



Annual Report
2004-2005

Contents



Chairman's letter	2
Vision and mission statement	3
The Board	4-5
Staff of the Institute	6-8
Activities of the Institute	9
o Projects	9
o Participation in international conferences and meetings	10
o Staff training	12
Events	14
Scientific cruises	15
Report of the Director of Audit	16
Financial Statement	17-24



Chairman's letter

December 2006

Dr. The Hon. Navinchandra Ramgoolam
Prime Minister
Minister of Defence and Home Affairs
Minister of Civil Service and Administrative Reforms
Minister of Rodrigues & Outer Islands
Republic of Mauritius

In accordance with the provision of the Mauritius Oceanography Institute Act of 1999, I am hereby submitting the annual report of activities and accounts of the Mauritius Oceanography Institute for the financial year which ended on 30 June 2005.

Yours sincerely,

Prof. I. Fagoonee
Chairman

Vision and mission statement



The Mauritius Oceanography Institute (MOI) was established under the Mauritius Oceanography Institute Act (Act No. 24 of 1999).

The objects of the Mauritius Oceanography Institute, as spelt out in the Act, are:

- To foster interest in research and development in relation to oceanography,
- To advise Government on the formulation and implementation of policies and programmes in respect to oceanography and related aspects,
- To coordinate, collaborate and co-operate with other institutions, agencies and persons on national, regional and global issues within its field of interest, and to assist any organisation, body or person in creating sustainable research and development programmes in areas of interest and activity related to oceanography,
- To demonstrate and communicate to the scientific community and the public at large the results and the importance of oceanography in the conservation, maintenance, management, utilisation and development of resources based on marine and coastal ecosystems,
- To manage and optimise the use of funds and other resources for the purpose of this Act.

Our Vision

The intelligent management of our ocean resources, underpinned by effective marine science and technology, to assist the industrial and strategic exploitation of our maritime zones and contribute to economic development.

Our Mission

To obtain recognition for maximum maritime rights for the Republic of Mauritius under the United Nations Convention on the Law of the Sea (UNCLOS) and to provide an integrated scientific approach for the investigation, exploration, exploitation and sustainable management of our ocean territory.



The Board

The Mauritius Oceanography Institute (MOI) is managed by a Board, consisting of a Chairperson appointed by the Prime Minister and senior representatives of different ministries and institutions. Sections 8 to 10 of the MOI Act of 1999 lay down the overall responsibility of the Board.

The composition of the Board for the financial year 2004-2005 was as follows:

- (a) **Chairman of the MOI Board:**
Mr. H. Ganoo, G.O.S.K

- (b) **The Secretary for Home Affairs, Prime Minister's Office, or his representative:**
Mr. S. C. Seeballuck

- (c) **A representative of the Ministry to which the responsibility for the subject of foreign affairs is assigned:**
Mr. N. Soomauroo, First Secretary (up to April 2005)
Mr. K. Jhingree (from April 2005)

- (d) **A representative of the Ministry to which responsibility for the subject of economic development is assigned:**
Mr. R. S. Veeramundar, Senior Economist

- (e) **The Financial Secretary or his representative:**
Vacant

- (f) **A representative of the Ministry to which responsibility for the subject of environment is assigned:**
Mr. S. Seebaluck, Permanent Secretary

- (g) **A representative of the Ministry to which responsibility for the subject of fisheries is assigned:**
Mr. M. Munbodh, Chief Fisheries Officer

- (h) **A representative of the Ministry to which responsibility for the subject of lands is assigned:**
Vacant

- (i) **A representative of the Ministry to which responsibility for Rodrigues is assigned:**
Mrs. N. Goorah, Principal Assistant Secretary (up to December 2004)
Mr. J.W. Pacifique, Permanent Secretary (from December 2004 to May 2005)
Mr. R. C. Gopee, Permanent Secretary (from June 2005)

- (j) **The Executive Director of the Mauritius Research Council or his representative:**
Dr.A. Suddhoo, Executive Director

