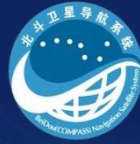




**UBIQUITOUS NAVIGATION**  
EVERYWHERE IN EVERY POSSIBLE WAY



# Marine Applications of GNSS



International Committee on  
Global Navigation Satellite Systems

## Background

- Situation of Vessel Monitoring at Home and Abroad
- Advantages of BeiDou in Vessel Monitoring

## BeiDou and Vessel Monitoring

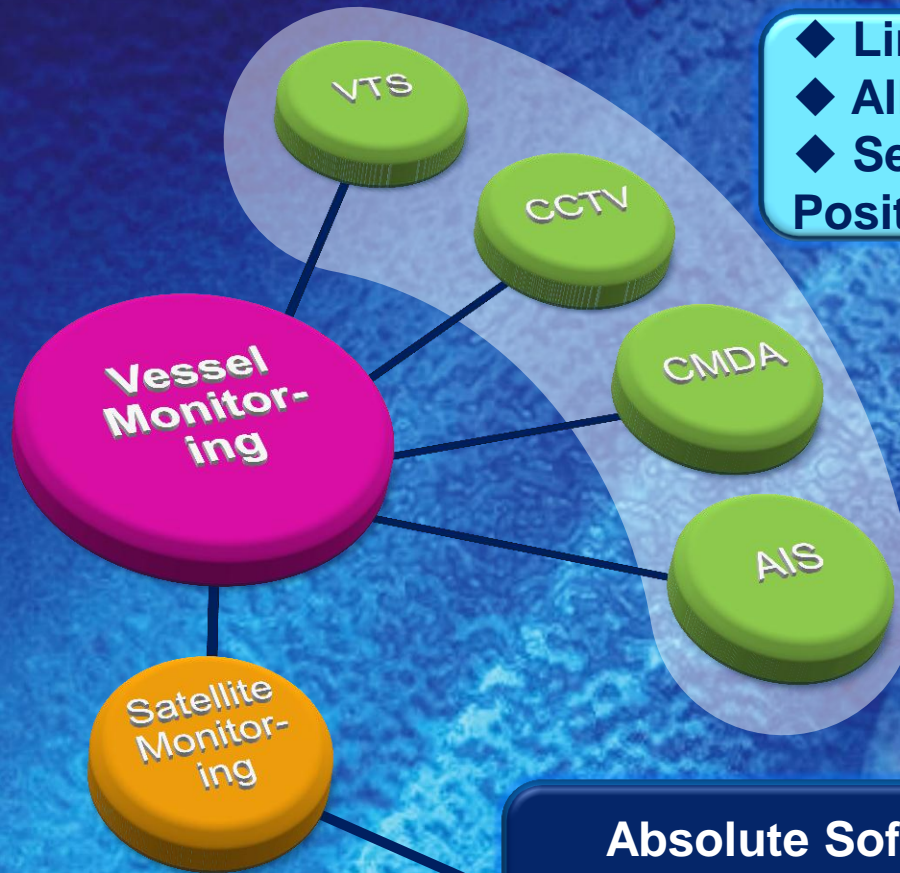
- Application Mode of BeiDou in Vessel Monitoring
- Services Frame Provided by BeiDou VMS
- Services Provided by BeiDou VMS

## Conclusion

- BeiDou is Notably Applicable to Vessel Monitoring



## Situation of Vessel Monitoring at Home and Abroad



- ◆ Limited Coverage Area
- ◆ All-day Service Impossible
- ◆ Separation between Positioning and Communication

