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Monday, December 21

No School

Senior Menu: Beef stroganoff noodles, mixed vegetables, cake with strawberries, whole wheat bread.

Birthdays: Kent Webb, Kayla Townsend, Ashley Fliehs, Steve Giedt, Eva Ellis, Gavin Englund, Mckenna Tietz, Noella Graf

6:30am: Emmanuel Lutheran Bible Study

5:15pm: BBB host Roncalli (C game at 5:15, JV at 6:30, varsity at 8:00)

7:00pm: City Council Meeting

Tuesday, December 22

No School

Senior Menu: Tater tot hot dish, green beans, grape juice, sour cream apple pie square, whole wheat bread.

Birthdays: • Don Raines, Kristen Winther, Cameron Howard, Kelby Tracy

10:00am: United Methodist Women's Bible Study

3:30pm: BBB vs. Eureka/Bowdle at NSU Classic


6:30pm: GBB at Roncalli

Open: Recycling Trailer in Groton
The recycling trailer is located at 10 East Railroad Ave.

The cardboard/paper

recycling trailer at the school is **Open**

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Some Kindergarten Students . . .
What Christmas means to them . . .



Sydney Locke, daughter of Matt and Tammy Locke, Groton, spendign time with my family



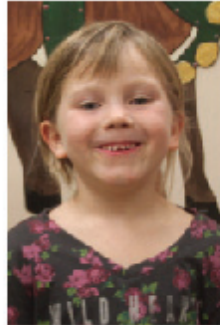
Spanier's Custom Harvesting & Trucking
(605) 228-3880



Chesney Weber, daughter of Jeremy and Samantha Weber, Groton, fun, cool and gets toys



Easton Weber, son of Jeremy and Samantha Weber, Groton, is getting presents and singing songs



Ryelle Gilbert, daughter of Jerrica Loeschke/ Brooks Gilbert, Groton, likes getting presents and seeing Santa Claus



Owen Sperry son of Ryan and Amanda Sperry, Aberdeen, Christmas is about God.



Keiyonna Williams, daughter of Joshiah and Tina Williams, Groton, getting toys and shoes

Merry Christmas!

Weber Landscaping

Setting Higher Standards

Jeremy Weber • 605/380-7811



Groton Chamber Holiday Boxes are out & about in Groton!

This Week (thru 12/18) – Professional
Management Supply

\$25 Chamber Bucks OR Mystery Gift!

Next Week (thru 12/23) – Olde Bank
Floral 'N More

**\$25 Chamber Bucks or a Fresh Floral Christmas Bouquet

Stop by each participating business and register for \$25
Groton Chamber Bucks – or a prize supplied by the business.



Merry
Christmas

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Here is how the Schwan's fundraiser works.

Customers phone in the order or order online
They use the code. 25179

If they regularly order online they are asked if they want to contribute to a fundraiser

That is when they put the code in.

Between Dec 2 and Jan 16, we will earn 20% of sales
If a customer orders an ecertificate-and online gift card we get \$10 for the \$25 ecertificate.

When you get an ecertificate, you can go in and purchase right away or you can print it out
if you want to give it as a gift or save it for later.

Customers are limited to one ecertificate...BUT if you use an alternate email address you can purchase more than one

If you are not a regular Schwan's customer, when you place your order they will tell you what day
And approximate (2 hour) time they plan to deliver.

You can be a one time customer and support us.

If you order online you must give them a credit card number, however you can switch payment at the door.

It took me a few fundraisers to realize that if I purchase during the first 45 days I contribute 20% and save my ecertificates for after the Jan 16 date, duh! Before that I was purchasing ecertificates and using them right away.

Our greatest income will be during this 45 day period.
After that we will earn 5% until April 16.

Schwan's
Cares™
A Fundraising Network



Support Us

*Giving back to your community
never tasted so delicious.*

Schwan's Home Delivery offers over 350 delicious foods, flash-frozen at the peak of freshness and conveniently delivered to your door. Through Schwans-Cares.com, you can order from Schwan's Home Delivery and help our organization meet its fundraising goals. When you order by **January 16th, 2016**, 20% of product and 40% of eGift Card sales will go back to the organization.

Here are two ways to support us!

Order Online:

1. Visit Schwans-Cares.com
2. Enter Campaign ID: **25179** into the search box located in the upper right hand corner then click to open campaign.
3. Click "Shop to Give" and then select either the "Buy Now" or "Shop Now" option.
4. Select team member, if applicable
5. Start shopping!

Order by Phone:

Call 1-855-870-7208 and provide Campaign ID: **25179**

Thank you for your support!

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Shop online at Schwans-Cares.com
or call 1-855-870-7208



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Today in Weather History

December 21, 1968: A blizzard visited South Dakota and Minnesota on the 21st and 22nd. Snowfall during the snowstorm was generally 1 to 2 inches in the western part of South Dakota, to 5 to 10 inches in Minnesota, with more than 12 inches in an area from Artichoke Lake in Big Stone County to the southeast in Minnesota, and up to 18 inches in east central and southeast South Dakota. The snowfall, on top of an already-existing 10-inch layer of powdery snow, was whipped by 30-50 mph winds, with some winds over 50 mph in Minnesota, that occasionally reduced visibility to near zero, created snow drifts up to 10 feet or more, stopped almost all forms of traffic, blocked many primary highways for most of Sunday the 22nd, and blocked most of the secondary roads as well as some other roads for nearly a week.

