

Femtosecond IN THE NEWS

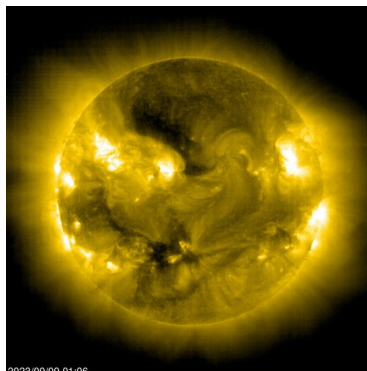
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World News

The North Korean leader announced his country will equip its navy with nuclear weapons [1]. This comes as the north deployed its first submarine designed to launch nuclear weapons [2]. The craft is believed to be a modernized Soviet-designed Romeo-class diesel-electric submarine [3]. In another area, the close relations with Russia may result in North Korean nuclear advances [4].

From June to September, a study found a global temperature rise [5]. However, during this same period, the sun has been emitting more ultraviolet radiation than is normal [6]. In the greenhouse effect, ultraviolet light passed through the atmosphere, then is absorbed by plants and the surface; however, the resulting infrared (heat) is blocked [7]. Another problem is in predicting the cycle of when the sun will be most active [8]. As can be seen from the image to the right, the sun is currently emitting more ultraviolet light than normal. Since greenhouse gasses cannot control the amount of energy from the sun, another technology is needed. To this end, President Biden's Administration is allowing research into ultraviolet reflecting aerosols [9].



SOHO (ESA/NASA) sun as seen in ultraviolet, September 9, 2023.

Inside this issue:

Terrorism	3
Economy	4

(Continued on page 2)

Ukraine War

The Ukraine continues to target sites located deep within Russia. For example, bases where hit where supersonic planes are based [1]. Then, multiple targets deep within Russia were hit during the largest drone attack of the war [2]. Separately, a drone started a fire in the Russian city of Bryansk [3]. In response, Russian drones hit the Danube River port infrastructure (used for grain export) [4].

The Wagner Group consists of mercenaries that fight for Russia [5]. Russia

reports the former head of the Wagner Group died in a plane crash [6].

The latest Ukrainian offensive is resulting in many losses [7]. Overall, the Ukrainian offensive is not progressing as hoped [8]. One technique the Russians are using is to increase the depth of minefields from 120 meters to 500 meters [9].

Meanwhile, President Biden is providing the Ukraine with depleted uranium munitions [10]. Depleted uranium consists primarily of the isotope U-

238 that ignites when fired by guns [11]. This would mean some of the uranium would be in a gaseous state and the long-term environmental consequences are yet to be fully understood.

1. Kottasová, Ivana, et al., CNN, *Ukrainian strikes reportedly hit bases in Russia housing supersonic warplanes*, August 23, 2023.
2. Talmazan, Yuliya, NBC News, *Military airfield hit as a wave of Ukrainian drones strike*

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Special points of interest:

- August Unemployment Rate 3.8%
- US Sends Depleted Uranium Munitions to Ukraine

Ukraine War

(Continued from page 1)

- deep inside Russia*, August 30, 2023.
3. Reuters, *Fire caused by Ukrainian drone in Russia's Bryansk under control* - governor, September 7, 2023.
4. Kelly, Lidia, & Polityuk, Pavel, Reuters, *Russian drone attack hits Danube port infrastructure*, Ukraine says, September 3, 2023.
5. Ott, Haley, & Breen, Kerry, CBS News, *What is the Wagner Group, and who is Yevgeny Prigozhin? What to know about the Russian private military company*, August 24, 2023.
6. Soldatkin, Vladimir, Reuters, *Russia says genetic tests confirm Prigozhin died in plane crash*, August 27, 2023.
7. Patta, Debora, CBS News, *Ukraine's counteroffensive brings heavy casualties as families contend with grief, loss*, September 3, 2023.
8. Tyab, Imtiaz, CBS News, *Ukraine counteroffensive makes "notable" progress near Zaporizhzhia, but it's a grinding stalemate elsewhere*, September 4, 2023.
9. Pickrell, Ryan, Business Insider, *A shortage of land mines for deep, dense minefields forced Russian troops*

to put down irregular ones, creating new problems for Ukraine: report, September 8, 2023.

