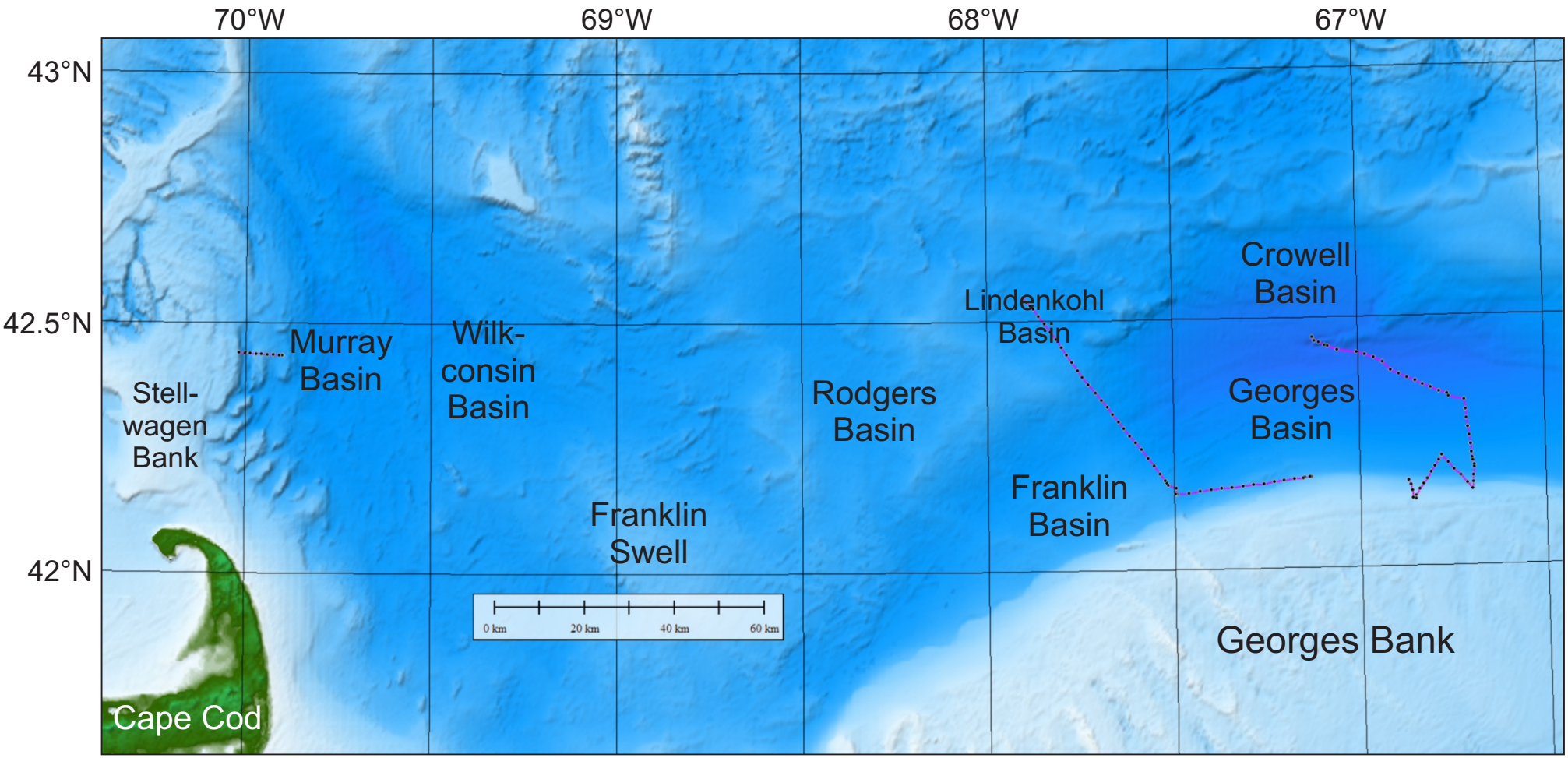
Appendix 6: 95EDWIN_LINK

Contents

1. Track plot of expedition 95EDWIN_LINK in the Gulf of Maine
2. Expedition notes
3. Original navigation
4. GSCA formatted navigation
5. Seismic data inventory
6. Seismic profiles
7. Seismic profile detailed location maps showing start and end times

95EDWIN_LINK

Seismic profiles in the Gulf of Maine



EL-95 - University of Maine Gulf of Maine Cruise 1995

Daniel F. Belknap and Detmar Schnitker , Co-PI's – NURP Grant
National Undersea Research Program, Avery Point, CT

In Situ Sampling of Iceberg Scours and
Outcropping Glaciomarine Sediments in the Gulf of Maine

(compiled and corrected by DFB Oct. 2021 from logs and data rolls)

R/V EDWIN LINK – Harbor Branch ; submersible ***Johnson Sea Link I***
Depart: Gloucester, MA, 7/23/94, return 07/28/94

Captain:	Vince Seiler	Harbor Branch Foundation
Scientists:	Daniel Belknap	UM – PI
	Ralph Stea	Nova Scotia Dept. Natural Resources
	Tania Bacchus	Asst. Prof. Johnson State College, VT
	Robert Genter	Asst. Prof. Johnson State College, VT
	Gregory Balco	UM – MS Candidate
	Gregory Miller	UM – MS Candidate
	J. B. Pelletier	UM – MS Candidate
	Dawn Meisenheimer	UM - technician
	Bonnie Rand	UM – undergraduate student
	Ellen Tobey	UM – undergraduate student

TIME: Eastern Daylight GPS Latitude, Longitude
JSL: *Johnson Sea Link I* Cumulative Dive Number
NOTE: Submersible dives require several hours of surface battery charging, sometimes used for seismic survey or distant transets.

