

The background features a blue gradient with a satellite in orbit on the left and a globe on the right. The globe shows the continents of Asia and Australia. In the top right corner, there is a logo consisting of a blue 'C' shape, a red star, and a cluster of five red stars. The text 'COMPASS Innovative Application' is centered in a dark red, serif font.

# **COMPASS Innovative Application**

**China National Administration of GNSS and Applications  
Sept.14-18 2009 Saint-Petersburg, ICG-4**

# COMPASS Satellite Navigation Demonstration System

In 2003, COMPASS Satellite Navigation Demonstration System was in operation.

The system features:

- Quick positioning
- Timing with high accuracy
- Position monitoring
- Combination of positioning and short message communication



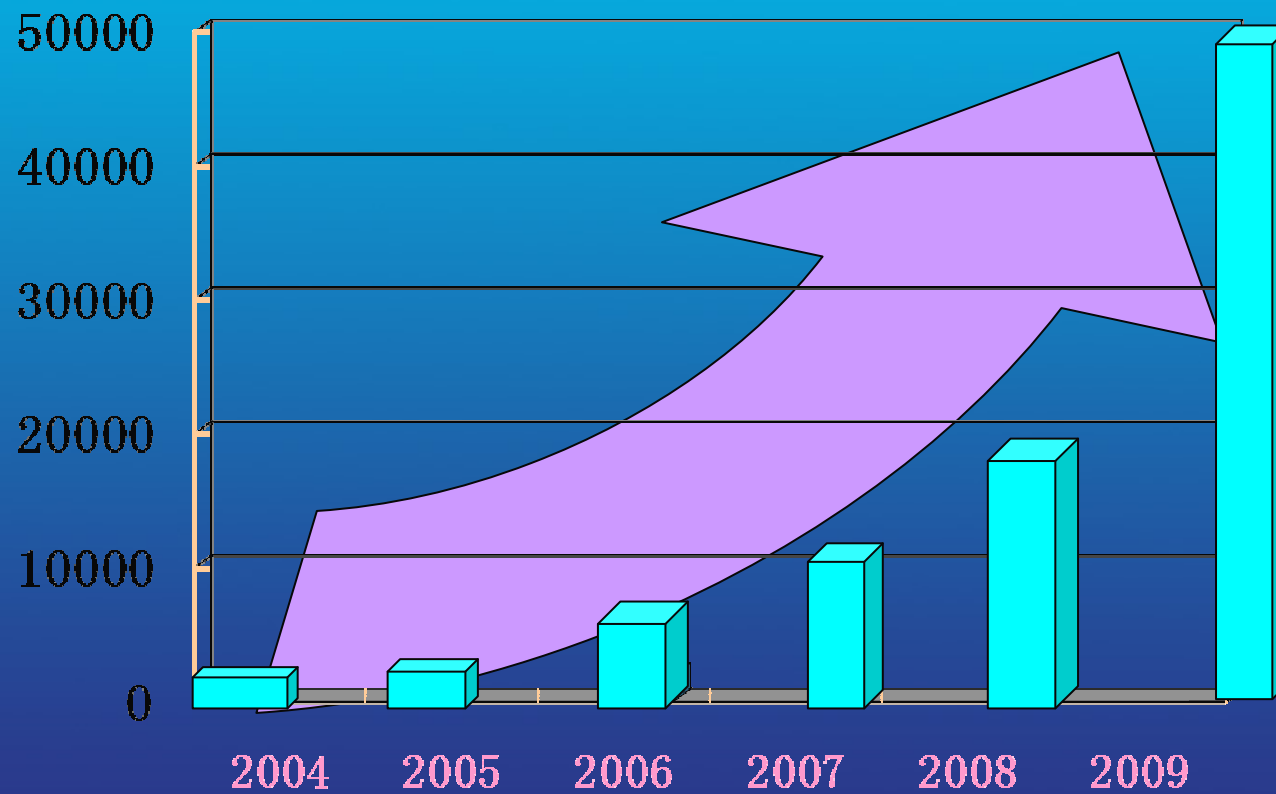
## **COMPASS Application Fields**

- **Mobile target monitoring**
- **Rescue activity**
- **Marine**
- **Fishery**
- **Surveying**
- **Disaster forecast**
- **Electricity monitoring and controlling system**
- **.....**

