DOWNLOAD PDF WATER FOR LIFE : GLOBAL FRESHWATER RESOURCES MICHAEL GUEBERT

Chapter 1 : The Alliance for Freshwater Life is launched | The Freshwater Blog

This raises the important issue of who is permitted to participate as a stakeholder: " despite their role as important stakeholders, women are often prevented from participating in the governance of water resources and rarely benefit from governance arrangements," Michael Guebert points out.

Surface water is naturally replenished by precipitation and naturally lost through discharge to the oceans , evaporation , evapotranspiration and groundwater recharge. Although the only natural input to any surface water system is precipitation within its watershed , the total quantity of water in that system at any given time is also dependent on many other factors. These factors include storage capacity in lakes, wetlands and artificial reservoirs , the permeability of the soil beneath these storage bodies, the runoff characteristics of the land in the watershed, the timing of the precipitation and local evaporation rates. All of these factors also affect the proportions of water loss. Human activities can have a large and sometimes devastating impact on these factors. Humans often increase storage capacity by constructing reservoirs and decrease it by draining wetlands. Humans often increase runoff quantities and velocities by paving areas and channelizing the stream flow. The total quantity of water available at any given time is an important consideration. Some human water users have an intermittent need for water. For example, many farms require large quantities of water in the spring, and no water at all in the winter. To supply such a farm with water, a surface water system may require a large storage capacity to collect water throughout the year and release it in a short period of time. Other users have a continuous need for water, such as a power plant that requires water for cooling. Nevertheless, over the long term the average rate of precipitation within a watershed is the upper bound for average consumption of natural surface water from that watershed. Natural surface water can be augmented by importing surface water from another watershed through a canal or pipeline. It can also be artificially augmented from any of the other sources listed here, however in practice the quantities are negligible. Humans can also cause surface water to be "lost" i. Brazil is estimated to have the largest supply of fresh water in the world, followed by Russia and Canada. For many rivers in large valleys, this unseen component of flow may greatly exceed the visible flow. The hyporheic zone often forms a dynamic interface between surface water and groundwater from aquifers, exchanging flow between rivers and aquifers that may be fully charged or depleted. This is especially significant in karst areas where pot-holes and underground rivers are common. Groundwater Relative groundwater travel times in the subsurface Groundwater is fresh water located in the subsurface pore space of soil and rocks. It is also water that is flowing within aquifers below the water table. Sometimes it is useful to make a distinction between groundwater that is closely associated with surface water and deep groundwater in an aquifer sometimes called " fossil water ". A shipot is a common water source in Central Ukrainian villages Groundwater can be thought of in the same terms as surface water: The critical difference is that due to its slow rate of turnover, groundwater storage is generally much larger in volume compared to inputs than it is for surface water. This difference makes it easy for humans to use groundwater unsustainably for a long time without severe consequences. Nevertheless, over the long term the average rate of seepage above a groundwater source is the upper bound for average consumption of water from that source. The natural input to groundwater is seepage from surface water. The natural outputs from groundwater are springs and seepage to the oceans. If the surface water source is also subject to substantial evaporation, a groundwater source may become saline. This situation can occur naturally under endorheic bodies of water, or artificially under irrigated farmland. In coastal areas, human use of a groundwater source may cause the direction of seepage to ocean to reverse which can also cause soil salinization. Humans can also cause groundwater to be "lost" i. Humans can increase the input to a groundwater source by building reservoirs or detention ponds. Frozen water Iceberg near Newfoundland Several schemes have been proposed to make use of icebergs as a water source, however to date this has only been done for research purposes. Glacier runoff is considered to be surface water. The Himalayas, which are often called "The Roof of the World", contain some of the most

