



Hydrodynamics 1D/2D Floodings

A lot of effort is put in flood prevention, but what happens when a dike breaks or a water system flows over? With SOBEK-Rural Overland Flow you can simulate these calamities to investigate effect of measures, improve risk management and formulate policy. During the one day course you will work with SOBEK-Rural Overland Flow in combination with SOBEK-Rural 1DFLOW. Aim of this course is to improve your modelling skills and to get more out of SOBEK-Rural Overland Flow.

Course background:

The course focuses on SOBEK-Rural Overland Flow (2D) module is fully integrated with SOBEK-Rural 1DFLOW, SOBEK-River 1DFLOW and SOBEK-Urban 1DFLOW for accurate flooding simulation. It is especially designed to simulate dam breaks and dike breaks. It is based upon the complete de Saint Venant Equations. It simulates steep fronts, wetting and drying processes, sub critical and supercritical flow, handles multi domains and even nested, and includes rainfall on the 2D grid.

Subjects:

The course consists of short presentations and practical exercises. Participants will work on subjects like:

- Explanation on 2D flow functionalities (options in coupling 1D and 2D flow, nested grids), including theoretical background;
- Aspects of importance in constructing a good 2D flow model;
- Exercises with different options in combining 1D and 2D flow;
- Exercise with nested grids.

Participants:

The course is aimed at river engineers and modellers from consultancy and engineering companies, provinces, water boards and universities. You are expected to have some experience with SOBEK, or to have gone through the SOBEK tutorial "Hydrodynamics – 1D/2D Floodings". The course is meant for people who have experience with SOBEK 1D flow models.



Aim of the course:

In this course participants learn:

- The hydraulic background of overland flow to improve your insight;
- How to use 2D functionality to improve your accuracy of your investigation;
- How to check your schematization and results to improve the reliability of your advice;
- How to visualize your results to communicate your findings;
- Tips and tricks to save time.

Program:

The program of Hydrodynamics – 1D/2D Floodings (in brief):

- Presentation: Introduction to 1D/2D modelling;
- Exercise: 1D/2D modelling;

- Presentation: Theory on the SOBEK-Rural Overland Flow (2D) module;
- Exercise: Modelling floods;
- Presentation: Advanced features of 1D/2D modelling.

Course leader:

M.C.M.L. van Mierlo, Deltares.

Fee:

The costs for this 1 day course, from 9:30 to 17:00 hrs, is € 565,- excluding VAT.
50% discount for lecturers at centres of education.

Certificate:

We provide a certificate of participation.

**Course date:**

Tuesday, 20 April 2010.

Tuesday, 28 September 2010.

Location:

Deltares, Stieltjesweg 2, 2628 CK Delft,
The Netherlands.

Deltares

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Registration:

Please use the electronic form for registration at www.deltaressystem.com and choose 'Agenda'.

Transportation:

From Schiphol Airport a train is leaving for Leiden Central Station every 20 minutes. Here you have to change trains to Delft Central Station (total travelling time approximately 45 minutes).

More information:

All presentations and discussions will be in English. For more information, please visit our website www.deltaressystem.com or contact the course coordinators, Carla van den Kieboom, Wendy Boerhave or Nancy Dijkhuizen, telephone +31 88 3357909 or e-mail: sales@deltaressystem.com.

Deltares Academy is a training facility of Deltares.