



European Maritime Safety Agency

CleanSeaNet – European Satellite Oil Spill Monitoring and Vessel Detection Service

Exercises on GIS Viewer

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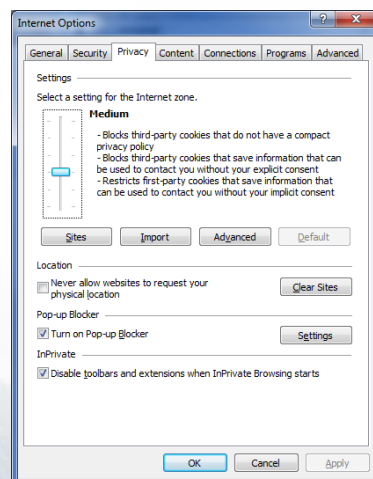
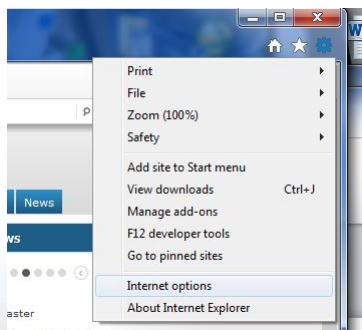
SAFEMED III Training for CleanSeaNet Operators – Lisbon– March 2014



/ European Maritime Safety Agency

Exercises

Open Internet Explorer and deactivate the Pop up
Blocker

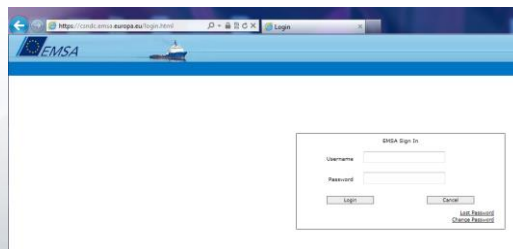
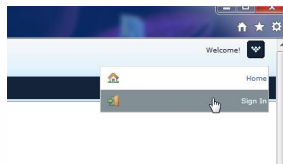


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Exercises

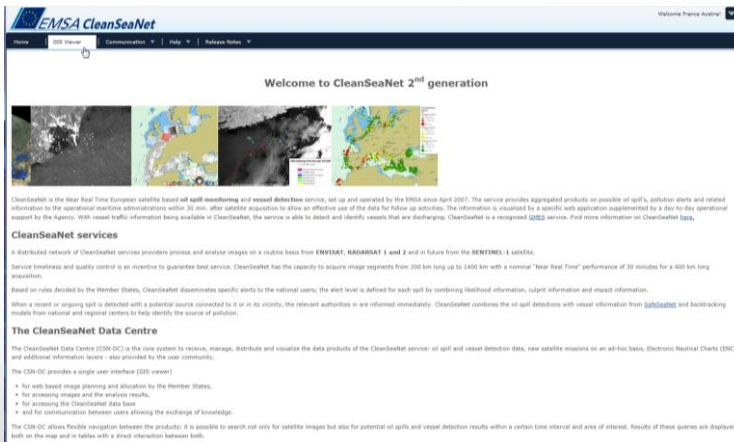
To log into the system go to (also in 'Favorites'):

<https://csndc.emsa.europa.eu/web/cleanseanet/>



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Exercises



Welcome to CleanSeaNet 2nd generation

CleanSeaNet is the Near Real Time European satellite based oil spill monitoring and vessel detection service, set up and operated by the EMSA since April 2007. The service provides aggregated products on possible oil spills, pollution alerts and related information to the operational maritime administrations within 30 min. after satellite acquisition to allow an effective use of the data for follow up activities. The information is visualised by a specific web application supplemented by a day-to-day operational support by the agencies. With vessel traffic information being available in CleanSeaNet, the service is able to detect and identify vessels that are discharging. CleanSeaNet is a recognised GDS service. Find more information on CleanSeaNet facts.

CleanSeaNet services

A distributed network of CleanSeaNet services provides process and analyse images on a routine basis from ENVISAT, RADARSAT 1 and 2 and in future from the SENTINEL-1 satellite.

Service timeliness and quality control is an incentive to guarantee best service. CleanSeaNet has the capacity to acquire image segments from 200 km long up to 1400 km with a nominal 'Near Real Time' performance of 30 minutes for a 400 km long acquisition.

Based on rules decided by the Member States, CleanSeaNet disseminates specific alerts to the national users; the alert level is defined for each spill by combining likelihood information, culprit information and impact information.

