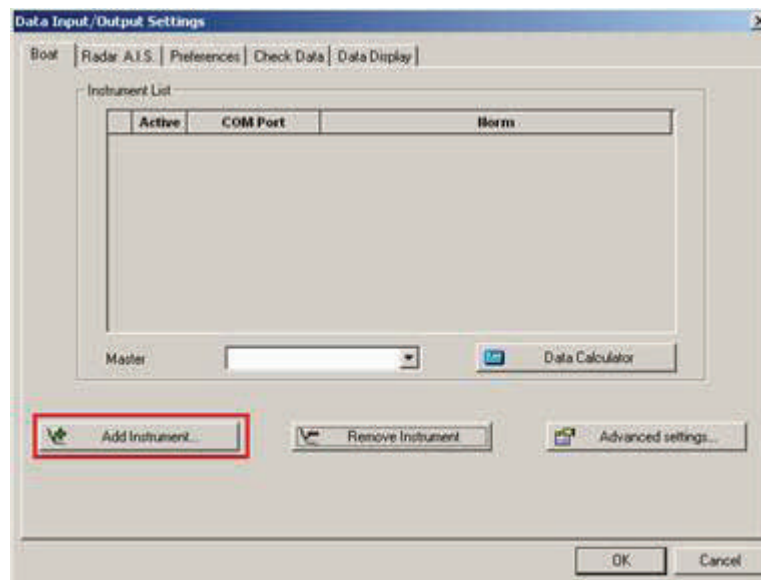# MaxSea Ground Discrimination Module

The MaxSea Ground Discrimination module allows the operator to record the type of seabed (rock, sand, mud) with the depth in PBG. The GDM show a 3D view of the bottom with a color corresponding to the type of seabed. Scallop, Crab, Lobster fishermen will find this very useful.

Please follow the instructions below to configure the Ground Discrimination. This example uses the Roxann hardware but this is <u>exactly the same</u> configuration for Seascan or JRC.
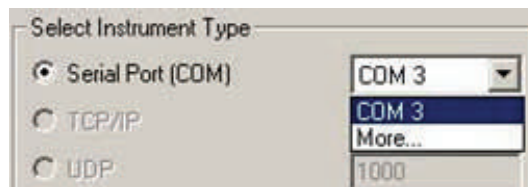
To connect the Roxann (or Seascan or JRC), just close MaxSea, plug the Roxann USB connector in the computer (or a serial connection). A virtual COM port will be created (COM3 for example).
You need also a GPS connected to the computer (on COM4 for example)
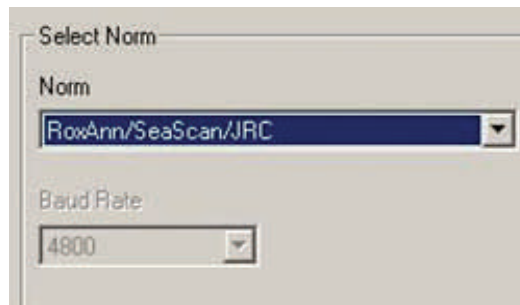
Configure Roxann

Open MaxSea, select "Data input output" in the "Utilities" menu.
First remove any instrument that could have been already configured then click on "Add Instrument"

Select the COM port number of the Roxann USB connector (COM3 in our example)
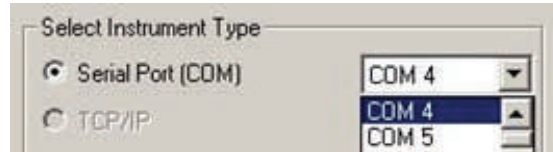

Click on "Next" and select the "Roxann/Seascan/JRC" Norm

Click on "Next" then "Finish"

