

New Jersey's Coastal Ecological Restoration and Adaptation Plan (CERAP)

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What is the CERAP? The New Jersey Department of Environmental Protection (DEP) is developing a Coastal Ecological Restoration and Adaptation Plan (CERAP) for New Jersey's (NJ)'s coastal marshes, estuaries and back-bays.

Efforts to protect, enhance, or restore coastal habitats require accurate identification of at-risk areas that may be experiencing a variety of stressors on multiple spatial scales. To evaluate the need for and location of appropriate intervention strategies and tactics, it was deemed necessary to determine the magnitude of place-based stressors or as we refer to them here as **Issues of Concern (IOC)**. Eight IOC's have been identified, including:

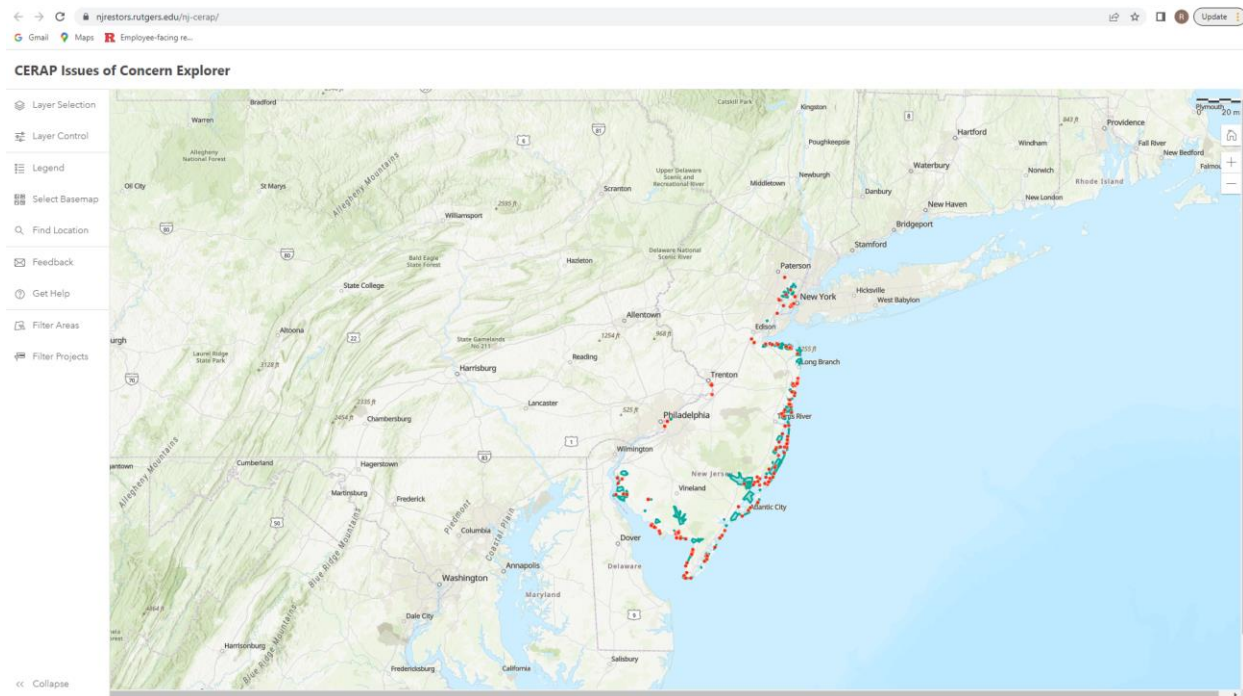
- Coastal Ecosystem Degradation and Habitat Loss
- Shoreline Erosion
- Coastal Flood Damage
- Nuisance Flooding
- Coastal Storm Damage
- Water Quality Degradation
- Loss of CO₂ Sequestration
- Overburdened Communities

The IOCs are stated not as goals to be met but more as a potential vulnerability. Take for example, water quality. From an IOC perspective, we are concerned about identifying areas where water quality is degraded, i.e., where water quality is an issue of present or future concern. Though one might be equally interested in identifying areas of high water quality and want to protect that present status (i.e., how then NJDEP treats C1 streams) that is not the approach we have adopted. To aid in area and project site evaluation and planning, we have developed a quantifiable, mappable metric for each IOC. The IOC's can be visualized as either individual IOCs layers and in composite. For more background on the IOC's please consult https://crssa.rutgers.edu/projects/cerap/doc/CERAP_Issues_of_Concern_Mapping_Methodology_202301_LathropCRSSA.pdf.

