

WEATHER EVENTS & MEDIA: “EXTREMITY & RESPONSIBILITY”

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INTRODUCTION

Weather has always been a popular topic but in the recent decade (2001-2010), it has sparked more interest and debate as the public has become more concerned about unforeseen changes in our climate. Today everybody from a common man to a scientist is discussing about climate change, global warming and recent extreme weather events which are happening around the world. Since man has started his living nature had acted mysteriously and till day it has not changed. But these days nature is playing a furious role. Climate change is happening faster than we believe only some years ago. This is the most important challenge for this generation of scientists, researchers and politicians. Every nook and corner of the entire world is traumatized due to natural calamities at present. During the year 2010 Africa continent is facing drought whereas the other three continents on earth vis-à-vis Asia, Europe and America are facing the problem of floods. These calamities i.e. Droughts and floods have caused a major havoc in these continents. The fire in the forests of Russia is blazing endlessly. The smoke clouds formed due to this fire have disturbed the day to day life to a great extent.

Media plays an important role and has huge responsibility in providing clear and accurate information to the public during a disaster. In addition to official emergency broadcasts, media relay accounts for- 5W & 1 H i.e. Who, What, When, Where, Why & How?

Many news stories have long separated weather and climate change as separate entities, often Bringing them together only during an “extreme” event. Weather extremes seem to dominate the Headlines. There was also a time that saw the subject of extreme weather events rise up the climate change agenda, with numerous academic papers, blogs, seminars etc. focused on the issue.

India too is affected due to these extreme weather events. During this decade India faced several extreme weather events like heat wave (2003), tsunami (2004), Mumbai floods (2005), Rajasthan floods (2006), cold and heat waves (2007), Kosi flood (2008), Leh cloud burst (2010) etc. are the biggest examples in front of the man today. These natural calamities are a result of the extreme weather conditions. Isn't it an indication of great weather change in the times to come?

EXTREME WEATHER EVENTS 2001-2010

Sr. No.	Year	Event	Country	Victims
1.	2003	Heatwave	France	50000
	2003	Southern India Heatwave	India	1500
2.	2004	Asian Tsunami	India, Indonesia	220000
3.	2005	Mumbai Floods	India	2000
4.	2005	Excessive Snowfall in Kashmir	India	1000
5.	2005	Hurricane Katrina	USA	1800
6.	2006	Rajasthan floods	India	135
7.	2008	Burma Cyclone	Mynmar	146000
8.	2008	Kosi floods	India	
9.	2010	Floods	Pakistan	1800
10.	2010	Heatwaves & Forest Fire	Russia	15000
11.	2010	Leh Cloudburst	India	300

Source: Prepared from various news magazines/paper and internet

Basically, the Indian climate is dominated by the summer monsoons. So the climate of India is called Monsoonal Climate. The whole year is divided into four distinct seasons by the Indian Meteorological Department:

- Cold weather season (from mid December to mid March)
- Hot dry weather season (from mid March to end of May)
- Wet or rainy season (from June to September)
- Season of Retreating monsoon (from October to mid December)

But year to year deviations in the weather & occurrence of weather extremes in respect of these four seasons has been observed in the forms of cold & heat waves, floods, heavy rains, cloudburst etc.

HEAT WAVES 2003

A heat wave is an extended period of temperatures considered extremely high for a particular area. In general, it is considered a heat wave when temperature hover some 5-10 degrees above normal for several days.

MAJOR HEAT WAVES DURING 2001-2010

Sr. No.	Death Toll	Event	Location	Year
1	35000	European Heat Wave	Europe	2003
2	1500	Southern India heat wave	India	2003
3	15000	Russian heat wave	Russia	2010

Source: Prepared from various news magazines/paper and internet

In India heat waves during May to June 2003 lead to increasingly higher temperatures. Southern states of Andhra Pradesh, Tamil Nadu, Maharashtra were very badly affected by 2003 heat waves. During this year heat wave brought peak temperatures in May (between 45 degrees Celsius & 50 degree Celsius). This year's heat was particularly harsh with a death toll of at least 1500 people out of which more than 1050 deaths were recorded in Andhra Pradesh alone. Andhra's 20 districts were badly affected by the heat wave. Hardest hit districts were Nalganda (204 deaths), West Godavari (175 deaths), East Godavari (152 deaths), Guntur (138 deaths) & Prakasan (100 deaths). On 10th May the maximum temperature at Gannavaram (Vijaywada) reached 49 degree Celsius (WMO 2003). At Nunjambakkam in Chennai, temperatures have reached 45 degrees, the highest recorded in 93 years. Heat wave conditions had also developed in parts of Vidarbha region of Maharashtra, coastal districts of north Tamil Nadu, interior parts of Orissa, Madhya Pradesh, Bihar, Jharkhand & Chhattisgarh.

