MODULE-4

WINDS STORMS AND CYCLONES

CYCLONE

MECHANISM

Before cloud formation, water takes up heat from the atmosphere to change into vapour.

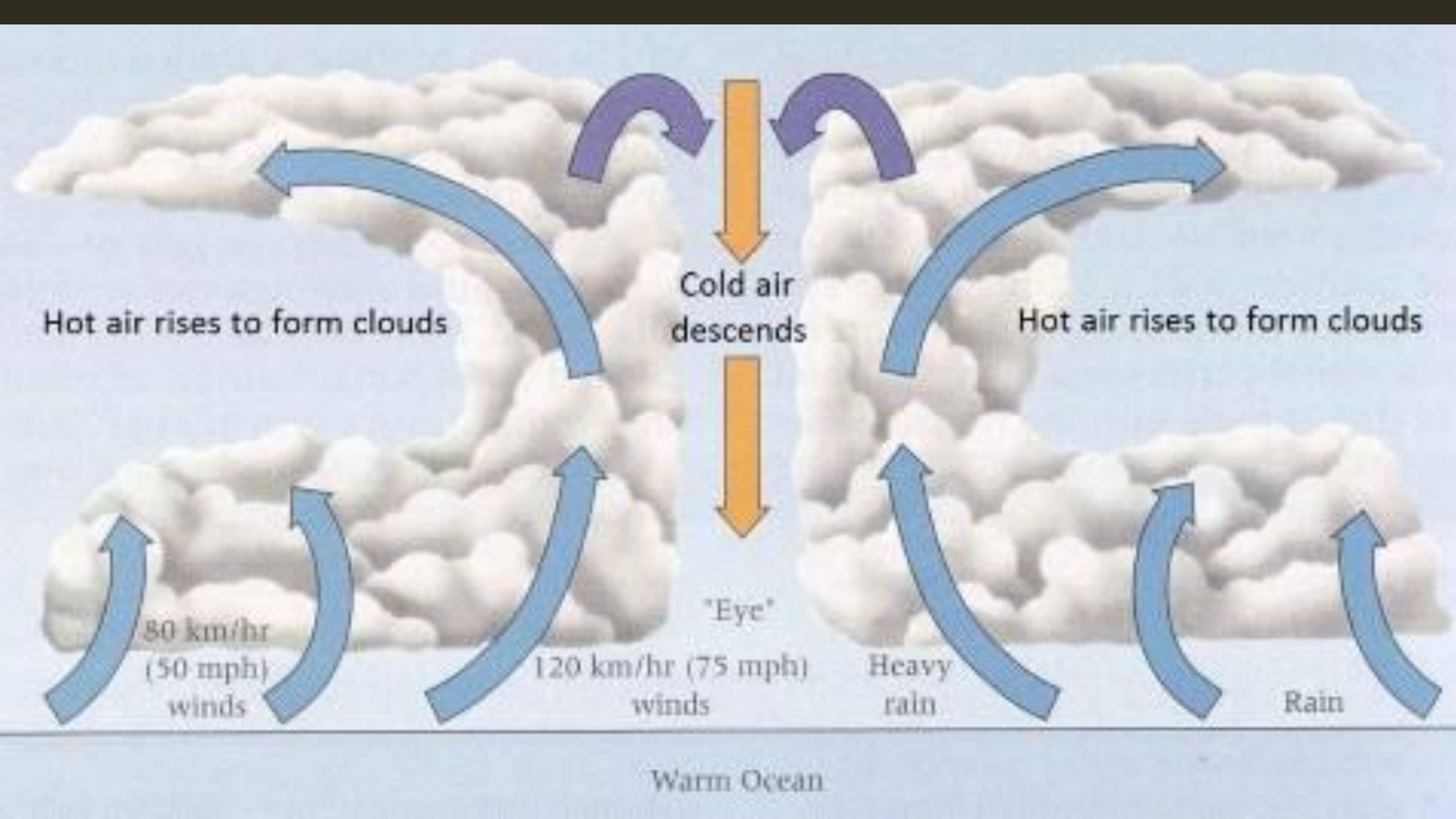
When water vapour changes back to liquid form as raindrops, this heat is released to the atmosphere. The heat released to the atmosphere warms the air around.

