Brief Introduction to Guangdong Emergency Early Warning Release Platform

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应急气象微博   应急气象网站   应急气象电话   应急气象短信   应急发布管理   农村大喇叭   电子显示屏

Guangdong Province
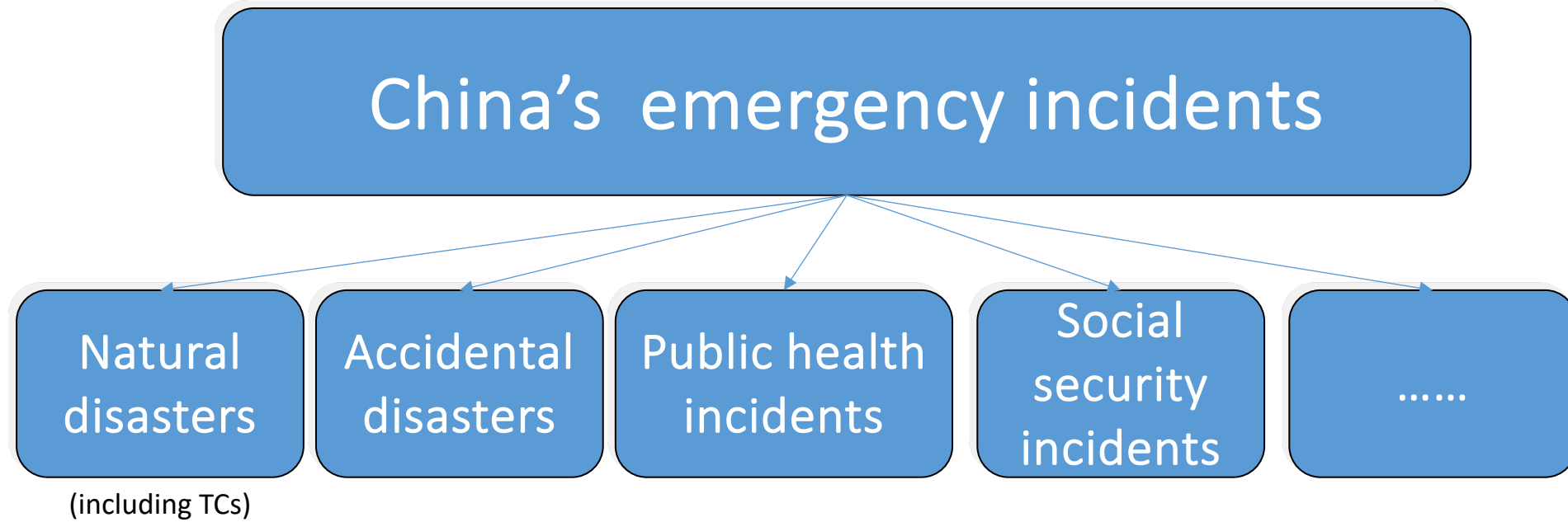

Guangdong Province

Guangdong province:

- **Largest resident population**（127 million）in China in 2022

- One of the **most developed** provinces in China; **Highest GDP** in China since 1989. 12.91 trillion CNY(1.8 trillion US dollars, 10.7% of China(121 trillion CNY) in 2022

- Emergencies including disastrous weather result in much loss of property and lives every year

- Guangdong Emergency Early Warning Release Platform

WHAT?

■ **Public institutions** entrusted by Government, managed by CMA, provincial, municipal and county meteorological services.

■ To perform **government functions** of releasing emergency warnings.

■ To gather emergency warnings from responsible government departments, and release them effectively and timely when an emergency happens. A trigger for social response.

■ Mechanism of Government Leading, Departments Linkage, Unified Release and Social Participation.

WHY?

China's emergency incidents

| Natural disasters | Accidental disasters | Public health incidents | Social security incidents | ...... |

(including TCs)

Status many years ago:
- ✓ Different abilities of warning release…
- ✓ Barrier of information among different departments…

WHY?

- On one early morning of August, 2007, **a rumor** about **earthquake** in Zhanjiang(a coastal city in Guangdong province) spread quickly on social communication platforms after a rainstorm and caused a panic.

- Zhanjiang Meteorological Bureau together with Zhanjiang Earthquake Bureau sent out 2.8 million SMs to refute the rumor **on the meteorological warning release platform**.

- The State Council and Guangdong Provincial Government was satisfied and realized **the importance and necessity** of establishing a unified & efficient emergency warning release platform.

- **CMA** proactively undertook the responsibility of it, and decided to carry out pilot work first in **Guangdong province**.
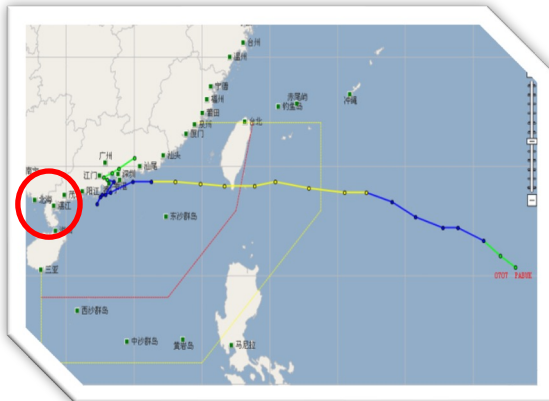
Zhangjiang, 684mm/24h, associated with TC Pabuk (0706)
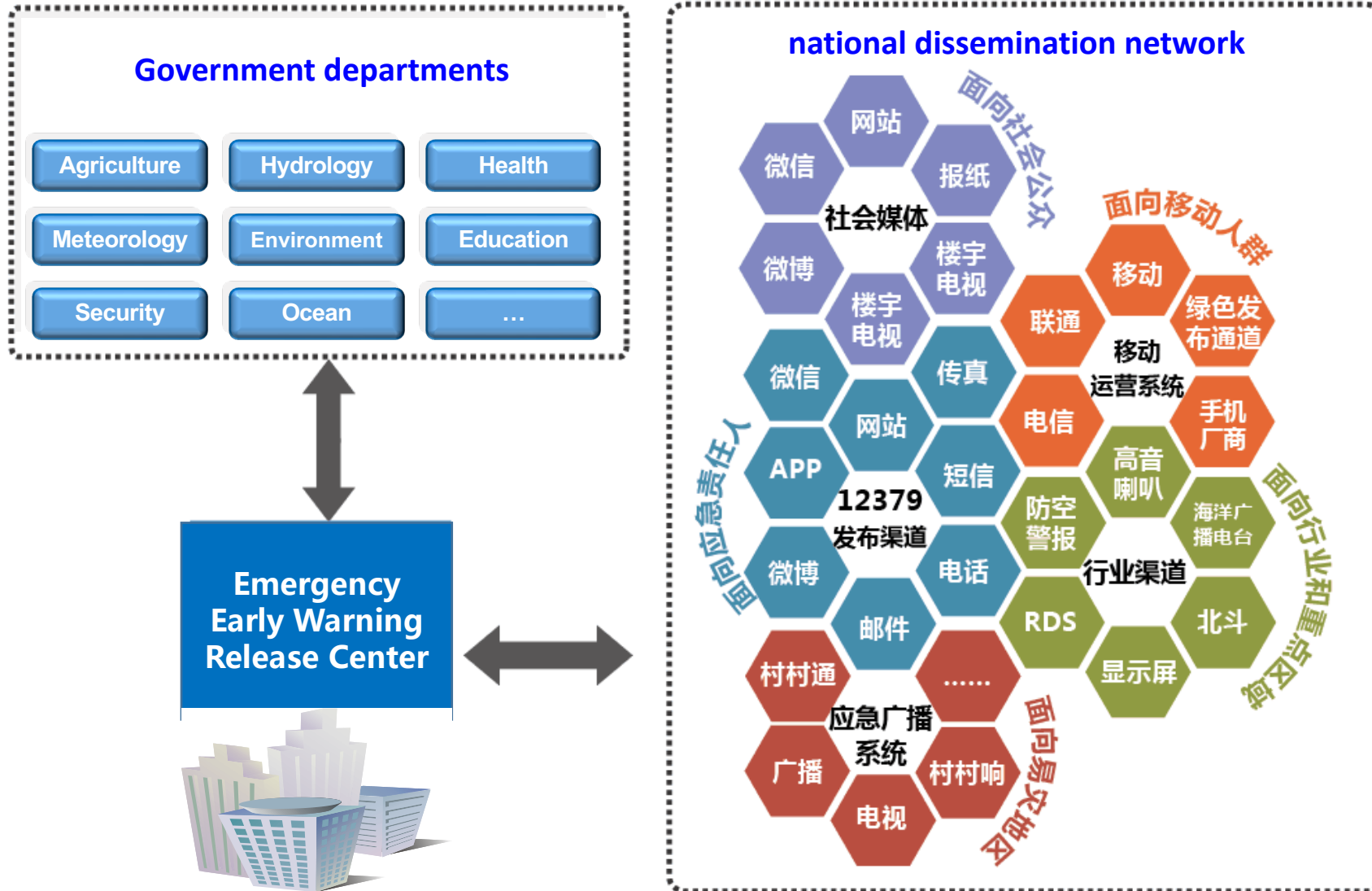

