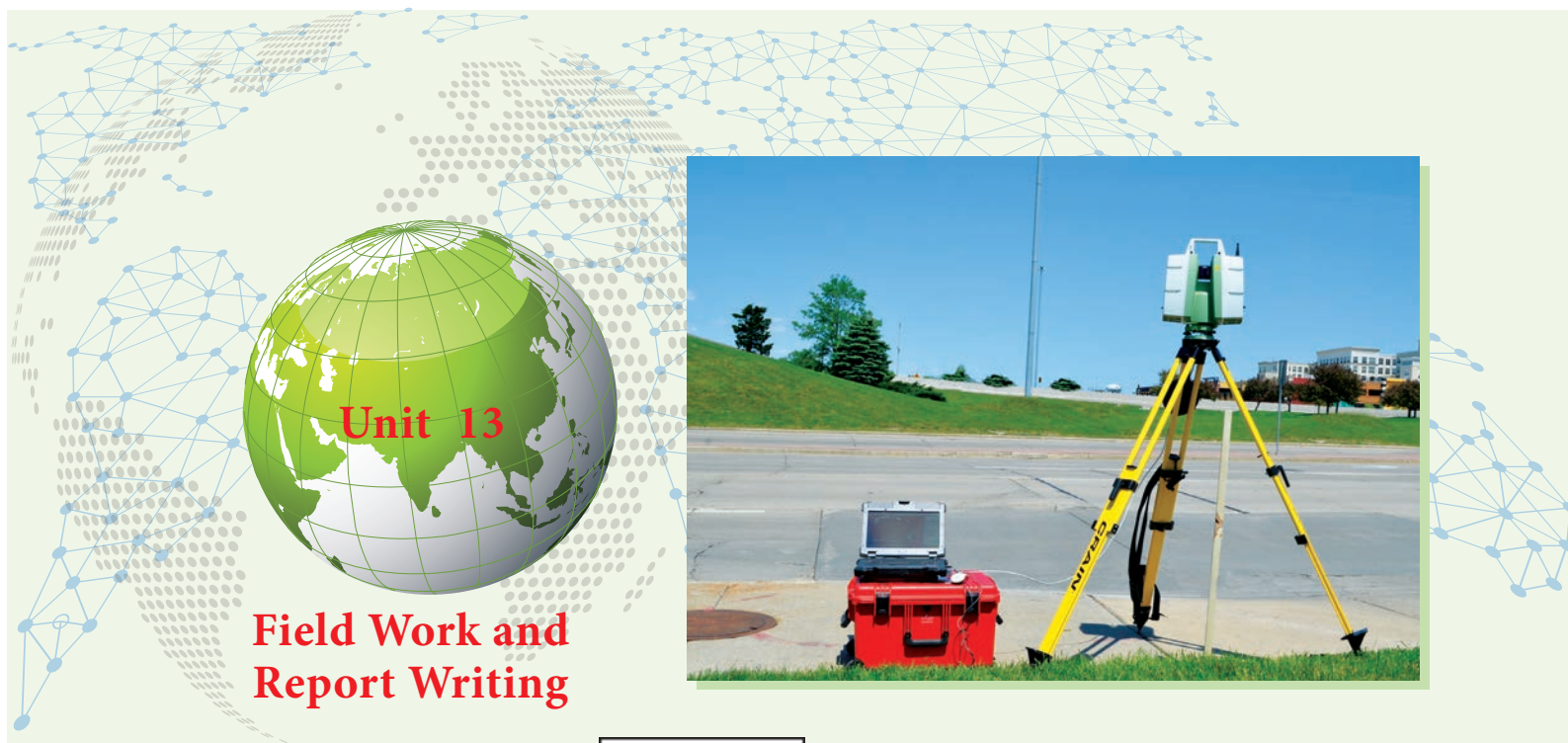




Chapter Outline

- 13.1 Introduction
- 13.2 Need for field work
- 13.3 Field work process
- 13.4 Field Report



Learning Objectives:

- Recognise the importance of field work in geography
- Acquire the skill of data collection.
- Enhance the ability for map reading and field sketching.
- Learn to work as a team.
- Develop the skill of report writing

13.1 Introduction

The study area for geographers is so vast that for a student of geography, the knowledge of the earth is acquired through class room teaching, books, journals, maps, internet etc. Theoretical knowledge about the study area can be learned in the class room while the practical aspects could be acquired only in the field through surveys.

