

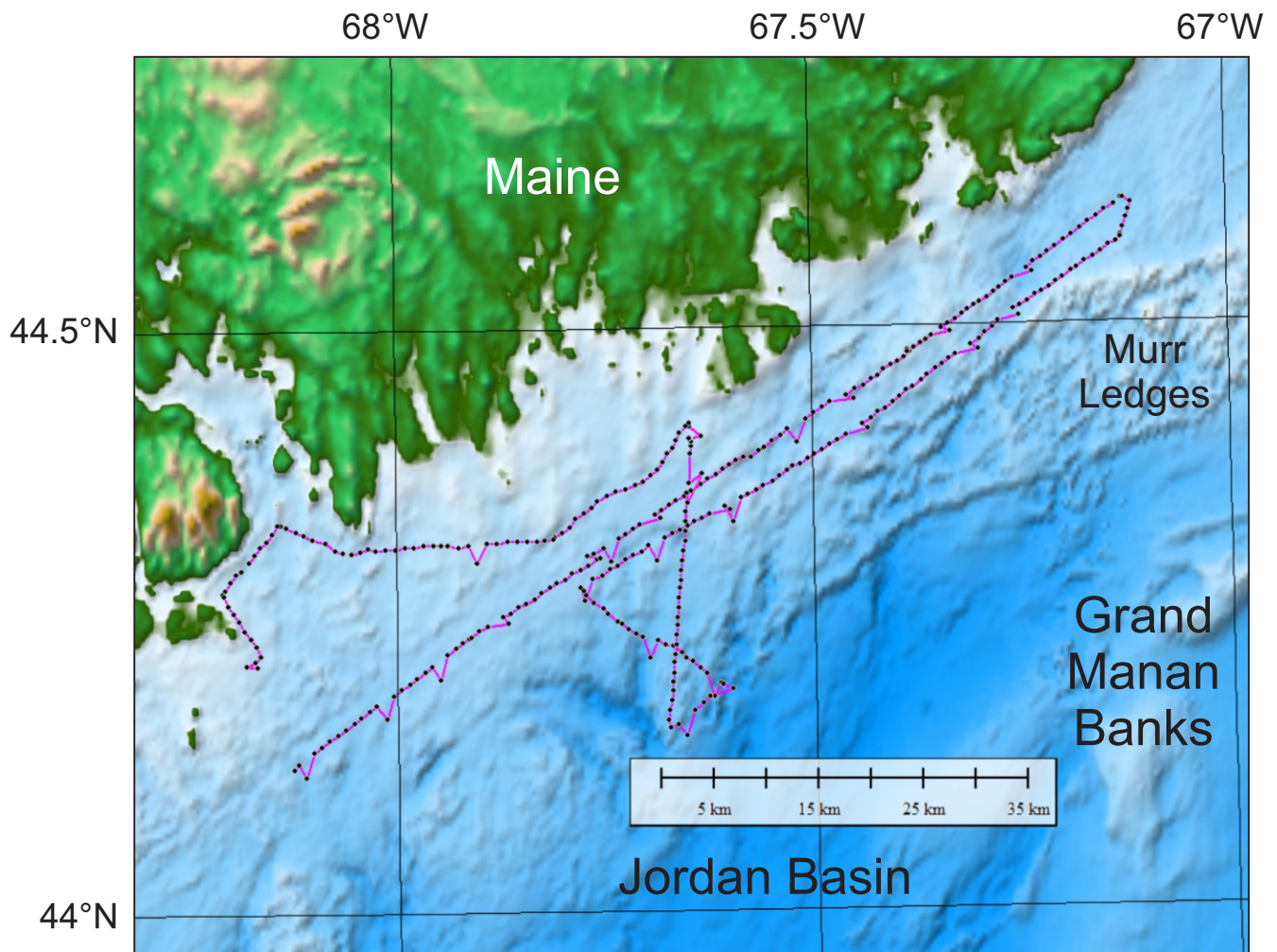
## **Appendix 2: 90ARGO**

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# 90ARGO

## Seismic profiles in the Gulf of Maine



## ARGO Maine – UM-MGS-DMR Gulf of Maine Cruise 1990

Joseph T. Kelley, Stephan M. Dickson, Daniel F. Belknap, and Bruce Joule, Co-PI's –  
US Minerals Management Service, in-kind from UM, MGS, and MDMR

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

**R/V ARGO MAINE** – Maine Maritime Academy, Castine, ME

Depart: Boothbay Harbor, ME, 6/25/90, return 06/26/90

Ship's Crew: Captain Don Bradford

*(insufficient notes)*

Scientists:	Daniel F. Belknap	Univ. Maine – co-PI
	Stephan M. Dickson	Maine Geological Survey – co-PI
	Joseph T. Kelley	Maine Geological Survey – co-PI
	Bruce Joule	Maine Dept. Marine Resources
	Richard Langton	Maine Dept. Marine Resources
	Pete Thayer	Maine Dept. Marine Resources
	Geromy King	Maine Dept. Marine Resources

Purpose of cruise: 1) geologic mapping of Maine shallow marine environment. Funded by U.S. Minerals Management Service, Maine Geological Survey, Maine DMR. ORE Geopulse boomer seismic system, EG&G SMS-260 sidescan sonar. Navigation from UMaine equipment, Loran-C. Latitude-Longitude listed here estimated from hand plot to navigation chart, require more sophisticated conversion of Loran-C raw data.

*SOL = Start of Line, EOL = End of Line, C/C = course change*

ALL: Local Time: EDT Eastern Daylight Time

24 June, Sunday

Setting up geophysical equipment on board, Boothbay Harbor.

@ 0200 Departure from Boothbay Harbor, overnight to station.

25 June, Monday

Eastern Maine coastline, Long I., Swans I. SW – NE parallel to shore trend.

SOL GM-90-01 @ 0620 @ 44° 03.5'N 68° 15.5'W

EOL GM-90-01 @ 0637

SSS fish problems, replace connector

SOL GM-90-01A @ 0819

EOL GM-90-01A @ 0847 @ 44° 06.9'N 68° 09.7'W

SOL GM-90-02 @ 0904 @ 44° 07.8'N 68° 08.3'W

EOL GM-90-02 off Schoodic Head	@ 1104	@ 44° 14.3'N	67° 55.6'W
SOL GM-90-03	@ 1105		
EOL GM-90-03 off Great Wass Is.	@ 1543	@ 44° 23.6'N	67° 34.2'W
SOL GM-90-04	@ 1610	@ 44° 23.8'N	67° 34.0'W
EOL GM-90-04	@ 2034	@ 44° 36.3'N	67° 07.6'W
SOL GM-90-05	@ 2035		
EOL GM-90-05	@ 2101		
SOL GM-90-06	@ 2102	@ 44° 33.8'N	67° 08.6'W
26 June, Tuesday			
EOL GM-90-06, off SE Rock	@ 0316	@ 44° 16.8'N	67° 42.2'W
SOL GM-90-07	@ 0322	@ 44° 16.5'N	67° 46.4'W
EOL GM-90-07, edge of Jordan B.	@ 0501	@ 44° 11.7'N	67° 35.4'W
SOL GM-90-08, turn SW	@ 0502		
EOL GM-90-08, SOL GM-90-09	@ 0534	@ 44° 23.6'N	67° 34.2'W
Return N toward shore			
EOL GM-90-09, Seahorse Rock	@ 0920		
SOL GM-90-10, 0.5 nm SW	@ 0920	@ 44° 29.8'N	67° 38.8'W
of Bell "R6". Offshore Pleasant Bay, heading SW parallel to coast			
EOL GM-90-10, SOL GM-90-11	@ 1305	@ 44° 18.5'N	68° 03.4'W
Off Schoodic Point			
EOL GM-90-11, Whistle "R4"	@ 1343	@ 44° 20.2'N	68° 09.4'W
Off Great Head, Mt. Desert Is.			
SOL GM-90-12, 0.5 nm SW	@ 1344		
EOL GM-90-12, SOL GM-90-13	@ 1433	@ 44° 16.5'N	68° 13.0'W
EOL GM-90-13, SOL GM-90-14	@ 1510	@ 44° 13.3'N	68° 10.0'W
EOL GM-90-14, lobster gear	@ 1510	@ 44° 12.8'N	68° 11.0'W
Tangled on SSS fish.			
END OF GEOPHYSICAL DATA			
Arrive Rockland Harbor to unload	@ 2000		

<b>Joseph T. Kelley, Stephan M. Dickson Daniel F. Belknap</b>					SOL = Start of Line	
<b>University of Maine and Maine Geological Survey</b>					EOL = End of Line	
<b>Bruce Joule et al., Department of Marine Resources</b>					C/C = course change	
<b>R/V ARGO-Maine</b>		<b>Offshore central and northeast coast</b>			Ship's speed and course	
<b>Maine Maritime Academy</b>		<b>of Maine</b>				
<b>ORE Geopulse and EG&amp;G SMS-260 sidescan sonar (SSS in notes)</b>						
<i>compiled and corrected, D.F. Belknap, 2021</i>					<b>Latitude</b>	<b>Longitude</b>
<b>DATE</b>	<b>TIME:</b>	<b>LORAN-C</b>	<b>LORAN-C</b>	<b>Notes</b>	(approximate: need	
	<b>EDT</b>	<b>9960-W</b>	<b>9960-X</b>	(Earlier lines were previous cruise 7/19-21)	Loran conversions)	
06/25/90				Long I., Swans I. SW - NE parallel to shore trend		
	0616	12451.5	25739.5	SSS Fish deployed	44° 03.5'N	68° 15.5'W
	0619	12448.5	25739.9			
	0620	12447.6	25739.9	SOL GM-90-01 (SOL = Start of Line)		
	0625	12443.1	25739.8	[NOTE course ~ follows 25740 line]		
	0630	12438.5	25739.8			
	0635	12433.7	25739.6			
	0637	12431.7	25739.5	EOL GM-90-01 SSS Fish problems		
				replace connector		
	0819	12425.0	25740.0	Continue GM-90-01A		
	0820	12424.1	25740.0	6 knts, 053°		
	0825	12419.4	25739.9			
	0830	12414.2	25739.9			
	0835	12409.2	25740.0			
	0840	12404.1	25740.0	6.3 knts		
	0845	12399.4	25739.9			
	0847	12397.5	25739.9	EOL GM-90-01A	44° 06.9'N	68° 09.7'W
	0904	12388.8	25740.0	SOL GM-90-02 3.8 knts, 053°	44° 07.8'N	68° 08.3'W
	0905	12388.2	25740.0			
	0910	12385.2	25740.0			
	0912			Deploy ORE Geopulse		
	0915	12381.9	25740.0			
	0920	12377.3	25740.3	5.7 knts		
	0925	12372.6	25740.4			
	0930	12367.8	25740.4	6.0 knts		
	0935	12363.1	25740.4			
	0940	12358.2	25740.3			
	0945	12353.5	25740.2			
	0950	12348.6	25740.2			
	0955	12343.9	25740.3			
	1000	12339.2	25740.3			
	1005	12334.5	25740.2	C 059°		
	1010	12329.7	25740.0			
	1015	12325.1	25740.0	5.9 knts		
	1020	12320.5	25739.9			
	1025	12316.0	25739.8			
	1030	12311.3	25739.8			
	1035	12306.8	25739.7			
	1040	12302.3	25739.6			
	1045	12297.7	25739.7			
	1050	12293.0	25739.8			

