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Prof. Jean-Pascal van Ypersele

Belgium's candidate for the IPCC Chair

IPCC Vice-Chair (2008-2015), involved in IPCC and the UNFCCC since 1995
Full professor of climate and sustainable development (UCLouvain)
Co-author of the Global Sustainable Development Report 2019

"I want the IPCC to be the most dynamic and inclusive « Voice of Climate »
in order to provide all policymakers with the best and most useful scientific information"

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Jean-Pascal van Ypersele is full professor of climatology and sustainable development sciences at UCLouvain (Université catholique de Louvain, Belgium) and member of the Académie royale de Belgique.

A physicist and climate modeller who worked at NCAR (National Center for Atmospheric Research, USA), he has published with natural and social scientists about climate change and sustainable development at global and regional scales for forty years. He has been extensively involved in the IPCC since 1995, and was IPCC Vice-Chair from 2008 to 2015. He co-authored the first quadrennial UN Global Sustainable Development Report (2019), and was a member of the EU Mission Board on Adaptation to Climate Change, including Societal Transformation (2019-2021). He has participated to most UN conferences on climate issues since 1979, including almost all COPs (adviser to the Belgian delegation, and to the Fiji COP23 Presidency). He regularly briefs Heads of State and Government, business, and stakeholders, and is occasionally consulted by Greta Thunberg.

Academic qualifications

- * Physicist specialized in climatology; PhD in 1986, Université catholique de Louvain (UCLouvain, Belgium), research carried out at the US National Center for Atmospheric Research (NCAR)
- * Full Professor (emeritus) of climatology and sustainable development at UCLouvain, invited professor in several other universities
- * Has published research with economists, engineers, social scientists, ecologists, and philosophers in an interdisciplinary perspective (see examples below)
- * Member of the Académie royale de Belgique (Belgian Royal Academy)
- * Has co-organized several international scientific conferences on desertification, climate change, and sustainable development
- * Holder of numerous awards and distinctions, the most recent being the "Harvard Leadership Prize" from the Harvard Club of Belgium, in 2018

Professional experience

- * Active in IPCC since 1995; Lead Author for the Third Assessment Report (2001); elected Vice-Chair of IPCC Working Group II (Impacts, Adaptation, and Vulnerability) in 2002; elected one of the three IPCC Vice-Chairs in 2008; Review Editor for AR4, SRREN, and AR5; co-author of the AR5 Synthesis Report; co-responsible for the preparation of a report to the IPCC Plenary on how to enhance the participation of scientists from developing countries in the IPCC; member of the Science Board of the IPCC Scholarship Programme until 2015 (for scientists from developing countries), and Vice-chair in charge of the IPCC Communication Action Team that designed the first IPCC Communication Strategy (2011-2015); has participated in dozens of outreach events related to the work of the IPCC
- * Co-chaired numerous successful contact groups during IPCC meetings, for example for the AR5 Working Group I section on the drivers of climate change, for all the AR5 Working Group III figures and tables, and on the changes in the composition of the Bureau made in 2015
- * In 2015, Belgian candidate for the IPCC Chair position; came in second position; received the votes from 56 out of 134 countries
- * In 2016, created, with support from the Walloon government, the "Plateforme wallonne pour le GIEC" in order to improve the science-policy interface around climate issues in Wallonia, on the basis of the IPCC work. The mandate of this platform was extended in 2019 to include work that should facilitate the implementation of science-based adaptation policies
- * A seasoned science communicator, sought out by the media for interviews
- * Participated in almost all UNFCCC Conferences of the Parties, as scientific advisor to the Belgian delegation and to the COP23 Presidency (Fiji Prime minister) in 2017
- * In 2016, appointed by UNESCO a co-author of the Declaration on Ethical Principles in relation to Climate Change (approved by the UNESCO assembly in November 2017)
- * Appointed in 2016 by the UN Secretary General a co-author of the first quadrennial Global Sustainable Development Report (GSDR 2019)
- * In 2019, appointed on the EU Horizon 2020 Mission Board for Adaptation to Climate Change, including Societal Transformation
- * In 2021, appointed member of the Observatoire de la politique climatique (Luxembourg)

