POLITEKNIK MERLIMAU MELAKA

TITLE PROJECT LAND USE AND LAND COVER STUDIES AT DISTRICT TANJUNG KLING,PANTAI KLEBANG,MALACCA Via GEOSPATIAL TECHNOLOGY

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Chapter 1

Introduction

1.1 Background

Through discussions with lecturers and made the Group supervisor, we have decided to do a research project about the land use and land cover area of the sand. Location we choose is Pantai Klebang, Melaka. We think that place is suitable for our research project because that place have done so many reclaimed areas of sand. The main purpose we do this project because we want to know the difference of the land use and land cover of the sand. How long and how much had them do. This project also will help people how Pantai Klebang is development.

Then, this project we use Argis and Erdas Imagine software. Using this software we can know about land use and land cover area.This software we use because all the information and data we get can be translated through the application. This project is very high level because we need to collect data and other information about Pantai Klebang. This project will be very good and challenging for us.

Next, this study shows the difference in land use from year to year at Pantai Klebang. The study we acquire an area of land cover area and earn revenue land use. The research we do for the sake of convenience of traders who would like to develop the land cover and where the public can find out info about an area of land use area. This matches the vision and mission of the State of Malacca.

Finally,we also can help the State of Melaka to develop Klebang because this place is compatible with tourism an increasingly growing day. Leisure travelers will definitely be impressed with the info which will be provided by us and will be able to help certain parties.

1.2 Problem Statement

Problems encountered in Melaka are increasing population density factor today is increasing. It is due to the factor of development increasingly compact and increasingly developed. The increase in population density and land use development causes also increased. The land area of Malacca is getting increasingly less as what. Statistics also showed the population increasingly Malacca from year to year on the rise. Example statistics are

Year	Population density (number per km²)
2010	432.1
2014	547.2
2016	601.4

Table 1.1

1.3 Objective

Among the objectives of who wants to be achieved is:

- To determine land use changes with 10 years between 2000 and 2010 using Imagine Erdas.
- To determine the land cover area at Pantai Klebang,Melaka using Argis Software.

1.4 The scope of the study

This is a study of the reclaimed area of sand in Topical studies. This project we do for student Politeknik Merlimau, Melaka to improve their knowledge about reclaiming areas of sand in Pantai Klebang, Melaka.

This study is designed for students semester 6, land surveying diploma Program take courses that CG606 Topical studies as well as rows of lecturers from the land survey unit. The study area was constructed around Pantai Klebang, Mukim Tanjung Kling, district Melaka Tengah, Melaka.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

Research literacy is a text that explains all the theory or writing related to the topic of the project undertaken. In this study, more related to land use, namely the reclaimed area and would recommend Klebang. The use of data obtained with the use of applications such as Arcgis and erdas, google earth. This literature review source referenced from the internet and a particular party and lecturer associated with the title of this project. With their assistance, we are able to carry out this project well.

2.2 Background on the Land Use

'Land use planning', 'Urban planning', 'physical planning' and sometimes just 'planning' among the terminology used to represent the role and activity of town and country planning. Nevertheless, in the context of literatures and studies about the relationship between the field of town and country planning and the process of housing development, for instance in Healey (1983), Bramley et al. (1995) and Asiah (1999), the term 'land use planning' is more frequently used. This research adopts the similar term by exploring it in a broader perspective, that is the system of land use planning.

2.3 Definitions of Land Use

"Land use is characterized by the arrangements, activities and inputs people undertake in a certain land cover type to produce, change or maintain it" (FAO/UNEP, 1999) (*Adopted during the course of development of the Land Cover Classification System,* LCCS). A more inclusive definition of land-use is often used in practice. 'Land use' actually includes near-surface water (see the definition of land). Any given area of land is usually used to satisfy multiple objectives or purposes.

Healey et al. (1998) defines land use planning as a set of instruments and institutional arrangements that constitute a framework for the management of land use change. Ratcliffe (1981), on the other hand, defines land use planning as a system concerned with a taking an objective and rational view of future conditions, assessing what the society desires its destiny to be, forecasting the amount of change, estimating the degree of control required and formulating a policy to take account of this destiny, change and control. According to Ratcliffe (1981), the concern of land use planning is not only on the population

growth and land use change, but also on the human behavior and other activities which arc involved in the urban development.

Land use planning is also defined as a mechanism for the government to exercise its intervention in the urban development process (Greed, 1996c; Ibrahim, 1998; Eddie and Vivian, 2003). According to Ibrahim (1998) and Greed (1996c), the government intervention in the process of urban development is important to achieve certain goals that relate to the public interest. It is land use planning that helps government to promote a more convenient, attractive and equitable pattern of development than the kind of development produced through unregulated markets (Self, 1998).

2.4 Land use review

Figure 2.1

Qualitative Study of Land Use Change Using Geographic Information System in Pekan baru. The study done by Yusri, Othman A.Karim, Khairul Nizam Abdul Maulu & Mohd Ekhwan Toriman. The purpose of the study was to analyze the changes of land use aspects of space and time. The land use data taken into account in this analysis is the land use map of 1992 and 2004. Results analysis using the software ArcView GIS 3.2 version found that there had been a significant decline in land use, which is a type of gardening and 2004. Increase other types of land use, such as settlements and plants/check 2004 hasto occur. This change is the influence of urban development. Land use analysis results obtained with using software ArcView GIS 3.2 version. In 1992 broad wholly dominated by gardening, namely 59.38%, followed by plants/check 14.10%, 13.84% forest,
settlements 8.19% and others decreased by RM3.56%. While in 2004, land use is still dominated by Cashew namely 49.26%, plants/check 17.09%, 13.06%, forest settlements 11.97% and other 6.83%. Land use often will experience a change compatible with growth and development also believes that urban development is a change process Municipal State to another State within that is different. Conclusion for this research is From the aspect of urban space, in Pekanbaru the period of 1992 to 2004 has undergone changes a pretty

significant land use. Experiencing change decline a cashew 17.03% and 5.63%, While the rise/increase is use Land settlements of 31.56% in 2004.

From the aspect of time, from 1992 to 2004, was period of relative not too long, but in terms of changes and development of urban areas, Pekanbaru It is entirely meaningless. However, when variable kebunan and forest decline, and the occurrence changes the increase of variable use Land settlements in the area, then expressly it could negatively impact environment, such as the problem of flooding. Therefore, in order to

changes and development of urban areas, Pekanbaru to make an effective and balanced, then the Organization must planning and managing very well.

Secondly, Study on the effect of industrial development on the adjacent case study Industrial Triangle Ketari, Bentung Pahang Darul Makmur. The study done by Zaliah Shamsudin @ Sani Skudai UTM, 1993. The purpose of the study was the effect of industrial development on the land use. Currently, Pahang has emphasis on industrial development in rural areas. The main industrial area is the Gebeng industrial estate, Semambu, Jerantut, Peramu, Bentong, Inverse and Rompin. Industrial development has brought many changes to land use and also the development of a city. from theories pioneered by Burgges, Hoyt, Murphy, Haris and Ulman has shown many factors influencing land use changes such as the growth of the industry, the process of urbanization and other factors. In the Malaysian context examples of areas experiencing land use changes as a result of industry such as Pasir Gudang, the Klang Valley and Johor Bahru. This clearly showed that the development of the industry is to have close contact with the municipal process that will ultimately lead to the suburbs. This phenomenon also occurs in the study area i.e. in the surrounding Triangle bentung Industrial Ketari. In summary there are 4 major effects as a result of industrial development in the study area i.e. against urban development Bentung, structure of land use, housing development and recreation. Based on the study found changes in land use is more directed to the city because there then Bentung service. Many agricultural areas have been turned into residential areas, business and various activities. If seen to have housing development is very encouraging, which create some housing corridors, Corridor corridor Ketari Benus Jaya and Bandar Bentung Corridor. Overall, there are two significant impacts as a result of industrial development which it can bring development to an area and if the development is not controlled cause conflicts of land use. In an effort to create balanced development strategies and proposals submitted. The proposed strategy is divided into two broad strategies and industrial strategy. For industrial policy includes encouraging and advancing enterprises based on local materials and provide linkages between industry with the Klang Valley. While for land use strategy is control where 4 components of proposed land use, namely agricultural area. Township development, usage and buffer zone.

Thirdly, study on performance of reclaimed area on the ground organic soft at Muar by pass road project. The study done by Mohammad Rizal bin Othman 18 Mac 2005. The purpose of the study was to review the performance of the reclaimed area on soft soil based on case studies. In this project, software GAS/W computer used to obtain a safety factor for slope stability on the reclaimed area while the manual calculation used to

determine the factor of safety for other forms of failure. The results of the indicates that the reclaimed area in General is safe to load traffic but stabilization is needed for basic land.

Geotextile and drain side is proposed for basic land stabilization. Scope study is emphasis on the situation in Johor, filling spaces distribution of peat which has the second highest Malaysia and the study will focus on shear strength and failure bearing capacity of land reclamation project on the ground soft.