	1055	12288.3	25739.9			
	1100	12283.7	25740.0			
	1104	12280.0	25739.9	EOL GM-90-02 Off Schoodic Head	44° 14.3'N	67° 55.6'W
	1105	12279.1	25739.9	SOL GM-90-03		
	1110	12274.7	25739.8	5.8 knts, 060°		
	1115	12270.4	25739.5	[NOTE course not quite on 25740 line]		
	1120	12266.3	25739.2	5.6 knts		
	1125	12262.1	25738.9			
	1130	12258.0	25738.7			
	1135	12253.7	25738.5			
	1140	12249.5	25738.3			
	1145	12245.2	25738.1			
	1150	12241.1	25737.9			
	1155	12236.9	25737.7			
	1200	12232.9	25737.5			
	1205	12228.8	25737.3			
	1210	12224.7	25737.1			
	1215	12220.6	25736.9	5.3 knts, 058°		
	1220	12216.6	25736.6			
	1225	12212.3	25736.2			
	1227	12210.7	25736.2	Reeling in SSS towfish		
	1330			Replace bent fins		
	1335			Towfish back in		
		<b>LORAN-C</b>	<b>LORAN-C</b>			
		<b>5930-X</b>	<b>5930-Y</b>	<b>Switch to stronger Loran readings</b>		
	1338	13484.6	31734.7	Restart 90-03		
	1343	13486.9	31733.2	3.7 knts		
	1345	13488.1	31732.6			
	1350	13491.8	31731.2	059°		
	1355	13495.6	31729.7			
	1400	13499.2	31728.3			
	1405	13503.1	31727.1	5.3 knts		
	1410	13507.0	31725.9	059°		
	1415	13510.7	31724.7			
	1420	13514.4	31723.3			
	1425	13518.1	31721.8			
	1430	13521.9	31720.4			
	1435	13525.6	31719.1			
	1440	13529.3	31717.7	5.4 knts		
	1445	13533.1	31716.3			
	1450	13536.7	31715.0	Stop SSS, reel in fish		
	1459	13541.2	31713.1	Resume SSS		
	1500	13541.9	31713.1	3.7 knts		
	1505	13546.0	31711.7			
	1510	13549.6	31710.1	5.5 knts		
	1515	13553.3	31708.9			
	1520	13557.1	31707.7			
	1525	13560.5	31706.3			
	1530	13564.0	31704.9	C/C to avoid fishing vessel		

	1535	13564.9	31702.1			
	1540	13568.7	31700.8	054°		
	1543	13570.9	31700.0	EOL GM-90-03, Pull up SSS fish to regrease underwater connector	44° 23.6'N	67° 34.2'W
				Off Great Wass Is.		
	1610	13572.3	31700.0	SOL GM-90-04, 059°, 6.1 knts	44° 23.8'N	67° 34.0'W
	1615	13576.2	31698.1			
	1620	13580.7	31696.7			
	1625	13585.1	31695.2			
	1630	13589.4	31693.5			
	1635	13593.6	31691.8			
	1640	13597.9	31690.2			
	1645	13602.0	31688.4			
	1650	13606.3	31686.6	Pause, regrease SSS fish connector		
	1701.5	13609.3	31683.8	Resume GM-90-04		
	1705	13612.4	31682.3			
	1710	13616.0	31680.6			
	1715	13620.0	31678.7			
	1720	13623.8	31676.9			
	1725	13627.5	31675.6			
	1730	13631.0	31674.2	4.8 knts		
	1735	13634.5	31672.9			
	1740	13637.7	31671.4			
	1745	13641.2	31670.0			
	1749	13644.1	31669.1	Pause, regrease SSS fish connector		
	1757	13645.4	31670.3	Resume GM-90-04; Offshore Machias Bay		
	1800	13643.9	31669.6			
	1805	13647.1	31668.2	4.9 knts		
	1810	13650.5	31667.0			
	1815	13653.6	31665.8			
	1820	13656.3	31664.8			
	1825	13659.1	31663.8			
	1830	13662.1	31662.5	4.4 knts		
	1835	13665.1	31661.2			
	1840	13668.3	31659.7			
	1845	13671.7	31658.2			
	1850	13675.0	31657.0			
	1855	13678.1	31655.5			
	1900	13681.4	31654.2			
	1905	13684.6	31652.7			
	1910	13688.1	31651.5			
	1915	13691.6	31650.2			
	1920	13695.1	31648.8	5.0 knts, 055°		
	1925	13698.7	31647.3			
	1930	13702.1	31646.0			
	1935	13705.7	31644.3			
	1940	13709.3	31642.7	Offshore Little Machias Bay		
	1945	13713.1	31641.4	5.4 knts, 054°		

	1950	13717.0	31639.7	Moved seismic cable on deck - resulted in cleaner SSS record (reduced induction)		
	1955	13720.8	31637.9			
	2000	13724.8	31636.1			
	2005	13728.9	31634.1			
	2010	13733.1	31632.3			
	2015	13737.3	31630.3			
	2020	13741.6	31628.3			
	2025	13746.1	31626.4			
	2030	13750.5	31624.3	6.7 knts, 055°		
	2034	13754.1	31622.6	EOL GM-90-04 Offshore Cutler	44° 36.3'N	67° 07.6'W
	2035	13754.9	31622.1	SOL GM-90-05, 6.6 knts, turning 060° to		
	2040	13753.4	31618.5	197°		
	2045	13748.2	31617.6			
	2050	13743.3	31617.0			
	2055	13738.3	31616.2			
	2100	13733.5	31615.3	5.1 knts, 197°		
	2101	13732.5	31615.2	EOL GM-90-05		
	2102	13731.6	31615.1	SOL GM-90-06; 5.1 knts, 197° turning SW	44° 33.8'N	67° 08.6'W
	2105	13729.6	31616.1	[Parallel to line 04, 1.5 nm farther offshore]		
	2110	13726.0	31617.7	234°		
	2115	13722.2	31619.7			
	2120	13718.4	31621.6	5.6 knts, 234°		
	2125	13714.6	31623.4			
	2130	13710.9	31625.5			
	2135	13707.4	31626.9			
	2140	13704.1	31628.8			
	2145	13700.7	31630.2			
	2150	13697.1	31631.6			
	2155	13693.7	31633.4			
	2200	13690.3	31635.4	5.6 knts, 240°		
	2205	13686.9	31637.1			
	2210	13683.3	31638.9			
	2215	13679.6	31640.4			
	2220	13675.9	31642.0			
	2225	13672.0	31643.4			
	2230	13668.0	31644.6	5.4 knts, 230°		
	2235	13664.0	31645.9			
	2240	13660.0	31647.3			
	2245	13655.8	31648.7			
	2250	13651.7	31649.9			
	2255	13647.9	31651.7			
	2300	13644.6	31653.4			
	2305	13641.1	31655.0			
	2310	13637.2	31656.6	5.6 knts, 233°		
	2315	13633.1	31658.0			
	2320	13629.0	31659.1			
	2325	13625.0	31660.6			
	2330	13621.3	31662.0			



	2335	13617.2	31663.3			
	2340	13613.1	31664.6			
	2345	13608.9	31665.9			
	2350	13605.0	31667.6			
	2355	13601.2	31669.1			
06/26/90	0000	13597.2	31670.7			
	0005	13593.1	31672.5			
	0010	13589.2	31674.2	5.7 knts		
	0015	13585.1	31676.0			
	0020	13581.1	31677.7			
	0025	13577.2	31679.2			
	0030	13573.5	31681.1			
	0034	13570.3	31682.5	Bring in SSS towfish		
	0040	13566.6	31683.7	Stop		
	0056	13563.4	31686.0	Resume with 1 SSS channel functioning		
	0100	13560.3	31687.1	5.3 knts, 235°		
	0105	13556.4	31688.4			
	0110	13552.6	31689.8	C/C		
	0115	13549.1	31691.7	5.5 knts, 243°		
	0120	13545.8	31693.5			
	0125	13542.5	31695.2			
	0130	13539.1	31697.0			
	0135	13535.5	31698.6			
	0140	13531.9	31700.5			
	0145	13528.7	31702.4			
	0150	13525.7	31704.0			
	0155	13522.4	31705.6	5.1 knts		
	0200	13519.1	31707.3			
	0205	13515.8	31708.9	242°		
	0210	13512.5	31710.4			
	0215	13509.1	31711.9			
	0220	13505.7	31713.6			
	0225	13502.0	31715.3			
	0230	13498.3	31716.9			
	0235	13494.5	31718.3			
	0240	13490.8	31720.0			
	0245	13487.1	31721.5			
	0250	13483.1	31723.0			
	0255	13479.0	31724.4	5.8 knts, 237°		
	0300	13475.0	31725.7			
	0305	13471.8	31727.8	5.7 knts, 249°		
	0310	13468.7	31729.9	SSS paper change		
	0315	13465.2	31730.5	EOL GM-90-06; Off SE Rock	44° 16.8'N	67° 42.2'W
				Bring in gear, tangled with lobster gear		
	0322	13463.0	31728.5	SOL GM-90-07	44° 16.5'N	67° 46.4'W
	0325	13461.3	31726.6	127°, Heading offshore		
	0330	13458.2	31723.0	5.8 knts		
	0335	13455.6	31718.6			
	0340	13453.0	31716.0			

	0347	13449.8	31711.3			
	0350	13448.6	31709.5	4.5 knts, 115°		
	0355	13446.5	31706.2			
	0400	13444.8	31703.0			
	0405	13444.0	31700.0			
	0410	13443.4	31697.0			
	0415	13443.0	31694.1			
	0420	13442.5	31690.9			
	0425	13441.8	31688.0			
	0430	13439.6	31684.0			
	0435	13437.5	31681.5			
	0440	13435.7	31678.2			
	0445	13433.6	31674.9	5.2 knts, 128°		
	0450	13431.4	31671.6			
	0455	13429.3	31668.2			
	0500	13427.2	31665.0			
	0501	13426.8	31664.3	EOL GM-90-07, edge of Jordan Basin	44° 11.7'N	67° 35.4'W
	0502	13426.2	31663.6	SOL GM-90-08, turn SW		
	0505	13423.1	31664.2			
	0510	13418.0	31665.5	6.6knts, 233°		
	0515	13412.8	31666.6	6.3 knts, 228°		
	0520	13407.6	31667.8			
	0525	13402.4	31669.1			
	0530	13397.2	31670.5			
	0534	13393.0	31671.7	EOL GM-90-08, SOL GM-90-09, return N	44° 09.5'N	67° 40.5'W
	0540	13398.4	31674.0	5.9 knts, 006°		
	0545	13403.9	31675.5			
	0550	13409.7	31677.3			
	0555	13415.4	31679.1			
	0600	13421.1	31680.8	5.9 knts, 005°		
	0605	13426.7	31682.5			
	0610	13432.5	31684.3			
	0615	13438.3	31686.0			
	0620	13443.9	31687.7			
	0625	13449.5	31689.5			
	0630	13455.1	31691.2			
	0635	13460.7	31692.9	(INTERPOLATED: nav annotation illegible)		
	0640	13466.2	31694.6	(INTERPOLATED: nav annotation illegible)		
	0645	13471.8	31696.3	5.6 knts, 006°		
	0650	13477.3	31697.9			
	0655	13482.9	31699.4			
	0700	13488.6	31701.4			
	0705	13494.3	31703.2			
	0710	13500.1	31704.7			
	0715	13505.9	31706.5			
	0720	13511.7	31707.9			
	0725	13517.5	31710.0			
	0730	13523.2	31712.0	6.0 knts, 359°		
	0735	13529.0	31714.0			

	0740	13534.9	31715.8			
	0745	13540.8	31717.4			
	0750	13546.6	31719.3			
	0755	13552.5	31721.2			
	0800	13558.4	31723.0			
	0805	13564.2	31724.5			
	0807	13566.5	31725.2	Bring in SSS fish, wire broken by lobster gear		
	0810	13568.7	31726.3			
	0914	13568.1	31727.0	Back on line 90-09 (new MGS file 90.0B)		
	0915	13569.2	31727.7			
	0920	13575.1	31729.4	EOL GM-90-09; Seahorse Rock		
	0923	13577.6	31730.3	SOL GM-90-10; 1/2 nm SW of Bell "R6"	44° 29.8'N	67° 38.8'W
	0926	13574.6	31730.1	Offshore Pleasant Bay, SW coast parallel		
	0930	13570.8	31731.0			
	0931	13569.7	31730.9	Bring in SSS fish for repairs, caught lobster gear		
	0951	13564.9	31730.3	Back on line 90-10		
	0955	13560.4	31730.1			
	1000	13555.4	31730.7	5.7 knts, 224°		
	1005	13550.1	31730.1			
	1010	13545.2	31730.5			
	1015	13541.2	31731.7			
	1020	13536.3	31732.3			
	1025	13532.8	31734.2			
	1030	13529.8	31736.6			
	1035	13526.9	31739.4			
	1040	13523.1	31741.2			
	1045	13518.9	31742.8	6.0 knts, 239°		
	1050	13514.1	31743.6			
	1055	13509.5	31744.8			
	1100	13504.7	31745.8	5.9 knts, 230°		
	1105	13499.6	31746.4			
	1110	13495.0	31747.6			
	1114	13491.7	31748.8	C/C at SE Rock 1/4 nm S of Whistle "6A"		
	1115	13490.8	31749.0			
	1120	13488.1	31751.1	5.5 knts, 276°		
	1125	13486.7	31753.9			
	1130	13485.5	31756.8			
	1135	13483.8	31759.7			
	1140	13482.0	31762.7			
	1145	13480.2	31765.7			
	1150	13478.5	31768.8			
	1155	13476.8	31771.5			
	1200	13474.5	31774.0	5.6 knts, 259°		
	1205	13472.4	31776.4			
	1210	13472.0	31779.6			
	1211	13472.0	31780.4	off line, lobster pot buoy		
	1217	13470.9	31782.4	back on line		