SMS to refute rumor

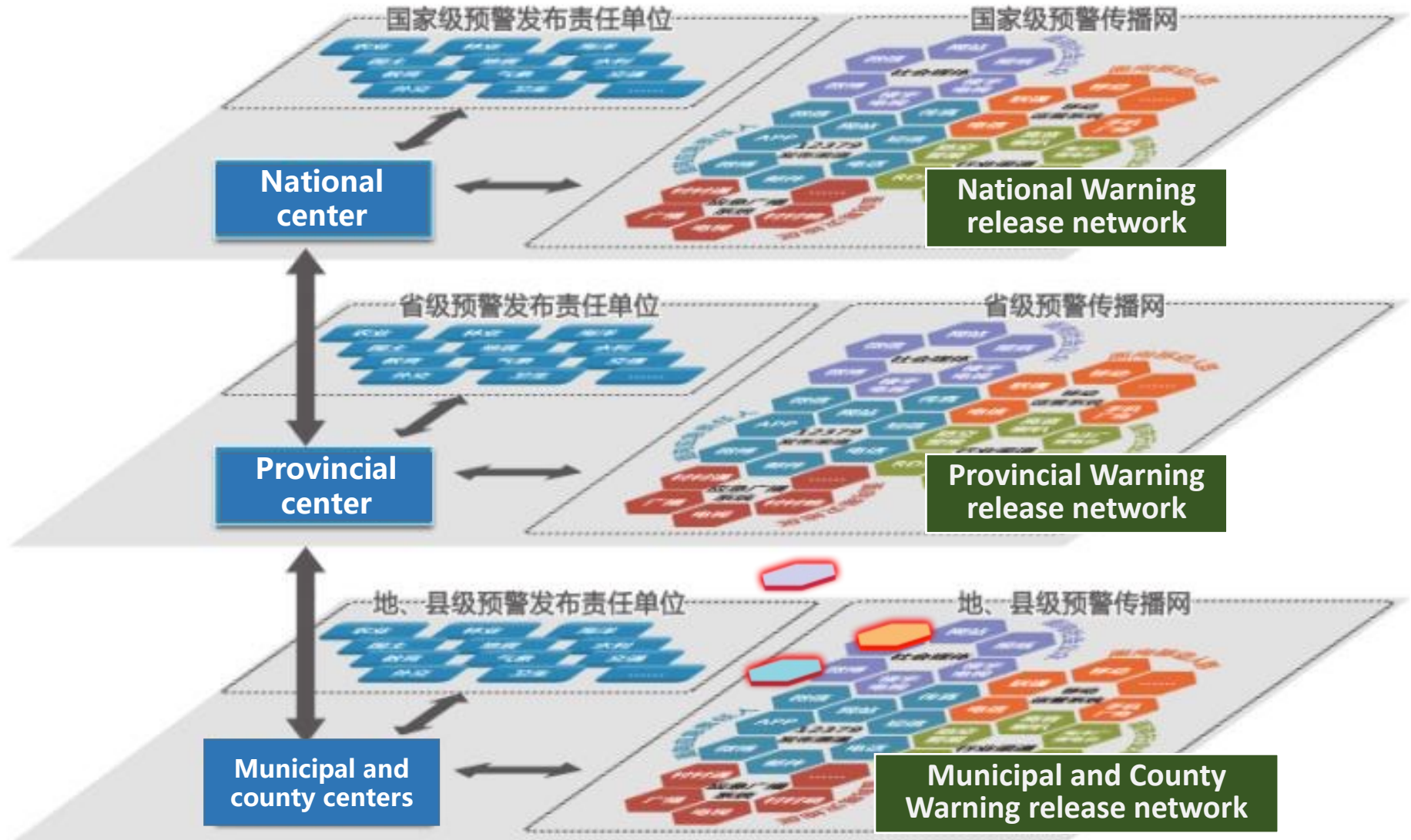**Signing ceremony of cooperation between Guangdong Government and CMA**

OUTLINE

- Background
- **Present situation**
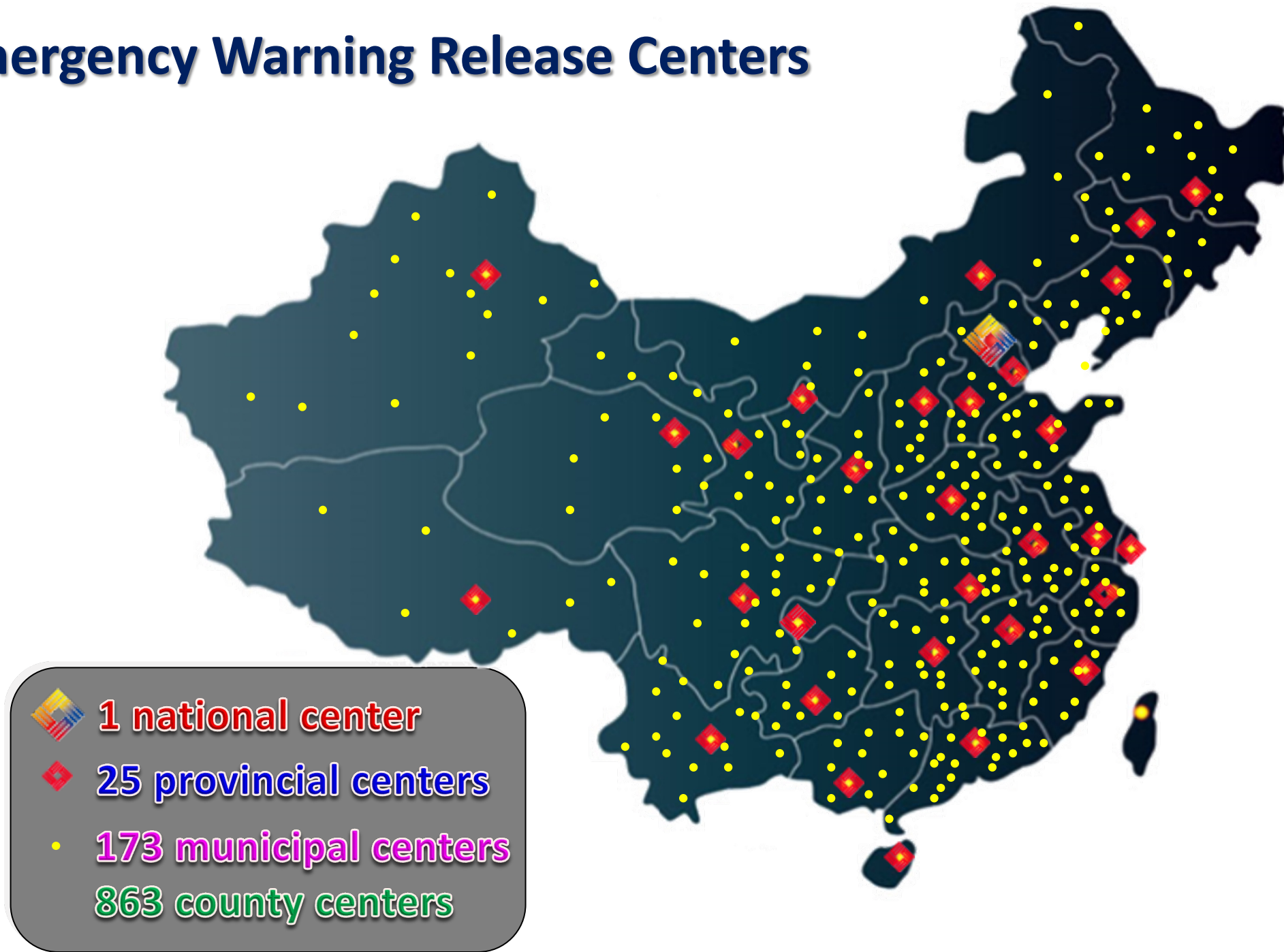- Guangdong Emergency Early Warning Release Center

