

# IGWA Bulletin



## GROUND WATER CONTAMINATION ISSUES IN THE TREASURE VALLEY

*BY TOM NEACE PG, IDWR GROUND WATER PROTECTION SECTION*

Elevated levels of uranium have been detected in the Treasure Valley ground water. Uranium in the Treasure Valley is naturally occurring and is associated with oxidized granitic sands in the upper approximate 500 feet of the ground water. Health effects from consuming uranium contaminated water includes an increased risk of cancer and kidney damage (Environmental Protection Agency, 2018). Uranium in the United States is regulated by the Environmental Protection Agency (EPA) at 30 ug/L (Micrograms per Liter) for drinking water. Concentrations detected in the Treasure Valley range from < 0.1 ug/L to 100 ug/L.

The City of Meridian has done extensive research within their service area to evaluate the horizontal and vertical extent of uranium. Concentrations exceeding the drinking water standard were detected in the oxidized sediments between 200 and 300 feet below ground surface. A petition was filed by the City of Meridian to establish an "Area of Drilling Concern" in the Meridian Area based on the existing distribution of uranium in the oxidized sedimentary aquifer. Although the formal Area of Drilling Concern was not established, the Department has placed certain restrictions on well construction to better protect the aquifers from co-mingling. Co-mingling of aquifers can lead to redistribution of contaminants from one aquifer to another. The Department and the drilling industry have collaborated over the past four years to construct wells that are better designed to prevent co-mingling and contaminant migration.

The Department recently funded a research project through Boise State University to evaluate the extent of known ground water contamination in the Treasure Valley using an expanded data set from monitoring both domestic wells and public water system wells. Two hot spots were delineated from the research, one in and around Meridian and one in the Caldwell Area where Uranium concentrations are elevated, see Figure 1.

Other contaminants in the ground water of the Treasure Valley include Arsenic, Nitrate and Bacteria. Elevated Arsenic is detected in the oxidized sediments throughout the Treasure Valley. Arsenic is naturally occurring and thought to be mobilized from irrigation. Arsenic contamination is regulated by the EPA at 10 ug/L. Concentrations of Arsenic detected in some wells exceed the drinking water standards. Arsenic is a cancer risk at concentrations above the drinking water standard.

*Continued on page 5*





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## MEMBERS' CORNER

IGWA Elects New Board Members:



*From left to right: Sam Kingery (Downright Drilling); Bill Tanner (Tanner Well Drilling); Sam Navarro and Josh Young (Adamson Pump & Drilling); and Aaron McCullough (HD Fowler).*