- ◆ Separation between Positioning and Communication
- ◆ Expensive

**Absolute Software,  
AMS, Argos CLS, AST Ltd,  
Free Port-Eye from a sky**



## Advantages of BeiDou in Vessel Monitoring

### Applicability

- Positioning and Communication Integrated
- Broad Coverage Area

### Extensibility

- Compatible with other GNSS
- Integratability with AIS, RFID

### Reliability

- Developed by China
- Ocean-Land-Sky Integration

### Suitability

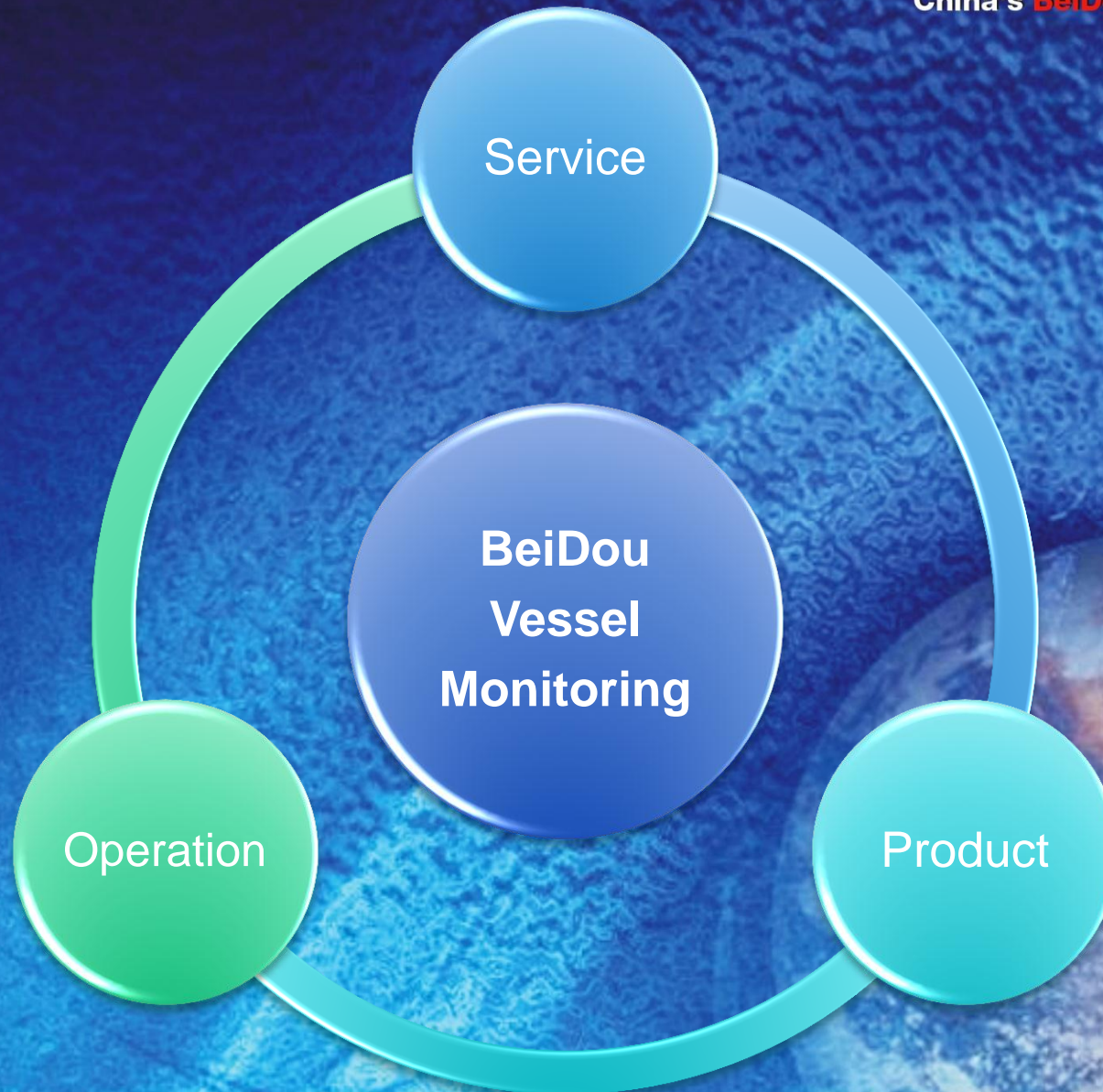
- Economic
- Availability in Harsh Environments