	1220	13469.9	31784.3			
	1225	13468.5	31787.5			
	1230	13466.1	31790.0			
	1235	13464.5	31792.7	5.6 knts, 265°		
	1240	13461.4	31795.0			
	1245	13460.0	31797.6			
	1250	13459.2	31800.8			
	1255	13458.4	31803.3			
	1300	13455.5	31805.0	5.4 knts, 251°		
	1305	13452.8	31807.0	EOL GM-90-10, SOL GM-90-11: Off Schoodic Point	44° 18.5'N	68° 03.4'W
	1310	13453.0	31810.0	5.6 knts, 284°		
	1314	13453.1	31812.8			
	1320	13455.6	31817.2	C/C 300°		
	1326	13456.5	31821.7	C/C 293°		
	1330	13457.4	31824.5			
	1335	13458.5	31828.1			
	1340	13459.6	31831.7			
	1343	13460.4	31833.9	EOL GM-90-11; Whistle "R4" Off Great Head, Mount Desert Island	44° 20.2'N	68° 09.4'W
	1344	13460.1	31834.4	SOL GM-90-12		
	1350	13454.2	31834.6			
	1355	13449.0	31834.6			
	1400	13443.6	31834.6			
	1405	13438.2	31834.7			
	1410	13432.7	31834.7			
	1415	13427.3	31834.9	5.9 knts, 219°; SE of Mount Desert Is.		
	1420	13423.5	31835.4			
	1425	13418.1	31835.5			
	1430	13412.8	31835.5	218°		
	1433	13409.7	31835.5	EOL GM-90-12, SOL GM-90-13	44° 16.5'N	68° 13.0'W
	1435	13408.3	31834.5	4.4 knts, 185°		
	1440	13404.3	31831.3			
	1445	13399.8	31828.2			
	1450	13395.6	31824.8	change SSS paper		
	1455	13391.1	31821.3			
	1500	13386.8	31818.1	5.9 knts, 149°		
	1505	13383.0	31814.8			
	1510	13378.5	31811.6	EOL GM-90-13, SOL GM-90-14	44° 13.3'N	68° 10.0'W
	1511	13377.6	31811.4	5.6 knts, 226°		
	1515	13373.7	31811.8			
	1520	13369.9	31813.2			
	1522	13368.5	31813.7	EOL GM-90-14; lobster gear tangled on fish	44° 12.8'N	68° 11.0'W
				END OF GEOPHYSICAL DATA		
	2000			Arrive Rockland Harbor to unload		

Year	Day of Year	Hour	Minute	Second	Latitude	Longitude	Pen 1 down 0 up
1990	176	13	10	0	44.12333	-68.12333	1
1990	176	13	15	0	44.12833	-68.11833	
1990	176	13	20	0	44.11667	-68.11000	
1990	176	13	25	0	44.13833	-68.10000	
1990	176	13	30	0	44.14333	-68.09167	
1990	176	13	35	0	44.14833	-68.08167	
1990	176	13	40	0	44.15333	-68.07167	
1990	176	13	45	0	44.15833	-68.06167	
1990	176	13	50	0	44.16333	-68.05167	
1990	176	13	55	0	44.16833	-68.04333	
1990	176	14	0	0	44.17333	-68.03333	
1990	176	14	5	0	44.17833	-68.02500	
1990	176	14	10	0	44.16667	-68.01333	
1990	176	14	15	0	44.18667	-68.00500	
1990	176	14	20	0	44.19167	-67.99500	
1990	176	14	25	0	44.19667	-67.98500	
1990	176	14	30	0	44.20167	-67.97667	
1990	176	14	35	0	44.20667	-67.96667	
1990	176	14	40	0	44.21167	-67.95833	
1990	176	14	45	0	44.20000	-67.94833	
1990	176	14	50	0	44.22167	-67.94000	
1990	176	14	55	0	44.22667	-67.93000	
1990	176	15	0	0	44.23167	-67.92167	
1990	176	15	4	0	44.23500	-67.91333	0
1990	176	15	5	0	44.23667	-67.91167	1
1990	176	15	10	0	44.24167	-67.90167	
1990	176	15	15	0	44.24500	-67.89167	
1990	176	15	20	0	44.24833	-67.86667	
1990	176	15	25	0	44.25333	-67.87333	
1990	176	15	30	0	44.25667	-67.86333	
1990	176	15	35	0	44.26167	-67.85500	
1990	176	15	40	0	44.26500	-67.84500	
1990	176	15	45	0	44.26833	-67.83500	
1990	176	15	50	0	44.27333	-67.82667	
1990	176	15	55	0	44.27833	-67.81667	
1990	176	16	0	0	44.28167	-67.80833	
1990	176	16	5	0	44.28500	-67.79833	
1990	176	16	10	0	44.29000	-67.79000	
1990	176	16	15	0	44.29333	-67.78000	
1990	176	16	20	0	44.29667	-67.77000	
1990	176	16	25	0	44.30167	-67.76000	
1990	176	16	27	0	44.30333	-67.75667	
1990	176	17	38	0	44.30500	-67.77167	

1990	176	17	43	0	44.30667	-67.76333	
1990	176	17	50	0	44.31167	-67.75167	
1990	176	17	55	0	44.30000	-67.74333	
1990	176	18	0	0	44.32000	-67.73333	
1990	176	18	5	0	44.32333	-67.72500	
1990	176	18	10	0	44.32833	-67.71667	
1990	176	18	15	0	44.33167	-67.70833	
1990	176	18	20	0	44.33667	-67.68333	
1990	176	18	25	0	44.34000	-67.69000	
1990	176	18	30	0	44.34333	-67.68167	
1990	176	18	35	0	44.34833	-67.67333	
1990	176	18	40	0	44.35167	-67.66500	
1990	176	18	45	0	44.35500	-67.65500	
1990	176	18	50	0	44.36000	-67.64667	
1990	176	18	59	0	44.36500	-67.63500	
1990	176	19	0	0	44.36500	-67.63500	
1990	176	19	5	0	44.37000	-67.62667	
1990	176	19	10	0	44.37333	-67.61667	
1990	176	19	15	0	44.37833	-67.60833	
1990	176	19	20	0	44.38167	-67.60000	
1990	176	19	25	0	44.38500	-67.59167	
1990	176	19	30	0	44.38833	-67.58333	
1990	176	19	35	0	44.38833	-67.57333	
1990	176	19	40	0	44.39333	-67.56500	
1990	176	19	43	0	44.39500	-67.56000	0
1990	176	20	10	0	44.39667	-67.55833	1
1990	176	20	15	0	44.40167	-67.54833	
1990	176	20	20	0	44.40667	-67.53833	
1990	176	20	25	0	44.41167	-67.53000	
1990	176	20	30	0	44.40000	-67.51833	
1990	176	20	35	0	44.42000	-67.50833	
1990	176	20	40	0	44.42500	-67.49833	
1990	176	20	45	0	44.43000	-67.48833	
1990	176	20	50	0	44.43500	-67.47833	
1990	176	21	2	0	44.43667	-67.45000	
1990	176	21	5	0	44.44000	-67.45833	
1990	176	21	10	0	44.44500	-67.44833	
1990	176	21	15	0	44.44833	-67.43833	
1990	176	21	20	0	44.45333	-67.42833	
1990	176	21	25	0	44.45667	-67.42000	
1990	176	21	30	0	44.46167	-67.41333	
1990	176	21	35	0	44.46500	-67.40500	
1990	176	21	40	0	44.46833	-67.39667	
1990	176	21	45	0	44.47167	-67.38833	
1990	176	21	49	0	44.47667	-67.38167	
1990	176	21	57	0	44.47833	-67.38500	
1990	176	22	0	0	44.47667	-67.38500	
1990	176	22	5	0	44.48000	-67.37667	

1990	176	22	10	0	44.48333	-67.36833	
1990	176	22	15	0	44.48667	-67.36167	
1990	176	22	20	0	44.49000	-67.35500	
1990	176	22	25	0	44.49333	-67.33333	
1990	176	22	30	0	44.49667	-67.34333	
1990	176	22	35	0	44.50000	-67.33500	
1990	176	22	40	0	44.50333	-67.32667	
1990	176	22	45	0	44.50833	-67.31833	
1990	176	22	50	0	44.51167	-67.31167	
1990	176	22	55	0	44.51500	-67.30333	
1990	176	23	0	0	44.51833	-67.29667	
1990	176	23	5	0	44.52167	-67.28833	
1990	176	23	10	0	44.52667	-67.28000	
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1990	176	23	20	0	44.53500	-67.26500	
1990	176	23	25	0	44.53833	-67.25667	
1990	176	23	30	0	44.54333	-67.23333	
1990	176	23	35	0	44.54667	-67.24000	
1990	176	23	40	0	44.55167	-67.23167	
1990	176	23	45	0	44.55500	-67.22333	
1990	176	23	50	0	44.56000	-67.21500	
1990	176	23	55	0	44.56500	-67.20500	
1990	177	0	0	0	44.57000	-67.19500	
1990	177	0	5	0	44.57500	-67.18500	
1990	177	0	10	0	44.58000	-67.17500	
1990	177	0	15	0	44.58500	-67.16500	
1990	177	0	20	0	44.59000	-67.15500	
1990	177	0	25	0	44.59500	-67.14500	
1990	177	0	30	0	44.60000	-67.13333	0
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1990	177	0	35	0	44.60500	-67.12333	
1990	177	0	40	0	44.60167	-67.11333	
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1990	177	1	25	0	44.55167	-67.17000	
1990	177	1	30	0	44.54667	-67.18000	
1990	177	1	35	0	44.54333	-67.18667	
1990	177	1	40	0	44.53833	-67.19667	
1990	177	1	45	0	44.53500	-67.20500	
1990	177	1	50	0	44.53000	-67.21333	

1990	177	1	55	0	44.52667	-67.22167	
1990	177	2	0	0	44.52333	-67.23000	
1990	177	2	5	0	44.51833	-67.24000	
1990	177	2	10	0	44.51500	-67.24833	
1990	177	2	15	0	44.51167	-67.25667	0
1990	177	2	20	0	44.50667	-67.25000	1
1990	177	2	25	0	44.50167	-67.27500	
1990	177	2	30	0	44.49667	-67.28167	
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1990	177	2	40	0	44.48667	-67.29833	
1990	177	2	45	0	44.48167	-67.30833	
1990	177	2	50	0	44.47833	-67.30000	
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1990	177	3	0	0	44.47000	-67.33500	
1990	177	3	5	0	44.46500	-67.34333	
1990	177	3	10	0	44.46167	-67.35167	
1990	177	3	15	0	44.45667	-67.36167	
1990	177	3	20	0	44.45167	-67.36833	
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1990	177	3	35	0	44.43833	-67.39500	
1990	177	3	40	0	44.43333	-67.40333	
1990	177	3	45	0	44.42833	-67.41167	
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1990	177	4	20	0	44.39833	-67.48000	
1990	177	4	25	0	44.39333	-67.48833	
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1990	177	4	34	0	44.38667	-67.50667	
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1990	177	5	5	0	44.37167	-67.54000	
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1990	177	5	25	0	44.35667	-67.57833	
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1990	177	6	5	0	44.33000	-67.65167	
1990	177	6	10	0	44.32667	-67.66000	
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1990	177	7	30	0	44.26500	-67.76500	
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1990	177	8	10	0	44.21667	-67.69833	
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1990	177	8	25	0	44.22667	-67.67000	
1990	177	8	30	0	44.22167	-67.66000	
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1990	177	8	55	0	44.18333	-67.62167	
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1990	177	9	45	0	44.17167	-67.67500	
1990	177	9	50	0	44.18000	-67.67333	

