

2021

WATER QUALITY REPORT



City of Florence
A City in Motion

CITY OF FLORENCE, OREGON

JUNE 2022 • EDITION



WATER TESTING

WATER SOURCES

WATER TREATMENT



WELCOME

We are pleased to present you with our 2021 Water Quality Report (also known as a Consumer Confidence Report). This report, required by the Environmental Protection Agency (EPA), provides you with detailed information about your drinking water quality, any detected contaminants, and compliance with drinking water rules. It is also an opportunity for the City to provide you, the consumer, with educational information on where your water comes from; how it is treated; and what you can do to ensure that your water remains the clean, fresh, and safe commodity that it has always been.

The City is committed to providing a safe, reliable and sustainable supply of drinking water. We do this by monitoring our treatment processes and performing more than 8,000 water tests every year to ensure we meet all water quality standards.

We take pride in helping to protect and sustain the North Florence Sole Source Dunal Aquifer – the precious water source Florence area residents and businesses depend upon every day. The City makes substantial investments to safely manage this water supply resource and to operate the system to meet or exceed regulatory requirements.

We know the water we deliver to your home or business is a major driver of the health and economic development of our region, and we take that very seriously. We appreciate the opportunity to provide these integral services and look forward to continuing our pursuit of providing you high quality potable water while preserving our natural resources.

This edition contains information concerning the City of Florence Water System, Identification (WSID) #4100299, and covers all testing completed from January through December, 2021.

Mike Miller, Public Works Director

CONTACT US

CITY OF FLORENCE PUBLIC WORKS

2675 Kingwood Street
Florence, Oregon 97439

541-997-4106

www.ci.florence.or.us

publicworks@ci.florence.or.us



ADMINISTRATIVE TEAM

MIKE MILLER
Director

AUGUST MURPHY
Assistant Director

RANDI BRAATEN
Administrative Assistant

VACANT
GIS Technician

OPERATORS
Mark Asghari
Matthew Hiatt

UTILITY WORKERS
Rob Opitz
Larry Jensen
Josh Severy

HOW TO VIEW THIS REPORT

ONLINE

www.ci.florence.or.us/publicworks/2021-water-quality-report

PAPER COPY

541-997-4106

SPECIAL NOTICE

FOR IMMUNO-COMPROMISED PERSONS

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immuno-compromised persons such as persons undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

The EPA and Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.



WATER QUALITY TESTING

Ongoing water quality testing continues to be one of the highest priorities for the City's drinking water program in its commitment to providing premium, safe drinking water to residents.

The City collects nine microbiological samples per month in addition to samples required by the Oregon Health Authority (OHA) and the EPA to ensure the the City's drinking water meets state and federal standards.

TEST FINDINGS

The City of Florence routinely checks for 42 Volatile Organic Compounds, 42 Synthetic Organic Chemicals and 16 Inorganic Chemicals, as required by the EPA.

The City also takes nine Bacterial Samples at multiple locations through the City every month. The Water Quality Data Chart on page 11, shows the results of our most recent testing.

LEAD & COPPER

In 2020, the City tested 21 homes in representative areas throughout the community for lead and copper (testing in homes is completed once every three years). We are pleased to report that none of the homes exceeded the Action Levels as determined by the EPA.

For citizens concerned about sodium levels, currently the sodium level in our water is 27.8 mg/L.



YOUR DRINKING WATER

In 2021, the City of Florence supplies approximately 9,600 consumers within the City's water service area. The water these customers received came from 13 dunal wells located just north of the City's water treatment plant at 2500 Willow Street. The well field is City-owned and consists of approximately 80 acres of carefully managed land as recommended in the City's well head protection plan.

WATER FILTRATION

The City of Florence water system uses two (2) filter systems in a series to remove the iron from the raw groundwater. Three (3) biological filters and six (6) greensand filters comprise our filter system and these filters can treat up to three (3) million gallons of water per day (mgd). The City's supply of raw ground water contains dissolved iron in the range of 6-9 parts per million (ppm) before treatment. The water treatment plant oxidizes and removes all but 0.01 ppm through the treatment process.

