

MINUTES OF THE PRE-BID MEETING

On the discussions in pre-bid meeting held on 05/12/2014 towards for designing and fabrication of Ministry's pavilion during (i) Indian Science Congress 2015 from 3-7 January 2015 at Mumbai and (ii) "7<sup>th</sup> Vibrant Gujarat Global Trade Show-2015" from 08-13 January, 2015 at Gandhinagar, Gujarat. The following clarifications have been provided for various aspects of Tender document. The amendments are lists below:

S. No	Page No. , Section & Point no. of tender document	Items in tender document	Clarifications
1	Page no. 02 Section B (Specification and Ancillary Requirements) Point no. 4, (i)	<p>Designing and fabrication of Dioramas - should depict Agro Meteorology, Desalination plant, Arctic &amp; Antarctica or on any other activity and achievements in an area of about 175 sq. mtrs widely spaced.</p> <p>- The major other recommended depictions are: (a) Aviation Sector (IMD activity) (b) Geosciences (c) Climate Science (d) Earthquake/Seismology (e) other diorama on Ministry's activities and achievements along with working models (models should be in approx. proportion, colour and made of fibre glass)</p> <p>All the diorama's should have separate LCD provisions to shows the respective movies.</p> <p>(Dismantle the stand-alone models should be packed and transported to the Ministry for erection if needed at different sites in future)</p>	<p>Designing and fabrication of Dioramas - should depict Agro Meteorology, Desalination plant, Arctic &amp; Antarctica or on any other activity and achievements.</p> <p><b>- The major other recommended depictions are:</b> <b>(a) Aviation Sector (IMD activity)</b> <b>(b) Climate Science</b> <b>(c) Earthquake/Seismology</b></p> <p>(models should be in approx. proportion, colour and made of fibre glass)</p> <p>All the diorama's should have separate LCD provisions to shows the respective movies.</p> <p>(Dismantle the stand-alone models should be packed and transported to the Ministry for erection if needed at different sites in future)</p> <p><b>1. Dimensions of Arctic &amp; Antarctica – 5.0x4.0 sq. mtrs.</b> <b>2. Dimensions of the following 5 diorama's will be 4.0x2.0 sq.mtrs</b> <b>a. Agro Meteorology,</b> <b>b. Desalination plant</b> <b>c. Aviation Sector (IMD activity)</b> <b>d. Climate Science</b> <b>e. Earthquake/Seismology</b></p>

(Dr. Vijay Kumar)

(Dr. S.C. Bhan)

(Ashok K Saha)

(Shri. R K Sharma)


(Dr. M Sudhakar)


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(Dr. M Rajeevan)



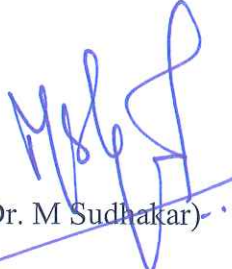
2	Page no. 04 Section B (Specification and Ancillary Requirements) Point no. 4, (ii)	One LCD seamless Screen of 6' x 4' (length x height) or above are required to be put up.	One 72" TV of dimension 5.5' x 3.5' (length x height)
3	Page no. 04 Section B (Specification and Ancillary Requirements) point no 4, (iv)	Innovative means of displaying posters on the activities and achievement of the Ministry may be presented and displays numbers shall be 25-30 nos.	1. Thirty nos (Hindi & English-15 nos. each) of the backlit posters of 3'x5' dimension (width x height) 2. 30-40 nos of posters material in English, Hindi and local dialect in LCD Touch Screen of 42" 3. Four nos. of LCD touch screens of 42" each in each the two exhibitions ("Indian Science Congress" at Mumbai and "7 <sup>th</sup> Vibrant Gujarat Global Trade Show-2015" at Gandhinagar, Gujarat ) has to be put-up
4	Page no. 04 Section B (Specification and Ancillary Requirements) point no (viii)	Preparation of displaying two 6'x 4' murals on Ministry's activities for both the exhibitions separately.	1. No murals are required 2. Four nos. of LCD touch screens of 42" 30-40 nos of posters material in English, Hindi and local dialect may be accommodated in place of murals
5	Page no. 05 Section C (Guidelines for submitting of the tender) a. Technical bid point no c	Scaled 3 D models (separately for both exhibitions) should be deposited in person to the tender processing section of the Ministry latest by the last date and time of bid submission. No delay will be considered. The bidders needs to upload the photographs of model as part of technical bid document.	1. One Scaled 3-D model for ISc 2015 exhibition should be deposited in person to the tender processing section of the Ministry latest by the last date and time of bid submission. No delay will be considered. The bidders needs to upload the photographs of model as part of technical bid document. 2. Graphical presentation of layout may be produced for exhibition "Vibrant Gujarat"
6	--	--	High resolution pictures for backdrops etc. has to be arranged by the successful bidder.
7	--	--	Photographs/presentation of the following dioramas has uploaded 1. Arctic & Antarctica 2. Agro Meteorology, 3. Desalination plant 4. Aviation Sector (IMD activity) 5. Earthquake/Seismology