extensive and rough high altitude areas on Earth as well as the greatest area of glaciers and permafrost outside of the poles. To complicate matters, temperatures there are rising more rapidly than the global average. In Nepal, the temperature has risen by 0. Desalination Desalination is an artificial process by which saline water generally sea water is converted to fresh water. The most common desalination processes are distillation and reverse osmosis. Desalination is currently expensive compared to most alternative sources of water, and only a very small fraction of total human use is satisfied by desalination. It is usually only economically practical for high-valued uses such as household and industrial uses in arid areas. However, there is growth in desalination for agricultural use, and highly populated areas such as Singapore or California. To produce food for the now over 7 billion people who inhabit the planet today requires the water that would fill a canal ten metres deep, metres wide and kilometres long. Increasing water scarcity See also: Water scarcity in Africa Around fifty years ago, the common perception was that water was an infinite resource. At that time, there were fewer than half the current number of people on the planet. People were not as wealthy as today, consumed fewer calories and ate less meat, so less water was needed to produce their food. They required a third of the volume of water we presently take from rivers. Today, the competition for water resources is much more intense. This is because there are now seven billion people on the planet, their consumption of water-thirsty meat and vegetables is rising, and there is increasing competition for water from industry , urbanisation biofuel crops, and water reliant food items. An assessment of water management in agriculture sector was conducted in by the International Water Management Institute in Sri Lanka to see if the world had sufficient water to provide food for its growing population. To avoid a global water crisis, farmers will have to strive to increase productivity to meet growing demands for food, while industry and cities find ways to use water more efficiently. Various irrigation methods involve different trade-offs between crop yield, water consumption and capital cost of equipment and structures. Irrigation methods such as furrow and overhead sprinkler irrigation are usually less expensive but are also typically less efficient, because much of the water evaporates, runs off or drains below the root zone. Other irrigation methods considered to be more efficient include drip or trickle irrigation , surge irrigation , and some types of sprinkler systems where the sprinklers are operated near ground level. These types of systems, while more expensive, usually offer greater potential to minimize runoff, drainage and evaporation. Any system that is improperly managed can be wasteful, all methods have the potential for high efficiencies under suitable conditions, appropriate irrigation timing and management. Some issues that are often insufficiently considered are salinization of groundwater and contaminant accumulation leading to water quality declines. As global populations grow, and as demand for food increases in a world with a fixed water supply, there are efforts under way to learn how to produce more food with less water, through improvements in irrigation [11] methods [12] and technologies , agricultural water management , crop types, and water monitoring. Aquaculture is a small but growing agricultural use of water. Freshwater commercial fisheries may also be considered as agricultural uses of water, but have generally been assigned a lower priority than irrigation see Aral Sea and Pyramid Lake. Water withdrawal can be very high for certain industries, but consumption is generally much lower than that of agriculture. Water is used in renewable power generation. Hydroelectric power derives energy from the force of water flowing downhill, driving a turbine connected to a generator. This hydroelectricity is a low-cost, non-polluting, renewable energy source. Significantly, hydroelectric power can also be used for load following unlike most renewable energy sources which are intermittent. Ultimately, the energy in a hydroelectric powerplant is supplied by the sun. Heat from the sun evaporates water, which condenses as rain in higher altitudes and flows downhill. Pumped-storage hydroelectric plants also exist, which use grid electricity to pump water uphill when demand is low, and use the stored water to produce electricity when demand is high. Hydroelectric power plants generally require the creation of a large artificial lake. Evaporation from this lake is higher than evaporation from a river due to the larger surface area exposed to the elements, resulting in much higher water consumption. The process of driving water through the turbine and tunnels or pipes also briefly removes this water from the natural environment, creating water withdrawal. The impact of this withdrawal on wildlife varies greatly depending

