# Stbtel Reference Manual

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# 1. Detail list of keywords

#### 1.1 ABSCISSAE OF THE VERTICES OF THE POLYGON TO EXTRACT THE MESH

Type: Real
Dimension: 9
Mnemo SOM

DEFAULT VALUE: 0;0;0;0;0;0;0;0;0

French keyword: ABSCISSES DES SOMMETS DU POLYGONE D'EXTRACTION When you want to extract a piece of the mesh, this key-word fixes the abscissae of the vertices of a polygon inside of which the mesh will be finally extracted.

#### Warning:

This polygon should have a convex shape and the coordinates of the vertices be given with an anti clock wise order.

#### 1.2 ABSCISSAE OF THE VERTICES OF THE POLYGON TO REFINE THE MESH

Type: Real
Dimension: 9
Mnemo SOM2

DEFAULT VALUE: 0;0;0;0;0;0;0;0;0

French keyword: ABSCISSES DES SOMMETS DU POLYGONE DE RAFFINEMENT When you want to refine a piece of the mesh, this key-word fixes the abscissae of the vertices of a polygon inside of which the mesh will be finally refined.

#### Warning:

This polygon should have a convex shape and the coordinates of the vertices be given with an anti clock wise order.

#### 1.3 BATHYMETRY IN THE UNIVERSAL FILE

Type: Logical
Dimension: -1
Mnemo FONTRI
DEFAULT VALUE: NO

French keyword: BATHYMETRIE DANS LE FICHIER UNIVERSEL

1.4 BIBLIOTHEQUES 7

The bathymetry will be read in the mesh file (Trigrid or Fasttabs).

#### 1.4 BIBLIOTHEQUES

Type: String
Dimension: -1

Mnemo

DEFAULT VALUE: '

French keyword: BIBLIOTHEQUES TODO: WRITE HELP FOR THAT KEYWORD

#### 1.5 BINARY STANDARD

Type: String Dimension: -1

Mnemo

DEFAULT VALUE: 'STD'

French keyword: STANDARD DE BINAIRE

Matches the writing of the GEOMETRY FILE FOR TELEMAC to the binary standard chosen for the latter. It will be selected among the following:

- IBM: IBM binary,
- I3E: HP binary,
- STD: takes by default the binary on the computer with which the user is working. The normal READ and WRITE commands are then used.

#### 1.6 BOTTOM CORRECTION OF TRIGRID

Type: Real Dimension: -1

Mnemo CORTRI

DEFAULT VALUE: 0.

French keyword: CORRECTION DES FONDS DE TRIGRID

Value to be added at the bottom value read in the Trigrid file

#### 1.7 BOTTOM TOPOGRAPHY FILES

Type: String Dimension: 5

Mnemo

DEFAULT VALUE: ';;;;'

French keyword: FICHIERS DES FONDS

Name of the file containing the bathymetric points (to SINUSX standard), to be used, through interpolation, for defining the depth at each point of the mesh.

#### 1.8 BOUNDARY CONDITION IN SERAFIN FORMAT

Type: Logical Dimension: -1

Mnemo SRF\_BND

DEFAULT VALUE: NO

French keyword: CONDITION LIMITE EN FORMAT SERAFIN

Boundary condition file when converting from SERAFIN.

#### 1.9 BOUNDARY CONDITIONS FILE

Type: String Dimension: -1

Mnemo

DEFAULT VALUE: "

French keyword: FICHIER DES CONDITIONS AUX LIMITES

Name of the file that will contain the boundary conditions being read from the UNIVERSAL FILE, and to be used in Telemac-2D computations. (The boundary conditions are defined when preparing the meshes, through colours that are allotted to the nodes of the computation domain boundaries).

#### 1.10 BOUNDARY CONDITIONS IN THE ADDITIONAL FILE

Type: Logical Dimension: -1

Mnemo ADDFAS DEFAULT VALUE: NO

French keyword: CONDITIONS LIMITES DANS LE FICHIER ADDITIONNEL

The boundary condition will be read in the additional file (Fasttabs).

#### 1.11 BOUNDARY FILE

Type: String
Dimension: -1

Mnemo LIMFILE

DEFAULT VALUE:

French keyword: FICHIER DES CONDITIONS LIMITES

Name of the boundary condition file

#### 1.12 CONVERTER

Type: Logical Dimension: -1

Mnemo CONVER DEFAULT VALUE: NO

French keyword: CONVERTISSEUR

Activate the conversion module.

