

Newsletter September 2022

Dear PalMod members,

to begin with, we have some irritating news:

you may have heard, that the BMBF has called into question the continuation of a number of projects, including PalMod for structural reasons. At the moment, we unfortunately cannot reliably say whether or how it will continue. This has no content-related reasons, because the reviewers have all strongly supported a project phase III. We are in contact with BMBF leadership to confer the situation. We will get back to you as soon as we have more information.

The insecure situation of the project has strong implications on the financing of many of our PalMod colleagues. So, it seemed inappropriate to us to organize and hold a "fullgrown" PalMod conference in spring as a back-to-back event before or after the EGU in Vienna 2023. Instead of this, we decided to ask all PalMod members who convene an EGU session with a PalMod related core topic to frame the session in the direction of PalMod (and name the project in the call). This will enable us to contribute to the financing of invited speakers and / or PalMod Members.

Thus, my question is:

- who plans to organise / convene / co-convene a session in a PalMod related field?
- will it be possible to frame the abstract with a PalMod related view and name PalMod as project in the call?

Last but not least, we are happy that most of the positions of PalMod Phase II can be extended between 3 and 14 months so we can continue our work at least for a while.

The Newsletter gives an update on the Milestones and Deliverables with respect to the cost neutral extensions of the positions of project Phase II.

Please have a look and let me know if you have objections or spot discrepancies.

Save the date

3rd CC2 Workshop on model-data comparision from Mo. 24.10.22 (noon) - Wed. 26.10.22 (noon).

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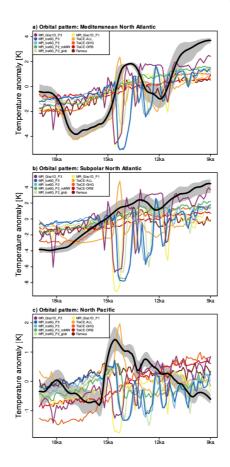
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Please contact us to express your interest by **Thursday, 15 September**. We will then invite you to a short pre-meeting early October to fix the exact objectives and organisation of the workshop.

Outline

The main topic of the workshop will be the discrepancies in millennial or longer timescales between model and proxy data in the North Atlantic, the North Pacific, and the nearby lands during the Deglaciation. These two oceanic regions have been identified by Nils Weitzel/Kira Rehfeld in their model-data comparison paper (in prep, see figure) with particular discrepancies. Gathering colleagues across the range of PalMod interests is an opportunity to discuss the possible reasons behind these discrepancies.



We have also identified other subtopics that may be discussed in smaller groups during the workshop: (1) inter hemispheric lead-lags identified in GMST reconstructions (2) evaluation of centennial variability; (3) analyses of the differences between global terrestrial & marine reconstructions; (4) Impact of volcanic forcing variabilit

Update on Milestones and Deliverables (Status 01.09.2022)

M&D overdue (01.09.2022)

WP	WG	Due To	DAYS	-▼ Re	esponsible	Task
WG1	WP1.4 M6	30.06.22		- 63 GE	EOMAR	Run FOCI with biogeochemistry component (TRACY-MOPS) and Nest 2
WG2	WP2.2 M2	30.06.22	•	- 63 MP	PI	Biogeophysical and biogeochemical feedbacks between terrestrial biosphere and climate are assessed
WG3	WP3.1 D4	30.06.22		-63 Ma	arum	Global synthesis of planktonic foraminifera abundance time series spanning 130,000 years
WG3	WP3.1 M4	30.06.22		- 63 Ma	arum	Finalise synthesis of planktonic foraminifera abundance time series
WG3	WP3.2 M6	30.06.22		-63 AW	WI	Vegetation dynamics analysed including model-proxy comparison
WG3	WP3.2 M9	30.06.22		-63 ML	UN	Inclusion of some of the major last glacial cycle ice caps
WG3	WP3.3 D3	30.06.22		- 63 Ma	arum, AWI-B	Transient simulations including water isotopes for last glacial inception
CC	CC2 M18	30.03.22	-	155 GE	EOMAR	Volcanic forcing data files constructed and tested
WG2	WP2.2 M6	30.03.22	<u> </u>	155 UN	NI HH	Manuscript about the role of shelf weathering on land-ocean biogeochemical matter fluxes
WG3	WP3.1 D2	30.03.22	<u> </u>	155 Ma	arum	Extended marine paleoclimate data synthesis
WG3	WP3.1 M2	30.03.22	<u> </u>	155 Ma	arum	Updated marine proxy synthesis that includes temperature reconstructions without benthic δ18O chronology
WG3	WP3.2 D2	30.03.22	<u> </u>	155 GF:	FZ	Update of the PALIM data-base to integrate chronological links to the marine data-base
WG3	WP3.2 M1	30.03.22	<u> </u>	155 GF:	FZ	Synchronization of lacustrine and marine data-bases
WG3	WP3.2 M3	30.03.22	<u> </u>	155 GF:	FZ	Improved proxy-system models for key climate proxies including varve thickness data
WG3	WP3.2 M8	30.03.22	•	155 MU	UN	Revised calibrated distribution of last glacial cycle ice sheet chronologies and associated 1D regional Earth models
WG3	WP3.3 M2	30.03.22	-:	155 Ma	arum, AWI-B	Transient simulations of the Holocene and last glacial inception set up and ready to run
WG2	WP2.2 M5	30.12.21	<u> </u>	245 UN	NI HH	Mapping of the geochemical and lithological characteristics of the continental shelves
WG2	WP2.3 M5	30.11.21	<u> </u>	275 MP	PI-C	Analysis of methane sink in transient simulations, publication draf
WG2	WP2.3 D3	30.11.21	<u> </u>	275 MP	PI-C	Publication on transient deglaciation experiments with methane sinks submitted
WG3	WP3.1 D6	30.09.21	<u> </u>	336 Ma	arum	Updated version of PaleoDataView including DTW functionality
WG2	WP2.1 M1	30.06.21	0	428 AW		Adjust REcoM model for simulating prognostic atmospheric CO2 concentrations, including fluxes from weathering, and volcanism.
WG2	WP2.1 M2	30.06.21	O	428 AW	WI	Include iron sources from marine shelves, rivers, hydrothermal activity and sea ice in REcoM