1990	177	9	55	0	44.18833	-67.67167	
1990	177	10	0	0	44.19667	-67.67167	
1990	177	10	5	0	44.20333	-67.67000	
1990	177	10	10	0	44.21333	-67.67000	
1990	177	10	15	0	44.22000	-67.66833	
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1990	177	11	40	0	44.35833	-67.65167	
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1990	177	12	0	0	44.39167	-67.64667	
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1990	177	14	15	0	44.37333	-67.69500	
1990	177	14	20	0	44.36833	-67.70333	
1990	177	14	25	0	44.36500	-67.71333	
1990	177	14	30	0	44.36167	-67.72500	
1990	177	14	35	0	44.36000	-67.73667	
1990	177	14	40	0	44.35667	-67.74667	
1990	177	14	45	0	44.35167	-67.75833	

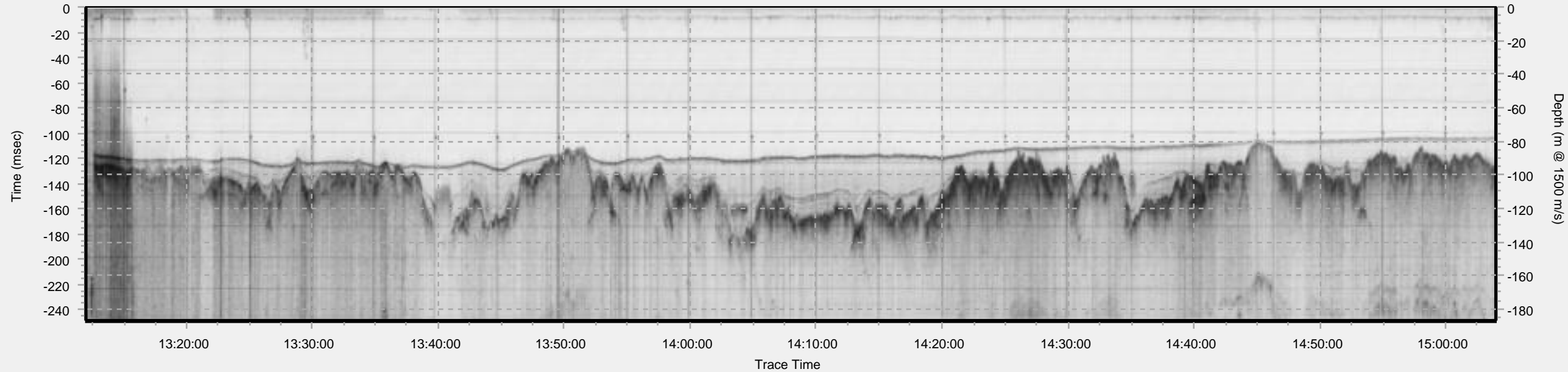
1990	177	14	50	0	44.34667	-67.76500	
1990	177	14	55	0	44.34167	-67.77500	
1990	177	15	0	0	44.33667	-67.78500	
1990	177	15	5	0	44.33000	-67.79167	
1990	177	15	10	0	44.32500	-67.80167	
1990	177	15	14	0	44.32167	-67.81000	
1990	177	15	15	0	44.32000	-67.81167	
1990	177	15	20	0	44.31833	-67.82167	
1990	177	15	25	0	44.31833	-67.83167	
1990	177	15	30	0	44.31833	-67.84333	
1990	177	15	35	0	44.31833	-67.85500	
1990	177	15	40	0	44.31833	-67.86667	
1990	177	15	45	0	44.31667	-67.88000	
1990	177	15	50	0	44.31667	-67.89167	
1990	177	15	55	0	44.30000	-67.90333	
1990	177	16	0	0	44.31500	-67.91333	
1990	177	16	5	0	44.31333	-67.92500	
1990	177	16	10	0	44.31500	-67.93667	
1990	177	16	11	0	44.31500	-67.93833	
1990	177	16	17	0	44.31500	-67.94667	
1990	177	16	20	0	44.31500	-67.95500	
1990	177	16	25	0	44.31500	-67.96667	
1990	177	16	30	0	44.31333	-67.97833	
1990	177	16	35	0	44.31333	-67.99000	
1990	177	16	40	0	44.31167	-68.00167	
1990	177	16	45	0	44.31167	-68.01333	
1990	177	16	50	0	44.31167	-68.02500	
1990	177	16	55	0	44.31333	-68.03333	
1990	177	17	0	0	44.31000	-68.04333	
1990	177	17	5	0	44.30833	-68.05333	0
1990	177	17	10	0	44.31000	-68.06333	1
1990	177	17	14	0	44.31167	-68.07333	
1990	177	17	20	0	44.31833	-68.08500	
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1990	177	17	30	0	44.32500	-68.11000	
1990	177	17	35	0	44.32833	-68.12000	
1990	177	17	40	0	44.33167	-68.13167	
1990	177	17	43	0	44.33333	-68.13833	
1990	177	17	44	0	44.33333	-68.14167	
1990	177	17	50	0	44.32667	-68.14833	
1990	177	17	55	0	44.32000	-68.15500	
1990	177	18	0	0	44.31500	-68.16333	
1990	177	18	5	0	44.30833	-68.17000	
1990	177	18	10	0	44.30167	-68.17667	0
1990	177	18	15	0	44.29500	-68.18500	1
1990	177	18	20	0	44.29167	-68.19167	
1990	177	18	25	0	44.28500	-68.19833	
1990	177	18	30	0	44.27833	-68.20500	

1990	177	18	33	0	44.27500	-68.20833	
1990	177	18	35	0	44.27333	-68.20667	
1990	177	18	40	0	44.26500	-68.20167	
1990	177	18	45	0	44.25833	-68.19500	
1990	177	18	50	0	44.25167	-68.18833	
1990	177	18	55	0	44.24333	-68.18167	
1990	177	19	0	0	44.23667	-68.17500	
1990	177	19	5	0	44.23000	-68.16833	
1990	177	19	10	0	44.22167	-68.16333	
1990	177	19	11	0	44.22167	-68.16333	
1990	177	19	15	0	44.21667	-68.17000	
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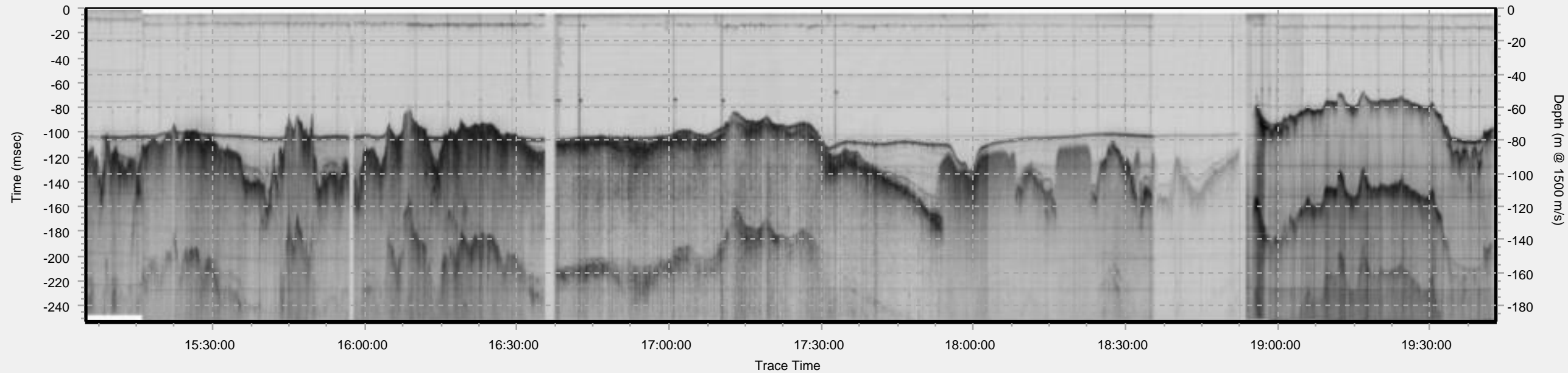
<b>SEISMIC DATA INVENTORY</b>				
<b>GULF OF MAINE - off central and northeast Maine coast</b>				
<b>R/V ARGO Maine</b>		<b>CRUISE GM-90</b>		
<b>Minerals Management Service/ Maine Geological Survey/ Maine Dept. Marine Resources/</b>				
<b>University of Maine</b>		<i>Compiled by Daniel F. Belknap, 2021</i>		
Note: Line GM-90-01 is sidescan sonar only (see MGS for navigation)				
<b>ORE Geopulse - 9" Rolls</b>				
Roll - 01	GM-90-02	06/25/90	09:12 - 11:05	5-7 nm off central Maine coast SW - NE
Roll - 02	GM-90-03	06/25/90	11:05 - 15:43	off Pleasant Bay SW - NE
Roll - 03	GM-90-04	06/25/90	16:03 - 20:30	off Machias Bay SW - NE
Roll - 04	GM-90-05	06/25/90	20:34 - 21:00	turn offshore S
	GM-90-06 (partial)	06/25/90	21:00 - 22:15	~10 nm offshore parallel, NE - SW off Machias Bay
Roll - 05	GM-90-06 (cont'd)	06/25/90	22:22 to	~10 nm offshore parallel, NE - SW off Pleasant Bay
		06/26/90	03:17	NOTE: offshore paleovalleys and gas
Roll - 06	GM-90-07	06/26/90	03:22 - 05:01	NW - SE to edge of Jordan Basin, 60 fm
Roll - 07	GM-90-08	06/26/90	05:01 - 05:34	NW edge Jordan Basin NE - SW
	GM-90-09	06/26/90	05:34 - 09:23	Return to Egg Rock S - N
Roll - 08	GM-90-10	06/26/90	09:23 - 11:14	off Pleasant Bay NE - SW
	course change, cont'd	06/26/90	11:14 - 13:05	SE Rock to Schoodic Peninsula E - W
Roll - 09	GM-90-11	06/26/90	13:05 - 13:43	Frenchman Bay ESE - WNW
	GM-90-12 (partial)	06/26/90	13:43 - 14:12	Mt. Desert Is. Frenchman Bay NE - SW

Roll - 10	GM-90-12 (cont'd)	06/26/90	14:12 -14:33	Mt. Desert Is. Frenchman Bay NE - SW
	GM-90-13	06/26/90	14:33 - 15:10	Mt. Desert Is. NW - SE
	GM-90-14	06/26/90	15:10 - 15:22	Mt. Desert Is. NE - SW End of cruise

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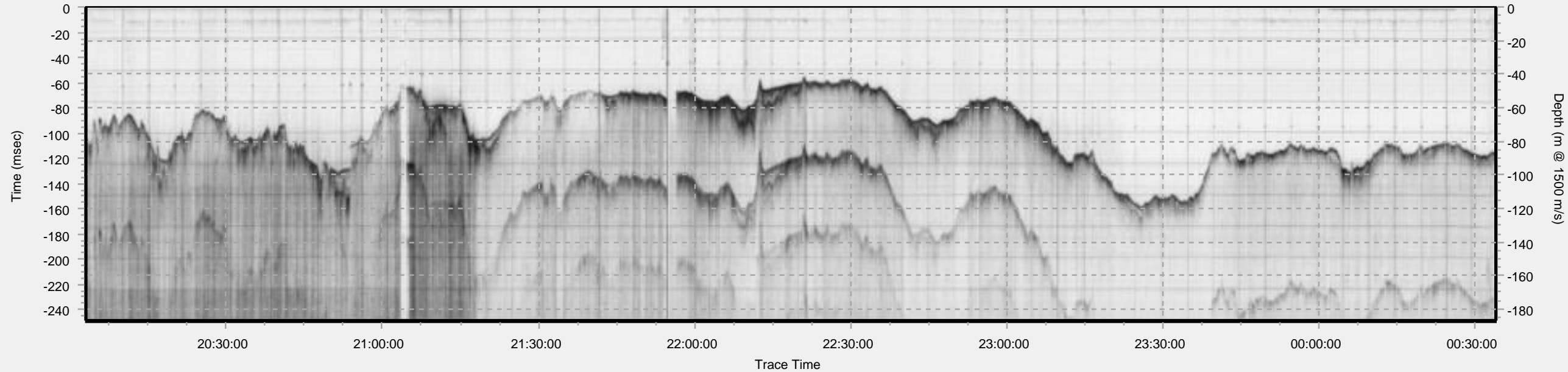


