

# Global Messenger Tracker Information Service Platform (V3.04) User Manual

# 1. Platform Introduction

The Global Messenger Satellite Tracking Data Service Platform V3.04 is a specialized software for the management and data services of Hunan Global Messenger Technology Co., Ltd.'s wildlife satellite tracker products. The system is developed based on GIS technology and incorporates knowledge related to movement ecology. It has functions such as equipment management and remote control, track data management, extended sensor data management, animal ecology analysis, map services, data visualization, and data interaction. The system interface is shown in the following figure:



Figure 1.1 system interface

# 2. Account And Permission

The current version of the account is provided by Hunan Global Messenger Technology Co., Ltd. (hereinafter referred to as the "Company"). The 3.05 version will enable users to freely register accounts. Additionally, it supports guest login without an account, as illustrated in the figure below.



Figure 2.1 login interface







### 2.1. Account registration

After clicking User Registration on the login interface, enter the account, password and email address to be registered, and then click Next, and then you will receive a verification code for the email address you fill in, and enter the received **verification code** into the pop-up window to complete the account creation.

less Create Account		×		
Account			🦢 Create Account	×
Password Email		_ @	Verification Code	Valid for 5 minutes.
	Contitue Cancel			Create Cancel

Figure 2.2 account registration

### 2.2. Language And Site Settings

It supports two language versions: Chinese and English, and provides three access sites in Asia, Europe, and North America, as shown in the figure below.

6		¢ ×		¢ ×
Tracking	data mana accoment existen	×	Settings	× nt system
GLOBAL MESSENGER	Language Region Chinese (Simplified) English	MESSENGER	● Azia ○ Europe ○ North America	
All rights reserved by ©2	0K Can	cel All r:	OK Cancel ights reserved by ©2024 Hunan Global Mess	senger Technology Co, Ltd.

Figure 2.3 settings interface

### **2.3. Account Information Maintenance**

The [Account Information] interface allows you to modify your profile picture, region, phone number, password, and email address. This is shown in the figure below.

test01	
Institution/Organization	
湖南环球信士科技有限公司	
Name *	
16月月	
Code	Phone number
400 Cl /	1378674978
™00, UNINA V	
-oo, china 🔍 Email	

Figure 2.4 account information

[Update Email] Enter a new email address and enter the verification code received by the email address to change the email address, as shown in the following figure.





Technical Support QQ: 65061902

Reset password	×	New Email		
Old password			Send veri	fication code
New password		Verification Code 📗		
New password				

Figure 2.5 change your password and email address

# 3. Device Management

### 3.1. Device List

The list adopts a multi-level hierarchical structure, and users can create any folder as needed. The device directory can be managed by dragging and dropping with the mouse. As shown in the following figure.



Figure 3.1 device list

(1) Experience Devices: All users can get the full data permission of 2 devices, which can be used to experience the functions and data management mode of the tracking product. You can right-click [Device List] to open the experience area, and you can also close the experience directly when you don't need it.

Devices	I	ayers		<b>H</b>	Devices		Layers		_
			Show all						Show al
selecte	d.	<u>C</u>	lear selection	0	select	ted.		1	<u>Clear selectio</u>
de Cic Devi	ce I	list-[17]		8-	De De	vic	≥ List-[17]	.[2]	
	Ð	Last Fix				Č	All Fixes	F3	
ė OB I		Experience on				њ	Last Fix		71
1	-0	New Folder(N)				-	Experience off		
	-	Expand All					Experience on	1011	_
	÷	Collapse All				B	Rename	F2	
		Refresh(R)			1	-0	New Folder(N)		
100	7.12					×	Delete(D)		
						_			

Figure 3.2 Turn the experience device on and off

(2) Device Search: Enter the device name, IMEI, species name, device type, sensor type, battery, shareable, duration, and last active time in the search box to quickly find the device. Fuzzy query is supported, as shown in the following figure.





Show all	De Filtering conditions	
0 selected. <u>Clear selection</u> □ <b>Device List-[6]</b> □ · · · · · · · · · · · · · · · · · · ·	B- Sensor type     Device type     Downloadable     Device Control     Device Shareable     Device Control     Device Cont	6. #

Figure 3.3 device search

(3) Query Latest Location: Select "Last Fix" from the right-click menu of folder nodes and device nodes to display the latest location distribution of devices on the map, as shown in the following figure.



Figure 3.4 last position of the device

### **3.2. Directory Management**

(1) Create A New Folder: The main account can create new folder nodes, modify folder names, and manage the dependency relationship between folders and devices by dragging the mouse.

(2) Remove Folders: The main account can delete folder nodes that do not contain devices.

### 3.3. Device Management

- (1) Device Renaming: Accounts with renaming permission can modify device names.
- (2) Device Location Change: The main account can drag the device with the mouse to



change its location to a different folder.

(3) **Remote Control:** In the device list, select a single device and choose "Change Collection Schedule" or "Change Transmission Schedule" from the context menu. The collection time can be set to hourly or customized, and you can view the device's remaining battery life and last working time. The data return time can be adjusted based on the number of collection points. Changes can be monitored in the Remote Control window, as illustrated below.

<ul> <li>□ In Device List-[232]</li> <li>□ ○ 2021环球信士安装-</li> <li>□ ○ 湖南环球信士 (202</li> <li>□ ○ 湖南环球信士 (202</li> <li>□ ○ 湖南环球信士 (202</li> <li>□ ○ 2022牛背號-[6]</li> </ul>	[7] 1) -[81] 2) -[7]			
	All Fixes	F3		
	Last Fix			
	Rename	F2		
● ○ ◇ 豆雁 - 2022	Remote Control	•	B	Change collection schedule
田田♥♥ 湖南环球信士 田田♥♥ 湖南环球信士	Property(Q)	1.12	Bo	Change transmission schedule
<ul> <li>□ ○ 湖南环球信士 (测ii</li> <li>□ ○ 湖南环球信士科技者</li> </ul>	t)-[39] 郭限公司-[84]		Ī	

Figure 3.5 remote control

Ierminal details Animal TB 2022牛首驢@牛背髓02.GIZ002.长沙。20220530	Terminal details
Battery level (1) 4.04 V	Animal ID 2022牛背鹭@牛背鹭02.GIZ002.长沙.20220530
Last transmission time 2023-10-19 15:00:21	Battery level ( 4.04 V
UTC +08:00 [00:00, 03:00, 06:00, 09:00, 12:00, 15:00, 18:00, 21:00]	Last transmission time 2023-10-19 15:00:21
New collection schedule	Data Transmission Transmission every 5 fixes 🗸
Time Zone UTC +08:00 V Obtaining the local Time Zone	New transmission schedule
00:00         04:00         18:00         18:00         20:00           01:00         06:00         19:00         13:00         17:00         21:00           02:00         06:00         11:00         16:00         22:00           03:00         07:00         11:00         15:00         23:00	Schedule 🗸 🗸
All Daytime Night Odd Even Clear	Send time
Send time	O Immediately ○ Specified Time 2024-05-22 16:00 ∨
O Immediately ○ Specified Time 2024-05-22 16:00 ■▼	
lote: 2 changes per day only. Send Cancel	Note: 2 changes per day only. Send Cancel

Figure 3.6 change collection and transmission schedule

(4) Device Details :Right click on the device and click on [property(Q)], or double-click on the device node to view the information of the device, including IMEI, name, caption, owner, model, status, battery, transmission, expiry date, description, sensors, subscribe, and other information. Click on "Species Information" in the bottom left corner of the device details interface to display the detailed information of the species, as shown in the following figure.





evice informa	ation		Species type	O Bird	🔿 Mann al.	○ 0thers
IMEI	035760067	2	Species Info			
¥	小 装飾の . CTTON2 . たいり . 202	20620	Species	牛背驢	* S	cientific name
Name	十月號02 - 012002 - 天沙 - 202	20630	Sex	Unknow	V Age Unknow	v V#ight(g)0.00
Caption			Physical Chara	acteristics (cm)		
Owner	湖南环球信士(2022)		Head	0.00	Bill 0.00	Bill width 0.00
Model	HQBG1206H	Status Active	Bill height	0.00	Ving 0.00	Vingspan 0.00
				0.00	Tail 0.00	Body 0.00
Dattery	(1001) 4.04 V					
Fransmission	2023-10-19 15:00:21	Expiry Date Overdue 357 days	- Nount Into		Tagging 2022-05-30 14:0	0:00 Release
Description			Release lon		Release	lat
			Release site			
ensors						
🗞 🖾 CHS	S 🔐 💭 Acceleratio	n 💧 🗌 Temperature 🛛 🞯 🗌 Pressur				
Pic Pic	ture 🚺 🚺 Video	🚺 🗌 Audio 🛛 🔝 🛄 Water I	pth Additional Inf	fo		
🙆 🗌 Red	å Infrare Light 🔆 🗎 L	ight Intensity 🛛 🙆 🗌 Humidit	Fiel	14	Value	
			•			
ubscribe						
C 12	e Trigger 🛛 🔽 Instruct	ion Feedback 🔄 Position Update				

Figure 3.7 tracker property and species information

(5)Device List:Select [Device List] from the navigation bar at the top of the interface to display all device details under the current account, which can be exported to an Excel spreadsheet, as shown in the following figure.

