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CoMSES Digest: Summer 2024

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Editor's Note

Warmest greeting from CoMSES.Net! Summer is heating up here in Arizona, as are some exciting new and ongoing CoMSES projects - a true testament to the hard work and engagement our members and community are striving for.

It has been a busy quarter for the CoMSES team, with new and existing projects continuing strongly - some of which are further detailed in this digest issue. The Model Library remains an in-demand resource with over 2,500 downloads logged this past quarter - up from the 2,343 downloads from the first quarter of 2024. Improvements to the CoMSES web site are also slowly taking shape. Since the previous digest issue for example, a new tab has been added to the About page where users can now more easily locate all past CoMSES Digest issues.

CoMSES has also begun developing a series of tutorials for a growing reviewer pool and has seen an increased variety of model languages. These tutorials help familiarize new reviewers with the review process on the website. Additionally, tutorials have also been developed to guide model authors on best practices while structuring their models and how to submit their models for peer reviews. These new tutorials can be found in the forum tab . As we look forward to the summer and fall terms, CoMSES.Net looks forward to the continued engagement from the agent-based modeling community. We welcome your participation and feedback over our social media platforms, or by contacting us through the web portal. We also look forward to seeing your comments and engagement with the YouTube Ten-Minute Dialogues Series - see below for more details on this.

Best wishes & stay safe out there this summer!

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CoMSES.Net Summer Issue Guest Editors

CoMSES News

CoMSES YouTube Channel Spotlight

The "Ten-Minute Dialogues: Computational Models" series on the CoMSES YouTube channel is an initiative designed to showcase peer-reviewed models archived on CoMSES.NET. This series features brief, informative interviews with modelers, discussing the purpose of their models, challenges faced during development, key findings, potential future studies, and the process of making their models available on CoMSES.NET. By including diverse models on topics such as economic simulations, organizational performance, common pool resources, archaeological studies, disease spread, tourism management, disaster management, etc., this series aims to provide researchers, educators, and anyone interested in computational models with an efficient way to understand and learn from these computational tools. This initiative represents a novel approach to model communication, ensuring that the essence of each model is accessible and engaging. The initiative not only highlights the diverse models within the CoMSES community but also enhances the visibility and understanding of computational models among a wider audience.

As of this Digest issue, 12 episodes of "Ten-Minute Dialogues: Computational Models" have been published, with more to come in the following weeks! These videos, each around 10 minutes long, distill the most important information from the interviews to help the audience quickly grasp the key aspects of each model. Some recent examples of contributions include the Bottom-Up Disaster Information Management model by Dr. Vittorio Nespeca, which explores how information is collectively managed and performs during a

crisis, and the ABM Overtourism Santa Marta model by Dr. Janwar Moreno, which simulates the impacts of overtourism in Santa Marta, Colombia, illustrating the spatial and temporal distribution of residents and tourists while assessing measures to address overtourism. The series is being promoted on the CoMSES Twitter/X account. If you are not already following us on X, we encourage you to do so as this is a great way to be notified of new videos and other interesting updates. Have you published a peer-reviewed model on CoMSES.NET? Would you like to showcase your model further? We warmly invite you to participate in this project - please reach out to us HERE if you would like to be interviewed and become a part of the "Ten-Minute Dialogues: Computational Models" series.

Research Collaboration Update

The CoMSES team is working with CUAHSI (Consortium of Universities for the Advancement of Hydrologic Science) and CSDMS (The Community Surface Dynamics Modeling System) to better expand our educational materials. To date, CUAHSI has explored principles and technologies like FAIRShare, FAIR4RS, and Howfairis to enhance the reusability and reproducibility of research software, aiming to develop a community standard for making containerized CoMSES Net models into web services. In our review, we identified systemic gaps that challenge implementation, as these guidelines or software often resemble questionnaires rather than executable checks. To address this, CUAHSI is developing a quality compliance scorecard for hydrological research software and testing it on some of the commonly used models within the community to evaluate their alignment with FAIR4RS principles and improve reproducibility. This manual evaluation process aims to become automated in future releases. The scorecard helps identify improvement areas, such as identifiers, metadata, software structure, documentation, and binaries versus source code, ultimately improving scores and moving closer to a FAIR version. Stay tuned for new project updates in upcoming digest issues.

Phasing Out Creative Commons Licenses

Previously, we announced that we would be taking steps to reduce the amount of software in the CoMSES Model Library licensed under the Creative Commons family of licenses due to their unsuitability for software. In order to streamline this we have introduced a new page at https://www.comses.net/cc-license/ which allows you to re-license any submitted models that are currently licensed under Creative Commons to preferred alternatives with one click.

Ongoing Developments

In an effort to capture every last piece of metadata, our system for automatic DOI registration is still under development, but is nearing completion. In the meantime, we will continue to create and assign DOIs to any model that completes the CoMSES Peer Review process on request.

We have broken ground on another important project aimed at providing an opt-in system for mirroring models on GitHub. Eventually, this will allow modelers to take advantage of GitHub's rich automation tooling and collaborative environment for things such as code review, static analysis, containerization, and more.

