



An initiative of the African, Caribbean and Pacific Group,  
funded by the European Union, and implemented by:



**CARIBBEAN INSTITUTE FOR METEOROLOGY AND HYDROLOGY**

**EXPANDED WEATHER AND CLIMATE FORECASTING AND INNOVATIVE PRODUCT  
AND SERVICE DEVELOPMENT AND DELIVERY IN THE CARIBBEAN PROJECT**

**CONSULTANCY SERVICES FOR MARINE FORECASTING TRAINING**

**REQUEST FOR EXPRESSIONS OF INTEREST**

The Caribbean Institute for Meteorology and Hydrology (CIMH) has received financing from the Caribbean Development Bank (CDB) in an amount equivalent to EUR773,025 towards the cost of Expanded Weather and Climate Forecasting and Innovative Product and Service Development and Delivery in the Caribbean Project and intends to apply a portion of the proceeds of this financing to eligible payments under a contract for which this invitation is issued. Payments by CDB will be made only at the request of the CIMH and upon approval by CDB, and will be subject in all respects to the terms and conditions of the Financing Agreement. The Financing Agreement prohibits withdrawal from the financing account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of CDB, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the CIMH shall derive any rights from the Financing Agreement or have any claim to the proceeds of the Financing.

The CIMH, the Implementing Agency, now wishes to procure consultancy services for the delivery of Marine Forecasting Training.

The objective of the consultancy is to strengthen operational marine forecasting across the region and in particular the member states of CIMH and borrowing member countries of the Caribbean Development Bank. Further details can be found in the attached Terms of Reference (Appendix 1). The duration of the assignment is expected to be within 8 months.

*The CIMH* now invites interested eligible consulting firms to submit Expressions of Interest for the provision of these consultancy services.

Consultants shall be eligible to participate if:

- (a) in the case of a body corporate, it is legally incorporated or otherwise organised in an eligible country, has its principal place of business in an eligible country and is more than 50 per cent beneficially owned by citizen(s) and/or *bona fide* resident(s) of eligible country(ies) or by a body(ies) corporate meeting these requirements;
- (b) in the case of unincorporated firms, the persons are citizens or *bona fide* residents of an eligible country; and
- (c) in all cases, the consultant has no arrangement and undertakes not to make any arrangements, whereby any substantial part of the net profits or other tangible benefits of the contract will accrue or be paid to a person not a citizen or *bona fide* resident of an eligible country.

Eligible countries are outlined in Appendix 2 below.

The attention of interested Consultants is drawn to paragraph 1.9 of CDB's Guidelines for the Selection and Engagement of Consultants (2011), setting forth CDB's policy on conflict of interest.

In the assessment of submissions, consideration will be given to technical competence, qualifications and experience, local and regional experience on similar assignments, financial capability and existing commitments. All information must be submitted in English. Further information may be obtained from the first address below between 8:00 and 16:00 hours Monday to Friday.

Submissions in PDF format of the Expressions of Interest must be received at the email address, [projects@cimh.edu.bb](mailto:projects@cimh.edu.bb) and copied to [procurement@caribank.org](mailto:procurement@caribank.org) no later than 16:00 AST on Thursday, 1 August, 2019. The email containing each submission should include the name and address of the applicant and shall be clearly marked "**Expression of Interest – Consultancy Services for Marine Forecasting Training.**"

The selection method shall be Consultants' Qualifications Selection. Therefore, following the assessment of submissions, firms shall be assessed and compared, and the best qualified and experienced firm shall be selected. Only the selected firm shall be asked to submit a combined technical and financial proposal and, if such proposal is responsive and acceptable, be invited to negotiate a contract. The CIMH reserves the right to accept or reject late applications or to cancel the present invitation partially or in its entirety. It will not be bound to assign any reason for not selecting any applicant and will not defray any costs incurred by any applicant in the preparation and submission of Expressions of Interest