#### 1.13 CUTTING ELEMENTS IN FOUR

Type: Logical Dimension: -1

Mnemo

DEFAULT VALUE: NO

French keyword: DECOUPAGE DES TRIANGLES EN QUATRE

Cuts every element of the mesh in four homothetic elements by joigning the middle points of each side.

1.14 DEBUG 9

#### 1.14 DEBUG

Type: Logical Dimension: -1

Mnemo DEBUG
DEFAULT VALUE: NO
French keyword: DEBUG

Activate the debug mode.

#### 1.15 DEFAULT EXECUTABLE

Type: String Dimension: 1

Mnemo EXEDEF

DEFAULT VALUE: 'builds|PPP|bin|stbte|MMMVVV.exe' French keyword: EXECUTABLE PAR DEFAUT

Default executable for STBTEL

#### 1.16 DEFAULT PARALLEL EXECUTABLE

Type: String Dimension: 1

Mnemo EXEDEFPARA

DEFAULT VALUE: 'builds|PPP|bin|stbtelMMMVVV.exe'

French keyword: EXECUTABLE PARALLELE PAR DEFAUT

Default parallel executable for STBTEL

#### 1.17 DESCRIPTION OF LIBRARIES

Type: String Dimension: 6

Mnemo LINKLIBS

DEFAULT VALUE: 'builds|PPP|lib|stbte|MMMVVV.LLL;

builds|PPP|lib|biefMMMVVV.LLL; builds|PPP|lib|hermesMMMVVV.LLL; builds|PPP|lib|damoMMMVVV.LLL; builds|PPP|lib|paralle|MMMVVV.LLL; builds|PPP|lib|specia|MMMVVV.LLL'

French keyword: DESCRIPTION DES LIBRAIRIES

Description of STBTEL libraries

#### 1.18 DICTIONARY

Type: String Dimension: -1

Mnemo

DEFAULT VALUE: 'stbtel.dico'
French keyword: DICTIONNAIRE

Key word dictionary.

#### 1.19 DRY ELEMENTS ELIMINATION

Type: Logical
Dimension: -1
Mnemo ELISEC
DEFAULT VALUE: NO

French keyword: ELIMINATION DES ELEMENTS SECS

When using a TELEMAC-2D results file, this keyword activates the dry elements elimination.

#### 1.20 DRY LIMIT

Type: Real
Dimension: -1

Mnemo SEUSEC DEFAULT VALUE: 0.1

French keyword: SEUIL DE SECHERESSE

Limit of water depth value (in meter) under which the node is considered as dry node.

#### 1.21 ELIMINATION OF BACKWARD DEPENDENCIES

Type: Logical Dimension: -1

Mnemo

DEFAULT VALUE: YES

French keyword: ELIMINATION DES DEPENDANCES ARRIERES

Provides for renumbering of the mesh nodes in order to eliminate the backward dependencies, thereby enabling a forced vectorisation when the TELEMAC 2D computations are made on a CRAY.

Warning:

About 500 nodes is the least number required for activating this option.

#### 1.22 FORTRAN FILE

Type: String Dimension: -1

Mnemo

DEFAULT VALUE: 'DEFAUT'

French keyword: FICHIER FORTRAN

Name of Fortran file to be entered. It is a priori only designed for dimensioning the arrays that are used by STBTEL, but it may contain either modified or user-written subroutines.

#### 1.23 GEOMETRY FILE FOR TELEMAC

Type: String Dimension: -1

Mnemo

DEFAULT VALUE: '

French keyword: FICHIER DE GEOMETRIE POUR TELEMAC

Name of the file that will contain the mesh data to SELAFIN format, and to be used in TELEMAC-2D computations.

1.24 INPUT FILE

#### 1.24 INPUT FILE

Type: String
Dimension: -1
Mnemo INFILE

DEFAULT VALUE:

French keyword: FICHIER D ENTREE

Name of the file to convert.