HEAT WAVE CASUALTIES IN INDIA IN 2003.

Type	Disaster	Start	End	Killed
Extreme temperature	Heat wave	May 2003	June 2003	1500

Source: South Asian Disaster Report 2003

Heat waves again hit India during April-June 2007. The heat waves were observed over Coastal Andhra & Telangana during May 2007. As per EMDAT data these heat waves claimed more than 72 lives. It raised the maximum temperature above 5-7 degrees Celsius over the northern & central parts of India.

HEAT WAVE CASUALTIES IN INDIA IN 2007.

Type	Disaster	Start	End	Killed
Extreme temperature	Heat waves	April 2007	June 2007	72

Source: South Asian Disaster Report 2007

In 2007, many places over North-west India witnessed maximum extreme temperature to the tune of nearly 50 degree Celsius. The monthly mean temperature over the western Himalayan region was the highest in the last 100 years. The month of April also observed extreme heat.

MUMBAI FLOODS 2005

In India, monsoons affect every sphere of life. If monsoons are on time, regular & evenly distributed, they bring prosperity. But variability, uneven spatial distribution & torrential forms are also some of the characteristics of monsoons. People of Mumbai can't forget the extreme nature of monsoonal rains of 26th July 2006. The west coast of India on which Mumbai is located receives heavy rainfall during summer monsoons due to the presence of Western Ghats because it is located on the windward side of these Ghats.

The observatory at Santa Cruz in north Mumbai recorded a rainfall of 94.4 mm during 24 hours that ended at 8:30 a.m. on 27th July 2005. The previous record of heaviest 24 hours of rain over Mumbai was 58 mm for Santa Cruz on 5 July 1974 (IMD, 2005).

Heavy rainfall is quite common in Mumbai during the onset of monsoon, but after the monsoons has set in & goes into its active phase, the synoptic situation is conducive to the occurrence of very heavy rains over Mumbai when it has the following features collectively:

- Development of low pressure area over the North West Bay of Bengal.
- Intensification of monsoon trough & development of embedded convective vertices over central India.
- Strengthening of Arabian sea current of monsoon.
- Super positioning of meso-scale off-shore vertex over north east Arabian sea & its northward movement.

All these conditions were met on 26th July 2005 (Shyamala, 2005).

The flood that occurred in Mumbai on July 26, 2005 was aggravated by three main factors. The first was the poor & inadequate drainage system of Mumbai, which was not capable of carrying even half the amount of water per hour on the day of disaster that took place in the city. The second factor that had an adverse impact on the situation was the rapid growth & development of the northern suburbs of the city which lacked proper control & planning on the part of city's municipal authorities. Thirdly, the mangroves that existed along the banks of river Mithi & Mahim Creek have been destroyed indiscriminately to make way for the construction of new buildings.

MUMBAI FLOOD CASUALTIES

Type	Disaster	Place	Date	Deaths
Extreme rainfall	Floods	Mumbai	26 July 2005	1094

Source: Wikipedia

HEAVY SNOWFALL IN KASHMIR 2005

Snowfall is a regular phenomenon in the hilly areas but excessive snowfall is something disastrous. This is what that had happened in Jammu & Kashmir in February, 2005. The state experienced heavy snowfall & avalanches which was a very extreme weather event. At least 290 people have been killed & hundreds more were missing in the Kashmir following the worst snowfalls in two decades. Avalanches & mud slides triggered by heavy rains had buried entire villages & crushed houses across the area. The worst hit region- series of villages in Anantnag district south of Srinagar, the summer capital of Indian administered Kashmir which had seen 4.5 meters (15 feet) of snow since. The temperature also plunged to -34. Most of the avalanches had hit the Pir Panjal Mountains south of Srinagar.