Vision for the future of IPCC

- * IPCC as the global VOICE of climate, in the context of the UN Agenda 2030 (SDGs), climate justice, and just transition
- * Connecting solid science and the world's policy makers
- * Delivering a more inclusive, dynamic, and relevant IPCC
- * Sustain and further develop what the IPCC does best: rigorous, independent, science-driven assessments of knowledge about all dimensions of the climate change issue
- * Rethink the type of products IPCC prepares so that they serve the evolving needs of policymakers for information that is both policy relevant and policy neutral
- * Further develop the inclusive characteristics of the IPCC, so that the effective participation of developing country scientists, women, and young scientists is enhanced and facilitated, and that the perspectives of all regions of the world are reflected

- * Stimulate collaboration and knowledge sharing across as many interfaces as possible, including within the IPCC and with other institutions, to maximise progress in adaptation and mitigation
- * Further develop the communication of the IPCC regarding scientific products and procedures, and ensure greater transparency and accountability of the assessment process
- * Lead the IPCC in a dynamic way, serving its members full time; contribute to the capacity development of the next generation of IPCC authors, including through the IPCC scholarship programme
- * Ready to represent Global North AND South; interdisciplinary science AND policy making; people, science, AND decisive action

Short biography

Ever since he was a student, Jean-Pascal van Ypersele has had a strong interest both in the natural sciences and in societal issues, as well as a will to contribute to knowledge sharing and sustainable development. He is curious about other cultures, has extensively travelled on all continents, and is very aware of development issues. He received his Ph. D. from the Belgian Université catholique de Louvain (1986, with highest honours), based on work done at the U.S. National Center for Atmospheric Research. After military service in the Belgian Navy, he continued his research on climate change and authored papers on subjects including the modelling of sea ice, paleoclimates, the climate of the 20th and 21st century, regional climate change in Europe, Greenland, and Africa, the ethical issues associated with responsibility for climate change, sustainable development, adaptation to climate change, mitigation of climate change, and energy provision. He has worked with economists on aspects of climate stabilization and climate negotiations. He also published a report on the mainstreaming of climate change adaptation and mitigation policies in the Belgian development cooperation. He taught climatology, climate modelling, mathematical geography and environmental and sustainable development sciences, and has co-directed the UCLouvain interdisciplinary Master programme in Science and Management of the Environment and Sustainable development. He now co-directs the Plateforme wallonne pour le GIEC. He loves nature and mountains, astronomy, photography, and improving the world where his experience and strength can serve. He is strongly supported by his wife and their three sons in his ambition to serve the IPCC community by becoming its Chair.

Further information on activities relevant to the mandate of IPCC

- * Trained in chairing meetings and in non-violent communication; team builder; works well and respectfully with people of different opinions, and builds consensus where possible
- * Participated in the Rio and Rio+20 Earth Summits (1992 and 2012), and almost all UNFCCC Conferences of the Parties, as scientific advisor; Co-Chair of several contact groups under the UNFCCC (2001-2007; he declined invitations to continue to chair UNFCCC meetings after being elected IPCC Vice-Chair), such as those leading to the adoption of the "New Delhi programme of international work on UNFCCC Article 6" (education, training, awareness, participation and public access to information, international cooperation in these matters) in 2002, and to a COP decision on how to take into account the 4th IPCC report in climate negotiations (COP13, 2007)

- * Member of numerous national and international advisory committees for governments, the European Commission, private companies (Electrabel, GDF/Suez, Climact, BNP/Paribas) and public institutions (Météo-France, the French "Energy and Posterity" professorship, Belgian Ministries, the Dutch climate research programme)
- * Organiser of many large-scale national and international scientific meetings, from the International Course on Climate and Desertification in 1983 (see special issue of *Climatic Change*) to the Stephen Schneider Symposium: Climate Change: from Science to Policy (2011) or the Interdisciplinary Symposium on Sustainable Development (2013, 2015)
- * Chair of the "Energy and climate" Working Group of the Belgian Federal Council for Sustainable Development (since 1998, and co-chair of its « Financing the transition » Working Group (www.frdo-cfdd.be/en))