1. *Address 1*  
Project Officer  
Caribbean Institute for Meteorology and Hydrology  
Husbands.  
St. James BB23006  
BARBADOS, W.I.  
Tel: +1-(246) 425-1362/63  
Fax: +1-(246)-424-4733  
Email: [projects@cimh.edu.bb](mailto:projects@cimh.edu.bb)
  
2. *Address 2*  
Procurement Officer  
Procurement Policy Unit  
Caribbean Development Bank  
P.O. Box 408, Wildey  
St. Michael  
BARBADOS, W.I.  
Tel: +1- (246) 431-1600  
Fax: +1- (246) 426-7269  
Email: [procurement@caribank.org](mailto:procurement@caribank.org)

## **TERMS OF REFERENCE**

### **CONSULTANCY FOR THE MARINE FORECASTING TRAINING**

#### **1. INTRODUCTION**

##### **The Caribbean Institute for Meteorology and Hydrology (CIMH)**

The CIMH is an Institution of the Caribbean Community and the technical Organ of the Caribbean Meteorological Organisation (CMO). The mandate of the CIMH is to assist in improving and developing the meteorological and hydrological services as well as, providing the awareness of the benefits of meteorology and hydrology for the economic well-being of the 16 CMO Member States. This is achieved through training, research, investigations, and the provision of related specialised services and advice.

To achieve its mandate, the CIMH established an affiliation agreement with the UWI in 1972 in which its primary responsibility is the delivery of the B.Sc. programme in Meteorology in the Faculty of Pure and Applied Sciences. The CIMH is also recognised as: (i) the WMO Regional Training Centre (RTC) in the Caribbean specializing in meteorology, hydrology, climate science and related disciplines; (ii) a WMO Regional Instrument Centre (RIC) for the Caribbean; (iii) a Caribbean Centre for research in weather, climate, hydrological and related sciences and disciplines; (iv) the Caribbean Climate Data Archive; (v) Centre of Excellence for Training in Satellite Meteorology; (vi) the WMO Regional Climate Centre (RCC) for the Caribbean; (vii) the Pan American Centre for the WMO Sand and Dust Storm Warning Advisory and Assessment System (SDS-WAS); and (viii) the Caribbean Centre for Climate and Environmental Simulations (CCCES).

By virtue of the above, the CIMH is active in such areas of hydro-meteorological and climate risk impacts forecasting as well as agricultural risks forecasting and has had strong collaborations with other regional institutions, national organisations in CMO Member States and the international community.

#### **2. BACKGROUND**

Small Island Developing States (SIDS) are defined as largely coastal as they have a large coastal area to land mass ratio. This often means that SIDS have marine exclusion zones and related resources that are significantly greater than their land mass. As a result, the coastal and marine environment plays a critical role in the evolution of nearly all aspects of SIDS including their socio-economic development.

Marine ecosystems in the Caribbean face constant and significant threats from weather and climate events that can degrade seriously the halieutic resources and consequently, endanger their sustainability. Despite the importance of these resources for the socio-economic development of SIDS, daily to seasonal marine forecasting capabilities in the Caribbean remain extremely limited. However, information at these time scales is critical for operational planning in many marine related sectors including fisheries, energy, transportation and tourism. While many National Meteorological and Hydrological Services (NMHSs) of the Caribbean Meteorological Organization (CMO) Member States issue marine forecasts, the information is frequently derived from external sources and not always at the spatial and temporal

scales suitable for use by many of the smaller Caribbean SIDS to provide detailed marine conditions at all locations along their coast lines.