Due to good blizzard warnings and the fact that the blizzard occurred late Saturday through Sunday, the highway patrol reported a minimum of accidents and stranded travelers. Most schools were closed and other activities were curtailed. Many utility lines were down. Record December snowfall amounts were recorded for more than 40 locations in Minnesota. Artichoke Lake in Big Stone County received 16 inches of snow from this storm, by far its largest daily snowfall on record for any month of the year. Clear Lake, in Deuel County, measured 18 inches of snow, which also remains the largest daily snowfall on record for any month in that location. Watertown and Bryant received nine inches from this blizzard, while Castlewood reported seven inches.

1892 - Portland, OR, was buried under a record 27.5 inches of snow. (21st-24th) (The Weather Channel)

1929 - An exceptional storm produced snow from the Middle Rio Grande Valley of Texas to southern Arkansas. The storm produced 26 inches of snow at Hillsboro TX, 18 inches at El Dorado AR, and 14 inches at Bossier LA. (21st-22nd) (David Ludlum) (The Weather Channel)

1964 - A great warm surge from the Pacific Ocean across Oregon and northern California brought torrential rains on a deep snow cover resulting in record floods. (David Ludlum)

1987 - High winds continued along the eastern slopes of the Rockies. During the morning hours winds gusted to 64 mph at Cheyenne WY, and reached 97 mph near Boulder CO. Gale force winds prevailed across the Great Lakes Region. (The National Weather Summary) (Storm Data)

1988 - Seven cities in the eastern U.S. reported record high temperatures for the date, including Charleston SC with a reading of 78 degrees. A storm in the northwestern U.S. produced 22 inches of snow at Idaho City ID in two days, and up to two feet of snow at Happy Camp CA. Ski resorts in Idaho reported three to six feet of snow on the ground. (The National Weather Summary) (Storm Data)

1989 - Forty cities in the north central U.S., including thirteen in Iowa, reported record low temperatures for the date. Havre and Jordan, MT, tied for honors as the cold spot in the nation with morning lows of 43 degrees below zero, and the temperature remained close to 40 degrees below zero through the daylight hours. Dickinson ND reported a morning low of 33 degrees below zero and a wind chill reading of 86 degrees below zero. The high for the date of 16 degrees below zero at Sioux Falls SD was December record for that location. (The National Weather Summary)

1998 - Cold air spread into the southern San Joaquin Valley of California. For the next four nights, temperatures in the agricultural portions of Fresno, Tulare, and Kern counties dropped below 28 degrees for several hours at a time. In some locations, temperatures dipped into the teens. The California citrus industry suffered more than \$600 million in damages due to the extreme cold.

2016 DOG LICENSES

AVAILABLE NOW!!

Licenses due by Dec. 31, 2015

Fines start after Dec. 31, 2015

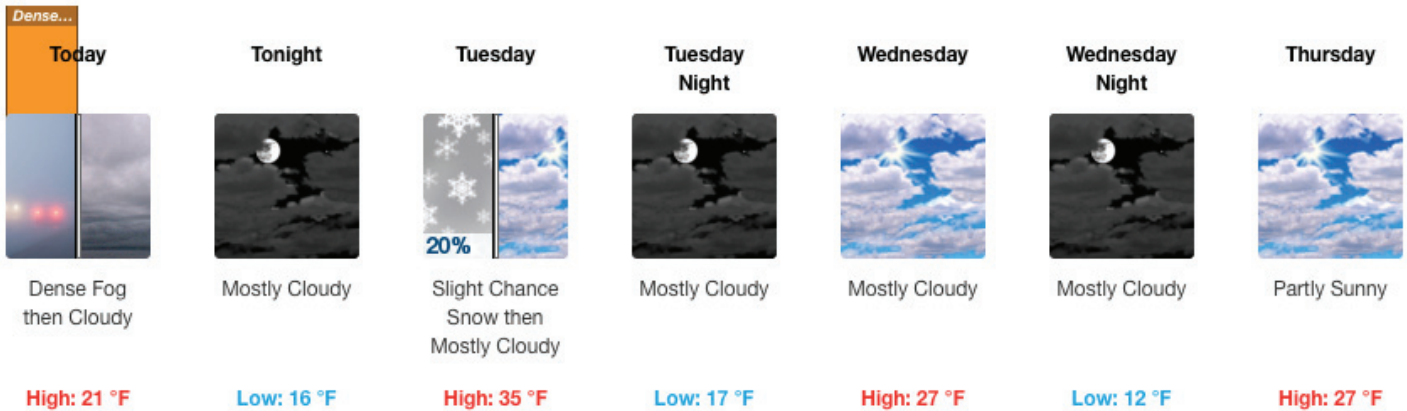
Dogs CAN NOT be licensed without providing updated rabies shot information, please bring records for each dog to City Hall