Lastly,study on the effect of sea reclamation project by Singapore against Malaysia. The study done by Muhamad Fakhzan bin Abidin 7 Mac 2003. The purpose of the study was information on the effects of sea reclamation project by Singapore against malaysia in terms of environmental. Sea reclamation project by Singapore at around Pulau Tekong and also on the island Tile is done over the last few years with the ground to meet the needs of the country involved. Although this reclamation project activities carried out in their area but this reclamation project location that borders as well as very close to Malaysia to some extent affect the environment next to Malaysia. In this study, the effects of which are expected to be faced by Malaysia are reviewed and analysed as the value of the water quality index (WQI) Sungai Johor, hydraulic conditions and proximity to the beach with the reclamation project and the estimated catch of sea fish for Pengerang district. All information and data obtained from the Department of environment (DOE) Negeri Johor, Department of Irrigation and drainage (did) the State of Johor, the Marine Department southern region (JLWS) State of Johor, the Malaysian Fisheries Development Board (LKIM) Johor State, the Department of fisheries (JP) Johor and also a survey done at various villages around Kota Tinggi district. In this study, information and data value WQI Sungai Johor compared between 1997 and 2002, the data and information on the State of the beach and hidraul and likewise the questionnaire compared between before with the current state of work filling and fishes in turn studied from 1998 until 2001 to see the extent to which the changes occur. From the results of experiments, found the value of the WQI Johor River cleaner, hidrulik conditions and experiences little variation, estimates fish catch decreased somewhat and questionnaire results showed subtle effects faced by the villagers of kampung right now. The results of the experiment showed indeed there is some effect due to work filling by Singpura over the Malaysian environment, but this only involves specific areas only so close to the site of work filling.

CHAPTER 3

METHODOLOGY

3.1 Introduction

In the study, every step of the work and working methods will be shown. Aspects related to methodology will be described. Metodolgi can be selected from various types of study design, study, data collection, examples, equipment reviews and data analysis.

3.2 Preliminary studies

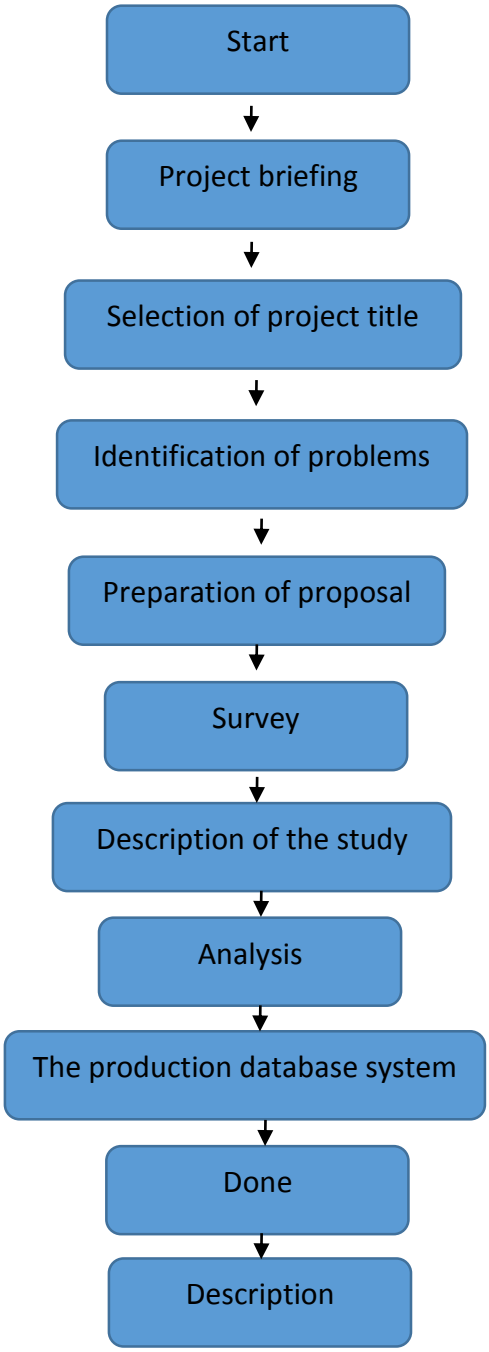
Researchers have made preliminary studies before work is carried out, such as finding the right data. This is very important to get confirmation of this project. All problems relating to the structure and data can be identified and can be upgraded.

3.3 Flow chart

In the access information and objectives there needs to be a general flow chart. This is the step to develop system. Among them are:

- Reading
- Research
- Internet
- Meeting with the lecturer
- Data

3.4 The General method



3.5 Gant chart

Table 3.1 Map Development

Project process																
week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Activities	Selection of project title																
	Objective of the study, review of prefixes, statement of the problem.																
	Literature review and research methodology																
	The procedure analysis																
	Analysis Map																
	Preparation for final report																
	presentation																

Table 3.1

3.6 Summary of activities

Although the plan has been made, some daily activities also need to we follow as per the table 3.2. The given time within 14 weeks has acted with as soon as possible and prepare the final report, as set out.

Table 3.2: Schedule of analysis

WEEK & DATE	ACTIVITY
1 **20/6/-24/06/16**	1. The selection of supervisors. 2. Meeting the supervisor to discuss the title. 3. Ask for the opinion of the selection of project from supervisor.
2 **27/06–01/07/16**	1. Meeting the supervisors. 2. Project title specified. 3. Delegation of tasks to group members for a final report
2 **27/06–01/07/16**	4. Meeting the supervisors. 5. Project title specified. 6. Delegation of tasks to group members for a final report.
3 **11/07–15/07/16**	1. Meeting the supervisors. 2. Discuss the objectives of the study. 3. Analysis is carried out. 4. Ask for ideas related to writing the final report.
4 **18/07–22/07/16**	1. Meeting the supervisors. 2. Distribute questionnaires to identify analysis statement. 3. The analysis continued.

5	1. Meeting the supervisors.
25/07–29/07/16	2. Do a preliminary analysis.
	3. Identify problems faced by students.
	4. Improve the final report.
6	
01/08– 05/08/16	
7	1. Meeting the supervisors.
08/08 –12/08/16	2. Improve research about map.
	3. Improve writing related final report.
	4. Ask for views and advice relating to the development of the analysis and writing a final report
8	1. Meeting the supervisors.
15/08 –19/08/16	2. Send a final report (Chapter 1).
	3. Discuss relevant research literature and methodology.

8	4. Meeting the supervisors.
15/08 –19/08/16	5. Send a final report (Chapter 1).
	6. Discuss relevant research literature and methodology.
9	1. Meeting the supervisors.
17/08 –22/08/16	2. Send the draft reports (Chapter 2 and Chapter 3).
	3. Improve writing.
	4. Shows map to supervisor.
10	1. Meeting the supervisors.
29/08– 02/09/16	2. Improve the map.
	3. Improve the writing a final report.
	4. Meet with people who are well versed with the subject of survey adjustments to ask for their views and opinions.
11	1. Meeting the supervisors.
05/09 –09/09/16	2. Send a final report (Chapter 2 and 3).
	3. Ask for the views of supervisors in relation to map produced.

12 **19/09–23/09/16**	1. Meeting the supervisors. 2. Discuss relevant writing analysis program. 3. Improve programs developed.
13 **26/09–30/09/16**	1. Meeting the supervisors. 2. Send a final report (Chapter 4). 3. Improve the final report and the map before the presentation. 4. Prepare presentations materials.
14 **03/10–7/10/16**	1. Meeting the supervisors. 2. Final project presentations.
15-16 **00/10–21/10/15**	1. Meeting the supervisors. 2. Improve the final report. 3. Send final report

3.7 Software Arcgis and Erdas

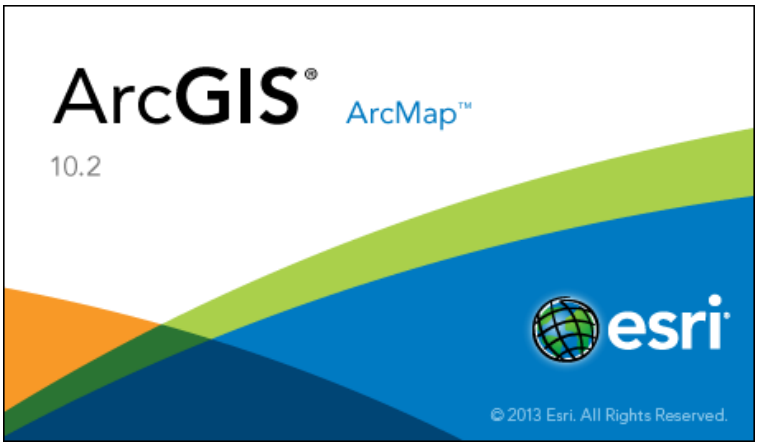


Figure 3.1

ArcGIS is a geographic information system (GIS) for working with maps and geographic information. It is used for: creating and using maps; compiling geographic data; analyzing mapped information; sharing and discovering geographic information; using maps and geographic information in a range of applications; and managing geographic information in a database.

The system provides an infrastructure for making maps and geographic information available throughout an organization, across a community, and openly on the Web.

ArcGIS includes the following Windows desktop software:

- ArcReader, which allows one to view and query maps created with the other ArcGIS products;
- ArcGIS for Desktop, which is licensed under three functionality levels
- ArcGIS for Desktop Basic (formerly known as ArcView), which allows one to view spatial data, create layered maps, and perform basic spatial analysis
  - ArcGIS for Desktop Standard (formerly known as ArcEditor), which in addition to the functionality of ArcView, includes more advanced tools for manipulation of shapefiles and geodatabases
  - ArcGIS for Desktop Advanced (formerly known as ArcInfo), which includes capabilities for data manipulation, editing, and analysis.

