



**UvA-DARE (Digital Academic Repository)**

**Effect of wind, thermal convection, and variation in flight strategies on the daily rhythm and flight paths of migrating raptors at Georgia's Black Sea coast**

Vansteelant, W.M.G.; Verhelst, B.; Shamoun-Baranes, J.; Bouten, W.; van Loon, E.E.; Bildstein, K.L.

*Published in:*  
Journal of Field Ornithology

DOI:  
[10.1111/jof.12048](https://doi.org/10.1111/jof.12048)

[Link to publication](#)

*Citation for published version (APA):*  
Vansteelant, W. M. G., Verhelst, B., Shamoun-Baranes, J., Bouten, W., van Loon, E. E., & Bildstein, K. L. (2014). Effect of wind, thermal convection, and variation in flight strategies on the daily rhythm and flight paths of migrating raptors at Georgia's Black Sea coast. *Journal of Field Ornithology*, 85(1), 40-55.  
<https://doi.org/10.1111/jof.12048>

**General rights**

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

**Disclaimer/Complaints regulations**

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

Supplementary Table S2. Total migration intensity (TMI) per 2-hour interval (hr) and per day of year (DOY) for 11 species of raptors observed within 200 m range of two survey stations situated 2 and 6 km from the Black Sea coast. Species columns give TMI as calculated in 2008 and 2009, respectively. Day of year (DOY) 233 is 21 August and DOY 284 is 11 October.

		TMI																				
		<i>Sh.-t. Eagle</i>		<i>L. Spot. Eagle</i>		<i>Booted Eagle</i>		<i>Black Kite</i>		<i>Honey Buzzard</i>		<i>Steppe Buzzard</i>		<i>Marsh Harrier</i>		<i>Montagu's/Pallid harriers</i>		<i>Levant Sparrowhawk</i>		<i>Eurasian Sparrowhawk</i>		
DOY	hr	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	
233	10				2						201			2		27						
	12										143					10						
	14										176											
234	10										46					6						
	12										222											
	14						3									3						
235	12			8		4				287		2		5		4						
	14			5						303				2		22						
236	10									3035											6	
	12					26				1095	88	39		8							3	
	14			10		136	4			2396	6	40		71		2				4		
	16				4					5157												
237	18				9		2			1861			10		13							
	12				4		60			1815			8		9		3				3	
	16				15		28			2228			21		31							
238	18				3		5						11		89							
	12									18			5									
	14			2		26				218												
239	18				4		13			2499		152		2		14						
	10						59			2162				22								
	12			8		2	46			306		2	12	14		3	39		14			7

	14			5	17	22	49	2819	8640		40		7	3	37		7		5
	16			9	10	66	87	2922	5037				2	11	60		12		
240	10				2		31		552						37		3		15
	12				46		47		17561						13		18		63
	14			12	67	42	51	5415	17816			7	17	6	49	8	57		7
	16				28		11								11		27		32
241	10				11		7		15784		376		4		9		59		11
	12	2		19	37	212	21	5137	18319			10		28	10	32	21		36
	14			10		136		5451		4		8		34		47		3	
	16			8	16	42	21	1689	16546			6	10	27	24	61	45		8
242	10				6				2130		23		5		7		14		20
	12				27		33		9848				5		1		22		31
	14				30		5		9318				4		5		37		6
	16				7				5229				2				26		15
243	10				3						2		24		21				11
	12				19	29	276	1788	9702	4	8	14	17	24		9	31		18
	14				22		82		5263		10				10		33		22
	16				18		34		2521						5		22		16
244	10				2		56		1398				70		61		8		9
	12				18		1243		4188		4		49		76		32		29
	14				23		1478		6951		4		39		77		44		30
	16				6		299		4795		8		31		109		13		18
245	14	2		31		54		4321		8		2		15		88		2	
	16		2	8		28		1687				4		2		124		1	
246	10		2		9		76		2791		4		6		7		49		35
	12			16	8	75	8	4991	781		9	5	5	3	9	11	43		18
	14	2		14	18	193	26	5248	12178		6	8	9		6	22	17		22
	16						12		12624		7		6		6		69		11
247	10				2				198		4		30		27		24		9
	12			4		550		2754				36			48				
	14	3	9	34		1845		17342				41		114		84		3	
248	8						9		640				3		6		7		7
	12		12	31		893				6		11		18		37			
	14		2	28		583						7		11		72			
	16				4		10		1402		16		3		2		20		19