Please contact City Hall as soon as possible if you no longer have any dogs

Spayed or neutered dogs are \$5 per dog, otherwise \$10 per dog

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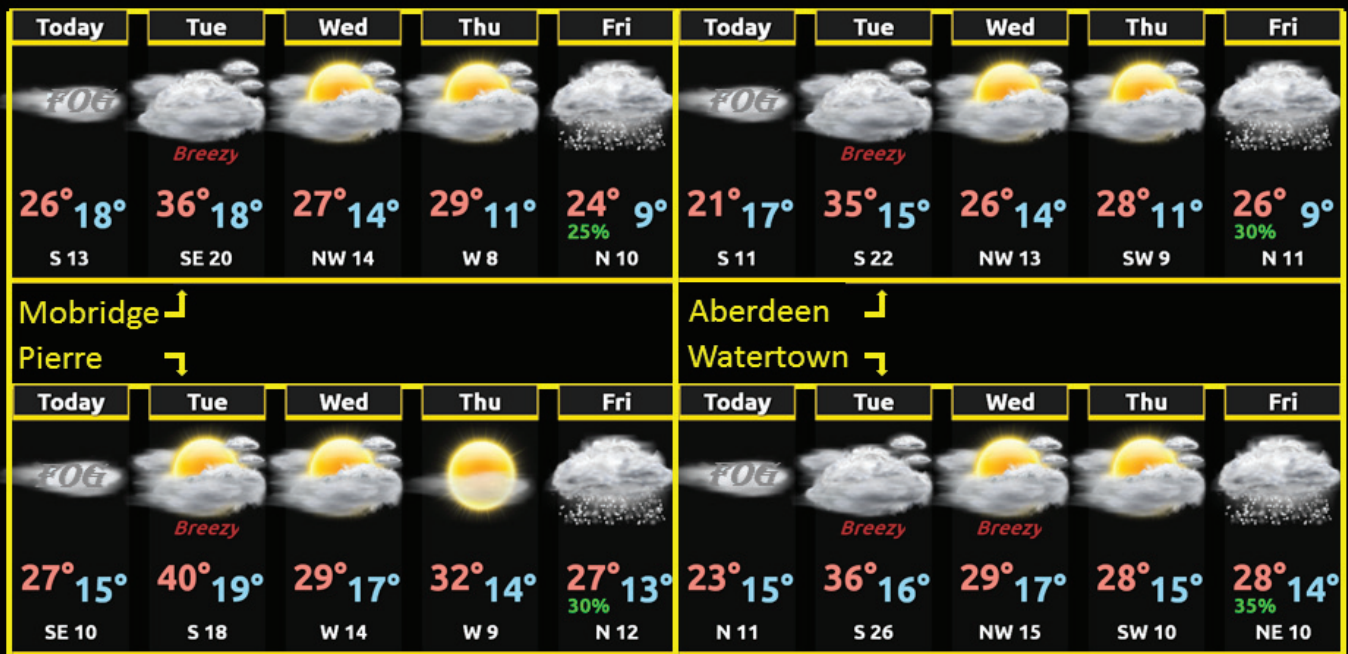
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National Weather Service Weather Forecast Office

Aberdeen, SD

Fog and low clouds this morning
Mostly dry conditions through Friday



Published on: 12/21/2015 at 4:07AM

Low clouds and fog will persist across the area this morning. A system will bring mild air back into the region tonight and Tuesday, and will generate some precipitation mainly in North Dakota. Dry conditions are expected through till the end of the week.

