

Prof. Dr. Pavel Kabat

Annotated summary CV

February 2011



GENERAL INFORMATION

DATE OF BIRTH: 12 June 1958 (Prague)
Nationality & Citizenship: Dutch/Netherlands

CURRENT POSITION:

Full Professor and Chair Holder, Chair Group Earth System Sciences and Climate Studies, Wageningen University and Research Centre, the Netherlands

Chair and Director, Royal Dutch Academy of Sciences and Arts, Institute for Integrated Research on Wadden Sea Region (KNAW-Wadden Academy)

Chair, Board of the Wageningen Climate Centre (CCB);

Science Director and Council Chair, Dutch National Climate Research Programme

EXPERTISE

Climate hydrology and water cycle
Water resources and climate
Land – atmosphere interactions and (terrestrial) biogeochemical feedbacks (measurements and modelling)
Climate system and climate change
Earth system science and Global change

QUALIFICATIONS

1986 PhD in Hydrology, Water Resources and Amelioration (cum laude)
1983 Advanced Programme Stochastic Hydrology and Water Resources (cum laude)
1982 MSc Hydrology and Water Resources (cum laude)
1977 Athenaeum B

CAREER

2006 – present Full Professor and Chair Holder of Earth System Science and Climate Studies, Wageningen University and Research Centre

As a full professor and chair holder I am responsible for a group of ~ 70 scientists including 25 PhD students. My group- Earth System Science and Climate Change (ESS CC) (www.ess.wur.nl) – aims to advance our understanding of the Earth and Climate System as a complex and holistic system, with specific inclusion of the anthropogenic and human components. Properties and processes of the components of the Earth System, such as carbon and water cycles in the terrestrial and atmospheric compartments, are investigated as integral parts of the entire system, focusing on their interactions and feedbacks. ESS CC develops innovative methods and tools (both observational and modelling), with a common aim to advance scientific understanding, as well as to support policies and strategic decision making processes in the field of climate, water and the environment. The average yearly budget of the group is 7 million Euro, with 65 % of the income originated through competitive (inter)national grants, from sources such as the Dutch Science Foundation and the EU Framework Programmes. The ESS CC group was evaluated as “excellent” in the two consecutive evaluation rounds by independent international review committee (in 2007 and 2010).

2008 – present Chair and Director, The Royal Dutch Academy of Sciences and Arts (KNAW), Institute for Integrated Research on Wadden Sea Region ()

The KNAW-Wadden Academy (www.waddenacademie.knaw.nl) is a new type of academic institute established to promote, facilitate/coordinate, and to conduct trans-disciplinary and integrated research at a scale of regional (Earth) system, involving climate, geology, ecology, water, spatial planning, economy and cultural history. Established jointly by the Dutch Academy of Sciences and the Dutch Cabinet, the institute is focusing on the three-lateral Wadden region – a region of roughly 400 x 100 km spanning from north of the Netherlands over Germany and Denmark. The leading assumption behind establishing of a new type of institute was that only integrated and trans-disciplinary approaches addressing the system in a holistic and way will

provide necessary answers for future development of this region, which is facing a key challenge of sustainable development – how to combine economic functions (e.g. fisheries, harbours/transport, energy, tourism) with preservation of unique nature values (Wadden inter-tidal system gained recently UNESCO heritage status), and in the view of changing exogenous drivers (climate change/sea level rise, EU directives, globalization). The institute operates with a budget of 1 million Euro/annum for its core & coordinating activities, and with a portfolio of projects of ~ 25 million Euro conducted by research consortia formally associated with the Wadden Academy and subjected to its integrated regional research framework.

2004 – present Science Director and Programme Council Chair, Dutch National Climate Research Programme; Vice – Chair, Dutch National Climate Facility

