



# TURN ON/OFF SPATIAL LAYERS.

Spatial information is organized into layers or level of information, they can be grouped as well ordered to relate similar information. The layer list looks like this:

_	
-	Layers i
•	O Maritime Network
•	Community Observations
•	Marine Awareness
•	Weather
•	Marine Environment
Þ	Environment
•	Nautical Chart i
•	Indigenous Peoples
	<ul> <li>Pilot project host i </li> <li>+</li> <li>13 records found.</li> <li>Pilot project host communities</li> </ul>
	<ul> <li>First Nations Location         <ul> <li>First Nations Location</li> <li>First Nations Location (Updated 0)</li> </ul> </li> </ul>
	<ul> <li>Pre-1975 Treaties (Historic Treaties)</li> </ul>
	<ul> <li>Post-1975 Treaties (Modern Treaties) i</li> </ul>
	▶ Inuit Communities Location i 🖋 +
	Administrative Lands i 🖉 +
	▶ Tribal Councils Location i 🖉 +
	Aboriginal Agreements
•	Base layers
_	

Any group of layers can be expanded or collapsed. For that purpose, just use the icon located at the left of the layer name.





• Layers i	▼ Layers i
Maritime Network	▶ ② Maritime Network i 🖌 +
Community Observations	Community Observations
Marine Awareness	Marine Awareness
Weather	Weather
Marine Environment	Chukenisea
Environment	Marine Environment
Nautical Chart	▶ Environment
Indigenous Peoples	Nautical Chart i
	<ul> <li>Pilot project host communities</li> <li>13 records found.</li> <li>Pilot project host communities</li> <li><i>First Nations Location</i> <ul> <li><i>First Nations Location</i></li> <li><i>First Nations Location</i></li> <li><i>First Nations Location</i></li> <li><i>Pre-1975 Treaties (Historic Treaties)</i></li> <li><i>Post-1975 Treaties (Modern Treaties)</i></li> <li><i>Inuit Communities Location</i></li> <li><i>Pre-1975 Treaties (Modern Treaties)</i></li> <li><i>Pre-1975 Treaties (Modern Treaties)</i></li> <li><i>Post-1975 Treaties (Modern Treaties)</i></li> <li><i>Inuit Communities Location</i></li> <li><i>Pre-1975 Treaties (Modern Treaties)</i></li> </ul> </li> </ul>

Any layer can be turned on or off. Just click on the layer name and you will notice that the name changes its color: black for layers turned-on and gray for turned-off ones.





For example, within the "Environment" group layer, you can see that the "Drainage regions of Canada" layer is on while the "Ecologically and Biologically Significant Areas" layer is off.

•	Environment		
-	<ul> <li>Ecologically and Biologically</li> <li>Significant Areas</li> </ul>	i	 Off
-	Drainage regions of Canada	i	 On

Finally, a layer group can be turned on or off in a single operation, simply clicking on the layer group name.

Environment	Environment
<ul> <li>Ecologically and Biologically</li> <li>Significant Areas</li> </ul>	<ul> <li>Ecologically and Biologically</li> <li>Significant Areas</li> </ul>
Drainage regions of Canada	<ul> <li>Drainage regions of Canada</li> <li>i</li> </ul>

## ACCESS DATA

EMSA allows access to spatial (maps) and non-spatial information (tables, data bases).

For instance, if you are interested in analyzing the ecologically and biologically areas in Canada, you can turn on the layer and the map will show all the zones related to those areas.







This information is valuable, but it is far from complete, since it is only showing the location but not any relevant details.

By clicking on any of the green zones, a popup form will show the information related to that specific area, such as Name, Ocean, Area Km2, Report, etc.