Device L	ist									Remote	control details		
Folder	Device	IMEI	Model	Sensors 🥹	Status	Collection 👻	Transmission	Remote Control	Download data	Edit fix	Edit	Share	Battery
牛背號	FINE205	046113442	HQBG1206	6855	stive	UTC +08:00 [00:00, 0	Every 5 fixes	No permission	4	- A	No permission	d.	( <b>5</b> 5 3.86 <sup>•</sup>
牛背號	牛背號01・70	V28092334	HQBG1206	Acceleration	rtual	Customized	Every 5 fixes	No permission	4	4	No permission	4	( <b>100)</b> 4.22 \
牛背鰭	牛背驢02・70	039342896	HQBG1206	💩 Temperature	otive	VTC +08:00 [01:00, 0	Every 5 fixes	No permission	1	4	No permission	4	4.07
牛背鹭	牛背驢03・FD	041759021	HQBG1206	@ Pressure	stive	VTC +08:00 [01:00, 0	Every 5 fixes	No permission	1	1	No permission	4	( <b>196</b> ] 4.15 \
牛背腦	牛背辙04 · FD	V23085650	HQBG1206	Picture	rtual	Custonized	Every 5 fixes	No permission	1	4	No permission	1	4.12
牛背號	牛背猿05・70	¥12102232	HQBG1206	Audio	rtual	Custonized	Every 5 fixes	No permission	4	4	No permission	4	4.01
牛背號	牛背簸06・70	041739502	HQBG1206	🛃 Water Depth	otive	UTC +08:00 [01:00, 0	Every 5 fixes	No permission	4	4	No permission	4	dissi 4.13 \
牛背驢	牛背驢07・FD	041739494	HQBG1206	👌 Red & Infrare Lig	at stive	VTC +08:00 [01:00, 0	Every 5 fixes	No permission	4	4	No permission	4	4.14
牛背鹭	牛背驢08 · FD	V09105234	HQBG1206	🔅 Light Intensity	rtual	Custonized	Every 5 fixes	No permission	4	4	No permission	4	ding 3.96 V
牛背號	牛背驢09 · FD	039341633	HQBG1206	🙆 Hunidity	tive	UTC +08:00 [00:00, 1	Every 5 fixes	No permission	4	.1	No permission	4	d10 3.68 V
牛背號	牛背號10·70	¥17133615	HQBG1206	6.	Virtual	Customized	Every 5 fixes	No permission	4	4	No permission	4	4.12
牛背驢	牛背號11・70	041722961	HQBG1206	6.2	Active	VTC +08:00 [00:00, 0	Every 5 fixes	No permission	4	4	No permission	4	dissi 4.17 V
牛背鳍	牛背驢12 · FD	041739544	HQBG1206	6.2	Active	VTC +08:00 [00:00, 0	Every 5 fixes	No permission	4	4	No permission	4	4.10
牛背鹭	牛背驢13 · FD	041739411	MQBG1206	62	Active	UTC +08:00 [00:00, 0	Every 5 fixes	No permission	4	4	No permission	4	4.07
牛背驢	牛背辙01・60	046085059	HQAN40U10	6	Active	UTC +08:00 [00:00, 0	Every 5 fixes	No permission	4	./	No permission	4	015 3.73 V
2022牛背號	牛背號02・GI	035760067	HQBG1206H	6	Active	VTC +08:00 (00:00, 0	Every 5 fixes	4	4	1	No permission	4	4.04
2022牛背鳞	牛背驢03・GI	035760075	HQBG1206H	6.00	Active	VTC +08:00 [03:00, 0	Every 5 fixes	4	4	4	No permission	4	d <b>960</b> 4.14 1
2022牛背鹭	牛背辙04 · HQ	046065317	HQBG1206	6.20	Suspended	VTC +08:00 [00:00, 1	Every 5 fixes	4	4	4	No permission	4	d <mark>#0</mark> 3.80 \
2022牛背鹭	牛背辙05 · HQ	046122864	HQBG1206	6.00	Active	VTC +08:00 [00:00, 1	Every 5 fixes	4	1	4	No permission	1	4.10
2022牛背鹭	牛背辙06 · HQ	035746660	HQBG1206H	6	Active	VTC +08:00 [00:00, 0	Every 5 fixes	No permission	1	1	4	1	( <b>3</b> .95 \
2022牛背號	牛背號07·HQ	035706391	HQBG1206H	6 <sup>m</sup>	Active	VTC +08:00 (03:00, 0	Every 5 fixes	4	4	4	No permission	4	diam 4.051

Figure 3.8 device list

# 4. Track Data Query

### 4.1. Quick Query Track

In the device list, select a single device and select "All Fixes" from the right-click menu to query all tracks and fixes of the device, which will be displayed on the map, as shown in the following figure.







Figure 4.1 view all tracks and fixes of a single device

# 4.2. Query Track By Criteria

After checking the devices to be queried in the device list, enter the location data management window. You can query the track of multiple devices according to three time methods: [last] days, [by year] and [time range], or add more query conditions, such as speed, course, altitude and temperature, as shown in the figure below.

Layers	○ Last 1 v d	кух О	By year 2022 🗸	O Time Range	: 2024-0	05-20 00:0	0:00	- 200	4-06-20 23	:59:59 🧻 -		🛛 Mer e 📑	9 🔍	Query			Data standard	4		
Y Show_all	Davine	TNUT	Tine	FN Looritude	W. L	ati tuda	Sneed	Corra	altitule	Tennerature	Voltare	Lativity	Satallitas	HIDE	VTOP	PracinienGrada	Validity Z	7	7	Transmission Time
Line selection	H SPIERO . CTTORO . H	036 202042	0000-10-01 01-00-01	¥ 108 8149000	¥ 10	9249000	0.0	184	52.0	01.0	4.101	220	10	0.0	0.8		Yes.		1	2022-01-01 01 04 16
IF球偷士安装-[7]	+ 19 then - ottobe - p	036700067	2022 12 31 21:00:31	T 100.0143200	× 10	3240000	0.0	179	0.0	24.0	4.101	0147	10	0.8	0.0		Tes		-	2023-01-01 06:04:16
日平時信士(2021)-[81] 日平時信士(2022)-[7]	+ 19 the - ottobe - p	036700067	2022 12 31 10:00:19	F 100.011000	¥ 10	2221000	0.0	240	0.0	40.0	4.100	1407		0.0	0.0		Tes .			2023-12-21 15:02:56
2022牛脊髓-[6]	+ 19 there - ottobe - fc	036700067	2022 12 31 10:00:20	¥ 100.0011000	¥ 10	3102200	0.0	200	49.0	40.0	4.170	467		0.0	0.0		Yes			2022 12 31 15:03:56
4背腦03 · GIZ006 · 长沙 · 20220530	+ settor . ormore . k	036700067	2022 12 31 12:00:23	T 100 000000	¥ 10	2202200	0.0	260	55.0	90.6	4.100	636	0	0.9	0.1		Yes	-	-	2022 12 31 15:03:50
牛胃類04・HQP2093・長沙・20220530 牛胃類05・HQP4205・長沙・20220530	+ 121302 - OTTOCO - AS	035700067	2022-12-21 08:00:40	1 102 21 44500	×		0.0	200	55.0	61.5	4.120	20		0.0	0.0		100			2022-12-01 15:03:50
↓牛背鹱08 · HQF5367 · 长沙 · 20220616	A Waters - ormore - As	035700067	2022-12-21 02:00:21	7 100 0144100	¥ .	🛃 More	Condition	5			X	49		0.9	0.9		X.c.			2022-12-01 15 02 50
▲ 件智慧07、HQ16368、长沙、20220616 円編-2022、冬季南洞院-[1]	+ # # # # # # # # # # # # # # # # # # #	036160067	2022-12-51 03:00:21	1 100.0144100			field		Operate	Value		40		0.0	0.0		1+5			2022-12-31 16:03:66
研想信士 (2023) -[11]	+ # # # # # # # # # # # # # # # # # # #	035160067	2022-12-51 00:00:42	1 100.0144000	a :		Spee	d.	>=		13	110	13	0.7	0.7		1+5			2022-12-31 00:04:13
研修論士 (測试)-[39]	+ # # # # C2 + G120C2 + TC	035160057	2022-12-50 21:00:30	1 105.0143400	3 1		Court	Le .	>=		20	250		1.4	1.0	*	145		-	2022-12-31 00:04:13
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	年前第12 · 612002 · 长	035760067	2022-12-30 15:00:19	108.8340100	3 1	0	Tenpers	ture	>=		1	2433	6	1.1	0.9	*	lex			2022-12-31 00:04:13
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	4 W MU2 · 612002 · +	035760067	2022-12-30 06:00:19	108.9539400	3 1					W: Terry	5/	1	a	0.9	0.8		lex	-		2022-12-30 09:04:16
	中制銀02・612002・長	035760057	2022-12-30 03:00:19	108.9541700	3 1	Time Filt	er 02:00	0.02:01	- ne : 00	D 05:00 D	06:00	94	12	0.7	0.8	k	lex	-		2022-12-30 09:04:16
	牛育號02 · GIZ002 · 长	035760067	2022-12-30 00:00:42	1 108.9539600	8 11	07:00	00:00	09:00	10:00		12:00	67	15	0.6	0.8	Å	Yes	-	-	2022-12-30 09:04:16
	牛育號02 · GIZ002 · 长	035760067	2022-12-29 21:00:26	£ 108.9547400	8 1	13:00	14:00	15:0	16:00	. 17:00	18:00	339	9	0.8	0.8	Å	Yes	_	-	2022-12-30 09:04:16
	牛帽猫02 · 612002 · 长	035760067	2022-12-29 18:00:42	I 108.9539900	8 1	19:00	20:00	21:0	22:00	23:00	00:00	971	14	0.7	0.8	k	Yes	_	-	2022-12-29 18:04:18
	牛背狼02 · GIZ002 · 长	035760067	2022-12-29 15:00:21	E 108.8794100	8 1	Deselec	t		08	Cane	1 5	1728	8	0.8	1.8	k	Tes	_		2022-12-29 18:04:18
	牛背狼02 · GIZ002 · 长	035760067	2022-12-29 12:00:42	I 108.8890600	8 11.		1				.61	3391	13	0.9	0.8	k	Tes	_	-	2022-12-29 18:04:18
	牛背猿02 · GIZ002 · 长	035760067	2022-12-29 09:00:28	I 108.0894600	\$ 19	. 3149400	0.0	123	91.0	24.1	4.125	2109	5	1.9	0.8	B	Tes	_	_	2022-12-29 18:04:18
	牛背猿02 · GIZ002 · 长	035760067	2022-12-29 06:00:32	E 108.8778300	\$ 19	. 2580200	0.0	85	42.0	26.4	4.119	13	10	0.8	0.8	٨	Tes		_	2022-12-29 18:04:18
	牛背猿02 · GIZ002 · 长	035760067	2022-12-29 03:00:42	1 108.8778800	\$ 19	. 2879400	0.0	282	44.0	27.2	4.152	4	9	0.8	0.8	٨	Tes		_	2022-12-29 03:04:11
	牛背猿02 · GIZ002 · 长	035760067	2022-12-29 00:00:21	108.8780700	\$ 19	. 2875300	0.0	197	59.0	27.3	4.170	24	8	0.8	0.8	٨	Tes			2022-12-29 03:04:11
	牛背猿02。GIZ002。长	035760057	2022-12-28 21:00:21	1 108.8778900	\$ 19	. 2876900	0.0	83	9.0	28.1	4.173	673	7	0.9	0.9	٨	Tes			2022-12-29 03:04:11
	牛背腦02・GIZ002・长	035760067	2022-12-28 18:00:19	108.8782700	\$ 19	.2881400	0.0	334	83.0	21.8	4.179	3476	11	0.7	0.8	٨	Tes			2022-12-29 03:04:11
	牛背篷02 · GIZ002 · 长	035760067	2022-12-28 15:00:18	E 108.8371700	\$ 19	. 3333200	0.0	69	89.0	36.4	4.191	661	8	0.9	0.9	٨	Yes			2022-12-29 03:04:11
	牛背腦02・GIZ002・长	035760067	2022-12-28 12:00:20	108.8480300	8 19	3336200	0.0	349	41.0	47.8	4.188	3761	15	0.9	0.7	٨	Yes			2022-12-28 12:03:49
	牛背蠻02 · GIZ002 · 长	035760067	2022-12-28 09:00:42	108.8286000	8 19	3254700	0.0	286	39.0	30.7	4.119	1299	13	0.6	0.7	٨	Yes			2022-12-28 12:03:49
	牛背猫02 · GIZ002 · 长	035760067	2022-12-28 06:00:34	108.8144500	8 19	3243000	0.0	186	62.0	26.4	4.107	6	8	1.1	0.8	٨	Yes			2022-12-28 12:03:49
	牛背箍02 · GIZ002 · 长	035760067	2022-12-28 03:00:42	E 108.8144800	8 19	3241800	0.0	14	62.0	26.5	4.113	1	10	0.9	0.8	٨	Yes			2022-12-28 12:03:49
	牛背箍02 · GIZ002 · 长	035760067	2022-12-28 00:00:42	E 108.8145500	8 19	3241800	0.0	214	94.0	26.8	4.122	35	9	0.9	0.8	٨	Yes			2022-12-28 12:03:49