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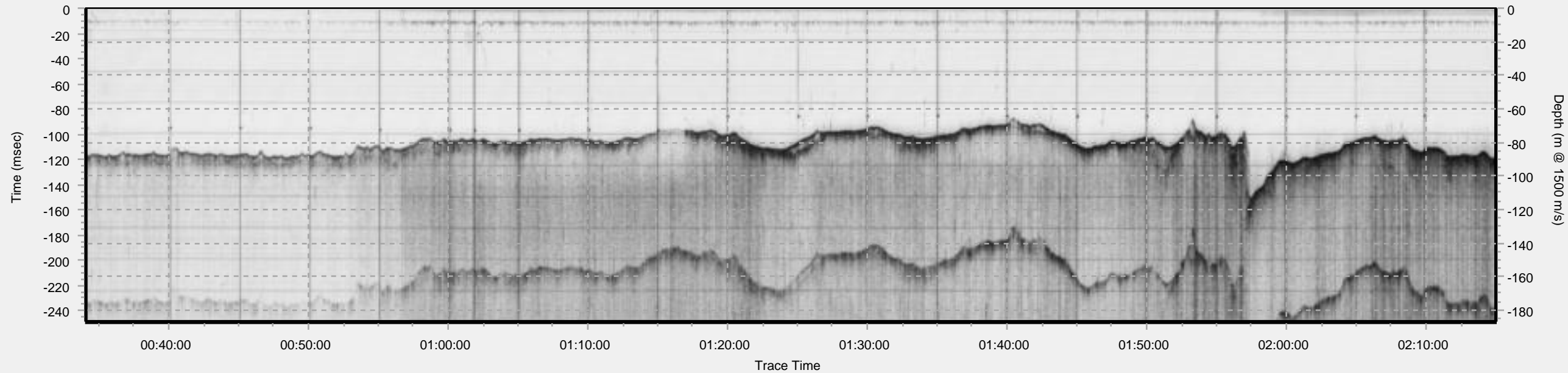




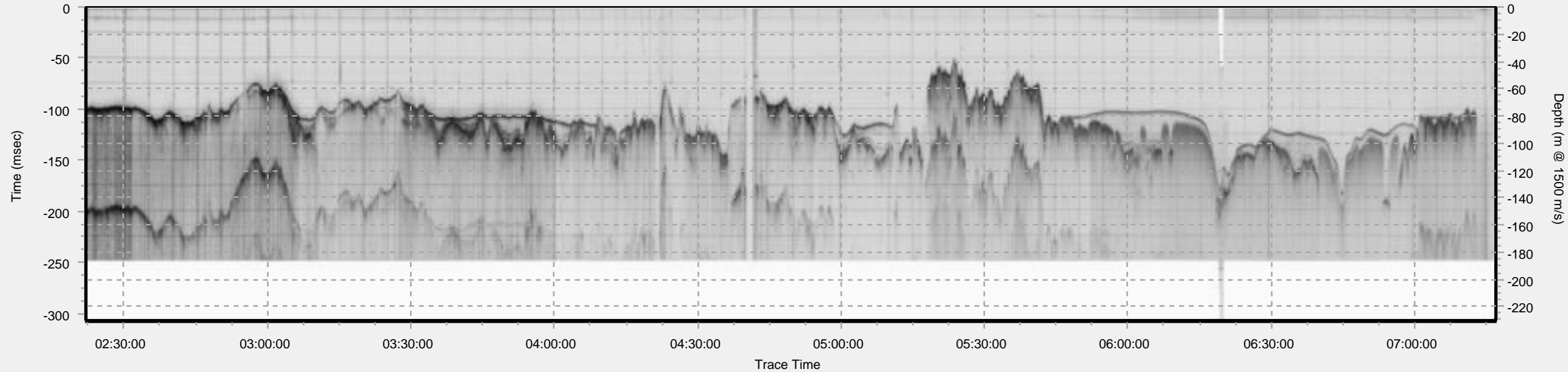
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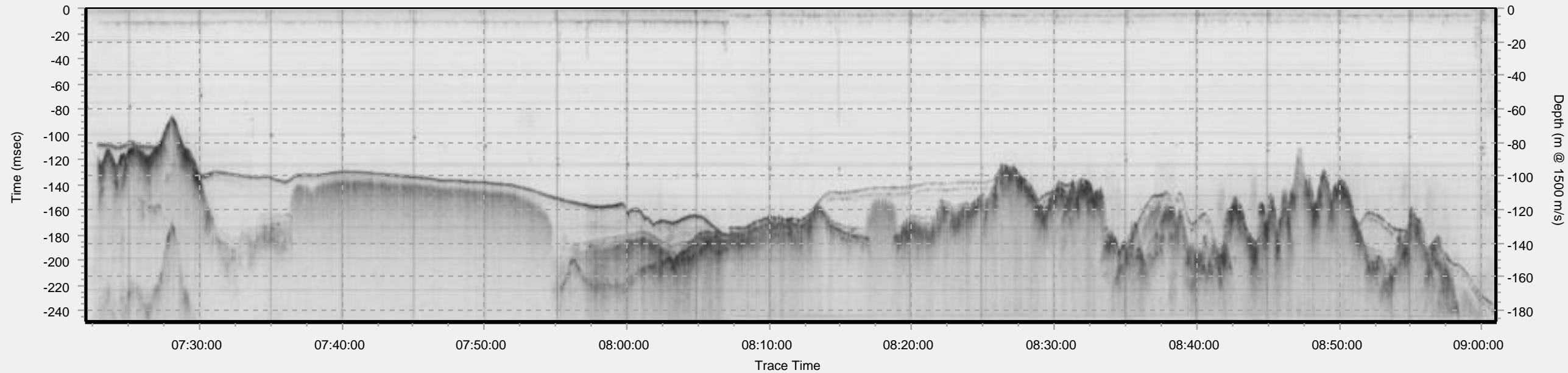
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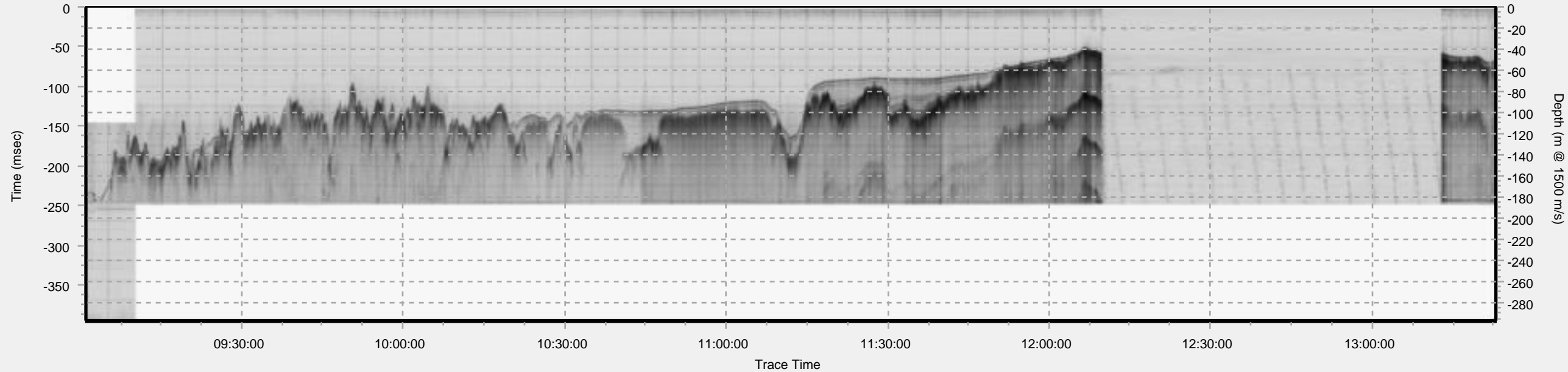
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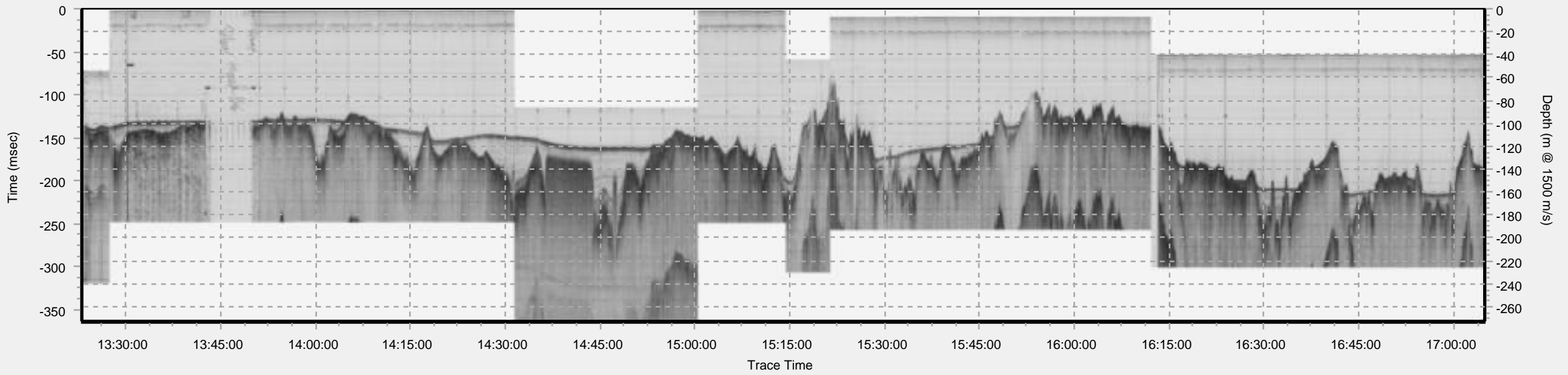
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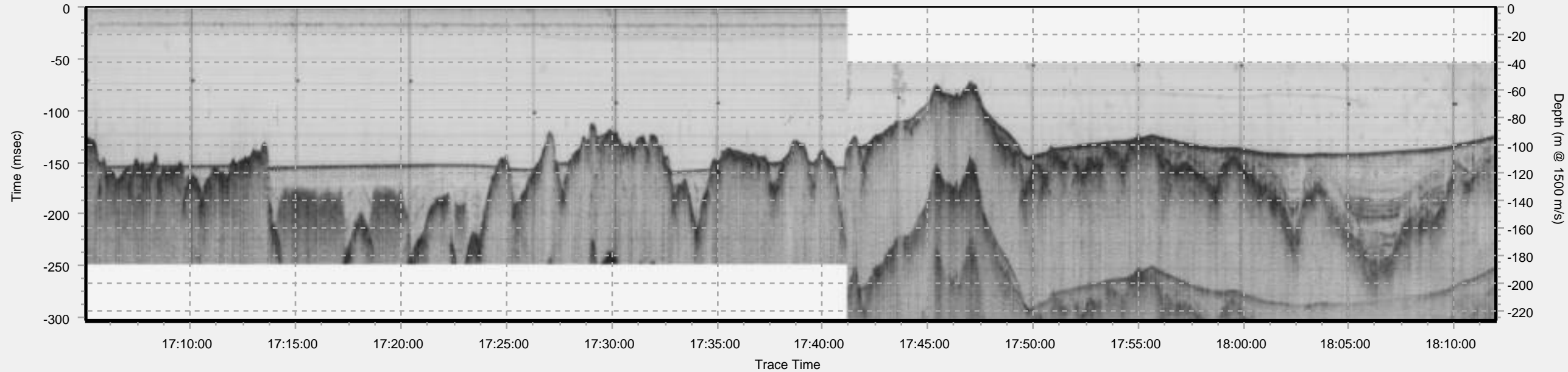
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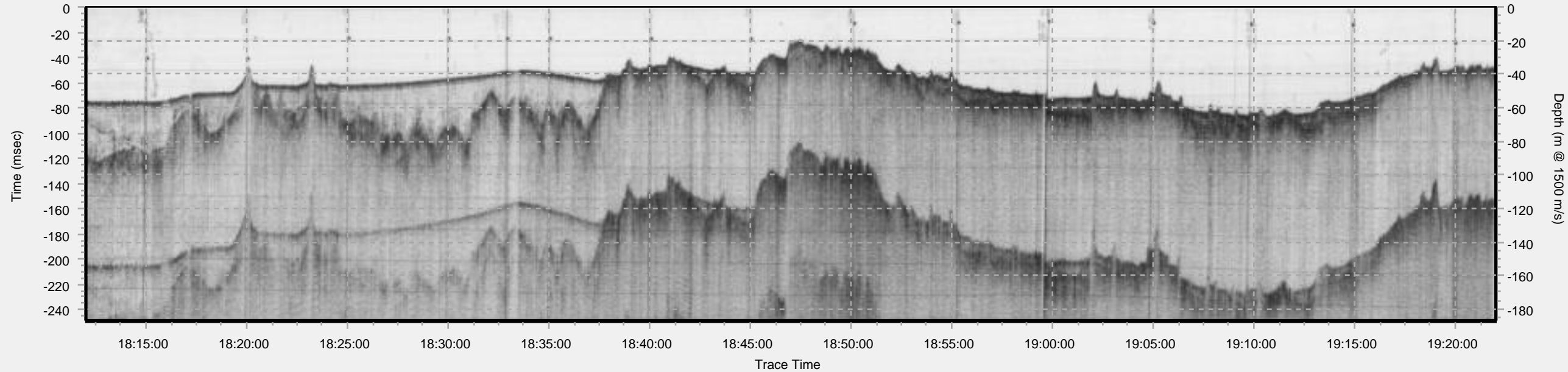
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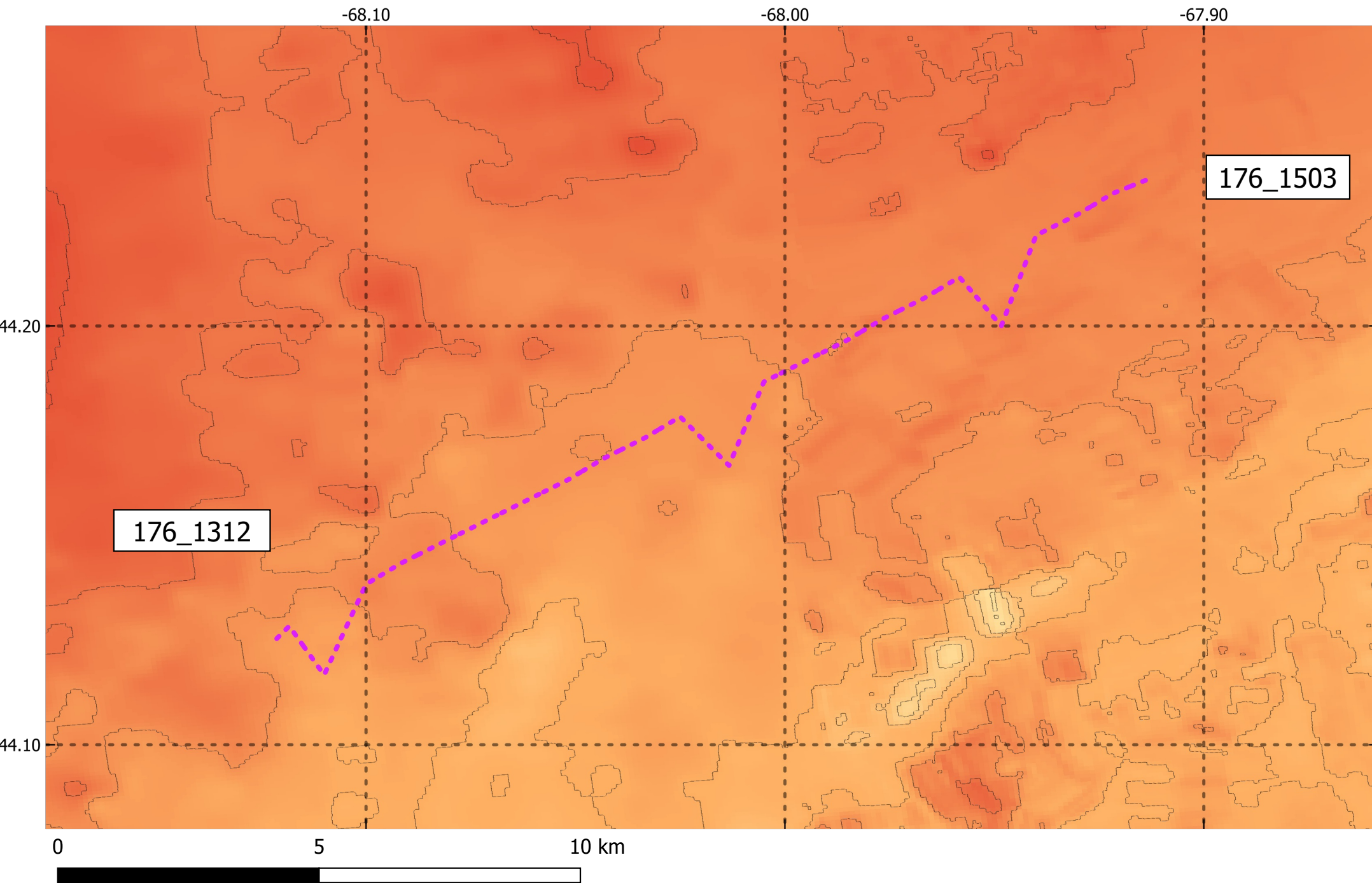


