

Global Monthly Water Scarcity: Blue Water Footprints versus Blue Water Availability

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Abstract

Freshwater scarcity is a growing concern, placing considerable importance on the accuracy of indicators used to characterize and map water scarcity worldwide. We improve upon past efforts by using estimates of blue water footprints (consumptive use of ground- and surface water flows) rather than water withdrawals, accounting for the flows needed to sustain critical ecological functions and by considering monthly rather than annual values. We analyzed 405 river basins for the period 1996–2005. In 201 basins with 2.67 billion inhabitants there was severe water scarcity during at least one month of the year. The ecological and economic consequences of increasing degrees of water scarcity – as evidenced by the Rio Grande (Rio Bravo), Indus, and Murray-Darling River Basins – can include complete desiccation during dry seasons, decimation of aquatic biodiversity, and substantial economic disruption.

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Introduction

The inexorable rise in demand for water to grow food, supply industries and sustain urban and rural populations has led to a growing scarcity of freshwater in many parts of the world. An increasing number of rivers now run dry before reaching the sea for substantial periods of the year. In many areas, groundwater is being pumped at rates that exceed replenishment, depleting aquifers and the base flows of rivers [1]. Increasingly, governments, corporations and communities are concerned about the future availability and sustainability of water supplies [2].

During the last twenty years, researchers have developed a number of metrics to help characterize, map and track the geography of water scarcity globally. These have included, for example, the ratio of population size to the renewable water supply [3] and the ratio of water withdrawals to the renewable supply [4–7]. These water scarcity indicators have highlighted the mismatch between water availability and water demand, and have helped document the spread of water scarcity over time. Today, water scarcity assessments underpin global assessments of food [7], poverty and human development [8], economic and business prospects [9], and ecological health [10]. Given this widespread use of water scarcity indicators, their accuracy is at a premium.

We have developed a new and more accurate assessment of global water scarcity by combining three innovations in measuring water use and availability. First, following recent developments in water use studies [11–17], we measure water use in terms of consumptive use of ground- and surface water flows – i.e., the blue water footprint – rather than water withdrawals. In agriculture, about 40% of water withdrawals typically return to local rivers and aquifers and thereby becomes available for reuse [18,19], so that the volume of water consumed provides a more accurate basis for

estimating scarcity than the volume of water withdrawn. In industries and households even 90–95% of the water withdrawn will return [20]. Second, in assessing water availability we take into account the flows needed to sustain critical ecological functions, as done earlier by for instance Smakhtin et al. [21]. We use a recently proposed presumptive standard that depletion beyond 20% of a river's natural flow increases risks to ecological health and ecosystem services [22]. Third, we compare water use and availability on a monthly rather than annual basis, similar to what Wada et al. [13] did recently. In this way we incorporate the often-great variability of water supply and use throughout the year and capture the seasonal nature of water scarcity [23]. Our global water scarcity study is the first to combine those three innovations in one assessment. It compares on a monthly basis the consumptive use component of blue water withdrawals to the estimated ecologically admissible fraction of runoff.

Following Hoekstra et al. [24], we define blue water scarcity in a given river basin as the ratio of the blue water footprint in that basin to the blue water available, where the latter accounts for environmental water needs by subtracting from the total runoff the presumed flow requirement for ecological health. As is the case in previous water scarcity indicators, we have focused on scarcity of water available in rivers and groundwater, or the “blue” water [25]; we do not consider scarcity of direct precipitation, or “green” water. Based on [26], the monthly blue water footprint of humanity was estimated at a five by five arc minute spatial resolution for the world as a whole, distinguishing between agricultural, industrial, and domestic water footprints. The blue water footprint of human activities is defined as the volume of surface and groundwater consumed as a result of that activity, whereby consumption refers to the volume of freshwater used and then evaporated or incorporated into a product. Natural runoff

per river basin was estimated by taking estimates of actual runoff from Fekete et al. [27] and adding the water volumes already consumed (the blue water footprint). Blue water availability is estimated by reducing total natural runoff by 80% to account for presumed environmental flow requirements. The blue water availability is thus the volume of water that can be consumed without expected adverse ecological impacts. We hasten to note, however, that flows dedicated to the maintenance of ecological health can be used for other purposes; the presumptive standard is met as long as net depletion remains within 20% of the natural monthly flow.

We believe that our indicator provides a more reliable and accurate rendering of the status of water budgets (inputs minus outputs) at the river basin scale than has been available to date because it combines these three improvements over previous studies: use of water consumption instead of water withdrawal, explicit incorporation of environmental flow requirements and a monthly time-step. As such, this indicator provides decision-makers with an improved picture of where and when current levels of water use are likely to cause water shortages and ecological harm within river basins around the world.

Methods

The blue water scarcity in a river basin is defined as the ratio of the total blue water footprint to the blue water availability in a river basin during a specific time period [24]. A blue water scarcity of one hundred per cent means that the available blue water has been fully consumed. The blue water scarcity is time-dependent; it varies within the year and from year to year. In this study, we calculate blue water scarcity per river basin on a monthly basis. Blue water footprint and blue water availability are expressed in mm/month. For each month of the year we consider the ten-year average for the period 1996–2005 to incorporate climate variability, while acknowledging that averaging can obscure inter-annual variability in scarcity.

Average monthly blue water footprints per river basin for the period 1996–2005 have been derived from the work of Mekonnen and Hoekstra [26], who estimated the global blue water footprint at a 5 by 5 arc minute spatial resolution. They reported annual values at country level, whereas in the current study we use the same underlying data to report monthly values at river basin level. The three primary water-consuming sectors are included: agriculture, industry and domestic water supply. The blue water footprint of crop production was calculated using a daily soil water balance model at the mentioned resolution level as reported in Mekonnen and Hoekstra [11,28,29]. Blue water consumption in irrigated crop production is calculated by performing two different soil water balance scenarios. The first soil water balance scenario is carried out based on the assumption that the soil does not receive any irrigation. The second soil water balance scenario is carried out with the assumption that the amount of actual irrigation is sufficient to meet the irrigation requirement, applying the same crop parameters as in the first scenario. The blue crop water consumption is equal to the crop water evapotranspiration over the growing period as simulated in the second scenario minus the total crop water evapotranspiration as estimated in the first scenario.

The blue water footprints of industries and domestic water supply were obtained by spatially distributing national data on industrial and domestic water withdrawals from the Food and Agricultural Organization of the United Nations (FAO) [20] according to population densities around the world as given by the Center for International Earth Science Information Network

(CIESIN) and the International Center for Tropical Agriculture (CIAT) [30] and by assuming that 5% of the industrial withdrawals and 10% of the domestic withdrawals are ultimately consumed, i.e. evaporated, which are thought to be reasonable estimates according to FAO [20]. Due to a lack of data we have distributed the annual water consumption figures for industry and domestic use equally over the twelve months of the year without accounting for the possible monthly variation.

The monthly blue water availability in a river basin in a certain period was calculated as the ‘natural runoff’ in the basin minus ‘environmental flow requirement’. The natural runoff was estimated by adding the actual runoff and the total blue water footprint within the river basin. Monthly actual runoff data at a 30 by 30 arc minute resolution were obtained from the Composite Runoff V1.0 database [27]. These data are based on model estimates that were calibrated against runoff measurements for different periods, with the year 1975 as the mean central year. In order to approximate the natural (undepleted) runoff, we corrected the 1975 actual runoff data by adding the aggregated blue water footprint per basin as in 1975. The latter was estimated to be 74% of the blue water footprint per basin as was estimated by Mekonnen and Hoekstra [26] for the central year 2000. The 74% refers to the ratio of the global blue water footprint in 1975 to the global blue water footprint in 2000 [31].

In order to establish the environmental flow requirement we have adopted the “presumptive environmental flow standard” as proposed by Richter et al. [22] and Hoekstra et al. [24]. We note that the application of this standard does not imply that 80% of the total runoff is unavailable for use. In actuality all of the runoff can be used, as long as no more than 20% of the total runoff is depleted by water consumption. As suggested by Richter et al. [22], this presumptive standard is to be applied only when site-specific scientific investigation of environmental flow needs has not been undertaken. The presumptive standard is meant to be a precautionary approach to estimating environmental flow requirements when detailed local studies have not been completed, which is presently the case for the vast majority of the world’s river basins. We acknowledge that governments and local stakeholders may intentionally choose to consume more than 20% of total natural runoff and bear the ecological consequences to gain other benefits associated with water consumption. However, we feel that it is very important to explicitly account for ecological health in water scarcity assessments, and use of this presumptive standard in the present study enables identification of river basins in which ecological health has likely been compromised.

Blue water scarcity values have been classified into four levels of water scarcity:

- low blue water scarcity (<100%): the blue water footprint is lower than 20% of natural runoff and does not exceed blue water availability; river runoff is unmodified or slightly modified; presumed environmental flow requirements are not violated.
- moderate blue water scarcity (100–150%): the blue water footprint is between 20 and 30% of natural runoff; runoff is moderately modified; environmental flow requirements are not met.
- significant blue water scarcity (150–200%): the blue water footprint is between 30 and 40% of natural runoff; runoff is significantly modified; environmental flow requirements are not met.
- severe water scarcity (>200%). The monthly blue water footprint exceeds 40% of natural runoff; runoff is seriously modified; environmental flow requirements are not met.

We evaluated 405 river basins, which together cover 66% of the global land area (excluding Antarctica) and represent 65% of the global population in 2000 (estimate based on CIESIN and CIAT [30]). We applied river basin boundaries and names as provided by Global Runoff Data Centre (GRDC) [32] (Figure S1). The land areas not covered include for example Greenland, the Sahara desert in North Africa, the Arabian peninsula, the Iranian, Afghan and Gobi deserts in Asia, the Mojave desert in North America and the Australian desert. Also excluded are many smaller land areas, often along the coasts, that do not fall within major river basins.

Results

Monthly blue water footprint

Agriculture accounts for 92% of the global blue water footprint; the remainder is equally shared between industrial production and domestic water supply [26]. However, the percentages of water consumed by agriculture, industry and domestic water supply vary across river basins and within the year. While the blue water footprint in agriculture varies from month to month depending on the timing and intensity of irrigation, the domestic water supply and industrial production were assumed to remain constant throughout the year. Therefore, for particular months in certain basins one hundred per cent of the blue water footprint can be attributed to industry and domestic water supply. The intra-annual variability of the total blue water footprint is mapped at a five by five arc minute grid in Figure 1. By aggregating the grid data to the level of river basins we obtain the maps as shown in Figure S2. The monthly blue water footprints per basin are further tabulated in Table S1. The values on the maps are shown in mm per month and can thus directly be compared.

A large blue water footprint throughout the year is observed for the Indus and Ganges River Basins, because irrigation occurs here throughout the year. A large blue water footprint during part of the year is estimated for basins such as the Tigris-Euphrates, Huang He (Yellow River), Murray-Darling, Guadiana, Colorado (Pacific Ocean) and Krishna. When we consider Europe and North America as a whole, we see a clear peak in the blue water footprint in the months May to September (around the northern summer). In Australia, we see a blue water footprint peak in the months October to March (around the southern summer). One cannot find such distinct seasonal patterns in the blue water footprint in South America, Africa or Asia, because these continents are more heterogeneous in climatic conditions.

Monthly natural runoff and blue water availability by river basin

Natural runoff and blue water availability vary across basins and over the year as shown on the global maps in Figures S3, S4 and in Tables S2, S3. The Amazon and Congo River Basins together account for 28% of the natural runoff in the 405 river basins considered in this study. At a global level, monthly runoff is above average in the months of January and April to August and below average during the other months of the year. When we look at the runoff per region, we find that most of the runoff in North America occurs in the period of April to June, in Europe from March to June, in Asia between May and September, in Africa in January, August and September, and in South America from January to May. While the Amazon and Congo River Basins display relatively low variability over the year, much sharper gradients are apparent in other basins. In some parts of the world, a large portion of the annual runoff occurs within a few weeks or months, generating floods during one part of the year and drought

during the other part. Even in otherwise water abundant areas, intra-annual variability can severely limit blue water availability. Under such conditions, considering blue water availability on an annual basis provides an incomplete and sometimes misleading view of blue water availability per basin.

Monthly water scarcity by river basin

For this assessment, we analyzed 405 river basins that collectively account for 69 percent of global runoff, 75 percent of world irrigated area, and 65 percent of world population. For each river basin and each month, we categorize water scarcity from low to severe based on the ratio of blue water footprint to blue water availability (natural runoff minus environmental flow requirements). Referring to Figure 2, in river basins shown in green in a given month, the blue water footprint is less than 20 percent of that month's natural runoff. There is little or no water scarcity and the basin fully meets that month's presumptive environmental flow requirement. Data are provided in Table S4. We illustrate the relationships between blue water footprint, natural runoff, environmental flow requirements and blue water availability for the Murray-Darling River Basin in Figure 3. One can see that blue water footprint in the Murray-Darling River Basin is largest in the period that water availability is lowest. The blue water footprint exceeds natural runoff during a part of the dry period, which is made possible through temporary depletion of groundwater or surface water reservoir storage.

Table 1 gives an overview of the number of basins and number of people facing low, moderate, significant and severe water scarcity during a given number of months per year. In 223 river basins (55% of the basins studied) with 2.72 billion inhabitants (69% of the total population living in the basins included in this study), the blue water footprint exceeds blue water availability during at least one month of the year. For 201 of these basins, with together 2.67 billion inhabitants, there was severe water scarcity during at least one month of the year, highlighting the fact that when water scarcity exists it is usually of a severe nature, meaning that more than 40% of natural runoff is being consumed. In 35 river basins with 483 million people, there was severe water scarcity for at least half of the year.

Of importance when considering the social, economic and environmental impacts of water scarcity is both the severity and the duration of the scarcity (see Figure 4). Twelve of the river basins included in this study experience severe water scarcity during all months of the year. The largest of those basins is the Eyre Lake Basin in Australia, one of the largest endorheic basins in the world, arid and inhabited by only about 86,000 people, but covering around 1.2 million km². The most heavily populated basin facing severe water scarcity all year long is the Yongding He Basin in northern China (serving water to Beijing), with an area of 214,000 km² and a population density of 425 persons per km². Eleven months of severe water scarcity occurs in the San Antonio River Basin in Texas, US and the Groot-Kei River Basin in Eastern Cape, South Africa. Two heavily populated river basins face nine months of severe water scarcity, the Penner River Basin in southern India, a basin with a dry tropical monsoon climate and 10.9 million people, and the Tarim River Basin in China, which includes the Taklamakan Desert with 9.3 million people. Four basins face severe water scarcity during eight months a year: the Indus with 212 million people; the Cauvery with an area of 91,000 km² and 35 million people; the Dead Sea Basin, which includes the Jordan River and extends over parts of Jordan, Israel, the West Bank and minor parts of Lebanon and Egypt; and the Salinas River in California in the US.

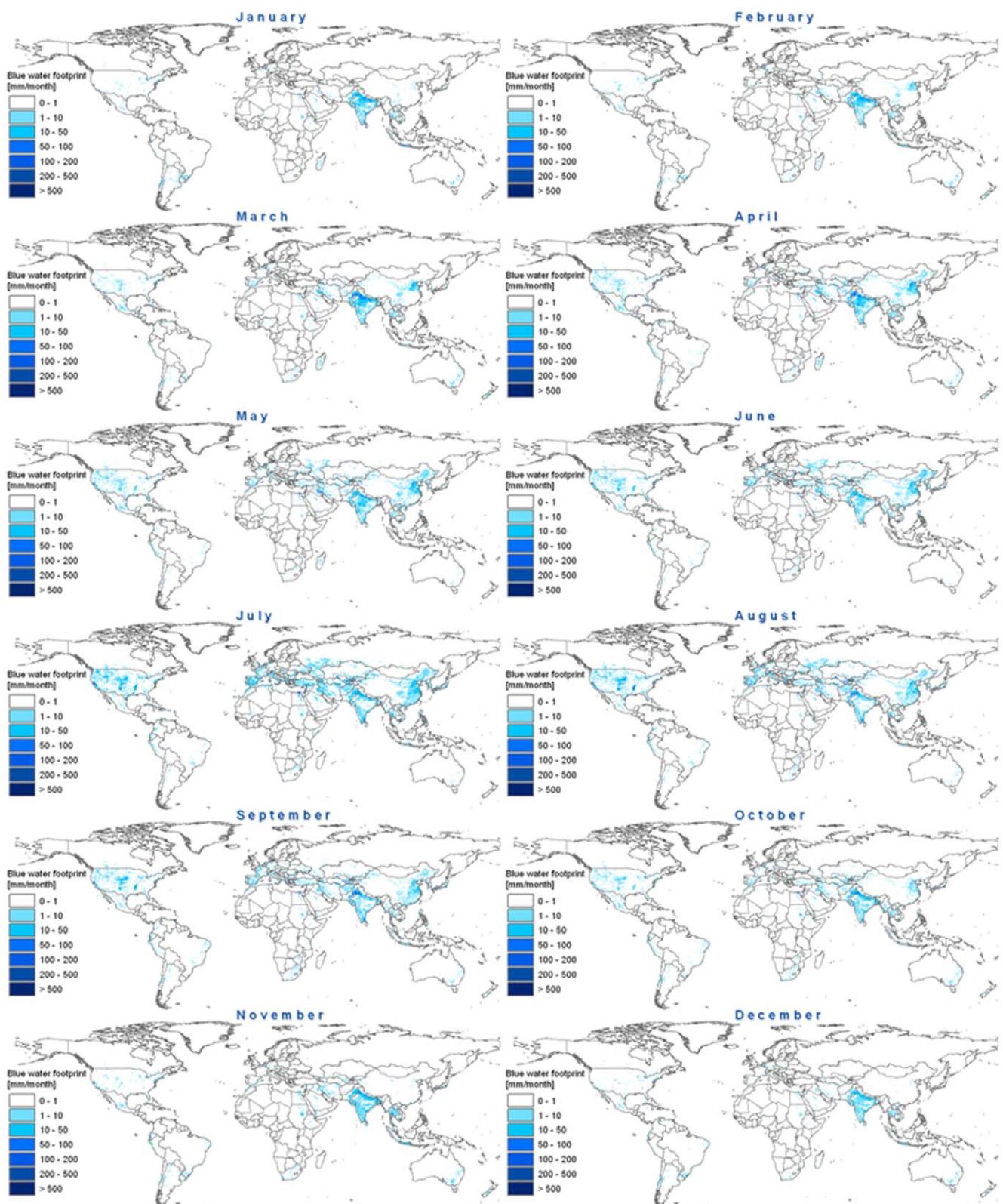


Figure 1. Monthly blue water footprint in the period 1996–2005. The data are shown in mm/month on a 5 by 5 arc minute grid. Data per grid cell have been calculated as the water footprint within a grid cell (in m^3/month) divided by the area of the grid cell (in 10^3 m^2).
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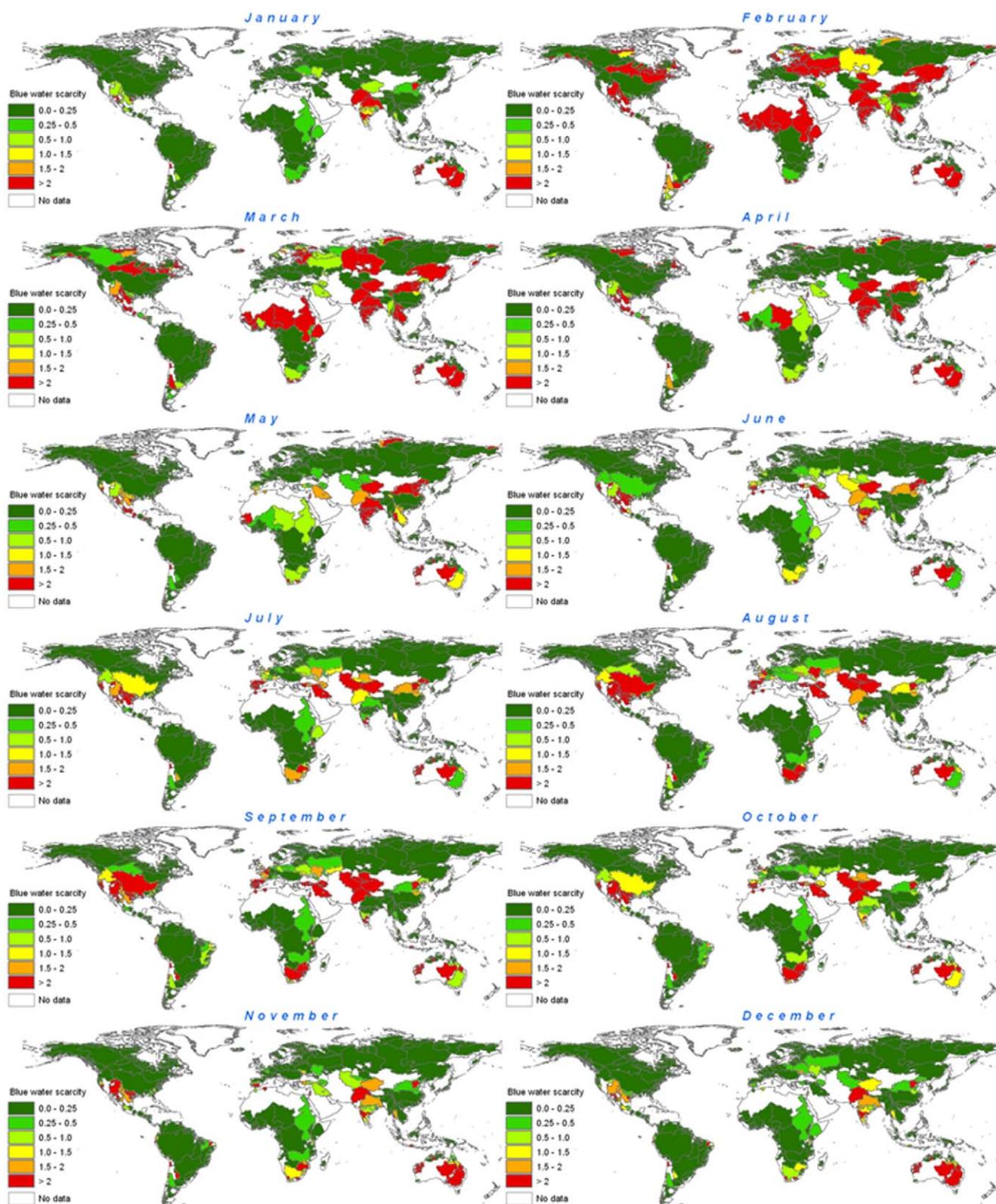


Figure 2. Monthly water scarcity in the world's major river basins, based on the period of 1996–2005. In each month that a river basin is colored in some shade of green, the monthly water scarcity is low (blue water footprint is less than net availability). In such cases, the presumed environmental flow requirements are not violated, and river runoff in that month is unmodified or only slightly modified. In each month that a river basin is colored yellow, water scarcity is moderate. Blue water footprint is between 20 and 30% of natural runoff; runoff is hence moderately modified and environmental flow requirements are not fully met. When a river basin is colored orange, water scarcity is significant. Blue water footprint is between 30 and 40% of natural runoff, so monthly runoff is significantly modified. In each month that a river basin is colored red, water scarcity is severe; the blue water footprint exceeds 40% of natural runoff, therefore runoff is seriously modified.

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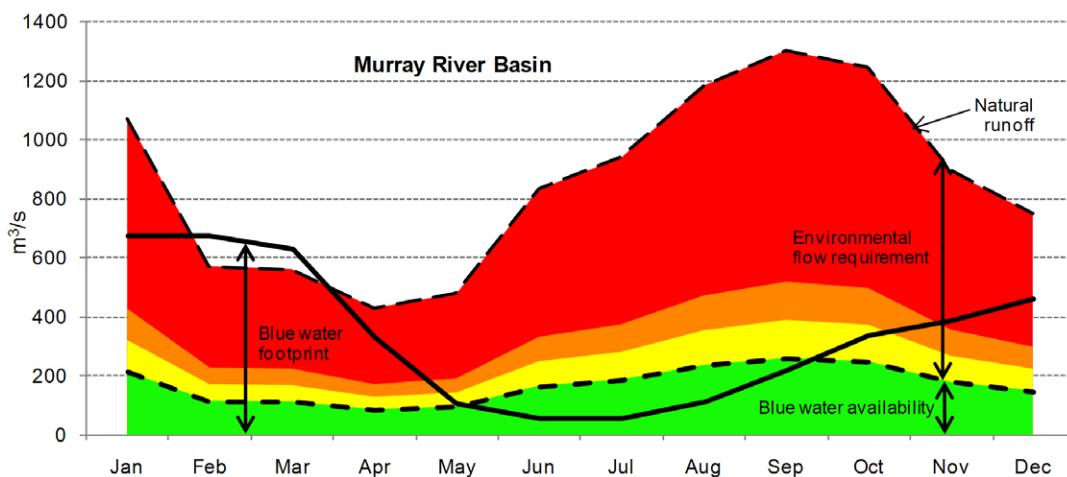


Figure 3. Water scarcity over the year for the Murray-Darling River Basin in Australia (average for the period 1996–2005). Net available water – that is natural runoff minus environmental flow requirement – is shown in green. From October until May, the blue water footprint exceeds net available water; in these months, the presumptive environmental flow requirement is not met. When the blue water footprint moves into the yellow, orange and red colors, water scarcity is moderate, significant and severe, respectively.

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Discussion

The current study provides the first global assessment of blue water scarcity at the scale of river basins and at a monthly resolution while accounting for environmental flow requirements. We find that at least 2.7 billion people are living in basins that experience severe water scarcity during at least one month of the year. Our estimate is close to what Oki and Kanae [5] found in another recent global water scarcity study, although they looked at water withdrawals instead of consumption and considered water scarcity at an annual basis. They found 2.4 billion people living in severely water-stressed areas. The similar finding is explained by

the fact that Oki and Kanae call an area ‘severely water stressed’ already when the annual ratio of water withdrawal to runoff exceeds 40% [5]. When we roughly assume that water consumption (the blue water footprint) is 60% of total water withdrawal in a basin, this criterion is equivalent to saying that severe water stress occurs when the blue water footprint exceeds 24% of runoff, which means that less than 76% of runoff remains (on an annual basis). In our study, severe water scarcity is assumed to occur when less than 60% of runoff remains (on a monthly basis). We thus use a less strict criterion, but apply a monthly evaluation which is more strict. This can help explain the similarity between [5] and our study in the identification of

Table 1. Number of basins and number of people facing low, moderate, significant and severe water scarcity during a given number of months per year.

Number of months per year (<i>n</i>)	Number of basins facing low, moderate, significant and severe water scarcity during <i>n</i> months per year				Number of people (millions) facing low, moderate, significant and severe water scarcity during <i>n</i> months per year			
	Low water scarcity	Moderate water scarcity	Significant water scarcity	Severe water scarcity	Low water scarcity	Moderate water scarcity	Significant water scarcity	Severe water scarcity
0	17	319	344	204	353	2690	2600	1289
1	2	55	45	46	18.6	894	357	440
2	1	26	12	49	0.002	302	672	512
3	4	4	2	33	79.6	69.2	220	182
4	6	1	1	22	35.0	0.14	9.2	345
5	18	0	1	16	897	0	97.8	706
6	9	0	0	10	111	0	0	25.6
7	17	0	0	4	144	0	0	88.0
8	29	0	0	4	293	0	0	254
9	29	0	0	3	66.8	0	0	20.2
10	52	0	0	0	428	0	0	0
11	39	0	0	2	296	0	0	1.8
12	182	0	0	12	1233	0	0	93.3
Total	405	405	405	405	3956	3956	3956	3956

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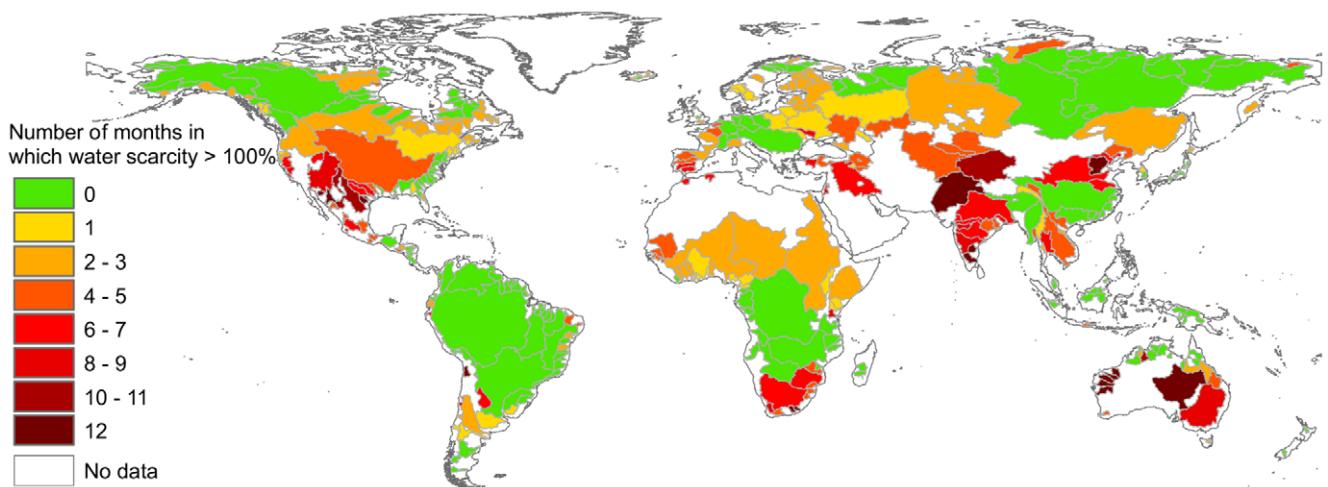


Figure 4. Number of months during the year in which the blue water footprint exceeds blue water availability for the world's major river basins, based on the period of 1996–2005. Blue water availability refers to natural flows (through rivers and groundwater) minus the presumed environmental flow requirement.

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severely water stressed areas and in the estimation of the number of people living under severe water stress.

However, water scarcity analysis at a monthly time step provides insight into water scarcity that is not revealed in annual water scarcity studies [4–6,21]; in particular the fact that scarcity occurs in certain periods of the year and not in others [13,33]. This enables a more detailed analysis of when water consumption is exceeding water availability which can assist in pinpointing and prioritizing investments in blue water footprint reduction. If stricter criteria for high water scarcity was used in line with previous annual studies, the number of high water stress areas and the people affected by water stress would increase.

In this study, water scarcity has been evaluated at the scale of large river basins. Other investigators have presented global water scarcity assessments at a much higher spatial resolution, by applying a 30 arc minute grid [5–6,13]. While we acknowledge that portrayal of water scarcity at a higher spatial resolution can be useful for some purposes, we feel that it is very important to portray water scarcity using geographic units familiar and relevant to water managers and planners, i.e., at the river basin scale. We also caution that the accuracy of existing runoff and water consumption data may not yet warrant interpretation of results at higher spatial resolution. We stress that our basic analyses of blue water footprint and water availability have been carried out at high-resolution grid level, so that it is only in the presentation of scarcity levels that we show results at basin level.

The levels of water scarcity estimated in this study correspond strongly with documented ecological declines and socio-economic disruption in some of the world's most heavily used river basins. The Indus River Basin, with 212 million people, faces severe water scarcity during eight months of the year. In the northwestern Indian provinces of Punjab, Rajasthan and Haryana, each one of which lies fully or partly in the Indus River Basin, groundwater is steadily being depleted [34]. Unsustainable groundwater depletion and severe water scarcity threaten potable water supplies and agricultural output, affecting the country's food supplies and the government's welfare programs. The Rio Grande (or Rio Bravo) Basin – an international river basin shared by the US and Mexico – suffers severe water scarcity during seven months of the year. As a result of low water levels, the concentration of pollutants is so high that fish kills have occurred, and the lower river is suffering

from greatly increased salinity levels which have displaced 32 native freshwater fish species [35]. Regional economic losses in irrigated agriculture due to water shortages have been estimated at \$135 million per year, including loss of more than 4,000 jobs annually [36]. In the Murray-Darling basin in south-eastern Australia with six months of severe water scarcity, depletion of river flows caused the Murray to run dry before reaching the sea for the first time in 2002, and 20 of 23 sub-basins have been assessed as being in “poor” to “very poor” ecosystem health [37]. A highly controversial new draft basin plan proposes a multi-billion dollar government program of irrigation water buybacks in an attempt to reduce consumption by at least 20% and increase return flows to depleted wetlands and streams, with projected economic losses to agriculture of at least \$800 million per year [37].