		St. Johns	1					
Tro	Query res	sults	I					
2	1 record foun	d.						
rea	Ecologically	and Biologically Significant Areas	11					
Nat	Objectid	14						
	Id	143						
~	Name	South-western coast of the Gulf (including Chaleur Bay)						
	Nom	Côte sud-ouest du Golfe (incluant la Baie des Chaleurs)						
X	Ocean En	Atlantic Ocean						
	Ocean Fr	Océan Atlantique						
	Area Km2	13569.2951319						
anj	Report	DF0. 2009. Conservation objectives for the Ecologically and Biologically Significant Areas (EBSA) of the Estuary and Gulf of St. Lawrence. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2009/049.						
	Report Url	http://www.dfo-mpo.gc.ca/csas-sccs/publications/sar-as/2009/2009_049-eng.htm						
	Rapport	MPO. 2009. Objectifs de conservation pour les Zones d'Importance Écologique et Biologique (ZIEB) de l'estuaire et du golfe du Saint-Laurent. Secr. can. de consult. sci. du MPO, Avis sci. 2009/049.	4					
74	Rapporturl	http://www.dfo-mpo.gc.ca/csas-sccs/publications/sar-as/2009/2009_049-fra.htm						
45	Contact En	Claude Savenkoff, Fisheries & Oceans Canada, Mont-Joli, QUE, G5H 3Z4; Tel.: 418-775-0764; Claude.Savenkoff@dfo-mpo.gc.ca	7					
0	Contact Fr	Claude Savenkoff, Pêches et Oceans Canada, Mont-Joli, QUÉ, G5H 3Z4; Tel.: 418-775-0764; Claude.Savenkoff@dfo-mpo.gc.ca						
5	Managedby	Gulf	1					
	Bioregion	Gulf of St. Lawrence / Golfe du Saint-Laurent	1					

This specific layer "Ecologically and Biologically Significant Areas" contains 200 records; it would be cumbersome to click on all these points one by one to see their related information.

If you are interested in getting as much information as possible on all these zones at once, you need to open the data table related to the layer.

<ul> <li>Ecologically and Biologically</li> </ul>	i
Significant Areas	
185 records found.	
Limits	
Transparency	

After clicking on the symbol this form will show up, and here you can get access the table ("Data").





Properties	Data	Used by	Metadata	Terms of Use
		-		
Res	ource Id:	542		Data Source
1103	Name:	DFO_Ecologic biologique_Co	ally and Biologi:	cally Significant Areas_Conservation / MPO_Zones d'importance écologique et
		Ecologically a through forma surrounding n ecologically. A identified as E marine users s description at	nd Biologically al scientific asse narine ecosystei All areas serve ec BSAs should be should be partic t https://gcgeo.g	Significant Areas (EBSAs) are areas within Canada's oceans that have been identified significance wing special biological or ecological significance when compared with the m. Failure to define an area as an EBSA does not mean that it is unimportant cological functions to some extent and require sustainable management. Rather, areas viewed as the most important areas where, with existing knowledge, regulators and uidhry risk averse to ensure ecosystems remain healthy and productive. [Complete tc.ca/geonetwork/metadata/eng/d2d6057f-d7c4-45d9-9fd9-0a58370577e0.]
		Les zones d'in	nportance écolo	gique et biologique (ZIEB) sont des zones au sein des eaux océaniques canadiennes qui,
Des	cription:	selon des éval présentent du importance éc les zones assu désignées con réglementatio préserver la sa https://gcgeo	luations scientif u point de vue bi cologique et bio ument des foncti nme des ZIEB de on et les utilisate anté et la produ- urc.ca/geonetwo	iques officielles, se distinguent dans leur écosystème en raison de l'Intérêt qu'ils ologique ou écologique. Le fait qu'une zone n'ait pas été désignée comme ayant une logique ne signifie pas pour autant qu'elle n'a pas une importance écologique. Toutes lons écologiques dans une certaine mesure et exigent une gestion durable. Les zones ovent être reconnues comme des milieux prioritariers par les organismes de eurs maritimes qui, en disposant de l'information pertinente, pourront contribuer à ctivité de ces écosystèmes. [Résumé complet à rivimeatdatairfe/dd/dds/T474-549-6490-assa706577e0.]

And after clicking on "Data", the table will be open.

Prop	erties	Data	Used by Metadata Terms of Use		
earch	for			200 records found.	3
lcon	Objectid	Id	Name	Nom	
0 0 0 0 0 0	1	130	Burgeo Bank	Banc Burgeo	Atl
0 0 0 0 0 0	2	131	Eastern Avalon	Est de l'Avalon	Atl
0 0 0 0 0 0	3	132	Laurentian Channel and Slope	Chenal et talus laurentien	Atl
0 0 0 0 0 0	4	133	Lilly Canyon-Carson Canyon	Canyon Lilly-Canyon Carson	Atl
	5	134	Northeast Shelf and Slope	Plate-forme et talus nord-est	Atl
	6	135	Placentia Bay Extension	Prolongement de la baie de Plaisance	Atl





You can see that there are 200 records. The table can be sorted by any column, just click on the column name and the table will be ordered in ascending or descending order.