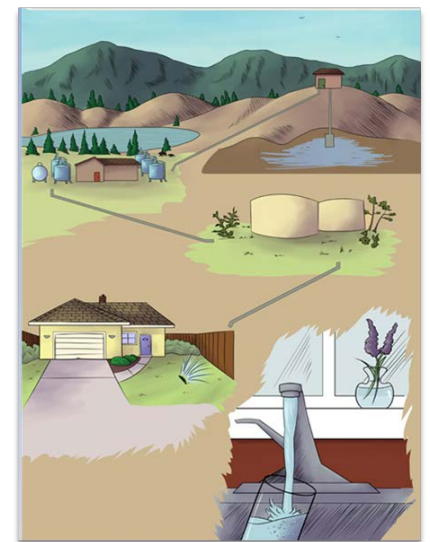
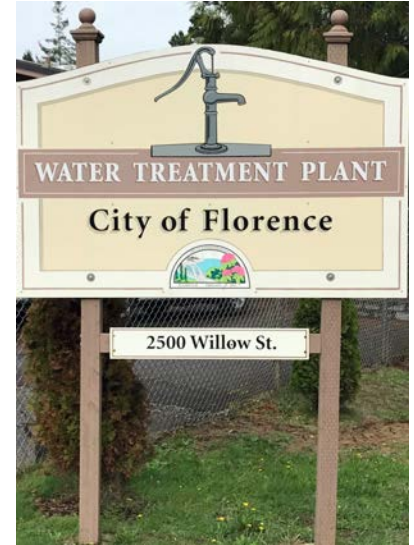
WATER FLOW

As water flows through the treatment plant, 90% of the iron is removed through the use of biological oxidation and filtration. Air is injected into the water to increase the level of dissolved oxygen, and the naturally occurring iron bacteria assist in oxidation through various metabolic processes. The sand filters then separate the oxidized iron and bacteria from the water. The filtered water is then chlorinated to chemically oxidize the water and deactivate any residue bacteria. Potassium permanganate is added to the chlorinated water to provide additional oxidation before the final filtration with greensand and anthracite coal. The color and odor of the water is removed with the iron and final product is cool, wet, colorless, odorless and tastes great!

SOURCE OF SUPPLY

We receive our water supply from the North Florence Sole Source Dunal Aquifer, designated as a "sole source" aquifer from the EPA in 1987. It continues to be the only "sole source" aquifer in the State of Oregon. The EPA defines a sole source aquifer as "an underground water source that supplies at least 50% of the drinking water consumed in the area overlying the aquifer. These areas have no alternative drinking water source(s) that could physically, legally and economically supply all those who depend upon the aquifer for drinking water."*

*All streams, creeks, lakes and wetlands (surface waters) in the aquifer boundary are "hydrologically connected" with the groundwater system.



The source water assessment & aquifer protection plan is available for customer review by calling Public Works at 541-997-4106.



LEAD

In Drinking Water

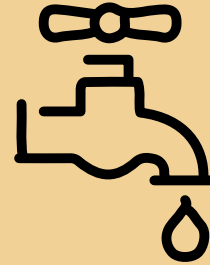
The City of Florence is responsible for providing high quality drinking water, but cannot control the variety of materials used in household plumbing components. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using your water for drinking or cooking.

Free Lead Testing

If you are concerned about lead in your drinking water, you may request a free lead-in-water test from the LeadLine at 1-988-4000 or go to www.leadline.org. They can provide more information on testing methods and steps you can take to minimize exposure.

#CLEANWATER

TIPS TO IMPROVE YOUR HOME'S DRINKING WATER



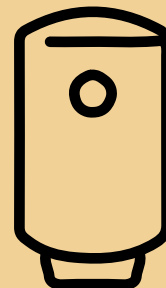
Flush cold water faucets before using for cooking, drinking, or making baby formula



Don't use hot tap water for cooking, drinking, or making baby formula.



Routinely replace filter cartridges. Bacteria and metals can build up.



Drain your water heater annually. Sediment, bacteria, and metals can build up and impact water quality and pressure.

FROM THE EPA



CONTAMINATES THAT MAY BE PRESENT IN WATER INCLUDE:

MICROBIAL CONTAMINATES

Viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

INORGANIC CONTAMINATES

Salts and metals which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges or farming.

PESTICIDES & HERBICIDES

Come from a variety of sources such as farming, urban stormwater runoff and septic systems.

ORGANIC CHEMICAL CONTAMINANTS

Includes synthetic and volatile organic chemicals, which are byproducts of industrial processes, and can also come from gas stations, urban stormwater runoff and septic systems.

RADIOACTIVE CONTAMINANTS

Occur through erosion of natural deposits.

