Marine Economic Monitoring and Evaluation

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Framework

Base——Statistical investigation system and Accounting system

Major body——evaluation system

Quality guarantee——Standard system

Carrier——Data cloud platform.
1 Marine Economic Monitoring
Marine industry: refers to the production and service activities that explore, use and protect the Marine. Marine industry include the production and service activities that:

- Obtain product from Marine directly,
- Make the first processing to the product that obtain from the Marine,
- Applied directly to Marine or Marine exploration,
- Using seawater or Marine space as the basic element of its production,
- And marine scientific, research, management and service.

Marine economy: refers to the summation of industrial activities that explore, use and protect the Marine, and the activities related to them.

Marine industry: refers to the production and service activities that explore, use and protect the Marine. Marine industry include the production and service activities that:

Marine-related industry: refers to the industries that has technical or economic relationship with Marine industries, based on different kinds of input-output connections.
Comparison with
< International Standard for Industrial Classification >

<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-category</th>
<th>3-digit code</th>
<th>4-digit code</th>
<th>Category</th>
<th>Sub-category</th>
<th>3-digit code</th>
<th>4-digit code</th>
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<tbody>
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<td>2</td>
<td>28</td>
<td>107</td>
<td>380</td>
<td>17</td>
<td>60</td>
<td>159</td>
<td>292</td>
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<tr>
<td>GB/T 20794-2006 related to</td>
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</tbody>
</table>
1.1.2 Geographic scale

**Coastal Province:** the coastal region in a broad sense, refers to the province with coastlines (continental and island coastlines).

**Coastal City:** refers to the municipalities directly under the Central Government and the prefecture-level cities with coastlines (including all the districts, counties and county-level cities under them).

**Coastal County:** the coastal region in a narrow sense, refers to the counties, county-level cities and districts with coastlines.
## Status of China’s coastal area

<table>
<thead>
<tr>
<th>Coastal Province</th>
<th>Coastal City</th>
<th>Coastal County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>54</td>
<td>238</td>
</tr>
<tr>
<td>Tianjin</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hebei</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Liaoning</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>Shanghai</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Jiangsu</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Zhejiang</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>Fujian</td>
<td>6</td>
<td>34</td>
</tr>
<tr>
<td>Shandong</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>Guangdong</td>
<td>14</td>
<td>55</td>
</tr>
<tr>
<td>Guangxi</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Hainan</td>
<td>3</td>
<td>17</td>
</tr>
</tbody>
</table>
1.1.3 Data resource

National Marine Statistics Information Network

Marine-related enterprises
- National Bureau of Statistic
- General Administration of Custom
- National Energy Administration
- China Development Bank
- Ministry of Education
- Ministry of Science and Technology
- Ministry of Land and Resources
- Ministry of Transport
- Ministry of Water Resources
- Ministry of Agriculture
- Ministry of Industry and Information Technology
- Ministry of Environmental Protection
- National Tourism Administration
- Chinese Academy of Sciences
- China Earthquake Administration
- China Meteorological Administration
- China State Shipbuilding Corporation
- China Shipbuilding Industry Corporation
- China National Petroleum Corporation
- China Petrochemical Group Corporation
- China National Offshore Oil Industry Corporation
- China National Salt Industry Corporation

More than 20 national ministries or departments

Marine management Departments in Coastal areas

Marine or Fishery Departments in 11 coastal provinces and cities and 5 specific cities with independent planning status.

- Liaoning
- Hebei
- Tianjin
- Shandong
- Jiangsu
- Shanghai
- Zhejiang
- Fujian
- Guangdong
- Guangxi
- Hainan
- Dalian
- Qingdao
- Shenzhen
- Xiamen
- Ningbo
1.2 Ways for monitoring

1.2.1 Regular form-filling program

According to the *Statistics Law of the People’s Republic of China*, the State Marineic Administration (SOA) applies for the approval from the National Bureau of Statistics (NBS), and the provincial and multiple Marine administrations implement the program to collect data.

- Marine Statistical data-collecting program
- Gross Marine Product Accounting data-collecting program
Marine Statistical data-collecting program

In 1999, the first —— Integrated Marine Statistical Collecting Forms institution —— was approved by NBS, it has been implemented for more than 20 years, and experiencing many revising and adjusting according to different standards. Recently, according to the Statistic Law, it will be revised every two years.

• Component:
  --Tables : 70
  --Indicators : more than 1600

• Contents:
  -- Production and operating activities of every major Marine industries
  -- Production and operating activities of Marine-related enterprises
  -- Marine scientific and research
  -- Marine technical service
  -- Marine education
  ...

