GUEST COLUMN

Arctic winter

Editor's note: This is one in a series of guest columns planned to cover a local teacher's trip to the

By CHANTELLE ROSE

I have experienced some pretty harsh Ohio winters in my lifetime. As a child, I remember building snow tunnels in Mingo during the Blizzard of 1978. As a teacher, there have been many years of going to school into June to make up for snow days. While I have some good winter tales to tell, I have experienced nothing like the Arctic winter that I am witnessing first hand aboard the United States Coast Guard Cutter Healy. There is not enough protective gear to withstand air temperatures of -15 F, winds to 30 knots and wind chills of -40 F.

The Science Team for this mission made our way from Seward, Alaska into the Bering Sea, through the Bering Strait and North into the Chukchi Sea. We are currently operating north of the Arctic Circle and have not had a sunrise or sunset in days. There is a gradient of "lightness" that allows you to distinguish when it should be day from night, but the line has become more blurred with each passing day.

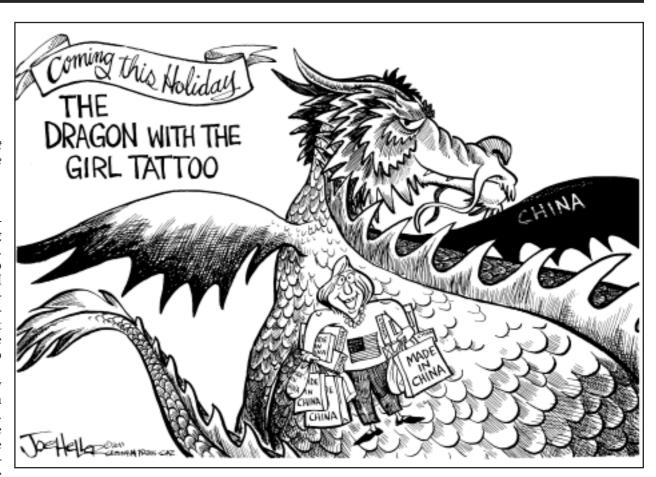
The sea ice is incredible; it is stunning blue green with a bright white surface. We started this voyage in open water and have seen the full continuum of the development of sea ice. For sea ice to form, the top of the water column must be cooled to around 29F. Ice crystals form on the surface and become more numerous. This layer of crystals is called frazil or grease ice. The freezing continues until a transparent continuous sheet of ice known as nilas forms. Over time, the sheet of nilas will begin to clump together and form flat, round pieces of ice called pancake ice. In dynamic areas, these pieces will jostle together and form ridges around their edges and begin to look like lily pads. The pancake ice will continue to grow as new pieces form and are rafted onto each other. Eventually the ice grows to the point that the sea is totally covered forming "pack ice."

For more information on my voyage, go to www.polartrec.com/expeditions/winter-sampling There you can access my daily journal, photos, resources and much more!

Chantelle Rose is a teacher in the Graham Local Schools District.



Letters are welcome at bburns@urbanacitizen.com. They must include name, complete address and phone number to be considered for publication. Letters are published at the editor's discretion.



GUEST COLUMN

Ohio EPA provides loans to improve water quality and save communities money

By SCOTT J. NALLY **Ohio EPA Director**

Ohio Environmental Protection Agency (EPA) is committed to working with communities across the state to help improve Ohio's water resources, and we have given more than \$5.4 billion in below-market financing sewage treatment plant upgrades and other water quality improvement projects in this effort. These low-interest loans are significant during these difficult economic times, saving borrowing communities close to \$1 billion in interest when compared to what they would have paid at market rates.

Supporting the efforts of these communities to complete water quality improvement projects is a priority for Ohio EPA. In many cases, we develop long-standing relationships with community leaders and provider support, both technical and financial, for their long-term water projects. The Water Pollution Control Loan Fund (WPCLF) – through its discount incentives and project assistance – is more than just a funding program. It gives applicants greater assurance that their projects will be economically sound, technically appropriate and environmentally effective. Addressing sewer overflows is an important environmental need across the state. In many cases Ohio EPA must compel a community to upgrade its wastewater treatment

plant to prevent overflows of untreated sewage when it rains. This happened in the city of Hillsboro. However, we were able to help Hillsboro by providing them with a \$10.2 million, 1 percent interest rate loan and \$5 million in principal forgiveness, money the community does not have to repay, which saved the city \$11.7 million in financing costs over the life of the loan. Preventing sewer overflows is just one area of our focus. Our loan fund provides financial and technical assistance for a wide variety of projects to protect or improve the quality of Ohio's rivers, streams, lakes, and other water resources, as well as protect human health. Planning, design, and construction assistance are available for both public and private applicants. Projects we fund include, among others: wastewater treatment plant improvements and expansions; excess sewer infiltration/inflow correction; permit-required storm water work; erosion and sedimentation control; green infrastructure storm water projects; wellhead protection; landfill closure; and hazardous waste cleanup (brownfields). Our program offers belowmarket interest rate loans, resulting in significant savings. Direct loans are made to most public and large private borrowers, while smaller borrowers usually receive indirect loans from a private lending institution at a below-market interest rate through the discounted interest rates are available for qualifying projects. For example, a community that borrows \$1 million at the WPCLF standard interest rate of 3.70 percent would save \$230,377 compared to a conventional market rate of 5.45 percent. Communities that qualify for a hardship loan (based on economic need) save significantly more. In addition, using the WPCLF rather than local bonds means the debt does not count against the total bond indebtedness of the community, leaving that bonding capability available to meet other local