# Application Mode of BeiDou in Vessel Monitoring



China's **BeiDou** World's **Compass**





# Application Mode of BeiDou in Vessel Monitoring



China's **BeiDou** World's **Compass**



BeiDou Terminal

Command Centre



BeiDou  
Vessel  
Monitoring  
Devices



Handset

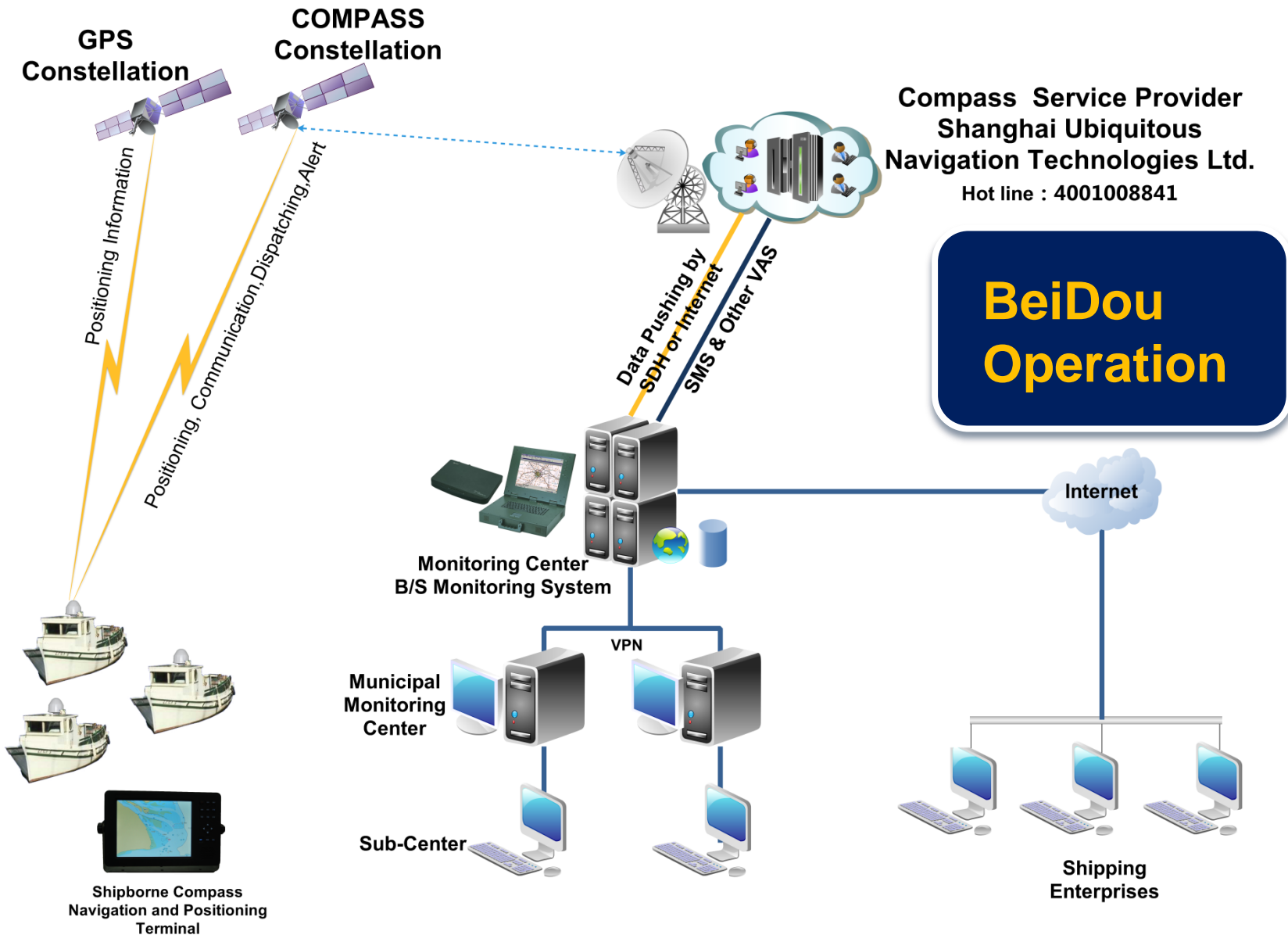
Control  
Terminal



# Application Mode of BeiDou in Vessel Monitoring



China's **BeiDou** World's **Compass**

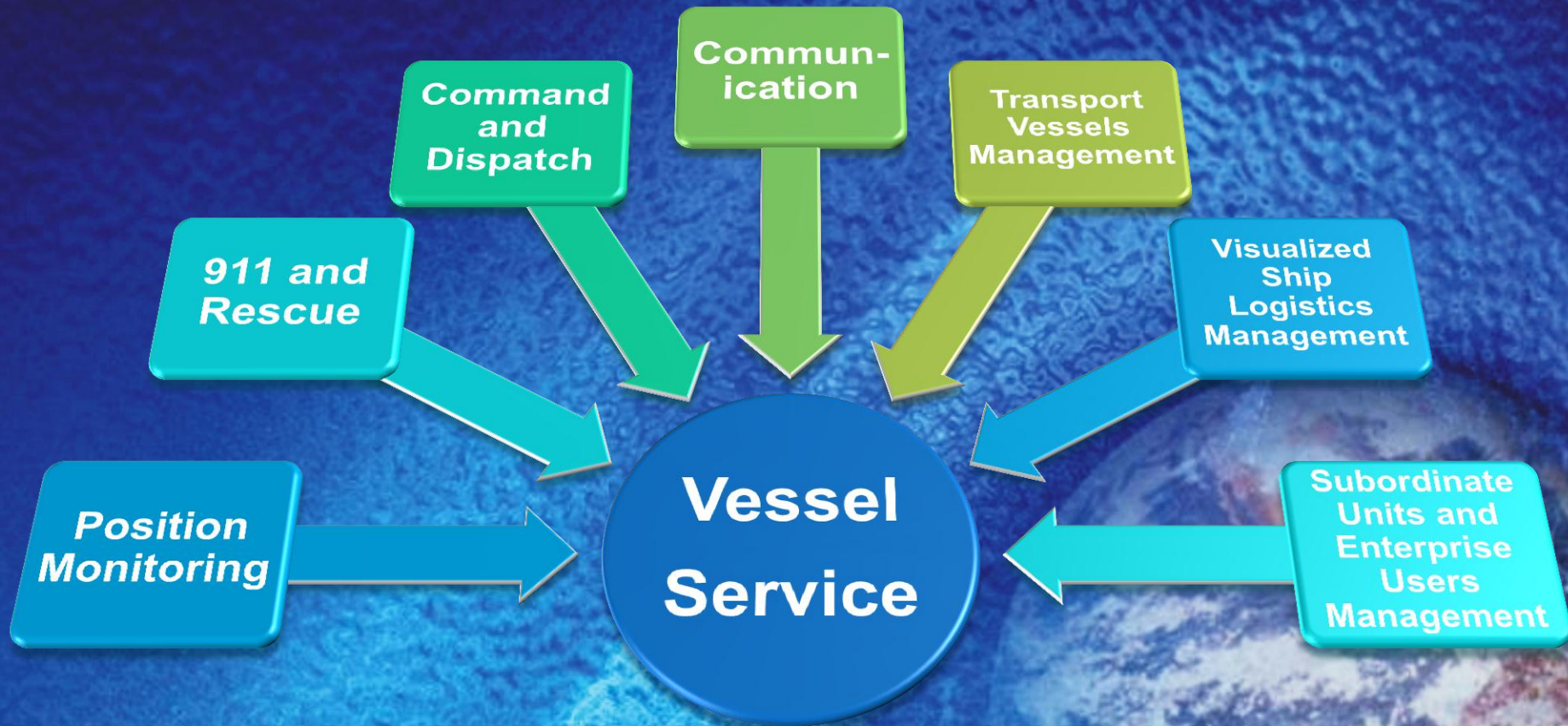




# Services Frame Provided by BeiDou VMS



China's **BeiDou** World's **Compass**





# Services Provided by BeiDou VMS



## Inland shipping (Lancang Jiang (Mekong River)): RS + 3D Image + BeiDou

China's **BeiDou** World's **Compass**

公安边防部队澜沧江-湄公河船舶监控管理系统

影像操作 北斗通信 管理功能 查询统计 系统配置

短信统计 报警统计 航迹查询 里程查看

查询统计 里程管理

### 船舶列表

搜索

请输入北斗卡号或船舶名称:

搜索

### 船舶信息

名称	状态
公安边防部队	在线(0)
航运企业	在线(33)
航运企业	在线(33)
299004	离线
洪利号(吨位:260)	在线
299073	离线
顺安6号(吨位:2...	离线
嘉煌号	离线
弘阳(吨位:117)	离线
299104	离线
永鑫9号(吨位...	在线
嘉顺1号	离线
299140	离线
299215	离线
299345	离线

船舶列表 图层控制 三维控制

短信列表

当前用户:sszd 在线船舶数:33 服务器状态:正常 当前位置:经度 100° 05' 02", 纬度 20° 20' 23"

