

# Personal Geographic Database

## Study on Nuclear Site Image Information Management by Personal Geographic Database

150

가 (Geospatial Information System, GIS) . GIS . heads -up digitizing feature class , (table) personal geographic database .

### Abstract

With the strengthening of the nuclear control, the need for building of the related geospatial information system is increased. High resolution commercial satellite images covering wide area such as nuclear sites are regarded as the indispensable information of the GIS. This paper discusses strong points of using the personal geographic database for maintaining geo-referenced feature classes extracted by heads-up digitizing from the commercial satellite image along with related tables.

1.

(IAEA)

30

1997 5 IAEA Model  
 Protocol for Additional to Safeguards Agreement ( ' 가 )  
 1999 6 가  
 가 [1, 2]가  
 (Geospatial Information System, GIS)  
 가 . 9.11 가 GIS  
 [3] GIS

2.

(Technology Center for Nuclear Control, TCNC) GIS  
 . TCNC가  
 (Korea Aerospace Research Institute, KARI)  
 KOMPSAT(Korea Multi -Purpose Satellite, ) (pan -chromatic)  
 e -hd.com IKONOS -2 4 -band (blue, green, red, near -infrared)  
 .[4] heads -up digitizing  
 feature class( 1, 2 )  
 geographic database( geodatabase )



- GIS
- [5]
- (capture)
  - (store)
  - (query)
  - (analyze)
  - (display)
  - (output)

GIS

(feature)

1. KAERI / ( 1:8,000)

(attribute)

GIS

feature attribute -  
 (object-relational database) geodatabase  
 . Geodatabase personal geodatabase  
 multi-user geodatabase . Personal geodatabase 1-tier  
 application , multi-user geodatabase two-tier multi-tier  
 application . personal geodatabase  
 Microsoft Access database MDB .  
 Access database 1 .

<b>Databases</b>	
MDB file size	2GB(minus space needed for system objects)*
Number of objects in a database	32,768
Number of modules	1,000
Number of characters in object names	64
Number of characters in a password	14
Number of characters in a user name or group name	20
Number of concurrent users	255

\* Because your database can include attached tables in multiple files, its total size is limited only by available storage capacity.

### 1. Microsoft Access Database Specifications ([6])

Geodatabase / ESRI GIS ArcView  
 8.1.2 . ArcView ArcGIS 가  
 . ArcGIS 가 ArcInfo . ArcView ArcInfo  
 ArcEditor가 .[7]

ArcView 8.1.2 personal geodatabase .[8]

- Simple feature classes
- Simple tables
- Feature datasets (containing simple feature classes)

- Simple annotation classes (nonfeature -linked annotation classes)

ArcView 8.1.2

(ArcInfo

) .[8]

- Geometric networks
- Relationship classes (or feature classes and tables that participate in relationship classes)
- Feature -linked annotation
- Subtypes (or feature classes and tables that have subtypes)
- Dimension feature classes
- Non -simple feature classes and tables(for example, network feature classes and custom classes)

Geodatabase

.[9]

1. What kind of data will be stored in the database?
2. In what projection do you want your data stored?
3. Do you want to establish rules about how the data can be modified?
4. How do you want to organize your object classes and subtypes?
5. Do you want to maintain special relationships between objects of different types?
6. Will your database contain networks?
7. Will your database store custom objects?

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. 2 2 .

Transverse_Mercator	False_Easting: 500000.000000	False_Northing: 0.000000
GCS_WGS_1984	Central_Meridian: 129.000000	Scale_Factor: 0.999600
Datum: D_WGS_1984	Latitude_Of_Origin: 0.000000	Prime Meridian: 0

2. 2

2 (polygon) feature class  
 layer layer . Layer

가 ( , BLK01)

feature class



2-a. 1:8,000



2-b. 1:6,000



2-c. 1:4000



2-d. 1:2,000

2. KAERI (2000.11.11 11:18 , IKONOS-2 ) /

2 ArcMap . ArcGIS ArcCatalog, ArcMap, ArcToobox .[10] Feature class goedatabase / . GIS import . ArcView 8.1.2 geodatabase (relation) geodatabase

가 가

가

feature class

가

geodatabase

. GPS (Global Positioning System)

가

2

1m

2

4m

1m

fusion

e-hd.com

( 4m)				
Red	20	2047	571.2	357.5
Green	14	2047	483.7	336.0
Blue	3	2047	425.8	305.3

2.

1

KAERI

Personal geodatabase

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. Personal geodatabase

feature class

JPG

database

Internet Explorer

Office XP

. Web database application

ASP (Active

Server Pages)

DAP (Data Access Pages)[11]

. 2-tier application

, 3-tier application

3.

(Geospatial

Information System, GIS)

geographic database

GIS

personal geodatabase

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