The air tends to rise and causes a drop in pressure. More air rushes to the centre of the storm. This cycle is repeated.

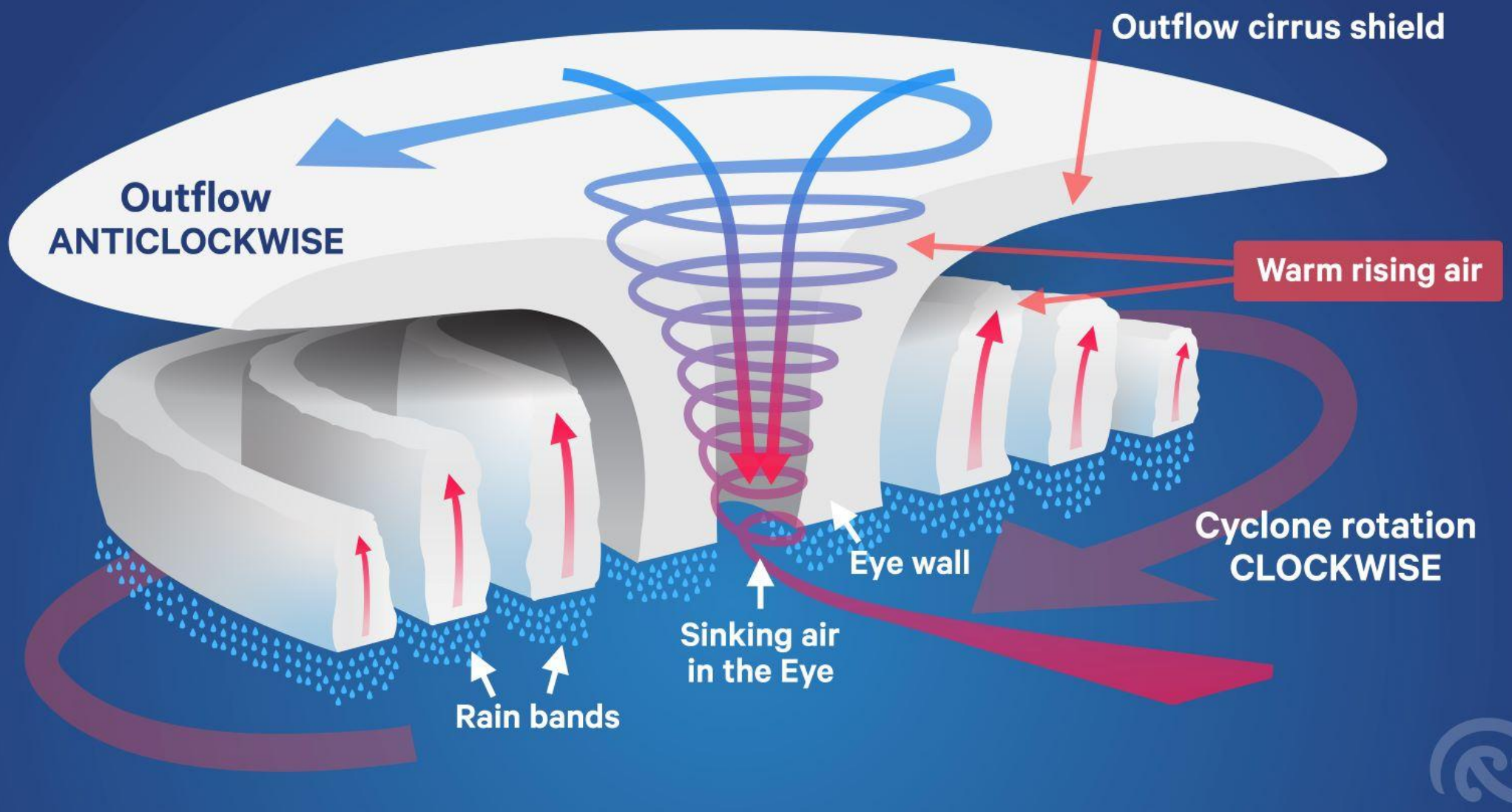
THE CHAIN OF EVENTS ENDS WITH THE FORMATION OF A VERY LOW-PRESSURE SYSTEM WITH VERY HIGH-SPEED WINDS REVOLVING AROUND IT.

