

MAP STUDY: INTERPRETATION OF SURVEY MAPS

Types and Elements of Maps

Maps are drawn to represent the Earth on a piece of paper. Maps are used widely to represent the Earth. Maps use signs and symbols in different colours.

All areas can be seen on the with equal clarity.

Maps are classified into different types based on the information they contain functions :

Topographical Maps

The Topographical Maps give details about small areas. They are prepared based

on accurate survey of the areas concerned. Generally These maps show relief features, rivers, land use, vegetation, settlements, roads, railway lines and administrative units and their boundaries. These maps are updated regularly.

Cadastral Maps

The Cadastral Maps show individual fields and houses of villages. They show the the boundaries and properties owned by different people of a particular village. These maps are more detailed than topographic maps. These maps are used for town planning, revenue, police and other administrative offices.

Maps are grouped on basis of the particulars shown on them.

Political maps

These maps show the boundaries of countries and their administrative units capitals and other cities

Thematic Maps

These are the maps which show a particular theme or aspect of geography so they are called Thematic Maps. Example a road map of India.

Physical maps

Physical maps shows the relief features like mountains, plateaus, plains, rivers, lakes, seas and other natural features.

Special maps

These maps show specific information such maps are geological maps city

planning maps, g military maps and topographical maps and provide detail information on villages, towns and districts.

Elements of maps are

The title and sub title are the basic elements of a map.

- . The title of the map indicates the place for which the map is drawn. Example India.
- . Sub title gives information about the purpose of the map. Example Physical or political.
- . Direction as per the international convention every map identifies the north direction with the help of an arrow pointing to the north or with the alphabet 'N'.
- . Some object like mountains, buildings or forests etc are represented on a map

by using signs, symbols pictures or letters due to limited space. These are called Conventional signs and symbols.

- . Particularly Topographical maps contain symbols, signs and pictures. In India such maps show the standard symbols set by the Indian survey department. For example : A plus sign (+) indicates spring. A symbol of two parallel horizontal lines (=) indicates a metal road.
- . Small scale maps like wall maps and atlas maps show relief features through colors.
- . The scale of a map is the ratio or proportion between the distances on the ground. Maps represents the surface of the Earth on a small scale on a piece of paper.

Relief Maps

A map that uses different colors to show the height or depth of mountains, hills, valleys, oceans etc are called relief maps. The surface of the earth is not even. It is not possible to show the relief features like mountains, plateaus, plains, rivers, lakes, seas and other natural features on a flat map so to represent the variations we can use of colors.

Small scale maps like Wall maps and Atlas maps show relief features through colors. These colors range from light to dark and the areas with low altitude are represented by light colors and the areas with high altitude are represented by dark colors.

Contours lines

Contours are imaginary lines drawn on maps that join the points of the same

height above sea level. Each contour line contains a label indicating its height. These lines are usually drawn at fixed intervals of height such as 20m, 50m, or 100m.

Slope of contours

Contour lines indicate the slope of the land as well as the elevation about sea level. Contours that are drawn close together indicate steep slope while contour lines widely spaced represent gentle slopes. The different land forms are represented by varied spacing and shapes of contour lines.

Conical Diagrams - Landforms

- Contour lines appear equally spaced concentric circles indicate a conical hill.

- . The top of the plateau is flat it is represented by a few contour lines. The steep slopes of the plateau are shown closely spaced contour lines on a map.
- . Contour lines for lake show a depression in the middle of two high lying areas.
- . Contour lines for river valleys are drawn in shape of an inverted V represents a river valley.
- . The Topographical maps indicates the relief features features of an area in detail with the help of conventional signs and symbols. These maps particularly contain symbols and signs. In India such maps show the standard symbols set by the Indian survey department.

Weather Maps

Weather reports

Weather reports are made by the meteorological department of India. The observatories of this department are spread across the country to gather information on various elements like rainfall, temperature, cloud condition, humidity, speed and direction of wind, duration of sunlight and condition of the sea.

International weather indicators

The received information is indicated in weather map with help of conventional signs and symbols adopted internationally. These symbols and signs are called International weather indicators.

Classification of winds

Based on the speed of the wind it is classified into Light air, Breeze, Gale, Hurricane according to the Beaufort scale. Corresponding symbols are used to indicate these winds.

Standard indicators of weather map

- Weather maps use standard indicators to indicate the cloud cover. Clouds are represented by a shadow in a circle. This circle is divided into 8 parts and the greater the cloud cover the more the number of shaded parts.
- Weather map also classifies clouds as low and high level clouds based on the altitude they found. These levels of clouds are represented by different types of circles. The weather map also indicates hail, rain and thunder storms.
- The weather also provides weather conditions of water bodies. The

information of weather on the oceans are indicated by letters example Mod indicates Moderate, Ro indicates rough, and Hi indicates High.

- . Variations in air pressure and temperature effect the weather so these two weather phenomina are indicated by the weather map. Temperature variations are indicated with help of Isotherms, imaginary lines that join places having the same temperature.

Conventional Signs and Symbols

The topographic map contains a variety of information about physical features, which are given by using signs and symbols in various colours. This helps in maintaining clarity in the map. It is necessary to have knowledge about these signs and symbols to read the map.

Sheet Number

The sheet number refers to a specific geographic area. India and its neighbouring countries have numbers ranging from 40's to 50's. The area in the map is given its particulars like longitudes and latitudes.

Scale

The scale in the map is used to know local details of a specific area. The scale of maps as a statement, representative fraction or linear scale is given at the bottom of the topo-sheet.

Grid Lines

the method grid lines is used to locate places on a topographic map. there are four figure grid lines and the six figure grid lines. In these maps eastings are read first and northings are stated later. The Easting increase in value east wards, while Northings are stated later.

Longitudinal and Latitudinal squares

If grid references do not exist the Alphabets are given for West to East and numbers are given for North to South. these squares are based on the latitudinal and longitudinal interval of 5' while the maps are drawn on the scale of 1:50,000.

Symbols

Various features are depicted by means of

symbols in the form of a key. Physical features such as peaks, knolls, etc are shown at the bottom of the map. To get the required information should be familiarise with these symbols which helps in reading the map quickly.

