Heavy, Dam-Busting Rainstorms To Increase, Study Finds

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By Andrew Freedman

http://www.climatecentral.org/news/biggest-rain-and-snowstorms-likely-to-get-bigger-study-finds-15832

Boosted by the added moisture from warming air and ocean temperatures, the heaviest precipitation events — those that can cause dams to fail, rivers to spill over their banks, and cities to flood — are likely to become significantly heavier by the end of this century, according to a new study. The study, published in the journal Geophysical Research Letters, warns engineers and planners that are designing long-lasting, critical infrastructure that planning for only the current types and severity of extreme events is likely to underestimate the actual risk.

This is the first study to focus on changes in the heaviest possible rain or snowstorms, and it builds upon the findings of previous research that found that extreme precipitation events are already becoming more common in some parts of the world, and that global warming has increased the odds of particular flooding events, such as record flooding that struck parts of England and Wales in 2000.

The study examined changes in what is known as the "potential maximum precipitation," which is the maximum amount of precipitation that is “potentially possible” in a particular area given ideal conditions.

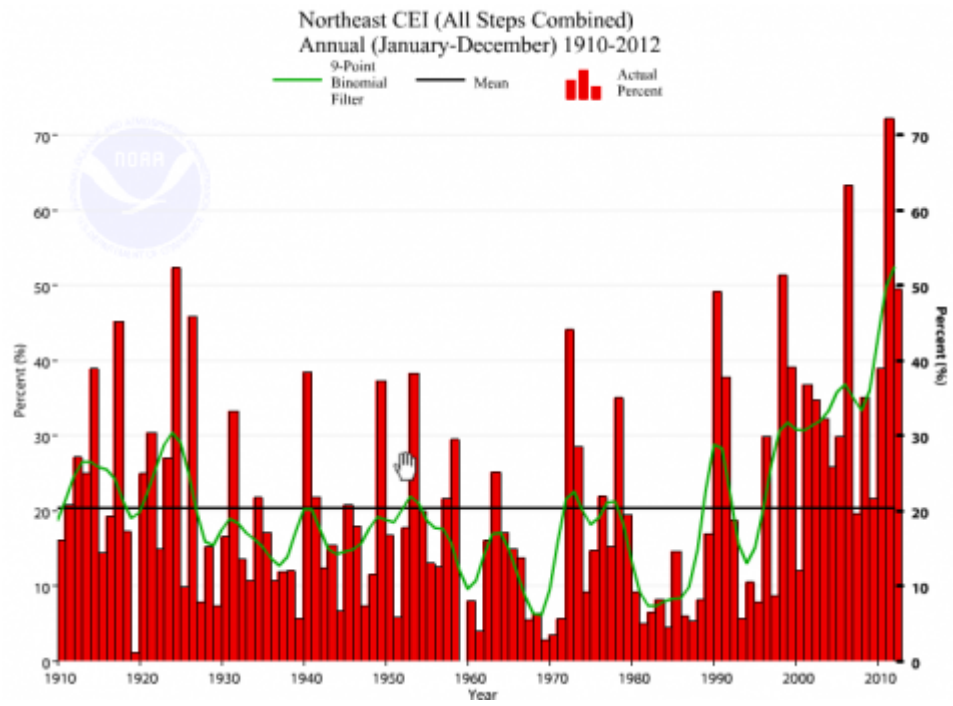
That calculation is not something that will be familiar to viewers of the daily TV weather report, but it helps engineers guide infrastructure planning for dams and other water management structures, many of which are constructed to last 50 to 100 years. Many of the dams and levees in use today along the Mississippi River were designed in the early 1900s, for example.

“We looked very specifically at the biggest storms,” said Kenneth Kunkel, a senior research professor at North Carolina State University’s Cooperative Institute for Climate and Satellites and lead author of the study. “What we’re saying is the big event on the extreme tail of the distribution . . . that event is likely to be bigger by the end of this century; quite a bit bigger.”

The paper looked at three factors that can affect the potential maximum precipitation: the amount of moisture, or water vapor, in the atmosphere, the vertical motion of air, and horizontal winds. The researchers used climate models to simulate how increasing amounts of greenhouse gases in the atmosphere, such as carbon dioxide, would alter those factors. Kunkel said the researchers were particularly interested in seeing whether the other factors would offset the influence of the already observable upward trend in water vapor.

The study found just the opposite — the only factor that will change significantly in a warming world is the maximum moisture in the air, and it won’t be counterbalanced by changes in the other variables.

Using climate models that incorporated two different scenarios of future greenhouse gas emissions, the researchers found that the largest precipitation events could be as much as 20 to 30 percent larger across the lower 48 states by the 2071-2100 period. The biggest increases are slated for the West, the study found, although the maximum precipitation values are generally lower in the West than they are in the more humid eastern half of the country.



Heavy precipitation events are already becoming more frequent and/or severe in parts of the U.S. This chart shows extremes in 1-day precipitation in the Northeast during the Fall season.
Click image to enlarge. Credit: NOAA/NCDC.

