



OCEA04 - RUS environment demo: Ocean colour monitoring with Sentinel-3 data using ESA SNAP S-3 Toolbox

THEORY QUESTIONS

Q: To which depth can the satellite measure the ocean color?

A: When sunlight hits the ocean, some of the light is reflected back directly but most of it penetrates the ocean surface and interacts with the water molecules that it encounters. Majority of the light is absorbed, some is scattered back by the molecules. The amount of light (radiance) reflected back into the field of view of the satellite decreases with depth and depends strongly on the turbidity of the water. The signal may return from depths as deep as 20+ m in the open ocean to as shallow as 1-2 m in highly productive waters. In addition, the signal from the water closer to the surface will have a stronger influence than the signal from greater depths.

Q: What is the coverage of Sentinel-3 OLCI data?

A: The sentinel-3 OLCI sensor provides global coverage, approximately every 2-3 days. However, the usability of the data will of course depend on the cloud cover.

Q: Can we analyze the colour changes in ocean if there is an oil spill?

A: Yes in some cases, depending on the size of the oil spill, you can use data such as Sentinel-3 OLCI to monitor it.

Q: What is the resolution of the Sentinel-3 OLCI data?

A: The full resolution of the OLCI product is approx. 300m; the products are also available in reduced resolution of approx. 1200m.

Q: How can we see the range of values of the concentrations?

A: In SNAP, you can see the range of values in your image if you open it in view and then click on Σ in the top panel. You can also use the drawing mode to draw a region of interest (ROI) on your image and then calculate the statistics only for the ROI. You can also use the Colour Manipulation tab to see the histogram and the Pixel Info tab see the value of the pixels under your cursor.

Q: Is it possible to export pixel values in GPT using specific polygon/points shapefile?

A: In the GUI you can use the Vector -> Import -> ESRI Shapefile to load your polygon/line/point shapefile. It will be imported as geometry and overlaid on the image opened in the view. You can then right-click in the view and select Export Mask Pixels. Note that the Extract Mask Pixels tool is not currently available in GPT.



RUS QUESTIONS

Q: How do I register for RUS VM?

A: To register for the RUS VM go to the [RUS Copernicus](#) portal and register through the Copernicus Users' Single Sign On. During the activation of the account you will receive three e-mails; your account must be activated by the RUS front desk, therefore please allow few days for the process to be completed. Once your account is active you can log-in to the RUS platform and go to "Your Dashboard" and click "Request a new User Service". Fill all the required fields to describe the desired VM and your project or specify the training code OCEA04 to repeat the webinar and receive step-by step guide in PDF. It might take up to 2 days for the VM to be provided.

If you wish to repeat multiple webinars, you can enter multiple training codes separated by coma.

Q: Is the virtual machine we request with the training code specific or can it be used for different projects?

A: The code only informs the helpdesk what training materials you wish to be uploaded on your VM. You have admin rights on your VM so you can install additional SW (provided you have valid license) and use the VM for different EO projects and applications.

Q: Is it possible to access the virtual machines from the command line?

A: The access to the VM is provided via your browser window as a remote desktop. Unfortunately, at the moment it is not possible to access the VM from command line.

Q: How can I download/upload data from/to the virtual machine?

A: Each VM contains a detailed user guide. However, to download or upload data you can press **CTRL+ALT+SHIFT** and a tab will appear on the left side of your screen. Go to Devices and navigate to the folder containing the file you wish to download. Alternatively, you can navigate to the folder where you wish to upload data store on your local PC and then click on Upload at the top of the tab, navigate to where your data is stored and click OK.

Q: Can we run processing in the VM when the browser is closed?

A: The VM does not shut down when your browser window closes. Run your process overnight or as you require and login to the VM only to check or get your results.

Q: Will there be any advanced webinar in the future?

A: Advanced webinars for a limited number of applicants are indeed planned for the future. All past and future trainings can be found RUS Training platform (rus-training.eu) and will be announced on [Twitter](#) and [LinkedIn](#).