

Call for tender for the design and implementation of a Bayesian Hierarchical numerical

Model (BHM) to produce realistic distribution of winds over the Mediterranean Sea.

The activities are included within the TESSA project (Development of Technologies for the "Situational Sea Awareness"). This tender is announced in accordance with Legislative Decree 163/2006, art. 125, paragraphs 9-11, combined with CMCC Procedures - REG01 ACQ01R3_Procedures for direct management of purchases.

TECHNICAL SPECIFICATIONS

A. INTRODUCTION

The Euro-Mediterranean Center for Climate Change S.c.a.r.l. (hereinafter "CMCC") is a body governed by public law established in 2005 with the financial support of the Italian Ministries for University and Research (MIUR), Environment and Protection of Land and Sea (MATT), Agricultural and Forestry Policies (MIPAF), Economy and Finances (MEF), and the funding received by the Special Integrative Fund for Research (FISR) within the National Strategic Research Programme. The Center has been established with the main objective to realise in Italy a **Center of excellence on the integrated study of topics concerning the climate change**. CMCC represents, at national and international level, an institutional point of reference for public decision-makers, institutions, public and private corporations which need a technical-scientific support.

The Commissioning Body is the recipient of a funding by the Ministry of Education, Universities and Research (MIUR) within the National Operational Programme "Research and Competitiveness" 2007-2013 for the participation in the project "Development of Technologies for the Situational Sea Awareness (TESSA)". Such project aims at developing a series of products and services for the "situational sea awareness" based on new operational oceanography environmental data integrated into advanced technological platforms for use by end users in the maritime sector, tourism and environmental protection.

Therefore CMCC will arrange for the design and implementation of a Bayesian Hierarchical numerical Model (BHM) to produce realistic distribution of winds over the Mediterranean Sea.

All the economic operators working in this field and meeting the requirements described in the present "Technical Specifications" can submit a request for expression of interest.

B. COMMISSIONING BODY

Centro Euro-Mediterraneo sui Cambiamenti Climatici S.c.a r.l.;

Address: Via Augusto Imperatore, 16 – 73100 Lecce

Telephone: +39 0832 288650 Fax: +39 0832 277603

E-mail: ufficio.appalti@cmcc.it

C. CONTRACTING AUTHORIZATION NOTE

Protocol No. 1792/14/CMCC of 17th July 2014

D. OBJECT OF THE NOTICE:

The object of this notice is to acquire expression of interest by qualified operators working in this field who will be invited to participate in the tendering procedure in order to grant by fiduciary piecework the *"Design and implementation of a Bayesian Hierarchical numerical Model (BHM) to produce realistic distribution of winds over the Mediterranean Sea"*.

E. DESCRIPTION OF THE SUPPLY

Period: 5 months starting from the signature of the procurement contract.

Activities to be carried out:

1.0. All the activities described below fall within the TESSA Project and, in particular, they deal with:

1. the implementation of a Bayesian Hierarchical numerical Model (BHM) to get realistic distributions of winds over the Mediterranean Sea using information from ECMWF (European Centre for Medium-Range Weather Forecasts) and satellite ASCAT (Advanced Scatterometer) winds. The BHM should provide estimates for ensembles of surface vector winds, 4-times per day, to be used by the operational models and applications developed under TESSA. The BHM should be written in Matlab language.
2. the production of wind distributions for at least one year (2013) over the entire Mediterranean Sea;
3. the documentation and manual on the BHM code and one training session of two days for usage of the model at the OceanLab in Lecce.

Deliverables:

- a. Release of the BHM matlab code with reading of ECMWF 2013 winds every six and three hours and ASCAT winds (software product) - (D.1)
- b. Manual and documentation of the BHM code (document) - (D.2)
- c. Training session of two days on the usage of BHM code - (D.3)
- d. Quality analysis of the BHM winds posterior mean and realizations for year 2013 (document) - (D.4)

F. ESTIMATED AMOUNT OF THE SUPPLY

The estimated amount for this tender is of € 80,000.00 in addition to VAT and any other charge pursuant to the law.