IT IS THIS WEATHER CONDITION THAT WE CALL A CYCLONE.

FACTORS LIKE WIND SPEED, WIND DIRECTION, TEMPERATURE AND HUMIDITY CONTRIBUTE TO THE DEVELOPMENT OF CYCLONES


Hot air rises to form clouds
Cold air descends
Hot air rises to form clouds
80 km/hr (50 mph) winds
"Eye"
120 km/hr (75 mph) winds
Heavy rain
Rain
Warm Ocean

Tropical Cyclone Structure in the Southern Hemisphere



STRUCTURE OF A CYCLONE

The centre of a cyclone is a calm area.

It is called the eye of the storm.

A large cyclone is a violently rotating mass of air in the atmosphere, 10 to 15 km high. The diameter of the eye varies from 10 to 30 km . It is a region free of clouds and has light winds.

Around this calm and clear eye , there is a cloud region of about 150 km in size. In this region there are high-speed winds (150–250 km/h) and thick clouds with heavy rain.

Away from this region the wind speed gradually decreases. The formation of a cyclone is a very complex process.


Spiral rainbands
Hurricane eye
Eye wall
Spiral rainbands

A CYCLONE IS KNOWN BY DIFFERENT NAMES IN DIFFERENT PARTS OF THE WORLD. IT IS CALLED A '*HURRICANE*' IN THE AMERICAN CONTINENT. IN PHILIPPINES AND JAPAN IT IS CALLED A '*TYPHOON*'

TORNADOES

A TORNADO IS A DARK FUNNEL SHAPED CLOUD THAT REACHES FROM THE SKY TO THE GROUND . MOST OF THE TORNADOES ARE WEAK. A VIOLENT TORNADO CAN TRAVEL AT SPEEDS OF ABOUT 300 KM/H. TORNADOES MAY FORM WITHIN CYCLONES.

EFFECTIVE SAFETY MEASURES

A cyclone forecast and warning service. § Rapid communication of warnings to the Government agencies, the ports, fishermen, ships and to the general public.

Construction of cyclone shelters in the cyclone prone areas, and Administrative arrangements for moving people fast to safer places.

ACTION ON THE PART OF THE PEOPLE

We should not ignore the warnings issued by the meteorological department through TV, radio, or newspapers.

We should — make necessary arrangements to shift the essential household goods, domestic animals and vehicles, etc. to safer places;

ACTION ON THE PART OF THE PEOPLE

Avoid driving on roads through standing water, as floods may have damaged the roads; and

keep ready the phone numbers of all emergency services like police, fire brigade, and medical centres

SOME OTHER PRECAUTIONS

If you are staying in a cyclone hit area

Do not drink water that could be contaminated.

Always store drinking water for emergencies. § Do not touch wet switches and fallen power lines.

Do not go out just for the sake of fun.