Forms for data-collecting
Gross Marine Product Accounting data-collecting program

In 2006, the SOA formulated the “GDP accounting system” (NBS, [2006] No.21). Implementation of the system made Marine economic statistics undergo a qualitative leap, which is a new milestone in the work of Marine economic statistics.

• Component:
  -- Tables: 6
  -- Indicator: more than 300

• Contents:
  -- Coastal Gross Domestic Product
  -- Output value of Marine economy by industry
  -- Volume of Marine economy by industry
  -- Gross output of Marine-related sectors under national classification
  -- Gross output value of Marine-related industry under national classification
  -- Component of coastal Gross Domestic Product
  -- Input-output tables with 135 by 135 department in coastal area
Establish the Integrated Marine Statistical Report Program ([1999]No.53)

First revise, added the content about marine biomedicine, marine electric power and so on ([2004]No.40)

Second revise by means of 《Industrial Classification for Marine industries and their related activities》 ([2007]No.29)

Third revise to improve statistical indicator ([2009]No.42)

Fourth revise, added the content about marine services, culture activities and so on ([2012]No.50)

Fifth revise, undergoing

Establish Marine Statistics Quick-Report program to improve time efficiency ([2002]No.209)

Establish Goss Marine Production Accounting program to reflect Marine economy comprehensively ([2006]No.21)

First revise to adjust submit time and renew the explanations of the indicator ([2008]No.116)

Second revise to improve statistical indicator ([2011]No.7)

Third revise to adjust Marine-related industries ([2013]No.93)
Software system

Enterprise directory management

Online form-filling

statistic of filling rate

Level-by-level data checking

Data normalization

Data computation
# The Monthly and Quarterly Report for Marine Economic

<table>
<thead>
<tr>
<th>Monthly report</th>
<th>Quarterly report</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>start from september 2016</strong></td>
<td><strong>start from Spring 2016</strong></td>
</tr>
<tr>
<td>• The Performance Analysis of The Marine Industrial Enterprises above Designated Size</td>
<td>• Management status of marine industrial enterprises above designated size</td>
</tr>
<tr>
<td>• The Performance Analysis of The Marine Service Industry Enterprise above Designated Size</td>
<td>• Management status of marine renewable energy utilization enterprises above designated size</td>
</tr>
<tr>
<td>• The Analysis on Energy Consumption of The Marine Enterprises</td>
<td>• Management status of marine biomedicine enterprises above designated size</td>
</tr>
<tr>
<td>• The Analysis of The Marine Foreign Trade</td>
<td>• Foreign trade</td>
</tr>
<tr>
<td>• The Analysis of The &quot;blue 100&quot; Marine Economic Stocks Price Index</td>
<td>• Supply side industrial structure adjustment</td>
</tr>
<tr>
<td>• The Analysis of sea area use</td>
<td>• Listed companies financing</td>
</tr>
<tr>
<td>• Analysis of seawater aquatic products, marine transportation and crude oil prices</td>
<td></td>
</tr>
<tr>
<td>• The Performance Analysis of The Marine enterprise</td>
<td></td>
</tr>
</tbody>
</table>
China Marine Statistical Yearbook
(1990－2016）27 Volumes

0. Summary of China’s Marine economic development
1. Integrated data
2. Marine economic accounting
3. Major Marine industrial activities
4. Production capacity of major Marine industries
5. Marine-related employment
6. Marine science and technology
7. Marine education
8. Marine environmental protection
9. Marine administration and public-good service
10. National and coastal socio-economy
11. Part of the worlds Marine economic statistics data
1.2.2 Marine economic accounting system

Statistic is only those elements which is hard to see what is it, while accounting is the temple that could show us what is it looks like.
General Framework of Marine Economic Accounting System

- **Principal Accounting**
  - Gross Marine Products (GOP) accounting

- **Basic Accounting**
  - Marine economy input-output accounting
  - Marine economy fixed assets accounting
  - Marine foreign trade accounting

- **Subsidiary Accounting**
  - Marine resources and environment and social activities
  - Marine natural resources accounting
The accounting methodology of GOP

Data collection and processing

- Enterprise accounting
- Added value ratio
- Separating coefficient
- Marine industry accounting
- Delphi
- Speed prediction
- Sampling survey
- Marine-related industry accounting
- Input-Output method

Control of data quality
Marine economic accounting software system

- Data import
- Coefficient setting
- Accounting on major marine industry
- Accounting on marine-related industry
Contents:

• Development of Marine Economy
• Development of Major Marine Industries
• Development of Regional Marine Economy
According to the latest released *2016 China Marine Economic Statistic Bulletin*, the national Gross Marine Product amounts to 7,050.7 billion RMB (equivalent to 1,061.5 billion dollars), 6.8% up from the previous year (at comparable price), accounting for 9.5% of GDP.