Changing climate is affecting all segments and sectors of the society and the economy of the Netherlands, but it also brings new opportunities for major innovations. Examples are opportunities for emission low (re)development of country spatial infrastructure, to enhance land-use opportunities with respect to sources and sinks of greenhouse gases, to increase adaptive capacity in the management of agriculture, natural resources and water, and to enhance the protection of our infrastructure and thus the safety of our people. Meeting this challenge calls for a major investment in knowledge development and knowledge infrastructure. For the period between 2005 and 2014, two large research programmes have been initiated and funded in the Netherlands in response to this challenge: "Climate changes Spatial Planning" (CcSP) and "Knowledge for Climate" (KfC) (www.climate-research-netherlands.nl). Both programmes are supported by the Dutch Government from a so called Economic Structure Enhancing Fund (FES), providing funding of 90 million Euro, and by participating organizations and stakeholders, which bring up an additional 110 million Euro. The programmes are built around the principles of "Climate proofing" (*Kabat et al, 2005. Climate Proofing The Netherlands. Nature, 438, 283-284*)
Climate proof development does not mean a zero-risk, which would not be a realistic or economically viable approach for any country or region in the world. Our programmes embrace the climate proofing concept as a combination of (i) targeted, new "hard" infrastructural adaptation measures as well as mainstreaming climate change into other infrastructural developments, (ii) risk management and coping strategies which rely on mainly the "soft" sectors and measures, like the bank/insurers, legislation schemes, governance and institutional transitions in spatial planning, and (iii) opportunities for technological, institutional and societal innovations. Both research programmes generate internationally competitive scientific results. At the same time, a major goal of both programmes is to enhance joint-learning between science and practice in coping with climate issues in local, regional and (inter)national developments, both in public and private domains. Both programmes recognize that the benefits of climate research arise from direct engagement and applications by the stakeholders.

2007- 2010 Dutch Cabinet Appointed Member of the "Delta Committee".

The "Deltacommitte" (www.deltacommissie.com) is a high level state committee to advise Dutch Cabinet on fundamental restructuring and refitting of national water infrastructure and coastal flood protection system in a view of sea level rise, climate change and socio-economic developments until 2100. The final advice (e.g. *Kabat P., Fresco L.O., Stive M.J.F., Veerman C.P., van Alphen J., Parmet B., Hazeleger W. and Katsman C.A. 2009. Dutch coasts in transition. Nature Geoscience 2: 450-452*) was considered as an international breakthrough in a "win-win" concept of climate adaptation strategies, combined with explicit inclusion of uncertainties which are inherent to future (climate) scenarios. The advice was fully adopted by the Dutch Cabinet and a new law ("Delta Law") has been passed securing a funding of 1 billion Euro / year until 2100 for implementation of the Delta Programme. In the aftermath of the Dutch Delta Committee, several international and collaboration activities has been established in which I was involved, including US congressional hearing; scientific advisory to the city of New Orleans and to the Governor of California; scientific advisory to the Government of Bangladesh and to the Asian Development Bank; invited lectures for London Great Authority, City of New York, Cities of Shanghai, Taipei and Tokyo, Japanese Science Council and several others. Most recently, an international "Mekong Delta Committee" has been established by a joint decree of the Dutch and a Vietnamese government.

2000 - present Chair of the Board and Director of the Wageningen Climate Change and Biosphere Research Centre (CCB Wageningen UR)

[CCB Wageningen UR](http://www.ccb.wur.nl) (www.ccb.wur.nl) is a so called "thematic expertise centre of excellence" aimed to operate across different departments, university groups and institutions within the Wageningen University and Research Centre. It is a formalisation of a long-time collaboration between Wageningen University (WU) and several institutes of the Agricultural Research Department in the field of biospheric and socio-economic aspects of climate change and land use. Both organisations invest over 65 manyears/annum into research in this field. Scientific challenges addressed by the CCB-research programme include the study of the feedbacks between the vegetation, land use and regional climate in order to improve anticipating measures, especially with regard to the implications of climate change for land use planning, ecosystem management and the development of environmental policies.

1988-2006 Head and Senior Researcher, Department of Agrohydrology and Land Atmosphere Interactions, Winand Staring Centre for Integrated Land, Soil and Water Management Research (SC – DLO), Wageningen (from 2000 on: Alterra Wageningen UR)

See also (provided as attachment to this CV):

http://content.alterra.wur.nl/webdocs/internet/corporate/werken%20bij/medewerkers/Engels/ALTERRA_BOEK_Kabat_EN.pdf

2003 - 2006 Professor / Endowed Chair of Climate Hydrology, Wageningen UR
Endowed professorship at the Department of Meteorology and Air Quality of the Wageningen University (www.maq.wur.nl), in combination with the Head and Senior Researcher at Alterra Wageningen UR)

1997-2006 Programme Director and Principle Investigator, Research Programme on "Climate, Water and Land Use Change" of the Ministry of Agriculture, Nature Management and Fisheries

A programme with yearly budget of 2 million Euro consisting of 10 up to 15 thematically interlinked projects

1986 – 1988 Post-doc, research scientist and project leader at Institute for Land and Water Management (ICW), Wageningen, the Netherlands

International positions (selected):