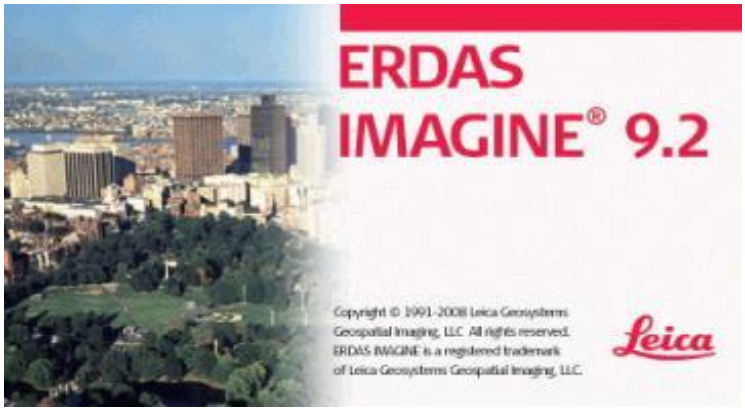


Figure 3.2

Erdas Imagine is an image processing software package that allows users to process both geospatial and other imagery as well as vector data. Erdas can also handle hyperspectral imagery and LiDAR from various sensors. Erdas also offers a 3D viewing module (VirtualGIS) and a vector module for modeling. The native programming language is EML (Erdas Macro Language). Erdas is integrated within other GIS and remote sensing applications and the storage format for the imagery can be read in many other applications (*.img files). Leica Geosystems also purchased ER Mapper to add to their mapping software. Imagine is tightly woven into the GIS fabric more than other image processing software packages and that is the advantage of this package.

3.8 Procedure Arcgis and Erdas Imagine

Figure 3.3 shows Land Use and Land Cover in Klebang obtained from Satelit Remote Sensing.

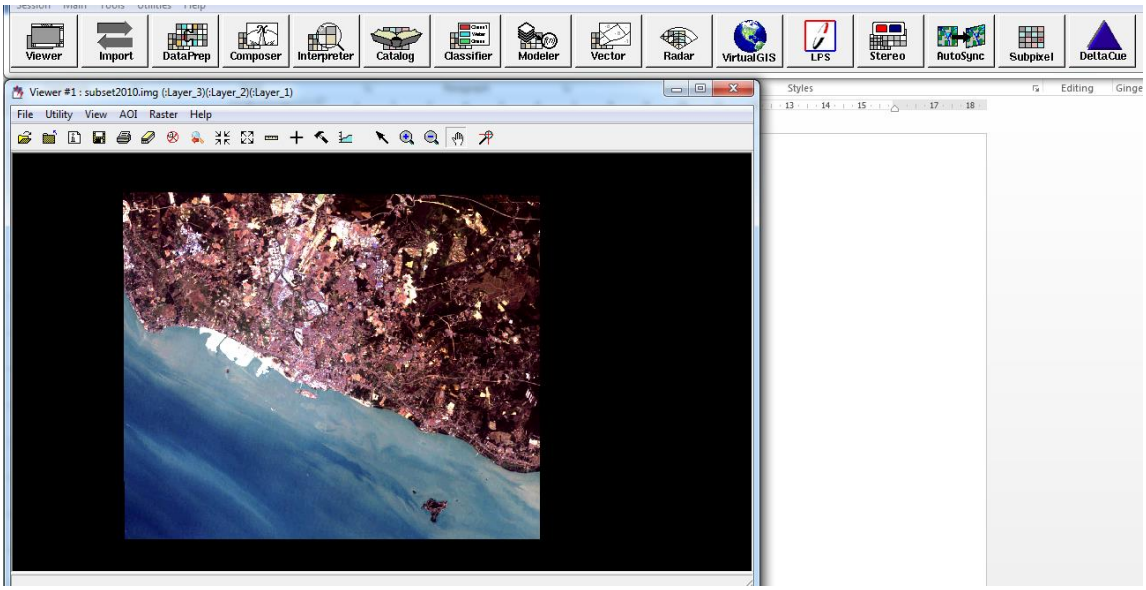


Figure 3.3: Land Use and Land Cover in Klebang.

Figure 3.4 shows the coordinates of Land Use and Land Cover obtain from Google Earth

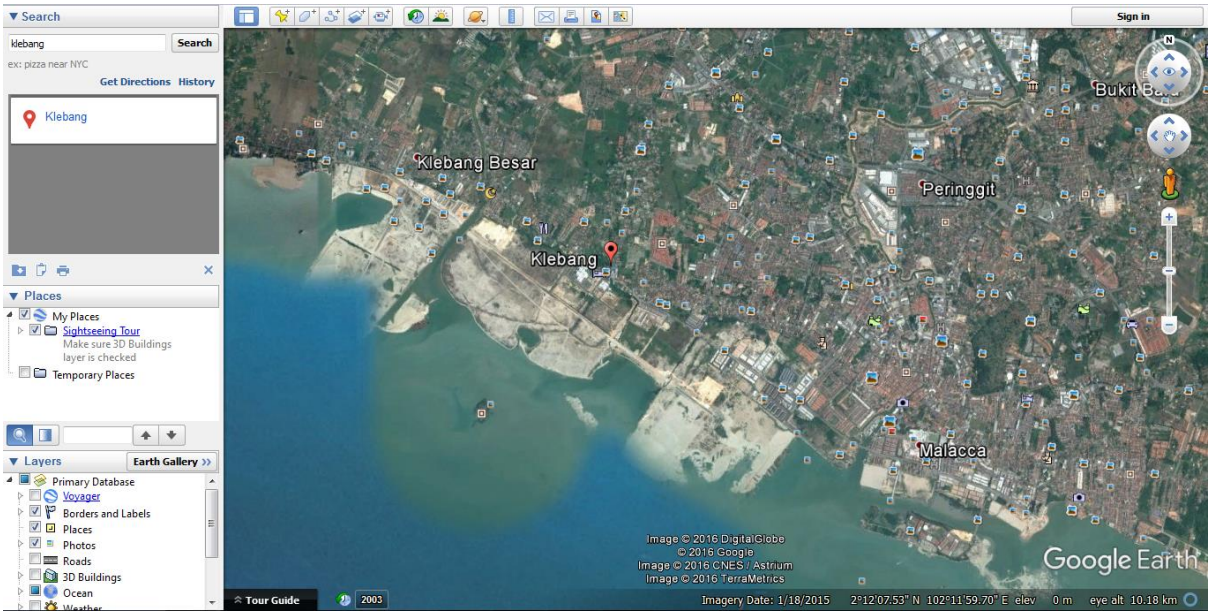


Figure 3.4 The coordinates of the Land Use and Land Cover in Klebang

3.4.2 Erdas Imagine

Erdas Imagine is where you display and explore Remote Sensing for your study area, where you assign symbols, and where you create map layouts for printing or publication. Erdas Imagine is also the application you use to create and edit dataset.

Erdas Imagine represent remote sensing information as a collection of layers and other elements in a map. Common map elements include the data frame containing map layers for a given extent plus a scale bar, north arrow, title, descriptive text, a symbol legend and so on.

3.4.3.1 Add Data from Satelit Image in Erdas Imagine

Steps to Add Data from Satelit Image in Erdas Imagine:

1. Start Erdas Imagine
2. Click Interpreter, choose data utilities and click layer stack.
3. Open the satelit image and combine the seven band of satelit image for produce a complete remote sensing image

3.4.3.2 Subset the Remote Sensing Image Area

Step to subset the Remote Sensing Image Area:

1. Open the Remote Sensing Image.
2. Click at dataprep and choose subset.
3. Select the area at Klebang.
4. Subset and save the new image.

Figure 3.5 shows subset the Remote Sensing Image Area

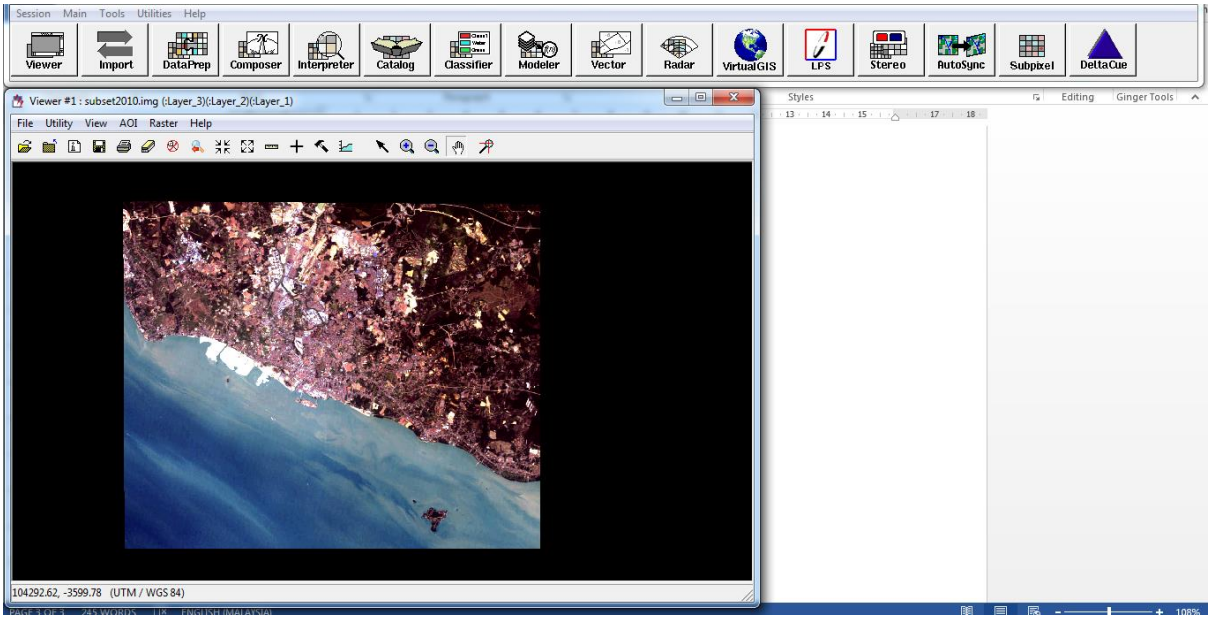


Figure 3.5 show subset the Remote Sensing Area

3.4.3.3 Add X, Y coordinate as Layer

X, Y coordinates describe points on the earth's surface such as the location of Pantai Klebang. To add a table of x, y coordinatesto mao, globe, or scene, the table must contain two field: one of the x-coordinate and one for the y-coordinate. The values in the field may represent any coordinate system and units such as latitude and longitude or meters. A field for the z-coordinates that enables 3D geometry is optional.

