

RESPONSIBLE WATER CONSUMPTION

A water conservation guide with practical household measures to save water.





Contents

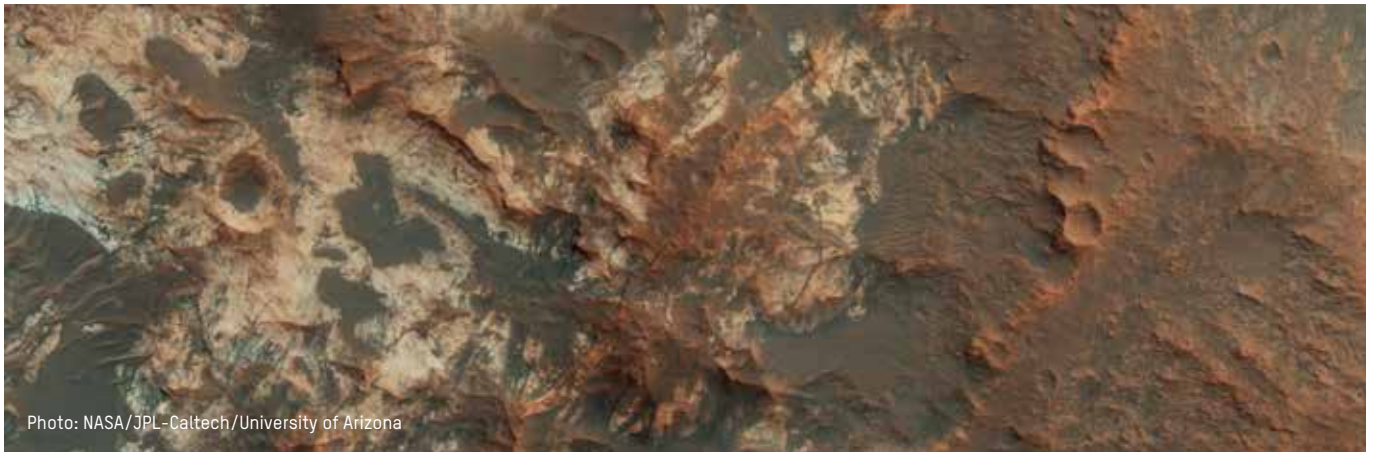
1. Why is it important to find water on Mars?	X
Water is everything	X
Imagine a world without water	X
World water map: the reality of our planet	X
2. Responsible water use: help the planet and help yourself	X
How can I save water at home?	X
Mobile apps that help you save water	X
Learn how to respect water from an early age	X
How can I save water in my workplace?	X
Mindful water use. Don't waste a drop!	X

1. Why is it important to find water on Mars?

Water is one of the most precious resources available to humankind. But sometimes we forget how important it is and don't respect it as much as we should.

Scientists search for water on Mars because water is a vital resource that sustains life. The survival of humans on any planet depends on the availability of water.

We should all appreciate clean water and treasure every drop of this essential resource. But instead we continue to waste it. Why are we so unthinking?



Water is everything

It's safe to say that you already have some idea how important water is. However, a few drops of extra information might refresh your perspective.

This transparent liquid is essential for the maintenance and reproduction of life on the planet. Water plays an indispensable part in the biological processes that make life possible. The survival of animal and plant life on Earth depends on water — it is a basic necessity, vital for all living beings.

According to reports from [UN Water](#):

- Saltwater seas and oceans comprise 97% of the world's water.
- Less than 3% of the world's water is freshwater, and therefore drinkable.

- More than 83% of the world's freshwater is frozen, in Antarctica and the Arctic, and so not available for human consumption.
- Of the clean water that is available for consumption, global distribution is uneven. Fewer than 10 countries possess 60% of the world's available freshwater supply.

Still not concerned about global water scarcity? A picture paints a thousand words. Look at the map below to see for yourself how water is distributed on Earth.

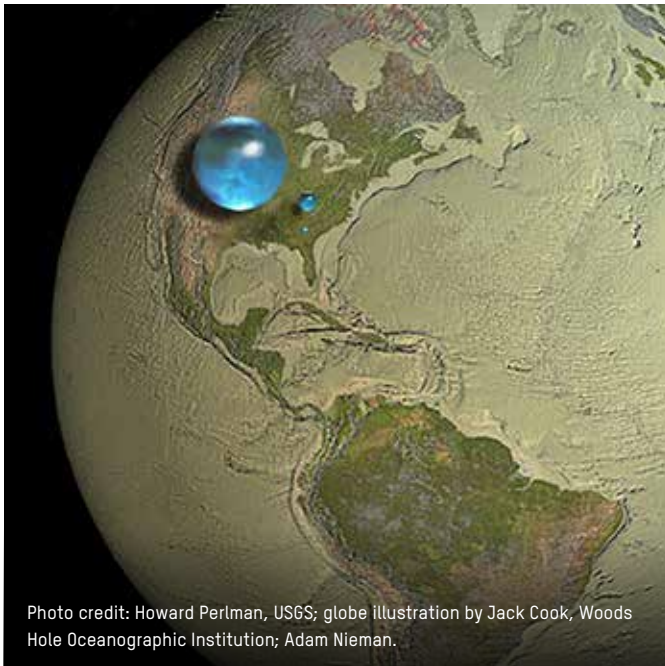


Photo credit: Howard Perlman, USGS; globe illustration by Jack Cook, Woods Hole Oceanographic Institution; Adam Nieman.

