

## CURRICULUM VITAE MARNIX VAN DER VAT

- 1 **Proposed position:** Hydraulic Modeler
- 2 **Name of Firm:** Deltares
- 3 **Name of Expert:** Van der Vat, Marnix Pieter
- 4 **Date of Birth:** January 20, 1966      **Citizenship:** Netherlands
- 5 **Education:**
  - 2002 Courses in environmental impact assessment and environmental economics, Open University, Heerlen
  - 2001 Courses in management science and economics, Open University, Heerlen
  - 2001 Course in analysis of complex systems, Faculty of Technology, Policy and Management, Technical University, Delft
  - 1997 Course on environmental policy (Open University, Heerlen)
  - 1992 Course on software engineering for project engineers.
  - 1991 Physical Geography, University of Utrecht.  
Subjects: hydrology, soil physics, Geographical Information Systems, environmental geography.
  - 1990 Courses on tropical soil science and land evaluation (Agricultural University Wageningen)
- 6 **Membership in Professional Associations:**  
NHV (Dutch hydrological association)
- 7 **Other training:**
  - 2002 Training in personnel management
  - 1998 Chinese language course
  - 1996 Training in project management
  - 1993 Polish language course
- 8 **Countries of Work Experience:**  
China, Indonesia, Singapore, Kenya, Guyana, Surinam, Poland, Maroc, Egypt, Romania, Slovakia, Czech Republic, Slovenia, Vietnam, Thailand, Argentina, Guinee
- 9 **Languages:**

	<i>Writing</i>	<i>speaking</i>	<i>reading</i>
Dutch	mother tongue		
English	Excellent	excellent	excellent
Polish	Poor	fair	fair
French	Poor	fair	good
German	Poor	fair	good
Spanish	Poor	poor	fair
- 10 **Employment Record:**
  - From (year):** 2006      **To (year):** present
  - Employer:** Deltares (previously known as WL | Delft Hydraulics)
  - Positions held:** (Senior) advisor
  
  - From (year):** 2005      **To (year):** 2006
  - Employer:** World Wide Fund for Nature (WWF), the Netherlands
  - Positions held:** Manager international projects
  
  - From (year):** 2004      **To (year):** 2005

**Employer:** Regional Water Board “De Stichtse Rijnlanden”  
**Positions held:** Head of Flood Protection Department

**From (year):** 2003 **To (year):** 2004  
**Employer:** Province of Utrecht  
**Positions held:** Senior project manager, Strategy Department

**From (year):** 2002 **To (year):** 2003  
**Employer:** Province of Utrecht  
**Positions held:** Interim head of Department of Rural Development

**From (year):** 2001 **To (year):** 2002  
**Employer:** Province of Utrecht  
**Positions held:** Advisor flood management, Water Department

**From (year):** 1996 **To (year):** 1997  
**Employer:** Technical Education Centre, Amsterdam  
**Positions held:** Lecturer of a course on Integrated Water Management

**From (year):** 1991 **To (year):** 2001  
**Employer:** Deltares (previously known as WL | Delft Hydraulics)  
**Positions held:** (Senior) advisor

<b>11 WORK UNDERTAKEN THAT BEST ILLUSTRATES CAPABILITY TO HANDLE TASKS ASSIGNED</b>
<p><b>Name of assignment or project:</b> Joint Cooperation Program  <b>Year:</b> 2011-present  <b>Location:</b> Indonesia  <b>Client:</b> Royal Dutch Embassy, Jakarta  <b>Main project features:</b> Cooperation between Deltares, PusAir, KNMI and BMKG to strengthen the Indonesian water resources and meteorological sectors.  <b>Positions held:</b> Leader of component B on IWRM focusing on a case study for a river basin in Papua Province: IWRM and hydrological modeling in data poor areas using global data sets.  <b>Activities performed:</b> Coordination of hydrological modelling and river basin planning, editing of report</p>
<p><b>Name of assignment or project:</b> Kalimantan Forest Carbon Partnership – GHG Research &amp; Monitoring Support for Peat and Hydrology  <b>Year:</b> 2011-present  <b>Location:</b> Indonesia  <b>Client:</b> AusAid through the Indonesia Australia Forest Carbon Partnership and IDSS  <b>Main project features:</b> Supervision of monitoring of hydrology, soils and subsidence and modelling of hydrology, subsidence and GHG emission as part of a REDD+ demonstration project  <b>Positions held:</b> Modeller of hydrology, subsidence and emissions  <b>Activities performed:</b> Hydrological modelling using SOBEK and MODFLOW and modelling in GIS of subsidence and emissions</p>
<p><b>Name of assignment or project:</b> Green Economic Development In Times Of Rising Land And Water Claims  <b>Year:</b> 2011-2012  <b>Location:</b> Kenya, Mali and Mozambique  <b>Client:</b> Dutch Ministry of Foreign Affairs, Directorate General for International Cooperation as a sub-contractor of WWF  <b>Main project features:</b> Development of a concept for strengthening ecosystem and food security considerations within the framework of integrated water resources management based on an analysis of case studies in Sub-Sahara Africa (Kenya, Mali and Mozambique)  <b>Positions held:</b> Co-author  <b>Activities performed:</b> Participation in workshops and discussions and preparation of parts of the report</p>
<p><b>Name of assignment or project:</b> Kalimantan Forest Carbon Partnership – Hydrological Rehabilitation, Design and Management  <b>Year:</b> 2010-present  <b>Location:</b> Indonesia</p>