Main awards and honours

- * Energy and Environment Award from the International Polar Foundation (2006)
- * Francqui Chair at the Université libre de Bruxelles (2008) and KU Leuven – H.U. Brussel (2011)
- * Member of the Royal Academy of Belgium (2009)
- * Honorary Member of the Club of Rome (EU Chapter) (2010)
- * Commandeur du Mérite wallon (2011), Grand Officier de l'Ordre de la Couronne (Belgium, 2014)
- * Harvard Leadership Prize from the Harvard Club of Belgium (2018)

Main relevant publications

Selected books (author, co-author or editor)

- Ferrone A., M. Kosch, E. Benetto, S. Dörry, C. Dupont, A. König, J.-P. van Ypersele, 2022, OPC LUX: Climate Policy Observatory, Luxembourg, Annual Report 2022, available on <https://environnement.public.lu/fr/klima-an-energie/opc.html>
- van Ypersele, J.P.; Draulans, D. (2020) *Climat: Etat d'urgence – Pourquoi il n'y a plus de temps à perdre*. Le Vif/L'Express. www.levif.be/reveil-climatique
- Peter Messerli, P., E. Murniningtyas, P. Eloundou-Enyegue, E.G. Foli, E. Furman, A. Glassman, G. Hernández Licona, E. Mee Kim, W. Lutz (Austria), J.P. Moatti (France), K. Richardson, M. Saidam, D. Smith, J. Kazimieras Staniškis, and J.P. van Ypersele, (Independent Group of Scientists appointed by the UN Secretary-General), 2019, *Global Sustainable Development Report 2019: The Future is Now – Science for Achieving Sustainable Development*, (United Nations, New York, 2019). <https://sustainabledevelopment.un.org/gsd2019>
- Termonia, P. et al. (including JP. van Ypersele and Ph. Marbaix), 2018, CORDEX.be
Combining regional downscaling expertise in Belgium: CORDEX and beyond; Contract - BR/143/A2/CORDEX.be Final Report, Belgian Science Policy Office (BELSPO), Brussels.
- van Ypersele, J.-P., T. Libaert and P. Lamotte, 2018. *In het oog van de klimaatstorm*. EPO, Antwerp, Belgium, 223 pp.
- Lynn, J., M. Araya, Ø. Christophersen, I. El Gizouli, S.J. Hassol, E. Maurtua Konstantinidis, K.J. Mach, L. Meyer, K. Tanabe, M. Tignor, R. Tshikalanke, J.-P. van Ypersele, 2016. IPCC Expert Meeting on Communication, Meeting Report. Intergovernmental Panel on Climate Change, Geneva, Switzerland, 222 pp.
- van Ypersele, J.-P., T. Libaert and P. Lamotte, 2015. *Une vie au coeur des turbulences climatiques*. De Boeck supérieur, Louvain-la-Neuve, Belgium, 127pp.
- Core Writing Team [M. R. Allen, V. R. Barros, J. Broome, W. Cramer, R. Christ, J. A. Church [...] J.-P. van Ypersele], R. K. Pachauri and Leo Meyer, 2014. *Climate Change 2014, Synthesis Report*. Intergovernmental Panel on Climate Change, Geneva, Switzerland, 132 pp.