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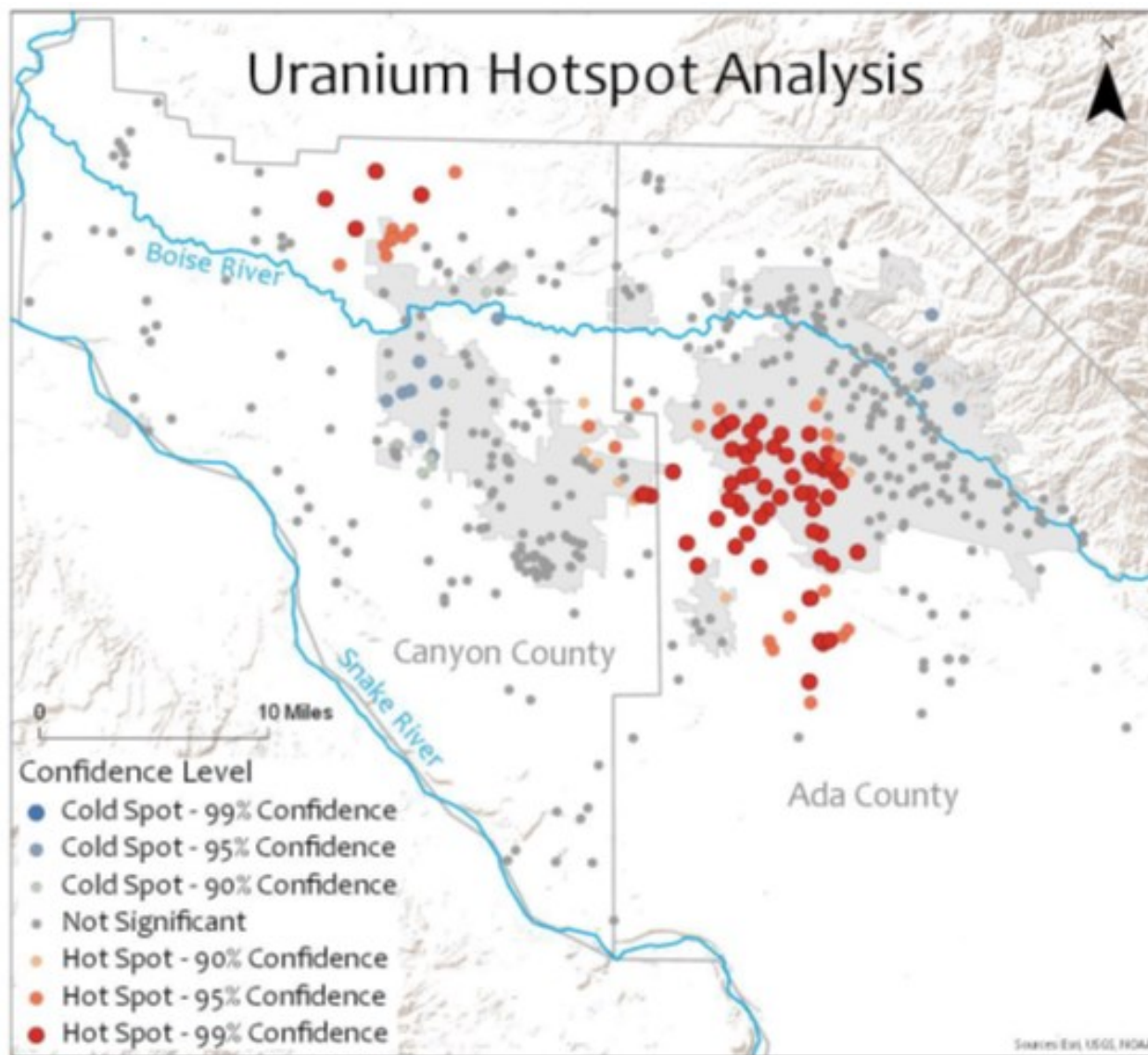
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From: Gus Womeldorph, Shawn Benner, 2019: The Spatial Distribution of Elevated Uranium in the Treasure Valley Aquifer System, Southwest Idaho: Boise State University/

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## NATIONAL GROUND WATER ASSOCIATION ANNOUNCES 21ST NATIONAL GROUNDWATER AWARENESS WEEK WILL BE MARCH 9-13

The National Ground Water Association announced the 21st National Groundwater Awareness Week (GWAW) will take place March 9-13.

An annual observance established in 1999 to highlight the responsible development, management, and use of groundwater, the event is also a platform to encourage yearly water well testing and well maintenance to prevent waterborne illnesses.

This year, NGWA and its partners will be focusing their advocacy during GWAW to inspire the next generation of groundwater professionals. Fostering an interest in groundwater science and an understanding of its importance is making a critical investment in our planet's future.

"The current PFAS contamination, water sustainability, and workforce development issues all show us that investing in the next generation of groundwater professionals will be an important part of our future," said NGWA's CEO Terry S. Morse, CAE, CIC.

Groundwater professionals encompass many different occupations within the industry, including water well drillers, hydrogeologists, engineers, groundwater scientists, and educators.

Over the course of GWAW, NGWA will be running an aggressive social media campaign linking the public to educational opportunities to help get kids and students engaged in the science of groundwater.

NGWA will also be promoting the Groundwater Foundation's Awesome Aquifer Kit throughout GWAW. The Awesome Aquifer Kit is a one-of-a-kind educational tool that provides fun and hands-on experiments to help students understand and get excited about groundwater.