In a small number of communities which qualify for "hardship" status, we may offer principal forgiveness as an additional benefit. Principal forgiveness means that the community does not have to repay the portion of the loan that Ohio EPA has forgiven. An example of this is Middleport, which received a \$7.6 million loan plus principal forgiveness. This allows Middleport – a hardship community in one of the most disadvantaged counties in the Appalachian Region – to build sewers that will control and eliminate combined sewer overflows into the Ohio River. The project costs more than \$7.6 million, but with principal forgiveness, the community will pay less than \$500,000 for a process

See 'EPA' on Page A-5

Today in History

By the Associated Press

There are 26 days left in the year.

Today's Highlight in History:

Amendment.

On this date:

In 1776, the first scholastic fraternity in America, Phi Beta Kappa, was organized at the College of William and Mary in Williamsburg, Va.

In 1782, the eighth president of the United States, Martin Van Buren, was born in Kinderhook, N.Y.; he ging trans fats at restaurants. was the first chief executive to be born after American independence.

died in Vienna, Austria, at age 35.

dent; John Adams was re-elected vice president.

took his seat as a member of the U.S. House of Representatives.

In 1848, President James K. Polk triggered the Gold Rush of '49 by confirming that gold had been discovered in California.

granted a visa, making it possible for him to travel to

Congress of Industrial Organizations merged to form Famer Lanny Wadkins is 62. Actress Morgan Brittany the AFL-CIO under its first president, George Meany.

In 1979, feminist Sonia Johnson was formally her outspoken support for the proposed Equal Rights Amendment to the Constitution.

dent nurses in Chicago in 1966, died in prison a day Horner is 42. Rock musician Regina Zernay (Cowboy short of his 50th birthday.

Ten years ago: Three Green Berets and six Afghan Acker is 35. Actor Nick Stahl is 32. Rhythm-and-blues

allies were killed by an errant U.S. bomb in singer Keri Hilson is 29. Actor Frankie Muniz is 26. Today is Monday, Dec. 5, the 339th day of 2011. Afghanistan. Afghan leaders signed a pact in Actor Ross Bagley is 23. Koenigswinter, Germany, to create an interim government. The space shuttle Endeavour blasted off else can hit; Genius hits a target no one else can see." On Dec. 5, 1933, national Prohibition came to an under heavy protection on a flight to deliver a new Arthur Schopenhauer, German philosopher (1788end as Utah became the 36th state to ratify the 21st crew to the international space station. New Zealand 1860). Amendment to the Constitution, repealing the 18th yachtsman Peter Blake, two-time winner of the America's Cup, was slain by Brazilian pirates on the Amazon River.

Five years ago: Robert Gates won speedy and unanimous approval from the Senate Armed Services Committee to be secretary of defense. New York became the first city in the nation to ban artery-clog-

One year ago: On the eve of talks with six world powers, Iran announced that it had produced its first In 1791, composer Wolfgang Amadeus Mozart batch of locally mined uranium ore for enrichment. The Kennedy Center Honors paid tribute to Paul In 1792, George Washington was re-elected presi- McCartney, Oprah Winfrey, Merle Haggard, Broadway composer Jerry Herman and dancer Bill T. In 1831, former President John Quincy Adams Jones. Serbia celebrated its first Davis Cup title, becoming only the second unseeded nation to win the trophy when Viktor Troicki beat Michael Llodra 6-2,

6-2, 6-3 to complete a 3-2 comeback win over France. **Today's Birthdays:** Singer Little Richard is 79. Author Joan Didion is 77. Author Calvin Trillin is 76. In 1932, German physicist Albert Einstein was Musician J.J. Cale is 73. Actor Jeroen Krabbe (yeh-ROHN' krah-BAY') is 67. Opera singer Jose Carreras is 65. Pop singer Jim Messina is 64. College Football In 1955, the American Federation of Labor and the Hall of Famer Jim Plunkett is 64. World Golf Hall of is 60. Actor Brian Backer is 55. Pro Football Hall of Famer Art Monk is 54. Country singer Ty England is excommunicated by the Mormon Church because of 48. Rock singer-musician John Rzeznik (REZ'-nihk) (The Goo Goo Dolls) is 46. Country singer Gary Allan is 44. Comedian-actress Margaret Cho is 43. Writer-In 1991, Richard Speck, who'd murdered eight studirector Morgan J. Freeman is 42. Actress Alex Kapp Mouth) is 39. Actress Paula Patton is 36. Actress Amy

Thought for Today: "Talent hits a target no one

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