Heavy snowfall had occurred in the state of Jammu & Kashmir from 16-20 February, 2005. Reports of the state government said that more than 230 persons are killed, 380 persons rescued including 40 foreigners.

Type	Disaster	Place	Date	Deaths
Extreme snowfall	Avalanches	Jammu & Kashmir	February 16, 2005	380

Source: Prepared from various news magazines/paper and internet

RAJASTHAN FLOODS 2006

Floods in India are the major aspects of weather associated with the abundance of monsoon rains. Nearly 40 million hectare of India is flood prone & every year nearly 8 million hectare of land is affected by floods. But flood in the deserted area of Rajasthan is the example of extreme rainfall during the monsoons. Rajasthan's Barmer & Jaisalmer districts are lying in the heart of Thar desert & normally receives the lowest rainfall in India. But in August 2006 this region experienced the unexpected & unusual in terms of monsoon rains. The erratic & heavy rainfall in august 2006 has turned a large part of the deep desert country into a vast submerged landscape. Thar desert region under Barmer & Jaisalmer districts have an average rainfall of 280 mm annually. But during the monsoons of 2006 it received more than 600 mm of rains within three days.

Several hamlets & small villages have been wiped out after the 19-21 august rains. The region experienced one of the worst floods in a hundred years. The most affected villages in Barmer district were Kawas, Malwa & Bhadaka. About 150 people died in these districts. Kharif crops worth Rs. 1300 crore was damaged & about 75194 cattle perished in the flood. These areas have been submerged under water for more than 4-5 months. Some areas of Kawas village remained submerged under 3-4 feet of water even 7 months after the rains.

During heavy rains, the areas underlain by clays & gypsite in parts of Barmer & Jaisalmer were invariable factors for water logging & floods. Geological & geomorphologic observations indicate that several depressions & plains are underlain by Jurassic shales, tertiary clay & Quaternary Gypsite which turn into water bodies after rains.

RAJASTHAN FLOOD CASUALTIES

Type	Disaster	Place	Date	Damage/ deaths
Extreme rainfall	Floods	Barmer & Jaisalmer districts of Rajasthan	19-21 August 2006	Crop damage- Rs. 1300 crore / 150 lives lost & 75194 cattle perished.

Source: Prepared from various news magazines/paper and internet

KOSI FLOODS 2008

The 2008 Kosi flood in Bihar was one of the worst & disastrous floods in the history of Bihar. Surely, it as an annual affair-“the floods in Bihar”, but 2008 flood was different in terms of damage, volume & area in the last five decades. Kosi is very infamous due to its frequent course changing. Kosi carries about 90 cubic meters of sediments a hectare every year, five times the load of any other river in Bihar. As Kosi finally gushes out of the mountains into the plains through a gorge at Chatara in Nepal, it begins to dump its massive load along the way, gradually raising its bed and eventually forcing itself to change course.

FIVE WORST AFFECTED DISTRICTS

	Supaul	Madhepura	Araria	Saharsa	Purnea	Total
Affected Details						
No. of blocks affected	5	11	4	6	9	35
Name of affected blocks	Basantpur Pratapganj Raghopur Chhatapur Triveniganj	Shankarpur, Puraini, Kumarkhand, Chausa, Singheshwar, Alamnagar, Murliganj, Madhepura, Bihariganj, Gwalpara, Udaikikishunganj	Narpatganj Bhargama Forbesganj Raniganj (W)	Saurbazar, Nauhata, Patharghat, Sonbarsa, Simri Bakhtiarpur, Banmi Itari	Banmankhi, Dhamdaha, K. Nagar, Vaisee, Barhara Kothi, Amaur, Bhawanipur, Baisa, Rupauli	
No. of panchayats Affected	65	140	71	59	77	412
No. of Villages Affected	173	370	141	169	140	993
Population Affected	696816	1419856	625052	448796	164000	3355530
No. of	186661	374798	140895	130000	41545	873999

Families Affected						
Livestock Affected	132500	303640	80000	161000	35000	712140
Area affected in lakh Hectares	0.51	1.59	0.45	0.38	0.47	3.4
No. of Houses damaged (Pucca, Kuchha and Jhopadi)	130207	168410	8439	26124	7562	340742
No. of persons Evacuated	370000	335110	107937	115945	65000	993992
No. of Human Death	15	222	2	35	1	275
No. of Livestock Death	97	1348	0	22	0	1467

Source: Disaster Management Department, Govt. Of Bihar

website: <http://disastermgmt.bih.nic.in/>

On August 18, 2008 the Kosi burst through its eastern embankment at Kusaha in Nepal, changed its course and shifted over 120 kilometers eastwards, causing a deluge in villages , town & cities over sixteen districts of north Bihar. Over 35 lacs people in sixteen districts are supposed to have faced its fury. Araria, Katihar, Khagaria, Madhepura, Purnia, Saharsa & Supaul districts were the worst affected.