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- Amelung, B.; Biernaux, M.; Cauchy, A.; Céron, J-P.; Cornélis, P.; Dubois, G.; Frisson, G.; Henrard, S.; Joveneau, A.; Mahy, G.; Monty, A.; Mouazan, E.; Pouria, X.; Speybroeck, N.; van Ypersele, J-P., 2011: *L'adaptation au changement climatique en région wallonne*. Agence wallonne de l'air et du climat, Namur, 170 p.
- Moss, R., M. Babiker, S. Brinkman, E. Calvo, T. Carter, J. Edmonds, I. Elgizouli, S. Emori, [...], J-P. van Ypersele, and M. Zurek, 2008: *Towards New Scenarios for Analysis of Emissions, Climate Change, Impacts, and Response Strategies*. Intergovernmental Panel on Climate Change, Geneva, 132 pp.
- Le Treut, H., J.P. van Ypersele, S. Hallegatte et J.C. Hourcade (ed.), 2004. Science du changement climatique – Acquis et controverses. Claire Weill (éditrice). Institut du Développement Durable et des Relations Internationales (IDDRI), Paris, 105 pp. http://www.climate.be/users/vanyp/Publications/Sc.duChangementClimatique_2004.pdf
- van Ypersele, J.P. (ed.), 1998. *Le Protocole de Kyoto : Contrainte ou Opportunité ?* Actes du Symposium organisé par le Conseil fédéral du Développement durable, 19 mai 1998. Conseil fédéral du Développement durable, Bruxelles, 170p.

Selected articles in peer-reviewed journals

- Hans Van de Vyver; Bert Van Schaeybroeck; Rozemien De Troch; Lesley De Cruz; Rafiq Hamdi; Cecille Villanueva-Birriel; Philippe Marbaix; Jean-Pascal van Ypersele; Hendrik Wouters; Sam Vanden Broucke; Nicole P.M. van Lipzig; Sébastien Doutreloup; Coraline Wyard; Chloé Scholzen; Xavier Fettweis; Steven Caluwaerts; Piet Termonia (2021), Evaluation Framework for Subdaily Rainfall Extremes Simulated by Regional Climate Models, *Journal of Applied Meteorology and Climatology*.
- Peter Messerli, Eun Mee Kim, Wolfgang Lutz, Jean-Paul Moatti, Katherine Richardson, Muhammad Saidam, David Smith, Parfait Eloundou-Enyegue, Ernest Foli, Amanda Glassman, Gonzalo Hernandez Licona, Endah Murniningtyas, Jurgis Kazimieras Staniškis, Jean-Pascal van Ypersele and Eeva Furman (2019), Expansion of sustainability science needed for the SDGs, *Nature Sustainability*, Vol 2 | October 2019 | 892–894, <https://www.nature.com/articles/s41893-019-0394-z>
- Searchinger, T.D., T. Beringer, B. Holtzmark, D. M. Kammen, E. F. Lambin, W. Lucht, P. Raven & J.P. van Ypersele, 2018. *Europe's renewable energy directive poised to harm global forests*, *Nature Communications*, 9:3741, DOI: 10.1038/s41467-018-06175-4
- O'Neill B., M. Oppenheimer, R. Warren, S. Hallegatte, R. Kopp, H.O. Pörtner, R. Scholes, J. Birkmann, W. Foden, R. Licker, K. J. Mach, P. Marbaix, M. Mastrandrea, J. Price, K. Takahashi, J-P. van Ypersele and G. Yohe, 2017. *IPCC Reasons for Concern regarding climate change risks*. *Nature Climate Change* 7, 28–37 (2017), doi:10.1038/nclimate3179
- Van Weverberg, K.; Goudenhoofd, E.; Blahak, U.; Brisson, E.; Demuzere, M.; Marbaix, P.; van Ypersele, J-P., 2014: *Comparison of one-moment and two-moment bulk microphysics for high-resolution climate simulations of intense precipitation*. *Atmospheric Research*, Vol. 147-148, p. 145-161.
- Bréchet, T.; Eyckmans, J.; Gerard, F.; Marbaix, P.; Tulkens, H.; van Ypersele, J-P., 2010: *The impact of the unilateral EU commitment on the stability of international climate agreements*. *Climate Policy*, Vol. 10, no. 2, p. 148-166.
- Smith, J.; Schneider, S.; Oppenheimer, M.; Yohe, G.; Hare, W.; Mastrandrea, M.; Patwardhan, A.; Burton, I.; Corfee-Morlot, J.; Magadza, C.; Fuessel, H-M.; Pittock, A.; Rahman, A.; Suarez, A.; van Ypersele, J-P., 2009: *Assessing dangerous climate change through an update of the Intergovernmental Panel on Climate Change (IPCC) "reasons for concern"*. *Proc. Natl. Acad. Sci. USA.*, Vol. 106, no. 11, p. 4133-4137.
- D'Haeseleer, W.; Gusbin, D.; Devogelaer, D.; Klees, P.; van Ypersele, J-P., 2009: *PRIMES scenario analysis towards 2030 for Belgium*. *European Review of Energy Markets, Energy Policy Studies*, Vol. 3, no. 1, p. 191-260.
- Vanvyve, E.; Hall, N.; Messenger, C.; Leroux, S.; van Ypersele, J-P., 2008: *Internal variability in a regional climate model over West Africa*. *Clim. Dyn.*, Vol. 30, no. 2-3, p. 191-202.
- Fettweis, X.; van Ypersele, J-P.; Gallee, H.; Lefebvre, F.; Lefebvre, W., 2007: *The 1979-2005 Greenland ice sheet melt extent from passive microwave data using an improved version of the melt retrieval XPGR algorithm*. *Geophys. Res. Lett.*, Vol. 34, no. 5 p.
- van Ypersele, J-P., 2006: *L'injustice fondamentale des changements climatiques*. *Alternatives Sud*, Vol. 13, no. 2, p. 7-20. (also available in Spanish and Italian, see <http://www.cetri.be/spip.php?article3566&lang=fr>)

