Issue 7 July 2014

NewsleTERRE

TERRE Policy Centre

Monsoon Prediction for India –2014

"Answer to a Billion Drops Question"

Monsoon is defined as reversal of "wind direction" in tropical regions and its prediction must adhere to the time of this reversal. Rain is one of the consequences of reversal of "wind direction". In Indian context, about 75 to 80 percent of annual rainfall is realized during South west monsoon season. Having an agro based economy, in public perception the monsoon prediction became synonymous to prediction of total quantum of rainfall during SW Monsoon season with its spatial and temporal distribution. The severe famine during 1877 made the necessity of Monsoon rains forecast as essential input for financial budget. The first regular long range forecast of monsoon rainfall was issued on 4th June 1886 by Sir H.F. Blanford. It was based on snowfall in Himalayas during winter. Sir Gilbert Walker correlated the global circulation and its various facets with monsoon rainfall. From 1886 to 1934 long range forecast was issued for whole India (including Myanmar), zone wise for NE India, NW India and Peninsula. But in absence of suitable predictor for NE India from 1935 to 1987 long range of monsoon rainfall was issued for NW India and Peninsula only. In 1988, IMD developed a 16 parameter model to issue long range forecast for whole country. From 2003 Long range forecast is given in 2 stages one in last week of April (based on 5 parameters) and second stage updates in June (based on 6 parameters). Even though India Meteorological Department is pioneer in the area, now many national and international institutes are working in the field. Those are The Space Applications Centre - Ahmedabad, Centre for Mathematical Modeling and Computer Simulation - Bangalore, Indian Institute of Technology - Bhubaneswar, Indian Institute of Science - Bangalore, Centre for Disaster Mitigation, Jain University - Bangalore, and Center for

Development of Advanced Computing Pune. The National Centers for Environmental Prediction - USA, International Research Institute for Climate and Society - USA, Meteorological Office - UK, Meteo - France, The European Center for Medium Range Weather Forecasts - UK, Japan Meteorological Agency, Japan Agency for Marine-Earth Science and Technology, Asian-Pacific Economic Cooperation (APEC) Climate Centre - Korea and World Meteorological Organization's Lead Centre for Long Range Forecasting - Multi-Model Ensemble etc. The list is mentioned just to appraise importance given at national and international level to monsoon prediction. The forecasts and outputs from these Institutes are considered before finalizing the formal forecast.

Main highlights of Long Range Forecast of South West Monsoon 2014 are

- Rainfall over the country as a whole for the 2014 southwest monsoon season (June to September) is likely to be below normal (90-96% of long period average (LPA)).
- Quantitatively, monsoon season rainfall for the country as a whole is likely to be 93% of the long period average (88.8cm) with a model error of ±4%.

Region wise, the season rainfall is likely to be -

- 85% of LPA (61.5 cm) over North-West India,
- 94% of LPA (97.6cm) over Central India,
- 93% of LPA (71.6 cm) over South Peninsula and
- 99% of LPA (143.8 cm) over North-East India all with a model error of ±8%.

Continued on page 4

Competitions for Youth

FREE REGISTRATION!

Here's a chance to participate and win exciting prizes and recognition on the global stage to all our young friends. TERRE Policy Centre and Sanskruti Centre for Cultural Excellence have organized an essay competition and a mobile short-film competition as pre-events to the Environment Film Festival organized in London on the occasion of World Ozone Day on 12th and 13th September 2014.

Essay Competition :
Who can participate:
12-15 year students all over the world
For details:
Http://terrepolicycentre.com/pdf/Competitions-for-Youth-Essay-Writing-Contest.pdf

Mobile film-making competition:
Who can participate:
15-25 year olds over the world
For details:
Http://terrepolicycentre.com/pdf/Competitions-for-Youth-film-making-competition.pdf

Number of the Month

70 %

Cities are likely to absorb the total world population growth between 2010 and 2050. By 2050, nearly 70% of the world population is projected to be living in urban areas.

