



Wolf-Rayet stars only live a few million years and die with a supernova explosion.

CARLOS ROTELLAR

PIERCING EYES

Wolf-Rayet stars were first described by French astronomers

This month we discuss a rare type of nebula caused by a rare type of stars known as Wolf-Rayet (WR) stars. The bright star in the center of the image is a Wolf-Rayet star.

These types of stars were first described by the French astronomers Charles Wolf and George Rayet in 1867.

The WR stars are extremely massive and luminous with very strong stellar winds that are in the final stages of their lives. They live only a few million years and they die with a massive supernova explosion.

WR stars are stars that have exhausted their hydrogen fuel and have begun to fuse helium in their cores.

As the helium is consumed, the core contracts and heats up, causing the outer layers to expand entering a supergiant phase and eventually, as the core collapses, it causes a supernova explosion.

In the image we can see the WR 134 as a blue bubble located 6,000 light years away in the constellation Cygnus (The

COLUMNIST



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Swan).

The blue bubble is ionized oxygen caused by the massive stellar winds of the super-hot Wolf-Rayet star HD 191765, which is the brightest star on the right center of the image “left eye.”

HD 191765 is 400,000 times bigger than our sun and it has stellar winds of six million miles per hour.

This nebula glows in vibrant colors with emission lines from

hydrogen (in orange) surrounding the layers of oxygen (in blue).

Sometimes when we look into space we can see that the universe is staring back at us. In this image, it certainly seems that the eyes of the universe are piercing at us.

– Dr. Carlos Rotellar is a Bowling Green nephrologist who has had an interest in astrophotography and has been taking images of the universe from his driveway for several years. Website: Skyastrophotos.com.

An analog childhood

Wake up early. Saturday morning. Leap out of bed. Oh, the bliss.

You sprint to the television set, racing your sister.

Last one’s a rotten egg.

You are still wearing Superman pajamas. Beneath your Man-of-Steel PJs, you’re wearing Batman skivvies, which is a slight conflict of interest, but you make it work.

You slap the power button on TV. The old Zenith console warms up. The television is cased in a faux wooden cabinet, with warped oak-grain veneer from a bygone Dr Pepper someone once placed atop the television, even though this someone’s mother told them to NEVER SET ANYTHING atop the TV, not that we’re naming names here.

So anyway, you’d sit on the floor, before the old tube, criss-crossed, which we used to call sitting “Indian style.” (No hate mail!)

COLUMNIST



SEAN DIETRICH

Cartoons blared.

It was undefiled rapture. Until your mom yelled from the other room, “Don’t sit so close to the TV or you’ll hurt your eyes!”

But you had to sit close. They were playing all the greats today. “Bugs,” “Daffy,” “Elmer,” “Porky” and “Marvin the Martian.”

Yosemite Sam growled, “Say your prayers, varmint!” Speedy Gonzales would be chirping, “Ándale, ándale!” Wile E. Coyote and the bird were hard after it.

Then came Yogi and Boo Boo, “Smarter than the average bear.” George, Jane, Judy, and Elroy. Fred, Barney, Wilma, Betty, and Mister Slate.

After cartoons, you’d eat a wholesome breakfast of Rice Krispies. Rice Krispies had the same dietary value of No. 4 Styrofoam packing pellets. But it was okay. Your mom increased the nutritive value by topping your cereal with liberal spoonfuls of refined white sugar.

Next, it was time to go outside and play.

Mainly, we played Army Man. We used imitation firearms, pump rifle BB guns, and Andy’s dad even had a real bayonet from World War I.

We used these items to keep America safe from the spread of Russian communism. Sometimes, however, we played Cops and Robbers. Or, Cowboys and You-Know-Whats. (Stop typing that email!)

Then we’d hop on our bikes and ride to the closest filling station where we would purchase Nehis, or Ko-Kolas and peanuts, or Moonpies and RCs.

See CHILDHOOD, 3C

Firefighters around the U.S. brace for wildfire risks after dry winter

By TY ONEIL and SUSAN MONTROYA BRYAN
The Associated Press

PRESCOTT, Ariz. — From the southwestern U.S. to Minnesota, Iowa and even parts of New Jersey, it seemed that winter never materialized.

Many communities marked their driest winters on record, snowpack was nearly nonexistent in some spots, and vegetation remains tinder dry -- all ingredients for elevated wildfire risks.

More than 1,000 firefighters and fire managers recently participated in an annual wildfire academy in Arizona, where training covered everything from air operations to cutting back brush with chain saws and building fire lines. Academy officials say there is a consensus that crews will be busy as forecasts call for more warm and dry weather, particularly for the Southwest.

The lack of moisture and warm temperatures can combine to increase the rate of spread and intensity of fire, said Roy Hall, the prescribed fire officer for the Arizona Department of Forestry and Fire Management. He says it has been dry in his state for months.

“We would be remiss to not acknowledge that changes how we might see fire behavior come out of the blocks at the beginning and

through fire season,” he said.

HOW DRY HAS IT BEEN?

Experts with NOAA’s National Centers for Environmental Information reported in early March that total winter precipitation in the U.S. was just shy of 6 inches (15.24 centimeters) — or nearly an inch (2.54 centimeters) below average. The period of December through the end of February — what forecasters consider the meteorological winter — ranked the third driest on record.

Flagstaff, nestled in the mountains south of the Grand Canyon, has long been on the list of quick escapes for desert dwellers looking to build snowmen or go sledding. The northern Arizona city finished the winter period with a 50-inch (1.27 meter) snowfall deficit. A major storm hit the area in mid-March, forcing the closure of Interstate 40 and stranding motorists for hours. It wasn’t enough to erase the shortfall.

In New Mexico, there were at least 17 sites that marked either their driest winters on record or tied previous records. Albuquerque set a new low by logging just 0.12 inches (0.30 centimeters) of precipitation over a three-month period.

“The tap just turned off and the drought conditions have been



ALLISON JOYCE / AP

Firefighter John Ward works to control the Black Cove Fire Wednesday in Saluda, North Carolina.

proceeding,” Andrew Mangham, a senior hydrologist with the National Weather Service in Albuquerque, said during a recent call with state and federal drought experts.

WHAT DOES THAT MEAN FOR WILDFIRE CONDITIONS?

Arizona, New Mexico, Texas and other parts of the Midwest already have had their share of red flag warnings — when low humidity couples with windy, warm weather

to heighten wildfire risks. The danger materialized in mid-March in Oklahoma, where fires destroyed hundreds of homes. Crews in New Jersey and the Carolinas also battled flames amid dry conditions.

In the West, land managers and firefighting forces are concerned that without adequate snowpack in many mountain ranges, there’s less moisture to keep fires from ballooning into fast-moving conflagrations.

April 1 typically marks the peak of the snowpack, but forecasters

say many areas already are melting out. Strong spring winds that deposit dust onto the snowpack help to speed up the process.

Even southern Alaska is experiencing a snow drought at lower elevations, according to the National Integrated Drought Information System. The Anchorage airport recorded its driest February on record, while large areas in southwest Alaska and low elevations in the south-central part were nearly snow-free as of March 1.

Recent storms brought some moisture to California, pushing snowpack levels there to just shy of average. But most of the southern region is dealing with moderate to extreme drought.

A new wildfire outlook was released Tuesday, showing above-normal significant fire potential from southeast Arizona into New Mexico, West Texas and Oklahoma. There is also above-normal fire potential forecast for southern Alaska along with parts of the southern Appalachians to the coast and down to Florida.

Come June, California will join the list again. In January, deadly fires there torched more urban area than any other fire in that state since at least the mid-1980s.

See FIRES, 3C