With severe water scarcity occurring at least one month per year in close to one half of the river basins included in this study, our results underline the critical nature of water shortages around the world. Businesses, investors, farmers, governments and others may find this scarcity indicator useful in assessing their water-related risks. The indicator highlights where investments in improved water efficiency and productivity may be critical to averting water shortages and seasonal rationing. It also illuminates that trade – particularly in agricultural products – can help alleviate water scarcity through import of water-intensive products from more water-rich areas.

Rockström *et al.* [38] have posed that planetary boundaries for different global resources can be determined. By including the presumptive environmental flow requirement and doing the analysis at a monthly time-step, our water scarcity indicator contributes higher resolution analysis for setting a boundary for the sustainable use of freshwater at local and regional scales [39,40]. Maintaining water use within this boundary of water availability can have implications for economic and infrastructure planning, trade and agricultural policies, and development aid. The presumptive environmental flow standard applied in our water scarcity analysis is a precautionary boundary that should be refined with site-specific studies. However, depletion beyond this boundary will typically involve tradeoffs between the social and economic benefits of increased consumptive use and the loss of ecosystem health and related social and economic costs [22].

While our water scarcity indicator provides an improved accounting of the current status of basin water budgets, a couple of caveats deserve mention so as to avoid misinterpretation of these results. Our estimates of blue water availability account for month-by-month natural variability in flow, but they do not yet properly account for the perturbation of seasonal runoff patterns by river flow regulation by dams. The runoff dataset from Fekete et al. [27] used in this study is a construct based on runoff modeling on the one hand and river discharge measurements on the other hand, so that it *implicitly* includes impacts from reservoirs, inter-basin transfers and consumptive water use (but only in those cases where discharge measurements were available). We have nullified the impact of consumptive water use by adding our own consumptive water use estimates to the ‘actual’ runoff from this dataset to obtain ‘natural’ runoff, but we have not been able to cancel out the effects of dams and inter-basin transfers.

Further, our water footprint estimates do not yet include evaporation from artificial reservoirs. Additionally, our estimates of blue water footprint do not account for inter-basin transfers of water. For basins that are net exporters of water (e.g., the Colorado, through deliveries to southern California, Las Vegas, the Front Range of Colorado and elsewhere) the scarcity picture is likely worse than presented here, whereas for net importers of water it may be better.

Our water scarcity estimates also include uncertainties inherent in the data used and the assumptions made. The data on actual runoff are model-based estimates calibrated against long-term runoff measurements [27]; the model outcomes include an error of 5% at the scale of large river basins and greater in smaller basins. The runoff measurements against which the model is calibrated have accuracy on the order of $\pm 10\text{--}20$ percent [27]. Estimates of blue water footprint can easily contain an uncertainty of $\pm 20\%$ [28,29,41]; in general, uncertainties for relatively small river basins will be bigger than for large river basins.

In order to estimate natural (undepleted) runoff in each river basin, we have added the estimated blue water footprint from [26] to the estimated actual runoff from [27]. In doing so, we overestimate natural runoff in those months in which the blue water footprint partially draws down the total annual water storage in the basin (e.g., from aquifers) rather than depleting that month’s runoff. Similarly, we underestimate the natural runoff in the months in which water is being stored for later consumption. Further, as a result of our approach we overestimate natural runoff in those months and basins in which a portion of the water consumed comes from fossil (non-renewable) groundwater, because that water should not be included in natural runoff. However, empirical data on consumption of renewable versus fossil groundwater are very difficult to obtain at a global scale; so far only rough assessments based on models and assumptions have been made [12,42,43].

This study has excluded the issue of water pollution. Blue water scarcity has been defined such that it refers to scarcity in quantitative sense. Return flows from agriculture, industries and households are not consumptive use, so they do not affect our scarcity measure. In many places, water scarcity is much higher than suggested by us if one would consider scarcity of *uncontaminated* water.

Despite these cautionary notes, our estimates provide a significant improvement over previous water scarcity indicators and the

relative spatial and temporal patterns of water scarcity globally because they provide a more detailed assessment of when and where water scarcity occurs. Moreover, the calculated scarcity values for each river basin and month are conservative estimates of actual scarcity for two reasons. First, by evaluating water scarcity at the level of whole river basins, we do not capture spatial variations within basins. Flows may be substantially more depleted at the sub-basin level, for example, than for that basin as a whole. Second, we assume an average year with regard to both blue water footprint and availability, but in many basins inter-annual variations are substantial, aggravating the scarcity problem in the drier years.

The water scarcity values presented refer to the period 1996–2005. Continued growth in blue water footprint due to growing populations, changing food patterns (for instance, more meat consumption) and increasing demand for biofuels, combined with the effects of climate change on runoff patterns, are likely to result in a worsening and expansion of water scarcity in many river basins in the decades ahead [6].

Supporting Information

Figure S1 Global river basin map.
(TIFF)

Figure S2 Global maps of the monthly blue water footprint in the world’s major river basins. Period 1996–2005.
(TIF)

Figure S3 Global maps of monthly natural runoff in the world’s major river basins.
(TIF)

Figure S4 Global maps of monthly blue water availability in the world’s major river basins.
(TIF)

Table S1 Monthly blue water footprint for the world’s major river basins.
(PDF)

Table S2 Monthly natural runoff for the world’s major river basins.
(PDF)

Table S3 Monthly blue water availability for the world’s major river basins.
(PDF)

Table S4 Monthly blue water scarcity for the world’s major river basins.
(PDF)

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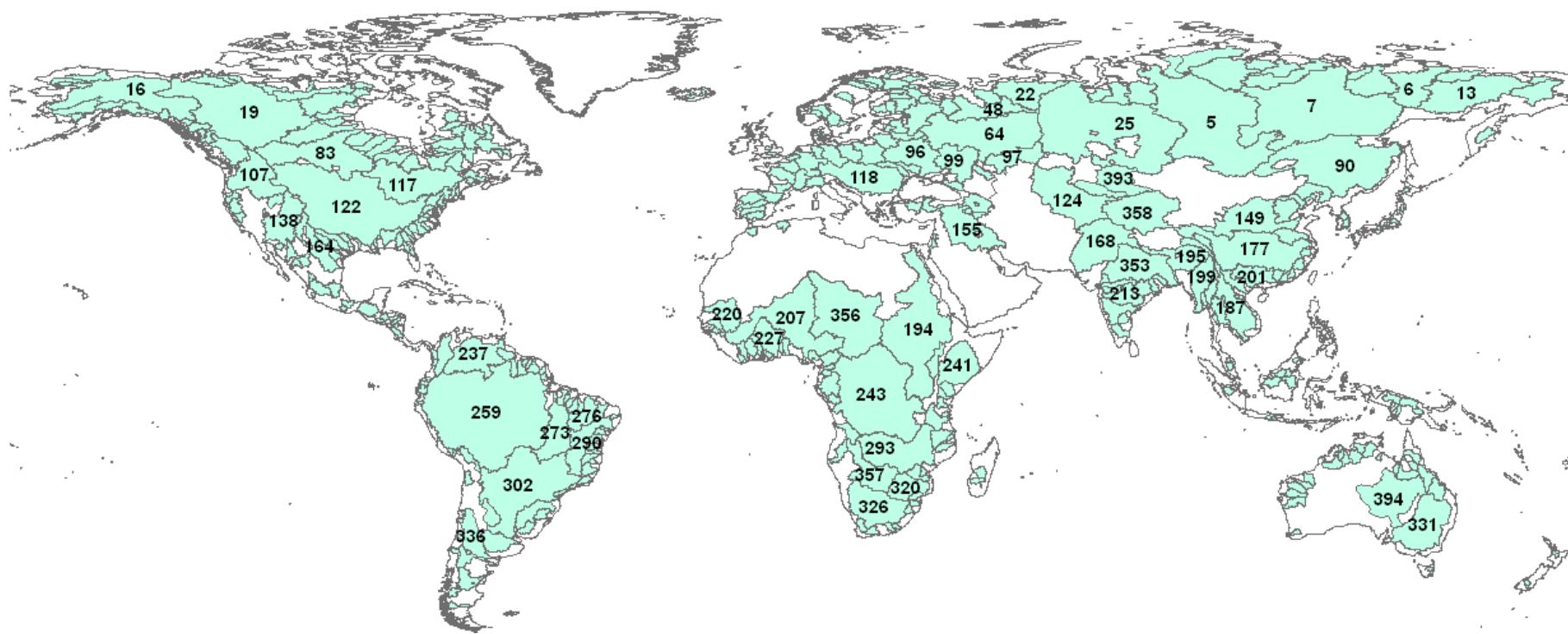
Author Contributions

Conceived and designed the experiments: AYH MMM. Performed the experiments: AYH MMM. Analyzed the data: AYH MMM. Wrote the paper: AYH MMM AKC REM BDR.

References

- Postel SL (2000) Entering an era of water scarcity: the challenges ahead. *Ecol Appl* 10(4): 941–948.
- World Water Assessment Programme (2009) The UN World Water Development Report 3: Water in a Changing World. UNESCO, Paris, France, Earthscan, London, UK.
- Falkenmark M (1989) The massive water scarcity now threatening Africa: Why isn’t it being addressed? *Ambio* 18(2): 112–118.
- Alcamo J, Henrichs T (2002) Critical regions: A model-based estimation of world water resources sensitive to global changes. *Aquat Sci* 64(4): 352–362.

5. Oki T, Kanae S (2006) Global hydrological cycles and world water resources. *Science* 313(5790): 1068–1072.
6. Vörösmarty CJ, Green P, Salisbury J, Lammers RB (2000) Global water resources: vulnerability from climate change and population growth. *Science* 289: 284–288.
7. Comprehensive Assessment of Water Management in Agriculture (2007) *Water for Food, Water for Life: A Comprehensive Assessment of Water Management in Agriculture*. Earthscan, London, UK, International Water Management Institute, Colombo, Sri Lanka.
8. UNDP (2006) *Beyond Scarcity: Power, Poverty, and the Global Water Crisis*. UNDP Human Development Report 2006, New York, USA.
9. World Economic Forum (2011) *Global Risks 2011*. World Economic Forum, edition 6, Geneva, Switzerland. Available: <http://riskreport.weforum.org/global-risks-2011.pdf>. Accessed 2011 June 10.
10. Millennium Ecosystem Assessment (2005) *Ecosystems and Human Well-Being: Wetlands and Water Synthesis*. World Resources Institute, Washington, DC, USA.
11. Mekonnen MM, Hoekstra AY (2011) The green, blue and grey water footprint of crops and derived crop products. *Hydrol Earth Syst Sc* 15(5): 1577–1600.
12. Rost S, Gerten D, Bondeau A, Lucht W, Rohwer J, et al. (2008) Agricultural green and blue water consumption and its influence on the global water system. *Water Resour Res* 44: W09405. doi:10.1029/2007WR006331.
13. Wada Y, Van Beek LPH, Viviroli D, Dürr HH, Weingartner R, et al. (2011) Global monthly water stress: 2. Water demand and severity of water stress, *Water Resour Res* 47: W07518. doi:10.1029/2010WR009792.
14. Liu J, Yang H (2010) Spatially explicit assessment of global consumptive water uses in cropland: green and blue water. *J Hydrol* 384: 187–197.
15. Hanasaki N, Inuzuka T, Kanae S, Oki T (2010) An estimation of global virtual water flow and sources of water withdrawal for major crops and livestock products using a global hydrological model. *J Hydrol* 384: 232–244.
16. Fader M, Gerten D, Thammer M, Heinke J, Lotze-Campen H, et al. (2011) Internal and external green-blue agricultural water footprints of nations, and related water and land savings through trade, *Hydrology and Earth System Sciences* 15(5): 1641–1660.
17. Siebert S, Döll P (2010) Quantifying blue and green virtual water contents in global crop production as well as potential production losses without irrigation. *J Hydrol* 384: 198–207.
18. Shiklomanov IA (2000) Appraisal and assessment of world water resources. *Water Int* 25(1): 11–32.
19. Perry C (2007) Efficient irrigation; inefficient communication; flawed recommendations. *Irrig Drain* 56(4): 367–378.
20. FAO (2010) AQUASTAT on-line database. Food and Agriculture Organization Rome, Italy. Available: <http://faostat.fao.org>. Accessed 2010 December 12.
21. Smakhtin V, Revenga C, Döll P (2004) A pilot global assessment of environmental water requirements and scarcity. *Water Int* 29(3): 307–317.
22. Richter BD, Davis MM, Apse C, Konrad C (2011) A presumptive standard for environmental flow protection. *River Res Appl*; doi:10.1002/rra.1511.
23. Savenije HHG (2000) Water scarcity indicators; the deception of the numbers. *Phys Chem Earth Pt B* 25(3): 199–204.
24. Hoekstra AY, Chapagain AK, Aldaya MM, Mekonnen MM (2011) Water footprint assessment manual: Setting the global standard. Earthscan, London, UK.
25. Falkenmark M (2003) Freshwater as shared between society and ecosystems: from divided approaches to integrated challenges. *Philos T Roy Soc B* 358(1440): 2037–2049.
26. Mekonnen MM, Hoekstra AY (2011) National water footprint accounts: the green, blue and grey water footprint of production and consumption. Value of Water Research Report Series No. 50, UNESCO-IHE, Delft, The Netherlands. Available: www.waterfootprint.org/Reports/Report50-NationalWaterFootprints-Vol1.pdf. Accessed 2011 May 12.
27. Fekete BM, Vörösmarty CJ, Grabs W (2002) High-resolution fields of global runoff combining observed river discharge and simulated water balances. *Global Biogeochem Cy* 16(3); doi:10.1029/1999GB001254 (data available: www.grdc.sr.unh.edu). Accessed 2010 April 12.
28. Mekonnen MM, Hoekstra AY (2010) A global and high-resolution assessment of the green, blue and grey water footprint of wheat. *Hydrol Earth Syst Sc* 14(7): 1259–1276.
29. Mekonnen MM, Hoekstra AY (2010) The green, blue and grey water footprint of crops and derived crop products. Value of Water Research Report Series No. 47, UNESCO-IHE, Delft, The Netherlands. Available: www.waterfootprint.org/Reports/Report47-WaterFootprintCrops-Vol1.pdf. Accessed 2010 December 10.
30. Center for International Earth Science Information Network (CIESIN), Columbia University; and International Center for Tropical Agriculture (CIAT) (2005) Gridded population of the world version 3 (GPWv3): Population density grids.. PalisadesNY: Socioeconomic Data and Applications Center (SEDAC), Columbia University. Available: <http://sedac.ciesin.columbia.edu/gpw>. Accessed 2010 April 8.
31. Shiklomanov IA, Rodda JC, eds. *World water resources at the beginning of the twenty-first century*. Cambridge University Press, Cambridge, UK.
32. GRDC (2007) Major River Basins of the World. Global Runoff Data Centre, Federal Institute of Hydrology, Koblenz, Germany. Available: <http://grdc.bafg.de>. Accessed 2010 April 10.
33. Hanasaki N, Kanae S, Oki T, Masuda K, Motoya K, et al. (2008) An integrated model for the assessment of global water resources – Part 2: Applications and assessments. *Hydrol Earth Syst Sci* 12: 1027–1037.
34. Rodell M, Velicogna I, Famiglietti JS (2009) Satellite-based estimates of groundwater depletion in India. *Nature* 460(7258): 999–1002.
35. Contreras S, Lozano ML (1994) Water, Endangered Fishes, and Development Perspectives in Arid Lands of Mexico. *Conserv Biol* 8(2): 379–387.
36. Robinson JRC (2002) Alternative Approaches to Estimate the Impact of Irrigation Water Shortages on Rio Grande Valley Agriculture. Special Report 2002-15. May 17, Texas A&M University, Texas Water Resources Institute, College Station, Texas, USA.
37. Murray-Darling Basin Authority (2010) Guide to the proposed Basin Plan: overview. Murray-Darling Basin Authority, Canberra, Australia. Available: http://www.mdba.gov.au/basin_plan. Accessed 2011 June 10.
38. Rockström J, Falkenmark M, Karlberg L, Hoff H, Rost S, et al. (2009) Future water availability for global food production: the potential of green water for increasing resilience to global change. *Water Resour Res* 45: W00A12. doi:10.1029/2007WR006767.
39. Postel SL, Richter BD (2003) *Rivers for Life: Managing Water for People and Nature*. Island Press, Washington, DC, USA.
40. Richter BD (2010) Re-thinking environmental flows: from allocations and reserves to sustainability boundaries. *River Res Appl* 26(8): 1052–1063.
41. Hoff H, Falkenmark M, Gerten D, Gordon L, Karlberg L, et al. (2010) Greening the global water system. *J Hydrol* 384: 177–186.
42. Vörösmarty CJ, Lévéque C, Revenga C (2005) Fresh water. In: Hassan R, Scholes R, Ash N, eds. *Ecosystems and Human Well-Being: Current States and Trends*, Millennium Ecosystem Assessment Report, Island Press, Washington, DC, USA. pp 165–207.
43. Wada Y, Van Beek LPH, Van Kempen CM, Reckman JWT, Vasak S, et al. (2010) Global depletion of groundwater resources. *Geophysical Research Letters* 37: L20402.



The map shows the basin ID for the largest river basins (area > 300,000 km²). Data source: GRDC (32).

Basin ID	Basin	Basin ID	Basin	Basin ID	Basin	Basin ID	Basin	Basin ID	Basin	Basin ID	Basin
5	Yenisei	64	Volga	122	Mississippi	194	Nile	241	Shebelle	326	Orange
6	Indigirka	83	Nelson	124	Aral Drainage	195	Brahmaputra	243	Congo	331	Murray
7	Lena	90	Amur	138	Colorado(Pacific Ocean)	199	Irrawaddy	259	Amazonas	336	Colorado (Argentina)
13	Kolyma	96	Dniepr	149	Huang He (Yellow River)	201	Xi Jiang	273	Tocantins	353	Ganges
16	Yukon	97	Ural	155	Tigris & Euphrates	207	Niger	276	Rio Parnaiba	356	Lake Chad
19	Mackenzie	99	Don	164	Bravo	213	Godavari	290	Sao Francisco	357	Okavango
22	Pechora	107	Columbia	168	Indus	220	Senegal	293	Zambezi	358	Tarim
25	Ob	117	St.Lawrence	177	Yangtze(Chang Jiang)	227	Volta	302	Parana	393	Balkhash
48	Northern Dvina (Severnaya Dvina)	118	Danube	187	Mekong	237	Orinoco	320	Limpopo	394	Eyre Lake

Figure S1. Global river basin map

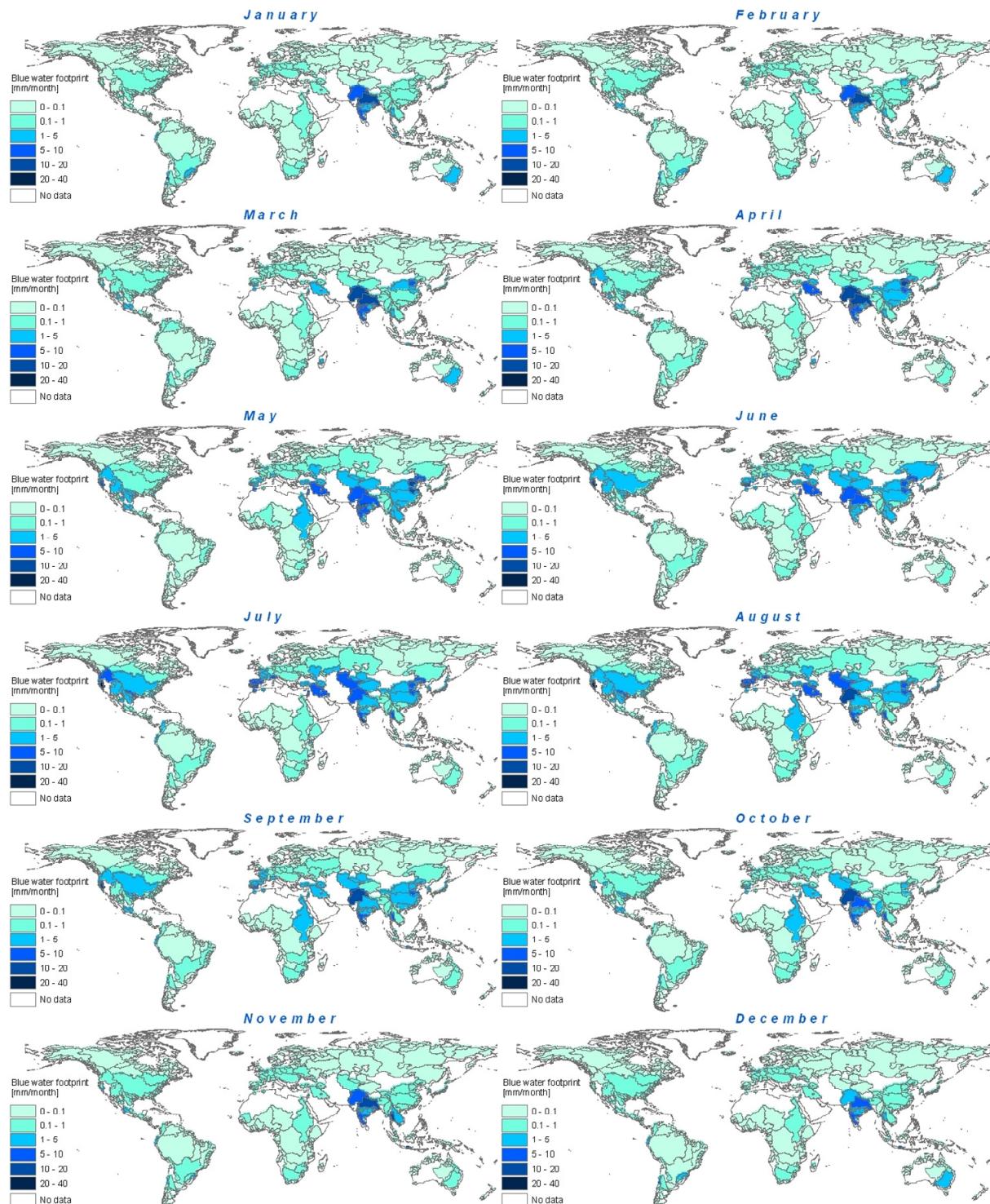


Figure S2. Global maps of the monthly blue water footprint in the world's major river basins. Period 1996-2005.

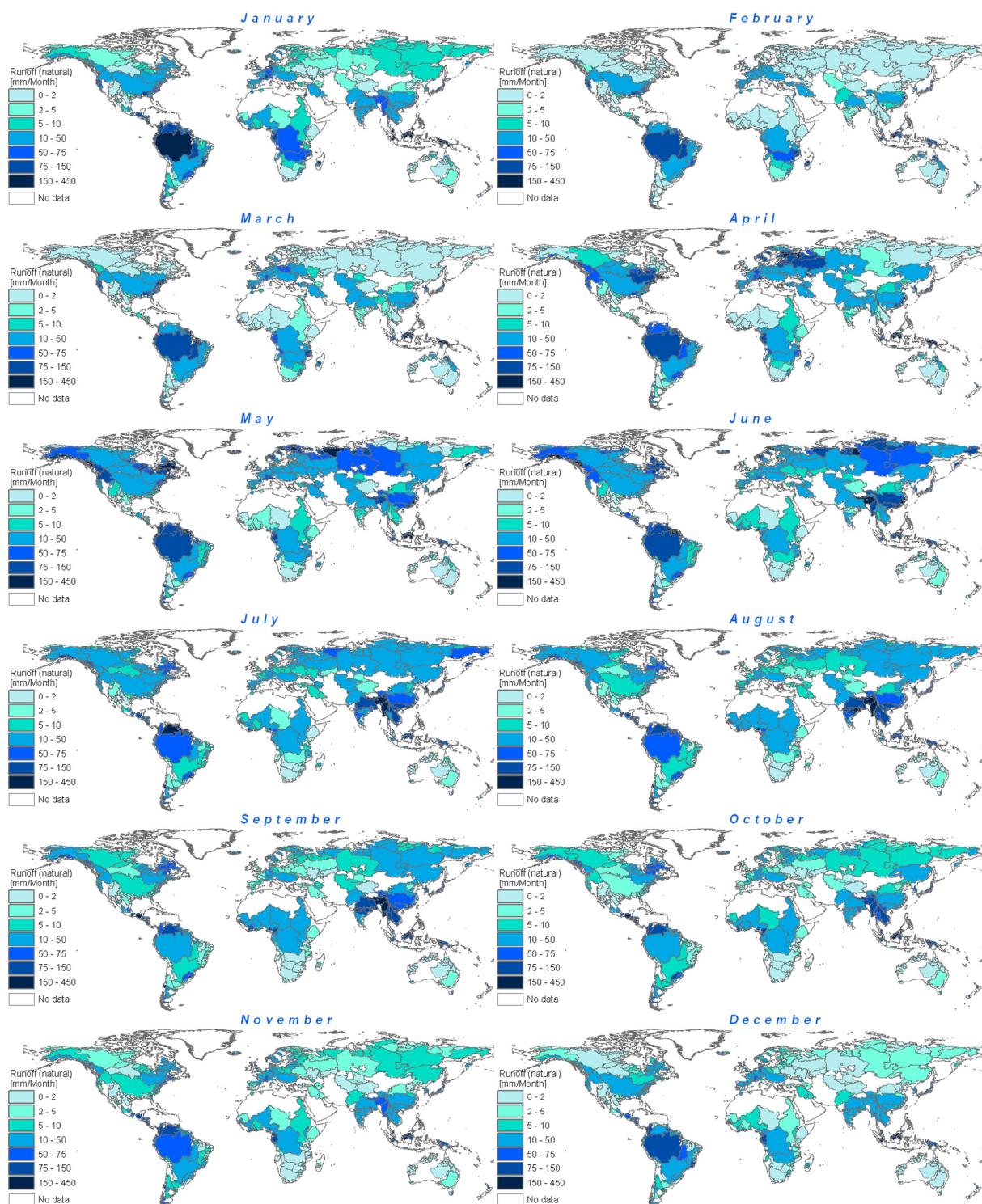


Figure S3. Global maps of monthly natural runoff in the world's major river basins

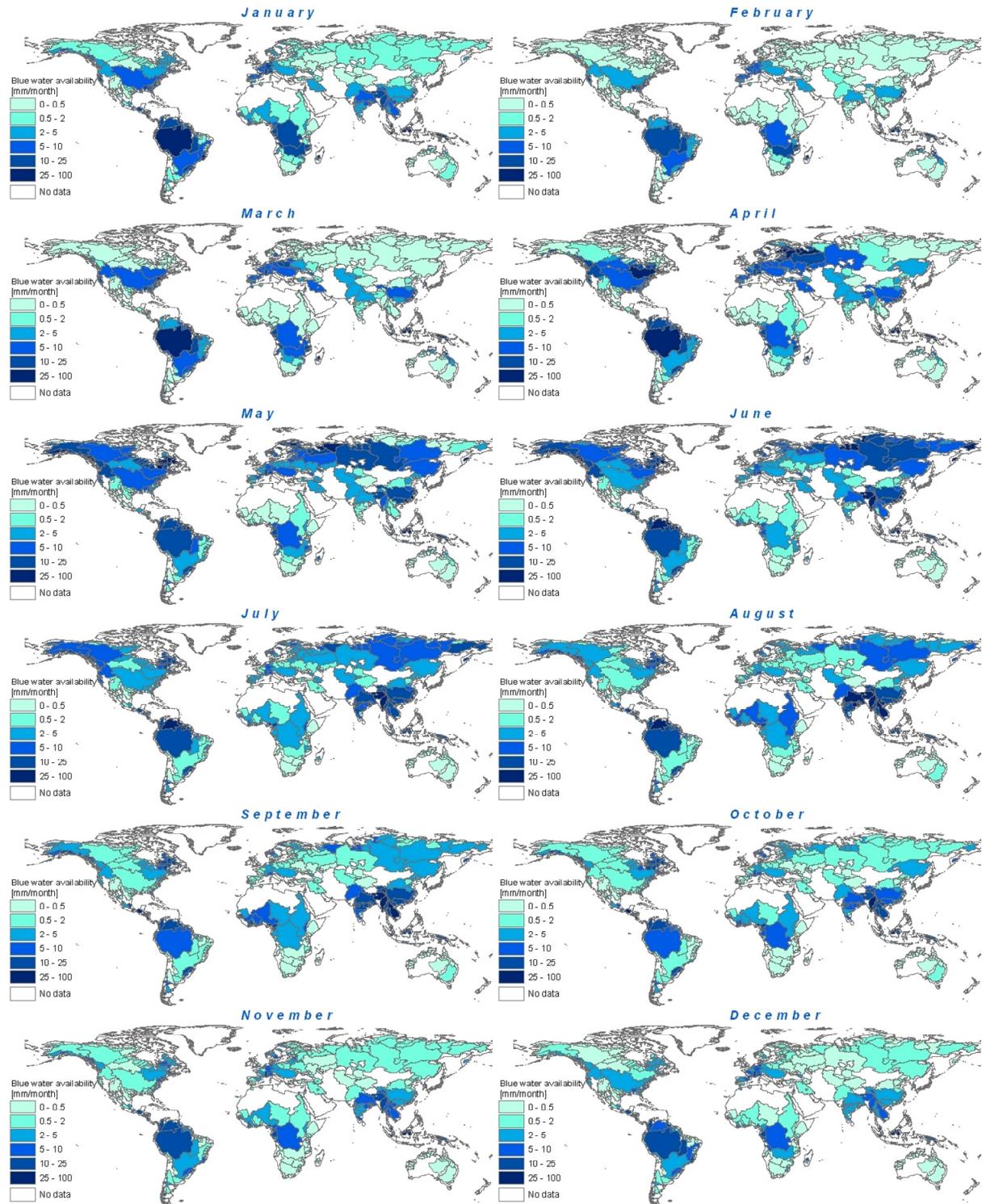


Figure S4. Global maps of monthly blue water availability in the world's major river basins