**It plays an important role in the national economic and social development. It is an important tool in navigation, timing and communication especially when terrestrial communication systems are not available.**



# Registered users





# COMPASS in Forest Fire Prevention

## Background

### ■ Forest Resource Overview

- Forests are distributed in Northeast, Northwest, Southeast China
- There are about 130 million hectares of forest





# Background

## ■ Damage of Forest Fire

- ✓ Forest fires break out every year
- ✓ Huge damage to people, wild animals, natural resources and environment

## ■ Forest Fire Prevention Problems

- ✓ Defectiveness of current fire detecting devices
- ✓ Lack of effective communication devices

## ■ **COMPASS-based fire prevention system**

- ✓ An efficient forest fire prevention ( FFP ) mechanism by taking full advantage of various technologies, especially of COMPASS System has been established.

## Why choose COMPASS?

- COMPASS System covers the entire area of Chinese forest with no blind area
- Provides positioning and short message service at the same time---efficient commanding
- Qualified COMPASS terminal devices--- portable, low-energy consuming and high temperature resistant





Beidou Terminal

**Fire truck equipped with COMPASS Terminal**

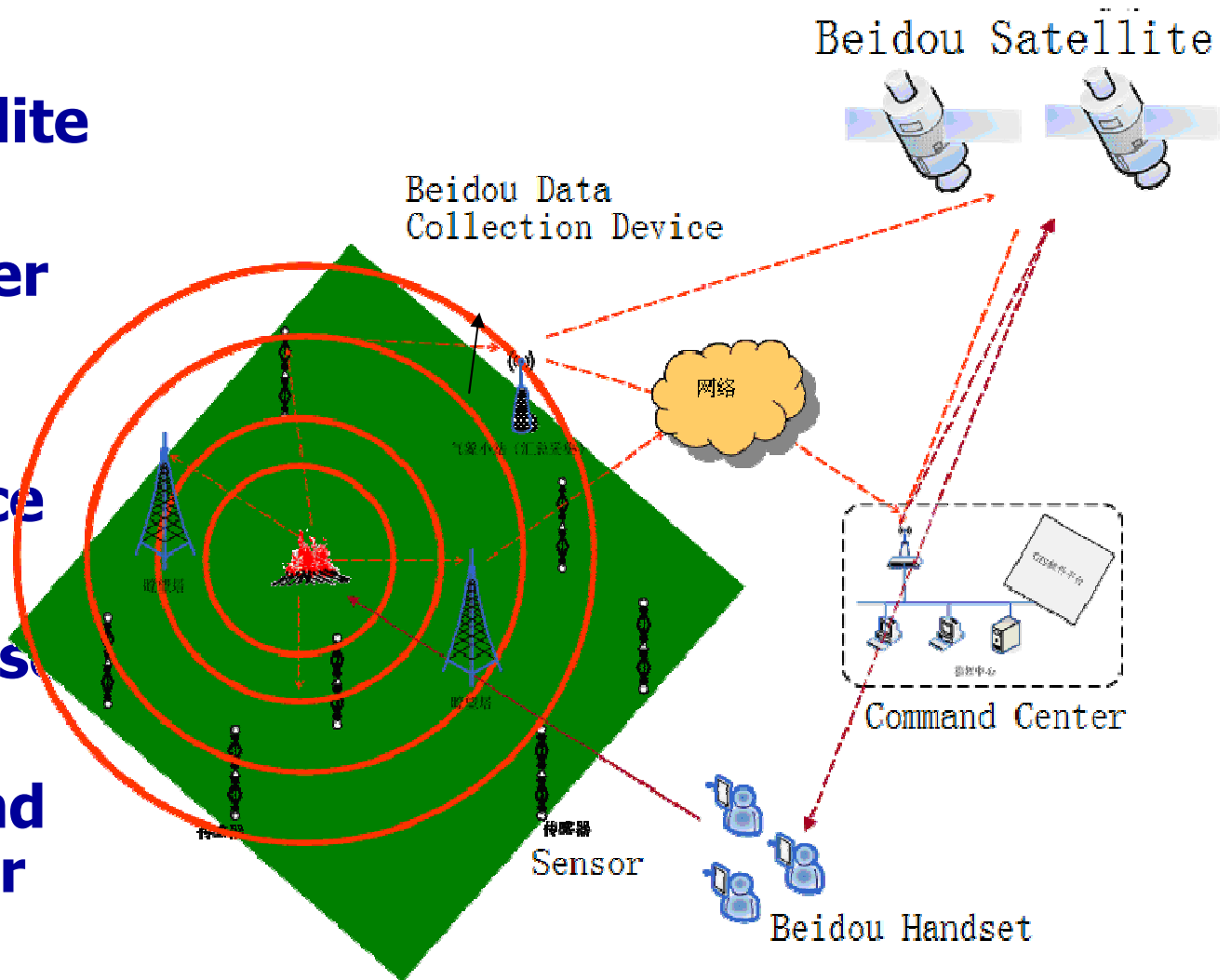


# When to use COMPASS?

- **Stage I: Fire risk analysis and fire detection**
  - ✓ COMPASS-based fire indicator collection
  - ✓ COMPASS-based fire risk analysis
- **Stage II: Fire fighting process**
  - ✓ Positioning: fire and fire fighter
  - ✓ Communication: fire fighter ↔ command center
    - fire fighter ↔ fire fighter
    - fire fighter ↔ mobile phone
  - ✓ Fire fighting route plan----based on navigation and GIS
- **Stage III: Post-fire assessment**
  - ✓ Damage area surveying
  - ✓ Data collection automatically

# What is COMPASS-based Forest Fire Prevention System Composed of?

- ◆ COMPASS Satellite
- ◆ Command Center
- ◆ COMPASS Data Collection Device
- ◆ COMPASS Hands
- ◆ Temperature and Humidity Sensor