Field work can be defined as, “The process of observing and collecting data about the natural and manmade environment”. Geography is divided into two main branches: physical and human or cultural geography. Field work helps in bringing about a better understanding of the subject for a student of geography. In the case of understanding physical geography, field work becomes inevitable.

13.2 Need for field work

There are many reasons why field work is very essential for the students of geography. They are:

1. Field work facilitates direct observation of the study area (local area) and to collect original information.
2. Field observation along with class room teaching helps the students to understand the geographical concepts better.
3. Repeated field observation of the same place at regular intervals help to understand the changing patterns or trends of a phenomena. Example
1. Quality and growth of vegetation during different seasons. 2. Changes



in water level in a tank or reservoir or well before and after monsoon.

4. Field work will improve the power of observation among the students.
5. Field trips can kindle the spirit of enquiry among the students
6. The student's skill of map reading, map drawing, field sketching and use of some geographical instruments will be improved.
7. Field work is an opportunity for the student to experience and adapt to various environments.
8. It helps to enhance the students view about the subject and to care for the environment.

Above all, it can be an enjoyable outing.

13.3 Field work process

Field work for studying physical geography and human geography are quite different. Field work in physical geography involves direct observations, photography, field sketches, use of maps, satellite images etc. Human geographic studies require sample surveys, preparation of questionnaire, interviews and use of statistical techniques for data analysis and representation.

Any field work involves three stages. They are:

1. **Pre-field work**
2. **Actual field work and**
3. **Post field work**

1. Pre-Field Work

This involves proper planning, preparation and arrangements. It is undertaken by the teacher/school management/and local authorities. The tour details are to be informed to the CEO/DEO and field area police

stations well in advance, along with the name and house address, contact details of the students and staff who undertake the field work.

Prior permission is to be obtained well in advance to enter restricted areas or reserved forests.

Arrangement should be made for sufficient food and safe drinking water. Students should be informed of the clothing requirements (Woolen caps, sweaters, shoes, mosquito repellents etc.).

Field work site mapping should be carried out by a small group of students with the assistance of their supervisor (teacher). The problem or the aim of the study and its objectives are to be explained in detail. The method of investigation and the equipments for survey in the field are to be discussed with the students.

Prepare a field map and discuss the method of conducting field work by different groups of the class. Each student may be supplied with a copy of maps for reference. They should be informed of the 'dos' and don'ts during the field work. The following are some of the items to be carried for field work in physical geography:

1. Stationery, including scripling pads, colour pencils, wax pencils, papers, pens etc.,
2. Camera with zoom and video facility.
3. Audio/video recorders to record voices of birds, local people etc.,
4. Sufficient number of binoculars to view distant objects.
5. Minor field survey equipments like measuring tape, magnetic compass, clinometers, GNSS hand set etc.,



6. Weather instruments (for field work related to weather) like thermometer, rain gauge, barometer, wind vane etc.
7. Maps, topographic sheets (non-restricted), satellite images of the study area.

2. Actual Field Work (Method of Information Collection):

When the students reach the local study area, the actual field work begins and information is collected through

1. Observe the features and take notes. Students can record the information through photography and video-audiography.
2. Prepare field sketches by using colour pencils.
3. Instruments can be used for measurement of distances, weather elements, heights, depths etc.
4. Find the direction using magnetic compass and orient the maps and images.
5. By recollecting the map reading practices of topographic maps, satellite images and aerial photographs for recognition and mapping the features.
6. Find the important locations and routes by using GNSS and web based mapping facilities.
7. Collect unique and representative samples of rock, soil, surface water and groundwater for further analysis, class room discussion and exhibition. Do not collect plant, animal or microorganisms from the field, because this activity is banned by the government.
8. Collecting secondary data from local authorities, officers in -charge of the area etc.,

Though field work has many advantages, it also has a few limitations such as:

1. It is time consuming and expensive.
2. It needs necessary equipments, maps, satellite images etc., for proper interpretation.
3. Delay in receiving permission from Government Agencies to visit restricted areas make the trip uncertain.
4. There are certain risks in travelling, changing weather, field illness etc., during field work.

3. Post-Field Work:

The data collected from the field has to be arranged, photographs and sketches added wherever necessary, calculations carried out, results inferred, maps drawn and report of the same prepared.

13.4 Field Report

Writing a report of the work carried on in the field is a documentation of the field work. This helps in systematic reviewing of the work by students who accomplished the task and a reference for future field trips. Field reports must be short, clear and informative with supportive data, maps, sketches, photographs etc.