The study also noted that the plumes of rich, tropical moisture known as "atmospheric rivers," which have been responsible for many of the historic floods along the West Coast, may grow more intense — making them more analogous to atmospheric rapids.

Dam failures can have catastrophic consequences. In 1889, a dam failure in Pennsylvania killed more than 2,200 people in Johnstown, and more recently, dam and levee failures were responsible for much of the deadly flooding in New Orleans when Hurricane Katrina made landfall in 2005.

Other studies have shown that there already is about 4 percent more water vapor in the air over the planet's oceans compared to the preindustrial era, which translates into extra moisture for storms of all sizes to wring out as rain or snow. Water vapor is forecast to continue to increase as temperatures rise throughout the rest of the 21st century, since warmer air holds more moisture, and warmer ocean temperatures allow for more evaporation to occur. Published research also shows that global warming may yield wetter and more powerful hurricanes in the North Atlantic Basin, although there may be fewer storms per hurricane season.

How much temperatures and water vapor will go up depends in part on the amount and pace of any greenhouse gas emissions reductions.

Egypt's Morsi says no Nile River crisis, fears abound

Mohammed AwadPublished in Bikya Masr on 06 - 04 - 2013

CAIRO and ADDIS ABABA: Egyptian President Mohamed Morsi on Saturday attempted to dispel fears that rifts were continuing to create tension between Egypt, Sudan and the rest of the Nile Basin countries. His comments came after months of wrangling after a report suggested Egypt was ready to attack Ethiopia's Grand Renaissance Dam project if it went forward.

"Egypt's ties stumbled in the past, but now we are together, with possibilities of enhancing cooperation that satisfies the interests of all sides," Morsi told reporters at the end of a two-day visit in Sudan.

"Mutual talks in this respect are currently ongoing, and we welcome the restoration of old relations with Africa," Morsi added.

However, he did not talk specifically about the demands of other Nile Basin countries, including Ethiopia, which has long pushed to have their own rights to the world's longest river. Sudan and Egypt are seen as two allies and stalwart in their antagonism against other Nile River countries, especially concerning any dam projects.

Despite Egypt and Sudan's war of words against Ethiopia and the dam project, Addis Ababa has said it will go forward with the project as part of its energy needs.

A source close to the Ethiopian government and those responsible for the massive Nile Renaissance Dam project has told Bikyanews.com that the government is expected to increase efforts to push forward on the construction of the large dam project that has left Egypt and Sudan frustrated.

"It is serious that the government here is looking to increase productivity on the dam project," said the source, who has worked in the higher levels of the Ethiopian government over the past two decades. "It is a result of the public antagonism that has been leveled at Ethiopia over Nile water and what is believed to be the right of any nation to use its resources for the betterment of its own society."

It is the latest in the ongoing battle for the world's largest river's water, with Egypt and Sudan continuing to remain obstinate in amending any of the colonial treaties that guarantee their countries with a lion's share of water from the Nile.

Wikileaks released documents this month that revealed Egypt and Sudan had been planning to attack an Ethiopian dam project to "protect" their rights over Nile water based on colonial era treaties.

In documents revealed by Wikileaks, the Egyptian and Sudanese government appeared ready to develop a launching pad for an attack by Egypt against the dam.

Wikileaks has leaked files allegedly from the Texas-based global intelligence company, Stratfor, which quote an anonymous "high-level Egyptian source," which reported that the Egyptian ambassador to Lebanon said in 2010 that Egypt "would do anything to

prevent the secession of South Sudan because of the political implications it will have for Egypt's access to the Nile."
BN

China decision on dams may hurt ties with India

PM Li Keqiang had personally called only German Chancellor Angela Merkel and Manmohan Singh after coming to power in September.

MADHAV NALAPAT Beijing | 6th Apr 2013

http://www.sunday-guardian.com/investigation/china-decision-on-dams-may-hurt-ties-with-india

After a gap of two years following the uproar among ecologists and disquiet in Delhi about China's beginning construction of the Zangmu gravity dam on the Brahmaputra river in Tibet (or Yarlung Tsangpo, as it is locally known), the sanctioning of three new dams (Jiache, Degu and Jiexu) on the same river just four months after Xi Jinping took over as General Secretary of the Chinese Communist Party in September 2013 threatens to derail the reset of ties with India which the new Chinese Head of State is planning to carry out.

Together with German Chancellor Angela Merkel, Prime Minister Manmohan Singh of India was the only other Head of Government who was called personally by incoming Chinese PM Li Keqiang on his first day in office. And although both President Asif Zardari of Pakistan and President Rajapaksa of Sri Lanka were called by President Xi Jinping soon after taking charge, this was explained by a senior official in Beijing as being "because both are executive Presidents", unlike India's Pranab Mukherjee, whose role is titular. Chinese officials also point to the early meeting of Xi with Manmohan Singh in Durban and the cordial talks they held there as evidence that the new Chinese Head of State seeks a "reset of ties with India".

