Table S1. Locations of wild boar nests. We randomly selected 20 out of 241 wild boar nests to collect environmental point cloud data.

Number	Sample	Latitude	Longitude
1	2021-04-23-12-10-28	42.9452	131.126132
2	2021-04-23-15-12-35	42.95173	131.12774
3	2021-04-25-10-29-46	43.22705	131.052397
4	2021-04-25-14-57-31	43.21385	131.04208
5	2021-04-26-14-17-33	42.98792	130.979705
6	2021-04-27-09-27-28	42.88134	130.858783
7	2021-04-27-13-22-13	43.12135	131.12092
8	2021-04-29-15-06-49	42.91438	131.00002
9	2021-05-09-13-23-16	42.88071	130.589645
10	2021-05-10-09-24-52	43.14933	130.770765
11	2021-05-10-10-42-41	43.04908	130.769783
12	2021-05-11-10-51-08	43.28988	131.214488
13	2021-05-15-12-01-07	43.33613	131.219142
14	2021-05-16-10-22-25	43.14541	131.16642
15	2021-05-17-11-08-33	43.42755	131.11578
16	2021-05-18-12-01-28	43.39257	131.179027
17	2021-05-19-09-47-40	43.36409	131.120197
18	2021-05-26-12-45-26	43.15732	130.918598
19	2021-05-28-13-13-54	43.2271	130.797055
20	2021-05-29-12-16-10	43.23155	130.955195

Table S2. The coordinates of the center point. The cartesian coordinate system was independently constructed for each sample, and the position of the nest in the corresponding sample was transformed into the form of (x, y, z). This transformation is beneficial to the orderly processing of the point cloud data.

Number	Sample	x	y	z
1	2021-04-23-12-10-28	-0.62	1.9849	0
2	2021-04-23-15-12-35	-1.5481	-0.2292	0
3	2021-04-25-10-29-46	0.1488	1.9407	0
4	2021-04-25-14-57-31	-2.2982	-2.0417	0
5	2021-04-26-14-17-33	-0.9897	-1.0452	0
6	2021-04-27-09-27-28	-2.786	-0.0692	0
7	2021-04-27-13-22-13	-1.1993	0.4729	0
8	2021-04-29-15-06-49	-0.9184	1.0576	0
9	2021-05-09-13-23-16	-1.2305	0.2088	0

10	2021-05-10-09-24-52	-1.2534	-0.3684	0
11	2021-05-10-10-42-41	-0.0114	1.2837	0
12	2021-05-11-10-51-08	-0.9848	-0.4515	0
13	2021-05-15-12-01-07	0.4978	1.5822	0
14	2021-05-16-10-22-25	0.1059	1.3791	0
15	2021-05-17-11-08-33	-0.8445	1.4189	0
16	2021-05-18-12-01-28	0.5956	1.1501	0
17	2021-05-19-09-47-40	0.0619	0.9523	0
18	2021-05-26-12-45-26	0.3513	0.8418	0
19	2021-05-28-13-13-54	-0.3107	1.5419	0
20	2021-05-29-12-16-10	-0.343	1.1519	0

Table S7. In the standing behaviors scene (h = 1 m), the tiger's visibility changes with the distance and the rate of change of the visibility. The curve equation represents the relationship between visibility change and distance change in each sample, and the derivative function represents the relationship between visibility change rate and distance change.

Number	Sample	Curve equation	R^2	P-value	Derived function
1	2021-04-23-12-10-28	1.079-0.257*log(x)	0.848	***	-(0.257 * (1/x))
2	2020-04-23-15-12-35	1.042-0.216*log(x)	0.789	***	-(0.216 * (1/x))
3	2021-04-25-10-29-46	1.086-0.274*log(x)	0.892	***	-(0.274 * (1/x))
4	2021-04-25-14-57-31	1.092-0.237*log(x)	0.826	***	-(0.237 * (1/x))
5	2021-04-26-14-17-33	1.055-0.293*log(x)	0.864	***	-(0.293 * (1/x))
6	2021-04-27-09-27-28	1.056-0.265*log(x)	0.9	***	-(0.265 * (1/x))
7	2021-04-27-13-22-13	1-0.209*log(x)	0.818	***	-(0.209 * (1/x))
8	2021-04-29-15-06-49	1.103-0.263*log(x)	0.877	***	-(0.263 * (1/x))
9	2021-05-09-13-23-16	1.059-0.213*log(x)	0.862	***	-(0.213 * (1/x))
10	2021-05-10-09-24-52	1.027-0.219*log(x)	0.808	***	-(0.219 * (1/x))
11	2021-05-10-10-42-41	1.009-0.219*log(x)	0.787	***	-(0.219 * (1/x))
12	2021-05-11-10-51-08	1.076-0.275*log(x)	0.909	***	-(0.275 * (1/x))
13	2021-05-15-12-01-07	0.965-0.187*log(x)	0.753	***	-(0.187 * (1/x))
14	2021-05-16-10-22-25	1.079-0.214*log(x)	0.894	***	-(0.214 * (1/x))
15	2021-05-17-11-08-33	1.084-0.297*log(x)	0.852	***	-(0.297 * (1/x))
16	2021-05-18-12-01-28	0.876-0.224*log(x)	0.885	***	-(0.224 * (1/x))
17	2021-05-19-09-47-40	0.992-0.269*log(x)	0.928	***	-(0.269 * (1/x))
18	2021-05-26-12-45-26	1.064-0.236*log(x)	0.853	***	-(0.236 * (1/x))
19	2021-05-28-13-13-54	0.956-0.225*log(x)	0.851	***	-(0.225 * (1/x))
20	2021-05-29-12-16-10	1.040-0.221*log(x)	0.884	***	-(0.221 * (1/x))

Table S8. In the ambush behavior scene (h = 0.5 m), the tiger's visibility changes with distance changes, and the rate of change of the visibility. The curve equation represents the relationship between visibility change and distance change in each sample, and the derivative function represents the relationship between visibility change rate and distance change.