There are a number of steps involved in report writing. They are:

1. Title:

Identify the topic of investigation which is the purpose of field work. This is the title of the work and it has to be written in bold letters at the top of the report.

2. Introduction:

Every report should start with a brief introduction to the subject under study. It should explain what part of geography



it relates to. For example if the study is about a stream, it falls under the branch of physical geography, more specifically geomorphology - an exogenetic agent of denudation. The time frame that was planned for the fieldwork can be elaborated. If the field work is extending for more than one day, then a clear timetable should be given.

3. Need for the Study:

The reason why the field work is undertaken can be mentioned. This explains the need for the field work.

4. The Study Area:

Details of the study area are explained here – starting with the absolute or geographical location of the study area, the choice of the study area and the physiography of the area. Other known physical and cultural details of the study area can be mentioned here. A copy of the map, satellite image etc. can be incorporated here.

5. Methodology Used:

The methods used to carry out the field work have to be mentioned here. The method of information collection varies according to the type of study. It could be through observation, investigation, measurements; data collection from primary and secondary sources; field sketches, audio-video recording and photographs and GNSS surveys.

6. Data Analysis:

The data collected through field work should be presented in a simple way for easy analysis. The method of representation of data should be according to the method of data collected. Example: 1. If observation

method is used in data collection then the data can be represented as photographs or field sketches. 2. If data is collected through surveys, it can be represented as a plan or map. 3. Data collected from secondary sources can be presented as tables, graphs, diagrams or charts. 4. Data collected through GNSS surveys can be mapped.

The data represented in various forms have to be neatly labeled and indexed for easy identification and understanding. The photographs, diagrams, tables, maps etc. prepared during post field work have to be arranged in a sequential order. So that they can provide an answer to the purpose of study and add more meaning and value to the report of work done in the field.

7. Conclusion:

The conclusion gives the gist of the field work – the aim, the results or findings and how it relates to existing knowledge and the addition of new knowledge through this field work. The conclusion has to present how the fieldwork has enhanced the theoretical knowledge gained in the class.

The table below gives a few steps in the preparation of field report for a few case studies under physical geography.



Steps involved in preparation of field report for field studies in physical geography

Sub topics	River	Hillock	Forest	Coast
Aim	To understand river as a natural resource.	To understand hillock as natural resource.	To understand forest as natural resource.	To understand coast as a natural resource.
Learning Objectives	➤ Identify the stage of river. ➤ Trace the source of the river. ➤ Assess the command area of the river. ➤ Analyse river as an ecosystem.	➤ Identify the geological history of the hillock. ➤ Determine the height of the hillock by simple measurement ➤ Draw the cross sections of it. ➤ Co-relate the vegetation with slope, supply of water and climate of the place.	➤ Identify the type of forest. ➤ List the role of forest in the life of the people. ➤ Identify fauna and flora and their trophic level.	➤ Identify the type of coast and coastal features. ➤ List the role of coast in the life of the people. ➤ Identify fauna and flora and their trophic level.
Study Area	Write about the river chosen, location of the village or town which is selected as study area.	Write about the hillock chosen, the village or town where the hill is located in the study area.	Write about the forest chosen, location of the village or town which is located in the study area.	Write about the coastal tract chosen and location of the village or town which is located in the tract.
Methodology	➤ With the theoretical knowledge gained to identify the stages of a river. ➤ Trace the source of the river from published sources. ➤ Gather information about the area served by the river in terms of supplying water for irrigation, drinking purpose, industrial purpose and recreation. ➤ Observe and record the fauna and flora along the river side. ➤ Take photo/make field sketches for all your observations.	➤ Observe the agents of erosion responsible for the formation of the hillock. ➤ Using clinometer measure the height. ➤ Draw a sketch of the hillock. ➤ Collection information on cultural importance of the hillock religious / cave / paintings / resort. ➤ Study the varieties of biodiversity and correlate with the climate.	➤ Gather information about the type of trees present in the forest. ➤ Interact with local people and collect information about the resources available in terms of timber / fuel / herb / fruits and nuts / any other. ➤ Construct a trophic level diagram for the forest with the information your collected.	➤ Gather information about the area served by the coast in terms of supplying sea food, salt, power production, industrial purpose and recreation. ➤ Gather information About the type of fauna and flora along the coast and coastal water. ➤ Identify the interaction of people with the resources available in terms of fuel/ food/fish weed /any other. ➤ Construct topic level diagram for the coastal ecosystem ➤ With your observation and gathered information, collect the historical facts about the coastal belt.
Limitation	Specify your limitations in terms of fund / time / study area selected.	Specify your limitations in terms of fund / time / study area selected.	Specify your limitations in terms of fund / time / study area selected.	Specify your limitation in terms of fund / time / study area selected.