on the design of the powerplant. Pressurized water is used in water blasting and water jet cutters. Also, very high pressure water guns are used for precise cutting. It works very well, is relatively safe, and is not harmful to the environment. It is also used in the cooling of machinery to prevent overheating, or prevent saw blades from overheating. This is generally a very small source of water consumption relative to other uses. Water is also used in many large scale industrial processes, such as thermoelectric power production, oil refining, fertilizer production and other chemical plant use, and natural gas extraction from shale rock. Discharge of untreated water from industrial uses is pollution. Pollution includes discharged solutes chemical pollution and increased water temperature thermal pollution. Industry requires pure water for many applications and utilizes a variety of purification techniques both in water supply and discharge. Most of this pure water is generated on site, either from natural freshwater or from municipal grey water. Industrial consumption of water is generally much lower than withdrawal, due to laws requiring industrial grey water to be treated and returned to the environment. Thermoelectric power plants using cooling towers have high consumption, nearly equal to their withdrawal, as most of the withdrawn water is evaporated as part of the cooling process. The withdrawal, however, is lower than in once-through cooling systems. Basic domestic water requirements have been estimated by Peter Gleick at around 50 liters per person per day, excluding water for gardens. Drinking water is water that is of sufficiently high quality so that it can be consumed or used without risk of immediate or long term harm. Such water is commonly called potable water. In most developed countries, the water supplied to domestic, commerce and industry is all of drinking water standard even though only a very small proportion is actually consumed or used in food preparation. Recreation Whitewater rapids Sustainable management of water resources including provision of safe and reliable supplies for drinking water and irrigation, adequate sanitation, protection of aquatic ecosystems, and flood protection poses enormous challenges in many parts of the world. Recreational water use is usually a very small but growing percentage of total water use. Recreational water use is mostly tied to reservoirs. If a reservoir is kept fuller than it would otherwise be for recreation, then the water retained could be categorized as recreational usage. Release of water from a few reservoirs is also timed to enhance whitewater boating, which also could be considered a recreational usage. Other examples are anglers, water skiers, nature enthusiasts and swimmers. Recreational usage is usually non-consumptive.

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Chapter 2 : The World's Water Challenges() - Pacific Institute

Part Four: Water Resourcesâ€"Chapter 6: "Water for Life: Global Freshwater Resources," by Michael Guebert; Chapter 7: "A Biblical Theology of Water: Plenty, Food and Drought in the Created Order," by David Toshio Tsumura.

How To Invest in Water: But it can also be a source for portfolio diversification. Sounds strange, we know but remember: Like gold and oil, water is a commodity â€" and it happens to be rather scarce nowadays. So, as with any other scarcity , the water shortage creates investment opportunities. Saltwater cannot be used for drinking, crop irrigation or most industrial uses. Global Shortage Rapid industrialization and increasing agricultural use have contributed to worldwide water shortages. Pollution also highlights the need for clean water. Of course, fouled water supplies further limit the amount of fresh water available for human use. Indexes Here are some of the more popular indexes designed to track various water-related investment opportunities: The Dow Jones U. It contains over 35 stocks. The Bloomberg World Water Index and the MSCI World Water Index provide a look at the water industry from an international perspective, although it can be rather difficult to find current information about either index. There are also a variety of utility indexes that include some water stocks. For further reading, see " Indexes: The Good, the Bad and the Ugly. Companies from blue-chip stalwart General Electric to small-cap Layne Christensen are all seeking a piece of the water market. In addition to direct stock purchases, some of the larger firms offer dividend reinvestment plans. When it comes to bottled water, the market is growing internationally. Demand is on the rise from China to Mexico, following in the footsteps of the spike in U. Estimates suggest that within the last ten years American per-capita consumption of bottled water has doubled â€" the average American drinks approximately bottles of water a year. On the desalination front, some countries currently rely on desalination for at least part of their freshwater consumption needs. The iShares Dow Jones U. Based on popularity, new alternatives are slowly emerging. The Bottom Line Recent years have seen an upswing in the demand for investments that seek to profit from the need for fresh, clean water. There are currently numerous ways to add water exposure to your portfolio; most simply require a bit of research. Opportunities to invest in this scarce resource are flowing freely, so dive in! Trading Center Want to learn how to invest? Get a free 10 week email series that will teach you how to start investing. Delivered twice a week, straight to your inbox.