"We can't have groundwater managers who don't understand the resource, who aren't excited about it," said Groundwater Foundation's Program Communications Manager Jennifer Wemhoff. "The Awesome Aquifer Kit is a way to let students see groundwater and understand in a bigger picture how it's part of their everyday lives."

To learn more about how you can support GWAW and help inspire the next generation of groundwater professionals, please visit [www.ngwa.org/gwaw2020](http://www.ngwa.org/gwaw2020) or <https://www.groundwater.org/kids>.



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# BRIEFLY

## **NGWA Submits Comments on Proposed CDC Project**

NGWA submitted comments to the Centers for Disease Control and Prevention on November 18, 2019 regarding a proposed CDC information collection project about private well systems. The CDC invited comments about the project, which is designed to assess the health risks associated with exposure to arsenic and uranium in drinking water from private wells in Connecticut, New Hampshire, and New Mexico.

The states were chosen because all three have groundwater-supplied systems with violations of radionuclides regulations under the Safe Drinking Water Act. The CDC states the information collected would be used for public health protection activities conducted by requesting agencies. Arsenic and uranium in groundwater can both be treated with on-site treatment systems.

NGWA's comments were put together by NGWA Regulatory Affairs Manager Chuck Job and NGWA members Ken A. Stelman of Wood Environment and Infrastructure Solutions in Denver, Colorado, and Stuart A. Smith, CGWP, of Ground Water Science in Poland, Ohio.

The comments raised issues about the survey and its association with the geology. NGWA noted that the survey protocol should consider potentially available and useful geological information, such as the well logs of local water well contractors and geologists.

Interpretation of the survey results should also consider other possible household activities and sources that could cause elevated arsenic and uranium in groundwater. Among these are a well's proximity to mining activity, use of pesticides containing arsenic, and the use of road salt that once dissolved can percolate with rainwater into the vadose zone and release uranium from bedrock. Use of on-site wastewater treatment (septic) systems not treating for arsenic and uranium can concentrate contaminants in proximity to a private water system as well.

"NGWA is the leading advocate for protecting the water quality of our country's private well systems," says NGWA CEO Terry S. Morse, CAE, CIC. "We see submitting these comments as an important part of our efforts."

To read the comments, visit [www.ngwa.org/docs/default-source/default-document-library/advocacy/ngwa-comments-to-cdc-2019.pdf?sfvrsn=adee8f4c\\_2](http://www.ngwa.org/docs/default-source/default-document-library/advocacy/ngwa-comments-to-cdc-2019.pdf?sfvrsn=adee8f4c_2).

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## FMCSA Increases Random Drug Testing Rate for 2020

The Federal Motor Carrier Safety Administration announced it is increasing the minimum annual percentage rate for random controlled substances testing for drivers of commercial motor vehicles requiring a commercial driver's license. The current rate of 25% of the average number of driver positions will increase to 50% of the average number of driver positions, effective in calendar year 2020.

The FMCSA Administrator must increase the minimum annual random testing percentage rate when the data received under the reporting requirements for any calendar year indicate that the reported positive rate is equal to or greater than 1%.

Based on the results of the 2018 FMCSA Drug and Alcohol Testing Survey, the positive rate for controlled substances random testing increased to 1%. Therefore, the agency will increase the controlled substances minimum annual percentage rate for random controlled substances testing to 50% of the average number of driver positions. The estimated positive usage rate for drugs was 0.8% in 2017 and 0.7% in 2016.

“This change reflects the increased positive test rate and will result in an estimated \$50 million to \$70 million increase in costs to the industry by requiring that more drivers be tested,” the *Federal Register* document states.

The minimum annual percentage rate for random alcohol testing will remain at 10%.