Table S1. Monthly blue water footprint for the world's major river basins

Period: 1996-2005

Basin ID	Basin name	Blue water footprint ($10^3 \text{ m}^3/\text{month}$)												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1	Khatanga	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
2	Olenek	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3
3	Anabar	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
4	Yana	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4
5	Yenisei	14005.0	14005.0	14010.8	22586.1	67379.7	87527.4	79042.8	56657.6	32477.7	18324.4	14275.6	14012.4	36192.1
6	Indigirka	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1
7	Lena	2433.3	2433.3	2433.3	2433.4	2434.3	2436.8	2447.0	2468.5	2445.9	2433.4	2433.3	2433.3	2438.8
8	Omoloy	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
9	Tana (NO, Fl)	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
10	Colville	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
11	Alazeya	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6
12	Anderson	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
13	Kolyma	261.7	261.7	261.7	261.7	262.0	262.3	264.3	262.8	261.7	261.7	261.7	261.7	262.1
14	Tuloma	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5	397.5
15	Muonio	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0
16	Yukon	709.7	709.7	709.7	733.2	864.6	869.9	819.9	756.4	751.8	725.8	712.9	710.3	756.2
17	Palayaam	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8
18	Kemijoki	322.5	322.5	322.5	322.5	322.5	322.5	322.5	322.5	322.5	322.5	322.5	322.5	322.5
19	Mackenzie	3302.6	3302.6	3302.7	3524.1	3876.2	3757.9	3650.4	3685.7	3512.4	3419.4	3324.3	3302.9	3496.8
20	Noatak	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
21	Anadyr	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3
22	Pechora	1147.7	1147.7	1147.7	1147.7	1147.7	1147.7	1147.7	1147.7	1147.7	1147.7	1147.7	1147.7	1147.7
23	Lule	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2
24	Kalixelven	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1
25	Ob	55630.5	55630.5	55641.7	95861.9	304570.9	399138.7	534705.8	460741.0	242699.8	102971.4	57227.1	55632.2	201704.3
26	Ellice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	Taz	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6
28	Kobuk	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
29	Coppermine	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
30	Hayes(Trib. Arctic Ocean)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	Pur	372.7	372.7	372.7	372.7	372.7	372.7	372.7	372.7	372.7	372.7	372.7	372.7	372.7
32	Varzuga	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
33	Pony	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
34	Kovda	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8	62.8
35	Back	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
36	Kem	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8	147.8
37	Nadym	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.7
38	Quoich	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	Mezen	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7
40	Iijoki	138.9	138.9	138.9	138.9	139.0	139.1	139.1	139.6	139.2	139.0	138.9	138.9	139.0
41	Joekulsa A Fjöllum	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
42	Svarta, Skagafjöri	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
43	Oulujoki	435.0	435.0	435.0	435.0	445.6	464.0	490.9	525.1	480.8	440.8	435.0	435.0	454.7
44	Lagarfljot	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
45	Thelon	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
46	Angerman	117.4	117.4	117.4	117.4	117.4	117.4	117.4	117.4	117.4	117.4	117.4	117.4	117.4
47	Thjorsa	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
48	Northern Dvina(Severnaya I)	3254.5	3254.5	3254.5	3256.1	3650.4	3924.0	3905.7	3715.4	3340.4	3254.5	3254.5	3254.5	3443.2
49	Oelfusa	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4
50	Nizhny Vyg (Soroka)	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6
51	Kuskokwim	57.6	57.6	57.6	57.6	57.6	59.3	59.5	58.4	57.6	57.6	57.6	57.6	58.0
52	Vuoksi	1650.8	1650.8	1650.8	1650.8	1715.7	1799.9	1953.7	2144.8	1886.8	1667.7	1650.8	1756.1	
53	Onega	333.5	333.5	333.5	333.5	333.5	381.8	426.0	423.5	383.5	338.8	333.5	333.5	357.3
54	Susitna	152.5	152.5	152.5	153.5	187.7	189.8	163.9	153.7	152.6	152.6	152.5	152.5	159.7
55	Kymijoki	1285.5	1285.5	1285.5	1285.5	1364.7	1421.1	1488.1	1625.0	1456.9	1296.9	1285.5	1285.5	1363.8
56	Neva	8027.9	8027.9	8027.9	8027.9	8045.8	10574.5	12074.7	11011.0	11704.2	8871.9	8031.5	8027.9	9204.4
57	Ferguson	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
58	Copper	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9
59	Gloma	1726.4	1726.4	1726.4	1729.2	1903.1	2987.3	4253.9	4640.8	2178.8	1728.5	1728.4	1728.4	2338.6
60	Kokemaenjoki	1710.1	1710.1	1710.1	1710.1	1710.1	2077.2	2256.1	2259.7	2145.7	1723.1	1710.1	1710.1	1914.5
61	Vaenern-Goeta	2650.5	2650.5	2650.5	2652.1	2858.8	3208.6	3451.6	3187.7	2747.6	2651.0	2650.5	2650.5	2834.2
62	Thlewiaza	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
63	Alsek	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
64	Volga	116047.3	116047.3	116127.0	151487.2	607847.6	798852.7	1124796	963030.8	356041.0	162975.0	120668.5	116099.0	395835.0
65	Dramselv	642.5	642.5	642.5	642.5	645.1	826.0	1109.7	905.7	702.3	642.5	642.5	642.5	724.6
66	Arnaud	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67	Nushagak	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
68	Seal	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
69	Taku	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
70	Narva	1601.6	1601.6	1601.6	1604.9	1893.4	1940.6	2045.5	2297.4	1791.2	1607.8	1601.6	1601.6	1765.7
71	Stikine	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
72	Churchill	605.0	605.0	605.1	680.2	814.0	750.3	759.1	763.2	704.7	665.2	616.8	605.6	681.2
73	Feuilles (Riviere Aux)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74	George	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
75	Canapiscau	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
76	Western Dvina (Daugava)	2902.1	2902.1	2902.1	3089.8	4952.7	4524.9	4328.4	4954.4	3556.7	2913.7	2902.1	2902.1	3569.3
77	Aux Melezes													

Basin ID	Basin name	Blue water footprint ($10^3 \text{ m}^3/\text{month}$)												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
100	Oder	29979.2	29979.2	29987.5	30402.4	34120.9	37229.9	40736.3	46184.5	40612.3	31840.4	29986.3	29979.2	34253.2
101	Elbe	44757.5	44757.5	44796.9	45993.8	47830.3	52688.8	71886.0	85614.6	76979.8	50498.2	44792.1	44757.7	54612.8
102	Trent	3851.8	3851.8	3856.6	3867.3	4113.6	4724.6	7918.2	7500.9	5254.9	3919.6	3851.8	3851.8	4713.6
103	Weser	18785.6	18785.6	18786.8	18885.3	19314.9	21212.5	29191.0	36488.8	30603.1	19801.2	18785.6	18785.6	22452.2
104	Attawapiskat	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
105	Eastmain	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
106	Manicouagan (Riviere)	92.6	92.6	92.6	92.6	92.6	92.8	92.8	92.9	92.7	92.6	92.6	92.6	92.7
107	Columbia	34262	35262	180824	848539	1447369	231177	3409891	2913847	1540886	615283	129775	41987	1125758
108	Little Mecatina	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
109	Natasquan (Riviere)	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
110	Rhine	122345.5	122345.5	122352.6	123279.3	135280.2	140236.7	145768.4	176128.5	150043.6	124553.1	122345.5	133918.7	
111	Albany	128.2	128.2	128.2	128.2	128.3	128.6	128.9	128.8	128.4	128.2	128.2	128.2	128.4
112	Saguenay (Riviere)	2088.6	2088.6	2088.6	21022	22067	21553.3	21346.4	20951.1	2088.6	2088.6	2109.5		
113	Thames	7697.0	7697.0	7697.1	7699.1	7726.2	7880.7	8220.7	8141.2	7885.4	7709.7	7697.0	7697.0	7812.4
114	Nottaway	293.0	293.0	293.0	293.2	293.3	293.3	293.1	293.0	293.0	293.0	293.0	293.0	293.1
115	Rupen	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
116	Moose(Trib. Hudson Bay)	815.6	815.6	815.6	815.7	821.0	824.1	827.2	823.3	816.0	815.6	815.6	815.6	818.4
117	St.Lawrence	383010.0	383010.0	383187.1	386034.2	408783.9	451638.1	537777.5	564415.6	478676.0	402709.1	383289.8	383022.3	428796.1
118	Danube	172885.0	172888.3	176401.4	214410.4	349900.8	428431.0	640658.5	692509.3	429867.8	245115.7	174598.8	172895.0	322546.8
119	Seine	46280.8	46280.8	46494.9	48953.0	59473.4	72701.6	118179.0	156201.5	116779.5	56640.6	46296.5	46280.8	71713.7
120	Dniestr	13797.1	13797.1	13851.0	21101.3	69062.0	80201.6	80429.8	113028.4	63236.6	20506.5	13898.7	13797.1	41372.2
121	Southern Bug	5970.1	5970.1	5970.1	8880.2	28585.4	34379.4	50055.3	50401.7	21160.3	8384.4	6097.0	5970.1	19318.7
122	Mississippi	476071.5	553677.1	106646.8	167645.6	257479.9	367182.6	992378.9	1280939.5	8325019	2696248	679909	513391	3747250
123	Skagit	428.9	428.9	428.9	429.4	436.7	908.0	1462.7	1546.0	820.1	431.6	428.9	428.9	681.6
124	Aral Drainage	51679.1	48145.8	215735.5	118247.1	2320721	451476.3	8587253	8909592	6123848	2291408	281293	100329	2887853
125	Loire	23162.6	23162.6	23736.9	26573.5	39703.4	65121.6	165091.3	251733.7	171018.7	48758.7	23288.3	23162.6	73709.5
126	Rhone	28384.8	28529.3	29642.5	32065.3	41461.0	58050.4	141031.2	150460.5	72119.4	32102.8	28758.1	28384.9	55916.2
127	Saint John	2582.5	2582.5	2582.5	2587.8	2736.4	3219.2	4622.8	2960.2	2594.6	2582.5	2582.5	2581.3	
128	Po	40929.7	40933.9	41954.4	44063.6	126507.8	20893.9	67180.5	620682.7	211454.5	53621.6	40929.9	40929.7	173533.6
129	Penobscot	765.3	765.3	765.3	765.3	767.3	777.6	865.5	1048.9	825.9	770.4	765.3	765.3	804.0
130	St.Croix	120.1	120.1	120.1	120.1	120.2	124.5	129.3	135.6	124.2	120.1	120.1	120.1	122.9
131	Kuban	6573.6	6573.6	6573.6	10296.5	77019.1	160897.1	291432.5	165757.2	37165.1	9876.5	6599.1	6573.6	65444.8
132	Connecticut	10498.8	10498.8	10499.1	10545.3	10865.5	12300.3	12701.8	10516.1	10645.2	10504.8	10498.8	10498.8	10206.9
133	Liao He	25918.6	27536.5	43955.3	42131.4	138206.5	190616.7	111616.3	66747.7	47166.8	49664.8	33284.3	30489.8	514266.7
134	Garonne	9783.0	9804.2	11113.9	13422.2	20437.9	38994.0	217419.2	288619.9	187398.5	45387.3	11066.3	9783.0	79135.8
135	Ishikari	3230.4	3230.4	3230.4	3254.8	3378.9	14603.7	15213.4	19830.1	11559.0	3991.3	3230.4	3230.4	7331.9
136	Merrimack	11384.4	11384.4	11384.5	11418.1	11515.8	11710.1	11758.7	11498.9	11424.6	11408.5	11387.6	11384.5	11471.7
137	Hudson	19701.2	19701.2	19702.3	19776.2	19902.9	20190.1	21219.1	21239.9	20235.2	19767.0	19718.1	19701.3	20069.6
138	Colorado(Pacific Ocean)	51531.4	79016.8	258871.8	465243.9	688780.7	833506.3	868950.9	875259.8	598563.4	367116.3	152984.9	88178.4	436500.5
139	Klamath	695.1	695.1	875.6	28761.1	81554.8	12759.7	176238.8	15194.9	92866.9	28794.6	2489.8	695.1	57767.2
140	Ebro	4822.5	10975.0	46643.5	78434.8	122848.5	275459.1	587776.7	525750.6	242242.7	68777.9	11223.1	5629.7	165048.7
141	Rogue	1317.7	1317.7	1366.0	4252.0	11582.2	20252.7	27198.1	23093.1	14726.5	4929.1	1336.1	1317.7	9390.6
142	Douro	5884.1	7786.1	20223.4	41082.9	74657.3	252660.6	601045.1	614466.1	247644.1	45678.2	7325.7	5868.8	159953.4
143	Susquehanna	20293.7	20293.8	20304.9	20419.3	20885.0	21594.8	24593.3	26111.7	22846.0	20997.1	20312.5	20294.9	21578.9
144	Luan He	14156.1	63826.7	198095.8	369022.7	439376.3	226806.4	192323.3	20743.2	160173.2	62890.7	14435.4	11342.7	163323.5
145	Kura	26370.9	30851.7	107105.3	282772.4	308423.7	521039.7	733223.8	807810.5	455357.5	167331.3	53554.5	38164.1	294333.8
146	Dalinghe	3816.9	4321.7	6670.5	24989.9	66489.8	97171.0	50590.6	36848.1	27222.0	6012.0	4571.4	4326.1	27752.5
147	Delaware	32242.6	32244.3	32284.9	32560.0	34246.2	37078.2	37708.9	34841.7	33292.8	32505.0	32316.5	32254.2	33631.3
148	Sacramento	15241.3	15248.2	48730.6	287969.9	667890.9	1235885	151869.9	1560641	1081215	300997	40641	15584	572201
149	Huang He (Yellow River)	217673	738449	1735921	2467682	4265628	3400184	3464622	2159613	992897	434435	188078	176407	1889547
150	Kizilirmak	4234.6	4254.3	7119.9	39274	119425.9	168870.0	203697	129236	49110	14939	5399	78004	
151	Yongding He	9998.0	545652.6	199025.1	3417354	3353969	1712020	1842686	1930023	1020618	3572072	102495	96961	1372510
152	Tejo	11231.7	14362.0	30236.9	47754.6	82013.5	223938.2	441127.2	433196.6	200765.3	50828.6	14147.8	11245.0	130070.6
153	Sakarya	5368.1	5386.4	8192.8	31515.7	95507.6	13948.7	174554.7	209581.8	140841.5	503156.5	9821.4	5927.5	73026.7
154	Eel (Calif.)	1882.2	1882.2	1885.5	235.2	657.9	1102.8	1441.8	1205.3	846.8	282.0	190.2	188.2	559.6
155	Tigris & Euphrates	205397.3	717871.2	279288.2	5009895.9	6654136.8	4850558	4839684	4544688	2850413	1543961	664503	264649	2896468
156	Potomac	17093.4	17093.9	17117.0	17504.4	18095.9	18871.4	19799.9	20395.6	18608.5	17477.1	17133.5	17096.7	18017.0
157	Guadiana	2588.8	11643.9	52785.6	92804.4	158832.5	420029.3	737694.5	702725.4	330357.8	95626.3	12663.1	3155.2	218408.9
158	Kitakami	2130.2	2130.8	2134.3	2137.7	2162.4	7457.6	19068.6	45846.8	28745.3	3920.7	2130.2	2131.7	9999.5
159	Mogami	1860.1	1860.1	1861.2	1880.2	1927.3	6926.2	10796.2	31753.9	14549.3	3721.7	1860.1	6738.0	
160	Han-Gang (Han River)	16927.3	16934.6	16961.0	17284.7	21931.3	37684.3	27829.3	2227.9	27161.2	17042.1	16943.4	16936.6	21322.3
161	Guadaluquivir	6527.2	33894.1	123992.3	189770.9	279532.8	68919.3	107659	104745.8	503164	161945.8	34484.8	10685.8	34819.2
162	San Joaquin	8455.2	9670.6	92792.8	399075.9	658748.4	1062562	145954.2	145978.7	1013440	379470.4	66973.1	13882.9	552024.8
163	James	4539.4	4540.4	4547.5	4915.6	5152.6	5472.9	6092.1	6323.3	5193.3	4966.6	4569.3	4540.0	5064.8
164	Bravo	52585.2	100575.1	24893.9	3929									

Basin ID	Basin name	Blue water footprint ($10^3 \text{ m}^3/\text{month}$)												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
203	San Pedro	1970.2	3084.5	5653.0	8269.6	9543.3	4601.2	3673.3	12070.8	22712.6	15185.2	3834.6	3921.9	7876.7
204	Dong Jiang	11698.5	11620.1	11600.6	13139.6	24274.1	25818.1	50233.2	35538.3	41690.7	12980.1	12451.0	12101.6	21928.8
205	Mahi	234803.3	213391.3	332457.9	301590.9	185769.5	51117.1	24897.0	40458.9	80569.1	151801.5	127823.0	145556.7	157519.7
206	Damodar	321001.6	150895.6	217247.6	60473.5	20235.7	18013.7	57510.2	38370.4	50884.2	128180.7	281488.4	245126.1	132452.3
207	Niger	117175.3	133775.1	159994.2	102340.4	247266.2	227449.8	190715.7	142446.1	193011.8	207068.0	64979.2	72785.9	154917.3
208	Narmada	591222	582117	1216831	1529310	1537921	408983.0	38561.8	50038.6	112396.8	249632.9	212263.3	398514.2	577316.0
209	Brahmani River (Bhahmani)	108131.9	45430.0	71957.7	57563.0	52284.8	23326.4	23378.5	18202.0	31067.4	69816.1	110970.6	105337.9	59788.9
210	Mahanadi(Mahadhi)	493904.3	146732.8	213472.7	204175.8	213763.2	76145.2	93534.4	66762.9	209738.6	494316.1	598494.6	475411.3	273871.0
211	Santiago	69433.9	156850.1	329195.1	358517.6	227133.2	88512.1	63621.5	80404.7	178113.9	230843.2	139603.3	107577.7	169150.5
212	Panuco	59147.5	128380.2	251479.9	676556.7	186223.6	80759.8	60198.7	75690.8	96250.7	104272.6	69303.7	80568.1	121568.8
213	Godavari	1403293	846541	167566.6	1996301	2123564	828382	551196	539414	663656	1168966	1408048	1423182	1218636
214	Tapti	276668.3	227566.1	414078.5	494077.2	538328.3	201524.6	90419.5	118814.9	189854.7	310907.4	278697.0	277175.7	285225.5
215	Sittang	3465.5	4516.6	8520.0	8858.3	5784.9	35071.4	17130.2	7752.7	31031.5	44533.4	9145.4	2562.4	14864.4
216	Armeria	3496.4	10961.6	23001.5	38879.1	37308.7	13663.1	4419.5	2587.5	2146.6	13316.5	11430.0	13509.5	14560.0
217	Ca	10049.8	9707.5	7879.1	11152.4	40910.6	18897.3	12304.8	4293.9	4066.4	4907.1	5918.1	6333.7	11363.8
218	Chao Phraya	500052	429799	702371	726552	447428	309828	1301998	1312439	977560	1175695	2152860	752664	899254
219	Krishna	2085475	825245	1696212	1831925	1892192	1086965	60123.0	1769785	2348322	1758006	2284196	2233875	1759152
220	Senegal	26195.1	13556.4	20473.6	15815.1	12625.0	15939.4	41069.3	35983.9	35292.4	59240.1	51877.4	28735.1	30035.7
221	Papaloapan	5755.1	10892.1	18931.4	19716.5	14544.8	7490.8	7494.8	11051.7	6995.3	12754.2	9045.0	9997.6	11222.4
222	Grisalva	9068.6	12611.1	38902.8	60109.3	42527.8	15144.1	9803.9	13796.8	8004.6	8094.8	14728.7	24789.5	21465.2
223	Verde	1688.1	3856.9	8809.5	9301.3	6019.0	2591.5	2616.5	3248.5	2719.8	3776.9	4438.0	4301.7	
224	Mae Klong	2567.0	28215.2	46157.7	45329.9	20724.5	11506.4	52439.2	66338.2	46499.7	24524.1	55270.0	32920.0	37816.2
225	Tranh (Nr Thu Bon)	4406.8	4982.2	3362.2	4165.1	21617.3	28753.8	26879.3	12805.6	1545.2	1535.0	1631.9	2428.4	9890.3
226	Penner	183705.0	46423.6	70472.3	60887.3	59123.8	56079.8	214195.2	204265.8	240790.9	191439.6	245016.4	187965.9	147222.8
227	Volta	9567.8	10442.0	12602.1	8230.3	5987.6	8736.4	7358.4	5708.3	6382.8	10244.7	7843.7	7902.8	8417.3
228	Lempa	8417.2	3985.4	10300.0	13889.0	6041.7	3074.9	2889.5	2900.3	2579.5	3108.5	6446.6	9496.9	6094.1
229	Gambia	331.1	367.9	421.2	366.2	382.3	290.1	1097.0	855.3	818.6	1268.8	342.0	338.4	573.2
230	Grande De Matagalpa	566.0	594.8	3029.8	4736.1	1566.4	402.8	637.9	1219.1	440.0	276.3	199.7	523.6	1182.7
231	Cauvery	458718	20707.0	515498	458868	442335	449788	521589.2	1507427	144516.3	774266	560226.2	465899.2	732815.0
232	San Juan	9649.7	9142.5	18721.9	27753.9	9814.9	4224.3	5693.1	9177.3	6153.5	3690.4	3351.3	6276.3	9470.8
233	Geba	3460.3	4754.7	5841.6	5808.9	4717.1	1657.3	372.7	80.4	279.3	318.8	2963.3	4028.0	2856.9
234	Corubal	386.5	521.0	617.3	612.7	529.8	236.9	108.2	90.1	111.3	141.8	329.7	445.6	344.2
235	Magdalena	36962.3	40595.1	109203.0	121897.9	126453.2	143794.5	277591.3	321763.7	142292.8	46851.9	36228.9	37982.4	116189.8
236	Come	3723.0	4563.1	6155.5	3805.2	2893.7	2686.3	2656.4	2317.6	2150.1	4090.6	4433.9	5521.1	3764.9
237	Oriñoco	51166.0	75192.9	148018.5	116530.6	58659.7	56289.8	84861.4	118091.2	86830.9	29194.6	26893.7	62694.2	76202.0
238	Bandama	3618.5	5359.1	7722.2	6704.9	5053.7	1699.8	1779.8	1487.8	1212.6	2538.2	5959.7	8605.1	4311.8
239	Oueme	965.2	1307.5	1498.3	1155.2	861.4	646.6	653.4	607.9	634.5	587.3	956.1	1201.2	923.1
240	Sassandra	1176.2	1950.1	4275.9	3602.8	2184.4	742.6	559.7	581.4	547.9	844.0	2016.3	3249.2	1810.9
241	Shebelle	78624.7	60800.1	38694.8	18624.5	18867.7	141778.8	217842.5	123581.2	47896.3	37851.8	28963.6	48183.1	71792.4
242	Mono	400.3	450.1	431.1	311.4	284.5	257.8	253.3	276.6	256.5	244.1	277.6	336.7	315.0
243	Congo	7425.3	9630.1	9895.9	9371.1	19489.5	31988.4	33458.0	35361.3	32674.7	24805.9	8041.2	5782.6	18993.7
244	Atitro	596.3	596.9	620.1	682.7	619.3	595.2	595.6	597.3	595.9	595.0	595.2	607.1	
245	Cuyuni	188.7	205.4	258.7	243.8	192.8	173.8	173.5	201.6	217.8	210.9	201.0	199.8	205.6
246	Cavally	224.8	264.5	339.2	278.6	162.7	136.0	154.8	174.3	168.0	190.3	225.8	270.4	215.8
247	Tano	207.1	226.5	206.9	166.7	153.9	149.5	155.2	169.7	189.7	158.2	161.4	201.3	178.8
248	Cross	1586.0	1864.2	1722.9	1362.9	1270.9	1236.3	1224.4	1224.2	1222.4	1226.9	1382.7	1766.8	1424.2
249	Sanaga	1625.2	2104.0	1347.5	1037.7	567.7	531.5	466.5	444.4	446.7	507.6	1440.6	2049.2	1047.4
250	Pra	4539.5	4288.5	3579.0	1338.1	879.6	617.9	973.8	1169.3	854.9	487.4	486.7	2106.0	1776.7
251	Davo	176.9	219.2	214.8	197.5	105.9	84.7	106.8	161.7	147.3	142.5	147.0	237.7	161.8
252	Essequibo	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
253	Kelantan	39173.4	29665.9	1797.7	1179.2	1582.4	3175.2	4628.0	5039.6	30769.7	16146.9	8351.1	4871.7	12198.4
254	Corantijn	53.6	53.6	53.6	53.6	73.0	58.8	156.3	249.1	923.1	548.6	193.2	68.3	207.1
255	Coppenname	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
256	Kinabatangan	235.4	201.9	201.9	205.0	211.2	210.0	209.7	255.4	322.7	253.0	231.7	234.9	231.1
257	Maroni	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
258	San Juan (Columbia - Pacifi)	990.4	1280.5	2848.2	2452.2	2799.0	3381.4	6309.4	6367.6	25084.0	1066.0	871.8	995.3	2655.8
259	Amazonas	90048.9	82160.0	98044.1	250757.2	285935.4	217698.9	191797.8	286579.2	286579.2	205464.6	148718.1	82683.1	185732.8
260	Pahang	21420.6	9762.1	1971.7	2172.3	2408.5	4547.0	6821.8	6363.9	19887.8	10406.4	9369.4	6314.9	8454.7
261	Nyong	125.9	125.8	125.5	125.3	125.0	125.0	125.1	125.1	125.0	125.0	125.0	125.4	125.3
262	Oyapock	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
263	Rajang	1381.3	401.3	276.8	275.4	281.3	277.3	297.9	297.1	642.4	454.9	647.3	1066.2	524.9
264	Ntem	182.2	183.4	180.7	179.4	178.9	178.9	178.9	178.9	178.9	178.9	178.9	179.9	179.9
265	Ogooue	606.0	546.4	478.0	302.8	265.3	369.3	713.9	1155.4	842.7	478.2	246.6	337.6	528.1
266	Rio Araguari	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8
267	Mira	5669.4	4594.5	3362.4	2750.4	3808.6	5730.0	12593.3	24869.5	19047.6	6104.3	5516.5	3371.0	8118.1
268	Esmeraldas	14476.9	11223.3	8395.3	7606.1	8790.7	11571.1	27996.9	53475.8	38196.5	17927.0	24302.0	13038.1	

Basin ID	Basin name	Blue water footprint ($10^3 \text{ m}^3/\text{month}$)												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
306	Mitchell(N. Au)	341.7	261.0	734.6	3963.8	5537.1	5395.0	5844.0	6913.5	8084.4	7994.6	4814.7	1996.1	4323.4
307	Majes	3314.9	2330.3	2230.2	6243.8	6557.9	3327.0	2217.4	3421.6	4721.7	4279.7	3531.6	2713.2	3740.8
308	Ord	10.2	5.1	95.9	2642.1	5015.6	6620.6	8488.8	9999.0	10849.1	8894.4	4903.3	290.0	4817.9
309	Jequitinhonha	945.8	14855.9	1556.0	2000.2	2114.7	2118.7	2390.9	2950.1	2962.3	2164.1	1094.5	855.1	1886.5
310	Macarthur	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
311	Fitzroy	11.9	12.0	12.4	14.1	14.2	13.9	14.3	14.9	15.2	15.3	14.4	12.5	13.8
312	Gilbert	7.4	7.0	69.2	192.1	192.0	166.5	177.4	213.7	246.0	244.9	166.5	86.0	147.4
313	Mucuri	398.8	697.6	722.2	893.4	1042.3	1273.0	1400.9	1994.9	1783.8	1336.8	535.7	375.9	1037.9
314	Rio Doce	4008.0	11396.5	10312.4	13025.3	15031.5	19754.2	25232.1	29963.7	24373.8	18958.1	6088.4	3693.6	15153.1
315	Save	7032.9	7311.8	12439.9	22876.0	18101.7	21476.8	52475.9	52039.5	66437.5	48232.1	15712.5	7525.0	25388.4
316	Burdekin	1069.8	1069.6	6076.7	16014.8	13433.7	13045.9	15661.6	19538.3	24172.3	24665.8	17069.6	5682.5	13125.1
317	Tsinibihna	60722.5	42436.5	88041.6	170196.4	57454.6	36485.6	35624.2	3689.5	3846.5	3978.5	2776.9	19607.2	38330.1
318	Buzi	339.3	168.7	571.0	1950.0	2369.0	2285.2	2411.6	3704.3	4836.8	4651.0	1881.5	694.8	2155.3
319	Loa	348.3	348.2	349.1	344.5	338.5	344.2	350.9	378.1	394.9	396.1	358.0	357.0	359.0
320	Limpopo	98842.0	124195.8	219628.8	213847.8	120149.9	125648.9	151835.7	249928.3	325116.1	260022.0	144978.1	90398.9	177049.4
321	De Grey	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
322	Paraiba Do Sul	8096.7	7902.6	9838.7	14156.2	11371.2	13191.8	16284.0	18864.9	14817.9	14426.4	8900.6	7285.8	12099.2
323	Fortescue	9.8	9.8	10.1	10.2	10.0	10.1	10.3	10.5	10.7	10.5	10.2	10.2	10.2
324	Mangoky	36833.8	29713.2	51243.5	62417.9	19314.3	3491.1	3051.9	3056.3	3009.5	3297.2	2252.2	12760.5	19203.4
325	Fitzroy	6135.8	9673.2	46656.6	47241.2	30687.5	22800.7	29204.9	39198.8	53174.6	56851.7	42674.6	29016.8	34443.0
326	Orange	122068.9	208326.4	240318.1	173615.7	83286.4	9958.7	127434.9	195558.1	238623.5	235041.8	144597.6	110597.0	164917.3
327	Ashburton	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
328	Gascogne	16.1	26.1	37.7	31.0	21.7	16.8	14.0	28.0	40.4	42.4	37.7	32.1	28.7
329	Rio Ribreira Do Iguaçu	2155.1	2072.6	2145.4	2360.0	2087.9	2051.4	2090.6	2154.1	2099.0	2084.0	2155.9	2158.7	2134.6
330	Incomati	6744.6	10034.5	17801.4	28995.5	20218.8	20976.2	24492.5	35427.8	44842.0	30139.7	16687.2	10339.6	22186.9
331	Murray	179667.5	162950.9	167727.4	851276	281547	141682	147848	291593	566450	902256	998880	1224788	875815
332	Murchison	19.2	30.4	35.3	27.4	16.5	13.9	12.6	22.6	35.9	41.7	37.9	30.9	27.0
333	Maputu	1657.9	1863.0	6406.3	16175.1	15406.1	17843.1	19266.3	28775.0	32439.2	26730.3	13692.5	9878.1	15844.4
334	Uruguay	674173.3	302717.3	105062.7	9149.2	45007.4	4538.6	4675.7	6884.4	7069.2	75991.9	222852.6	345000.7	146884.7
335	Tugela	12844.4	32307.0	51653.7	31877.5	17955.0	18187.8	24585.7	38346.7	45658.7	41740.0	25547.1	13318.7	29501.8
336	Colorado (Argentina)	164413.7	128020.2	103199.4	45559.1	35233.9	27627.6	63043.9	118507.8	17003.6	212465.5	229930.1	151341.9	120778.9
337	Rio Jacu	259052.2	109321.3	47759.7	23621.1	21367.1	21269.5	2125.6	21461.1	21922	28141.6	82757.9	131107.2	55935.8
338	Huasco	880.5	669.4	596.5	320.6	233.5	377.0	420.7	900.5	1491.4	1703.2	575.0	678.5	737.2
339	Limari	33036.7	20409.8	15231.9	4343.8	2483.7	11287.1	13598.9	4913.1	11224.6	15815.0	12289.3	17019.2	11604.6
340	Negro (Uruguay)	77510.1	40088.3	24714.6	17017.1	169.3	169.0	169.1	173.3	185.6	2311.3	17959.6	32370.9	16460.2
341	Groot-Vis	14526.3	32500.4	31051.4	18743.8	15831.9	12788.2	13412.8	17802.9	29350.8	36957.0	25499.1	25607.1	22839.3
342	Salado	30690.2	31744.2	2777.0	4173.2	2776.8	2699.5	3138.3	3343.9	6448.3	7055.3	7087.4	7698.1	9966.8
343	Blackwood	677.8	868.2	921.3	540.3	112.5	58.0	56.5	62.1	86.6	400.3	621.9	777.6	431.9
344	Rapel	160994.9	92143.4	63877.9	14339.2	2676.0	1202.5	1193.5	3295.0	25200.3	76379.7	56481.3	90362.1	49012.2
345	Negro (Argentina)	22754.5	22634.3	16810.0	7621.7	3348.7	1700.5	2238.0	4931.8	8868.9	13110.6	21027.1	23140.1	12333.9
346	Bio Bio	28414.2	15065.1	11595.8	3916.5	5844.3	5712.0	5919.4	6177.5	11895.2	15852.7	5911.7	15700.7	11000.4
347	Waikato	805.3	884.8	1470.9	936.2	772.1	771.2	771.2	772.8	772.8	793.6	862.8	865.3	865.3
348	South Esk	4363.8	7720.4	9018.2	3485.7	1054.4	242.4	114.1	376.1	1709.8	3617.7	4179.9	5909.2	3482.6
349	Chubut	4565.2	9149.9	10672.0	6480.2	3205.9	1252.6	1584.8	3762.2	6442.3	9430.3	10387.5	10851.3	6482.0
350	Clutha	2540.9	17233.5	17807.5	11223.5	1629.9	2043.1	204.8	188.7	925.2	7412.1	10489.7	13228.7	10746.4
351	Baker	25.4	66.4	107.7	64.7	33.7	27.0	29.0	38.7	70.2	137.0	122.6	111.6	69.5
352	Santa Cruz	29.0	136.8	175.6	95.3	34.8	18.5	17.8	36.9	91.7	181.2	210.6	166.2	99.5
353	Ganges	13158709	14044732	19911407	12435642	10053368	5544274	3941654	2382353	3662445	7534298	11330417	6754745	9229504
354	Salween	18910.2	21222.2	34782.4	73001.7	71107.9	75090.7	40034.7	32030.0	47800.8	46577.3	20138.6	13490.7	41180.0
355	Hong(Red River)	86812.4	94924.2	106398.9	217194.1	516481.4	27551.0	115094.1	89732.2	76564.6	35708.5	39272.1	55205.2	140911.5
356	Lake Chad	123841.3	182360.7	192057.9	192937.9	45619.4	47440.0	34137.9	24381.8	34770.1	57186.9	45197.3	63649.7	87227.5
357	Okavango	850.3	939.6	1358.4	2321.6	2706.3	2777.0	3170.3	4094.5	4792.1	4473.7	2363.9	1472.9	2610.1
358	Tarim	46367	103636	364031	795438	1367750	1424510	1536483	1380857	981231	229859	96323	39023	697126
359	Horton	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
360	Homaday	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
361	Conception	863.2	2402.2	4812.7	6493.5	5091.4	6316.2	5835.4	8031.6	7388.1	5674.9	2054.4	1500.2	4705.3
362	Uluja	7388.7	5158.9	11597.1	15430.8	9677.7	6025.2	3696.0	2598.1	1529.4	8737.3	1227.4	5331.4	5877.9
363	Patacua	684.0	319.0	962.4	1424.5	722.7	403.1	517.0	290.0	288.6	149.5	167.7	575.7	542.0
364	Coco	694.7	582.3	1181.1	1487.5	561.4	289.3	280.7	274.2	256.1	223.7	233.4	511.1	548.0
365	Oceno	1388.9	1382.8	1458.9	5571.7	6039.9	2802.8	1669.3	2565.0	3477.2	3202.9	2475.2	1547.2	2793.9
366	Cuanza	868.5	1178.4	738.4	660.0	1308.7	2689.8	3287.9	4779.9	5424.3	5051.3	1988.5	1595.4	2464.3
367	Cunene	184.8	215.9	172.6	214.8	387.3	485.7	548.8	643.5	658.0	475.7	299.6	198.5	373.8
368	Doring	13480.3	27941.8	34498.5	19964.9	5689.1	2413.1	2085.1	6704.6	22058.4	44962.5	32514.2	28071.5	19994.5
369	Gamka	2715.0	13051.7	17664.1	17901.7	7396.2	6211.1	4532.1	5661.0	15664.3	22727.4	12638.5	11656.3	11058.3
370	Groot-Kei	2443.3	5945.1	6908.7	4917.3	4848.2	4427.5	5461.1	7147.2	9965.5	10746.6	7337.2	5007.8	6267.5
371	Luri	42.1	42.1	42.5	65.9	79.2	78.9	85.1	104.1	120.3	121.2	72.7	49.4	75.3
372	Messalo	9.9	9.7	10.0	10.2	15.2	15.4	25.7	41.2	55.8	55.8	13.7	10.9	22.8
373	Rovuma	368.1	278.2											

