

## Embedding iCOASST Into Practice: Model Evaluations

<b>Model name</b>	<b>UnaLinea</b>
<b>Evaluation date</b>	November 2016
<b>Version of model and operating system used</b>	Windows 7 Enterprise Version, 64 bit
<b>Model filename</b>	UnaLinea.exe
<b>Manual filename and date</b>	Unalinea User Manual Version 01 (June 2016) Unalinea Reference Manual Version 02 (June 2016)
<b>Version of windows used for the evaluation</b>	Windows 7 Enterprise Version, 64 bit

### Scorings

0: No/ Not met / Unsatisfactory / Inappropriate

0.5: Partially met / appropriate in some aspects

1: Yes / met / Satisfactory / Appropriate



Evaluation not relevant for the user type

MODEL NAME: UnaLinea					
	E valuation Question	Score (0 / 0.5 / 1)			Comment
		For User Type 1: End User (Coastal Manager)	For User Type 2: Basic modeller (simple input changes only)	For User Type 3: Advanced modeller / model coder (application to entirely new systems / model development)	
A. WEBSITE MODEL INTRODUCTION <a href="http://www.channelcoast.org/iCOASST/introduction/">http://www.channelcoast.org/iCOASST/introduction/</a>	1. Is the model description on the website adequate to understand what the model is for?	1	1	1	A simple one line definition clearly outlines the purpose of the model – ‘Simulates the evolution of the plan shape of a beach’.
	2. Are relevant applications of the model explained?	1	1	1	An example of a typical application is included along with the reasoning behind its design. A link to a case study that has utilised UniLinea is incorporated in the introduction.
	3. Are the key model assumptions and limits to the model use explained?	1	1	0.5	The fundamental assumptions and limitations have been identified. Not all the assumptions have been listed although these can be inferred from the text if you are familiar with coastal modelling.
	4. Is the level of expertise required to use the model and/or use the results specified?	1	1	1	The level of expertise has been described, with both non-specialist engineers using the model for a simple application and experienced users for a more detailed investigation. The level of expertise needed to use the results has not been defined although, it may be assumed to be the same as the use of the model. It could be suggested that a numerical and some morphology background is needed to understand the results.

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B MODEL DOWNLOAD <a href="http://www.channelcoast.org/iCOASST/introduction/">http://www.channelcoast.org/iCOASST/introduction/</a>	1. Can you download the source code and/or executable/dll?		1	1	The source code is included within the model download as well as the executable. All model files can be downloaded together.
	2. Are there simple instructions to install, with images if needed?	1	1	1	Instructions are not included however, to download the model and course code is straight forward enough for these not to be needed. There is a link to the user manual in case the user is not sure how to proceed.
	4. Are the model boundary conditions explained?	0.5	0.5	1	Fairly clear explanation although, it may not be apparent to a non-coastal modeller that these are the boundary conditions.

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C. MODEL USER MANUAL	1. Is the user manual easy to read , user friendly and comprehensive?	1	1	0.5	Very easy to read, including clear and concise instructions/information. The easy to use format of the user manual in adobe reader allows the user to skip to the section that they are interested in. The model description is accompanied by simple diagrams to help the reader understand. There is some information within the reference manual which should be included in the user manual, such as, assumptions, limitations and capabilities. These manuals could easily be combined.
	2. Is there sufficient information provided on what the model is doing and how it works?	1	1	1	The model is easy to run using the manual. The examples of input files are also included which is helpful. There is information from a user perspective and extra detail about the code structure is included within the appendices. This, as well as the theoretical background included in the reference manual, is a good starting amount of information for a model developer.

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D. MODEL INPUTS	1. Is example model input data available to download and enough information provided to understand what they data represents?		1	1	Example input data is included in the download file and is clearly labelled once downloaded. There is information about the input files on the website for extra clarification.
	2. Are all input parameters expanded / explained? Are ranges of values to be used indicated? Are required units provided?		1	1	All input parameters are defined and explained in the user manual as well as annotated in the steering file. The type and examples/range of parameters are also included, along with units.
	3. Are timescales and date stamp inputs explained?	1	1	1	This is included within the table of input parameters with clear explanation.
	4. Are there any errors when you enter the compiled example data/input parameters?		1	1	No errors when entered the input parameters. However, when the model is run simply from the file instead of the command prompt, the executable closes automatically when it is finished.

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E: MODEL RUNS	1. Does the model run successfully with the data provided?		1	1	The model runs successfully and is a short run.
	2. Is information provided in the Manual on the operation system required and pre-requisites in terms of software?		1	1	This is included within the user manual but a user might benefit from this information being included on the download site.
	3. Is model calibration/validation discussed in the Manual?	0	0	0	These are not discussed in the user manual. Someone familiar with modelling might think to look in the references/ extra reading.
	4. Have you been able to successfully run another example that is different to the one provided?		0	0.5	Re-ran the model including a groyne but received an error message 'Bad real number in item 4 of list input' with the location within the model script. It could not be determined from the model script what the error was, except that it was to do with the groyne input parameters.  UPDATE: Parameter is missing from the user manual - Groyne effectiveness.

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	5. Are potential errors and bugs dealt with in the manual?		0.5	1	There is not a heading with errors however, there is enough detailed information and examples regarding each input parameter and file to deal with most issues.
F. MODEL OUTPUTS	1. Are the output file headings explained in the Manual?	1	1	1	All the output files are defined in the user manual, with an example of what the file should look like and the variables included. There are headings within the output files.
	2. Is the meaning of each of the output variables explained in the Manual?	0.5	1	1	The meaning of each output is explained. Note: a diagram might be helpful here (like the cliff diagram in the reference manual appendix).
	3. Is there a description of how to process (tabulate and display) the output data?		0.5	1	There is no description of how to process the data. The files are easy to convert to a spreadsheet. There is enough information to interpret the results and the format makes it easy to plot. An example plot might be a good thing to include to show how to best represent the results.

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G. OTHER	1. Does the Manual make further recommendations for reading and supply references?	1	1	1	Yes there is a good amount of references included in both the user manual and the download website. The website also provides the study site references.
	2. Is the Contact information completed?	1	1	1	There is contact information on the download website.
	3. Is the email address valid ?	1	1	1	Sent a test email and received a reply.

Recommendations table for model developer

Recommendation by HRW	Action response
Inclusion of model assumptions, limitations and boundary conditions on the website.	Assumptions are in the reference manual.
Provide more technical detail in the user manual such as formula and diagrams (that are located in reference manual).	Both are supplied, I don't think combining them is necessary.
Groyne effectiveness parameter missing from inputs table – section 4.	added
Provide an example plot in the outputs section to show how best to represent the results.	added