To help identify locations across NJ's coastal zone that are potential candidates for future restoration, enhancement, or preservation projects with the largest value for net carbon sequestration, ecosystem health and built community resilience, we asked partners from the state's major coastal regions to identify **Areas** and/or potential Project sites based on their perceived vulnerability to one or more of eight IOCs as mapped for CERAP, as well as their local knowledge. An **Area** represents defined geographic location on the order of 10 to 100+ hectares in size (e.g., area around a river mouth) and a **Projects** represents a specific geographic site for a proposed project (e.g., living shoreline, thin-layer placement, etc.). As part of this stakeholder-driven nomination process, end-users completed an online survey about the area in question as well as locational information through an interactive digitizing process (i.e., the end-users digitized a polygon outlining the Area that they were nominating for future consideration for resiliency/adaptation projects).

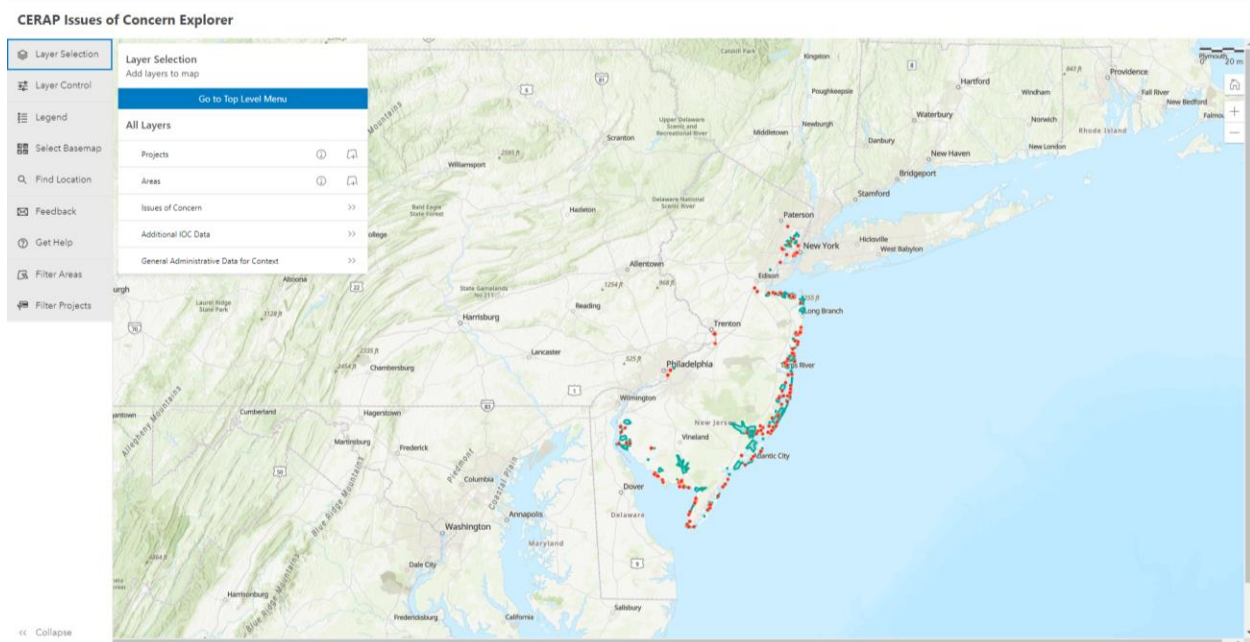
The **CERAP Issue of Concern Explorer** is an online decision support tool that includes a statewide map for each of the IOCs, a combined vulnerability estimate that represents how many IOCs in a given location are highly vulnerable, and supplemental data for some IOCs to allow the end-user to explore the data sets used to create the vulnerability estimates. The nominated Areas and Projects along with the associated attribute information is also accessible for query and download. This document provides some guidance on how to navigate the CERAP IOC Explorer. To access the CERAP Issues of Concern online data explorer, use the following link: <https://njrestors.rutgers.edu/nj-cerap/>. One can also access and download the individual data layers for use on ArcGIS Desktop.

