

Rainfall variability: Impact of climate change?

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THE Ganges-Brahmaputra-Meghna (henceforth, GBM) river system is the third largest freshwater outflow to the world's oceans. The Ganges and the Brahmaputra fall in a number of countries in the South Asian region, including China, India, Nepal, and Bangladesh. Of these China contributes solely to the flow of the Brahmaputra, and Nepal to the flow of the Ganges. These two rivers often overflow during the monsoon months, and the flow reduces dramatically in the dry season. The region therefore faces two major hazards: floods during the monsoon and scarcity of water during the dry season. These hazards become more pronounced in the downstream regions particularly in Bangladesh.

Increasing population and accelerating economic development activities in the basin of the Ganges and the Brahmaputra river system have now made the sustainable water management of the region even more critical than in the past. The sharing of water resources has long been a matter of dispute among the four co-basin countries. This has been the hydro political bone of contention in the region for more than three decades, and because of geographical location, Bangladesh faces the most contentious water issues. In terms of overall water resources requirement for the region, the Ganges has abundant water resources if its total annual flow is considered. The main problem is water scarcity during the lean season, from January to April, which affects both India and Bangladesh. The situation is particularly critical for Bangladesh as about 80 percent of its annual fresh water supply comes as transboundary inflows through 54 common rivers with India.

The effects of climate on hydrology in Tropical Asia would have many facets. In the Himalayas, the storage of precipitation in the form of snow and ice (in glaciers) over a long period provides a large water reservoir that regulates annual water distribution. The majority of rivers originating in the Himalayas have their upper catchments in snow-covered areas and flow through steep mountains. If there is any climatic variability in the Himalayas the impacts could be felt in the downstream countries -- that is, India and Bangladesh. By and large, dry-season flow in the major Himalayan rivers in a given year results from the monsoon rainfall of

the previous year. If there is any climatic change in the mountain hydrological regimes, it is likely to alter these resources, and severely affect Bangladesh that depends on this water resource.

Bangladesh has a sub-tropical monsoon climate. The main rainy season occurs during the southwest monsoon from June to September. Rainfall is heavy, frequent, and reaching 1500-2000 mm during this period. Rainfall averages 2160 mm per annum of which 1728 mm falls during the monsoon. The distribution of rainfall demonstrates a distinct seasonal regime and gradual increase from west to east. Thus the total rainfall at Jessore, a typical station for the less wet western region of Bangladesh, is only 1600 mm; it increases to about 2000 mm in Dhaka, and to over 3200 mm in Sylhet in the wet north-eastern region. Rainfall in the period September-November is less regular. At this time, the rain is usually brought by tropical cyclones from the Bay of Bengal, which can be severe, bringing torrential rain and very strong winds.

From the decadal trends in the rainfall variability in Bangladesh, it has been observed that there are

some atmospheric and climatic changes underlying in the hydro-meteorological system in the GBM river system. Changes in the length of the monsoon are significant and increased precipitation in monsoon generates additional volumes of runoff. Also, the southwest monsoon arrives later or withdraws earlier, so soil moisture deficits in some areas (especially in Ganges basin) is getting worse; prolonged monsoons are also contributing to more frequent flooding and increasing the depth of inundation in many parts of Bangladesh (1998 flooding for an example). Observations revealed that significant deviation of monthly rainfall from one decade to the other occurred.

It can be stated as an example that in the Ganges basin the June rainfall in 1970-80 displayed positive anomaly (i.e., higher rainfall than the average), which now shows negative anomaly (i.e., lower than the average) in the recent decade 2000-90 (Fig. 1). It has also been observed that, as compared to 1970-80, there is a considerable increase (10-15%) of September rainfall in the recent decade. All other monthly deviations are noticeable too. Rainfall in