earch	for			200 records found.	2		
con	Objectid	Id	Name 🔺	Nom			
	175	10	Admiralty Inlet	Inlet de l'Amirauté			
	74	11	Archipelago Multi-Year Pack Ice	Banquise permanente de l'archipel			
	172	12	Arctic Basin Multi-Year Pack Ice	Banquise permanente du bassin arctique	Banquise permanente du bassin arctique		
	102	59	Aspy Bay	Baie Aspy			
	191	13	Baffin Bay Shelf Break	Rebord de la plate-forme continentale de la baie	de Baffin		
	28	165	Barkley Sound and Albernia Inlet	Bassin de Barkley et passage Alberni			
	87	15	Bathurst Inlet	Inlet Bathurst			
	29	166	Baynes Sound	Détroit Baynes			

The pagination control in the bottom of the table allows you to select how many records you want to see per page. You can easily navigate between pages 1, 2,3, and so on. You can go to the previous, next, first or last page as well.

It is possible to search within the table, for instance let's list only the zones located in the Pacific Ocean.

Just type Pacific Ocean in the search box and the result will be shown. There are 28 records found matching this condition.





Prop	erties	Data	Metadata					
Pacific	c Ocean				28 records found.			2
Id		1	lame	1	Nom	Ocean En	Ocean Fr	Area Ki
187	Shelf B	reak		Rebord de la plate-form	bord de la plate-forme continentale		Océan Pacifique	24024.51(
186	Shelf b	reak		Rebord de la plate-forme continentale		Pacific Ocean	Océan Pacifique	10286.309
185	Scott Is	slands		Îles Scott		Pacific Ocean	Océan Pacifique	6975.893(
173	Contin	Continental shelf off of Barkley S		Plate-forme continenta	l au large du bassin Barkley	Pacific Ocean	Océan Pacifique	4834.860
171	Centra	l mainland	1	Région continentale cer	ntrale	Pacific Ocean	Océan Pacifique	3537.600
170	Cape S	t. James	ames Can-Saint- James		Pacific Ocean	Océan Pacifique	3371 161	

## **EXPORTING DATA**

Finally, data can be exported to be used in any application outside EMSA, for instance Open Source QGIS or a spreadsheet such as Microsoft Excel<sup>®</sup>.





Prop	erties	Data	Metadata				
Pacific	Ocean				28 records found.		→ 2
	Objectid	Id	Name		Nom	Ocean En	Ocea ^
· · ·	50	187	Shelf Break	Reboi	d de la plate-forme continentale	Pacific Ocean	Océan Pa
0 0 0 0 0 0	49	186	Shelf break	Rebor	d de la plate-forme continentale	Pacific Ocean	Océan Pa
· · ·	48	185	Scott Islands	Îles Scott		Pacific Ocean	Océan Pa
0 0 0 0 0 0	36	173	Continental shelf off of Barkley Sound	Plate-	forme continental au large du bassin Barkley	Pacific Ocean	Océan Pa
· · ·	34	171	Central mainland	Régio	n continentale centrale	Pacific Ocean	Océan Pa
· · ·	33	170	Cape St. James	Cap-S	aint-James	Pacific Ocean	Océan Pa 🗸

### And you can select which data format is required

· ·		
ds	Archive name	DFO_Ecologically and Biologically Significant Areas_Consei
	Output file type	ESRI Shapefile 🗸
Bar	Form ?	CSV XLSX CSV without geometry
Est	Jse choice labels ?	ESRI Shapefile Mapinfo File
Che		KML GeoJSON
Car		Proceed Cancel





## **IMPORTING DATA**

It is also possible to import vector files into the map. Previously configured this option in the application tools, you can find this icon in the right vertical menu<sup>(2)</sup>.

Clicking on the 🛎 button a window will open for you to select the file you want to import directly into the map.



Or simply drag and drop a valid vector file. For this example, we added a file containing these four points in Hudson's Bay.

In the configuration of your application, you can enable the "add to layers" option in the "Add files", after dragging your file you will get a modal where you have the option to save your data to any matching data source in the application or you can just add the file temporarily on the map.

For the example let's select the last option







#### Here you can see the features temporarily added on the map.







You can remove the added vector files by clicking on the button. You will be prompted to confirm the removal of your files.

Confirm removal	
Are you sure you wish to remove those vector files from the map?	
	Yes No





# SEARCHING DATA

You can perform a search or create filter to find and display specific records. First, open the Left panel by clicking on the bar on the left.