When you fire up the CERAP IOC Explorer application, the initial display window includes a map of New Jersey and the catalog of nominated Areas (polygons in green) and Projects (points in red).

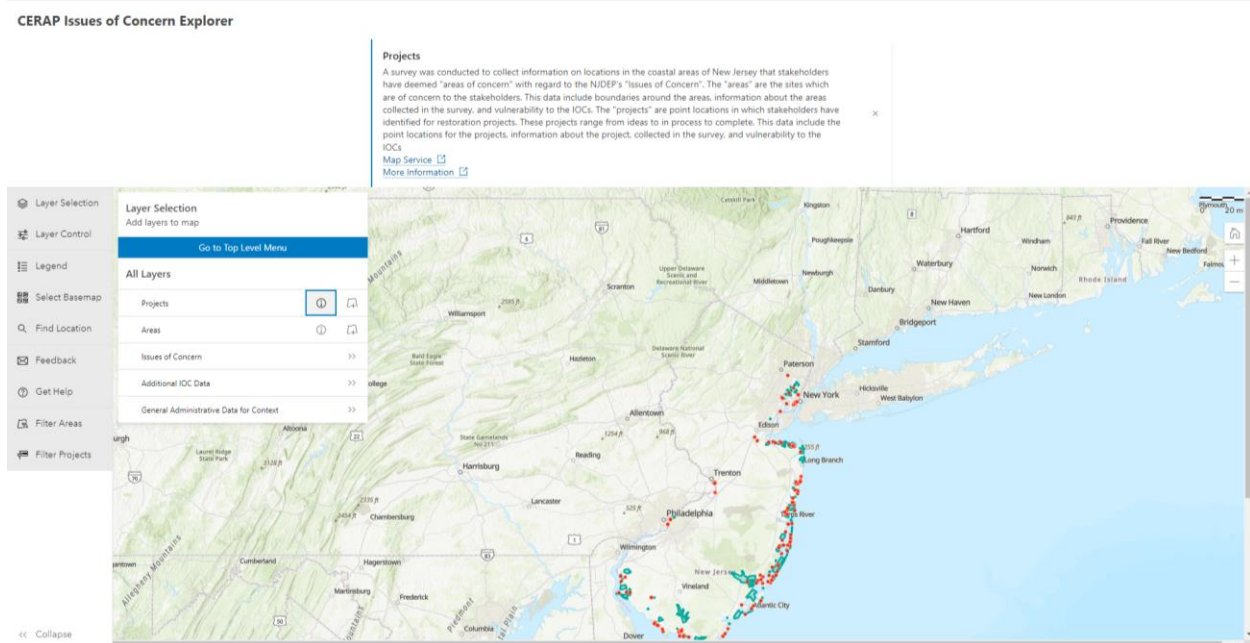


To display the various IOC maps, select Layer Selection. The data is grouped into 5 major themes:

- Projects
- Areas
- Issues of Concern
- Additional IOC Data
- General Administrative Data for Context



Click on the ⓘ information icon to get further information about the data layer in a pop-up that will appear above the Map display window. Click the X to close that pop-up window.



Click on the Map Service option to access the ArcGIS Online page for that Layer. Note that one can open that layer in a separate Map Viewer or on ArcGIS Desktop. Select either Open in ArcMap or ArcGIS Pro.