July 02, 1995 - Depart Gloucester, MA, @ 17:00 EDT for SE Gulf of Maine

July 03, 1995 – Georges Basin, "Georges Tower"
(Dive based on existing seismic from 1990)
JSL 3888 NURP-95-01 DIVE 01 – bedrock, till, and glaciomarine outcrops

0750	Start Dive 01	42° 26.510'N	67° 05.680'W
1107	End Dive 01	42° 26.367'N	67° 05.354'W

1145	Start **Geopulse EL-95-00**	42° 26.403'N	67° 05.679'W
1226	End **Geopulse EL-95-00**	42° 24.228'N	67° 05.665'W
	no good data recovered		

(Dive based on existing seismic from 1990)

JSL 3889 NURP-95-01 DIVE 02 – bedrock, till, and glaciomarine outcrops

1429	Start Dive 02	42° 27.120'N	67° 06.780'W
1733	End Dive 02	42° 26.712'N	67° 05.920'W
1900	Start **Geopulse EL-95-01**	42° 27.582'N	67° 07.357'W
2330	End **Geopulse EL-95-01**	42° 19.760'N	66° 43.006'W

July 04, 1995 – Georges Basin to Georges Bank

0215	End **Geopulse EL-95-02 /**	42° 09.061'N	66° 41.958'W
	Start **Geopulse EL-95-03**	Georges Bank N. Margin	
0331	End **Geopulse EL-95-03 /**	42° 13.189'N	66° 46.820'W
	Start **Geopulse EL-95-04**	Georges Bank N. Margin	
0522	End **Geopulse EL-95-04 /**	42° 13.189'N	66° 46.820'W
	Start **Geopulse EL-95-05**	Georges Bank N. Margin	
0615	End **Geopulse EL-95-05**	42° 09.061'N	66° 41.958'W

JSL 3890 NURP-95-01 DIVE 03 – Georges Bank N. Margin sandwave field, NNW - SSE

0802	Start Dive 03	42° 10.659'N	66° 57.562'W
1004	End Dive 03	42° 10.659'N	66° 57.562'W

JSL 3891 NURP-95-01 DIVE 04 – Georges Bank N. Margin sandwave field, NNW - SSE

1456	Start Dive 04	42° 11.100'N	67° 07.234'W
1746	End Dive 04	42° 10.573'N	67° 06.957'W
	Georges Bank N. Margin E - W		
2012	Start **Geopulse EL-95-06**	42° 10.841'N	67° 07.879'W
2332	End **Geopulse EL-95-06 /**	42° 13.189'N	66° 46.820'W
	Start **Geopulse EL-95-07**		

July 05, 1995 – Georges Basin to Lindenkohl Basin SE - NW

0610	End **Geopulse EL-95-07**	42° 32.817'N	66° 54.017'W

JSL 3892 NURP-95-01 DIVE 05 – Lindenkohl Basin bedrock pinnacle and basin – roaming search

0758	Start Dive 05	42° 31.860'N	67° 52.920'W
1059	End Dive 05	42° 31.899'N	67° 52.851'W

JSL 3893	NURP-95-01 DIVE 06 – Lindenkohl Basin, Wright Swell, generally NW - SE		
1536	Start Dive 06	42° 31.950’N	67° 52.880’W
1826	End Dive 06	42° 31.673’N	67° 52.728’W

July 06, 1995 – Wildcat Knoll, off Stellwagen Bank

0513	Start **Geopulse EL-95-08**	42° 26.105'N	69° 53.965'W
0630	End **Geopulse EL-95-08**	42° 26.391'N	70° 01.094'W

JSL 3894	NURP-95-01 DIVE 07 – Wildcat Knoll outcropping glaciomarine, WSW - ENE		
0814	Start Dive 07	42° 26.382’N	69° 59.276’W
1104	End Dive 07	42° 26.598’N	69° 58.429’W

JSL 3895	NURP-95-01 DIVE 08 – Wildcat Knoll outcropping glaciomarine, terrace geomorphology, WSW - ENE		
1430	Start Dive 08	42° 24.498’N	69° 59.642’W
1713	End Dive 08	42° 24.766’N	69° 58.547’W