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- Bertrand, C.; van Ypersele, J-P., 1999: *Potential role of solar variability as an agent for climate change*. Clim. Change, Vol. 43, no. 2, p. 387-411.
- Bertrand, C.; van Ypersele, J-P.; Berger, A., 1999: *Volcanic and solar impacts on climate since 1700*. Clim. Dyn., Vol. 15, no. 5, p. 355-367.
- Delobbe, L.; Tricot, C.; van Ypersele, J-P., 1997: *Tropopause-height feedback and radiative forcing in 2D climate simulations*. Atmosfera, Vol. 10, no. 2, p. 75-99.
- Smits, I.; Fichet, T.; Tricot, C.; van Ypersele, J-P., 1993: *A Model Study of the Time Evolution of Climate At the Secular Time-scale*. Atmosfera, Vol. 6, no. 4, p. 255-272.
- Gallee, H.; van Ypersele, J-P.; Fichet, T.; Marsiat, I.; Tricot, C.; Berger, A., 1992: *Simulation of the Last Glacial Cycle By a Coupled, Sectorially Averaged Climate-ice Sheet Model .2. Response To Insolation and Co2 Variations*. J. Geophys. Res.-Atmos., Vol. 97, no. D14, p. 15713-15740.
- Gallee, H.; van Ypersele, J-P.; Fichet, T.; Tricot, C.; Berger, A., 1991: *Simulation of the Last Glacial Cycle By a Coupled, Sectorially Averaged Climate-ice Sheet Model .1. the Climate Model*. J. Geophys. Res.-Atmos., Vol. 96, no. D7, p. 13139-13161.
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- van Ypersele, J-P., 2008: *The fundamental injustice of climate change, in Social Developments in the European Union 2007*, edited by Degryse, C. and Pochet, P., ETUI and Observatoire Social Européen, Brussels, ISBN 978-2-87452-122-5
- Bartiaux, F.; van Ypersele, J-P., 2006: *The Relationships Between Population and Environment, in Demography: Analysis and Synthesis. A Treatise in Population Studies*, edited by G. Caselli, J. Vallin & G. Wunsch, p. 383-396.
- Chander P., Tulkens H., van Ypersele J.P. and S. Willems, 2006. *The Kyoto Protocol: an Economic and Game Theoretic Interpretation*. In: *Public goods, environmental externalities and fiscal competition*. Essays by Henry Tulkens, Edited and introduced by P. Chander, J. Drèze, C.K. Lovell and J. Mintz, Springer, 588p.
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Newsletter (In French) about Climate and IPCC

Lettre de la Plateforme wallonne pour le GIEC, <https://plateforme-wallonne-giec.be/lettre/>