<p><b>Client:</b> AusAid through the Indonesia Australia Forest Carbon Partnership and IDSS</p> <p><b>Main project features:</b> Design of a blocking scheme of drainage canals for hydrological rehabilitation of a degraded peatland and supervision of implementation</p> <p><b>Positions held:</b> Project director and hydrologist</p> <p><b>Activities performed:</b> Hydrological analysis and integrated modelling of surface and groundwater</p>
<p><b>Name of assignment or project:</b> WACLIMAD</p> <p><b>Year:</b> 2010-2012</p> <p><b>Location:</b> Indonesia</p> <p><b>Client:</b> World Bank</p> <p><b>Main project features:</b> Establishment of a dialogue between Indonesian institutional partners on planning of lowland development and providing technical input for this dialogue</p> <p><b>Positions held:</b> Water resources management expert leading the water resources management cluster</p> <p><b>Activities performed:</b> Assessment of impact of sea level rise on flooding and drainage problems in lowlands using numerical models and GIS</p>
<p><b>Name of assignment or project:</b> Water Safe City</p> <p><b>Year:</b> 2010-2011</p> <p><b>Location:</b> Amsterdam, the Netherlands</p> <p><b>Client:</b> Ministry of Public Works and water Management</p> <p><b>Main project features:</b> Support urban planning for Amsterdam with assessment of residual, flood risk, damage and casualties now and in the future under climate change.</p> <p><b>Positions held:</b> flood risk management expert</p> <p><b>Activities performed:</b> preparation of flooding scenarios and expert input into discussions with urban planners</p>
<p><b>Name of assignment or project:</b> Water Safety Central Holland</p> <p><b>Year:</b> 2009-2011</p> <p><b>Location:</b> Netherlands</p> <p><b>Client:</b> Ministry of Public Works and water Management</p> <p><b>Main project features:</b> Cost-benefit analysis of different options to maintain the flood protection level of Central Holland using an approach based on assessment of damage and casualties, residual flood risk and costs of different options.</p> <p><b>Positions held:</b> project manager</p> <p><b>Activities performed:</b> coordination of flood modelling, flood damage assessment and costing of dike improvements, execution of the cost-benefit analysis and reporting</p>
<p><b>Name of assignment or project:</b> Upper Citarum Basin Flood Management</p> <p><b>Year:</b> 2009-2010</p> <p><b>Location:</b> Indonesia</p> <p><b>Client:</b> ADB</p> <p><b>Main project features:</b> preparation of a flood management strategy for the Upper-Citarum Basin</p> <p><b>Positions held:</b> hydraulic model expert</p> <p><b>Activities performed:</b> preparation of a hydrologic and hydraulic model to support assessment of the impact of different flood management strategies</p>
<p><b>Name of assignment or project:</b> Quick Scan High Water 3</p> <p><b>Year:</b> 2009-2010</p> <p><b>Location:</b> Netherlands</p> <p><b>Client:</b> Provinces of Drenthe and Groningen</p> <p><b>Main project features:</b> Assessment of flood risk under different climate change scenarios regarding both precipitation and sea level.</p> <p><b>Positions held:</b> Project manager</p> <p><b>Activities performed:</b> Assessment of impact of new standards and climate change on flood protection in the regional water system using an existing numerical model (SOBEK)</p>
<p><b>Name of assignment or project:</b> Science Based Management System Project</p> <p><b>Year:</b> 2008-2011</p> <p><b>Location:</b> Indonesia</p> <p><b>Client:</b> APRIL</p> <p><b>Main project features:</b> Optimization of water management in pulp plantation on peat to limit subsidence</p> <p><b>Positions held:</b> Hydrological modeler</p> <p><b>Activities performed:</b> preparation of surface and groundwater models to assess the impact of water management interventions on water levels</p>
<p><b>Name of assignment or project:</b> FLOODsite</p>