Recognising this gap in knowledge and knowhow related to marine forecasting and the increasing value of marine forecasts to livelihoods, reduction in loss of life and overall economic activity of many states in the Caribbean, the CIMH at the urging of NMHSs in Member States of the CMO teamed with the Caribbean Disaster and Emergency Management Agency (CDEMA) and the United Kingdom Meteorological Office (UK Met Office) to deliver a marine forecasting course to the region. The one week course (5-9 July, 2010) delivered by the UK Met Office, which provided participants with basic skills in marine forecasting was well received with many encouraging follow up training in the area and increased access to high resolution regional marine forecasts, to drive and inform national marine forecasts. While some of the knowledge and know-how acquired in the course has been incorporated into the CIMH training programmes, no new significant initiatives to expand and improve the marine forecasting capabilities of NMHSs have been undertaken even though the need is great.

Since the initial offering, the CIMH has been seeking additional opportunities to deliver a follow-up course in marine forecasting for persons in NMHSs. These would include (a) introductory courses similar to that previously delivered and particularly focused on building the capacity of meteorological forecasters with little background in marine forecasting, (b) mid-level courses for meteorological forecasters who took the previous course or have taken recent courses in marine forecasting offered by the CIMH, and (c) advance- level courses in marine forecasting for those persons with mid-level experience in marine forecasting.

As part of the Reduced Risk to Human and Natural Assets Resulting from Climate Change (RRACC) project funded by USAID and implemented by the Organisation of Eastern Caribbean States (OECS) Secretariat, OEA Technologies Incorporated was commissioned to design and implement a regional marine monitoring and forecasting system for the OECS. The OEA Technologies Incorporated report of 2013 noted that while climate change and associated sea-level rise were high priorities for the OECS, there was very limited marine monitoring and forecasting services in the Eastern Caribbean. The report also noted that with regards to marine monitoring, there were three sea-level monitoring sensors present in the OECS that were operated by international entities

Recognising the daily risks posed by marine conditions to marine-based sectors and the report of OEA Technologies Incorporated, the CIMH in 2015 operationalised an implementation of the WaveWatch-3 marine wave modeling software over a large area covering the Caribbean Sea and adjacent oceans. Operational model runs of seven days at 4 kilometres resolution are initiated twice per day using global datasets to initialise and establish relevant boundary conditions. Since 2000, the CIMH has built experience installing and maintaining marine observation platforms. The CIMH was an active participant in the establishment of the sea level monitoring network for the Caribbean established under the Caribbean Planning for Adaptation to Climate Change project implemented by the World Bank and executed by the Organization of American States (OAS) during the period 1997-2001. Under the project, several staff supported the installation of 18 sea level stations at various locations across the Caribbean, monitoring and maintenance of the network.

Operational marine meteorologists/forecasters collect weather and ocean data from weather stations, satellites and observation vessels. This information is fed into computers, used to interpret the output and produce and analyze charts. This information is also used to predict weather changes, and to provide a record of past weather, from which calculations of largescale changes in the global climate can be made.

### 3. CONSULTANCY AIM AND OBJECTIVES

The focus of this consultancy is to strengthen operational marine forecasting across the region and in particular the member states of the CIMH and borrowing member countries of the Caribbean Development Bank.

### 4. SCOPE OF WORK

Within the framework of the Expanded Weather and Climate Forecasting and Innovative Product and Service Development and Delivery in the Caribbean Project, the specific duties and responsibilities of the Consultant include:

- (a) Enhancing the capacity of NMHSs to make and issue local marine forecasts through the development and delivery of training courses in areas of marine forecasting. It is expected that the training courses would consist of a mixture of face-to-face and online training modules with the face-to-face exercise lasting at least one week.
- (b) Strengthening the CIMH's capacity to develop and deliver face-to-face and online training programmes in marine meteorology forecasting to NMHSs and the stakeholders across the Caribbean. The Consultant will develop and deliver specialised in-house training programmes for CIMH staff. The Consultant will also identify at least one international course or programme that at least one member of staff can attend to further strengthen their background and skills in marine forecasting.
- (c) Strengthening the CIMH's capabilities to deliver marine forecasting products and services to a broad range of stakeholders. The Consultant will work with the CIMH staff to identify the potential market for marine products and services and work with staff to pilot products to some potential clients;

