



Status and Trends of Marine Big Data in China

XIANG Wenxi
Brussels, Belgium
1 June 2017

OUTLINE



1. Big Data of China

2. Development of Marine Big Data in China

3. Application and service of Marine Big Data

4. The future of Marine Big Data

1. Big Data of China



1. The Big Data

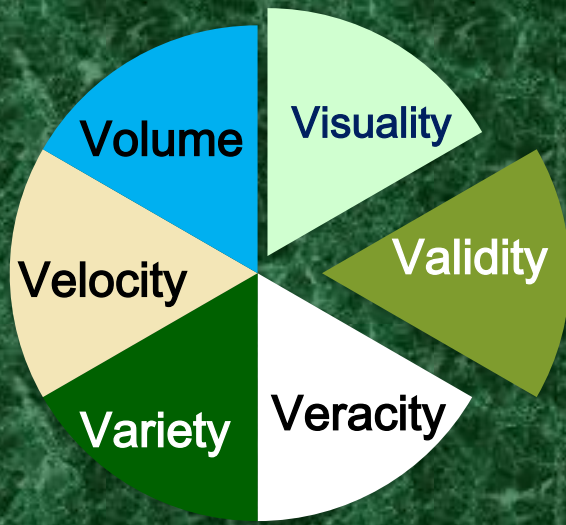
2. Government Policy Supports

**Big Data
of China**

3. Provinces Development

4. Industries Development

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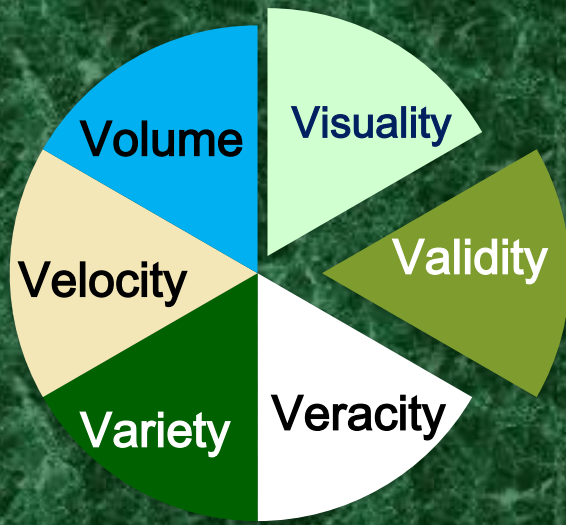
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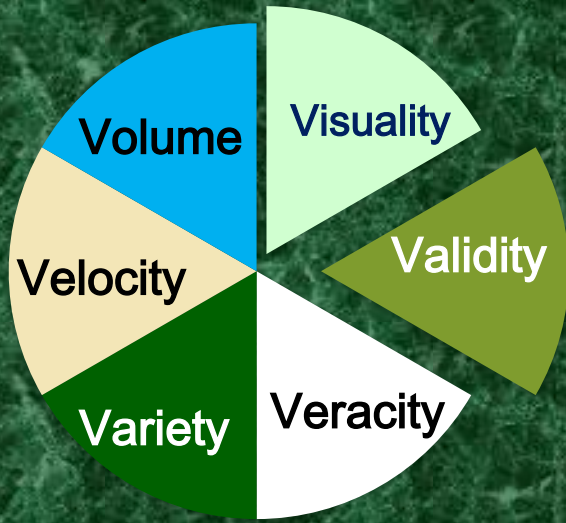
时间	文件名称	发文单位
2015. 7	《关于运用大数据加强对市场主体服务和监督的若干意见》	国务院
2015. 8	《促进大数据发展行动纲要》	国务院
2016. 3	《中华人民共和国国民经济和社会发展第十三个五年规划纲要》	国务院
2016. 7	《国家信息化发展战略纲要》	中共中央办公厅、 国务院办公厅
2016. 9	《政务信息资源共享管理暂行办法》	国务院
2016. 9	《国务院关于加快推进“互联网+政务服务”工作的指导意见》	国务院
2016. 12	《“十三五”国家信息化规划》	国务院
2017. 5	《政务信息系统整合共享工作方案》	国务院

Big Data of China

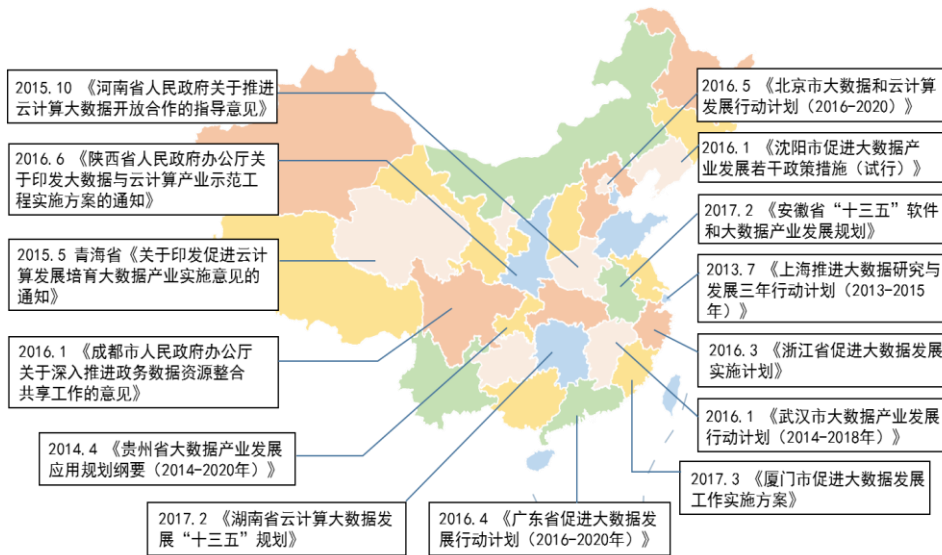
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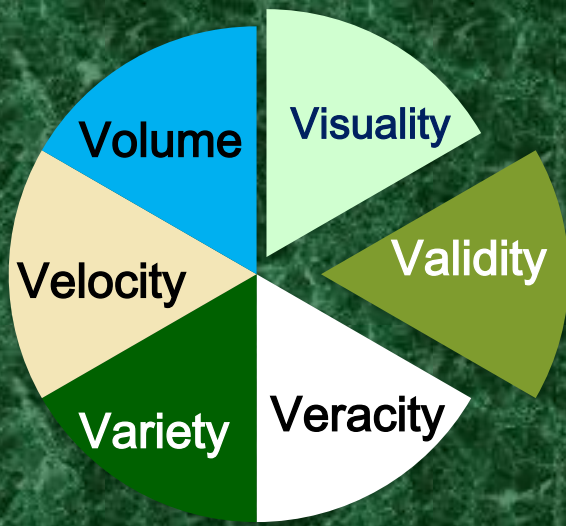
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Data
China