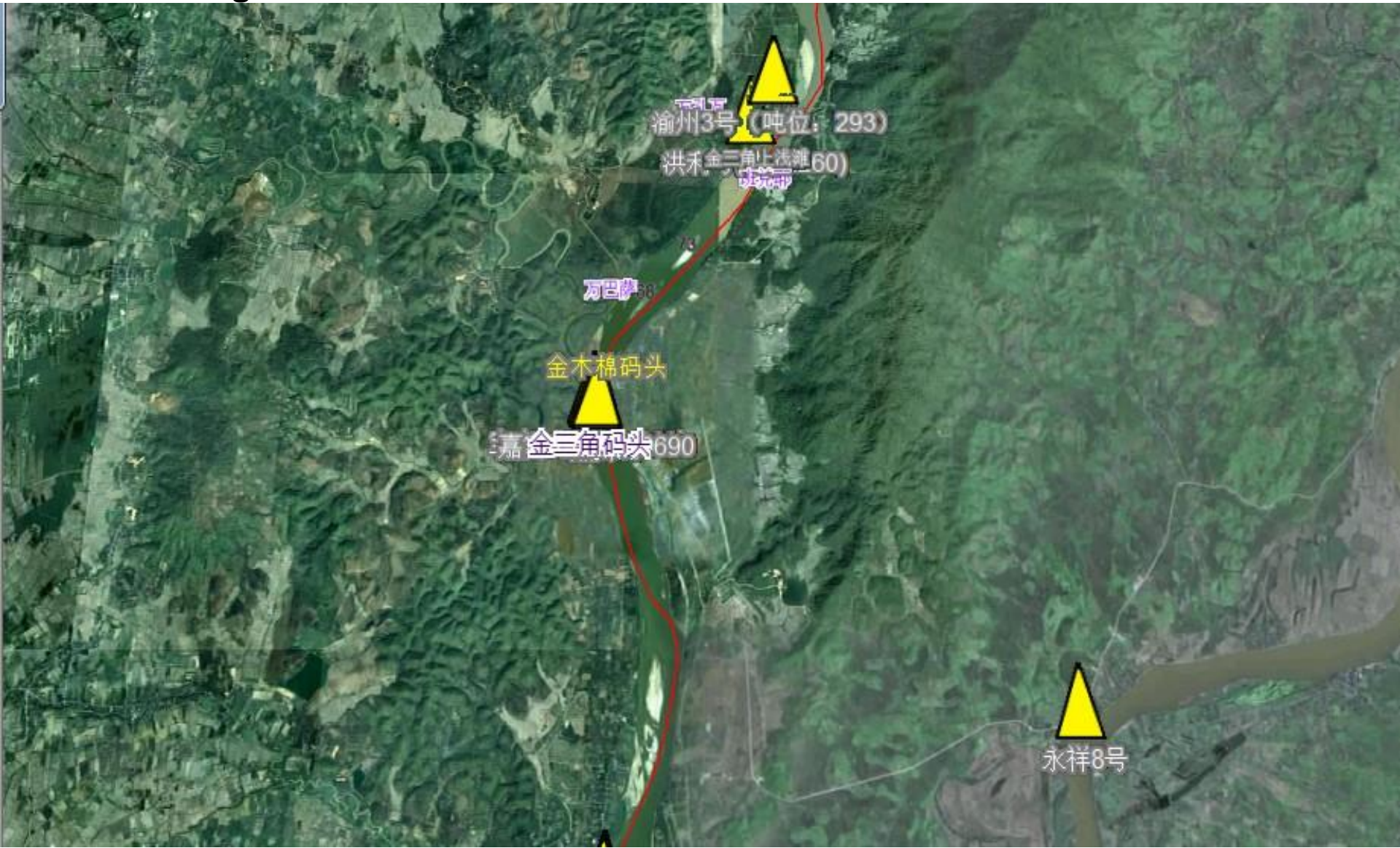


# Services Provided by BeiDou VMS



Inland shipping (Lancang Jiang (Mekong River)):  
RS + 3D Image + BeiDou

China's **BeiDou** World's **Compass**





# Services Provided by BeiDou VMS



**Inland shipping (Lancang Jiang (Mekong River)):  
RS + 3D Image + BeiDou**

China's **BeiDou** World's **Compass**

**Project  
Effect**

**BeiDou Advantage: Positioning and Communication Integrated in the Remote Inland River Area**

**Integration Characteristics: BeiDou+RS+3D very suitable for the Environmental monitoring**

**Notable Benefits: BeiDou protects ship crew's life and property safety**

**International Corporation: BeiDou promotes the international Exchanges and Cooperation**



# Services Provided by BeiDou VMS



Intelligent Ship Logistics :

China's **BeiDou** World's **Compass**

BeiDou Position Service + Short Messages + Sensors Integration

中国港口船舶动态监控与查询系统演示版[2.0] - Windows Internet Explorer

http://www.portlive.com/

文件(F) 编辑(E) 查看(V) 收藏夹(A) 工具(T) 帮助(H)

中国港口船舶动态监控与查询系统演示版[2.0]

qyhu@mmc.shmtu.edu.cn | 联系我们 | 注册 | 帮助 | 退出

在线船舶(船名、呼号或MMSI编号) 船舶资料 地点 经纬度

搜索

船舶符号 港口索引

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Portlive.com

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- [HAI BIAO 1003](#)
- [ROTTERDAM](#)
- [HAI XUN 1022](#)
- [HAI BIAO 1005](#)

船舶资料

- [YU FENG](#)
- [HAI TONG](#)
- [HAI XUN 0846](#)
- [HAI XUN 1015](#)
- [hai xun 1015](#)

地点

- [DALIAN\(China\)](#)
- [SHAN T OU\(China\)](#)
- [LONDON\(United Kingdom\)](#)
- [宁波](#)
- [LONDON\(Kiribati\)](#)

