

Workshop on “Tipping Points and Understanding EO data needs for a Tipping element Model Intercomparison Project (TipMIP)”

October 10 to 14, 2022

Monday, 10 October 2022		
Time	Topic	Chair/ Speaker
13:00	Registration ISSI, Hallerstrasse 6, 1st floor	
		Chair:
14:00-14:30	Introduction to ISSI – Objectives of the Workshop, activities to date at ESA Climate Office, WCRP, AIMES, and Earth Commission	Director, Conveners
14:30-15:00	Remotely sensing Tipping points	Tim Lenton
15:00 -15:30	The TipMIP perspective	Ricarda Winkelmann
15:30 - 16:00	<i>Coffee Break</i>	
16:30 - 17:00	EO Capabilities/limits for Tipping Points - Oceans	Natassa Romanou, Angela Landolfi
17:00 - 17:30	EO Capabilities/limits for Tipping Points - Biosphere	Annett Bartsch Ana Bastos
16:00 - 16:30	EO Capabilities/limits for Tipping Points - Cryosphere	Andy Shepherd
17:30-18:00	General discussions / article content brainstorm	Lead: Victor Brovkin
18:00	<i>Welcome Reception - Hallerstrasse 6, 1st floor</i>	

Tuesday, 11 October 2022		
Time	Topic	Chair/ Speaker
08:45-09:15	Detection of abrupt shifts and early warnings in complex models	Sebastian Bathiany
09:15-09:30	Findings/Recommendations from the Exeter Workshop	Jonathan Donges
09:30-10:30	Discussions about challenges and opportunities and article content brainstorm	All - chairs: Narelle van der Wel Annett Bartsch
10:30-11:00	<i>Coffee Break</i>	
11:00-12:00	Breakouts by Ice/ocean/biosphere and according to interests arising	All (moderated by speakers from Monday pm)
12:00-12:30	EO data and how to determine the stability of potential tipping elements from them	Niklas Boers
12:30-14:00	<i>Lunch</i>	
14:00-14:30	Process-based understanding of tipping points from paleo-data perspective	Martin Claussen
14:30-15:00	Regional Tipping Points and drought-carbon cycle feedbacks	Sonja Seneviratne
15:00-15:30	General discussion and revisit of brainstorm article ideas, groupings by article interests	Chair: Gabi Hegerl
15:30-16:00	<i>Coffee Break</i>	
16:00-17:00	Breakouts by article interests – scoping key messages/foci	Groups to self-elect moderators, notetakers



Wednesday, 12 October 2022		
Time	Topic	Chair / Speaker
	Advancing tipping point early warning/prediction	
09:00-09:30	Monitoring resilience and early warning – How can Earth Observation help?	Jan Verbesselt
09:30-10:00	Discussion: Early warning – best practice for remote sensing application to vegetation	All - chair: Ana Bastos
10:00-10:30	Discussion: Early warning – remote sensing application to other tipping elements	All - chair: Andy Shepherd
10:30-11:00	<i>Coffee Break</i>	
11:00-11:30	Discussion: remote sensing for model-based prediction – e.g. decadal forecasting – identifying opportunities/gaps	All – chair: Didier Swingedouw
11:30-12:00	Discussion: Deriving tipping probabilities	Chair: Niklas Boers
12:00-12:30	Tropical Forest Tipping Points with 30 years of C-Band Radar	Philippe Ciais
12:30-14:00	<i>Lunch</i>	
14:00-15:30	Scene setting for article outlines, article writing groups and their lead authors. Breakouts for article writing groups	All – Lead: Tim Lenton
15:30-16:00	<i>Coffee Break</i>	
16:00-18:00	Article writing time and preparation of reporting for Thursday	All
19:00	<i>Workshop Dinner at the Restaurant Kornhauskeller, Bern</i>	



Thursday, 13 October 2022		
Time	Topic	Chair/ Speaker
	Assessing of tipping interactions and cascades	
09:00-09:30	Detecting causal interactions from EO data	Jakob Runge
09:30-10:15	Discussion: Connecting data and models, towards a tipping element monitoring system – primer on the use of remote sensing data in calibration and evaluation of models	Lead: Richard Jones
10:15-10:30	Meeting photo	
10:30-11:00	<i>Coffee Break</i>	
11:00-12:00	Breakout sessions: 1) Tipping element interactions in climate modelling 2) Essential variables from GCOS and EO– adjustment needs for monitoring, assessing interactions and cascades 3) Remote Sensing data and models	1) Jonathan Donges 2) Annett Bartsch 3) Richard Jones
12:00-13:30	<i>Lunch</i>	
13:30-14:30	Feedback to plenary from breakouts, general discussion, revisit article list for groupings for afternoon breakouts	Chair: Sophie Hebden, Michael Rast
14:30-16:00	Breakout sessions by article groups: key messages, progressing the planning and writing	
16:00-16:30	<i>Coffee Break</i>	
16:30-17:00	General discussion - reflections from participants on the workshop and progress made	Lead: Hannah Liddy
17:00-17:30	Next steps on TipMIP activities	Lead: Ricarda Winkelmann

Friday, 14 October 2022		
Time	Topic	Chair/ Speaker
09:00-09:30	Invited presentation on Policy needs, inputs, and interfaces (e.g. driving mitigation action)	Thomas Stocker
09:30-10:30	Discussion	Lead: Sonja Seneviratne
10:30-11:00	<i>Coffee Break</i>	
11:00-12:30	Summary, outlook and ways forward/next steps <ul style="list-style-type: none"> - Table of content of the special issue, articles content and lead authors – Abstracts welcome - Agree/summarise remaining work on articles, prioritise, who does what, time plan - Capture summary statement/priorities from workshop - Wrap-up 	Chairs: Narelle van der Wel Andrew Shepherd
12:30-14:00	<i>Lunch and departures</i>	
<i>End of Workshop</i>		