Source: OECD ENVIRONMENTAL OUTLOOK TO 2050: The Consequences of Inaction

Interesting video

Man - evolution and pollution: Are humans running the earth in the name of development? A must watch video to ponder what it means to give and what, to receive.

http://youtu.be/VPtKOrwf1h0

For one and all: TABLE FOR TWO

In our world of 7 billion, 1 billion suffer from undernutrition, while another 1 billion suffer from obesity. TABLE FOR TWO rights this imbalance by simultaneously addressing the two opposing problems through a unique "calorie transfer" program. By partnering with over 600 corporations, universities, restaurants, and organizations implementing their program in these establishments and products, TABLE FOR TWO has served millions of healthy meals to both sides of the "table."

On one side people are eating healthier meals, and on the other children are receiving nutritious school meals. In this way, we can say that when you dine at TABLE FOR TWO, you never dine alone.

Mr. Rajendra Shende had the opportunity to meet Masa Kogure founder of TABLE FOR TWO at OECD Forum in April 2014. Here are Masa's replies to some quick questions by Mr. Shende-

Spotlight

1. How the idea of this innovative concept came up in your mind?

When I saw the great and silly inequality in food distribution exists in our world, a billion people suffer from "under-nutrtiion" of chronic hunger and malnutrition while another billion faces "over-nutrition" of overweight and obesity. We thought we can fix the problem by encouraging people in developed nations to eat less and re-use the surplus to feed those in need.

2. Are you pleased with its success?

I am pleased that our idea has been accepted and well perceived, but at the same time feel we need to accelerate our growth to save more lives.

3. What are your future plans?

To spread the initiative more broadly and make it truly global.

4. Finally, any message or suggestions to ensure food security?

Food is a part of everyone's daily life. So anybody can take action and make changes.

more information Http://www.tablefor2.org/home

Quick Question

What is the scientific name for mosquito larvae eating fish?

A) Poecilia affins **B)** Poecilia gambusia
C) Gambusia affins **D)** Gambusia reticulata

For the previous quiz, we received a few entries but none was correct. The answer is Barbados island is located in North Atlantic Ocean.

If you know the answer, send in your entry to us at : info@terrepolicycentre.com

Man Made Natural calamities - Uttaranchal

"Human use, population, and technology have reached that certain stage where mother Earth no longer accepts our presence with silence."

—Dalai Lama XIV

15 June 2013 was the darkest day for the state of Uttaranchal. Kedarnath - one of the important pilgrimage centers in India and considered as one of the Char Dhams (four must-visit pilgrimage centers) was terribly affected due to cloud bursts.

A debate over the number of people killed is still there. The death toll is between 5000 to 10000, and many people are still missing. In India, this is not the first incidence of flashfloods and cloudbursts. In 1908 one cloud burst was reported. After a span of 62 years, another cloud burst occurred in July 1970 in Uttarakhand. Since 1990s, 17 cloudbursts have happened to cause massive damage to lives and property, of which at least 11 cloudbursts occurred only in the hilly states of Uttarakhand, Himachal Pradesh and Jammu & Kashmir. In fact, now this phenomenon seems to be highly frequent: 11 out of the 17 cloud bursts occurred only during 2010-2013. Experts say that the increase in frequency of such incidences is because of climate change. While we can easily categorize this as a natural disaster, I attribute this as a human-made disaster. Ecological disasters are a result of disturbance in the natural rhythm due to adopting lifestyles and technology practices that change the basic constitution of nature. Uttarakhand, the place where the disaster happened in June, is located at the foothills of the Himalayan mountain region and is abundantly rich in forests, mountains and water and is an ideal place for hydropower generation. We clearly know the real culprits in this case. It is not nature but we human beings. Especially the hill regions due to their topography are extremely fragile, and deforestation along the mountain tracts would mean inviting the peril. The factor seems to be a key trigger in influencing the disaster. Dams involve massive destruction of fragile mountain ecosystem through extracting resources from the riverbeds for construction, drilling tunnels, blasting rocks, laying transmission lines, running of giant turbines, along with altering the hydrology of the region.

We know that most of this demand for hydroelectric power and better infrastructure comes from the urban dwellers, who do not even understand the relevance of ecosystem services to their everyday life. The problem lies in the mindset of most of the urbanized people and policy makers who think that a magic wand called technology is the key to all problems in India. Our technologies have proved to be regressive in terms of increasing the size of our ecological footprints.