经纬度

- [122.37](#)
- [122.36](#)
- [122.35](#)
- [122.34](#)
- [122.33](#)

YONG LONG GUI

船旗国:中国

类型:货轮

呼号:BJST 船首向:116.0度

航向/航速:117.0度/11.0节

航行状态:在航用机器推进

长/宽/吃水:200.0m×32.0m×7.3m

目的港:QINHUANGDAO

预计抵达时间:2009-3-12 13:0

MMSI/IMO:413599000/0

接收时间:2009-03-10 16:08:20

上传图片  
发送该船动态  
跟踪或取消跟踪  
添加到我的船队

海图 C-Map 地图 遥感

海平面实况 24小时 48小时

122米 (31°22.86'N, 121°35.12'E)

在线船舶总数1521艘



## Intelligent Ship Logistics : BeiDou Position Service + Short Messages + Sensors Integration

### Distinguish -ing Features

BeiDou achieves the dynamic management of cargo and makes the logistics system more efficient.

BeiDou Early Warning improves the safety of the ocean cargo transportation.

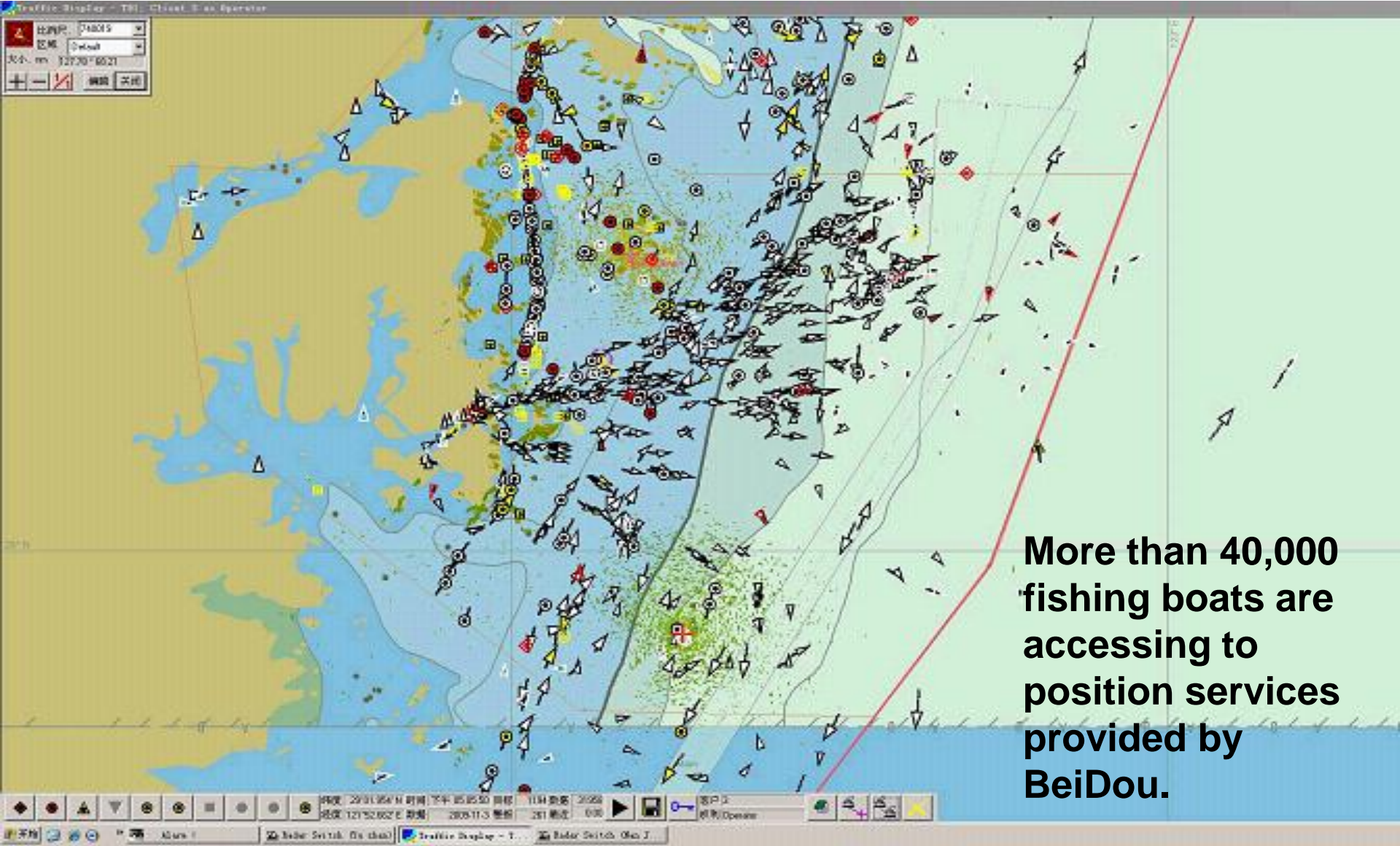
BeiDou LBS Service offers cargo real-time monitoring (temperature, humidity, etc.) for special logistics.