This world map by the [U.S. Geological Survey](#) puts the scale of freshwater scarcity into perspective.

- The biggest blue dot shows the total amount of water in the world.
- The medium-sized blue dot shows the total amount of freshwater in the world.
- The smallest blue dot shows the amount of accessible freshwater in the world.

Water is not just essential to life; it also sustains our livelihoods. Water is a necessary resource for most industries, including agriculture, manufacturing and tourism. It can be used to generate electricity too. Without water, our global economy would flounder.

The establishment and development of society also depends on water. Historically, decisions to build settlements and urban centres have been heavily influenced by availability of water. Even today, communities still form around water sources.

Access to drinking water is critical to the development of healthy practices that can help reduce mortality and morbidity rates. In places where there is limited access to clean water and sanitation, children are especially vulnerable to diseases from contaminated water.

Thanks to the natural water cycle, our precious water supply is replenished regularly. Water evaporates from the earth's surface and rises into the atmosphere. There, it cools and condenses into clouds which then release rain or snow, which fall to the surface as precipitation.

But our excessive use of water here on Earth has disrupted the natural renewal of our water supply, turning water into a vulnerable and limited natural resource.

Remember: Water is essential for life. No living being on Earth can live without water.



Imagine a world without water

How many taps do you have at home?

Let's see... there's the kitchen sink, the shower, the basin, maybe a tap outside for the garden hose. In most parts of Australia, we have easy access to water — we simply turn on a tap.



But water access is not so easy for everyone in the world. In many parts of the world, people have no choice but to drink dirty water that can cause waterborne diseases, such as diarrhoea, cholera and Typhoid.



According to the World Health Organization:

- Globally, 663 million people do not have access to clean drinking water.
- At least 1.8 billion people use a drinking-water source contaminated with faeces.
- Every minute, a newborn baby dies from infection caused by a lack of safe water and an unclean environment.
- Every day, about 1000 children aged less than five die from diarrhoeal diseases caused by dirty water and poor sanitation.
- Every year, 842,000 deaths from diarrhoeal diseases could be prevented by improved water, sanitation and hygiene.



Zimbabwe, Zimbabwe: Ida collects water from the Mutirikwi river for her family. The water is dirty and unsafe for drinking but Ida has no choice but to use it. She says, "I can see that some will do their toilet there and then I see human waste flowing along the river. I just push it aside and continue fetching my water. Photo: Abbie Trayler-Smith/OxfamAUS.

According to The Global Enteric Multicenter Study (GEMS), a study funded by the Bill and Melinda Gates Foundation, death is 8.5 times more likely among children who have experienced moderate or severe diarrhoea (MSD) than children not suffering from MSD

- On average, globally, women and children spend 200 million hours every day collecting water.
- Women in countries such as Chad and Ethiopia must devote an average of five hours a day to fetching water. They carry about 50 litres.
- Girls also do this work, which often means they do not have time to go to school.
- While carrying out this work, women and girls are often exposed to accidents, rape and attacks by wild animals.

As we have mentioned, drinking dirty or polluted water commonly causes diarrhoea and illness. It is also the cause of an alarming number of deaths in children under five years old.

Together with Tufts University in Boston, Oxfam Intermón carried out a study to analyse the impact of enteric bacteria — the cause of diarrhoea — on malnutrition. It's estimated that each year these bacteria are responsible for 800,000 deaths globally among children aged less than five. Most of these deaths occur in Sub-Saharan Africa and South-East Asia.

Children affected by malnutrition are more prone to infections, which can last longer and be more severe than in children who are well-nourished. This means that undernourished children require more aggressive treatment for moderate to severe diarrhoea (MSD).

An example of how water affects lives:

Before the introduction of critical canal and irrigation infrastructure in Cayambe and Sigsig cantons in Ecuador, the poorest families lived in poverty.

Crops would only grow once a year because they relied on rainwater. Without access to water for irrigation, they could not use their land to grow crops and generate income throughout the year. Instead, they had to find work outside their community.

Now, with the arrival of canals and irrigation, agricultural production can flourish all year round, and people can earn an income from their land.



