the 5th Assessment Report – Small Islands Chapter and as a member of the IPCC TGICA (Task Group on Data and Scenario Support for Impact and Climate Analysis).</p>	<p>and membership</p>	
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