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Supplementary Figures and Tables

Long walk home; Magellanic penguins have strategies that lead them to areas where they can navigate most efficiently

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Table S1. Details of the GPS deployments. * The incoming track was not registered.

Individual	Trip number	Deployment		Recovery		Instrumented time (h)	Departure		Return		Trip duration (h)
		Date	Time	Date	Time		Date	Time	Date	Time	
P1	1	21/11/2018	16:51:33	24/11/2018	14:13:54	69.37	23/11/2018	00:41:00			*
P1	2	24/11/2018	19:49:41	26/11/2018	09:42:52	37.89	25/11/2018	00:41:00			*
P1	3	26/11/2018	18:28:21	29/11/2018	10:55:17	64.45	27/11/2018	20:43:00			*
P2	1	21/11/2018	17:07:57	23/11/2018	11:46:51	42.65	21/11/2018	17:48:00			*
P2	2	23/11/2018	18:22:44	26/11/2018	09:45:51	63.39	24/11/2018	05:49:00	26/11/2018	01:12:13	43.39
P2	3	26/11/2018	18:34:00	30/11/2018	11:38:18	89.07	27/11/2018	17:56:00	30/11/2018	03:54:08	57.97
P3	1	21/11/2018	17:16:10	23/11/2018	12:44:25	43.47	21/11/2018	18:41:00			*
P3	2	23/11/2018	18:17:10	25/11/2018	19:50:38	49.56	24/11/2018	04:46:00	25/11/2018	17:44:59	36.98
P3	3	26/11/2018	18:41:23	28/11/2018	19:25:00	48.73	27/11/2018	04:53:00	28/11/2018	19:05:17	38.20
P4	1	21/11/2018	17:29:33	23/11/2018	20:17:52	50.81	22/11/2018	05:32:00	23/11/2018	14:18:41	32.78
P4	2	27/11/2018	18:52:15	30/11/2018	11:37:59	64.76	28/11/2018	02:58:00	30/11/2018	10:18:31	55.34
P5	1	21/11/2018	17:35:40	23/11/2018	12:06:24	42.51	21/11/2018	20:10:00			*
P5	2	23/11/2018	18:10:47	25/11/2018	11:18:35	41.13	24/11/2018	04:36:00	25/11/2018	05:29:20	24.89
P5	3	25/11/2018	18:04:37	28/11/2018	10:59:08	64.91	26/11/2018	05:58:00			*
P6	1	21/11/2018	17:48:57	22/11/2018	20:37:58	26.82	21/11/2018	18:41:00	22/11/2018	17:34:20	22.89
P6	2	23/11/2018	17:22:33	25/11/2018	11:19:13	41.94	24/11/2018	00:11:00	25/11/2018	01:49:44	25.65
P7	1	21/11/2018	17:57:53	23/11/2018	20:17:59	50.34	22/11/2018	06:32:00			*
P8	1	21/11/2018	18:06:15	23/11/2018	20:17:45	50.19	22/11/2018	05:04:00			*
P8	2	24/11/2018	19:58:10	26/11/2018	09:50:39	37.87	25/11/2018	00:49:00	26/11/2018	09:07:38	32.31
P8	3	26/11/2018	18:47:02	30/11/2018	11:38:32	88.86	28/11/2018	22:03:00	30/11/2018	01:17:58	27.25
P9	1	21/11/2018	18:18:39	22/11/2018	20:37:52	26.32	21/11/2018	18:29:00			*
P9	2	23/11/2018	18:03:02	25/11/2018	11:18:41	41.26	24/11/2018	02:14:00	25/11/2018	01:12:46	22.98
P9	3	25/11/2018	18:12:42	27/11/2018	10:04:34	39.86	26/11/2018	02:10:00			*
P10	1	23/11/2018	17:33:41	24/11/2018	21:28:24	27.91	23/11/2018	17:52:00	24/11/2018	16:23:51	22.53
P10	2	25/11/2018	18:18:56	27/11/2018	10:09:25	39.84	26/11/2018	03:33:00	27/11/2018	05:40:24	26.12
P10	3	27/11/2018	19:00:10	30/11/2018	11:38:24	64.64	28/11/2018	19:37:00	30/11/2018	09:53:43	38.28
P11	1	21/11/2018	18:34:05	24/11/2018	14:14:05	67.67	23/11/2018	00:27:00			*
P11	2	24/11/2018	19:57:02	27/11/2018	10:13:26	62.27	25/11/2018	08:34:00	27/11/2018	01:00:32	40.44
P11	3	27/11/2018	19:04:44	30/11/2018	17:56:36	70.86	28/11/2018	10:58:00	30/11/2018	13:33:46	50.60
P12	2	23/11/2018	17:55:53	25/11/2018	21:51:30	51.93	24/11/2018	01:38:00	25/11/2018	19:17:04	41.65
P12	3	26/11/2018	18:55:53	29/11/2018	10:55:08	63.99	27/11/2018	04:06:00	28/11/2018	21:04:47	40.98
P13	1	21/11/2018	18:51:09	23/11/2018	11:27:00	40.60	21/11/2018	21:45:00			*
P13	2	23/11/2018	17:48:02	25/11/2018	22:06:34	52.31	24/11/2018	15:05:00	25/11/2018	18:49:15	27.74
P13	3	26/11/2018	19:01:02	28/11/2018	10:59:02	39.97	26/11/2018	22:06:00	28/11/2018	08:28:21	34.37
P14	1	21/11/2018	19:04:45	23/11/2018	12:55:33	41.85	22/11/2018	00:27:00	22/11/2018	22:48:12	22.35
P14	2	23/11/2018	18:41:02	25/11/2018	11:16:41	40.59	23/11/2018	22:45:00	24/11/2018	22:22:17	23.62
P15	1	21/11/2018	19:15:32	24/11/2018	14:13:58	66.97	23/11/2018	00:59:00	24/11/2018	00:57:45	23.98
P15	2	24/11/2018	20:07:32	27/11/2018	10:18:47	62.19	25/11/2018	02:37:00	26/11/2018	20:22:01	41.75
P15	3	27/11/2018	19:09:09	29/11/2018	19:42:06	48.55	27/11/2018	23:17:00	29/11/2018	12:54:37	37.63
P16	1	23/11/2018	18:35:11	25/11/2018	11:18:46	40.73	23/11/2018	21:43:00	25/11/2018	03:10:45	29.46