Chapter 3 : Freshwater Ecosystems Need Our Protection - Conservation International

Diversity of life. Water resources. Global climate change. Cities and global environmental issues. We all know being a Christian involves ethical responsibility.

The full text of this article in PDF format can be obtained by clicking here. The Global Environment in Biblical Perspective, who emphatically make the same point. This review will highlight some weaknesses, but that should not be taken as a general condemnation. Mapping Out the Book. A helpful pattern of the book is for a chapter that is mostly empirical to be followed by one mostly biblical in focus, providing methodological balance. Toly and Daniel I. Two Cities and the Worldâ€"Chapter 2: The Diversity of Lifeâ€"Chapter 4: First, frequently the authors stress the downside of various historical developments, ignoring the upside. Related to this, because solutions always follow problems rather than preceding them, the authors also often focus on the problems as short-term, static situations but neglect the solutions as long-term trends. The same could have been said about the now-wealthy cities of the developed world fifty, a hundred, or two hundred years ago. Second, like other evangelical environmentalists, the authors frequently accept empirical claims common in the larger environmental movement without checking to see whether they are supported by solid empirical evidence or are just hypotheses. The claim is the output of mathematical models, in other words, is hypothesis, not evidence, though people treat them as if they were data what one observes empirically. Instead it found, in every locale tested, almost no extinctions. Third, much environmental writing makes broad generalizations that can be misleading. In most, however, water quality is improving in response to economic development. Those chapters that mention it generally assume that mitigating catastrophic anthropogenic global warming CAGW should be our highest environmental priority. Yet major studies, such as those of the Copenhagen Consensus Center,4 indicate that many times more lives would be saved for every dollar spent on, for example, preventing water-borne diseases, or direct attacks on malaria-carrying mosquitoes, than for every dollar spent attempting to reduce future global warming. Finite economic resources make triage unavoidable. Yet CAGW is an issue on which precisely such integration begs to be done. One might as well praise the work of an architect who designed his building so that when someone leaned on one wall all feedbacks would magnify the stress until the building collapsed. In this way its too- ready embrace of environmentalist exaggerations and myths can be balanced with a careful examination of the pagan worldview, theology, and ethics that permeate much environmentalism. The authors also acknowledge the lack of sound empirical basis for estimating species extinction rates; 9, 11, 55, 56, 57, 93, A more thorough and technical discussion is in Indur M. Goklany, The Improving State of the World: See also William D. Nordhaus, A Question of Balance: Yale University Press, Heartland Institute, online at http: Key Porter Books, ; Patrick J. Michaels and Robert C. Cato Institute, ; and Roy W. Wanliss, Resisting the Green Dragon: Cornwall Alliance, ; Peter Jones, ed. Nature Spirituality and the Planetary Future Berkeley: University of California Press, Christian Research Institute Our Mission: To provide Christians worldwide with carefully researched information and well-reasoned answers that encourage them in their faith and equip them to intelligently represent it to people influenced by ideas and teachings that assault or undermine orthodox, biblical Christianity. Do you like what you are seeing? Your partnership is essential.

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Chapter 4 : Global Freshwater Resources | EARTH Water: Science and Society

Part Four: Water Resourcesâ€"Chapter 6 "Water for Life Global Freshwater Resources," by Michael Guebert Chapter 7 "A Biblical Theology of Water Plenty, Food and Drought in the Created Order," by David Toshio Tsumura.