#### 1.25 INPUT FILE FORMAT

Type: String
Dimension: -1
Mnemo INFMT
DEFAULT VALUE: 'SERAFIN'

French keyword: FORMAT DU FICHIER D ENTREE

Specify input file format

#### 1.26 LIST OF FILES

Type: String Dimension: 14

Mnemo

DEFAULT VALUE: 'UNIVERSAL FILE;

GEOMETRY FILE FOR TELEMAC; BOUNDARY CONDITIONS FILE; MESH ADDITIONAL DATA FILE; BOTTOM TOPOGRAPHY FILES;

FORTRAN FILE; STEERING FILE; DICTIONARY; INPUT FILE; OUTPUT FILE; BOUNDARY FILE;

LOG FILE:

**OUTPUT BOUNDARY FILE;** 

**OUTPUT LOG FILE'** 

French keyword: LISTE DES FICHIERS

File names of the used files

#### 1.27 LOG FILE

Type: String Dimension: -1

Mnemo LOGFILE

DEFAULT VALUE: '

French keyword: FICHIER LOG

Name of the complementary file for the UNV format

#### 1.28 MAXIMUM NUMBER OF BATHYMETRIC POINTS

Type: Integer
Dimension: -1
Mnemo NBAT
DEFAULT VALUE: 20000

French keyword: NOMBRE MAXIMUM DE POINTS DE BATHYMETRIE

TODO: WRITE HELP FOR THAT KEYWORD

#### 1.29 MESH ADDITIONAL DATA FILE

Type: String Dimension: -1

Mnemo

DEFAULT VALUE: '

French keyword: FICHIER ADDITIONNEL DU MAILLEUR

Name of the additional file. The meaning of this file depend on the type of mesh generator.

• Trigrid : containing the connectivity table built (mandatory).

• Fasttabs : boundary condition file built by Fasttabs (optional).

#### 1.30 MESH GENERATOR

Type: String Dimension: -1

Mnemo

DEFAULT VALUE: 'MASTER2' French keyword: MAILLEUR

Name of the mesh generator used for preparing the UNIVERSAL FILE. It will be selected among the following:

- SUPERTAB6 (version 6 of SUPERTAB mesh generator),
- SUPERTAB4 (version 4 of SUPERTAB mesh generator),
- MASTER2 (version 2 of MASTER-SERIES mesh generator),
- SIMAIL,
- SELAFIN (in order to modify a mesh already used, as for example :
  - to interpolate a new bathymetry
  - to eliminate backward dependencies
  - to cut overstressed triangles),
- TRIGRID,
- FASTTABS.

#### 1.31 MINIMUM DISTANCE AT BOUNDARY

Type: Real Dimension: -1

Mnemo

DEFAULT VALUE: 0.

French keyword: DISTANCE MINIMALE A LA FRONTIERE

The bathymetric data at the mesh nodes are interpolated. At each mesh node, the plane is cut into 4 quadrants in each of which, among the points recorded at the digitizing tablet, the closest one to the node being considered is searched for.

This node is then given a depth corresponding to the mean depth at each of the 4 points previously found, these depths being weighted by the distance to the node.

When searching for the points in the quadrants, however, one shall make sure the boundaries aare not overstepped in order to prevent aberrations from being introduced into the bathymetric data.

The keyword can then be used for specifying the minimum distance to the boundaries below which the recorded points should be ignored.

#### 1.32 MINIMUM DISTANCE BETWEEN TWO POINTS

Type: Real Dimension: -1

Mnemo

DEFAULT VALUE: 1.E-5

French keyword: DISTANCE MINIMALE ENTRE DEUX POINTS

Distance (in meters) below which two nodes are considered as identical by STBTEL when the results supplied by the mesh generator are being checked. When two nodes occur at the same place, one of them is eliminated and all the mesh nodes are renumbered.

#### 1.33 NODES RENUMBERING

Type: Logical
Dimension: -1
Mnemo OPTASS
DEFAULT VALUE: NO

French keyword: RENUMEROTATION DES POINTS Necessary to use the new storage scheme for the matrix.

#### 1.34 NUMBER OF VERTICES OF THE POLYGON TO EXTRACT THE MESH

Type: Integer
Dimension: -1
Mnemo NSOM
DEFAULT VALUE: 0

French keyword: NOMBRE DE SOMMETS DU POLYGONE D'EXTRACTION When you want to extract a piece of the mesh, this key-word fixes the number of vertices of a polygon inside of which the mesh will be finally extracted.

#### Warning:

This polygon should have a convex shape and the coordinates of the verti given with an anti clock wise order.

#### 1.35 NUMBER OF VERTICES OF THE POLYGON TO REFINE THE MESH

Type: Integer
Dimension: -1
Mnemo NSOM2

DEFAULT VALUE: (

French keyword: NOMBRE DE SOMMETS DU POLYGONE DE RAFFINEMENT When you want to refine a piece of the mesh, this key-word fixes the number of vertices of a polygon inside of which the mesh will be finally refined.

#### ATTENTION:

This polygon should have a convex shape and the coordinates of the vertices be given with an anti clock wise order.