If you meet a M or D, please let me know (kfieg@geomar.de), so I can remove it from the list!

The following lists of the Milestones and Deliverables are according to my bookkeeping, please let me know, if something is wrong.

WP1.1

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														juläre ekter						
	31.12.2019	31.03.2020	30.06.2020	30.09.2020	30.12.2020	30.03.2021	30.06.2021	30.09.2021	30.12.2021	30.03.2022	20.00.00	30.09.2022	30 03 2023	30.06.2023	30.09.2023	31.12.2023				
								_	4	\perp	\perp	4	_	\perp	_					
WP1.1: Degl	aciatio	on a	and	Fu	ıtu	re				osten /erlän										
AWI	01LP	1915/	A	01	1.01.2	20	31	12.22	2	31.1	2.23		\top	-	-	$\overline{}$				
Marum	01LP	1915	В	01	1.03.2	20	28	02.23	3	31.1	2.23									
MPI	01LP	19150	0	01	1.12.1	19	30	09.22	2	30.0	6.23									
	Year1		H		Year	2		h	ear 3				Shift	t / De	lay					
Milestone	3	6	9	12	15	18	21	24	27	30 3	3	36 +	+6	+9	+12	15				
WP1.1 M2									×	×	x			х			30.03.2022	30.06.2023	AWI, Marum, MPI	Analysis of control factors for the sequence of deglaciation key events
WP1.1 M3								T	×	×	x		Т	Т	x		30.03.2022	30.09.2023	AWI, Marum, MPI	Benchmarked state conditions of LGM and deglacial key intervals via element cycles
WP1.1 M4									×	×	х		Т	Т		x	30.03.2022	31.12.2023	AWI, Marum, MPI	Deglaciatial mechanisms using insolation as a single forcing
	Year1				Year	2		١	ear 3		Т		Shift	t / De	lay					
Deliverables	3	6	9	12	15	18	21	24	27	30 3	3	36 +	+6	+9	+12					
WP1.1 D3									×	x	x			×			30.03.2022	30.06.2023	AWI, Marum, MPI	Deglaciation simulations for comparison with proxy data, partly including element cycle
WP1.1 D4									×	x	х			х			30.03.2022	30.06.2023	AWI, Marum, MPI	Stability analysis for future climate change with interactive ice sheet
											Т		Т	Т						

WP 1.2

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	31.12.2019	31.03.2020	30.06.2020	30.09.2020	30.12.2020	30.03.2021	30.06.2021	30.09.2021	30.12.2021	30.03.2022	30.09.2022	30.12.2022	30.03.2023	30.06.2023	30.09.2023	31.12.2023				
WP1.2: Mari	ine Iso	top	e S	taç	je 3	3					neutral gerunç									
MPI	01LP	1916	4	01	1.10.1	19	30.	.09.22		30.0	6.23									
AWI	01LP	1916	В	01	1.01.2	20	31.	12.22	:	31.1	2.23	_	\top	-						
Marum	01LP	19160	0	01	1.03.2	20	28.	.02.23	3	31.1	2.23									
	Year1				Year	2		Y	ear 3	Т	Т		Shift	/ Dela	ay					
Milestone	3	6	9	12	15	18	21	24	27	30 3	3 3	6 +3	+6	+9	+12	15				
WP1.2 M3				х			,	x x			×						30.09.2020	30.09.2022	AWI, Marum, MPI	Data from first asynchronosly coupled MIS3 simulations available to the PalMod community
WP1.2 M4							,	x x		x			x	x			30.09.2021	30.06.2023	AWI, Marum, MPI	Data from first synchronosly coupled simulations available to the PalMod community (prescribed CO2)
	Year1				Year	2	Т	Y	ear 3		1		Shift	/ Del	ay					
Deliverables	3	6	9	12	15	18	21	24	27	30 3	3 3	6 +3	+6	+9	+12					
WP1.2 D1											х			x			30.09.2022	30.06.2023	AWI, Marum, MPI	Reports on the interplay between DO cycles and HE based on fully coupled transient simulations
	1							- 1												