P16	2	25/11/2018	18:28:32	28/11/2018	11:17:21	64.81	26/11/2018	08:59:00	28/11/2018	01:43:07	40.74
P17	1	23/11/2018	18:46:03	25/11/2018	11:18:51	40.55	24/11/2018	02:23:00			*
P19	1	25/11/2018	18:36:23	28/11/2018	11:17:11	64.68	26/11/2018	04:12:00	27/11/2018	21:11:02	40.98
P19	2	28/11/2018	19:01:45	1/12/2018	10:37:01	63.59	29/11/2018	00:17:00	30/11/2018	20:44:08	44.45
P20	1	25/11/2018	18:47:27	27/11/2018	10:27:47	39.67	25/11/2018	23:53:00	27/11/2018	00:07:43	24.25
P20	2	27/11/2018	19:25:29	29/11/2018	20:05:07	48.66	28/11/2018	06:10:00	29/11/2018	19:50:55	37.68
P21	1	25/11/2018	18:52:32	27/11/2018	11:02:03	40.16	25/11/2018	20:13:00			*
P21	2	27/11/2018	19:20:44	30/11/2018	11:37:06	64.27	28/11/2018	16:52:00	30/11/2018	05:52:31	37.01
P22	1	25/11/2018	19:09:32	28/11/2018	11:17:06	64.13	26/11/2018	03:30:00	27/11/2018	21:28:17	41.97
P22	2	28/11/2018	19:06:37	1/12/2018	10:37:49	63.52	29/11/2018	17:49:00	1/12/2018	03:35:23	33.77
P23	1	25/11/2018	19:10:41	27/11/2018	19:31:26	48.35	26/11/2018	02:52:00	27/11/2018	10:54:41	32.04
P23	2	28/11/2018	19:11:10	30/11/2018	11:37:14	40.43	28/11/2018	20:09:00	30/11/2018	07:00:43	34.86

Table S2. Details of the DD deployments.

