IIASA’s work is underpinned by high-quality science, which is regularly published in high-impact publications. A selection of articles published since 2012 in *Nature*, *Nature Climate Change*, *Nature Geoscience*, *Science*, *Proceedings of the National Academy of Sciences of the United States of America* (PNAS), and *Philosophical Transactions of the Royal Society B* is presented here. Publication statistics are also included to show how much IIASA publishes and how this has increased in recent years.

**Nature**

*Limited impact on decadal-scale climate change from increased use of natural gas*

*Climate extremes and the carbon cycle*

*Earth science: A holistic approach to climate targets*
Rogelj J  

*Probabilistic cost estimates for climate change mitigation*
Rogelj J, McCollum DL, Reisinger A, Meinshausen M, Riahi K  

*Sexual selection enables long-term coexistence despite ecological equivalence*
M’Gonigle LK, Mazucco R, Otto SP, Dieckmann U  

*Agriculture: Soil remedies for small-scale farming*
van der Velde M, See L, Fritz S  

*Conservation: Citizens add to satellite forest maps*
van der Velde M, See L, Fritz S  

**Nature Climate Change**

*Nutrient availability as the key regulator of global forest carbon balance*
Fernández-Martínez M, Vicca S, Janssens IA, Obersteiner M, et al.  

*Betting on negative emissions*

*Water–energy nexus: Assessing integrated systems*
Howells M, Rogner H-H  

*Increasing stress on disaster-risk finance due to large floods*

*Reply to ‘Statistics of flood risk’*

*Managing unnatural disaster risk from climate extremes*

*Potential for concentrating solar power to provide baseload and dispatchable power*
Pfenninger S, Gauché P, Lilliestam J, Damerau K, Wagner F, Patt A  
*Nature Climate Change* (published online 22 June 2014)

*Climate impacts of poverty eradication*
Rao ND, Riahi K, Grubler A  

*Air-pollution emission ranges consistent with the representative concentration pathways*

*Questions of bias in climate models*
Smith S, Wigley TML, Meinshausen M, Rogelj J  
Integrated analysis of climate change, land-use, energy and water strategies
Nature Climate Change 3(7):621–626 (2013)

Water at a crossroads (Interview)
Kabat P
Nature Climate Change 3(1):11–12 (2013)

2020 emissions levels required to limit warming to below 2°C
Rogelj J, McCollum DL, O’Neill BC, Riahi K

The UN’s ‘Sustainable Energy for All’ initiative is compatible with a warming limit of 2°C
Rogelj J, McCollum DL, Riahi K

Beyond vulnerability assessment

Impacts of incentives to reduce emissions from deforestation on global species extinctions

Vulnerability of US and European electricity supply to climate change
van Vliet MTH, Yearsley JR, Ludwig F, Vögele S, Lettenmaier DP, Kabat P

Marginalization of end-use technologies in energy innovation for climate protection
Wilson C, Grubler A, Gallager KS, Nemet GF

Nature Geoscience
Persistent growth of CO2 emissions and implications for reaching climate targets

The phosphorus trilemma
Obersteiner M, Peñuelas J, Ciais P, van der Velde M, Janssens IA

Warming-induced increase in aerosol number concentration likely to moderate climate change

Science
Population growth: Peak probability
Lutz W, Butz W, KC S, Scherbov S

Universal education is key to enhanced climate adaptation
Lutz W, Muttarak R, Striessnig E

Reconsidering the consequences of selective fisheries

Systems science for policy evaluation
Kabat P
Science 336(6087):1398 (2012)

Demography’s role in sustainable development
Science 335(6071):918 (2012)

From acid rain to climate change

Simultaneously mitigating near-term climate change and improving human health and food security
Science 335(6065):183–189 (2012)

Proceedings of the National Academy of Sciences of the United States of America (PNAS)
Cattle ranching intensification in Brazil can reduce global greenhouse gas emissions by sparing land from deforestation
Cohn AS, Mosnier A, Havlík P, Valin H, Herrero M, Schmid E, O’Hare M, Obersteiner M

Constraints and potentials of future irrigation water availability on agricultural production under climate change
PNAS 111(9):3239–3244 (2014)
Dealing with femtorisks in international relations
PNAS (Published online 17 November 2014)