**CALL THE EPA'S SAFE DRINKING WATER HOTLINE
AT 1-800-426-4791 OR GO TO
WWW.EPA.GOV/SAFEWATER FOR MORE INFORMATION
ABOUT CONTAMINANTS AND THEIR POTENTIAL HEALTH EFFECTS.**

ABOUT DRINKING WATER CONTAMINATES

Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, the EPA has regulations that limit the amount of certain contaminants in water provided by public water systems and requires monitoring for these contaminants. The Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protections for public health.

HARDNESS IN WATER

The City of Florence water source is considered to be very soft.

HARD WATER

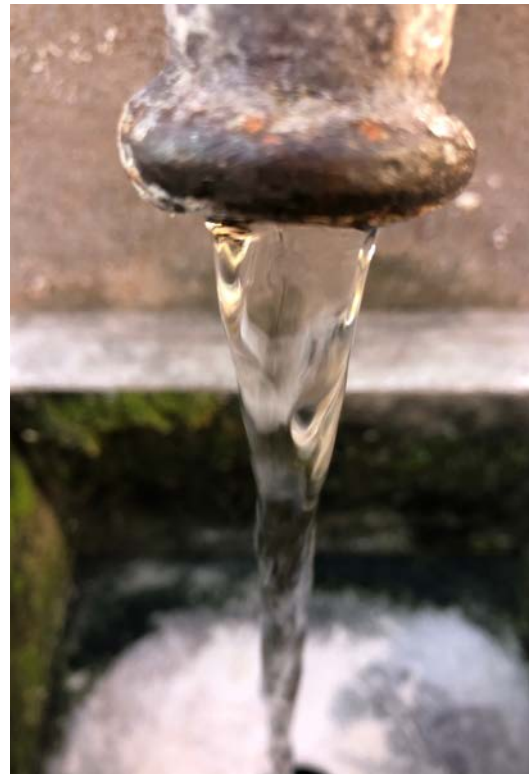
Hard water is caused by higher than ordinary levels of dissolved minerals, such as magnesium and calcium, often enhanced by carbon dioxide.

Hard water does not dissolve soap readily, so making a lather for washing and cleaning is difficult.

SOFT WATER

On the other hand, water containing little calcium or magnesium is considered soft.

The City of Florence's water has a hardness of 19 ppm or 1.1 grains of hardness per gallon.



WATER IS THE SOUL OF THE EARTH.

W.H. AUDEN

DRINKING WATER FLUORIDATION

Does the City add Fluoride?

The City of Florence has been adding fluoride to its water service since the early 1960s.

Currently, fluoride is added at the EPA recommended rate of 0.7 mg/L (milligrams per liter).

According to the U.S. Center for Disease Control (CDC) and the U.S. Department of Health and Human Services, widespread use of fluoride has been a major factor in the decline of the prevalence and severity of tooth decay in the United States.

When used appropriately, fluoride is both safe and effective in preventing tooth decay.



MISSION STATEMENT

The Public Works Department is dedicated to professionally maintaining and improving the current infrastructure of water, sewer, storm, street, airport, parks and city facilities, to the highest possible standards for our community.

We will continually look ahead to plan for and provide services that will allow the City of Florence to meet its future goals.

Our core values are professionalism, respect, integrity, dedication and enthusiasm. We proudly provide stewardship and professional management in maintaining and improving our systems and facilities.



City of Florence
A City in Motion

DEFINITIONS

ND:

None Detected

ACTION LEVEL (AL):

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MAXIMUM CONTAMINATION LEVEL (MCL):

The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MAXIMUM CONTAMINANT LEVEL GOAL (MCLG):

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

PARTS PER MILLION (PPM) OR MILLIGRAMS PER LITER (MG/L):

A unit of measurement describing the level of detected contaminants that is one part by weight of analyte to one million parts by weight of the water sample. One part per million corresponds to one penny in \$10,000 or approximately one minute in two years. One part per million is equal to 1,000 parts per billion.

PARTS PER BILLION (PPB) OR MICROGRAMS PER LITER (UG/L) :

A unit of measurement describing the level of detected contaminants that is one part by weight of analyte to one billion parts by weight of the water sample. One part per billion corresponds to one penny in \$10,000,000 or approximately one minute in 2,000 years.

PICOCURIES PER LITER (PCI/L):

A standard measurement of radioactivity in water.

TREATMENT TECHNIQUE (TT):

A required process intended to reduce the level of contaminant in drinking water

UNREGULATED CONTAMINANTS:

Water quality standards for unregulated contaminants are established as guidelines to assist public water systems in managing drinking water for aesthetic considerations such as taste, color, and odor. These contaminants do not present a risk to human health.