#### 1.36 ORDINATES OF THE VERTICES OF THE POLYGON TO EXTRACT THE MESH

Type: Real
Dimension: 9
Mnemo SOM

DEFAULT VALUE: 0;0;0;0;0;0;0;0;0

French keyword: ORDONNEES DES SOMMETS DU POLYGONE D'EXTRACTION When you want to extract a piece of the mesh, this key-word fixes the ordinates of the vertices of a polygon inside of which the mesh will be finally extracted.

#### Warning:

This polygon should have a convex shape and the coordinates of the vertices be given with an anti clock wise order.

#### 1.37 ORDINATES OF THE VERTICES OF THE POLYGON TO REFINE THE MESH

Type: Real
Dimension: 9
Mnemo SOM2

DEFAULT VALUE: 0;0;0;0;0;0;0;0;0

French keyword: ORDONNEES DES SOMMETS DU POLYGONE DE RAFFINEMENT When you want to refine a piece of the mesh, this key-word fixes the ordinates of the vertices of a polygon inside of which the mesh will be finally refined.

#### Warning:

This polygon should have a convex shape and the coordinates of the vertices be given with an anti clock wise order.

#### 1.38 OUTPUT BOUNDARY FILE

Type: String Dimension: -1

Mnemo OUTBNDFILE

DEFAULT VALUE:

French keyword: FICHIER DES CONDITIONS LIMITES EN SORTIE

Name of the boundary file for the converted file

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#### 1.39 OUTPUT FILE

Type: String Dimension: -1

Mnemo OUTFILE

DEFAULT VALUE: '

French keyword: FICHIER DE SORTIE

Name of the converted file

#### 1.40 OUTPUT FILE FORMAT

Type: String Dimension: -1

Mnemo OUTFMT DEFAULT VALUE: 'SERAFIN'

French keyword: FORMAT DU FICHIER DE SORTIE

Specify output file format

#### 1.41 OUTPUT LOG FILE

Type: String Dimension: -1

Mnemo OUTLOGFILE

DEFAULT VALUE: '

French keyword: FICHIER LOG EN SORTIE Name of the complementary file for the converted file

#### 1.42 OVERSTRESSED TRIANGLES CUTTING

Type: Logical Dimension: -1

Mnemo

DEFAULT VALUE: NO

French keyword: DECOUPAGE DES TRIANGLES SURCONTRAINTS

An overstressed triangle is one whose three nodes are located along a boundary of the computational domain. The occurrence of such triangles may bring about instabilities in the computations made by TELEMAC 2D. Such problems can be prevented by this option, through the creation of a node at the geometric centres of the overstressed triangles.

#### 1.43 PARALLEL PROCESSORS

Type: Integer
Dimension: -1
Mnemo NCSIZE

DEFAULT VALUE: 0

French keyword: PROCESSEURS PARALLELES

Number of processors for parallel processing

- 0: 1 machine, compiling without parallel library
- 1: 1 machine, compiling with a parallel library
- 2: 2 processors or machines in parallel
- etc...

#### 1.44 PARTIALLY DRY ELEMENTS ELIMINATION

Type: Logical
Dimension: -1
Mnemo ELPSEC
DEFAULT VALUE: NO

French keyword: ELIMINATION DES ELEMENTS PARTIELLEMENT SECS When removing dry elements, specify if the partially dry elements are treated (at least one dry node).

#### 1.45 PROJECTION AFTER EXTRACTION

Type: Logical
Dimension: -1
Mnemo PROJEC
DEFAULT VALUE: YES

French keyword: PROJECTION APRES EXTRACTION

When a mesh is extracted inside a polygon, indicates whether the mesh should be projected through the faces of the polygon or not.

#### 1.46 RELEASE

Type: String Dimension: -1

Mnemo

DEFAULT VALUE: 'V7P2'

French keyword: NUMERO DE VERSION

Version numbers of STBTEL, DAMO, UTIL, HP libraries, respectively.

#### 1.47 STEERING FILE

Type: String Dimension: -1

Mnemo

DEFAULT VALUE: '

French keyword: FICHIER DES PARAMETRES

Name of the file that contains the file references and of options for the computation to be made.

#### 1.48 STORAGE OF ALL TIME STEPS

Type: Logical
Dimension: -1
Mnemo ELISEC
DEFAULT VALUE: NO

French keyword: STOCKAGE DE TOUS LES PAS DE TEMPS

When treating dry elements elimination, specify that all time steps are to be stored in the results file.