2001 - 2009 Science Director, International Dialogue on Water and Climate and International Cooperative Programme on Water and Climate (UNESCO/WMO/World Water Council) International Dialogue on Water and Climate (2001-2005), followed by Cooperative Programme on Water and Climate (2006 - 2010) - www.waterandclimate.org –were established as a non-governmental organization jointly supported by UNESCO, World Meteorological Organization, World Water Council and Dutch Government. The aim was to address the role and increasing importance of climate variability and climate change in the water sector, and to conduct scientifically sound advocacy for a more focussed approach towards inclusion of climate change in water infrastructure planning and water management. The programmes were successful at several levels: (i) bringing the issue of climate-water-development in relation to Millennium Development Goals on the agenda of WSSD in Johannesburg in 2002; (ii) addressing both science and ministerial segments of the World Water Forums in Kyoto (2003), Mexico (2006) and Istanbul (2009) (see eg: *Kabat, P, and H. van Schaik, 2003. Climate changes the water rules: How water managers can cope with today's climate variability and tomorrow's climate change. 120 p, ISBN 90-327-0321*); establishing a community of practice of climate and water dialogues in more than 30 regional situations around the world, and publishing a guidance book (see *Ludwig, F. P. Kabat, H. van Schaik and M van der Valk, 2009. Climate Change Adaptation in the Water Sector. Earth Scan Publishers, 304 p.; ISBN: 9781844076529;*) and (iv) making successful proposal for IPCC Technical Paper on Climate Change and Water (published by IPCC in July 2008)

2004 - 2010 Chair, International Scientific Steering Committee of the International Geosphere Biosphere Programme (IGBP) – core project Integrated Land Ecosystem Atmosphere Process Study (ILEAPS) – (www.ileaps.org)

1994 – 2010 Member, Science Committee of the IGBP (www.igbp.net)

1994 - 2003 Chair, International Science Steering Committee of IGBP core project Biospheric Aspects of the Hydrological Cycle (BAHC) programme/core project (www.igbp.kva.se/page.php?pid=248)

1997 – 2006 Chair, International Science Panel of the International Satellite Land Surface Climatology Project (ISLSCP) of the World Climate Research Programme (WCRP); and a member of the Scientific Steering Group of the Global Energy and Water Experiment (www.gewex.org/islscp.html; www.gewex.org; www.wcrp-climate.org.)

The above positions mark more than 15 years of my involvement in steering of international global change and earth system/climate research programmes. Especially my joint chairmanship of the IGBP project (BAHC) and of the WCRP project (ISLSCP) which I assumed back in 1997 contributed substantially to building of much needed scientific and programmatic synergies between both programmes, and to a development of a more integrative approach towards climate research. It was BAHC and ISLSCP/GEWEX who initiated a series of multi-agencies funded large-scale land-atmosphere experiments around the world most typical biomes, and who put hydrology, land use change, carbon and biogeochemistry gradually at an “equal footing” with meteorology and oceanography in climate system and climate change research. See e.g.:

Kabat, P. and P.J. Sellers, 1997. Aggregated Descriptions of Heterogeneous Land Covers. Journal of Hydrology. Vol. 190/3-4

Steffen, P.Kabat, and others, 1998: The Terrestrial Carbon Cycle: Implications for the Kyoto Protocol. Science. (280), 1393-1394

Tenhunen, J.D. and P. Kabat, 1999. Integrating hydrology, ecosystem dynamics and biogeochemistry in complex landscapes. J. Wiley and Sons. UK: 367 pp

Kabat, P., M. Claussen, P.A. Diemeyer, J.H.C. Gash, L. Bravo de Guenni, M. Meybeck, R. A. Pielke Sr., Ch.J. Vorosmarty, R.W.A. Hutjes and S. Lutkemeier, 2004. Vegetation, Water, Humans and the Climate: A New Perspective on an Interactive System. Springer Verlag, Berlin/New York; 566 p, ISBN 3540424008

1990 – 2005 Co- Initiator / Co-Chair and Principal European Investigator of several Large Scale Earth System Experiments under the auspices of WCRP and IGBP and multiagency funded Includes: (i) EFEDA – Mediterranean (1990 – 1994, European Commission-EC and NASA); (ii) HAPEX – Sahel (1992-1994, EC, NASA, French Government), (iii) FLUXNET (2000-ongoing; EC, NASA, NASDA and several national agencies in Europe, Asia and South America) and (iv) LBA- Large Scale Biosphere – Atmosphere Experiment in Amazonia – LBA (1995 – 2005; EC, NASA, Brazilian Government)

1994 - 2011 Principal Investigator in 25+ (European Commission) EC supported research projects In the area of global change, earth system science and water cycle/ water management (in 11 of these as overall EU coordinator); at present 11 running large EU Integrated Research Projects addressing predominantly climate and water cycle