WP1.3

	31.12.2019	31.03.2020	30.06.2020	30.09.2020	30.12.2020	30.03.2021	30.06.2021	30.09.2021	30.12.2021	30.03.2022	30.06.2022	30.09.2022	30.12.2022	30.03.2023	30.06.2023	30.09.2023	31.12.2023				
							П			\neg											
WP1.3: The	ast gla	aci	al i	nce	ept	ion					ennet änger										
AWI	01LP				1.01.			1.12.2													
MPI	01LP		_	_	1.05.		_	1.10.2		_	1.07.2										
MARUM	01LP1				1.05.			0.04.2			1.08.2										
PIK	01LP1	1917	<u> </u>	0	1.10.	19	30	0.09.2	_	$\overline{}$	1.10.2	23			_						
	Year1				Yea	2	Ш		Year	3			S	hift /	Dela	y					
Milestone	3	6	9	12	15	18	21	24	27	30	33	36	+3	+6	+9	+12					
WP1.3 M2						x		x		×		,						20.02.2024	20.00.2022	AWI, Marum, MPI, PIK	Analysis on the effect of ice sheet initalisation on glacial inception; re-tuning of model parameters
		-		-		^	Н	^		\neg	-										
WP1.3 M3		_	_		_		Ш	X		X		K								AWI, Marum, MPI, PIK	Investigation of the individual roles of greenhouse gas and orbital forcing
WP1.3 M4		_					Ш	Х		_						x		30.09.2021	30.10.2023	PIK	Analysis of climate and carbon cycle feedbacks
	Year1				Yea	12			Year	3			S	hift /	Dela	y					
Deliverables	3	6	9	12	15	18	21	24	27	30	33	36	+3	+6	+9	+12					
WP1.3 D1								х					x					30.09.2021	31.12.2022	PIK	Providing early diagnostics in the ice sheet-climate system based on full glacial cycle CLIMBER-X simulations
WP1.3 D2										х		x		x				30.03.2022	30.03.2023	AWI, Marum, MPI	Accelerated ice sheet - solid earth - MIS 5.2climate simulations towards
WP1.3 D3												x	x		x	x				AWI, Marum, MPI	Non- Accelerated simulations of the last glacial inception with GCM-based ice sheet - solid earth - climate models
WP1.3 D4												x			x	x		30.09.2022	31.08.2023	AWI, Marum, MPI, PIK	Model - data evaluation

WP1.4

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	31.12.2019	31.03.2020	30.06.2020	30.09.2020	30.12.2020	30.03.2021	30.00.2021	30.12.2021	30.03.2022	30.06.2022	30.09.2022	30.12.2022	30.03.2023	30.06.2023	30.09.2023					
WP1.4: Key									Ve	rlänge	eutrale erung									
GFZ	01LP				1.12.19		30.1			28.02										
PIK	01LP				1.08.20		30.0			30.11		_	-	₩	-	_				
GEOMAR	01LP	19180	<u> </u>	01	1.02.20	<u> </u>	31.0	_	_	31.01	.24	_	\perp	ㅗ	\perp	_				
	rear1				Year2			Yea	ar 3				Shift	/ Del	ay					
Milestone	3	6	9	12	15	18 2	21 2	4 27	30	33	36	+3	+6	+9	+12					
WP1.4 M6					×		Т	×	П	x			П	П			30.03.2021	30.06.2022	GEOMAR	Run FOCI with biogeochemistry component (TRACY-MOPS) and Nest 2
	rear1				Year2	\top	\top	Yea	ır 3				Shift	/ Del	av					
Deliverables	3	6	9	12	15	18 2	21 2	4 27	30	33	36	+3	+6	+9	+12					
WP1.4 D2											x		x				30.03.2022	28.02.2023	GFZ	Study on transient and local GIA response and impact on viscoelastic sea - level fingerprints
WP1.4 D3							x		х	x	x	x					30.09.2021	30.11.2022	GFZ, PIK	Study on the impact of relative sea-level on sub-shelf melt rates in Antarctica
WP1.4 D4							x		x		x						30.09.2021	30.09.2022	GEOMAR	diffusion parameterisation yielding paramerisation suggestions for WP1.1 - 1.3
WP1.4 D5									Т	Г	х		x		Г		30.09.2022	28.02.2023	GFZ, PIK, GEOMAR	Study on ocean - ice shelf solid earth model feedbacks
WP1.4 D6											x	х					30.09.2022	30.12.2022		Study on eddy effects in the Southern ocean including uptake of heat and carbon as well as cross-frontal signal propagation

