

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

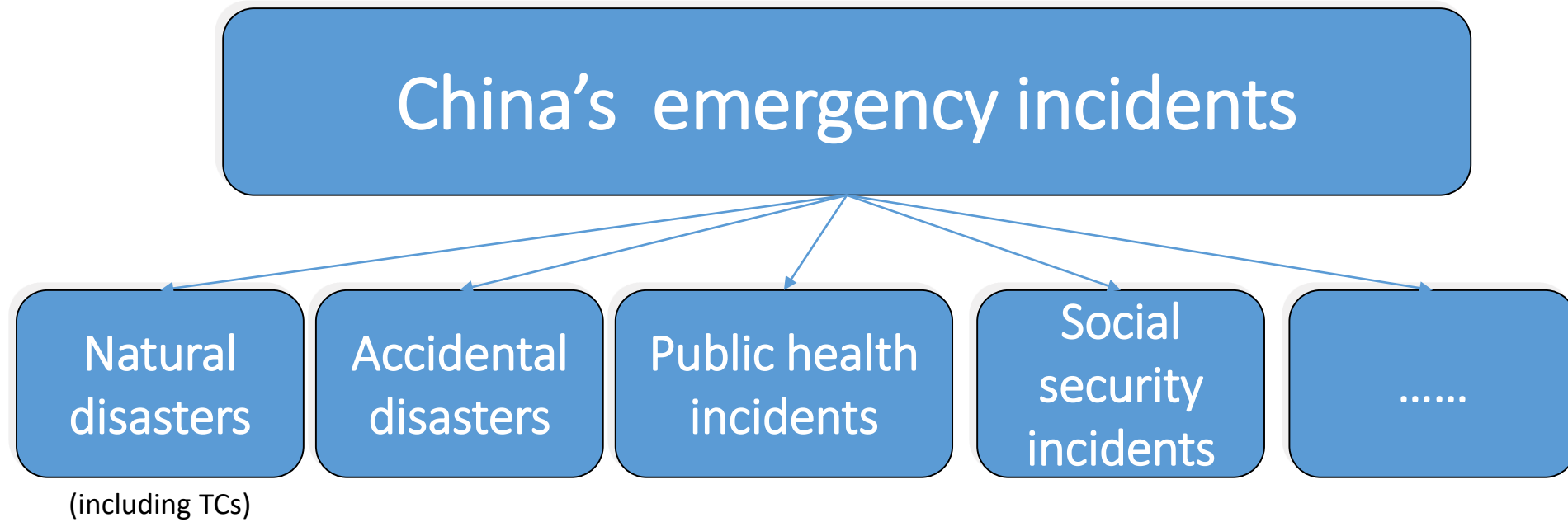


电子显示屏

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?



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**.
- 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 undertake the responsibility of it, and decided to carry out pilot work first in **Guangdong province**.



Zhanjiang, 684mm/24h,
associated with TC Pabuk (0706)