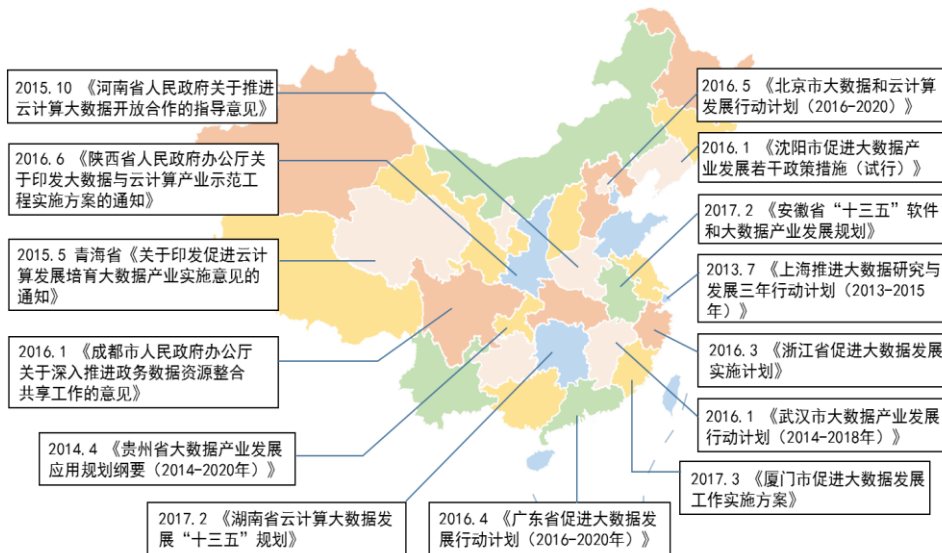
4. Industries Development

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2017. 5	《政务信息系统整合共享工作方案》	国务院

时间	文件名称	发文单位
2015. 12	《大数据产品发展规划（2016-2020）》	工信部
2016. 6	《关于促进和规范健康医疗大数据应用发展的指导意见》	国务院办公厅
2016. 10	《农业农村大数据试点方案》	农业部
2016. 9	《关于推进交通运输业行业数据资源开放共享的实施意见》	交通部
2016. 7	《关于加快中国林业大数据发展的指导意见》	林业局
2016. 3	《生态环境大数据建设总体方案》	环保部
2016. 6	《教育信息化“十三五”规划》	教育部



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2. Development of Marine Big Data in China

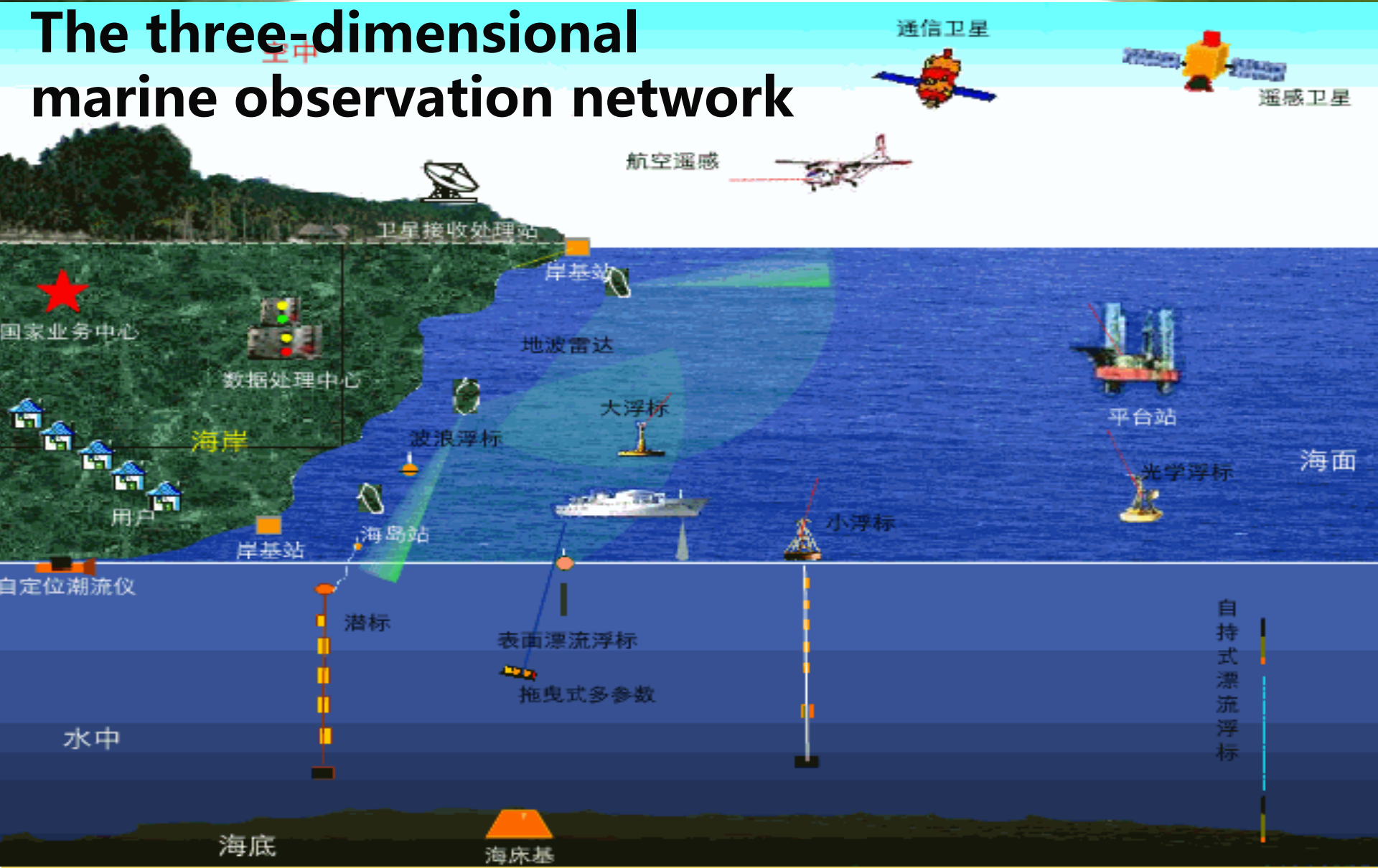
3. Application and service of Marine Big Data

