



<p>RETURN BIDS TO: RETOURNER LES SOUMISSIONS À:</p> <p>Bid Receiving - Environment Canada / Réception des soumissions – Environnement Canada</p> <p>Atlantic Region Procurement & Contracting Contracting and Procurement Division, Finance Branch, Environment Canada 17th Floor, 45 Alderney Drive, Dartmouth NS B2Y 2N6</p> <p>BID SOLICITATION DEMANDE DE SOUMISSIONS</p> <p>PROPOSAL TO: ENVIRONMENT CANADA</p> <p>We offer to perform or provide to Canada the services detailed in the document including any attachments and annexes, in accordance with the terms and conditions set out or referred to in the document, at the price(s) provided.</p> <p>SOUSSION À: ENVIRONNEMENT CANADA</p> <p>Nous offrons d'effectuer ou de fournir au Canada, aux conditions énoncées ou incluses par référence dans le document incluant toutes pièces jointes et annexes, les services détaillés dans le document, au(x) prix indiqué(s).</p>	<p>Title – Titre Evaluation of Climate Data – Temperature and Precipitation</p>	
	<p>EC Bid Solicitation No. /SAP No. – N° de la demande de soumissions EC / N° SAP 5000024934</p>	
	<p>Date of Bid solicitation (YYYY-MM-DD) – Date de la demande de soumissions (AAAA-MM-JJ) 2016-09-09</p>	
	<p>Bid Solicitation Closes (YEAR- MM-DD) - La demande de soumissions prend fin (AAAA- MM-JJ)</p> <p>at – à 2:00 P.M. on – le 2016-10-21</p>	<p>Time Zone – Fuseau horaire Atlantic Daylight Savings Time</p>
	<p>F.O.B – F.A.B See herein.</p>	
	<p>Address Enquiries to - Adresser toutes questions à Jennifer Legere</p>	
	<p>Telephone No. – N° de téléphone 902-426-9940</p>	<p>Fax No. – N° de Fax 902-426-2690</p>
	<p>Delivery Required (YEAR-MM-DD) – Livraison exigée (AAAA- MM-JJ)</p> <p>See herein.</p>	
	<p>Destination - of Services / Destination des services</p> <p>See herein.</p>	
	<p>Security / Sécurité There is no security requirement associated with this requirement.</p>	
<p>Vendor/Firm Name and Address - Raison sociale et adresse du fournisseur/de l'entrepreneur</p>		
<p>Telephone No. – N° de téléphone</p>	<p>Fax No. – N° de Fax</p>	
<p>Name and title of person authorized to sign on behalf of Vendor/Firm: (type or print) / Nom et titre de la personne autorisée à signer au nom du fournisseur/de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</p>		
<p>Signature</p>	<p>Date</p>	



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PART 1 - GENERAL INFORMATION

1. Introduction

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Security and Insurance Requirements: includes specific requirements that must be addressed by bidders; and
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, the Basis of Payment, and mandatory requirements and evaluation criteria.

2. Summary

- 2.1 Environment Canada has a requirement for a Consultant to provide climate data analysis and evaluation services as detailed in the Statement of Work, Annex A to the bid solicitation. The work concerns daily maximum and minimum temperature and total precipitation observations for all viable stations in North America that report these observations from 1950 to 2015. Processing includes but is not limited to performing quality control of climate data and applying adjustments using procedures customized for spatial analysis purposes; correction for different definition of climatological day at principal and ordinary climate stations; development of algorithms to adjust manual and automated observations and integrate additional sources of meteorological observations from various networks in North America.

The period of the contract is from Contract Award March 31, 2017, with the option to extend the contract for one additional one year period, to March 31 2018.

For services requirements, bidders in receipt of a pension or a lump sum payment must provide the required information as detailed in article 3 of Part 2 of the bid solicitation.

The requirement is subject to the provisions of the North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT).

There are no security requirements associated with this requirement.



3. Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the PWGSC *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2016-04-04) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

The standard instructions 2003 are modified as follows:

Under “Text” at 02:

Delete: “Procurement Business Number”

Insert: “Deleted”

At Section 02 Procurement Business Number

Delete: In its entirety

Insert: “Deleted”

At Section 05 Submission of Bids, Subsection 05 (2d):

Delete: In its entirety

Insert: “send its bid only to Environment Canada (EC) as specified on page 1 of the bid solicitation or to the address specified in the bid solicitation;”

At Section 06 Late Bids:

Delete: “PWGSC”

Insert: “Environment Canada”

At Section 07 Delayed Bids:

Delete: “PWGSC”

Insert: “Environment Canada”

At Section 08 Transmission by Facsimile, Subsection 08 (1):

Delete: In its entirety

Insert: “Bids may be submitted by facsimile if specified in the bid solicitation.”