1.49 TRANSLATION 17

#### 1.49 TRANSLATION

Type: Logical

Dimension: -1

Mnemo TRANSLATE

DEFAULT VALUE: NO

French keyword: TRANSLATION Activate the translation of the mesh.

#### 1.50 UNIVERSAL FILE

Type: String Dimension: -1

Mnemo

DEFAULT VALUE: '

French keyword: FICHIER UNIVERSEL

Name of the file created by the mesh generator, and from which STBTEL will work.

#### 1.51 VECTOR LENGTH

Type: Integer
Dimension: -1
Mnemo LGVEC

DEFAULT VALUE: 1

French keyword: LONGUEUR DU VECTEUR

Designed for dimensioning the vector length on vector machine.

#### 1.52 WRITING NODE COLOURS

Type: Logical Dimension: -1

Mnemo

DEFAULT VALUE: NO

French keyword: ECRITURE DE LA COULEUR DES NOEUDS

Option not activated

#### 1.53 X TRANSLATION

Type: Real
Dimension: -1
Mnemo DX
DEFAULT VALUE: 0.

French keyword: TRANSLATION SELON X

Translation on the x axes

#### 1.54 Y TRANSLATION

Type: Real
Dimension: -1
Mnemo DY
DEFAULT VALUE: 0.

French keyword: TRANSLATION SELON Y

Translation on the y axes

# 2. List of keywords classified according to type

#### 2.1 COMPUTATION ENVIRONMENT

BIBLIOTHEQUES RELEASE

#### 2.2 COMPUTATION ENVIRONMENT

DICTIONARY

#### 2.3 COMPUTATIONAL INFORMATION

DEFAULT EXECUTABLE
DEFAULT PARALLEL EXECUTABLE
DESCRIPTION OF LIBRARIES

#### 2.4 CONVERTER

BOUNDARY CONDITION IN SERAFIN FORMAT
CONVERTER
DEBUG
INPUT FILE FORMAT
OUTPUT FILE FORMAT
TRANSLATION
X TRANSLATION
Y TRANSLATION

#### 2.5 FILES

LIST OF FILES

2.6 GENERALITIES 19

#### 2.6 GENERALITIES

ABSCISSAE OF THE VERTICES OF THE POLYGON TO EXTRACT THE MESH ABSCISSAE OF THE VERTICES OF THE POLYGON TO REFINE THE MESH BATHYMETRY IN THE UNIVERSAL FILE

BOTTOM CORRECTION OF TRIGRID

BOUNDARY CONDITIONS IN THE ADDITIONAL FILE

CUTTING ELEMENTS IN FOUR

DRY ELEMENTS ELIMINATION

DRY LIMIT

ELIMINATION OF BACKWARD DEPENDENCIES

MAXIMUM NUMBER OF BATHYMETRIC POINTS

MINIMUM DISTANCE AT BOUNDARY

MINIMUM DISTANCE BETWEEN TWO POINTS

NODES RENUMBERING

NUMBER OF VERTICES OF THE POLYGON TO EXTRACT THE MESH

NUMBER OF VERTICES OF THE POLYGON TO REFINE THE MESH

ORDINATES OF THE VERTICES OF THE POLYGON TO EXTRACT THE MESH

ORDINATES OF THE VERTICES OF THE POLYGON TO REFINE THE MESH

OVERSTRESSED TRIANGLES CUTTING

PARALLEL PROCESSORS

PARTIALLY DRY ELEMENTS ELIMINATION

PROJECTION AFTER EXTRACTION

STORAGE OF ALL TIME STEPS

VECTOR LENGTH

WRITING NODE COLOURS

#### 2.7 INPUT-OUTPUT, FILES

BINARY STANDARD

BOTTOM TOPOGRAPHY FILES

BOUNDARY CONDITIONS FILE

BOUNDARY FILE

FORTRAN FILE

GEOMETRY FILE FOR TELEMAC

INPUT FILE

LOG FILE

MESH ADDITIONAL DATA FILE

OUTPUT BOUNDARY FILE

OUTPUT FILE

OUTPUT LOG FILE

STEERING FILE

UNIVERSAL FILE

#### 2.8 INPUT-OUTPUT, INFORMATION

BIBLIOTHEQUES
DEFAULT EXECUTABLE

DEFAULT PARALLEL EXECUTABLE
DESCRIPTION OF LIBRARIES
DICTIONARY
RELEASE

#### 2.9 MESH GENERATOR

MESH GENERATOR

#### **2.10 NAMES**

BOTTOM TOPOGRAPHY FILES
BOUNDARY CONDITIONS FILE
BOUNDARY FILE
FORTRAN FILE
GEOMETRY FILE FOR TELEMAC
INPUT FILE
LOG FILE
MESH ADDITIONAL DATA FILE
OUTPUT BOUNDARY FILE
OUTPUT FILE
OUTPUT LOG FILE
STEERING FILE
UNIVERSAL FILE