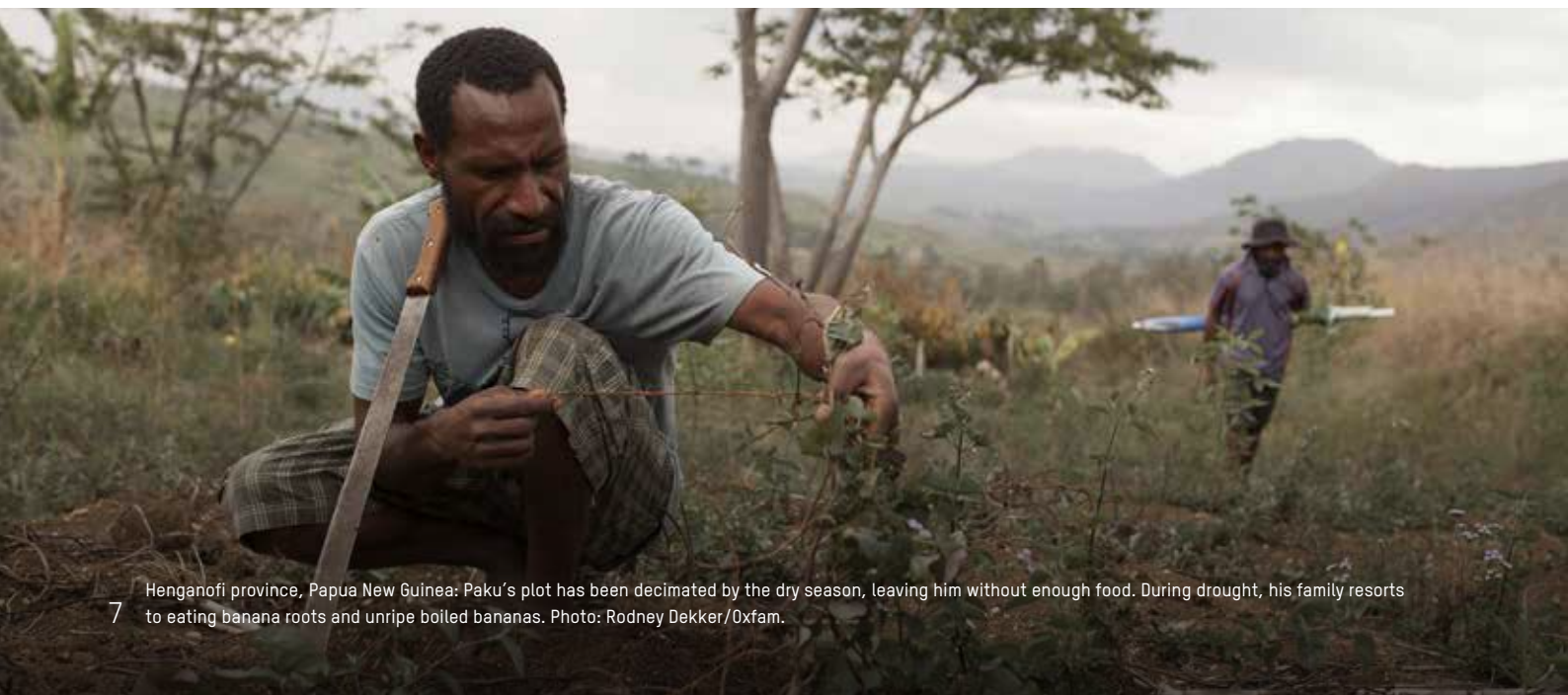
World water map: the reality of our planet

Water scarcity is not a new problem for humanity. But it is an urgent problem.

In 1990, the [United Nations \(UN\)](#) estimated that 24% of the world population — more than 1.26 billion people — did not have access to safe drinking water. In response, the global community vowed to halve the proportion of the world population without safe drinking water.

Much has since been done to alleviate the problem of water scarcity, but there is still plenty of work to do. These statistics from UN sources outline the scope of the problem:

- By 2015, 9% of the population — about 663 million people — were still reliant on [unimproved drinking water](#) sources, such as unprotected wells, springs and surface water.
- Nearly half of all people using dirty or contaminated water live in Sub-Saharan Africa, and one fifth live in Southern Asia.



- Sub-Saharan Africa has the world’s largest number of water-stressed countries. In this region, demand for water is much greater than supply and, when it is available, it’s often poor quality and unsafe for drinking.
- **Eight out of ten people** without improved drinking water sources live in rural areas.
- At current rates of progress, clean water won’t be available to all people in the world’s poorest countries until 2057.

How do we know if a country is vulnerable to water stress or scarcity? According to the United Nations, hydrologists define water shortages by measuring the relationship between available water and population. We know from these measurements that:

- A region suffers from water stress when its annual water supply falls below 1,700 cubic metres per person.
- When this annual supply falls below 1,000 cubic metres per person, a water shortage occurs.
- When the amount falls below 500 cubic metres, absolute water scarcity occurs.