Survey Data with GIS Analysis

OverviewDataVisualizationUsageSettings

Edit thumbnail

Add to Favorites

Survey Data with GIS Analysis

Feature layer (hosted) by jtrimbale_rutgers

Item created: Nov 8, 2022 Item updated: Jan 5, 2023 View count: 3,656

Open in Map Viewer

Open in Scene Viewer

Open in ArcGIS Desktop

Open in ArcMap

Open in ArcGIS Pro

Description

A survey was conducted to collect information on locations in the coastal areas of New Jersey that stakeholders have deemed "areas of concern" with regard to the NJDEP's "Issues of Concern". The "areas" are the sites which are of concern to the stakeholders. This data include boundaries around the areas, information about the areas collected in the survey, and vulnerability to the IOCs. The "projects" are point locations in which stakeholders have identified for restoration projects. These projects range from ideas to in process to complete. This data include the point locations for the projects, information about the project, collected in the survey, and vulnerability to the IOCs

Layers

Projects

Point layer

Areas

Polygon layer

Terms of Use

Add any special restrictions, disclaimers, terms and conditions, or limitations on using the item's content.

Item Information

Learn more

LowHigh

Top Improvement: Add a longer summary

Details

Source: Feature Service

Created from: Survey Data with GIS Analysis

Service definition

Data updated: Dec 22, 2022, 4:39 PM

Schema updated: Dec 22, 2022, 4:39 PM

Size: 864 KB

Attachments size: 0 KB

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Back in the CERAP IOC Explorer, in the Layer Selection box, click on the >> to access the map layers.

Click on the Layer icon to display the layer in the map display window. One can open multiple layers at the same time

Issues of Concern


Layer Selection		
Add layers to map		
Go to Top Level Menu		
<	Issues of Concern	
	IOC Vulnerability Number of IOCs	
	IOC Vulnerability Composite Sum	
	Carbon Sequestration Potential	
	Coastal Habitat Degradation Vulnerability	
	Likelihood of Erosion by 2050	
	Nuisance Flooding	
	Monetary Loss after Coastal Storms	
	Overburdened Communities under the New Jersey Environmental Justice Law	
	Coastal Storm Surge Vulnerability	
	Water Quality Support of General Aquatic Life	