At Section 12 Rejection of Bid, Subsection 12 (1) a. and b.:

Delete: In their entirety

Insert: “Deleted”



At Section 17 Joint Venture, Subsection 17 (1) b.:

Delete: “the Procurement Business Number of each member of the joint venture,”

Insert: “Deleted”

At Section 20 Further Information, Subsection 20 (2):

Delete: In its entirety

Insert: “Deleted”

At Section 05 Submission of Bids, Subsection 05 (4):

Delete: “sixty (60) days”

Insert: “one hundred and twenty (120) days”

2. Submission of Bids

Bids must be submitted to Environment Canada (EC) at the address and by the date, time and place indicated on page 1 of the bid solicitation.

3. Former Public Servant – Competitive Bid

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPS, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada’s request and meet the requirement within the prescribed time frame will render the bid non-responsive.

Definitions

For the purposes of this clause, “former public servant” is any former member of a department as defined in the *Financial Administration Act*, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

“lump sum payment period” means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

“pension” means a pension or annual allowance paid under the *Public Service Superannuation Act* (PSSA), R.S., 1985, c.P-36, and any increases paid pursuant to the *Supplementary Retirement Benefits Act*, R.S., 1985, c.S-24 as it affects the PSSA. It does not include pensions payable pursuant to the *Canadian Forces Superannuation Act*, R.S., 1985, c.C-17, the *Defence Services Pension Continuation Act*, 1970, c.D-3, the *Royal Canadian Mounted Police Pension Continuation Act*, 1970, c.R-10, and the *Royal Canadian Mounted Police Superannuation Act*, R.S., 1985, c.R-11, the *Members of Parliament*



Retiring Allowances Act, R.S., 1985, c.M-5, and that portion of pension payable to the *Canada Pension Plan Act*, R.S., 1985, c.C-8.

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension? **Yes () No ()**

If so, the Bidder must provide the following information, for all FPS in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **Yes () No ()**

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

4. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated and the enquiry can be answered to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.



5. Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

8. Basis for Canada's Ownership of Intellectual Property

Environment Canada has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada, on the following grounds:

(6.4.1) the main purpose of the contract, or of the deliverables contracted for, is to generate knowledge and information for public dissemination;

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

Canada requests that bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (one (1) hard copy)
Section II: Financial Bid (one (1) hard copy)
Section III: Certifications (one (1) hard copies)
Section IV: Additional Information (one (1) hard copy)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders; and
- (3) print on both sides of the paper.

Section I: Technical Bid

In their technical bid, bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their



capability and describe their approach in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

Part 4, Evaluation Procedures, contains additional instructions that bidders should consider when preparing their technical bid.

Section II: Financial Bid

1.1 Bidders must submit their financial bid in accordance with the Basis of Payment at Annex B. The total amount of Applicable Taxes must be shown separately.

1.2 Price Breakdown

In their financial bid, the bidders are requested to provide a detailed breakdown of the price for the following elements for the performance of each task of the Work, as applicable:

- (a) Professional fees: For each individual and (or) labour category to be assigned to the Work, the bidders should indicate: i) the firm hourly rate or the firm daily rate, inclusive of overhead and profit; and ii) the estimated number of hours or days, as applicable. The bidders should indicate the number of hours in one working day.
- (b) Equipment (*if applicable*): The bidders should specify each item required to complete the Work and provide the pricing basis of each one, Canadian customs duty and excise taxes included, as applicable.
- (c) Materials and Supplies (*if applicable*): The bidders should identify each category of materials and supplies required to complete the Work and provide the pricing basis. The Bidder should indicate, on a per category basis, whether the items are likely to be consumed during the performance of any resulting contract.
- (d) Travel and Living Expenses (*if applicable*): The bidders should indicate the number of trips and the number of days for each trip, the cost, destination and purpose of each journey, together with the basis of these costs without exceeding the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the *National Joint Council Travel Directive* and with the other provisions of the directive referring to "travellers", rather than those referring to "employees".
- (e) Subcontracts (*if applicable*): The bidders should identify all of the proposed subcontractors and provide in their financial bid for each one a price breakdown.
- (f) Other Direct Charges (*if applicable*): The bidders should identify all of the categories of other direct charges anticipated, such as long distance communications and rentals, providing the pricing basis for each and explaining the relevance to the work described in Part 7 of the bid solicitation.
- (g) Applicable Taxes: The bidders should indicate the Applicable Taxes separately.