Aside from the larger projects, we have been carrying on with bug fixes and minor improvements such as to navigation and site curation. If you have any suggestions for improvement or would like to report an issue, please get in touch via our contact page or by emailing us at support@comses.net.

Feature: CoMSES Site Forgotten Functions

In this new digest segment a brief spotlight will be cast on a selected function or aspect of the CoMSES.Net website. The aim is to build awareness of the many already existing features of the site that readers may not be fully aware of, or may have forgotten about.

This digests focus: The Forums.
You may be very familiar with the tutorial or educational content within the Forums, or the model discussion threads, but did you know that the Forums are so much more than that? The General Forum is an excellent place to ask/post general questions, announcements, or other items of interest for the agent based modeling / computational modeling community. Have an idea or want to start a conversation - why not start one in the General Forum. On the topic of questions - do you have a question about your modeling endeavors? Is something not going quite right? Not sure how to best classify a variable, or establish causality within your model? No Problem! No matter if you are facing

a technical, methodological, or philosophical challenge, the Help Forum is there for you! Don't see an existing post or topic that you are looking for? Why not start one! If you have overcome a previous challenge or issue that required a novel solution please feel free to share this in the Help forum - others may be facing similar or relatable challenges. With greater Forum engagement we will build a stronger community.

New CoMSES Digest Segment: User Showcase

What do our users use our models for? This was a question raised recently, and it prompted an idea. Why not start a new segment in our digest to highlight what our users are doing with the models they download. We are asking you - our readers - for your input. Have you used a model downloaded from the gateway? If so - what did you use it for? Why did you select that particular model? Were you more interested in the model as a whole, or did you want to investigate its code, or documentation for a specific function?

We would love to hear from you, and feature your thoughts in upcoming digest issues. If you have a few minutes to help us better understand our users please complete this brief google form - and maybe you will see your thoughts/experiences in print in a future digest issue!

Keep Your CoMSES Profile Updated

Please consider keeping the CoMSES community informed by updating your user account on CoMSES Net! Let fellow researchers and modelers get to know you by including a biography, research interests, and/or institutional affiliation. Click here to edit your profile and link your account to GitHub and ORCID! As always, feel free to join the conversation by visiting the Forums tab or by starting a discussion on a specific model, event, or job posting.

Calendar of Events

Follow the links to the local event organizers for the latest information or go to https://comses.net/events/ for a listing of all recent events. You can also subscribe to new events by following us on Twitter or subscribing to our RSS Events feed.

Upcoming Deadlines

12th International Congress on Environmental Modelling and Software
Dates: June 23, 2024 - June 27, 2024

The College of Agriculture and Natural Resources at Michigan State University is hosting the International Congress on Environmental Modelling and Software (iEMSS) in 2024. The conference's Registration is open for the next five days. Keynote Speakers include Barbara Robson, Mariana Rufino, and Whitney Gravelle

Behave Summer School on Agent Based Modelling
Dates: August 19, 2024 - September 13, 2024

The Università della Svizzera italiana is hosting a two week workshop on macro social dynamics and agent based modeling. The workshop is hybrid and based out of Bresica, Italy between 2-13 September. Registration deadline is Friday, July 19th 2024.

13th International Conference on Complex Networks & Their Applications
Dates: December 10, 2024 - December 12, 2024

The 13th International Conference on Complex Networks and their Applications will take place in Istanbul, Turkey , 10-12th December 2024. The abstract submission deadline is 3rd September, 2024. Both full papers (not previously published up to 12 pages) and Extended Abstracts (about published or unpublished research up to 4 pages) are welcome

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Model Library

Newly Reviewed

6 models passed CoMSES's peer review process this quarter!

CoMSES is always looking for new model reviewers! As such we warmly

welcome your self nomination. If you would like to join our reviewer network, we invite you to complete This Form.

New Model Uploads

Eight new models were published in the CoMSES Model Library on a wide variety of topics that illustrate the depth and breadth of our community. These include:

- Understanding critical sustainability transition between agricultural and non-agricultural land use in a spatial context.
- Exploring the influence of cognitive diversity on networked search and coordination
- Observing models based on Swann and Buhrmester's Identity Fusion behavior theory
- Assessing strengths of weak bots' influence on beliefs over social medias
- Modeling a collectively responsible fishing management system

These models and more can be discovered at the CoMSES Model Library - you can also keep up-to-date with newly published models on our Twitter and RSS feeds.

Most Downloaded Models

Published models were downloaded a total of 2550 times this quarter, across 616 unique codebases. Here are the top five:

1. The Hawk-Dove Game by Kristin Crouse (178 downloads)
2. Fertility Tradeoffs by Kristin Crouse (170 downloads)
3. INOvPOP by Aniruddha Belsare (32 downloads)
4. Share: Bottom-up disaster information management by Vittorio Nespeca, Tina Comes, and Frances Brazier (26 downloads)
5. Virus Transitions with Super-Spreaders by J. Applegate (26 downloads)

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Arizona State University

CoMSES Net is headquartered in The School of Complex Adaptive Systems
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