## **Functions of the sub devices**

- ◆ **COMPASS Satellite**

- **Communication,**
- **Navigation**

- ◆ **Command Center**

- **risk analysis**
- **dispatching fire fighters**
- **fire fighting command**

- ◆ **COMPASS Data Collection Device**

- **located in forest**
- **transfer sensor detected data**

## **Functions of the sub devices (continue)**

### **■ COMPASS Handset**

**---communication**

**---positioning**

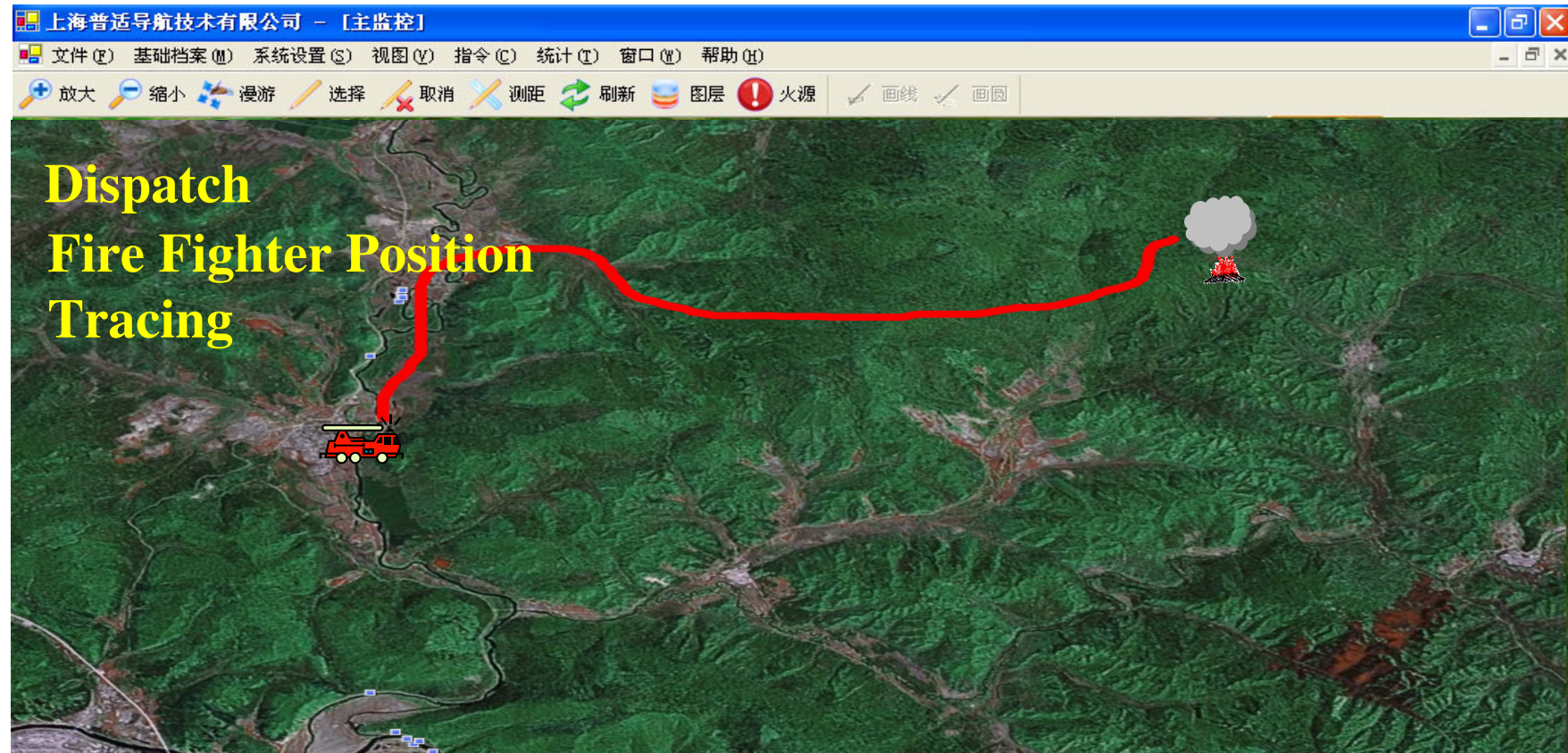
**---emergency alarm**

**---search for help**

### **■ Temperature and Humidity Sensor**



# COMPASS-based Forest Fire Prevention System



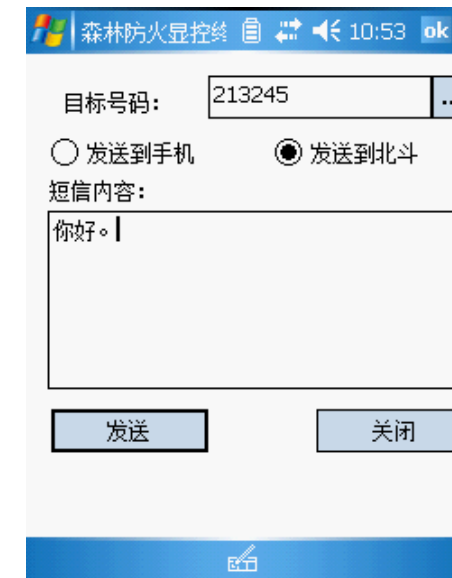
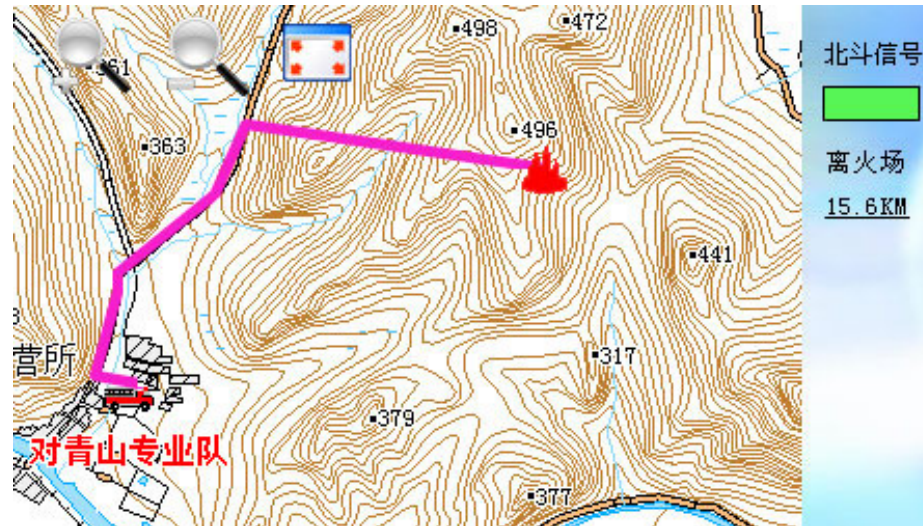
# COMPASS Handset