1.3 Bidders should include the following information in their financial bid:

- (a) Their legal name; and
- (b) The name of the contact person (including this person's mailing address, phone and facsimile numbers and email address) authorized by the Bidder to enter into communications with Canada with regards to their bid; and any contract that may result from their bid.

Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

1.1 Technical Evaluation

Except where expressly provided otherwise, the experience described in the bid must be the experience of the Bidder itself (which includes the experience of any companies that formed the Bidder by way of a merger but does not include any experience acquired through a purchase of assets or an assignment of contract). The experience of the Bidder's affiliates (i.e. parent, subsidiary or sister corporations), subcontractors, or suppliers will not be considered.

1.1 Technical Evaluation

1.1.1 Mandatory Technical Criteria

Mandatory technical criteria are outlined in Annex C.

1.1.2 Point Rated Technical Criteria

Point rated technical criteria are outlined in Annex C.

1.2 Financial Evaluation

1.2.1 Mandatory Financial Criteria

Financial bids will be evaluated in accordance with Annex B Basis of Payment and Annex C Mandatory Requirements and Evaluation Criteria.

1.2.2 Evaluation of Price

The price of the bid will be evaluated in Canadian dollars, the Applicable Taxes excluded, Canadian customs and excise taxes included.

2. Basis of Selection

2.1. To be declared responsive, a bid must:

- a. comply with all the requirements of the bid solicitation;
- b. meet all mandatory technical evaluation criteria; and



c. obtain the required minimum points for the technical evaluation criteria which are subject to point rating

2.2 Bids not meeting (a) or (b) or (c) will be declared non-responsive. Neither the responsive bid that receives the highest number of points nor the one that proposed the lowest price will necessarily be accepted. The responsive bid with the lowest evaluated price per point will be recommended for award of a contract, provided that the total evaluated price does not exceed the budget available for this requirement.

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and associated information to be awarded a contract.

The certifications provided by bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default in carrying out any of its obligations under the Contract, if any certification made by the Bidder is found to be untrue, whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority may render the bid non-responsive or constitute a default under the Contract.

1. Certifications Required Precedent to Contract Award

1.1 Integrity Provisions - Associated Information

By submitting a bid, the Bidder certifies that the Bidder and its Affiliates are in compliance with the provisions as stated in Section 01 Integrity Provisions - Bid of Standard Instructions 2003. The associated information required within the Integrity Provisions will assist Canada in confirming that the certifications are true.

2. Additional Certifications Required Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to comply with the request of the Contracting Authority and to provide the certifications within the time frame provided will render the bid non-responsive.

2.1 Status and Availability of Resources

The Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at the time specified in the bid solicitation or agreed to with Canada's representatives. If for reasons beyond its control, the Bidder is unable to provide the services of an individual named in its bid, the Bidder may propose a substitute with similar qualifications and experience. The Bidder must advise the Contracting Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

If the Bidder has proposed any individual who is not an employee of the Bidder, the Bidder certifies that it has the permission from that individual to propose his/her services in relation to the Work to be performed and to submit his/her résumé to Canada. The Bidder must, upon request from the Contracting Authority, provide a written confirmation, signed by the individual, of the permission given to the



Bidder and of his/her availability. Failure to comply with the request may result in the bid being declared non-responsive.

2.2 Education and Experience

PWGSC SACC Manual clause A3010T (2010-08-16) Education and Experience

PART 6 – SECURITY AND INSURANCE REQUIREMENTS

1. Security Requirement

There are no security requirements associated with this requirement.

2.0. Insurance Requirements

The Contractor is responsible for deciding if insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any insurance acquired or maintained by the Contractor is at its own expense and for its own benefit and protection. It does not release the Contractor from or reduce its liability under the Contract.



PART 7 - RESULTING CONTRACT

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

1. Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at Annex A.

2. Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the PWGSC *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

2.1 General Conditions

2010B (2016-04-04), General Conditions - Professional Services (Medium Complexity), as modified below, apply to and form part of the Contract.

General conditions 2010B is modified as follows:

At Section 12 Transportation Costs

Delete: In its entirety

Insert: "Deleted"

At Section 13 Transportation Carriers' Liability

Delete: In its entirety.