Steam to Gloucester, MA, arrive @ 2130, overnight on ship

July 07, 1995

0600 – 0900 Unload in Gloucester, MA, return to Walpole, ME

	NAVIGATION LOG - 1995								
Daniel F. Belknap								**NURP - National Undersea Research Program**	
University of Maine								**UConn, Avery Point, CT**	**NURP-UCAP**
R/V Edwin Link* and submersible *Clelia									
Harbor Branch Foundation								**Central and Southern Gulf of Maine**	
ORE Geopulse lines (Sidescan sonar and submersible dives listed elsewhere)									
								compiled and corrected, D.F. Belknap, 2021	
								C = Ship's Course over ground	
								SOL = Start of Line; EOL = End of Line; C/C = Course Change	
DATE	**TIME:**	**LATITUDE**			**LONGITUDE**			**DEPTH**	**NOTES**
	EDT		**GPS**			**GPS**		**M**	
07/03/95	1145	42°	26.403	'N	67°	5.679	'W		Problems with ORE-Geopulse, no good data
	1200	42°	25.695	'N	67°	5.661	'W	349	
	1215	42°	24.883	'N	67°	5.614	'W	352	
	1226	42°	24.228	'N	67°	5.665	'W	353	End problem line
									Diving operations
	1908	42°	27.582	'N	67°	7.357	'W	347	SOL EL-95-01, Georges Basin
	1915	42°	27.189	'N	67°	6.978	'W	327	
	1925	42°	26.988	'N	67°	6.299	'W	328	
	1930	42°	26.590	'N	67°	5.300	'W	351	
	1945	42°	26.501	'N	67°	4.848	'W	357	
	2000	42°	26.022	'N	67°	3.289	'W	353	
	2015	42°	25.665	'N	67°	0.161	'W	350	
	2030	42°	25.433	'N	66°	58.828	'W	349	
	2045	42°	25.000	'N	66°	57.455	'W	350	
	2100	42°	24.466	'N	66°	56.075	'W	344	
	2115	42°	23.503	'N	66°	54.733	'W	338	
	2130	42°	23.040	'N	66°	53.447	'W	333	
	2145	42°	22.559	'N	66°	52.164	'W	328	
	2200	42°	22.131	'N	66°	50.859	'W	324	
	2215	42°	21.701	'N	66°	49.589	'W	318	
	2230	42°	21.283	'N	66°	48.283	'W	313	
	2245	42°	20.860	'N	66°	46.960	'W	307	
	2300	42°	20.496	'N	66°	45.686	'W	302	
	2315	42°	20.159	'N	66°	45.422	'W	296	
	2330	42°	19.760	'N	66°	43.006	'W	291	EOL EL-95-01, SOL EL-95-02
	2345	42°	18.653	'N	66°	42.784	'W	281	Georges Basin
07/04/95	0000	42°	17.573	'N	66°	42.681	'W	272	
	0015	42°	16.500	'N	66°	42.470	'W	267	
	0030	42°	15.485	'N	66°	42.237	'W	251	
	0045	42°	14.430	'N	66°	42.084	'W	238	
	0100	42°	13.463	'N	66°	41.990	'W	221	
	0110	42°	12.801	'N	66°	41.907	'W	215	C/C 160° to avoid fishing vessel
	0115	42°	12.475	'N	66°	41.793	'W	212	
	0125	42°	11.890	'N	66°	41.524	'W	206	C/C 185° return to base course
	0130	42°	11.612	'N	66°	41.556	'W	205	

	0145	42°	10.692	'N	66°	41.687	'W	188	
	0200	42°	9.838	'N	66°	41.737	'W	154	
	0214.75	42°	9.061	'N	66°	41.958	'W		EOL EL-95-02, SOL EL-95-03
	0230	42°	9.748	'N	66°	42.791	'W	142	Georges Bank margin
	0245.83	42°	10.668	'N	66°	43.840	'W	184	
	0300	42°	11.455	'N	66°	44.805	'W	202	
	0315	42°	12.260	'N	66°	45.788	'W	208	
	0330	42°	13.110	'N	66°	46.758	'W	219	Georges Bank flank
	0331	42°	13.189	'N	66°	46.820	'W	220	EOL EL-95-03, SOL EL-95-04
	0345	42°	12.590	'N	66°	47.307	'W	211	
	0400	42°	11.859	'N	66°	47.933	'W	20	
	0415	42°	11.156	'N	66°	48.576	'W	194	
	0430	42°	10.400	'N	66°	49.206	'W	162	
	0445	42°	9.783	'N	66°	49.790	'W	132	
	0500	42°	9.157	'N	66°	50.391	'W	102	
	0515	42°	8.383	'N	66°	51.030	'W	81	
	0522.33	42°	8.000	'N	66°	51.071	'W	71	EOL EL-95-04, SOL EL-95-05
	0530	42°	8.104	'N	66°	51.538	'W	72	Georges Bank rim
	0545	42°	8.965	'N	66°	51.616	'W	97	
	0600	42°	9.675	'N	66°	51.858	'W	119	
	0615	42°	10.223	'N	66°	52.179	'W	135	EOL EL-95-05 Georges Bank margin
									Diving operations
	2011.75	42°	10.841	'N	67°	7.879	'W	151	SOL EL-96-06 Georges Bank margin
	2015	42°	10.871	'N	67°	8.076	'W	153	Generally E - W parallel to bank margin
	2027	42°	10.757	'N	67°	8.963	'W	153	Geopulse off line 2020 - 2026
	2030	42°	10.718	'N	67°	9.207	'W	154	
	2045	42°	10.628	'N	67°	10.667	'W	159	
	2100	42°	10.520	'N	67°	12.262	'W	164	
	2115	42°	10.360	'N	67°	13.872	'W	165	
	2130	42°	10.133	'N	67°	15.558	'W	167	
	2145	42°	10.021	'N	67°	17.229	'W	166	
	2200	42°	9.841	'N	67°	18.917	'W	163	
	2215	42°	9.737	'N	67°	20.653	'W	172	
	2230	42°	9.682	'N	67°	22.345	'W	181	
	2245	42°	9.542	'N	67°	24.002	'W	184	
	2300	42°	9.360	'N	67°	25.886	'W	197	
	2315	42°	9.155	'N	67°	27.613	'W	202	
	2330	42°	9.038	'N	67°	29.525	'W	190	
	2332.47	42°	9.012	'N	67°	29.823	'W	188	EOL EL-95-06, SOL EL-95-07
	2340								lost bottom tracking
	2342.50	42°	9.736	'N	67°	29.629	'W		Georges Bank Margin NNW to Georges Basin
	2347.83	42°	10.142	'N	67°	31.011	'W		Reset catamaran, flipped by waves
	2355	42°	10.393	'N	67°	31.222	'W	194	
07/05/95	0000	42°	10.636	'N	67°	31.436	'W	197	
	0015	42°	11.533	'N	67°	32.279	'W	215	
	0030	42°	12.447	'N	67°	33.160	'W	227	