Omnimedia release of early warning

Horizontal sharing, vertical connection

Emergency Warning Release Centers

- 1 national center
- 25 provincial centers
- 173 municipal centers
- 863 county centers

OUTLINE

- Background
- Present situation
- Guangdong Emergency Early Warning Release Center

Brief introduction

- Since the pilot work started, Guangdong continued to explore the mechanism and functions of the EWRC during its construction. The Guangdong provincial EWRC was put into application officially in 2015.

- Now Guangdong has established **102** branches of the EWRC all over the province.

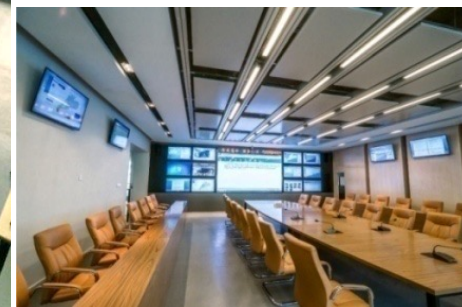- Information is delivered and shared among these branches.

102 EWRC all over the province

Mr. Zhu Xiaodan, Governor of Guangdong province, is unveiling the plaque of EWRC in 2015.

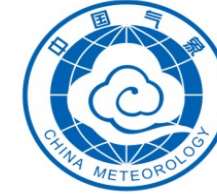The Provincial emergency early warning release center (in Guangzhou)
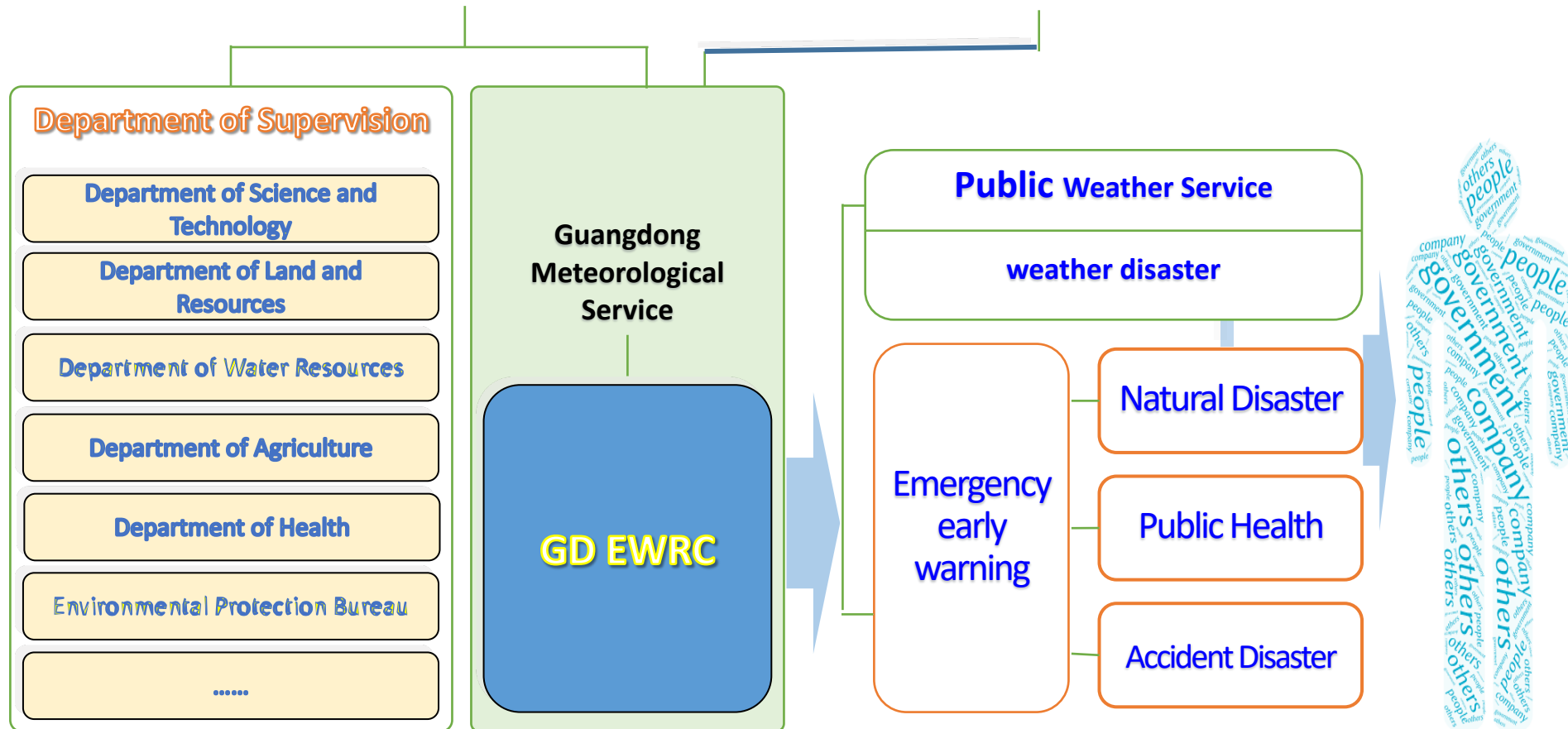
101 Municipal and county centers

Ownership and Duty

Guangdong Province Government

China Meteorological Administration

**Department of Supervision**

- **Department of Science and Technology**
- **Department of Land and Resources**
- **Department of Water Resources**
- **Department of Agriculture**
- **Department of Health**
- **Environmental Protection Bureau**
- ......

Guangdong Meteorological Service

GD EWRC

Public Weather Service

weather disaster

Emergency early warning

- **Natural Disaster**
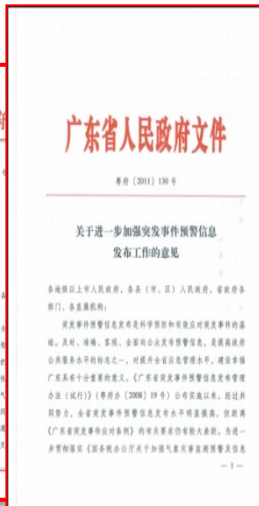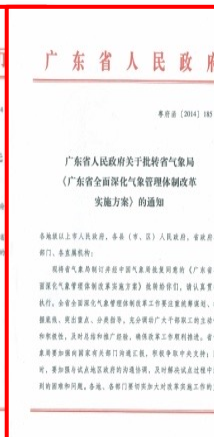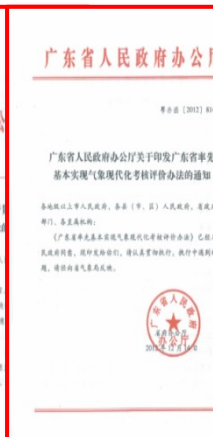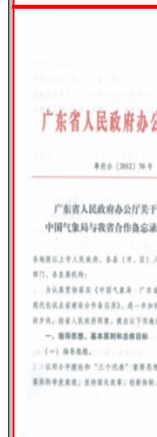- **Public Health**
- **Accident Disaster**

