

CoastMIP/ISIPedia workshop on large scale coastal flood risk assessment under sea-level rise

Global Climate Forum (GCF) Berlin

28-29 November 2018

Co-chairs: Marta Marcos (Mediterranean Institute for Advanced Studies; IMEDEA) and Jochen Hinkel (Global Climate Forum; GCF)

Context

The coastal impact model inter-comparison project (CoastMIP) is an open, community-driven initiative aimed at generating, comparing and synthesising policy-relevant information on coastal impacts of climate change and sea-level rise at global and continental scales (called large-scales hereafter). In order to be salient for policy making, such impact assessments must systematically consider all major uncertainties including scenario uncertainty, climate model uncertainty, internal variability and impact model uncertainty. A failure to do so can misguide policy.

The goal of CoastMIP is to set up and guide a process that brings together the coastal impact modelling community to assess large-scale coastal impacts thereby comparing all major dimensions of uncertainties across models, as a contribution to the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP) project. ISIMIP offers a consistent framework for climate impact simulations across different sectors and scales and makes them freely available for the research community and the wider public similar to the CMIP simulations of climate change (www.isimip.org).

CoastMIP does not provide any funding for the envisaged activities, but relies on voluntary contributions. The goal thus is to create synergies between funded projects and other existing activities that can contribute to the overall agenda of CoastMIP. Results will be analysed, made publicly available on the ISIMIP website and published in a peer-reviewed journal.

The current focus of CoastMIP lies on current and future coastal extreme sea-levels and associated flood risk, as this is expected to be one of the major impacts of climate change. As a first step, the initiators of CoastMIP have drafted a review paper on the main uncertainty dimensions of coastal flood risk assessment, including uncertainties in data, simulation models, statistical models and other methods involved in the cascade of methods applied to quantify current and future flood risk under climate change.

Workshop objectives

The envisaged workshop will bring together coastal extreme sea-level and impact modellers from around the world to develop a CoastMIP strategy for the next two years. Specifically the workshop's objectives are:

- To review the major dimensions of uncertainty in large-scale coastal flood risk assessments.
- To develop a protocol and time-line that specifies how the CoastMIP group can collaborate over the next two years in order to better quantify the major uncertainties through joint modelling experiments and comparisons of, models results and approaches.

Venue and Contact

- Global Climate Forum, Neue Promenade 6, Berlin. See the logistics document.
- Jochen's mobile number: +49 163-163-1840

Agenda

Tuesday, 27 th November 2018	
19:00	Joint dinner at Lebensmittel in Mitte Restaurant

Wednesday, 28 th November 2018		
08:30 – 09:00	Welcome coffee, registration at the Global Climate Forum/ Mercator Stiftung (1 st floor)	
09:00 – 09:40	Introduction <ul style="list-style-type: none"> • Welcome (Marta and Jochen) • CoastMIP and workshop objectives (Jochen Hinkel; 20min.) • Discussion 20 min 	Chair: Marta Marcos
09:40 – 10:00	ISIPEDIA and ISIMIP <ul style="list-style-type: none"> • Overview (Matthias Mengel; 10 min.) • Discussion 10 min 	
10:00 – 10:30	Uncertainties in future mean sea-levels <ul style="list-style-type: none"> • Overview (Roderik van de Wal et al.; 15 min) • Discussion 15min 	
10:30 – 11:00	Coffee break	
11:10 – 12:15	Uncertainties in current and future extreme sea-levels <ul style="list-style-type: none"> • Overview (Marta Marcos; 20 min.) • Effects of tide-surge interaction and atmospheric forcing (Thomas Wahl; 5 min) • Compound flooding (Philip Ward; 5 min.) • Effects of resolution, data quality and simplification of physics (Michalis Vousdoukas; 5 min.) • Discussion 30 min. 	Chair: Marta Marcos
12:15 – 13:00	Uncertainties in current and future waves and wave set-up <ul style="list-style-type: none"> • Overview (Mark Hemer; 20 min.) • Inigo Losada (5 min.) • Discussion 20 min. 	
13:00 – 14:00	Lunch	
14:00 – 14:40	Uncertainties in current and future exposure of area, people and assets <ul style="list-style-type: none"> • Overview (Nassos Vafeidis, Claudia Wolff, Jan Merkens; 20 min.) • Discussion 20 min. 	Chair: Jochen Hinkel
14:40 – 15:30	Uncertainties in flood propagation <ul style="list-style-type: none"> • Uncertainties in current protection levels (Robert Nicholls; 10 min.) • Uncertainties in flood propagation modelling (Michalis Vousdoukas and Nassos Vafeidis; 10 min.) • What can we learn from high resolution flood modelling (Gonéri Le Cozannet; 5min.) • Discussion 25 min. 	
15:30 – 16:00	Coffee break	
16:00 – 16:20	Uncertainties in current and future vulnerability <ul style="list-style-type: none"> • Overview (Michalis Vousdoukas, Hans de Moel and Luc Feyen; 10min) 	

	<ul style="list-style-type: none"> • Discussion 10min. 	
16:20-17:30	Putting it all together & discussion <ul style="list-style-type: none"> • Global impact and uncertainty assessment of inundation due to sea level rise (Hiromune Yokoki and Makoto Tamura; 10 min) • Comparisons across dimensions (Jochen Hinkel, 10 min) • Global sensitivity analysis (Gonéri Le Cozannet, 10min) • Discussion 40min 	Chair: Marta Marcos
17:30	Adjourn	
19:00	Joint dinner at Das Lokal Restaurant	

Thursday, 29 th November 2018		
08:30 – 09:00	Welcome coffee	
09:00 – 09:30	Preparing for break-out groups tasked to design model experiments that we would like to conduct together (including time-line): <ul style="list-style-type: none"> • ISIMIP3 protocol (Matthias Mengel; 10 min.) • Preliminary ideas for ESL experiments (Marta Marcos; 10 min.) • Preliminary ideas for coastal flood impacts experiments (Jochen Hinkel; 10 min.) • Tasks for the break-out groups 	Chair: Jochen Hinkel
09:30 – 11:00	Break-out Groups <ul style="list-style-type: none"> • Group 1: Coastal extreme water levels (Marta Marcos) • Group 2: Impacts of extreme water levels (Jochen Hinkel) 	
11:00-11:30	Coffee break	
11:30-13:00	Break-out Groups (continued) <ul style="list-style-type: none"> • Group 1: Coastal extreme water levels (Marta Marcos) • Group 2: Impacts of extreme water levels (Jochen Hinkel) 	
13:00-14:00	Lunch	
14:00-15:00	Report back from break-out groups	Chair: Marta Marcos
15:00-15:30	Discussions	Chair: Jochen Hinkel
15:30 – 16:00	Coffee-break	
16:00 – 17:00	Next steps and funding opportunities	
17:00	End of meeting	

Participants

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