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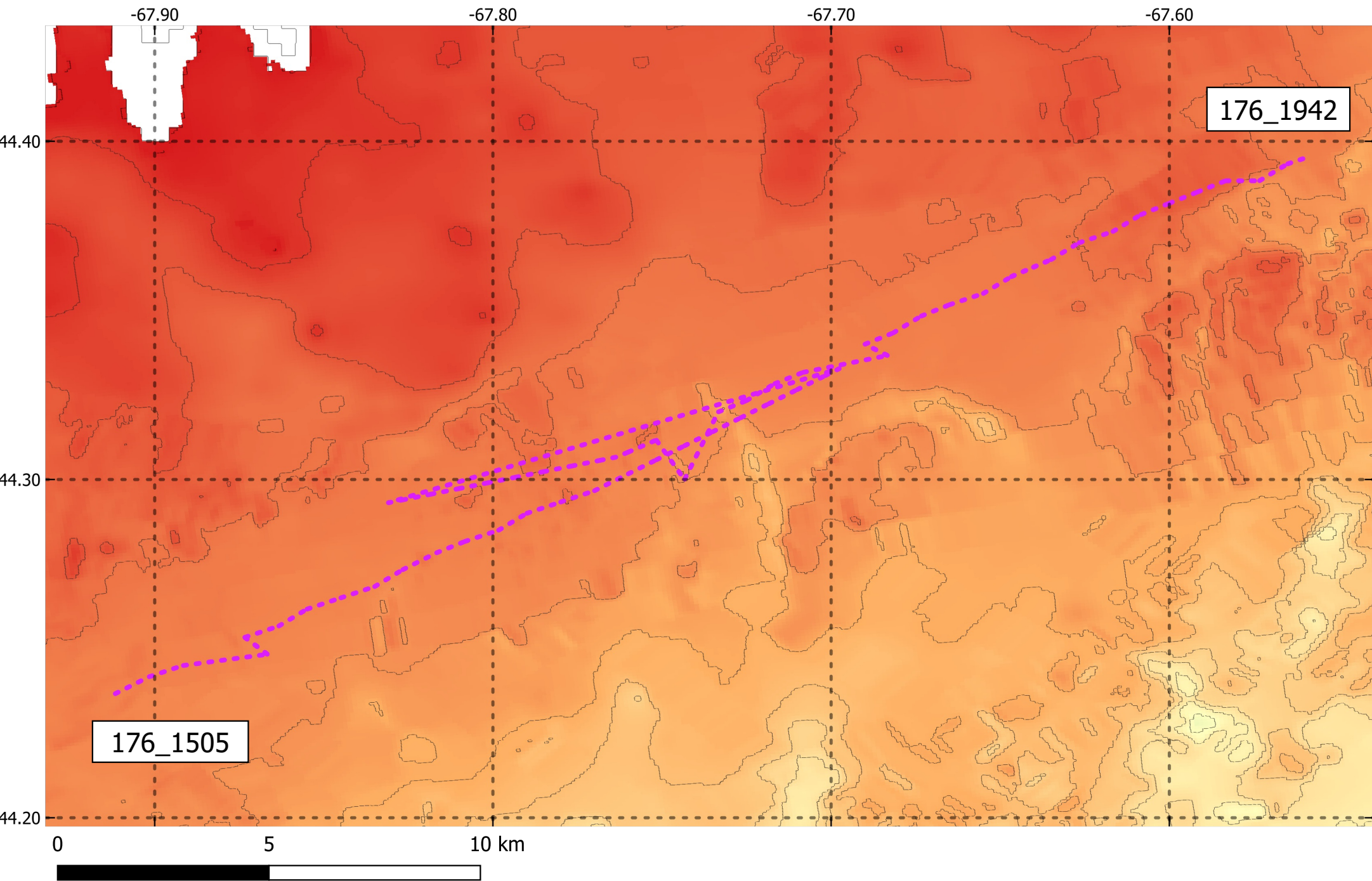