He fields must be numeric. If the fields are not numeric, such as when the coordinates value is stored in degrees, minutes, and seconds (for example, -120 13 58), the coordinates will be converted and displayed as decimal degrees.

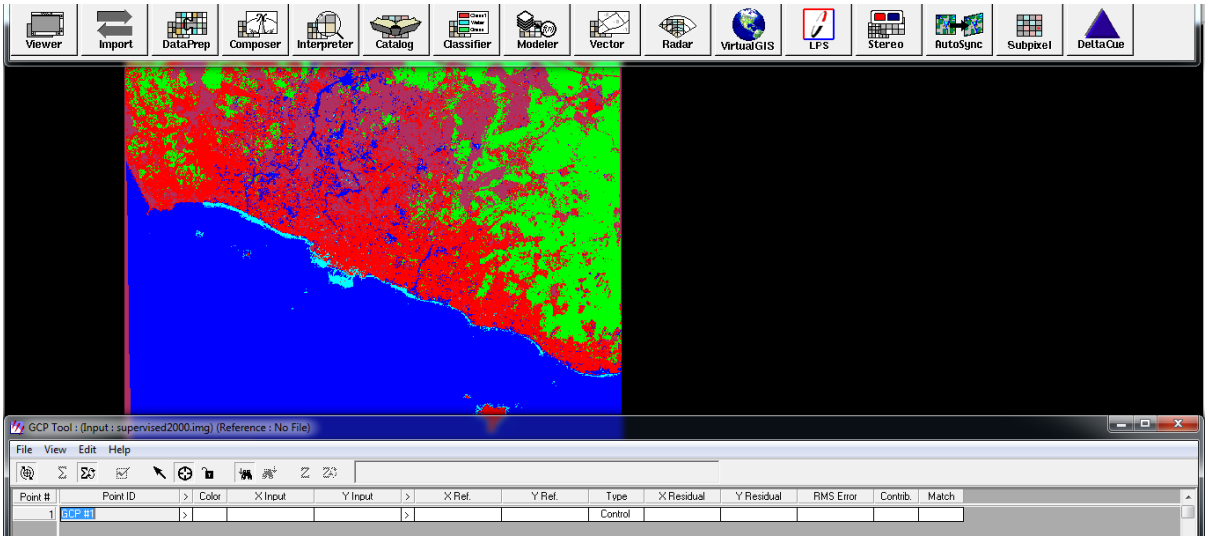
Once we have added the datato the map, globe, or scene, itbecomes an x,y event layer and behaves like other point feature layers. For instance, we decide whether we want to display it, it symbolize it, set the visible scale, or display a subset of features that meet some criteria.

Steps to add X,Y coordinate as layer:

1. Open viewer.
2. Click raster and choose geometric correction.
3. Add X,Y coordinate.
4. Process the image and save

Figure 3.6 shows remote sensing image that have add X, Y coordinate as Layer

Figure 3.6 X, Y coordinate



3.4.3.4 Supervised Classification for the land use image

Steps to supervised classification for the land use image:

1. Open the viewer.
2. Click classifier.
3. Choose supervised classification.
4. Input raster image and input signature that have created.
5. Process the image and click ok.

Figure 3.7 shows remote sensing image that have supervised classification for the land use image.

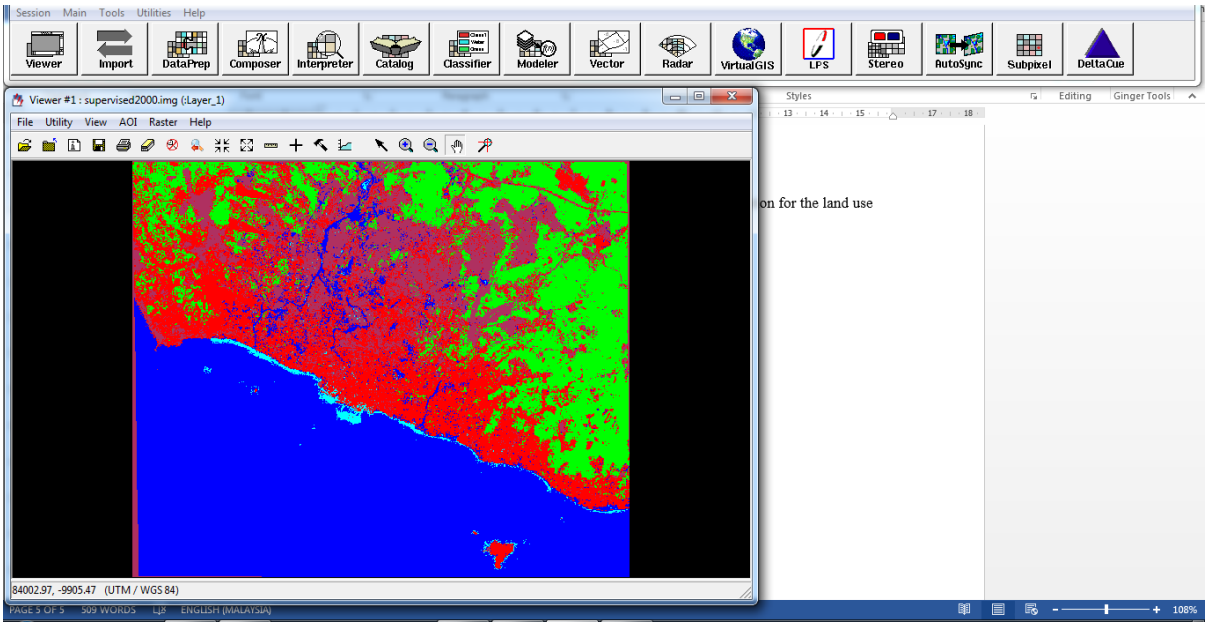


Figure 3.7 Supervised Classification For The Land Use Image

3.4.3.5 Recode Classification for the land use image

Steps to edit recode for the land use image:

1. Open the image that has supervised.
2. Click the interpreter.
3. Choose GIS Analysis and click recode.
4. Input file and output file.
5. Click ok and proses image.

Figure 3.8 shows make a recode for the supervised image.

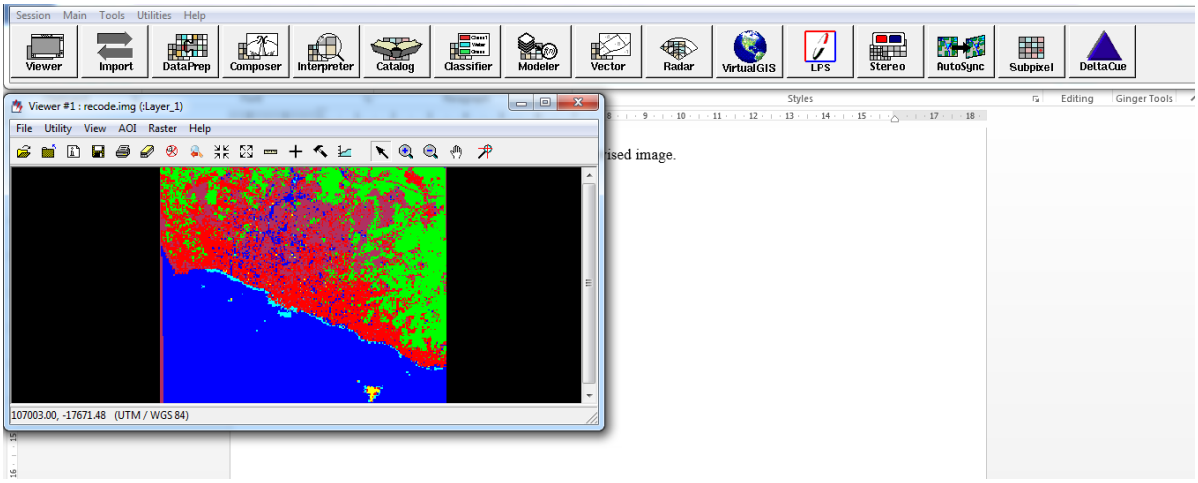


Figure 3.8 Recode For The Supervised

3.4.2 ArcCatalog 10.3

The ArcCatalog application provides a catalog window that is used to organize and manage various types of geoprahic information for ArcGis for Desktop.The kinds of information that can be organized and managed in ArcCatalog includes;

I. Geodatabases
II. Raster files
III. Map documents,globe documents,3D scene documents,and layer files
IV. Geoprocessing toolboces,modal,and Python scripts
V. GIS services published using ArcGIS for server
VI. Standards-based metadata for these GIS information items
VII. And much more

ArcCatalog orgnanizes these contents into a tree view that you can work with to organize your GIS datasets and ArcGIS documents,search and find information itmes,and to manage them.ArcCatalog presents this information in a tree view and allows you to select a GIS item,view its properties,and to acces tools to operate on the selected items:

ArchCatalog is used to :

i. Organize your GIS contents
ii. Manage geodatabase schemas
iii. Search for and add content to ArcGis applications
iv. Document your contents
v. Manage GIS servers
vi. Manage standars-based metadata

3.4.2.1 Create a File Geodatabase

A file geodatabase is a collection of files in a folder on disk that can store,query and manage both spatial and nonspatial data.File geodatabases are made up of seven system tables plus user data.User data can be stored in the following types of datasets;

I. Feature class
II. Feature dataset
III. Mosaic dataset
IV. Raster catalog
V. Raster dataset
VI. Schematic dataset
VII. Table (nonspatial)
VIII. Toolboxes

The default maximum size of datasets in file geodatabases is 1 TB.The maximum size can be increased to 256 TB for large datasets (usually raster).File geodatabase can also contain subtypes and domains and participate in checkout / check-in replicacation and one-way replies.A file geodatabase can be accessed simultaneously by several users.If users are editing,they must edit different datasets.