Print Water use and treatment Once taken for human use, water generally follows a path described by Figure 3 below. After undergoing treatment and distribution, it is used. In the broadest sense, water is constantly being re-used. Water that is taken from rivers or streams for domestic, industrial, or agricultural use was most likely also used by communities or farms up-stream, and subsequently treated and discharged. Over even longer timescales, the water in streams, lakes, and groundwater is the same water that has ever been on Earth â€" and those same molecules have undoubtedly cycled through many plants and animals before we were even around! As we will see later in the semester, this re-use of water resources is one strategy to cope with water scarcity. The recycled water, depending on its quality, can be used for irrigation i. In some cases, the treated water may be used to recharge aquifers instead, either through induced recharge systems, or at a smaller scale via passive filtration through soils â€" for example in leachfields. The discharged water, after mixing with water in the river, stream or aquifer , becomes a water source for downstream or down-gradient users. This will expand to provide more information. Water is first diverted, collected, or extracted from a source. It is then transported to water treatment facilities and distributed to end users. What happens during end use depends primarily on whether the water is for agricultural or urban use. Wastewater from urban uses is collected, treated, and discharged back to the environment, where it becomes a source for someone else. In general, wastewater from agricultural uses does not get treated except for holding periods to degrade chemical contaminants before being discharged directly back to the environment, either as runoff to natural waterways or into groundwater basins. There is a growing trend to recycle some portion of the wastewater stream â€" recycled water â€" and redistributing it for non-potable end uses like landscape irrigation or industrial process cooling. Do you know the source of domestic or municipal water in your hometown? If yes, what and where is it? Of course, the answer will vary depending on where you live â€" but your water source should be either surface water a river, lake, or man-made reservoir or groundwater if wells supply the water. In some cases it may be a combination of the two. Do you suppose that any of that water is used and then treated by others before being taken for your use? Most surface water supply taken from rivers or lakes will include a proportion of water that was discharged by upstream communities. Take a look at figure 3 above. If not, does the idea make you uncomfortable?

Chapter 5 : Water Resources in the Middle East

--The diversity of life: its loss and conservation / Fred Van Dyke --To serve and to keep: toward a biblical understanding of humanity's responsibility in the face of the biodiversity crisis / Daniel I. Block --Water for life: global freshwater resources / Michael Guebert --A biblical theology of water: plenty, food, and drought in the created.

Lukas Thuile Bistarelli A new global network aiming to halt and reverse the ongoing freshwater biodiversity loss crisis launched last Sunday at the World Water Week conference in Stockholm. The Alliance for Freshwater Life is an interdisciplinary network of scientists, conservation professionals, educators, policy experts, creative practitioners, and citizens working to improve the conservation and sustainable use of freshwater ecosystems and biodiversity. Freshwaters are some of the most biodiverse ecosystems in the world , many supporting populations of rare and endemic species. However, freshwaters are also impacted by multiple pressures , many of which stem from human activities. Freshwater ecosystems are a fundamental resource for human life, providing water, food, energy and natural materials. However, growing pressures such as the pollution, over-abstraction, fragmentation and alteration of water bodies, and the spread of invasive species, habitat loss and alteration â€” all shadowed by the emerging effects of global climate change â€” are placing enormous stress on freshwater life. Approximately one-third of the 28, freshwater species assessed for the IUCN Red List is threatened with extinction. It is such symptoms of a global freshwater biodiversity crisis that the Alliance for Freshwater Life has been formed to address. Delegates at World Water Week in Stockholm. We received many excellent ideas during the discussions session to help guide our next steps in taking the initiative forwards. We thank all those who attended and for their ideas and support. The event was supported by the publication of our paper in Aquatic Conservation: Marine and Freshwater Ecosystems in the previous week, which has already received tremendous interest through social media. The authors identify two key drivers of the ongoing crisis of freshwater biodiversity loss. First, they highlight the significant growth in global demand for water resources over the last century, leading to widespread freshwater habitat loss and degradation, water pollution and over-abstraction, and considerable alterations to the flow and course of many rivers and streams. The authors cite studies suggesting that global demands for drinking water, hydropower and agriculture will increase significantly in coming decades. Second, the authors argue that existing environmental policies do not adequately protect freshwater biodiversity and ecosystems. They state that the human valuation and usefulness of freshwaters is often foregrounded in environmental policy, at the detriment of non-human life. Pacific salmon migrating upstream. Salmon populations are threatened by dam construction, mining, over-fishing and climate change. More research is needed to understand the distribution and status of freshwater biodiversity and ecosystems globally, in order to design effective conservation and restoration initiatives. Freshwater biodiversity data should be better synthesised and made accessible to conservation practitioners. There is relatively low public awareness of the threats to freshwater ecosystems, and resulting biodiversity loss a trend which has underpinned the work of this blog over the last eight years , and the Alliance plan to host a range of education and outreach activities to address this shortfall. Finally, the Alliance is designed to provide a voice for freshwater life in global policy making, and its members plan to engage with policy makers both on the implementation of existing policies, and the development of new ones. The aim here is to place freshwater species and their ecosystems on the global agenda as key targets for conservation action. Wetlands in the Kemeri National Park, Latvia. Through this united effort we hope to reverse this tide of loss and decline in freshwater biodiversity.