SMS to
refute rumor

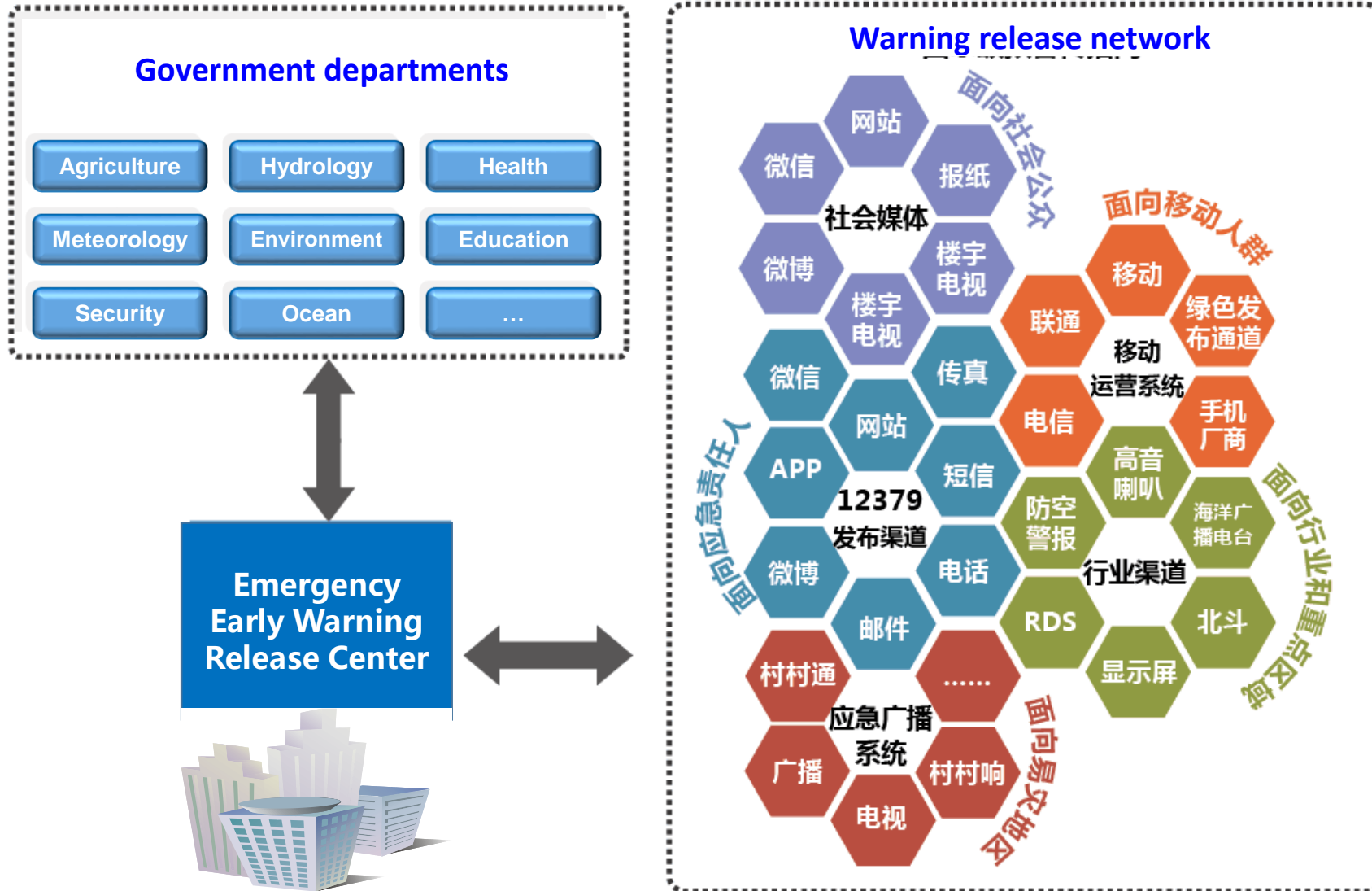


Signing ceremony of cooperation between
Guangdong Government and CMA

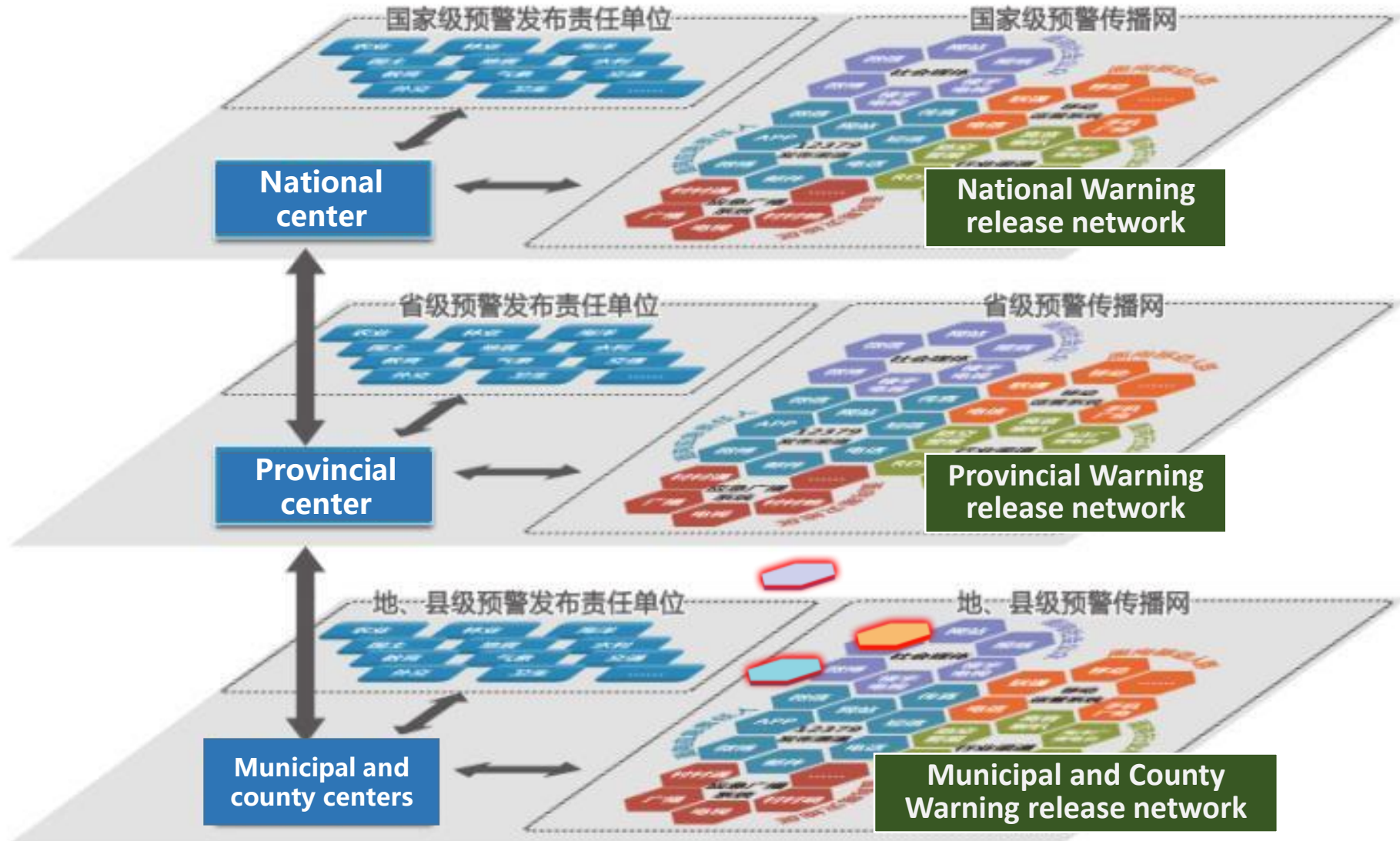
OUTLINE

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

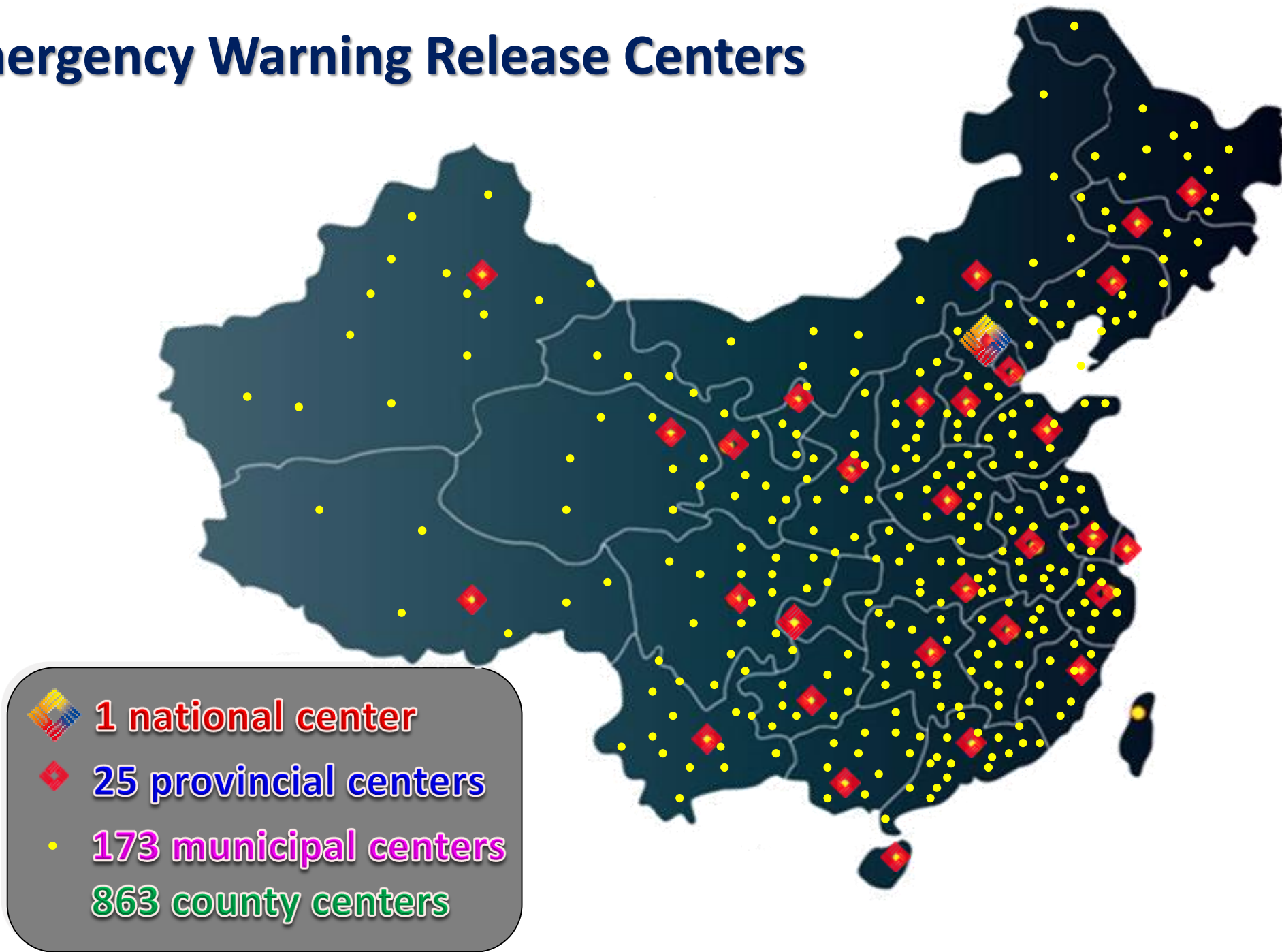
Omnimedia release of early warning



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)