Matopo district, Zimbabwe: Charity Ncube carries water from a well that Oxfam rehabilitated. Photo: Innocent Katsande/Oxfam.

Do you use water responsibly? Think about what life is like for people living in places with water shortages or absolute water scarcity. Once you are more aware of the problem, you can be more conscientious in your use of water.



Lake Mutirikwi, Zimbabwe: Cracked earth after two years of extreme drought due to El Niño conditions. Photo: Abbie Traylor-Smith/OxfamAUS.

By 2030, almost half the planet’s population will be living in a water-stressed zone. The scarcity of water in arid or semi-arid zones is expected to trigger the movement of 24 to 700 million people.

2. Responsible water use: help the planet and help yourself



Marasha, Zimbabwe: A bucket is filled with clean water from an Oxfam-sponsored borehole. Photo: Abbie Trayler-Smith/OxfamAUS.

Water scarcity is most concentrated in some of the poorest parts of the world. However, environmental responsibility is shared by all people, the world over. As global citizens, we all have a duty to curb excessive use of water and reduce our ecological footprint on the planet.

You can reduce your water use by making small changes to your daily activities. It's much easier than you may think. Not only will you benefit the planet and future generations, you'll also trim down your water bill.

How can I save water at home?

First, we suggest you calculate how much water you use at home by using one of these simple tools:

- The Water Corporation of WA offers this handy [Water Use Calculator](#) for tracking household water usage.
- Hunter Water's [Water Usage Calculator](#) can estimate your annual domestic water consumption.

What was your result? Are you mindful and sparing with your uses of water, or are you a water waster?

Water is precious — don't waste a single drop! If you apply some simple changes to your daily routine, you can significantly reduce your use of this precious natural resource.



Simbu province, Papua New Guinea: Claire John received a 20-litre jerry can, packets of soap and health information from Oxfam and local partners. Photo: Rodney Dekker/Oxfam.

Many of us waste water without thinking. When you take a shower, do you run the water until it reaches a desirable temperature? Every time you do this, you are wasting water.

Spanish company Esferic has come up with a smart solution to help you reuse and recycle your unused shower water. They have designed a nifty tote bag, called the [WaterDrop](#), which doubles as a watering can.

You can water the garden or clean the house with the shower water you collect with your WaterDrop. Made from thermoplastic polyurethane, the recyclable bags are strong and durable.

Alternately, you can collect the cold water in buckets or bowls and use it later to clean the house or wash the car.





Photo: Catt Liu / unsplash.com

Kitchen and bathroom taps are another common water-wasting culprit in the home. Check and repair any leaky taps to minimise water loss.

Prevention is always better than cure, so look out for water leaks in the home. Make sure that the taps and toilet don't leak and try not to leave taps running when you are distracted or in a hurry.

Most modern taps are already fitted with water-saving devices, but if the taps in your home are older, they might be using up more water than necessary.

To save water in your home, fit your old taps with aerators. These small devices reduce the amount of water used, limiting its flow by infusing the water stream with air. This results in a significant water saving — for the environment and for your pocket!

Aerators are cheap and easy to find in hardware stores, and you can install them yourself.

Rainwater is another great option for the conscientious water consumer. While it may not be suitable for drinking, you can collect rainwater and use it for many household tasks, such as watering plants and cleaning.

If you want to recycle — or 'harvest' — rainwater, collect the storm water from your roof by directing the flow from your gutters to a rainwater storage tank. Once you've installed the storm water collection system, you can reuse the water in your washing machine and toilets, or to water the garden.

If you are serious about recycling water, you can install an integrated low-consumption system that uses both rainwater and 'grey' water recovered from domestic usage, such as shower, dishwasher and washing machine. The system treats the recycled water before reusing it to feed toilet cisterns. These systems are expensive and difficult to install.

If you don't have space or budget for an integrated system or tank, you can simply use bottles or buckets to collect rainwater.



11 Nadokhoun village, Laos; A child with an umbrella at primary school.
Photo: John Sones/OxfamAUS.

Save water in the bathroom



Have you ever thought about how much water you use when you flush the toilet, have a shower or take a bath? A mindful attitude to water consumption in the bathroom can save water and save you money.

Water-saving tips:

