

Article

# Migration and Morphology of Asymmetric Barchans in the Central Hexi Corridor of Northwest China

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## Supplementary Materials

**Table S1.** Grain-size distributions in the four subregions of the study area. LS, lacustrine surface; LUL, lacustrine under layer; GS, gravel surface; GUL, gravel under layer; OG, on the gravel layer; IG, in the gravel layer; UG, under the gravel layer; FT, front of the top; MT, middle of the top; BT, back of the top; SW, southwest of the vegetation dunes; SE, southeast of the vegetation dunes; WT, windward toe; LT, leeward toe.

	< 31	31-63	63-125	125-250	250-500	500-1000	>1000
GD							
LS	50.86	4.44	6.62	18.50	16.37	3.21	0.00
LUL	2.73	3.79	8.85	13.86	26.75	30.88	13.15
GS	18.77	5.27	15.46	23.67	22.48	13.25	1.10
GUL	18.77	5.27	15.46	23.67	22.48	13.25	1.10
SD1							
Crest	0.00	0.02	14.54	50.04	32.56	2.85	0.00
OG	0.00	0.00	5.64	43.27	44.58	6.52	0.00
IG	0.00	0.00	0.00	12.50	51.79	32.69	3.02
UG	3.07	17.49	47.60	28.44	2.38	0.94	0.08
SD2							
WT	0.00	0.00	2.29	11.15	26.69	41.02	18.85
Stoss	0.00	0.00	1.20	4.68	21.69	48.67	23.76
FT	0.00	0.01	6.03	18.59	22.62	32.96	19.80
MT	0.00	0.00	3.77	40.03	49.80	6.41	0.00
BT	0.00	0.00	6.36	40.82	45.94	6.89	0.00
Crest	0.00	0.00	2.06	25.23	48.39	23.96	0.36
LT	0.00	0.00	0.00	0.31	23.23	55.53	20.93
VD							
Top	0.00	0.44	8.30	28.61	43.74	18.92	0.00
SW	0.00	0.38	11.44	34.63	40.22	13.32	0.00
SE	0.38	0.66	16.59	33.12	24.17	17.28	7.81
SD3							
WT	0.00	0.00	0.00	14.61	62.84	22.38	0.17
Stoss	0.00	0.00	1.44	35.62	55.68	7.26	0.00
FT	0.00	0.62	4.84	36.70	50.09	7.75	0.00
MT	0.00	0.00	2.07	37.71	53.40	6.83	0.00

BT	0.00	0.00	3.59	42.25	50.03	4.13	0.00
Crest	0.00	0.00	0.62	38.96	57.39	3.03	0.00
LT	0.00	0.00	0.00	17.14	72.30	10.56	0.00

**Table S2.** Mean percentage frequencies of wind directions in the four quadrants and in four directions in the NW quadrant. NE, NE quadrant, wind direction is 0–90°; SE, SE quadrant, wind direction is 90–180°; SW, SW quadrant, the wind direction is 180–270°; NW, NW quadrant, wind direction is 270–360°.

	NW	SW	SE	NE
2000-2002	44.5±2.7	13.2±1.6	18.3±5.2	24.0±6.4
2002-2004	47.7±0.3	10.5±1.3	23.0±2.3	18.7±0.6
2004-2012	46.8±4.2	9.4±1.5	24.6±3.4	19.3±2.7
2012-2015	50.4±3.7	6.1±0.6	25.3±2.1	18.1±2.0
2002-2015	47.4±3.9	9.4±2.7	23.4±4.0	19.8±3.7