

Release date: **9 March 2010**
Lake Champlain Basin Program Announcement

Request for Proposals

Climate Change Projections and Impact on the Hydrologic Regime of Lake Champlain Tributaries

The Lake Champlain Basin Program (LCBP) is pleased to announce a Request for Proposals (RFP) for an expert review of established climate change projections and anticipated consequent changes in the hydrologic regimes of major tributaries within the Lake Champlain Basin. Up to \$64,000 is available for this study. Because tributary phosphorus load is closely related to the hydrologic regime of tributaries, this project will support the goal of reducing phosphorus pollution, as outlined in the LCBP's long-term management plan, *Opportunities for Action: An Evolving Plan for the Future of the Lake Champlain Basin*. Funding for this RFP is from the US Environmental Protection Agency.

The LCBP seeks proposals for a review of predictions from existing climate change models and a synthesis of the results of leading models to provide the best available projections for the Lake Champlain Basin. The task also includes the development of an informed analysis of how watershed hydrology is likely to change, including patterns and character of precipitation, seasonality and severity of tributary flooding. Outcomes of the project must anticipate likely changes to the hydrologic regime within the Lake Champlain basin and relate these changes to stormwater designs. Prior to submission of a final report, the contractor will coordinate a workshop meeting, open to all interested parties, to present findings and facilitate a discussion of phosphorus management implications given the findings of this project, and incorporate results from this discussion into the final report.

This Request for Proposals is available from the Lake Champlain Basin Program website. Look for the link on our homepage at www.lcbp.org. To receive a copy of the RFP via US Postal Service, contact the Lake Champlain Basin Program office at (802)372-3213 or toll free at (800)468-LCBP in New York and Vermont.

To facilitate the review process, applicants must submit proposals in both paper and electronic format. Please see the RFP and the attached proposal format information for complete details.

DEADLINE NOTICE:

Hardcopy (8 copies) and electronic versions (no facsimiles) of proposals must be RECEIVED by the Lake Champlain Basin Program office by 4:30pm on:

May 7th, 2010

LATE OR INCOMPLETE PROPOSALS WILL NOT BE CONSIDERED.

The successful applicant will be notified by **June 30th, 2010**.

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Request for Proposals

Climate Change Projections and Impacts to the Hydrology of Lake Champlain Tributaries

I. Background

Many organizations within the Lake Champlain basin are allocating resources to predict the impacts of climate change to numerous aspects of the Lake Champlain ecosystem. The Lake Champlain Basin Program has identified the need for acknowledgement and coordination of these efforts, particularly with respect to the hydrologic component of the Basin. Existing and ongoing climate change modeling programs currently predict warmer temperatures and a potential increase in rainfall events within the next century. Analyses of recent climate data corroborate these predictions, indicating that streamflow discharge has increased in some Lake Champlain subwatersheds over the past half-century. Increased tributary flows to Lake Champlain have the potential to greatly alter many facets of the ecosystem, including elevated nutrient loadings, wetland systems, shallow water habitats, and demands on existing stormwater management systems. Existing stormwater management designs may be under-designed if average stormflows increase significantly over the next few decades.

The scope of this Request for Proposals is to conduct a review of current climate change models relevant to hydrologic impacts to the Lake Champlain Basin and provide a synthesized analysis of how the hydrology is likely to change, with particular reference to changes to the hydrologic regime and impacts to existing stormwater management designs. The final product of this study should provide Basin managers with the necessary information to guide strategic (i.e. long-range) management decisions for the hydrologic network using predictive information from appropriate climate change models and provide guidance for managers to update stormwater management designs. The successful applicant also will be responsible for coordinating a workshop near the conclusion of this project to present their findings to all interested parties and to facilitate discussion of the implications of the findings of this study.

II. Climate Change Synthesis and Analysis tasks.

The Lake Champlain Basin Program (LCBP) is seeking proposals for technical services to perform the following tasks:

1. Build and expand upon reviews of existing analyses of leading models of climate change based on established Atmospheric General Circulation Models (AGCMs) that result in projections of climate for the region of the Lake Champlain Basin for a 100-year projection period. During the model selection portion of the project, a brief summary of candidate models will be reviewed with the LCBP and approved prior to their final selection for use in this study.
2. Prepare a synthesis of the predictions of the selected AGCMs that characterize the likely climatic conditions in the region of the Lake Champlain Basin, including a

characterization of accuracy, errors, and special conditions resulting from the interpretation.

3. Prepare an analysis of how Lake Champlain tributary watershed hydrology is likely to change in the projection period, including changed patterns and character of precipitation and the seasonality and severity of tributary flooding.
4. Provide inferences in the form of a sensitivity analysis toward likely changes in hydrology given potential increases in human population and increases in impervious surfaces within the Basin.
5. Describe changes in existing river corridor and stormwater management designs and urban and agricultural stormwater retention designs necessary to limit phosphorus load, given predicted changes in precipitation and stormflows over the next 100 years.
6. Prior to submission of the final report, organize and coordinate a workshop meeting open to all interested parties to present the findings of this study and to facilitate a discussion of the impacts of changes to the hydrology due to projected climate change and implications for stormwater management designs in the Basin. Results from this discussion will be incorporated into the final report for the project.