- Turn off the taps when cleaning your teeth, shaving, or washing your hands. These daily rituals can waste up to 20 litres of water.
- Don't use the toilet as a rubbish bin because every unnecessary flush uses 6-8 litres of water.
- When you hand wash your dirty clothes, don't do it under a running tap. Use a brush to remove the dirt, rather than the force of water.
- If you need to replace the taps in your bath tub, sink or bidet, use mixer taps to consume up to 20% less water.
- The most up-to-date toilets have a dual flushing mechanism that uses less water, because the user can choose between a half-flush (3 litres) or a full-flush (6-8 litres).
- If you don't have a new toilet, you can reduce water consumption by 30% by simply placing a bottle of water in the cistern. This reduces the amount of water needed to refill the cistern.
- Use food colouring to see if your cistern is leaking. Simply add a few drops to the tank and leave for half an hour. If you see any trace of dye in the toilet bowl, your tank is leaking. These leaks consume more water than you may think, so fix it as soon as possible.
- Shower or bath? Your best bet is a shower, but only if you keep your showers brief and use a water efficient showerhead. These showerheads use as little as 6 or 7 litres of water per minute whereas you need at least 150 litres to fill the bathtub.
- Put a water efficient showerhead on your shower. A standard shower uses 15 to 25 litres of water per minute — that's at least 120 litres of water for an eight-minute shower. But you will use less than 72 litres in eight minutes if you install a water efficient showerhead. And if you limit your shower time to five minutes, you'll save even more water.
- When you are applying shampoo or soaping up, turn off the taps.

Save water in the kitchen



Photo: Naomi Hebert / unsplash.com

The kitchen is another place where you might be wasting water. You only need to change some basic habits to make a big difference to your water bill.

Water-saving tips:

- Don't wash the dishes under a running tap. This simple change can save 100 litres of water.
- When washing up, don't fill the sink with water — a third or less should be enough.
- Use one sink for washing the dishes and the other for rinsing. If you don't have a double sink, use a bowl.
- If cooking utensils are dirty or greasy, let them soak for a while. Once the grime softens up, you'll need less water to clean them.
- Drink water from the same glass with each meal to avoid multiple washes.
- Defrost food in the fridge overnight — not under a running tap. This simple measure can save 15 litres of water. Also, thawing frozen food with warm water can create harmful bacteria.
- Save 10 litres of water by washing fruit and vegetables in a bowl — not under the tap.
- Use the correct size pan or pot for the amount of food you are cooking. Remember: the bigger the pot, the more water needed for cleaning.
- Make ice cubes with flexible plastic moulds to release the ice more easily and avoid having to run the moulds under the tap.
- Don't tip out the water you use to cook eggs or vegetables. It's ideal for watering plants, because it contains nutrients from your food.
- Dishwashers can use up to 60 litres of water per load but most water-efficient dishwashers use less than 17 litres per load.
- Don't use your dishwasher unless it's full.
- Avoid using the half-load cycle on your dishwasher. Although it saves water and energy, it consumes 30% more than a full dishwasher.

Save water in the laundry



Misvago, Zimbabwe: Tendai Chauke does laundry as her children relax in the shade of their home.
Photo: Aurelie Marrier d'Univille/Oxfam.

Laundry is an inevitable part of domestic life. In order to keep our clothes clean, we must consume water. But these tips will help you save water and keep your conscience clear while you clean your clothes.

Water-saving tips:

- Older model washing machines can use up to 200 litres of water for each load, so they should only be used when full. Many modern clothes washers use one third the water of older models.
- When you need to replace your washing machine, choose an energy-efficient model. For a regular cotton cycle, you shouldn't have to use more than 12 litres of water per kilogram of clothing. The Australian Government's Water Efficiency Labelling and Standards (WELS) scheme rates the efficiency of various models — [see how your washing machine measures up.](#)
- Avoid using the pre-wash cycle if you can.
- Adjust the amount of detergent to the hardness of the water. If the water is soft, you need less detergent. Check the manufacturer's recommendations to determine how much detergent you need. If you don't know what type of water you have, ask your water supplier. Or simply check how much lather the soap creates when you wash your hands. If it's difficult to form a lather, the water is hard. If there's a generous, foamy lather, your water is soft.
- On average, front-loading washing machines use 40% less water than top-loaders. Keep this in mind when replacing your appliances.

Save water in the garden



Port Vila, Vanuatu: A farm research technician at Montemarte farm waters seeds in preparation for the nursery. Photo: Rodney Dekker/OxfamNZ

Even if your plants, garden or terrace don't need much water, you can always find new ways to save or recycle water. Here are a few easy tricks.

Water-saving tips:

- Put a saucer underneath your plants to keep the soil moist for longer.
- Don't use a hose to clean your patio or terrace. Hoses can use 9 litres per minute, so they should only be used when absolutely necessary.
- It's best to water your plants first thing in the morning or as night falls. If you water during the day, up to 30% is likely to evaporate.
- Collect water from your air-conditioner or dehumidifier to water the plants.
- Whenever you empty water from your fish tank, use the tank water to water your plants because it's rich in nitrogen and phosphorus. If you have pets, do the same with leftover water from their drinking bowls.
- To reduce the loss of water through evaporation, cover the soil with stones, gravel or bark, and avoid watering your plants on windy days.
- Start your lawn or garden in spring or autumn because heavier rainfall at these times of the year will provide natural irrigation.
- Reduce the size of your lawn — it's a big water user.
- Choose native plants for the garden because they tend to need less water.
- Water your plants more efficiently by grouping them according to their watering requirements.
- If the summer is very dry, let the lawn grow a little longer to prevent water evaporation.
- Choose low-consumption watering systems such as sprinkler systems (the water is distributed as rain droplets), drip irrigation (the water is distributed from a tube in drops) or bleed systems (the water seeps from a porous hose).