SCIENTIFIC PERFORMANCE

Author and (co-)author of over 200 refereed publications, including 8 books, member of 3 international editorial boards, and (co)editor of four special issues of peer reviewed international journals. The Chair Group I am currently leading as a Full Professor (Chair Group Earth System Science and Climate Change at Wageningen University and Research Centre; www.ess.wur.nl) has been evaluated as "excellent" in the two consecutive evaluation rounds by independent international review committee (in 2007 and 2010). We publish in high-impact journals (including Nature, Science, PNAS, Geophysical Research Letters, Journal of Climate, Water Resources Research), with frequent citations. A recent bibliometric analysis performed for my group revealed that over the period 2001-2010, we have published over 450 refereed scientific papers, of which 220 in so called A-category journals. 88 out of the 220 A-category journal publications belonged to the 10% highest cited publications; this is 40 % of total A category publications. The relative impact of our publications was far above world average (3.83 compared to world average of 1.0). The h index was 26.

Selected Publications

Kabat, P., F. Ludwig, S. Hagemann and D. Jacob, **2011**. Climate related water crisis threatens future development in Africa: are the Millennium Development Goals achievable without accounting for climate variability and change? *Science* (submitted & under review)

Kabat, P., M. Florke, J. Alcamo, J. Kamari, F. Ludwig & others, **2011**. European Water Futures by 2050: It Is Not Only Changing Climate. *Nature* (submitted & under review)

Haddeland, I., B. Clark, *P. Kabat*, & others, **2011**. Multi-Model Estimate of the Global Terrestrial Water Balance: Setup and First Results. *Journal of Hydrometeorology* (in press)

Braakhekke, M.C., Ch. Beer, M. R. Hoosbeek, M. Reichstein, B. Kruijt and *P. Kabat*, **2011**. SOMPROF: a vertically explicit soil organic matter model for global applications. *Ecological Modelling* (in press)

Janssen, R.H.H., L.N. Ganzeveld, *P. Kabat*, M. Kulmala, T. Nieminen and R. Roebeling, **2011**.

Estimating seasonal variations in cloud droplet number concentration over the boreal forest from satellite observations, *Atmos. Chem. Phys.* (in press)

Biemans, H., I. Haddeland, *P. Kabat*, F. Ludwig, R. W.A. Hutjes, J. Heinke, W. von Bloh, and D. Gerten, **2010**. Impact of reservoirs on river discharge and irrigation water supply during the 20th century. *Water Resources Research*, doi:10.1029/2009WR008929

van Vliet, M. T. H., F. Ludwig, G. J.G. Zwolsman, G. P. Weedon, and *P. Kabat*, **2010**. Global river temperatures and the sensitivity to atmospheric warming and changes in river flow, *Water Resources Research*, doi:10.1029/2010WR009198

P.C. Stolk, R.F.A. Hendriks, C.M.J. Jacobs, J. Duijzer, E.J. Moors, J.W. van Groenigen, P.S. Kroon, A.P. Schrier-Uijl, E.M. Veenendaal, and *P. Kabat*, **2010**. Simulation of daily N₂O emissions from managed peat soils. *Vadose Zone Journal*

Tuinenburg, O.A., R. W. A. Hutjes, C. M. J. Jacobs and *P. Kabat*, **2010**. Local Land-Atmosphere Feedbacks and the Indian Monsoon. *Journal of Climate*; doi:10.1175/2010JCLI3779.1

Vellinga, O. S. , R. W. A. Hutjes, J. A. Elbers, A. A. M. Holtslag and *P. Kabat*, **2010**. Regional carbon dioxide and energy fluxes from airborne observations using flight-path segmentation based on

landscape characteristics. *Biogeosciences*: 1307 - 1321

Veraart, J., E.C. van Ierland, S.E. Werners, A. Verhagen, R.S. de Groot, P. Kuikman and P. Kabat, **2010**. Climate change impacts on water management and adaptation strategies in the Netherlands: stakeholder and scientific expert judgments. *Journal of Environmental Policy and Planning*, 12 (2010)2. - ISSN 1523-908X - p. 179 - 200

Krysanova, V. Ch. Dickens, J. Timmerman, C. Varela-Ortega, M. Schlüter, K. Roest, P. Huntjens, F. Jaspers, H. Buiteveld, E. Moreno, J. de Pedraza Carrera, R. Slámová, M. Martínková, I. Blanco, P. Esteve, K. Pringle, C. Pahl-Wostl and P. Kabat, **2010**. Cross-Comparison of Climate Change Adaptation Strategies Across Large River Basins in Europe, Africa and Asia. *Water Resources Management*, 0920-4741 (Print) 1573-1650 (Online); doi 10.1007/s11269-010-9650-8