4. The future of Marine Big Data

2. Development of Marine Big Data in China



The three-dimensional marine observation network



2. Development of Marine Big Data in China

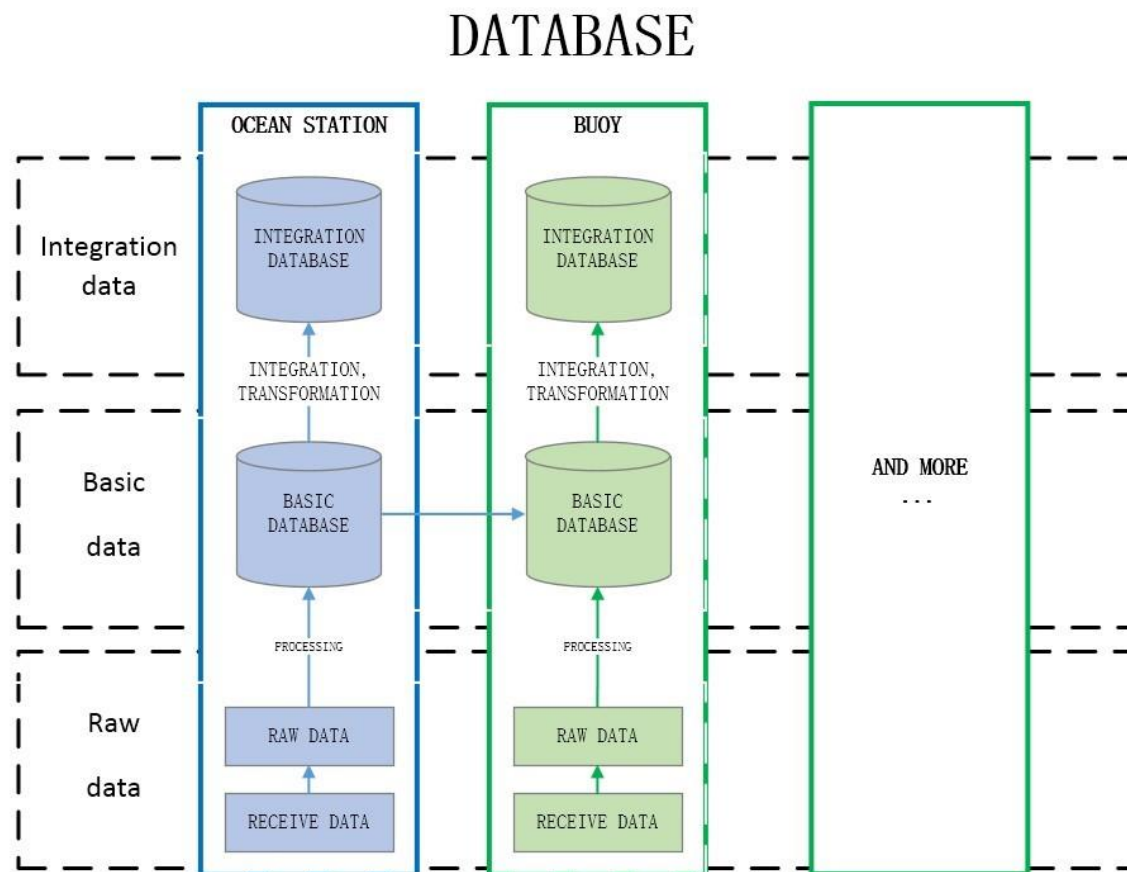


- **Design of marine information system**
- **Construction of marine cloud platform**
- **Construction of marine integrated database**
- **Research on Marine Big Data standardization**
- **Research on marine data processing and analysis**

2. Development of Marine Big Data in China



- Marine data classification
 - Raw data
 - Basic data
 - Integration data



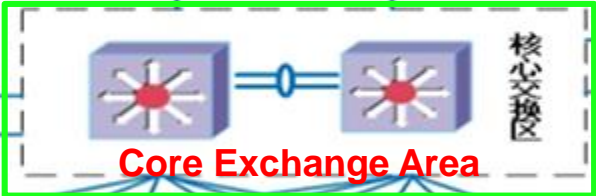
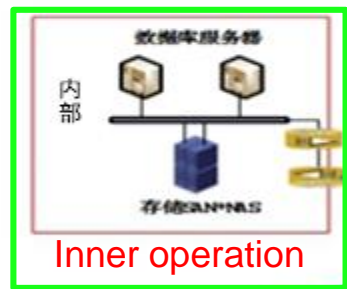
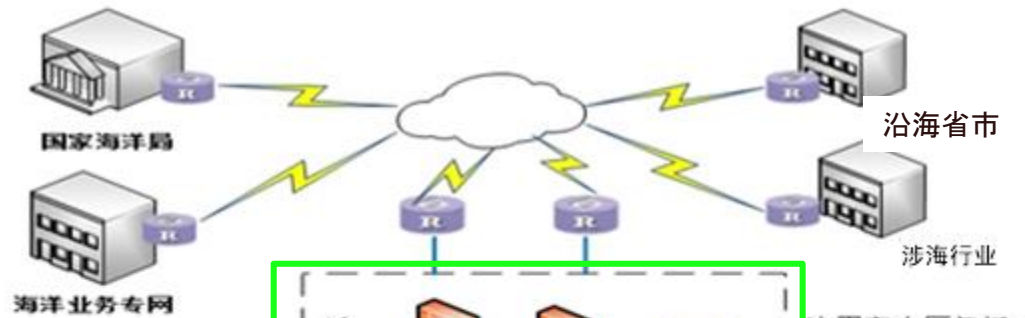
■ Design of marine information system

2. Development of Marine Big Data in China



- Design of marine information system
- **Construction of marine cloud platform**
- Construction of marine integrated database
- Research on Marine Big Data standardization
- Research on marine data processing and analysis

2. Development of Marine Big Data in China



Construction of marine cloud platform

2. Development of Marine Big Data in China



- Design of marine information system
- Construction of marine cloud platform
- **Construction of marine integrated database**
- Research on Marine Big Data standardization
- Research on marine data processing and analysis