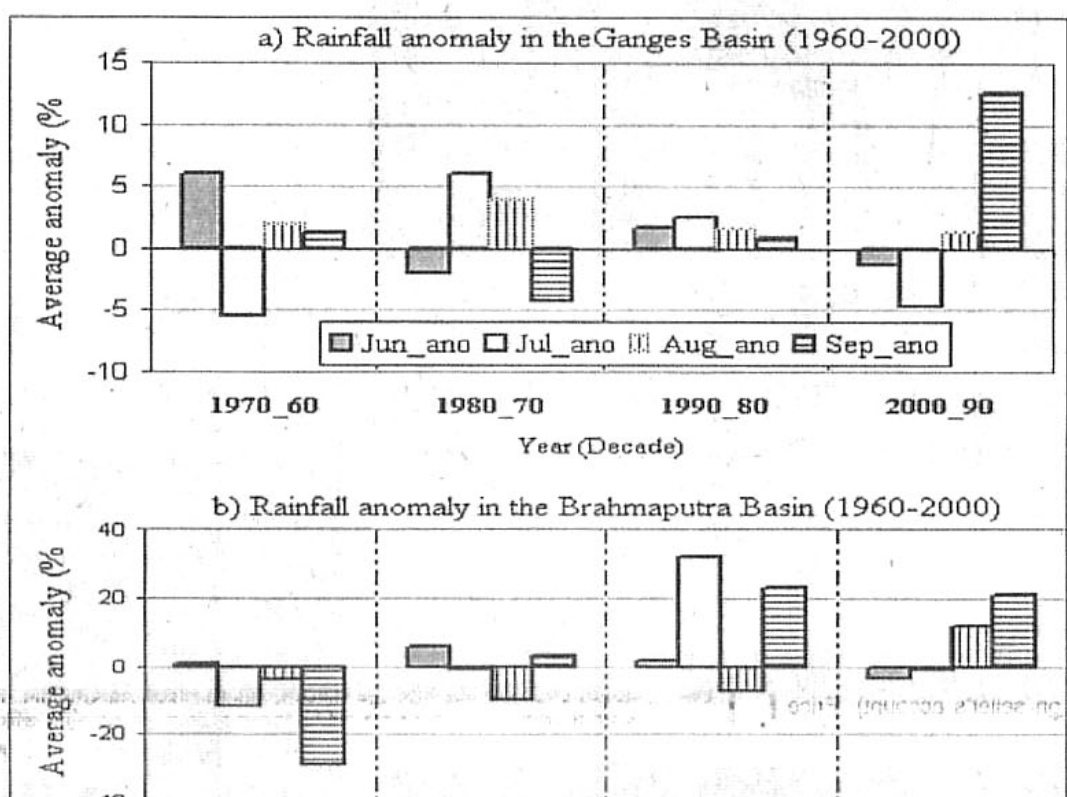
the Brahmaputra basin also displayed similar trends. The percentage of August-September rainfall, as compared to 1970-80, has significantly increased in the recent decades. Other months displayed considerable variations too.

Therefore, some atmospheric and climatic changes in the hydro-meteorological system in the Ganges-Brahmaputra basin system in Bangladesh are very distinct (rainfall anomaly in the Meghna basin is not reported here). These findings show that the variations of total seasonal rainfall, the timing of onset, peak, and recession, are changing considerably at a dramatic pace.

Factors related to climatic and human induced interferences are hypothesized to be responsible for these changes. If preventive measures are not taken immediately, these changes will have serious impact on the livelihood of the people in the lower riparian countries like Bangladesh.

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Figure 1: Basin-wide decadal rainfall anomaly from 1960 to 2000: a) Ganges and b) Brahmaputra (anomaly is calculated from the long-term mean average: 1960-2000)



Global emissions and warnings

The Climate Change Conference on 3-14 December, under the auspices of United Nations and hosted by the Government of Indonesia to be held in Bali, brings together representatives of over 180 countries as well as observers from intergovernmental and non-governmental organisations, and the media. Climate change has been in active news for quite some time now. The Arctic ice pack reached its lowest level since measurements have been taken. Glaciers are melting and the world's weather patterns are changing. Due to rise of sea level, many island and coastal countries have been under serious threat of extinction. The countries that contribute to the disastrous global warming affecting the entire humanity have taken notice of the warnings from the rising sea levels.