GD EWRC: managed by GMS under the commission of Government

Government draws attention

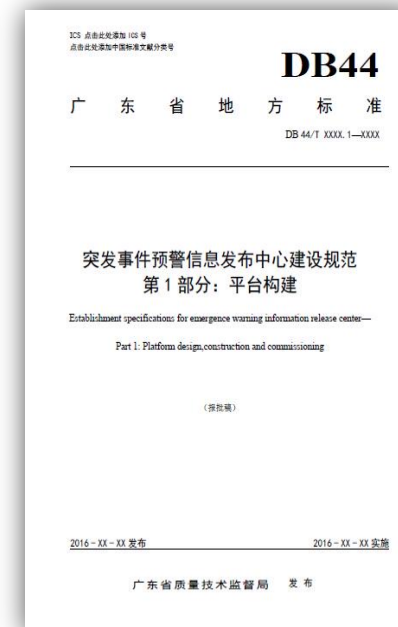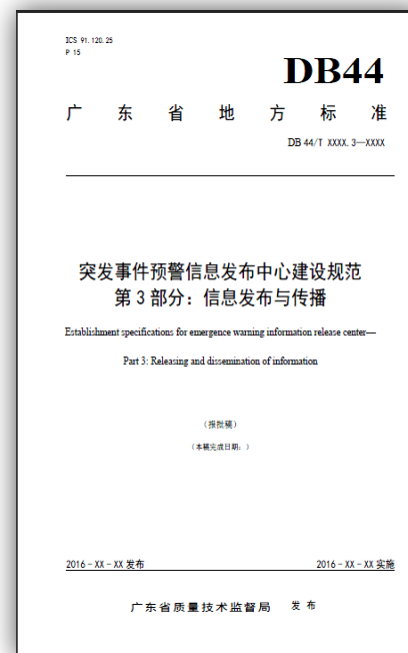

Many provincial conferences to deploy
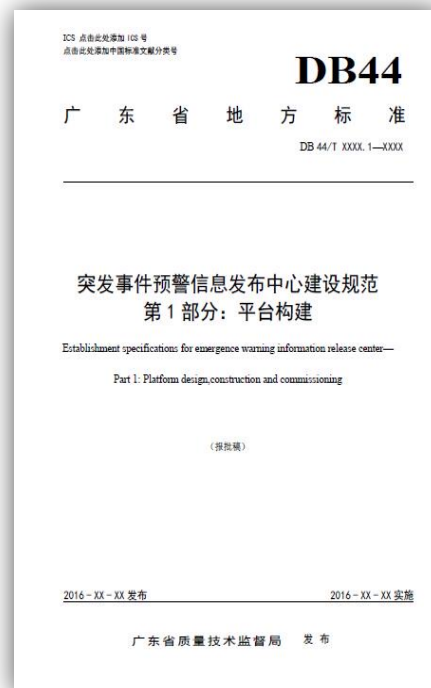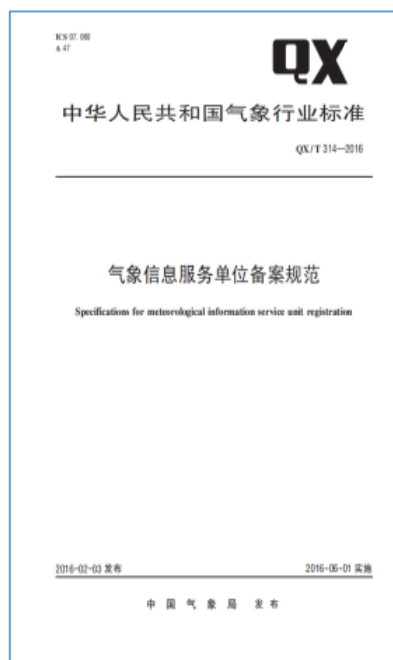
Relevant Laws and Legal Regulations be published to standardize our operation
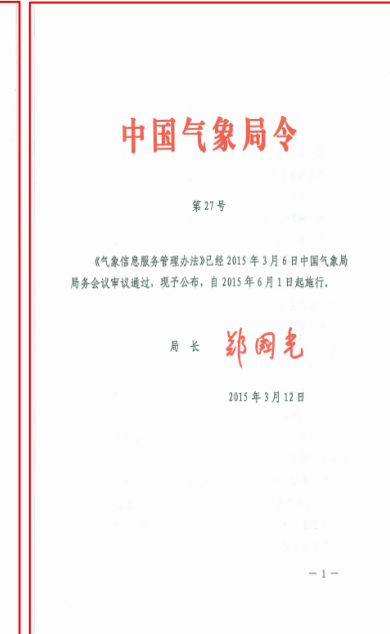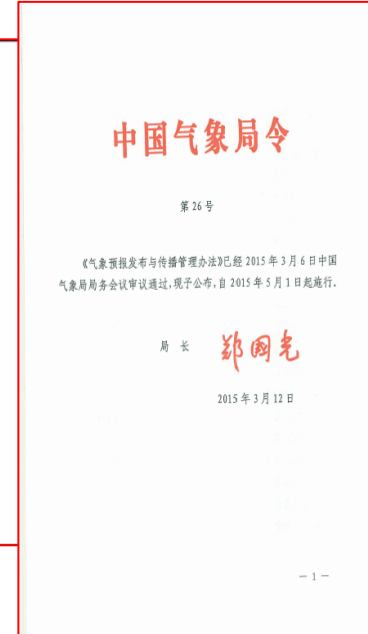
Standard First, Release Normalized.

Providing : code of conduct ; decision-making proof

Launching : the management of reserve plan

Several national professional standards and local standards are constructed for platform construction, emergency warning release and propagation, ...

Operational System

To release early warning effectively and accurately,
1. Risk Analysis & Judgement System (Analyse)
2. Emergency Early Warning Release System (Release)

Analyse

◆ The Risk Analysis & Judgement System analyzes and aggregates mass of digital data from different departments of government to one GIS map, We call it "One Atlas".