Table S2. Monthly natural runoff for the world's major river basins

Basin ID	Basin name	Area (km ²)	Natural runoff (Mm ³ /month)												
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1	Khatanga	294907.5	1571.7	58.7	35.4	21.4	221.2	25398.5	12884.8	6944.9	4357.0	2419.0	1461.0	882.4	4688.0
2	Olenek	208522.0	1231.0	159.8	96.5	58.3	658.3	16431.9	5510.3	3070.3	1870.4	1106.6	668.3	403.7	2605.5
3	Anabar	85015.5	525.8	85.3	51.5	31.1	18.8	4128.1	2082.3	1011.7	602.5	354.9	214.4	129.5	769.6
4	Yana	233479.4	896.1	72.8	44.0	26.6	159.2	7535.9	6820.7	3807.3	1832.6	1106.8	668.5	403.8	1947.9
5	Yenisei	2558237.3	16135.2	742.2	452.4	7752.7	162714.9	162047.8	97190.0	64240.9	48091.7	24440.8	14455.9	8735.1	50583.3
6	Indigirka	341227.8	1902.5	179.7	108.5	65.6	450.9	16809.8	14507.5	6786.0	3631.1	2176.2	1314.4	793.9	4060.5
7	Lena	2425551.1	15711.8	655.1	396.4	361.9	87091.9	124907.8	84650.4	63046.2	53636.1	23839.3	14390.4	8692.2	39786.6
8	Omoloj	38871.3	26.9	0.7	0.4	0.2	0.2	426.1	277.1	128.9	73.6	43.7	26.4	15.9	85.0
9	Tana (NO, FI)	14518.1	71.8	0.0	0.0	0.0	2851.4	778.3	457.0	276.1	217.4	149.0	77.9	47.1	410.5
10	Colville	57544.7	185.8	1.4	0.8	0.5	45.5	1938.0	1977.6	1034.6	579.1	324.5	196.0	118.4	533.5
11	Alazeya	85493.3	184.1	31.2	18.9	11.4	6.9	1896.8	555.0	314.2	189.8	114.6	69.2	41.8	286.2
12	Anderson	66491.7	54.7	0.4	0.2	0.1	2548.6	797.3	434.9	262.7	158.7	95.8	57.9	35.0	370.5
13	Kolyma	652850.5	3721.1	160.9	97.2	58.8	5342.4	25441.4	35941.4	16207.8	10517.4	5575.9	3367.8	2034.2	9038.8
14	Tuloma	26057.7	94.6	11.6	7.1	4.4	1732.1	547.3	300.0	180.4	119.2	121.3	55.2	33.5	267.2
15	Muonio	37346.5	143.9	13.1	8.0	213.9	2005.5	1110.4	750.1	388.4	294.9	187.3	101.6	61.4	439.9
16	Yukon	829632.3	4850.3	252.5	152.7	943.7	53166.5	48766.9	29776.4	16607.0	12906.1	7648.1	4212.2	2544.3	15152.2
17	Pahyavaam	31112.8	106.3	0.0	0.0	0.0	0.0	187.8	1036.4	526.4	355.2	191.1	115.4	69.7	356.6
18	Kemijoki	55624.7	487.2	3.2	2.0	0.9	8987.0	2448.1	1458.1	934.7	1082.1	1366.4	516.4	312.0	1515.9
19	Mackenzie	1752001.5	5637.8	86.9	53.5	9063.7	79403.7	79172.3	46002.0	24877.4	15732.9	10447.5	5767.0	3484.1	23310.7
20	Noatak	32319.5	156.5	0.8	0.5	0.3	401.9	1980.3	1099.7	624.3	629.7	275.6	166.5	100.6	453.1
21	Anadyr	171275.8	1182.1	1.3	0.8	0.5	2452.2	21998.7	10380.5	5461.5	4105.7	2116.1	1278.1	771.9	4145.8
22	Pechora	312763.3	2459.1	31.2	19.2	1449.0	58305.9	38794.9	16720.7	9630.9	7855.7	4450.1	2542.8	1536.1	11945.8
23	Lule	25127.6	313.1	1.0	0.6	1119.1	3851.3	3784.3	1895.4	1112.2	951.7	683.0	335.9	202.9	1187.5
24	Kalixelven	17157.6	78.3	6.6	4.0	388.6	1237.8	757.3	351.5	203.1	137.7	118.6	57.6	34.8	281.3
25	Ob	2701040.7	6930.1	198.1	135.9	80842.2	148619.4	68282.8	36839.8	23540.4	18275.7	14074.8	6865.0	4161.9	34059.3
26	Ellice	12599.6	30.5	0.0	0.0	0.0	0.0	958.3	248.8	150.3	90.8	54.8	33.1	20.0	132.2
27	Taz	152086.0	989.9	6.0	3.6	2.2	12922.1	23163.4	7321.6	4370.1	3193.2	1738.0	1049.7	634.0	4616.2
28	Kobuk	30242.4	211.1	31.8	19.2	11.6	2063.7	1100.6	619.7	619.7	373.5	338.6	159.6	96.4	423.7
29	Coppermine	43016.4	28.9	0.1	0.1	0.0	390.0	714.8	246.4	139.9	84.5	51.0	30.8	18.6	142.1
30	Hayes(Trib. Arctic Ocean)	22992.8	27.0	0.0	0.0	0.0	0.0	834.5	225.2	133.1	80.4	48.5	29.3	17.7	116.3
31	Pur	111351.3	740.7	0.3	0.3	0.3	7186.7	15161.5	4615.2	2795.1	2896.5	1331.2	804.1	485.8	3001.5
32	Varzuga	8182.2	47.2	0.0	0.0	0.0	683.9	188.7	110.1	66.6	112.4	140.1	51.2	30.9	119.3
33	Ponyo	13186.0	127.2	0.0	0.0	0.0	1585.1	438.1	255.8	178.3	268.5	394.1	138.1	83.4	289.1
34	Kovda	10227.6	30.6	0.0	0.0	0.0	881.9	280.3	152.3	92.5	71.2	78.0	33.2	20.1	136.7
35	Back	141351.9	327.2	0.0	0.0	0.0	5571.3	8215.3	2637.8	1590.9	990.4	588.0	355.2	214.5	1707.6
36	Kem	42080.8	235.3	0.5	0.4	2642.5	3902.2	1352.6	781.6	490.1	429.8	696.2	253.6	153.2	911.5
37	Nadym	54624.7	383.2	0.2	0.1	0.1	4504.7	7346.2	2354.4	1461.2	1502.8	687.7	415.4	250.9	1575.6
38	Quoich	28217.6	41.6	0.0	0.0	0.0	1216.3	349.6	199.5	128.2	74.8	45.2	27.3	17.3	173.5
39	Mezen	76715.3	372.9	4.5	2.7	3916.9	10521.7	3855.7	2081.0	1250.6	799.5	867.4	386.3	233.3	2024.4
40	Iijoki	16163.3	94.2	0.1	0.1	1326.2	997.0	396.0	232.9	151.1	155.9	299.9	102.3	61.8	318.1
41	Joekulsa A Fjellum	7311.0	75.0	0.0	0.0	5.7	750.4	592.9	236.8	148.0	147.0	221.4	82.3	49.2	192.7
42	Svarta, Skagafjroi	3429.6	54.9	0.0	29.3	123.6	363.8	392.6	148.0	89.0	76.1	152.2	68.9	36.0	127.9
43	Oulujoki	30554.5	230.9	1.1	0.8	5398.3	1702.8	939.7	562.7	373.1	416.6	710.7	247.3	149.5	894.5
44	Lagarfjot	3285.3	112.9	0.0	0.0	22.3	1190.7	742.9	324.1	231.6	257.6	309.8	128.1	74.0	282.9
45	Thelon	238839.0	478.4	0.1	0.0	0.0	6190.9	10749.7	3370.2	2026.8	1686.6	859.5	519.1	313.5	2182.9
46	Angerman	32372.0	343.5	0.5	0.4	4027.0	3524.6	2685.5	1232.5	833.4	764.3	954.8	371.0	224.1	1246.8
47	Thjorsa	7527.1	422.1	33.1	91.6	1123.0	1723.6	1322.4	662.2	584.0	668.7	840.8	478.5	288.8	686.6
48	Northern Dvina(Severnaya)	323573.1	10214	35.1	22.2	44567.2	19378.9	9541.8	5592.3	3376.1	2058.6	2097.6	971.8	587.9	7437.6
49	Oefusa	5678.3	378.5	0.0	323.1	1726.6	690.3	685.2	565.6	398.0	471.2	658.7	434.6	320.1	554.3
50	Nizhny Vyg (Soroka)	31334.1	206.5	0.1	0.1	545.1	1622.9	926.7	553.6	334.4	420.4	626.2	224.2	135.5	875.1
51	Kuskokwim	118114.0	1269.5	1.4	0.9	0.5	16620.3	7998.3	5470.1	5473.3	5291.7	2398.6	1372.5	829.0	3893.8
52	Vuoksi	62707.4	334.8	1.2	1.2	10528.9	2968.3	1728.3	1039.2	643.3	560.3	960.4	387.0	220.0	1614.4
53	Onega	65894.0	224.9	2.8	1.8	10633.8	3402.5	1902.0	1125.9	680.1	436.9	556.4	234.8	141.1	1611.9
54	Susitra	49470.3	12707.7	2.2	1.4	3654.1	8319.0	8905.7	5269.7	4095.0	4842.3	2738.5	1370.5	827.8	3441.4
55	Kymijoki	33623.1	186.3	1.0	1.0	4570.7	1319.9	758.1	456.3	277.2	216.4	308.4	311.4	122.5	710.7
56	Neva	223309.5	1195.2	10.6	8.8	32169.2	9560.0	5468.9	3272.4	1984.2	1703.3	2586.4	1666.6	773.9	5034.9
57	Ferguson	15200.4	40.3	0.0	0.0	0.0	1053.5	296.1	171.1	142.1	72.5	43.8	26.4	153.8	153.8
58	Copper	64959.7	1090.8	0.0	0.0	17.3	7546.7	10214.6	7440.5	4185.8	3963.1	2215.5	1184.1	715.2	3214.5
59	Gloma	42862.7	563.2	1.3	12.0	3439.3	3368.1	3615.4	2048.4	1487.9	1400.5	1344.1	677.6	369.7	1527.3
60	Kokemaenjoki	26615.9	236.7	1.6	1.0	0.6	3534.7	1434.9	728.5	432.3	415.7	130.6	78.9	59.3	593.9
61	Vaenern-Goeta	51791.5	1198.3	3.2	2259.8	5377.8	2297.5	1379.5	819.2	707.0	791.8	1475.7	1616.9	1037.2	1580.3
62	Thlewiazza	64399.6	91.9	10.3	6.2	3.7	1834.1	666.0	339.5	204.2	198.6	94.1	56.8	34.3	295.0
63	Alsek	28422.0	286.1	0.0	0.0	584.4	2611.7	2770.9	1100.4	738.6	961.8	680.0	310.6	187.6	852.7
64	Volga	1408278.9	30917	147.2	747.6	140132.1	51088.9	28581.8	17230.0	10747.1	6887.4	6486.8	3165.6	1902.0	22517.4
65	Dramselv	17364.0	259.8	0.5	97.0	1233.4	1458.1	1401.1	734.0	665.9	720.2	633.0	304.9	170.5	639.9
66	Armaud	44931.9	564.3	0.0	0.0	0.0	632.5	5641.8	2064.4	1543.3	1878.6	1362.9	612.6	370.0	1222.5
67	Nushagak	29513.6</td													

Basin ID	Basin name	Area (km ²)	Natural runoff (Mm ³ /month)													
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average	
100	Oder	116536.3	1032.5	1852.6	5896.3	3319.4	2160.7	1462.2	947.3	682.0	505.5	478.7	627.0	1046.2	1667.5	
101	Elbe	139347.6	2858.7	2594.5	4899.4	3701.9	2272.5	1577.0	1147.9	892.7	725.8	865.4	1454.7	1857.4	2070.7	
102	Trent	9052.9	691.4	368.2	303.2	213.3	137.6	80.5	56.5	51.0	49.0	67.1	198.0	402.5	218.2	
103	Weser	43140.2	3511.3	2008.3	1895.7	1397.8	902.7	617.5	504.3	484.0	501.8	819.6	1601.5	2294.1	1378.2	
104	Attawapiskat	30457.4	121.7	0.0	0.0	0.0	0.0	2195.5	613.1	355.5	214.7	350.3	329.0	132.1	79.8	366.0
105	Eastmain	48837.5	1182.9	0.0	0.0	2558.1	9188.6	4899.7	2922.3	2536.0	2987.8	3379.4	1284.2	775.6	2642.9	
106	Manicouagan (Riviere)	54205.4	1252.8	0.3	0.2	524.6	8666.6	6924.6	3691.1	2983.3	3220.2	3479.9	1358.9	820.8	2743.6	
107	Columbia	668561.9	11960.9	11259.5	29093.3	38188.0	55190.6	36849.4	18551.8	11683.5	7297.0	5462.2	6682.2	7923.4	19328.8	
108	Little Mecatina	17902.9	444.5	0.0	0.0	0.0	1656.3	2178.5	1505.7	1078.9	1004.0	1263.0	482.6	291.5	1200.4	
109	Natasquan (Riviere)	16948.2	291.0	0.0	0.0	156.2	3726.8	1620.1	1208.4	808.1	691.2	792.3	315.9	190.8	816.7	
110	Rhine	190522.1	13179.1	7657.6	8094.3	9602.3	8013.0	6055.1	4779.6	4183.7	3971.9	4514.6	6546.6	8363.7	7080.1	
111	Albany	123081.0	813.0	0.1	0.1	8411.8	9204.2	3827.2	2148.3	1306.1	1776.4	2432.0	882.5	533.1	2611.2	
112	Saguenay (Riviere)	91369.6	1984.2	1.5	1.5	11245.1	11251.7	8137.7	5058.6	4100.4	4665.6	5748.5	2173.4	1301.6	4639.2	
113	Thames	12358.9	726.2	447.7	361.1	237.6	136.9	78.4	49.7	32.4	21.8	131.8	395.2	219.8		
114	Nottaway	118709.0	2188.3	0.2	0.2	13453.1	15987.7	7640.1	5188.1	4271.3	5083.6	6291.3	2438.0	1434.9	5331.3	
115	Rupert	16063.4	311.4	0.0	0.0	794.7	3201.0	1189.1	796.1	677.5	758.7	894.3	338.0	204.2	763.8	
116	Moose(Trib. Hudson Bay)	105615.2	1000.2	0.6	0.6	11334.0	9979.0	4300.8	2527.6	1594.4	2136.5	3024.6	1085.8	656.0	3136.7	
117	St.Lawrence	1055021.5	13835.1	351.1	29605.1	13237.5	51230.9	31947.4	19602.9	13031.9	15304.9	21038.1	22898.9	9715.3	30078.1	
118	Danube	793704.8	15369.2	12969.9	30056.7	34399.1	27077.0	19150.4	14083.1	11248.0	10213.5	12685.9	15065.0	12575.3	17907.8	
119	Seine	74227.9	3426.9	2491.0	2183.7	1663.9	1005.1	594.9	402.4	304.5	202.7	234.2	696.1	1700.9	1242.2	
120	Dniestr	72108.2	407.9	13.3	3147.7	2602.1	1528.5	1130.4	792.2	626.7	510.8	629.4	702.3	272.1	1030.3	
121	Southern Bug	60121.0	38.8	7.9	1840.9	967.0	519.4	311.3	205.6	138.9	77.0	43.3	27.5	18.1	349.6	
122	Mississippi	3196605.4	79924.0	66571.6	111936.2	102147.6	83529.2	56877.9	36359.7	27239.8	18097.4	12199.9	20013.0	38932.9	54495.2	
123	Skagit	7961.0	951.3	342.8	1452.8	1747.8	975.0	491.1	287.0	173.6	108.5	409.0	751.3	600.5	690.9	
124	Aral Drainage	1233148.5	2546.9	4161.6	13784.1	20140.9	23937.1	21375.9	17965.9	12930.4	8104.3	3850.2	1674.4	1541.5	11001.1	
125	Loire	115943.6	5691.9	3966.2	3912.1	3192.9	2280.7	1475.0	937.1	710.2	546.1	804.6	1839.3	3262.7	2384.9	
126	Rhone	97485.2	7316.8	3365.1	5895.8	6325.3	5588.7	4446.6	2690.2	2212.7	2277.1	3477.1	5232.4	5154.7	4498.5	
127	Saint John	55151.8	1543.0	1.9	1.9	13364.2	4478.5	3060.9	1929.0	1260.9	1384.3	2179.7	2871.4	1012.4	2757.4	
128	Po	73066.6	4276.6	2000.0	3536.1	5530.3	6397.4	4452.6	2941.3	2394.4	2314.0	2947.8	3482.3	2857.2	3594.2	
129	Penobscot	21168.9	655.1	0.6	482.1	5554.7	1878.0	1224.9	733.4	451.5	421.6	684.5	1327.0	429.8	1153.6	
130	St.Croix	4638.6	170.5	0.1	0.1	1441.8	475.5	301.5	171.5	101.8	88.6	166.9	352.7	111.8	281.9	
131	Kuban	58935.7	1008.9	1275.5	1664.7	2123.9	1943.7	1594.5	1393.7	826.2	621.9	471.0	528.0	626.0	1173.2	
132	Connecticut	27468.3	934.3	7.8	3116.2	4979.1	2528.5	1556.0	985.4	660.3	761.0	1049.6	1699.4	665.0	1578.5	
133	Liao He	194436.5	678.2	20.4	220.6	1657.1	2266.7	2171.0	2661.2	1662.1	3988.1	2606.5	1383.3	782.0	454.6	1574.1
134	Garonne	55807.2	3122.4	1918.1	2169.4	2289.6	1911.6	1113.4	759.2	594.0	474.6	657.6	1074.9	1915.8	1500.0	
135	Ishikari	13783.3	859.4	2.4	2.4	4390.2	1918.3	1080.5	793.8	776.5	1178.1	1434.9	1481.8	564.3	1206.9	
136	Merrimack	12645.1	381.1	8.4	3157.8	1789.4	1035.9	634.7	377.8	233.8	212.7	361.4	783.0	252.8	769.1	
137	Hudson	36892.8	1000.4	26.3	4477.0	4970.6	2745.5	1656.2	1063.5	725.6	742.5	1044.8	1764.9	728.3	1745.5	
138	Colorado(Pacific Ocean)	640463.3	323.3	99.7	738.0	3046.4	5903.7	4320.1	2390.6	1653.7	1126.8	740.4	370.5	231.4	1745.4	
139	Klamath	40040.0	3010.5	3574.1	3546.4	3046.4	2001.6	1051.5	698.7	455.6	276.0	146.5	394.9	1495.2	1641.5	
140	Ebro	85158.6	4220.1	2820.2	2785.8	2876.1	2619.8	1631.9	1192.1	853.9	509.9	561.7	873.7	2424.5	1947.5	
141	Rogue	14526.6	1090.2	1088.4	909.0	858.5	622.6	302.4	190.5	120.0	73.0	41.5	212.2	514.3	501.9	
142	Douro	96125.4	3913.4	3031.8	4104.3	2983.9	2054.7	1252.2	1050.6	820.4	404.1	215.0	539.3	1650.2	1835.2	
143	Susquehanna	69080.1	2091.9	1240.2	8814.7	5917.2	3887.6	2447.9	1522.7	1002.4	867.5	1337.0	2499.4	1658.8	2774.0	
144	Luan He	71071.5	174.3	47.2	147.9	279.9	408.1	214.3	964.0	1219.0	725.2	357.8	190.0	115.8	403.6	
145	Kura	182283.3	559.4	187.2	708.9	3035.7	4111.4	2768.8	1901.8	1396.6	913.7	766.2	692.7	413.7	1454.7	
146	Dalinghe	22823.1	58.3	3.2	6.3	33.3	66.4	80.0	85.0	386.7	210.1	123.7	64.5	39.6	96.4	
147	Delaware	26713.4	1640.3	801.3	4062.4	2255.7	1789.8	1043.1	712.5	587.3	762.0	1406.7	1294.0	1410.3		
148	Sacramento	77208.9	5375.8	6127.3	6249.1	5067.8	3136.9	2369.0	2064.4	1708.0	1170.4	511.3	343.5	1439.3	2963.6	
149	Huang Ho (Yellow River)	988062.6	2702.4	608.3	2320.1	5166.0	8177.4	9102.2	10309.3	9805.2	9930.4	5872.9	3052.0	1802.8	5737.4	
150	Kizilirmak	77873.6	199.1	836.5	1201.8	2397.1	1578.7	804.4	537.4	393.4	241.0	132.0	83.4	128.5	711.1	
151	Yongding He	214406.5	174.7	403.8	1472.8	2529.4	25018.0	12754.1	1729.3	2397.6	1071.8	442.9	185.1	137.8	1193.5	
152	Tejo	70351.7	2713.3	2202.2	3261.5	2062.1	1343.3	834.4	721.8	559.4	292.8	124.7	136.5	1182.1	1286.2	
153	Sakarya	62482.7	348.5	1016.9	1126.0	888.3	508.1	345.2	273.7	242.4	156.9	68.9	26.5	75.1	423.0	
154	Eel (Calif.)	7449.9	1366.1	1258.1	92.7	540.6	304.0	173.7	105.4	63.9	38.7	23.2	15.6	579.5	449.6	
155	Tigris & Euphrates	832578.6	15154.6	16609.9	22140.0	25647.8	18735.0	10281.7	7368.3	5738.1	3544.0	2291.3	3575.7	7623.3	11589.1	
156	Potomac	32380.6	1355.9	1163.5	1705.2	1374.1	948.5	624.9	370.6	255.1	188.4	213.6	392.6	752.3	778.7	
157	Guadiana	66020.0	246.7	715.8	1619.0	1022.7	571.6	571.0	703.0	614.9	301.8	105.4	30.3	15.9	543.2	
158	Kitakami	9652.4	690.1	172.5	1357.6	1082.6	802.0	551.9	581.1	631.9	775.8	828.3	528.7	716.1		
159	Mogami	6853.1	969.3	827.6	1039.4	774.9	556.2	376.7	392.9	356.7	430.5	519.9	740.8	1023.9	667.4	
160	Han-Gang (Han River)	24771.5	814.3	12.5	1372.3	1838.7	1166.9	1200.5	4312.9	3914.3	2697.0	1388.7	1010.5	540.7	1689.1	
161	Guadaluquivir	56954.8	677.2	1306.6	3139.9	1977.6	1055.0	1003.9	1110.6	953.5	481.2	185.6	65.2	160.4	1009.9	
162	San Joaquin	34365.6	707.1	829.3	1285.7	1353.5	1136.9	1088.6	1267.9	1193.7	818.4	322.2	74.9	102.3	847.7	
163	James	23528.4	1600.5	1293.9	1248.0	954.0	670.9	429.1	258.7	169.2	12					