#### 2.11 STANDARD I/O

BINARY STANDARD

#### 2.12 TRANSLATION

TRANSLATION
X TRANSLATION
Y TRANSLATION

# 3. Glossary

## 3.1 English/French glossary

ABSCISSAE OF THE VERTICES OF	ABSCISSES DES SOMMETS DU
THE POLYGON TO EXTRACT THE MESH	POLYGONE D'EXTRACTION
ABSCISSAE OF THE VERTICES OF	ABSCISSES DES SOMMETS DU
THE POLYGON TO REFINE THE MESH	POLYGONE DE RAFFINEMENT
BATHYMETRY IN THE UNIVERSAL	BATHYMETRIE DANS LE FICHIER
FILE	UNIVERSEL
BIBLIOTHEQUES	BIBLIOTHEQUES
BINARY STANDARD	STANDARD DE BINAIRE
BOTTOM CORRECTION OF TRIGRID	CORRECTION DES FONDS DE TRIGRID
BOTTOM TOPOGRAPHY FILES	FICHIERS DES FONDS
BOUNDARY CONDITION IN SERAFIN	CONDITION LIMITE EN FORMAT
FORMAT	SERAFIN
BOUNDARY CONDITIONS FILE	FICHIER DES CONDITIONS AUX
	LIMITES
BOUNDARY CONDITIONS IN THE	CONDITIONS LIMITES DANS LE
ADDITIONAL FILE	FICHIER ADDITIONNEL
BOUNDARY FILE	FICHIER DES CONDITIONS LIMITES
CONVERTER	CONVERTISSEUR
CUTTING ELEMENTS IN FOUR	DECOUPAGE DES TRIANGLES EN
	QUATRE
DEBUG	DEBUG
DEFAULT EXECUTABLE	EXECUTABLE PAR DEFAUT
DEFAULT PARALLEL EXECUTABLE	EXECUTABLE PARALLELE PAR DEFAUT
DESCRIPTION OF LIBRARIES	DESCRIPTION DES LIBRAIRIES
DICTIONARY	DICTIONNAIRE
DRY ELEMENTS ELIMINATION	ELIMINATION DES ELEMENTS SECS
DRY LIMIT	SEUIL DE SECHERESSE
ELIMINATION OF BACKWARD	ELIMINATION DES DEPENDANCES
DEPENDENCIES	ARRIERES
FORTRAN FILE	FICHIER FORTRAN

GEOMETRY FILE FOR TELEMAC	FICHIER DE GEOMETRIE POUR
	TELEMAC
INPUT FILE	FICHIER D ENTREE
INPUT FILE FORMAT	FORMAT DU FICHIER D ENTREE
LIST OF FILES	LISTE DES FICHIERS
LOG FILE	FICHIER LOG
MAXIMUM NUMBER OF BATHYMETRIC	NOMBRE MAXIMUM DE POINTS DE
POINTS	BATHYMETRIE
MESH ADDITIONAL DATA FILE	FICHIER ADDITIONNEL DU MAILLEUR
MESH GENERATOR	MAILLEUR
MINIMUM DISTANCE AT BOUNDARY	DISTANCE MINIMALE A LA
	FRONTIERE
MINIMUM DISTANCE BETWEEN TWO	DISTANCE MINIMALE ENTRE DEUX
POINTS	POINTS
NODES RENUMBERING	RENUMEROTATION DES POINTS
NUMBER OF VERTICES OF THE	NOMBRE DE SOMMETS DU POLYGONE
POLYGON TO EXTRACT THE MESH	D'EXTRACTION
NUMBER OF VERTICES OF THE	NOMBRE DE SOMMETS DU POLYGONE
POLYGON TO REFINE THE MESH	DE RAFFINEMENT
ORDINATES OF THE VERTICES OF	ORDONNEES DES SOMMETS DU
THE POLYGON TO EXTRACT THE MESH	POLYGONE D'EXTRACTION
ORDINATES OF THE VERTICES OF	ORDONNEES DES SOMMETS DU
THE POLYGON TO REFINE THE MESH	POLYGONE DE RAFFINEMENT
OUTPUT BOUNDARY FILE	FICHIER DES CONDITIONS LIMITES
	EN SORTIE
OUTPUT FILE	FICHIER DE SORTIE
OUTPUT FILE FORMAT	FORMAT DU FICHIER DE SORTIE
OUTPUT LOG FILE	FICHIER LOG EN SORTIE
OVERSTRESSED TRIANGLES CUTTING	DECOUPAGE DES TRIANGLES
	SURCONTRAINTS
PARALLEL PROCESSORS	PROCESSEURS PARALLELES
PARTIALLY DRY ELEMENTS	ELIMINATION DES ELEMENTS
ELIMINATION	PARTIELLEMENT SECS
PROJECTION AFTER EXTRACTION	PROJECTION APRES EXTRACTION
RELEASE	NUMERO DE VERSION
STEERING FILE	FICHIER DES PARAMETRES
STORAGE OF ALL TIME STEPS	STOCKAGE DE TOUS LES PAS DE
	TEMPS
TRANSLATION	TRANSLATION
UNIVERSAL FILE	FICHIER UNIVERSEL
VECTOR LENGTH	LONGUEUR DU VECTEUR
WRITING NODE COLOURS	ECRITURE DE LA COULEUR DES
	NOEUDS
X TRANSLATION	TRANSLATION SELON X
Y TRANSLATION	TRANSLATION SELON Y
[	1