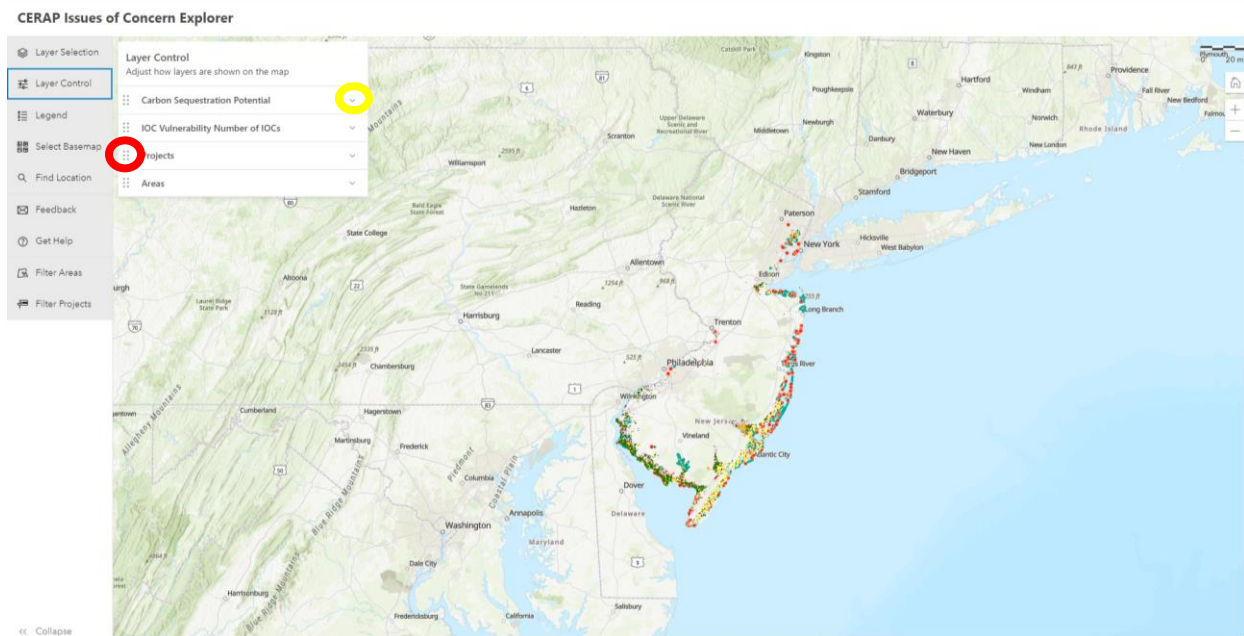
Additional IOC Data


Layer Selection		
Add layers to map		
Go to Top Level Menu		
<	Additional IOC Data	
	FEMA Reported Total Insurance Payments for Coastal Storm Damage	
	FEMA total Reported Losses from Coastal Storm Damage	
	Salinity	
	Water Quality for Support of Shellfish	
	Social Vulnerability All Data	
	Tidal Restriction	

General Administrative Data

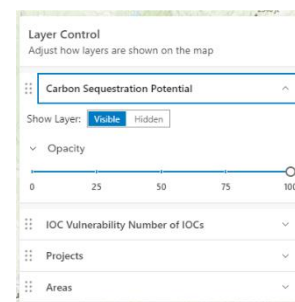
Layer Selection		
Add layers to map		
Go to Top Level Menu		
<	General Administrative Data for Context	
	Ecological Solutions Projects of New Jersey	
	Hurricane Evacuation Routes	
	Flood Hazard Areas	
	Natural Heritage Priority Sites	
	Municipality Boundaries	
	Open Space Areas	
	Loads slowly	
	Parcels	
	Continue to zoom in until block and lot numbers are visible	
	Roads	
	Zoom in to view	
	Landscape Project	
	Species Based Habitat (Marine, Delaware Bay, and Atlantic Coastal)	

To control how you display these various data sets, click on Layer Control. In the example window below, we have selected 2 IOC layers along the Projects and Areas layers. To move layers up or down the stack, grab the  Drag icon (see red circle below) and drag up or down. Layers at the top of the stack take precedence in display (i.e., sit overtop the other layers).

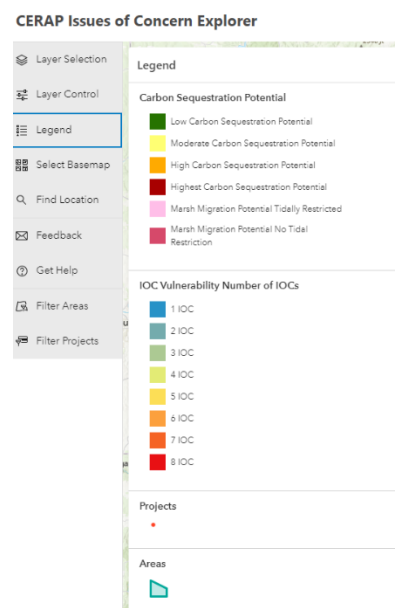


Select the  down arrow (yellow circle in graphic above) to adjust individual layers. One can Hide a layer using the Visible-Hidden toggle or change the Opacity with the Opacity scale.