- (k) **The Vice-Chancellor of the University of Mauritius or his representative:**
Prof. I. Fagoonee, Vice Chancellor

- (l) **The Director, Meteorological Services, or his representative:**
Mr. S. N. Sok Appadu, Director

- (m) **The Director-General of the Mauritius Ports Authority or his representative:**
Captain P. Ponambalum, Port Master

- (n) **The General Manager of the Outer Islands Development Corporation or his representative:**
Mr. P. Jhugroo, General Manager

- (o) **Members having wide experience in oceanography or international law to be appointed by the Minister:**
Mrs. G. Topsy-Sonoo, Senior State Counsel, Attorney General's Office
Dr.A. Chan Chim Yuk, Registrar, University of Mauritius
Mr. S. Ho Man Cheong, Adviser, Prime Minister's Office
Mr. S. Ragoonaden, Ex-Deputy Director, Mauritius Meteorological Services



Staff of the Institute

Dr. M. Bhikajee	Director
Mr. S. Soondron	Assistant Director (up to July 2004)
Dr. A. D. Poonyth	Project Officer
Mr. M. R. Badal	Project Officer
Mr. S. Persand	Project Officer
Ms. R. Gopal-Nursimhulu	Project Officer (up to August 2004)
Dr. D. E. P. Marie	Project Officer
Mrs. K. R. Moothien Pillay	Project Officer
Mr. B. D. Hansrod	Project Officer (up to August 2004)
Mr. E. Martial	Project Officer (from February 2005)
Mr. J. I. Mosaheb	Associate Research Scientist (from June 2005)
Mr. B. A. Motah	Research Assistant (from May 2005)
Mr. P. Mussai	Research Assistant (from May 2005)

Technical Staff

Mr. C. Samyan - seconded for duty from the Ministry of Fisheries for technical assistance.

Accounts & Finance Department

Mr. I. Kalloo	Senior Finance Officer
Mr. H. Kareeman	Principal Finance Officer (from February to May 2005)
Mrs. R. Sobha	Accounts Clerk



Administrative Staff

Ms. A. Seengh	Assigned duty of Assistant Administrative Officer (from May 2005)
Mrs. N. Tegally	Confidential Secretary
Mrs. C. Persand	Public Relations Officer
Mrs. S. Ramjanally-Jaunbocus	Clerical Officer/Word Processing Operator (On leave without pay from September 2004)
Ms. S. Maunrajoo	Clerical Officer/Higher Clerical Officer (On leave without pay from May 2005)
Ms. R. Boyjoonauth	Clerical Officer/Higher Clerical Officer
Ms. M. Babajee	Clerical Officer/Higher Clerical Officer (from June 2005)
Ms. S. Jogarah	Receptionist/Word Processing Operator (from June 2005)
Mrs. S. Chowdhory	Receptionist (up to February 2005)
Mrs. S. Bekarma	Receptionist (from February 2005)



Supporting Staff

Mr. D. Munsah

Driver/Office Attendant

Mr. V. Coopen

Driver/Office Attendant

Mrs. M. Rajiah

Cleaner (part-time)

Trainees under the Skills Development Programme

Batch of December 2003–November 2004

Ms. N. Benoit

Ms. M. Gopaul

Mr. S. Ahsun

Batch of December 2004–November 2005

Mr. B.A. Motah

(December 2004–April 2005)

Ms. C. Charles

(December 2004–February 2005)

Ms. L. Vantard

(June 2005–December 2005)

Ms. A. Seengh

(October 2004–May 2005)

Mr. Y. Jaumeer

(December 2004–November 2005)

Activities of the Institute



Projects

Database of marine organisms of Mauritian maritime zone

The Mauritius Oceanography Institute is developing an electronic database that will store taxonomic and geographical information of species reported from Mauritian waters. The end-product, in the form of a CD-ROM and an internet database, will be freely available as from May 2007 and will be a standard reference for research and training in the field of marine species diversity of the Mauritian maritime zone. **Dr. A. D. Poonyth**, Project Officer, is the principal investigator of the project.