Basin ID	Basin name	Area (km ²)	Natural runoff (Mm ³ /month)												
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
203	San Pedro	29358.8	192.9	2.6	4.4	6.2	7.1	3.4	137.0	732.2	987.8	369.0	206.3	130.3	231.6
204	Dong Jiang	32102.9	861.2	105.2	1116.0	3077.8	5758.0	6467.3	4881.8	4699.8	3338.0	1558.5	934.6	567.8	2780.5
205	Mahi	36237.7	884.2	157.9	246.0	223.2	137.5	37.8	2640.9	4426.7	3152.3	1389.2	865.8	573.5	1227.9
206	Damodar	43096.1	1257.9	111.7	160.8	44.8	15.0	253.7	1494.8	4751.2	4657.8	2147.4	1316.0	850.4	1421.8
207	Niger	2117888.7	21778.0	99.0	256.2	1297.8	4833.0	14794.5	38348.0	80634.7	90704.8	47626.3	23829.5	14278.6	28206.7
208	Narmada	95818.2	2407.1	430.8	900.5	1131.7	1138.1	445.1	7352.7	11663.1	8745.2	3757.6	2295.3	1586.4	3487.8
209	Brahmani River (Bhahmani)	51973.4	1562.1	33.6	53.2	42.6	38.7	549.7	3888.5	7939.2	6035.6	3059.0	1695.6	1049.7	2162.3
210	Mahanadi(Mahahadi)	135061.1	37512	108.6	158.0	151.1	158.2	157.6	5209.0	21461.7	14877.9	6698.9	4119.4	2571.8	4951.9
211	Santiago	126222.3	681.2	116.1	243.6	265.3	168.1	205.1	1027.8	2651.8	3112.7	1413.6	791.4	492.4	930.8
212	Panuco	82929.1	1540.6	95.9	186.5	197.5	137.9	362.8	2013.6	2491.4	6156.6	3524.7	1770.8	1046.5	1627.1
213	Godavari	311698.7	6805.4	626.4	1240.0	1477.3	1571.4	891.7	13461.6	27528.4	26621.8	12095.3	7347.2	4834.4	8708.4
214	Tapti	65096.3	1243.3	168.4	306.4	365.6	395.0	149.1	3365.4	5169.5	5115.9	2124.1	1333.7	886.1	1718.5
215	Sittang	34265.3	2254.3	3.3	6.3	6.6	16.9	3852.3	7852.6	10043.8	8332.3	4900.8	2492.4	1478.4	3436.7
216	Armeria	9639.1	60.6	8.1	17.0	28.8	27.6	10.1	3.3	40.7	292.2	147.3	71.6	48.0	62.9
217	Ca	28747.0	1447.9	56.1	26.8	23.3	154.3	584.1	1876.9	2678.4	4330.1	2767.9	1652.1	965.9	1380.3
218	Chao Phraya	188419.1	4183.6	318.1	519.8	537.6	493.6	1640.2	5514.8	9607.1	16009.4	10072.0	5811.4	3059.8	4816.2
219	Krishna	269669.0	4249.9	610.7	1255.2	1355.6	1400.2	3256.5	16600.9	15185.1	11795.9	6710.3	4670.2	3427.8	5876.5
220	Senegal	436981.1	1629.1	10.0	15.2	11.7	12.0	447.8	3062.5	8464.3	6863.4	3270.9	1792.3	1076.7	2221.3
221	Papaloapan	39885.1	1877.2	12.4	16.0	15.8	11.5	477.3	2373.0	4411.2	5780.4	4426.4	2194.2	1261.7	1904.8
222	Grisalva	127675.5	11859.4	1204.2	664.4	610.2	1646.9	8622.6	11809.7	13230.5	20505.5	19300.8	10998.3	7877.1	9027.5
223	Verde	18342.8	378.7	2.9	6.5	6.9	4.5	10.1	365.4	850.4	1648.0	893.8	414.1	250.8	402.7
224	Mae Klong	28004.2	1554.4	20.9	34.2	33.5	1076.4	3580.0	5254.6	5831.8	5582.5	3551.6	1715.1	1031.1	2438.9
225	Tranh (Nr Thu Bon)	9459.9	2007.0	45.2	24.6	16.4	71.3	290.8	883.2	1278.8	1770.6	2724.1	2418.9	1615.2	1095.5
226	Penner	54976.4	568.7	34.4	52.1	45.1	43.8	41.5	158.5	151.2	182.9	360.5	1017.5	485.3	261.8
227	Volta	414004.1	2522.1	7.7	80.1	291.8	828.4	2616.6	3570.8	8402.5	11296.3	5427.0	2744.7	1654.9	3286.9
228	Lempa	18088.5	886.1	2.9	7.6	10.3	11.7	547.6	1582.1	1968.2	3042.2	2295.6	976.3	585.2	993.2
229	Gambia	69874.3	750.8	0.3	0.3	0.3	0.3	145.1	922.2	3078.2	3466.5	1537.8	816.1	492.4	934.2
230	Grande De Matagalpa	17991.9	1788.5	87.6	46.4	30.2	37.4	1350.9	2694.3	2443.9	2701.8	2950.2	1748.2	1248.2	1427.3
231	Cauvery	91159.4	2091.4	159.7	385.4	347.3	350.9	1080.8	3669.7	3054.5	2574.1	2347.6	2777.6	1849.0	1744.9
232	San Juan	41659.4	5223.3	533.6	282.7	261.5	1036.0	3952.8	4778.7	4793.9	6119.6	7350.0	4839.9	3921.9	3591.2
233	Geba	12774.4	537.0	3.5	4.3	4.3	3.5	79.2	413.4	1814.0	2305.1	1207.1	582.6	353.4	608.9
234	Corubal	24258.0	882.9	0.4	0.5	0.5	0.4	293.0	1767.6	3594.2	3165.9	2080.6	964.3	579.0	1110.8
235	Magdalena	261204.9	27118.0	3452.3	6430.2	14175.3	21211.1	18633.1	15055.6	15479.8	1829.1	3184.6	31789.4	20916.3	18699.9
236	Come	78506.9	447.9	3.4	4.6	105.1	306.0	923.2	676.9	1018.0	1509.8	1021.9	540.3	296.4	571.1
237	Oriñoco	952173.4	73559.9	9908.6	16110.2	48197.5	96502.6	137370.7	156922.8	139130.4	112036.3	103445.6	77389.5	46830.9	84783.7
238	Bandama	98751.1	1337.1	4.0	5.7	118.4	306.8	1520.8	1055.3	2949.0	5574.4	3186.6	1473.0	881.5	1534.4
239	Oueme	59842.6	458.6	1.0	1.1	6.9	240.8	976.7	1265.1	1320.9	1893.3	1037.9	499.0	301.2	666.9
240	Sassandra	68097.5	2261.5	1.5	3.2	129.1	309.3	2250.3	3222.8	4638.5	832.9	5416.1	2603.4	1487.3	2562.2
241	Shebelé	805077.0	1126.2	49.5	54.4	2532.2	1755.0	1025.3	1594.0	2005.1	1944.7	1681.9	1610.5	791.5	1347.5
242	Mono	23899.0	122.1	0.3	14.5	50.7	126.1	330.7	356.9	319.3	472.0	289.3	132.5	80.1	191.2
243	Congo	369891.8	193908.5	92837.8	126684.3	138968.9	93475.1	62522.2	55481.6	71460.1	90395.6	11123.4	108901.0	123157.3	105743.0
244	Atrato	34619.5	8908.3	2297.1	2736.4	4317.7	5624.4	5876.9	5976.7	6096.9	6689.5	7140.9	7032.0	5537.1	5686.2
245	Cuyuni	85635.0	9798.1	3136.9	2829.9	4268.1	987.1	1347.9	1302.1	1013.4	5445.8	3587.1	3665.6	6571.4	7150.7
246	Cavally	30665.2	2295.7	105.8	221.1	532.9	1553.0	3418.3	2447.3	1941.6	4204.8	4188.2	2935.7	1654.9	2125.0
247	Tano	15656.1	321.4	0.2	32.5	186.6	547.1	1356.6	700.0	337.1	480.9	810.9	421.8	218.4	451.1
248	Cross	52820.2	3986.4	1.4	608.2	1184.8	2346.5	4731.8	7828.2	9133.6	11624.3	10815.8	4452.2	2614.4	4944.0
249	Sanaga	134252.0	4812.3	3.0	236.5	2004.2	4068.5	5840.0	9729.0	9616.8	13725.9	13358.0	5383.1	3156.1	5844.5
250	Pra	23479.8	378.6	3.2	102.6	282.2	657.8	1316.6	691.0	327.9	645.8	1039.5	483.0	247.6	514.6
251	David	84603.3	133.7	0.2	0.2	0.2	9.6	542.8	283.0	126.7	238.1	288.6	192.8	89.5	158.9
252	Essequibo	68788.3	5069.1	1976.6	2110.6	2932.1	7163.7	13057.2	11720.0	7957.4	3936.3	2438.8	1874.9	3105.6	5278.5
253	Kelantan	14419.9	3574.8	439.2	342.5	417.5	434.1	481.7	494.1	561.2	1352.9	2084.8	2431.3	2719.0	1277.8
254	Corantijn	65526.7	1313.6	829.3	1710.9	3554.5	11297.6	13180.9	9711.4	6084.0	3012.4	1811.6	1094.1	692.7	4524.4
255	Coppenname	24750.2	1551.1	1394.4	1540.4	2071.4	4023.6	4578.3	3861.0	2331.4	1160.6	695.4	420.0	321.1	1995.7
256	Kinabatangan	14101.7	2820.1	862.7	675.4	672.8	675.3	1148.9	787.8	1142.6	1468.5	1388.6	1249.3	1909.0	1233.4
257	Maroni	65949.4	3849.5	4583.6	5326.3	7656.9	11080.5	10145.5	7092.8	4342.7	1224.1	1349.5	815.1	565.6	4920.8
258	San Juan (Columbia - Paci)	138980.4	6064.5	2203.5	2616.1	3456.3	4124.0	3912.7	3904.9	3971.2	4103.4	4529.7	4529.1	3905.9	3943.4
259	Amazonas	588085.4	950375.8	705085.8	813922.6	857876.6	713184.6	564388.1	424101.6	299107.1	238076.7	243680.0	298076.1	455711.2	546965.9
260	Pahang	28436.7	576.0	1292.5	1416.5	1962.1	1937.4	1260.3	863.4	823.6	1395.6	2714.8	3612.5	4175.9	2269.2
261	Nyong	34262.6	1269.1	0.1	386.2	1153.1	1817.1	1504.5	698.1	677.8	2434.6	3389.9	1699.9	832.3	1321.9
262	Oyapock	27075.7	4282.0	4043.5	4817.3	6249.8	6602.9	5755.6	3256.2	2069.9	1131.7	683.3	412.7	586.7	3346.8
263	Rajang	49943.5	20497.2	8513.0	9657.7	10211.2	9935.6	7769.6	6882.1	6855.9	9242.6	1129.0	11855.9	12276.9	10402.2
264	Ntem	33526.9	2056.5	8.3	442.8	1623.3	2595.7	1801.8	791.1	470.6	1558.6	4430.8	3192.8	1428.3	1700.5
265	Ogooue	222662.7	22726.7	7569.4	1573.8	2077.6	2147.2	7950.2	4618.0	2791.3	2505.1	8651.3	23592.1	17443.6	12792.1
266	Rio Araguari	33771.5	4727.0	537.7	6935.9	8461.5									

Basin ID	Basin name	Area (km²)	Natural runoff (Mm³/month)												
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
306	Mitchell(N. Au)	71725.2	1080.2	6217.0	5876.8	2616.6	1435.1	859.9	521.2	317.3	194.5	119.8	72.3	43.0	1612.8
307	Majes	18612.1	893.9	994.8	875.9	436.0	232.5	139.9	84.7	52.7	34.4	31.7	29.3	363.0	347.4
308	Ord	55686.1	0.0	3.9	1.5	2.7	4.2	5.2	6.4	7.5	8.1	6.6	3.6	0.2	4.2
309	Jequinhonha	68548.9	4207.8	1648.8	1430.8	860.3	471.5	297.0	203.6	126.2	74.1	60.4	675.7	3152.4	1100.7
310	Macarthur	19673.6	0.4	1.1	55.6	14.5	8.8	5.3	3.2	1.9	1.2	0.7	0.4	0.3	7.8
311	Fitzroy	94043.9	5.5	446.6	490.3	167.3	101.0	61.0	36.9	22.3	13.5	8.1	4.9	3.0	113.4
312	Gilbert	46429.1	183.1	1374.9	1126.1	428.1	256.1	154.7	93.5	56.5	34.2	20.8	12.5	7.6	312.4
313	Mucuri	16732.2	1331.8	412.5	315.0	254.2	167.2	113.9	88.6	50.0	28.9	21.6	212.3	1046.2	336.8
314	Rio Doce	86085.9	12563.7	5298.4	4242.2	2461.5	1301.4	784.3	483.1	302.0	187.0	117.8	2334.5	9099.0	3264.6
315	Save	11495.7	2203.3	3356.1	2440.7	1065.6	627.7	386.7	242.8	173.8	130.9	85.0	41.4	348.7	925.2
316	Burdekin	130426.5	690.0	3679.3	3662.4	1887.1	1001.1	597.8	363.8	227.1	146.3	95.8	59.5	32.7	1036.9
317	Tsinibihna	61991.9	9631.8	9804.7	9049.7	4154.5	2534.3	1436.8	893.2	545.1	328.9	198.3	299.2	2841.4	3461.5
318	Buzi	27904.7	1304.7	1917.2	1888.8	752.6	437.8	265.0	160.8	98.8	61.6	38.5	22.6	110.9	588.3
319	Loa	50206.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
320	Limpopo	415623.1	1880.1	3058.9	2803.2	1433.2	767.0	501.7	359.2	334.0	330.6	246.8	159.6	308.4	1015.2
321	De Grey	56818.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
322	Paraiba Do Sul	58027.2	7384.0	4105.7	3823.9	2180.1	1239.1	759.3	470.0	308.5	264.6	590.0	1633.4	4400.3	2263.2
323	Fortescue	49924.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
324	Mangoky	43141.1	1857.9	2203.9	1852.5	889.9	518.2	330.4	220.7	136.7	83.0	50.1	56.6	333.7	711.9
325	Fitzroy	142915.3	72.4	1909.6	2134.9	885.3	493.9	300.8	192.9	132.5	101.8	79.8	54.4	35.2	532.8
326	Orange	972388.4	1857.2	2095.4	2246.2	1402.3	807.0	489.5	342.5	319.8	311.7	362.3	534.8	884.1	971.1
327	Ashburton	75842.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
328	Gascoyne	57998.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
329	Rio Ribeira Do Iguaçu	25697.5	2174.8	1657.5	1425.9	887.3	735.4	782.1	538.1	442.8	601.1	860.6	773.8	987.3	988.9
330	Incomati	46295.7	1039.9	1118.5	1027.4	517.1	276.9	173.5	113.5	83.8	67.7	43.3	129.4	456.6	420.6
331	Murray	1059507.7	2868.3	1379.7	1501.2	1110.5	1279.6	2153.4	2511.6	3164.9	3371.2	3337.6	2314.5	2000.4	2249.4
332	Murchison	91416.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
333	Maputu	30937.8	924.9	719.0	618.4	324.5	179.7	114.6	75.2	58.1	46.2	33.2	112.3	467.1	306.1
334	Uruguay	265504.6	15702.5	5633.7	8112.2	13990.4	16949.1	19158.1	16344.5	15620.3	18876.7	20160.7	12864.3	9587.2	14416.7
335	Tugela	30079.3	758.7	786.8	752.8	372.3	204.5	126.4	86.3	74.3	66.9	64.9	86.0	376.1	313.0
336	Colorado (Argentina)	390631.1	3500.8	346.2	220.9	135.4	373.1	707.2	841.7	929.8	908.5	2371.9	3152.6	2575.4	1338.6
337	Rio Jacu	70798.0	5005.1	2492.1	2901.2	3920.9	4897.0	5793.0	5339.7	5145.1	5743.1	5136.4	3405.9	2794.2	4381.1
338	Huasco	9871.6	92.1	16.5	10.1	6.1	3.7	2.4	1.6	1.4	1.6	1.5	0.6	46.0	15.3
339	Limari	11780.3	118.1	101.5	40.8	21.1	12.6	27.9	18.7	17.6	14.6	15.5	11.4	31.8	36.0
340	Negro (Uruguay)	70756.4	1301.6	86.9	492.1	1499.0	2274.1	3311.9	3222.8	3290.1	3379.1	2823.2	1553.8	846.5	2006.8
341	Groot-Vis	30441.2	10.7	24.1	23.0	13.9	11.7	9.5	9.9	13.2	21.7	27.3	18.9	18.9	16.9
342	Salado	26623.9	1011.5	24.7	73.2	787.5	1228.1	1234.8	1105.6	959.3	1261.2	1567.9	1418.0	767.6	953.3
343	Blackwood	22584.8	79.6	0.6	0.7	0.4	0.1	29.9	254.5	407.6	301.6	166.9	86.8	52.5	115.1
344	Rapel	15689.5	1119.4	178.1	113.7	66.3	510.5	1373.7	1356.5	1185.4	876.8	701.4	412.7	681.5	714.7
345	Negro (Argentina)	130062.1	2461.3	98.8	347.1	1009.8	4025.3	5859.2	6210.5	6075.1	5030.4	4368.0	3162.3	1740.6	3365.7
346	Bio Bio	24108.6	1512.9	29.1	298.7	919.1	3736.5	4786.4	5042.5	4670.4	4131.1	2973.2	1809.7	1045.2	2579.6
347	Waikato	15358.7	1209.9	436.0	382.1	601.3	1271.4	1642.5	1617.1	1551.8	1388.8	1356.2	1080.3	781.6	1109.9
348	South Esk	10842.5	186.5	8.9	10.5	32.6	76.3	208.6	392.9	471.5	403.2	358.1	217.0	135.7	208.5
349	Chubut	145351.9	837.4	70.0	172.1	336.2	1273.9	2263.3	2596.8	3116.1	2246.4	1454.2	895.8	580.3	1320.2
350	Clutha	17118.9	1029.1	421.2	482.8	693.8	684.7	694.4	642.0	723.7	898.4	957.1	762.4	659.5	720.8
351	Baker	30760.3	1928.9	630.2	1099.0	1636.8	2259.5	2536.2	2753.8	2648.6	2149.0	1882.5	1579.4	1282.9	1865.7
352	Santa Cruz	30599.9	1652.2	385.0	560.0	1181.8	1590.7	1850.7	1577.2	2464.8	3221.0	3268.9	1605.8	1042.5	1696.6
353	Ganges	102446.2	32182.1	10981.6	16447.4	12896.7	12922.0	27823.6	78624.5	128519.9	96972.9	47842.1	32621.7	19626.1	43121.7
354	Salween	258547.2	8366.0	95.5	592.3	1511.4	2846.6	12055.4	24649.1	32068.1	27586.6	18159.4	9737.1	5522.3	11932.5
355	Hong(Red River)	157656.9	4779.9	80.7	104.5	254.5	1566.3	7439.6	18447.1	22644.5	16383.8	9602.6	5433.7	3149.0	7490.5
356	Lake Chad	2391218.9	6870.6	135.4	144.7	180.2	263.0	1227.0	7989.1	36416.6	27951.2	14050.2	7408.8	4490.9	8927.3
357	Okavango	705055.7	4075.2	6488.8	8619.1	3971.7	2041.0	1233.1	745.9	452.1	274.8	167.1	100.7	882.0	2421.0
358	Tarim	1051731.4	241.9	77.0	269.6	593.6	1657.0	2845.3	3326.7	2360.3	1351.4	540.9	295.2	164.1	1143.6
359	Horton	23926.2	12.4	0.3	0.2	0.1	78.8	314.9	93.6	54.9	33.2	20.0	12.1	7.3	52.3
360	Homaday	14778.0	12.4	0.0	0.0	0.0	0.0	181.3	145.7	70.2	37.1	22.3	13.5	8.1	40.9
361	Conception	25569.5	0.6	1.8	3.6	4.8	3.8	4.7	4.3	5.9	5.5	4.2	1.5	1.1	3.5
362	Uluia	26392.0	1735.8	77.7	42.4	31.4	19.3	510.5	1791.6	1997.4	3135.9	2748.5	1916.8	1262.0	1272.4
363	Patacua	24232.4	1710.9	118.6	53.8	32.7	19.7	70.9	693.4	892.9	1438.3	2176.2	1802.4	1293.7	858.6
364	Coco	25502.0	2767.8	143.3	70.7	43.3	48.4	1698.7	3244.2	2959.2	3280.5	3939.1	2788.7	2041.2	1918.6
365	Oconca	160639.9	539.4	582.1	517.1	245.1	134.9	80.9	48.8	30.6	19.9	49.2	71.2	235.0	212.9
366	Cuanza	141391.0	10360.7	7565.1	10296.0	8746.9	3552.8	2127.7	1263.6	779.0	472.4	307.3	304.1	5458.5	4271.4
367	Cunene	110545.5	1828.9	2579.9	5240.5	2925.0	1322.8	798.9	482.7	291.8	176.4	112.8	98.1	642.6	1375.0
368	Doring	48855.5	44.0	20.3	25.5	14.8	4.2	92.2	148.6	176.0	136.2	105.1	61.5	43.1	72.6
369	Gamka	45676.2	65.3	14.4	28.8	40.5	41.1	51.1	45.0	62.9	111.5	105.9	87.0	55.8	59.1
370	Groot-Kei	18678.3	2.7	6.5	16.9	12.9	8.5	5.9	5.6	6.2	7.9	8.3	6.0	4.4	7.6
371	Luri	61712.2	4604.7	6185.0	6089.2	2522.2	1435.2	866.8	523.5	316.3	191.1	115.4	69.7	468.0	1949.9
372	Messalo	24810.9	941.3	1818.6	2197.0	1098.8	548.0	330.8	199.8	120.7	72.9	44.1	26.6	16.1	617.9
373	Rouvina	151948.6	9106.2												

Table S3. Monthly blue water availability for the world's major river basins

Basin ID	Basin name	Blue water availability (Mm³/month)												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1	Khatanga	314.3	11.7	7.1	4.3	44.2	5079.7	2577.0	1389.0	871.4	483.8	292.2	176.5	937.6
2	Olenek	246.2	32.0	19.3	11.7	131.7	3286.4	1102.1	614.1	374.1	221.3	133.7	80.7	521.1
3	Anabar	105.2	17.1	10.3	6.2	3.8	825.6	416.5	202.3	120.5	71.0	42.9	25.9	153.9
4	Yana	179.2	14.6	8.8	5.3	31.8	1507.2	1364.1	761.5	366.5	221.4	133.7	80.8	389.6
5	Yenisei	3227.0	148.4	90.5	1550.5	32543.0	32409.6	19438.0	12848.2	9618.3	4888.2	2891.2	1747.0	10116.7
6	Indigirka	380.5	35.9	21.7	13.1	90.2	3362.0	2901.5	1357.2	726.2	435.2	262.9	158.8	812.1
7	Lena	3154.4	131.0	79.3	72.4	17418.4	24981.6	16930.1	12609.2	10727.2	4767.9	2878.1	1738.4	7957.3
8	Omoloy	5.4	0.1	0.1	0.0	0.0	85.2	55.4	25.8	14.7	8.7	5.3	3.2	17.0
9	Tana (NO, Fl)	14.4	0.0	0.0	0.0	570.3	155.7	91.4	55.2	43.5	29.8	15.6	9.4	82.1
10	Colville	37.2	0.3	0.2	0.1	9.1	387.6	395.5	206.9	115.8	64.9	39.2	23.7	106.7
11	Alazeya	36.8	6.2	3.8	2.3	1.4	379.4	111.0	62.8	38.0	22.9	13.8	8.4	57.2
12	Anderson	10.9	0.1	0.0	0.0	509.7	159.5	87.0	52.5	31.7	19.2	11.6	7.0	74.1
13	Kolyma	744.2	32.2	19.4	11.8	1068.5	5088.2	7188.3	3241.6	2103.5	1115.2	673.6	406.8	1807.8
14	Tuloma	18.9	2.3	1.4	0.9	346.4	109.5	60.0	36.1	23.8	24.3	11.0	6.7	53.4
15	Muonio	28.8	2.6	1.6	42.8	401.1	222.1	150.0	77.7	59.0	37.5	20.3	12.3	88.0
16	Yukon	970.1	50.5	30.5	188.7	10633.3	9753.4	5955.3	3321.4	2581.2	1529.6	842.4	508.9	3030.4
17	Palyavaam	21.3	0.0	0.0	0.0	0.0	375.7	207.3	105.3	71.0	38.2	23.1	13.9	71.3
18	Kemijoki	97.4	0.6	0.4	118.8	1797.4	489.6	291.6	186.9	216.4	273.3	103.3	62.4	303.2
19	Mackenzie	1127.6	17.4	10.7	1812.7	15880.7	15834.5	9200.4	4975.5	3146.6	2089.5	1153.4	696.8	4662.1
20	Noatak	31.3	0.2	0.1	0.1	80.4	396.1	219.9	124.9	125.9	55.1	33.3	20.1	90.6
21	Anadyr	236.4	0.3	0.2	0.1	490.4	4399.7	2076.1	1092.3	821.1	423.2	255.6	154.4	829.2
22	Pechora	491.8	6.2	3.8	289.8	11661.2	7759.0	3254.0	1926.2	1571.1	890.0	508.6	307.2	2389.1
23	Lule	62.6	0.2	0.1	223.8	770.3	756.9	379.1	222.4	190.3	136.6	67.2	40.6	237.5
24	Kalkaixelen	15.7	1.3	0.8	77.7	247.6	151.5	70.3	40.6	27.5	23.7	11.5	7.0	56.3
25	Ob	1386.0	39.6	27.2	16168.4	29723.9	13645.7	7368.0	4708.1	3655.1	2815.0	1373.0	832.4	6811.9
26	Ellice	6.1	0.0	0.0	0.0	0.0	191.7	49.8	30.1	18.2	11.0	6.6	4.0	26.4
27	Taz	198.0	1.2	0.7	0.4	2584.4	4632.7	1464.3	874.0	638.6	347.6	209.9	126.8	923.2
28	Kobuk	42.2	6.4	3.8	2.3	412.7	220.1	123.9	74.7	67.7	31.9	19.3	11.6	84.7
29	Coppermine	5.8	0.0	0.0	0.0	78.0	143.0	49.3	28.0	16.9	10.2	6.2	3.7	28.4
30	Hayes(Trib. Arctic Ocean)	5.4	0.0	0.0	0.0	0.0	166.9	45.0	26.6	16.1	9.7	5.9	3.5	23.3
31	Pur	148.1	0.1	0.1	0.1	1437.3	3032.3	923.0	559.0	579.3	266.2	160.8	97.2	600.3
32	Varzuga	9.4	0.0	0.0	0.0	136.8	37.7	22.0	13.3	22.5	28.0	10.2	6.2	23.9
33	Ponyo	25.4	0.0	0.0	0.0	317.0	87.6	51.2	35.7	53.7	78.8	27.6	16.7	57.8
34	Kovda	6.1	0.0	0.0	0.0	176.4	56.1	30.5	18.5	14.2	15.6	6.6	4.0	27.3
35	Back	65.4	0.0	0.0	0.0	1114.3	1643.1	527.6	318.2	198.1	117.6	71.0	42.9	341.5
36	Kem	47.1	0.1	0.1	528.5	780.4	270.5	156.3	98.0	86.0	139.2	50.7	30.6	182.3
37	Nadym	76.6	0.0	0.0	0.0	900.9	1469.2	470.9	292.2	300.6	137.5	83.1	50.2	315.1
38	Quoich	8.3	0.0	0.0	0.0	0.0	243.3	69.9	39.9	25.6	15.0	9.0	5.5	34.7
39	Mezen	74.6	0.9	0.5	783.4	2104.3	771.1	416.2	250.1	159.9	173.5	77.3	46.7	404.9
40	Ijoki	18.8	0.0	0.0	265.2	199.4	79.2	46.6	30.2	31.2	60.0	20.5	12.4	63.6
41	Joekulsa Fjoellum	15.0	0.0	0.0	1.1	150.8	118.6	47.4	29.6	29.4	44.3	16.5	9.8	38.5
42	Svarta, Skagafjroi	11.0	0.0	5.9	24.7	72.8	78.5	29.6	17.8	15.2	30.4	13.8	7.2	25.6
43	Oulujoki	46.2	0.2	0.2	1079.7	340.6	187.9	112.5	74.6	83.3	142.1	49.5	29.9	178.9
44	Lagarfjot	22.6	0.0	0.0	4.5	238.1	148.6	64.8	46.3	51.5	62.0	25.6	14.8	56.6
45	Thelon	95.7	0.0	0.0	0.0	1238.2	2149.9	674.0	405.4	337.3	171.9	103.8	62.7	436.6
46	Angerman	68.7	0.1	0.1	805.4	704.9	537.1	246.5	166.7	152.9	191.0	74.2	44.8	249.4
47	Thjorsa	84.4	6.6	18.3	224.6	344.7	264.5	132.4	116.8	133.7	168.2	95.7	57.8	137.3
48	Northern Dvina(Severnaya I)	204.3	7.0	4.4	8913.4	3875.8	1908.4	1118.5	675.2	411.7	419.5	194.4	117.6	1487.5
49	Oefusa	75.7	0.0	64.6	345.3	138.1	137.0	91.3	79.6	94.2	131.7	86.9	64.0	110.9
50	Nizhny Vyg (Soroka)	41.3	0.0	0.0	1090.2	324.6	185.3	110.7	66.9	84.1	125.2	44.8	27.1	175.0
51	Kuskokwim	253.9	0.3	0.2	0.1	3324.1	1599.7	1094.0	1094.7	1058.3	479.7	274.5	165.8	778.8
52	Vuoksi	67.0	0.2	0.2	2105.8	593.7	345.7	207.8	128.7	112.1	192.1	77.4	44.0	322.9
53	Onega	45.0	0.6	0.4	2126.8	680.5	380.4	225.2	136.0	87.4	111.3	47.0	28.2	322.4
54	Susitna	254.1	0.4	0.3	730.8	1663.8	1781.1	1053.9	819.0	968.5	547.7	274.1	165.6	688.3
55	Kymijoki	37.3	0.2	0.2	914.1	264.0	151.6	91.3	55.4	43.3	61.7	62.3	24.5	142.1
56	Neva	239.0	2.1	1.8	6433.8	1912.0	1093.8	654.5	396.8	340.7	517.3	337.3	154.8	1007.0
57	Ferguson	8.1	0.0	0.0	0.0	0.0	210.7	59.2	34.2	28.4	14.5	8.8	5.3	30.8
58	Copper	218.2	0.0	0.0	3.5	1509.3	2042.9	1488.1	837.2	792.6	443.1	236.8	143.0	642.9
59	Gloma	112.6	0.3	2.4	687.9	673.6	723.1	409.7	297.6	280.1	268.8	135.5	73.9	305.5
60	Kokemaenjoki	47.3	0.3	0.3	732.4	218.6	123.2	74.3	45.1	29.4	30.6	100.4	31.0	119.4
61	Vaeniem-Goeta	239.7	0.6	452.0	1075.6	459.5	275.9	163.8	141.4	158.4	295.1	323.4	207.4	316.1
62	Thlewaza	18.4	2.1	1.2	0.7	366.8	133.2	67.9	40.8	39.7	18.8	11.4	6.9	59.0
63	Alsek	57.2	0.0	0.0	116.9	522.3	554.2	220.1	147.7	192.4	136.0	62.1	37.5	170.5
64	Volga	618.3	29.4	149.5	28026.4	10217.8	5716.4	3446.0	2149.4	1377.5	1297.4	633.1	380.4	4503.5
65	Dramselv	52.0	0.1	19.4	246.7	291.6	280.2	146.8	133.2	144.0	126.6	61.0	34.1	128.0
66	Amaud	112.9	0.0	0.0	0.0	126.5	1128.4	412.9	308.7	375.7	272.6	122.5	74.0	244.5
67	Nushagak	103.5	0.0	0.0	261.7	987.4	354.0	208.5	258.6	309.7	276.6	112.3	67.8	245.0
68	Seal	25.3	0.3	0.2	0.1	706.9	287.0	145.7	86.5	83.1	48.3	26.1	15.8	118.8
69	Taku	86.0	0.0	0.0	161.4	501.6	459.4	206.6	156.7	205.5	252.7	93.4	56.4	181.7
70	Varva	142.1	0.2	0.2	1203.7	387.4	215.9	127.9	84.0	74.6	146.4	291.9	93.3	230.6
71	Stikine	365.4	120.7	101.6	331.4	1940.0	2386.6	1153.3	745.7	763.1	675.8	389.7	274.1	770.6
72	Churchill	157.9	4.0	2.5	680.0	2624.2	1544.9	752.3	426.3	392.0	344.9	155.0	93.6	598.1
73	Feuilles (Riviere Aux)	134.7	0.0	0.0	0.0	507.9	1039.9	410.2	351.5	386.4	354.7	146.3	88.3	285.0
74	George	151.6	0.0	0.0	0.0	991.6	1007.9	792.3	523.3	523.7	340.2	164.6	99.4	382.9
75	Caniapiscau	459.4	0.2	0.1	0.1	3234.1	2495.1	1361.1	1246.0	1333.9	1204.8	498.1	300.8	1011.1
76	Western Dvina (Daugava)	154.5	0.4	0.4	1836.2	595.4	342.7	203.3	123.9	85.1</				