Chapter 6 : Amazing Water Facts You Should Know | Seametrics

As we will see later in the semester, this re-use of water resources is one strategy to cope with water scarcity. The recycled water, depending on its quality, can be used for irrigation (i.e. for parks or golf courses), or for domestic supply.

Future Now Is the world running out of fresh water? Increasing temperatures and populations threaten a precious element and pose a serious problem. What can we do about protecting our most vital resource? By Tim Smedley 12 April The next time you open a can of soft drink, consider where the water inside it came from. The H20 in an Indian can of Coca-Cola includes treated rainwater, while the contents in the Maldives may once have been seawater. And both populations and temperatures are ever-rising, meaning that the freshwater we do have is under severe pressure. In other words, the near future presents one big freshwater drain after the next. The Ganges Basin in India is depleting, due to population and irrigation demands, by an estimated 6. As the city draws on the aquifer below, the effect is like drinking a milkshake through a straw. Once horizontal streets now undulate like BMX tracks. From to , the state suffered its worst drought in 1, years. Its major aquifers receded at a combined rate of 16 million acre-feet per year, and roughly 1, wells ran dry. Some hypothesise that increased water shortages around the world will lead to wars. They become easily targeted. All of which would predict a bleak future â€" but some nations have worked out solutions. The key was putting a price on water and making it a tradable commodity. This wayâ€¦ Australia survived the Millennium Drought extraordinarily well. By recycling effluent water, including household sewage, the Shafdan Wastewater Treatment Facility near Tel Aviv supplies approximately ,, cubic metres of water per year for agricultural use, covering 50, acres of irrigated land. The waste sludge is also sent to an anaerobic digestion plant, which uses the methane as a fuel to produce renewable energy. Israel is also a global leader in desalination â€" turning seawater into potable drinking water. So can the world simply desalinate its way out of the freshwater crisis? Coca-Cola say it uses desalination at around 30 coastal plants. A simpler and cheaper solution is rainwater capture. One and a half millennia on, many cities are now emulating it. Even in Manchester, England, where it rains on average 12 days every month , efforts are being made to capture the rain. Rainwater is collected in a 20, litre tank below the building and is used for showering and toilet flushing. In October we had storms that led to a lot of flooding; the University was flooded in several different buildings. Due to cost pressures, business could be an even greater driver of water efficiency than governments. Thermal power sources [nuclear, coal, natural gas] require vast amounts of water for cooling. Renewables for the most part â€" solar and wind â€" do not. It all has to do with policies to encourage, incentivise, and invest.

Chapter 7 : Fall IVP Academic Catalog - theinnatdunvilla.com

6 Michael Guebert, "Water for Life: Global Freshwater Resources," in Keeping God's Earth: The Global Environment in Biblical Perspective, ed. Noah J. Taly and Daniel I. Block (IVP Academic,),