  
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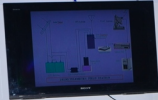
## SEISMOLOGY (EARTHQUAKE)



### Seismic Map of India



## SEISMOLOGY (EARTHQUAKE)



SEISMOLOGY (EARTHQUAKE)

SEISMOLOGY (EARTHQUAKE) is the study of earthquakes and the propagation of seismic waves through the Earth or other planetary bodies. It involves the measurement and analysis of seismic waves generated by earthquakes, volcanic eruptions, and other geological events. The study of seismic waves helps scientists understand the internal structure of the Earth and the processes that cause earthquakes.





# DESALINATION PLANT



It will be used to demonstrate the basic principle of Low Temperature Thermal Desalination (LTD) Plant

The Basic Principle of Low Temperature Thermal Desalination (LTD) Plant

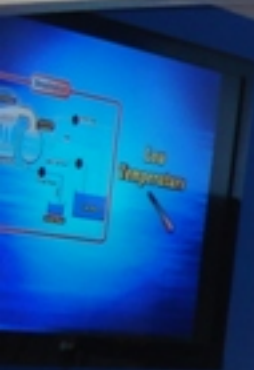


The basic principle of Low Temperature Thermal Desalination (LTD) Plant is to heat the feed water in a heat exchanger to pre-heat the feed water before it enters the distillation column. The feed water is then heated in a distillation column to produce steam, which is condensed in a condenser to produce fresh water. The condenser is cooled by the feed water in a heat exchanger. The feed water is then heated in a heat exchanger to pre-heat the feed water before it enters the distillation column.





# DESALINATION



अवसजीकरण  
DESALINATION



## Desalination

Ministry of Earth Sciences has successfully commissioned the Low Temperature Thermal Desalination Plant (LTTD) at Kavaratti, Minicoy & Agati which is supplying drinking water with a capacity of 0.1 million liters per day to the local community in Lakshadweep Islands since 2005. The surface sea water at about 28-30 degrees Celsius is sent to a low pressure flash chamber where it instantaneously evaporates under vacuum. The generated vapour is then sent to a condenser where it condenses to water using colder deep sea water at about 12-13 degree Celsius drawn from a depth of 1000 m.

# DESALINATION



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DESALINATION



COLD WATER INTAKE FROM DEEP SEA

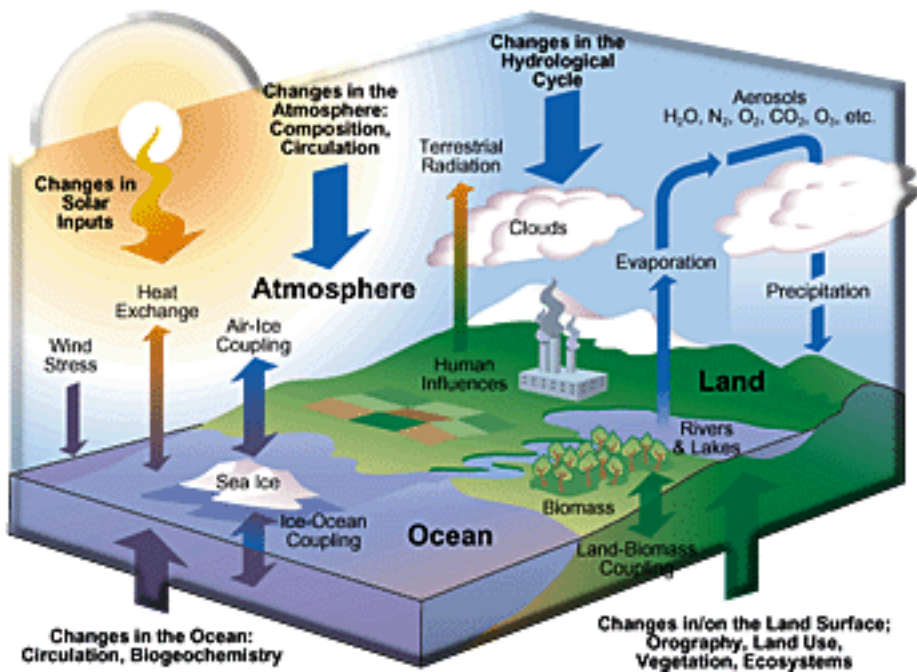
## Desalination

Ministry of Earth Sciences has successfully commissioned the Low Temperature Thermal Desalination Plant (LTTD) at Kavaratti, Minicoy & Agatti which is supplying drinking water with a capacity of 0.1 million liters per day to the local community in Lakshadweep islands.