First of all we need to ease the pressure of human settlements and promote more balanced development models. We should respect the ecologically fragile zones and protect them from exploitation. The growth should allow nature to breathe, regenerate and recuperate.

- From the Editor's Desk

GRAPHIC

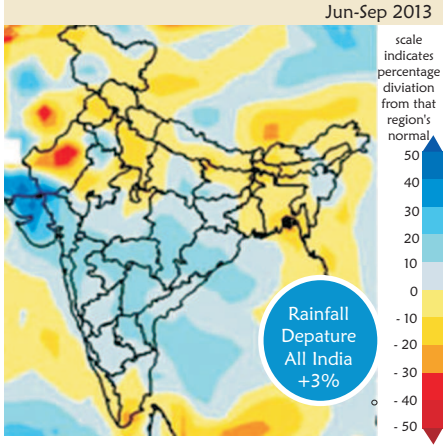
INDIA MONSOON FORECAST

INDIA'S JUNE-SEPTEMBER MONSOON RAINFALL IS LIKELY TO BE "WELL DISTRIBUTED" AND "ADEQUATE", ACCORDING TO A FORECAST FOR THE SEASON BY WEATHER ANALYTICS FIRM SKYMET WEATHER SERVICES PVT. LTD, BOOSTING THE LIKELIHOOD OF AN ECONOMIC RECOVERY IF THE PREDICTION IS PROVEN RIGHT.

MONSOON FORECAST

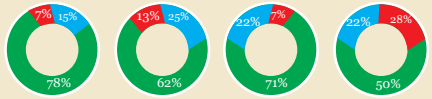
India's monsoon rainfall is likely to be "well distributed" and "adequate", according to a forecast for the season by weather analytics firm Skymet, boosting the likelihood of an economic recovery if the predicition is proven right

Jun-Sep 2013



Rainfall probabilities

June	July	August	September
+5% of LPA LPA=16.3cm	+5% LPA=28.9cm	+3% LPA=26.1cm	+3% LPA=17.3cm



LPA (long-period average) is the 50 year average of rainfall over India and is 89cm

Source : Skymet

Credit: Skymet

Further read- http://www.skymet.net/index.php

From page no. 1...

The monthly rainfall over the country as whole is likely to be 93% of its LPA during July and 96% of LPA during August both with a model error of ± 9 %. Regional forecast and monthly forecast has wide margin of error and difficult to use in decision making. We should keep in mind that long range forecast is issued for region and for whole season. As it is an average value, there will be variation both at higher side and lower side of the forecasted value from place to place. Many a times most of the season reels under deficit and make up is achieved in last part of the season. Even in good monsoon years on an average about 8 % area reels under drought while in bad monsoon year about 1% area gets excess rains. Sometimes within meteorological homogeneous region some part reels under drought while other gets excess rain. Thus even though long range forecast became reasonably correct, the damage to crops etc becomes more than expected. We should understand that long range forecast is meant for policy decisions and large scale planning like release of water from reservoirs, making availability of seeds and fertilizers, imports of food grain and similar disaster mitigation majors. It is not meant for day to day field operations. For the agricultural purposes farmers should refer to medium and short range weather forecasts and advisories issued by IMD and agricultural experts. Even though downscaling of monsoon prediction both at scale of area and time is desirable we have to wait little more. In conclusion the monsoon predictions should be used as Decision Making tool keeping in view of high variability of rainfall both in space and time and the limitations of the forecasting techniques.

