





## Embedding iCOASST Into Practice: Model Evaluations


<b>Model name</b>	<b>SCAPE+</b>
<b>Evaluation date</b>	November 2016
<b>Version of model and operating system used</b>	Version not stated, compiled for Windows
<b>Model filename</b>	 SCAPE_Binaries_Inc247.zip  SCAPE_input_example_files.zip  SCAPE_output_example_files.zip  SCAPE_Sources_Inc247.zip
<b>Manual filename and date</b>	Scape+ User Manual December 2016b
<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: SCAPE+					
	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?	0.5	1	1	Can understand what the model is for.
	2. Are relevant applications of the model explained?	1	1	1	There are examples of previous applications however, some more detail on typical application could be provided.
	3. Are the key model assumptions and limits to the model use explained?	0	0	0	No there are no explanations of assumptions or limitations of the model .
	4. Is the level of expertise required to use the model and/or use the results specified?	0	0	0	There is no specification of the level of expertise needed to use the model.

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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	Yes, they are all in the download folder acquired from the model download tab. The source code comes with a make file, so the code can be recompiled using gfortran compiler.
	2. Are there simple instructions to install, with images if needed?	0.5	0.5	1	The download of the model is fairly straight forward with links to download the model files.
	4. Are the model boundary conditions explained?	0	0	0	The boundary conditions are not explained on the website, only in the user manual.

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C. MODEL USER MANUAL	1. Is the user manual easy to read , user friendly and comprehensive?	0.5	0.5	0	<p>The user manual is fairly comprehensive, some input parameters are missing from the input parameters table. It is also not very user friendly as, although there is a contents page, the quick links are missing (preventing the user easily skipping to a specific location within the document). It is fairly easy to read but does require jumping back and forth throughout the document to read it in a logical order.</p> <p>Further details on model formulation and application are available in papers referred to in the manual.</p>
	2. Is there sufficient information provided on what the model is doing and how it works?	0.5	0.5	0.5	<p>There is sufficient information on how the model works, with clear diagrams to help.</p> <p>The user manual includes the sediment transport equations but there is no other technical information e.g. CERC or alternative equation and Bruun curve. It would also be helpful to have a description of these for a non-coastal modeller. There is mention of the Deoxygen HTML files and setup.f95 file for further details of model parameters which is useful for model developers.</p> <p>The table of input parameters included in the setup.txt file is</p>

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					<p>helpful although many definitions are missing. The whole inputs section could be expanded using tables to include definitions, range of values, units and examples.</p> <p>The assumptions and limitations are not included.</p>
D. MODEL INPUTS	1. Is example model input data available to download and enough information provided to understand what they data represents?		1	1	The example model input data is available to download, which is a 'minimal model' set of inputs. There is enough information in the manual to understand what they represent. A more detailed example would be beneficial for a user modelling a complex coastline.
	2. Are all input parameters expanded / explained? Are ranges of values to be used indicated? Are required units provided?		0.5	0.5	<p>Some definitions are missing from section 3 of the user manual (these are included only in setup.f95). The whole inputs section could be simplified using tables to include definitions, range of values, units and examples. The input and output parameters sections do not flow and over complicate the users understanding.</p> <p>Figure 3-1 is confusing and unclear.</p>

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	3. Are timescales and date stamp inputs explained?	1	1	1	Yes, these are explained in section 2 of the user manual – in Georgian years.
	4. Are there any errors when you enter the compiled example data/input parameters?		1	1	There are no errors when entering the input parameters.
E. MODEL RUNS	1. Does the model run successfully with the data provided?		1	1	Yes the model runs successfully with the example input files in the same folder as the executable.
	2. Is information provided in the Manual on the operation system required and pre-requisites in terms of software?		0	0	There isn't any information on this in the user manual.
	3. Is model calibration/validation discussed in the Manual?	0	0	0	No.

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	4. Have you been able to successfully run another example that is different to the one provided?		0	0.5	Unable to apply a seawall using the user manual. Followed instructions carefully but received an error that I could not solve.  UPDATE: seawallBaseLevel needs a value e.g. 10. This is not made clear in the manual. Also unclear as to whether the number of profiles that have a seawall can be changed.
	5. Are potential errors and bugs dealt with in the manual?		0.5	1	There are no sections that deal with errors and bug. If the executable is run through a command prompt then the error messages will be displayed. This means that someone not familiar with modelling may not be able to fix this on their own. The executable closes straight after running so there is no way to see what error has occurred from this alone.
F. MODEL OUTPUTS	1. Are the output file headings explained in the Manual?	0.5	1	1	The output file headings are included in the user manual . Each output file contains one column of data with no headings. The variables for each output file are listed in the user manual for cross-reference.

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2. Is the meaning of each of the output variables explained in the Manual?	0.5	1	1	<p>The output variables are given short descriptions in the user manual.</p> <p>There are a few example plots that enhances the understanding of the variables meaning.</p>	
3. Is there a description of how to process (tabulate and display) the output data?		0.5	0.5	<p>There is no description of how to process the output data but there is enough information about each output file to plot the data. However, the beach profiles output is an exception– for example, in beach profiles it is unclear what the values represent. There seems to also be an extra line that is not defined in the user manual and does not match the format of the rock profiles.</p> <p>UPDATE: The beach profile elevations need to be calculated by the user which is unclear from the user manual.</p>	



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G. OTHER	1. Does the Manual make further recommendations for reading and supply references?	1	1	1	There is a comprehensive list of references in the user manual.
	2. Is the Contact information completed?	1	1	1	Yes the contact information is complete.
	3. Is the email address valid ?	0	0	0	Did not get a response when sent a test email.

Recommendations table for model developer

Recommendation by HRW	Action responses
Include assumptions and limitations of the model in at least the user manual and can summarise on the website.	
Provide a level of expertise needed to operate the model on website.	
State boundary conditions on the website.	
Include Bruun/Dean equations – p7.	
Expand input parameters table to include definitions, default and example values (with units) – p22. Suggest providing all parameters that are in setup.f95.	
Figure 3-1 Annotated sediment transport table is unclear. It could be suggested that this is either explained in greater detail in the text or enhancing the annotations on the figure – p26.	
Provide information on the operation system required and pre-requisites in terms of software in the user manual.	
Discuss the model calibration and validation in the user manual.	
Provide example of beach and rock profile output file with the definitions of each value – p35.	