DR ABDUL RUFF COLACHAL

THE disastrous global warming is the result of carbon dioxide emissions from power plants, cars, buildings, domestic firewood, methane, wastage of gas by drivers, contaminated surface layers of the world's oceans, among other sources. The Kyoto protocol is the closest the world has come to a global agreement to combat climate change and it is running out. Signed in 1997, it was designed to stabilise emissions of greenhouse gases that cause global warming. Ratified by 167 countries, it has been ignored by major polluters such as the US, India and China and expires in 2012.

Already the weather is becoming increasingly erratic, and more flux may be in store. The Arabian Sea has become warmer by 0.2 to 0.8 degrees Celsius over the last decade, leading to an 'increase in extreme weather events in our coastal areas', according to the meteorological department. The impact of climate change may be most telling on our water resources. The Himalayan glaciers that feed the Indus are melting at an alarming rate and may disappear altogether in 50 years. What we may see initially is a period of excess flooding, followed by a drying up of the waterways.

As of December 2006, a total of 169 countries and other governmental entities have ratified the Kyoto agreement (representing over 61.6% of emissions from Annex I countries). Notable exceptions include the United States and Australia. Other countries, like India and China, which have ratified the protocol, are not required to reduce carbon emissions under the present agreement. By most counts, the United States is the No. 1 emitter of greenhouse gases, notably carbon dioxide produced by coal-fired power plants and petroleum-fueled vehicles. But at least one study this year indicated that fast-developing China is now in the lead. Other participants are the European Union, France, Germany, Italy, the United Kingdom, Japan, Canada, India, Brazil, South Korea, Mexico, Australia, Indonesia, South Africa, and Russia.

In 2002 about 40 percent of US carbon dioxide emissions stem from the burning of fossil fuels for the purpose of electricity generation. Coal accounts for 93 per cent of the emissions from the electric utility industry. Coal emits around 1.7 times as much

carbon per unit of energy when burned as does natural gas and oil as much as 1.25 times. Natural gas gives off 50 percent of the carbon dioxide, the principal greenhouse gas, released by coal and 25 percent less carbon dioxide than oil, for the same amount of energy produced. About 20 percent of US carbon dioxide emissions come from the burning of gasoline in internal-combustion engines of cars and light trucks. The United States is the largest consumer of oil, using 20.4 million barrels per day. The UN's intergovernmental Panel on Climate Change estimates that aviation causes 3.5 per cent of global warming, and that the figure could rise to 15 per cent by 2050. Building structures account for about 12 percent of carbon dioxide emissions.

Sixteen countries that together represent 85 percent of the global economy and 80 percent of global greenhouse gas emissions are more or less responsible for rising temperatures, according to the environment scientists. This includes the leading "Western" economies and large "developing" ones such as China, India and Brazil. Sadly, it does not include the countries that are most at risk from the impacts of climate change: places like Bangladesh and most African nations that do not have funds to build dykes and grow drought-resistant crops.

The Kyoto Protocol limits emissions to a percentage increase or decrease from their 1990 levels. Since 1990 the economies of most countries in the former Soviet Union have collapsed, as have their greenhouse gas emissions. Because of this, Russia should have no problem meeting its commitments under Kyoto, as its current emission levels are substantially below its limitations.

The United States, although a signatory to the Kyoto Protocol, has neither ratified nor withdrawn from the Protocol. The signature alone is symbolic, as the Kyoto Protocol is non-binding on the United States unless ratified. The Clean Air Act amendments of 1970 required 90 percent reduction of carbon monoxide and hydrocarbon emissions by 1975.

The Clean Air Act amendments of 1970 required 90 percent reductions of carbon monoxide and hydrocarbon emissions by 1975. Ambient air quality goals have a similar history. In the case of global warming, the emptiness of political gestures is already on display. According to a recent

report from the European Environmental Agency, the signatories to the Kyoto Protocol are already blowing past their commitments with wild abandon. The EU, under its current policies, is on track for a 7-percent shortfall in its emission targets by 2010; France is set to have a 9-percent shortfall; in Belgium the shortfall will be 14 percent; and in Denmark it will pass 36 percent.