WP2.1

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	31.12.19	31.03.20	30.06.20	30.09.20	30.12.20	30.03.21	30.06.21	30.09.21	30.12.21	30.03.22	30.06.22	30.09.22	30.12.22	30.03.23	30.06.23	30.09.23				
							.,	.,	\neg			uale	.,	.,	(1)	(-)				
WP2.1: Marin	e c	art	or	1 C	/cle	9				Verl	änge	rung								
AWI		P19			1.10.			0.09.2		2	8.02.	23								
MPI		_P19			1.10.			0.09.2												
CAU		.P191			1.10.			0.09.2		3	1.03.	23								
MARUM	01L	P191	9D	0	1.12.	19	30).11.2	2											
	Year	1			Year	2		,	Year	3			Dela	ıy						
Milestone	3	6	9	12	15	18	21	24	27	30	33	36	+3	+6	+9	+12				
WP2.1 M1				x	x		x										30.09.20	30.06.21		Adjust REcoM model for simulating prognostic atmospheric CO2 concentrations, including fluxes from weathering, and volcanism.
WP2.1 M2				x	х		×										30.09.20	30.06.21	AWI	Include iron sources from marine shelves, rivers, hydrothermal activity and sea ice in REcoM
	Year	rı			Year	2	\neg		Year	3	\neg		Dela	ıy						
Deliverables	3	6	9	12	15	18	21	24	27	30	33	36	+3	+6	+9	+12				
WP2.1 D1												x	x				30.09.22	31.12.22	AWI, CAU, MPI, Mari	Transient simulations without interactive carbon cycle for Termination I
WP2.1 D2												x					30.09.22	30.09.22	AWI, MPI, Marum	Transient simulations without interactive carbon cycle for the last glacial inception
WP2.1 D3												X					30.09.22	30.09.22	AWI, Marum	Perform transient simulations without interactive carbon cycle for abrupt climate changes during MIS3
WP2.1 D4												x	x				30.09.22	31.12.22	AWI, CAU, MPI, Mari	Transient simulations with interactive carbon cycle for Termination I
									\perp	\Box										

WP2.2

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	2.1	3.2	6.2	9.5	2.2	3.2	6.2	9.5	2.2	3.2	6.2	9.5	2.2	3.2	6.2	9.5					
	31.12.19	31.03.20	30.06.20	30.09.20	30.12.20	30.03.21	30.06.21	30.09.21	30.12.21	30.03.22	30.06.22	30.09.22	30.12.22	30.03.23	30.06.23	30.09.23					
	8	3	9	3	3	3	9	3	9	3	8	9	6	6	6	6	\rightarrow				
W/D0 0-1		-1-0					- ^					utrale									
WP2.2: Land												erung									
MPI-M		P192			1.12.1			0.11.			1.07.										
PIK		P192			1.01.2			1.12.			1.10.										
Uni HH	01L	P192	20C	0	1.10.1	19	30	0.09.	22	3	0.06.	.23									
	Year	1			Year	2			Year	r 3			Dela	ay							
																					Biogeophysical and biogeochemical feedbacks between terrestrial biosphere and climate are
WP2.2 M2										x	x I							30.03.22	30.06.22	MPI	assessed
																					Quantification of carbon cycle feedbacks operating through shelf processes during glacial inception
WP2.2 M3						x	x		x				×					30.03.21	31.12.22	PIK	and deglaciation with CLIMBER-X
																					Spin-up and initialization procedures for permafrost and peat carbon pools and marine sediment
WP2.2 M4								x	x				L					30.09.21	31.12.22	DIV	state
	_	-		-	\vdash		-	^	^	\vdash	\vdash	_	X		-	\rightarrow	-				
WP2.2 M5									Х									30.09.21	30.12.21	UNI HH	Mapping of the geochemical and lithological characteristics of the continental shelves
WP2.2 M6										X								30.03.22	30.03.22	UNI HH	Manuscript about the role of shelf weathering on land-ocean biogeochemical matter fluxes
	Year	1			Year	2			Year	r 3			Dela	ay							
Deliverables	3	6	9	12	15	18	21	24	27	30	33	36	+3	+6	+9	+12					
																	\neg				Manuscript on feedbacks between terrestrial biosphere and climate for the deglaciation, glacial inception,
WP2.2 D1												X	X					30.09.22	30.12.22	MPI	and MIS3
																	\neg				Transient simulation of the last glacial cycle with CLIMBER-X driven only by orbital forcing (jointly with
WP2.2 D2												x	X					30.09.22	30.12.22	PIK	WP1.X).
WP2.2 D3												х						30.09.22	30.09.22	UNI HH	Manuscript about the role of shelf weathering on land-ocean biogeochemical matter fluxes
																	\neg				
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WP2.3