As in the case of his predecessor Hu Jintao, who distinguished himself from the West-focused Jiang Zemin, the first country Xi visited after his swearing in was Russia, followed by the BRICS summit in Durban. Interestingly, the policy document released after the September 2012 Party Congress mentions no country by name, except for the BRICS bloc, thereby indicating that Xi wishes to continue the global focus of Hu rather than the West-focused policies of Jiang Zemin, the President under whom a few in China amassed billions while state-provided benefits to the rest of the population got drastically pruned. A scholar in Beijing claimed that during the 1990s, Jiang "converted the Chinese Communist Party into the Chinese Capitalist Party", and that he and his faction "blocked efforts during 2002-2012 by Hu Jintao and Wen Jiabao to make the system less unfair to those without influence", especially the benefit of ancestry. The scholar was hopeful that "Xi Jinping would succeed where Hu

failed, and bring back Deng Xiaoping Thought into the policy matrix". Although Deng concentrated on economic development, he was careful throughout the 1980s not to dilute the "Iron Rice Bowl" of social security benefits to the common man, whereas Jiang did away with this safety net.

Officials in Beijing are clearly in a mood to assert their own position in international councils, even where these collide with the course favoured by NATO, Syria being an example. Beijing has joined with Moscow to block NATO, Qatar and Turkey from doing a Gaddafi on the country's Shia President, Bashar Assad. "We would like India to remain loyal to non-alignment", said a senior official. The possibility of Delhi joining hands with Tokyo as a military alliance partner of Washington is giving nightmares to policymakers in Beijing, who see the need for "practical steps to show India that China can be an all-weather friend", the same formulation used in the case of relations with Pakistan. However, close ties with Islamabad are an important reason why diplomats in Delhi are sceptical of hints from Beijing of a reset in ties. A senior MEA official pointed out that (apart from the announcement that three more dams would be built on the Brahmaputra) "soon after Xi took office, it was announced that China was replacing Singapore in the managing of Gwadar port". The Indian side has yet to see any positive momentum in either the boundary talks (where the Jiang position, which is much more rigid than that of Zhou Enlai and Deng Xiaoping, continues to this day) or in giving better access to Indian pharma and IT companies.

Chinese officials say that they are looking at ways of evening the balance of financial flows between India and China "by getting more involved in financing Indian industry and infrastructure" and also in "sending 300, 000 tourists each year to India to visit Buddhist sites".

They are also uneasy at the nature of a Taliban and are therefore hesitant in following the US lead in accepting the Pakistan army's plea that the extremist group ought to be given a privileged place in any new Afghan dispensation. Some officials speak of joining hands with India "to keep extremists from power and to stabilise Afghanistan", although as yet Delhi does not seem to have received any formal overture in this regard. Beijing under Xi is also likely to drop its earlier opposition to India's fuller participation in fora such as the SCO and APEC. However, the matter of the four dams across the Brahmaputra remains. "Unless Beijing agrees to share information with India on this dam project and ensure that the interests of the lower riparian states (India and Bangladesh) are safeguarded, a reset cannot take place", a senior official in Delhi warned. Officials in Beijing were unwilling to comment on whether President Xi was ready to agree to meaningful talks with Delhi on the Brahmaputra dams. "Should that happen, the sky is the limit for India-China relations," a senior Indian official claimed.

India not to be affected by Chinese dams on Brahmaputra:

Govt

New Delhi | Friday, Apr 5 2013 IST

http://news.webindia123.com/news/Articles/India/20130405/2183957.html

The Centre today sought to dispel reservations about the three dams being built by China on the Brahmaputra, saying the projects will not affect India as most of the water in the river comes from Arunachal Pradesh.

"We (India) have taken up the issue with China. The issue has been taken up by our country at the highest level," Union Water Resources Minister Harish Rawat told a news conference here.

"Prime Minister Manmohan Singh discussed it with the President of China when they met recently," Mr Rawat said.

The Minister said the three dams being built by China will not affect India's use of the river.

"Most of the water to the Brahmaputra river comes from Arunachal Pradesh and other places," Mr Rawat said while announcing the start of India Water Week from April 8-12.

Mr Rawat said efficient water management is the theme of 'India Water Week(IWW)-2013'.

The five-day conference will be inaugurated by President Pranab Mukherjee on April 8, he informed.

"This event has generated considerable interest among those who are concerned with water resources. It is encouraging that 1758 registrations from 64 countries have already taken place.

"The technical themes have been well received with 200 papers likely to be presented at the conference," Mr Rawat added.

Another concern of his ministry is growing pollution in rivers, he said.

"We are worried about pollution in rivers," the Minister said.

This year's Water Week will have two major components - a multi-disciplinary dialogue in the form of a conference and a concurrently running exhibition enriching the theme and showcasing the technologies in water sector, Mr Rawat revealed.