Modelling and mapping oceanic processes of South-West Indian Ocean: a satellite-based approach

The measurement of oceanographic parameters is conducted via sensors that are mounted on board satellites with the main objective of mapping and characterisation of oceanographic processes, namely biological production and general circulation of south-west Indian Ocean. **Mr. M. R. Badal**, Project Officer, is the principal investigator of this project.

Numerical simulation of tsunamigenic waves in the Indian Ocean

Following the December 2004 tsunami, the need to establish an early warning system in the Indian Ocean was strongly felt. In this context, the Mauritius Oceanography Institute initiated research to model the arrival time and the extent of inundation in the event of a tsunami. Numerical models developed by international researchers are being adapted to produce maps showing inland horizontal intrusion of tsunamigenic waves. **Mr M. R. Badal**, Project Officer, is the principal investigator of the project.

Study of the lagoon-beach interactions at specific sites around Mauritius for a better control of coastal erosion

The main aim of this project is to characterise processes leading to coastal erosion at specific places around Mauritius through a geomorphologic study of the beach in conjunction with a hydrodynamic and sediment dynamic study of the lagoons. The principal investigator of the project is **Mr. S. Persand**, Project Officer.

Bioprospecting Mauritius waters

The project entitled "Biological Activities of Marine Natural Substances from Mauritius Waters" is a collaborative project between the Centre National des Recherches Scientifiques (CNRS) of Paris, France, the Mauritius Oceanography Institute and the University of Mauritius. The project aims at collecting and identifying marine organisms of potential medicinal importance to treat infectious diseases and other diseases like cancer and Alzheimer. In order to safeguard the Intellectual Property Rights (IPR) of the participating institutions, an agreement has been signed by the parties concerned. The principal investigator of this project is **Dr. D. E. P. Marie**, Project Officer.



Evolutionary and population genetics of scleractinian corals

This project looks at the molecular relationship across a wide range of scleractinian corals and investigates genetic connectivity among reefs locally and regionally using DNA-based techniques. As a first phase of the project, the species boundaries between the sympatric *Pavona* species of Mauritius and Japan were examined. In addition, the population structure of *Pavona* species between the Indian Ocean (Mauritius, Thailand) and Western Pacific (Japan, Taiwan) were compared. This project is being undertaken in collaboration with Kitasato University, Japan and Academia Sinica, Taiwan. **Mrs. K. R. Moothien Pillay**, Project Officer at the Mauritius Oceanography Institute, is the principal investigator of this project.

Mapping of the marine habitats of the South-Eastern coast of Mauritius

The project entitled "A geo-spatial information system for marine habitats mapping" was completed during the present financial year. This project was a joint initiative of the Mauritius Oceanography Institute and the 'Commission de l'Océan Indien'. It involved a major fieldwork component under which a lagoon biotope survey was conducted for the south-eastern coast of Mauritius. A database consisting of a Geographical Information System (GIS) was developed together with an atlas-type document. An interactive CD-ROM on the GIS for the south-eastern coast was also produced. **Mr. M. R. Badal**, Project Officer, was the principal investigator of the project.

Participation in international conferences and meetings

The 10th International Coral Reef Symposium

The 10th International Coral Reef Symposium was held at the Okinawa Convention Centre, Okinawa, Japan from 28th June to 2nd July 2004. It was co-hosted by the International Society for Reef Studies and the Japanese Coral Reef Society. Held every four years, the week-long gathering attracted an international array of coral reef scientists, governmental and non-governmental organisations to exchange information on research, management and coral reef conservation. Approximately 1,500 participants attended the symposium including **Mrs. K. R. Moothien Pillay**, Project Officer at MOI.

Indo-Mauritian Joint Committee on Ocean Science & Technology meeting

Mr. H. Ganoo, Chairman of MOI Board, Secretary to the Cabinet and Head of Civil Services, **Dr. M. Bhikajee**, Director of MOI, **Dr. A. Suddhoo**, Executive Director of the Mauritius Research Council, **Mr. S. N. Sok Appadu**, Director of the Mauritius Meteorological Services and **Mr. M. Munbodh**, Chief Fisheries Officer, Ministry of Fisheries participated in the meeting of the Indo-Mauritian Joint Committee on Ocean Science and Technology which was held from 6th to 8th September 2004 in New Delhi, India.