2. Development of Marine Big Data in China

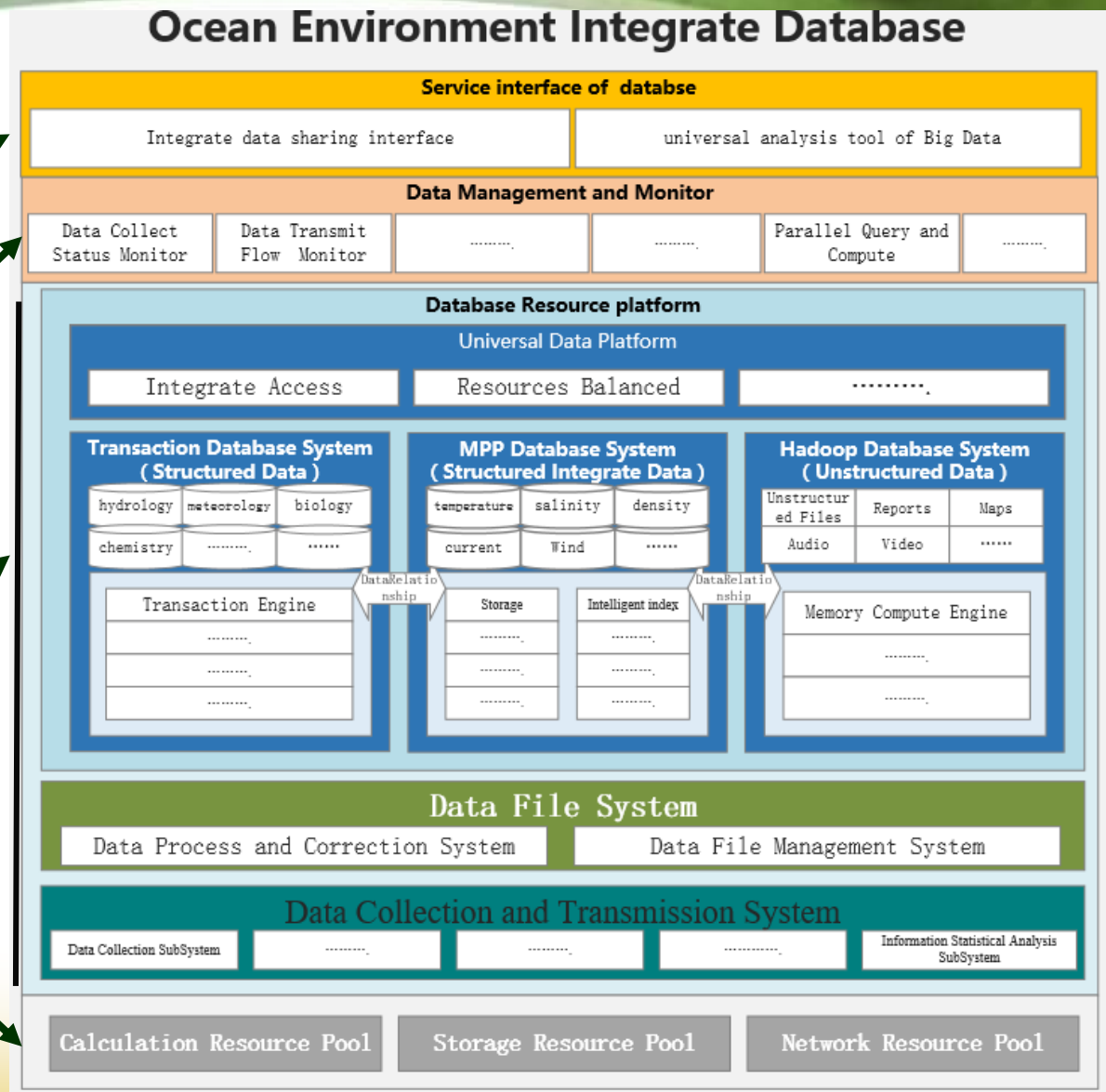


■ Interface of database

■ Database management

■ Database Resource Platform

■ The basic support platform



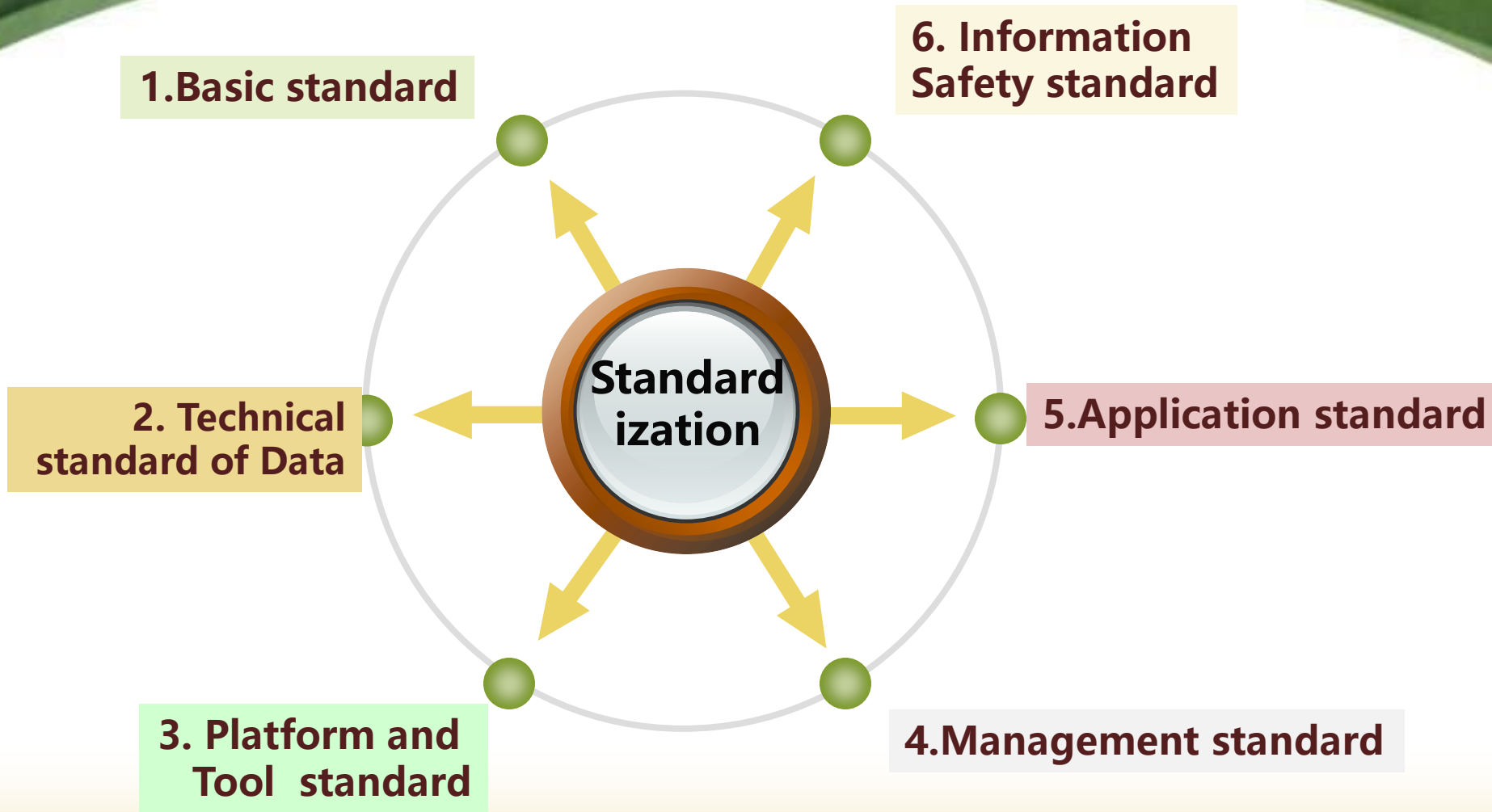
■ Construction of marine integrated database

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- Design of marine information system
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- **Research on Marine Big Data standardization**
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2. Development of Marine Big Data in China



■ Research on Marine Big Data standardization

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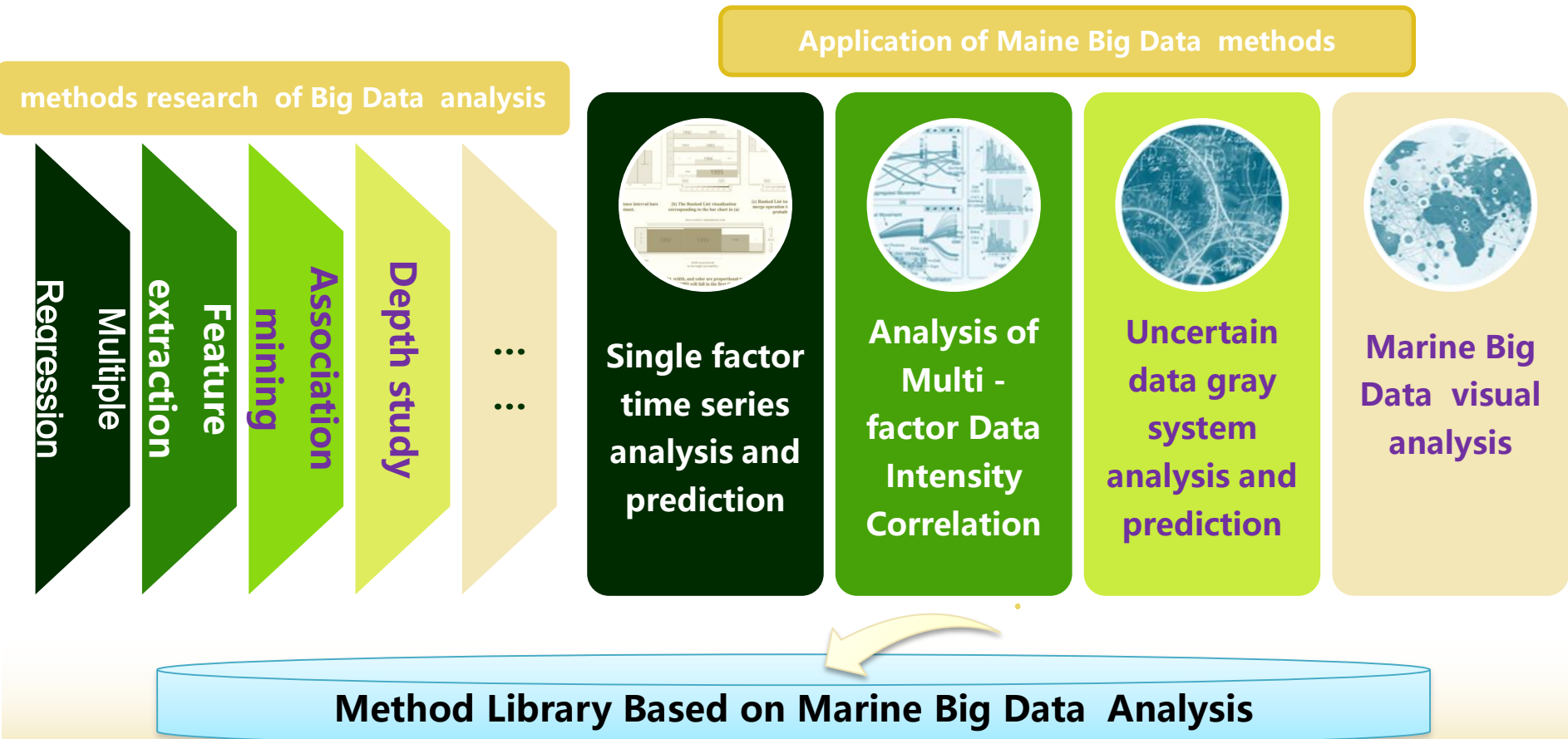