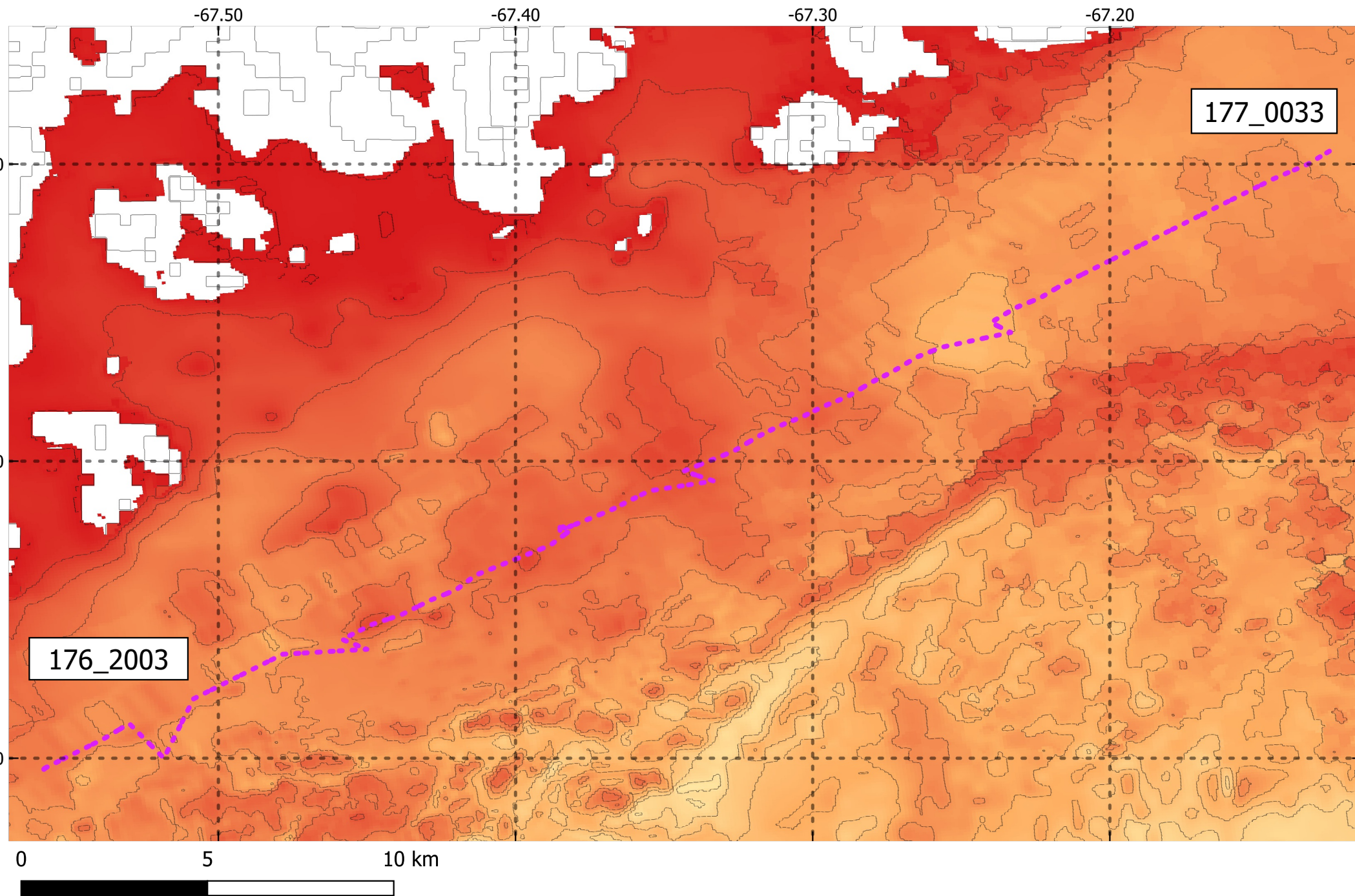
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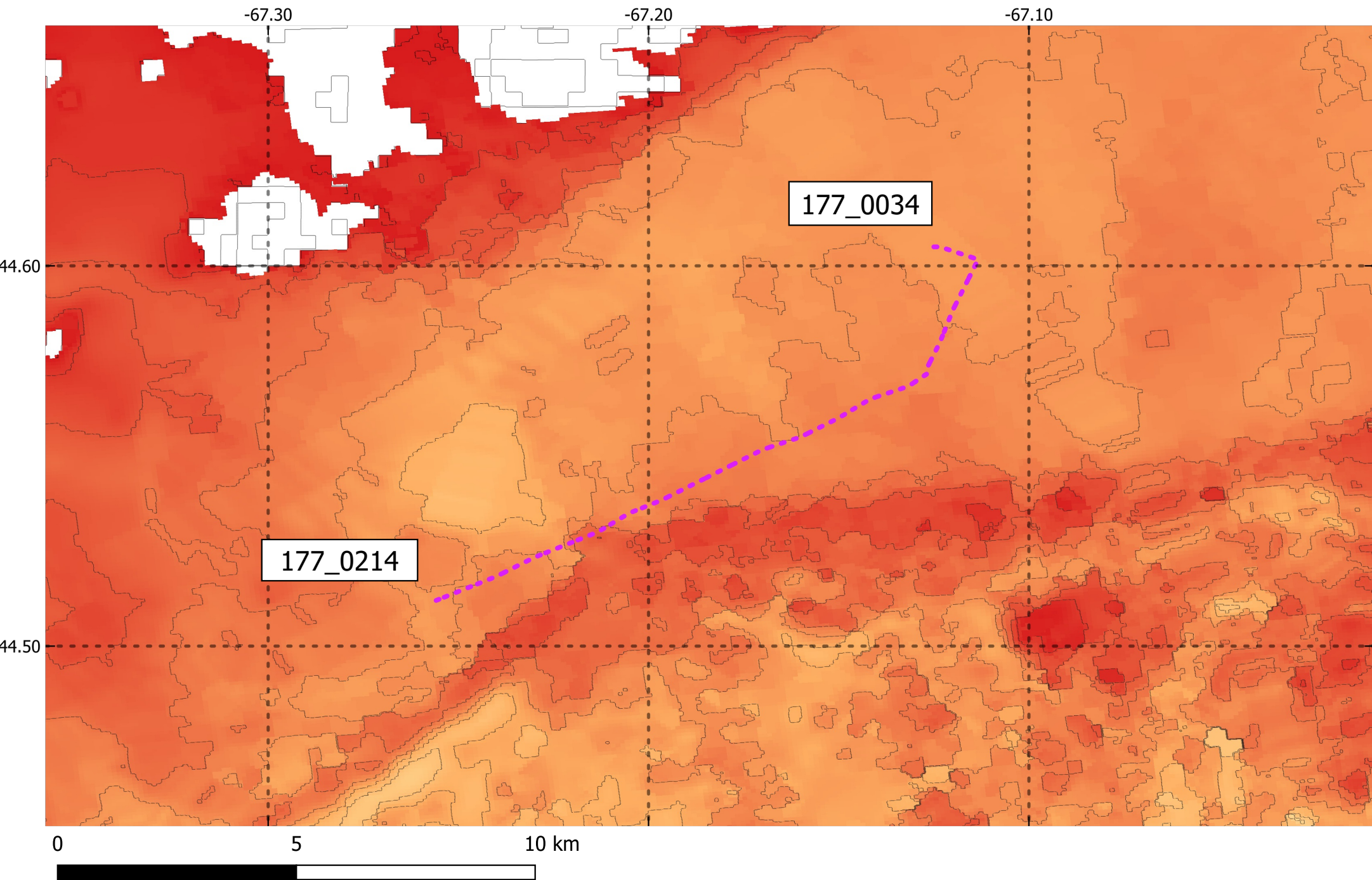
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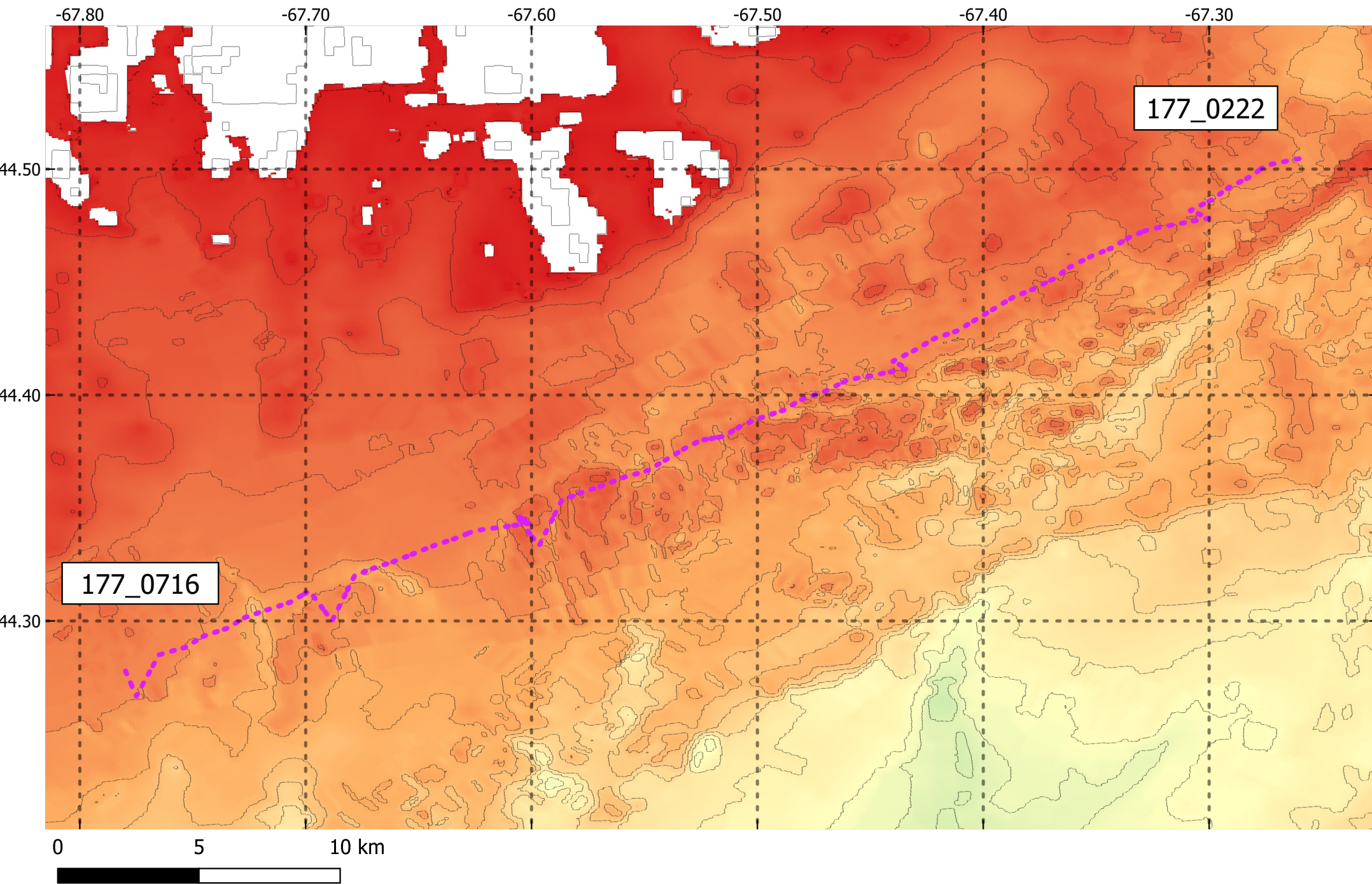
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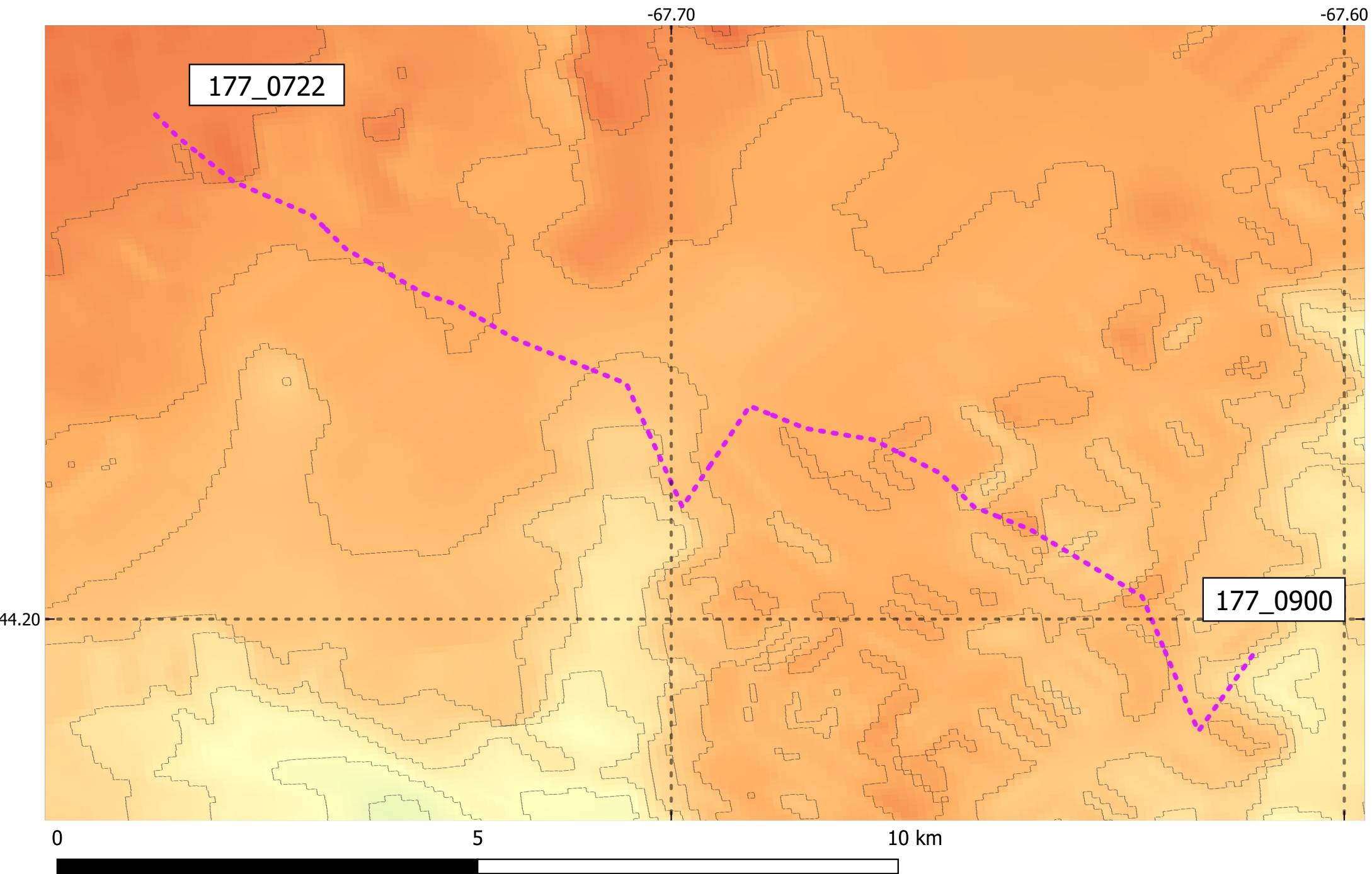