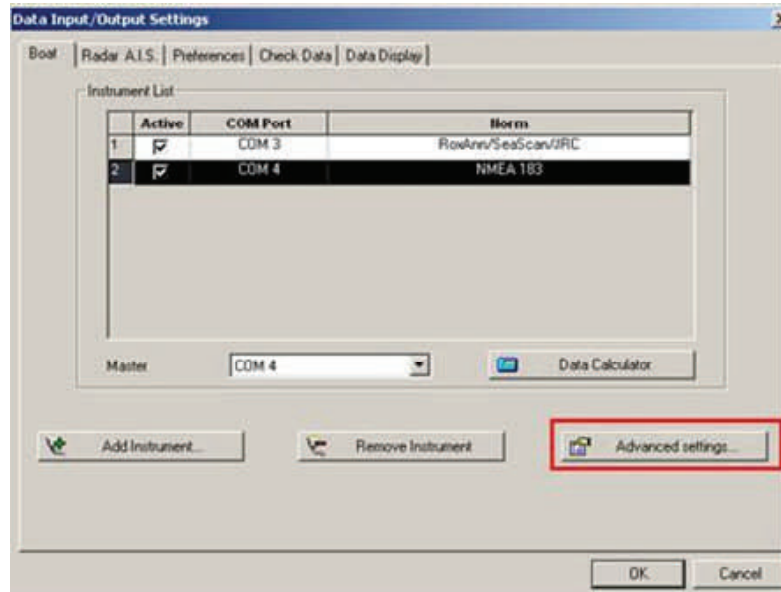Click on "Add instrument" again and select the COM port of the GPS

```
Select Instrument Type
  ● Serial Port (COM)        COM 4      ▼
  ○ TCP/IP                   COM 4      ▲
                             COM 5
```
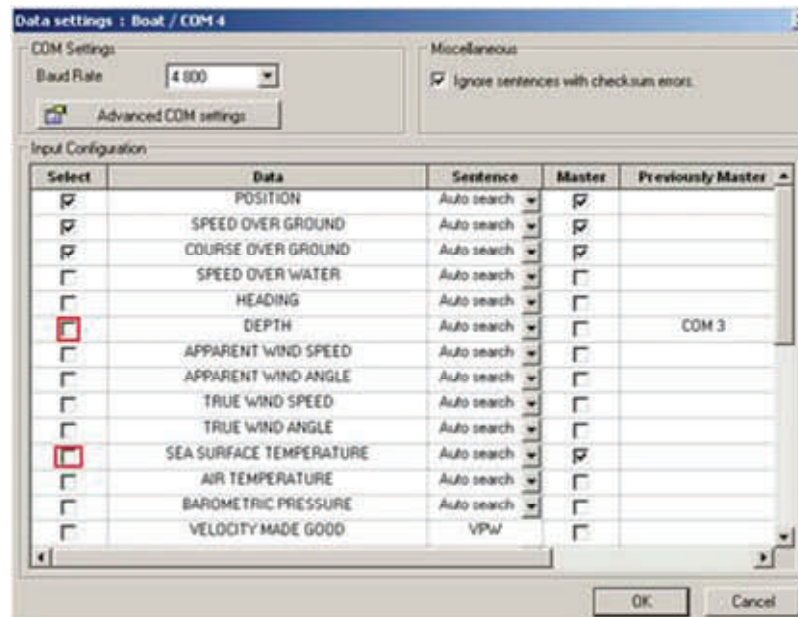
Click on "Next" and leave the norm to "NMEA 183"

Click on "Next" and "Finish"

To tweak the parameters, you can select the GPS COM port and click on "Advanced Settings"