WATER QUALITY DATA

Inorganics and Bacteria						
Parameter	Units	Goal MCLG	Allowed MCL	Max Detected in City's Water	Violation? Yes/No	Major Sources
Fluoride	ppm	4	4	0.88 mg/L	No	Water additive which promotes strong teeth; erosion of natural deposits
Nitrate	ppm	10	10	ND	No	Erosion of natural deposits
Nitrite	ppm	1	1	ND	No	Erosion of natural deposits
Total Coliform	No units	0	0	0	No	Naturally present in the environment

Disinfection By-Products						
Total Trihalomethanes	ppb	n/a	80	17.1	No	By-product of Chlorination
Haloacetic Acids	ppb	n/a	60	ND	No	By-product of Chlorination

Lead and Copper Sampling*						
Parameter	Units	Goal MCLG	Allowed MCL — or Action Level	90th Percentile	Violation? Yes/No	Major Sources
Copper	ppm	1.3	1.3	0.231	No	Corrosion of household plumbing
Lead	ppb	0	15.0	6.6	No	Corrosion of household plumbing

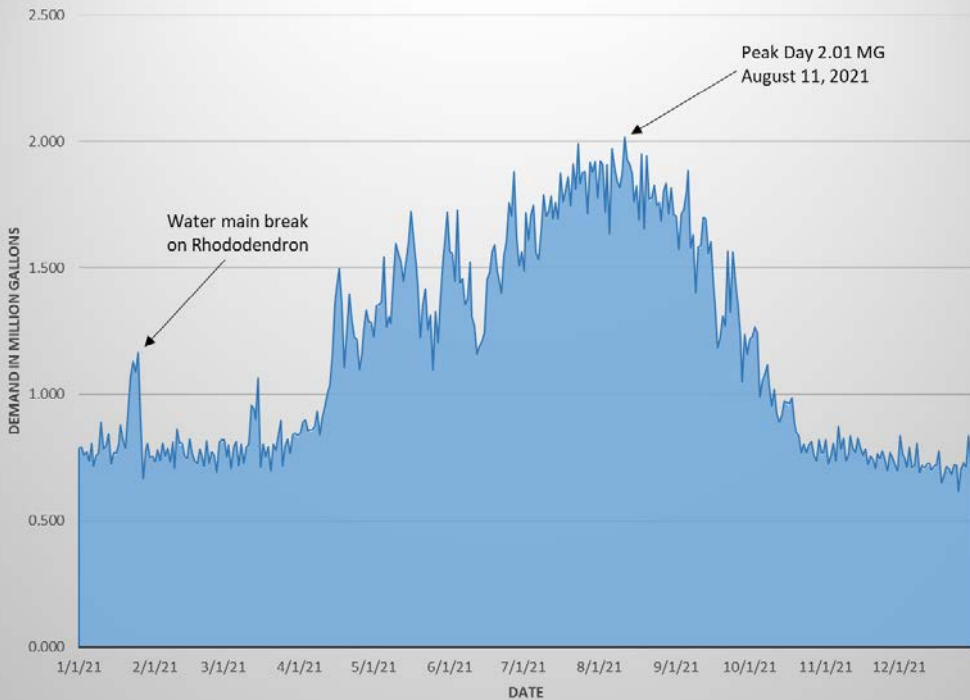
*Based on 90% of homes tested being at or lower than the reporting limit. For lead and copper, a water supply is in compliance with the drinking water standards if 90% of the samples are less than or equal to the Action Level. This is a 3-year testing cycle. Last test was in 2020.

Unregulated and Secondary** (regulations provide advisory limits only) Tested in 2014			
Parameter	Units	Max Detected in City's Water	Major Sources
Sodium	ppm	27.8	Erosion of natural deposits, water treatment additive

**Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to help EPA determine their occurrence in drinking water and potential need for future regulation. There is currently no drinking water standard for sodium. At the levels found in drinking water, they are unlikely to contribute to adverse health effects.

Radioactive Contaminants*** Tested in 2014					
Parameter	Units	Goal MCLG	Highest Level Detected in City's Water	Violation? Yes/No	Major Sources
Gross Alpha	pCi/L	15	4.0	No	Erosion of natural deposits
Radium Combined (226 and 228)	pCi/L	5	1.2	No	Erosion of natural deposits

2021 Water Demands



2021 WATER DEMANDS

The chart to the left represents our system water demands for the 2021 calendar year. Our peak demand day occurred on August 11th with 2.01 million gallons of water used. The greatest demand for water occurs during the summer months each year (June to September) as can be seen on the Daily Water Demand Graph.