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	31.12.19	31.03.20	30.06.20	30.09.20	30.12.20	30.03.21	30.06.21	30.09.21	30.12.21	30.03.22	30.06.22	30.09.22	30.12.22	30.03.23	30.06.23	30.09.23					
	'n	'n	8	ñ	ñ	ē	8	ñ	ñ	ñ	ñ	ñ	ñ	ñ	ñ	ē	+				
WP2.3: Meth	nane	CV	cle	,							enne	utrale rung									
MPI-C	011	P192	21A	0	1.10.1	19	30	.09.2							ш	\neg	\neg				
MPI-M	011	P192	21B	0.	1.10.1	19	30	.09.2	2	3	0.04.	23				\neg	Th	omas			
	Yea	r1			Year	2	\Box		Year	3			Dela	ıy							
Milestone	3	6	9	12	15	18	21	24	27	30	33	36	+3	+6	+9	+12					
WP2.3 M2									x			x		x				30.12.21	30.04.23	MPI-M	Transient experiment MIS3 performed, publication draft
WP2.3 M3							\neg		x			X	х					30.09.22	31.12.22	MPI-M	Transient experiment glacial inception performed, publication draft
WP2.3 M5						>			x									30.06.21	30.11.21	MPI-C	Analysis of methane sink in transient simulations, publication draf
WP2.3 M6							П					х					\neg	30.09.22	30.09.22	MPI-C	Analyses of isotope and aerosol specific simulations, publication drafts
	Yea	r1			Year	2			Year	3			Dela	ıy							
Deliverables	3	6	9	12	15	18	21	24	27	30	33	36	+3	+6	+9	+12					
WP2.3 D1						>	(x				×						30.06.21	30.09.22	MPI-M	Publication on transient deglaciation experiments with methane sinks submitted
WP2.3 D2												X		x				30.09.22	30.04.23	MPI-M	Publications on methane during MIS 3 and glacial inception submitted
WP2.3 D3						>			x T									30.06.21	30.11.21	MPI-C	Publication on transient deglaciation experiments with methane sinks submitted
WP2.3 D4												X						30.09.22	30.09.22	MPI-C	Publication on isotope analyses submitted
						ГΤ	Т	Т	Т	П						Т					

WP3.1

Angenommener Projektstart 1.10.2019	31.12.19	31.03.20	30.06.20	30.09.20	30.12.20	30.03.21	30.06.21	30.09.21	30.12.21	30.03.22	30.06.22	30.09.22	30.12.22	00 00	30.03.63	30.00.23	30.12.23				
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WP3.1: Marine										nst	ruct	ions	\perp	\perp	_		_				
MARUM	01	LP19	22	01	1.10.1	9	3	0.09.	22	-	\vdash		+	no e	xten	sion	+				
	Year	4			Year	2		Т	Yea	- 2			De	lav			+				
Milestone	3	6	٥	12			21	24			33	- 3	6 +3			+1	2				
WP3.1 M2	J		,	12.	15	10	-	2.4	-	x	33		770	Ť	+	1		30.03.22	30.03.22	Marum	Updated marine proxy synthesis that includes temperature reconstructions without benthic 6 ¹⁸ O chronology
WP3.1 M4											х			$^{+}$	\top	\top		30.06.22	30.06.22	Marum	Finalise synthesis of planktonic foraminifera abundance time series
WP3.1 M5												х		$^{+}$	\top	\top		30.09.22			Optimal calibration of planktonic foraminifera transfer function models
WP3.1 M9												х		Т	Т			30.09.22	30.09.22	Marum	Successful implementation of 4d-(time, space) visualization of proxy data within PaleoDataView
	Year	1			Year	2			Yea	r 3			De	lay	Т						
Deliverables	3	6	9	12	15	18	21	24	27	30	33	3	6 +3	+6	+9	+1	2				
WP3.1 D2										х				Т	Т			30.03.22	30.03.22	Marum	Extended marine paleoclimate data synthesis
WP3.1 D4											х			Т	Т			30.06.22	30.06.22	Marum	Global synthesis of planktonic foraminifera abundance time series spanning 130,000 years
WP3.1 D5												х		Т				30.09.22	30.09.22	Marum	Revised temperature reconstructions based on planktonic foraminifera assemblages
WP3.1 D6								х						Т	Т			30.09.21	30.09.21	Marum	Updated version of PaleoDataView including DTW functionality
WP3.1 D8												Х		Т				30.09.22	30.09.22	Marum	Updated version of PaleoDataView including DIVA interface and visualization tools
														Т			Τ				
														1	1			30.03.22	30.03.22	mai ani	Operators account on a microwater seem microwing, on a 4 IllifeTrack, and Associated from India