	0045	42°	13.425	'N	67°	34.137	'W	237	
	0100	42°	14.443	'N	67°	35.180	'W	237	
	0115	42°	15.293	'N	67°	36.121	'W	241	
	0130	42°	16.129	'N	67°	37.060	'W	243	
	0145	42°	16.972	'N	67°	37.989	'W	246	
	0200	42°	17.832	'N	67°	38.890	'W	238	
	0215	42°	18.715	'N	67°	39.787	'W	237	
	0230	42°	19.625	'N	67°	40.670	'W	235	
	0245	42°	20.427	'N	67°	41.548	'W	229	
	0300	42°	21.361	'N	67°	42.553	'W	220	
	0315	42°	22.337	'N	67°	43.731	'W	207	
	0330	42°	23.179	'N	67°	44.574	'W	202	
	0345	42°	24.045	'N	67°	45.377	'W	199	Bewtween Lindenkohl Knoll and Wright Swell
	4000	42°	25.045	'N	67°	46.302	'W	200	
	4015	42°	25.946	'N	67°	47.077	'W	207	
	4030	42°	26.844	'N	67°	47.887	'W	211	
	4045	42°	27.775	'N	67°	48.769	'W	219	
	0500	42°	28.732	'N	67°	49.736	'W	221	
	0515	42°	29.720	'N	67°	50.661	'W	219.5	
	0530	42°	30.620	'N	67°	51.541	'W	226	
	0545	42°	31.485	'N	67°	52.455	'W	220	
	0552	42°	31.875	'N	67°	52.921	'W	208	Location of dive 95-06, Lindenkohl Basin
	0600	42°	32.297	'N	67°	53.432	'W	222	
	0610	42°	32.817	'N	67°	54.017	'W	220	EOL EL-95-07
									Diving operations and overnight transit W
07/06/95	0513	42°	26.105	'N	69°	53.964	'W	189	SOL EL-95-08, Wildcat Knoll E - W
	0515	42°	26.094	'N	69°	54.129	'W	186	
	0520	42°	26.083	'N	69°	54.619	'W	187	
	0530	42°	26.128	'N	69°	55.545	'W	183	
	0540	42°	26.183	'N	69°	56.493	'W	168	
	0550	42°	26.237	'N	69°	57.442	'W	139	
	0600	42°	26.242	'N	69°	58.384	'W	137	
	0610	42°	26.357	'N	69°	59.322	'W	202	interpeak basin
	0617	42°	26.397	'N	70°	0.026	'W	200	
	0620	42°	26.334	'N	70°	0.164	'W	195	
	0630	42°	26.391	'N	70°	1.094	'W	111	EOL EL-95-08
	END OF SEISMIC DATA								Diving operations

Year	Day of Year	Hour	Minute	Second	Latitude	Longitude	Pen 1 down 0 up	Comment
1995	184	23	0	0	42.459700	-67.122617	1	Start Line Geopulse EL-95-01
1995	184	23	8	0	42.459700	-67.122617		
1995	184	23	15	0	42.453150	-67.116300		
1995	184	23	25	0	42.449800	-67.104983		
1995	184	23	30	0	42.443167	-67.088333		
1995	184	23	45	0	42.441683	-67.080800		
1995	185	0	0	0	42.433700	-67.054817		
1995	185	0	15	0	42.427750	-67.002683		
1995	185	0	30	0	42.423883	-66.980467		
1995	185	0	45	0	42.416667	-66.957583		
1995	185	1	0	0	42.407767	-66.934583		
1995	185	1	15	0	42.391717	-66.912217		
1995	185	1	30	0	42.384000	-66.890783		
1995	185	1	45	0	42.375983	-66.869400		
1995	185	2	0	0	42.368850	-66.847650		
1995	185	2	15	0	42.361683	-66.826483		
1995	185	2	30	0	42.354717	-66.804717		
1995	185	2	45	0	42.347667	-66.782667		
1995	185	3	0	0	42.341600	-66.761433		
1995	185	3	15	0	42.335983	-66.757033		
1995	185	3	30	0	42.329333	-66.716767		End Line Geopulse EL-95-01 Start Line Geopulse EL-95-02?
1995	185	3	45	0	42.310883	-66.713067		
1995	185	4	0	0	42.292883	-66.711350		
1995	185	4	15	0	42.275000	-66.707833		
1995	185	4	30	0	42.258083	-66.703950		
1995	185	4	45	0	42.240500	-66.701400		
1995	185	5	0	0	42.224383	-66.699833		
1995	185	5	10	0	42.213350	-66.698450		
1995	185	5	15	0	42.207917	-66.696550		
1995	185	5	25	0	42.198167	-66.692067		
1995	185	5	30	0	42.193533	-66.692600		
1995	185	5	45	0	42.178200	-66.694783		
1995	185	6	0	0	42.163967	-66.695617		
1995	185	6	15	0	42.151017	-66.699300		End Line Geopulse EL-95-02 Start Line Geopulse EL-95-03
1995	185	6	30	0	42.162467	-66.713183		
1995	185	6	45	0	42.177800	-66.730667		
1995	185	7	0	0	42.190917	-66.746750		
1995	185	7	15	0	42.204333	-66.763133		
1995	185	7	30	0	42.218500	-66.779300		
1995	185	7	31	0	42.219817	-66.780333		End Line Geopulse EL-95-03 Start Line Geopulse EL-95-04
1995	185	7	45	0	42.209833	-66.788450		
1995	185	8	0	0	42.197650	-66.798883		
1995	185	8	15	0	42.185933	-66.809600		
1995	185	8	30	0	42.173333	-66.820100		
1995	185	8	45	0	42.163050	-66.829833		
1995	185	9	0	0	42.152617	-66.839850		
1995	185	9	15	0	42.139717	-66.850500		
1995	185	9	22	0	42.133333	-66.851183		End Line Geopulse EL-95-04 Start Line Geopulse EL-95-05
1995	185	9	30	0	42.135067	-66.858967		
1995	185	9	45	0	42.149417	-66.860267		
1995	185	10	0	0	42.161250	-66.864300		
1995	185	10	15	0	42.170383	-66.869650	0	End Line Geopulse EL-95-05