	🔶 Transport Library Fleet -	More 🗸
har	• Layers i	] .
2	• O Maritime Network i 🖋 +	
Ē	Community Observations	
Ī	Marine Awareness	
ſ	Weather	
ſ	Marine Environment	Ī 🔨.
Ē	Environment	
P	• Nautical Chart	Ĩ
F	Indigenous Peoples	
P	Base layers	
-	Vancau	ver
1.00		

For this example, let's use the Maritime Network layer. At the top of the Data panel, select "Maritime Network".







Trans Cana	sport Lik	orary Fleet <del>-</del> I	More 🗸						
Maritime N	etwork				~		<ul> <li>Layers</li> </ul>	i	HAZ.
Name							▶ ② Maritime Network i	/ +	RED.
Search				Filters	Clear	R	Community Observations		20
ACTIONS	ICON	NAME	TRANSMISSION	INFO	L A	1	Marine Awareness		The second
Actions	icon	NAME	TIME				▶ Weather		Shir
Actions -		LADY WARREN II	44m 31s			Į	Marine Environment		化行
Actions -		TYMAC PILOT	29m 52s		Ш	84	<ul> <li>Environment</li> </ul>	_	East Point
					121		Nautical Chart	i	
Actions -		DISCOVERY HUNTRESS	10m 41s				Indigenous Peoples		
Actions -		PILOT BOAT PORTLAND	9h 48m 31s				<ul> <li>Base layers</li> </ul>		
Actions -		CLOUD 9	13h 49m 38s		Į Data				
Actions -		SANTA ALEXANDRA	10m 05s		-				
Actions -			22h 20m 43s						
Actions -		MARTIN AND SISTERS	18h 17m 57s						
Actions -		BLUE WATERS	9m 22s						
Actions -	•	NEW CUMBERLAND L&D	7h 27m 17s	type of navigation aid : reference point					
Actions -		MISS TANISHA	22h 47m 47s						
< 1 >				50 v per page	F		© Time		

Let's type "River" in the Name field.

		·	Ľ	Layers		-
iver	7	Filters Clear	Ľ	<ul> <li>OMaritime Network</li> </ul>	i 🖋 -	
AKER RIVER		A		<ul> <li>Community Observations</li> </ul>		T.
CLEAN <u>RIVER</u> S 1	TRANSMISSION	INFO	ŀ	Marine Awareness		1
IUSKEGON <u>RIVER</u>			ŀ	• Weather		1
IVER SPIRIT	3m 51s			Marine Environment		72
IVERDANCE			F	Environment		٦,
TIOHNS RIVER	4m 21s		•	Nautical Chart		1
	2h 38m 53s		Ē	Indigenous Peoples		1
ictions - PILOT BOAT PORTLAN	D 11h 42m 53s		Ŀ	Base layers		
Actions - CLOUD 9	15h 44m 00s					





You can see here that it shows the available options as you type. You can then select the name you want. For this example we will select "RIVER SPIRIT".

The filter tool now only shows the vessel with this name.

If you are interested in more than one vessel, you could add another name to the search. Let's type "River" again in the Name field. You can see here that there are other vessels available with that name since we already added the one named "RIVER SPIRIT". Let's select "CLEAN RIVERS 1".



Now both "CLEAN RIVERS 1" and "RIVER SPIRIT" are visible in the table and map views.

Transport L Canada	ibrary Fl	eet 🗸 More 🗸			
Maritime Network	k			~	<ul> <li>✓ Lake Park</li> <li>✓ Lake</li></ul>
Name		T		Class.	OMaritime Network
CEEAN RIVERS I	A RIVER SI IN			Filters Clear	Community Observations
ACTIONS	ICON	NAME	TRANSMISSION TIME	INFO	Marine Awareness
Actions -		RIVER SPIRIT	1h 16m 26s		Veather Troy Group
	-			_	Marine Environment
Actions 🗸		CLEAN RIVERS 1	18m 35s		Fine Environment
					Nautical Chart
					Indigenous Peoples
					Base layers     Tomahawk Bluff
					followavville

Dalzell





# FILTERING DATA BY ATTRIBUTES

The "Filters" tool allows you to be more specific in your search.

lame						
Search					FI	lters Clea
ACTIONS	ICON	P	Navigation Status	T I.		
Actions 🗸		LADY	VARREEntity type			
Actions 🗸		PILOT BO	T PORT Device ID	Search		
Actions 🗸		CL	OUD 9 MMSI	Search		
Actions 🗸		ISLAN	IMO D CROWN	Search		
Actions 🗸	•	KAHNA	Asset Finder VAKE REAR	<b>Q</b> 7m 07s		
Actions 🗸	Ŧ			6m 21s		

Let's click on the field Navigation Status.