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Yesterday's Weather

High: 27.2 at 12:02 AM

Low: 16.0 at 7:38 AM

High Gust: 18 at 2:40 PM

Precip: 0.00

Today's Info

Record High: 50° in 1979

Record Low: -31° in 1916

Average High: 24°F

Average Low: 4°F

Average Precip in Dec.: 0.34

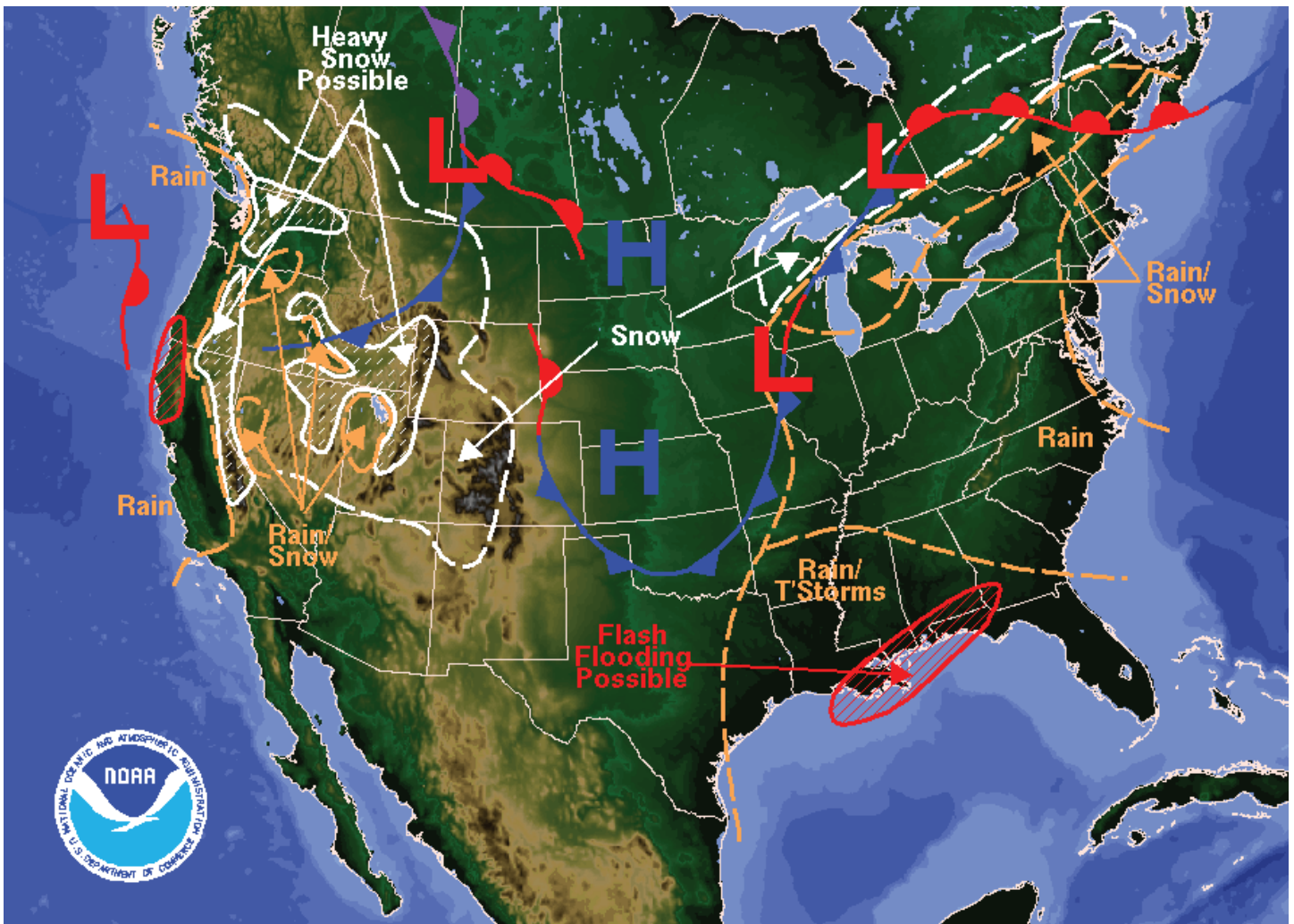
Precip to date in Dec.: 0.55

Average Precip to date: 21.54

Precip Year to Date: 20.37

Sunset Tonight: 4:53 p.m.

Sunrise Tomorrow: 8:10 a.m.



Weather Forecast for Mon, Dec 21, 2015, issued 3:40 AM EST
DOC/NOAA/NWS/NCEP/Weather Prediction Center
Prepared by Krekeler based on WPC, SPC and NHC forecasts

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GUIDED BY GOD

The oldest map ever discovered was drawn on a clay tablet in 2300 B.C. It pictures a mountain-lined valley in Babylonia.

A thousand years later, in 1300 B.C., the Egyptians began making maps. But the Greeks were the first to make accurate maps. And the Romans used those maps to conquer nations and countries and collect taxes.

The Muslims were the next "map makers." But they made maps for a different purpose. Their faith demands that they face their "holy city" when they pray. They needed to know the location of Mecca so they could face and bow in that direction when they prayed.

The people of Europe began their map-making in the Middle Ages. They made their maps by reading the Bible.

But no nation or people made maps of the world until the 1400's A.D.

Today, no one would begin a journey without a map or GPS. Yet, we are forever moving into the "unknown" and need detailed guidance and directions.

A Psalmist once prayed, "Lead me, O Lord, in Your righteousness...make straight Your way before me."

Our Lord knows our end from the very beginning. He is all-wise, never-failing, ever-present and constantly protecting us from harm's way. He wants to be our "travel consultant" on life's journey and will personally counsel us on the safest and most satisfying paths.

With God above us, the Savior beside us and the Holy Spirit within us, we will end our journey with Him.

Prayer: Thank You, Heavenly Father, for the plan You have established for each of us. May we follow it willingly. In Jesus' Name, Amen.

Scripture for Today: Psalm 5:8 Lead me, Lord, in your righteousness because of my enemies—make your way straight before me.

News from the Associated Press

3 men injured in head-on crash near Wall Lake

WALL LAKE, S.D. (AP) — Three people are recovering from serious injuries after a two-vehicle crash on Highway 42 near Wall Lake.

South Dakota Highway Patrol reports that a 31-year-old Canistota man was driving east on Highway 42 at about 6:44 p.m. Saturday when his vehicle crossed over the center line and hit another vehicle head-on.

The other driver, a 20-year-old Sioux Falls man, and his passenger, a 24-year-old man, as well as the 31-year-old driver, were taken to a hospital with serious injuries that aren't considered to be life-threatening.