Supit, I, C.A. van Diepen, A.J.W. de Wit, P. Kabat, B. Baruth and F. Ludwig, **2010**. Recent changes in the climatic yield potential of various crops in Europe. *Agricultural Systems*, doi:10.1016/j.agsy.2010.08.009

Kabat P., Fresco L.O., Stive M.J.F., Veerman C.P., van Alphen J., Parmet B., Hazeleger W. and Katsman C.A. **2009**. Dutch coasts in transition. *Nature Geoscience* 2: 450-452

Biemans H., Hutjes R.W.A., Kabat P., et al.. **2009**. Effects of Precipitation Uncertainty on Discharge Calculations for Main River Basins. *Journal of Hydrometeorology* 10: 1011-1025

Van Pelt, S. C., Kabat, P., ter Maat, H. W., van den Hurk, B. J. J. M., and Weerts, A. H. **2009**. Discharge simulations performed with a hydrological model using bias corrected regional climate model input, *Hydrol. Earth Syst. Sci.*, 13, 2387-2397

Beyene, T., D.P. Lettenmaier, and Kabat, P, **2009**. Hydrologic impacts of climate change on the Nile River basin: Implications of the 2007 IPCC climate scenarios, *Climatic Change*, doi 10.1007/s10584-009-9693-0

Ludwig, F., P. Kabat, H. van Schaik and M van der Valk, **2009**. Climate Change Adaptation in the Water Sector. *Earth Scan Publishers*, 304 p.; ISBN: 9781844076529

Hari P, Andreae MO, Kabat P, Kulmala M., **2009**. A comprehensive network of measuring stations to monitor climate change. *Boreal Environmental Research* 14 (4) : 442-226

Stehfest, E., P Kabat and others, **2009**. Climate benefits of changing diet. *Climatic Change*, DOI 10.1007/s10584-008-9534-6

Rietkerk, M., V. Brovkin, P. M. van Bodegom, M. Claussen, S. C. Dekker, H. A. Dijkstra, S. V. Goryachkin, P. Kabat, E. H. van Nes, A.-M. Neutel, S. E. Nicholson, C. Nobre, V. Petoukhov, A. Provenzale, M. Scheffer, and S. I. Seneviratne, **2009**. Local ecosystem feedbacks and critical transitions in the climate. *Biogeosciences Discuss.*, 6, 10121–10136

Kabat, P., Bazelmans, J., van Dijk, J., Herman, P.M.J., Speelman, H., Deen, N.R.J. and R.W.A. Hutjes, 2009. . Knowledge for a sustainable future of the Wadden: integrated research agenda of the Wadden Academy of the Royal Dutch Academy of Sciences, **2009**. ISBN 978-94-90289-15-7
www.waddenacademie.knaw.nl/fileadmin/inhoud/pdf/english/09054_WADDEN_kennisagenda_ENG-pp.pdf

Oost, A, Pavel Kabat, Ane Wiersma & Jacobus Hofstede, **2009**. Wadden Sea Quality Status Report 2009. Chapter 3 Climate. www.waddensea-secretariat.org/QSR-2009/index.htm

Veerman, C., P.Kabat, M.J.F.Stive, L.O. Fresco, I.M. Bakker, J.J. van Duijn, A.P. Heidema. T. Metz, J.G. van Oord and B.W.A.H. Parmet, **2008**. *Final Report of the Delta Committee* on coastal flood protection and the Dutch delta water infrastructure in a view of sea level rise , climate change, and socio-economic developments. www.deltacommissie.com/en/advies

Kabat, P., W. Hazeleger, C.Katsman, A.Sterl. J. Beersma. A. Klein Tank, P. Vellinga, R. Hutjes and R. Swart, **2008**. The climate and sea level rise scenarios used by the Delta Committee: Explanatory note. 2008. In: Final Report of the Delta Committee on coastal flood protection system and the Dutch delta

water infrastructure in a view of sea level rise , climate change, and socio-economic developments; Appendix 3, 11 pages (www.deltacommissie.com)

Kämäri, J.; Alcamo, J.; Bärlund, I.; Kabat, P.; Kok, K., **2008**. Envisioning the future of water in Europe - the SCENES project. *E-Water: official publication of the European Water Association (EWA)* (2008). - ISSN 1994-8549 - p. 1 - 28.