◆ 44 kinds of information from 14 different departments on the Atlas(including population, economy, schools, hospitals, dangerous chemical storages, reservoirs location ,real-time ship information etc.
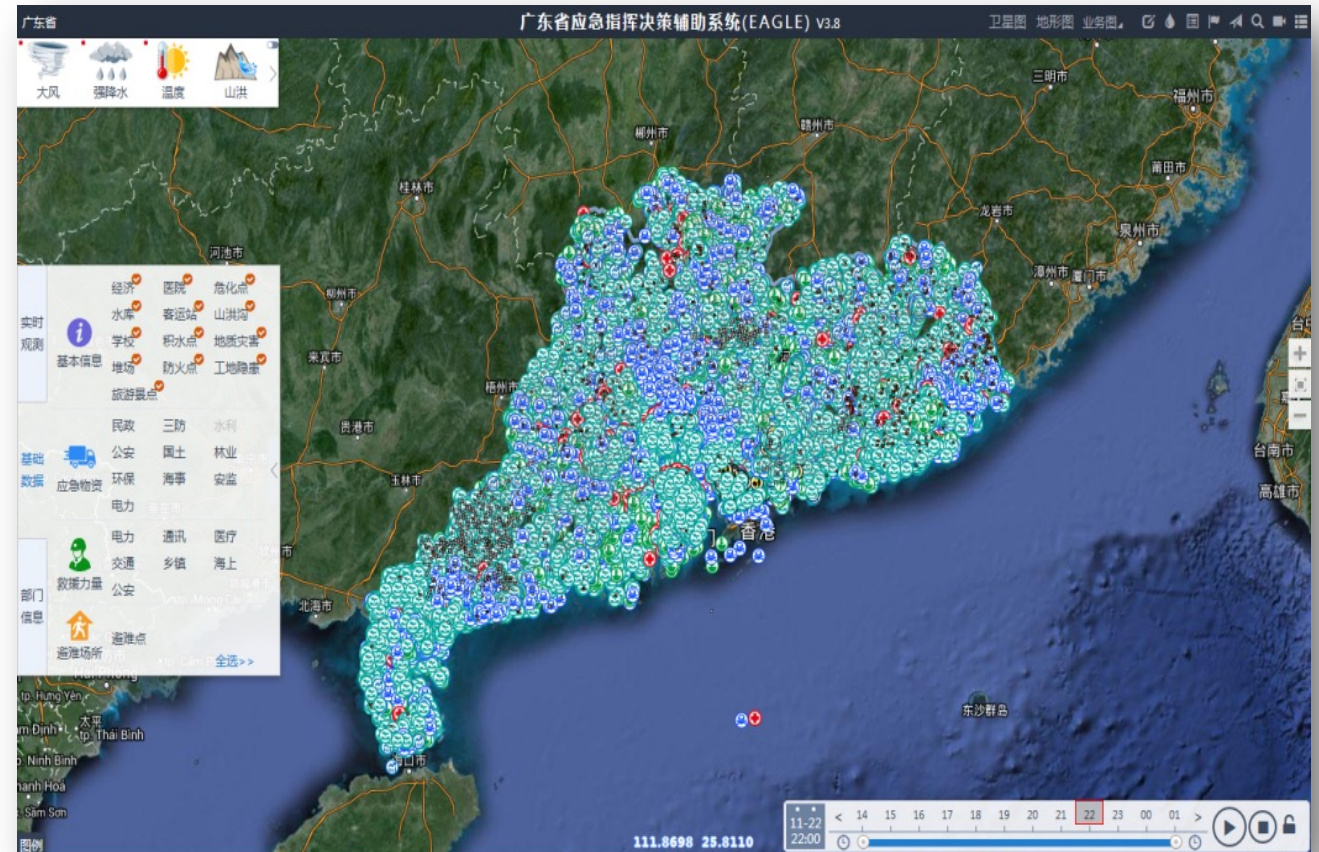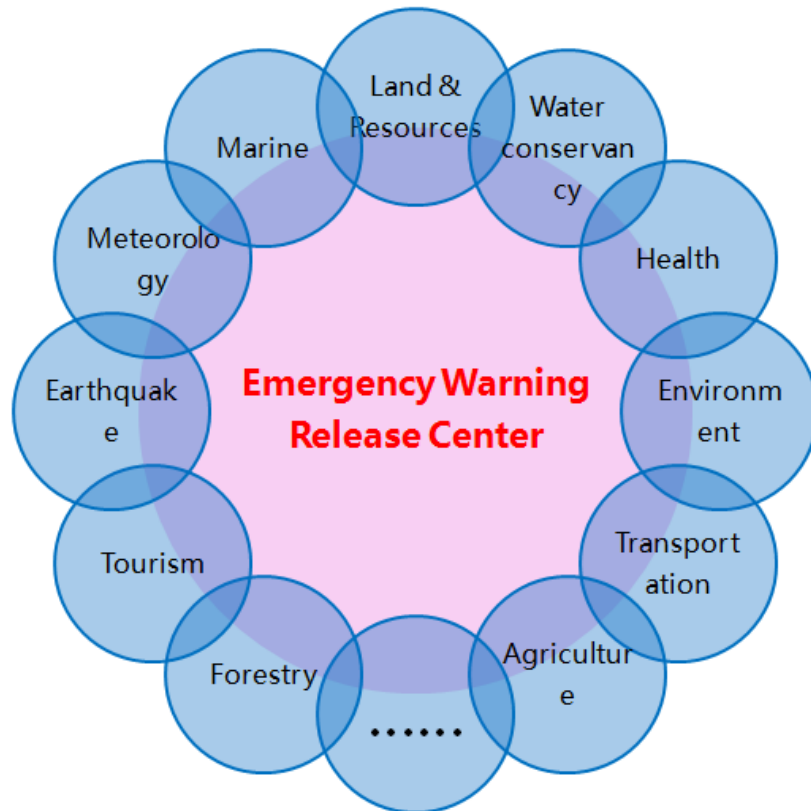
Analyse

◆ One Grid

◆ Have developed multiple professional disaster models,such as City Waterlogging Model

◆ Determination of type and category of disaster risk and warning is based on the ONE ATLAS and ONE GRID

Maximum Temperature

Pollution Diffusion

Storm Surge Inundation

Rainstorm

Storm Surge
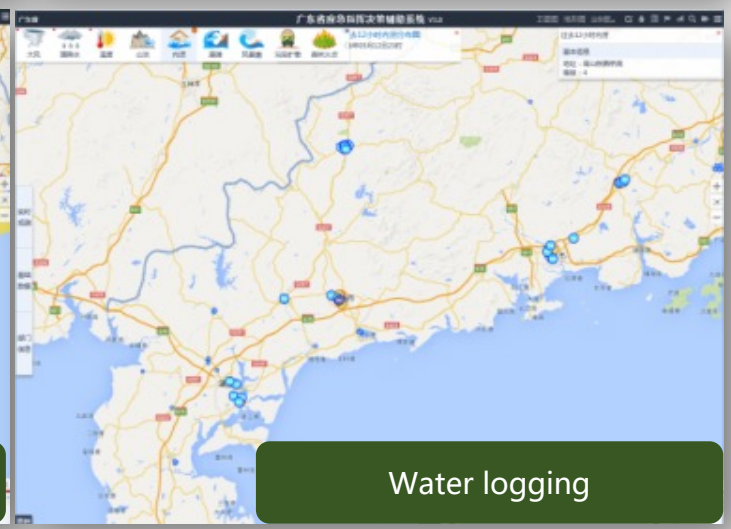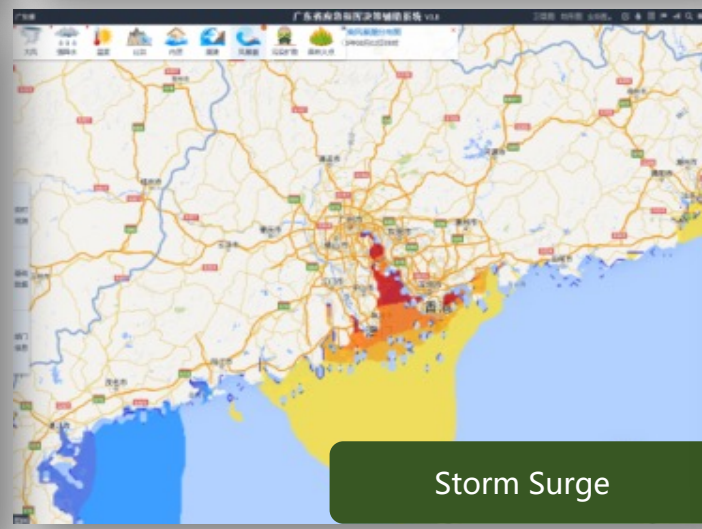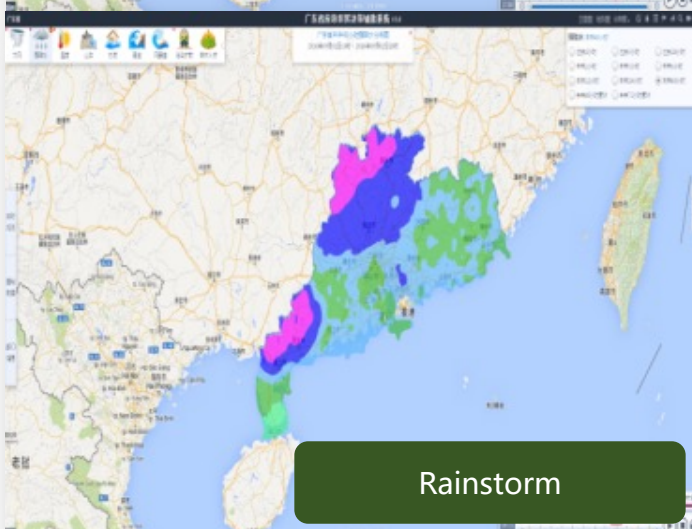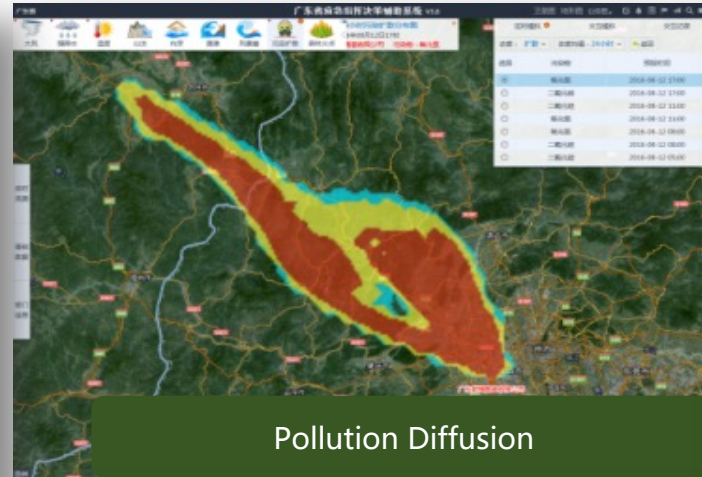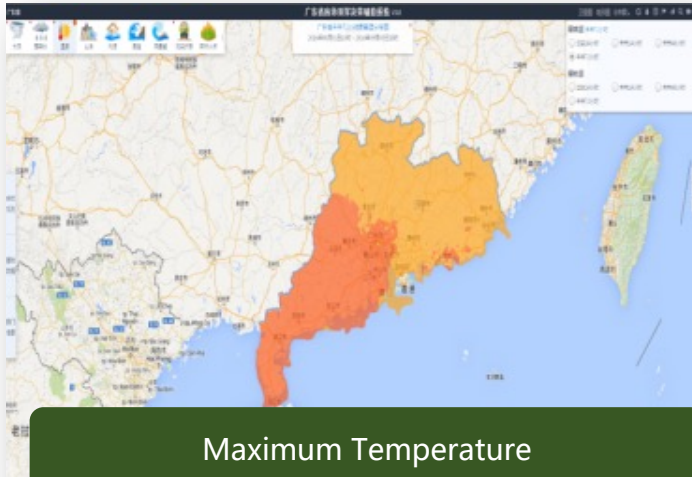
Water logging