WP3.2

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		T	T	\top	\top	T	\top	\top	т	П			Ĺ		Т					
	13	3.20	8	8	2 2	12.	12	12	18	12	22	22	3.23	3.23	33	23				
1	31.12.19	31.03.	30.06.20	30.09.20	30.03.21	0.0	30.09.21	30.12.21	0.0	30.06.22	30.09.22	30.12.22	30.03.23	30.06.23	30.09.23	30.12.23				
	- (.)	(-)	.,	"	7 6	100	107	10	100	107	(-)	(-)	(-)	(.)		(.,			-	
WP3.2: Terres	strial	and	ice	she	et pr	oxv.	-dat	a		_										
syntheses ar																				
GFZ	01L	P192	3A	01.1	0.19		30.09			30.0	6.23				П					
MUN		P192			0.09		30.09													
AWI-P	_	P192	3B	_	1.20	1	31.12	_		_			_	_	-	\vdash			_	
	Year	1	_	Y	ear2	\perp	\perp	Yea		ш		Del		┖	L				_	
Milestone	3	6	9	12	15 1	8 2	1 24	1 27	7 30	33	30	+3	+6	+9	+12	2				
WP3.2 M1			X	1		x	\perp		×						┖		30.09.20	30.03.22	GFZ	Synchronization of lacustrine and marine data-bases
WP3.2 M3			\perp	\perp		\perp	\perp	\perp	X								30.03.22	30.03.22	GFZ	Improved proxy-system models for key climate proxies including varve thickness data
WP3.2 M4											x	x					30.09.22	30.12.22	AWI	Synthesis of terrestrial palaeoclimate reconstructions by carbonate and silica oxygen isotopes, focusing on lake sediment cores with a regional focus on the Arctic
WP3.2 M6									X	Х							30.03.22	30.06.22	AWI	Vegetation dynamics analysed including model-proxy comparison
WP3.2 M7			\perp	\perp							Х	Х					30.09.22	30.12.22	AWI	Drivers of vegetation dynamics investigated
WP3.2 M8			\perp	\perp		\perp	\perp	\perp	X						┖		30.03.22	30.03.22	MUN	Revised calibrated distribution of last glacial cycle ice sheet chronologies and associated 1D regional Earth models
WP3.2 M9										Х							30.06.22	30.06.22	MUN	Inclusion of some of the major last glacial cycle ice caps
WP3.2 M10											X						30.09.22	30.09.22	MUN	Global ice sheet calibration for Termination II
	Year	1		Y	ear2			Yea	ar 3			Del								
Deliverables	3	6	9	12	15 1	8 2	1 24	1 27	7 30	33	30	+3	+6	+9	+12	2				
WP3.2 D2				\perp		\perp	\perp	\perp	Х						╙		30.03.22	30.03.22		Update of the PALIM data-base to integrate chronological links to the marine data-base
WP3.2 D3			\perp	\perp		\perp	\perp	\perp	\perp	ш	X						30.09.22	30.09.22		Update of the PALIM data-base to integrate interpretations from proxy system models for key proxy records
WP3.2 D4				_							X	X					30.09.22	30.12.22		cores
WP3.2 D5											X	X					30.09.22	30.12.22	AWI	Pollen-based biome and climate reconstruction globally available for 130 – 0 ka
WP3.2 D6											X						30.09.22	30.09.22	MUN	Global ice sheet calibration of Termination II and I

WP3.3

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													regui Projek							
	31.12.19	31.03.20	30.06.20	30.09.20	30.12.20	30.03.21	30.06.21	30.12.21	30.03.22	30.06.22	30.09.22	30.12.22	30.03.23	30.06.23	30.09.23	30.12.23				
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AWI		P192		01.0			31.2		+	31.0	03.23	+			\vdash		x. Shi			
	Year	_	_		ear2	\top	T	_	ar 3	T		Dela	av							
Milestone	3	6	9	12	15	18 2	21 2		7 30	33	3	6 +3	+6	+9	+12					
WP3.3 M2								x	X								30.12.21	30.03.22	Marum, AWI-B	Transient simulations of the Holocene and last glacial inception set up and ready to run
WP3.3 M5					Т						x	х					30.09.22	30.12.22	AWI	finished
	Year	1	\top	Y	ear2	\top	\top	Ye	ar 3	T		Dela	ay							
Deliverables	3	6	9	12	15	18 2	21 2	24 2	7 30	33	3	6 +3	+6	+9	+12					
WP3.3 D3			T		Т			х		х							30.12.21	30.06.22	Marum, AWI-B	Transient simulations including water isotopes for last glacial inception
WP3.3 D6											x	x					30.09.22	30.12.22	AWI-P	Publication describing the results for MIS3 and the full glacial cycle