Insert: "Deleted"

At Section 18, Confidentiality:

Delete: In its entirety

Insert: "Deleted"

Insert Subsection: "35 Liability"

"The Contractor is liable for any damage caused by the Contractor, its employees, subcontractors, or agents to Canada or any third party. Canada is liable for any damage caused by Canada, its employees or agents to the Contractor or any third party. The Parties agree that no limitation of liability or indemnity provision applies to the Contract unless it is specifically incorporated in full text in the Articles of Agreement. Damage includes any injury to persons (including injury resulting in death) or loss of or damage to property (including real property) caused as a result of or during the performance of the Contract."

A. For professional services requirements where the deliverables are copyrightable works:

At Section 19 Copyright

Delete: In its entirety

Insert:

1. In this section:
"Material" means anything that is created or developed by the Contractor as part of the Work under the Contract, and in which copyright subsists.
"Background Information" means all Intellectual Property that is not Foreground Information that is incorporated into the Work or necessary for the performance



- of the Work and that is proprietary to or the confidential information of the Contractor, its subcontractors or any other third party;
"Foreground Information" means all Intellectual Property first conceived, developed, produced or reduced to practice as part of the Work under the Contract;
2. Material that is created or developed by the Contractor as part of the Work under the Contract belongs to Canada. The Contractor must incorporate the copyright symbol and either of the following notices, as appropriate: © Her Majesty the Queen in right of Canada (year) or © Sa Majesté la Reine du chef du Canada (année).
 3. At the request of the Contracting Authority, the Contractor must provide to Canada, at the completion of the Work or at such other time as the Contracting Authority may require, a written permanent waiver of moral rights as defined in the [Copyright Act](#), R.S., 1985, c. C-42, in a form acceptable to the Contracting Authority, from every author that contributed to the Work. If the Contractor is an author, the Contractor permanently waives the Contractor's moral rights.
 4. All Intellectual Property Rights in the Material belongs to Canada as soon as they come into existence. The Contractor has no right in or to any such Intellectual Property except any right that may be granted in writing by Canada.
 5. The Contractor also grants to Canada a non-exclusive, perpetual, irrevocable, worldwide, fully-paid and royalty-free license to use the Background Information to the extent that this information is required by Canada to exercise its rights to use the Material. This license cannot be restricted in any way by the Contractor providing any form of notice to the contrary, including the wording on any shrink-wrapped license attached to any deliverable.

2.2 Supplemental General Conditions

The following supplemental general conditions apply to and form part of the Contract:

4007 (2010-08-16) *Canada to own Intellectual Property Rights in Foreground*

3. Security Requirement

3.1 There is no security requirement applicable to this Contract.

4. Term of Contract

4.1 Period of the Contract

The period of the Contract is from date of Contract to March 31, 2017 inclusive.

4.2 Option to Extend the Contract

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to one (1) additional one (1) year period under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least 30 calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.



5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Jennifer Legere
Regional Manager, Atlantic
Procurement & Contracting Services
Environment and Climate Change Canada
17th Floor, 45 Alderney Drive, Dartmouth NS B2Y 2N6
Tel: 902-426-9940
Fax: 902-426-2690
E-mail: jennifer.legere@canada.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

5.2 Technical Authority

The Technical Authority for the Contract is: *(to be determined at Contract Award)*

The Technical Authority named above is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

5.3 Contractor's Representative

Name:
Company Operating Name:
Company Legal Name:
Address:
Telephone:
Fascimilie:
E-mail:

6. Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a *Public Service Superannuation Act (PSSA)* pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2012-2 of the Treasury Board Secretariat of Canada.

7. Payment

7.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid in accordance with the Basis of Payment at Annex B. Customs duties are *not applicable*, and Applicable Taxes are *extra*.



Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

7.2 Limitation of Expenditure

- (a) Canada's total liability to the Contractor under the Contract must not exceed \$ _____. (*To be inserted at Contract Award*) Customs duties are included and the Applicable Taxes are extra.
- (b) No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:
 - (i) when it is 75 percent committed, or
 - (ii) four (4) months before the contract expiry date, or
 - (iii) as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work,

whichever comes first.

- (c) If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

7.3 PWGSC SACC Manual Clauses

A9117C (2007-11-30) T1204 - Direct Request by Customer Department

8. Invoicing Instructions

8.1 Progress Payments

- 8.1.1 The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions.
- 8.1.2 Canada will make progress payments in accordance with the payment provisions of the Contract, no more than once a month, for cost incurred in the performance of the Work, up to 90 percent of the amount claimed and approved by Canada if:
 - (a) an accurate and complete claim for payment in the form of an itemized account and any other documents required by the Contract is submitted in accordance with the invoicing provisions of the Contract;
 - (b) the amount claimed is in accordance with the basis of payment;



- (c) the total amount for all progress payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Contract;
- (d) all such documents have been verified by Canada;
- (e) the work delivered has been accepted by Canada.