IWW-2013 is being organised by the Union Ministry of Water Resources to create a platform for a participatory dialogue on the issues related to water, which involves all stakeholders, he added. UNI NY RJ 1700 NNNN

Fifteen new dams to come on stream in Iran

TEHRAN - Fifteen new dams will be inaugurated across Iran by the end of the current Iranian calendar year, which began on March 21, IRNA News Agency quoted Managing Director of Iran Water Resources Management Company Mohammad Haj-Rasouliha as saying.

http://tehrantimes.com/economy-and-business/106552-fifteen-new-dams-to-come-on-stream-in-iran

The dams will have a total water storage capacity of 6 billion cubic meters, he added. The existing dams gave a total storage capacity of 52 billion cubic meters, he noted.

In August 2012, Haj-Rasouliha said that according to the fifth five-year development plan, which started in March 2011, one dam should be built each month.

Some 36 billion rials (around $3 billion) has been allocated for dam building, he noted.

Some 3 billion cubic meters of surface waters in Iran are being reserved behind dams, Energy Minister Majid Namjou said in June 2012.

He told the IRNA News Agency that 75-80 percent of surface waters are poured into the dams.

Iran ranks first in the region and third in world in terms of dam construction industry, First Vice President Mohammad Reza Rahimi announced last year.

He added that currently contractors are building 135 new dams across the country and also doing several projects in other countries.

In July 2011, Iran celebrated self-sufficiency in dam construction by inaugurating the Karun-4 dam, the largest concrete dam in Iran, which has been completely designed and constructed by domestic engineers.

Hydroélectricité : le renouvellement des concessions de barrages pose problème

EnvironnementPublié le jeudi 4 avril 2013

http://www.localtis.info/cs/ContentServer?pagename=Localtis/LOCActu/ArticleActualite&jid=1250265061859&cid=1250265058566

Le 3 avril, les députés en charge d'une mission d'information sur la mise en concurrence des barrages hydroélectriques ont esquissé les conclusions de leur rapport final attendu

d'ici quelques semaines. La pertinence du processus de remise en concurrence est remise en cause. Et des difficultés sont pointées au niveau local.

Leur rapport est attendu dans un bon mois. Et il s'annonce au vitriol ! Après avoir entendu une centaine d'acteurs de la filière, deux députés, Marie-Noëlle Battistel (Isère) et Eric Straumann (Haut-Rhin), semblent parvenir au même constat que leurs collègues sénateurs, à l'initiative le mois dernier d'une proposition de loi visant à donner du lest aux exploitants, en prolongeant de quinze ans la durée des concessions hydrauliques en cours. A savoir que la filière est fragilisée et que la procédure actuelle de renouvellement des concessions s'avère inadaptée. "Or, on l'oublie souvent, mais c'est la première source d'électricité d'origine renouvelable", rappelle Marie-Noëlle Battistel. "Clé de voûte du système électrique actuel, elle a donc vocation à constituer le cœur de la transition énergétique", a ajouté le député François Brottes, à la tête de la commission des affaires économiques de l'Assemblée nationale. L'hydroélectricité joue un rôle essentiel dans la régulation du réseau national. Prenons l'exemple du barrage Grand'Maison, dans l'Isère. Capable de stocker jusqu'à 140 millions de m³ d'eau, en grande partie issue de la fonte des neiges, "il peut fournir en quelques minutes l'équivalent de deux réacteurs nucléaires", indiquait dans un rapport le groupe de travail sur l'hydroélectricité qui a contribué à élaborer en Rhône-Alpes le Schéma régional climat air énergie (SRCAE). Par ailleurs, historiquement, ces barrages sont liés en zone montagneuse au développement d'industries électro-intensives telles que l'aluminium. "Bref, plus qu'un outil de production d'énergie, c'est aussi un aménagement qui régule les débits des cours d'eau et fait partie intégrante des paysages et des pratiques de montagne", résume Marie-Noëlle Battistel.

Nid à contentieux

Amorcée en 2006, la procédure de remise en concurrence des concessions qui arrivent à échéance vise pour l'heure 20% du parc, soit 49 barrages. Véritable casse-tête, elle a nécessité un toilettage réglementaire qui pousse à l'attentisme. "Les concessionnaires sortants ont rencontré l'an dernier des candidats potentiels à la reprise. Mais le travail qu'il reste à effectuer est considérable. Ce passage de relais s'avère coûteux en temps et en relations humaines. Car contrairement à la filière nucléaire, ici d'un site à l'autre le cadre n'est pas standardisé", explique Eric Straumann. D'où la nécessité d'un travail sur-mesure, au cas par cas, barrage par barrage. "Ce renouvellement au fil de l'eau ne sera pas sans conséquence défavorable sur l'emploi. Des salariés d'EDF seront réaffectés ou contraints à la mobilité. Des sureffectifs pourraient être à gérer", ajoute Marie-Noëlle Battistel. Autre difficulté, les conflits d'intérêt que la procédure risque d'engendrer. Bruxelles l'a d'autant à l'œil que, comme l'ajoute la députée, la France est le seul pays à s'être lancé dans cette voie concurrentielle : "C'est un nid à contentieux. Et un paradoxe de voir que les pays d'où sont issus certains candidats à la reprise des concessions n'ont eux-mêmes pas ouvert la gestion de leurs propres parcs hydrauliques à la concurrence".