G. REQUESTED REQUIREMENTS:

General requirements

Under article 34 of Legislative Decree 163/2006, subjects meeting the general requirements, the vocational aptitude and qualification requirements referred to articles 38, 39 and 40 of Legislative Decree 163/2006 are admitted to participate in the aforesaid call for tender.

Technical and Professional competence requirements

CMCC admits the participation in the tendering procedure of subjects having documented experience in the field of the Bayesian models of surface winds and, in particular, the Bayesian Hierarchical Model (BHM).

H. WARRANTIES AND INSURANCE COVERAGES

Pursuant to articles 75 and 113 of the Code of Public Contracts, CMCC will ask for a provisional bond, a bid bond and a final bond as guarantee of the compliance to the contract.

I. TENDERING PROCEDURE AND AWARD CRITERION:

The supply will be awarded, pursuant to article 125, paragraph 1 of Legislative Decree 163/2006, according to the criterion of the lowest price, a price which is less than the tender basic price, by reduction of the tender starting price, as provided for by article 82, paragraph 2, letter b) of Legislative Decree 163/2006.

L. PAYMENT OF AMOUNT DUE:

Methods and terms of payment and invoicing will be definitively established when drawing up the contract. However, here below you will find those usually applied:

1. *I tranche*: payment of 20% of the whole contract amount (in addition to VAT and any other charge pursuant to the law) when signing the aforesaid procurement contract and upon issue of regular invoice;
2. *II tranche*: payment of 30% of the whole contract amount (in addition to VAT and any other charge pursuant to the law) on delivery of Deliverable a. - Release of the BHM matlab code with reading of ECMWF 2013 winds every six and three hours and ASCAT winds (software product) - (D.1) and upon issue of regular invoice;
3. *III tranche*: payment of 30% of the whole contract amount (in addition to VAT and any other charge pursuant to the law) on delivery of respectively Deliverable b. - Manual and documentation of the BHM code (document) - (D.2) and Deliverable c. - Training session of two days on the usage of BHM code - (D.3) and upon issue of regular invoice;

4. *IV tranche*: full payment of 20% of the whole contract amount (in addition to VAT and any other charge pursuant to the law) on delivery of deliverable d. - Quality analysis of the BHM winds posterior mean and realizations for year 2013 (document) - (D.4), upon issue of regular invoice.

Payment of amount due, as described above, will be made upon issue of regular invoice and within 30 days end of month from invoice date.

In order to get payment of all four tranches, the successful tenderer will have to present contextually a report of the activities carried out. Payment will be only made after the specific approval of the report by the Scientific Project Manager.

M. HOW TO APPLY:

Subjects wishing to be invited to the tendering procedure will have to fill out the form "Annex A" which is part of this notice, downloadable from the website of the commissioning body CMCC S.c.a.r.l., and send their expression of interest only by email no later than **Tuesday 5th August 2014 at h 1 p.m.** to the following CMCC Scarl address: [email: ufficio.appalti@cmcc.it](mailto:ufficio.appalti@cmcc.it)

Any expression of interest for this tendering procedure received after the above-mentioned deadline will not be considered valid.

The Commissioning Body will examine the requests for expression of interest and the declarations of qualification received within the deadline and will invite the subjects, whose requests comply with this notice, to make an offer.

N. ANNOUNCEMENT:

This notice is published on the website of the Commissioning body under article 331 of Presidential Decree 207/2010 and under article 66, paragraph 7 of the Code of Public Contracts - http://www.cmcc.it/it/tenders_and_announcements.

O. ATTENTION:

This notice, aimed at receiving expressions of interest by economic operators, does not represent a contractual proposal and it does not bind in any way the Commissioning Body which will be free to not proceed with invitations to fiduciary piecework or to start other procedures.

P. PRIVACY POLICY

The tendering procedure complies with the privacy principles in relation to the information supplied, under Legislative Decree No. 196/2003, consistently with the institutional functions, the legal and regulatory provisions concerning public procurement contracts and the provisions regarding the right of access to documents and information.



Q. PROCEDURE MANAGER:

Dott.ssa Emanuela Palano

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E-mail: emanuela.palano@cmcc.it

R. ANNEXES:

The following documents are attached to this Public notice as integral part of it:

- Annex A - Request for expression of interest.