BeiDou Logistics can be integrated into Internet of Things.



## The Application of BeiDou in the Marine Fisheries ——Position Service

China's **BeiDou** World's **Compass**



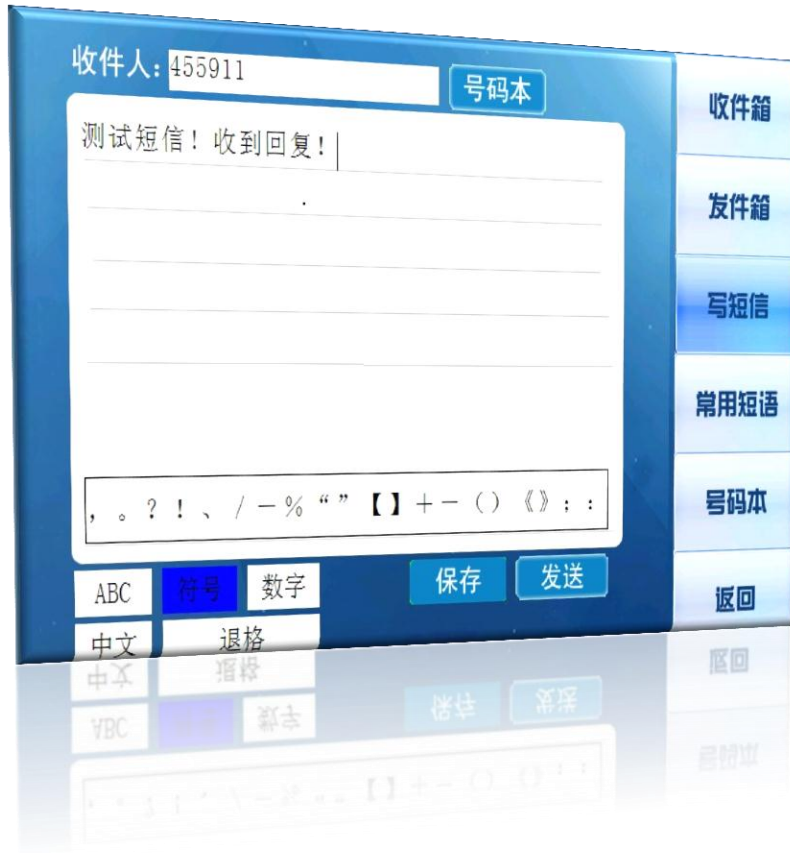
**More than 40,000 fishing boats are accessing to position services provided by BeiDou.**