To read the *Federal Register* document, visit [www.govinfo.gov/content/pkg/FR-2019-12-27/pdf/2019-28164.pdf](http://www.govinfo.gov/content/pkg/FR-2019-12-27/pdf/2019-28164.pdf).  
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## THE TEN COMMANDMENTS OF GOOD SAFETY HABITS

Hello my friends,

I hope that you all had a great time at the Convention held last month. I had the pleasure to help with a couple of presentations during the two days of information. Now, I know that after several hours of sitting and paying close attention to all the presentations, you might have been less inclined to make notes on everything that you heard. So, today I thought that I would send you a little bit of my presentation. This might become a reference and help you in your safety meetings. Here were the major points of the presentation for you.

### THE TEN COMMANDMENTS OF GOOD SAFETY HABITS

In most everything we do, we find a “trick” to make the process easier and faster. After we develop these tricks, they become work habits in our everyday activities. Developing everyday safety habits can keep you and your employees injury free through the year. Please add these to you toolbox. Here are ten safety habits to live by:

*Set Your Own Standards.* Don't be influenced by others around you who are negative. If you fail to wear safety glasses because others don't, remember the blindness you may suffer will be yours alone to live with.

*Operate Equipment Only if Qualified.* Your supervisor may not realize you have never done the job before. You have the responsibility to let your supervisor know so the necessary training can be provided. Don't just “Wing it”.

*Respect Machinery.* If you put something in a machine's way, it will crush it, pinch it, or cut it. Make sure all guards are in place. Never hurry beyond your ability to think and act safely. Remember to de-energize the power first before placing your hands in a point of operation. If working on a vehicle or something with keys, pull them so they cannot be started without the ok.



## NEWS FEATURE

*Use Your Own Initiative for Safety Protection.*

You are in the best position to see problems when they arise. Ask for the personal protective equipment or additional guidance you need.

*Ask Questions.* If you are uncertain, ask. Do not accept answers that contain, “I think, I assume, I guess.” Be sure. There are no dumb questions.

*Use Care and Caution When Lifting.* Most muscle and spinal injuries are from overstrain. Know your limits. Do not attempt to exceed them. The few minutes it takes to get help will prevent weeks of being off work and in pain.

*Practice Good Housekeeping.* Disorganized work areas are the breeding grounds for accidents. You may not be the only victim. Don't be a cause.

*Wear Proper and Sensible Work Clothes.* Wear sturdy and appropriate footwear. These should enclose the foot fully. Avoid loose clothing, dangling jewelry, and be sure that long hair is tied back and cannot become entangled in the machinery.

*Practice Good Personal Cleanliness.* Avoid touching eyes, face, and mouth with gloves or hands that are dirty. Wash well and use barrier creams when necessary. Most industrial rashes are the result of poor hygiene practices.

*Be a Positive Part of the Safety Team.* Willingly accept and follow safety rules. Encourage others to do so. Your attitude can play a major role in the prevention of accidents and injuries. Owners, reward your teams that act and keep safety rules.

There are several great websites out there to help you in your safety program. Please look them up and take the first step to a safer worksite and business.

Remember that safety does not happen by accident! Good luck, Mike

Mike Lewis, a certified EMT for over 25 years, grew up on a dairy farm in southern Idaho and traveled the world before returning to Idaho where he farmed with his family



Nitrate is generally associated with septic systems, animal feedlots and use of fertilizers. DEQ has designated "Nitrate Priority Areas" throughout Idaho. Most Nitrate Priority Areas are in southern Idaho associated with agricultural practices, with elevated concentrations detected in the upper unconfined aquifer. The Ada/Canyon County Nitrate Priority Area is one of the largest in the State, and includes much of the Treasure Valley. Nitrate is a risk for sensitive populations including pregnant women and infants.

Public Water Systems regulated by the Department of Environmental Quality are required to closely monitor contamination, and must to treat the water prior to delivery to customers if contaminants are present in source water. Private wells are unregulated by State and Federal government. Most private wells have little or no monitoring data, resulting in many people being unaware of the quality of the water they consume.