Data Input/Output Settings

Boat | Radar A.I.S. | Preferences | Check Data | Data Display

Instrument List

	Active	COM Port	Norm
1	☑	COM 3	RoxAnn/SeaScan/JRC
2	☑	COM 4	NMEA 183

Master   COM 4   ▼   📁 Data Calculator

Add Instrument...   Remove Instrument   Advanced settings...
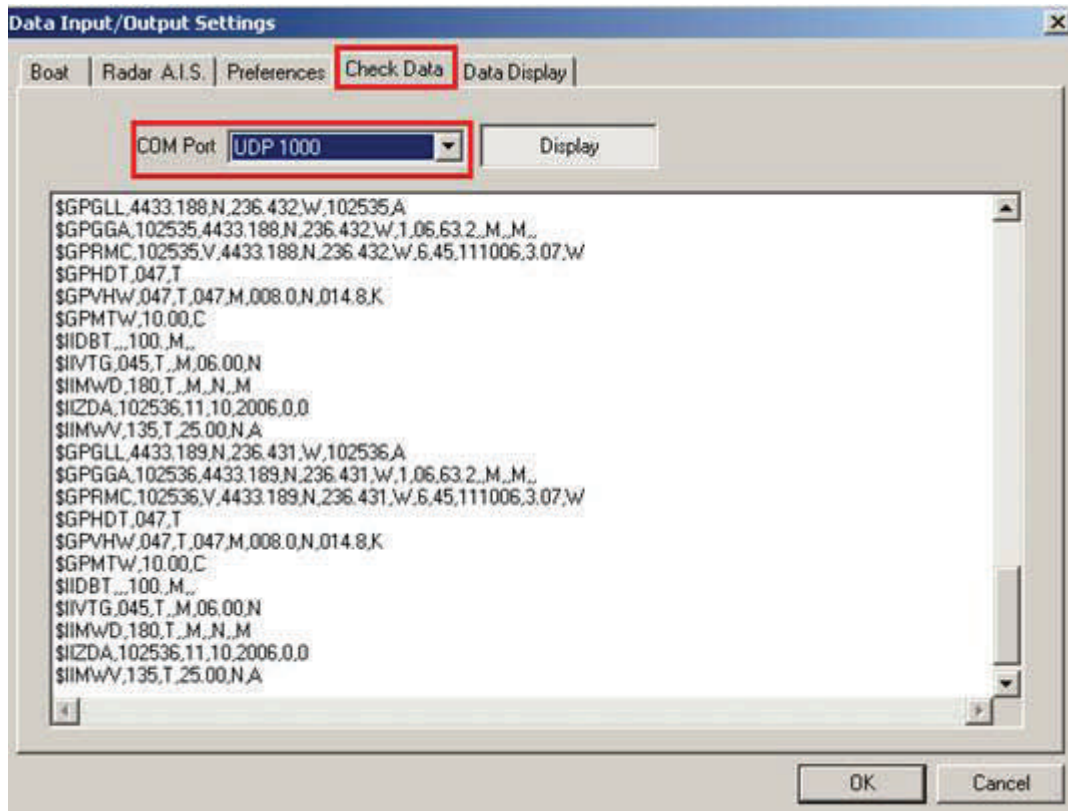
OK   Cancel

Just Check or Uncheck the data you want to receive (and process) in MaxSea. In this example, uncheck SST and Depth (that we do not receive from a GPS)

Data settings : Boat / COM 4

COM Settings
Baud Rate   4 800   ▼

Miscellaneous
☑ Ignore sentences with checksum errors.

Advanced COM settings

Input Configuration

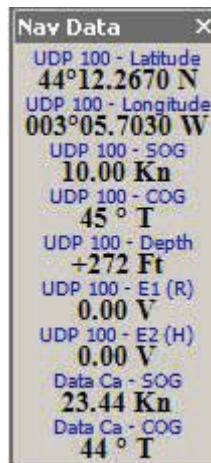| Select	Data	Sentence	Master	Previously Master
☑	POSITION	Auto search ▼	☑	
☑	SPEED OVER GROUND	Auto search ▼	☑	
☑	COURSE OVER GROUND	Auto search ▼	☑	
☐	SPEED OVER WATER	Auto search ▼	☐	
☐	HEADING	Auto search ▼	☐	
☐	DEPTH	Auto search ▼	☐	COM 3
☐	APPARENT WIND SPEED	Auto search ▼	☐	
☐	APPARENT WIND ANGLE	Auto search ▼	☐	
☐	TRUE WIND SPEED	Auto search ▼	☐	
☐	TRUE WIND ANGLE	Auto search ▼	☐	
☐	SEA SURFACE TEMPERATURE	Auto search ▼	☑	
☐	AIR TEMPERATURE	Auto search ▼	☐	
☐	BAROMETRIC PRESSURE	Auto search ▼	☐	
☐	VELOCITY MADE GOOD	VPW	☐	

OK   Cancel

Click on OK

Note: You can check the data coming into the COM port directly into MaxSea (like Hyperterminal) to make sure that everything is OK (to make sure also that you configured the correct COM port). Just click on the "Check Data" tab and select the COM port you want to monitor.

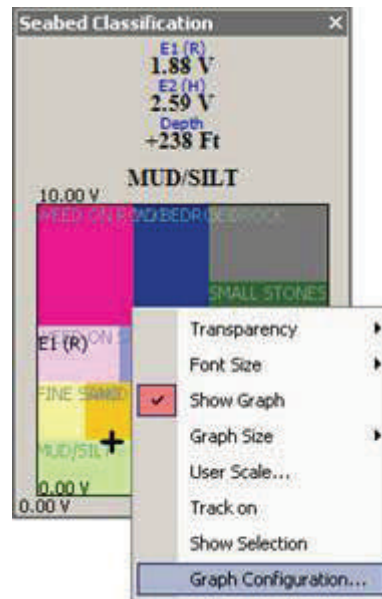Click on OK to close the data Input/Output