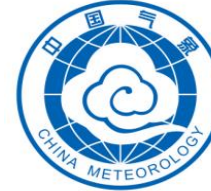


101 Municipal and county centers

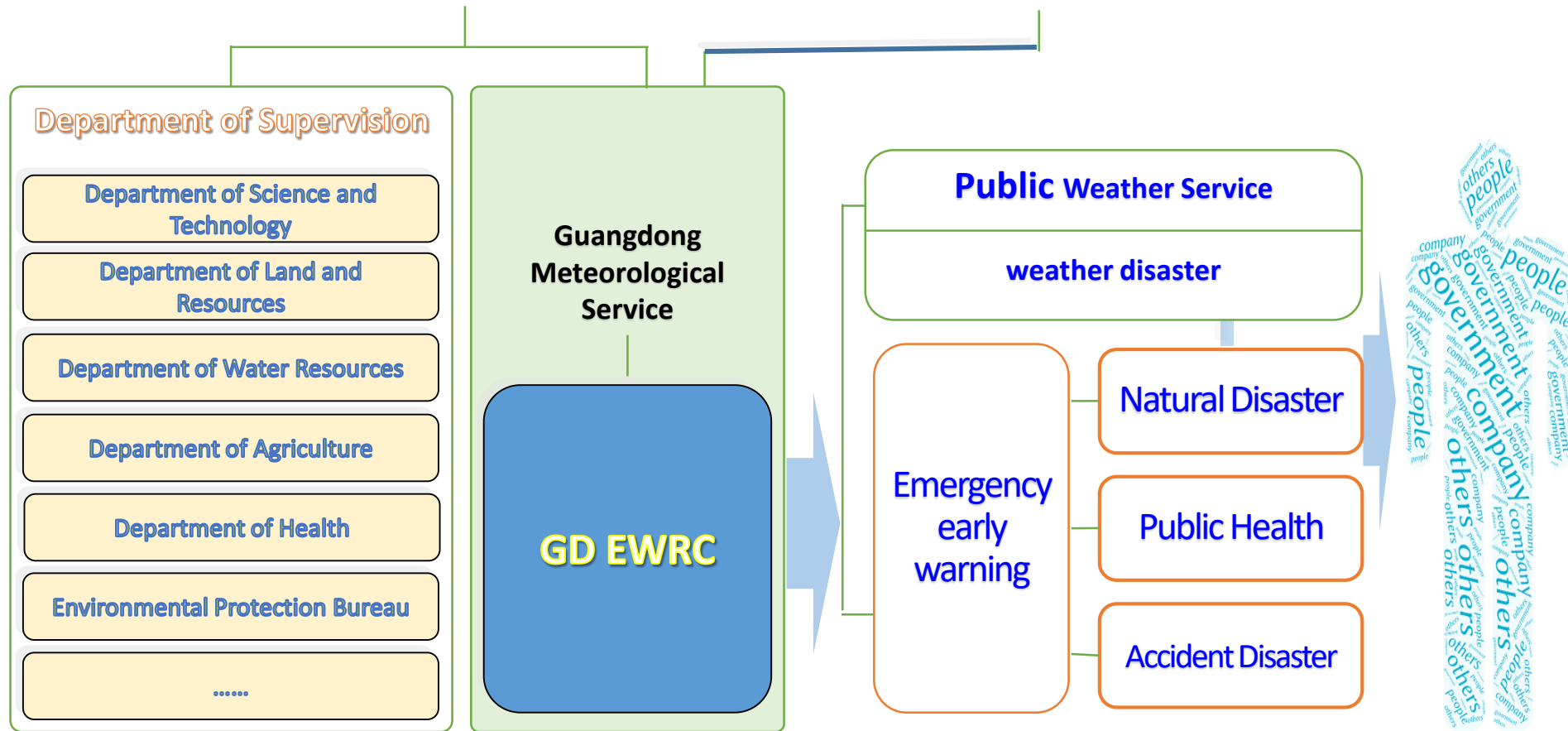
Ownership and Duty



Guangdong Province Government



China Meteorological Administration



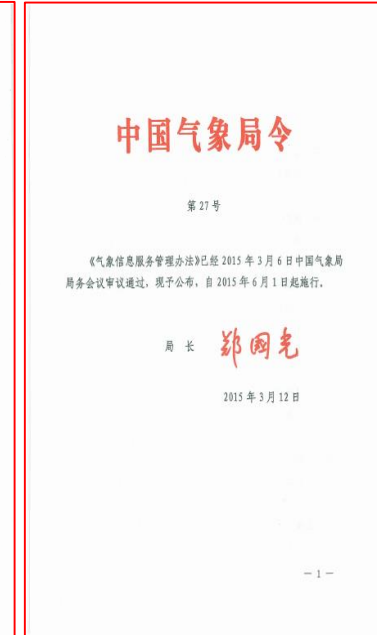
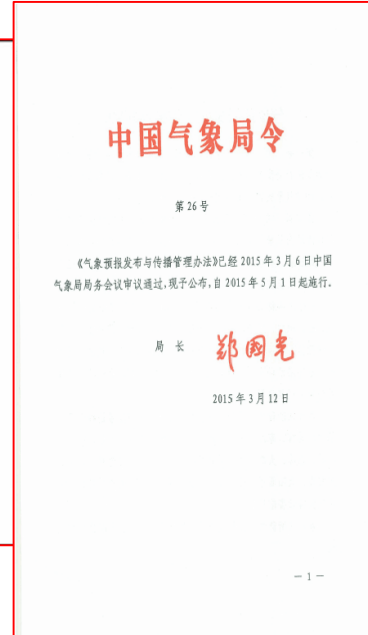
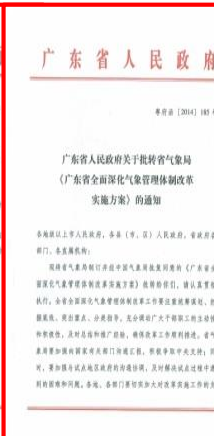
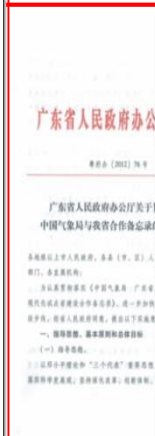
GD EWRC: managed by GMS under the commission of Government

Government draws attention

Many provincial conferences to deploy



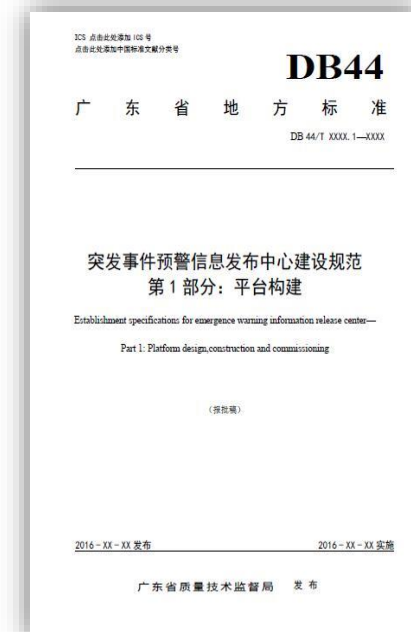
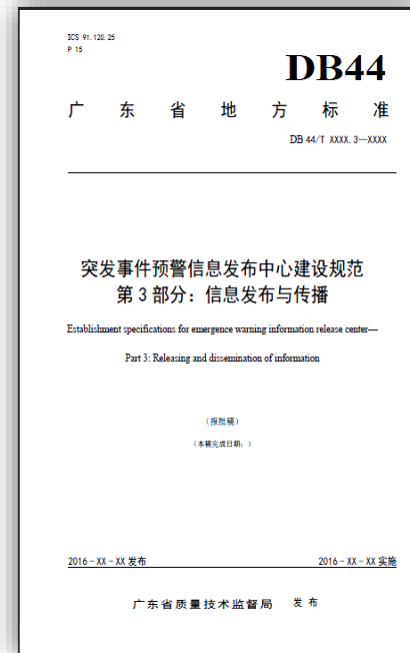
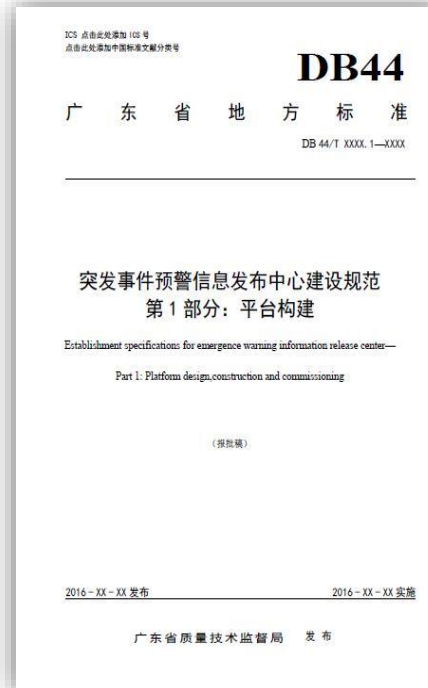
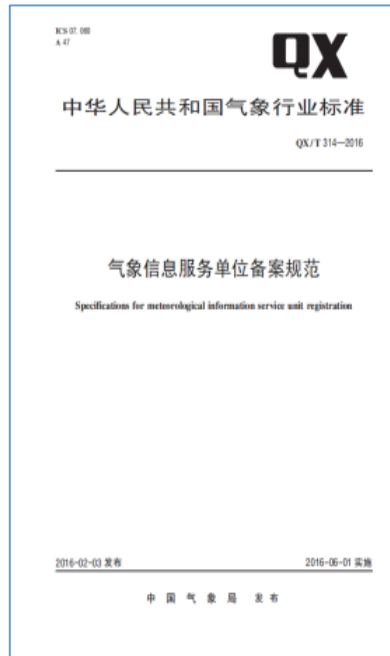
Relevant Law and Legal Regulations be published to standardize our operation