Individual	Number of trips registered	Deployment		Recovery		Instrumented time (h)
		Date	Time	Date	Time	
P1	2	21/11/2018	20:00	25/11/2018	10:05	86.08
P2	2	21/11/2018	20:05	26/11/2018	09:00	108.92
P4	2	21/11/2018	20:10	26/11/2018	09:05	108.92
P5	2	21/11/2018	20:20	26/11/2018	09:15	108.92
P6	1	21/11/2018	20:30	26/11/2018	20:00	119.5
P7	2	21/11/2018	19:45	25/11/2018	10:00	86.25
P7B	1	25/11/2018	19:20	28/11/2018	10:00	62.67
P10	1	21/11/2018	20:35	24/11/2018	12:00	63.42
P11	2	21/11/2018	20:15	26/11/2018	09:10	108.92

Figure S1. Schematic illustration of: (A) an outgoing path (yellow line, and the respective outgoing angle), which typically runs perpendicular to the shore edge (the *I-path*) and reaches the sea close top the *I-point*–this path also being used by some incoming birds, (B) an incoming path (violet line, and the respective incoming angle) initiated as the bird lands on the shore at some distance to the *I-point* and illustrating the *beeline* pathway to the nest which is normally not taken. (C) shows an outgoing path as reference (yellow line) and how an incoming track (violet line) can typically be split into an in initial section where the bird moves at an angle (i.e. initial path angle) to the coastline but one that is less than the *beeline* before reaching the *I-path* (indicated as the start of the *I-segment*). (D) shows an outgoing path as reference (yellow line) and one *L/U-path* (violet line) where the bird takes a return angle that is greater than the *beeline* and therefore does not cross the *I-path*.

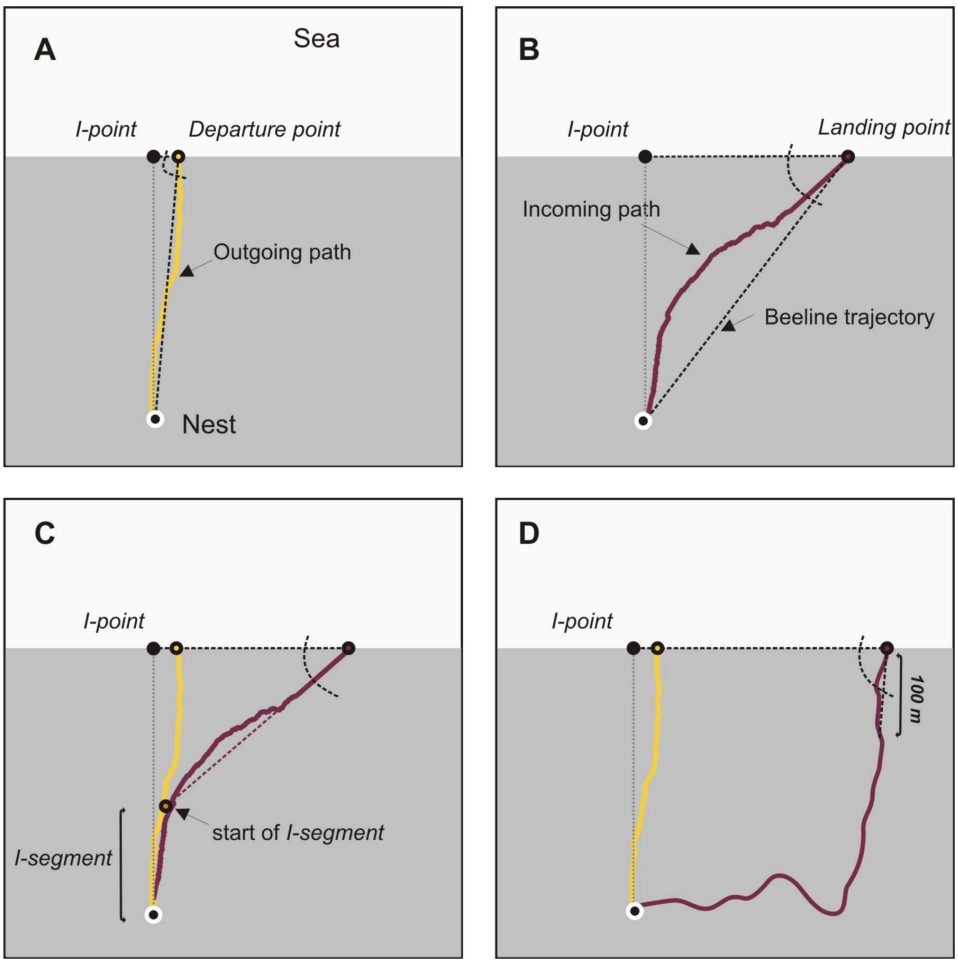

Figure S2. Schematic illustration of the different path types registered by adult Magellanic penguins commuting between the sea and their nest at San Lorenzo colony.