3) Look at the data:
You should now receive correct position. Depth (from Roxann) and E1/E2.
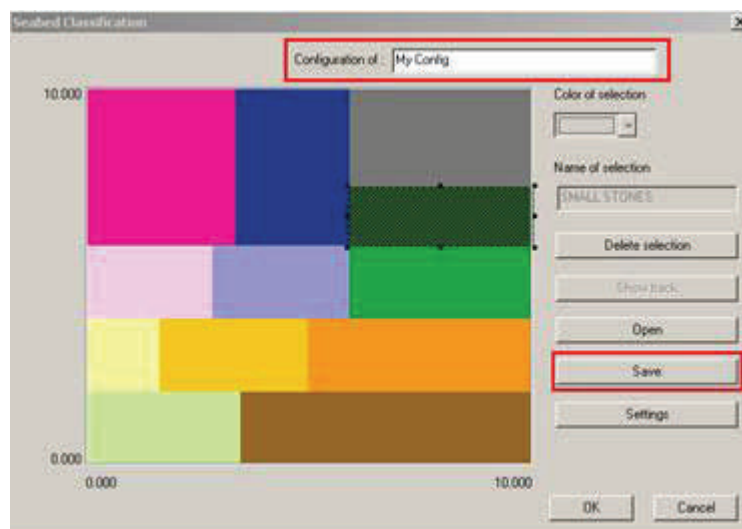All of these parameters should appear in the NavData box (on the right)

Click on the "Center On" button at the top left to center the chart on the boat and use Zoom In/Out to change the scale.

Center On ⟶

Zoom In/Out ⟶

To display the Seabed Classification dedicated window (Bottom Discrimination), just choose "Seabed Classification" from the "Display" menu.
Right click on it and choose "Show Graph"

You will see the Graph with a black cross moving on the graph indicated the type of seabed (combination of E1 and E2)

Note:

The E1 and E2 value in the NavData window are the raw data from Roxann. The E1 and E2 value displayed in the Seabed Classification windows are after the "Display Law" correction which is ON by default (you can deactivate it later)

Configure the Graph (calibration)

To configure the graph just right click on the Graph and choose "Graph Configuration"
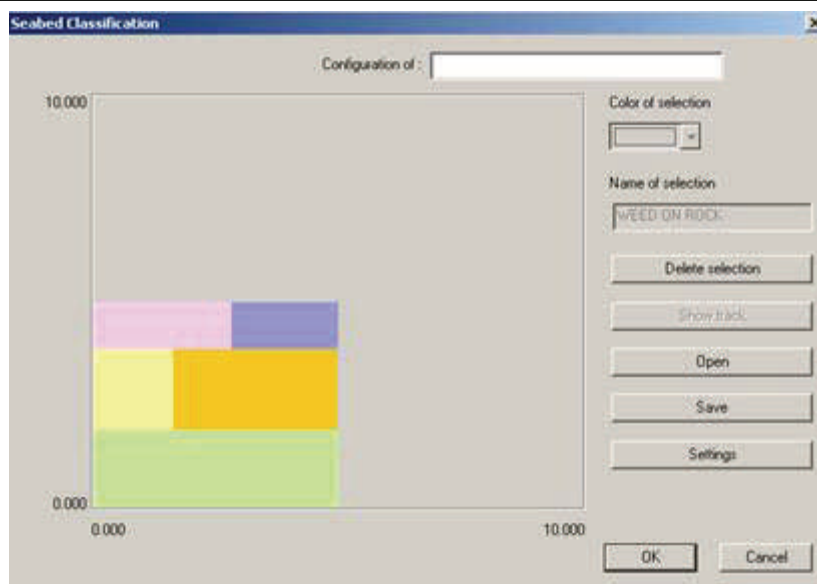

Put a distinctive name in the first line and click on Save (this will create a new Configuration file)

Just resize, delete, move, rename or create the boxes. If some boxes refuse to be resized, just move them first and try again. You can also right click on any box to enter the coordinate.
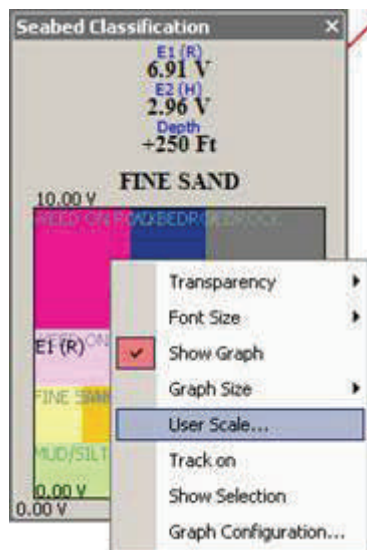
If the data you receive is only between 0 and 5 V, just put all the boxes between 0 and 5V (or delete the ones between 5 and 10V). Later, you will be able to change the scale of this graph.