Figure 4.2 query the track by condition

### 4.3. Invalid Data Processing

When some loci need to be masked, you can choose to "Convert to invalid data", which will be filtered out when create tracks or statistic (note: this operation is irreversible, Please be cautious).





○ Last 1000 ∨ d	sys 🛛 🔿	By year 2024 🗸		) Time Range:	203	24-05-	23 00:00	:00	- 202	4-05-23 23	3:59:59 🗍 -		More	8	Query	r	Data standards					
Device	IMEI	Time	EW	Longi tude	KS	Lati	tude	Speed	Course	Altitude	Tenperature	Voltage	Activity	Satellites	HDOP	VDOP	PrecisionGrade	Validity	Transmission Time			
牛背蠻02 · GIZ002 · 长						10.00	21.01.00	0.0	000	2.0	35.5											
牛背骥02.GIZ002.长	035760067	2023-10-19 12:00:21	Ε	108.7981700	R	×	Create	Track(	F)		32.0	3.993	551	7	1.0	0.9	Å	Yes	2023-10-26 12:04:1			
牛背鸀02・GIZ002・长	035760067	2023-10-19 09:00:37	E	108. 7879900	R		Conve	rt to Im	valid Dat	a(T)	32.3	3.885	2317	8	0.9	0.8	٨	Yes	2023-10-26 12:04:1			
牛背髓02・GIZ002・长	035760067	2023-10-19 06:00:41	E	108. 7985100	B		Export	Excel F	ile(E)		30.6	3.861	154	11	0.7	0.7	A	Yes	2023-10-26 12:04:1			
牛背蠻02・GIZ002・长	035760067	2023-10-19 03:00:25	E	108. 7983700	B	2	Export	Shape	file(S)		29.5	3.918	141	6	1.2	0.8	A	Yes	2023-10-26 12:04:1			
牛背驢02・GIZ002・长	035760067	2023-10-19 00:00:42	Ξ	108.7984800	H	•	Export	: Kml Fi	le(K)		29.0	3.885	131	10	0.8	0.8	Å	Yes	2023-10-19 15:04:20			
牛背髓02.GIZ002.长	035760067	2023-10-18 21:00:42	E	108. 7984800	H	120	Statist	ics(S)			28.1	3.879	244	12	0.8	0.8	Å	Yes	2023-10-19 15:04:20			
牛背蠻02・GIZ002・长	035760067	2023-10-18 18:01:04	E	108.8168500	B		-				25.8	3.804	141	5	2.1	0.9	В	Yes	2023-10-19 15:04:20			
牛背驢02・GIZ002・长	035760067	2023-10-18 15:00:26	Ξ	108.8214500	B	100	Selecti	on		,	32.2	4.014	2467	6	1.4	0.9	Å	Yes	2023-10-19 15:04:20			
牛背鹭02・GIZ002・长	035760067	2023-10-18 12:00:22	E	108.8224800	H	19.24	432300	0.0	193	31.0	37.6	4.065	1468	9	0.8	0.8	٨	Yes	2023-10-19 15:04:20			
牛背髓02.GIZ002.长	035760067	2023-10-18 09:00:22	E	108.8288800	R	19.25	505100	0.0	9	39.0	32.5	4.008	1753	7	1.2	0.8	A	Yes	2023-10-19 15:04:2			
牛背驢02・GIZ002・长	035760067	2023-10-18 06:00:20	E	108.7977700	B	19.20	083400	0.0	34	119.0	27.3	3.954	73	10	0.8	0.8	Å	Yes	2023-10-19 15:04:2			
牛背驢02・GIZ002・长	035760067	2023-10-18 03:00:22	Ξ	108.7985000	H	19.20	080200	0.0	62	22.0	28.5	3.969	89	7	1.6	0.8	Å	Yes	2023-10-19 15:04:2			
牛背翳02・GIZ002・长	035760067	2023-10-18 00:00:19	E	108.7981200	R	19.20	081300	0.0	271	133.0	28.3	3.993	89	10	0.8	0.8	A	Yes	2023-10-19 15:04:2			

Figure 4.3 convert to invalid data

# 5. Track Graphics Generation

### 5.1. Create Track

In the location data management window, select "Create Track" in the right-click menu to generate all row data, or right-click a line, click 'selection', and then click generate track to generate the corresponding track diagram of the line, as shown in the figure below.

○ Last 1 ~ d	ays O	By year 2022 🗸	0	) Time Range:	203	24-05-20 00:	00:00		4-05-20 23	3:59:59 🗐 🖛		Mor*	9	Query	7	0	Data st	andar da			
Bevice	INEI	Time	EX	Longi tude	ЯS	Latitude	Spe	ed Course	Altitude	Tenperature	Voltage	Activity	Satellites	HDOP	VDOP	PrecisionGrade	Vali di ty	I	Y	Z	Transmission Time
牛背驢02・GIZ002・长	035760067	2022-12-31 21:00:37	E	108.8143200	N	19.3243000	0.	0 154	56.0	24.6	4.161	339	10	0.9	0.8	A	Yes				2023-01-01 06:04:16
牛背驢02・612002・長	035760067	2022-12-31 18:00:19	E	108.8145900	в	19.3240800		Create Tra	ck(E)		4.182	2167	10	0.8	0.8	A	Yes				2023-01-01 06:04:16
牛背號02・GIZ002・长	035760067	2022-12-31 15:00:26	Ξ	108.8371300	в	19.3321000					4.182	1467	8	0.8	0.8	A	Yes				2022-12-31 15:03:56
牛背驢02・GIZ002・长	035760067	2022-12-31 12:00:25	Ε	108.8300400	N	19. 3103700	•	Convert to	Invalid Da	sta(1)	4.179	657	8	0.9	0.7	A	Yes				2022-12-31 15:03:56
牛背鹭02・GIZ002・长	035760067	2022-12-31 09:00:18	E	108.8235800	N	19.3203800		Export Exc	el File(E)		4.128	636	9	0.8	0.8	A	Yes				2022-12-31 15:03:56
牛背號02・GIZ002・长	035760067	2022-12-31 06:00:42	Ξ	108.8144500	в	19.3242300	Ľ	Export Sha	pefile(S)		4.104	30	13	0.7	0.7	A	Yes				2022-12-31 15:03:56
牛背驢02・GIZ002・长	035760067	2022-12-31 03:00:21	E	108.8144100	ы	19.3243200	•	Export Km	File(K)		4.122	48	9	0.8	0.8	A	Yes				2022-12-31 15:03:56
牛背驢02・GIZ002・长	035760067	2022-12-31 00:00:42	E	108.8144500	N	19.3242400	8	Statistics(S	)		4.143	110	13	0.7	0.7	A	Yes				2022-12-31 00:04:1
牛背驢02・GIZ002・长	035760067	2022-12-30 21:00:30	Ξ	108.8143400	N	19.3242900	-	Selection			4.158	256	4	1.4	1.0	A	Yes				2022-12-31 00:04:1
牛背驢02・GIZ002・长	035760067	2022-12-30 18:00:45	E	108.8192600	N	19.3284100	0.1	310	30.0	27.5	4.161	1065	15	0.6	0.7	A	Yes				2022-12-31 00:04:1
牛背鹭02・GIZ002・长	035760067	2022-12-30 15:00:19	Ε	108.8340100	в	19.3153800	0.	0 49	47.0	31.4	4.191	2433	6	1.1	0.9	A	Yes				2022-12-31 00:04:13
牛背驢02・GIZ002・长	035760067	2022-12-30 12:00:42	Ξ	108.8349700	8	19.3139700	4.	4 23	37.0	33.0	4.164	3043	6	1.0	0.9	A	Yes				2022-12-31 00:04:13
牛背驢02・GIZ002・长	035760067	2022-12-30 09:00:42	Ε	108.8929800	ы	19.3108800	0.	0 4	109.0	25.0	4.125	1638	12	0.7	0.7	A	Yes				2022-12-30 09:04:1
牛背薖02・GIZ002・长	035760067	2022-12-30 06:00:19	Ε	108.9539400	в	19.3256100	0.	0 242	84.0	24.0	4.137	71	9	0.9	0.8	A	Yes				2022-12-30 09:04:1
牛背號02・GIZ002・长	035760067	2022-12-30 03:00:19	Ξ	108.9541700	в	19.3256500	0.	0 101	138.0	24.1	4.140	94	12	0.7	0.8	A	Yes				2022-12-30 09:04:1
牛皆辙02、GIZ002、长	035760067	2022-12-30 00:00:42	Ε	106.9539600	N	19.3258200	0.1	0 111	91.0	26.7	4, 131	57	15	0.6	0.8	A	Yes				2022-12-30 09:04:16

Figure 5.1 create track



Figure 5.2 track map interface





### 5.2. Export Track Data

In the location data management window, select "Export Excel File", "Export Shp File" and "Export Kml File" in the right-click menu, to export all row data as Excel / csv, Shape file, Kml format files, the coordinate system of the exported data is Wgs 84 geographic coordinates, or select a row to right-click the select row to export the data of the row.

