The National "One Map " of Land and Resources and its Application

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Overview

I Background

II Main data of "One Map"

III Application in Land and Resources Management
I Background

• Land and mineral are the important resources, which are the foundation for achieving sustainable development.

• Since establishment in 1998, former Ministry of Land and Resources (MLR) has implemented a series of major informatization projects and collected massive data, including land, mining, geology and geological environment data.

• In April 2018, as the reform of government administration, the Ministry of Nature and resource (MNR) was established, more kind of data are covered, such as water, forest, grassland, mountain, barren land……
“One Map“- "electronic sand table“of national land and resources

**Unified base map**: unified basic geography and remote sensing images

**Nationwide coverage**: 9.6 millions square kilometers

**Integrated data**: all the data layers can overlay and work together

“**Electronic sand table“**: reflects the quantity, quality, distribution and potential of resources
"One Map" database

includes 5 categories:

◆ Geography data
◆ Land data
◆ Mineral resources data
◆ Geology and geological environment data
◆ Real estate registration data

23 subcategories, 6992 spatial layers, constitutes the national "One Map" of land and resources
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Remote sensing images

- National coverage
- From 2007 to the present, update yearly
- Main Resolution 2 m
- Eastern: <1m  Western: 5-10m
Land use

- Land use status data from 2009 to the present
- Scale: 1:10000 (one to ten thousand)
- National coverage, update yearly
Land use plan

- Five levels with different scales:
  - National level 1:4000000
  - Provincial level 1:250000
  - County level 1:50000
  - Township level 1:10000
  - Municipal level 1:2500000

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Permanent basic farmland data

Including **every pieces of** permanent basic farmland in our country, such as the location, area, type of land, quality, responsibility for protection and protection signs. There are **45.41 million** polygons in the database.
Approval data of construction land

The Approval data of construction land include nationwide construction project approved data from 2009 to present.
Mineral resource plan

Including national Mineral exploration and evaluation plan, Mineral exploitation and utilization plan, and of Mineral environmental protection and control plan.
Mining rights data

Including exploration right data and mining right data. The quantity, distribution and attribute of national exploration rights and mining rights are very clear in map.
Geological disaster data

Including data of major geological hazards such as collapse, landslide, mud-rock flow and subside, totaling more than 70,000.
Real estate registration data
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Four levels “one map” system

--All 31 provinces have built province level "one map"
--Most of municipalities have built municipal level "one map"
--Some county have built county level “one map”
All four levels “one map” provide strong data support for resource supervision, business approval and information services.
The time limit for administrative examination and approval has been shortened by more than 50%.
Eg1 . Assisting approval of construction land
Eg2. Illegal land use spot

Fig. 1 Remote sensing image at T1

Fig. 2 Remote sensing image at T2

Fig. 3 Extract the polygons of newly-increased construction land
Fig. 4 Data of the general land use planning within this area.

Fig. 5 The polygon of newly-increased construction land overlay data of the general land use planning.

Fig. 6 The polygon of newly-increased construction land overlay the spatial information of the approved construction land.

Polygon No. 1, polygon No.2 & No.5 are not within the constructive expansion permitted zone

Polygon No.1 & polygon No.5 are not within the approved construction land.
Polygon No.1 & Polygon No.5 are not within the approved construction land.

**Fig. 7 Polygons of Suspected Illegal Land**

Polygon No.1 & Polygon No.5 are not within the approved construction land.
Eg 3. Assisting approval of mining rights
Eg 4. Analysis of resources situation

Cultivated land change and requisition-compensation balance

Real estate land use

Mineral reserve change
At the first “Digital China” Construction Summit in 2018, “one map” were rated as one of the 30 "Digital China" construction annual best practices, and included as one of 13 "Digital China" construction annual best promotions.
Thanks
Questions?