IAMC Newsletter – 2018 edition

You are reading the newsletter of the Integrated Assessment Modeling Consortium. This newsletter will be delivered annually, with the objective of keeping the community informed of recent and future events.

News and Updates

Report on Integrated Assessment Modelling Consortium Annual Conference.

The tenth IAMC meeting in Recife Brazil has been a great success with over 100 participants from a wide variety of countries. It was also the first time around that participants could join in remotely via teleconference software. For a more elaborate report of the meeting, please read the long read by Detlef van Vuuren (PBL) below.

Participants of I AMC meeting taking place at the Sheraton Reserva do Paiva Hotel, in Recife, Brazil, 5-7 December, 2017

The eleventh annual IAMC meeting

This year, the Eleventh Annual Meeting will be hosted by JRC in Seville, Spain, from November 13-15, 2018. The IAMC is now soliciting abstracts for oral and poster presentations on select research topics with integrated assessment models:

- Integrated assessment of climate impacts
- Deep mitigation pathways
- National mid-century mitigation strategies
- Attaining multiple SDGs
- Land-based mitigation strategies
- Demand for energy and food, including the impact of lifestyle change.
- Sustainable finance, investments, and scenarios for financial disclosure
- Methodological issues in the field of integrated assessment
- Renewable energy, grid integration, energy storage and demand side management
- Climate system representation in IAMs
- Analysis of possible future disruptive trends
- Extension of SSP applications

Poster abstracts on other topics different from the selection will also be considered. The deadline for submission of oral and poster presentation abstracts is June 30, 2018. See the IAMC website for further details.

Launch open-access tool for emissions downscaling

The gridded SSP data for use in CMIP6 will soon be released. As part of creating this data, a new tool was developed for downscaling connected to the IAMC scenario database. This tool will become as a new community service: an online open-access tool for the community (ANERIS). This can be used for emissions downscaling for any of the IAMC modeling teams that are interested to downscale their own emissions results.

IAMC GitHub repository

Report: Jan Philipp Dietrich, Daniel Huppmann, Laurent Drouet, Matthew Gidden, Mathijs Harmsen

Integrated Assessment modeling work relies heavily on software and tools for data processing, analysis and visualization. As requirements for these tools are comparable across IAM groups, a grass-roots effort arose out of the CD-LINKS capacity building workshops to share and jointly develop analysis packages.

The IAMC GitHub repository at https://github.com/IAMconsortium serves as a platform to bundle developments of tools and software which could be of interest for researchers within and beyond the IAMC. Ideally, developing these tools across teams should:

- reduce duplication of efforts across research groups
- support new IAM teams with their first steps (capacity building)
- streamline data processing and visualization across IAM teams
- increase the quality of tools through extensive testing across groups
- boost transparency and verification in the generation of IAM results

Currently, the repository contains tools for IAM data analysis and visualization implemented in Python and R. These tools were developed to natively work with the IAMC reporting template structure.

Contributions to existing projects or of new projects are very welcome. We appreciate feedback either via GitHub or by directly contacting the lead developers of the various projects.

New Scientific Working Group (SWG) on impacts and adaptation considered

Due to the large number of submitted papers and posters on impacts and adaptation, two parallel sessions had to be organized during the 10th annual IAMC meeting. The apparent increase in attention for the research area, ranging from impacts on energy demand and supply to adaptation to food security challenges raised the question whether a new SWG would be useful to start in IAMC. A small group will consider the idea further, taking into consideration other ongoing and planned activities and discuss a proposal in the Scientific Steering Committee.

Scientific Working Group updates

Group on Scenarios

The focus of the Scenarios WG has mostly been on the finalization of the SSPs for use in other community activities (e.g. climate modelling). This included the harmonization and downscaling of land use and emission data and the selection of scenario runs to be used in CMIP6. For next year we aim to support further development of the SSPs by other modelling teams – among others by allowing submission into an open access database. This will, however, require further thoughts on criteria on "consistency" with SSP definitions and quality control.

Long read reports

Report on Integrated Assessment Modelling Consortium Annual Conference.

December, 5-December 7 2017 Recife, Brazil

Report: Detlef van Vuuren

The IAMC Annual Conference covers presentation and discussions relevant for the Integrated Assessment Modelling community. The opening speech to the conference was delivered by Roberto Schaeffer, welcoming everybody to Recife. After that, Detlef van Vuuren presented the programme and provided an update on the current status of the IAMC and the work of the different working groups.

On the first day, the presentations in the plenary session covered 1) the interaction between the Integrated Assessment Modelling community and the climate policy community and 2) the analysis of sustainable development. For the first topic, presentations were given by representatives from the IPCC (Thelma Krug and Joanna Portugal), the European Commission (Tom van Ierland) and the IAMC (Jae Edmonds and Elmar Kriegler, dealing with integrated assessment modeling findings on deep mitigation and the global stock take). The users of IAMC information (IPCC, European Commission) emphasized a few key issues, such as the relevance for the upcoming evaluation of the NDCs in light of the required emission reductions consistent with the Paris Agreement. With the mounting emphasis on policy implementation, it is increasingly important for the IAM community to represent real policies, their consequences but also to be more consistent with data on the current situation. Particularly important topics might be for instance land-use related mitigation and air traffic. The IAM presentations highlighted that a 1.5 degree climate target is technically feasible in the models, but requires significant actions well beyond the current INDCs. Achieving these goals would require transformational changes in the production and consumption of energy and agricultural goods. The presentations also discussed how indicators could be developed for addressing the issue of feasibility. For the second topic, Volker Krey and David McCollum presented findings on possible linkages across different sustainability issues and the associated investment requirements in reaching particular sustainable development goals.

The second part of day 1, day 2 and the first half of day 3, were organized in parallel sessions dealing with deep mitigation policies, methodological issues and improvements, assessment of the sustainable development goals and national policies, and impacts and adaptation. These parallel sessions covered around 40 presentations of integrated assessment researchers. Some interesting observations include the increasing coverage of heterogeneity in the analysis, for instance by looking at geographical detail (grids and big data approaches) or by addressing specific sectors. Other trends were an increase in focus on climate impacts (two sessions of which one dealing with feedback on the energy sector) and more attention for issues related to implementation and feasibility of mitigation options and strategies. The research on impacts for instance showed that attaining a 1.5 degree target reduces climate change damages significantly compared to a 2 degree target. It, however, also emphasized that large methodological issues still remain since it is very difficult to monetise and compare damages across time-scales and different social contexts. Day 1 ended with the poster presentation highlighting another 36 contributions of different researchers.

Finally, on day 3 the plenary meeting, which took place in the first half of the day, addressed several topics of current interest for the IAM community. This included a critique raised with respect to IAM models, introduced by presentations from Arnulf Grubler and Detlef van Vuuren, focusing on energy efficiency and providing an overview of the critique and possible responses, respectively. The plenary also addressed the relationship between impact research and IAM modelling (Jan Volkholz) and finally, the work of the IAMC itself. The one-minute presentations on community projects chaired by Tom Kram showed several new projects that started last year. The IAMC Scientific Steering Board announced that the annual award for excellent contribution to IAM research in 2017 was awarded to Brian O'Neill. Finally, the second part of the third day discussed the progress in the different IAMC working groups on scenarios, finance and data.