While carbon dioxide is the principal greenhouse gas, methane is second most important, followed by Nitrous oxide (N₂O). Deforestation is responsible for 25 percent of all carbon emissions entering the atmosphere. City gridlock (wastage of gas by drivers while just sitting in traffic) translates to carbon dioxide in cities. Carbon in atmosphere and ocean: The atmosphere contains about 750 billion tons of carbon, while 800 billion tons are dissolved in the surface layers of the world's oceans. About 50 billion tons of carbon is estimated to be held in a frozen state in the tundra, and now the tundra is beginning to become a source of carbon dioxide. Remaining scientific uncertainties include the amount of warming expected in the future, and how warming and related changes will vary from region to region around the globe. There is ongoing political and public debate worldwide regarding what, if any, action should be taken to reduce or reverse future warming or to adapt to its expected consequences.

The United States was, as of 2005, and still remains the largest single and silent emitter of carbon dioxide. China was projected to take over at the top of the table by late 2007, however one study now concludes this has already occurred. The Kyoto Protocol to the United Nations Framework Convention on Climate Change is an amendment to the international treaty on climate change, assigning mandatory emission limitations for the reduction of greenhouse gas emissions to the signatory nations. The objective of the protocol is the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. The 1997 Kyoto deal requires 36 industrial nations including United States to reduce heat-trapping gases produced by power plants and other industrial, agricultural and transportation sources by an average 5 per cent below 1990 levels by 2012.

U.S. makes up a fourth of the

world's total output but it is unwilling to cut emissions of greenhouse gases. Bush is now turning to China, India and the other big polluters to swap green technology and other voluntary ways of doing something about global warming. His administration also has set about creating a process for more such talks and a possible long-term global goal for reducing emissions, with each nation permitted to draw up its own strategies and plans. Representatives from among the gathering of 16 nations, along with the European Union and the United Nations, expressed skepticism that not much more than talking and political goals might be accomplished, but also optimism that at least the United States was willing to become part of such talks.

Scientists predict that global warming will take many of the present mega cities and part of the cities under the sea by 2100 that include New York, Los Angeles, Shanghai, and cities in northern Europe. This will happen when half of the ice in Greenland and Antarctica will melt due to global warming. Most of the coastal countries will be under oceans. The temperature will increase from 1 to 7 degree centigrade. So, highest temperature will likely be nearly 50 degree centigrade during the summer. This is a serious threat which is much more serious than any other threats such as epidemic or terrorist threat. As nations, we need to prepare our own action plan and combined action plan in SAARC to reduce pollution as soon as possible. Individuals like you and me also should reduce pollution by saving energy in our everyday life.

The U.N.-brokered international treaty intended to cut greenhouse gas emissions is due to expire in 2012. Critics have said they fear USA might undermine even the next round of negotiations in December in Bali, Indonesia. "I don't think that anyone believes that the next president -- whether Republican or Democrat -- will follow Bush's lead on climate," said Nicholas Eisenberger of Green Action, a New York consulting firm that advises companies on climate issues. "The question for President Bush is whether he has anything relevant left to say," Eisenberger said. "If he does not, the world will just move on without him."

Weak US Initiative Earlier Bush rejected the 1997 Kyoto treaty, the debate within the United

Carbon free Sri Lanka: Success of Davos conference

MOHAMMAD SHAHIDUL ISLAM

THE 2nd International Conference on Climate Change and Tourism, held in Davos from October 1 to 3, organised by UNWTO together with the United Nations Environment Program (Unep), the World Meteorological Organisation (WMO) and supported by the World Economic Forum (WEF) and the Swiss government, has urged "action by the entire tourism sector to face climate change as one of the greatest challenges to sustainable development, and to the Millennium Development Goals in the 21st Century."

The conference, participated by more than 600 representatives from over 100 countries and 20 international organisations, has become crucially important for several reasons in the present backdrop of world environment sickness. UNWTO has declared a yearly Climate Change Award for innovation in the battle against global warming. The conference got new momentum with a dynamic innovation by Sri Lanka, an important member state of UNWTO. Sri Lanka has shown unprecedented leadership in taking the initiative -- Earth Lung -- for a carbon-free Sri Lanka. This sensible and cooperative policy bridges the trade-off between environmental awareness and tourism's pro-development potential.