Vallées hydrauliquement homogènes

Propriétés de l'Etat, les grands barrages sont concédés pour exploitation à 80% à EDF et pour le reste à la Compagnie Nationale du Rhône. Bien que les concessions soient traitées indépendamment les unes des autres - deux barrages proches peuvent avoir un échéancier de concession distinct – elles étaient jusque-là gérées en respectant une synergie de l'amont vers l'aval et une logique de chaîne hydraulique par vallée. Le risque, régulièrement pointé par des établissements de bassin tels que l'Entente interdépartementale du Lot, étant que "si la

concession est accordée à un autre producteur qu'EDF, il peut y avoir rupture de cette chaîne hydraulique, et donc hydroélectrique". Sur le terrain, les choses avancent pour anticiper ce risque et préserver cette continuité. "Le problème se pose dans ma circonscription. Ce risque de segmentation de la chaîne hydraulique structurée par vallée reste bel et bien prégnant", illustre Marie-Noëlle Battistel. Autre difficulté, qui sera détaillée dans le rapport à venir : la remise en concession impose d'établir un cahier des charges, dont la rigueur crispe les tenants d'une gestion plus coopérative des barrages. Vocations diverses (pêche, tourisme), usages de l'eau en jeu : les ambitions locales sont en effet multiples et délicates à concilier. "Des consultations locales sont menées sous la houlette des préfets coordonnateurs de bassin et des Dreal", précise Eric Straumann. Les services de l'Etat planchent par ailleurs, en application du Plan national d'actions pour la restauration de la continuité écologique des cours d'eau (Parce), sur le classement des cours d'eau. Dans deux bassins à fort enjeu hydroélectrique, Rhône-Méditerranée-Corse et Adour-Garonne, les arrêtés de classement ne sont attendus qu'au second semestre de l'année. Pour rappel, ce travail vise à classer les cours d'eau en deux catégories. "La plus exigeante gèlera l'implantation d'ouvrages hydroélectriques. Sans nuire à la richesse de nos fleuves et cours d'eau, il faut réfléchir et procéder au cas par cas afin de ne pas se priver d'un potentiel de développement", conclut Marie-Noëlle Battistel.

Morgan Boëdec / Victoires éditions

Methane emissions in Indian dams negligible, asserts NIO

http://articles.timesofindia.indiatimes.com/2013-04-03/global-warming/38247630_1_methane-emission-nio-reservoirs

Panaji, April 3 (IANS) A study by a leading central government funded marine research institute has debunked a claim by a Brazilian agency that Indian freshwater reservoirs, especially those of dams, were sources of methane.

Scientists of the National Institute of Oceanography (NIO), who conducted studies at eight reservoirs in the country - including the Selaulim reservoir in Goa and the Tillari reservoir in Maharashtra - found that methane produced by these reservoirs was minimal to the point of being insignificant.

The team, led by scientist Gayatree Narvekar, concluded that most of the methane produced in Indian reservoirs is converted to carbon dioxide by methane oxidizing microorganisms and that methane emission to the atmosphere from the Indian dam-reservoirs has been greatly overestimated.

"Although most of these reservoirs were found to turn anaerobic during the summer, measured dissolved methane concentrations are substantially lower than assumed. Moreover, accumulation of methane generally occurred below the depths of water intake for power generation and irrigation," the NIO said in a statement Wednesday.

A study by Ivan Lima and his colleagues from Brazil's National Institute for Space Research, published

in a peer-reviewed journal, concluded that annual methane emissions from dam-reservoirs in India alone were estimated to be around 33.5 million tonnes.

That figure, if true, would amount to about 19 percent of the country's global warming emissions from all sources and 28 percent of methane emission from all large dams of the world.

"These figures raised a great deal of alarm in the media and among policy makers," the NIO statement said.

The NIO scientists made extensive measurements of methane in eight dams-reservoirs across India from the Western Ghats (Selaulim, Supa, Tillari, Koyna and Markandeya) to the central Indo-Gangetic Plain (Rihand) and the foothills of the Himalayas (Bhakra Nangal).

"Although most of these reservoirs were found to turn anaerobic during the summer, measured dissolved methane concentrations are substantially lower than assumed in the above-mentioned study," the NIO said.

"These results demonstrate that the hydroelectric power in the country appears to be quite green," the NIO said.

CHELLANEY: China's great water wall

Damming downstream flow to neighbors could trigger water wars

By Brahma Chellaney

Monday, April 8, 2013

http://www.washingtontimes.com/news/2013/apr/8/chinas-great-water-wall/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+Commentary-TheWashingtonTimesAmericasNewspaper+%28Commentary+-+The+Washington+Times%29

The Chinese government's recent decision to build an array of new dams on rivers flowing to other countries seems set to roil inter-riparian relations in Asia and make it more difficult to establish rules-based water cooperation and sharing.