Basin ID	Basin name	Blue water availability (Mm³/month)												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
101	Elbe	571.7	518.9	979.9	740.4	454.5	315.4	229.6	178.5	145.2	173.1	290.9	371.5	414.1
102	Trent	138.3	73.6	60.6	42.7	27.5	16.1	11.3	10.2	9.8	13.4	39.6	80.5	43.6
103	Weser	702.3	401.7	379.1	279.6	180.5	123.5	100.9	96.8	100.4	163.9	320.3	458.8	275.6
104	Attawapiskat	24.3	0.0	0.0	0.0	439.1	122.6	71.1	42.9	70.1	65.8	26.4	16.0	73.2
105	Eastmain	236.6	0.0	0.0	511.6	1837.7	979.9	584.5	507.2	597.6	675.9	256.8	155.1	528.6
106	Manicouagan (Riviere)	250.6	0.1	0.0	104.9	1733.3	1384.9	738.2	596.7	644.0	696.0	271.8	164.2	548.7
107	Columbia	2392.2	2251.9	4180.7	7637.6	11038.1	7369.9	3710.4	2336.7	1458.1	1092.4	1336.4	1584.7	3865.8
108	Little Mecatina	88.9	0.0	0.0	0.0	1231.3	435.7	301.1	215.8	200.8	252.6	96.5	58.3	240.1
109	Natashquan (Riviere)	58.2	0.0	0.0	31.2	745.4	324.0	241.7	161.6	138.2	158.5	63.2	38.2	163.3
110	Rhine	2635.8	1531.5	1618.9	1920.5	1602.6	1211.0	955.9	836.7	794.4	902.9	1309.3	1672.7	1416.0
111	Albany	162.6	0.0	0.0	1682.4	1840.8	765.4	429.7	261.2	355.3	486.4	176.5	106.6	522.2
112	Saguenay (Riviere)	396.8	0.3	0.3	2249.0	2250.3	1627.5	1011.7	820.1	933.1	1149.7	434.7	260.3	927.8
113	Thames	145.2	89.5	72.2	47.5	27.4	15.7	9.9	6.5	4.4	3.7	26.4	79.0	44.0
114	Nottaway	437.7	0.0	0.0	2690.3	3197.5	1528.0	1037.6	854.3	1016.7	1258.3	487.6	287.0	1066.3
115	Rupert	62.3	0.0	0.0	158.9	640.2	237.8	159.2	135.5	151.7	178.9	67.6	40.8	152.8
116	Moose(Trib. Hudson Bay)	200.0	0.1	0.1	2266.8	1995.8	860.2	505.5	318.9	427.3	604.9	217.2	131.2	627.3
117	St.Lawrence	2767.0	70.2	5921.1	26475.1	10246.2	6389.5	3920.6	2606.4	3061.0	4207.6	4579.8	1943.1	6015.6
118	Danube	3073.8	2590.4	6011.3	6879.8	5415.4	3830.1	2816.6	2249.6	2042.7	2537.2	3013.0	2515.1	3581.6
119	Seine	685.4	498.2	436.7	332.8	201.0	119.0	80.5	60.9	40.5	46.8	139.2	340.2	248.4
120	Dniestr	81.6	2.7	629.5	520.4	305.7	226.1	158.4	125.3	102.2	125.9	140.5	54.4	206.1
121	Southern Bug	7.8	1.6	368.2	193.4	103.9	62.3	41.1	27.8	15.4	8.7	5.5	3.6	69.9
122	Mississippi	15984.8	13143.3	22387.2	20429.5	16710.6	11375.6	7271.9	5466.0	3619.5	2440.0	4002.6	7786.6	10899.0
123	Skagit	190.3	68.6	290.6	349.6	195.0	98.2	57.4	34.7	21.7	81.8	150.3	120.1	138.2
124	Aral Drainage	509.4	832.3	2756.8	4028.2	4787.4	4275.2	3593.2	2586.1	1620.9	770.0	334.9	308.3	2200.2
125	Loire	1138.4	793.2	782.4	638.6	456.1	295.0	187.4	142.0	109.2	160.9	367.9	652.5	477.0
126	Rhone	1463.4	673.0	1179.2	1265.1	1117.7	889.3	538.0	442.5	455.4	695.4	1046.5	1030.9	899.7
127	Saint John	308.6	0.4	0.4	2672.8	895.7	612.2	385.8	252.2	276.9	435.9	574.3	202.5	551.5
128	Po	855.3	400.0	707.2	1106.1	1279.5	890.5	588.3	478.9	462.8	589.6	696.5	571.4	718.8
129	Penobscot	131.0	0.1	96.4	1110.9	375.6	245.0	146.7	90.3	84.3	136.9	265.4	86.0	230.7
130	St.Croix	34.1	0.0	0.0	288.4	95.1	60.3	34.3	20.4	17.7	33.4	70.5	22.4	56.4
131	Kuban	201.8	255.1	332.9	424.8	388.7	318.9	278.7	165.2	124.4	94.2	105.6	125.2	234.6
132	Connecticut	186.9	1.6	623.2	995.8	505.7	311.2	197.1	132.1	152.2	209.9	339.9	133.0	315.7
133	Liao He	135.6	4.1	44.1	331.4	453.3	434.2	532.2	797.6	521.3	276.7	156.4	90.9	314.8
134	Garonne	624.5	383.6	433.9	457.9	382.3	222.7	151.8	118.8	94.9	131.5	215.0	383.2	300.0
135	Ishikari	171.9	0.5	0.5	878.0	383.7	216.1	158.8	155.3	235.6	287.0	296.4	112.9	241.4
136	Merrimack	76.2	1.7	631.6	357.9	207.2	126.9	75.6	46.8	42.5	72.3	156.6	50.6	153.8
137	Hudson	200.1	5.3	895.4	994.1	549.1	331.2	212.7	145.1	148.5	209.0	353.0	145.7	349.1
138	Colorado(Pacific Ocean)	64.7	19.9	147.6	609.3	1180.7	864.0	478.1	330.7	225.4	148.1	74.1	46.3	349.1
139	Klamath	602.1	714.8	709.3	609.3	400.3	210.3	139.7	91.1	55.2	29.3	79.0	299.0	328.3
140	Ebro	844.0	564.0	557.2	575.2	524.0	326.4	238.4	170.8	102.0	112.3	174.7	484.9	389.5
141	Rogue	218.0	217.7	181.7	171.7	124.5	60.5	38.1	24.0	14.6	8.3	42.4	102.9	100.4
142	Douro	782.7	606.4	820.9	596.8	411.5	250.4	210.1	164.1	80.8	43.0	107.9	330.0	367.0
143	Susquehanna	418.4	248.0	1762.9	1183.4	777.5	486.9	304.5	200.5	173.5	267.4	499.9	331.8	554.8
144	Luau He	34.9	9.4	29.6	56.0	81.6	42.9	192.8	243.8	145.0	71.6	38.0	23.2	80.7
145	Kura	111.9	37.4	141.8	607.1	822.3	553.8	380.4	279.3	182.7	153.2	138.5	82.7	290.9
146	Dalinghe	11.7	0.6	1.3	6.7	13.3	16.0	17.0	77.3	42.0	24.7	12.9	7.9	19.3
147	Delaware	328.1	160.3	812.5	451.1	358.0	208.6	142.5	113.6	117.5	152.4	281.3	258.8	282.1
148	Sacramento	1075.2	1225.5	1249.8	1013.6	627.4	473.8	412.9	341.6	234.1	102.3	68.7	287.9	592.7
149	Huang He (Yellow River)	540.5	121.7	464.0	1033.6	1365.5	1820.4	2061.9	1961.0	1986.1	1174.6	610.4	360.6	1147.5
150	Kizilirmak	39.8	167.3	240.4	479.4	315.7	160.9	107.5	78.7	48.2	26.4	16.7	25.7	142.2
151	Yongding He	34.9	80.8	294.6	505.9	500.4	255.1	345.9	479.5	214.4	88.6	37.0	27.6	238.7
152	Tejo	542.7	440.4	652.3	412.4	268.7	166.9	144.4	111.9	58.6	24.9	27.3	236.4	257.2
153	Sakarya	69.7	203.4	225.2	177.7	101.6	69.0	54.7	48.5	31.4	13.8	5.3	15.0	84.6
154	Eel (Calif.)	273.2	251.6	185.4	108.1	60.8	34.7	21.1	12.8	7.7	4.6	3.1	115.9	89.9
155	Tigris & Euphrates	3102.9	3322.0	4428.0	5129.6	3747.0	2056.3	1473.7	1147.6	708.8	458.3	715.1	1524.7	2317.8
156	Potomac	271.2	232.7	341.0	274.8	189.7	125.0	74.1	51.0	37.7	42.7	78.5	150.5	155.7
157	Guadiana	49.3	143.2	323.8	204.5	114.3	112.4	140.6	123.0	60.4	21.1	6.1	3.2	108.6
158	Kitakami	138.0	34.5	271.5	216.5	160.4	110.4	116.2	118.0	126.4	155.2	165.7	105.7	143.2
159	Mogami	193.9	165.5	207.9	155.0	111.2	75.3	78.6	71.3	86.1	104.0	148.2	204.8	133.5
160	Han-Gang (Han River)	162.9	2.5	274.5	367.7	233.4	240.1	686.2	782.9	539.4	277.7	202.1	108.1	337.8
161	Guadalquivir	135.4	261.3	628.0	395.5	211.0	200.8	222.1	191.1	96.2	37.1	13.0	32.1	202.0
162	San Joaquin	141.4	165.9	257.1	267.1	227.4	219.7	253.6	238.7	163.7	64.4	15.0	20.5	169.5
163	James	320.1	247.9	249.6	190.8	134.2	85.8	51.7	33.8	24.5	32.0	76.3	171.5	134.9
164	Bravo	52.7	17.0	40.9	131.4	267.3	187.5	182.7	215.9	240.5	128.0	60.9	40.8	130.5
165	Shinano, Chikuma	220.1	161.5	160.0	367.5	372.8	258.2	248.4	201.4	234.4	235.0	230.1	208.9	241.5
166	Roanoke	369.0	293.6	292.0	217.2	145.0	89.7	63.2	47.7	36.8	31.8	66.5	170.8	151.9
167	Naktong	101.6	54.9	151.1	196.7	139.5	191.9	397.5	375.8	334.7	176.5	109.0	69.0	191.5
168	Indus	2383.8	1928.5	3639.7	4374.0	3702.9	3653.0	6475.8	8147.2	6268.9	3860.0	2171.8	1351.5	3996.4
169	Tone	187.2	52.2	138.4	211.5	196.6	194.7	211.8	248.2	312.3	308.2	196.0	136.6	199.5
170	Salinas	2.4	6.9	11.7	7.4	6.5	9.4	13.3	13.6	8.6	1.9	0.5	0.3	6.9
171	Pee Dee	564.9	476.3	469.2	321.8	188.9	117.9	112.7	91.0	92.1	76.0	109.1	276.8	241.4
172	Chelfi	46.9	56.7	56.4	35.1	20.6	17.6	16.2	13.3	8.9	3.4	1.8	7.9	23.7
173	Cape Fear	318.4	260.4	245.0	163.5	105.8	70.8	78.0	76.3	69.7	53.2	71.9	145.1	138.2
174	Tenyuu	117.0	58.2	102										

Basin ID	Basin name	Blue water availability (Mm³/month)												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
204	Dong Jiang	172.2	21.0	223.2	615.6	1151.6	1293.5	976.4	940.0	667.6	311.7	186.9	113.6	556.1
205	Mahi	176.8	31.6	49.2	44.6	27.5	7.6	528.2	885.3	630.5	277.8	173.2	114.7	245.6
206	Damodar	251.6	22.3	32.2	9.0	3.0	50.7	299.0	950.2	931.6	429.5	263.2	170.1	284.4
207	Niger	4355.6	19.8	51.2	259.6	966.6	2958.9	7669.6	16126.9	18141.0	9525.3	4765.9	2855.7	5641.3
208	Narmada	481.4	86.2	180.1	226.3	227.6	89.0	1470.5	2332.6	1749.0	751.5	459.1	317.3	697.6
209	Brahmani River (Bhahmani)	312.4	6.7	10.6	8.5	7.7	109.9	777.7	1587.8	1207.1	611.8	339.1	209.9	432.5
210	Mahanadi(Mahahadi)	750.2	21.7	31.6	30.2	31.6	31.5	1041.8	4292.3	2975.6	1339.8	823.9	514.4	990.4
211	Santiago	136.2	23.2	48.7	53.1	33.6	41.0	205.6	530.4	622.5	282.7	158.3	98.5	186.2
212	Panuco	308.1	19.2	37.3	39.5	27.6	72.6	402.7	498.3	1231.3	704.9	354.2	209.3	325.4
213	Godavari	1361.1	125.3	248.0	295.5	314.3	178.3	2692.3	5505.7	5324.4	2419.1	1469.4	966.9	1741.7
214	Tapti	248.7	33.7	61.3	73.1	79.0	29.8	673.1	1033.9	1023.2	424.8	266.7	177.2	343.7
215	Sittang	450.9	0.7	1.3	1.3	3.4	770.5	1570.5	2008.8	1666.5	980.2	498.5	295.7	687.3
216	Armeria	12.1	1.6	3.4	5.8	5.5	2.0	0.7	8.1	58.4	29.5	14.3	9.6	12.6
217	Ca	289.6	11.2	5.4	4.7	30.9	116.8	375.4	535.7	866.0	553.6	330.4	193.2	276.1
218	Chao Phraya	836.7	63.6	104.0	107.5	98.7	328.0	1108.4	1921.4	3201.9	2014.4	1162.3	612.0	963.2
219	Krishna	850.0	122.1	251.0	271.1	280.0	651.3	3320.2	3037.0	2359.2	1342.1	934.0	685.6	1175.3
220	Senegal	325.8	2.0	3.0	2.3	2.4	89.6	612.5	1692.9	1372.7	654.2	358.5	215.3	444.3
221	Papaloapan	375.4	2.5	3.2	3.2	2.3	95.5	474.6	882.2	1156.1	885.3	438.8	252.3	381.0
222	Grisalva	2371.9	240.8	132.9	122.0	329.4	1724.5	2361.9	2646.1	4101.1	3860.2	2199.7	1575.4	1805.5
223	Verde	75.7	0.6	1.3	1.4	0.9	2.0	73.1	170.1	329.6	178.8	82.8	50.2	80.5
224	Mae Klong	310.9	4.2	6.8	6.7	215.3	716.0	1050.9	1166.4	1116.5	710.3	343.0	206.2	487.8
225	Tranh (N Thu Bon)	401.4	9.0	4.9	3.3	14.3	58.2	176.6	255.8	354.1	544.8	483.8	323.0	219.1
226	Penner	113.7	6.9	10.4	9.0	8.8	8.3	31.7	30.2	36.6	72.1	203.5	97.1	52.4
227	Volta	504.4	1.5	16.0	58.4	165.7	523.3	714.2	1680.5	2259.3	1085.4	548.9	331.0	657.4
228	Lempa	177.6	0.6	1.5	2.1	2.3	109.5	316.4	393.6	608.4	459.1	195.3	117.0	198.6
229	Gambia	150.2	0.1	0.1	0.1	0.1	29.0	184.4	615.6	693.3	307.6	163.2	98.5	186.8
230	Grande De Matagalpa	357.7	17.5	9.3	6.0	7.5	270.2	538.9	488.8	540.4	590.0	349.6	249.6	285.5
231	Cauvery	418.3	31.9	77.1	69.5	70.2	216.2	733.9	661.1	514.8	469.5	555.5	369.8	349.0
232	San Juan	1044.7	106.7	56.5	52.3	207.2	790.6	955.7	958.8	1223.9	1470.0	968.0	784.4	718.2
233	Geba	107.4	0.7	0.9	0.9	0.7	15.8	82.7	362.8	461.0	241.4	116.5	70.7	121.8
234	Corubal	176.6	0.1	0.1	0.1	0.1	58.6	353.5	718.8	633.2	416.1	192.9	115.8	222.2
235	Magdalena	5423.6	690.5	1286.0	2835.1	4242.2	3726.6	3011.1	3096.0	3658.2	6369.3	6357.9	4183.3	3740.0
236	Comoe	89.6	0.7	0.9	21.0	61.2	184.6	135.4	203.6	302.0	204.4	108.1	59.3	142.4
237	Oriñonco	14712.0	1981.7	3222.0	9639.5	19300.5	27474.1	31384.6	27826.1	22407.3	20689.1	15477.9	9366.2	16956.7
238	Bandama	267.4	0.8	1.1	23.7	61.4	304.2	211.1	589.8	114.9	637.3	294.6	176.3	306.9
239	Oueme	91.8	0.2	0.2	1.4	48.2	195.3	253.0	264.2	378.7	207.6	99.8	60.2	133.4
240	Sassandra	452.3	0.3	0.6	25.8	61.9	450.1	664.6	927.7	1664.6	1083.2	520.7	297.5	512.4
241	Shebelé	225.2	9.9	10.9	506.4	351.0	205.1	318.8	401.0	388.9	336.4	322.1	158.3	269.5
242	Mono	24.4	0.1	2.9	10.1	25.2	66.1	71.4	63.9	94.4	57.9	26.5	16.0	38.2
243	Congo	38781.7	18567.6	25336.9	27793.8	18695.0	12504.4	11096.3	14292.0	18079.1	22224.7	21780.2	24631.5	21148.6
244	Altrato	1781.7	459.4	547.3	863.5	1124.9	1175.4	1195.3	1219.4	1337.9	1428.2	1406.4	1107.4	1137.2
245	Cuyuni	1959.6	627.4	566.0	853.6	1974.3	2695.6	2604.3	2026.9	1089.2	717.4	733.1	1314.3	1430.1
246	Cavally	459.1	21.2	44.2	106.6	310.6	683.7	489.5	388.4	841.0	837.6	587.1	331.0	425.0
247	Tana	64.3	0.0	6.5	37.3	109.4	271.3	140.0	67.4	96.2	162.2	84.4	43.7	90.2
248	Cross	797.3	0.3	121.6	237.0	469.3	946.4	1565.6	1826.7	2324.9	2163.2	890.4	522.9	988.8
249	Sanaga	962.5	0.6	47.3	400.8	813.7	1168.0	1585.8	1923.4	2745.2	2671.6	1076.6	631.2	1168.9
250	Pra	75.7	0.6	20.5	56.4	131.6	263.3	138.2	65.6	129.2	207.9	96.6	49.5	102.9
251	Davo	26.7	0.0	0.0	0.4	1.9	108.6	56.6	25.3	47.6	57.7	38.6	17.9	31.8
252	Essequibo	1013.8	395.3	422.1	566.4	1432.7	2611.4	2344.0	1591.5	787.3	487.8	375.0	621.1	1055.7
253	Kelantan	715.0	87.8	68.5	83.5	86.8	96.3	98.8	112.2	270.6	417.0	486.3	543.8	255.6
254	Corantijn	262.7	165.9	342.2	710.9	2259.5	2636.2	1942.3	1216.8	602.5	362.3	218.8	138.5	904.9
255	Coppename	310.2	278.9	308.1	414.3	804.7	915.7	772.2	466.3	232.1	139.1	84.0	64.2	399.1
256	Kiribatangan	564.0	172.5	135.1	134.6	135.1	229.8	157.6	228.5	293.7	277.7	249.9	381.8	246.7
257	Maroni	769.9	916.7	1065.3	1531.4	2216.1	2029.1	1418.6	868.5	448.4	269.9	163.0	113.1	984.2
258	San Juan (Columbia - Pacifi	1212.9	440.7	523.2	691.3	824.8	782.5	781.0	794.2	820.7	905.9	905.8	781.2	788.7
259	Amazonas	190075.1	141017.2	162784.5	171575.3	142636.9	112877.6	84821.2	59821.4	47615.3	48736.0	59615.2	91142.2	109393.2
260	Pahang	1155.2	258.5	283.3	392.4	387.5	252.1	172.7	164.7	279.1	543.0	722.5	835.2	453.8
261	Nyong	253.8	0.0	77.2	230.6	363.4	300.9	139.6	135.6	486.9	678.0	340.0	166.5	264.4
262	Oiapock	856.4	808.7	963.5	1250.0	1320.6	1151.1	705.3	414.0	226.3	136.7	82.5	117.3	669.4
263	Rajang	4099.4	1702.6	1931.5	2042.4	1987.1	1553.9	1376.4	1371.2	1848.5	2225.8	2371.2	2455.4	2080.4
264	Ntem	411.1	1.7	88.6	324.7	519.1	361.6	158.2	94.1	311.7	886.2	638.6	285.7	340.1
265	Ogooue	4545.3	1513.9	3146.8	4155.3	3829.4	1590.0	923.6	558.3	501.0	1730.3	4718.4	3488.7	2558.4
266	Rio Araguary	945.4	1075.5	1387.2	1692.3	1623.6	1424.8	854.6	497.3	275.3	166.2	100.4	79.7	843.5
267	Mira	414.6	251.9	258.2	286.0	406.5	391.9	249.7	245.8	271.1	233.1	256.6	182.6	287.3
268	Esmeraldas	584.4	847.6	1135.2	1348.6	933.7	500.8	279.8	175.2	117.8	115.8	151.1	193.3	532.0
269	Tana	58.1	2.9	7.8	102.6	141.2	66.6	36.7	22.7	14.0	20.7	52.1	61.0	48.9
270	Doule & Vinces	546.2	816.1	1052.0	939.3	483.9	296.4	183.1	129.0	94.5	89.4	91.6	80.2	400.1
271	Rio Gurupi	98.3	409.7	929.4	902.7	685.2	430.3	282.6	152.9	90.2	54.5	32.9	20.6	340.8
272	Rio Capim	307.6	112.3	1760.0	1585.2	1185.0	756.5	523.3	313.9	175.7	105.2	63.5	41.1	661.5
273	Tocantins	16587.4	13165.4	14385.3	9144.3	4822.1	2913.5	1786.2	1117.1	784.6	795.8	3307.2	8908.7	6476.5
274	Koulou	801.5	480.1	790.2	1061.3	613.7	285.3	172.5	104.5	63.3	38.3	226.1	600.2	436.4
275	Nyanga	232.0	138.3	188.2	208.9	104.7	53.5	32.3	19.5	11.8	7.1	138.6	161.0	108.0
276	Rio Paraiiba	407.9	749.4	1466.6	1398.4	624.8	344.7	209.5	128.3					

Basin ID	Basin name	Blue water availability (Mm³/month)												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
307	Majes	178.8	199.0	175.2	87.2	46.5	28.0	16.9	10.5	6.9	6.3	5.9	72.6	69.5
308	Ord	0.0	0.8	0.3	0.5	0.8	1.0	1.3	1.5	1.6	1.3	0.7	0.0	0.8
309	Jequitinhonha	841.6	329.8	286.2	172.1	94.3	59.4	40.7	25.2	14.8	12.1	135.1	630.5	220.1
310	Macarthur	0.1	0.2	11.1	2.9	1.8	1.1	0.6	0.4	0.2	0.1	0.1	0.1	1.6
311	Fitzroy	1.1	89.3	98.1	33.5	20.2	12.2	7.4	4.5	2.7	1.6	1.0	0.6	22.7
312	Gilbert	36.6	275.0	225.2	85.6	51.2	30.9	18.7	11.3	6.8	4.2	2.5	1.5	62.5
313	Mucuri	266.4	82.5	63.0	50.8	33.4	22.8	17.7	10.0	5.8	4.3	42.5	209.2	67.4
314	Rio Doce	2512.7	1059.7	848.4	492.3	260.3	156.9	96.6	60.4	37.4	23.6	466.9	1819.8	652.9
315	Save	440.7	671.2	488.1	213.1	125.5	77.3	48.6	34.8	26.2	17.0	8.3	69.7	185.0
316	Burdekin	138.0	735.9	732.5	377.4	200.2	119.6	72.8	45.4	29.3	19.2	11.9	6.5	207.4
317	Tsinibihina	1926.4	1960.9	1809.9	830.9	470.9	287.4	178.6	109.0	65.8	39.7	59.8	568.3	692.3
318	Buzi	260.9	383.4	377.8	150.5	87.6	53.0	32.2	19.8	12.3	7.7	4.5	22.2	117.7
319	Loa	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
320	Limpopo	376.0	611.8	560.6	286.6	153.4	100.3	71.8	66.8	66.1	49.4	31.9	61.7	203.0
321	De Grey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
322	Paraiiba Do Sul	1476.8	821.1	764.8	436.0	247.8	151.9	94.0	61.7	52.9	118.0	326.7	880.1	452.6
323	Fortescue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
324	Mangoky	371.6	440.8	370.5	179.8	103.6	66.1	44.1	27.3	16.6	10.0	11.3	66.7	142.4
325	Fitzroy	14.5	381.9	427.0	177.1	98.8	60.2	38.6	26.5	20.4	16.0	10.9	7.0	106.6
326	Orange	371.4	419.1	449.2	280.5	161.4	97.9	68.5	64.0	62.3	72.5	107.0	176.8	194.2
327	Ashburton	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
328	Gascoyne	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
329	Ribeira Do Iguape	435.0	331.5	285.2	177.5	147.1	156.4	107.6	88.6	120.2	172.1	154.8	197.5	197.8
330	Incomati	208.0	223.7	205.5	103.4	55.4	34.7	22.7	16.8	13.5	8.7	25.9	91.3	84.1
331	Murray	573.7	275.9	300.2	222.1	255.9	430.7	502.3	633.0	674.2	667.5	462.9	400.1	449.9
332	Murchison	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
333	Maputu	185.0	143.8	123.7	64.9	35.9	22.9	15.0	11.6	9.2	6.6	22.5	93.4	61.2
334	Uruguay	3140.5	1126.7	1622.4	2798.1	3389.9	3831.6	3268.9	3124.1	3775.3	4032.1	2572.9	1917.4	2883.3
335	Tugela	151.7	157.4	150.6	74.5	40.9	25.3	17.3	14.9	13.4	13.0	17.2	75.2	62.6
336	Colorado (Argentina)	700.2	69.2	44.2	27.1	74.6	141.4	168.3	186.0	181.7	474.4	630.5	515.1	267.7
337	Rio Jacui	1001.0	498.4	580.2	784.2	979.4	1158.6	1067.9	1029.0	1148.6	1027.3	681.2	558.8	876.2
338	Huasco	18.4	3.3	2.0	1.2	0.7	0.5	0.3	0.3	0.3	0.3	0.1	9.2	3.1
339	Limari	23.6	20.3	8.2	4.2	2.5	5.6	3.7	3.5	2.9	3.1	2.3	6.4	7.2
340	Negro (Uruguay)	260.3	17.4	98.4	299.8	454.8	662.4	644.6	658.0	675.8	564.6	310.8	169.3	401.4
341	Groot-Vls	2.1	4.8	4.6	2.8	2.3	1.9	2.0	2.6	4.3	5.5	3.8	3.8	3.4
342	Salado	202.3	4.9	14.6	157.5	245.6	247.0	221.1	191.9	252.2	313.6	283.6	153.5	190.7
343	Blackwood	15.9	0.1	0.1	0.1	0.0	6.0	50.9	81.5	60.3	33.4	17.4	10.5	23.0
344	Rapel	223.9	35.6	22.7	13.3	102.1	274.7	271.3	237.1	175.4	140.3	82.5	136.3	142.9
345	Negro (Argentina)	492.3	19.8	69.4	202.0	805.1	1171.8	1242.1	1215.0	1006.1	873.6	632.5	348.1	673.1
346	BioBio	302.6	5.8	59.7	183.8	747.3	957.3	1008.5	934.1	826.2	594.6	361.9	209.0	515.9
347	Waikato	242.0	87.2	76.4	120.3	254.3	328.5	323.4	310.4	277.8	271.2	216.1	156.3	222.0
348	South Esk	37.3	1.8	2.1	6.5	15.3	41.7	78.6	94.3	80.6	71.6	43.4	27.1	41.7
349	Chubut	167.5	14.0	34.4	67.2	254.8	452.7	519.4	623.2	449.3	290.8	179.2	116.1	264.0
350	Clutha	205.8	84.2	96.6	138.8	136.9	138.9	128.4	144.7	179.7	191.4	152.5	131.9	144.2
351	Baker	385.8	126.0	219.8	327.7	451.9	507.2	550.8	529.7	429.8	376.5	315.9	256.6	373.1
352	Santa Cruz	330.4	77.0	112.0	236.4	318.1	370.1	315.4	493.0	644.2	645.4	321.2	208.5	339.3
353	Ganges	6436.4	2196.3	3289.5	2579.3	2584.4	5564.7	15724.9	25704.0	19394.6	9568.4	6524.3	3925.2	8624.3
354	Sahween	1673.2	19.1	116.5	302.3	569.3	2411.1	4929.8	6413.6	5517.3	3631.9	1947.4	1104.5	2386.5
355	Hong(Red River)	956.0	16.1	20.9	50.9	313.3	1487.9	3689.4	4528.9	3276.8	1920.5	1086.7	629.8	1498.1
356	Lake Chad	1374.1	27.1	28.9	36.0	52.6	245.4	159.7	7283.3	5590.2	2810.0	1481.8	698.2	1785.5
357	Okavango	815.0	1297.8	1723.8	794.3	408.2	246.6	149.2	90.4	55.0	33.4	20.1	176.4	484.2
358	Tanir	48.4	15.4	53.9	118.7	331.4	569.1	665.3	472.1	270.3	108.2	59.0	32.8	228.7
359	Horton	2.5	0.1	0.0	0.0	15.8	63.0	18.7	11.0	6.6	4.0	2.4	1.5	10.5
360	Hornaday	2.5	0.0	0.0	0.0	0.0	36.3	29.1	14.0	7.4	4.5	2.7	1.6	8.2
361	Conception	0.1	0.4	0.7	1.0	0.8	0.9	1.2	1.1	0.8	0.3	0.2	0.7	0.7
362	Uluu	347.2	15.5	8.5	6.3	3.9	102.1	358.3	399.5	627.2	549.7	383.4	252.4	254.5
363	Patacua	342.2	23.7	10.8	6.5	3.9	14.2	138.7	178.6	287.7	435.2	360.5	258.7	171.7
364	Coco	553.6	28.7	14.1	8.7	9.7	339.7	648.8	591.8	656.1	787.8	557.7	408.2	383.8
365	Ocana	107.9	116.4	103.4	49.0	27.0	16.2	9.8	6.1	4.0	9.8	14.2	47.0	42.6
366	Cuanza	2072.1	1513.0	2059.2	1749.4	710.6	425.5	257.3	155.8	94.5	61.5	60.8	1091.7	854.3
367	Cunene	365.8	516.0	1048.1	585.0	264.6	159.8	96.5	58.4	35.3	22.6	19.6	128.5	275.0
368	Doring	8.8	4.1	5.1	3.0	0.8	18.4	29.7	35.2	27.2	21.0	12.3	8.6	14.5
369	Gamka	13.1	2.9	5.8	8.1	8.2	10.2	9.0	12.6	22.3	21.2	17.4	11.2	11.8
370	Groot-Kei	0.5	1.3	3.4	2.6	1.7	1.2	1.1	1.2	1.6	1.7	1.2	0.9	1.5
371	Lurio	920.9	1237.0	1217.8	504.4	287.0	173.4	104.7	63.3	38.2	23.1	13.9	93.6	389.8
372	Messalo	188.3	363.7	439.4	219.8	109.6	66.2	40.0	24.1	14.6	8.8	5.3	3.2	123.6
373	Rovuma	1821.2	3053.0	3618.4	1863.8	921.1	555.9	335.8	202.8	122.5	74.0	44.7	103.3	1059.7
374	Galana	37.4	1.6	7.0	119.5	130.9	65.5	35.5	20.9	12.9	8.0	40.6	39.2	43.2
375	Pyasina	94.1	1.0	0.6	0.4	0.3	1716.5	565.8	374.8	360.8	162.8	98.4	59.4	286.2
376	Popigay	17.0	0.2	0.1	0.1	0.0	410.5	150.8	82.1	50.2	29.4	17.7	10.7	64.1
377	Fuchun Jiang	250.7	393.4	649.9	607.5	805.2	1114.6	484.0	287.4	256.5	177.3	141.5	114.5	440.2
378	Min Jiang	342.0	452.2	1288.9	1252.7	1944.2	2128.8	970.0	745.1	576.5	409.9	268.2	176.1	879.6
379	Han Jiang	85.9	37.9	248.2	402.1	758.5	943.6	489.5	425.1	331.0	156.6	93.3	56.8	335.7
380	Markeramo	3089.3	1890.8	2522.1	2293.6	1944.7	1566.5	1677.1	1592.9	1739.5	1309.5	1434.7	1726.2	1899.1
381	Lorentz	98.6	89.0	103.1	95.0	69.3	50.8	56.2	50.8	69.2	39.9	55.4	52.5	69.1
382	Eilandern	1086.2	666.9	767.1	750.2	713.5	648.9	647.1	618.0	674.3	540.3	656.0	655.8	694.4
383	Uwimbu	1790.5	1079.0	1275.8	1198.4	1202.0	1068.6	1052.7	102					