- Design of marine information system
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2. Development of Marine Big Data in China



Marine Big Data mining, analysis method library



■ Research on marine data processing and analysis

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3. Application and service of Marine Big Data

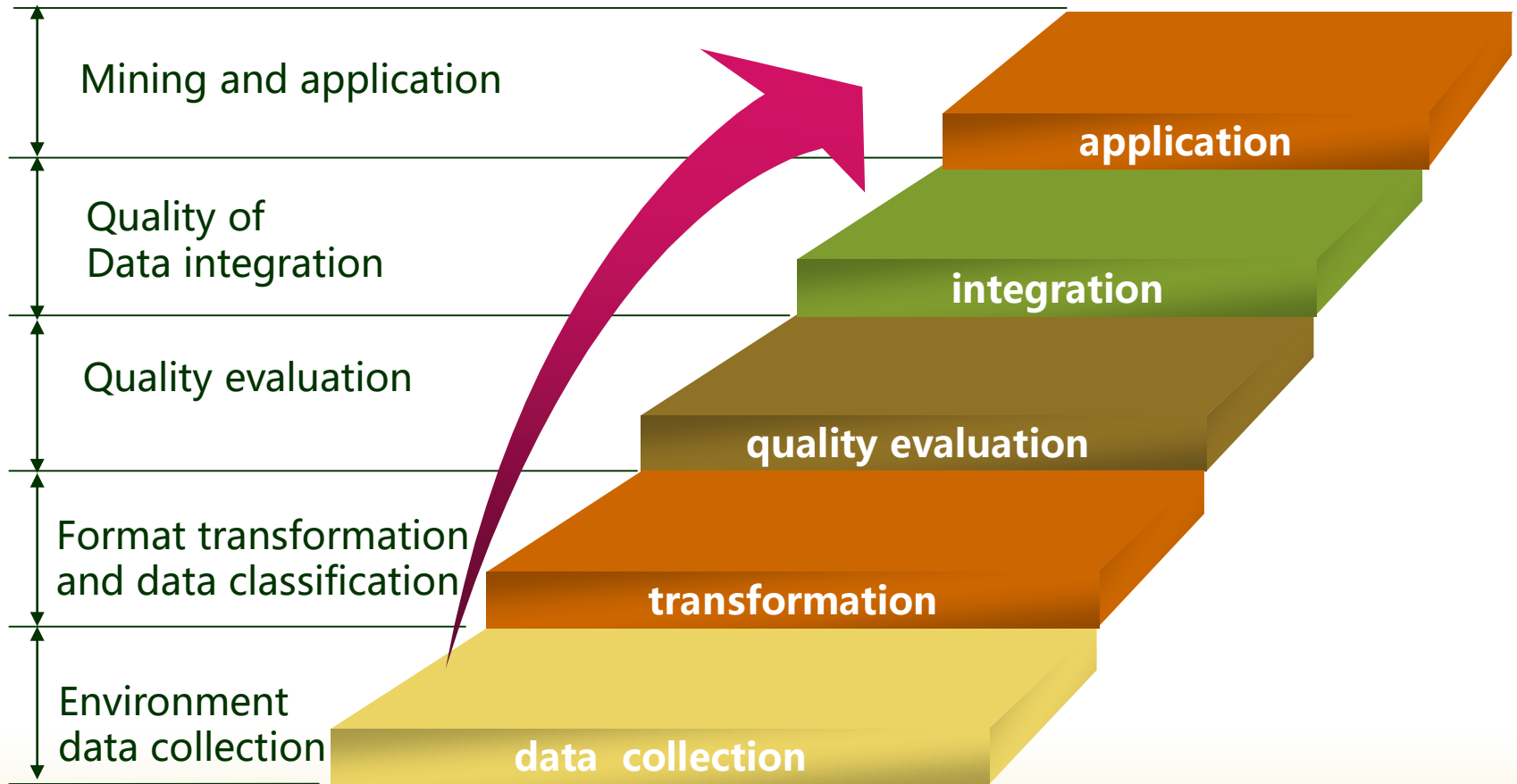
4. The future of Marine Big Data

3. Application and service of Marine Big Data

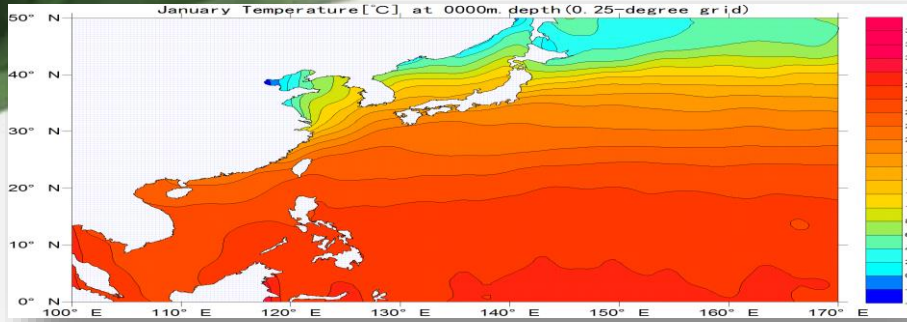


- **Marine big data processing and service**
- **The development and application of blue economy big data**
- **Big Data of marine ecological spatial planning and management**
- **Big Data of sea area and island management**

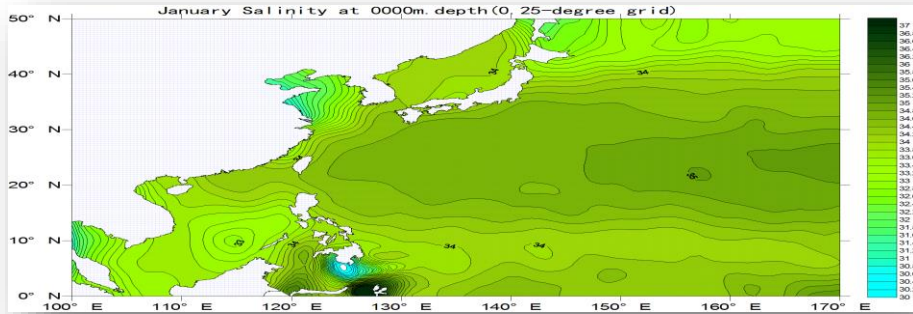
3. Application and service of Marine Big Data



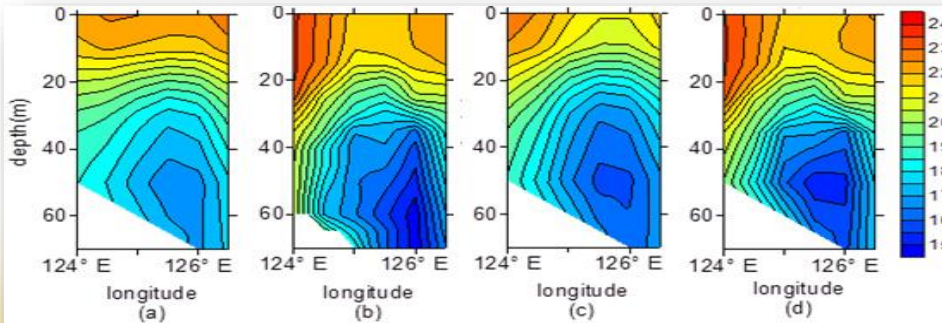
3. Application and service of Marine Big Data