Asia, not Africa, is the world's driest continent. China, which already boasts more large dams than the rest of the world combined, has emerged as the key impediment to building institutionalized collaboration on shared water resources. In contrast to the bilateral water treaties between many of its neighbors, China rejects the concept of a water-sharing arrangement or joint, rules-based management of common resources.

The long-term implications of China's dam program for India are particularly stark because several major rivers flow south from the Tibetan plateau. India has water-sharing treaties with both the countries located downstream from it: the Indus pact with Pakistan guarantees the world's largest cross-border flows of any treaty regime, while the Ganges accord has set a new principle in international water law by assuring Bangladesh an equal share of downriver flows in the dry season. China, by contrast, does not have a single water-sharing treaty with any neighbor.

Yet most of Asia's international rivers originate in territories that China annexed after its 1949 communist "revolution." The sprawling Tibetan plateau, for example, is the world's largest freshwater repository and the source of Asia's greatest rivers, including those that are the lifeblood of mainland China, South Asia and Southeast Asia. Other Chinese-held homelands of ethnic minorities contain the headwaters of rivers such as the Irtysh, Illy and Amur, which flow to Russia and Central Asia.

China's dam program on international rivers is following a well-established pattern: Build modest-size dams on a river's difficult uppermost reaches, and then construct larger dams in the upper-middle sections as the river picks up greater water volume and momentum, then embarking on megadams in the border area facing another country. The cascade of megadams on the Mekong River, for example, is located in the area just before the river enters continental Southeast Asia.

Most of the new dam projects announced recently by China's state council, or Cabinet, are concentrated in the seismically active southwest, covering parts of the Tibetan plateau. The restart of dam building on the Salween River after an eight-year moratorium is in keeping with a precedent set on other river systems: Beijing temporarily suspends a controversial plan after major protests flare so as to buy time — before resurrecting the same plan.

The Salween — Asia's last largely free-flowing river — runs through deep, spectacular gorges, glaciated peaks and karst on its way into Burma and along the Thai border before emptying into the Andaman Sea. Its upstream basin is inhabited by 16 ethnic groups, including some, like the Derung tribe, with tiny populations numbering in the thousands. As one of the world's most biologically diverse regions, the upper basin boasts more than 5,000 plant species and nearly half of China's animal species.

The decision to formally lift the moratorium and construct five dams — with work to start immediately on the Songta dam, the farthest upriver structure in Tibet — threatens the region's biodiversity and could uproot endangered aboriginal tribes. There is also the risk that the weight of huge, new dam reservoirs could accentuate seismic instability in a region prone to recurrent earthquakes.

No country is more vulnerable to China's re-engineering of transboundary flows than India. The reason is that India alone receives nearly half of the river waters that leave Chinese-held territory. According to United Nations figures, a total of 718 billion cubic meters of surface water flows out of Chinese territory yearly, of which 347 billion cubic meters (or 48.3 percent of the total) runs directly into India.

China already has a dozen dams in the Brahmaputra River basin and one each on the Indus and the Sutlej rivers. On the Brahmaputra, it is currently close to completing one dam and has just cleared

work on three others. Two more are planned in this cascade before the dam-building moves to the water-rich border segment as the river makes a U-turn to enter India.

Asia awaits a future made hotter and drier by climate and environmental change, and resource depletion. The continent's water challenges have been exacerbated by consumption growth, unsustainable irrigation practices, rapid industrialization, pollution, environmental degradation and geopolitical shifts.

If Asia is to prevent water wars, it must build institutionalized cooperation in transboundary basins that co-opts all riparian neighbors. If a dominant riparian state refuses to join, such institutional arrangements — as in the Mekong basin — will be ineffective. The arrangements must be centered on transparency, unhindered information flow, equitable sharing, dispute settlement, pollution control and a commitment to refrain from any projects that could materially diminish transboundary flows. International dispute-settlement mechanisms, as in the Indus treaty, help stem the risk that water wrangles could escalate to open conflict.

China — with its hold over Asia's transnational water resources and boasting more than half of the world's 50,000 large dams — has made the control and manipulation of river flows a pivot of its power and economic progress. Unless it is willing to play a leadership role in developing a rules-based system, the economic and security risks arising from the Asian water competition can scarcely be mitigated.

Brahma Chellaney is the author of "Water, Peace, and War: Confronting the Global Water Crisis" (Rowman & Littlefield, 2013).