### 5. CONSULTANT DELIVERABLES

1.	An Inception Report
2.	Training syllabi for entry-level, intermediate and advanced level marine forecaster training courses inclusive of time table for the training
3.	Report on the face-to-face training on marine forecasting at the CIMH, as well as conduct online training
4.	Training syllabi for internal training programme for the CIMH staff along with identification of a proposed programme for advanced study for a least one member of staff
5.	Report on training programme for the CIMH staff and new products that could be delivered by CIMH to regional stakeholders

## **6. CREDENTIALS**

### **Marine Meteorology Training (Introductory, Intermediate and Advanced Courses)**

The Consultant Team member is required to have recognised credentials (with strong preference being given to candidates with MSc and PhD degrees) in either Meteorology, Marine Science, Oceanography, Marine Meteorology or related disciplines. In addition, the Consultant must have:

- (a) more than ten years of experience delivering training in areas of marine forecasting and the development of marine forecasting products to a broad range of stakeholders;
- (b) experience building marine forecasting programmes and related centres;
- (c) experience and or specialization in the use of satellite and model data in the study of marine meteorology is a strong preference, and
- (d) experience working with developing countries.

## **7. DURATION**

The contract will be for a duration not exceeding eight (8) months.

**EUROPEAN UNION ELIGIBILITY RULES**  
**AFRICAN CARIBBEAN PACIFIC – EUROPEAN UNION**  
**NATURAL DISASTER RISK MANAGEMENT**

**PARTICIPATION IN PROCEDURES FOR THE AWARDING OF**  
**PROCUREMENT CONTRACTS OR GRANT CONTRACTS**

1. Participation in procedures for the award of procurement contracts financed under the EU Contribution Agreement for the Implementation for the Action entitled: “Africa Caribbean Pacific – European – Caribbean Development Bank (ACP-EU-CDB) Natural Disaster Risk Management in CARIFORUM Countries” (ACP – EU NDRM Resources)”, is open to international organisations and all natural persons who are nationals of, or legal persons who are established in, an eligible country.

2. Eligible countries<sup>1</sup> are deemed to be:

(a) Caribbean Development Bank member countries:

Anguilla, Antigua and Barbuda, Barbados, Belize, Brazil, British Virgin Islands, Canada, Cayman Islands, China, Columbia, Dominica, Germany, Grenada, Guyana, Haiti, Jamaica, Italy, Mexico, Montserrat, St Kitts and Nevis, Saint Lucia, St Vincent and the Grenadines, Suriname, The Bahamas, Trinidad and Tobago, Turks and Caicos Islands, the United Kingdom and Venezuela.

(b) Members of the “African, Caribbean and Pacific (ACP) Group of States”<sup>2</sup>:

**Africa:**

South Africa<sup>3</sup>, Angola, Benin, Botswana, Burkina Faso, Burundi, Central African Republic, Cameroon, Cape Verde, Chad, Comoros Islands, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Equatorial Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritius, Mauritania, Mozambique, Namibia, Niger, Nigeria, Uganda, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, Sudan, Swaziland, Tanzania, Togo, Zambia and Zimbabwe.

---

<sup>1</sup> Note some countries may be eligible by virtue of more than one category

<sup>2</sup> Cotonou Partnership Agreement of 23 June 2000 (as amended by the provisional application of Decision No 1/2000 of the ACP-EC Council of Ministers of 27 July 2000, Decision No 1/2000 of the ACP-EC customs cooperation committee of 18 October 2000, Decision No 1/2001 of the ACP-EC customs cooperation committee of 20 April 2001, Decision No 2/2001 of the ACP-EC customs cooperation committee of 20 April 2001, Decision No 3/2001 of the ACP-EC customs cooperation committee of 10 May 2001, Decision No 4/2001 of the ACP-EC customs cooperation committee of 27 June 2001, Decision No 5/2001 of the ACP-EC customs cooperation committee of 7 December 2001, Decision No 2/2002 of the ACP-EC customs cooperation committee of 28 October 2002, Decision No 1/2003 of the ACP-EC Council of Ministers of 16 May 2003, Council Decision (EC) of 19 December 2002, Decision No 1/2004 of the ACP-EC Council of Ministers of 6 May 2004, Decision No 2/2004 of the ACP - EC customs cooperation committee of 30 June 2004 and Decision No 4/2005 of the ACP-EC customs cooperation committee of 13 April 2005).