Number	Sample	Curve equation	R^2	P-value	Derived function
1	2021-04-23-12-10-28	0.971-0.248*log(x)	0.828	***	-(0.248 * (1/x))
2	2021-04-23-15-12-35	1.008-0.279*log(x)	0.91	***	-(0.279 * (1/x))
3	2021-04-25-10-29-46	0.983-0.285*log(x)	0.951	***	-(0.285 * (1/x))
4	2021-04-25-14-57-31	0.998-0.265*log(x)	0.909	***	-(0.265 * (1/x))
5	2021-04-26-14-17-33	0.933-0.298*log(x)	0.916	***	-(0.298 * (1/x))
6	2021-04-27-09-27-28	0.955-0.281*log(x)	0.943	***	-(0.281 * (1/x))
7	2021-04-27-13-22-13	0.926-0.247*log(x)	0.846	***	-(0.247 * (1/x))
8	2021-04-29-15-06-49	1.104-0.309*log(x)	0.883	***	-(0.309 * (1/x))
9	2021-05-09-13-23-16	0.954-0.214*log(x)	0.904	***	-(0.214 * (1/x))
10	2021-05-10-09-24-52	0.900-0.247*log(x)	0.88	***	-(0.247 * (1/x))
11	2021-05-10-10-42-41	0.918-0.232*log(x)	0.884	***	-(0.232 * (1/x))
12	2021-05-11-10-51-08	1.063-0.289*log(x)	0.919	***	-(0.289 * (1/x))
13	2021-05-15-12-01-07	0.868-0.244*log(x)	0.857	***	-(0.244 * (1/x))
14	2021-05-16-10-22-25	1.026-0.246*log(x)	0.948	***	-(0.246 * (1/x))
15	2021-05-17-11-08-33	1.112-0.341*log(x)	0.86	***	-(0.341 * (1/x))
16	2021-05-18-12-01-28	0.838-0.249*log(x)	0.917	***	-(0.249 * (1/x))
17	2021-05-19-09-47-40	0.913-0.284*log(x)	0.922	***	-(0.284 * (1/x))
18	2021-05-26-12-45-26	0.978-0.252*log(x)	0.821	***	-(0.252 * (1/x))
19	2021-05-28-13-13-54	0.892-0.241*log(x)	0.876	***	-(0.241 * (1/x))
20	2021-05-29-12-16-10	0.968-0.254*log(x)	0.918	***	-(0.254 * (1/x))

Table S10. Range of point clouds used to project to the corresponding minimum enclosing rectangle. In Cartesian coordinates, different quadrants correspond to different formulas due to changes in direction (θ).

Value of direction (θ)	The expression for line x1	The expression for line x2	The expression for line y1	The expression for line y2
0<θ<90	$x1 = \frac{y}{-\tan(\theta)}$	$x2 = \frac{y - D/\cos(\theta)}{-\tan(\theta)}$	$y1 = \tan(90-\theta) * x - \frac{w/2}{\sin(\theta)}$	$y2 = \tan(90-\theta) * x + \frac{w/2}{\sin(\theta)}$
θ=90	$x1 = 0$	$x2 = D$	$y1 = -\frac{w}{2}$	$y2 = \frac{w}{2}$

90<θ<180	$x1 = \frac{y}{\tan(180-\theta)}$	$x2 = \frac{y + {D}/{\cos(180-\theta)}}{\tan(180-\theta)}$	$y1 = -\tan(\theta-90) * x - \frac{w/2}{\sin(180-\theta)}$	$y2 = -\tan(\theta-90) * x + \frac{w/2}{\sin(180-\theta)}$
θ=180	$x1 = -\frac{w}{2}$	$x2 = \frac{w}{2}$	$y1 = 0$	$y2 = -D$
180<θ<270	$x1 = \frac{y + {D}/{\cos(\theta-180)}}{-\tan(\theta-180)}$	$x2 = \frac{y}{-\tan(\theta-180)}$	$y1 = \tan(270-\theta) * x - \frac{w/2}{\cos(270-\theta)}$	$y2 = \tan(270-\theta) * x + \frac{w/2}{\cos(270-\theta)}$
θ=270	$x1 = 0$	$x2 = -D$	$y1 = -\frac{w}{2}$	$y2 = \frac{w}{2}$
270<θ<360	$x1 = \frac{y - {D}/{\cos(360-\theta)}}{\tan(360-\theta)}$	$x2 = \frac{y}{\tan(360-\theta)}$	$y1 = -\tan(360-\theta) * x - \frac{w/2}{\sin(360-\theta)}$	$y2 = -\tan(360-\theta) * x + \frac{w/2}{\sin(360-\theta)}$
θ=360	$x1 = -\frac{w}{2}$	$x2 = \frac{w}{2}$	$y1 = 0$	$y2 = D$