8.3 The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of all work required under the Contract if the Work has been accepted by Canada and a final claim for the payment is submitted.

8.4 Progress payments are interim payments only. Canada may conduct a government audit and interim time and cost verifications and reserves the rights to make adjustments to the Contract from time to time during the performance of the Work. Any overpayment resulting from progress payments or otherwise must be refunded promptly to Canada.

9. Certifications

9.1 Compliance

Compliance with the certifications provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

10. Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____. *(To be inserted by Bidder)*

11. Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) 4007 Supplemental General Conditions (2010-08-16) Canada to own Intellectual Property Rights in Foreground;
- (c) 2010B General Conditions - Professional Services (Medium Complexity) (2016-04-04) as modified;
- (d) Annex A, Statement of Work;
- (e) Annex B, Basis of Payment;
- (f) the Contractor's bid dated _____. *(To be inserted by Bidder)*

12. Insurance

The Contractor is responsible for deciding if insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any insurance acquired or maintained by the Contractor is at its own expense and for its own benefit and protection. It does not release the Contractor from or reduce its liability under the Contract.



ANNEX A STATEMENT OF WORK

1.0 TITLE

Processing Daily Temperature and Total Precipitation Datasets for Spatial Analysis and Evaluating Interpolated Surfaces of Climate Data

2.0 Background

The work involves updating, improving, and expanding Processed Daily Temperature and Precipitation Dataset for Gridding until 2015 (Optional 2017) (Processed_dlyT&tP_forGridding_v2015) and evaluating interpolated grids of climate data from ANUSPLIN (Australian National University Spline, 2015).

The work concerns daily maximum and minimum temperature and total precipitation observations for all viable stations in Canada and North America that report these observations from 1950 to 2015 (Optional 2017). Processing includes performing quality control of climate data and applying adjustments using procedures customized for spatial analysis purposes (Hopkinson 2005; Hutchinson 2009); correction for different definition of climatological day at principal and ordinary climate stations (Hopkinson, 2011); development of algorithms, computer programs and procedures to adjust manual and automated observations and integrate additional sources of meteorological observations from various networks in North America in the manner that screens for quality and spatial compatibility, ensures proper formatting of input data to ANUSPLIN, and aggregates higher resolution data into daily, monthly values and long-term averages.

The processed dataset will be used by the Landscape Analysis and Application Section, Canadian Forest Service (CFS) of Natural Resources Canada, to produce, with ANUSPLIN, high resolution daily and monthly temperature and precipitation surfaces and grids for the 1950-2015 (Optional 2017) period on 300 arc seconds Digital Elevation Model (DEM) resolution (McKenney, 2011; NRCAN, 2015), and the updated set of optimized 1971-2010 and 1981-2010 gridded averages (Hopkinson et al., 2012). The evaluation of ANUSPLIN modeled surfaces involves evaluation of model statistics and test runs that need to be carefully assessed for outliers and climatological cohesiveness.

The set is also used for interpolation in other various satellite/model blended applications and grids. All resultant high temporal and spatial resolution gridded temperature and precipitation fields are required for validation of regional climate models, in hydro-meteorological modeling and related applications used for drought and flood prediction, crop management, management of forest ecosystems, verification of high resolution precipitation products from satellites, etc. Grids of long-term averages are important reference fields in various environmental studies.

References

ANUSPLIN. 2015. Australian National University
[\[http://fenner.school.anu.edu.au/research/products/anusplin\]](http://fenner.school.anu.edu.au/research/products/anusplin)

Hopkinson, R.F. (2005). Making the most of the archive flags for temperature and precipitation for daily climate gridding. Internal report prepared for Environment Canada under contract KM040-05-6052R, 16pp.

Hopkinson, R. F., D. W. McKenney, E. J. Milewska, M. F. Hutchinson, P. Papadopol, and L. A. Vincent (2011). Impact of aligning climatological day on gridding daily maximum–minimum temperature and precipitation over Canada. *J. Appl. Meteor. Climatol.*, 50, 1654–1665.



Hopkinson, R. F., M. F. Hutchinson, D. W. McKenney, E. J. Milewska, and P. Papadopol (2012). Optimizing input data for gridding climate normals for Canada. *J. Appl. Meteor. Climatol.*, 51, 1508-1518.