<p><b>Year:</b> 2006-2008  <b>Location:</b> European Union  <b>Client:</b> EU Directorate for Science  <b>Main project features:</b> International comprehensive research programme on flood risk management  <b>Positions held:</b> Task leader for evacuation modelling, flood event management and preparation of a Decision Support System for flood risk management  <b>Activities performed:</b> Coordination of research activities of a dozen partners, editing of reports and presentation of results</p>
<p><b>Name of assignment or project:</b> Master Plan Ex-Mega Rice Project  <b>Year:</b> 2006-2008  <b>Location:</b> Indonesia  <b>Client:</b> Government of Indonesia and Royal Netherlands Embassy in Jakarta  <b>Main project features:</b> development and application of a hydrological model to assess the impact of different land use scenarios on the conservation and rehabilitation of peat lands  <b>Positions held:</b> hydrologist  <b>Activities performed:</b> development and application of a hydrological model to assess the impact of different land use scenarios on the conservation and rehabilitation of peat lands.</p>
<p><b>Name of assignment or project:</b> Evaluation of WWF's <i>Living Yangtze Programme</i>  <b>Year:</b> 2006-2007  <b>Location:</b> China  <b>Client:</b> WWF Netherlands  <b>Main project features:</b> Evaluation of a nature conservation project for the Yangtze River  <b>Positions held:</b> Main evaluator  <b>Activities performed:</b> Field visits and meetings with participants and stakeholders to prepare a report with recommendations for a follow-up</p>
<p><b>Name of assignment or project:</b> Singapore Marina Reservoir Study  <b>Year:</b> 2006-2007  <b>Location:</b> Singapore  <b>Client:</b> Public Utility Bureau, Singapore  <b>Main project features:</b> Assessment of the water quality impacts of the construction of Marina Reservoir and identification of mitigating measures  <b>Positions held:</b> leader of hydrology package  <b>Activities performed:</b> modelling of urban hydrology and emissions</p>
<p><b>Name of assignment or project:</b> Lake Naivasha Integrated Water Resources Management project  <b>Year:</b> 2005-2006  <b>Location:</b> Kenya  <b>Client:</b> WWF Netherlands  <b>Main project features:</b> Conservation and rehabilitation of waterresources in the Lake Naivasha Basin, using among others Payment for Environmental Services  <b>Positions held:</b> International programme manager on behalf of the donor  <b>Activities performed:</b> Supporting formulation and implementation of the project</p>
<p><b>Name of assignment or project:</b> Evaluation of the WWF Programme in the Guianas  <b>Year:</b> 2005  <b>Location:</b> Guyana and Surinam  <b>Client:</b> WWF Netherlands  <b>Main project features:</b> Evaluation of all WWF programmes in Guyana, French Guiana and Surinam  <b>Positions held:</b> Evaluator  <b>Activities performed:</b> Field visits and meetings with participants and stakeholders to prepare a report with recommendations for a follow-up</p>
<p><b>Name of assignment or project:</b> <i>Implementation of the Water Framework Directive in Poland</i>  <b>Year:</b> 2000-2002  <b>Location:</b> Poland  <b>Client:</b> Dutch government  <b>Main project features:</b> Supporting a regional water authority with implementation of the WFD, focusing on preparation of river basin management plans, public participation and transfer of knowledge t.  <b>Positions held:</b> Team leader  <b>Activities performed:</b> Coordinating all activities</p>
<p><b>Name of assignment or project:</b> <i>Haihe flood management project</i>  <b>Year:</b> 2000-2001  <b>Location:</b> China</p>

<p><b>Client:</b> World Bank</p> <p><b>Main project features:</b> evaluation of structural and non-structural flood protection measures in the Haihe basin and recommendations for improvement.</p> <p><b>Positions held:</b> flood management expert</p> <p><b>Activities performed:</b> Field visits and quantitative assessments of flood risk and potential impact of different measures</p>
<p><b>Name of assignment or project:</b> South Yunnan Lakes Integrated Environmental Master Planning project</p> <p><b>Year:</b> 1998-2000</p> <p><b>Location:</b> China</p> <p><b>Client:</b> Dutch government</p> <p><b>Main project features:</b> Drafting of master plans for rehabilitation of four contaminated lakes in Yunnan Province, China.</p> <p><b>Positions held:</b> Co-team leader</p> <p><b>Activities performed:</b> Responsible for data and information collection for the experts team, water quality monitoring programmes, development of a Decision Support model for Water Quality Masterplanning of four lakes, workshop organisation, multi-criteria analysis, scenario analysis and reporting. Logistic support and financial management support to team leader and project director(s).</p>
<p><b>Name of assignment or project:</b> Manager branch office Poland of Delft Hydraulics</p> <p><b>Year:</b> 1993-1995</p> <p><b>Location:</b> Gdansk, Poland</p> <p><b>Main project features:</b> Marketing, acquisition and project implementation in Poland</p> <p><b>Positions held:</b> Manager</p> <p><b>Activities performed:</b> Overall responsibility</p>
<p><b>Name of assignment or project:</b> Gdansk Bay Water Quality Project</p> <p><b>Year:</b> 1993-1995</p> <p><b>Location:</b> Gdansk, Poland</p> <p><b>Main project features:</b> Analysis of current and future water and sediment quality of Gdansk Bay</p> <p><b>Positions held:</b> Project manager</p> <p><b>Activities performed:</b> Numerical modelling of 3D water quality, training of staff of local authorities</p>