<sup>3</sup> Natural and legal South African persons are eligible to participate in contracts financed by the 10th/11th EDF. However, the 10th/11th EDF does not finance contracts in South Africa.

**Caribbean:**

Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago.

**Pacific:**

Cook Islands, East Timor, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Palau, Papua New Guinea, the Solomon Islands, Western Samoa, Tonga, Tuvalu, Vanuatu.

**Overseas Countries and Territories:**

Anguilla, Antarctic, Netherlands Antilles, Aruba, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Falkland Islands (Malvinas), French Polynesia, French Southern Territories, Greenland, Mayotte, Montserrat, New Caledonia, Pitcairn, Saint Helena, Saint Pierre and Miquelon, South Georgia and South Sandwich Islands, Turks and Caicos, Wallis and Futuna Islands.

- (c) A Member State of the European Union:

Austria, Belgium, Bulgaria, Croatia, Czech republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

**An official candidate country of the European Union:**

The Former Yugoslav Republic of Macedonia, Turkey, Iceland, Montenegro.

**A Member State of the European Economic Area:** Iceland, Lichtenstein, Norway.

- (d) All natural persons who are nationals of, or legal persons who are established in, a Least Developed Country as defined by the United Nations:

Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Comoros, Dem. Rep. Congo, Equatorial Guinea, Eritrea, Ethiopia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao PDR, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Djibouti, Solomon Islands, Somalia, South Sudan, Sudan, Tanzania, The Gambia, Timor-Leste, Togo, Tuvalu, Uganda, Vanuatu, Yemen, Rep. and Zambia.

- (e) Participation in procedures for the award of procurement contracts or grants financed from the Facility shall be open to all natural persons who are nationals of, or legal persons established in, *any country other than those referred to in paragraph 1, where reciprocal access to external assistance has been established*. Reciprocal access in the Least Developed Countries as defined by the United Nations (UN) shall be automatically granted to the OECD/DAC members: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States.

3. Services under a contract financed from the Facility may be provided by experts of any nationality, without prejudice to the qualitative and financial requirements set out in the Bank's procurement rules.

4. Supplies and materials purchased under a contract financed from the Facility must originate in a State that is eligible under paragraph 1. In this context, the definition of the concept of 'originating products' shall be assessed by reference to the Bank's prevailing procurement guidelines/procedures, and supplies originating in the EU shall include supplies originating in the Overseas Countries and Territories.

5. Whenever the Facility finances an operation implemented through an international organisation, participation in procedures for the award of procurement contracts or grants shall be open to all natural and legal persons who are eligible under paragraphs 1, care being taken to ensure equal treatment of all donors. The same rules apply for supplies and materials.

6. Whenever the Facility finances an operation implemented as part of a regional initiative, participation in procedures for the award of procurement contracts or grants shall be open to all natural and legal persons who are eligible under paragraph 1, and to all natural and legal persons from a country participating in the relevant initiative. The same rules apply for supplies and materials.

7. Whenever the Facility finances an operation co-financed with a third entity, participation in procedures for the award of procurement contracts or grants shall be open to all natural and legal persons eligible under paragraph 1, and to all persons eligible under the rules of the third entity. The same rules shall apply to supplies and materials.

**Caveat:** The Bank and EU eligibility requirements are subject to change by the Bank and the EU. The applicant is responsible for checking whether there have been any updates on the eligibility requirements, as well as the UN's list of Least Developed Countries.