Florence's summer water use increases dramatically due to outdoor watering. The spiking of water use during the summer indicates dry weather patterns and heavy outdoor water use.

LESS THAN 1% OF THE WATER SUPPLY ON EARTH CAN BE USED AS DRINKING WATER.

MOST OF THE EARTH'S SURFACE WATER IS PERMANENTLY FROZEN OR SALTY.

WHAT LAWS KEEP MY DRINKING WATER SAFE?

Congress passed the Safe Drinking Water Act (SDWA) in 1974 to protect public health by regulating the nation's public drinking water supply and protecting sources of drinking water. SDWA is administered by the U.S. Environmental Protection Agency (EPA) and its state partners.



PUBLIC WATER SYSTEMS



Providing safe drinking water is a partnership that involves EPA, the states, tribes, water systems, and water system operators. The public drinking water systems regulated by EPA and delegated states and tribes provide drinking water to 90 percent of Americans.

A public water system provides water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year. A public water system may be publicly or privately owned.

There are over 148,000 public water systems in the United States. EPA classifies these water systems according to the number of people they serve, the source of their water, and whether they serve the same customers year round or on an occasional basis.



WATER CONSERVATION

Homes of today use water for many different purposes! Everything from washing dishes to bathing, doing laundry or washing our car can add up to several gallons or even hundreds of gallons of water used every month. If you are considering a water conservation plan in your house, there are several tips and tricks to reduce the amount of water consumed.

- In The Kitchen - Keep a large pitcher of water in the refrigerator for use whenever you need cold water. This will eliminate the need to run water to wait for it to get cold.
 - When cooking, peel and clean vegies in a large bow of water instead of under running water
 - Fill your sink or basin when washing and rinsing dishes
 - Only run the dishwasher when full
 - Only use the garbage disposal when necessary (composting is a great alternative).
- In The Bathroom—Look for leaks. One drip every second adds up to 5 gallons per day!
 - Install new aerators
- Consider replacing old equipment (like toilet, dishwashers and washing machines)
 - Look for the **ENERGY STAR® and EnergyGuide labels**. ENERGY STAR clothes washers clean clothes use nearly 35% less water and 25% less energy than standard washers.
- Outside—Consider a rain barrel to catch water to help nourish outdoor plants. These special containers harvest rain quickly and will prevent needing to use a hose or sprinkler system as often.

THE FACTS ON LEAKS

10

percent of homes have leaks that waste 90 gallons or more per day

A leaky faucet dripping at the rate of one drip per second can waste more than

3,000 gallons per year

Did you know?

Minor water leaks account for nearly



trillion gallons

of wasted water each year and is equal to annual household water use in nearly



A shower leaking at

10 Drips

per minute wastes more than

500

gallons per year



million homes

Repair

leaks by checking faucet washers and gaskets for wear and replacing them if necessary