A visit to the National Institute of Ocean Technology was also organised in Chennai on 7th September 2004. **Dr. H. K. Gupta**, Secretary, Department of Ocean Development (DOD), Government of India and **Mr. H. Ganoo** headed the Indian and Mauritian delegations respectively. A Memorandum of Understanding for cooperation in the field of ocean science and technology had earlier been signed between the Republic of India and the Republic of Mauritius.

Western Indian Ocean Region Marine Turtle Workshop

The Western Indian Ocean (WIO) Marine Turtle Workshop was held in Mombasa, Kenya, from 16th to 17th September 2004. The workshop was organised jointly by the Kenya Sea Turtle Conservation Committee and the Kenya Wildlife Service. About 40 participants from East Africa and Western Indian Ocean (Kenya, Mauritius, Tanzania, South Africa, Madagascar, Seychelles, Réunion Island) participated in the workshop. The Mauritius Oceanography Institute was represented by **Dr. Asha Poonyth**.

Agulhas and Somali Large Marine Ecosystems (ASLME) Project First Provisional Steering Committee Meeting

The first provisional steering committee meeting of the ASLME project was held in Grahamstown, South Africa at the South African Institute for Aquatic Biodiversity on Friday, 22nd October 2004. **Dr. M. Bhikajee**, Director of the Mauritius Oceanography Institute represented Mauritius on the steering committee.

The meeting was considered as provisional because South Africa had not yet nominated its representative and certain countries were represented by individuals who had not yet been officially designated as steering committee members for the purpose of the meeting. The participation of Mauritius was sponsored by UNDP-GEF from the ASLME project funds.

Second Symposium on the Global Ocean Data Assimilation Experiment (GODAE)

Dr. M. Bhikajee, Director of MOI, attended the Second Symposium on the Global Ocean Data Assimilation Experiment (GODAE) held from the 1st to the 3rd of November 2004 in St. Petersburg, Florida. The symposium consisted of plenary presentations by invited speakers, poster sessions by contributing authors, group sessions organised around application areas and a summary wrap-up session with recommendations for the future.

GODAE is an initiative to make ocean monitoring and prediction a routine activity similar to weather forecasting. The participation of the Director was funded by UNESCO.

Conference on Ocean Biodiversity Informatics

The conference on Ocean Biodiversity Informatics was held in Hamburg, Germany, from 29th November to 1st December 2004. It was organised by the Flanders Marine Institute and sponsored by the European Union and the World Data Centre for Oceanography.

About 150 participants from various oceanographic institutions around the world were present at the workshop. **Dr. A. D. Poonyth**, Project Officer at the Mauritius Oceanography Institute, participated in the conference.

MASMA/WIOMSA planning meeting on the development of a regional proposal for a Western Indian Ocean Regional Project on Satellite Altimetry Applications

Mr. M. R. Badal, Project Officer, was the representative of the Mauritius Oceanography Institute in the 'MASMA/WIOMSA (Marine Science for Management /Western Indian Ocean Marine Science Association) planning meeting' held in Mombasa, Kenya from 28th February to 4th March 2005. During the meeting, research topics were identified for potential project proposal to WIOMSA. The importance of characterising the ocean circulation was highlighted in understanding oceanic processes for predicting climate phenomenon and ocean resources.





Western Indian Ocean Marine Science Association (WIOMSA) meeting

Dr. M. Bhikajee, Director of MOI, attended the meeting of the Board of Trustees of the Western Indian Ocean Marine Science Association held in Johannesburg, South Africa on 26th February 2005. He was sponsored by WIOMSA.