Mobile apps that help you save water

Mobile apps can be very useful tools for saving water in the home. Here are a few options that might suit your needs:

Shower Savvy

With this app, you can time showers with your iPhone or Apple Watch to accurately calculate water usage based on your showerhead's water flow rate.

[Shower Savvy's](#) (iOS) easy to interpret charts and graphs help you view your progress over time.

Shower Watch

[Shower Watch](#) (iOS) is a free water tracking app designed for use with the water-resistant Series 2 Apple Watch. The app acts as a shower timer to track how much water you use in the shower.

Shower Watch keeps a free one-week log of your water usage. For monthly and annual logs, you need the premium version.

Shower Timer

[This simple app](#) functions as an alarm while you take a shower. The free Android app helps you control the amount of time that you spend in the shower. Once activated on your phone, the timer will beep for every minute you stay under the shower.

Fake Shower

If you've ever tried to disguise 'toilet noise' by running the tap or shower, this app is for you.

[Fake Shower](#) (iOS) simulates the sound of running water to drown out any embarrassing toilet noises, without wasting actual water. And when you turn off the virtual tap, the app tells you how much water you've saved. So, this fun app helps you save water and save face.



Photo: Priscilla Westra / unsplash.com

Water Use Calculator

[Water Use Calculator](#) (iOS) is a free app that helps you calculate how much water you're using in the home. The app estimates water consumption based on the appliances that you use and the number of people in your home.

myUse

The [myUse](#) (iOS) app tracks your water, gas and electricity usage. The application graphs your consumption data so that you can keep track of your environmental footprint without monitoring meters and maintaining complex spreadsheets. Based on your average use, the app can calculate your yearly usage of water. The \$2.99 download fee can help you save water and save money on your utility bills.

Learn how to respect water from an early age

As children mature, they watch the adults around them and mirror the behaviours that they see. So, adults have a responsibility to pass on healthy, water-saving habits to the children in their lives. Adults can also teach children the value and importance of water by using specially designed learning activities.

We have compiled some handy resources that can help children learn, through play and discussion, about the importance of saving water.

\$1 Water Day

Every May, Oxfam coordinates [\\$1 Water Day](#), an event that raises funds and student awareness of the critical global issues of water, sanitation and hygiene. Oxfam provides teaching resources to support teachers. Participating schools all around Australia work towards raising \$500,000 for life-saving water programs.

Meet Water Wally

[Water Wally](#) is the mascot of Singapore's national water agency. He is a water drop cartoon character who teaches young children how to save water in a series of funny videos that can be viewed on [YouTube](#). The videos are an entertaining way to teach children not to waste water.

State Government Student Resources

For Australian teachers who want to teach students to use water wisely, most state governments offer online resources that can be used in the curriculum. Here are some handy links for teachers in [Victoria](#), [Queensland](#), [New South Wales](#), [South Australia](#) and [Western Australia](#).

Discover the Water Cycle

If you tell a child to save water, they may not follow your instructions. But if you explain to them where water comes from and why it's so precious, they will be more likely to preserve it. Teaching children about the water cycle is a good way to put things into perspective. These printable [posters](#) and [placemats](#) can help to start the conversation.

Water: Use it Wisely

This [American website](#) offers lots of useful [resources](#) and [lesson plans](#) for parents and teachers, and [educational games](#) for kids. The site offers [downloadable posters](#) that show dozens of ways to conserve water around the house. Why not print the posters as cue cards for an interactive game of charades, and ask the children to act out the various water-saving actions?



Ra province, Fiji: Sallisia uses a hygiene kit provided by Oxfam. Photo: Alicja Grocz/Oxfam.

How can I save water in my workplace?

Business owners can implement a range of effective water-saving practices in the workplace.

As a first step, review your operations and carry out any outstanding repairs on seals, taps and joints to prevent potential breaks or leaks.

Get smart with efficient fittings and appliances:

- You can adapt existing taps by fitting aerators or flow regulators to reduce the amount of water without affecting the quality of service.
- Use dual flush toilets.
- Fit water-saving showerheads.
- Use pressure reducers on the water mains.
- On toilets with a low-level cistern, use interruptible flush systems to stop the water flow when the button or handle is pressed a second time.
- Pedal-operated taps are more efficient for bars, restaurants and cafes.
- If you need air-conditioning, choose air condenser rather than water condenser models.
- Choose coffee machines with continuous delivery water recirculation systems because they save about 100 ml of water for every cup of coffee made. Traditional coffee machines use large amounts of water to heat the top of the container where the coffee grinds are stored.
- When buying an ice-making machine, remember that models with inadequate refrigeration systems use lots of water.
- Always use energy-efficient washing machines and cleaning appliances.
- If you have gardens or terraces at work, maintain them with xeriscaping techniques to make water-efficient use of the space. This type of landscaping is informed by water conservation; it involves soil analysis, careful selection of plant species, mulching and efficient watering.