Demonstrating the wide-ranging effects of our collective decisions, McMinn and Neff propose a simple process of forming new habits. Megan Anna Neff M. She now works with families with newborns as a postpartum doula in Portland, Oregon. Oden, this twenty-nine-volume series compiles the best early Christian exegesis from the second through the eighth centuries on the Old and New Testaments plus the Apocrypha. Blaising and Carmen S. Oden and Christopher A. Heen and Philip D. See Announcement on page 5. How will we find our way back? In this book James Emery White takes us on a journey beyond the dragon territory to discover the new world Christ is mapping for us. James Emery White M. He is professor of theology and culture on the Charlotte campus of Gordon-Conwell Theological Seminary. Oden, follows up on the acclaimed Ancient Christian Commentary on Scripture to provide patristic commentary on the Nicene Creed. Motyer and John R. See announcement on page The texts represented are full-length commentaries or sermon series based on biblical books or extended scriptural passages. Edited by Thomas C. See Announcement on page 6. Translated by Marco Conti. Edited by Joel C. Edited and translated by Gerald L. Translated by Thomas P. Edited by Christopher A. Baker and Gordon J. Wenham Individual titles include Leviticus Nobuyoshi Kiuchi reveals how the laws of the covenant express the vast distance between humanity and a holy God. McConville argues that Deuteronomy should be understood as the radical blueprint for the life of a people. Lucas identifies the central theme of the book as the sovereignty of the God of Israel. Estes and Daniel C. Lucas and Christopher Green. Stuart Briscoe and Haddon Robinson, this series expounds the biblical text for the contemporary church. Individual titles include Mark Ronald J. Edited by Derek Tidball. Individual titles include The Message of the Cross Derek Tidball reviews the state of the message of the cross today, and then he revisits the key biblical texts having to do with the cross in both the Old and New Testaments. Ryken takes up the biblical teaching on salvation. The centerpiece of each passage has a familiar ring: Individual titles include Matthew Craig S. Cundall and Leon L. Desmond Alexander, David W. Stephen Evans, introduces students to various fields of philosophy, exploring major issues within each field and reviewing possible responses with an ear toward their implications for Christian faith and practice. Individual volumes, edited by Gerald Bray, include: Reliable, balanced and clearly organized, the volumes of the Exploring the Bible Series make scholarship on the Old and New Testaments accessible to contemporary students and readers. Exploring the Old Testament, Volume 1: The IVP Bible Dictionary Series unique among reference books on the Bible, the volumes of The IVP Bible Dictionary Series bridge the gap between scholars and those pastors, teachers, students and lay people desiring in-depth treatment of select topics in an accesible and summary format. Dictionary of the Old Testament: Pentateuch Dictionary of the Old Testament: Historical Books Dictionary of the Old Testament: Informative, clear, brief and affordable, the books included in this series will become your constant companions as you tackle the study of biblical languages, church history, apologetics, contemporary religions, ethics, theology and more! Carson, the NSBT is a series of monographs that address key issues in the discipline of biblical theology. Old Testament Theology, Volume One:

Chapter 8 : Considering Creation Care - Christian Research Institute

A new global network aiming to halt and reverse the ongoing freshwater biodiversity loss crisis launched last Sunday at the World Water Week conference in Stockholm. The Alliance for Freshwater Life is an interdisciplinary network of scientists, conservation professionals, educators, policy experts.