Table S4. Monthly blue water scarcity for the world's major river basins

Period: 1996-2005

Basin ID	Basin name	Population (thousands)	Water scarcity (%)												Number of months per year that a basin faces low, moderate, significant or severe water scarcity				
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average	Low	Moderate	Significant	Severe
1	Khatanga	4.63	0.0028	0.0748	0.124	0.205	0.0198	0.0002	0.0003	0.0006	0.001	0.0018	0.003	0.005	0.0365	12	0	0	0
2	Olenek	5.96	0.0046	0.0353	0.0585	0.0968	0.0086	0.0003	0.001	0.0018	0.003	0.0051	0.0084	0.014	0.0198	12	0	0	0
3	Anabar	1.4	0.0025	0.0155	0.0257	0.0425	0.0704	0.0003	0.0006	0.0013	0.0022	0.0037	0.0062	0.0102	0.0151	12	0	0	0
4	Yana	24.5	0.0259	0.319	0.528	0.873	0.146	0.0031	0.0034	0.0061	0.0127	0.021	0.0347	0.0575	0.169	12	0	0	0
5	Yenisei	8453	0.434	9.43	15.5	1.46	0.207	0.27	0.407	0.441	0.338	0.375	0.494	0.802	2.51	12	0	0	0
6	Indigirka	41.8	0.0208	0.22	0.364	0.603	0.0877	0.0024	0.0027	0.0058	0.0109	0.0182	0.0301	0.0498	0.118	12	0	0	0
7	Lena	1285	0.0771	1.86	3.07	3.36	0.014	0.0098	0.0145	0.0196	0.0228	0.051	0.0845	0.14	0.727	12	0	0	0
8	Omoloy	2.88	0.102	4.07	6.71	11	18.1	0.0064	0.0098	0.0212	0.0371	0.0624	0.103	0.171	3.37	12	0	0	0
9	Tana (NO, FI)	6.52	0.102	675	675	675	0.0026	0.0094	0.016	0.0265	0.0337	0.0491	0.094	0.156	169	9	0	0	3
10	Colville	0.98	0.0134	1.82	3	4.96	0.0546	0.0013	0.0013	0.0024	0.0043	0.0077	0.0127	0.021	0.825	12	0	0	0
11	Alazeya	6.65	0.0342	0.202	0.334	0.552	0.914	0.0033	0.0113	0.02	0.0332	0.0549	0.0909	0.151	0.2	12	0	0	0
12	Anderson	0.09	0.0055	0.861	1.42	2.36	0.0001	0.0004	0.0007	0.0011	0.0019	0.0031	0.0052	0.0086	0.389	12	0	0	0
13	Kolyma	138	0.0352	0.813	1.35	2.23	0.0245	0.0051	0.0036	0.0082	0.0125	0.0235	0.0389	0.0643	0.383	12	0	0	0
14	Tuloma	209	2.1	17.1	27.8	44.8	0.115	0.363	0.663	1.1	1.67	1.64	3.6	5.94	8.91	12	0	0	0
15	Muonio	57.8	0.382	4.18	6.9	0.257	0.0274	0.0495	0.0733	0.142	0.186	0.294	0.541	0.895	1.16	12	0	0	0
16	Yukon	131	0.0732	1.41	2.32	0.388	0.0081	0.0089	0.0138	0.0228	0.0291	0.0475	0.0846	0.14	0.379	12	0	0	0
17	Palyavaam	7.83	0.0697	624	643	656	664	0.0039	0.0072	0.0141	0.0209	0.0388	0.0642	0.106	216	8	0	0	4
18	Kemijoki	149	0.331	50	79	0.271	0.0179	0.0659	0.111	0.173	0.149	0.118	0.312	0.517	10.9	12	0	0	0
19	Mackenzie	494	0.293	19	30.9	0.194	0.0244	0.0237	0.0397	0.0741	0.112	0.164	0.288	0.474	4.3	12	0	0	0
20	Noatak	2.04	0.0331	6.28	10.3	17	0.0129	0.0026	0.0047	0.0083	0.0082	0.0188	0.0311	0.0514	2.81	12	0	0	0
21	Anadyr	11.2	0.009	8.37	13.7	22.5	0.0043	0.0005	0.001	0.0019	0.0026	0.005	0.0083	0.0138	3.72	12	0	0	0
22	Pechora	606	0.233	18.4	30	0.396	0.0098	0.0148	0.0353	0.0596	0.073	0.129	0.226	0.374	4.16	12	0	0	0
23	Lule	35.6	0.103	32.6	52.3	0.0287	0.0083	0.0085	0.0169	0.0289	0.0337	0.047	0.0956	0.158	7.12	12	0	0	0
24	Kalixaelven	35	0.396	4.7	7.75	0.0799	0.0251	0.041	0.0883	0.153	0.225	0.262	0.539	0.892	1.26	12	0	0	0
25	Ob	29372	4.01	140	205	0.593	1.02	2.93	7.26	9.79	6.64	3.66	4.17	6.68	32.7	10	1	0	1
26	Ellice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0
27	Taz	15.1	0.0144	2.38	3.94	6.49	0.0011	0.0006	0.002	0.0033	0.0045	0.0082	0.0136	0.0225	1.07	12	0	0	0
28	Kobuk	2.2	0.0264	0.175	0.29	0.48	0.0027	0.0051	0.009	0.0149	0.0164	0.0349	0.0578	0.0956	0.101	12	0	0	0
29	Coppermine	0.431	0.0499	11.7	19.2	31.2	0.0037	0.002	0.0058	0.0103	0.0171	0.0282	0.0468	0.0774	5.2	12	0	0	0
30	Hayes(Trib. Arctic Ocea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0
31	Pur	197	0.252	676	676	676	0.0259	0.0123	0.0404	0.0667	0.0643	0.14	0.232	0.384	169	9	0	0	3
32	Varzuga	4.14	0.0832	676	676	676	0.0057	0.0208	0.0356	0.0589	0.0349	0.028	0.0766	0.127	169	9	0	0	3
33	Pony	3.41	0.0254	676	676	676	0.002	0.0074	0.0126	0.0181	0.012	0.0082	0.0234	0.0387	169	9	0	0	3
34	Kovda	33.2	1.03	676	676	676	0.0356	0.112	0.206	0.34	0.441	0.403	0.945	1.56	169	9	0	0	3
35	Back	0.011	0.0001	676	676	676	0	0	0	0	0	0.0001	0.0001	0.0002	169	9	0	0	3
36	Kem	75.6	0.314	135	198	0.028	0.0189	0.0546	0.0945	0.151	0.172	0.106	0.291	0.482	27.9	10	1	1	0
37	Nadym	43.6	0.108	207	286	370	0.0092	0.0056	0.0176	0.0283	0.0275	0.0601	0.099	0.165	72	9	0	0	3
38	Quoich	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0
39	Mezen	42.1	0.107	8.87	14.6	0.0102	0.0038	0.0103	0.0192	0.0319	0.0499	0.046	0.103	0.171	2	12	0	0	0
40	Iijoki	62.8	0.737	676	676	0.0524	0.0697	0.176	0.299	0.462	0.446	0.232	0.679	1.12	113	10	0	0	2
41	Joekulsa A Fjellum	0.762	0.015	676	676	0.198	0.0015	0.0019	0.0048	0.0076	0.0077	0.0051	0.0137	0.0229	113	10	0	0	2
42	Svarta, Skagafiroi	2.06	0.0554	676	0.104	0.0246	0.0084	0.0077	0.0206	0.0342	0.04	0.02	0.0442	0.0845	56.3	11	0	0	1
43	Oulujoki	197	0.942	195	271	0.0403	0.131	0.247	0.436	0.704	0.577	0.31	0.879	1.45	39.3	10	0	1	1
44	Lagarfljot	3.05	0.04	676	676	0.202	0.0038	0.0061	0.0139	0.0195	0.0175	0.0146	0.0352	0.0609	113	10	0	0	2
45	Thelon	2.17	0.0151	104	157	225	0.0012	0.0007	0.0021	0.0036	0.0043	0.0084	0.014	0.0231	40.5	9	1	1	1
46	Angerman	66.6	0.171	109	163	0.0146	0.0167	0.0219	0.0476	0.0704	0.0768	0.0615	0.158	0.262	22.7	10	1	1	0
47	Thjorsa	1.99	0.0065	0.0826	0.0299	0.0024	0.0016	0.0021	0.0041	0.0047	0.0041	0.0033	0.0057	0.0095	0.013	12	0	0	0
48	Northern Dvina(Severna	1718	1.59	46.3	73.4	0.0365	0.0942	0.206	0.349	0.55	0.811	0.776	1.67	2.77	10.7	12	0	0	0
49	Oelfusa	7.59	0.0296	676	0.0347	0.0065	0.0162	0.0163	0.0198	0.0281	0.0238	0.017	0.0258	0.035	56.3	11	0	0	1
50	Nizhny Vyg (Soroka)	86.9	0.398	676	676	0.0151	0.0507	0.0888	0.149	0.246	0.196	0.131	0.367	0.608	113	10	0	0	2
51	Kuskokwim	11.4	0.0227	20.5	33.3	53.4	0.0018	0.0037	0.0053	0.0053	0.0054	0.012	0.021	0.0347	8.94	12	0	0	0
52	Vuoksi	750	2.47	676	676	0.0784	0.289	0.521	0.94	1.67	1.68	0.868	2.13	3.75	114	10	0	0	2
53	Onega	176	0.741	59.1	92.6	0.0157	0.0561	0.112	0.188	0.282	0.388	0.3	0.71	1.18	13	12	0	0	0
54	Susitna	30.1	0.06	34	54.5	0.021	0.0113	0.0107	0.0156	0.0188	0.0158	0.0279	0.0557	0.0921	7.4	12	0	0	0
55	Kymijoki	588	3.45	676	676	0.141	0.517	0.937	1.63	2.93	3.37	2.1	2.06	5.25	114	10	0	0	2
56	Neva	4245	3.36	379	458	0.125	0.553	1.1	1.68	2.95	2.6	1.55	2.38	5.19	71.5	10	0	0	2
57	Ferguson	0.007	0.0006	676	676	676	0.0017	0.0012	0.0017	0.003	0.0031	0.0056	0.0105	0.0174	113	10	0	0	4
58	Copper	4.95	0.0114	676	676	0.72	0.0017	0.0012	0.0017	0.003	0.0031	0.0056	0.0105	0.0174	113	10	0	0	2
59	Gloma	759	1.53	676	72	0.251	0.283	0.413	1.04	1.56	0.778	0.643	1.28	2.34	63.2	11</td			

Basin ID	Basin name	Population (thousands)	Water scarcity (%)												Number of months per year that a basin faces low, moderate, significant or severe water scarcity				
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average	Low	Moderate	Significant	Severe
60	Kokemaenjoki	773	3.61	532	581	0.233	0.876	1.69	3.04	5.76	7.29	5.64	1.7	5.52	95.7	10	0	0	2
61	Vaenern-Goeta	1486	1.11	408	0.586	0.247	0.622	1.16	2.11	2.25	1.74	0.898	0.82	1.28	35	11	0	0	1
62	Thlewiaza	0.052	0.0019	0.0168	0.0279	0.0462	0.0001	0.0003	0.0005	0.0008	0.0009	0.0018	0.003	0.005	0.0088	12	0	0	0
63	Alsek	1.03	0.0115	676	676	0.0056	0.0013	0.0012	0.003	0.0045	0.0034	0.0048	0.0106	0.0175	113	10	0	0	2
64	Volga	61274	18.8	394	77.7	0.541	5.95	14	32.6	44.8	25.8	12.6	19.1	30.5	56.4	11	0	0	1
65	Dramselv	282	1.24	676	3.31	0.26	0.224	0.295	0.756	0.68	0.488	0.508	1.05	1.88	57.2	11	0	0	1
66	Arnaud	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0
67	Nushagak	1.47	0.0072	676	676	0.0028	0.0008	0.0021	0.0036	0.0029	0.0024	0.0027	0.0066	0.011	113	10	0	0	2
68	Seal	1.07	0.0284	2.29	3.78	6.23	0.001	0.0025	0.0049	0.0083	0.0086	0.0149	0.0275	0.0455	1.04	12	0	0	0
69	Taku	1.9	0.0137	676	676	0.0073	0.0024	0.0026	0.0057	0.0075	0.0057	0.0047	0.0126	0.0209	113	10	0	0	2
70	Narva	1217	1.13	676	676	0.133	0.489	0.899	1.6	2.74	2.4	1.1	0.549	1.72	114	10	0	0	2
71	Stikine	1.57	0.0027	0.0083	0.0098	0.0003	0.0005	0.0004	0.0009	0.0013	0.0013	0.0015	0.0026	0.0036	0.003	12	0	0	0
72	Churchill	90.5	0.383	15.1	24.6	0.1	0.031	0.0486	0.101	0.179	0.18	0.193	0.398	0.647	3.49	12	0	0	0
73	Feuilles (Riviere Aux)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0
74	George	0.032	0.0001	676	676	676	0	0	0	0	0	0.0001	0.0001	0.0002	169	9	0	0	3
75	Caniapiscau	0.921	0.0013	3.57	5.89	9.7	0.0002	0.0002	0.0005	0.0005	0.0005	0.0005	0.0012	0.002	1.6	12	0	0	0
76	Western Dvina (Daugav)	2723	1.88	676	676	0.168	0.832	1.32	2.13	4	4.18	1.72	0.937	2.86	114	10	0	0	2
77	Aux Melezes	0	0	0.0001	0.0001	0.0002	0	0	0	0	0	0	0	0	0	12	0	0	0
78	Baleine, Grande Riviere	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0
79	Spey	33.2	0.0276	0.0648	0.0754	0.0967	0.133	0.228	0.302	0.252	0.162	0.0838	0.0536	0.0452	0.127	12	0	0	0
80	Kamchatka	25.8	0.0354	676	676	676	0.0025	0.0034	0.0045	0.0094	0.0128	0.0158	0.0326	0.054	169	9	0	0	3
81	Nass	2.98	0.0095	676	0.0123	0.0029	0.0017	0.0022	0.0049	0.0066	0.0054	0.0038	0.007	0.0144	56.3	11	0	0	1
82	Skeena	44.9	0.139	676	0.144	0.0334	0.017	0.021	0.0487	0.0746	0.0774	0.0649	0.0988	0.212	56.4	11	0	0	1
83	Nelson	5566	10.6	445	518	1.67	4.34	6.75	22	53.2	30.8	13.2	15.4	18.2	94.9	10	0	0	2
84	Hayes(Trib. Hudson Bay)	14.5	0.143	6.89	11.3	18.6	0.0069	0.0128	0.0236	0.0436	0.0607	0.0662	0.143	0.236	3.13	12	0	0	0
85	Gudena	450	0.772	1.73	1.94	2.61	14	59.6	112	88.2	34.2	3.58	1.61	1.27	26.8	11	1	0	0
86	Skjern A	165	0.205	0.543	0.595	0.811	2.99	23.6	71.8	25	2.33	0.436	0.374	0.315	10.8	12	0	0	0
87	Neman	5487	3.08	676	0.897	0.277	1.33	2.41	3.98	8.64	9.03	5.01	1.43	4.69	59.7	11	0	0	1
88	Fraser	1294	1.09	4.11	1.83	0.317	0.211	0.393	1.05	2.06	1.97	1.25	1.37	1.72	1.45	12	0	0	0
89	Severn(Trib. Hudson Bay)	6.79	0.0383	676	676	0.0234	0.0028	0.0068	0.0125	0.0196	0.0159	0.0134	0.0353	0.0584	113	10	0	0	2
90	Amur	66165	2.34	521	583	5.2	13.2	21.5	13.9	7.61	5.18	1.63	2.45	3.78	98.4	10	0	0	2
91	Tweed	410	0.283	0.68	0.725	1.03	1.48	2.3	3.63	3.3	2.02	0.951	0.524	0.446	1.45	12	0	0	0
92	Grande Riviere De La Baie	0.558	0.0039	676	676	676	0.0006	0.0009	0.0016	0.0017	0.0015	0.0014	0.0036	0.0059	169	9	0	0	3
93	Grande Riviere	149	0.0018	5.77	9.51	15.6	0.0002	0.0005	0.0008	0.0008	0.0007	0.0006	0.0017	0.0028	2.57	12	0	0	0
94	Winisk	6.08	0.0228	9.83	16.1	0.0059	0.002	0.0046	0.0083	0.0137	0.0086	0.0082	0.0212	0.0351	2.17	12	0	0	0
95	Churchill, Fleuve (Labrador)	8.63	0.0169	676	676	676	0.0019	0.0026	0.0048	0.0061	0.0063	0.0064	0.0156	0.0258	169	9	0	0	3
96	Dniepr	33021	34.3	645	2.95	1.85	14.7	31.8	64.6	95	78.3	40.4	20.3	49.4	89.9	11	0	0	1
97	Ural	4063	11.9	676	23.4	1.39	18.1	52.7	129	161	107	53.2	7.66	18	105	8	2	1	1
98	Wisla	23550	22.6	566	1.67	3.18	5.99	10.4	15.1	25.9	32.3	28.8	18.5	25.3	62.9	11	0	0	1
99	Don	20898	64.5	676	4.8	3.64	44.5	98.7	174	222	156	87.4	47.5	93.6	139	8	0	2	2
100	Oder	16526	14.5	8.09	2.54	4.58	7.9	12.7	21.5	33.9	40.2	33.3	23.9	14.3	18.1	12	0	0	0
101	Elbe	22408	7.83	8.63	4.57	6.21	10.5	16.7	31.3	48	53	29.2	15.4	12	20.3	12	0	0	0
102	Trent	4841	2.79	5.23	6.36	9.06	14.9	29.3	70	73.5	53.6	29.2	9.73	4.78	25.7	12	0	0	0
103	Weser	8503	2.68	4.68	4.96	6.76	10.7	17.2	28.9	37.7	30.5	12.1	5.86	4.09	13.8	12	0	0	0
104	Attawapiskat	141	0.0388	676	676	676	0.0022	0.0077	0.0133	0.022	0.0135	0.0144	0.0358	0.0592	169	9	0	0	3
105	Eastmain	0.441	0.0012	676	676	0.0006	0.0002	0.0003	0.0005	0.0006	0.0005	0.0004	0.0011	0.0019	113	10	0	0	2
106	Manicouagan (Riviere)	13.9	0.037	134	196	0.0883	0.0053	0.0067	0.0126	0.0156	0.0144	0.0133	0.0341	0.0564	27.5	10	1	1	0
107	Columbia	6607	1.43	1.57	4.33	11.1	13.1	31.4	91.9	125	106	56.3	9.71	2.65	37.8	10	2	0	0
108	Little Mecatina	0.148	0.0011	676	676	676	0.0001	0.0002	0.0003	0.0005	0.0004	0.0004	0.001	0.0017	169	9	0	0	3
109	Natashquan (Riviere)	0.512	0.0059	676	676	0.011	0.0005	0.0011	0.0014	0.0021	0.0025	0.0022	0.0054	0.009	113	10	0	0	2
110	Rhine	56922	4.64	7.99	7.56	6.42	8.44	11.6	15.2	21	18.9	13.8	9.34	7.31	11	12	0	0	0
111	Albany	19.2	0.0789	597	626	0.0076	0.007	0.0168	0.03	0.0493	0.0361	0.0264	0.0726	0.12	102	10	0	0	2
112	Saguenay (Riviere)	317	0.526	676	676	0.0929	0.0934	0.136	0.213	0.26	0.225	0.182	0.48	0.802	113	10	0	0	2
113	Thames	9674	5.3	8.6	10.7	16.2	28.2	50.2	82.7	126	181	210	29.2	9.74	63.1	9	1	1	1
114	Nottaway	43.8	0.0669	676	676	0.0109	0.0092	0.0192	0.0283	0.0343	0.0268	0.0233	0.0601	0.102	113	10	0	0	2
115	Rupert	0.405	0.0043	676	676	0.0017	0.0004	0.0011	0.0017	0.002	0.0018	0.0015	0.004	0.0066	113	10	0	0	2
116	Moose(Trib. Hudson Bay)	122	0.408	676	676	0.036	0.0411	0.0958	0.164	0.258	0.191	0.135	0.376	0.622	113	10	0	0	2
117	St.Lawrence	67620	13.8	545	6.47	1.46	3.99	7.07	13.7	21.7	15.6	9.57	8.37	19.7	55.6	11	0	0	1
118	Danube	81753	5.62	6.66	2.93	3.12	6.46	11.2	22.7	30.8	21	9.66	5.79	6.87	11.1	12	0	0	0
119	Seine	15598	6.75	9.29	10.6	14.7	29.6	61.1	147	256	288	121	33.3	13.6	82.6	8	2	0	2
120	Dniestr	7442	16.9	517	2.2	4.05	22.6	35.5	38	90.2	61.9	16.3	9.9	25.4	70	11	0	0	

Basin ID	Basin name	Population (thousands)	Water scarcity (%)												Number of months per year that a basin faces low, moderate, significant or severe water scarcity				
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average	Low	Moderate	Significant	Severe
122	Mississippi	74637	2.98	4.16	4.76	8.21	15.4	32.3	136	234	230	111	17	6.59	66.9	8	2	0	2
123	Skagit	84	0.225	0.626	0.148	0.123	0.224	0.924	2.55	4.45	3.78	0.528	0.285	0.357	1.18	12	0	0	0
124	Aral Drainage	41543	10.1	5.78	7.83	29.4	48.5	106	239	345	378	298	84	32.5	132	7	1	0	4
125	Loire	7807	2.03	2.92	3.03	4.16	8.7	22.1	88.1	177	157	30.3	6.33	3.55	42.1	10	0	2	0
126	Rhone	10015	1.94	4.24	2.51	2.53	3.71	6.53	26.2	34	15.8	4.62	2.75	2.75	8.97	12	0	0	0
127	Saint John	413	0.837	676	676	0.0966	0.289	0.447	0.834	1.83	1.07	0.595	0.45	1.28	113	10	0	0	2
128	Po	17513	4.79	10.2	5.93	3.98	9.89	22.8	105	130	45.6	9.1	5.88	7.16	30	10	2	0	0
129	Penobscot	154	0.584	676	0.794	0.0689	0.204	0.317	0.59	1.16	0.98	0.563	0.288	0.89	56.8	11	0	0	1
130	St.Croix	20.3	0.352	676	676	0.0416	0.126	0.206	0.377	0.666	0.701	0.36	0.17	0.537	113	10	0	0	2
131	Kuban	3471	3.26	2.58	1.97	2.42	19.8	50.5	105	100	29.9	10.5	6.25	5.25	28.1	10	2	0	0
132	Connecticut	2069	5.62	676	1.68	1.06	2.15	3.95	6.44	8.29	6.99	5.01	3.09	7.89	60.7	11	0	0	1
133	Liao He	30133	19.1	676	99.6	127	305	439	210	83.7	89.6	18	21.3	33.5	177	7	1	0	4
134	Garonne	3328	1.57	2.56	2.56	2.93	5.35	17.5	143	243	197	34.5	5.15	2.55	54.9	9	1	1	1
135	Ishikari	1942	1.88	676	676	0.371	0.881	6.76	9.58	12.8	4.91	1.39	1.09	2.86	116	10	0	0	2
136	Merrimack	2246	14.9	676	1.8	3.19	5.56	9.23	15.6	24.6	26.9	15.8	7.27	22.5	68.6	11	0	0	1
137	Hudson	4380	9.85	375	2.2	1.99	3.63	6.1	9.98	14.6	13.6	9.46	5.59	13.5	38.8	11	0	0	1
138	Colorado(Pacific Ocean)	7755	79.7	396	175	76.4	58.3	96.5	182	237	266	248	206	191	184	4	0	3	5
139	Klamath	137	0.115	0.0972	0.123	4.72	20.4	60.7	126	167	168	98.3	3.15	0.232	54.1	9	1	2	0
140	Ebro	2922	0.571	1.95	8.37	13.6	23.4	84.4	247	308	238	61.2	6.42	1.16	82.8	9	0	0	3
141	Rogue	260	0.604	0.605	0.751	2.48	9.3	33.5	71.4	96.2	101	59.3	3.15	1.28	31.6	11	1	0	0
142	Douro	3744	0.752	1.28	2.46	6.88	18.1	101	286	375	300	106	6.79	1.78	101	7	2	0	3
143	Susquehanna	4004	4.85	8.18	1.15	1.73	2.69	4.41	8.08	13	13.2	7.85	4.06	6.12	6.28	12	0	0	0
144	Luan He	11172	40.6	676	676	659	538	529	99.8	85.1	110	87.9	38	49	299	6	1	0	5
145	Kura	13774	23.6	82.4	75.5	46.6	37.5	94.1	193	289	249	109	38.7	46.1	107	8	1	1	2
146	Dalinghe	4435	32.7	676	531	375	501	607	298	47.6	64.8	24.3	35.4	54.6	271	6	0	0	6
147	Delaware	6416	9.83	20.1	3.97	7.22	9.57	17.8	26.5	30.7	28.3	21.3	11.5	12.5	16.6	12	0	0	0
148	Sacramento	3015	1.42	1.24	3.9	28.4	106	261	386	458	462	293	59.1	5.41	172	6	1	0	5
149	Huang He (Yellow River)	160715	40.3	607	512	413	260	187	168	110	50	37	30.8	48.9	205	5	1	2	4
150	Kizilirmak	4460	10.6	2.54	2.96	8.19	37.8	105	175	262	268	186	89.5	21	97.4	7	1	2	2
151	Yongding He	91200	286	676	676	676	671	671	533	402	476	398	277	352	508	0	0	0	12
152	Tejo	6899	2.07	3.26	4.64	11.6	30.5	134	306	387	343	204	51.8	4.76	124	7	1	0	4
153	Sakarya	5655	7.7	2.65	3.64	17.7	94	202	319	432	449	364	185	39.5	176	6	0	1	5
154	Eel (Calif.)	37.1	0.0689	0.0748	0.102	0.218	1.08	3.18	6.84	9.43	10.9	6.08	6.09	0.162	3.69	12	0	0	0
155	Tigris & Euphrates	49256	6.62	21.6	61.6	99.2	178	236	315	396	402	337	92.9	17.4	180	6	0	1	5
156	Potomac	3494	6.3	7.35	5.02	6.37	9.49	15.1	26.7	40	49.4	40.9	21.8	11.4	20	12	0	0	0
157	Guadiana	1601	5.25	8.13	16.3	45.4	139	368	525	571	547	454	209	99.1	249	5	1	0	6
158	Kitakami	1281	1.54	6.18	0.786	0.987	1.35	6.76	16.4	38.8	22.7	2.53	1.29	2.02	8.45	12	0	0	0
159	Mogami	1118	0.959	1.12	0.895	1.21	1.73	9.19	13.7	44.5	16.9	3.58	1.26	0.908	8	12	0	0	0
160	Han-Gang (Han River)	11656	10.4	676	618	4.7	9.4	15.7	3.23	2.84	5.04	6.14	8.38	15.7	63.6	11	0	0	1
161	Guadalquivir	3947	4.82	13	19.7	48	132	343	494	548	523	436	264	33.3	238	5	1	0	6
162	San Joaquin	1681	5.98	5.83	36.1	149	290	484	576	611	619	589	447	67.8	323	4	1	0	7
163	James	910	1.42	1.83	1.82	2.58	3.84	6.38	11.8	18.7	20.9	15.5	5.99	2.65	7.78	12	0	0	0
164	Bravo	9249	99.8	593	607	299	197	266	328	263	193	224	173	177	285	1	0	4	7
165	Shinano, Chikuma	2133	1.61	2.2	2.22	0.976	0.987	2.5	6.55	18.6	5.85	1.9	1.54	1.7	3.89	12	0	0	0
166	Roanoke	1472	2.02	2.54	2.57	4.27	7.78	13.6	22.6	33.4	29.9	31.2	11.5	4.37	13.8	12	0	0	0
167	Nakdong	8178	11.8	22	8.12	6.35	14.7	40.7	14.7	14.8	17.1	7.23	11.2	17.6	15.5	12	0	0	0
168	Indus	212208	271	399	411	316	167	171	136	162	256	340	328	290	271	0	1	3	8
169	Tone	10011	8.89	31.9	12.1	8	8.87	15.7	25.6	42.7	16.1	6.75	8.5	12.2	16.4	12	0	0	0
170	Salinas	308	65.9	22.6	14.6	113	378	552	623	644	646	595	502	498	388	3	1	0	8
171	Pee Dee	2599	2.33	2.76	2.82	4.63	9.51	16.3	18.4	23.8	18.7	19.7	12.2	4.75	11.3	12	0	0	0
172	Cheilf	3855	4.78	7.91	21.1	55	155	314	438	501	517	429	339	50.1	236	5	0	1	6
173	Cape Fear	1626	2.59	3.17	3.46	6.32	14.3	21.4	17.9	19	15.9	17.9	11.7	5.68	11.6	12	0	0	0
174	Tenryu	1398	1.92	3.86	2.2	1.34	1.51	1.76	2.6	6.56	2.11	1.34	1.77	2.56	2.46	12	0	0	0
175	Santee	3127	9.85	9.98	10.6	16.7	29.8	46.7	56.6	58.3	62	67	53.3	20	36.7	12	0	0	0
176	Kiso	1899	2.42	7.24	4.48	1.86	1.89	1.91	2.46	5.88	2.44	2.22	2.6	3.75	3.26	12	0	0	0
177	Yangtze(Chang Jiang)	384680	5.53	17.2	11.8	11.6	13.3	8.55	15.7	17.1	16.9	3.77	4.32	7.27	11.1	12	0	0	0
178	Yodo	9645	7.54	15	12.3	11.3	14	14.1	27.3	69.8	20.7	12.8	12.3	12.7	19.2	12	0	0	0
179	Sebou	5479	1.78	9.93	31.5	100	190	244	359	405	444	416	54.7	4.51	188	5	1	1	5
180	Alabama River & Tombigbee	4335	1.17	1.02	0.899	1.29	2.46	4.57	8.57	15.2	19.5	27.8	23.7	3.28	9.13	12	0	0	0
181	Savannah	1169	1.97	1.89	1.83	3.11	6.38	11.7	20.2	35.1	22.5	22.2	12.8	5.2	12.1	12	0	0	0
182	Gono (Go)	401	0.73	1.37	1.26	1.22	1.6	1.6	1.97	9.41	2.85	2.11	1.46	1.24	2.23	12	0	0	0
183	Huai He	97813	33.4	71.6	119	188	220	181	171	175	157	61.8	40.1	55.2	123	5	1	5	1