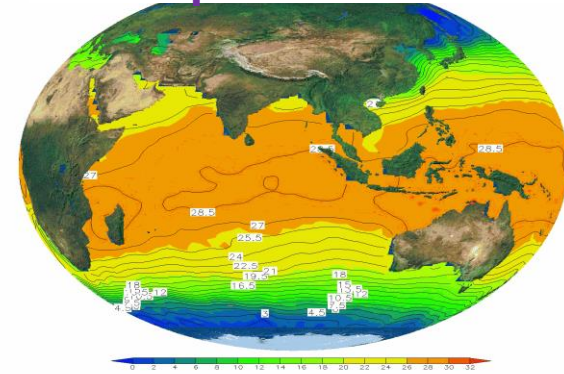
Temperature&salinity



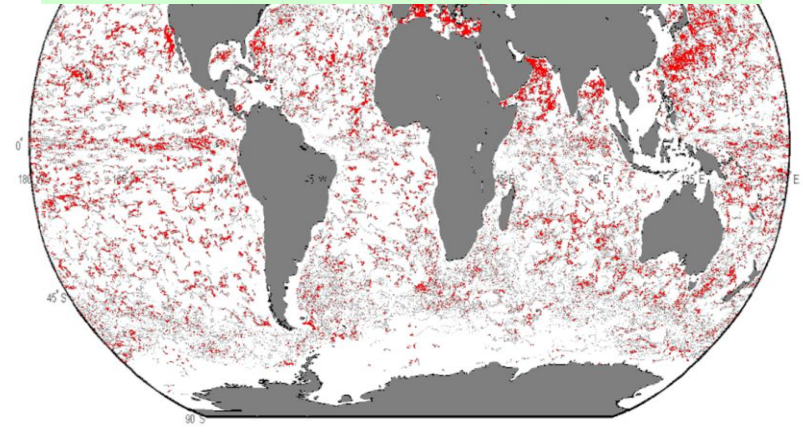
marine section products



Global temperature statistics

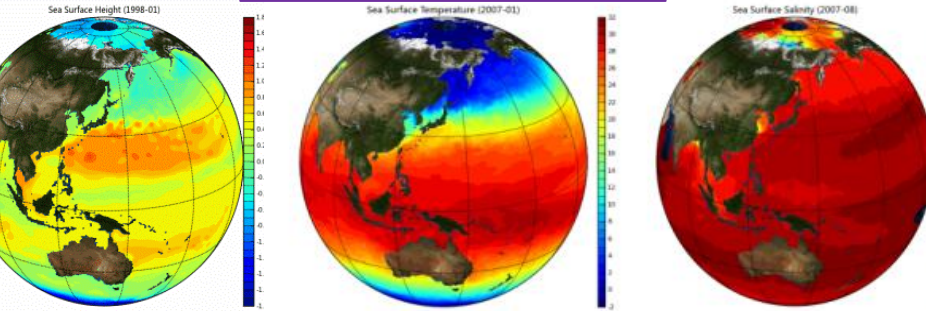


Annual observation data station map

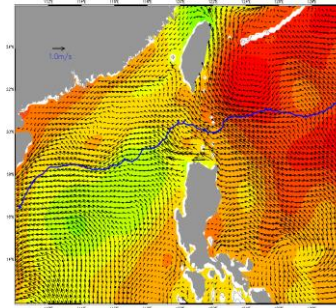


3. Application and service of Marine Big Data

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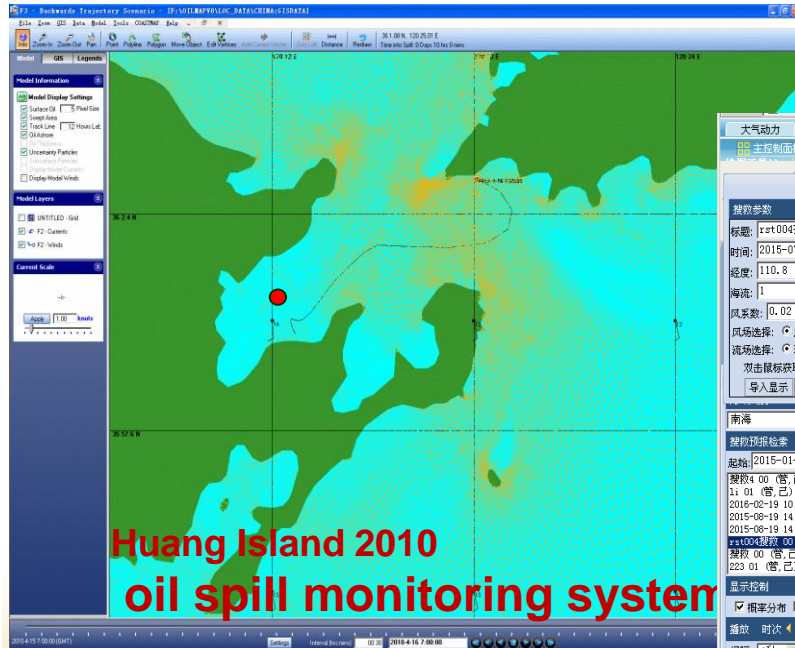
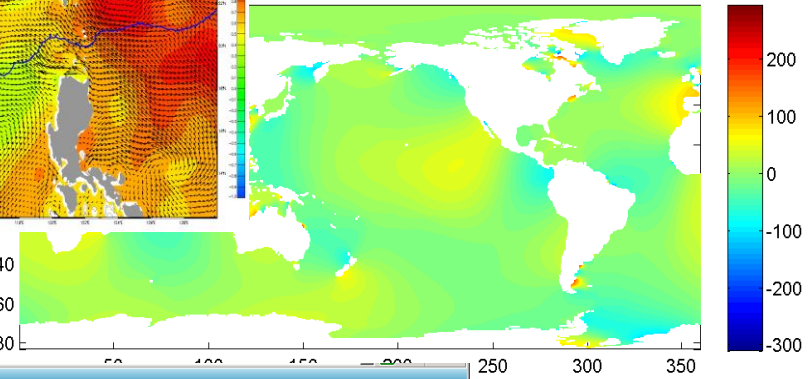