The Department strongly suggests that all private wells be sampled and tested for Arsenic, Uranium, Nitrate and Coliform Bacteria. The Idaho State Health Laboratory in Boise can perform the analyses of all four of these constituents for \$104 per well. Other private laboratories also test for these constituents. Results from the testing is useful to help well owners decide whether water treatment of their well is necessary to provide safe drinking water.

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## EPA REPLACES WOTUS WITH NAVIGABLE WATERS PROTECTION RULE

The U.S. Environmental Protection Agency and the Department of the Army (Army) finalized the Navigable Waters Protection Rule to define “Waters of the United States” on January 23 and thereby establish federal regulatory authority under the Clean Water Act.

For the first time, the agencies are streamlining the definition so that it includes four categories of jurisdictional waters, provides exclusions for many water features that traditionally have not been regulated, and defines terms in the regulatory text that have never been defined before. Congress, in the Clean Water Act, explicitly directed the agencies to protect “navigable waters.”

The Navigable Waters Protection Rule regulates these waters and the core tributary systems that provide perennial or intermittent flow into them.

Under the final “Step 2” rule, four categories of waters are federally regulated:

- The territorial seas and traditional navigable waters
- Perennial and intermittent tributaries to those waters
- Certain lakes, ponds, and impoundments
- Wetlands adjacent to jurisdictional waters.

The final rule also details 12 categories of exclusions, features that are not “waters of the United States,” such as features that only contain water in direct response to rainfall (e.g., ephemeral features), groundwater, many ditches, prior converted cropland, and waste treatment systems.

The Obama-era WOTUS rule was embroiled in litigation since it was proposed in 2015, as some representing various industries argued it placed too many restrictions on development, while some states were concerned the rule expanded federal jurisdiction to areas that were state responsibilities.

The EPA and Army announced in September 2019 it was repealing the rule. The agencies are also recodifying the longstanding and familiar regulatory text that existed prior to the 2015 rule—ending a regulatory patchwork that required implementing two competing Clean Water Act regulations, which has created regulatory uncertainty across the United States.

The rule continued to exclude groundwater from the definition and proposed not to regulate many wetlands not physically connected to streams or other surface waters. Additionally, it proposed not to regulate stormwater control features and wastewater recycling structures as well as flood-irrigated fields.

The National Ground Water Association filed comments in April 2019 saying it agreed that groundwater should continue to be regulated by states and noted that in situations where groundwater/surface water interaction needs to be assessed, hydrogeologists have unique expertise that should be utilized.

NGWA cautioned the agencies about potential adverse effects a redefinition could have on groundwater quality, specifically regarding stormwater.

To read more about the Navigable Waters Protection Rule, visit [www.epa.gov/nwpr/navigable-waters-protection-rule-step-two-revise](https://www.epa.gov/nwpr/navigable-waters-protection-rule-step-two-revise).



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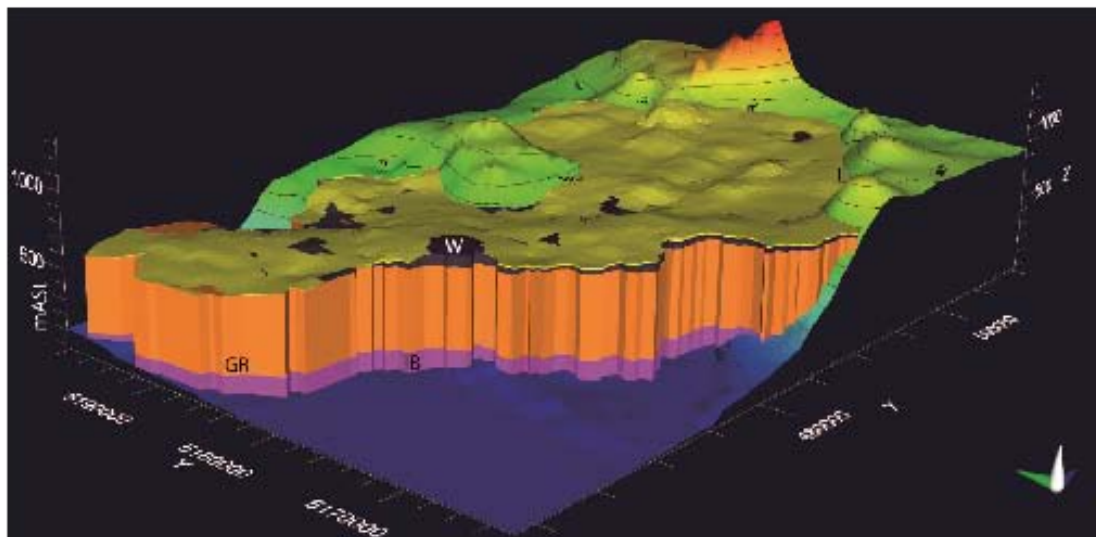
Idaho Water Resource Board contact: Brian Patton, Chief, Planning Bureau, 208-287-4800