By Cora Kammeyer October 19, Water is perhaps the most vital natural resource on the planet. It is necessary for human survival and a critical input into our food, manufacturing, and energy systems. It also sustains the ecosystems and climates upon which both our built and natural world rely. Today we are putting more pressure on freshwater resources than ever. Global water stress map. Energy production currently accounts for less than 10 percent of global water consumption. Due to the combination of population growth, unsustainable water withdrawals, and poor infrastructure and governance, in many parts of the world there is already insufficient safe water supply. Sustainable Development Goal 6. Global water demand projections to This worsening imbalance of water supply and demand is a problem companies both contribute to, and face operational risks from. Water Pollution However, water stress is driven by factors beyond the simple physical abundance of water, especially water quality and pollution. Nearly all human uses of water, from agricultural to industrial to municipal, result in water pollution. Businesses, particularly in the industrial and agricultural sector, are often major sources of water pollution. When companies pollute the waters where they operation, they expose themselves to regulatory and reputational risks. When businesses have facilities in highly polluted river basins they face operational risks, and their water treatment costs often increase. Insufficient Access to Safe, Affordable Water, Sanitation and Hygiene WASH Physical abundance of water supplies does not necessarily mean there is adequate quantity and quality of water to meet basic human needs. Often, humans are unable to reliably access physically available water supplies due to inadequate infrastructure and weak governance. This has major health and mortality implications, particularly for young children in developing countries. Little water carriers in Namibia. Inadequate WASH in the workplace poses financial risks to business in the form of declines in productivity and increased absenteeism. If we continue to degrade these systems, those services â€” water supply, recreation, and flood protection to name a few â€” will no longer be naturally available. Where people and businesses could once rely on a safe and stable supply of water, there will be perturbation and threats to that supply. We are already seeing increased intensity of water-related natural events like droughts and floods, and this trend is expected to continue. Sustainable Development Goal The nature of these impacts will vary by region, changing global water stress dynamics. This increase in extreme conditions and variability present a major challenge to companies. In addition, corporate action on climate is inextricably linked with water. No Silver Bullet Solutions Water is by its nature a local resource. Water stress occurs at the basin or even sub-basin level; issues of supply-demand imbalance and pollution tend to be highly localized. The nature and degree of water stress depends on myriad basin-scale factors such as hydrologic conditions, precipitation, infrastructure, and number and type of water users in a given space and time. This is not inherently bad, but it presents a challenge because solution to water issues must be tailored by location â€” there is no one-size-fits-all answer. Compare water to carbon dioxide, for example. The benefit of reducing a unit of carbon emissions is the same no matter where in the world it happens. In contrast, the benefit of saving, treating, or reusing a unit of water varies greatly depending on the conditions of the system from which that water comes. Ideally, companies will focus water stewardship efforts strategically in the basins where they will be most impactful. River in Mydral, France.

Chapter 9 : Water resources - Wikipedia

Global Freshwater Resources: Soft-Path Solutions theinnatdunvilla.com (this information is current as of January 28,): The following resources related to this article are available online at.

Since , we have been managing complexity on a global scale. And now we have a full stop. Our goal during the Water for Life Decade was to promote efforts to fulfill international commitments in the water sphere by For almost as long as we can remember, has been considered a critical year for the international water and sanitation agenda. Not least because we anticipated â€" and it has come to pass â€" that the General Assembly has agreed the Sustainable Development Goals in its 70th session. UN and stakeholders, experts and the water community at large have contributed, engaging with politicians, policy makers, governments and water managers in water and sanitation programs and projects, in knowledge generation and management, in advice based on good practices and appropriate technologies. The decade has been one of progress and many have contributed. The activities of the UN office to support the International Decade for Action "Water for Life" of the knowledge hub, best practice programmme, communications, are being integrated in its work by the UN-Water technical advisory unit. We are especially proud of the activities of the civil society and of the UN-Water for Life Award winners. The Water for Life logo users and the partnerships which the decade has helped boost and create will respond to the challenge of the Sustainable Development Agenda of the need to be transformative and to bring about change. Their work is necessary because million people still drew water from an unimproved source in , and for these people our statistics mean nothing. From to , 2. Yet we missed the MDG target for sanitation by 9 percentage points. We have to keep working. It is time to say good-bye to the Office to Support the Water for Life Decade The Water Decade is concluding with a slew of awards as well as feedback from the journalist groups supported through the media programme and from those who have engaged in the Office work. The Office has been honoured with the iAgua award for , the second consecutive time the Office has taken this prestigious prize, on December In late November we reached out to the journalists who have been supported in their work in the water sector during the Decade. Continuously link up and working with journalists which has been part of the programme could be helpful. Respondents have said that the Office website has proved a vital water hub and resource according to the top minds in the field. True acknowledgement of the different stakeholders. I wish you and yours a happy and prosperous years, continuing our vital work in the service of sustainable development.