10. Edwards, Christian, & Bertrand, Natasha, CNN, *What are the depleted uranium munitions the US is sending to Ukraine and why are they contentious?*, September 7, 2023.
11. Atherton, Kelsey D., Popular Science, *Depleted uranium shells for Ukraine are dense, armor-piercing ammunition*, September 8, 2023.

The dictum that truth always triumphs over persecution is one of the pleasant falsehoods which men repeat after one another till they pass into commonplaces, but which all experience refutes.—
John Stuart Mill

(Continued from page 1)

1. Hagstrom, Anders, Fox News, *North Korea will soon equip navy with nuclear weapons*, Kim Jong Un warns, August 29, 2023.
2. Wehner, Greg, Fox News, *North Korea commissions first tactical nuclear attack submarine: reports*, September 7, 2023.
3. Yeo, Mike, Defense News, *See North Korea's new ballistic missile submarine*, September 8, 2023.
4. Salisbury, Daniel, Asia Times, *Cause to fear a Russia-N Korea arms nexus*, September 4, 2023.
5. Stanway, David, & Withers, Ali, Reuters, *Nearly*
- all world's population exposed to global warming over June-Sept – study*, September 8, 2023.
6. Billett, Daniel, The Conversation, *This solar cycle, the sun's activity is more powerful and surprising than predicted*, August 15, 2023.
7. Lallanila, Marc, Live Science, *What Is the Greenhouse Effect?*, March 7, 2018.
8. Barbuzano, Javier, Quanta Magazine, *How Scientists Are Tackling the Tricky Task of Solar Cycle Prediction*, September 7, 2023.
9. Hiar, Corbin, Politico, *White House cautiously opens the door to study*

blocking sun's rays to slow global warming, July 1, 2023.

World News

Terrorism

The United States was witness to a racial hate crime. In Jacksonville, Florida, a gunman killed three black people in a Dollar Central store [1].

The open Southern Border is an avenue for terrorists entering the US. Case in point, an ISIS affiliated smuggler helped migrants enter the US [2].

Finally, the role of religion can be a catalyst in terrorism. Sweden raised its terrorist alert in anticipation of Quran burning [3]. As expected, in Sweden's third largest city, Malmo, riots broke out after an anti-Islam activist burned a copy of the Quran [4].

1. Ward, Jasper & Zengerle, Patricia, Reuters, *Gunman kills three, himself in racially motivated shooting, Jacksonville sheriff says*, August 27, 2023.
2. Lillis, Katie Bo, et. al., CNN, *Smuggler with ties to ISIS helped migrants enter US from Mexico, raising alarm bells across government*, August 30, 2023.
3. Johnson, Simon, & Ahlander, Johan, Reuters, *Sweden raises terrorist alert level after Koran burnings*, August 17, 2023.
4. AP, *Clashes erupt in Sweden's third largest city after another Quran burning and at least 3 are detained*, September 4, 2023.

"He means well" is useless

unless he does well.—

Plautus

Economy

The Unemployment rate for August was 3.8% [1]. This indicates a strong job market persists.

On the other side, the number of business bankruptcies is on the rise [2]. As more businesses fold, there is less money that banks are willing to lend [3].

1. Megaw, Nicholas, & Smith, Colby, Financial Times, *US jobs data raises hope of Goldilocks scenario as economy cools*, September 1, 2023.
2. Rosen, Phil, Markets Insider, *The Fed could still kill off more zombie companies even after bankruptcies have spiked 54% since last year*, September 7, 2023.
3. Warburton, Jena, The Street, *Bankruptcies Are Up 216% and We Aren't Even Halfway Through 2023*, May 13, 2023.

*Persecution is the first law
of society because it is
always easier to suppress
criticism than to meet it.—
Howard Mumford Jones*