## Fire Alarm



**Short Message**  
--danger alarm  
--search for help  
--fire damage

## Fire Fighting Route Plan



# Features

## ◆ For Command Center ◆ For Fire Fighter

□ Data Collection

□ Fire Alarm

□ Fire Fighter Tracing

□ Fire Fighting Dispatch

□ Fire Field Position Display

□ Navigation

□ Fire Fighting Route Plan

□ Emergency Alarm

□ Positioning and communication are essential for Forest Fire Prevention

□ COMPASS System is competent for Forest Fire Prevention

□ COMPASS-based Forest Fire Prevention Solution is effective and irreplaceable

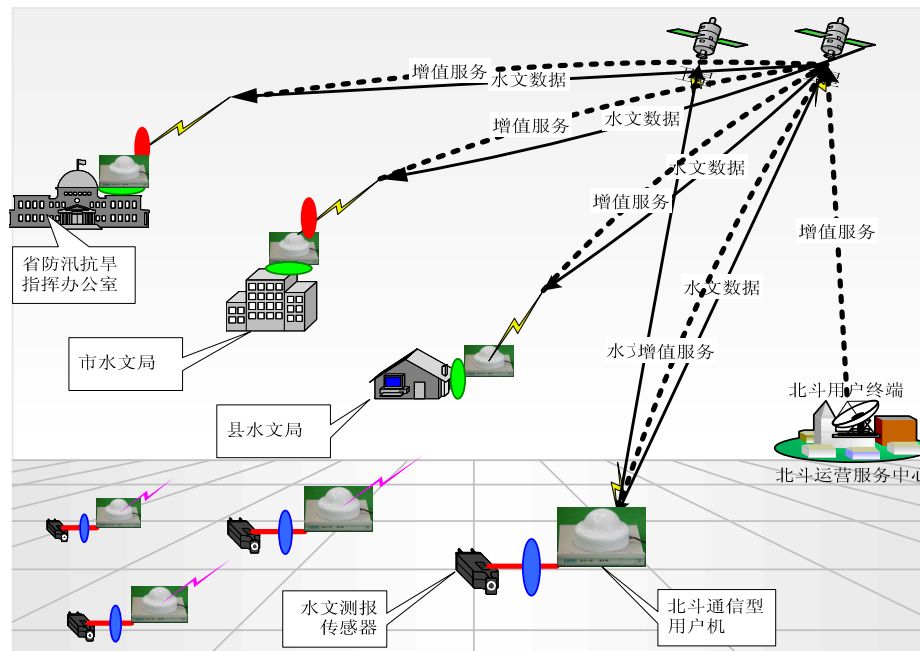


# **COMPASS application in water resources**

- **There are many water monitoring stations**
  - **monitoring rainfall, hydrological change, disaster prevention and transmitting collected information.**
- **Short message function**
  - **The signals of COMPASS system, combined with mobile phone signal, will be rapidly transmitted through short message after receiving rainfall and hydrological information.**
- **It helps to evacuate downstream people, protect the safety of life and property at the earliest attention, reduce the possible damage of flood disaster.**

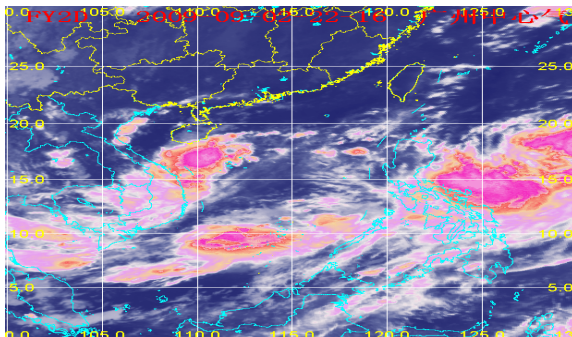


# What is COMPASS-based Water Resources Monitoring System Composed of?



# COMPASS application in meteorology

- COMPASS-based digital message transmission for meteorology has been developed
- The system can mainly
  - collect the digital message automatically
  - Transmit the message to National Meteorological Department and local weather stations
  - Provide visualization of the distribution of weather stations on GIS platform.



# **COMPASS-based solutions in other industries**

- **Fishery industry**
- **Water hydrology**
- **Special vehicle safety information**
- **Container safety and information service**
- **Travel safety in remote area**
- **Long-distance safety monitoring**
- **.....**

**What are the future applications of COMPASS?**

THANK YOU!