Don't forget to ask your clients and employees to use the water in your facilities responsibly. Post signs in public areas, such as toilets and kitchens, to remind staff and patrons to use water responsibly:

Please don't use the toilet as a wastepaper bin.
Water is a limited resource — don't waste it.



Photo: Bethany Legg / unsplash.com

Mindful water use. Don't waste a drop!

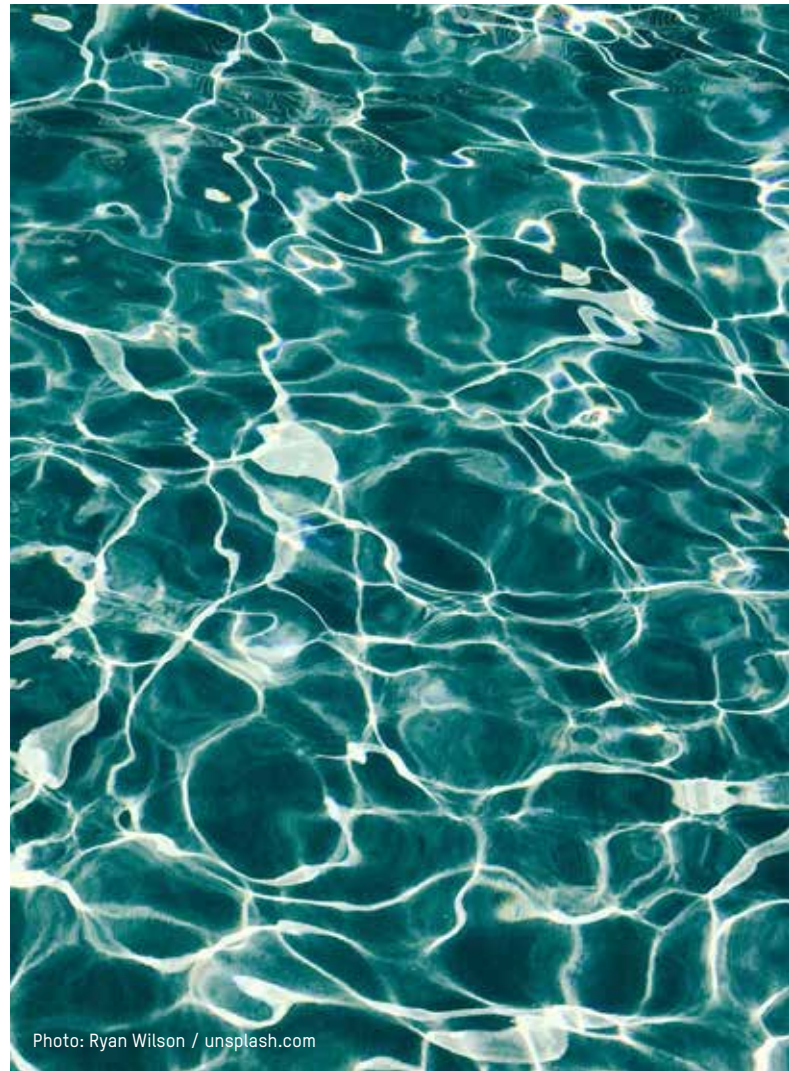
Without water, many of our daily routines and rituals would not be possible. Most of us don't think twice before we wash the car or go swimming. But these activities require water. With a little effort, you can still get the job done without wasting precious water.

Conservation at the Car Wash

Every time you wash your car with a hose, you use around 500 litres of water. If you wash the car by hand, with a bucket, you will reduce your water use to about 50 litres.

You can also consider 'dry cleaning' your car. There are several products on the market that make waterless washing possible. When you use these cleaning products, not a single drop of water is wasted. If you decide to go waterless, minimise your environmental impact with a biodegradable product, such as [Freedom Waterless Car Wash](#) or Sydney-based [WipeHero](#).

Commercial car washes can use up to 170 litres of water per car. So try to find a local car wash that has adopted water-saving techniques and technology, such as variable-pressure water hoses, biodegradable cleaning products and recycled rainwater.



Save water in the swimming pool

If you have a swimming pool at home, you might be wasting water. These simple tips will help you conserve water:

- Cover the pool when it's not in use. This will reduce evaporation and prevent the growth of surface algae.
- If you use active oxygen instead of chlorine, you won't have to change the water so often.
- Check the seals to make sure the swimming pool is watertight. Make sure that the purifier and automatic filling system are working properly, to prevent potential leaks.

Make every drop count

Do you ever use water when you don't really need it? It's easy to take water for granted. But we should be mindful about when, where and how we use water.