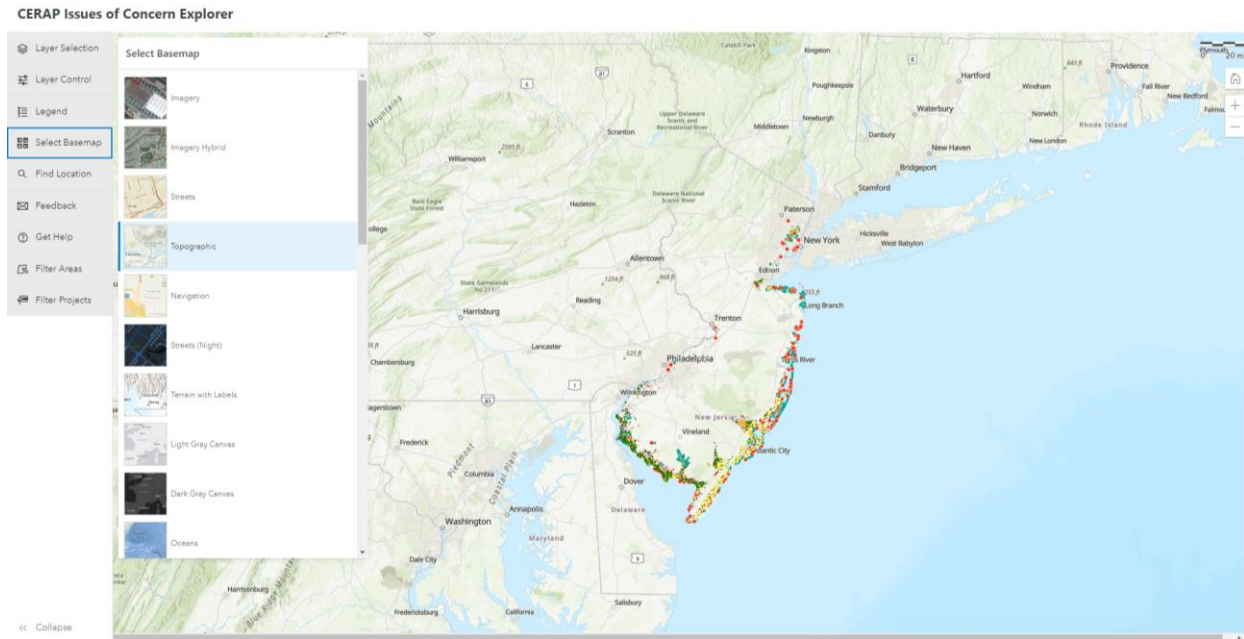
One might want to change the Opacity (the inverse of Transparency) to allow underlying layers previously displayed to be more readily visible.



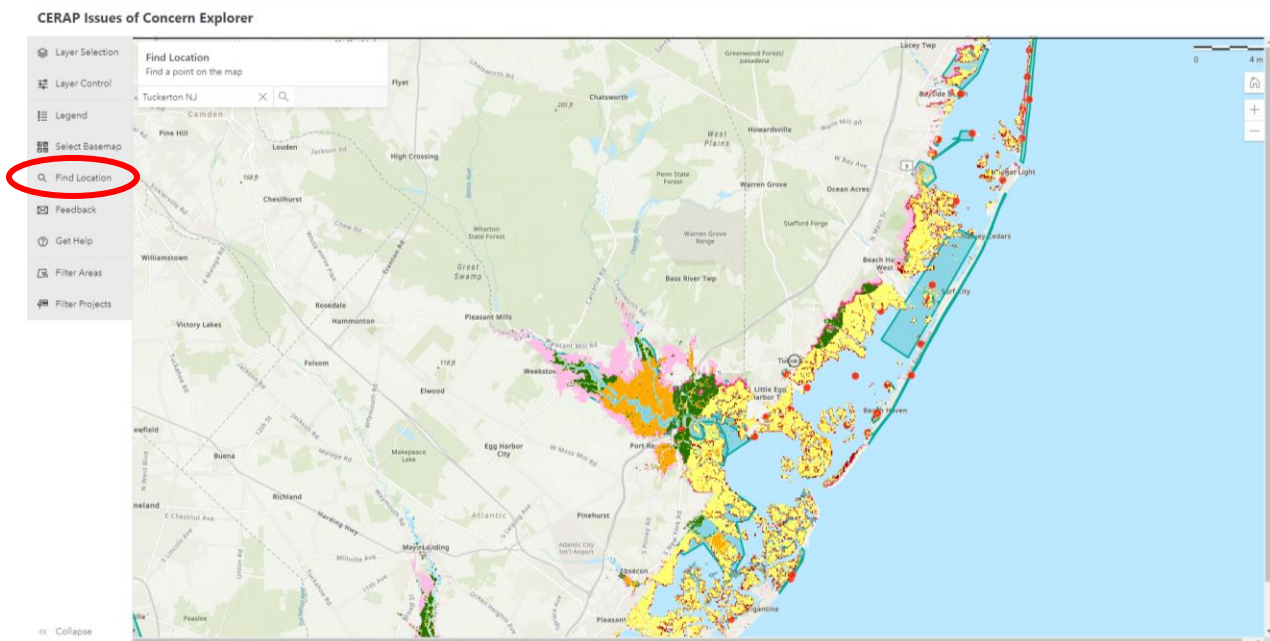
To view the map Legend, click on Legend and a pop-up with the color scheme and class names for the selected layers will appear. To make the legend disappear, click on the Legend icon.