C. Pahl – Wostl, P. Kabat and J. Moltgen, **2007**. Adaptive and Integrated Water Management: Coping with Complexity and Uncertainty. *Springer Berlin Heidelberg New York*; 440 p

Kundzewicz, Z.W., L.J. Mata, N.W. Arnell, P. Döll, P. Kabat, B. Jiménez, K.A. Miller, T. Oki, Z. Sen and I.A. Shiklomanov, **2007**: Freshwater resources and their management. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., *Cambridge University Press*, Cambridge, UK, 173-210

Ludwig, F., C.Terwisscha van Scheltinga, J. Verhagen, B. Kruijt, E. van Ierland, R. Dellink, K. de Bruin, K. de Bruin and P. Kabat, **2007**. Climate change impacts on developing Countries - EU Accountability, *EU-report IP/A/ENVI/ST/2007-04*

Kabat, P., Vellinga, P., Aerts, J., Veraart, J., and W. van Vierssen, W., **2005**. Climate Proofing The Netherlands. *Nature*, 438, 283-284

Kabat, P., M. Claussen, P.A. Diemeyer, J.H.C. Gash, L. Bravo de Guenni, M. Meybeck, R. A. Pielke Sr., Ch.J. Vorosmarty, R.W.A. Hutjes and S. Lutkemeier, **2004**. Vegetation, Water, Humans and the Climate: A New Perspective on an Interactive System. *Springer Verlag, Berlin/New York*; 566 p, ISBN 3540424008

Gash, J.G.C. and P. Kabat, **2004**. How measurable is the Earth system: integrated land surface atmosphere experiments. In: Kabat et al "Vegetation, water, humans and the climate: a new perspective on an interactive system ", *Springer Verlag, Berlin/New York*; 566 p, ISBN 3540424008

Dirmeyer, P.A.; Feddes, R.A.; Hall, F.G.; Halldin, S.; Hoff, H.; Houser, P.; Hutjes, R.W.A.; Jenne, R.; Leese, J.; Kittel, T.; Meeson, B.W.; Olson, R.J.; Phillips, T.J.; Pitman, Kabat P., A.J.; Takahashi, K.; Verdin, K. **2004**. Existing degrees of consolidation In: Vegetation, water, humans and the climate; a new perspective on an interactive system. *Springer Verlag, Berlin/New York*; 566 p, ISBN 3540424008

Pielke Sr., Petschel-Held, P. Kabat, Bass, Hutchinson, Gupta, Pielke Jr., Claussen, Ojima, **2004**. Predictability and uncertainty. In: Kabat et al: Vegetation, water, humans and the climate: a new perspective on an interactive system. *Springer Verlag, Berlin/New York*; 566 p, ISBN 3540424008

Bronstert, A. J. Carrera, P. Kabat and S. Lutkemeier, **2004**. Coupled Models for the Hydrological Cycle. *Springer Berlin Heidelberg New York*; 345 p

Shuttleworth, J., J. Carrera and P. Kabat, **2004**. Global Cycles: Overview and Introduction. In: Coupled Models for the Hydrological Cycle. Springer Verlag; *Springer Berlin Heidelberg New York*; p 1-8

Bastidas, L.A., M. Bonell, P. Kabat and J. Shuttleworth, **2004**. The Nature of Land – Biosphere-Atmosphere Feedbacks in the Hydrological Cycle. In: Coupled Models for the Hydrological Cycle. *Springer Verlag*; 8 – 21.

Bronstert, A., E. Holzbecher, P. Kabat and O. Vasiliev, **2004**. Coupled Processes and Interaction Matrix. In: Coupled Models for the Hydrological Cycle. *Springer Verlag*; 167-174

Carrera, J., L. Band, A. Bronstert, P. Kabat and N. Molders, **2004**. Non-linearities: Overview of Non-linear Dynamics in Hydrology. In: Coupled Models for the Hydrological Cycle. *Springer Verlag*; 97 – 119

Vorosmarty, C., D. Lettenmaier, C. Leveque, M. Meybeck, C. Pahl Wostl, J. Alcamo, W. Cosgrove, H.