1995	185	0	12	0	42.180683	-67.131317	1	Start Line Geopulse EL-95-06
1995	186	0	15	0	42.181183	-67.134600		
1995	186	0	27	0	42.179283	-67.149383		
1995	186	0	30	0	42.178633	-67.153450		
1995	186	0	45	0	42.177133	-67.177783		
1995	186	1	0	0	42.175333	-67.204367		
1995	186	1	15	0	42.172667	-67.231200		
1995	186	1	30	0	42.168883	-67.259300		
1995	186	1	45	0	42.167017	-67.287150		
1995	186	2	0	0	42.164017	-67.315283		
1995	186	2	15	0	42.162283	-67.344217		
1995	186	2	30	0	42.161367	-67.372417		
1995	186	2	45	0	42.159033	-67.400033		
1995	186	3	0	0	42.156000	-67.431433		
1995	186	3	15	0	42.152583	-67.460217		
1995	186	3	30	0	42.150633	-67.492083		
1995	186	3	32	0	42.150200	-67.497050		End Line Geopulse EL-95-06 Start Line Geopulse EL-95-07
1995	186	3	42	0	42.162267	-67.493817		
1995	186	3	47	0	42.169033	-67.516850		
1995	186	3	55	0	42.173217	-67.520367		
1995	186	4	0	0	42.177267	-67.523933		
1995	186	4	15	0	42.192217	-67.537983		
1995	186	4	30	0	42.207450	-67.552667		
1995	186	4	45	0	42.223750	-67.568950		
1995	186	5	0	0	42.240717	-67.586333		
1995	186	5	15	0	42.254883	-67.602017		
1995	186	5	30	0	42.268817	-67.617667		
1995	186	5	45	0	42.282867	-67.633150		
1995	186	6	0	0	42.297200	-67.648167		
1995	186	6	15	0	42.311917	-67.663117		
1995	186	6	30	0	42.327083	-67.677833		
1995	186	6	45	0	42.340450	-67.692467		
1995	186	7	0	0	42.356017	-67.709217		
1995	186	7	15	0	42.372283	-67.728850		
1995	186	7	30	0	42.386317	-67.742900		
1995	186	7	45	0	42.400750	-67.756283		
1995	186	8	0	0	42.417417	-67.771700		
1995	186	8	15	0	42.432433	-67.784617		
1995	186	8	30	0	42.447400	-67.798117		
1995	186	8	45	0	42.462917	-67.812817		
1995	186	9	0	0	42.478867	-67.828933		
1995	186	9	15	0	42.495333	-67.844350		
1995	186	9	30	0	42.510333	-67.859017		
1995	186	9	45	0	42.524750	-67.874250		
1995	186	9	52	0	42.531250	-67.882017		
1995	186	10	0	0	42.538283	-67.890533		
1995	186	10	10	0	42.546950	-67.900283	0	End Line Geopulse EL-95-07
1995	187	9	13	0	42.435083	-69.899400	1	Start Line Geopulse EL-95-08
1995	187	9	15	0	42.434900	-69.902150		
1995	187	9	20	0	42.434717	-69.910317		
1995	187	9	30	0	42.435467	-69.925750		
1995	187	9	40	0	42.436383	-69.941550		
1995	187	9	50	0	42.437283	-69.957367		
1995	187	10	0	0	42.437367	-69.973067		
1995	187	10	10	0	42.439283	-69.988700		
1995	187	10	17	0	42.439950	-70.000433		
1995	187	10	20	0	42.438900	-70.002733		
1995	187	10	30	0	42.439850	-70.018233	0	End Line Geopulse EL-95-08

SEISMIC DATA INVENTORY

GULF OF MAINE		***R/V Edwin Link***		**CRUISE EL-1995**	
University of Maine			*Compiled by Daniel F. Belknap, 2021*		
ROLL number	**Subroll**	**Tracklines**	**Date**	**Time (EDT)**	**Location**
ORE Geopulse - 9" Rolls			**1995**		
Roll - 01 1995		EL-95-01	07/03/95	19:00 - 23:30	Georges Basin
		EL-95-02	07/03/95	23:30 to	Georges Basin to
			07/04/95	02:15	Georges Bank
		EL-95-03	07/04/95	02:15 - 03:31	Georges Bank N. Margin
		EL-95-04	07/04/95	03:31 - 05:52	Georges Bank N. Margin
		EL-95-05	07/04/95	05:52 - 06:15	Georges Bank N. Margin
		EL-95-06	07/04/95	20:13 - 23:32	Georges Basin
		EL-95-07	07/04/95	23:32 to	Georges Basin
			07/05/95	06:15	
Roll - 02 1995		EL-95-08	07/06/95	05:13 -	Wildcat Knoll