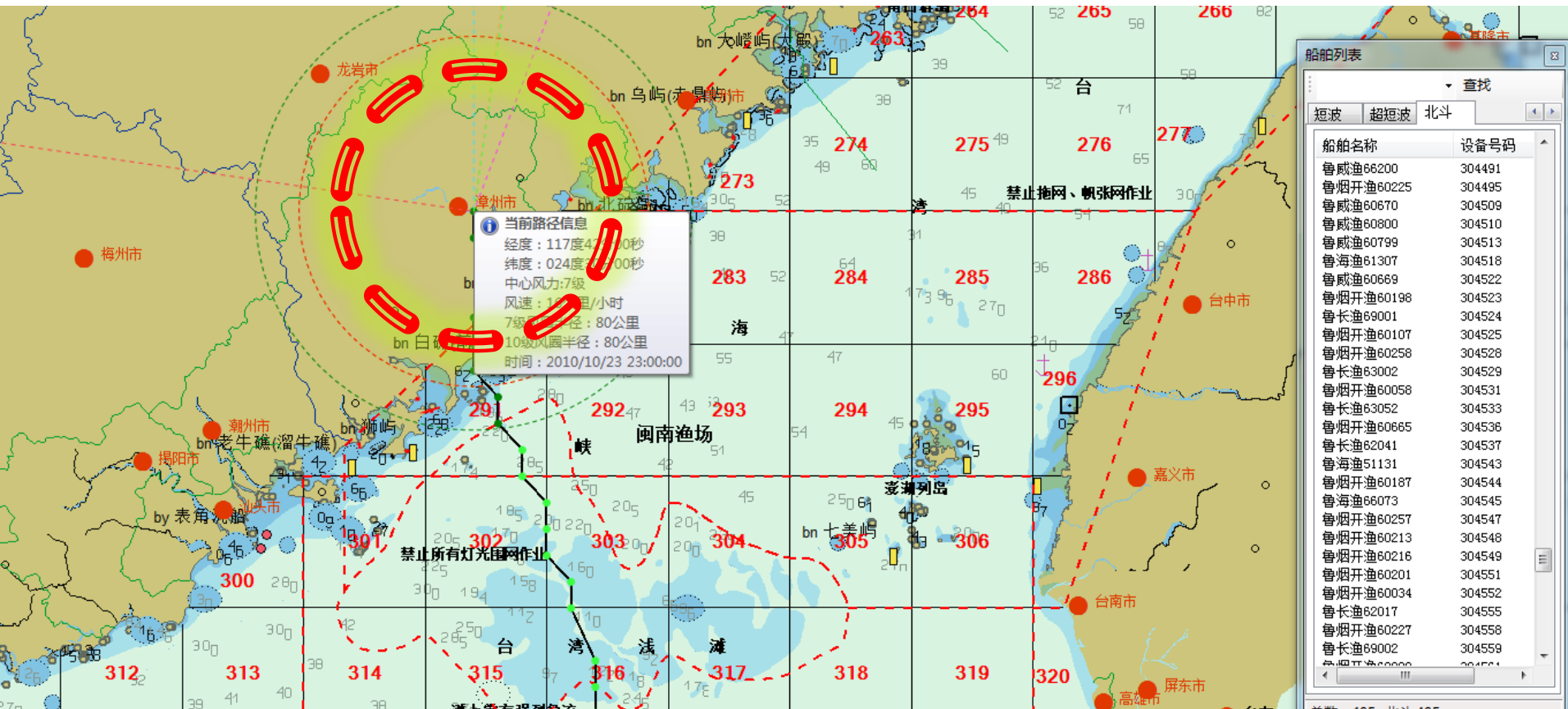
## The Application of BeiDou in the Marine Fisheries ——Communicate Service

China's **BeiDou** World's **Compass**





## The Application of BeiDou in the Marine Fisheries ——Typhoon Warning Service







## The Application of BeiDou in the Marine Fisheries ——Search and Rescue Services

China's **BeiDou** World's **Compass**

sam@ubinavi.com.cn | 帮助 | 技术支持 | 退出

船名(英文或拼音) 呼号 MMSI IMO

DONG HAI JIU 115

搜索

最近访问 我的船队 海图查询 港口船舶 高级查询 我的区域 我的订阅

**DONG HAI JIU 115**

船旗国:中国	经度:122°23.48'E
呼号:BSCQ	纬度:31°9.83'N
IMO编号:9572719	航向/航速:225.0°/0.2kn
信号源:AIS(413046050)	航行状态:锚泊
类型:搜救船	目的港:WAI GAO QIAO
船长:99.0m	预抵时间:2011-05-13 07:00
船宽:15.0m	吃水:7.0m
更新时间:2011-05-16 21:37	

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海图 遥感 地图 +遥感

12小时天气预报 24小时天气预报

崇明岛 前哨 长兴岛 黄沙岛 南汇 奉贤 花鸟山 西礁山 枸杞岛 海礁

8海里 (122°36.45'E 31°28.39'N)

在线船舶总数32067艘

©ManyShips 使用条款

## Applications on the other Vessels

China's BeiDou World's Compass



### MV Xue Long

- Scientific Ship Monitoring
- Scientific Data Acquisition



### Sailboat

- Competition Sailing Monitoring Service
- Personal Navigation Service



### Yacht

- Vocation Navigation Service
- Emergency 911 Communication Service



# Conclusion



China's **BeiDou** World's **Compass**

## BeiDou is Notably Applicable to Vessel Monitoring

- ◆ Autonomous Navigation
- ▲ SMS Communication
- ◆ Monitoring Management
- ◆ Intelligent Logistics
- ◆ Emergency Rescue
- ◆ Scientific Investigation

- ◆ Positioning and
- ◆ Various Water E
- ◆ Offshore, Ocean
- ◆ Various Boats ar

System  
Extensibility

## BeiDou Vessel Monitoring

Application  
Suitability

Services  
Variability



**UBIQUITOUS NAVIGATION**  
EVERYWHERE IN EVERY POSSIBLE WAY



# Thank You!

# 谢谢



International Committee on  
Global Navigation Satellite Systems