For example, why shower at the beach if you are going to have a shower at home? Before you rinse off after your next swim, stop to think about the water you are wasting.

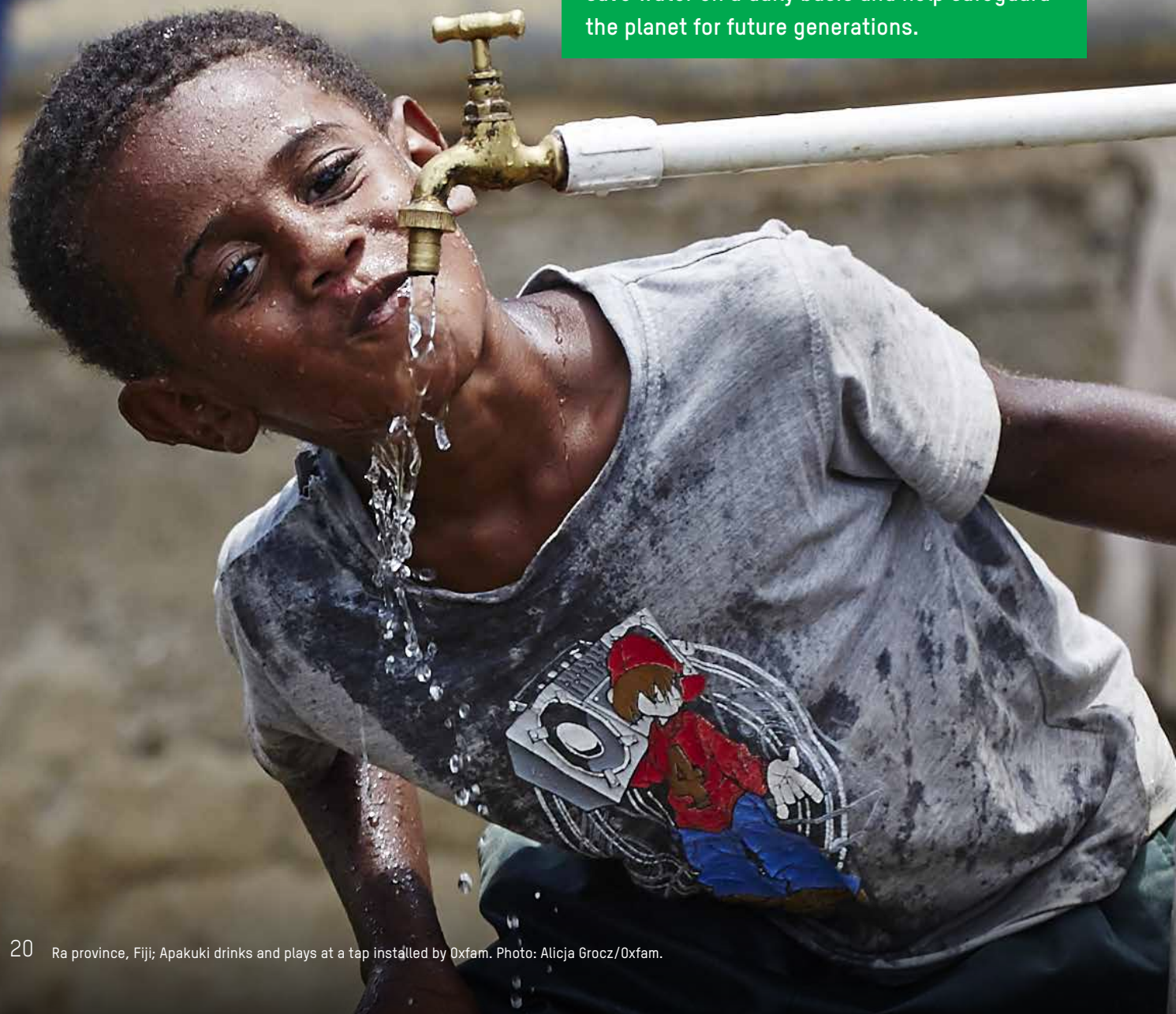
At home, you might use a towel two or three times before tossing it in the laundry hamper. When you stay in hotels, do you ditch your towel after a single use? Why not reuse the towel and save water?

Wherever they go, kids love to press buttons. But public water fountains and bubblers are not toys. Teach your children not to play with water.

If you see leaking pipes or faulty water installations in a public space, don't turn a blind eye — wasted water is everyone's problem. Inform the relevant maintenance company as soon as possible.

Water is vital for all life on earth. We use it to drink, bathe, clean and flush. But we don't just use water, we literally are water — 70% of the human body is water. So, looking after water means looking after yourself.

Here at Oxfam Australia, we hope that you will start putting some of these simple water-saving ideas into practice. Together, we can save water on a daily basis and help safeguard the planet for future generations.





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