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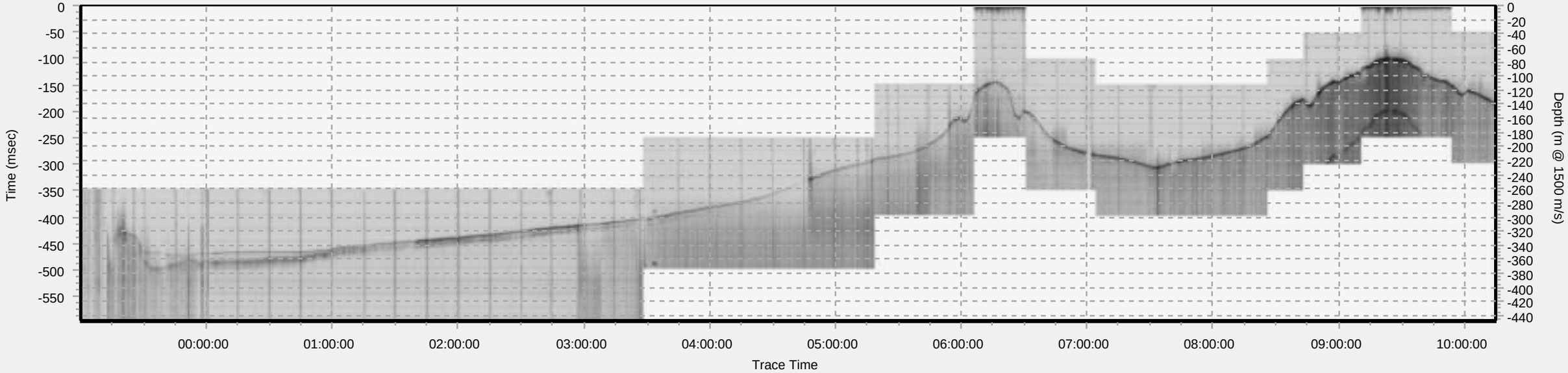

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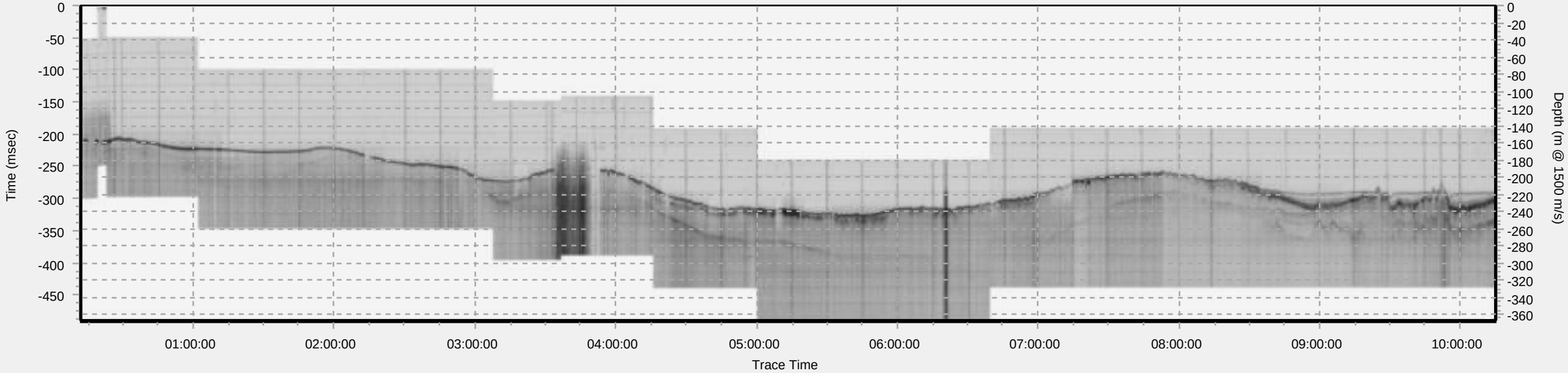

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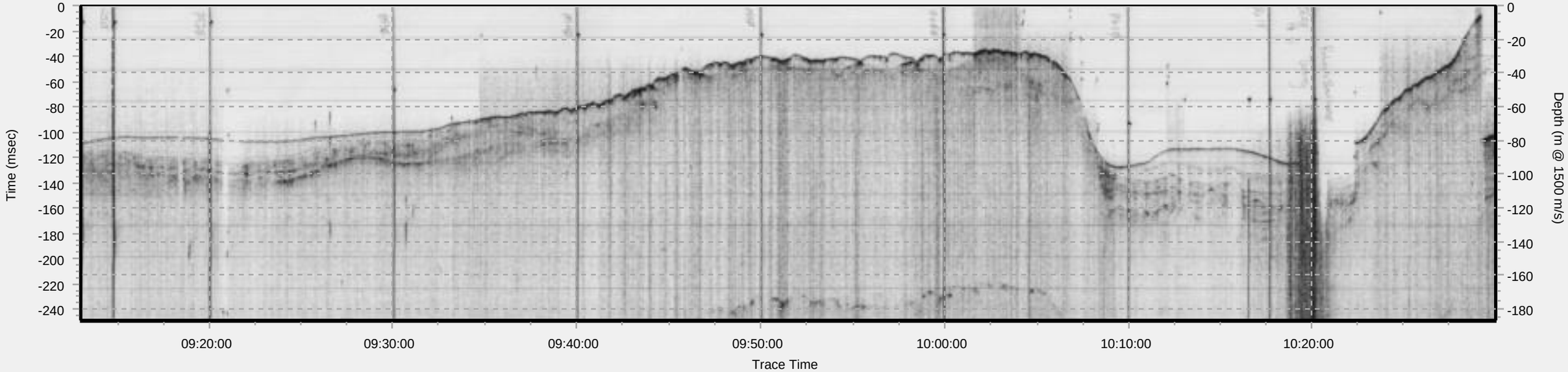