Click on "Settings" to access the advanced parameters. You can decide to apply or not the "Display Law" (ON by default)

Click on OK to close the configuration.

If you want to change the scale (for 0-5V for example), right click on the graph (in the seabed classification window) and choose "User Scale"
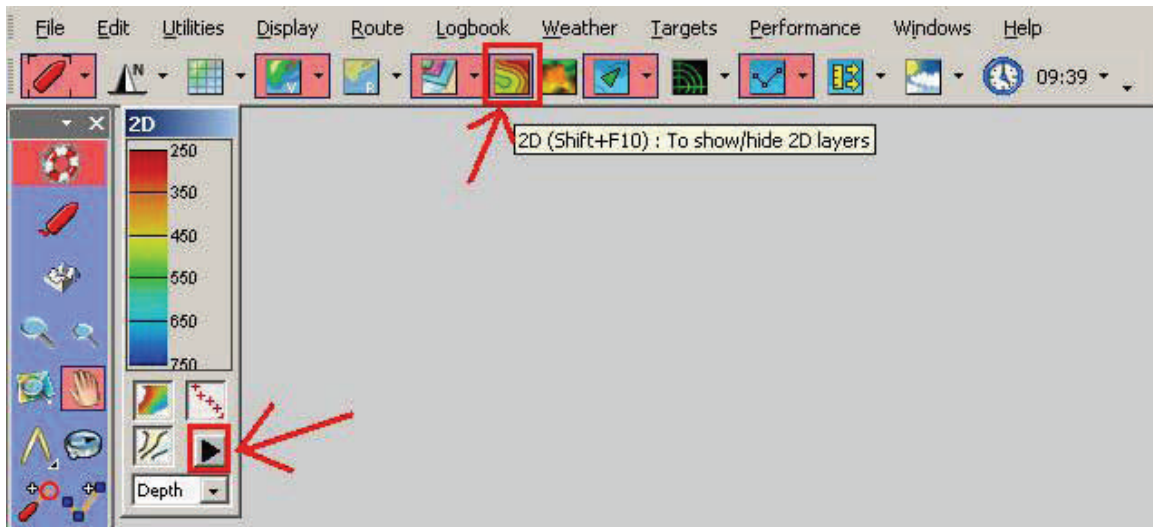
Record and view the data

To record the Data (Depth , E1 and E2), just enable PBG in the ToolBar (on the left). The data is recorded when the icon is surrounded with red.
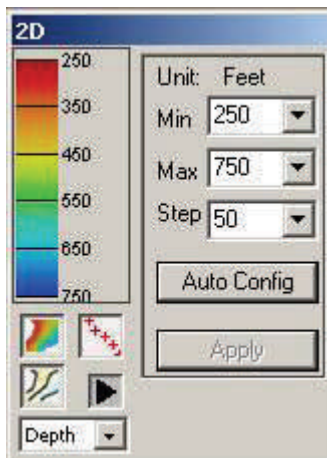
To display the data, click on the 2D layer in the ChartBar (top of the screen). A 2D color scale window should appear.
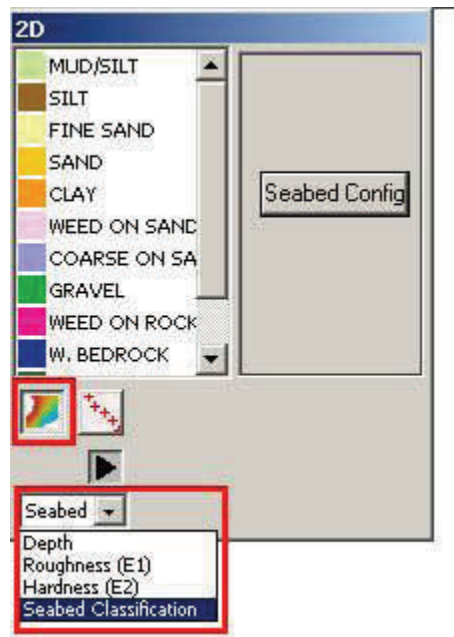
Click on the black arrow to expand properties

To configure automatically the color scale to the area, click on "Auto Config" then "Apply"

To display the seabed classification, just select it in the drop down menu and click on the color button (to attach color to seabed)

Note:

You can also display the cross (point where MaxSea recorded data). Just click on the icon right to the color button.

The raw data are recorded in the database. If you change some settings (Graph Configuration or Display Law) this has NO impact on the data recorded. Only on the data displayed. This allows making change and tweaking the graph later without altering the data.

Best regards,
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Iker Pryszo
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ipryszo@furuno.com