

## GIS Contractor 3/17/21

The Association to Preserve Cape Cod is looking for an independent contractor to provide GIS support to a number of critical projects (listed below). Respondents should submit a letter of interest detailing a proposed response to meeting APCC's project needs, experience with similar projects and a proposed hourly rate of service to [info@appc.org](mailto:info@appc.org). Applications will be accepted until the contract is awarded.

A successful applicant will be expected to demonstrate the ability to work independently, be responsive to team needs, be timely and accurate in the creation of work product and able to identify issues and propose technical solutions to help the project team meet program objectives. An applicant will be expected to have the following:

### **Education and training:**

- College major in GIS or geographic sciences with demonstrated application of GIS to a specific project(s);
- Or, undergraduate degree in environmental science or related field AND graduate-level courses or GIS certificate or graduate degree in GIS, with demonstrated application of GIS to a specific GIS project(s).

### **Experience:**

- At least 5 years of professional job experience in using GIS to address specific GIS-based projects and organizational needs;
- Use of GIS data to create static maps and online interactive maps;
- Ability to use GIS data to analyze data and trends through geoprocessing;
- Familiarity with coordinate systems and different map projections;
- Ability to convert and create data from tabular sources (i.e., .xls, .txt );
- Use of different ESRI GIS systems (e.g., ArcGIS Online and ArcGIS for Desktop suite and ability to plan and advise which systems are best suited for a task, and if needed, to transfer projects from one system to another (e.g., ArcGIS Online to ArcGIS for Desktop);
- Experience publishing to ArcGISOnline
- Familiarity with existing GIS databases and platforms (e.g., Cape Cod Commission's GIS portal, MassGIS, USGS geospatial datasources and National Geospatial Program, Google Maps, and other geospatial platforms);
- Experience in the creation of storymaps.

What follows is a summary of the highlights of projects the contractor will be asked to work on. The work associated with these projects is episodic and can be scheduled based on APCC's needs, the time required to complete tasks and the contractor's availability.

## **Projects:**

### **Cyanobacteria Monitoring Program**

#### **Tasks**

- Review and improve the interactive map of the program's findings at <https://apcc.org/our-work/science/community-science/cyanobacteria/>
  - Improvements to be considered may include:
    - See the “report a cyanobacteria bloom” at the following link that runs through arc online. Look into creating a similar page. <https://ahs-vt.maps.arcgis.com/apps/webappviewer/index.html?id=a46d42c05e864a198ab5dc152f9d09b9>
    - See the “Subscribe to beach alerts” system. Look into making a similar email alert system based on our findings that are reported on the map. [http://publicapps.odh.ohio.gov/beachguardpublic/?utm\\_medium=email&utm\\_source=GovDelivery](http://publicapps.odh.ohio.gov/beachguardpublic/?utm_medium=email&utm_source=GovDelivery)
  - Above all, ensure the interactive map is easy to edit for APCC staff to fill in data entries daily

**Timeframe:** Preferable to have work completed by the start of the monitoring season (May 15, 2021) and stay consistent throughout the summer.

#### **State of the Waters: Cape Cod: <https://capecodwaters.org> .**

- Use environmental data to create GIS maps for an interactive website. Data are for coastal embayments, coastal stations, ponds and drinking water suppliers, with information on coordinates of monitoring stations, monitoring parameters, years of monitoring, and parameter values. Data are provided in Excel .csv or .xls spreadsheets. Environmental data in Excel spreadsheets will be from many sources (e.g., Cape Cod Commission, towns, organizations, agencies, etc.), so compilation into one consistent database and QA/QC are important.
- Produce GIS maps showing locations of monitoring stations and values of parameters based on the templates used in previous years.
- Develop map features for our interactive website at <https://capecodwaters.org> that will enable users to easily navigate and drill down into monitoring data, including map legends, layers to turn off/off, popups for stations that provide information on that station including links to other areas of the website, etc.
- Create stand-alone PDF or JPEG maps for outreach purposes;
- Provide QA/QC at each step of product development.
- Examine and suggest improved methods of displaying findings such as through a web app that could provide a more user friendly experience.

**Timeframe:** An annually occurring project. Water quality grades and maps are updated annually. APCC obtains data from various sources in late spring, GIS mapping is done in late spring-summer, and must be finalized by August 1 in time for early fall rollout at APCC's annual meeting.

## Cape Cod Critical Habitats Atlas

- Similar to State of the Waters in that it involves collecting existing data and GIS datalayers on sensitive natural habitats and compiling them to create a GIS map for one interactive website. Existing data include data from our monitoring reports, MassGIS datalayers (e.g., certified vernal pools, BioMap, natural communities), and other data sources with geospatial information.
- Existing map needs to be repaired. Some datalayers on the existing map are nonfunctional, while others are outdated.
- For more information visit: <https://www.arcgis.com/home/item.html?id=94f9d2f778994d15bc21a311dec8ee70> and <https://www.arcgis.com/home/webmap/viewer.html?webmap=94f9d2f778994d15bc21a311dec8ee70>

**Timeframe:** The timing of this project is flexible.

## APCC/HAC Mapping Project

### Tasks

- Town-by-town map cleanup, involving:
  - adding missing open space parcels
  - adjusting MassGIS datalayers for natural resource areas to correct/remove mapping errors
  - clipping out hexagons from housing layers in specific locations (golf courses, high-end condo complexes, landfills, etc.)
  - general final cleanup of the map appearance (labels, color, etc.)
- Coordinate, through APCC, with HAC and Cape Cod Commission on datalayer additions, deletions or other manipulations of the map; final product technical quality review will be conducted by Cape Cod Commission GIS dept.
- Possible assistance with placing maps on a project website.
- Possible assistance in preparing maps and map datalayers for distribution to towns.

**Timeframe:** Ideal time period for work would be spring through summer 2021, with the possibility of additional map refinements extending into fall. Any coordination with website work would be later.

## RCC Mapping Projects

### Tasks

- Annual update of the RCC inventory map
  - Delete old or non-priority projects
  - Add new projects

- Categorize and color code projects for easy sorting/viewing (e.g. completed, stormwater, fish passage, salt marsh, etc.)
- Sync updates to map on [www.apcc.org](http://www.apcc.org)
- Develop and provide PDF or JPEG maps of subsets of projects as needed.
- Annual restoration monitoring map development
  - Take old and new GPS files and combine with other field data as appropriate to create GIS maps
  - Provide PDF and JPEG maps for reports

**Timeframe:**

- Update of the RCC map is flexible but would be best done in first half of 2021 with new information recently collected. Other maps may be requested in late 2021 to assist with planning for future CCWRRP projects.
- Restoration monitoring field work occurs June – September. Creation of maps would follow for reporting due typically by end of year. Ideally would have draft maps created as work is done with final map creation and edits in early fall (September/October).