IIASA Overview

The International Institute for Applied Systems Analysis (IIASA) is an independent, international research institute with National Member Organizations in Africa, the Americas, Asia, and Europe. Through its research programs and initiatives, the institute conducts policy-oriented research into issues that are too large or complex to be solved by a single country or academic discipline.

This includes pressing concerns that affect the future of all of humanity, such as:

- Climate change
- Food and water security
- Energy security
- Biodiversity
- Sustainable development
- Landuse
- Population

IIASA was established in 1972 during the Cold War to build scientific bridges between East and West. Today, its members and funders span the globe. Countries are represented by their National Member Organizations which are part of the IIASA governing Council and provide or facilitate the core funding of the institute.

Annual budget

The annual budget in 2019 was €23,1 million, of which 49% was from prestigious research funding agencies in member countries spanning Africa, the Americas, Asia, and Europe.

In 2019 there were 401 peer-reviewed journal articles written in collaboration with 1,062 coauthors from 158 institutions in 64 countries and regions.

Publications and open access

2019
401 peer-reviewed articles in PURE

115
Green open access (accepted version online)

8
Submitted version available

85
No text available

193
gold open access (published version available)

316
Full text available

Our people

In 2019, 417 researchers from 52 countries worked at IIASA,

1,589 collaborators visited the institute,

and 4,267 alumni from 100 countries

Together, they made up a global network with over 785 partner institutions.

The IIASA research themes find solutions to global problems through applied systems analysis

IIASA has strategic research themes. The outer circles show the current nine research programs. The inner circle represents integrated research activities at IIASA. Importantly, the diagram shows how each of the research programs intersect and contribute to these integrated projects, an increasing focus of IIASA research.

Young Scientists Summer Program (YSSP)

The renowned IIASA YSSP allows students to work alongside distinguished IIASA researchers for three months, gaining new insight into their own field of research as well as those of the institute.

In 2019 there were 19 postdocs at IIASA

Postdoctoral program

The IIASA postdoctoral program aims to encourage and promote the development of early-career researchers. The fellowships offer them the opportunity to gain hands-on professional research experience in a highly international scientific environment. In return, they enrich the intellectual environment at IIASA and help achieve research goals.

Supplemented by additional contracts and grants and other income.

Combined with other member contributions.
Selected impacts

IIASA and partners researched the impacts of land-use change and related greenhouse gas emissions from biofuel feedstocks consumed in the European Union (EU). This provided inputs into the revisions of the EU Renewable Energy Directive, which introduced biofuel sustainability criteria for all biofuels produced or consumed in the EU.

IIASA published the Global Energy Assessment (GEA), the first ever fully integrated assessment of policy measures on energy security, air pollution, and climate change.

IIASA contributed 12 of the lead authors from a total of 91 authors and 133 contributing authors from 40 countries for the Intergovernmental Panel on Climate Change Special Report on Global Warming of 1.5°C, which highlights the strong benefits to humanity and ecosystems of keeping global warming to 1.5°C above pre-industrial levels.

IIASA researchers provided the analysis behind the European Clean Air policy, which became law in 2016 and aims to reduce health impacts of pollution by 50% compared to 1990 levels in 2030. The research is based on the GAINS model which is being applied in other parts of the world including China, India, and Vietnam.

IIASA codeveloped and hosts the database for the Representative Concentration Pathways (RCPs), equipping the climate change research community with common greenhouse gas emissions data.

Analysis from the IIASA Catastrophe Simulation (CATSIM) model is being used as part of the rationale for the Loss and Damage Mechanism of the UN Framework Convention on Climate Change (UNFCCC).

IIASA developed new measures for understanding population aging that were incorporated by the UN Population Division into UN data and used in the UN World Population Ageing report 2017.

Selected publications

IIASA produces world class science, which is regularly published in high-impact publications. A selection of articles (co)authored by IIASA researchers and published in Nature and selected other Nature Publishing Group (NPG) journals, Proceedings of the National Academy of Sciences of the United States of America (PNAS), and Science is presented here. Publication statistics are also included to show the number of IIASA publications in recent years.

Nature

A new scenario logic for the Paris Agreement long-term temperature goal

Nature Climate Change

Changing risks of simultaneous global breadbasket failure
Gaupp F, Hall J, Hochrainer-Stigler S, & Dadson S (2019). Nature Climate Change 10: 54-57. DOI:10.1038/s41558-019-0600-z. [pure.iiasa.ac.at/16205]

Nature Communications

Global resource potential of seasonal pumped hydropower storage for energy and water storage

Nature Energy

Energy requirements for decent living in India, Brazil and South Africa.

Nature Geoscience

Field-experiment constraints on the enhancement of the terrestrial carbon sink by CO₂ fertilization

Proceedings of the National Academy of Sciences of the United States of America (PNAS)

Population aging, migration, and productivity in Europe

Science

Granular technologies to accelerate decarbonization