CC1

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	19	20	20	20	8	5	12	5	=	22	8	22	22	23	23	8				
	31.12.19	31.03.	30.06.20	30.09.20	30.12.20	30.03.21	30.06.21	30.09.21	30.12.21	30.03.22	30.06.22	30.09.22	30.12.22	30.03.23	30.06.23	30.09.23				
	(-)	.,	(-)	(-)	(.,	107	(7)	107	1 (7	(-)	(7)	(-)	.,	.,	(-)	(-)				
CC1 - Model	Со	upli	ng	and	rui	ntim	ne o	ptin	niza	tion	1									
DKRZ		P19			1.11.			1.10.			1.12.2	22				\neg				
CAU	011	P19	25B	0	1.10.	19	3	0.09.	22	3	1.12.2	22				\neg				
MPI	01L	P192	25C		1.10.			0.09.			1.07.2									
PIK	01L	P192	25D	0	1.10.	19	3	0.09.	22	3	1.10.2	23								
	Year	1			Yea	r2			Yea	r 3										
Milestone	3	6	9	12	15	18	21	24	27	30	33	36	+3	+6	+9	+12				
CC1 M3											x		x				30.06.22	31.12.22	DKRZ	Second proof of concept for achievable model integration rate of fully coupled ESMs in PalMod setting with target for PalMod phase III
CC1 M6								х		х			х				30.09.21	31.12.22	CAU	Asymptotic method realized and evaluated; Software, documentation of convergence and efficiency results
CC1 M7									Х	x			x				30.12.21	31.12.22	CAU	Micro-macro parareal version running for ocean component, documentation of convergence and efficiency results
CC1 M8												Х	х				30.09.22	31.12.22	CAU	Parareal version with biogeochemistry coupled; Software, documentation of convergence and efficiency results
CC1 M9												х	x				30.09.22	31.12.22	CAU	Report of possible and promising extensions of parareal methods towards to additional model components and full ESM configurations
CC1 M10								x		x			x				30.09.21	31.12.22	MPI	Dynamic lake model successfully integrated into the MPI-ESM1 PallMod setup and coupled to the atmosphere
								П												
Deliverables																\neg				
CC1 D5												х			x		30.09.22	31.07.23	MPI	Study on the role of land-sea carbon and nutrient transfer related to changes in sea level for CO ₂ variations on glacial timescales
CC1 D7												х				x	30.09.22	31.10.23	PIK	Study on simulating the last glacial cycle with PISM using the PICO "pop-up" model