**GOP, its growth rate and three industrial composition in 2014-2016**

**Industrial composition of major marine industries in 2016**
Standards published—1 National-level standard and 5 industrial standards

《Industrial Classification for Marine Industries and Their Related Activities》（GB/T 20794-2006）
《Coastal administrative areas classification and codes》（HY/T 094-2006）
《Classification for Marine high-tech industries》（HY/T 130-2010）
《Index system for Marine economy》（HY/T 160-2013）
《Catalogues of Marine high-tech products》（HY/T 162-2013）
《Standard system for monitoring and assessing Marine economy》（HY/T 161-2013）
Marine Economic Evaluation
<table>
<thead>
<tr>
<th>Name</th>
<th>Contents</th>
<th>Frequency</th>
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<th>Remark</th>
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</thead>
<tbody>
<tr>
<td>China Marine Development Index report</td>
<td>Reflect the overall development of Marine economy and Marine issues with the comprehensive index.</td>
<td>Yearly</td>
<td>September next year</td>
<td>Public</td>
</tr>
<tr>
<td>China Marine Economic Development Index</td>
<td>Reflect the marine economic development status with the comprehensive index</td>
<td>Yearly</td>
<td>November next year</td>
<td>Public</td>
</tr>
<tr>
<td>Marine Economic Climate Index Report</td>
<td>Reflect the booming state of marine economy with the comprehensive index.</td>
<td>Yearly</td>
<td>November next year</td>
<td>inner reference</td>
</tr>
<tr>
<td>The &quot;blue 100&quot; Marine Economic Stocks Price Index</td>
<td>Reflects the development of the Marine economy from the perspective of the stock market.</td>
<td>Day</td>
<td>Real time</td>
<td>inner reference</td>
</tr>
<tr>
<td>Report on China’s Economy Development</td>
<td>Analyze the yearly development status of Marine economic overall and in the pilot areas.</td>
<td>Yearly</td>
<td>September next year</td>
<td>Public</td>
</tr>
</tbody>
</table>
The China Marine Development Index is a quantitative evaluation about the overall development of Marine economy and Marine issues in a certain period.

- economic development
- social livelihood
- environmental ecology
- scientific innovation
- Comprehensive governance
- Public service
- International issues and cooperation

2016 China Marine Development Index
November 24\textsuperscript{th}, 2016, NMDIS released the initial 2016 China Marine Economic Development Index Report.

The China Marine Economic Development Index is a comprehensive index to reflect marine economic development status, which includes:

- **Developmental level**
  - size, composition, benefit, openness

- **Developmental achievements**
  - stability, livelihood improvement

- **Developmental potential**
  - innovation driving force, resource and environmental bearing capacity.
Marine Economic Climate Index is a comprehensive description on the development status of marine economy, which is used to reflect the booming state of marine economy at present. It consists of coincident indicator, leading indicator and lagging indicator. Due to data limitation, we can only achieve yearly index analysis, quarterly and monthly climate index is to be studied.
The "blue 100" Marine Economic Stocks Price Index

The index is an indicator of changes in the overall price level of the Marine economy. It picks up 100 stocks in both the Shanghai and Shenzhen stock markets that are part of the Marine economy, and by using the pie weighted synthesis, it reflects the development of the Marine economy from the perspective of the stock market.
Part 1 Summary report
Chapter 1. National development of Marine economy during the twelve five-year-plan period
Chapter 2. National development of Marine economy in 2014
Chapter 3. The trend and forecast of national Marine economy

Part 2 Sub-summary report of Marine economic pilot area
Chapter 1. Shandong peninsula Blue Economy economic zone
Chapter 2. Zhejiang Marine Economy demonstration area
Chapter 3. Guangdong Marine Economy pilot area
Chapter 4. Fujian Strait Blue Economy pilot area
Chapter 5. Tianjin Marine Economy Scientific demonstration area

Part 3 Assessment report of Marine economic pilot area
Chapter 1. Achievements of the pilot areas
Chapter 2. Remained Problems
Chapter 3. Work to be done next
Proposal of international cooperation
Collaboration in the past

- October 25-29, 2015, sponsored the Symposium: The Marines in National Income Accounts: Seeking Consensus on Definitions and Standard, in Monterey, California USA.
- Hold regular academic exchanges and visits with other countries such as U.S.A., Canada, Australia, Malaysia and so on.
Cooperation proposal in the future

- Introduce Non-market value into GOP Accounting in the governmental statistic.
- Seeking joint effort to study Blue Economy in concept, classification and methodology.
- Promote studies and cooperation on international standard for blue economy.
- Combining the Belt and Road Initials, carry out data exchange and sharing with countries along the Belt and Road, establish the Blue Economy database to improve the development level of Blue Economy all over the world.
Thanks!

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