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

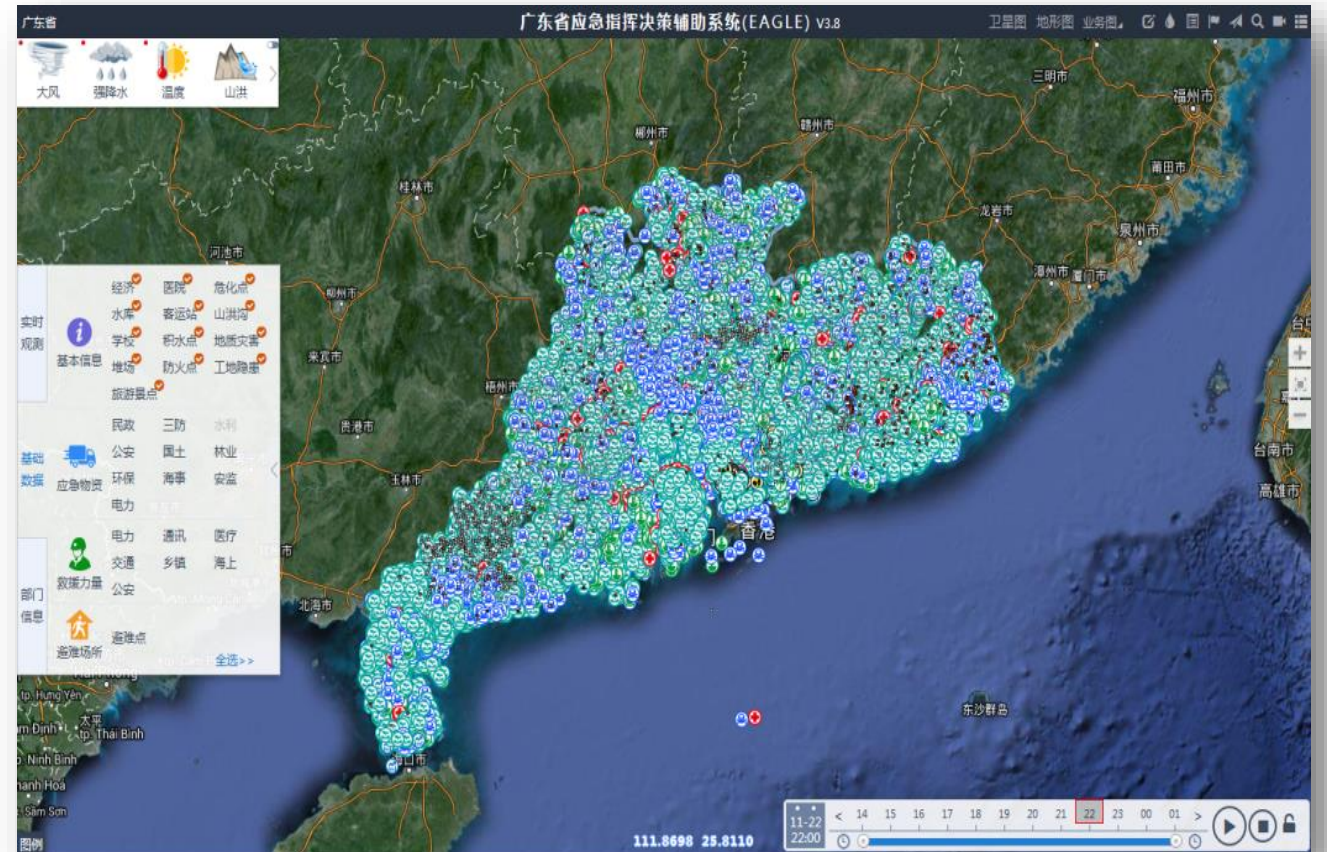
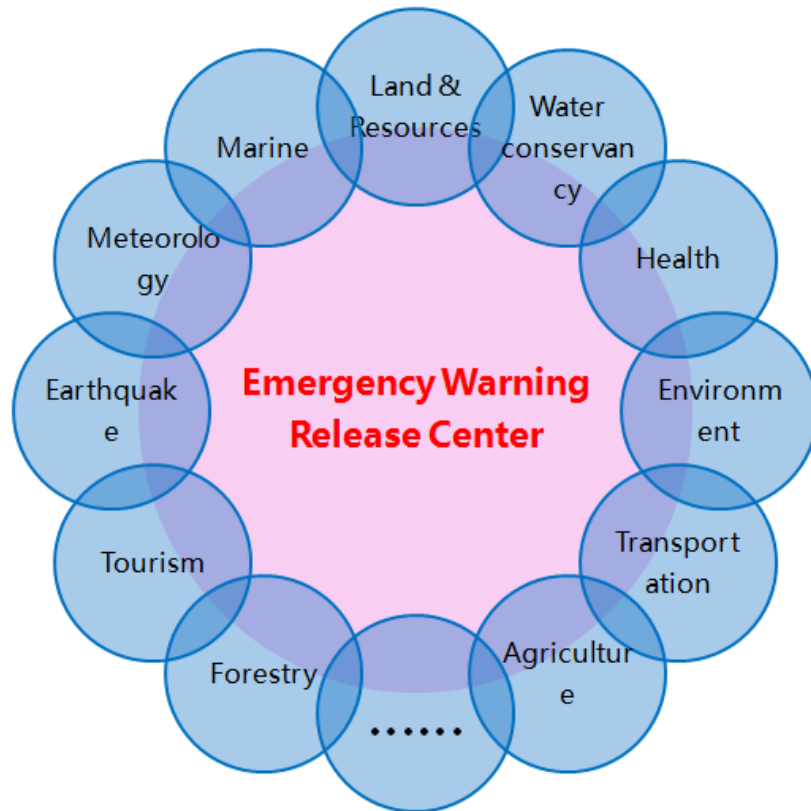
To release early warning effectively and accurately,