When a report or ongoing spill is detected with a potential source connected to it or in its vicinity, the relevant authorities are informed immediately. CleanSeaNet combines the oil spill detections with vessel information from [SafeSeaNet](#) and backtracking models from national and regional centers to help identify the source of pollution.

The CleanSeaNet Data Centre

The CleanSeaNet Data Centre (CSN-DC) is the core system to receive, manage, distribute and visualize the data products of the CleanSeaNet service: oil spill and vessel detection data, raw satellite missions on an ad-hoc basis, Electronic Nautical Charts (ENC) and additional information layers - also provided by the user community.

The CSN-DC provides a single user interface (GIS viewer)

- for web based image planning and allocation by the Member States;
- for assessing images and the analysis results;
- for accessing the CleanSeaNet data base;
- and for communication between users allowing the exchange of knowledge.

The CSN-DC allows flexible navigation between the products: it is possible to search not only for satellite images but also for potential oil spills and vessel detection results within a certain time interval and area of interest. Results of these queries are displayed both on the map and in tables with a direct interaction between both.

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Exercises

Then, accordingly to your computer label (see right top corner on monitor) and the table below, enter the username.

Label	Username	Password	Label	Username	Password
1	CSN-TRAINING-BE	CSNTRAINbe123	8	CSN-TRAINING-FI	CSNTRAINfi123
2	CSN-TRAINING-BG	CSNTRAINbg123	9	CSN-TRAINING-FR	CSNTRAINfr123
3	CSN-TRAINING-CY	CSNTRAINcy123	10	CSN-TRAINING-GR	CSNTRAINgr123
4	CSN-TRAINING-DE	CSNTRAINde123	11	CSN-TRAINING-HR	CSNTRAINhr123
5	CSN-TRAINING-DK	CSNTRAINdk123	12	CSN-TRAINING-IE	CSNTRAINie123
6	CSN-TRAINING-EE	CSNTRAINee123	13	CSN-TRAINING-IS	CSNTRAINis123
7	CSN-TRAINING-ES	CSNTRAINes123	14	CSN-TRAINING-IT	CSNTRAINit123

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Exercises

More accounts

Label	Username	Password
15	CSN-TRAINING-LT	CSNTRAINlt123
16	CSN-TRAINING-LV	CSNTRAINlv123
17	CSN-TRAINING-MT	CSNTRAINmt123
18	CSN-TRAINING-NL	CSNTRAINnl123
19	CSN-TRAINING-NO	CSNTRAINno123
20	CSN-TRAINING-PL	CSNTRAINpl123

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Exercises

1. Layout Configuration:

You are a French Duty Officer and are using the GIS Viewer for the first time. You would like to configure the layout of the application in order to have it centered and zoomed to your area of interest every time you log in. As you see, by default you have the ENC as background.



- Change the background to the Topography layer from DEMIS. Change it back to the ENC. Please note that, for switching layers, you also have to change the Geographic Reference System.
- Then, center the Map window on France, zoom closer and save the context map (your preferences) by selecting the "Save Map Preferences" button.
- Display the Alert Regions. You will be able to see the regions of your country. If another country grants you read permissions, you will also see that area.
- Overlay a grid on the map and remove it again

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Exercises

2. Basic Querying: search EO scenes for an area/period

You would like to search all the scenes that have been acquired over Denmark in September 2011. Select the type "EO scene" in the Drop Down menu.

- Using the "Rectangle Selection", define an area around Denmark and using the time interval set the date accordingly. Press the "Search Button". Analyse the list of images which are in the "EO Scene" tab.
- Customize the columns of the list in order to add the "Item Identifier" as an extra column. Select one of the listed services, look into the details of the image in the "Details Panel" and zoom to it using the "binocular" icon. Be aware to delete the rectangle selection, so that you can better see the SAR image. Export the list as excel file.
- To export the image press the button "Download Product".

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Don't do this part. It will be demonstrated by trainer

Exercises

3. Advanced Querying: search EO scene by sceneID and status & Saving Queries

a) You want to search for a specific service, corresponding to sceneID = 15924. For that, go to the Search tab, select as object in the drop down menu the "EO scene", go to the advanced search mode by pressing the "Open advanced search" button, and set as unique criteria de sceneID value in the window "EO Scene ID". press the "Search" button.

b) Now you would like to check all delivered EO scenes for Europe below 62° N, on 5 October 2011, from 06:00 UTC to 22:00 UTC. For that, after defining time and area adequately, in the advanced search mode select the status "Delivered". Run the search.

To be able to keep the query for later usage, save the defined query with name "5 October 2011_<YOUR NAME>". Using the Live Search feature, select the Envisat images.