It's unclear whether either driver was wearing a seatbelt. The passenger wasn't wearing a seatbelt.

A Highway Patrol spokesman says charges against the 31-year-old driver are pending.

An investigation is ongoing.

Calif. college names education school after Denny Sanford

SIOUX FALLS, S.D. (AP) — A private university in California is naming its college of education after South Dakota philanthropist and businessman Denny Sanford.

National University in San Diego says the move honors the many contributions that Sanford has made to the school.

The philanthropist first funded an early childhood education initiative that the now Sanford College of Education is leading to train teachers across the country on a program targeting the social and emotional development of children in preschool through sixth grade.

Sanford in a statement says he is "very honored" to be associated with the university's college of education because he strongly believes "in the power of education to transform the lives of young people."

Sanford has given away millions for health, welfare and children's causes in California and the Upper Midwest.

85 missing from China landslide; residents blame government

PAUL TRAYNOR, Associated Press

SHENZHEN, China (AP) — Rescuers searched Monday for 85 missing people a day after the collapse of a mountain of excavated soil and construction waste that had been piled up over two years in China's manufacturing center of Shenzhen.

Authorities said the landslide buried or damaged 33 buildings in the industrial park in Shenzhen, a city near Hong Kong that makes products used around the world ranging from cellphones to cars.

Residents blamed the government while officials cited human error, with one ministry saying, "The pile was too big, the pile was too steep."

The landslide Sunday covered an area of 380,000 square meters (450,000 square yards) with silt 10 meters (33 feet) deep, authorities said. At least 16 people were hospitalized, including children, the official Xinhua News Agency said.

The Shenzhen government said seven trapped people had been rescued and 85 others remained missing Monday evening. Earlier in the day it had said 91 people were missing and seven rescued, but it gave no explanation for the change in the missing. No deaths had been reported.

The landslide is the fourth major disaster to strike China in a year following a deadly New Year's Eve stampede in Shanghai, the capsizing of a cruise ship in the Yangtze River and a massive explosion at a chemicals warehouse in Tianjin on the coast near Beijing.

Human error has been suspected or confirmed in all three previous disasters, pointing to an often callous attitude toward safety in China despite the threat of harsh penalties.

In Sunday's landslide, the Ministry of Land and Resources said a steep man-made mountain of dirt, cement chunks and other construction waste had been piled up against a 100-meter (330-foot) -high hill

over the past two years.

Heavy rains in the region saturated the soil, making it heavy and unstable, and ultimately causing it to collapse with massive force.

"The pile was too big, the pile was too steep, leading to instability and collapse," the ministry said, adding that the original, natural hill remained intact.

Some residents blamed government negligence.

"If the government had taken proper measures in the first place, we would not have had this problem," said Chen Chengli.

Chen's neighbor, Yi Jimin, said the disaster wasn't an act of nature.

"Heavy rains and a collapse of a mountain are natural disasters, but this wasn't a natural disaster, this was man-made," Yi said.

Aerial photos from the microblog of the Public Security Ministry's Firefighting Bureau showed the area awash in a sea of red mud, with buildings either knocked on their side or collapsed entirely.

Posts on the microblog said the mud had filled many of the buildings, leaving the "room of survival extremely small."

Cellphone camera video of the disaster on state broadcaster CCTV showed a massive wall of debris slamming into the buildings and sending up huge plumes of dust.

A man who runs a store selling cigarettes and alcohol less than a kilometer (a half mile) from the site said local residents had known that the pile of soil was dangerous and feared something bad would happen.

"We heard a sound like an explosion and then all we saw was smoke," said the man, who gave only his surname, Dong. "We knew what had happened immediately."

The Ministry of Land and Resources said it had dispatched personnel to help guard against a second collapse.

The damaged buildings included 14 factories, two office buildings, one cafeteria, three dormitories and 13 sheds or workshops, Shenzhen Deputy Mayor Liu Qingsheng said at a news conference.

The Shenzhen government said 600 people had been relocated.

Nearly 3,000 people were involved in the rescue efforts, aided by 151 cranes, backhoes and other construction equipment, along with rescue dogs and specialized life-detecting equipment.

CCTV said President Xi Jinping and Premier Li Keqiang issued orders to make rescuing those trapped the top priority.

The initial landslide sparked an explosion in a gas pipeline owned by PetroChina, the country's top oil and gas producer. By Monday morning, the fire was extinguished and a temporary section of pipe was being laid.

Three decades of headlong economic growth have been catching up with China in terms of safety and damage to the environment. Many of the country's major cities suffer from chronic air pollution. A four-day smog red alert continued in Beijing on Monday, forcing schools to close, factories to curtail production and half the city's cars off the roads.

Spain: Socialists rule out support for conservative PM govt

CIARAN GILES, Associated Press

MADRID (AP) — Spain's leading opposition Socialist party Monday said it would vote against acting Prime Minister Mariano Rajoy's candidacy to form a new government, thus killing one of Rajoy's options to stay in power after voters elected a fragmented Parliament.