○ Last 1000 ~ d	ays 0	By year 2024 V	0	) Time Range:	20	24-05-23 00:0	0:00	- 200	24-05-23 23	3:59:59		More	7 🔍	Quer	7	l	Data st	andards
Device	IMEI	Time	EW	Longi tude	NS	Latitude	Speed	Course	Altitude	Temperature	Voltage	Activity	Satellites	HDOP	VIOP	PrecisionGrade	Validity	Transmission Time
牛背驢02・GIZ002・长	035760067	2023-10-19 15:00:21	E	108.7975500	H	19.2318100	0.0	266	7.0	35.5	4.044	2860	15	0.8	0.7	A	Yes	2023-10-26 12:04:11
牛背驢02・GIZ002・长	035760067	2023-10-19 12:00:21	E	108.7981700	H	19.2313300	0.0	337	19.0	32.0	3.993	551	7	1.0	0.9	A	Yes	2023-10-26 12:04:11
牛背號02・GIZ002・长	035760067	2023-10-19 09:00:37	E	108.7879900	N	19.2335500	0.0	325	14.0	32. 3	3.885	2317	8	0.9	0.8	A	Yes	2023-10-26 12:04:11
牛背蠻02・GIZ002・长	035760067	2023-10-19 06:00:41	Ε	108.7985100	N	19.2078400	0.0	306	30.0	30.6	3.861	154	11	0.7	0.7	A	Yes	2023-10-26 12:04:11
牛背驢02・GIZ002・长	035760067	2023-10-19 03:00:25	E	108.7983700	н	19.2078600	0.0	310	35.0	29.5	3.918	141	6	1.2	0.8	A	Tes	2023-10-26 12:04:11
牛背鰭02・GIZ002・长	035760067	2023-10-19 00:00:42	Ε	108. 798480 📍	6	Create Track	(F)		10.0	29.0	3.885	131	10	0.8	0.8	A	Yes	2023-10-19 15:04:28
牛背驢02・GIZ002・长	035760067	2023-10-18 21:00:42	E	108. 798480	5	Convert to In	valid Da	ta(T)	49.0	28.1	3.879	244	12	0.8	0.8	A	Yes	2023-10-19 15:04:28
牛背鰭02・GIZ002・长	035760067	2023-10-18 18:01:04	Ε	108.816850	1	Even and Even II			01.0	25.8	3.804	141	5	2.1	0.9	В	Yes	2023-10-19 15:04:28
牛背驢02・GIZ002・长	035760067	2023-10-18 15:00:26	E	108.821450	2 e	Export Change	file(E)		26.0	32.2	4.014	2467	6	1.4	0.9	A	Tes	2023-10-19 15:04:28
牛背鰭02・GIZ002・长	035760067	2023-10-18 12:00:22	E	108.822480		Export Shape	l=(k)		31.0	37.6	4.065	1468	9	0.8	0.8	A	Yes	2023-10-19 15:04:28
牛背驢02・GIZ002・长	035760067	2023-10-18 09:00:22	E	108.828880		Export Kmi H	IE(N)		<b>39. D</b>	32.5	4.008	1753	7	1.2	0.8	A	Yes	2023-10-19 15:04:22
牛背驢02・GIZ002・长	035760067	2023-10-18 06:00:20	E	108. 797770		Statistics(S)			19.0	27.3	3.954	73	10	0.8	0.8	A	Yes	2023-10-19 15:04:22
牛背驢02・GIZ002・长	035760067	2023-10-18 03:00:22	Ε	108. 798500		Selection			• 22.0	28.5	3.969	89	7	1.6	0.8	A	Yes	2023-10-19 15:04:22
牛背蠻02・GIZ002・长	035760067	2023-10-18 00:00:19	E	108.7981200	N	19.2081300	0.0	271	133.0	28.3	3.993	89	10	0.8	0.8	A	Yes	2023-10-19 15:04:22
牛背驢02・GIZ002・长	035760067	2023-10-17 21:00:18	E	108.7983700	H	19.2078800	0.0	60	52.0	31.9	4.008	239	6	1.1	0.8	A	Yes	2023-10-19 15:04:22
牛背蠻02・GIZ002・长	035760067	2023-10-17 18:00:42	E	108.8007600	N	19.2261600	0.0	8	22.0	31.4	3.948	951	6	1.2	0.8	A	Tes	2023-10-19 15:04:16
牛背鹭02.GIZ002.长	035760067	2023-10-17 15:00:20	Ε	108.8168400	N	19.2463400	46.2	323	39.0	28.0	4.020	1965	6	1.0	0.8	A	Yes	2023-10-19 15:04:16

Figure 5.3 data export

# 6. Map Operation

#### 6.1. Online Map Selection

The platform supports three online maps: Tianditu, ESRI map and Google map, with vector map, satellite map, hybrid map, terrain map and other modes. The map coordinate system is Web Mercotor projection coordinates.

### 6.2. Clear The Map

You can directly click the 'clear map' button to empty all the data on the map layer.

#### 6.3. Map Browsing

- (1) Pan: Press the left mouse button and then move the map.
- (2) Zoom in: Box the map on the map.
- (3) Zoom out: Box it down on the map to shrink the map.
- (4) Zoom to all: Zoom the map to the geometric range of all the objects.
- (5) Zoom to selection: Zoom the map to the geometric range of the selected object.
- (6) Prev view: Switch the map view to the previous view.
- (7) Next view: Switch the map view to the next view.



### 6.4. Selection Function

- (1) By rectangle: Draw a rectangle on a map to select geometric objects.
- (2) By polygon: Draw a polygon on a map to select geometric objects.
- (3) By circle: Draw a circle to select geometric objects on a map.

(4) Layer save: Select any site or line, and the right key can be saved as a layer, as shown in the figure below.



Figure 6.1 select the data to save as a layer

### 6.5. Indentify

The [Indentify] tool can query the attribute information of graphic objects in the map window. Click the "Previous" and "Next" buttons in the information box to browse the adjacent objects in the same layer in turn, and can choose whether to display the selected objects in center; click on any location on the map to query information about that location. As shown in the figure below.



Figure 6.2 graphic information query

Address information can be queried on the Web map. This function needs to right-click the map layer, click "selectable", and then click on any location on the map to query information about that location.





		Vnidentife	d ±
		Field	Value
a Manager	ф х	Country	美国
Devices 👗 Layers		Province	
🥩 Map Layers		City	
- V Idt Hap		District	
E Zooi	n To Layer(Z)	Address	阿拉斯加州
🚑 Mov	e Bottom(B)	Direction	东北
		Distance	4383 m
🗮 Sele	table(S)	Source	map. tianditu. gov. cn
	art+(0)		

Figure 6.3 the address query function

# 6.6. Measure Tools

Multipoint distance measurements and area measurements were performed by mouse picking points in the map window, as shown in the following below.



Figure 6.4 measured range

# 6.7. Map Option

Set the map background color, the coordinate format, the meridian offset degree, and the Tianditu key, as shown in the figure below.

💩 2D Map's Options	×
Background Colour	Meridian offset [-180, 180] 60
<ul> <li>Correction</li> <li>Displayed lat/lon</li> </ul>	Tianditu key
Coordinate format O Decimal Degrees	
O Degrees, minutes and seconds	OK Cancel

Figure 6.5 map option setting

### 6.8. Full Screen Display

You can click the Full-Screen button to display the map in full screen.



Technical Support QQ: 65061902



Figure 6.6 full screen show

### 6.9. Map Image Export

Users with data download permission can export the current map window content into pictures, supporting ordinary export pictures and HD export pictures.

(1) **Default export pictures:** After setting the image format, image quality, and export path of the exported image, export the current map content directly as the image.

(2) Exporting pictures in High Quality: Select the area to be exported in the box on the map, set the export map level, click [Cache Tile], when the tile cache is completed, click the [Export] button to generate high-quality pictures.

Extent Bo	p Left: (E4 ttom Right:	15. 4577781, N37 (E62. 4096730,	.5099750) N29.4494430	»		
🔿 Default		🔾 High Quality	y		Get tl	ne picture ran
Size	1543	pixels * 8	381	pixels		
Map Level	7/18 -	+	0/70	Cache Ti	le	
Export Dir					)	
Frames				0/2		

Figure 6.7 Map Export Interface

# 7. Layer Management

Layer Manager is similar to Windows resource Manager, which is divided into three nodes: layer list, layer group, and layer group. Layer group can contain multiple layers or multiple layer groups. Layer types are divided into points, lines, planes, vector layer, raster layer, and Web map layers.





Figure 7.1 layer management

### 7.1. Layer List Operations

The layer list corresponds to the current map framework, and has the functions of adding map layer, Spatialite layer, and Wms layer, creating a new group, importing the offline group, and delete the map data.



Figure 7.2 layer list Menu

(1) Add layer: Add local spatial data to the map, with support for vector, raster, and image data, and the coordinate system for importing the data is automatically converted to the current map coordinates.

(2) Add Spatialite layer: The spatial data was read from the Sqlite database and added to the map.

(3) Add Wms layers: Get the WMS layers via a network request and add them to the map.

(4) New group: Create a new layer group node in the layer list.

(5) Import offline group: Offline data packets are imported to the map, and the coordinate system that imports the data is automatically converted to the current map coordinates. The offline layer group format is 2D Data group file (\*. dg 2), the account with data download permission can export the track data as an offline data package and share it with others.

(6) Clear: Remove all the data in the map, and this operation does not delete the source data.

(7) All selectable: Whether all of the vector layers in the batch setting map are selectable.





- (8) Zoom to all: Zoom the map to the maximum visual range that includes all of the objects.
- (9) **Property:** View the coordinate information for the map frame.

#### 7.2. Layer Group Operations



Figure 7.3 layer group menu

(1) Add layer: ditto.

(2) Add Spatialite layer: ditto.

(3) Add Wms layer: ditto.

(4) Export offline group : Users with data download privileges can export the currently selected layer group as an offline packet file (2D Data group file \*. dg2).

(5) Export files: You can choose to export the file as a Shape file, Kml file, or Geojson file

(6) **Delete**: Delete the currently selected layer group, and delete all the sublayer groups and layers below the layer group, and this operation does not delete the source data.

(7) Separate control track points, track line, and point numbers are shown: If the layer group type is a system-generated track layer group, you can individually control the visibility of track points, track lines, and track point numbers.

(8) All selectable: Batch sets whether all the vector layers in the layer group are optional.

(9) Zoom to all: Scale the map to the geometric range of all the objects in the selected layer group.

(10) **Property:** View the coordinate information of the selected layer group, and all the layer coordinate systems in the layer group are consistent.





(11) Batch style editing: Personalized the track points, track lines and so on in batches, as

shown in the figure below.