- Mr. Nilkanth Y. Apte
Dy. Director General of Meteorology (Retd.),
India Meteorological Department

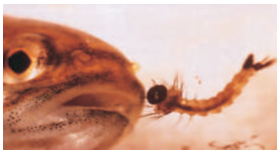
Al Gore gives surprise endorsement to Australian mining tycoon

l Gore teams up with climate change sceptic and Australian MP Clive Palmer for a "gobsmacking" unveiling in Canberra of the mining tycoon's environmental policies.
http://www.telegraph.co.uk/news/worldnews/australiaandthepacific/australia/10925710/Al-Gore-gives-surprise-endorsement-to-Australian-mining-tycoon.html

Journey of Octopus Discovery Reveals Them to Be Playful, Curious, Smart

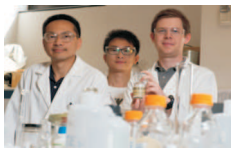
The Greeks had myths about them. Koreans eat them alive. James Bond tangled with one. They have three hearts and skin that can change color 177 times an hour.
Http://news.nationalgeographic.com/news/2014/06/140625-octopus-evolution-brain-eyes-memory-cannibalism-robotics/

This fish eats mosquito larvae, may keep malaria at bay

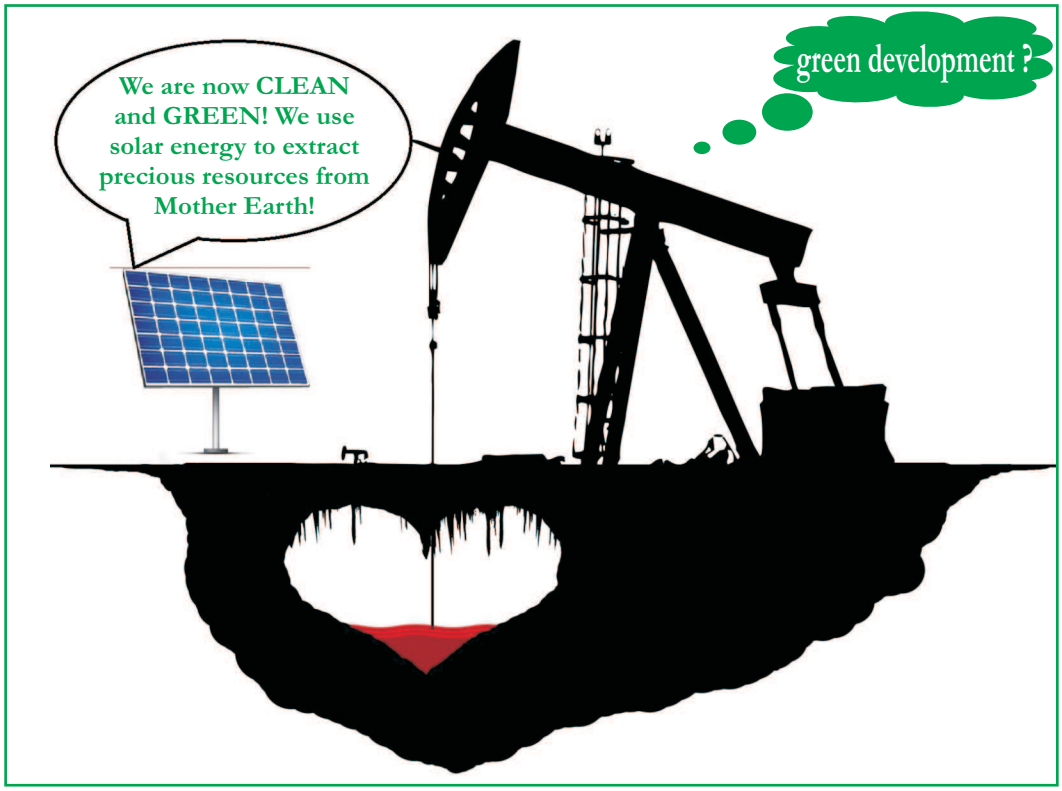


Using conventional techniques like spraying of insecticides, repellants, fogging and other chemicals to curtail the growth of mosquitoes not only pollutes the....
Http://timesofindia.indiatimes.com/home/environment/flora-fauna/This-fish-eats-mosquito-larvae-may-keep-malaria-at-bay/articleshow/36011158.cms

Water-cleanup catalysts tackle biomass upgrading



Rice University chemical engineer Michael Wong has spent a decade amassing evidence that palladium-gold nanoparticles are excellent catalysts for cleaning polluted water, but even he was surprised ...
Http://www.sciencedaily.com/releases/2014/06/140626141828.htm



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