One can alter the underlying base map through the Select Basemap option.



To zoom to a specific location, use the Find Location  icon. Type in a place name, address or Lat/Long coordinate location in the pop-up box.





One can query the map by clicking on a grid cell or polygon.

For example, below we clicked on a polygon. One can scroll down to see the full table of information submitted for that Area or Project. If more than one record exists at that location (i.e. both an Area and Project record) one can toggle over Using the <> arrows in the upper right of the pop-up box

Projects	
Creation Date	5/23/2021, 8:00 PM
Site Name	6083 Section 1122 Dredge Islands
Project Name	6083 Section 1122 Dredge Islands_1
Lead Organization	NUDEP Division of Coastal Engineering
Project Lead	Rob VonBriel
Project Contact	robert.vonbriel@dep.nj.gov
Lead Organization Type	State
Other Partners	USACE Philadelphia District

Areas	
Creation Date	5/23/2021, 8:00 PM
Site Name	6083 Section 1122 Dredge Islands
Project Lead (Primary Contact)	Rob VonBriel
Primary Contact Affiliation	NUDEP Division of Coastal Engineering
Primary Contact	robert.vonbriel@dep.nj.gov
Other Partners	USACE Philadelphia District
Landowner	Multiple Owners
Habitat type	Salt Marsh, Beach, SAV, Open Water

An important use that the CERAP IOC Explorer allows is the ability to Filter Areas  or Filter Projects  .

CERAP Issues of Concern Explorer

Layer Selection
Layer Control
Legend
Select Basemap
Find Location
Feedback
Get Help
Filter Areas
Filter Projects

Filter Areas

If you choose an option and then choose another option from the same dropdown, the filter statement at the bottom includes both items. Choose as many as you would like.

[Reset Filters](#)

Filter By Habitat
Select a filter

Filter By Landowner
Select a filter

Filter By Overall IOC Score
Select a filter

Filter By IOC
Select a filter

Filter By score
Select a filter

[Show Areas Table](#)

[Export CSV](#)

CERAP Issues of Concern Explorer

Layer Selection
Layer Control
Legend
Select Basemap
Find Location
Feedback
Get Help
Filter Areas
Filter Projects

Filter Projects

If you choose an option and then choose another option from the same dropdown, the filter statement at the bottom includes both items. Choose as many as you would like.

[Reset Filters](#)

Filter By Project Status
Select a filter

Filter By Funding Status
Select a filter

Filter By Goal
Select a filter

Filter By Tactic
Select a filter

[Show Projects Table](#)

[Export CSV](#)

One can select by a variety of attributes and select by more than one attribute at a time. Your selections will show up at the bottom of the Filter pop-up window (red circle in example to right).