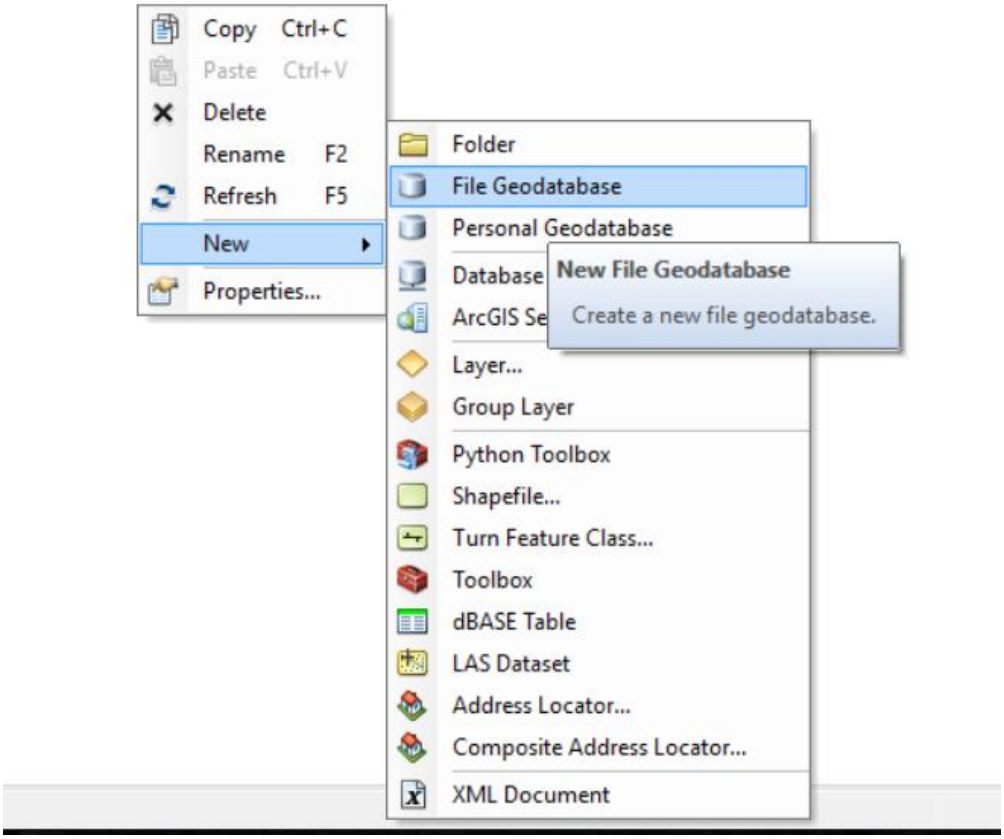
Feature datasets can contain feature classes as well as the following types of datasets:

i. Attachments
ii. Feature-linked annotation
iii. Geometric networks
iv. Network datasets
v. Parcel fabrics
vi. Relationship classes
vii. Terrains
viii. Topologies

Steps to create a File geodatabase in a folder from ArcGis for Desktop:

1. Start ArcCatalog
2. Connect to a folder or disk drive so we can work with its content in the Catalog by click at 
3. Right-click the folder where we want to create the file geodatabase,point to New, and click '**File Geodatabase**'.
4. A file geodatabase is created in the location we selected.
5. Rename the file geodatabase as Malacca Extension in Pantai Klebang.
6.

Figure 3.9 shows how to create a file geodatabase in ArcCatalog 10.3



3.4.2.2 Create a New Feature Dataset

Steps create a new feature dataset :

1) Right -click at the Malacca Extension Pantai Klebang.gdb to create a new feature dataset.
2) Click new,select Feature Dataset.
3) Name the feature dataset as Pantai_Klebang.
4) Click the geographic Coordinate System that will be used for XY coordinate in this data.Choose under folder world,and then select WGS 1984.
5) If data requires a vertical coordinate system for Z-units,we may import one from another feature class or feature dataset; otherwise,select None.
6) Accept the default value,which is the equivalent of 1 mm in real-world units

Figure 3.10 shows how to create a new feature dataset in File Geodatabase

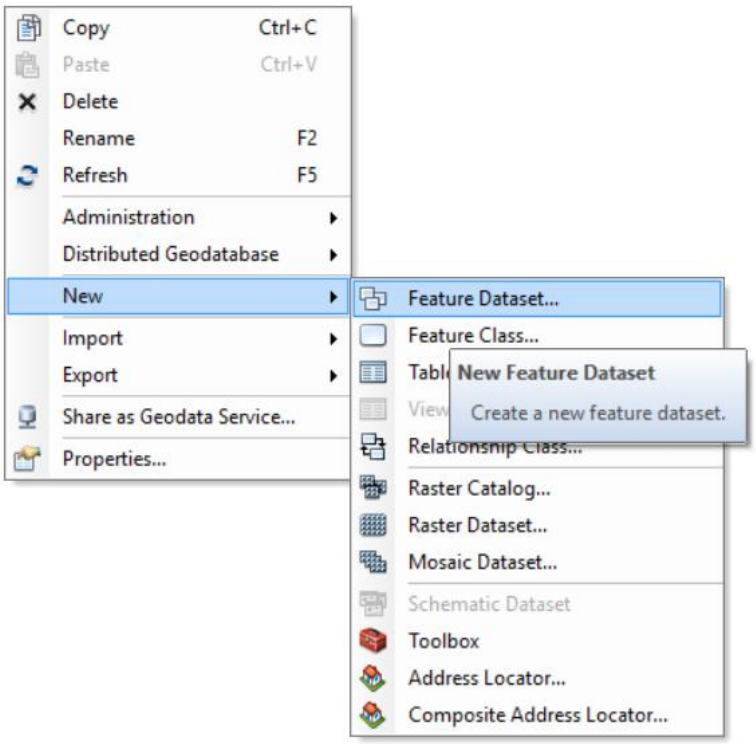


Figure 3.10 :Create a New feature Dataset

3.4.2.3 Create a New Feature Class in Feature Dataset

Steps to create new feature class building,Malacca Boundary and Road in feature dataset:

1. Right-click at the Pantai_Klebang feature dataset to create a new feature class.
2. Point to New select Feature Class.
3. Name the feature class as Building. To create an alias for this feature class,type the alias.
4. Choose Point Feature for the type of feature that will be stored in this feature class.
5. Click Next.
6. At the configuration keyword,choose Default storage parameters for the new table/feature class.
7. Click Next.
8. To add a field to the feature class,click the next blank row in the Field Name column,and then type a name.
9. Click the Data Type column next to the new field's name and click its data type.
10. To create an alias for this field,click the field next to Alias and type the alias for this field.
11. To prevent nulls from being stored in this field,click the field the field next to Allow nulls,click the drop-down arrow,and then click No.
12. To associate a default value with this field,click the field next to Default value and type the value.
13. To associate a domain with this field,click the field next to Domain,click the drop-down arrow to see a list of the Domains that apply to this field type,then click the domain.
14. To set other properties specific to the type of field,either click the property in the drop-down list or type the property.
15. Repeat steps 11 through 14 until all the feature class fields have been defined.
16. Click finish.
17. For malacca Boundary and Road feature class,repeat steps 1 until 7.
18. Import field definition from another feature class or table,click import.
19. Click finish.
20. Right-click at Malacca Boundary to load data.

21. Click at Load select Load data.
22. Select the source data that we want to load from.Click Add to add it to the list of source data to be loaded.
23. Choose I do not want to load all feature into subtypes.
24. Click next.
25. When the Target Field and Matching Source Field is match.Click Next.
26. Choose load all of the source data.Click Finish.

Figure 3.11 shows how to create a new feature class in feature dataset.