## Citizens in Palouse Basin reducing ground water use through conservation, but many people are not aware of the problem, officials say

BOISE – (Jan. 28, 2020) – Residents of the Palouse Basin are doing a better job of reducing ground water use, slowing the decline of the Palouse Basin Aquifer from 1.5 feet per year historically to .72 feet per year since 2006, through multi-pronged conservation measures, while the population of the Moscow-Pullman region continues to grow, said Paul Kimmell, chairman of the Palouse Basin Aquifer Committee (PBAC).

Kimmell gave a progress report on PBAC to the Idaho Water Resource Board last week.

A recent survey of Palouse Basin residents shows that 52 percent of the public knows “nothing” (22 percent) or “very little” (32 percent) about the declining aquifer situation. On the positive side, 35 percent of the public has a “moderate” knowledge about the aquifer decline and 11 percent have “substantial” knowledge about it, the University of Idaho survey showed.



A Palouse Basin ground water model is being developed to help refine solutions to ground water declines.

*Continued on page 17*





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*Continued from page 16*

Citizens in Palouse Basin reducing ground water use through conservation

The mission of PBAC is “to ensure a long-term, quality water supply for the Palouse Basin region,” Kimmell noted. The aquifer has been in a general state of decline through the early 1990s, when a ground water management plan for the regional aquifer was put in place.

The aquifer decline has been averaging about .72 foot per year since the mid-2000s, Kimmell said. Water use decreased by about .9 percent in the last year, he said. About 2.3 billion gallons are pumped from the aquifer each year by the City of Pullman, City of Moscow, Washington State University, University of Idaho, and the Palouse region.

Four preliminary long-term solutions have been identified in the [Palouse Ground Water Basin Water Supply Alternatives](#) report in 2017. One of those solutions would divert water from the Snake River near Lewiston (a new water right would be necessary) and pump it uphill to Moscow and Pullman.

A ground water flow model is being developed currently to further refine opportunities and solutions, Kimmell said. “We’re excited about the model. It will shape our supply projections, he said.

PBAC officials will be doing further public outreach with elected officials and stakeholders over the next several months, gauge public feedback on the proposed solutions, and come back to the Idaho Water Resource Board in May. For more information, go to [palousebasin.org](http://palousebasin.org).

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IGWA's last Continuing Education workshop was held on March 4. This concludes our workshop program for the 2019-2020 membership year.

The next CEC Workshop is tentatively scheduled for November 2020 in Coeur d'Alene. More information will be posted on the website.

Drillers who license in 2020—IDWR's deadline is March 31, 2020.

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**AS OF MARCH 9 THIS ALERT HAS BEEN POSTED BY THE  
PACIFIC NORTHWEST GROUND WATER ASSOCIATION  
IT IS RECOMMENDED THAT YOU CHECK THEIR WEBSITE PRIOR  
TO TRAVEL**

## ALERT

The Pacific NW Ground Water Expo will be held as scheduled March 20-21, 2020 in Portland, Oregon.



**2020 PACIFIC NORTHWEST  
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March 20-21, 2020  
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