

Reference List of *BASEMENT* Software

Journal Publications

Vetsch, D. F. and R. M. Boes (2016)

Vereinfachte Modellierung des progressiven Bruchs bei kleinen Erdschüttdämmen
Wasserwirtschaft 2016(6).

Brestolani, F., Solari, L., Rinaldi, M., Lollino, G., (2015)

On the morphological impacts of gravel mining: the case of the Orco river
G. Lollino et al. (eds.), Engineering Geology for Society and Territory – Volume 3,
DOI: 10.1007/978-3-319-09054-2_66

Lutz, N. and Vetsch, D. (2015)

Optimierung der Turbinenanströmung des Kraftwerks Ryburg-Schwörstadt mittels numerischer Modellierung'
Wasser Energie Luft, 107(3).

Vonwiller, L., Vetsch, D., Peter, S. and Boes, R. M. (2015)

Methode zur Beurteilung des maximalen Breschenabflusses bei progressivem Bruch homogener Erdschüttdämme an kleinen Stauhaltungen
Wasser Energie Luft, 107(1).

Bertoldi, W., Siviglia, A., Tettamanti, S., Toffolon, M., Vetsch, D.F., Francalanci, S. (2014)

Modeling vegetation controls on fluvial morphological trajectories
Geophysical Research Letters, DOI: 10.1002/2014GL061666

Radice A., Giorgetti E., Brambilla D., Longoni L., Papini M. (2012)

On integrated sediment transport modelling for flash events in mountain environments
Acta Geophysica 60, 191-213.

Volz, C., Rousselot, P., Vetsch, D. and Faeh, R. (2012)

Numerical modelling of non-cohesive embankment breach with the dual-mesh approach
Journal of Hydraulic Research, 50(6), 587-598.

Worni, R., Stoffel, M., Huggel, C., Volz, C., Casteller, A. and Luckman, B. (2012)

Analysis and dynamic modeling of a moraine failure and glacier lake outburst flood at Ventisquero Negro, Patagonian Andes (Argentina)
Journal of Hydrology, 444, 134-145.

Vetsch, D., Rousselot, P., Fäh, R. (2011)

Flussgebietsmodellierung mit der Simulationssoftware BASEMENT
Wasser Energie Luft, 103(4).

Vonwiller, L., M. von Pfuhlstein, et al. (2010)

Flussbauliches Monitoring am Flaz - Hydraulische 2D-Modellierung und ökologische Bewertung
Wasser Energie Luft 102(2).

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Conference Contributions

Kammerer, S., Vonwiller, L., Ehrbar, D., Vetsch, D., & Boes, R. (2016).
Numerische 1D Modellierung des Geschiebehaushaltes an der Ötztaler Ache.
 Proc. Wasserbausymposium 2016 - "Wasserbau - mehr als Bauen im Wasser", Wallgau, Germany.

Lüke, E., Vetsch, D. F., Gerber, M., & Boes, R. (2016, 2016).
Wehrregulierung zur Dämpfung des Hochwasserscheitels am Beispiel der Wehranlage Langkampfen am Inn
 Proc. Wasserbausymposium 2016 - "Wasserbau - mehr als Bauen im Wasser", Wallgau, Germany.

Vonwiller, L., Vetsch, D.F., Boes, R.M. (2015)
On the role of modelling approach for simulation of bank erosion in straight, trapezoidal channel
 Proceedings of the 36th IAHR World Congress 28 June - 3 July, The Hague, the Netherlands

Boes, R., Seitz, P., Berchtold, T., Vetsch, D. F., & Weitbrecht, V. (2013).
Hybride Modellierung der Flussaufweitung Hänggelgiessen
 Symposium Linth 2000, Rapperswil, Schweiz.

Berchtold, T., Vetsch, D., Weitbrecht, V. and Boes, R. (2012)
Simulation of river-bed evolution due to channel widening
 34th Hydrology and Water Resources Symposium, Sydney, Australia, 19. – 22. Nov. 2012, 299-307.

Berchtold, T., Weitbrecht, V., Vetsch, D. and Boes, R. (2011)
Numerical modelling of bed level evolution in a channel enlargement
 in Shao, Y., Wang, Z. and Wang, G., eds., 7th IAHR Symposium on River, Coastal and Estuarine Morphodynamics (RCEM 2011), Tsinghua University, Beijing, China, 1425-1435.