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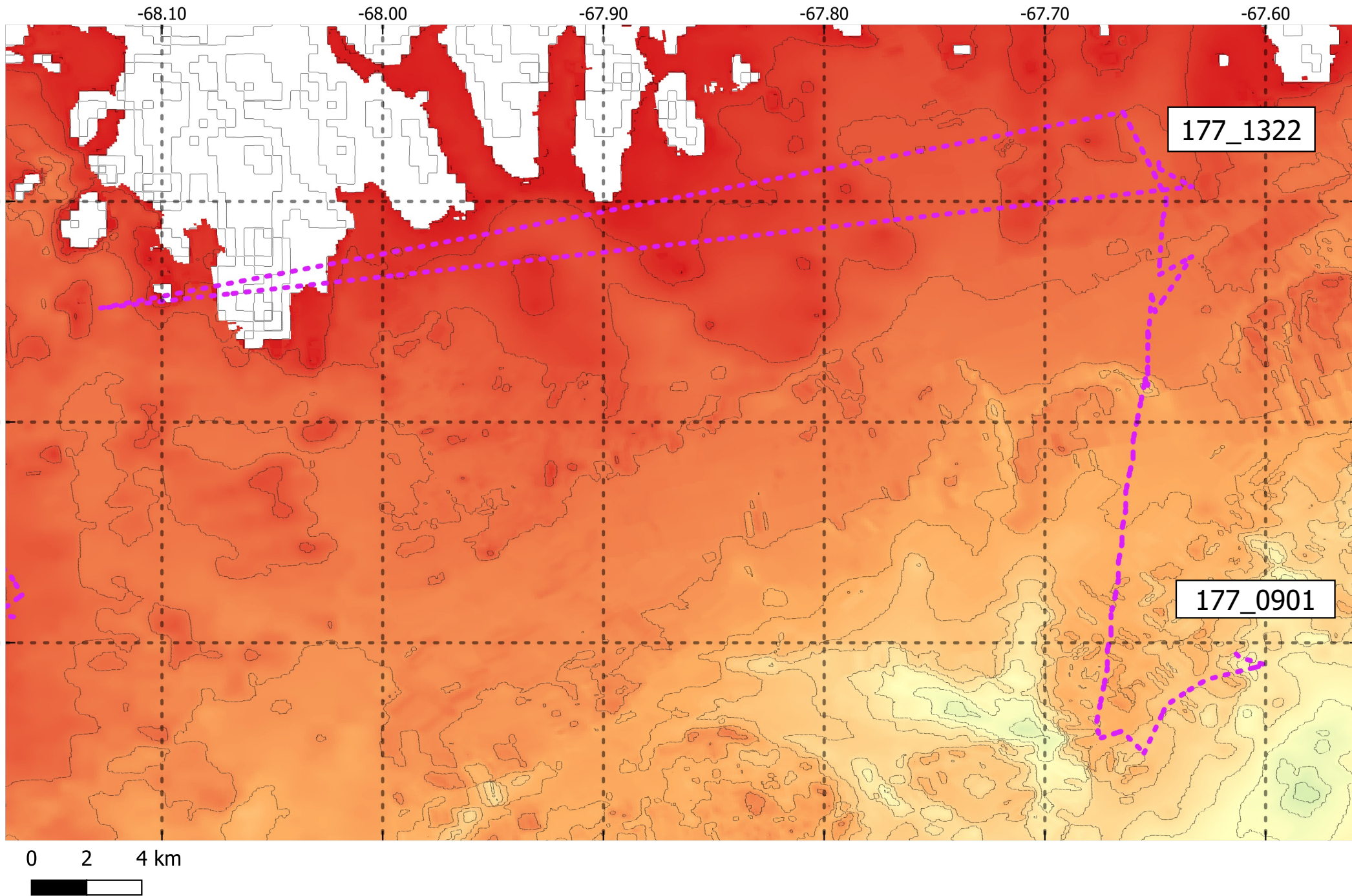


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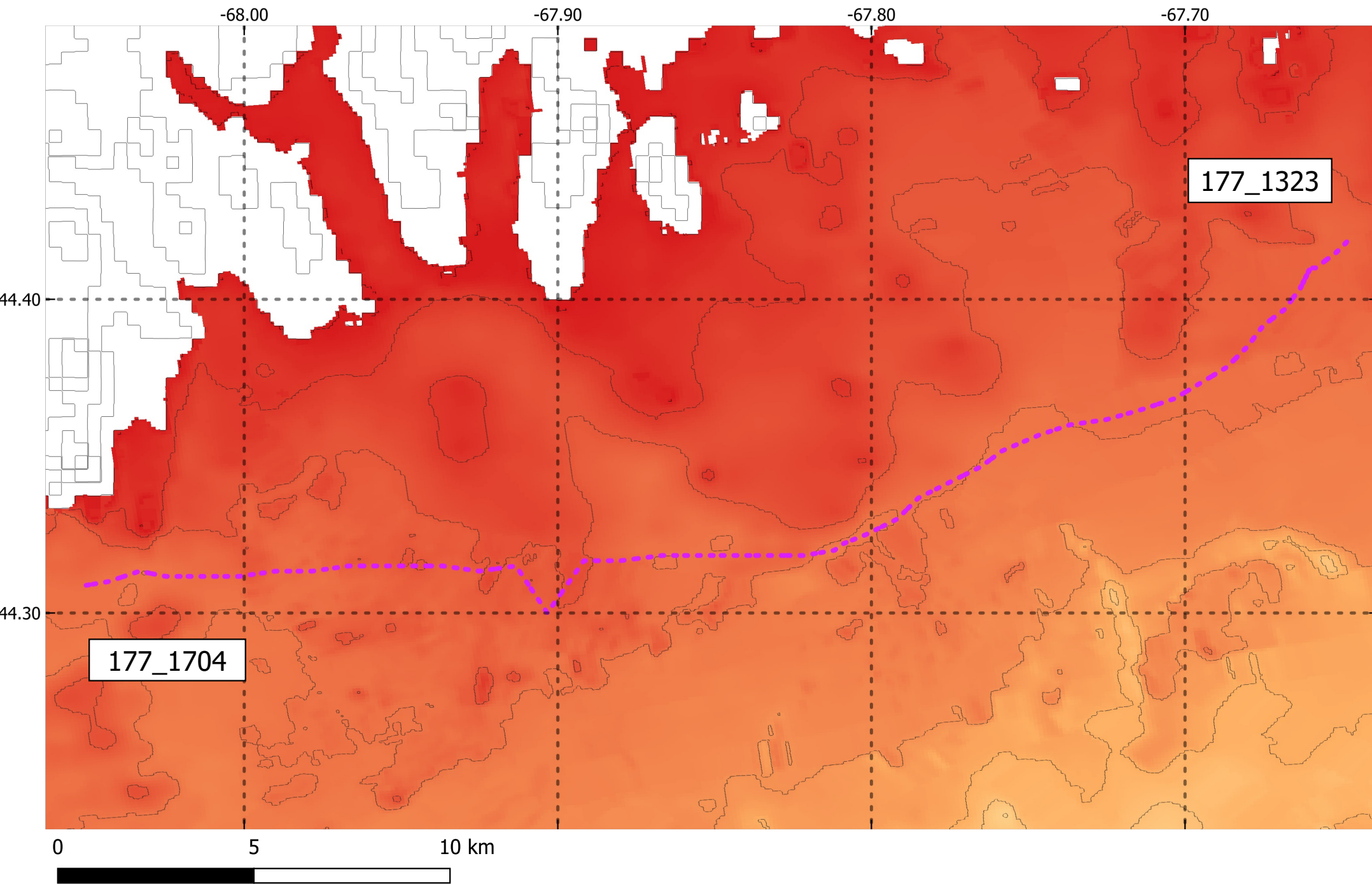




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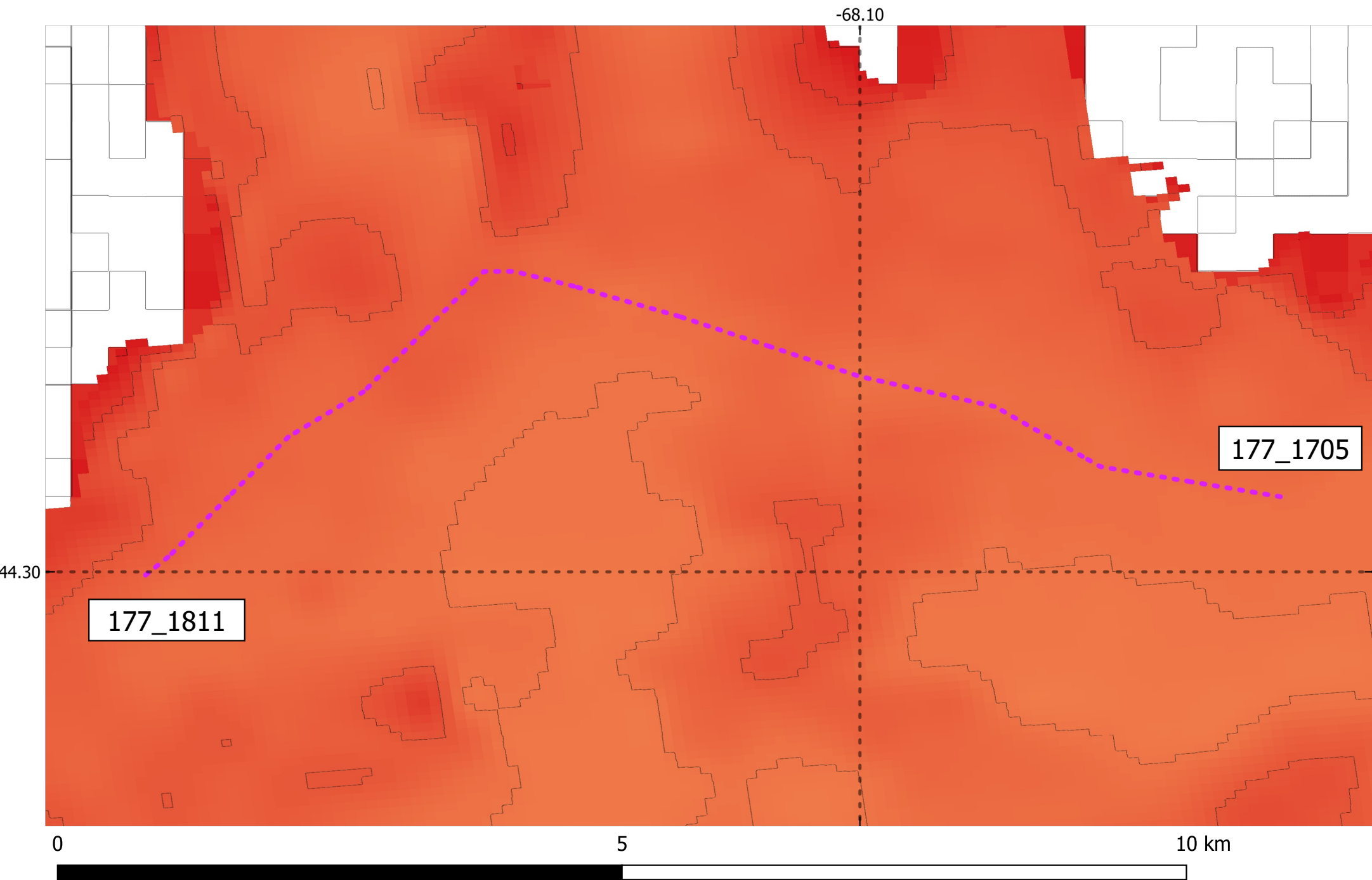


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90ARGO\_ORE\_SEISMIC\_GEOPULSE\_177\_1812\_to\_177\_1921