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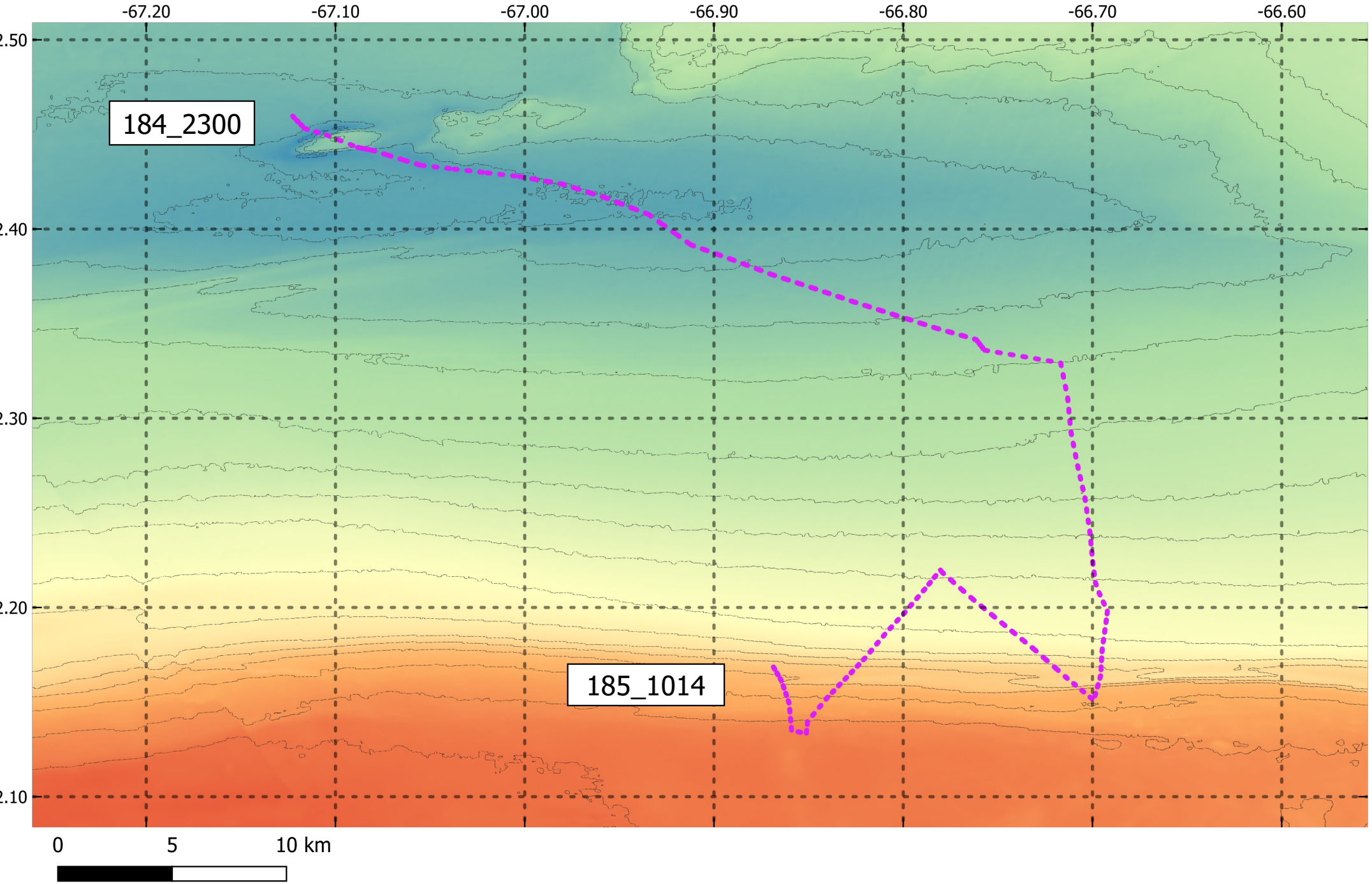