The First International Coordination Meeting for the Development of a Tsunami Warning and Mitigation System for the Indian Ocean

The First International Coordination Meeting for the Development of a Tsunami Warning and Mitigation System for the Indian Ocean within a Global Framework was held at UNESCO Headquarters in Paris, France, between 3rd and 8th March 2005. The meeting was attended by nearly 300 participants from 21 countries in the Indian Ocean region, 25 other IOC member states and 16 observers. The participation of the Director of MOI was sponsored by UNESCO.

7th Indo-Pacific Fish Conference (IPFC)

Mrs. K. R. Moothien Pillay, Project Officer, participated in the 7th Indo-Pacific Fish Conference (IPFC), held in Taipei, Taiwan from 16th to 21st May 2005. Fish biologists from around the world were present at that conference to discuss their current research on a range of topics such as molecular phylogeny, systematics, biogeography, ecology, evolution, conservation and reproductive biology of marine fishes of the Indo-Pacific region.

Staff Training

First GloBallast Southern and Eastern African Regional Port Biological Baseline Survey Training Workshop

The First GloBallast Southern and Eastern African Regional Port Biological Baseline Survey Training Workshop was held in Mombasa, Kenya from 18th to 20th August 2004. It was hosted by the Kenya Marine and Fisheries Research Institute and sponsored by the World Conservation Union East Africa Office and the Benguela Current Large Marine Ecosystem.

The workshop was an initiative of GloBallast Programme of South Africa as part of the Regional Strategic Action Plan that was developed and approved by members of the Regional Task Force on Control and Management of Ballast Water.

About 35 participants from GloBallast of the Southern and Eastern African Region (Kenya, Tanzania, Mozambique, Madagascar, Mauritius, Seychelles, Comoros, Namibia and Angola) represented their respective countries at the workshop. The participants would be responsible for future replication of port biological surveys in their home countries. **Dr. A. D. Poonyth**, Project Officer at the Mauritius Oceanography Institute, participated in the training workshop.

Application of Satellite Altimetry to Oceanography—A training course for the Western Indian Ocean region

Mr. M. R. Badal, Project Officer, was the resource person from the Mauritius Oceanography Institute for the regional training course on the application of satellite altimetry in oceanography held in Kenya from 6th to 17th September 2004. The training was hosted by the Kenyan Marine and Fisheries Research Institute (KMFRI). In spite of a focus towards the application of satellite altimetry, a wide range of other satellite applications were also covered. Participants were exposed to specific case studies and a practical training covering the following oceanic phenomena: ocean eddies, sea level change, sea surface temperature composite, sea surface height anomalies and significant wave height.

Ph.D. Degree in Fisheries Science

Mrs. K. R. Moothien Pillay, Project Officer, undertook studies leading towards a Ph.D. degree in Fisheries Science as from 2003 at Kitasato University in Japan.

Award course for Confidential Secretary

Mrs. N. Tegally, Confidential Secretary to the Director, followed an “Award Course for Confidential Secretary” at the University of Technology of Mauritius from 17th January to 30th March 2005.

Nippon Foundation of Japan Fellowship Programme

Mr. S. Persand, Project Officer, was nominated by the MOI, for the United Nations and the Nippon Foundation of Japan Fellowship Programme for the Law of the Sea in October 2004. The programme consisted of a research and study period at the University of Oklahoma and an attachment at the Division of Ocean Affairs and the Law of the Sea (DOALOS) at the United Nations headquarters in New York. **Mr. S. Persand** proceeded to the University of Oklahoma at the end of January 2005. The research and study was focused on Article 76 of the United Nations Convention on the Law of the Sea (UNCLOS). He spent the last 3 months of the programme at the DOALOS in New York. During his attachment at DOALOS, **Mr. S. Persand** took the opportunity to interact with various key persons dealing with the continental shelf. He also had informal discussions on a few pertinent issues with the members of the Commission on the Limits of the Continental Shelf (CLCS).

Course on “Store Management – Level 1”

Ms. R. Boyjoonauth, Clerical Officer/Higher Clerical Officer, followed a course on “Store Management – Level 1” organised by the Mauritius Employers Federation from 4th April to 5th June 2005.