Current and Buoy trajectory



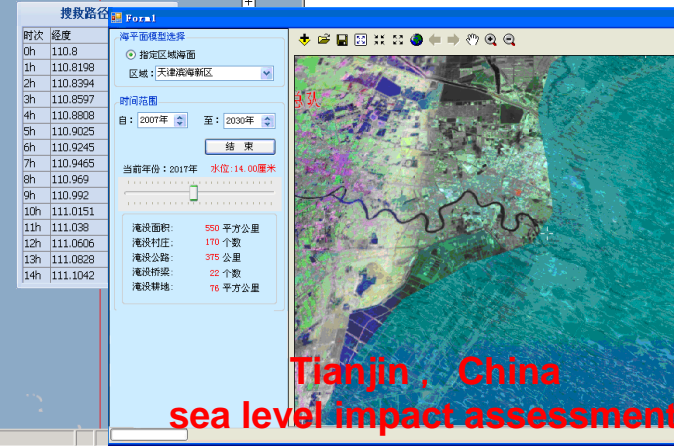
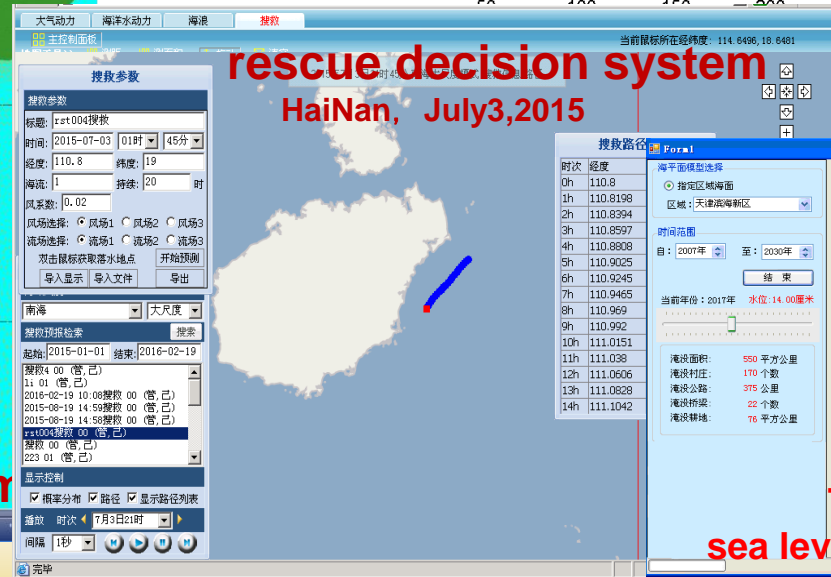
Tide forecasting

1年10月01日00时全球海洋潮汐预报



Huang Island 2010
oil spill monitoring system

rescue decision system HaiNan, July3,2015



Tianjin, China
sea level impact assessment

■ Marine big data processing and service

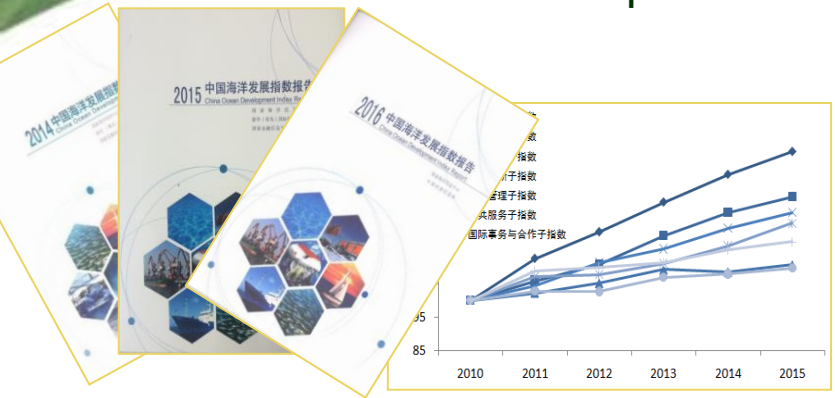
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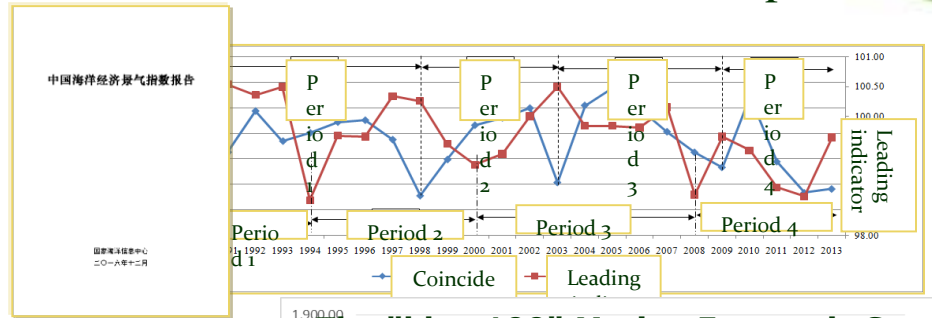
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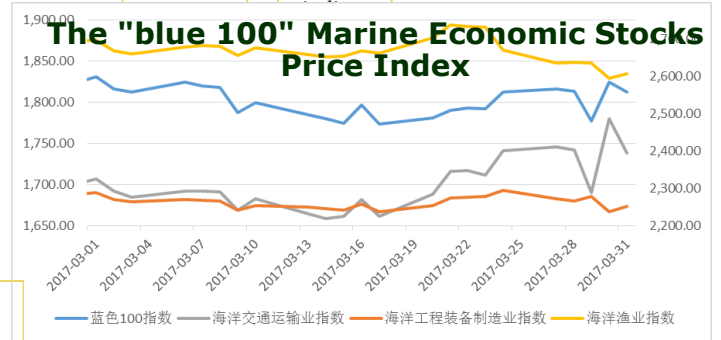
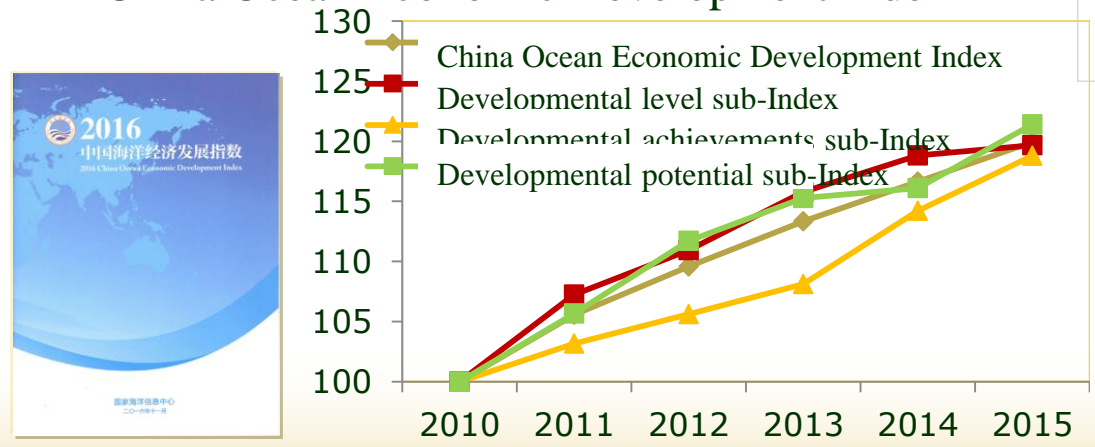
China Ocean Development



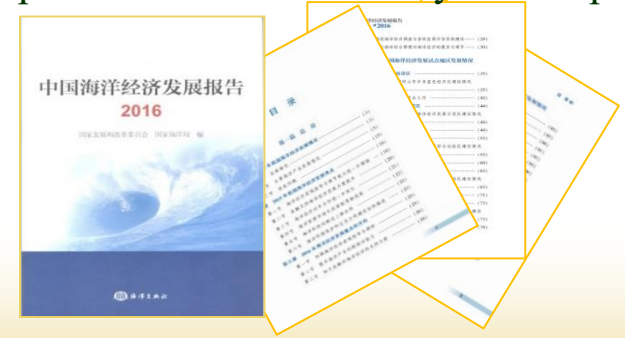
Marine Economic Climate Index Report



China Ocean Economic Development Index



Report on China's Economy Development



■ The development and application of blue economy big data

3. Application and service of Marine Big Data



- Marine big data processing and service
- The development and application of blue economy big data
- **Big Data of marine ecological spatial planning and management**
- Big Data of sea area and island management