Grassl, H. Hoff, P. Kabat, F. Lansigan, R. Lawford and R. Naiman. **2004**. Humans Transforming the Global Water System. *EOS*, VOLUME 85 NUMBER 48. PAGES 509, 513–514

Randow, von, C. Manzi, A. O.; Kruijt, B.; de Oliveira, P. J.; Zanchi, F. B.; Silva, R. L.; Hodnett, M. G. Gash, J. H. C.; Elbers, J. A.; Waterloo, M. J; Cardoso, F. L.; Kabat, P. **2004**. Comparative measurements and seasonal variations in energy and carbon exchange over forest and pasture in South West Amazonia. *Theoretical and Applied Climatology*, Volume 78, Numbers 1-3, June 2004 , pp. 5-26

Keller, M.; Alencar, A.; Asner, G.P.; Braswell, B.; Bustamante, M.; Davidson, E.; Feldpausch, T.; Fernandes, E.; Goulden, M.; Kabat, P.; Kruijt, B.; Luizão, F.; Miller, S.; Markewitz, D.; Nobre, A.D.; Nobre, C.A.; Priante Filho, N.; Rocha, H. da; Silva Dias, P.; Randow, C. von; Vourlitis, G.L., **2004**. Ecological research in the large-scale biosphere-atmosphere experiment in Amazonia: early results *Ecological Applications* 14 (4 Suppl.). - p. S3 - S16.

Kruijt, B, J. A. Elbers, C. von Randow, A. C. Araújo , P. J. Oliveira, A. Culf, A. O. Manzi, A. D. Nobre, P. Kabat and E. J. Moors, **2004**. The Robustness of Eddy Correlation Fluxes for Amazon Rain Forest Conditions *Ecological Applications*, Vol. 14, No. 4, Supplement: The Large-scale Biosphere-Atmosphere Experiment in the Amazon (Aug., 2004), pp. S101-S113

Agard, J., Alder, J., Bennett, E., Butler, C., Carpenter, S., Cheung, W., Cumming, G., Defries, R., de Vries, B., Dickinson, R., Dobson, A., Foley, J., Geoghegan, J., Holland, B., Kabat, P., Keymer, J., Kleidon, A., Lodge, D., Manson, S., McGlade, J., Mooney, H., Parma, A., Pascual, M., Pereira, H., Rosegrant, M., Sala, O., Turner II, B., van Vuuren, D., Wall, D. and Wilkinson, P., **2004**. State of Art in Describing Future Changes in Ecosystem Services, *Millennium Ecosystem Assessment (MEA), Ecosystems and Human Well-being: Scenarios*, pp. 71-118, Island Press, United States

Kabat, P; R.E. Schulze, M.E. Hellmuth, J.A. Veraart and Roberto Lenton, **2003**. Climate Variability and Change and Freshwater Water Management. *International Review for Environmental Strategies* 3: 294-302.

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Feddes, R.A.) P. Kabat et al ., **1988**. Modelling soil water dynamics in the unsaturated zone- state of the art. *Journal of Hydrology* 100: 69-111

Membership editorial boards of international scientific journals (2001-2010)

Global Environmental Change (GEC) Member of the Editorial Board

Hydrology and Earth System Sciences (HESS). Co-Editor Hydrology and Climate Processes, Member Editorial Board

Surveys in Geophysics. Member of the Editorial Board.

Journal of Hydrology, Guest Editor

Current Opinion in Environmental Sustainability , Member Editorial Board

Membership academic, advisory and review boards & contribution to other international scientific organisations and programmes (selection 2001-2010)

Member, Belmont Regional Earth System Panel appointed by International Council of Scientific Unions (ICSU) (2010 on)

Vice Chair, Academic Board, Chinese CAS institute of Water Research (2005-2010)

Member, International Advisory Board of the German National Climate Service Center (2011 on)

Member, Gubelkian Foundation International Think Tank on Global Water Scenarios (2010 -2012)

Vice-Chair, International Science Steering Committee, ESSP MAIRS programme (China + SE Asia)

Member, International Science Advisory Panel RECLIM programme (Germany) (2010 on)

Member, International Science Advisory Board of the NSF National Center on Earth Surface Dynamics (NCED) (University of Minnesota, USA) (2011)

Chair, International Science Advisory and Evaluation Panel, Institute for Climate and Global Change Research, Nanjing University, China (2010 on)

Member, International Science Advisory and Evaluation Panel, Nagoya Earth System Science Center (SELS), Japan (2008 and 2010)

Member, Science Advisory and Evaluation Board to the Centre of Excellence of the Finish Academy of Sciences 2007-2012; appointed by Finish Academy of Sciences (2009 – 2014)

Member of the Scientific Advisory and Review Board of the Slovak Academy of Sciences (2006)

Member (invited), International Advisory Board of the Max Planck Institute for Meteorology, (MPI Hamburg) 2007-2011 (appointed by Max Planck Society)

Member, Science Board of COSMOS EU Earth System initiative

Member ENES steering board (European Network on Earth System Modelling)