Volz C., Rousselot P., Vetsch D., Müller R., Fäh R., Boes R. (2010)
Numerical modeling of dam breaching processes due to overtopping flow
 Proc. of 8th ICOLD European Club Symposium, Innsbruck, 2010

Mache N., Vetsch D. (2010)
Numerical composite-modelling for hydraulic optimization of turbine inflow
 15. Gemeinschafts-Symposium der Wasserbau-Institute TU München, TU Graz und ETH Zürich, Wallgau, 2010 (in German)

Rousselot P., Volz C., Vetsch D., Müller R., Fäh R. (2010)
Multi-domain-model for efficient numerical simulation of river systems
 15. Gemeinschafts-Symposium der Wasserbau-Institute TU München, TU Graz und ETH Zürich, Wallgau, 2010 (in German)

Müller R., Rousselot P., Vetsch D., Volz C., Fäh R. (2010)
A novel numerical scheme for the modeling of suspended sediment transport
 15. Gemeinschafts-Symposium der Wasserbau-Institute TU München, TU Graz und ETH Zürich, Wallgau, 2010 (in German)

Volz C., Rousselot P., Vetsch D., Müller R., Fäh R. (2010)
Dual-mesh approach for numerical simulation of sediment transport on unstructured grids
 15. Gemeinschafts-Symposium der Wasserbau-Institute TU München, TU Graz und ETH Zürich, Wallgau, 2010 (in German)

Vonwiller L., Weitbrecht V., von Pfuhlstein M., Boes R. (2010)
Fluvial monitoring at river Flaz – hydro-numerical 2-D modeling and assessment of ecological parameters
 «Wasser Energie Luft» – 102. Jahrgang, Heft 2, 2010 (in German)

Fäh R., Farshi D., Müller R., Rousselot P., Vetsch D. (2007)
A comparison between a 1D- and a 2D-numerical modelling of a local river widening

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Fäh R., Müller R., Rousselot P., Vetsch D. (2007)

Morphological development of river widening due to flood wave – comparison of field measurements and numerical modelling

Proc. Symposium Mesures d'aménagement des cours d'eau pour la protection contre les crues, l'environnement, la société et l'économie, Communication LCH 33 : 67-78, 2007 (in German)

Farshi D., Fäh R., Vetsch D., Müller R. (2005)

Unsteady two-dimensional modelling of wetting-drying effects in shallow flows over complex topography

Proc. 31. IAHR-Congress Seoul: 3477-3485, Seoul, 2005

Vetsch D., Fäh R., Farshi D., Müller R. (2005)

BASEMENT – An object-oriented software system for the simulation of natural hazards

Festtagskolloquium 75 Jahre VAW, Oktober 2005, Mitteilung VAW 190, 201-212 (in German)

Master Theses and Term Papers (ask author for copy)

Briner, K. (2016)

Sohlenveränderungen in der Vispa beim Hochwasserereignis vom Oktober 2000 – Simulation des Geschiebetransports mit zwei 1D-Simulationsprogrammen

Supervisor(s): Rickenmann D., Dr. / Vetsch D., Dr. / Boes R., Prof. Dr.

Herrsche, R. (2015)

Simulation der Breschenbildung bei kleinen Stauanlagen

Supervisor(s): Vonwiller L., / Vetsch D., Dr. / Boes R., Prof. Dr.

Irniger, A. (2015)

Hybride Geschiebemodellierung der Sihl am HB Zürich

Supervisor(s): Hinkelammert F. / Boes R., Prof. Dr.

Loretz, S. (2015)

Alternierende Bänke – Theoretische Überlegungen und numerische Simulation

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

Supervisor(s): Vetsch D., Dr. / Siviglia A., Dr. / Boes R., Prof. Dr.

Schenkel, P. (2015)

Hydraulische und morphologische 2D Modellierung einer eigendynamischen Flussaufweitung

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

Supervisor(s): Vonwiller L. / Hager W.H., Prof. Dr.

Israel Vicente (2014).

Development of a work flow for risk assessment in dam break analysis

M.Sc. Thesis in Advanced Studies in Sustainable Water Resources, ETH Zurich (in English),

Supervisor(s): Siviglia A., Dr. / Peter S. J. / Burlando P., Prof. Dr.

Kammerer S. (2014)

Laterally coupled 1D-2D simulation of the Hochrhein River with BASEMENT

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

Supervisor(s): Detert M., Dr. / Volz C., Dr. / Boes R., Prof. Dr.

Hinkelammert F. (2012)

Evaluation of free GIS for hydraulic 2D modelling with BASEMENT

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

Supervisor(s): Volz C. / Boes R., Prof. Dr.

Böhringer D. (2012)

2D modelling of bed-load transport at the Töss River

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

Supervisor(s): Detert M., Dr. / Boes R., Prof. Dr.