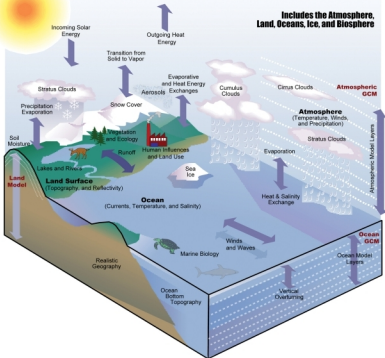


# Global Climate System Components



# Modeling the Climate System

**Includes the Atmosphere,  
Land, Oceans, Ice, and Biosphere**







**EARTH SYSTEM SCIENCE ORGANIZATION  
MINISTRY OF EARTH SCIENCES**

**INDIA METEOROLOGICAL DEPARTMENT  
WEATHER SERVICES FOR AVIATION**



1. Forecast weather conditions for take-off

2. Trend forecast indicating expected significant changes from the existing conditions.



# AVIATION METEOROLOGY



www.met.gov.sg | 6733 3333 | 6733 3333

### Weather Services For Aviation

The diagram illustrates the flow of weather information for aviation. It starts with a weather station (radar dome) on the left, which provides data to a central processing unit. This unit then disseminates information to a pilot in a cockpit on the right, who uses it to operate an aircraft. Below the main flow, there are two smaller images: one of an airplane in flight and another of a runway.

Touch Screen





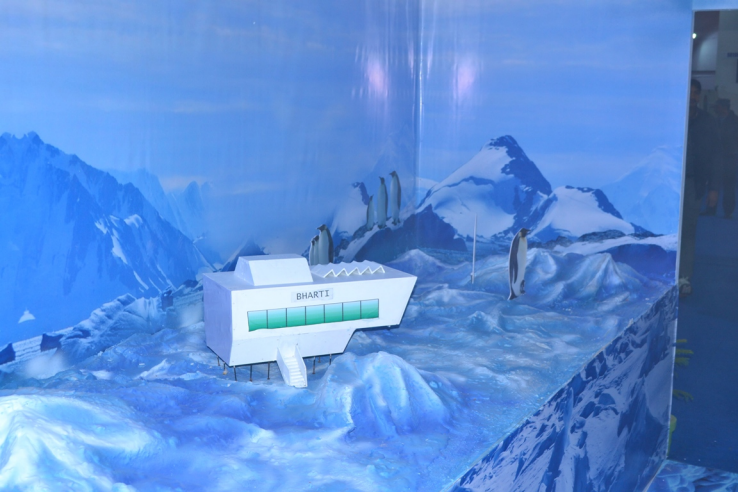


HIMADRI









BHARTI

SCIENCE ORGANIZATION  
OF EARTH SCIENCES

ACTIVITIES



SCIENTIST  
विज्ञानी



PENGUIN  
पेंग्विन

ANTARCTIC  
अंटार्कटिका







# ध्रुवीय क्षेत्र





ANTARCTIC RESEARCH STATION



SCIENTIST

PRYADARSHANI LAKE



SEAL









गणतन्त्र  
फेडरल



श्री  
मच्छिमा



श्री  
मच्छिमा

श्री  
मच्छिमा



# AGRO METEOROLOGY



ഗവൺമെന്റ് ഓഫ് കേരളം  
കേരള കാർഷിക സർവ്വകലാശാല  
മലപ്പുറം

## Agricultural Meteorology

The study of the atmosphere and its interactions with the earth's surface, particularly in relation to agriculture, is known as agricultural meteorology.

Optimizing crop production through weather forecasting, soil moisture management, and pest control are key objectives of agricultural meteorology.





# AGROMETEOROLOGY



How does the weather affect the crops and animals on the farm?

1. The weather can affect the crops and animals on the farm in many ways.

2. For example, if it rains too much, the crops can get waterlogged and the animals can get sick.

AGROMETEOROLOGY

AGROMETEOROLOGY

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