Note that only

AND statements can be made (i.e., no OR statements).

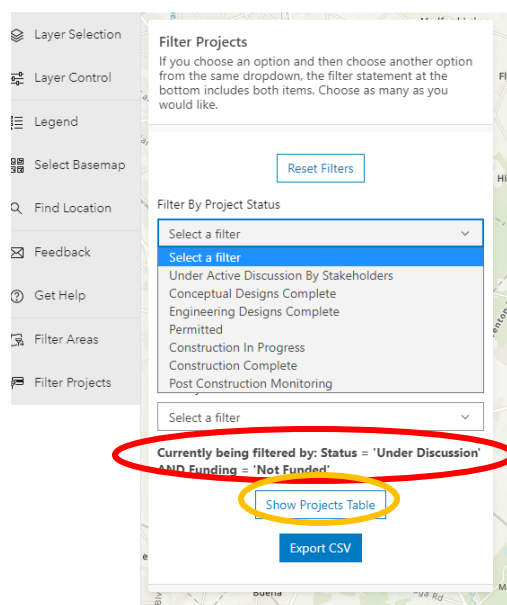
Note in the example below we have filtered on

Status = 'Under Discussion' and Funding = 'Not funded'.

Click on the Show Projects Table (orange circle in example)

to view which records satisfied the filter criteria


CERAP Issues of Concern Explorer



CERAP Issues of Concern Explorer

OBJECTID	Creation Date	Area Name	Project Name	Lead Organization	Project Lead	Project Lead Email	Lead Organization...	Other Part...
4	4/15/2021, 8:00 PM	Lighthouse Center for Nat...	Interior wetlands and Pon...	Natural Resource Educat...	Pola Galle	pgalle@nrefnj.org	NGO	NJDEP F&M
6	4/20/2021, 8:00 PM	Clam Cove, Holgate, Long...	Clam Cove tributary	long beach township	angela andersen	andersen@longbeachtow...	Municipality	stockton un
7	4/20/2021, 8:00 PM	Marshelder Island Comple...	Marshelder Island, Spray ...	long beach township	Angela Andersen	andersen@longbeachtow...	Municipality	USFW, Stoc
8	4/20/2021, 8:00 PM	Bayview Park, Brant Beach...	Bayview Park	Township of Long Beach ...	Angela Andersen	andersen@longbeachtow...	Municipality	Stockton Ur
34	4/29/2021, 8:00 PM	IBSP Tidal Pond Trail	Tidal Pond trail Shoreline ...	Island Beach State Park	Jenifer Clayton	jenifer.clayton@dep.nj.gov	State	Friends of Is
35	4/29/2021, 8:00 PM	IBSP A7 Shoreline	Fishermans walkway Shor...	Island Beach State Park	Jenifer Clayton	jenifer.clayton@dep.nj.gov	State	Friends of Is
37	4/29/2021, 8:00 PM	IBSP Rescue Road Shorel...	IBSP Rescue Road Shorel...	Island Beach State Park	Jenifer Clayton	jenifer.clayton@dep.nj.gov	State	Friends of Is
39	4/29/2021, 8:00 PM	Margaret's Creel aka Marq...	Margaret's Creek Tidal Ma...	NOAA	carl alderson	carl.alderson@noaa.gov	Federal	USFWS, NJ
40	4/29/2021, 8:00 PM	East Point Lighthouse Area	East Point Lighthouse - Sh...	State of New Jersey, NJDE...	Bill Dixon	william.dixon@dep.nj.gov	State	ACoE, MR+
41	4/29/2021, 8:00 PM	East Point Lighthouse Area	East Point Lighthouse - Be...	Partner of the Delaware Es...	Josh Moody	jmoody@delawareestuary...	NGO	NJDEP Acc...

One can also export the filtered table using the Export CSV option. CSV = Comma Separated Variable.

To clear the selections, use the Reset Filters option (at top of Filter pop-up window). The Attribute table can be removed by refreshing  the application.