CC2 D7 x 30.09.22 31.12.22 HZG phase II CC2 D9 x x x 30.09.21 30.04.23 Unit Bonn Plugin for Bayesian framework of spatio-temporal evaluations documented and ready for integration in toolbox	CC2																				
CC2 - Data Management & Model-Data Comparison CC3 - Data Management & Model-Data Comparison CC4 - Data Management & Model-Data Comparison CC5 - Data Management & Model-Data Comparison CC5 - Data Management & Model-Data Comparison CC6 - Data Management & Model-Data Comparison CC7 - Data Management & Model-Data Comparison CC7 - Data Management & Model-Data Management & Model Comparison CC8 - Data Management & Model-Data Management & Model Comparison CC8 - Data Management & Model-Data Comparison CC9 - Data Management & Model-Data Comparison CC9 - Data Management & Model-Data Management & Model Comparison CC9 - Data Management & Model-Data Comparison CC9 - Data Management & Model-Data Comparison CC9 - Data Management & Model-Data Comparison of Logical Simulation ensemble from Pallod phase II simulation simulation simulation simulation ensemble graph patterns and paleodata syntheses In management and pracedata Syntheses In management of Logical Simulation ensemble from Pallod phase II simulation ensemble from Pallod phase II paleodata Internation of Logical Simulation ensemble fro		31.12.19	31.03.20	30.06.20	30.09.20	30.12.20	30.03.21	30.06.21	30.09.21	30.12.21	30.03.22	30.06.22	30.12.22	30.03.23	30.06.23	30.09.23					
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HZG	CC2 - Data	Maii	aye	IIIei	IL OX	INIO	uei-	Date	a CC	niipa	anst)II	-			-	-				
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CC2 M3 CC2 M3 CC2 M3 CC2 M3 CC2 M3 CC2 M7 CC3 M3 CC2 M7 CC3 M3 CC2 M7 CC3 M3 CC3 M7 CC4 M5 CC2 M7 CC4 M5 CC5 M6 CC5 M7 CC5 M6 CC6 M7 CC6 M7 CC6 M7 CC6 M7 CC6 M7 CC7 M7 CC8 M8 CC7 M7 CC8 M8 CC8 M8 CC8 M9 CC8 M9 CC9 M9	Milestone										Т	\top					\neg				
CC2 M3												х		x				30.09.22	28.02.23	DKRZ	
CC2 M8	CC2 M3											×		x				30.09.22	28.02.23	DKRZ	
CC2 M9 CC2 M9 CC2 M9 CC2 M11 CC2 M12 CC2 M12 CC2 M15 CC2 M15 CC2 M16 CC2 M18 CC2 M17 CC2 M18 CC2 M18 CC2 M18 CC2 M19 CC2 M10 C	CC2 M7										Т		х				\neg	30.09.22	31.12.22	HZG	Standardization of paleo data finished (documentation contained in DMP)
CC2 M11	CC2 M8												x					30.09.22	31.12.22	HZG	
CC2 M12 CC2 M12 CC2 M15 CC2 M16 CC2 M17 CC2 M18 CC3 M17 CC3 M18 CC3 M17 CC3 M18 CC3 M1	CC2 M9												х					30.09.22	31.12.22	HZG	
CC2 M12	CC2 M11								х			×						30.09.21	30.10.22	U Bonn	fossils available
CC2 M18												х				x					
WS CC2 -3 Deliverables CC2 D3 CC2 D6 X X X X SO.09.22 SR.02.23 DKRZ, HZG, UHD DELIVERABLES CC2 D5 CC2 D6 X X X SO.09.22 SR.02.23 DKRZ, HZG Final release of DMP Documentation of ensemble model-data comparison for PalMod phase II simulations and paleodata syntheses in cooperation with WGs 1-3 CC2 D7 CC2 D7 CC2 D7 CC2 D7 CC2 D8 X X X SO.09.22 SR.02.23 DKRZ, HZG Final release of DMP Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data metadata table Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data metadata table Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data metadata table Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data metadata table Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data metadata table Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data metadata table Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data metadata table Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data metadata table Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data metadata table Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data comparison of deglacial simulation ensemble from PalMod phase II paleo-data comparison of deglacial simulation ensemble from PalMod p	CC2 M15									>	(х				30.03.22	30.05.23	UHD, Uni Bonn	Final plugins from SP2/SP3 integrated in the toolbox
No.	CC2 M18						x			×								30.03.21	30.03.22	GEOMAR	Volcanic forcing data files constructed and tested
No.								\Box		T				П	T						
CC2 D3 X X 30.09.22 28.02.23 DKRZ, HZG Final release of DMP CC2 D6 X X 30.09.22 31.12.22 HZG Final PalMod phase II paleo-data metadata table CC2 D7 X 30.09.22 31.12.22 HZG Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod phase II CC2 D9 X X X X 30.09.22 31.08.23 Uni Bonn Documentation of Bayesian model-data comparison of deglacial simulation ensemble from PalMod phase II Plugin for Bayesian framework of spatio-temporal evaluations documented and ready for integration in toobox CC2 D10 X X X 30.09.22 31.08.23 Uni Bonn Documentation of Bayesian model-data comparison of deglacial simulation ensemble from PalMod phase 2 Plugin for Bayesian model-data comparison of deglacial simulation ensemble from PalMod phase 2 Phase 2 Release of V1 of the toobox and presentation of the results for all publicly released PalMod	WS CC2 -3									,	x	x						30.03.22	31.10.22	DKRZ, HZG, UHD	
CC2 D3 X X 30.09.22 28.02.23 DKRZ, HZG Final release of DMP CC2 D6 X X 30.09.22 31.12.22 HZG Final PalMod phase II paleo-data metadata table CC2 D7 X 30.09.22 31.12.22 HZG Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod phase II CC2 D9 X X X X 30.09.22 31.08.23 Uni Bonn Documentation of Bayesian model-data comparison of deglacial simulation ensemble from PalMod phase II Plugin for Bayesian framework of spatio-temporal evaluations documented and ready for integration in toobox CC2 D10 X X X 30.09.22 31.08.23 Uni Bonn Documentation of Bayesian model-data comparison of deglacial simulation ensemble from PalMod phase 2 Plugin for Bayesian model-data comparison of deglacial simulation ensemble from PalMod phase 2 Phase 2 Release of V1 of the toobox and presentation of the results for all publicly released PalMod																					
CC2 D6 CC2 D7 CC2 D8 X X X X X X X X X X X X X	Deliverables																				
CC2 D7 X X X X X X X X X X X X X	CC2 D3		Г									х	x					30.09.22	28.02.23	DKRZ, HZG	Final release of DMP
CC2 D7 X X X X X X X X X X X X X	CC2 D6												x					30.09.22	31.12.22	HZG	Final PalMod phase II paleo-data metadata table
CC2 D7 X 30.09.22 31.12.22 HZG phase II Plugin for Bayesian framework of spatio-temporal evaluations documented and ready for integration in toolbox X X X 30.09.22 31.08.23 Uni Bonn Documentation of Bayesian model-data comparison of deglacial simulation ensemble from PalMod phase 2 Release of v1 of the toolbox and presentation of the results for all publicly released PalMod																	\vdash				Documentation of ensemble model-data comparison of deglacial simulation ensemble from PalMod
CC2 D9 X X x 30.09.21 30.04.23 Uni Bonn integration in toolbox CC2 D10 X X x 30.09.22 31.08.23 Uni Bonn Dcumentation of Bayesian model-data comparison of deglacial simulation ensemble from PalMod phase 2 Release of v1 of the toolbox and presentation of the results for all publicly released PalMod	CC2 D7			L									x					30.09.22	31.12.22	HZG	
CC2 D10 X X 30.09.22 31.08.23 Unil Bonn phase 2 Release of v1 of the toolbox and presentation of the results for all publicly released PalMod	CC2 D9								x			x		x				30.09.21	30.04.23	Uni Bonn	
	CC2 D10											х				x		30.09.22	31.08.23	Uni Bonn	Documentation of Bayesian model-data comparison of deglacial simulation ensemble from PalMod phase 2
	CC2 D12											х	x					30.09.22	31.12.22	UHD, Uni Bonn, HZG	