Stefano Colombo / Giorgio L. Giuriani (2011).

Morphological evolution of mountain rivers. Propagation of the upstream term of sediment supply

M.Sc. Thesis in Civil Engineering for Risk Mitigation, Politecnico di Milano (in Italian),

Supervisor: A. Radice

Tomaselli L. (2011)

The evolution of the morphology of the alpine Rhine without regulation measures

Institut für Wasserwirtschaft, Hydrologie und konstruktiven Wasserbau, Universität für Bodenkultur, Wien (in German)

Supervisor(s): O. Univ. Prof. Dipl.-Ing. Dr. techn. Dr. h.c. Nachtnebel H. P.

Deflorin R. (2011)

2D numerical simulation of reduction of curve scour at the Alpine Rhine River with groynes

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

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Supervisor(s): Rousselot P. / Boes R., Prof. Dr.

Arnold M. (2011)

Numerical validation of a turbulence model

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

Supervisor(s): Rousselot P. / Boes R., Prof. Dr.

Brestolani F. (2011)

Numerical modeling of the morphologic evolution of a watercourse in response to a sediment extraction: case of the torrent Orco in the basin of the river Po

Corso di Laurea Specialistica in Ingegneria per la Tutela dell'Ambiente e del Territorio, University of Florence (in Italian)

Supervisor(s): Solari L., Prof. Ing. / Rinaldi M., Prof. / Audisio C., Dr. / Lollino G., Ing. / Müller R.

Böhringer D. / Wanner P. (2010)

Application of a 2D-hydrodynamic model to an alpine river reach

Institute of Environmental Engineering (IfU), ETH Zurich (in German)

Supervisor(s): Burlando P., Prof. Dr. / Molnar P., Dr.

Hinkelammert F. (2010)

Comparison of hydrodynamic models BASEplane and Hydro_AS-2D

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

Supervisor(s): Volz C. / Fäh R., Dr. / Boes R., Prof. Dr.

Beffa P. (2010)

Fish shelters in banks of regulated rivers: Case study on the Sarine river, downstream from Schiffenen dam

Laboratoire de Constructions Hydrauliques (LCH), EPF Lausanne (in French)

Supervisor(s): Ribì J.-M. / Boillat J.-L., Dr. / Schleiss A., Prof. Dr.

Lutze M. (2010)

Study of bed load transport at river branching

Institute of Hydraulic Engineering and Applied Hydromechanics, TU Dresden (in German)

Supervisor(s): Gierra T. / Stamm J., Prof. Dr.

Rüedlinger C. (2010)

Sediment dynamics and morphological change in the braided Pfywald reach of the Rhone River

Institute of Environmental Engineering (IfU), Institute for Atmospheric and Climate Science (IAC), ETH Zurich (in German)

Supervisor(s): Molnar P., Dr.

Rüegger T. (2010)

Flood protection at alpine Rhine

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

Supervisor(s): Hasler M., Steffen K. / Boes R., Prof. Dr.

Knöpfel L. (2010)

Flood protection at alpine Rhine

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

Supervisor(s): Hasler M., Steffen K., Müller R. / Boes R., Prof. Dr.

Mauri M / Spagnoletti M. (2010)

Modeling of morphological development of river Mallero and impact on the city of Sondrio

Hydraulic Engineering Section, Politecnico di Milano (in Italian)

Supervisor(s): Radice A., Dr. / Rosatti G., Dr. (University of Trento)

Lippuner R. (2009)

Hydro-numerical modeling of river widening „Mittlere Aue“ at the Töss river

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

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Supervisor(s): Detert M., Dr. / Boes R., Prof. Dr.

Meyer P. (2009)

Numerical modeling of flow control at peripheral Jura lakes

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

Supervisor(s): Faeh R., Dr. / Boes R., Prof. Dr.

Hartert J.-H. (2009)

Process optimization in numerical flood prediction

Fakultät Landschaftsarchitektur, FH Weihenstephan (in German)

Supervisor(s): Rieger Dr. / Kias Prof. Dr.

Arnason A. (2009)

Modeling and validation of domain-internal boundary conditions of a depth averaged numerical model

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

Supervisor(s): Rousselot P. / Boes R., Prof. Dr.

Parra I. C. (2009)

Evaluation of hydrodynamic numerical model in combination with LIDAR topographical data for the elaboration of hazard maps

MAS Hydraulic Engineering, EPF Lausanne / ETH Zurich (in French)

Supervisor(s): Boillat J.-L. / Rousselot, P. / Schleiss A., Prof. Dr. / Minor H.-E., Prof. Dr.