City Waterlogging Monitoring and early warning based on radar quantitative precipitation estimation and forecast
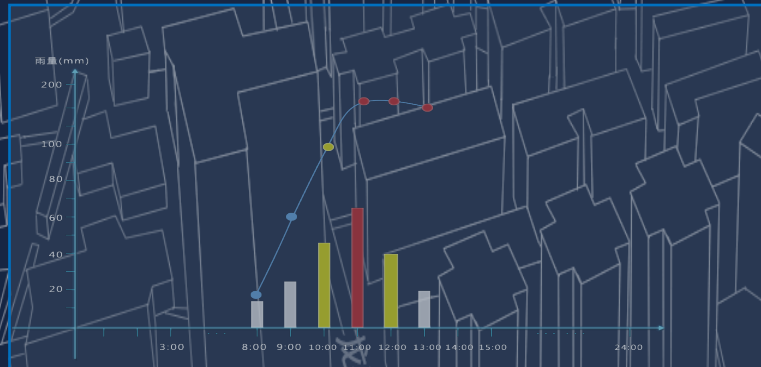
Early Warning info

Type： urban waterlogging
Age： next 6 hours
Condition： Sliding precipitation exceeded
Model： Urban flood and waterlogging model

waterlogging point：
Zhongshan street-
Above Gangding bridge

Omnimedia Release - social media

12 meteorological release channels

social media

- 微信
- 微博
- 停课铃
- 网站
- 短信
- 电话
- 电视
- 电台
- 电子显示屏
- 气象频道
- 大喇叭
- 海洋气象广播电台

■ **Weather forecast, Weather warning, other emergency warnings ...**

➤ Traditional passive channels are still important.
   Newspaper, radio, TV, ...

➤ More passive ways in information era
   SMs from mobile communication operators
   Popup message
   Push notification

➤ Active ways
   Weather/Emergency column on websites, weather APPs(eg. APP Moji)

Omnimedia Release – specialized channels

12 meteorological release channels

- APP Twinkling
- Specialized Websites
- Customerized SMS
- Weather Hotline 12121
- Weather Programme
- Official Account on WeChat
- Official Account on MicroBlog
- Loudspeaker
- Meteorological Radio
- Weather Programme
- LED
- Meteorological Channel

停课铃 · 网站 · 短信 · 电话 · 电视 · 电台 · 电子显示屏 · 气象频道 · 微信 · 微博 · 大喇叭 · 海洋气象广播电台

social media

优酷 YOUKU · 中国南方电网 · 今日头条 · 网易 NETEASE www.163.com · 腾讯网 · 微博 · China Mobile 中国移动 · China unicom 中国联通

Official account on Microblog	**Official account on Wechat**
subscriber: 13.1 million	subscriber: 5.35 million
Websites	**Customized SMS**
page view volume of http://gd121.cn in 2022: 1.55 million	user: 3.74 million

APP Twinkling: 5.67 million   Countryside loudspeaker: 16,694
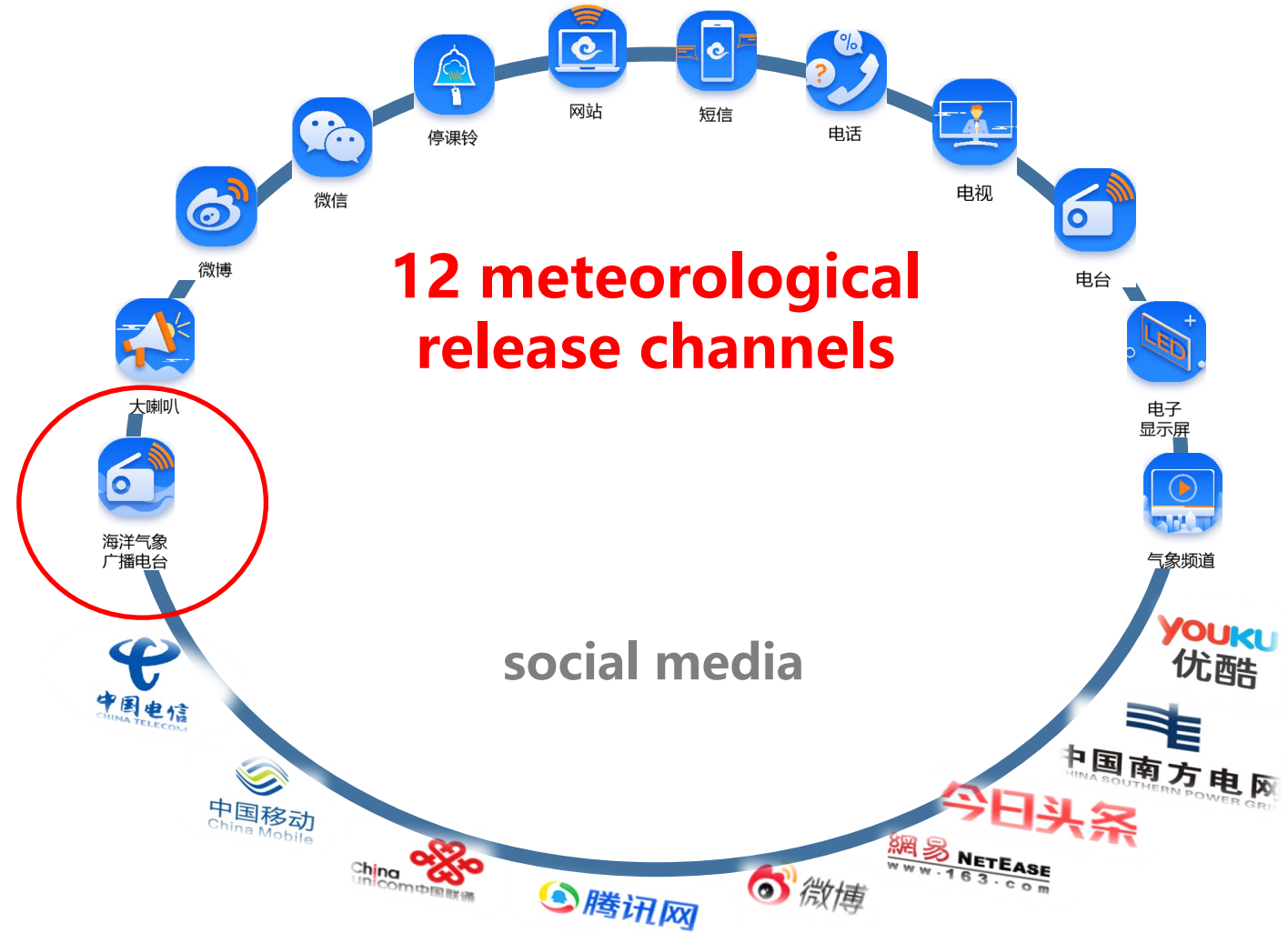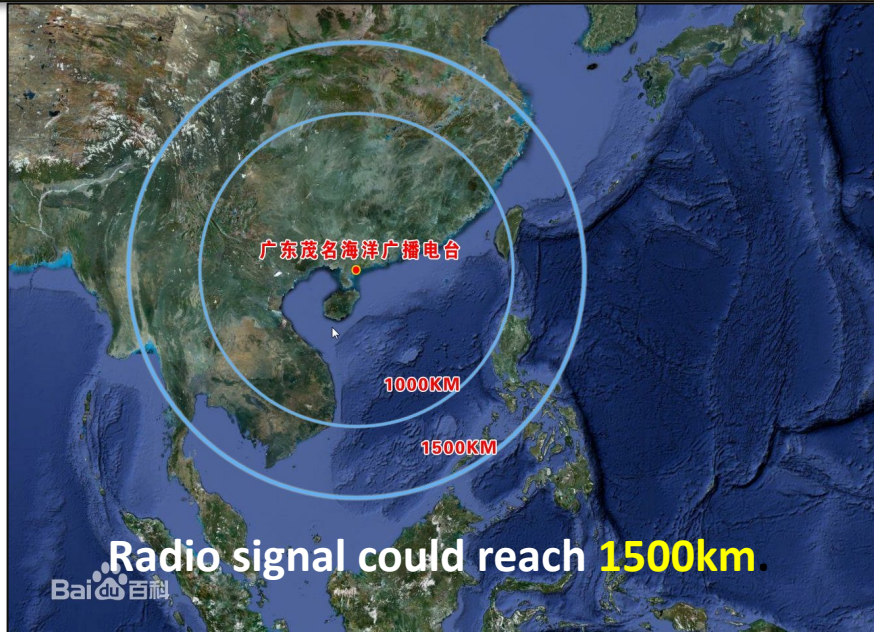Voice outbound: 22,423   FAX: 3,128
Electronic display: 4,810

