

Terms of Reference for Aquaculture GIS Support

Background

The Nature Conservancy's Global Aquaculture program seeks a contractor to provide technical GIS services for an aquaculture spatial planning project.

The contractor will focus on delivering work products that include: a) calibration of remotely sensed data products and models using in-situ ground truth data, b) developing GIS training modules for aquaculture spatial analysis (remote sensing data acquisition and processing), c) composing remotely sensed data section of the Guidance report, d) developing short-term and long-term climate forecast data, e) assisting with data archiving of spatial data products.

Scope of Work

- a. Validating and calibrating remotely sensed data products (e.g. sea surface temperature, chlorophyll-a, turbidity) and the wave model using in-situ ground truth data via Python, ArcGIS tools, and other custom tools. The project will involve:
 - i. Organizing and processing in-situ data;
 - ii. Evaluating remote sensing data sources (e.g. accuracy, missing data);
 - iii. Calibrating remote sensing data and review the calibration results by comparing to literature;
 - iv. Tuning the physical parameters of a wind-driven wave model (i.e. SWAN);
 - v. Developing statistics of calibrated data as raster layers and incorporate the layers into spatial analysis.
- b. Developing and refining GIS training modules on remote sensing data acquisition and processing. Training modules will include custom GIS tools that detail step-by-step lab exercises, associated data files, and Powerpoint slide decks.
- c. Composing sections of a guidance document, including literature review, methods, and map results.
- d. Evaluating climate forecast model options, develop short-term and long-term climate forecast data (e.g. sea surface temperature), and providing ways to incorporate climate resilience into spatial analysis models (e.g. suitability scoring schemes).
- e. Exporting spatial data products and organizing data for archiving. Ensuring sufficient metadata information, format, and quality checks.

Desired Qualifications

- Bachelor's degree, advanced degree preferred
- Experience processing remotely sensed datasets
- Experience preparing reports
- Significant experience using Python scripting and Esri ArcGIS products

Contract Duration

Approximately 300 hours, beginning **March 16th, 2021**.

Submission Requirements

- Statement of qualifications and relevant previous experience
- A detailed quote for the scope of services, including a timeline for completion

Note: this contract will be paid with US federal funds and therefore the contractor must be (1) eligible to receive payment that comes from the US government and (2) will be able to comply with certain US mandated terms and conditions.

Deadline

Proposals should be received by TNC no later than **March 2nd, 2021** at 5:00 pm eastern. Please send proposals to aquaculture@tnc.org.

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