In this important conference, the world tourism and environment authorities met to find a solution for global warming, for which tourism has been identified as victim and victor. Geoffrey Lipman, Assistant Secretary-General of UNWTO, has pointed that: "we know that the solutions for climate change and for poverty are interrelated. Here, at Davos, the tourism sector committed itself to take a long-term strategic position on these issues; starting now, and to do this as a contribution to the UN Secretary-General's global roadmap for the Climate Change Conference in Bali at the end of this year. We leave Davos more optimistic about our future on the common agreement to build upon quadruple bottom-line sustainability of economic, social, environmental and climate responsibility." The conference has identified four basic areas for the tourism sector to address:

• Decreasing greenhouse gas

(GHG) emissions, especially from transport and accommodation activities;

• Adjusting tourism businesses and destinations to changing climate conditions;

• Using existing and new technology to get better energy efficiency; and

• Building financial resources to assist poor regions and countries.

It has been accepted that the tourism industry is challenged by climate change and, at the same time, is not an insignificant contributor to greenhouse gas emission. The Conference has also shown that, through sharper and better managed development courses, tourism can help in fighting poverty in developing countries like Bangladesh, India and Sri Lanka etc., by reducing their carbon footprint and making a contribution to the protection and conservation of natural and nature-based properties. Literally, tourism has a very important and constructive part to play in the key sustainability challenges of the day.

Whereas climate is, in fact, an indispensable resource for tourism, there can be no complacency with respect to the power of climate change to affect the infrastructure, the people, the financial networks and the ecosystems that are vital to the success of tourism at all stages. In the conference, WTO advised member countries and the tourism industry to build up climate-tourism partnerships and efficiently use the climate information and prediction services provided by the National Meteorological and Hydrological Services, and to slot in climate factors in tourism policies, development and management plans, so as to guarantee a sustainable future for the industry.

Participants from public administration, the private sector, the academic community and civil society at large, got together to discuss particular issues around the response of the tourism industry to global warming, and focus on both destinations and activities. The meeting points on destinations have been reflected on:

• Coastal destinations and small islands;

• Mountain regions and winter tourism; and

• Nature-based destinations.

The tourism sector also has to build-up the various sectors and activities of this industry. This will be the subject of a final plenary session on mitigation with a special

focus on:

• Transport;

• Tour operation and

• Accommodation.

In the conference, the importance of e-Tourism drew the serious attention of UNWTO. Carbon-free destinations and interactive e-Tourism tools to formulate a consistent response to climate change are among the suggestions discussed at the Davos International Conference. UNWTO requested all private and public stakeholders in tourism to factor climate change into their decision-making process. UNWTO backs alleviation of the effects of climate change, maintaining its obligation to eliminate excessive poverty and nurture sustainable development, as envisaged in the UN Millennium Development Goals.

Increased public awareness about climate change, and the solutions can be advanced through web-based tools which showcase destinations offering more climate responsible tourism options, as travel information is progressively becoming web-oriented. Changing consumption behaviour, for example, by encouraging carbon-neutral travel, will be promoted through the UNWTO e-Tourism Climate Change Award. This initiative is a global first, as it relates tourism response to climate change with the latest state of the art information and communications technology. It is also among the practical outcomes of UNWTO's public-private partnership signed with Microsoft, and acknowledges best practice responses to climate change in order to motivate innovation and change of behaviour to global warming. The pilot try-out for this award will be held at the Canadian Tourism Commission's "Canada-e-Connect," the first Canadian e-Tourism Strategy Conference & e-Tourism Awards in Vancouver, Canada, November 7-9. Each entry will be reviewed by a panel of experts selected by UNWTO, which will certify and promote the winners.

The tourism industry requires groundwork for a possible change in tourism demand as a response to climate change. With transport as one of the most visible contributors to global warming, increased awareness regarding climate change might sway tourists to switch from long haul to short haul destinations. But these shifts could potentially harm least developed countries, most of which depend heavily on tourism income -- 46 of the 49 poorest countries of the

world rely on international tourism as their primary source of foreign exchange earnings.