(Continued)

Steps involved in preparation of field report for field studies in physical geography

Sub topics	River	Hillock	Forest	Coast
Data Collection	Specify the method of data collection as primary / secondary source.	Specify the method of data collection as primary / secondary.	Specify the method of data collection as primary / secondary.	Specify the method of data collection as primary / secondary source.
Data Representation	Represent the data in any cartographic form such as sketch / chart / graph / map.	Represent the data in any cartographic form such as chart / graph / map / sketch.	Represent the data in any cartographic form such as chart / graph / map / sketch.	Represent the data in any cartographic form such as sketch / chart / graph / map.
Findings	From the representation list your findings.	From the representation list your findings.	From the representation list your findings.	From the representation list your findings.
Report - Writing Narrate the full work in simple language and submit.	Narrate the full work in simple language and submit.	Narrate the full work in simple language and submit.	Narrate the full work in simple language and submit.	
References	The report should have the details of references related to the study and source of data used for the study.	The report should have the details of references related to the study and source of data used for the study.	The report should have the details of references related to the study and source of data used for the study.	The report should have the details of references related to the study and source of data used for the study.

Exercises

1. Measure your school's play ground and draw a plan of the same.
2. Arrange a field trip to a River line area study the land, direction of flow of water, trees and other plants in the area. Make a field sketch and prepare a short report.
3. Measure the daily temperature at 11.00 am and 4.00 pm and find the monthly average of maximum and minimum temperature.
4. Plan a field visit to a nearby hilly area study the slope, gradient, trees and other plants in that area. Prepare a field sketch of the same and write a short report.



References

1. Map work and practical geography, R.L Singh and R. Singh
2. Fundamentals of Practical Geography, (2013) L.R Singh.



Internet Resources

1. educationnext.org
2. <https://en.m.wikipedia.org>





GLOSSARY



8CS2S3

<i>Abyssal plains</i>	ஆழ்கடல் சமவெளி
<i>Albedo</i>	ஒளி திருப்பும் திறன்
<i>Air Fronts</i>	வளி முகம்
<i>Boreal</i>	வடமுனைக்குறிய
<i>Cartography</i>	நில வரைப்படவியல்
<i>Cataracts</i>	வேகமான நீர்வீழ்ச்சி
<i>Cloud Burst</i>	மேக வெடிப்பு
<i>Continental rise</i>	கண்ட உயர்வு
<i>Coral polyps</i>	முருகை / பவள மொட்டுக்கள்
<i>Dark energy</i>	இருண்ட ஆற்றல்
<i>Endemic disease</i>	ஆண்டு முழுவதும் தோன்றும் நோய்
<i>Equinox</i>	சமநாள்
<i>Exclusive Economic Zone</i>	தனித்த பொருளாதார மண்டலம்
<i>Field Measurement Book</i>	புல அளவீட்டு புத்தகம்
<i>Galactic movement</i>	அண்ட சுழற்சி
<i>Global Positioning System</i>	உலகளாவிய அமைவிடம் கண்டறியும் தொகுதி
<i>Greenhouse effect</i>	பசுமைக் இல்ல விளைவு
<i>Greenwich Mean Time</i>	கிரீன்விச் சராசரி நேரம்
<i>Habitat</i>	வாழிடம்
<i>Hail</i>	ஆலங்கட்டி மழை