Hutchinson, M., McKenney, D.W., Lawrence, K., Pedlar, J.H., Hopkinson, R.F., Milewska, E. and P. Papadopol (2009). Development and testing of Canada-wide interpolated spatial models of daily minimum/maximum temperature and precipitation for 1961-2003, *J. App. Met. and Climatology*, 48: 725-741, doi: 10.1175/2008JAMC1979.1

McKenney, D. W., M. F. Hutchinson, P. Papadopol, K. Lawrence, J. Pedlar, K. Campbell, E. Milewska, R. F. Hopkinson, D. Price, and T. Owen (2011). Customized Spatial Climate Models for North America. *Bull. Amer. Meteor. Soc.*, 92(12), 1611-1622.

NRCan (2015). Regional, national and international climate modeling, Natural Resources Canada, Canadian Forest Service [<http://cfs.nrcan.gc.ca/projects/3>]

3.0 Work Proposed

The Contractor will be preprocessing archived and other supplementary climate data, and evaluating interpolated fields in the context of their climatological and statistical validity:

Fiscal Year 2016/2017

- 1) Pre-process Canadian daily maximum and minimum temperature and total precipitation for 2014 and 2015 contained in Environment and Climate Change Canada (ECCC) climate archives:
 - a. Apply quality control checks to correct any errors in location, elevation, and observed values; use flagged values to distribute Accumulated precipitation and integrate Trace amounts; align daily observations from ordinary and principal stations for the same observing time; convert to the format acceptable by ANUSPLIN.
 - b. Evaluate consistency and accuracy of the derived ANUSPLIN surfaces.
 - c. Write summary reports regarding 1) a. and b. above.

- 2) Integrate all available years up to 2015 of temperature and precipitation observations from supplementary high elevations and sparse northern provincial and private networks in British Columbia (BC) :
 - a. Assess suitability and perform quality control of the data by comparing to the ECCC stations and regional estimates; if applicable, compute daily values from hourly observations and adjust for different observing window where feasible; convert to the format acceptable by ANUSPLIN.
 - b. Evaluate test runs and final grid values from ANUSPLIN over BC: first, by predicting the values at the supplemental sites using the existing ANUSPLIN surfaces (withheld data test), second, by comparing newly developed ANUSPLIN modeled surfaces from the combined ECCC and supplemental data with existing ones based on the ECCC data alone.
 - c. Write a technical paper on the integration of the BC supplementary networks and the impacts on the ANUSPLIN modeled surfaces.

- 3) Aggregate updated daily Canadian datasets for 2014-2015 and new supplementary BC data up to 2015 into monthly summaries.



- 4) Process daily maximum and minimum temperatures and total precipitation observations for 1950-2015 from regional and national networks in the United States (U.S.) and Mexico to ensure spatial compatibility with the Canadian data:
 - a. Perform quality control to correct observing errors; align the daily observations according to the Canadian observing dates and times appropriate for the observed climate element; where required, e.g. at principal stations, derive daily values from hourly observations.
 - b. Evaluate integrity and accuracy of new N. American daily ANUSPLIN model surfaces by assessing error statistics and withheld data tests.
 - c. Write a technical paper on merging of N. American daily temperature and precipitation data and accuracy of interpolated grids.

OPTIONAL Fiscal Year 2017/2018

- 5) Integrate adjusted total precipitation daily data from 2100+ manual stations (already corrected for evaporation and wetting losses, wind undercatch, trace and snow water equivalent adjustment factors) and autostations (e.g. Geonor automated gauges at the Reference Climate Station network and Surface Weather Network already corrected for inadvertent filtering out of small values and wind undercatch) by performing additional spatial Quality Control and evaluating new ANUSPLIN surfaces.
- 6) Update the Canadian Processed_dlyT&tP_forGridding and the North American dataset for the years 2016-2017 as per steps 1)-4) above.
- 7) Identify gauge type, where feasible based on observing station/network type and other available metadata; develop procedures using existing transfer functions and creating new ones if required, and adjust the various major types of U.S. precipitation gauges, e.g. NWS 8-inch standard gauges, for wind undercatch, evaporation, and other factors, to bring them up to true value and in line with the Canadian gauges; evaluate and compare ANUSPLIN surfaces for selected years and overall model statistics with the adjusted vs. unadjusted automated U.S. gauges.

NOTE RE: 1) to 7) above: After completion of each task listed above, provide by e-mail and/or ftp/DVD a digital copy of final versions of all relevant programs and data sets developed, applied, and used in the aforementioned computations to the Scientific Authority, along with brief outline describing purpose and input/output of all procedures.

4.0 Deliverables

By 15 March 2017

RE: 1) A set of quality controlled and aligned for climatological day daily maximum and minimum temperature and precipitation station data for Canada for 2014-2015, along with summary report.