3. Application and service of marine big data

❖ Marine Spatial Planning

- Marine Major Function-Oriented Zone Planning
- Marine Functional Zoning

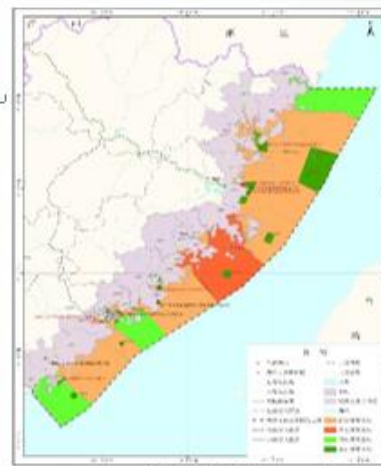


Provincial Marine Functional Zoning

Jiangsu



Fujian



Tianjin



Provincial Marine Major Function-Oriented Zone

3. Application and service of Marine Big Data



- Marine big data processing and service
- The development and application of blue economy big data
- Big Data of marine ecological spatial planning and management
- **Big Data of sea area and island management**

3. Application and service of marine big data

❖ Big data of sea area and islands management

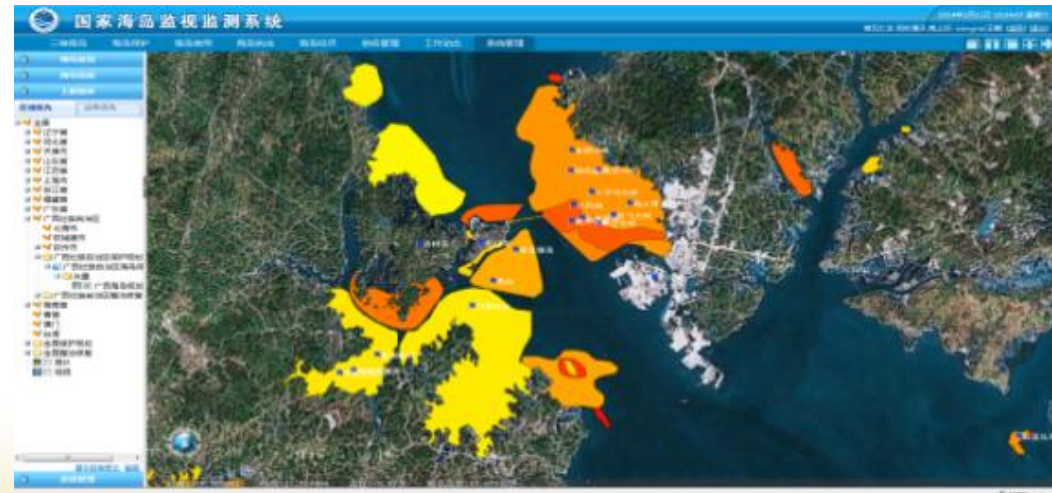
- Sea use, islands utilization and marine environmental monitoring systems
- Setting up redline for the protection of ecological regions.
- Marine integrated management based on ecosystem



Redline for Protection of ecological regions in Bohai sea



National ocean environmental monitoring System



National Sea Use and Island Utilization Monitoring System

■ Big data of sea area and island management

3. Application and service of Marine Big Data



Global service of Marine Big Data of China

- **CMOC/China** : Data mirroring, technology communication and application of big data
- **ODINWESTPAC** : integration of information in the WESTPAC , user-oriented information service
- **IOI-China** Regional Center for Western Pacific Region: marine data management training
- **Others** : China-ASEAN Big Data Center, China Argo Data Center, ODP WESTPAC node

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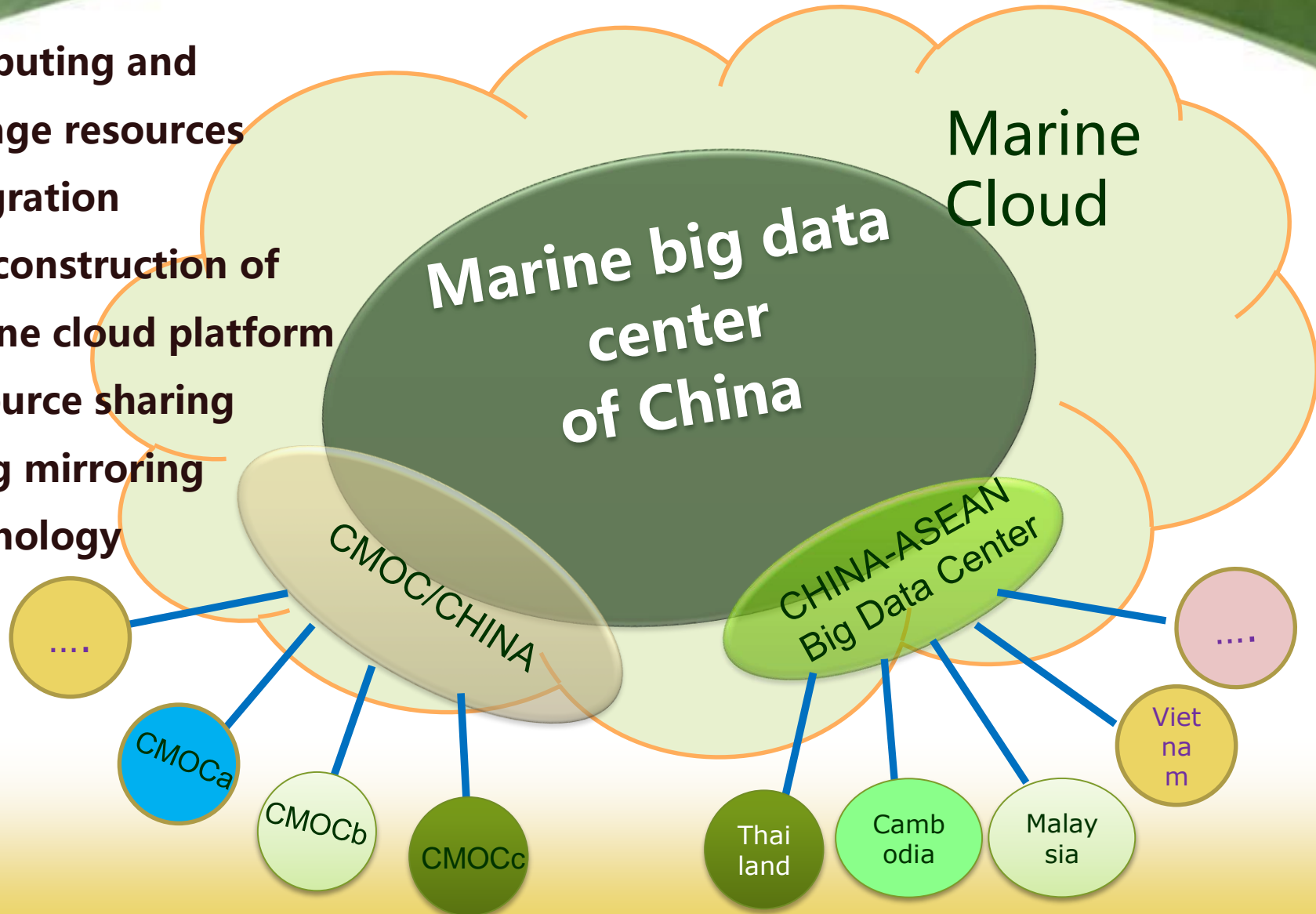
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4. The future of Marine Big Data

- computing and storage resources integration
- The construction of marine cloud platform
- resource sharing using mirroring technology



4. The future of Marine Big Data



China - EU Marine Big Data Center Initiative

❖ **Marine data sharing and exchange :**

Explore opportunities of cooperation between China and EU on Marine Big Data center, carry out dataset mirroring, data sharing and exchange

❖ **Technical research cooperation :**

Blue economy, marine environmental protection, sea level change impact assessment, coastal management, etc.



Thank You !