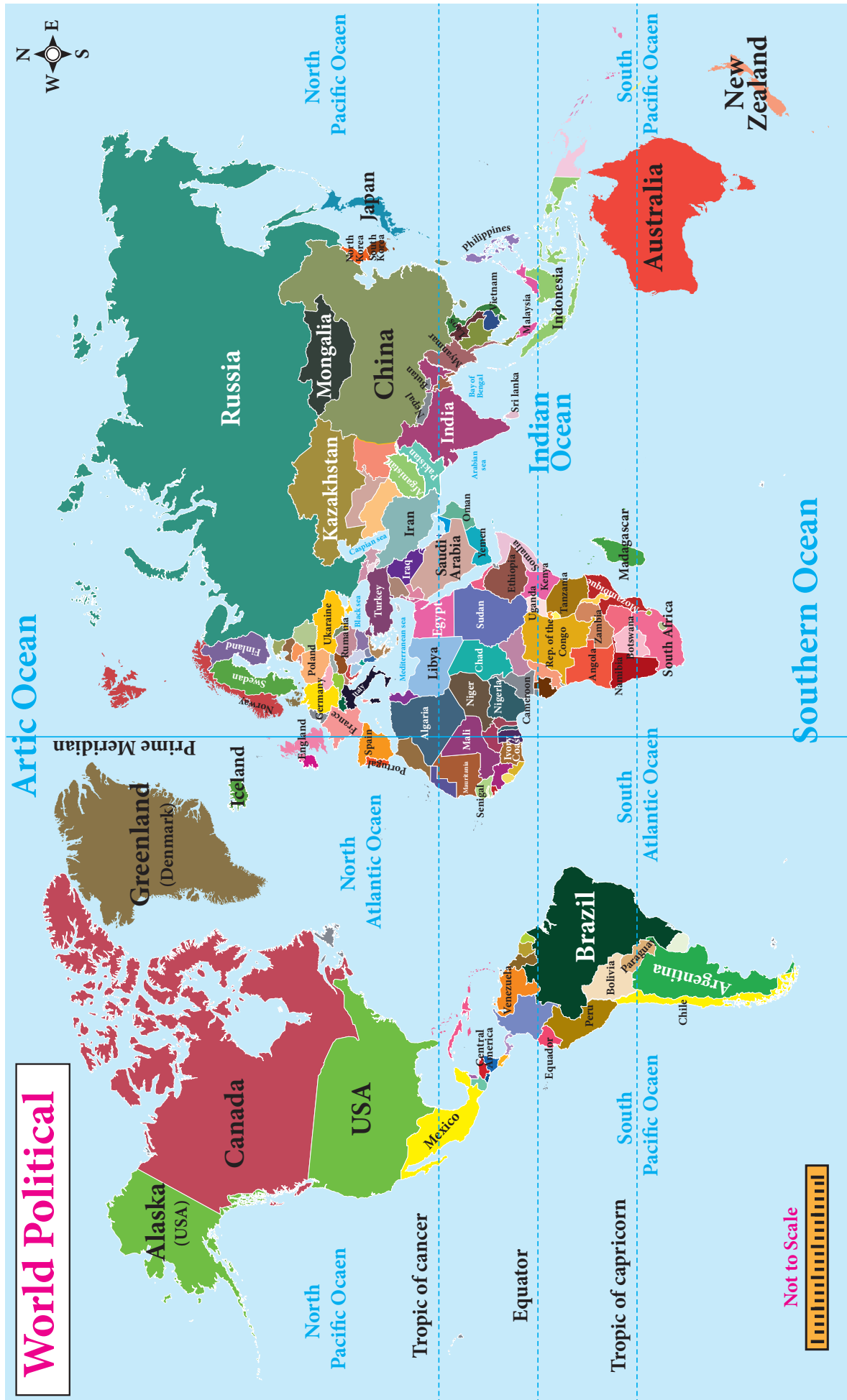
<i>Hot spot</i>	வள மையம்
<i>Hygrometer</i>	ஈரப்பத அளவி
<i>Isohaline</i>	சம உப்பு
<i>Isthmus</i>	நிலச்சந்தி
<i>Lagoon</i>	உப்பங்கழி / காயல்
<i>Landfall</i>	கரையை அடைதல்
<i>Magnetic field</i>	காந்தப் புலம்
<i>Map projection</i>	நிலவரைபடக் கோட்டுச் சட்டம்
<i>Mitigation</i>	தணித்தல்
<i>Natural resource</i>	இயற்கை வளம்
<i>Oasis</i>	பாலைவனச் சோலை
<i>Ozone layer</i>	ஓசோன் அடுக்கு
<i>permafrost</i>	நிரந்தரப் பனிக்கட்டிகள்
<i>Poaching</i>	சட்டத்திற்கு புறம்பாக வேட்டையாடுதல்
<i>Preparedness</i>	தயார்நிலை
<i>Prime meridian</i>	முதன்மைத் தீர்க்ககோடு
<i>Sedges</i>	கோரைகள்
<i>Sleet</i>	கல் மழை / ஆலங்கட்டி மழை
<i>spit</i>	நீண்ட மணல் திட்டு
<i>Solar flare</i>	சூரிய பட்டொளி
<i>Swell</i>	வீக்கம்
<i>Toponym</i>	இடப்பெயர்
<i>Trace elements</i>	சுவருக் கூறுகள்
<i>Trench</i>	அகழி

INDIA - PHYSICAL MAP





WORLD - PHYSICAL MAP



World Political





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