🗃 Batch Style Editing	×
👩 Disable High Quality Rending	
Fixes	
🗆 Color	• • • •
🗋 Size 🛛 🗍	
🕑 Outline	Tracks
Color	width 1.0
Width 1.0	Directional Arrow
	OK Cancel

Figure 7.4 batch style editing

After selecting and right-click the track or the fixes, you can modify the style, as shown in the figure below.



Figure 7.5 modify fixes, tracks styles



Figure 7.6 point and line symbolization setting





# 7.3. Layer Operation



Figure 7.7 layer menu

(1) Attribute table: View all the attribute data of the selected layer, and right click to export

the attribute table or display it in the map, as shown in the figure below.

me(r) map(m) movement boology (dois(1)	neip(n)																
Data Manager 🕴 🕴	🍠 Device List	t 😵 GNS	S Data 📃 Mag	view 🛅	Sensor Data	Remo	te Control	A Notifica	tion 🕤 🕅	ixes - Attribute T	ible ×						
👮 Devices 🔊 Layers	Derice	IMEI	Tine	ER	Longi tude	85	Lutitude	Speed	Course	Altitude	Tenperature	Voltage	Artivity	Satel	HDOP	YDOP	1
🗉 🧬 Nup Layers	年前第02 · 01	035760067	2022-05-30 18:00:31	2	113.45045	H	28.53303	0	320	132	32.57	4.032	898	6	1.8	1	з
□ I Track Layer Group_1 日 I a 年育塾02 · 612002 · 长沙 · 20220530	牛背髓02。GL	035760067	2022-05-30 21:00:42	2	113.45045	N	28.53308	0	145	117	30.4	4.008	677	8	1	0.9	A
- V Fixes	牛销销02 · 61	035760067	2022-05-31 00:00:52	2	113.45038	н	28.53303	0	30	122	30.68	3.984	518	6	1	0.8	A
•	牛背蟹02 · GI	035760067	2022-05-01 03:00:43	8	113.45041	н	28.53308	0	345	112	30.23	3.966	746	10	1	0.8	A
E V Tracks	牛背骥02 · GI	035760067	2022-05-31 06:00:23	2	113.45068	н	28.53289	0	183	189	31.25	3.96	678	5	1.3	0.9	A
🖃 🗹 Tất Nap	牛背號02 · GI	035760067	2022-05-01 09:00:43	z	113.45806	в	28.5787	0	194	128	34.25	3.951	1652	8	2.4	0.8	3
	牛背骥02。GI	035780067	2022-05-31 12:00:34	2	113.45026	я	28.53362	0	76	180	36.75	4.011	1658	5	1.8	0.9	3
	牛背號02 · 61	035760067	2022-05-01 15:00:19	z	113.44608	н	28.56816	0	225	73	37.66	4.095	2425	6	1.2	0.9	A
	牛猪獾02 · GI	035760067	2022-05-31 18:00:23	2	113.45099	я	28.53347	0	2	90	31.77	4.134	1838	7	1.3	0.8	A
	牛背號02 · GI	035760067	2022-05-01 21:00:21	z	113.45074	н	28.53318	0	285	45	29.61	4.119	492	6	1	0.8	A
	牛背髓02 · GI	035760067	2022-06-01 00:00:23	2	113.45088	8	28.53342	0	113	144	28.01	4.104	638	6	1.1	0.8	A
	牛骨髓02 · GI	035760067	2022-06-01 03:00:25	z	113.45078	н	28.53369	0	147	144	28.25	4.089	440	4	1.6	0.9	A
	牛背髓02。GI	035760067	2022-06-01 06:00:29	2	113.45037	8	28.53295	0	220	48	29, 51	4.074	637	4	2.3	0.9	3
	牛貸鐵02 · GI	035760067	2022-06-01 09:00:25	2	113.45607	н	28.58119	0	204	271	33.84	4.086	1944	4	2.6	0.9	3
	牛背號02 · GI	035760067	2022-06-01 12:00:20	8	113.45075	в	28.5335	0	60	150	33.53	4.143	1395	5	1.2	0.9	A
	牛貸鍋02 · GI	035760067	2022-06-01 15:00:28	2	113.43753	н	28.56736	0	264	147	41.87	4.197	1289	8	0.9	0.9	A

Figure 7.8 attribute table window

(2) Export to shape file: Users with data download privileges can export the currently selected layer as an offline data file in a Shape file format (\*. And shp), as shown in the figure below.

S Export shape liles	
Coordinate System	
○ GCS_WGS_1984	
• WGS_1984_Web_Mercator_Auxi	liæry_Sphere
User Defined Coordinate Sy GEOGCS["GCS WGS_1984", DATU 37, 298.257223562997]], PRIMU 2925199433]]	stem M["D_WGS_1984",SPHEROID["WGS_1984",63781 EMM["Greenwich",0],UNIT["Degree",0.017453
User Defined Coordinate Sy GEOGCS["GCS_WGS_1984", DATU 37,298.257223662997]], PRIM 2925199433]] Export File	stem M["D_WGS_1984",SPHEROID["WGS_1984",63781 EM["Greenwich",0],UNIT["Degree",0.017453

Figure 7.9 export of the shape file data interface







(3) Export to Kml: Users with data download permission can export the currently selected layer as an offline data file as a kml file.

(4) Export to Geojson : Users with data download permission can export the currently selected layer as an offline data file as a Geojson file.

(5) Export attribute table: Users with data download privileges can export the attribute table of the currently selected layer as an excel file.

(6) Delete: Remove the specified layer from the current layer group does not delete the data source file.

(7) Selectable: Set whether the objects in the vector layer are optional. After setting the selection, you can view the layer object information.

(8) Thematic map: Modifies the various styles of the current layer.



Figure 7.10 thematic map setting

(9) Create heatmap: Select the point layer to create the heat map, and the gradient can be personalized, as shown in the figure below.









Figure 7.11 heat map interface

(10) High quality rending: After the high-quality rendering mode is opened, you can set up a richer point symbols and lines, but the graphics rendering speed will be reduced, it is not recommended to open.

(11) Automatic labelling: Disows or hides the number of trace points.

(12) Zoom to layer: Zoom the map to the maximum range of the current layer.

(13) **Property**: View the scope of the layer space, the number of figures, the coordinate information, etc.

# 8. Trace Statistics And Analysis

The station has statistical functions such as time sequence and aggregation. Right-Click "Statistics" in the [GNSS Data] window to open the Statistics Chart.

#### 8.1. Time Series

Time series of the longitude, latitude, height, speed, and temperature and other attributes of the track data, as shown in the figure below.







# 8.2. Aggregation

The aggregation of the longitude, latitude, height, speed and temperature of the track data can be analyzed, as shown in the following figure.

Statistics Item			
🔾 Longi tude	🔘 Latitude	$\bigcirc$ Altitude	○ Activity
🔿 Speed	🔘 Voltage	🔿 Temperatu	re
Aggregation Typ	e		
🔘 Мах	⊖ Min	O Mean	🔘 Sum
Group by Day	∨ In	terval 1	Hours
		OK	Cancel
Figure	0 ) agarag	ation para	motor



Figure 8.3 aggregation





### 8.3. Time Period

The longitude, latitude, height, speed, temperature and other attributes of the track data can be statistical analyzed on time period, as shown in the figure below.

🗿 Longi tude	🔿 Latitude	$\bigcirc$ Altitude	🔿 Activity
🔿 Speed	🔘 Voltage	🔿 Temperatu	re
me Period Typ	e		
O Months	OD	ays	O Hours
(Segment is s	eparated by "	")	
6, 7, 8, 9, 1 18, 19, 20,	10, 11, 12, 1 21, 22, 23,	3, 14, 15, 1 0, 1, 2, 3, 4	6,17   ,5
18, 19, 20,	21, 22, 23,	0, 1, 2, 3, 4	, 5 , 5

Figure 8.4 time period parameter



Figure 8.5 time period parameter interface

### 8.4. Activity Statistics

The activity amount of the device over a period of time can be color distinguished, and the activity amount can be referred to the color table on the right







Figure 8.6 activity statistics

# **8.5. Tracking Duration**

One working time of the equipment can be displayed statistically, as shown in the figure below.



Figure 8.7 tracking duration statistics

# 8.6. Positioning Accuracy

The statistics of the positioning accuracy of the track data, and the number and percentage of loci of different location levels can be counted, as shown in the figure below.









Figure 8.8 positioning accuracy statistics

# 8.7. Fixes Frequency

The statistics of the fixes frequency of the device over a period of time shows that if there are multiple species in the data, the union statistics or single species statistics can be selected.



Figure 8.9 fixes frequency

# 8.8. Series Symbology, View All, Export

You can style modify the linetype of the display chart, restore the default display of the data,

and export the current data chart.



Marker Size 3		Stroke Thic	knare 2	
		DII OKE THIO	Alless	
Marker Type				
Random		○ Uniform	None	$\sim$
Marker Fill Color				
🗿 By Stroke		○ Uniform		
Marker Outline				
O By Stroke		() Uniform		
Outline Thickness	1	-		
Line Style				
🔿 Random		🔾 Uniform	Solid	~
Line Color				
			191	_

Figure 8.10 line symbology

Export plo	t view			
Output file				
View zoom	1.0	<b>‡</b> [1.0 − 5	5.0]	
View size	1543	pixels	878	pixels
			Export	Cancel

Figure 8.11 export plot

# 9. Movement Ecology Tools

The platform functions as a tool for movement ecology. Select the track layer, click [Movement Ecology Tools] in the main menu, and select the minimum convex polygon (MCP), kernel density estimator (KDE), and identify habitat (T-DBSCAN), and split fixes by time.



Figure 9.1 movement ecology tools

#### 9.1. Minimum Convex Polygon(MCP)

Select the track layer or track layer group, select the time field according to the requirements,

and calculate the minimum convex polygon algorithm. The result line layer and surface layer can



be generated on the map. The attribute contains the information of selection percentage, area and so on, as shown in the figure below.

fime Field	Time	~	🗿 Unique Anime	1 🔿 All Animals
andar di zati	on			
Tag		Fixes	Schoener Index	Swihart_Slade Index
=背鸀02・GI	Z002・长沙・2022	20530 1722	0.00037	6.38272
				_

Figure 9.2 minimum convex polygon setting



Figure 9.3 minimum convex polygon (MCP) calculation model

### 9.2. Kernel Density Estimator (KDE)

Select the track layer or track layer group, select the time field, and set the generating kernel method, grid parameters and broadband (kernel smoothing) parameters, and calculate the kernel density analysis for each individual or all individuals through the kernel density estimation algorithm. The parameter selection interface is shown in the following figure.