1. Risk Analysis & Judgement System (**Analyse**)
2. Emergency Early Warning Release System (**Release**)



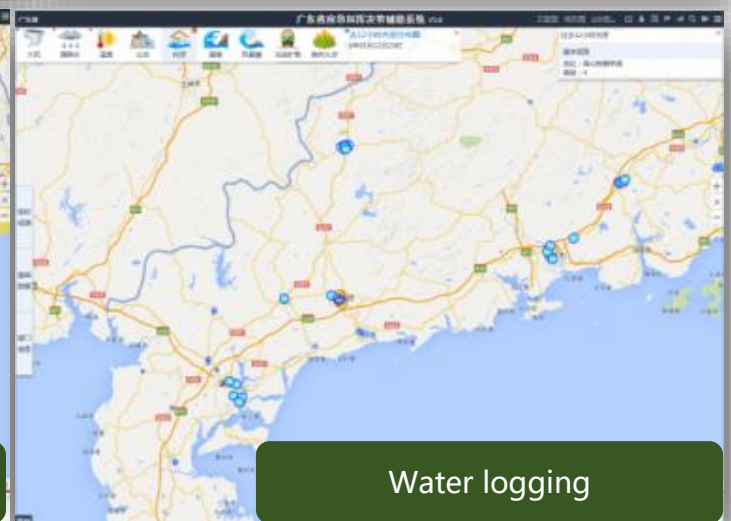
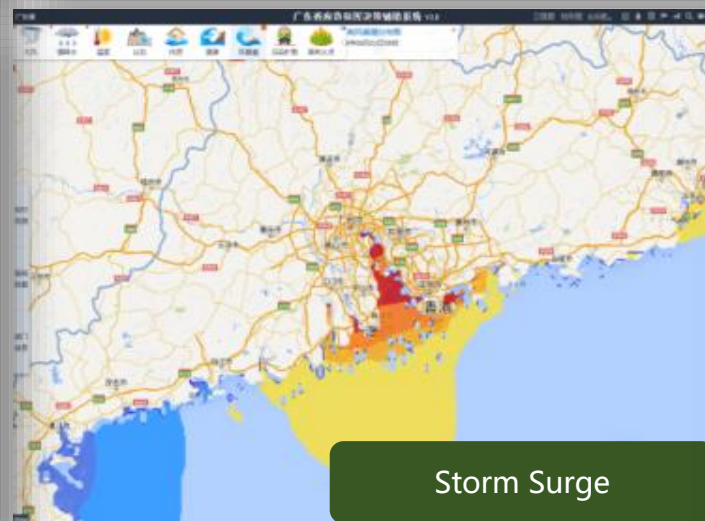
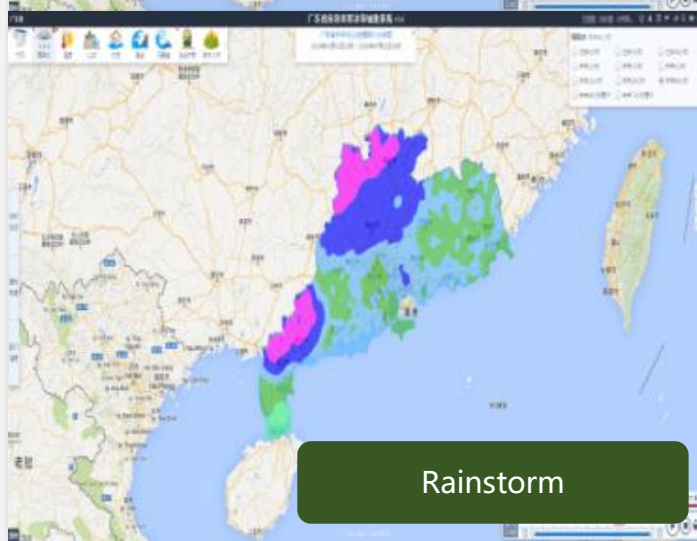
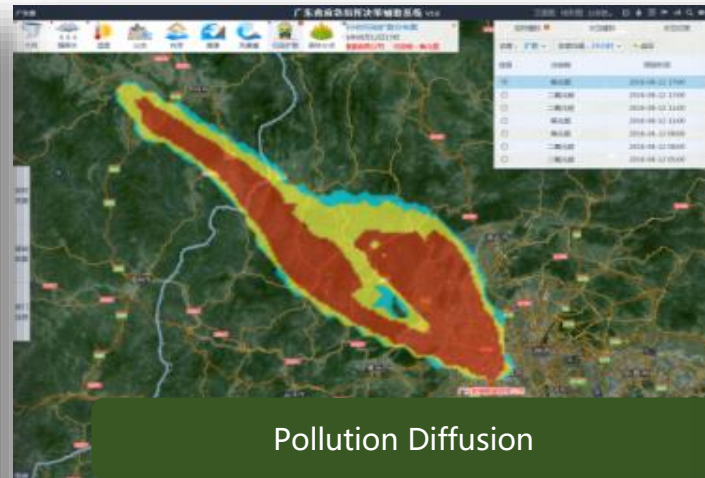
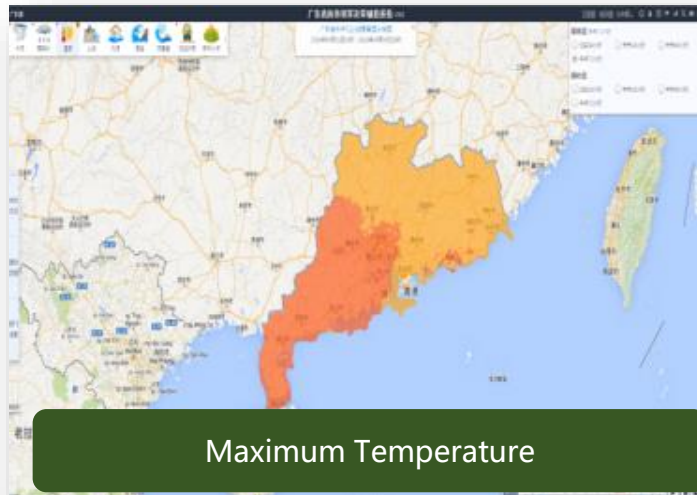
Analyse

- ◆ 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.