Vonwiller L. (2009)

Hydrodynamic numerical 2-D modeling at river Flaz

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), ETH Zurich (in German)

Supervisor(s): von Pfullstein M. / Boes R., Prof. Dr.

Unsin B. (2008)

Application of software BASEMENT for numerical modeling of channel flow with bed load transport

Lehrstuhl für Wasserbau und Wasserwirtschaft, TU München (in German)

Supervisor(s): Fiedler K. / Efthymiou N. / Rutschmann P., Prof. Dr.

Steffen K. (2008)

Study of fish refuges in rivers

Laboratoire de Constructions Hydrauliques (LCH), EPF Lausanne (in French)

Supervisor(s): Ribl J.-M. / Boillat J.-L., Dr. / Schleiss A., Prof. Dr.

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Scientific Reports (not publicly available)

Vonwiller L., Vetsch, D., Boes, R.M. (2014)

1-D sediment transport modelling in the Oetzal valley – preliminary study

Commissioned by TIWAG – Tiroler Wasserkraft AG

Report by Laboratory of Hydraulics, Glaciology and Hydrology (VAW) of ETH Zurich, VAW 4306 (in German)

Mache N., Vetsch D. (2013)

Numerical model investigation into sediment depositions upstream of river power plant Ryburg-Schwörstadt

Commissioned by Kraftwerk Ryburg-Schwörstadt AG

Report by Laboratory of Hydraulics, Glaciology and Hydrology (VAW) of ETH Zurich, VAW 4292 (in German)

Vonwiller L., Fäh R., Boes, R.M. (2011)

Dam breaching of small earth-fill dams in the canton of Zurich - Numerical simulations to estimate peak breach discharge for progressive dam breaching process.

Commissioned by office of waste, water, energy and air (AWEL) of canton Zurich

Report by Laboratory of Hydraulics, Glaciology and Hydrology (VAW) of ETH Zurich, VAW 4289 (in German)

Müller R., Fäh R. (2012)

Alpine Rhine - Numerical simulations of long term and long distance morphological development

Commissioned by “Internationale Rheinregulierung (IRR)”

Report by Laboratory of Hydraulics, Glaciology and Hydrology (VAW) of ETH Zurich, VAW 4262 (in German)

Rousselot P., Vonwiller L., Fäh R. (2010)

Numerical simulation of morphological development of the river Rhine at the lake of Constance

Commissioned by “Internationale Rheinregulierung (IRR)”

Report by Laboratory of Hydraulics, Glaciology and Hydrology (VAW) of ETH Zurich, VAW 4262 (in German)

Mache N., Vetsch D. (2010)

Numerical composite-modeling for hydraulic optimization of turbine inflow at river power plant Ryburg-Schwörstadt

Commissioned by Kraftwerk Ryburg-Schwörstadt AG

Report by Laboratory of Hydraulics, Glaciology and Hydrology (VAW) of ETH Zurich, VAW 4275 (in German)

Rühli E., Vetsch D. (2010)

Renewal of river power plant Röchlig – numerical flood modeling for new design 2010

Commissioned by Axpo AG

Report by Laboratory of Hydraulics, Glaciology and Hydrology (VAW) of ETH Zurich, VAW 4287-B (in German)

Berchtold T., Vetsch D. (2010)

Flood protection “Linth 2000” - numerical modeling of river widening “Hänggelgiessen”

Commissioned by the Linth administration

Report by Laboratory of Hydraulics, Glaciology and Hydrology (VAW) of ETH Zurich, VAW 4281 (in German)

Rühli E., Vetsch D. (2009)

Renewal of river power plant Röchlig – numerical modeling of up and down surge

Commissioned by Nordostschweizerische Kraftwerke AG (NOK)

Report by Laboratory of Hydraulics, Glaciology and Hydrology (VAW) of ETH Zurich, VAW 4253-C (in German)

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Rousselot P., Vetsch D. (2009)

Schwarzbach – numerical modeling of flood detention basin “Grafenwisen” at Rickenbach

Commissioned by office of waste, water, energy and air (AWEL) of canton Zurich

Report by Laboratory of Hydraulics, Glaciology and Hydrology (VAW) of ETH Zurich, VAW 4259 (in German)

Rühli E., Vetsch D. (2008)

Renewal of river power plant Rüchlig – numerical flood modeling (in German)

Commissioned by Nordostschweizerische Kraftwerke AG (NOK)

Report by Laboratory of Hydraulics, Glaciology and Hydrology (VAW) of ETH Zurich, VAW 4253-B (in German)