Certains barrages suisses ont été consolidés

Pour résister à des séismes extrêmes, des barrages suisses ont été consolidés ces dernières années, a annoncé lundi l'Office fédéral de l'énergie (OFEN).

http://www.20min.ch/ro/news/suisse/story/Certains-barrages-suisses-ont--t--consolid-s-25693429

C'est notamment le cas pour le barrage hydroélectrique des Toules (VS). Des travaux sont en cours sur celui de Chancy-Pougny (GE). Une campagne de vérification de la sécurité aux séismes a débuté il y a dix ans pour les 206 barrages dont l'OFEN assure la surveillance directe. Les exploitants avaient jusqu'à fin mars pour livrer le résultat de leurs contrôles.

L'OFEN indique avoir obtenu les dossiers des vérifications effectuées pour 142 ouvrages sur 206, dont 61 des 77 plus grands barrages du pays (classe 1). Tous les

exploitants n'ont toutefois pas encore livré les renseignements demandés.

L'Office a donc accordé un délai supplémentaire pour 45 ouvrages. Il l'a porté par exemple jusqu'à fin avril pour le barrage de Montsalvens (FR) ou jusqu'en fin d'année pour celui de Cleuson (VS) qui font partie de la classe 1.

L'OFEN signale que des travaux de confortement sismique ont été réalisées pour les ouvrages valaisans de Bortelsee (VS) et des Toules (classe 1). Ils sont en cours pour celui de l'Ilsee, au-dessus de Chandolin (VS - classe 1) ou de Chancy-Pougny (GE - classe 2).

Séismes d'exception

Les vérifications demandées ont porté non seulement sur la construction en tant que telle mais aussi les organes de vidange et d'évacuation des crues, par exemple. L'exploitant devait démontrer que tout écoulement non contrôlé de l'eau de la retenue est exclu en cas de séisme extrême.

Les barrages sont classés en trois classes, en fonction de leur capacité. Selon les cas, la sécurité des installations devait être vérifiée pour un séisme extrême survenant tous les 10'000 ans, tous les 5000 ans ou tous les 1000 ans.

American, Canadian Governments Study Critical Water Treaty

Columbia River Treaty, responsible for the Libby Dam, changes in 2024

By Justin Franz, 04-09-13

http://www.flatheadbeacon.com/articles/article/american_canadian_governments_study_critical_water_treaty/32759/

LIBBY – Although it's made from enough concrete to build a highway from here to Washington D.C., what really holds the millions of gallons of water in Lake Koocanusa isn't the Libby Dam. Instead, it is written on a few sheets of paper, displayed atop the massive structure: the Columbia River Treaty.

Signed in 1961 and implemented three years later, the Columbia River Treaty between the United States and Canada led to the construction of four large dams in the river basin. For a half-century, these dams, and the treaty, have offered flood control and hydroelectricity in the basin, which encompasses a vast swath of the Pacific Northwest. Now, agencies on both sides of the border are studying the treaty before 2014, the earliest date either country could ask to modify or terminate the international agreement in 2024.

Regardless of what happens, officials with the U.S. Army Corps of Engineers and the Bonneville Power Administration say how the dams and reservoirs are operated will change in 2024. This spring, public meetings will be held across the region to discuss what might happen.

"There are things that are going to change no matter what happens during the treaty review," said U.S. Army Corps spokesperson Amy Echols.

The roots of the treaty are found in floods that devastated the region before the 1960s, specifically a 1948 flood that destroyed the town of Vanport, Ore. and killed 50 people. Prior to the Libby Dam's construction, floods caused more than $522 million in damage in both the United States and Canada between 1948 and 1961.

After 15 years of negotiations, the Columbia River Treaty was signed in the early 1960s. With four new dams, the Canadian and American governments could control rivers across the basin, including the Kootenai River. Since most of the water is stored in Canada, the United States paid $64.4 million to its northern neighbor for 60 years of flood control. The original agreement also included a one-time payment equal to half the downstream power generated in the United States for 30 years. The payment of $254 million worth of electricity helped Canada build three dams in its country. That part of the agreement expired in 2003 and since then the United States has delivered a daily allotment of power to Canada, worth $222 million to $359 million annually.

"Basically we got a really good deal for 30 years and then Canada got a good deal," said Mike Hansen, spokesperson for the Bonneville Power Administration.

This year, officials on both sides of the border are reviewing the treaty and plan on making recommendations as to whether it will be continued, modified or terminated. Echols said the study is complex and it is too early to speculate what might happen, but officials hope to make changes that will benefit the environment and wildlife.

"When the treaty was first signed, it was primarily about flood control and power generation, but now we have the potential to do something better," Hansen said.

Unless the treaty is terminated, most conditions will continue indefinitely. One part that will change is flood control. While Canada will still have to help hold water to prevent floods downstream, the United States will have to reimburse its northern neighbor for operational costs. The United States will also have to exhaust all of its storage space before calling upon Canada to help.

According to Matt Rea, program manager for the Army Corps, Montanans may notice an increase in drawdowns on local reservoirs that could impact recreation and other outdoor activity.

Those impacts will be discussed at a series of meetings across the Northwest this spring. The BPA and Army Corps will hold meetings in Libby on May 13, Eureka on May 15 and Kalispell on May 16. The presentations will give attendees background on the treaty and a chance to provide feedback.