RE: 2) A set of quality controlled and aligned for climatological day daily maximum and minimum temperature and precipitation station data from supplementary networks in BC for up to 2015; the technical paper on the integration of supplementary BC data that describes data pre-processing and evaluation of ANUSPLIN model surfaces done in 2) a. and b.

RE: 3) A set of monthly summaries derived from the updated daily datasets for Canada for 2014-2015 and for supplementary stations in BC until 2015.

RE: 4) A set of quality controlled and aligned for climatological day daily maximum and minimum temperature and precipitation station data for North America for 1950-2015; the technical paper on



the merging of North American data that describes data pre-processing and evaluation of ANUSPLIN model surfaces done in 4) a. and b.

By 15 March 2018 (Optional)

Re: 5) A set of Quality Controlled adjusted total precipitation station data along with the report comparing the new ANUSPLIN models with the previous ones.

Re: 6) A set of quality controlled and aligned for climatological day daily maximum and minimum temperature and precipitation station data for entire North America for 2016-2017, along with summary report.

RE: 7) A set of the U.S. precipitation data adjusted for the wind undercatch and evaporation, etc., for compatibility with the Canadian datasets; technical summary report describing the adjustment procedures and their impacts.

Digital copies of programs and data sets, with related documentation, by e-mail and/or ftp/DVD.



**ANNEX B
BASIS OF PAYMENT**

The prices below are firm, all-inclusive prices for the work as described in the Statement of Work at Annex A.

Deliverable	Expected Delivery Date	Firm Price
1	November 2016	
2	January 2017	
3	January 2017	
4	March 15 2017	
<i>Total - Year 1 (Contract award to March 31 2017)</i>		
5		
6		
7		
<i>Total - Option Year 2 (April 1, 2017 to March 31, 2018)</i>		
Subtotal (Year 1 + Option Year 1)		
Taxes (@ 13%)		
Total		

Dates are subject to change based on Contract Award date.

Price Breakdown for Deliverables:

Deliverable	Professional Fees	Materials/equipment/supplies	Other	Total
1				
2				
3				
4				
5				
6				
7				
8				

No travel costs will be reimbursed under this contract.



ANNEX C-1 Mandatory Technical and Point Rated Requirements and Bid Evaluation

EVALUATION OF BIDS

Environment Canada will evaluate the bids received based on the following:

- a) compliance with the terms and conditions of this solicitation;
- b) mandatory technical criteria;
- c) point rated technical criteria;
- d) financial proposals.

Evaluation Criteria

Proposals meeting the mandatory requirements will be evaluated in accordance with the following criteria.

1.0 Minimum Mandatory Criteria

- 1.1 The Bidder must demonstrate previous experience working with climate data, especially working knowledge of observations from meteorological/climate networks/programs.
- 1.2 Proposals must include resumes of proposed personnel.
- 1.3 Proposed personnel must have a minimum of a Bachelor of Science degree in a discipline relevant to the research.
- 1.4 Proposed personnel must have qualifications in meteorology.

2.0 Point Rated Criteria

2.1 Technical Proposal (40 points total)

Proposed approach and methodology; recognition of direct and peripheral problems with related solutions. Bidders must demonstrate the following:

- i) In depth knowledge of the Canadian and U.S. climate archive records, surface observations and related metadata. **4 points**
- ii) Knowledge of observing station types, observing practices and procedures and manual and automated instrumentation, and their historical changes, e.g. different climate day definitions at various stations. **4 points**
- iii) Ability to develop methodology to correct errors and adjust all daily records of temperature and precipitation, using automated procedures, in order to ensure their spatial compatibility. **4 points**
- iv) Ability to evaluate physical and meteorological validity of climate fields of daily and monthly temperature and precipitation surfaces from ANUSPLIN model. **4 points**
- v) Ability to use visualization tools, like Geographic Information System (GIS). **4 points**



- vi) Ability to analyse statistical interpolation error and model validation values. **4 points**
- vii) Experience and knowledge of ANUSPLIN interpolation principles. **4 points**
- viii) Ability to develop and run automated algorithms to ensure spatial and temporal compatibility of the Canadian and the North American daily climate records of temperature and precipitation. **4 points**
- ix) Ability to use high level programming language to perform high volume data processing. **4 points**
- x) Ability to write clear and concise technical notes and reports. **4 points**

2.2 Proposed Team (40 points total)

Bidders must provide detailed resumes, copies of certifications, and any other documentation required to demonstrate the following:

2.2.1 Past relevant experience (20 points)

Each team member must provide examples of past projects of similar size and scope. Details must include client/institution, time period, cost (if applicable), results/outcome for a minimum of three projects (four points each). Bidders must also provide four relevant publications (two points each).