Table S4 - 3

Basin ID	Basin name	Population (thousands)	Water scarcity (%)												Number of months per year that a basin faces low, moderate, significant or severe water scarcity				
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average	Low	Moderate	Significant	Severe
184	Apalachicola	2955	2.6	1.96	1.75	3.22	9.03	24.4	57.9	118	70	84.8	39.6	7.31	35.1	11	1	0	0
185	Brazos	2820	19.8	27.8	82	85.4	152	337	551	588	589	528	235	33.2	269	5	0	1	6
186	Altamaha	2411	4.6	2.73	2.46	4.69	10.8	22.1	57.8	97.3	71.5	87.6	86.9	14.4	38.6	12	0	0	0
187	Mekong	57932	12.3	543	498	401	106	11.7	3.87	2.47	1.31	5.75	16.7	18.7	135	8	1	0	3
188	Colorado(Caribbean Sea)	1667	16.6	17.3	49.9	63.8	128	313	525	576	589	533	279	30.8	260	5	1	0	6
189	Trinity(Texas)	5421	23.4	16.8	19	16.8	20.4	50.2	96	136	170	219	265	53.8	90.5	8	1	1	2
190	Pearl	623	0.795	0.784	0.741	0.931	1.52	2.79	4.39	7.06	10.2	16	10.6	2.1	4.83	12	0	0	0
191	Sabine	574	1.31	1.1	1.26	1.91	4.26	9.26	22.3	26.8	23.5	27.4	17.7	4.94	11.8	12	0	0	0
192	Suwannee	591	1.44	1.21	1.31	4.12	17.2	28.3	24	28.2	13.8	16.3	8.77	2.89	12.3	12	0	0	0
193	Yaqui	651	404	676	676	676	676	251	311	503	516	486	403	521	0	0	0	0	12
194	Nile	162346	38.5	355	202	86.5	82.8	48.3	30.2	19.9	26.5	45.6	45.3	34.9	84.6	10	0	0	2
195	Brahmaputra	67163	1.68	70	23.8	3.03	0.733	0.169	0.307	0.215	0.442	4.06	7.25	2.36	9.51	12	0	0	0
196	St.Johns	2905	19.4	42.8	39.7	74.2	162	144	26.6	19.1	9.96	10.8	22.4	32.7	50.3	10	1	1	0
197	Nueces	614	676	676	676	676	676	676	676	676	676	676	676	676	676	0	0	0	12
198	San Antonio	915	199	241	434	342	339	514	601	613	606	603	616	273	448	0	0	1	11
199	Irrawaddy	33594	1.15	91	55.1	17.5	4.91	2.83	0.676	0.395	1.3	4.67	2.44	1.15	15.2	12	0	0	0
200	Fuerte	452	4.39	38.8	149	340	448	551	126	29.2	14.5	34.5	18.9	12.4	147	7	2	0	3
201	Xi Jiang	64673	6.69	27.7	19.1	18.3	10.4	3.52	3.59	3.57	10.6	2.82	3.74	7.23	9.78	12	0	0	0
202	Bei Jiang	20751	14.1	25.2	4.65	2.17	2.61	2.88	10.4	9.45	17.4	9.47	14.3	22.3	11.2	12	0	0	0
203	San Pedro	655	5.11	603	650	665	670	668	13.4	8.24	11.5	20.6	9.29	15	278	7	0	0	5
204	Dong Jiang	13461	6.79	55.2	5.2	2.13	2.11	2	5.14	3.78	6.24	4.16	6.66	10.7	9.18	12	0	0	0
205	Mahi	11043	133	676	676	676	676	47.1	4.57	12.8	54.6	73.8	127	316	5	2	0	5	
206	Damodar	28680	128	676	676	676	35.5	19.2	4.04	5.46	29.8	107	144	265	5	3	0	4	
207	Niger	76931	2.69	676	312	39.4	25.6	7.69	2.49	0.883	1.06	2.17	1.36	2.55	89.5	10	0	0	2
208	Narmada	17017	123	676	676	676	459	2.62	2.15	6.43	33.2	46.2	126	292	5	2	0	5	
209	Brahmani River (Bhahm)	12476	34.6	676	676	676	676	21.2	3.01	1.15	2.57	11.4	32.7	50.2	238	8	0	0	4
210	Mahanadi(Mahahadi)	27697	65.8	676	676	676	242	8.98	1.56	7.05	36.9	72.6	92.4	269	7	0	0	5	
211	Santiago	17992	51	675	676	676	676	216	31	15.2	28.6	81.6	88.2	109	277	6	1	0	5
212	Panuco	17860	19.2	669	674	675	675	111	14.9	15.2	7.82	14.8	19.6	38.5	245	7	1	0	4
213	Godavari	62327	103	676	676	676	676	462	20.5	9.8	12.5	48.3	95.8	147	300	5	2	0	5
214	Tapti	16928	111	676	676	676	676	676	13.4	11.5	19.4	73.2	104	156	322	4	2	1	5
215	Sittang	3191	0.769	676	676	676	171	4.55	1.09	0.386	1.86	4.54	1.83	0.867	184	8	0	1	3
216	Armeria	527	28.8	676	676	676	676	676	31.8	3.67	45.2	79.8	141	365	5	1	0	6	
217	Ca	2652	3.47	86.5	147	239	133	16.2	3.28	0.791	0.47	0.886	1.79	3.28	53	9	2	0	1
218	Chao Phraya	26782	59.8	676	676	453	94.4	117	68.4	30.5	58.4	185	123	268	5	2	1	4	
219	Krishna	76933	245	676	676	676	676	167	41.8	55.3	99.5	131	245	326	334	3	1	1	7
220	Senegal	5134	8.04	676	676	676	676	17.8	6.71	2.13	2.57	9.06	14.5	13.3	231	8	0	0	4
221	Papaloapan	2582	1.53	441	590	623	632	7.85	1.58	1.25	0.605	1.44	2.06	3.96	192	8	0	0	4
222	Grisalva	7037	0.382	5.24	29.3	49.3	12.9	0.878	0.415	0.521	0.195	0.21	0.67	1.57	8.46	12	0	0	0
223	Verde	862	2.23	676	676	676	676	128	3.5	1.54	0.986	1.52	4.56	8.85	238	7	1	0	4
224	Mae Klong	1568	8.26	676	676	676	9.63	1.61	4.99	5.69	4	3.45	16.1	16	175	9	0	0	3
225	Tranh (Nr Thu Bon)	1025	1.1	55.1	68.5	127	184	49.4	15.2	5.01	0.436	0.282	0.337	0.752	42.2	10	1	1	0
226	Penner	10924	162	676	676	676	676	676	676	676	266	120	194	512	0	1	2	9	
227	Volta	19863	1.9	676	78.7	14.1	3.61	1.67	1.03	0.34	0.283	0.944	1.43	2.39	65.2	11	0	0	1
228	Lempa	4213	4.74	676	676	258	2.81	0.913	0.737	0.424	0.677	3.3	8.11	192	8	0	0	4	
229	Gambia	1355	0.22	676	676	676	1	0.595	0.139	0.118	0.413	0.21	0.344	225	8	0	0	4	
230	Grande De Matagalpa	547	0.158	3.39	32.6	78.4	20.9	0.149	0.118	0.249	0.0814	0.0468	0.0571	0.21	11.4	12	0	0	0
231	Cauvery	35203	110	648	669	661	630	208	206	228	281	165	101	126	336	0	3	1	8
232	San Juan	3736	0.924	8.57	33.1	53.1	4.74	0.534	0.596	0.957	0.503	0.251	0.346	0.8	8.7	12	0	0	0
233	Geba	388	3.22	676	676	676	676	10.5	0.451	0.0222	0.0606	0.132	2.54	5.7	227	8	0	0	4
234	Corubal	540	0.219	676	676	676	676	404	0.0306	0.0125	0.0176	0.0341	0.171	0.385	225	8	0	0	4
235	Magdalena	25486	0.682	5.88	8.48	4.3	2.98	3.86	9.22	10.4	3.4	0.736	0.57	0.908	4.28	12	0	0	0
236	Comoe	2531	4.16	676	676	18.1	4.73	1.55	1.96	1.14	0.712	2	4.1	9.31	117	10	0	0	2
237	Orinoco	12008	0.348	3.79	4.59	1.21	0.304	0.205	0.27	0.424	0.388	0.141	0.174	0.669	1.04	12	0	0	0
238	Bandama	4222	1.35	676	676	28.3	8.24	0.559	0.843	0.252	0.109	0.398	2.02	4.88	117	10	0	0	2
239	Oueme	5845	1.05	676	676	83.2	1.79	0.332	0.258	0.23	0.168	0.283	0.958	1.99	120	10	0	0	2
240	Sassandra	3066	0.26	676	676	14	3.53	0.165	0.0842	0.0627	0.0329	0.0779	0.387	1.09	114	10	0	0	2
241	Shebelle	16004	34.9	612	356	3.68	5.38	69.1	68.3	30.8	12.3	11.3	8.99	30.4	104	10	0	0	2
242	Mono	1580	1.64	676	14.9	3.07	1.13	0.39	0.355	0.433	0.272	0.422	1.05	5.85	11	0	0	1	
243	Congo	67996	0.0191	0.0519	0.0391	0.0337	0.104	0.256	0.302	0.247	0.181	0.112	0.0369	0.0235	0.117	12	0	0	0
244	Atrato	511	0.0335	0.13	0.113	0.0791	0.0551	0.0506	0.0498	0.049	0.0445	0.0417	0.0423	0.0538	0.0619	12	0	0	0
245	Cuyuni	145	0.0096	0.0327	0.0457	0.0286	0.0098	0.0064	0.0067	0.0099	0.02	0.0294	0.0274	0.0152	0.0201	12	0	0	0

Table S4 - 4

Basin ID	Basin name	Population (thousands)	Water scarcity (%)												Number of months per year that a basin faces low, moderate, significant or severe water scarcity				
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average	Low	Moderate	Significant	Severe
246	Cavally	1043	0.049	1.25	0.767	0.261	0.0524	0.0199	0.0316	0.0449	0.02	0.0227	0.0385	0.0817	0.22	12	0	0	0
247	Tano	1228	0.322	676	3.18	0.447	0.141	0.0551	0.111	0.252	0.197	0.0975	0.191	0.461	56.8	11	0	0	1
248	Cross	8986	0.199	676	1.42	0.575	0.271	0.131	0.0782	0.067	0.0526	0.0567	0.155	0.338	56.6	11	0	0	1
249	Sanaga	3878	0.169	346	2.85	0.259	0.0698	0.0455	0.0294	0.0231	0.0163	0.019	0.134	0.325	29.2	11	0	0	1
250	Pra	4090	5.99	676	17.4	2.37	0.669	0.235	0.705	1.78	0.662	0.234	0.504	4.25	59.2	11	0	0	1
251	Davo	588	0.662	676	676	50.1	5.49	0.078	0.189	0.638	0.309	0.247	0.381	1.33	118	10	0	0	2
252	Essequibo	54.1	0.0021	0.0053	0.0049	0.0035	0.0015	0.0008	0.0009	0.0013	0.0026	0.0043	0.0055	0.0033	0.003	12	0	0	0
253	Kelantan	628	5.48	33.8	2.62	1.41	1.82	3.3	4.68	4.49	11.4	3.87	1.72	0.896	6.29	12	0	0	0
254	Corantijn	115	0.0204	0.0323	0.0157	0.0075	0.0032	0.0022	0.008	0.0205	0.153	0.151	0.0883	0.0493	0.046	12	0	0	0
255	Coppename	14.2	0.0032	0.0036	0.0033	0.0024	0.0012	0.0011	0.0013	0.0022	0.0043	0.0072	0.012	0.0157	0.0048	12	0	0	0
256	Kinabatangan	230	0.0417	0.117	0.149	0.152	0.156	0.0914	0.133	0.112	0.11	0.0911	0.0927	0.0615	1.09	12	0	0	0
257	Maroni	35.4	0.0011	0.0001	0.0008	0.0006	0.0004	0.0004	0.0006	0.0001	0.002	0.0032	0.0054	0.0078	0.002	12	0	0	0
258	San Juan (Columbia - P)	480	0.0817	0.291	0.544	0.355	0.339	0.432	0.808	0.802	0.306	0.118	0.0962	0.127	0.358	12	0	0	0
259	Amazonas	24647	0.0474	0.0583	0.0602	0.146	0.2	0.193	0.226	0.479	0.606	0.422	0.249	0.0907	0.232	12	0	0	0
260	Palang	1772	1.85	3.78	0.696	0.554	0.622	1.8	3.95	3.86	7.13	1.92	1.3	0.756	2.35	12	0	0	0
261	Nyong	1097	0.0496	676	0.162	0.0543	0.0344	0.0416	0.0896	0.0923	0.0257	0.0184	0.0368	0.0753	56.4	11	0	0	1
262	Oiapock	10.6	0.0007	0.0008	0.0006	0.0005	0.0005	0.0005	0.0009	0.0015	0.0027	0.0045	0.0075	0.0083	0.0022	12	0	0	0
263	Rajang	318	0.0337	0.0236	0.0143	0.0135	0.0142	0.0178	0.0216	0.0217	0.0348	0.0204	0.0273	0.0434	0.0239	12	0	0	0
264	Ntem	406	0.0443	11.1	0.204	0.0553	0.0345	0.0495	0.113	0.19	0.0574	0.0202	0.028	0.0631	0.99	12	0	0	0
265	Ogooue	606	0.0132	0.0361	0.0152	0.0073	0.0069	0.0232	0.0773	0.207	0.168	0.0276	0.0052	0.0097	0.0497	12	0	0	0
266	Rio Araguari	30	0.0026	0.0023	0.0018	0.0015	0.0015	0.0017	0.0029	0.005	0.009	0.0149	0.0247	0.0311	0.0083	12	0	0	0
267	Mira	617	1.37	1.82	1.3	0.962	0.937	1.46	5.04	10.1	7.03	2.62	2.15	1.85	3.05	12	0	0	0
268	Esmeraldas	2571	2.48	1.32	0.74	0.564	0.941	2.31	10	30.5	33	15.5	16.1	6.74	10	12	0	0	0
269	Tana	4247	19.2	376	48.1	0.977	0.652	4.16	17	35.9	57.1	23.4	2.44	6.91	49.3	11	0	0	1
270	Daule & Vinces	3752	14	3.34	1.48	1.11	4.48	16.4	60.7	140	159	85.5	144	89.1	59.9	9	2	1	0
271	Rio Gurupi	224	0.203	0.0453	0.0199	0.0206	0.0281	0.0531	0.0896	0.175	0.289	0.433	0.655	0.97	0.248	12	0	0	0
272	Rio Capim	571	0.157	0.042	0.0268	0.0297	0.04	0.0635	0.0931	0.159	0.298	0.485	0.804	1.18	0.282	12	0	0	0
273	Tocantins	4744	0.106	0.0878	0.0751	0.219	0.276	0.594	1.18	2.14	2.61	1.4	0.328	0.13	0.763	12	0	0	0
274	Kouilou	807	0.01	0.0168	0.01	0.0074	0.0056	0.714	1.69	3.47	5.87	7.51	0.282	0.0131	1.64	12	0	0	0
275	Nyanga	30.5	0.0054	0.0091	0.0067	0.006	0.012	0.0235	0.0388	0.0643	0.106	0.176	0.0091	0.0078	0.0388	12	0	0	0
276	Rio Parnaiba	3700	1.8	0.768	0.318	0.478	2.22	5.8	11	20.1	30.9	42.7	41.6	10.4	14	12	0	0	0
277	Rio Itapecuru	971	6.16	0.375	0.132	0.15	0.558	1.39	2.6	4.43	6.43	8.56	9.15	12.5	4.37	12	0	0	0
278	Rio Acaraú	462	15.9	12.7	0.359	0.223	0.774	4.41	8.58	17.5	32.2	48.1	67.4	89	24.8	12	0	0	0
279	Pangani	2174	88.2	473	295	33.3	24.1	120	223	203	260	287	123	108	186	3	3	0	6
280	Rio Pindare	517	0.926	0.0941	0.0455	0.0482	0.0861	0.187	0.344	0.588	0.967	1.51	2.25	3.63	0.89	12	0	0	0
281	Sepik	785	0.0022	0.0036	0.0027	0.0028	0.0037	0.0046	0.0051	0.0045	0.0043	0.0043	0.0038	0.0039	12	0	0	0	0
282	Rio Mearim	932	1.48	0.162	0.0757	0.102	0.256	0.642	1.18	2.02	3.25	4.82	5.71	8.71	2.37	12	0	0	0
283	Chira	651	175	33.9	6.34	8.78	40.3	68.8	165	306	369	356	493	526	212	5	0	2	5
284	Rufiji	4582	2.44	1.05	0.402	0.851	4.41	4.47	5.19	7.77	12	16.8	13.6	6.85	6.33	12	0	0	0
285	Rio Jaguaribe	2097	68.8	467	2.43	1.7	7.98	20.6	38.3	76.3	133	183	219	253	123	7	1	1	3
286	Purari	797	0.0047	0.008	0.0064	0.0063	0.0075	0.0095	0.0113	0.0109	0.0087	0.0092	0.0092	0.0079	0.0083	12	0	0	0
287	Ruvu	699	15.2	8.13	2.09	0.422	1.89	4.08	6.92	13.5	21	28.3	28.9	12.1	11.9	12	0	0	0
288	Rio Paraíba	1212	32.7	676	420	12.4	5.8	2.89	5.2	14.3	49.8	79.9	110	137	129	8	2	0	2
289	Solo (Bengawan Solo)	11103	58.4	20	7.93	0.899	2.2	14.3	46.6	108	230	242	549	78.4	113	8	1	0	3
290	Sao Francisco	12443	0.497	1.22	2.07	6.3	13	12.2	13.3	25.3	53.4	47.6	5.91	1.07	15.2	12	0	0	0
291	Brantas	8996	50.2	15	5.46	1.01	2.07	11	43	107	216	199	528	96.7	106	8	1	1	2
292	Santa	452	4.88	4.19	4.5	22.4	43.7	67	89	189	276	76.9	34.9	12.6	68.7	10	0	1	1
293	Zambezi	31680	0.129	0.11	0.233	1.32	3.22	5.67	11.2	25.5	49.8	67.5	38.9	0.789	17	12	0	0	0
294	Rio Vaza-Barris	422	47.1	676	676	15.4	5.34	5.11	11.3	31.3	47.9	55.3	78.5	194	9	0	0	3	
295	Rio Itapicuru	958	23.3	676	676	220	16.4	5.42	2.56	5.76	16.4	27.7	32.5	47.1	146	9	0	0	3
296	Rio Paraguaru	1629	7.67	14	10.9	8.51	5.14	5.21	4.12	10.1	22.5	31.1	21.4	20.4	13.4	12	0	0	0
297	Canete	121	4.93	3.81	7.01	25.8	56.3	67.2	78.7	152	214	65.2	34.9	13.1	60.3	10	2	0	1
298	Rio De Contas	1402	9.89	26.4	19.4	15	20.5	20.9	25.2	57.5	103	115	29.9	16.8	38.3	10	2	0	0
299	Roper	4.05	0.0116	0.0028	0.0321	0.552	1.39	2.17	3.8	7.28	12.9	18.7	12.2	3.58	5.22	12	0	0	0
300	Daly	14.9	0.0208	0.0057	0.0298	0.488	1.23	1.98	3.45	6.31	11.1	15.2	7.8	2.28	4.16	12	0	0	0
301	Drysdale	2.15	0.0833	0.0077	0.0081	0.0227	0.0375	0.0621	0.103	0.17	0.282	0.466	0.771	1.28	0.274	12	0	0	0
302	Parana	67514	1.76	1.93	1.7	3.09	2.81	4.09	8.66	13.4	11.3	7.19	4.29	1.83	5.17	12	0	0	0
303	Durack	2.23	116	1.22	1.38	3.81	6.28	10.3	16.9	27.6	44.5	70.6	109	164	47.7	9	2	1	0
304	Rio Prado	613	0.608	2.02	1.74	2.09	4.44	4.9	6.49	15.4	29.1	36.6	4.83	0.881	9.09	12	0	0	0
305	Victoria	1.37	9.29	0.0681	0.099	0.255	0.421	0.697	1.15	1.91	3.15	5.2	8.57	14.1	3.74	12	0		

Basin ID	Basin name	Population (thousands)	Water scarcity (%)												Number of months per year that a basin faces low, moderate, significant or severe water scarcity				
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average	Low	Moderate	Significant	Severe
308	Ord	2.47	187	0.647	31.5	493	604	641	659	667	671	672	672	637	495	2	0	1	9
309	Jequitinhonha	887	0.112	0.451	0.544	1.16	2.24	3.57	5.87	11.7	20	17.9	0.81	0.136	5.37	12	0	0	0
310	Macarthur	0.542	1.4	0.512	0.0099	0.038	0.0629	0.104	0.172	0.285	0.472	0.781	1.29	2.14	0.606	12	0	0	0
311	Fitzroy	5.86	1.09	0.0134	0.0126	0.0422	0.07	0.114	0.194	0.335	0.565	0.942	1.47	2.1	0.579	12	0	0	0
312	Gilbert	2.71	0.0201	0.0025	0.0307	0.224	0.375	0.538	0.949	1.89	3.59	5.9	6.63	5.68	2.15	12	0	0	0
313	Mucuri	300	0.15	0.846	1.15	1.76	3.12	5.59	7.9	19.9	30.9	31	1.26	0.18	8.65	12	0	0	0
314	Rio Doce	3858	0.16	1.08	1.22	2.65	5.78	12.6	26.1	49.6	65.2	80.5	1.3	0.203	20.5	12	0	0	0
315	Save	3185	1.6	1.09	2.55	10.7	14.4	27.8	52.5	150	254	284	190	10.8	83.2	8	1	1	2
316	Burdekin	69.3	0.775	0.145	0.83	4.24	6.71	10.9	21.5	43	82.6	129	143	86.9	44.1	10	2	0	0
317	Tsiribihina	2397	3.15	2.16	4.86	20.5	12.2	1.27	1.99	3.38	5.85	10	4.64	3.45	6.12	12	0	0	0
318	Buzi	1034	0.13	0.044	0.151	1.3	2.71	4.31	7.5	18.7	39.3	60.4	41.7	3.13	15	12	0	0	0
319	Loa	196	674	472	608	632	648	659	666	670	672	674	674	675	644	0	0	0	12
320	Limpopo	15637	26.3	20.3	39.2	74.6	78.3	125	211	374	492	527	454	147	214	5	2	0	5
321	De Grey	5.41	673	674	674	675	676	676	676	676	676	676	674	675	0	0	0	0	12
322	Paraiba Do Sul	6928	0.548	0.962	1.29	3.25	4.59	8.69	17.3	30.6	28.1	12.2	2.72	0.828	9.26	12	0	0	0
323	Fortescue	4.79	675	674	675	675	676	676	676	676	676	676	674	675	0	0	0	0	12
324	Mangoky	587	9.91	6.74	13.8	34.7	18.6	5.28	6.91	11.2	18.1	32.9	19.9	19.1	16.4	12	0	0	0
325	Fitzroy	150	42.3	2.53	10.9	26.7	31.1	37.9	75.7	148	261	356	392	412	150	7	1	0	4
326	Orange	12666	32.9	49.7	53.5	61.9	51.6	102	186	306	383	324	135	62.5	146	6	2	1	3
327	Ashburton	4.97	673	673	672	674	675	675	676	676	676	675	675	675	0	0	0	0	12
328	Gascoyne	2.33	675	675	675	675	676	675	676	676	676	676	676	675	0	0	0	0	12
329	Rio Ribeira Do Iguaue	2463	0.495	0.625	0.752	1.33	1.42	1.31	1.94	2.43	1.75	1.21	1.39	1.09	1.31	12	0	0	0
330	Incomati	2416	3.24	4.49	8.66	28	36.3	60.5	108	211	328	348	64.5	11.3	101	8	1	0	3
331	Murray	2348	313	591	559	383	110	32.9	29.4	46.1	84	135	216	306	234	4	2	0	6
332	Murchison	4.82	675	676	675	675	676	675	676	675	676	676	676	675	0	0	0	0	12
333	Maputo	1265	0.896	1.3	5.18	24.9	42.9	77.9	128	248	351	403	61	10.6	113	8	1	0	3
334	Uruguay	5047	21.5	26.9	6.48	0.327	0.133	0.118	0.143	0.22	0.187	1.88	8.66	18	7.04	12	0	0	0
335	Tugela	1784	8.46	20.5	34.3	42.8	43.9	71.9	142	258	341	322	148	17.7	121	7	2	0	3
336	Colorado (Argentina)	3268	23.5	185	234	168	47.2	19.5	37.5	63.7	93.6	44.8	36.5	29.4	81.9	9	0	2	1
337	Rio Jacui	2578	25.9	21.9	8.23	0.301	0.218	0.184	0.199	0.209	0.191	2.74	12.1	23.5	7.97	12	0	0	0
338	Huasco	26	4.78	20.3	29.5	26.4	31.6	78.3	132	312	474	552	482	7.38	179	7	1	0	4
339	Limari	142	140	101	186	103	98.2	20.2	36.3	140	384	510	539	267	210	3	4	1	4
340	Negro (Uruguay)	531	29.8	231	25.1	0.568	0.0372	0.0255	0.0262	0.0263	0.0275	0.409	5.78	19.1	26	11	0	0	1
341	Groot-Vis	299	676	676	676	676	676	676	676	676	676	676	676	676	676	0	0	0	12
342	Salado	1880	15.2	642	87.3	2.65	1.13	1.09	1.42	1.74	2.56	2.25	2.5	5.01	63.7	11	0	0	1
343	Blackwood	27.7	4.26	676	676	676	676	676	676	676	676	676	676	675	0	0	0	0	4
344	Rapel	740	71.9	259	281	108	2.62	0.438	0.44	1.39	14.4	54.4	68.4	66.3	77.3	9	1	0	2
345	Negro (Argentina)	710	4.62	115	24.2	3.77	0.416	0.145	0.18	0.406	0.864	1.5	3.32	6.65	13.4	11	1	0	0
346	Biobio	655	9.39	259	19.4	2.13	0.782	0.597	0.587	0.661	1.44	2.67	1.63	7.51	25.5	11	0	0	1
347	Waikato	323	0.333	1.01	1.92	0.778	0.304	0.235	0.238	0.248	0.278	0.285	0.367	0.552	0.546	12	0	0	0
348	South Esk	55.7	11.7	434	428	53.5	6.91	0.581	0.145	0.399	2.12	5.05	9.63	21.8	81.1	10	0	0	2
349	Chubut	212	2.73	65.3	31	9.64	1.26	0.277	0.305	0.604	1.43	3.24	5.8	9.35	10.9	12	0	0	0
350	Clutha	33.9	1.23	20.5	18.4	8.09	1.19	0.147	0.147	0.639	3.97	5.48	8.68	8.15	6.39	12	0	0	0
351	Baker	14.5	0.0066	0.0526	0.049	0.0197	0.0075	0.0053	0.0053	0.0073	0.0163	0.0364	0.0388	0.0435	0.024	12	0	0	0
352	Santa Cruz	10	0.0088	0.178	0.157	0.0403	0.0109	0.005	0.0057	0.0075	0.0142	0.0281	0.0656	0.0797	0.05	12	0	0	0
353	Ganges	454094	204	639	605	482	389	99.6	25.1	9.27	18.9	78.7	174	172	241	5	0	2	5
354	Salween	6599	1.13	111	29.4	24.2	12.5	3.11	0.812	0.499	0.866	1.28	1.03	1.22	15.6	11	1	0	0
355	Hong(Red River)	25632	9.08	588	509	427	165	17.3	3.12	1.98	2.34	1.86	3.61	8.77	145	8	0	1	3
356	Lake Chad	34285	9.01	673	674	535	86.7	19.3	2.14	0.335	0.622	2.04	3.05	7.09	168	9	0	0	3
357	Okavango	1774	0.104	0.0724	0.0788	0.292	0.663	1.13	2.13	4.53	8.72	13.4	11.7	0.835	3.64	12	0	0	0
358	Tarim	9311	95.8	673	675	670	413	250	231	293	363	212	183	119	346	1	1	1	9
359	Horton	0.036	0.0097	0.375	0.621	1.03	0.0015	0.0004	0.0013	0.0022	0.0036	0.006	0.0099	0.0164	0.173	12	0	0	0
360	Homaday	0.054	0.0145	25.7	41.5	66.1	103	0.001	0.0012	0.0026	0.0049	0.0081	0.0134	0.0222	19.7	11	1	0	0
361	Conception	193	676	676	676	676	676	676	676	676	676	676	676	676	676	0	0	0	12
362	Ulúa	2716	2.13	33.2	137	245	251	5.9	1.03	0.65	0.244	0.159	0.32	2.11	56.6	9	1	0	2
363	Patacua	538	0.2	1.34	8.94	21.8	18.4	2.84	0.373	0.162	0.1	0.0343	0.0465	0.223	4.53	12	0	0	0
364	Coco	694	0.125	2.03	8.35	17.2	5.8	0.0852	0.0433	0.0463	0.039	0.0284	0.0418	0.125	2.83	12	0	0	0
365	Ocona	68.3	1.29	1.14	1.41	11.4	22.4	17.3	17.1	41.9	87.2	32.6	17.4	3.29	21.2	12	0	0	0
366	Cuanza	2845	0.0419	0.0779	0.0359	0.0377	0.184	0.632	1.28	3.07	5.74	8.22	3.27	0.146	1.89	12	0	0	0
367	Cunene	1370	0.0505	0.0418	0.0165	0.0367	0.146	0.304	0.568	1.1	1.86	2.11	1.53	0.154	0.66	12	0	0	0
368	Doring	167	153	676	676	676	676	676	13.1	7.01	19	81	214	264	326	315	4	0	1
369	Gamka	279	20.8	454	307	158	90.1	60.8	50.2	45	70.2	107	72.7	105	128	7	2	1	2

Table S4 - 6

Basin ID	Basin name	Population (thousands)	Water scarcity (%)												Number of months per year that a basin faces low, moderate, significant or severe water scarcity				
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average	Low	Moderate	Significant	Severe
370	Groot-Kei	874	454	456	205	192	286	378	491	575	628	648	612	569	458	0	0	1	11
371	Lurio	1250	0.0046	0.0034	0.0035	0.0131	0.0276	0.0455	0.0813	0.165	0.315	0.525	0.521	0.0528	0.146	12	0	0	0
372	Messalo	288	0.0053	0.0027	0.0023	0.0047	0.0139	0.0233	0.0643	0.171	0.382	0.633	0.257	0.34	0.158	12	0	0	0
373	Rovuma	1994	0.0202	0.0091	0.0065	0.0204	0.0656	0.0789	0.119	0.229	0.409	0.688	0.773	0.321	0.228	12	0	0	0
374	Galana	5589	10.9	282	30.5	0.928	1	4.53	13.5	24.6	38.1	55	4.45	5.36	39.2	11	0	0	1
375	Pyasina	244	0.492	47.1	74.6	115	171	0.027	0.0818	0.123	0.128	0.284	0.47	0.778	34.2	10	1	1	0
376	Popigay	0.845	0.0094	0.967	1.6	2.64	4.37	0.0004	0.0011	0.0019	0.0032	0.0054	0.009	0.0149	0.802	12	0	0	0
377	Fuchun Jiang	10914	3.74	2.39	1.45	2.37	3.9	2.32	24.9	32.7	38.5	11.5	7.38	8.23	11.6	12	0	0	0
378	Min Jiang	9730	2.39	1.8	0.633	0.7	0.765	0.798	9.51	9.53	10.9	2.79	3.48	4.78	4.01	12	0	0	0
379	Han Jiang	9672	9.79	21.7	3.31	2.36	2.35	2.3	12.3	9.29	12.4	6.61	9.9	15.2	8.96	12	0	0	0
380	Mamberamo	442	0.004	0.0066	0.0049	0.0054	0.0063	0.0079	0.0073	0.0078	0.0073	0.0097	0.0088	0.0072	0.0069	12	0	0	0
381	Lorentz	16.1	0.0045	0.0051	0.0044	0.0048	0.0065	0.0089	0.0081	0.009	0.0068	0.0118	0.0083	0.0086	0.0072	12	0	0	0
382	Eilandern	55.7	0.0015	0.0025	0.0021	0.0021	0.0022	0.0024	0.0025	0.0026	0.0025	0.0031	0.0031	0.0025	0.0024	12	0	0	0
383	Uwimbu	58.8	0.0009	0.0017	0.0015	0.0015	0.0019	0.0027	0.0036	0.0041	0.0038	0.0038	0.0032	0.0019	0.0026	12	0	0	0
384	Sungai Kajan	93	0.0192	0.0152	0.0025	0.0021	0.002	0.0025	0.003	0.0029	0.0432	0.0315	0.0077	0.0202	0.0127	12	0	0	0
385	Sungai Mahakam	892	0.0431	0.0521	0.0142	0.0097	0.0117	0.0144	0.0369	0.0538	0.284	0.152	0.0606	0.0393	0.0644	12	0	0	0
386	Sungai Kapuas	1607	0.0191	0.0289	0.0162	0.0147	0.0171	0.0227	0.034	0.0372	0.0618	0.0271	0.0187	0.0186	0.0263	12	0	0	0
387	Batang Kuantan	1520	2.82	3.06	0.24	0.208	0.315	1.04	2.32	2.91	9.91	5.1	2.78	1.94	2.72	12	0	0	0
388	Batang Hari	2049	0.861	0.929	0.0969	0.0792	0.168	0.493	0.963	1.4	3.64	2.02	1.01	0.65	1.03	12	0	0	0
389	Flinders	6.33	16.4	0.148	2.31	6.2	9.4	12.9	23.2	45.3	83.9	129	149	159	53.1	9	2	1	0
390	Leichhardt	6.43	0.206	0.198	1.01	2.22	3.58	5.33	9.29	17.1	30.5	48.6	63.5	76.8	21.5	12	0	0	0
391	Escaut (Schelde)	9448	10.6	20.2	23.7	30.5	56	99.7	164	244	292	227	38.3	19.2	102	8	0	1	3
392	Issyk-Kul	3325	6.44	39.8	1.32	12.6	38.6	69.1	109	204	227	165	31.1	11.4	76.3	8	1	1	2
393	Balkhash	5182	14.4	676	6.01	21.7	45	77.6	157	262	300	180	17.5	23.2	148	7	0	2	3
394	Eyre Lake	86.2	674	675	675	676	676	676	676	676	676	676	675	675	675	0	0	0	12
395	Lake Mar Chiquita	4097	75.1	61.2	24.5	42.4	41.9	74.3	155	269	411	324	235	113	152	6	1	1	4
396	Lake Turkana	8701	4.01	676	34.7	0.5	0.4	0.287	0.234	0.472	0.639	0.762	0.99	3.03	60.1	11	0	0	1
397	Dead Sea	6150	4.11	7.78	51.5	214	372	444	531	574	568	569	532	68.6	328	4	0	0	8
398	Suriname	103	0.0166	0.019	0.0174	0.0125	0.0077	0.0073	0.0092	0.015	0.03	0.0499	0.0826	0.0691	0.028	12	0	0	0
399	Lake Titicaca	2691	3.83	3.34	3.06	4.28	4.71	7.19	9.49	14.4	18.3	13.5	15.4	5.87	8.62	12	0	0	0
400	Lake Valtern	405	3.29	676	0.556	0.671	1.73	3.65	7.32	11.3	11.9	4.4	1.83	4.19	60.5	11	0	0	1
401	Great Salt Lake	2224	86.4	23.9	37.9	69.3	104	229	369	422	418	409	235	99.9	209	5	1	0	6
402	Lake Taymur	6.19	0.0081	157	226	307	391	0.0004	0.0009	0.0018	0.0023	0.0045	0.0075	0.0124	90	8	0	1	3
403	Daryacheh-Ye Orumieh	4307	13.2	37.6	33.2	27.4	32.8	90.7	173	267	271	206	65.4	32.5	104	8	0	1	3
404	Van Golu	894	3.59	676	3.91	0.808	3.18	18.9	30	51.2	59.5	20	3.52	6.18	73	11	0	0	1
405	Ozero Sevan	412	58.7	676	144	7.74	8.36	42	105	175	160	79	40.2	88.2	132	7	2	2	1