In the Davos Conference, Sri Lanka proposed a noble idea -- Earth Lung -- Carbon-Free Sri Lanka. This practical policy response represents an active campaign to raise environmental awareness and tourism development. As a small country, which depends heavily on long-haul travel to generate tourism income, Sri Lanka is facing up to the climate challenge and aims at becoming the first carbon-neutral destination. As its tropical forest systems can store large amounts of carbon which otherwise would add to the CO₂ in the atmosphere, Sri Lanka aspires to be a travel and tourism Earth Lung. The initiative has been highly congratulated, and worked as an eye-opener for other destinations responsible for extensive CO₂ emission.

With its commitment to a range of Land Use, Land Use Change & Forestry (LULUCF) activities, associated with appropriate Carbon Offset Programs (COP), "this initiative has both real and symbolic value, and we hope other countries and stakeholders will join the Earth Lung Community to create a global framework that will contribute to the overall UN response to climate change," said UNWTO Assistant Secretary-General, Geoffrey Lipman.

Climate change is not new to UNWTO's memo. Since the 1st International Conference on Climate Change and Tourism, convened by UNWTO in Djerba, Tunisia, in 2003, a lot of information and facts have been generated, identifying the complex relationships between the tourism sector and climate change. Just as climate change is being addressed globally under UN leadership, UNWTO has the responsibility of finding out how the tourism industry can adapt to and face the climate challenge.

With serious focus and consideration, the outcomes of the Davos Conference will be discussed at a UNWTO Ministerial Summit in London on November 13, and passed as suitable by the UN Strategy for Climate Change Response, to be talked about in Bali later in December. The world awaits something of use for facing global warming.

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States has shifted toward growing concern about global warming. President George W. Bush, hosting major polluting nations 28/29 September, sought to convince skeptics that he wants to help shape the next global deal on climate change, despite his long history of shunning such efforts. Bush told a gathering of envoys from the 17 biggest emitters of greenhouse gases that the took global warming seriously and that the United States would do its part to combat it. The countries attending the Washington session together account for 80 percent of the global economy and 80 percent of global emissions. They include large European countries such as Britain and Germany as well as fast-growing developing countries like China, India and Brazil. His acknowledgment of a problem highlighted a shift from his previous questioning of the science linking human activity to rising temperatures. A European participant in the two-day climate session echoed that sentiment: "I know that with this administration we will not reach any results because the time is too short."

The two-day gathering of the world's biggest polluting nations seemed to be aimed at undermining the UN's efforts to tackle global warming, say European sources. "The conference was called at very short notice," said one participant. "It's a cynical exercise in destabilizing the UN process."

Bush's two-day conference on Sep 28-29 followed a U.N. meeting on 24 Sep, at which Secretary-General Ban Ki-moon tried to build support among 80 world leaders for reaching agreement at the planned December talks. Other participants at the State Department conference were from Britain, France, Germany, Italy,

Japan, Canada, Brazil, South Korea, Mexico, Russia, Australia and South Africa. The meeting on Sep. also drew about 70 demonstrators from Greenpeace and other environmental groups outside the State Department, where dozens were arrested for refusing to leave the premises after two hours of protest. The activists labeled the conference a fraud for not backing mandatory cuts in greenhouse gases.

Antipathy to action

Bush urged delegates to set a joint long-term goal for reducing the CO₂ emissions that were causing the climate to heat up. "By setting this goal, we acknowledge there is a problem. And by setting this goal, we commit ourselves to doing something about it," Bush said. He told delegates his Washington forum would work within the framework of UN-led negotiations to craft a successor to Kyoto, due to begin in December in Bali, Indonesia. But he stressed that it was possible to cut emissions without harming economies. "We must do it in a way that does not undermine economic growth or prevent nations from delivering greater prosperity for their people," he said.