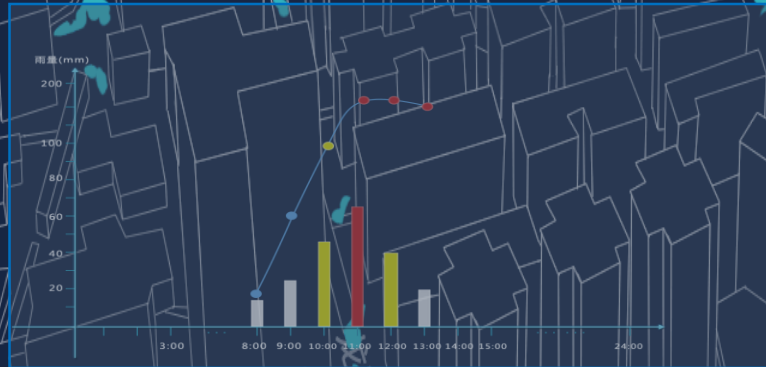


Analyse

- ◆ 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



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

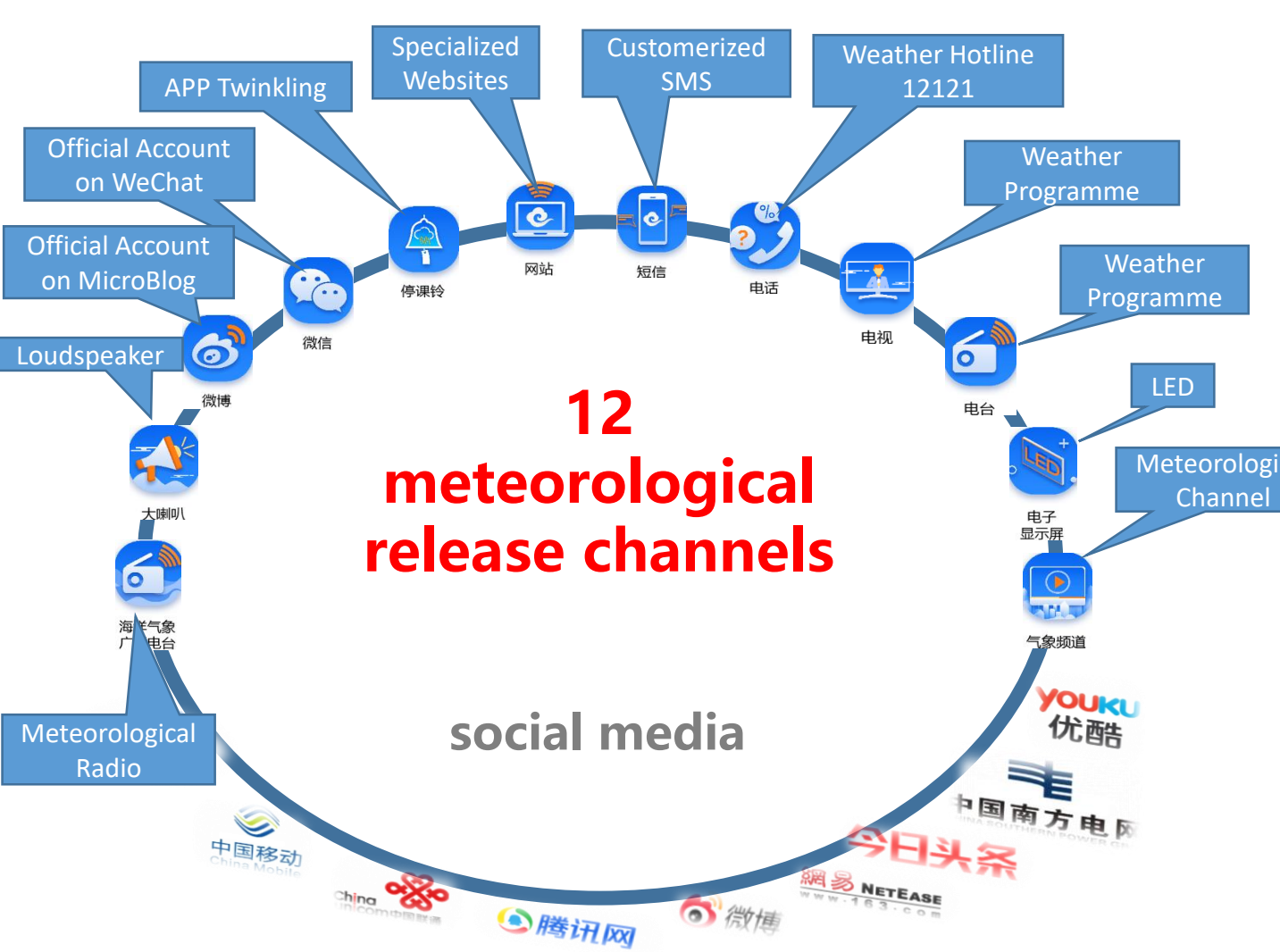
Omnimedia Release - **social media**



■ 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 o websites,
weather APP(eg. APP Moji)

Omnimedia Release – specialized channels



Official account on Microblog
subscriber: 13.1 million

Official account on Wechat
subscriber: 5.35 million

Websites
page view volume of <http://gd121.cn> in 2022: 1.55 million

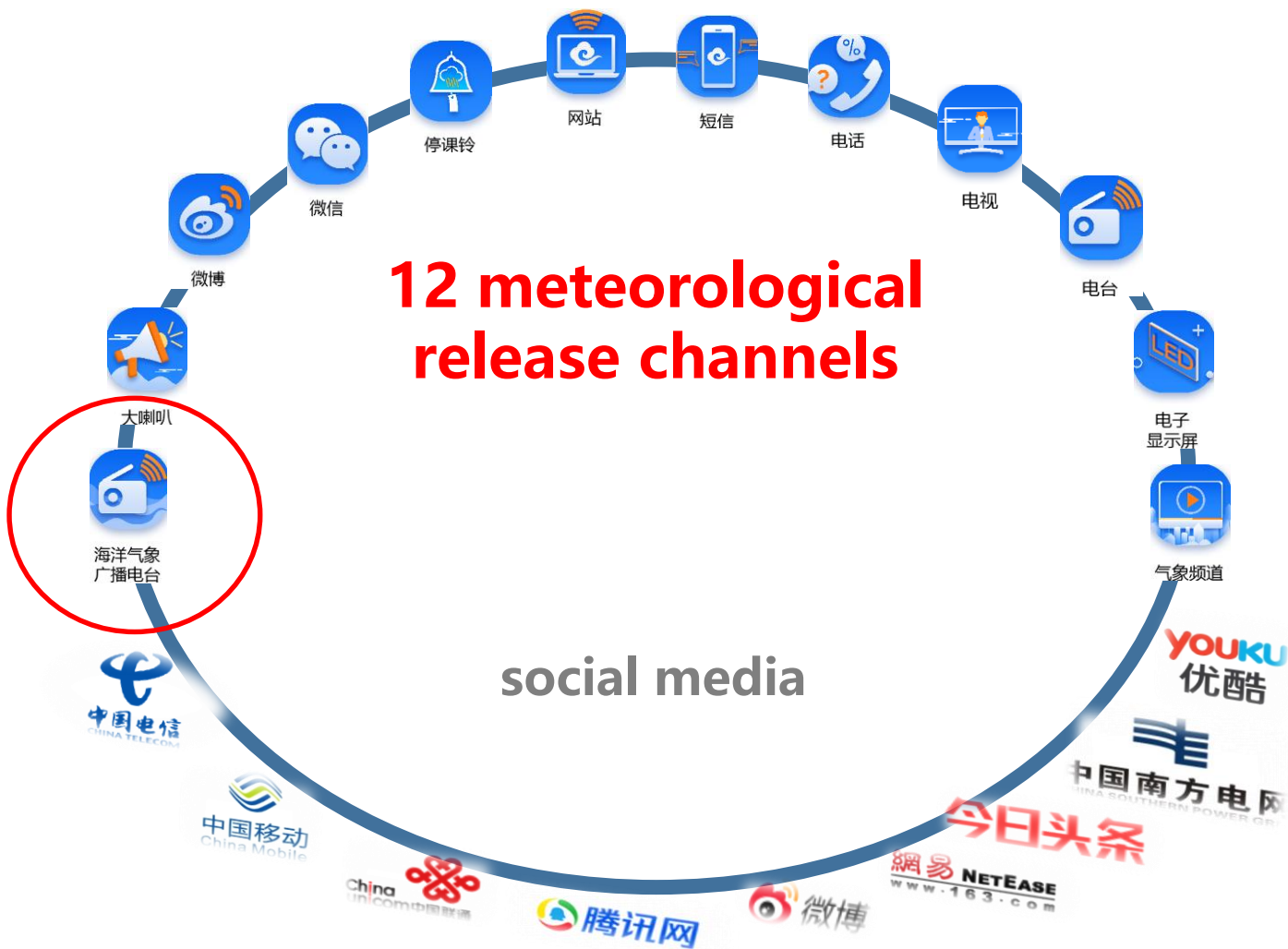
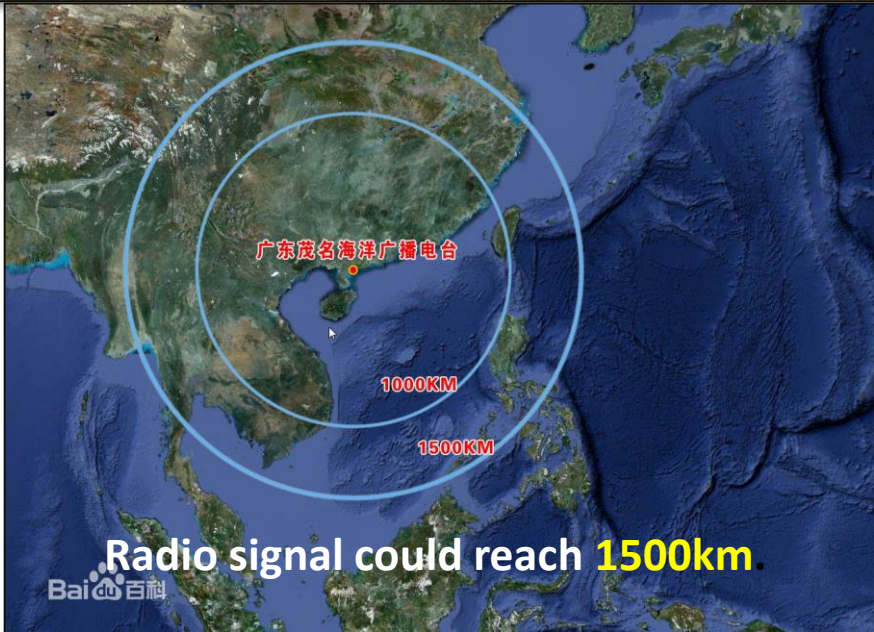
Customized SMS
user: 3.74 million