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Exercises

4. Data navigation:

You have received an oil spill warning by email, indicating an on-going discharge near the coast of Italy. You log into the system, load the query "5 October 2011_<YOUR NAME>" and run the search. From the retrieved Result list, select the Envisat image containing 6 oil spills. Zoom into the item. Check the available oil spills by clicking "Oil spills in this scene". Zoom to one of the oil spills and click in the View icon to see its details. Open the Layer Management window and unselect the oil spill layer (OS in scene) in order to see the SAR signature.

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5. Data navigation (cont.):

Now search for the Radarsat-2 image with *sceneId* = 131415, with 6 oil spills. Display the oil spills and also the detected vessels, by selecting the link "Vessels in this scene". Now unselect the Vessel layer and display the AIS data. Zoom to the oil spills on the top of the image and display the whole AIS track for the vessel with MMSI = 538090384 (use the live search window). Open the last AIS message. Play with the transparency of the SAR image. The trainer will do the same for MMSI = 538005088. Do not do it yourself, for time issues.

Exercises

6. Basic/Advanced Querying of oil spills

6.1 You are a Belgian Duty Officer and would like to find out how many oil spills have been reported for your area of interest since first September 2012 until today. For that, search for oil spills around your area of interest by:

- going to the Search tab and selecting as object in the drop down menu the "Oil Spill" object.
- and using a rectangle around Belgium Alert area and setting the date criteria accordingly.

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Check the results in the "Oil spill" tab. Delete the rectangle selection and select one specific spill from September. Zoom to it and notice how the icon changes. Press the Full info button, to see the details of the spill. Take note of the distance to the coast. Press the EO scene detail and identify to which sceneID this spill belongs.

6.2 Now you would like to know how many spills in total have been reported for that specific image (sceneID). For that:

- Go to Advanced search and search for oil spills belonging to that sceneID. Use the field "EO Scene ID". You can set further criteria like the class.
- Export as kmz by pressing the button "Export to kmz"

Exercises

7. Shapefiles and Standing Order Mechanism:

7.1 You are an Italian Duty Officer, have a Drift Model running in your organization and would be interested in having access to the polygons of the detected oil spills to ingest into your model. Spill polygons are available in shapefile format in CSN. You can manually download them. As an example, search for oil spills belonging to sceneID = 123722, select one and press the download button. You can open this file for example with ArcMap.

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7.2 Now you would like to set up an automatic mechanism for receiving shapefiles directly in you email, you can use the subscription mechanism of CS, For this:

- Select the area and time interval (in the future) just as for a normal search.
- Then, press the "Order" button
- Make sure that the Delivery is set to "Email link" and select the "Product type" to be Oil Spill; change the email if needed and press ok
- To see all existing standing orders, go to the "Standing order" tab. You can inspect the detail by selecting one order and pressing the zoom icon. You can also disable the standing order by pressing the cross icon.



Exercises

8. Layer display:

Search images for the 18 July 2011 and select one image. By doing this you will automatically load the MyOcean available layers into the system. Zoom to the Baltic, open the list of the layers and unselect and select the Sea Chlorophyll layer. Open the legend of the map. Do the same for the Sea Surface Temperature layer.

9. Advanced Selection Tool:

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Open the tool and define a polygon over Cyprus. Use it as geographical criteria to search for delivered scenes over that area.

10. Upload of a shapefile

You are a Spanish Duty Officer and want to analyse the oil spills detected in the Mediterranean alert area. Upload the corresponding alert area file located in... and use it to search for oil spills in the last month. Use the advanced tool and select the .shp file



Exercises

11. Checking geolocation

Search for image with sceneID = 14601. You would like to see if the image is well georeferenced. For this Switch to DEMIS background and add the Coastline layer to the list of available layers. Overlay it and play wit transparency to check it.

12. Configuring an external Server

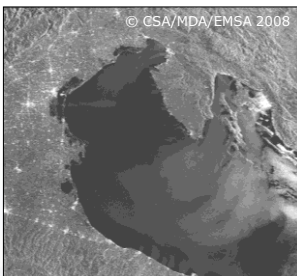
You would like to access na external WMS server located in the URL below. Configure it by adding a new server. Select the Pipeline layer and make it visible in the Map

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http://npdwms.npd.no/npdwmsmap_WGS84.asp?service=WMS&request=GetCapabilities



CleanSeaNet web portal:
<http://cleanseanet.emsa.europa.eu>



satellite.coordinators@emsa.europa.eu

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