The plan by US President George W Bush for countries to set their own targets for reducing greenhouse gas emissions has drawn considerable criticism. Some delegates at a meeting of the world's top 16 polluters saw Bush's comments as a US reluctance to commit to binding action on global warming. Officials at the Washington forum said legally-set international targets were the only way to tackle climate change. Bush stressed that combating climate change should not damage the economy. And he again hinted that the US would not

commit itself to mandatory CO₂ cuts. "Each nation must decide for itself the right mix of tools and technology to achieve results that are measurable and environmentally effective," Bush told delegates in Washington. But his comments did not go down well with a number of the ministers, diplomats and officials attending the US-sponsored forum on energy security and climate change.

South African Environment Minister Marthinus van Schalkwyk said in a statement: "What [the US] placed on the table at this meeting is a first step, but is simply not enough. We think that the US needs to go back to the drawing board."

Some observations

On his very first day in office, 20 January 2001, President Bush took up a defiantly ostrich-like stance on the issue of climate change. He ripped up dozens of environmental regulations including rules for less arsenic in drinking water, a ban on snowmobiles in national parks, controls for raw sewage overflow, energy efficiency standards, and protections against commercial logging, mining, and drilling on national lands including the Arctic Circle.

The US refuses to admit that climate change is real and that humans are a factor. The U.S. is doing nothing to address climate change. The United States refuses to engage internationally. Bush still refuses to accept mandatory limits on carbon emissions or efforts to change America's reliance on fossil fuels. So begins a hand-sized handout, easy for reporters to pocket, issued at the State Department where President Bush was to cap two days of talks at a White House-sponsored climate change conference that is as much about salesmanship as it is about diplomacy.

The UN's own scientists are clear that Kyoto did not go nearly far enough and fraught negotiations on a new framework -- dubbed the "Son of Kyoto" -- have been underway for some time. It is now widely accepted that carbon trading will form the basis of any new agreement. A summit in Bali in December will search for a formula that satisfies developing countries demanding investment in return for abandoning the obvious, carbon intensive route to growing their economies, and rich industrial nations determined not to agree a deal that could damage their economies.

A letter to Bush from members of Congress, led by Massachusetts Democrat Ed Markey, who chairs the House of Representatives global warming committee, urged mandatory curbs on carbon dioxide emissions: "We need actual reductions in global warming pollution, not aspirational goals." "What would really galvanise the international

efforts on climate would be a set of policies in the United States to put the United States on a fast track to building a low carbon economy," John Ashton, Britain's climate envoy, said in a telephone interview. "We now need to stop talking about talking and start deciding about doing."

The Washington talks are not formal climate negotiations, but rather an airing of views on greenhouse gases, energy security, technology development and commercialisation, financing -- and a daylong closed-door session on "process and principles for setting a long-term goal" to cut the human-caused emissions that spur climate change. Bush's proposal would come up with "aspirational goals" to limit emissions by the end of 2008, shortly before his administration leaves office. "U.S. leadership in the area of climate change is essential, not only because it is a big emitter of greenhouse gases, but because the U.S. is on the cutting edge of developing technological solutions and bringing them to the global market," said special U.N. climate envoys Gro Harlem Brundtland, Ricardo Lagos Escobar and Han Seung-soo at a Capitol Hill briefing.

Every government needs to include issues like environment pollution and global warming in the high school textbooks to make this generation aware about the upcoming natural threats. The Bali meeting in December is meant to begin figuring out a way to curb emissions after 2012, when the Kyoto Protocol expires. The Kyoto plan sets out mandatory targets for reducing greenhouse emissions, but the United States has rejected it as unfairly exempting fast-growing economies like China and India.

Secretary-General Ban Ki-moon said he saw a "major political commitment" to seek a global solution to the problem at future U.N. discussions in December in Bali, Indonesia. USA, the largest polluter is not as keen as it should have been to initiate steps to contain the global warming from its own side, as it does with Russia and China and other nations on strategic issues. Obviously White House does not appreciate other nations dictating terms to the super power for cutting down emission. China already has got in place a series of anti-pollution steps including propaganda, while India cannot digest the fact it is also in global warming endeavours. But now almost a final warning has been alerted by the concerned specialist agencies about the impending disasters, if global warming is not brought down considerably as the top-most priority by all concerned countries.

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