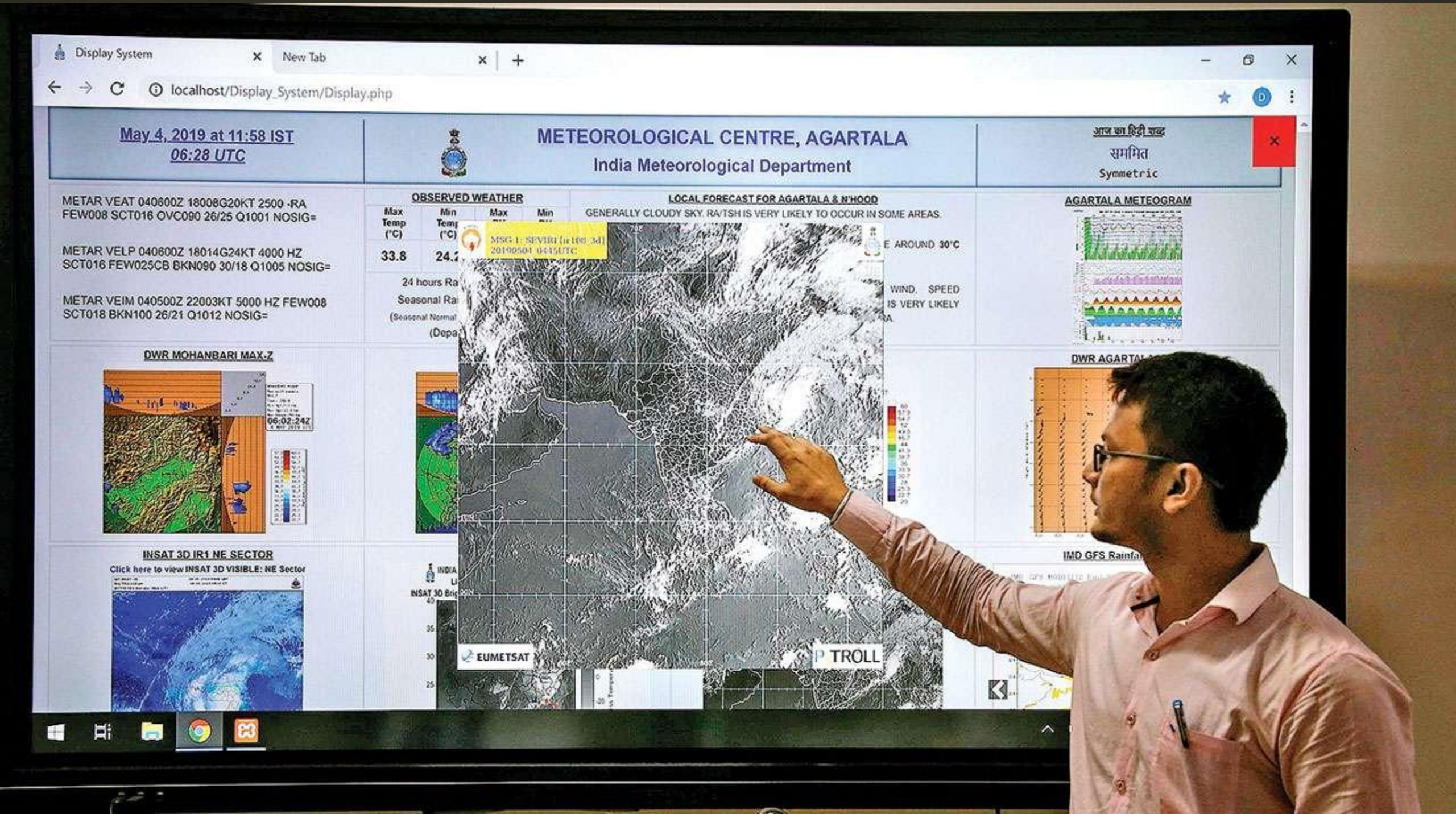
Do not pressurise the rescue force by making undue demands.

Cooperate and help your neighbours and friends

ADVANCED TECHNOLOGY

It has become easier to monitor cyclones with the help of advance technology like satellites and radars.

Cyclone alert or Cyclone watch is issued 48 hours in advance of any expected storm and a Cyclone warning is issued 24 hrs in advance. The message is broadcast every hour or half hour when a cyclone is nearer the coast. Several national and international organisations cooperate to monitor the cyclone-related disasters.


Display System
New Tab
localhost/Display_System/Display.php
May 4, 2019 at 11:58 IST
06:28 UTC
METEOROLOGICAL CENTRE, AGARTALA
India Meteorological Department
आज का हिंदी शब्द
सममित
Symmetric
METAR VEAT 040600Z 18008G20KT 2500 -RA FEW008 SCT016 OVC090 26/25 Q1001 NOSIG=
METAR VELP 040600Z 18014G24KT 4000 HZ SCT016 FEW025CB BKN090 30/18 Q1005 NOSIG=
METAR VEIM 040500Z 22003KT 5000 HZ FEW008 SCT018 BKN100 26/21 Q1012 NOSIG=
OBSERVED WEATHER
Max Temp (°C)
Min Temp (°C)
33.8
LOCAL FORECAST FOR AGARTALA & N'HOOD
GENERALLY CLOUDY SKY. RA/TSH IS VERY LIKELY TO OCCUR IN SOME AREAS.
AROUND 30°C
WIND, SPEED
IS VERY LIKELY
AGARTALA METEOGRAM
DWR MOHANBARI MAX-Z
06:02:24Z
INSAT 3D IR1 NE SECTOR
Click here to view INSAT 3D VISIBLE: NE Sector
EUMETSAT
TROLL

WEATHER RADAR