Rajoy's ruling conservative Popular party came first in Sunday's election with 123 seats but fell far short of the 176 majority and way below the 186 seats it won in 2011. Rajoy, seeking a second term, said he will "try to form a stable government" but has no immediately obvious partner to do that.

The Socialists came second with 90 seats and could seek a coalition with other leftist groups.

Socialist party official Cesar Luena said Rajoy's Popular Party, which won the most votes, should have the first crack at forming a government but ruled out supporting Rajoy, eliminating the already slim possibility of an unprecedented coalition of the two parties which had dominated Spanish politics for decades.

The inconclusive result paves the way to weeks or possibly months of negotiations. Craig Erlam, senior

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market analyst at OANDA in London, said Spain may now face an era of “political paralysis and instability.”

Spain’s benchmark Ibox 35 index down by nearly 2 percent in trading Monday, suggesting investor jitters following the result.

Two newcomer parties burst onto the scene, capitalizing on many voters’ disenchantment with high unemployment, a seemingly endless string of official corruption cases and disgust over the country’s political status quo.

Far-left Podemos gained 69 seats for third place, making it a possible king-maker, while the centrist, business-friendly Ciudadanos got an influential 40.

“Spain is not going to be the same anymore,” said jubilant Podemos leader Pablo Iglesias.

Rajoy’s best chance would seem to be with Ciudadanos — because of their shared center-right, business-friendly politics — but the party has ruled out supporting Rajoy as prime minister, chiefly because of corruption cases in his party.

Ciudadanos’ leader, Albert Rivera, said Monday that his party and the Socialists should abstain in the Parliament vote and give the Popular Party a possibility of forming a minority government.

“It’s the first time Spain has three large parties figuring out how to work together in order to have a functioning government,” said Federico Santi from the think-tank Eurasia Group. “It will take time to adjust to this.”

Under the constitution, King Felipe VI will invite a party leader — normally the party with the most votes — to form a government. The nominated leader must garner a majority of deputies’ votes in Parliament in a first round to take office, or the most votes in the second round.

Deputies take their seats by Jan. 13 but there is no time limit on staging the first vote. If the candidate is not immediately successful, Parliament has two months to elect a prime minister or call fresh elections.

AP Investigation: US power grid vulnerable to foreign hacks

GARANACE BURKE, Associated Press

JONATHAN FAHEY, Associated Press

EDITOR’S NOTE _ Part a yearlong effort by The Associated Press and the Associated Press Media Editors, examining the state of America’s infrastructure.

SAN JOSE, Calif. (AP) — Security researcher Brian Wallace was on the trail of hackers who had snatched a California university’s housing files when he stumbled into a larger nightmare: Cyberattackers had opened a pathway into the networks running the United States power grid.

Digital clues pointed to Iranian hackers. And Wallace found that they had already taken passwords, as well as engineering drawings of dozens of power plants, at least one with the title “Mission Critical.” The drawings were so detailed that experts say skilled attackers could have used them, along with other tools and malicious code, to knock out electricity flowing to millions of homes.

Wallace was astonished. But this breach, The Associated Press has found, was not unique.

About a dozen times in the last decade, sophisticated foreign hackers have gained enough remote access to control the operations networks that keep the lights on, according to top experts who spoke only on condition of anonymity due to the sensitive nature of the subject matter.

The public almost never learns the details about these types of attacks — they’re rarer but also more intricate and potentially dangerous than data theft. Information about the government’s response to these hacks is often protected and sometimes classified; many are never even reported to the government.

These intrusions have not caused the kind of cascading blackouts that are feared by the intelligence community. But so many attackers have stowed away in the systems that run the U.S. electric grid that experts say they likely have the capability to strike at will.

And that’s what worries Wallace and other cybersecurity experts most.

“If the geopolitical situation changes and Iran wants to target these facilities, if they have this kind of information it will make it a lot easier,” said Robert M. Lee, a former U.S. Air Force cyberwarfare operations officer. “It will also help them stay quiet and stealthy inside.”

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In 2012 and 2013, in well-publicized attacks, Russian hackers successfully sent and received encrypted commands to U.S. public utilities and power generators; some private firms concluded this was an effort to position interlopers to act in the event of a political crisis. And the Department of Homeland Security announced about a year ago that a separate hacking campaign, believed by some private firms to have Russian origins, had injected software with malware that allowed the attackers to spy on U.S. energy companies.

"You want to be stealth," said Lillian Ablon, a cybersecurity expert at the RAND Corporation. "That's the ultimate power, because when you need to do something you are already in place."

The hackers have gained access to an aging, outdated power system. Many of the substations and equipment that move power across the U.S. are decrepit and were never built with network security in mind; hooking the plants up to the Internet over the last decade has given hackers new backdoors in. Distant wind farms, home solar panels, smart meters and other networked devices must be remotely monitored and controlled, which opens up the broader system to fresh points of attack.

Hundreds of contractors sell software and equipment to energy companies, and attackers have successfully used those outside companies as a way to get inside networks tied to the grid.

Attributing attacks is notoriously tricky. Neither U.S. officials nor cybersecurity experts would or could say if the Islamic Republic of Iran was involved in the attack Wallace discovered involving Calpine Corp., a power producer with 82 plants operating in 18 states and Canada.