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 least one way is available to get warnings in each village(19,517) all over the province.
- 4,810 electronic displays for people in journey.

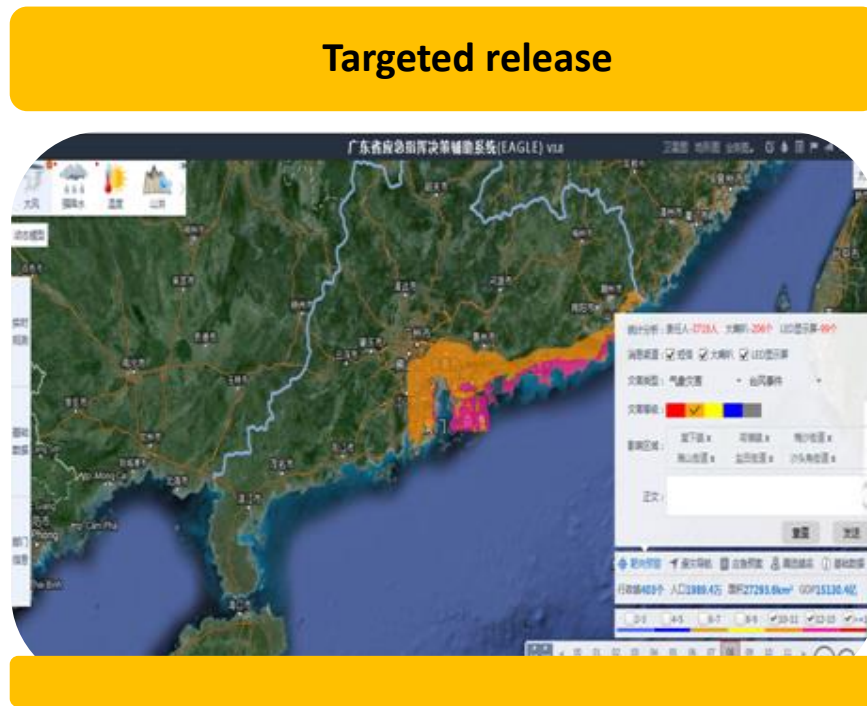
Omnimedia Release – specialized channels

Marine weather broadcasting radio Station
Maoming, Guangdong



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**

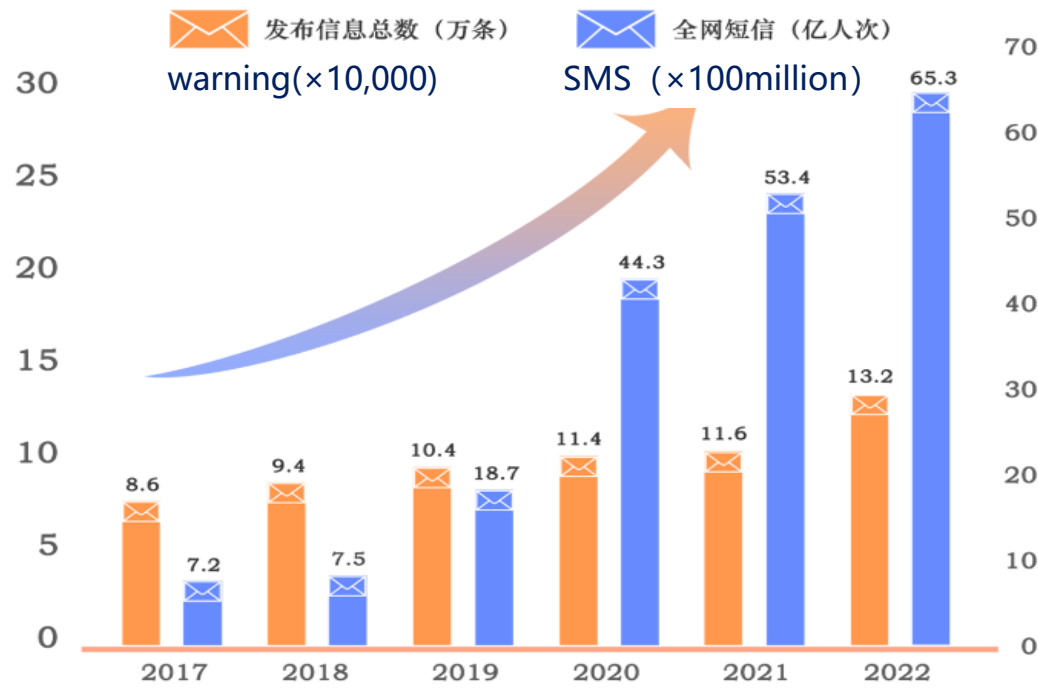


- Radio**
- TV**
- Website** 100+ million click-through rate on emergency response website
- Loudspeaker** villages, special locations, ...
- LCD** airports, railway/bus stations, wharfs, ...
- SMS** 1+ billion SMS per year
- Wei bo** Message push
- Wechat** Message push
- Broadcasting**
- Etc.**

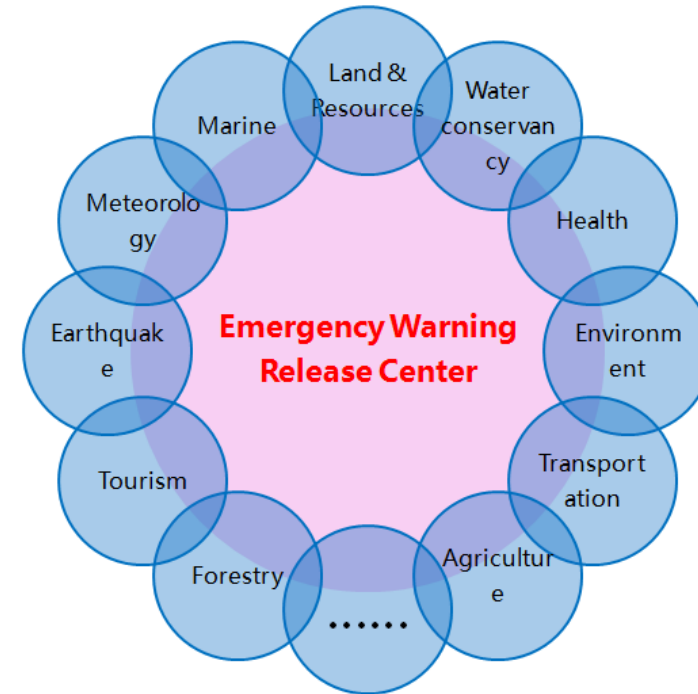
Joint Release by multiple provincial departments