Elected Member, Royal Meteorological Society, London, UK (since 1994)

Member American Geophysical Union (AGU)

Member of the European Geophysical Union (EGU)

Member, Dutch Global Change Committee of the Royal Academy of Arts and Sciences (KNAW)

Member Science Evaluation Panel, European Research Council (ERC)

Member of numerous Advisory and Evaluating Panels of the EU 6th and 7th Framework Programmes

SCIENTIFIC AWARDS (selection):

Co- Recipient 2007 Nobel Peace Prize as a Lead Authors of the IPCC (group award to the IPCC authors)

Co- Recipient The Zayed International Prize for the Environment (group award to the authors of the Millennium Ecosystem Assessment (2006)

Recipient, Dahlem Foundation International Prize, Berlin, Germany (1998)

Recipient, NASA Goddard Space Flight Centre Prize, Maryland, USA (1997)

Recipient, Excellent Research Scientist Award, Netherlands National Agriculture Research Department (permanent qualification granted starting from 1998)

Numerous **invited & key note presentations** and at international scientific forums, including European Geophysical Union, American Geophysical Union, The Royal Society London; US Academy of Sciences, Japan Frontier Science Programme, Chinese Academy of Sciences, Academy of Sciences of Brazil, American Meteorological Society (AMS), World Meteorological Organisations (WMO), UNESCO, International Council of Science Unions (ICSU), UNFCCC, Intergovernmental Panel on Climate Change (IPCC), United Nations Development Programme (UNDP), European Space Agency (ESA), FAO, NASA, EU, IGBP, WCRP. Includes key note invited lectures at the World Summit on Sustainable Development (WSSD) in August 2002 in Johannesburg, at the 3rd World

Water Forum in Kyoto 2003, at CSD in New York 2004, at International Water Association (IWA) meetings – in 2002 (Melbourne), 2007 (Amsterdam) and 2009 (Vienna), for Chinese Academy of Sciences in 2008, 2009, 2009, and for Japanese Science Council in 2010.

Science Assessment and Science to Policy Advisory Positions (selection)

Review Editor IPCC AR5 (2010-2014)

Lead Author, Intergovernmental Panel on Climate Change (IPCC 4th AR) 2004 - 2007

Lead Author, Millennium Ecosystem Assessment

Review Editor, Millennium Ecosystem Assessment

Chief Scientist Asian Development Bank project in Bangladesh (2008 -2010)

Member, Delta Committee (A special high level state committee appointed by the Dutch Cabinet to advise about future and climate-proof re-structuring of the Dutch infrastructure (2007- 2009)

Member, High Level International Mekong Delta Committee (2010-2012)

Science Advisor, EU delegation to UNFCCC/CoP, Bali, Indonesia Dec. 2007

Science Advisor and delegation member (national, EU) UNFCCC COP meetings in Buenos Aires and Copenhagen

Science Advisor and delegation member (national and EU) at WSSD 2002, and World Water Forums in Kyoto (2003) and in Mexico (2006)

Member Scientific and Technical Advisory Panel (STAP) of the Global Environmental Facility (GEF) of the United Nations Environment Programme (2001)

Member and Chair of a numerous Advisory Panels to the Dutch Government (central, provinces, water boards) on *climate, water and environment issues* and related policies

Member Advisory Group on Climate to the Dutch Parliament

Member of several Reflection and Advisory Groups to NGO sector (IUCN, Red Cross, WWF)

Member of several Reflection and Advisory groups to private sector (Munich Re, Swiss Re, Peugeot Citroen, Shell, Rabobank, engineering and building companies)

Frequent interviews in press and in the media (national and international)

Some examples

Public lecture/key note at *International Deltas Conference* Sept. 2010

(<http://www.youtube.com/watch?v=dBb6MZAA0yg>)

Nature Climate Reports 2010 (<http://www.nature.com/climate/2010/1004/full/climate.2010.28.html>)

Interview for The Age, Australia, 2009

<http://www.theage.com.au/environment/out-of-the-gloom-holland-sees-change-for-better-20091205-kc4f.html>

Interview for *The Guardian*, 11 September 2008

<http://www.guardian.co.uk/environment/2008/sep/11/water.climatechange>

CNBC special broadcasting on Global Players around 2007 Stockholm Water Week and the IPCC

Die Zeit (Germany), major coverage/interview May 2007 <http://www.zeit.de/2007/21/Bangladesch>

Interview for NASA Observatory, USA, 2003

<http://earthobservatory.nasa.gov/Features/islscpl/>