Private firms have alleged other recent hacks of networks and machinery tied to the U.S. power grid were carried out by teams from within Russia and China, some with governmental support.

Even the Islamic State group is trying to hack American power companies, a top Homeland Security official told industry executives in October.

Homeland Security spokesman SY Lee said that his agency is coordinating efforts to strengthen grid cybersecurity nationwide and to raise awareness about evolving threats to the electric sector through industry trainings and risk assessments. As Deputy Secretary Alejandro Mayorkas acknowledged in an interview, however, "we are not where we need to be" on cybersecurity.

That's partly because the grid is largely privately owned and has entire sections that fall outside federal regulation, which experts argue leaves the industry poorly defended against a growing universe of hackers seeking to access its networks.

As Deputy Energy Secretary Elizabeth Sherwood Randall said in a speech earlier this year, "If we don't protect the energy sector, we are putting every other sector of the economy in peril."

THE CALPINE BREACH

The AP looked at the vulnerability of the energy grid as part of a yearlong, AP-Associated Press Media Editors examination of the state of the nation's infrastructure. AP conducted more than 120 interviews and examined dozens of sets of data, government reports and private analyses to gauge whether the industry is prepared to defend against cyberattacks.

The attack involving Calpine is particularly disturbing because the cyberspies grabbed so much, according to interviews and previously unreported documents.

Cybersecurity experts say the breach began at least as far back as August 2013, and could still be going on today.

Calpine spokesman Brett Kerr said the company's information was stolen from a contractor that does business with Calpine. He said the stolen diagrams and passwords were old — some diagrams dated to 2002 — and presented no threat, though some outside experts disagree.

Kerr would not say whether the configuration of the power plants' operations networks — also valuable information — remained the same as when the intrusion occurred, or whether it was possible the attackers still had a foothold.

According to the AP investigation, the hackers got:

—User names and passwords that could be used to connect remotely to Calpine's networks, which were being maintained by a data security company. Even if some of the information was outdated, experts say

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skilled hackers could have found a way to update the passwords and slip past firewalls to get into the operations network. Eventually, they say, the intruders could shut down generating stations, foul communications networks and possibly cause a blackout near the plants.

—Detailed engineering drawings of networks and power stations from New York to California — 71 in all — showing the precise location of devices that communicate with gas turbines, boilers and other crucial equipment attackers would need to hack specific plants.

—Additional diagrams showing how those local plants transmit information back to the company's virtual cloud, knowledge attackers could use to mask their activity. For example, one map shows how information flows from the Agnews power plant in San Jose, California, near the San Francisco 49ers football stadium, to the company headquarters in Houston.

Wallace first came across the breach while tracking a new strain of noxious software that had been used to steal student housing files at the University of California, Santa Barbara.

"I saw a mention in our logs that the attackers stored their malware in some FTP servers online," said Wallace, who had recently joined the Irvine, Calif.-based cybersecurity firm Cylance, Inc., fresh out of college. "It wasn't even my job to look into it, but I just thought there had to be something more there."

Wallace started digging. Soon, he found the FTP servers, typically used to transfer large numbers of files back and forth across the Internet, and the hackers' ill-gotten data — a tranche of more than 19,000 stolen files from thousands of computers across the world, including key documents from Calpine.

Before Wallace could dive into the files, his first priority was to track where the hackers would strike next — and try to stop them.

He started staying up nights, often jittery on Red Bull, to reverse-engineer malware. He waited to get pinged that the intruders were at it again.

Months later, Wallace got the alert: From Internet Protocol addresses in Tehran, the hackers had deployed TinyZbot, a Trojan horse-style of software that the attackers used to gain backdoor access to their targets, log their keystrokes and take screen shots of their information. The hacking group, he would find, included members in the Netherlands, Canada, and the United Kingdom.

The more he followed their trail, the more nervous Wallace got. According to Cylance, the intruders had launched digital offensives that netted information about Pakistan International Airlines, the Mexican oil giant Pemex, the Israel Institute of Technology and Navy Marine Corps Intranet, a legacy network of the U.S. military. None of the four responded to AP's request for comment.

Then he discovered evidence of the attackers' most terrifying heist — a folder containing dozens of engineers' diagrams of the Calpine power plants.

According to multiple sources, the drawings contained user names and passwords that an intruder would need to break through a firewall separating Calpine's communications and operations networks, then move around in the network where the turbines are controlled. The schematics also displayed the locations of devices inside the plants' process control networks that receive information from power-generating equipment. With those details, experts say skilled hackers could have penetrated the operations network and eventually shut down generating stations, possibly causing a blackout.

Cylance researchers said the intruders stored their stolen goods on seven unencrypted FTP servers requiring no authentication to access details about Calpine's plants. Jumbled in the folders was code that could be used to spread malware to other companies without being traced back to the attackers' computers, as well as handcrafted software designed to mask that the Internet Protocol addresses they were using were in Iran.

Circumstantial evidence such as snippets of Persian comments in the code helped investigators conclude that Iran was the source of the attacks.