III. Summary of Other Requirements for the Selected Proposal

- For the selected proposal, following initial notification of the award, an approved workplan will be required before a grant agreement can be executed and the work begun. This workplan should be submitted to the LCBP for review by **August 13th, 2010**.
- The successful applicant will be required to prepare a Secondary Data Quality Assurance Project Plan (QAPP). This Secondary Data QAPP must be approved by the LCBP before work can begin on this project.
- The successful applicant will be required to prepare brief quarterly reports documenting progress on each objective and task in the project (see attached Proposal Format Requirements). A final report fully documenting the project's results will be required at project completion, no later than **July 29th, 2011**.
- When approved, the final report will be edited for content and style in consultation with the consultant and published as part of the Lake Champlain Basin Program's Technical Report Series.
- The consultant will be required to present interim and final project results to the appropriate LCBP committees, such as the Technical Advisory Committee and/or the LCBP Steering Committee, for their review.

IV. Eligibility

Eligible organizations include colleges, universities, nonprofit organizations, for-profit companies, and government agencies. The selected contractor will be responsible for the completion of all project tasks, though subcontracted work may be permitted by the LCBP Project Officer upon request.

V. Proposal Evaluation and Selection Criteria

Proposals will be judged according to how well they address the following points:

1. Demonstrated knowledge of existing Atmospheric General Circulation Models pertaining to the northeastern US and Eastern Canada, other climate change models, and the quality of their output as applied toward the Lake Champlain basin.
2. Demonstrated knowledge of existing meteorological and hydrological data currently available for the Lake Champlain basin.
3. Technical merit and applicability of the proposed product toward priority objectives identified within the Climate Change Synthesis and Analysis tasks listed in this RFP and technical qualifications of the investigators.
4. Potential for the project to enhance the technical capabilities and nonpoint source phosphorus load management within the Lake Champlain Basin.
5. Clarity, conciseness and adherence to the proposal guidelines.
6. Demonstrated ability to create documents and products that are accessible to and can be used by local partners working to address impacts of climate change within the Lake Champlain basin.

VI. Available Funds and Match Requirements

A total of \$64,000 is available for this project. Match is not required.

VII. Period of Performance

Work is to be completed within twelve (12) months of the execution of a grant agreement and no later than **July 29th, 2011**.

VIII. Schedule and Requirements for Proposal Submission

- Please follow the format outlined in the attached Technical Proposal Format Requirements.
- Eight (8) paper copies of each proposal must be RECEIVED by the LCBP office by 4:30pm on MAY 7th, 2010. Please submit paper copies bound only with a single staple or binder clip.
- *In addition*, an ELECTRONIC VERSION of the proposal, either on disk or via e-mail must be submitted. Electronic versions must also be RECEIVED by 4:30pm on MAY 7th, 2010.

IX. Contact Information

Direct all proposals and other inquiries to:

Eric Howe
Technical Coordinator
Lake Champlain Basin Program
54 West Shore Road
Grand Isle, VT 05458
(802)372-3213
ehowe@lcbp.org

Technical Proposal Format Requirements

Proposals should adhere to the following format and should not exceed a 10 page maximum length (font size 12), NOT including budget information, references cited and investigator resumes.

TITLE: - Concise and descriptive.

POINT OF CONTACT: Name, organization, address, telephone, fax and email.

ABSTRACT: Brief description of proposed work.

INTRODUCTION: Overview of what the project is and what it will accomplish in relation to the RFP.

OBJECTIVES AND TASKS: List the project's objectives and describe in detail the tasks that will be performed relative to each objective, including methods and approaches.

DELIVERABLES: Detailed description of the planned products from each task of the project. Quarterly progress reports and a final report are required deliverables.

SCHEDULE: Timeline showing anticipated dates for completion of the major tasks and deliverables. Quarterly progress reports are due on the last day of December, March, June, and September. Work is to be completed within twelve (12) months after the execution of a contract or grant.

DETAILED BUDGET JUSTIFICATION: Cost breakdown by major budget categories (i.e. personnel, equipment), linking costs to specific tasks/deliverables wherever possible. Breakdown should show costs to be covered by the LCBP award and other sources (if applicable), as well as the any match amounts and totals. (1 page, not included in the 10 page maximum total for the proposal).

TECHNICAL REFERENCES CITED: List all references used for the proposal (not included in the 10 page maximum total for the proposal).

CURRICULUM VITAE/RESUME OF PRINCIPAL INVESTIGATORS: Include up to 3-5 references for prior work pertinent to the proposed project. Please limit to one page per investigator, not included in the 10 page maximum total for the proposal.