Replace old toilets with WaterSense models & save



13,000

gallons of water savings for the average family

Homeowners can save



10 percent on their water bills

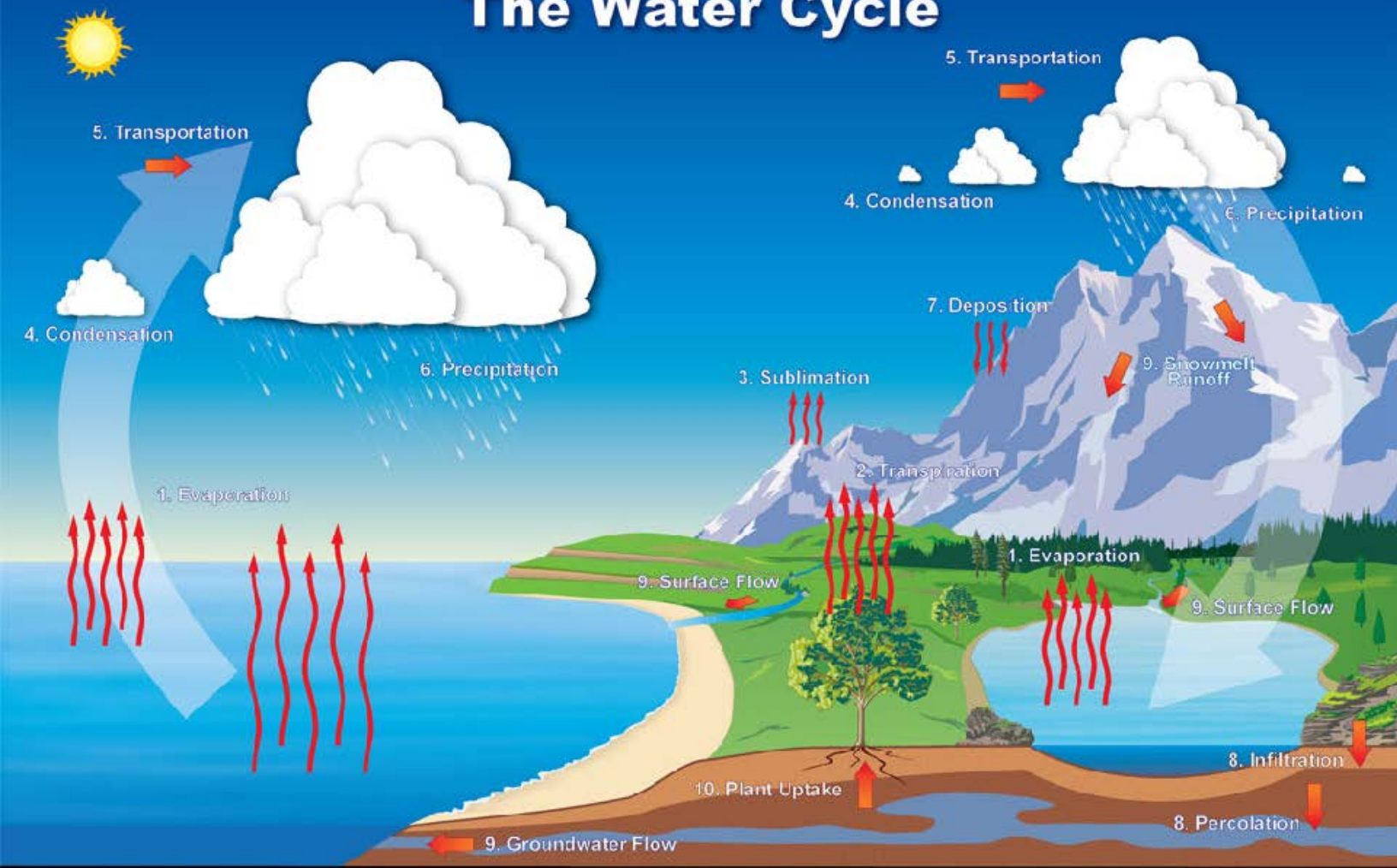
look for



epa.gov/watersense



The Water Cycle



Earth's water is always in movement, and the natural water cycle, also known as the hydrological cycle, describes the continuous movement of water on, above, and below the surface of the Earth.

Precipitation is a vital component of how water moves through Earth's water cycle, connecting the ocean, land, and atmosphere. Knowing where it rains, how much it rains and the character of the falling rain, snow or hail allows scientists to better understand precipitation's impact on streams, rivers, surface runoff and groundwater. Frequent and detailed measurements help scientists make models of and determine changes in Earth's water cycle.

The water cycle describes how water evaporates from the surface of the earth, rises into the atmosphere, cools and condenses into rain or snow in clouds, and falls again to the surface as precipitation. The water falling on land collects in rivers and lakes, soil, and porous layers of rock, and much of it flows back into the oceans, where it will once more evaporate. The cycling of water in and out of the atmosphere is a significant aspect of the weather patterns on Earth.

2021

WATER QUALITY REPORT



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Contact Information

publicworks@ci.florence.or.us

City of Florence Public Works
2675 Kingwood
Florence, OR 97439
541-997-4106

Water Treatment Plant
2500 Willow Street
Florence, OR 97439
541-997-7370

The City of Florence is proud of the high quality water that is supplied to our citizens daily.

If you have any questions regarding your water quality or about information presented in this report, please call the Water Treatment Plant at 541-997-7370 or the Public Works Department at 541-997-4106. Information is also available online at www.ci.florence.or.us.

We encourage public interest and participation in decisions affecting our drinking water. City Council meetings usually occur on the first and third Mondays of each month at 5:30 pm at City Hall. City Hall is located at 250 Hwy 101. For information on meeting schedules and agendas, contact 541-997-3437 or visit the City's website at www.ci.florence.or.us.

This report contains important information about your community's water system. Have it translated or speak to a friend that understands it well.

Este informe contiene información importante sobre el sistema de agua de su comunidad. Haz que lo traduzcan o hable con un amigo que lo entienda bien.

WATER TESTING

WATER SOURCES

WATER TREATMENT