Trans Canad	<sup>port</sup> Libr	ary Fleet <del>-</del>	More	•		
Maritime Ne	etwork					~
Search					Filters	Clear
ACTIONS	ICON	MAME Nav	vigation Status	AGROUND		
Actions -		GODOT Ent	ity type	AT_ANCHOR CONSTRAINED_BY_HER_DRAUGHT		
Actions -		PALANCA RIC <sup>D</sup>	evice ID	ENGAGED_IN_FISHING		
Actions -		LADY WARREN II	MMSI	NOT_UNDER_COMMAND RESTRICTED MANOEUVERABILITY		
Actions -		PILOT BOAT PORTLA	IMO AND			-
Actions -		Asset CLOUD 9	Finder	<b>Q</b> 2011-37m 49s		
Actions -		CCGS S DUDKA		5m 39s		





You can see here that the filter tool shows the available options. You can then select the attribute you want. In this case, we will select "ENGAGED\_IN\_FISHING".

The filter tool now only shows the vessels with this status.

Transport Canada	Library	Fleet - More		
Maritime Netwo	rk			~
Name Search				Filters Clear
ACTIONS	ICON	Navigation	RENGAGED_IN_FISHING	
Actions -	8	Status PACIFIC DOVE Entity type	3h 05m 46s	
Actions 🗸		WESTERLY Device ID	Search	
Actions 🗸	8	PATRICIA LEE MMSI	Search	
Actions 🗸	۵	IMO	Search	
Actions -		Asset Finder	Q 6m 33s	÷
Actions -		ORACLE	6m 32s	ata t
· · · ·				

## **CLEARING FILTERS**

You can clear the filter by clicking on the Clear button.

iritime Netwo	rk			$\langle \cdot \rangle$
ame earch				Filters Clear
ACTIONS	ICON	Navigation	* ENGAGED_IN_FISHING	
Actions -		PACIFIC DOVE Entity type	3h 05m 46s	
Actions -		WESTERLY Device ID	Search	
Actions -	A	PATRICIA LEE MMSI	Search	
Actions -	۵	IMO	Search	
Actions -		Asset Finder	<b>Q</b> 6m 33s	
Actions 🗸		ORACLE	6m 32s	





## **GEOSPATIAL FILTERING**

Another way to filter vessels is to use a geographical filter.

In your application, it is possible to activate the spatial filter in the Data Source Browser. In order to see this option, the Spatial Filter must be disabled.

For our example, pan or use the location search tool and go near Masset in British Columbia.

Let's use the Spatial filter of the Filters tools.

Name					
Searc	h			4869 records found.	Filters Clear
@. @.	•	LAURA ELIZ	Name Navigation Status	8h 17m 55s	
<b>Q</b>		ROBERT S PIEF	Entity type	2.5111 403	
<u>୧</u>	A	CHICHEEM	Device ID	Search	
<u>୧</u>	A A	BAD BOYS	MMSI	Search	
@ (	A A	FEDERAL ELBE	IMO	Search	
<b>Q</b>	<b>A</b>	NELS J	Status		
୍ ତ୍	<b>A</b>	JAMESON JOH	Spatial filter	O - 4m 16s	
@ @	A A	LYNDA KEYLESS	Export	24m 15s 24m 37s	
Q		VENTURE			

Click on the down arrow to select the spatial filter type and select Radius.

Spatial filter	0 -
	🗍 Rectangle
1. 1.5	○ Radius
	Polygon

The instructions to create the selected geometry are given by the tool.







Click on the location of Masset and move your mouse away until you select the desired area. In our example move 70 km away.



Then click again to confirm the circle radius and filter the vessels with the geometry.





Tiell

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## **EMSA - Enhanced Maritime Situational Awareness**

Name Search		5 records		Filters	Clear
	Name	tound.	st Transmission	lr	nfo
Q	OCEAN RANGER	38m 34s			
Q	NORTHERN EXPEDITION	38m 30s			
Q	RCM SAR 45	9h 15m 4	l1s		
Q	SUIKAI	42m 01s			
Q		38m 29s			

I Data I

Only the vessels within the selected geometry will appear on the table and map views.