Fast running restricts evolutionary change of the vertebral column in mammals
Galis F, Carrier DR, van Alphen J, van der Mije SD, Van Dooren TJM, Metz AJ, ten Broek CMA

How multiplicity determines entropy and the derivation of the maximum entropy principle for complex systems
Hanel R, Thurner S, Gell-Mann M

Climate change mitigation through livestock system transitions

Climate change effects on agriculture: Economic responses to biophysical shocks
PNAS 111(9):3274–3279 (2014)

Multisectoral climate impact hotspots in a warming world
Piontek F, Müller C, Pugh TAM, Clark DB, Deryng D, Khabarov N, et al.
PNAS 111(9):3233–3238 (2014)

Disentangling the effects of CO2 and short-lived climate forcer mitigation
Rogelj J, Schaeffer M, Meinschenshagen M, Shindell DT, Hare W, Klimont Z, Velders GJM, Amann M, Schellnhuber HJ

Assessing agricultural risks of climate change in the 21st century in a global gridded crop model intercomparison
Rosenzweig C, Elliott J, Deryng D, Ruane AC, Khabarov N, et al.
PNAS 111(9):3268–3273 (2014)

Global Climate Impacts: A Cross-Sector, Multi-Model Assessment Special Feature
Schellnhuber HJ, Frieler K, Kabat P (Eds)
PNAS 111(9):3225–3227 (2014)

The elephant, the blind, and the intersectoral intercomparison of climate impacts
Schellnhuber HJ, Frieler K, Kabat P
PNAS 111(9):3225–3227 (2014)

Multimodel assessment of water scarcity under climate change

The changing face of cognitive gender differences in Europe
Weber D, Skirbekk V, Freund I, Herlitz A

Energy systems transformation
Dangerman ATCJ, Schellnhuber HJ

Economic repercussions of fisheries-induced evolution
Eikeset AM, Richter A, Dunlop ES, Dieckmann U, Stenseth NC

Outsourcing CO2 within China

Biomass use, production, feed efficiencies, and greenhouse gas emissions from global livestock systems

Evolution of extortion in iterated Prisoner’s Dilemma games
Hilbe C, Nowak MA, Sigmund K
PNAS 110(17):6913–6918 (2013)

Quantification of excess risk for diabetes for those born in times of hunger, in an entire population of a nation, across a century

Reply to Klitz and Niklasson: Can viral infections explain the cross-sectional Austrian diabetes data?
PNAS 110(12):E2751 (2013)

Statistical detection of systematic election irregularities
Klimpek P, Yegorov Y, Hanel R, Thurner S

The take-it-or-leave-it option allows small penalties to overcome social dilemmas
Sasaki T, Brännström A, Dieckmann U, Sigmund K

Variation in cognitive functioning as a refined approach to comparing aging across countries
Skirbekk V, Loichinger E, Weber D
Selected Scientific Publications

January 2012 to November 2014

Philosophical Transactions of and Proceedings of the Royal Society B

The global nitrogen cycle in the twenty-first century
Philosophical Transactions of the Royal Society B: Biological Sciences 368(1621):20130164 (2013)

The evolution of cooperation by social exclusion
Sasaki T, Uchida S

Egg size-dependent expression of growth hormone receptor accompanies compensatory growth in fish
Segers FHID, Berishvili G, Taborsky B

Juvenile exposure to predator cues induces a larger egg size in fish
Segers FHID, Taborsky B

The role of N₂O derived from crop-based biofuels, and from agriculture in general, in Earth’s climate
Smith KA, Mosier AR, Crutzen PJ, Winiwarter W
Philosophical Transactions of the Royal Society B: Biological Sciences 367(1593):1169–1174 (2012)

Publication Statistics

The number of journal articles authored by IIASA researchers and the citations of these articles has increased significantly since 2002 as shown in the chart (right) based on data through May 2014. This trend is continuing in 2014: at the end of October there were 205 peer-reviewed journal articles by IIASA authors and 7,514 citations of journal articles by IIASA authors. As a comparison, the respective numbers for the complete year 2013 were 254 journal articles and 8867 citations.

The h-index measures the productivity and impact of journal articles published by an author or institute. IIASA’s h-index is 93, meaning that of all IIASA journal articles, 93 articles have been cited more than 93 times.

Source: Statistics from Scopus database of peer-reviewed literature; chart from IIASA Annual Report 2013