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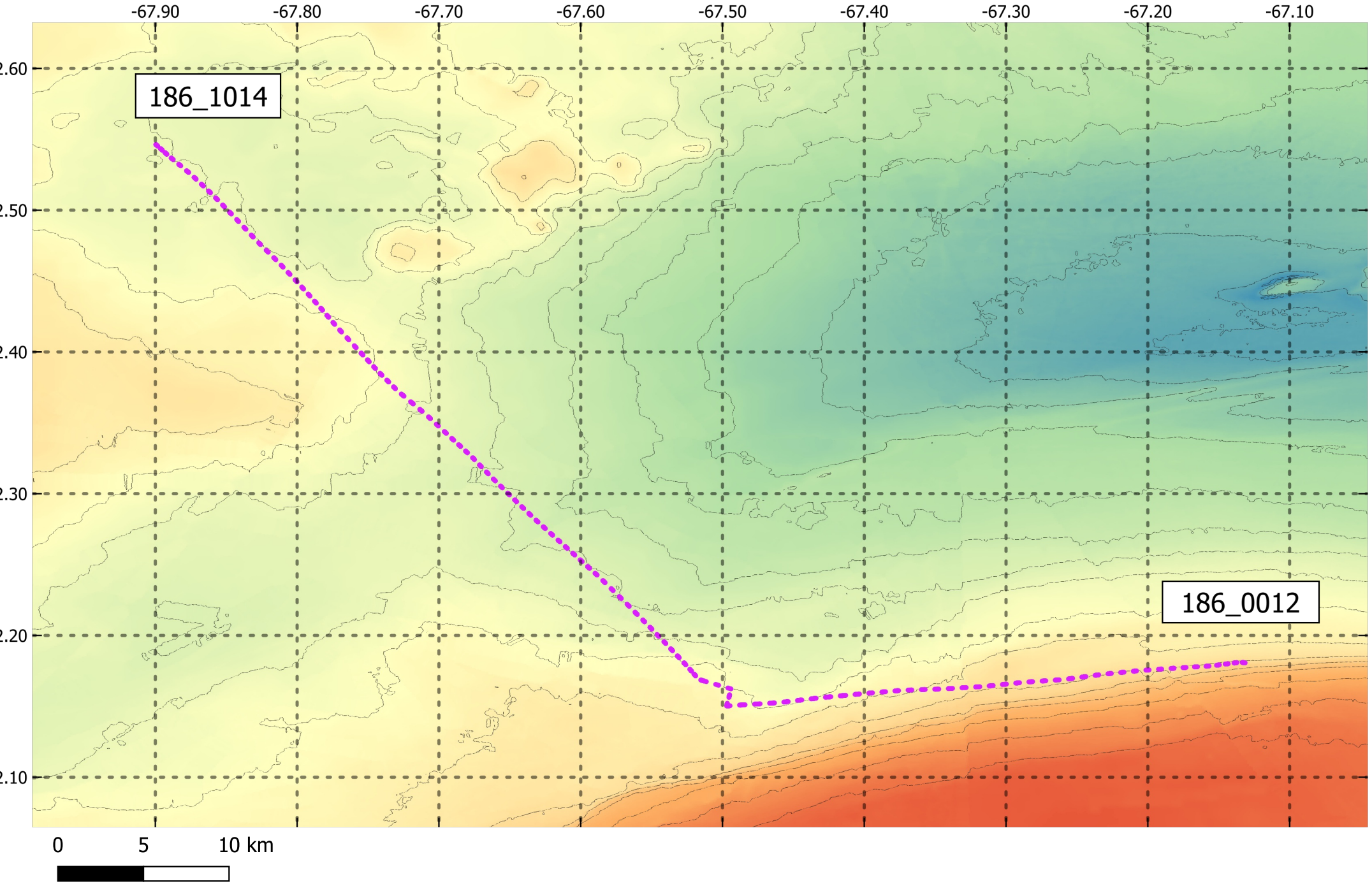
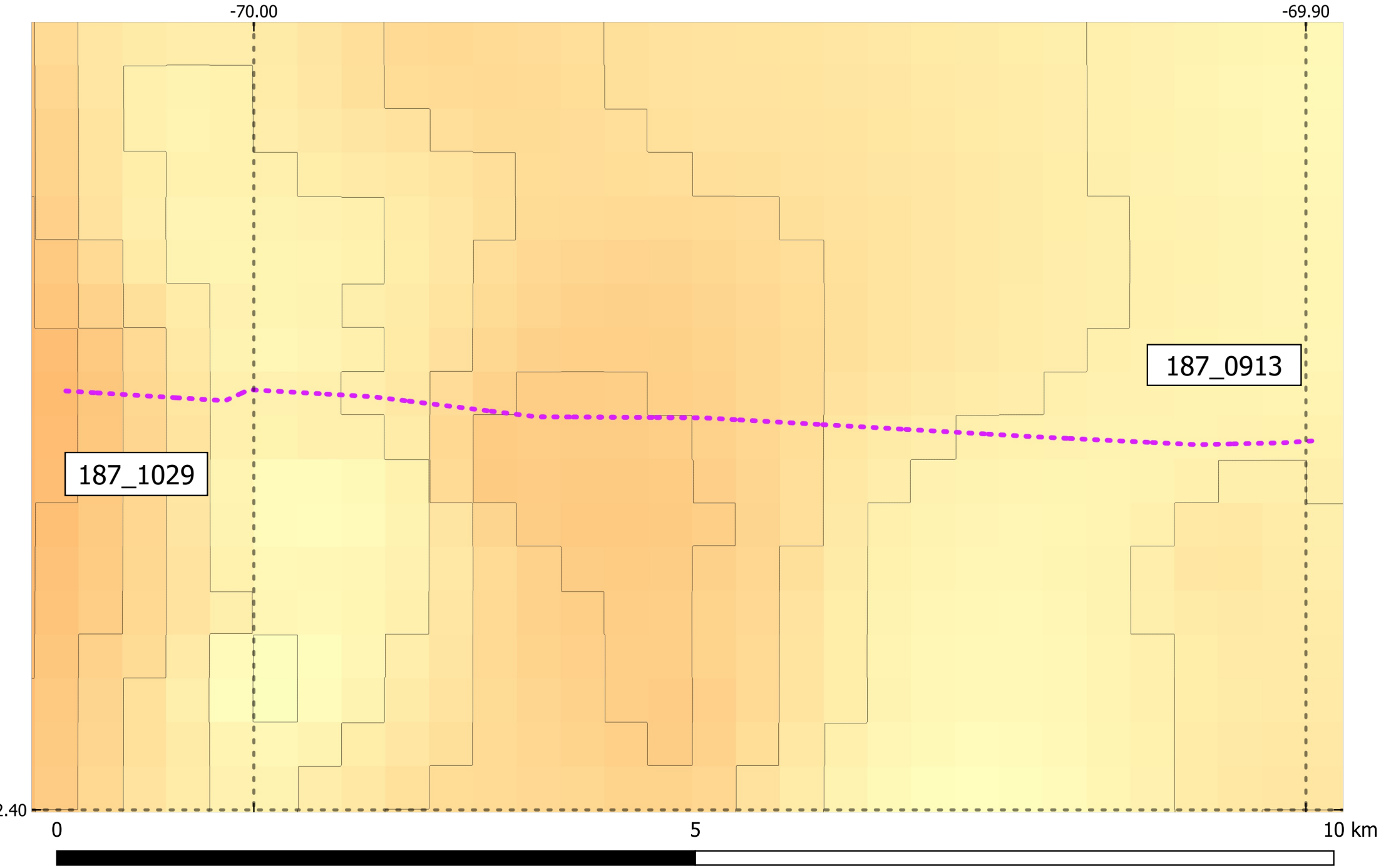
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