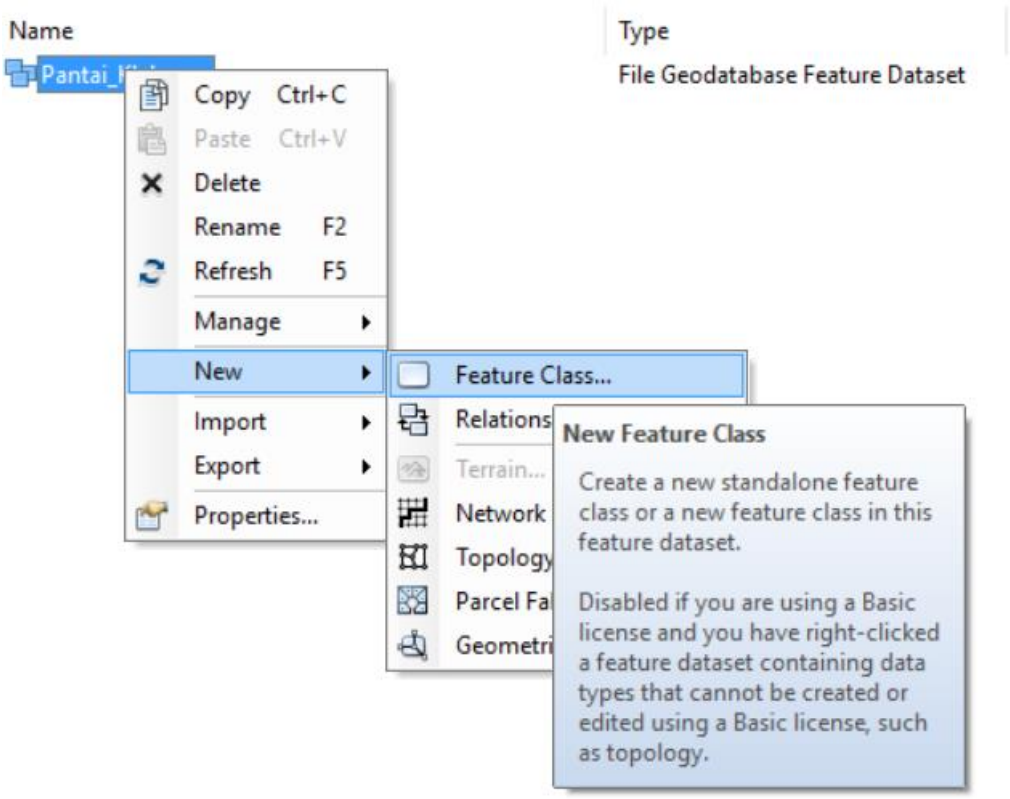


Figure 3.11 :Create a New feature Class

Figure 3.12 shows the list of fields for the Building information details

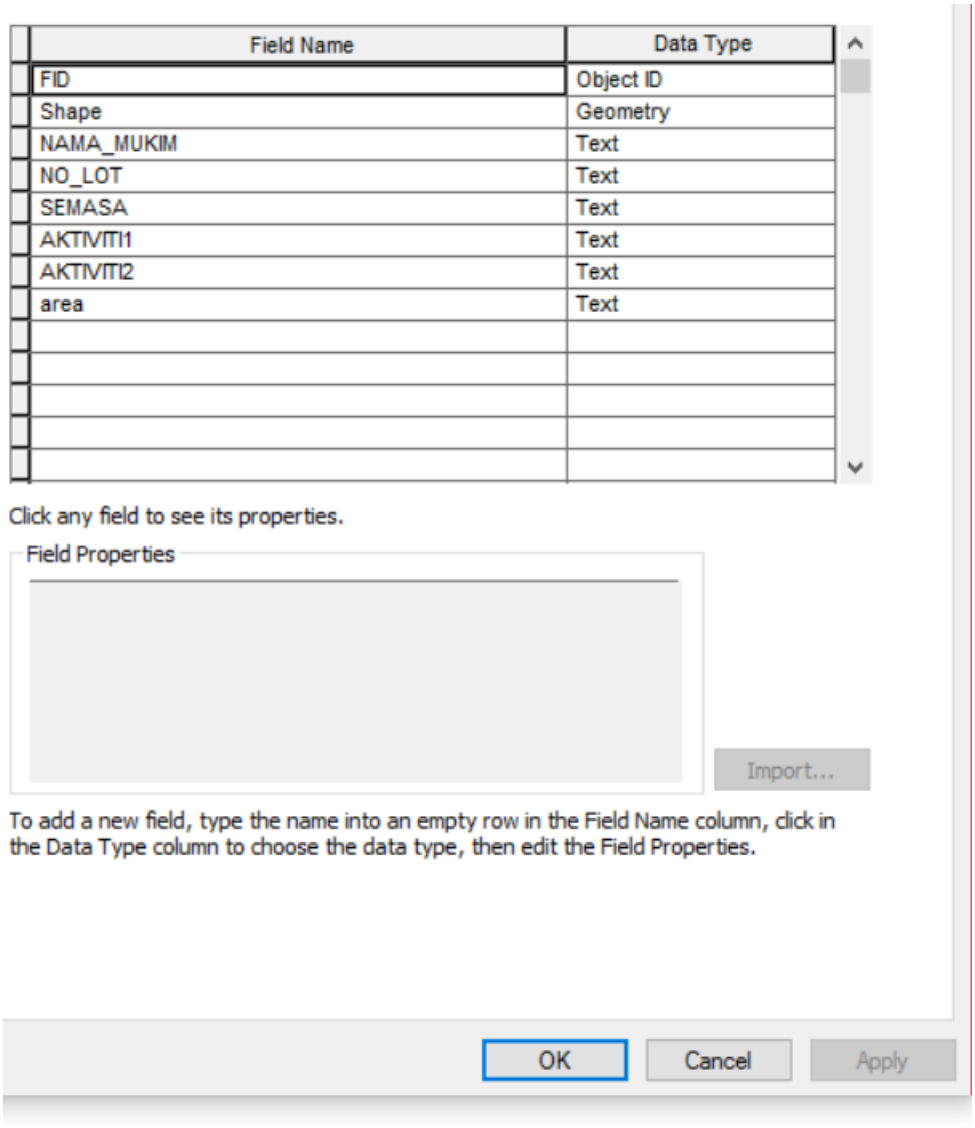


Figure 3.12 :List of fields for Building feature class

3.4.3 ArcMap 10.3

ArcMap is where you display and explore GIS datasets for your study area,where you assign symbols,and where you create map layouts for printing or publication.Archmap is also the application you use to create and edit datasets.

Archmap represents geographic information as a collection of layers and other elements in a map.Common map elements include the data frame containing map layers for a given extent plus a scale bar,north arrow,title,descriptive text,a symbol legend,and so on.

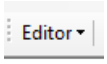
3.4.3.1 Add Data from File Geodatabase in ArcMap

Steps to Add Data from File Geodatabase in Arcmap:

I. Start Archmap
II. Click  Add new data to the maps active data frame.
III. Connect to folder Geodatabase,and the select the Pantai Klebang.gdb.
IV. Open Pantai_Klebang and then select building,Malacca Boundary and Road feature class.
V. Click Add.

3.4.3.2Edit attribute data for Building layer

Steps to edit attribute data for premises layer:

1) Click at and then select Start Editing.
2) Choose the Premises layer to edit. 

3) Right-click at premises,select Open Attribute Table.
4) Key in all data for building obtained from GIS Melaka official Portal Include latitude and longitude for building position on earth.
5) Then save edit.

Figure 3.13 shows attribute data for buiding layer based on information from GIS Melaka on 10 September 2016.

SGDC_DBO_District_or_Jajahan_Coverage_A

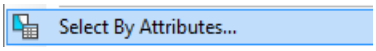
FID	Shape *	DAERAH	NAMA_MUKIM	NO_LOT	SEMASA	AKTIVITI1	AKTIVITI2	Area
0	Polygon	Alor Gajah	Kemuning	1619	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
1	Polygon	Alor Gajah	Pulau Sebang	4120	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
2	Polygon	Alor Gajah	Kemuning	199	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
3	Polygon	Alor Gajah	Sungei Petai	133	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
4	Polygon	Alor Gajah	Sungei Petai	1187	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
5	Polygon	Jasin	Umbai	2391	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
6	Polygon	Jasin	Umbai	2395	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
7	Polygon	Jasin	Umbai	2037	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
8	Polygon	Jasin	Umbai	2038	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
9	Polygon	Jasin	Umbai	2039	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
10	Polygon	Jasin	Umbai	1647	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
11	Polygon	Jasin	Umbai	1637	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
12	Polygon	Jasin	Umbai	1629	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
13	Polygon	Jasin	Umbai	2062	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
14	Polygon	Jasin	Umbai	2064	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
15	Polygon	Jasin	Umbai	2065	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
16	Polygon	Jasin	Umbai	2066	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
17	Polygon	Jasin	Umbai	2052	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
18	Polygon	Jasin	Umbai	1696	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
19	Polygon	Melaka Tengah	Bukit Lintang	499	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
20	Polygon	Melaka Tengah	Padang Temu	638	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
21	Polygon	Melaka Tengah	Padang Temu	227	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
22	Polygon	Melaka Tengah	Padang Temu	110	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
23	Polygon	Melaka Tengah	Padang Temu	1207	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
24	Polygon	Melaka Tengah	Padang Temu	1209	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
25	Polygon	Melaka Tengah	Padang Temu	1214	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
26	Polygon	Melaka Tengah	Padang Temu	1216	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
27	Polygon	Melaka Tengah	Padang Temu	1217	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
28	Polygon	Melaka Tengah	Padang Temu	1218	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
29	Polygon	Melaka Tengah	Padang Temu	1219	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
30	Polygon	Melaka Tengah	Padang Temu	1220	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
31	Polygon	Melaka Tengah	Padang Temu	1221	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
32	Polygon	Melaka Tengah	Padang Temu	133	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
33	Polygon	Melaka Tengah	Padang Temu	637	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
34	Polygon	Alor Gajah	Kuala Sungei Baru	1840	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
35	Polygon	Melaka Tengah	Bukit Lintang	2957	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
36	Polygon	Melaka Tengah	Bukit Lintang	2958	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
37	Polygon	Melaka Tengah	Bukit Lintang	2904	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
38	Polygon	Melaka Tengah	Bukit Lintang	2905	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
39	Polygon	Melaka Tengah	Bukit Lintang	2906	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
40	Polygon	Melaka Tengah	Bukit Lintang	1737	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0
41	Polygon	Melaka Tengah	Bukit Lintang	1668	Kediaman	Perumahan Tidak Terancang	Kampung Tradisi	0