Last month, British Columbia hosted similar meetings and Kathy Eichenberger, executive director of the Columbia River Treaty Review for British Columbia, says public input will shape what the provincial government does.

"We see this as a great opportunity to see how things have gone in the last 50 years," she said. "To see what worked and what hasn't."

Following the meetings this spring, BPA and Army Corps will compile the information it has gathered and make a final recommendation to the State Department by the end of the year. The State Department will then work with the Canadian government on any changes that might be made to the treaty.

Although no one in Canada or the United States knows how the treaty might change, both countries agree that the Columbia River Treaty is valued.

"The treaty has worked very well and we get calls from all over the world wanting to know how we've done it," Eichenberger said.

Pour la construction du Grand Inga, l'Afrique du Sud s'engage à mobiliser 20 milliards de dollars US !

Kinshasa, 10/04/2013 / Economie

http://www.digitalcongo.net/article/91097

Jamais investisseur extérieur intéressé au financement de la construction du Grand barrage d'Inga ne s'était prononcé avec des fonds à apporter d'une telle hauteur à laquelle vient de s'engager l'Afrique du Sud annonçant des disponibilités de quelque 20 milliards de dollars US que ce pays est prêt à mobiliser

La RDC offre le site d'Inga, alors que la RSA se propose de mobiliser plus de 21 milliards USD pour la valorisation de ce site. Utopie ou réalité ! Dans cet arrangement, le site d'Inga sera mis à disposition alors que l'Afrique du Sud assurera la mobilisation du financement estimé à 21,5 milliards USD. Pour la première phase, il est prévu de rendre disponible 9 milliards USD. Inga 3 coûtera 6 milliards alors que la ligne de transport 3 milliards. La complexité du projet de développement du site d'Inga ne pouvait être l'affaire de seuls Congolais.

Après l'atterrissage sans ménagement du projet Westcor, tout espoir semblait s'évanouir. Sur les places financières internationales, il était quasi-certain que la RDC puisse mobiliser cette astronomique cagnotte de plusieurs dizaines de milliards de dollars américains pour valoriser ce site d'un potentiel de plus de 40 000 MW. BHP Billiton qui a renoncé au financement d'Inga 3, de manière inattendue, alors que tout semblait baigner dans l'huile a causé un fâcheux précédent.

La nécessité de diversifier ses ressources d'approvisionnement et de baisser les émissions de gaz à effet de serre, pousse l'Eskom à sortir le grand jeu sur Inga. Tous ces ratés ne présageaient rien de rassurant dans la réalisation de ce projet. L'unique garantie qui permet de croire à une fin heureuse du projet reste la détermination de la RSA de couvrir son gap en électricité de l'ordre de 40 000 MW pour les besoins de son industrie.

La République démocratique du Congo met à disposition le site hydroélectrique d'Inga ainsi que le potentiel énergétique s'y trouvant alors que le pays de Zuma se charge de la mobilisation des capitaux. Déjà, en février dernier, « le ministre sud-africain des finances a annoncé que son gouvernement allait engager 200 milliards de rands, environ 21,5 milliards de dollars, pour le projet Grand Inga ».

La première phase, c'est-à-dire Inga 3, pourrait être opérationnelle en 2020. En phase finale de cet ouvrage, il sera question de produire 4 800 MW. La répartition prévoit de fournir 2 500 MW à l'Afrique du Sud. La différence servira donc à la consommation domestique notamment les miniers du Katanga qui ont un besoin urgent en énergie électrique. Le gouvernement sud-africain qui tient à atteindre 6% de son approvisionnement à l'hydroélectricité d'ici 2030 ne ménage pas ses efforts, pour atteindre cet objectif. Inga est une source proche et moins chère en termes de production des mégawatts.

Jusque-là, le processus évolue précautionneusement de part et d'autre. L'expérience de Westcor a échaudé la partie congolaise d'autant plus que les quatre autres pays tenaient à se faire copropriétaires de cet ouvrage moyennant la modique somme de 100 000 USD. La fibre nationaliste a fait que les Congolais multiplient des obstacles à l'avancement de ce projet. Ce comportement fait également réfléchir les partenaires de la RDC qui considèrent Kinshasa comme irrespectueux de sa signature.

Toutefois, il est attendu que des harmonisations conséquentes doivent être apportées à la constitution d'une société et d'une autorité dédiées au projet Grand Inga, doivent être harmonisés en fonction du nouveau code de l'électricité congolais en cours de discussion au parlement. Des détails sur les obligations financières et contractuelles respectives des deux Etats doivent encore être mis au point. La dernière rencontre de Lubumbashi fait suite à un protocole d'accord signé en novembre 2011 entre les ministres de l'énergie des deux pays en présence des présidents Jacob Zuma et Joseph Kabila, avec la collaboration de la Société nationale d'électricité et de l'Eskom.

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Bienvenu-Marie Bakumanya/Le Potentiel