2.2.2 Education (10 points)

Each team member must have a minimum of a Bachelor of Science degree from a recognized post-secondary institution in a discipline relevant to the research (i.e. Meteorology, Physics and/or Mathematics or combination of relevant experience). Masters of Science or PhD is preferred and will be awarded points accordingly (e.g. PhD in Meteorology would be awarded full points). At least one team member must have a PhD.

2.2.3 Qualifications (10 points)

Each team member must provide details regarding any additional training, relevant employment experience, and/or certifications/licenses they possess, including but not limited to the following: MSC Certified Meteorologist, Canadian Meteorological and Oceanographic Society (CMOS) Accreditation; University Diploma or Certificate in Meteorology); current/past employment in the field of Meteorology. (Two points will be awarded for each relevant qualification to a maximum of 10 points).

2.3 Company (10 points total)

Bidders will be evaluated on past performance (technical and administrative) of the company as a whole. Bidders must provide examples of past projects of similar size and scope. Details must include client/institution, time period, cost (if applicable), and results/outcome for a minimum of two projects (five points each).

Technical Proposals must obtain a minimum of 25 points to be considered further.

3.0 Financial Proposals (10 points total)

The proposal with the lowest price receives the maximum 10 points, and all higher priced proposals will be pro-rated relative to the lowest price.



Example:

Bidder	Financial Bid	Points Awarded
Company A	100,000.00	5
Company B	50,000.00	10
Company C	150,000.00	3.34
Company D	115,000.00	4.35
Company E	85,000.00	5.88

Where Company C: $\frac{50,000.00}{150,000.00} \times 10 = 3.34$ points

Company A: $\frac{50,000.00}{100,000.00} \times 10 = 5$ points

Company E: $\frac{50,000.00}{85,000.00} \times 10 = 5.88$ points

etc.

A minimum score of 70% overall (combined technical and financial) must be obtained for the proposal to be considered responsive.



**Annex C-2
Mandatory and Point Rated Evaluation Grid**

Mandatory and point rated requirements and evaluation criteria are provided in the tables below. For each mandatory criterion, Bidders must indicate whether the requirement is met, and identify the page(s) where each criterion is demonstrated in the documentation provided with the bid. Canada may verify any and all information relating to these requirements.

Criterion	Description	Page Number Reference <i>(to be completed by Bidder)</i>	Total Possible Points	Points Awarded <i>(To be completed at Evaluation)</i>	Comments <i>(To be completed at Evaluation)</i>
<u>Mandatory Criteria</u>					
1.1	The Bidder must demonstrate previous experience working with climate data, especially working knowledge of observations from meteorological/ climate networks/programs.		N/a	N/a	
1.2	Proposals must include resumes of proposed personnel.		N/a	N/a	
1.3	Proposed personnel must have a minimum of a Bachelor of Science degree in a discipline relevant to the research.		N/a	N/a	
1.4	Proposed personnel must have qualifications in meteorology.		N/a	N/a	
<u>Technical Proposal (40 points total)</u>					
i)	In depth knowledge of the Canadian and U.S. climate archive records, surface observations and related metadata.		4		
ii)	Knowledge of observing station types, observing practices and procedures and manual and automated instrumentation, and their historical changes, e.g. different climate day definitions at various stations.		4		
iii)	Ability to develop methodology to correct errors and adjust all daily records of temperature and precipitation, using automated procedures, in order to ensure their spatial compatibility.		4		
iv)	Ability to evaluate physical and meteorological validity of climate fields of daily and monthly temperature and precipitation surfaces from ANUSPLIN model.		4		
v)	Ability to use visualization tools, like		4		



	Geographic Information System (GIS).				
vi)	Ability to analyse statistical interpolation error and model validation values.		4		
vii)	Experience and knowledge of ANUSPLIN interpolation principles.		4		
viii)	Ability to develop and run automated algorithms to ensure spatial and temporal compatibility of the Canadian and the North American daily climate records of temperature and precipitation.		4		
ix)	Ability to use high level programming language to perform high volume data processing.		4		
x)	Ability to write clear and concise technical notes and reports.		4		
<u>Proposed Team (40 points total)</u>					
	Experience		20		
	Education		10		
	Qualifications		10		
<u>Company (10 points total)</u>					
	Company – Past Experience		10		
Total Points for Technical Proposal			90		
Total Points for Financial Proposal			10		
Overall Score (Technical + Financial)					