

XBeach skillbed report

summary report

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Contents

1	Introduction	1
2	Release information	3
2.1	Release notes	3
2.2	Change log	3
3	Overview	5

Chapter 1

Introduction

The XBeach code and related functionalities develop fast. As a result there is a need from modelers and code developers to develop a tool that gives insight in the effect of code developments on model performance. The XBeach skillbed tries to fulfill this need by running a range of tests including analytical solutions, laboratory tests and practical field cases every week with the latest code. This report contains a summary of the latest changes and tests. For a full description of the performed tests is referred to the status update reports.

Chapter 2

Release information

2.1 Release notes

We have been working on a lot of cool stuff that still needs to be described in more detail:

- hard structures
- multiple sediment fractions
- bed load and suspended load
- output options
- wave schemes
- non-hydrostatic model
- wave shap parameterization
- drifters
- river outflow
- boundary condition stuff
- ...

2.2 Change log

Chapter 3

Overview

In the table below the statuses of all tests found in the skillbed are summarized. In case a test is ignored or has failed, the corresponding message is given in the column “Message”. Please note that success or failure of the test runs are given in column “Run status”, while the success or failure of the Matlab analyses are given in column “Matlab status”. The last columns provide an overview of the main characteristics of each test.

Tests can be run multiple times using different settings. Different runs are identified by a run name, which follows after the test name and a dot sign. If a test is run once only, it is common use to name the run *default*.

Table 3.1: Status overview skillbed tests

Test	Run	Status	Matlab	Default settings	Configuration	Waves*	Water levels**	Fractions	Morphology	Hard layers	Groundwater flow
Vegetation	r40039...	✓	✓		1D	WG	C	1			
Vegetation	r40039...	✓	✓		1D	WG	C	1			
Vegetation	r40039...	✓	✓		1D	WG	C	1			
Vegetation	r40039...	✓	✓		1D	WG	C	1			
Vegetation	r40039...	✓	✓		1D	WG	C	1			
Vegetation	r40057...	✓	✓		1D	WG	C	1			
Vegetation	r40057...	✓	✓		1D	WG	C	1			
Vegetation	r40057...	✓	✓		1D	WG	C	1			
Vegetation	r40057...	✓	✓		1D	WG	C	1			
Vegetation	r40057...	✓	✓		1D	WG	C	1			
Vegetation	r40058...	✓	✓		1D	WG	C	1			
Vegetation	r40058...	✓	✓		1D	WG	C	1			
Vegetation	r40058...	✓	✓		1D	WG	C	1			
Vegetation	r40058...	✓	✓		1D	WG	C	1			
Vegetation	r40058...	✓	✓		1D	WG	C	1			
Vegetation	r40058...	✓	✓		1D	WG	C	1			
Vegetation	r40065...	✓	✓		1D	WG	C	1			
Vegetation	r40065...	✓	✓		1D	WG	C	1			
Vegetation	r40065...	✓	✓		1D	WG	C	1			

Table 3.1: Status overview skillbed tests

Test	Run	Status	Matlab	Default settings	Configuration	Waves*	Water levels**	Fractions	Morphology	Hard layers	Groundwater flow
Vegetation	r40065...	✓	✓		1D	WG	C	1			
Vegetation	r40065...	✓	✓		1D	WG	C	1			
Vegetation	r40085...	✓	✓		1D	WG	C	1			
Vegetation	r40085...	✓	✓		1D	WG	C	1			
Vegetation	r40085...	✓	✓		1D	WG	C	1			
Vegetation	r40085...	✓	✓		1D	WG	C	1			
Vegetation	r40085...	✓	✓		1D	WG	C	1			
Vegetation	r40091...	✓	✓		1D	WG	C	1			
Vegetation	r40091...	✓	✓		1D	WG	C	1			
Vegetation	r40091...	✓	✓		1D	WG	C	1			
Vegetation	r40091...	✓	✓		1D	WG	C	1			
Vegetation	r40091...	✓	✓		1D	WG	C	1			
Vegetation	r40098...	✓	✓		1D	WG	C	1			
Vegetation	r40098...	✓	✓		1D	WG	C	1			
Vegetation	r40098...	✓	✓		1D	WG	C	1			
Vegetation	r40098...	✓	✓		1D	WG	C	1			
Vegetation	r40098...	✓	✓		1D	WG	C	1			

* ST = stationary, WG = wave groups, NH = non-hydrostatic

** C = constant, V = varying