Time Field	Time	~	🗿 Uni qu	e Animal	🔿 All Animal	ls
Standardizat	ion					
Tag		Fixes	Schoener Index	Swihart	_Slade Index	St
牛背蠻02 · G	に2002・长沙・2022053	0 1722	0.00037	6.38272		255
Adjusted x and y.	to unit variance (sm If the variance is ]	noothing pa Large, it i	rameters are calou s recommended to a	ilated base idjust the	d on the varia data proportion	nce o ns)
Adjusted Adjusted x and y. Kernel Metho Fixed K	to unit variance (sm If the variance is ] ds ernel	noothing pa large, it i	rameters are calco s recommended to a Raster Parame Cell Size	il ated base idjust the ters 25	d on the varia data proportion	nce o ns) m
Adjusted x and y. Kernel Metho Fixed K Adaptiv	to unit variance (sa If the variance is 1 ds arnel & Kernel	noothing pa large, it i	rameters are calor s recommended to a Raster Parame Cell Size Expansion	ilated base djust the ters 25 439562 ~	d on the varian data proportion	nce o ns) m
Adjusted x and y. Kernel Metho Fixed K Adaptiv. Smoothing Pa	to unit variance (sm f the variance is 1 ds ernel s Kernel cameters (Bandwidth)	noothing pa large, it i	rameters are calor s recommended to e Cell Size Expansion Scaleing Fa	il ated base idjust the ters 25 439562 ~ otor 5000	d on the varia data proportion + 0	nce o ns) m
Adjusted x and y. Kernel Metho Fixed K Adaptiv. Smoothing Pa Href (R LSCV(Le	to unit variance (sm If the variance is ] ds ernel > Kernel rameters (Bandwidth) sference Bandwidth) sference Bandwidth)	noothing pa Large, it i	rameters are calco s recommended to Raster Parame Cell Size Expansion Scaleing Fa Isopleth(&)	il sted base djust the ters 25 439562 otor 5000	d on the varia lata proportion	nce o ns) m
Adjusted x and y. Kernel Metho Fixed K Adaptiv Smoothing Fa Href (R LSCV(Le BCV(Bia	to unit variance (su If the variance is 1 ds ernel e Kornel rameters (Bandwidth) ast squares cross va ed Cross Validation	noothing pa large, it i lidation)	rameters are calco s recommended to a Raster Parame Cell Size Expansion Scaleing Fa Isopleth(&) 99, 95, 90,	ilated based djust the sters 25 439562 ctor 5000	d on the varia lata proportio	nce o ns) m

Figure 9.4 kernel density estimator setting



Figure 9.5 nuclear density (KDE) calculation model

# 9.3. Identify Habitat(T-DBSCAN)

Select the track layer or track layer group, select the species type, set the habitat parameters and analysis result parameters, and generate the habitat fixes layer and migration route layer. The parameter selection interface is shown in the figure below.





pecies type:	O Bird	🔿 Mammal	
he parameters of s	topover		
The maximum radius	25.0		🔹 Km
The minimum stay d	uration 3.0		🔹 Day
ne parameters of a Breaks of saty dux 3, 7, 14, 30, 50,	nalysis results ration (separat 70	: by , )	(Day)
he parameters of a Breaks of saty du 3, 7, 14, 30, 50, Trajectory sampl Simplify [1-20]	nalysis results ration (separat 70 ing	: by , )	(Day)
he parameters of a Breaks of saty du 3, 7, 14, 30, 50, Trajectory sampl Simplify [1-20]	nalysis results ration (separat 70 ing	e by , )	(Day)
he parameters of a Breaks of saty du 3, 7, 14, 30, 50, Trajectory sampl Simplify [1-20] Smoothing [5-10	nalysis results ration (separat 70 ing ]	: by ,)	(Day)

Figure 9.6 identify habitat Parameter settings



Figure 9.7 identify habitat result

# 9.4. Split Fixes By Time

Select the track layer or track layer group, and select the division items (such as by month,

quarter, day and night) to generate the division result layer, as shown in the following figure.







Figure 9.8 different split by



Figure 9.9 comparison of different split fixes

# 10. Sensor Data

#### 10.1. Data Queries

Select the device with extended sensors in the device list, and you can query the sensor data of multiple devices according to the latest [Recent] and [Time Period] two time modes, the types of sensors are acceleration sensors, GNSS sensors, temperature sensors, pressure sensors, water depth sensors, image, video, audio sensors, illuminance sensors, humidity sensors, red & infrared light sensors, the type will be displayed in the upper left corner of the interface, and the query





interface is shown in the following figure.

on	100000	T 8.94		1 2		1 20 27 24		1	
Device	IMEI	Tine	Acc raw x	Acc raw y	Acc raw z	Acc x (mg)	Acc y (ng)	Acc z (ng)	ODBA
		2024-05-22 21:50:09.900	~430	289	3545	-209.96	141.11	865.48	221.6064
		2024-05-22 21:50:09.800	-708	755	4027	-345.7	368.65	983.15	259.3506
		2024-05-22 21:50:09.700	-532	257	3222	-259.77	125.49	786.62	266.2842
		2024-05-22 21:50:09.600	-536	841	4563	-261.72	410.64	1114.01	348.8037
		2024-05-22 21:50:09.500	-274	-1	2540	-133.79	-0.49	620.12	683. 7646
		2024-05-22 21:50:09.400	-703	747	6014	-343.26	364. 75	1224.12	493.9697
	· · · ·	2024-05-22 21:50:09.300	-684	75	2287	-285.16	36.62	558.35	604.3213
		2024-05-22 21:50:09.200	-531	920	5605	-259.28	449.22	1368.41	644.2139
		2024-05-22 21:50:09.100	-366	150	2135	-178.71	73.24	521.24	664.9658
		2024-05-22 21:50:09.000	-702	854	5459	-342.77	416.99	1332.76	654. 3701
		2024-05-22 21:50:08.900	-339	137	1817	-165.53	66.89	443.6	624. 5361
		2024-05-22 21:50:08.800	-663	735	5590	-270.02	358.89	1364.75	693.0908
and the state of the		2024-05-22 21:50:08.700	-304	195	1679	-148.44	95.21	409.91	646. 9971
and the second se	1.000	2024-05-22 21:50:08.600	-599	824	5892	-292.48	402.34	1438.48	832. 7393
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2024-05-22 21:50:08.500	-270	375	2064	-131.84	183.11	503.91	481. 7139
100 C	2 A 1997	2024-05-22 21:50:08.400	-266	437	4644	-129.88	213.38	1133.79	304.126
	1000	2024-05-22 21:50:08.300	-479	692	3223	-233.89	337.89	786.87	271.3135
		2024-05-22 21:50:08.200	-114	9	3938	-65.66	4.39	961.43	414.9658
		2024-05-22 21:50:08.100	-653	822	4087	-318.85	401.37	997.8	417.4561
		2024-05-22 21:50:08.000	-299	235	3663	-146	114.75	894.29	147.1436
1	1.000	2024-05-22 21:50:07.900	-561	798	4043	-273.93	389.65	987.06	276.5869
		2024-05-22 21:50:07.800	-324	-8	2590	-158.2	-3.91	632.32	579.6143
		2024-05-22 21:50:07.700	-667	854	4866	-276.86	416.99	1187.99	507. 7881
		2024-05-22 21:50:07.600	-219	54	2268	-106.93	26.37	553.71	687.0361
		2024-05-22 21:50:07.500	-767	896	5166	-374.51	437.5	1261.23	699.1943
		2024-05-22 21:50:07.400	-520	116	1955	-253.91	56.64	477.29	586.2061
		2024-05-22 21:50:07.300	-921	798	5445	-449.71	389.65	1329.35	794.6533
		2024-05-22 21:50:07.200	-458	267	1753	-223.63	130.37	427.98	592.0654
and the second second		2024-05-22 21:50:07.100	-728	800	5795	-355.47	390.62	1414.8	786.8408
		2024-05-22 21 50 07 000	-296	270	1029	-144 52	126 22	472.14	620 1416



Image, video, and audio sensor data can be viewed, played, downloaded, and downloaded in

batches, as shown in the following figure.





### 10.2. Data Export

After the data query is successful, you can right-click the row in the list to export the selected records, or export all records in Excel table, as shown in the following figure.





Technical Support QQ: 65061902

IMEI	Time	Acc raw x	Acc raw y	Acc raw z
035478066	2023-10-29 01:40:07.900	736	241	3636
035478066	2023-10-29 01:40:07.800	699	267	3749
035478066	2023-10-29 01:40:07.700	547	383	3784
035478066	2023-10-29 01:40:07 600	E 7E	Export selection	3913
000410000	2023 10 29 01.40.01.000		Export all	
035478066	2023-10-29 01:40:07.500	632	418	4006
035478066	2023-10-29 01:40:07.400	695	434	3870
035478066	2023-10-29 01:40:07.300	734	421	3911

Figure 10.3 data export

# **11. Remote Control**

Select the remote control window in the top navigation bar, where you can search according to the keywords, and all the instructions sent can be revoked within two minutes through the right click.