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

- 2022: >40% are non-weather warnings.
- joint departments: 19(2023)



Number of Warning and SMS



joint release with more departments

Joint Release by multiple municipal departments

| 序号 | 单位名称 | 发布数量 |
|----|--------------|------|
| 1 | 江门市环保局 | 1144 |
| 2 | 四会市疫情防控指挥部 | 1008 |
| 3 | 恩平市自然资源局 | 499 |
| 4 | 深圳市自然资源局 | 271 |
| 5 | 四会市林业局 | 225 |
| 6 | 阳江市自然资源局 | 205 |
| 7 | 惠州市农业农村局 | 151 |
| 8 | 白云区卫生健康局 | 134 |
| 9 | 肇庆市应急管理局 | 133 |
| 10 | 潮州市饶平县林业局 | 107 |
| 11 | 阳江市消防救援支队 | 95 |
| 12 | 海珠区农业农村局 | 87 |
| 13 | 中共遂溪县委宣传部 | 78 |
| 14 | 湛江市应急管理局 | 76 |
| 15 | 四会市融媒体中心 | 71 |
| 16 | 四会市教育局 | 63 |
| 17 | 梅州市自然资源局梅县分局 | 61 |
| 18 | 番禺区卫生健康局 | 59 |
| 19 | 广宁县林业局 | 54 |
| 20 | 广州市应急管理局 | 53 |
| 21 | 阳江市地震局 | 52 |
| 22 | 梅州市林业局 | 45 |
| 23 | 广州市卫生健康局 | 44 |
| 24 | 遂溪县应急管理局 | 32 |
| 25 | 韶关市自然资源局 | 32 |
| 26 | 惠州市林业局 | 31 |
| 27 | 肇庆市疫情防控指挥部 | 30 |

5424 warnings have been jointly issued since 2015.
The top 3 are:

- ✓ Jiangmen Environmental Protection Bureau(1144)
- ✓ Sihui Epidemic Prevention and Control Bureau(1008)
- ✓ Enping natural resources agency(499)

Warnings released by agencies/bureau since 2015

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:

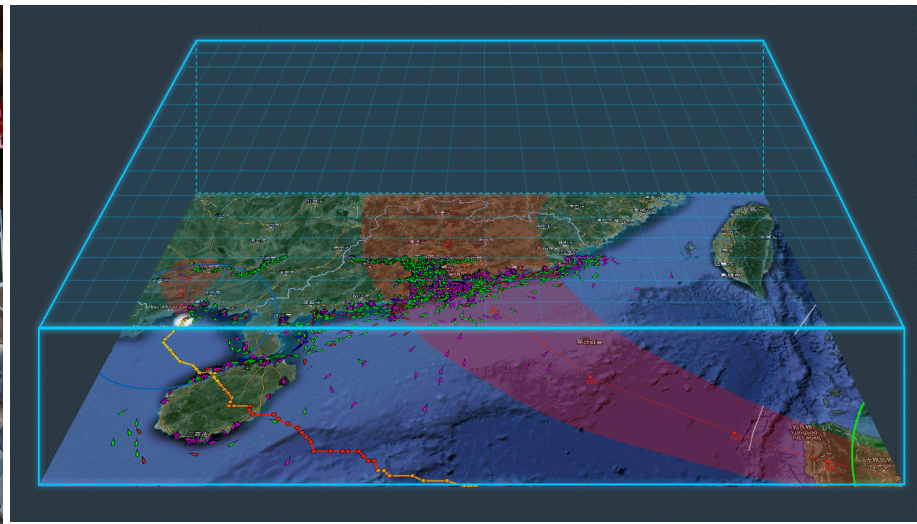
- ✓ Organize fishing vessels to return to ports
- ✓ Organize marine staff to return to land
- ✓ Close scenic spots on islands or along coastline
- ✓ Fasten ...
- ✓ Call public to take actions according to instructions
- ✓ ...



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



APP
Twinkling

Class suspension warning signals



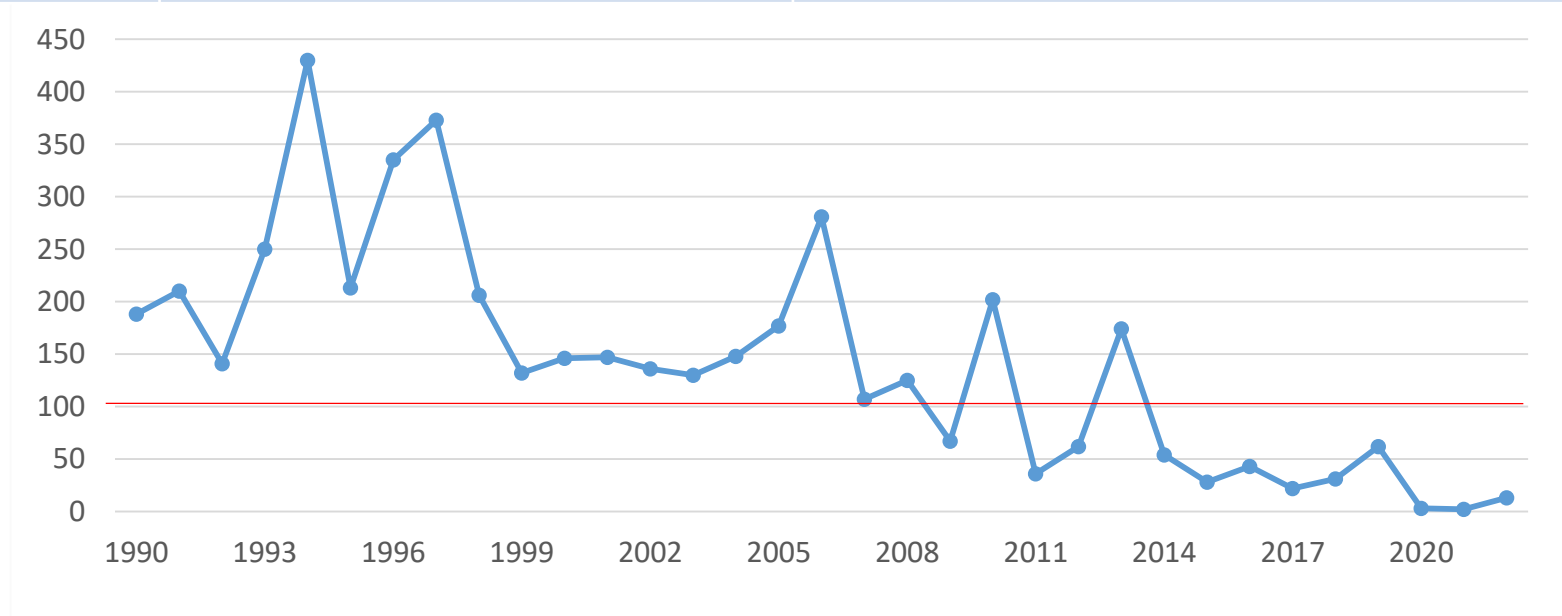
Function: Pushing Weather warning signals for severe weather

Purpose: Protecting students from severe weather



Improvement of 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) | <ul style="list-style-type: none"> ● 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 conventioners 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.



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***