Training workshop in Information Management

Ms. R. Boyjoonauth, Clerical Officer/Higher Clerical Officer, attended a one-day training workshop in Information Management at Albion Fisheries Research Centre.





Events

Second National Ocean Science Forum

The Mauritius Oceanography Institute organised the second National Ocean Science Forum on the 18th and 19th of August 2004 at the Octave Wiéhé Auditorium in Réduit.

The forum was opened on 18th of August by the President of the Republic of Mauritius. The keynote address was given by **Dr. Patricio Bernal**, Assistant Director-General of UNESCO and Executive Secretary of the Intergovernmental Oceanographic Commission (IOC) of UNESCO.

129 participants were registered for the forum and 30 papers were presented. Six posters were presented in a competition. The first prize of Rs. 10 000 went to **Mrs. R. Lowry Gopal-Nursimhulu** and **Ms. M. Gopaul** and the second prize of Rs. 5 000 went to **Mr. R. M. Badal**, all of them from the Mauritius Oceanography Institute. The feedback received indicates that participants were satisfied with the level of presentations and with the organisation of the forum in general.

Website Competition

In the context of the "Mauritius Strategy for Further Implementation of the Programme of Action for the Sustainable Development of the Small Islands Developing States" (SIDS), held in Mauritius from 10th to 14th January 2005, the Mauritius Oceanography Institute organised a website competition entitled, "The importance of oceans for Small Islands Developing States."

Mrs. G. Pyndia won the first prize of Rs. 20 000, the second prize of Rs. 15 000 went to **Mr. A. Permessur** and **Ms. Y. Nundalallee** won the third prize of Rs. 5 000.

Scientific cruises

Mission to St. Brandon

The Mauritius Oceanography Institute undertook a mission to St. Brandon from 16th to 19th November 2004 for the collection of tidal information off Raphael Island. Mr. S. Persand and Dr. A. D. Poonyth, Project Officers, Ms. M. Gopaul, Trainee and Mr. C. Samyan, Diver participated in the cruise.

A tide gauge was deployed off Raphael Island in the Cargados Carajos Group in November 2002 to collect oceanographic data. The main objective of the project is to collect tidal information for the purpose of estimating the Lowest Astronomical Tide (LAT) for the St. Brandon group of islands.

The aim of this mission was to ensure the proper running of the tide gauge in the collection of tidal data. The frame holding the tide gauge was found to have moved and was resting on a patch of coral in an unstable and slanting position. Because of this, the redeployment of the tide gauge was postponed for the following cruise to St. Brandon.

Tidal Data for St. Brandon

Mr. Y. Jaumeer and Mr. C. Samyan, Trainee and Diver respectively from the Mauritius Oceanography Institute, participated in a cruise to St. Brandon in February 2005 onboard the National Coast Guard vessel "CGS Vigilant" along with the National Coast Guard staff.

The aim of the mission was to deploy a tide gauge at the depth of about 10m, off Raphael Island. The tide gauge will continuously collect tides data and temperature of seawater over a period of time. The data will be used for the determination of the baselines for St. Brandon.





Report of the Director of Audit

TO THE CHAIRPERSON OF THE MAURITIUS OCEANOGRAPHY INSTITUTE

I have audited the accompanying balance sheet of the Mauritius Oceanography Institute (MOI) as of 30 June 2005, and the related statements of income, and cash flows for the year then ended. These financial statements are the responsibility of the Institute. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with International Standards on Auditing. Those Standards require that I plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. I believe that my audit provides a reasonable basis for my opinion.

Audit Opinion

In my opinion, the financial statements give a true and fair view of the state of affairs of the Mauritius Oceanography Institute as of 30 June 2005, and of its income and expenditure for the year then ended in accordance with Generally Accepted Accounting Principles and comply with the Statutory Bodies (Accounts and Audit) Act 1972.

(R. JUGURNATH)

Director of Audit

National Audit Office
Level 14

Air Mauritius Centre

PORT LOUIS

16 October 2006