evices 💐 Layers		Sev:			Tin' Cancellation of instruction you	line allowed a	ithin 2 min	ates				
波	T Show all											 -
zelected.	Clear selection	Device	INEI	Remote Centrel	Betail	Balay Caption	Seater	Status	Seading Time	Extinated Applic	Actual Applicati	
Derive List-[13]		大約1820 · 71M2378 · 韩	035720913	Change collect times	WTC +08:00 [00:00, 01:00, 02:00, 03:0		Of Backstage	COMM_ERSOR	2024-03-11 10:55:36	-	-	
□-□=> 吉林省林业料? □-□=> 梅花酸-(1)	4的R0R(引進967-11]	大杓鷸20・71M2378・鵯	035720913	Change collect times	VTC -08:00 [00:00, 01:00, 02:00, 03:0		Of Backstage	SUCCESSFUL	2024-03-09 08:54:13	2024-03-11 12:04:21	2024-03-09 09:04:27	
● (二) 特別(200 <sup>-</sup> (1)) ● (一) 特別(201 · JLAP01	品电东方白翻2号-#33820	035708991	Change collect times	VTC -08:00 [00:00, 01:00, 02:00, 03:0		VISED2	CORN_RESOL	2024-03-08 09:21:02	-	-		
● 2022與花戲	-[2]	反噬部19 · FIME309 · 崇	036296021	Change collect times	VTC -08:00 [00:00, 03:00, D6:00, 09:0		GR Backstage	SUCCESSFUL	2024-03-08 08:44:39	-	2024-03-08 09:03:59	
日本 特花敷	1(健)・ZJQL001・20221110 3(捷)至亡・ZTQL019・2022111	绿头鞘26(锉),P30023	035739616	Change collect times	UTC -08:00 [00:00, 01:00, 02:00, 03:0		GR Backstage	SICCESSFUL	2024-02-29 14:01:05	2024-02-29 16:04:39	2024-02-29 16:04:18	
日 2023與花園	-[1]	\$\$\$\$02 · F0#2245 · 丹东	035755737	Change collect times	UTC -08:00 [00:00, 01:00, 02:00, 03:0		GR Backstage	SUCCESSENT.	2024-02-29 13:45:54	-	2024-03-02 00:05:22	
	1 (2) · ZJQL008 · 20231122	荒夏獨01 · 7920.001 · 青	046062068	Change collect times	att +08:00 [00:00, 01:00, 02:00, 03:0		1100.5	SICCESSFUL	2024+02+29 13:02:50	-	2024-03-01 12:04:57	
	1(種) · ZNL002 · 青容鱸 · 201	<b>盐电东方白翻2号-99980</b>	035708991	Change collect times	ale +08:00 [00:00, 01:00, 02:00, 03:0		NREEDS	COMM_HEROR	2024-02-29 10:27:52	-	-	
	2(元)・ZJQL009 · 清存編 · 201	盐电东方白翻2号-199980	035708991	Change postback time	Transmission every 5 fixes		MR02E02	COMM_ERSOR	2024-02-29 10:27:48			
	4(元)、234L007、清淳峰、205 5(元)、734L010、清淳峰、205	时尾融资14 · FDME246 ·	035725706	Change collect times	UTC +08:00 [00:00, 06:00, 12:00, 18:00]		OK Backstage	SUCCESSFUL	2024-02-29 09:30:02	-	2024-02-29 11:08:09	
-〇一 梅花廠	6(2集) · ZJQL011 · 清存46 · 205	黑祖长昀献14 · FIME458	035670688	Change collect times	VTC +08:00 [00:00, 08:00, 12:00, 18:00]		Of Backstage	SUCCESSFUL	2024-02-27 07:35:01	-	2024-02-28 15:04:05	
	7(建)・2,34L012・清冽編・205 8(値)・234L013・斎戸崎・205	小白鹭25(幼)、HQP40	046087943	Change collect times	VTC -08:00 [00:00, 04:00, 08:00, 12:0		Of Backstage	COMM_EFECT	2024-02-27 07:34:58	-	-	
	9(死)・ZJAL015 · 清存峰 · 205	丹颈鹤15、¥¥88033、脸	035685895	Change collect times	UTC -08:00 [00:00, 02:00, 04:00, 06:0		Of Backstage	SUCCESSFUL	2024-02-26 11:08:30	2024-02-26 15:04:51	2024-02-26 15:04:48	
		丹顶鹤11、¥100029、盐	035759416	Change collect times	UTC -05:00 [00:00, 02:00, 04:00, 06:0		GR Backstage	SUCCESSFUL	2024-02-26 11:05:09	-	2024-02-27 00:04:28	
		黑翅长树器14 · 7000416	035670688	Change collect times	UTC -08:00 [00:00, 06:00, 12:00, 18:00]		GR Backstage	COMP_ERSON	2024+02+26 08:26:08	-	-	
		小白號25(幼) · NGP40	046087943	Change collect times	UTC +08:00 [00:00, 06:00, 12:00, 18:00]		GR Backstape	COMM_RESOL	2024-02-26 08:26:00	-		
		反嘴翻17·K0P6347·崇	035702630	Change collect times	WTC 408:00 [00:00, 06:00, 12:00, 18:00]		GM Backstage	SUCCESSFUL	2024-02-26 08:25:58		2024-03-03 15:04:04	
		丹顶艏13、¥₩80331、盐	035709346	Change collect times	VTC -08:00 [00:00, 02:00, 04:00, 06:0		OK Backstage	SUCCESSFUL	2024-02-23 13:57:54	2024-02-23 14:04:26	2024-02-24 10:07:13	
		丹顶鹤13、WWW3031、盐	035709346	Change collect times	VTC -08:00 [00:00, 02:00, 04:00, 06:0		Of Backstage	SUCCESSFUL	2024-02-23 13:57:54	2024-02-23 14:04:26	2024-02-24 10:05:24	
		反噬動17·K06347·崇	035702630	Change collect times	VTC -08:00 [00:00, 06:00, 12:00, 18:00]		Of Backstage	CORN_TEROS	2024-02-22 17:21:06	-	-	
		小白貓25(幼),HQ740	046087943	Change collect times	UTC -08:00 [00:00, 06:00, 12:00, 18:00]		Of Backstage	COMM_X1203.	2024-02-22 16:41:02		ан (т. 1997) С	
		黑细长和剧14 · FIME456	035670658	Change collect times	UTC -08:00 [00:00, 06:00, 12:00, 18:00]		GR Backstage	COM_11203.	2024-02-22 16:24:10	-		
		东方白闇05 · #558015 ·	035706938	Change collect times	att: +08:00 [00:00, 02:00, 04:00, 06:0		GR Dackstage	SUCCESSENT.	2024-02-22 11:16:51	2024-02-22 12:03:59	2024-02-22 12:04:25	
		無短长約8815 · 7040453	035662610	Change collect times	UTC +08:00 [00:00, 03:00, 06:00, 09:0		GR Backstage	SUCCESSFUL	2024-02-22 09:35:56	-	2024-02-23 06:04:03	
		無翅长期罄14 · FDME456	035670688	Change collect times	UTC +08:00 [00:00, 06:00, 12:00, 18:00]		Of Backstape	COMPLETED.	2024-02-22 09:35:36			
		小白驢25(幼) · HQF40	046087943	Change collect times	UTC +08:00 [00:00, 04:00, 08:00, 12:0		Of Backstage	COMM_ERSOR	2024-02-21 15:01:23	-	10	
		盐电东方白翻2号-199980	035708991	Change postback time	Transmission every 5 fixes		P355E02	CORN_RESOR	2024-02-21 10:54:39	-	-	
		盐电东方白翻2号-W0080	035708991	Change collect times	VTC -08:00 [00:00, 01:00, 02:00, 03:0		P355202	CORN_TEROS	2024-02-21 10:54:26	-	-	
		中白號06 · Kereses · 金	035671389	Change collect times	9TC -08:00 [00:00, 12:00]		Of Backstage	SUCCESSFUL	2024-02-20 16:54:10	2024-02-21 00:04:02	2024-02-21 00:04:11	
		龙电东方白翻2号-#5550	036706991	Change collect times	UTC -08:00 [00:00, 01:00, 02:00, 03:0		PSSEC	COMM_11203.	2024-02-18 08:21:19	-		
		1022410	036413963	Change collect times	97C -08:00 [00:00, 06:00, 12:00, 18:00]		GR Dackstage	SUCCESSFUL	2024-02-02 17:30:13	2024-02-02 22:04:54	2024-02-02 15:04:25	
		犬10 · 7108014 · 能南 ·	040659461	Change collect times	9TC +08:00 [00:00. 12:00]		GR Backstape	SUCCESSENT	2024-02-02 16:35:56	2024-02-02 19:11:15	2024-02-02 19:11:27	
		46801 · F082244 · 丹东	035670490	Change collect times	UTC 408:00 [00:00, 02:00, 04:00, 06:0		OK Backstage	SICCESSED.	2024-02-02 15:28:13	-	2024-02-09 15:07:45	

Figure 11.1 remote control interface

# 12. POI Management

# 12.1. New POI

Select [POI] in the map window toolbar, and in the point of interest window on the right, click New POI to add relevant attribute information and picture information to the POI, as shown in the figure below.







Figure 12.1 new POI

# 12.2. POI Edit

Select the POI in the POI View window, right-click to edit, and you can re-edit the attribute information and pictures of the POI in the map window.

# 12.3. POI Adjust

Open the POI window in the navigation bar menu, users can view all the POI under their account, edit, delete, display, refresh the POI, and also generate the display POI on the map, as shown in the figure below.



Figure 12.2 POI are shown in the map





# 13. GeoFence Management

# 13.1. New GeoFence

Select [GeoFence] in the toolbar of the map window, select Draw Circle or Draw Polygon,

fill in the Fence Name and save to create a new GeoFence.



Figure 13.1 new geofence

# 13.2. GeoFence Edit

Right-click the GeoFence in the GeoFence window, the GeoFence can be modified, deleted,



displayed, or Config Trigger.

Figure 13.2 edit GeoFence





# 14. Notification

### 14.1. Search For Notification

Click [Notification] in the navigation bar menu, you can select Event Type and enter Key as the filter condition, search the required Notification, and right click message can select Export, Notification type can also be modified.