➢ Weather service stations in 1,551 towns; over 30,000 weather information assistants; and 16,694 countryside loudspeakers.

➢ At lease one way is available to get warnings in each village(19,517) all lover the province.

➢ 4,810 electronic displays for people in journey.

Omnimedia Release – specialized channels

Marine weather broadcasting radio Station Maoming, Guangdong

广东茂名海洋广播电台

1000KM

1500KM

Radio signal could reach 1500km

12 meteorological release channels

微博

微信

停课铃

网站

短信

电话

电视

电台

大喇叭

海洋气象广播电台

电子显示屏

气象频道

social media

中国电信 CHINA TELECOM

中国移动 China Mobile

China unicom 中国联通

腾讯网

微博

今日头条

網易 NetEase www.163.com

中国南方电网 CHINA SOUTHERN POWER GRID

YOUKU 优酷

Warning released to targeted users

- **Accurate warning to targeted service object by**
  Selected areas & Specific population at different risks

- **Early and quickly warning released by**
  One Click through multiple channels

- **Warning spread channels are all**
  monitored, displayed, controlled **on line**

Targeted release
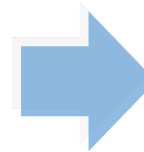
| Channel	Description
Radio	
TV	
Website	100+ million click-trough rate on emergency response website
Loudspeaker	villages, special locations, …
LCD	airports, railway/bus stations, wharfs, …
SMS	1+ billion SMS per year
Wei bo	Message push
Wechat	Message push
Broadcasting	
Etc.	

Joint Release by multiple provincial departments

- 2022: **132,000 warnings**, >6.5 billion SMS
- 2023: 2.82billion SMS

- 2023: >40% are non-weather warnings.
- joint departments: 19(2023)
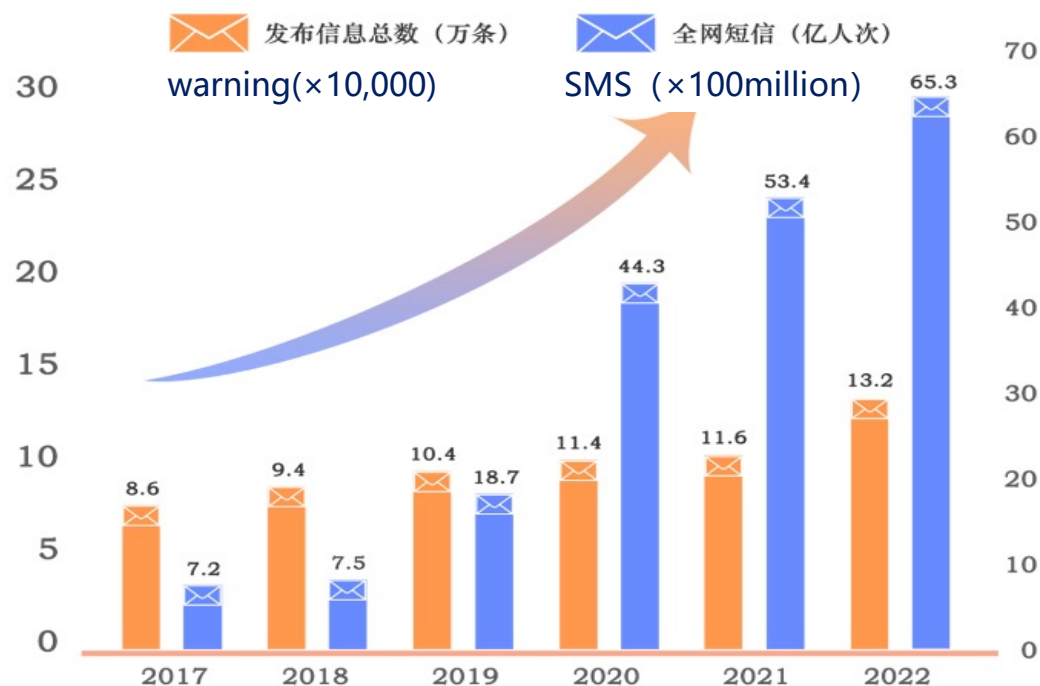
Number of Warning and SMS
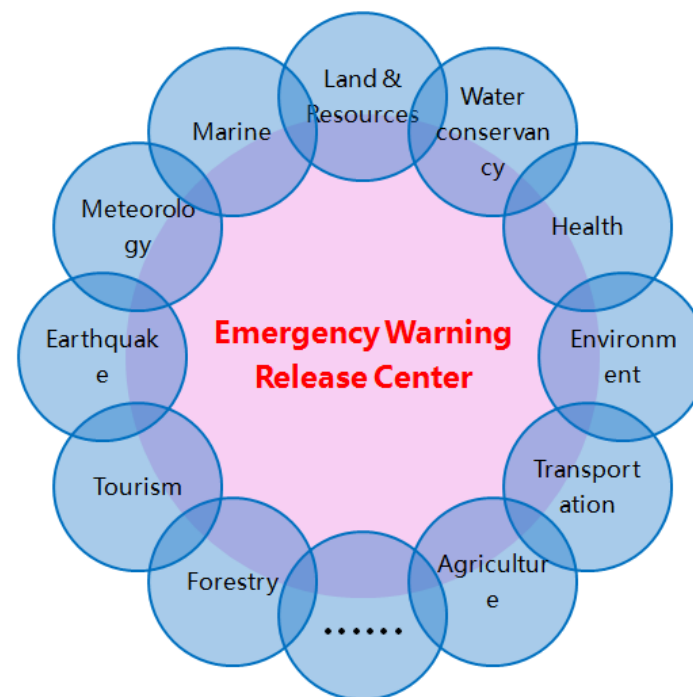
joint release with more departments