The 2008 flood was different from previous floods in that past embankment breaches were mostly accompanied by high discharge along the Kosi river. In 2008 the embankment breached during a period of below average discharge compared with the same time period in previous years. Therefore, this is not a flood caused by high discharge brought with monsoons, cloudburst and landmass movement from the Himalayas. Several scholars argued that a lack of priority and urgency in maintaining these structures contributing to the embankment breach on August 18, 2008.

LEH CLOUDBURST 2010

A cloudburst is high intensity rainfall in a short period of time, sometimes accompanied by hail & thunder, and can cause floods. Cloudburst in the low altitude Himalayas is a common phenomenon during monsoons. But the cloudburst in the high altitude, cold desert region of Ladakh on August 6, 2010 is not the usual but an extreme weather event. Leh seldom experience cloudbursts because it is a highland desert, strongly guarded by different Himalayan ranges i.e. Pir Panjal, Zaskar etc. which do not allow any moist air to reach the Indus valley. But the cloudburst event of August 2010 puzzled the meteorologists. The average rainfall of Leh for the month of August is 15.4 mm only. The highest rainfall ever recorded over Leh during 24 hours has been 51.3 mm recorded on August 22, 1933.

LEH CLOUDBURST CASUALTIES

Type	Disaster	Place	Date	Killed
Cloudburst	Flashfloods, Mudslide	Ladakh, Leh	Aug 6, 2010	About 300

Source: Prepared from various news magazines/paper and internet

The death toll in the flash floods in Leh was up to 300, hundreds of houses destroyed and thousands injured.

There are so many theories given by different weather experts to explain the Leh cloudburst

- i) Army's tree plantation programme.
- ii) Chinese weather experiments.
- iii) Climate change & global warming.
- iv) Heavy rainfall associated with annual Asian monsoon.
- v) Interaction of Westerlies with monsoon currents.

But none of these theories explained the Leh cloudburst properly. So further research & time is required to explain this extreme weather event.

CONCLUSION

The influence of weather & climate on human being and the inherent impact on the environment are well known. If we know the status of the climate today and the major differences between the past and the present, we can plan for the future. Every year we are facing the different types of extreme weather events in every corner of the earth. Losses in the name of human beings, crops, cattle, fertile soil etc. due to extreme weather events are increasing rapidly in this decade. In today's world there can be no argument against development. No one can be denied the right to a better living. But urban growth has to be controlled and planned on the strong foundations of wisdom, foresight and discipline. Otherwise more disasters may be just waiting to happen.

Media throughout the world play a vital role in educating the public about disasters; warning of hazards; gathering and transmitting information about affected areas; alerting government officials; etc. For media to fill these roles most effectively, the scientific organizations need to establish and strengthen working relationships with the media. Media are demonstrated, cost-effective means of saving lives, reducing property damage and increasing public understanding; irrespective of location, population or level of economic development. This topic is important not only for scientists and media, but for societal understanding and action as well.

REFERENCES

- Kelkar, R.R., Understanding the Extreme weather events, IWRS newsletter- Nov. 2005.
- De, U.S., Dubey, R.K. and Prakasa Rao, G.S., Extreme weather events over India in the last 100 years, Ind. Geophysics Union (July 2005), Vol. 9, No. 3, pp 173-187.
- Laul, Vivek and Laul, V.P., Floods in Barmer and other tertiary terrains in Rajasthan, Current Science, Vol. 92, No. 5, 10 March 2007.
- Reddy, D.V., Kumar, D. Saha, Deepankar and Mandal, M.K., Current Science, Vol. 95, No. 12, December 2008.
- Indian Meteorological Department, Pune, 2005, Annual Climate Report.
- IMD, Annual Report, 2007.
- www.thehindu.com
- Frontline, September 26, 2008.



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