🤌 Device List 🛛 🚷 GI	NSS Data 🔝	Map View 📑	) Sensor Data 🛛 🕞	Remote Control	0	Notification ×	Fixes - Attribute Tal	ole 😕	Statistics Chart
Event Type: All		Key:				Even	: notification type: 🚺	2 App 🗌	Email
Device	IMEI	Time				Details			
朱鹮01・HQP5504・崀山・2022090	6 035718297	2024-05-16 04:04:34	[Location update event]	Tine 2024-05-10			latitude:26.35238		
未閏01・HQP5504・崀山・2022090	035718297	2024-05-16 04:04:34	[Location update event]	Tine: 2024-05-16	6 04:00:25,	longitude: 110.76373,	latitude:26.35238		
朱鹮02・HQP5506・崀山・2022090	035699455	2024-05-16 02:04:34	[Location update event]	Tine: 2024-05-16	6 02:00:25,	longitude: 110.76334,	latitude:26.35387		
朱鹮02・HQP5506・崀山・2022090	16 035699455	2024-05-16 02:04:34	[Location update event]	Tine: 2024-05-16	6 02:00:25,	longitude: 110.76334,	latitude:26.35387		
中白鹭04・HQP6736・金井・2023.	035726761	2024-05-16 00:04:34	[Location update event]	Tine: 2024-05-16	6 00:00:18,	longitude: 109.02438,	latitude:21.60908		
未罰01・HQP5504・崀山・2022090	035718297	2024-05-15 23:04:34	[Location update event]	Tine: 2024-05-16	5 23:00:27,	longitude: 110.76363,	latitude:26.35309		
朱鹮01・HQP5504・崀山・2022090	6 035718297	2024-05-15 23:04:34	[Location update event]	Tine: 2024-05-19	5 23:00:27,	longitude: 110.76363,	latitude:26.35309		
朱鹮02・HQP5506・崀山・2022090	035699455	2024-05-15 21:04:34	[Location update event]	Tine: 2024-05-18	5 21:00:25,	longitude: 110.76371,	latitude:26.35358		
未罰02・HQP5506・崀山・2022090	035699455	2024-05-15 21:04:34	[Location update event]	Tine: 2024-05-16	5 21:00:25,	longitude: 110.76371,	latitude:26.35358		
朱鹮01・HQP5504・崀山・2022090	16 035718297	2024-05-15 18:04:34	[Location update event]	Tine: 2024-05-19	5 18:00:30,	longitude: 110.76387,	latitude: 26. 35421		
朱鹮01・HQP5504・崀山・2022090	6 035718297	2024-05-15 18:04:34	[Location update event]	Tine: 2024-05-18	5 18:00:30,	longitude: 110.76387,	latitude:26.35421		
未罰02・HQP5506・崀山・2022090	035699455	2024-05-15 16:04:34	[Location update event]	Tine: 2024-05-18	5 16:00:42,	longitude: 110.76326,	lstitude:26.35393		
朱鹮02・HQP5506・崀山・2022090	035699455	2024-05-15 16:04:34	[Location update event]	Tine: 2024-05-16	5 16:00:42,	longitude: 110.76326,	latitude:26.35393		
朱鹮01・HQP5504・崀山・2022090	6 035718297	2024-05-15 13:04:34	[Location update event]	Tine: 2024-05-18	5 13:00:18,	longitude: 110.76328,	latitude:26.35368		
未罰01・HQP5504・崀山・2022090	6 035718297	2024-05-15 13:04:34	[Location update event]	Tine: 2024-05-18	5 13:00:18,	longitude: 110.76328,	lstitude:26.35368		
朱鹮02・HQP5506・崀山・2022090	035699455	2024-05-15 11:04:34	[Location update event]	Tine: 2024-05-15	5 11:00:41,	longitude: 110.76329,	latitude:26.35382		
朱鹮02・HQP5506・崀山・2022090	16 035699455	2024-05-15 11:04:34	[Location update event]	Tine: 2024-05-18	5 11:00:41,	longitude: 110.76329,	latitude:26.35382		
中白鹭04・HQP6736・金井・2023.	035726761	2024-05-15 09:04:34	[Location update event]	Tine: 2024-05-18	5 09:00:42,	longitude: 109.05471,	latitude:21.58534		
朱鹮01・HQP5504・崀山・2022090	6 035718297	2024-05-15 08:04:34	[Location update event]	Tine: 2024-05-16	5 08:00:21,	longitude: 110.76471,	latitude:26.35341		
朱鹮01・HQP5504・崀山・2022090	6 035718297	2024-05-15 08:04:34	[Location update event]	Tine: 2024-05-18	5 08:00:21,	longitude: 110.76471,	latitude:26.35341		
未罰02・HQP5506・崀山・2022090	16 035699455	2024-05-15 06:04:34	[Location update event]	Tine: 2024-05-18	5 06:00:30,	longitude: 110.76476,	latitude:26.35446		
未罰02・HQP5506・崀山・2022090	035699455	2024-05-15 06:04:34	[Location update event]	Tine: 2024-05-16	5 06:00:30,	longitude: 110.76476,	latitude:26.35446		
朱鹮01・HQP5504・崀山・2022090	6 035718297	2024-05-15 03:04:34	[Location update event]	Tine: 2024-05-18	5 03:00:44,	longitude: 110.76347,	latitude:26.35304		
朱鹮01・HQP5504・崀山・2022090	6 035718297	2024-05-15 03:04:34	[Location update event]	Tine: 2024-05-18	5 03:00:44,	longitude: 110.76347,	latitude:26.35304		
未罰02・HQP5506・崀山・2022090	035699455	2024-05-15 01:04:34	[Location update event]	Tine: 2024-05-16	5 01:00:37,	longitude: 110.76339,	latitude:26.35378		
朱鹮02・HQP5506・崀山・2022090	035699455	2024-05-15 01:04:34	[Location update event]	Tine: 2024-05-16	5 01:00:37,	longitude: 110.76339,	latitude:26.35378		
朱鹮01・HQP5504・崀山・2022090	6 035718297	2024-05-14 22:04:33	[Location update event]	Tine: 2024-05-14	22:00:29,	longitude: 110.76355,	latitude: 26. 35424		
未罰01・HQP5504・崀山・2022090	6 035718297	2024-05-14 22:04:33	[Location update event]	Tine: 2024-05-14	22:00:29,	longitude: 110.76355,	lstitude:26.35424		
朱鹮02・HQP5506・崀山・2022090	035699455	2024-05-14 20:04:33	[Location update event]	Tine: 2024-05-14	1 20:00:42,	longitude: 110.76337,	latitude:26.35368		
朱鹮02・HQP5506・崀山・2022090	035699455	2024-05-14 20:04:33	[Location update event]	Time: 2024-05-14	20:00:42,	longitude: 110.76337,	latitude:26.35368		
中白鹭04・HQP6736・金井・2023.	035726761	2024-05-14 18:04:33	[Location update event]	Tine: 2024-05-14	18:00:38,	longitude: 109.02425,	latitude:21.60907		
朱鹮01・HQP5504・崀山・2022090	6 035718297	2024-05-14 17:04:33	[Location update event]	Tine: 2024-05-14	17:00:36,	longitude: 110.76337,	latitude:26.35367		
朱鹮01、H0P5504、当山、2022090	6 035718297	2024-05-14 17:04:33	Elocation undate event?	Time: 2024-05-14	17:00:36.	longitude: 110 76337.	latitude:26.35367		

Figure 14.1 notification list

# 14.2. Data Export

After selecting the message, right-click, you can choose to export to Excel file format.

🤌 Device List 🛛 🗞 GNSS	Data 🔝	Map View 📑	Sensor Data 😼 Remote Control 🚺 Notification 🗙 💐 Statistics Chart
Event Type: All	~	Key:	🔍 Event notification type: 🖉 App 🗌 Easil
Device	IMEI	Time	Details
朱鹮02・HQP5506・崀山・20220906	035699455	2024-05-23 04:04:43	[Location update event] Time: 2024-05-23 04:00:25, longitude: 110.76317, latitude:26.35392
朱鹮01・HQP5504・崀山・20220906	035718297	2024-05-23 01:04:42	Export(E) t] Time: 2024-05-23 01:00:40, longitude: 110.76337, latitude:26.35386
朱鹮02・HQP5506・崀山・20220906	035699455	2024-05-22 23:07:42	Time: 2024-05-22 23:02:42, longitude: 110.76297, latitude:26.3537
中白鹭04・HQP6736・金井・2023	035726761	2024-05-22 21:04:42	[Location update event] Time: 2024-05-22 21:00:22, longitude: 109.33827, latitude:22.04916
朱鹮01・HQP5504・崀山・20220906	035718297	2024-05-22 20:04:42	[Location update event] Time: 2024-05-22 20:00:21, longitude: 110.76334, latitude:26.35339
朱鹮02・HQP5506・崀山・20220906	035699455	2024-05-22 18:04:41	[Location update event] Time: 2024-05-22 18:01:05, longitude: 110.7642, latitude:26.35406
朱鹮01・HQP5504・崀山・20220906	035718297	2024-05-22 15:04:41	[Location update event] Time: 2024-05-22 15:00:42, longitude: 110.76323, latitude:26.35365



# 15. Data Specification

In the "Help" menu, you can view the standards of each data item in the system, software version history, etc.





×

File(F) Map(M) Movement Ecology Tools(T)	He	elp(H)
ata Manager		Data Standards
Devices Lavers	?	User Manual
胡南环球	3	Suggestions & Feedbacks
0 selected. <u>Clear selecti</u>	3	Check for Upgrade
□		Version History
■ □ → 湖南环球信士(2022) -[7]	2	About Global Messenger

Figure 15.1 help menu

#### 🍉 Data Standards

	Data standards
.Tracking data	
Parameters	Explanation
Time	Data collection time.
Longitude	Measured by geodetic coordinate system, with seven decimal places (Unit: Degree)
Latitude	Measured by geodetic coordinate system, with seven decimal places (Unit: Degree)
Speed	Instantaneous speed when collecting data.
Course	The angle formed by the clockwise direction and due north (Unit: degree).
Altitude	Elevation (Unit: meter).
Temperature	The temperature of the device (Unit: celsius).
Voltage	Battery voltage of the device (Unit: volt).
Activity	Number of movements within one data collection interval.
Accuracy	Accuracy of GNSS positioning in 5 classes A, B, C, D, E. (See 1.2).
HDOP	horizontal dilution of precision of GNSS, smaller values indicate higher accuracy.
VDOP	Dilution of precision of GNSS, smaller values indicate higher accuracy.

1.1 Activities

Activity is a cumulative value of the animal's movement within one data collection interval. When the acceleration of the built-in three-axis accelerometer exceeds 0.15 G in any direction, the activity value is added by 1. The activity indicator is in accordance with the animal activity model.

#### 1.2 Positioning accuracy

Positioning accuracy is the closeness between GNSS positioning and its actual position. The positioning accuracy of the tracker is calculated using an accuracy factor utilizing a linear regression algorithm. It is calculated as: Error= 2.679243 \* HDOP + 0.59144 Units are in meters. The accuracy classes Figure 15.2 data standards





3

# Technical Support QQ: 65061902

	Teeninear Sup		0.
rsion History		×	
	Version history	~	
•	V3.0.4 2024-05-27		
	[Feature] Account registration module.		
	[Feature] Device experience area module.		
	[Feature] Sensor data management module.		
	[Feature] Multi-level management module for device lists.		
	[Feature] Geofence module.		
	[Feature] Device event subscription module.		
	[Feature] Device management page module.		
	[Feature] Species biological information recording module.		
	[Feature] Habitat identification module.		
	[Feature] Quick division function for fixes.		
	[Feature] Data service station in North America.		
	[Feature] GeoJSON data engine.		
	[Fixed] Command module to support batch sending of commands and remote		
	control commands for radio devices.		
	[Fixed] Personal account maintenance module.		
	[Fixed] Statistical analysis module.		
	[Fixed] POI module.		
	[Fixed] other bugs.		
•	V3.0.3 2022-06-24		
	[Feature] Heatmap module.		
	[Feature] WMS data source engine.		
	[Feature] SQLite data source engine.		
	[Feature] Remote command control module.		
	[Feature] Attribute tables module.		
	[Feature] Functionality to save selected geometric objects as vector layers.		
	[Feature] Web map address query Feature.		
	[Feature] Account information management Feature.	~	
	Figure 15.3 version history		
	- ,		