Government organizes disaster prevention and mitigation

Government will activate emergency response based on the category of Typhoon Warning Signal, and governmental departments cooperate to take actions to:
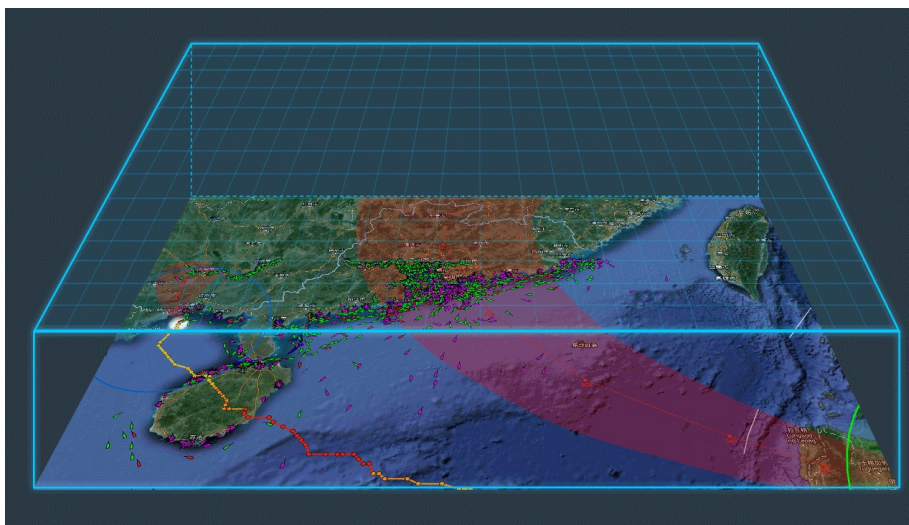
- ✓ Organize fishing vessels to return to ports
- ✓ Organize marine staff to return to land
- ✓ Close scenic spots on islands or along coastline
- ✓ Fasten …
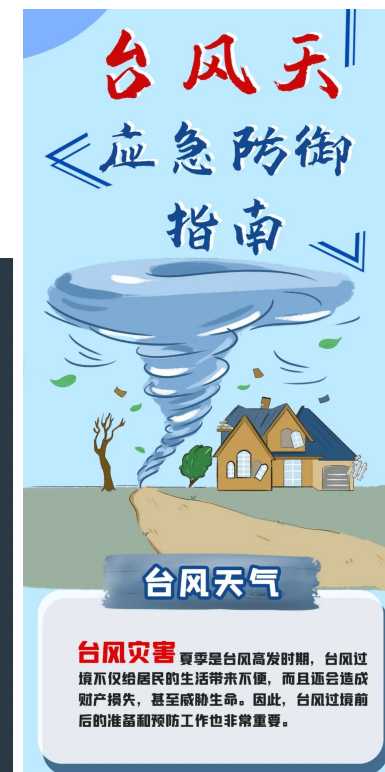- ✓ Call public to take actions according to instructions
- ✓ …

Organize to cut down branches of trees before a strong TC makes landfall


Close scenic spots

Fishing vessels are organized to return to ports when a TC is approaching

Defense guide for public

Improvement of Weather Disaster Prevention and Mitigation in Guangdong Province

Influence rate of meteorological disaster to GDP	Death due to meteorological disaster	Casualties to the lowest level in typhoon-induced disasters
<0.8% in recent 10 years	Lowest in recent 30 years 2020(3); 2021(2); 2022(13)	• No death in Super/Severe Typhoon Rammasum, Kalmaegi, Nida, etc • Comparison between No.1522 Mujigae（14deaths）and No.9615 Sally(359 deaths) • No typhoon-induced death in 2020 and 2021.
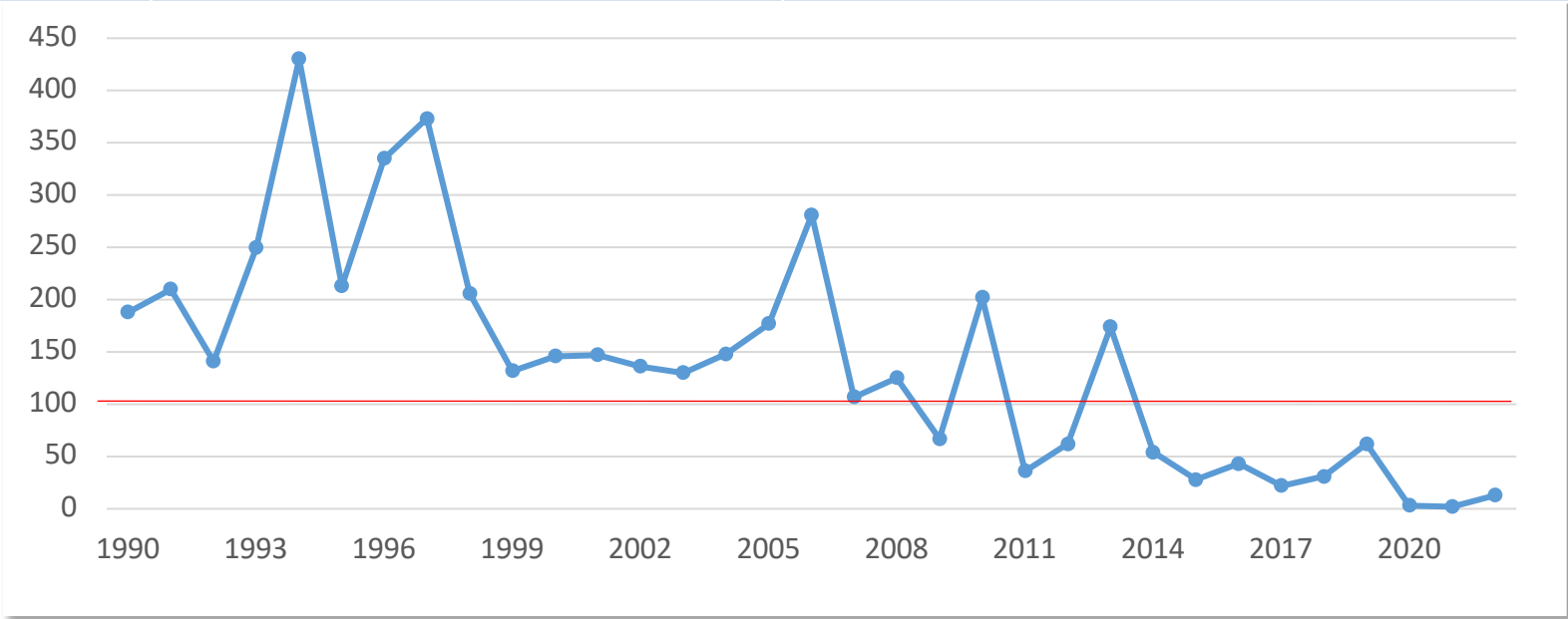
Death due to disastrous weather in recent 30 years

WMO highly appraises Guangdong Emergency Early Warning Release System

■ **As a display window of China meteorological modernization, the Release Platform was visited and highly praised several times by delegates of conventions organized by WMO.**

➢ The 16th Session of WMO Basic Systems Committee, 2016

➢ First Lead Author Meeting of the IPCC Working Group I Sixth Assessment Report, 2018

➢ the 51st Session of UNESCAP/WMO Typhoon Committee, 2019

➢ ...

WMO conventioneers visited Release Platform

Drill of typhoon early emergency warning release

Kintanar Award in 2019

The Kintanar Award was presented to **Guangdong Meteorological Service, CMA** for its contribution in the typhoon-induced disaster prevention and mitigation in the 51st session of the ESCAP/WMO Typhoon Committee in 2019.

Professor Petteri Taalas, Secretary-General of WMO, presented the Kintanar Award to Mr. Xudong Zhuang, Director of Guangdong Meteorological Service, CMA, in Guangzhou in Feb.26, 2019.

In the future

◆ **More intelligent**

- **Location-based**
- **Customizabale**
- **Anywhere, anytime**

◆ **Artificial intelligence**

- **Combining with various models**
- **Data from all walks of life**
- **Be managed , analyzed**

Thanks for Your attention