### 3.2 French/English glossary

ADOCTOCEC DEC COMMEEC DI	ADOCTOCAL OF THE MEDITORS OF
ABSCISSES DES SOMMETS DU	ABSCISSAE OF THE VERTICES OF
POLYGONE D'EXTRACTION	THE POLYGON TO EXTRACT THE MESH
ABSCISSES DES SOMMETS DU	ABSCISSAE OF THE VERTICES OF
POLYGONE DE RAFFINEMENT	THE POLYGON TO REFINE THE MESH
BATHYMETRIE DANS LE FICHIER	BATHYMETRY IN THE UNIVERSAL
UNIVERSEL	FILE
BIBLIOTHEQUES	BIBLIOTHEQUES
CONDITION LIMITE EN FORMAT	BOUNDARY CONDITION IN SERAFIN
SERAFIN	FORMAT
CONDITIONS LIMITES DANS LE	BOUNDARY CONDITIONS IN THE
FICHIER ADDITIONNEL	ADDITIONAL FILE
CONVERTISSEUR	CONVERTER
CORRECTION DES FONDS DE TRIGRID	BOTTOM CORRECTION OF TRIGRID
DEBUG	DEBUG
DECOUPAGE DES TRIANGLES EN	CUTTING ELEMENTS IN FOUR
QUATRE	
DECOUPAGE DES TRIANGLES	OVERSTRESSED TRIANGLES CUTTING
SURCONTRAINTS	
DESCRIPTION DES LIBRAIRIES	DESCRIPTION OF LIBRARIES
DICTIONNAIRE	DICTIONARY
DISTANCE MINIMALE A LA	MINIMUM DISTANCE AT BOUNDARY
FRONTIERE	
DISTANCE MINIMALE ENTRE DEUX	MINIMUM DISTANCE BETWEEN TWO
POINTS	POINTS
ECRITURE DE LA COULEUR DES	WRITING NODE COLOURS
NOEUDS	
ELIMINATION DES DEPENDANCES	ELIMINATION OF BACKWARD
ARRIERES	DEPENDENCIES
ELIMINATION DES ELEMENTS	PARTIALLY DRY ELEMENTS
PARTIELLEMENT SECS	ELIMINATION
ELIMINATION DES ELEMENTS SECS	DRY ELEMENTS ELIMINATION
EXECUTABLE PAR DEFAUT	DEFAULT EXECUTABLE
EXECUTABLE PARALLELE PAR DEFAUT	DEFAULT PARALLEL EXECUTABLE
FICHIER ADDITIONNEL DU MAILLEUR	MESH ADDITIONAL DATA FILE
FICHIER D ENTREE	INPUT FILE
FICHIER DE GEOMETRIE POUR	GEOMETRY FILE FOR TELEMAC
TELEMAC	
FICHIER DE SORTIE	OUTPUT FILE
FICHIER DES CONDITIONS AUX	BOUNDARY CONDITIONS FILE
LIMITES	DOGNOTINI CONDITIONO FIDE
FICHIER DES CONDITIONS LIMITES	BOUNDARY FILE
FICHIER DES CONDITIONS LIMITES FICHIER DES CONDITIONS LIMITES	OUTPUT BOUNDARY FILE
	OOIEOI DOOMDAKI LIDE
EN SORTIE	CTEEDING EILE
FICHIER DES PARAMETRES	STEERING FILE
FICHIER FORTRAN	FORTRAN FILE
FICHIER LOG	LOG FILE
FICHIER LOG EN SORTIE	OUTPUT LOG FILE