249	8						41														
	10				45	26	8725	330		49	5	110	36	172	19	4	3	26			
	12	2	11	22	5	779	143	14901	1790	2		11	8	17	10	43	12	19			
	14			51	4	426	136	7716	7934		3	4	4	4	111	131	40	17			
250	10			6		61	594	3423	2293			3	47	5	14	14		4	12		
	12			13	7	126	2331	7278	4297		8	30	13	24	17	18	61		22		
	14			33	13	131	1310	5902	8160		6	4	16	38	26	46	205		71		
	16	9			28		1258		12142		88		14		23		157		50		
251	14		2		14		75		9472			9		107				5			
252	12			8		585		6631				11		9		53			2		
	16		19	12		252		1454		5		3		3					25		
253	12					54		955				8		11		4			2		
	14				43	25		5398		10		6		3							
	16		7		44	29		1245				5		9		4					
254	8					8		844				28		33					3		
	10		2		9	13		1395		5		36		32		33			13		
	12		3		54	149		3085		3		27		43		114			17		
	14	4	6		43	352		2377		12		5		23		136			12		
255	16	9	11	158	388		1895		53		7		20		50			17			
256	10				17	115		134		9		22		40		43					
	14		13	67	7	549	889	6744	948	828	5	27	5	35	16	164	124	2	5		
	16				18	949		1822		31		14		9		43			22		
257	10				2			19				57		14		8			6		
	14		2	4				232	4	7		7									
	16	5			199	2089		2648		343				87		89			40		
258	12		10	14	993		799		26		26		21		26			15			
259	14			11	22	628	8	1364	284	7	20	93	33	82	9	4	36	5	8		
	16		25	86	2	472	2	730	75	394	173	37	6	31	7	9	2				
260	12	2			23		29	1803			57		59		14		254		14		
	14	5	17	35		859		367		300		32		20		29					
261	14	3	54	144	2068	1094		1095		27		8		40					35		
262	12	12	96	159	2825	187		2625		32		19		169					72		
263	10			3	315	171		894		49		40		14							
264	10	8	5	53	17	95	30	113	280	167	123	2587	5643	15	30	13	4	46	64	11	134
	12		20	40	535	2027		1992				3952		50		17		100		430	

266	10		4	12		23	91	7	54	5	7							
	12		38	54	285	40	3055	27	28	29	43							
267	12	20	22	71		652	3774	25	7	10	120							
	14		10	15	39	811	106	826	38	1094	180	15	28	47	5	11	8	86
	16	2		18					10		86		17			9		61
268	10	5		31	1487	534	264	1582	264	108	77	171	5		12	19	242	
	12	22	459	87	63	3804		566	565		26	8			1	6	241	
	14			29	143			988		12		16	3		4		12	
	16	53	187	287	2231	46	5485			6							126	
269	12		17	28	75	118	7377	28	12								22	
	14	11	125	39	306	86		28	28	17	31							
270	12	13	62	50	3682	244	7446	50	20	27	46							
271	16	11	125	19	269	248	16000	12	10	7	31							
273	10	4	16	20	94	70	2004	61	45	18	76							
	12	4	23	34	109	113	188	109	15	17	69							
	14	6	55	47	141	104	14969		14	18	106							
	16	17	283	33	115	11		19	10	3	58							
274	10				4			2										
275	12	4	42	14	755	38	682	23			194							
	16		3	3	105		106	6	5		15							
276	10			1	511	8	36	5	1		26							
277	10		10	3	105	41	305	5	2	2	24							
	12	17	142	10	251	37	780	10	2	5	69							
	14	15	356	10	287	55	3191	2		5	136							
	16	10	181		174	23	1454	2	2		56							
279	10				37	6	145	26	10		9							
	12	5	7	56	36	3	1	41	38	15	1370	301	18			154	28	
284	14	38	25			15					54							