### Key qualifications:

Mr. Van der Vat is an expert in hydrology, integrated water resources management and flood risk management. He has a wide range of experience in these fields in the Netherlands and abroad. His contribution to projects included mathematical modelling, preparation and application of decision support systems, policy analysis, (pre-)investment studies, cost-benefit analysis, master planning, project management and training in all of these aspects.

Mr. Van der Vat graduated at the University of Utrecht in Physical Geography with specialisations in hydrology and tropical soil science at the Agricultural University in Wageningen. In 1991 he started working for WL | Delft Hydraulics, first in the Water Resources and Environment Division and later in the River Basin Management Division. In the Netherlands he contributed to several major projects regarding (environmental) hydrology, focusing on mathematical modelling and decision support. He contributed to the development of hydrological and water quality models of WL | Delft Hydraulics, among others regarding wetlands and shallow lakes. From 1998 to 2000 he was co-team leader of the South Yunnan Lakes Integrated Environmental Master Planning project in Kunming, China. In 2000 and 2001 he participated in the Haihe Flood Management Project in China. Further experience abroad includes Indonesia, Poland, Maroc, Egypt, Kenya, Argentina and several Eastern-European and former USSR countries.

In 2001 Mr. van der Vat left WL | Delft Hydraulics to work for regional water management authorities in the Netherlands, where he participated in flood management projects and implementation of the EU Water Framework Directive.. As project manager he has been responsible for the development of the water management policy for the province of Utrecht. In 2005 he joined the World Wild Fund for Nature as a project manager responsible for nature protection projects in Africa and for the development of a system for monitoring and evaluation of projects.

Mr. Van der Vat rejoined WL | Delft hydraulics in 2006 and managed two of the research tasks as part of the EU-funded Floodsite research programme on flood management. Furthermore, he managed a part of the Singapore Marina Reservoir Study focused on urban hydrology and emissions. Currently, his work is mostly focused on the hydrology and water management of peat lands in Indonesia. Further, he is leading a number of flood risk management projects in the Netherlands

#### Publications:

- 2001 Hooijer, A., Li, Y., Kerssens, P., Van der Vat, M. and Zhang, J. Risk assessment as a basis for sustainable flood management. In: Proceedings of the XXIX IAHR Congress held in Beijing, China, September 16-21, 2001, pp. 442 - 456.
- 2000 Van der Vat, M.P., Hartman, M.W., He, B. and Kerssens, P.J.M. Masterplanning for lake rehabilitation in Yunnan, China. In: Proceedings of the twelfth Congress of Asia and Pacific Division of the IAHR held in Bangkok, Thailand, November 13 - 16, 2000.
- 1994 Groot, S., Van der Vat, M. and Rozynski, G. Decision Support System for water management in the Dolna Wisla river basin. In: Proceedings of the 3<sup>rd</sup> International Scientific Conference of the Maritime Institute, Szczecin Branch: Problems of hydrodynamics and water management of river outlets with a special regard to Odra River outlet, held in Szczecin, Poland, December 1994, pp. I-18 - I-30.
- 1994 Robakiewicz, M. and Van der Vat, M. 3D hydrodynamics and water quality modelling for water managers - Gdansk Bay case. In: Proceedings of the 3<sup>rd</sup> International Scientific Conference of the Maritime Institute, Szczecin Branch: Problems of hydrodynamics and water management of river outlets with a special regard to Odra River outlet, held in Szczecin, Poland, December 1994, pp. II-69 - II-82.
- 1994 Van der Vat, M. P. Modelling of the eutrophication of the Bay of Gdansk as a tool for decision makers. In: Proceedings of the 19<sup>th</sup> Conference of the Baltic Oceanographers, held in Sopot, Poland, 29 August - 1 September, 1994, Volume 1, pp. 497 - 505.
- 1994 Van der Vat, M.P. and Robakiewicz, M. The effect of pollutants from the Vistula River on the water quality of the Bay of Gdansk. In: Proceedings of the International River Quality Symposium, held in Gdansk, Poland, 14 - 16 June, 1994.
- 1993 Van der Molen, D.T., Los, F.J., Van Ballegooijen, L. and Van der Vat, M.P. Mathematical modelling as a tool for management in eutrophication control of shallow lakes. *Hydrobiologia*, 276 (Feb): pp. 479 - 492.