24 Bibliography

FICHIER UNIVERSEL	UNIVERSAL FILE
FICHIERS DES FONDS	BOTTOM TOPOGRAPHY FILES
FORMAT DU FICHIER D ENTREE	INPUT FILE FORMAT
FORMAT DU FICHIER DE SORTIE	OUTPUT FILE FORMAT
LISTE DES FICHIERS	LIST OF FILES
LONGUEUR DU VECTEUR	VECTOR LENGTH
MAILLEUR	MESH GENERATOR
NOMBRE DE SOMMETS DU POLYGONE	NUMBER OF VERTICES OF THE
D'EXTRACTION	POLYGON TO EXTRACT THE MESH
NOMBRE DE SOMMETS DU POLYGONE	NUMBER OF VERTICES OF THE
DE RAFFINEMENT	POLYGON TO REFINE THE MESH
NOMBRE MAXIMUM DE POINTS DE	MAXIMUM NUMBER OF BATHYMETRIC
BATHYMETRIE	POINTS
NUMERO DE VERSION	RELEASE
ORDONNEES DES SOMMETS DU	ORDINATES OF THE VERTICES OF
POLYGONE D'EXTRACTION	THE POLYGON TO EXTRACT THE MESH
ORDONNEES DES SOMMETS DU	ORDINATES OF THE VERTICES OF
POLYGONE DE RAFFINEMENT	THE POLYGON TO REFINE THE MESH
PROCESSEURS PARALLELES	PARALLEL PROCESSORS
PROJECTION APRES EXTRACTION	PROJECTION AFTER EXTRACTION
RENUMEROTATION DES POINTS	NODES RENUMBERING
SEUIL DE SECHERESSE	DRY LIMIT
STANDARD DE BINAIRE	BINARY STANDARD
STOCKAGE DE TOUS LES PAS DE	STORAGE OF ALL TIME STEPS
TEMPS	
TRANSLATION	TRANSLATION
TRANSLATION SELON X	X TRANSLATION
TRANSLATION SELON Y	Y TRANSLATION

- [1] JOLY A., GOEURY C., and HERVOUET J.-M. Adding a particle transport module to telemac-2d with applications to algae blooms and oil spills. Technical Report H-P74-2013-02317-EN, EDF R&D-LNHE, 2013.
- [2] AUTHOR. Title. Journal de Mickey, 666.
- [3] PHAM C.-T., BOURBAN S., DURAND N., and TURNBULL M. Méthodologie pour la simulation de la marée avec la version 6.2 de telemac-2d et telemac-3d. Technical Report H-P74-2012-02534-FR, EDF R&D-LNHE, 2012.
- [4] Sampath Kumar Gurram, Karam S. Karki, and Willi H. Hager. Subcritical junction flow. *Journal of Hydraulic Engineering*, 123(5):447–455, may 1997.
- [5] TSANIS I. Simulation of wind-induced water currents. *Journal of hydraulic Engineering*, 115(8):1113–1134, 1989.
- [6] SMAGORINSKY J. General simulation experiments with the primitive equations. *Monthly Weather Review*, 91(3):99–164, March 1963.
- [7] HERVOUET J.-M. *Méthodes itératives pour la solution des systèmes matriciels*. Rapport EDF HE43/93.049/A, 1996.
- [8] HERVOUET J.-M. Hydrodynamics of Free Surface Flows. Modelling with the finite element method. Wiley, 2007.
- [9] HERVOUET J.-M. Guide to programming in the telemac system version 6.0. Technical Report H-P74-2009-00801-EN, EDF R&D-LNHE, 2009.
- [10] JANIN J.-M., HERVOUET J.-M., and MOULIN C. A positive conservative scheme for scalar advection using the M.U.R.D technique in 3D free-surface flow problems. XI<sup>th</sup> International Conference on Computional methods in water resources, 1996.
- [11] GAUTHIER M. and QUETIN B. Modèles mathématiques de calcul des écoulements induits par le vent. In *17e congrès de l'AIRH*, Baden-Baden, August 1977.
- [12] METCALF M. and REID J. Fortran 90 explained. Oxford Science Publications, 1990.