1 (0 out of 314007 Selected)

Figure 3.13 :The Attribute Data for Building Layer

3.4.3.3 Seperate the attribute data using Calculator Data.

Steps to find the attribute data using calculator data:

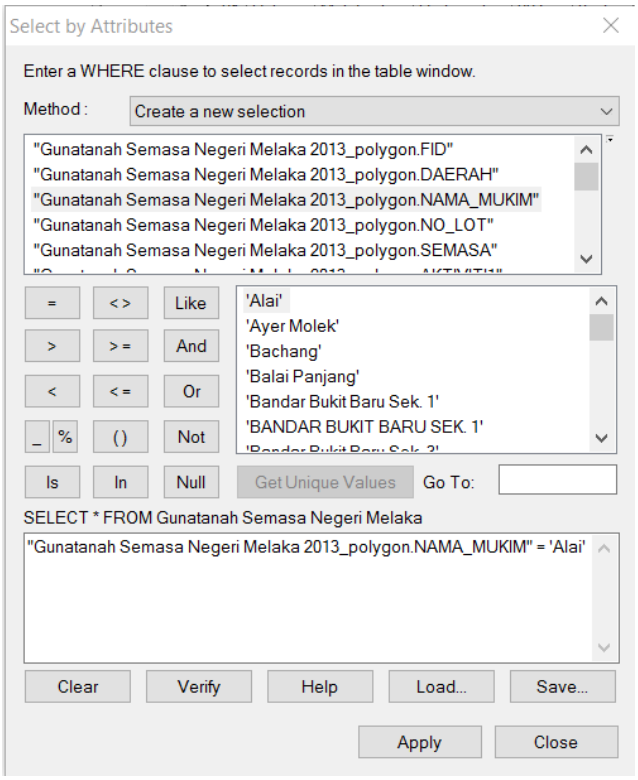
1. Click 

from table and calculator data will show on the screen.
2. From the table,it have many step to seperate the data:
    I. Choose the method that have various choice such as NAMA_MUKIM,DAERAH and NO_LOT
    II. Click symbol equal
    III. Click 

to list the data
    IV. Click 

to check the input of data was correct or not.
    V. Apply data.

Figure 3.14 shows the attribute data using calculator data.



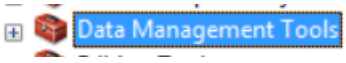
3.4.3.4 Add X,Y coordinate as layer

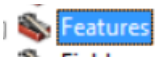
X,Y coordinate descibe points on the earth's surface such as the location of building in Malacca.To add a table of x,y coordinates to map,globe, or scene, the table must contain two fields: one for the x-coordinate and one for the y-coordinate.The values in the fields may present any coordinate system and units such as latitude and longitude or meters.A field for the z-coordinates that enables 3D geometry is optional.

The fields must be numeric.if the fields are not numeric,such as when the coordinate value is stored in degrees,minutes,and seconds(for example,-120 13 58),the coordinates will be converted and displayed as decimal degrees.

Once we have added tha data to the map,globe or scene,it become an x,y event layer and behaves like other point feature layers.For instance,we can decide whether we want to display it,symbolize it,set the visible scale,or display a subset of feature that meet some criteria.

Steps to add X,Y coordinate as layer :

1. Click at  Arc Toolbox.
2. Point at 

and 

.
3. Choose  Add XY Coordinate.
4. Insert Building layer in the Input Feature and then click OK,

Figure 3.15 shows the road and district in Malacca Obtained from unit GIS Malacca in Shapefile(shp.)format.

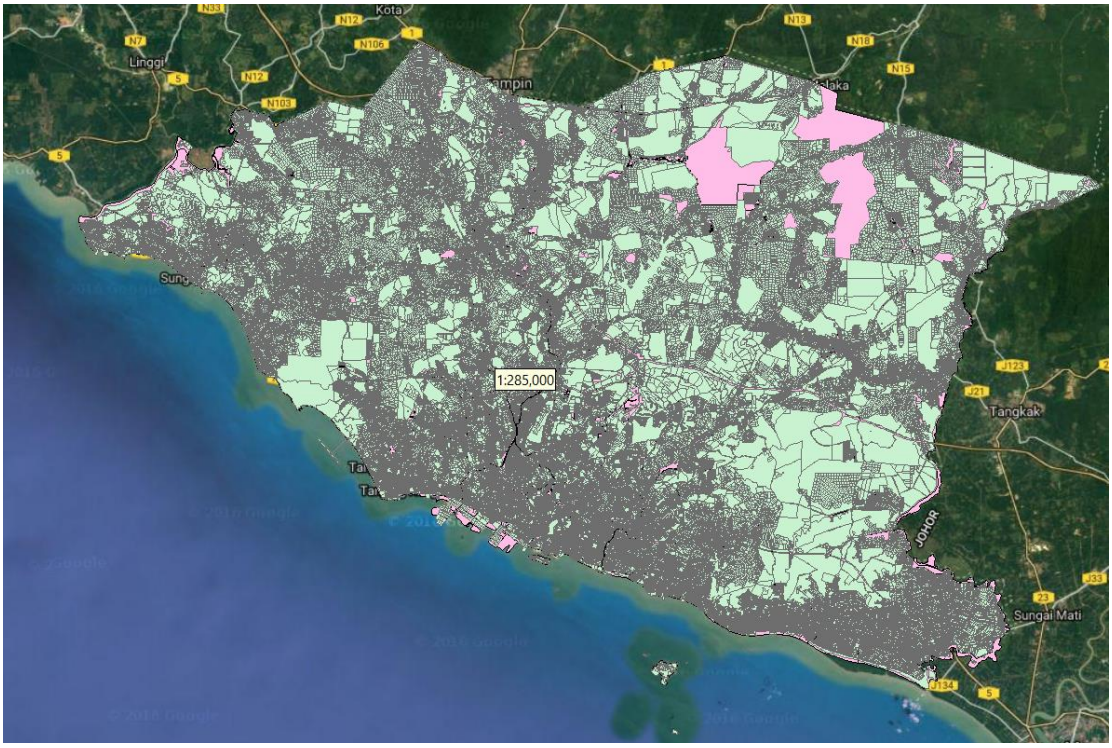


Figure 3.15 : The road and district in Malacca

CHAPTER 4

ANALYSIS

4.1 Introduction

In this topic we have to produce the end result from the data. The end result is we've got a map from Arcgis and Erdas Imagine software that show the difference the reclaimed area of land in Klebang Beach area in the past 10 years. Next, the difference in terms of the generality of the reclaimed area has emerged.

4.2 Location of Pantai Klebang in Malacca

The study area at Pantai Klebang, Mukim Tanjung Kling, district Melaka Tengah, Melaka.

Figure 4.1

4.3 Analysis of Pantai Klebang

4.3.1 Map of Land Use

The analysis carried out shows the difference land use for 2000 and 2010. The difference can be seen as a result of the use of Erdas Imagine software.

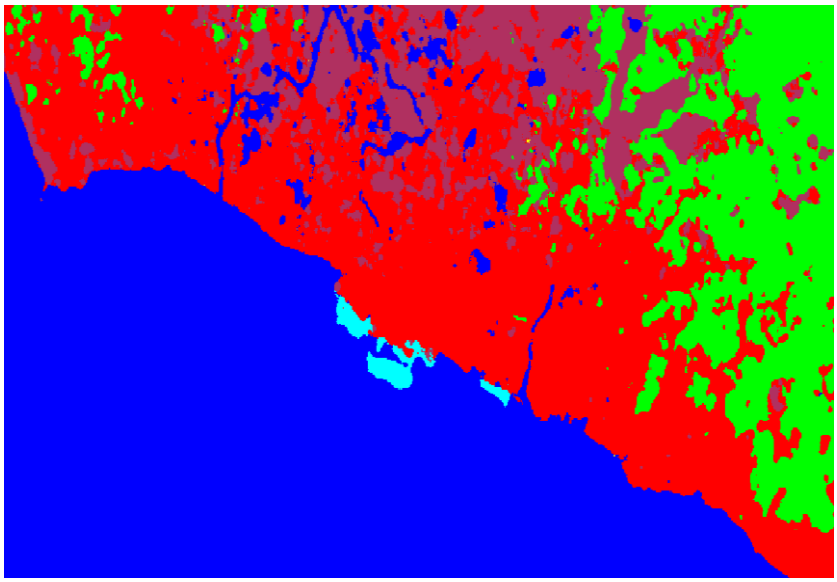


Figure 4.2

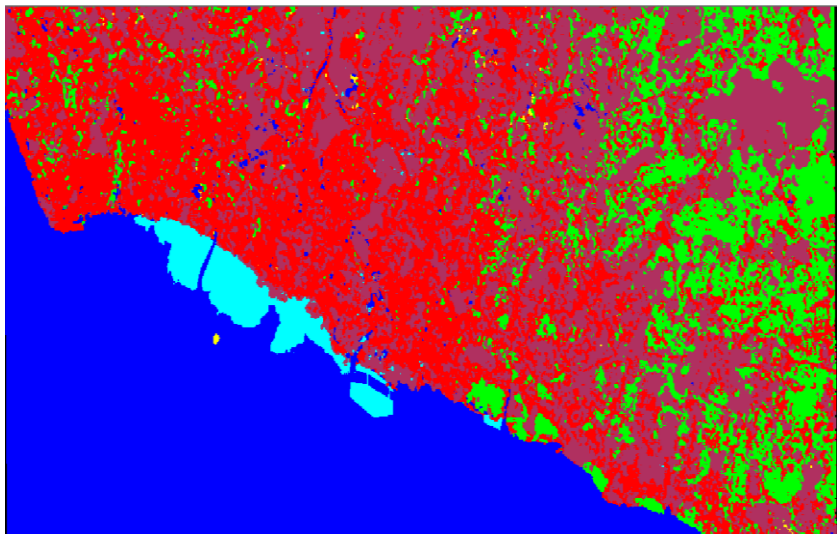


Figure 4.3

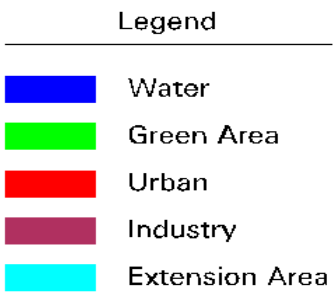


Figure 4.4

Water	Sea and river
Green Area	Forest,oil palm and coconut tree
Urban	Road,Building and housing
Industry	Factory
Extension Area	Extension land (new land)

Table 4.1

Image in 2000 and pictures in 2010 using satellite images from landsat 7. Lansat 7 satellite images have 7 pictures that have a different band and combined into a single remote sensing image complete.We conducted this study to see the difference land use area surrounding Pantai Klebang in 2000 and in 2010.

4.3.2 Analysis Chart

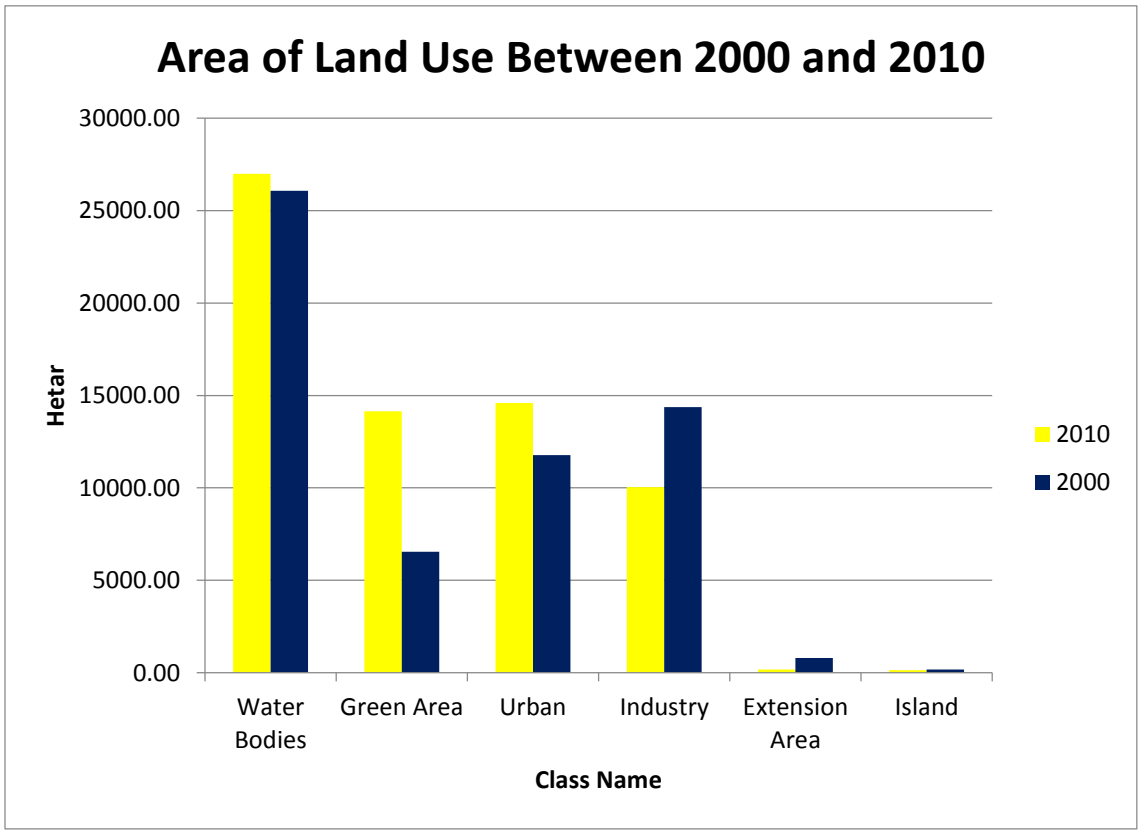


Figure 4.5

The column chart shows in 2010 water base,green area and urban more higher than 2000 and in 2010 industry,extension area and island more higher than 2000.

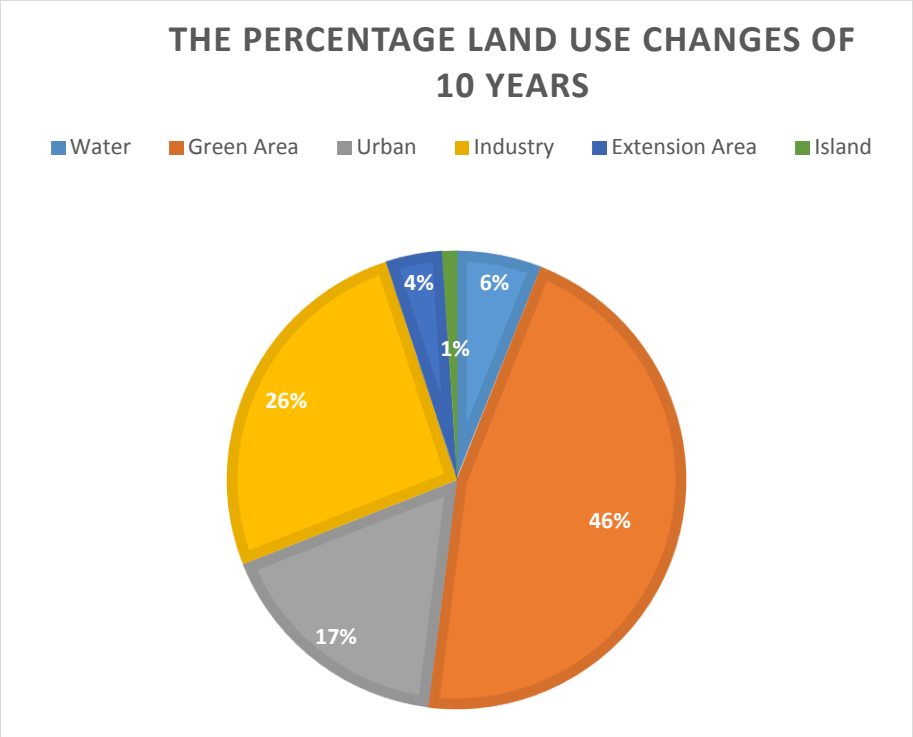


Figure 4.6

4.3.3 Map of Land Cover

The analysis carried out shows the difference land use for 2000 and 2010. The difference can be seen as a result of the use of Arcgis software.

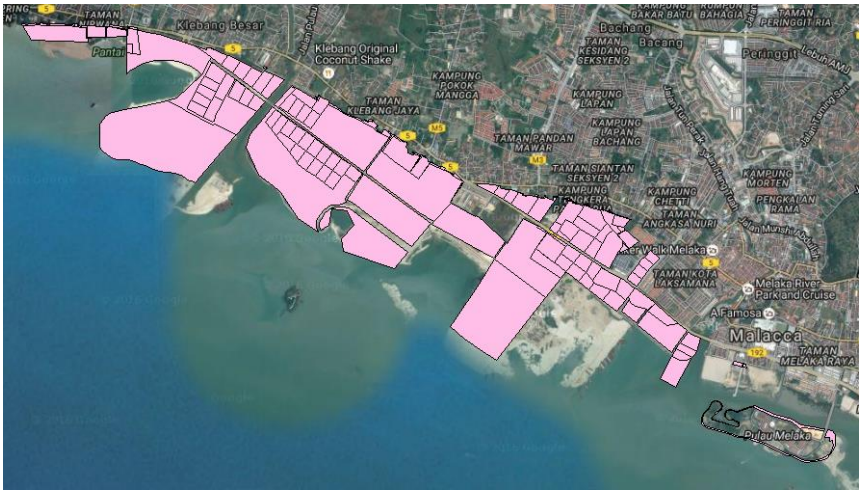


Figure 4.7

Figure 4.8

We use google earth to know position to be reviewed more easily after identifying the area to be studied, we review the information in more detail through software argis where we can find out the area of an area, information on the place and change something this place will make it easier and save time as we have studied, we make a study about the change of the land cover area of sand where in 2010 to 2016 the reclaimed area growing a little bit of the land cover area to become number of the reclaimed area great.

Chapter 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section covers the whole of the project. All problems that arise during the conduct of this project we solved completely. The conclusion shows our work based on differences in land use and land cover area data from year to year at Pantai Klebang.

5.2 Conclusion

This study shows the difference in land use from year to year at Pantai Klebang. The study we acquire an area of land cover area and earn revenue land use. The research we do for the sake of convenience of traders who would like to develop the land cover and where the public can find out info about an area of land use area. This matches the vision and mission of the State of Malacca.

Based on this review we also can help the State of Melaka to develop Klebang because this place is compatible with tourism an increasingly growing day. Leisure travelers will definitely be impressed with the info which will be provided by us and will be able to help certain parties.

5.3 RECOMMENDATIONS

- To study drainage systems
- Research for tourism
- Study on home prices around Pantai Klebang