Calpine didn't know its information had been compromised until it was informed by Cylance, Kerr said.

Iranian U.N. Mission spokesman Hamid Babaei did not return calls or address questions emailed by AP.

Cylance notified the FBI, which warned the U.S. energy sector in an unclassified bulletin last December that a group using Iran-based IP addresses had targeted the industry.

Whether there was any connection between the Iranian government and the individual hackers who

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Wallace traced — with the usernames parviz, Alireza, Kaj, Salman Ghazikhani and Bahman Mohebbi — is unclear.

A 'LUCRATIVE' TARGET

Cyberattacks designed to steal information are steadily growing in scope and frequency; there have been high-profile hacks of Target, eBay and federal targets such as the U.S. Office of Personnel Management. But assaults on the power grid and other critical infrastructure aim to go a step further.

Trained, well-funded adversaries can gain control of physical assets — power plants, substations and transmission equipment. With extensive control, they could knock out the electricity vital to daily life and the economy, and endanger the flow of power to mass transportation, military installations and home refrigerators.

In the summer of 2014, a hacker of unknown origin, using masking software called Tor, took over the controls of a large utility's wind farm, according to a former industry compliance official who reviewed a report that was scrubbed of the utility's name. The hacker then changed an important setting, called the automatic voltage regulator, from "automatic" to "manual," he said.

That seemingly simple change to any power plant can damage the generator and destabilize parts of the nearby grid if the plant's output is high enough.

Last year, Homeland Security released several maps that showed a virtual hit list of critical infrastructure, including two substations in the San Francisco Bay area, water and gas pipelines and a refinery. And according to a previously reported study by the Federal Energy Regulatory Commission, a coordinated attack on just nine critical power stations could cause a coast-to-coast blackout that could last months, far longer than the one that plunged the Northeast into darkness in 2003.

"The grid is a tough target, but a lucrative target," said Keith Alexander, the former director of the National Security Agency who now runs a cybersecurity firm. The number of sophisticated attacks is growing, he said. "There is a constant, steady upbeat. I see a rising tide."

No one claims that it would be easy to bring down the grid. To circumvent companies' security, adversaries must understand the networks well enough to write code that can communicate with tiny computers that control generators and other major equipment. Even then, it's difficult to cause a widespread blackout because the grid is designed to keep electricity flowing when equipment or lines go down, an almost daily occurrence that customers never see.

Because it would take such expertise to plunge a city or region into darkness, some say threats to the grid are overstated — in particular, by those who get paid to help companies protect their networks. Still, even those who said the risks of cyber threats can be exaggerated agree it is possible for cyberattackers to cause a large-scale blackout.

And nearly everyone agrees that there are weaknesses that open the door to malefactors.

Traditional central power stations and transmission systems include equipment that is decades old and physically unable to handle electronic threats. Some run on machines that use software that is so old that malware protections don't exist, such as Windows '95 and FORTRAN, a programming language developed in the 1950s.

At the Tennessee Valley Authority, a corporation owned by the federal government that powers 9 million households in the southeastern U.S., a former operations security expert said in recent years he saw passwords for some key operating systems stored on sticky notes.

"Some of the control systems boot off of floppy disks," said Patrick Miller, who has evaluated hydroelectric dam cybersecurity for the U.S. Bureau of Reclamation and Army Corps of Engineers. "Some dams have modeling systems that run on something that looks like a washing machine hooked up to tape spools. It looks like the early NASA stuff that went to the moon."

The rush to tie smart meters, home programmable thermostats and other smart appliances to the grid also is causing fresh vulnerabilities.

About 45 percent of homes in the U.S. are hooked up to a smart meter, which measures electricity usage and shares information with the grid. The grid uses that information to adjust output or limit power

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deliveries to customers during peak hours.

Those meters are relatively simple by design, mostly to keep their cost low, but their security is flimsy. Some can be hacked by plugging in an adapter that costs \$30 on eBay, researchers say.

FERC recently raised concerns about another area that is not covered by federal cybersecurity rules: contractors that sell energy companies software and equipment. As is evident from the Calpine incident, attackers have used outside companies to pull off hacks against energy companies.

"We've got these vulnerable systems out there that are old and never had security built into them, and now we're exposing them to a wider audience," said Justin Lowe, a utility cybersecurity expert at PA Consulting Group.

"That wider audience is getting much more hostile."

DEFENDING THE GRID

The full extent of the attacks on the grid is not public knowledge. A Freedom of Information Act request by the AP for information regarding any FBI investigations of such hacks was not fulfilled. The Department of Justice said that agency kept no record of how often any such cases had been prosecuted.

The North American Electric Reliability Corporation, which oversees the reliability of the electrical sector, collects information about cyber incidents involving utilities and other users, owners, and operators of the bulk power system — but it is scrubbed of identifying information and details are confidential and exempt from disclosure under FOIA.

Authorities say they take the threat seriously. In response to a FOIA request, Homeland Security said it had helped more than 100 energy and chemical companies improve their cyber defenses, and held both classified and unclassified briefings in June 2013 and late 2014 on threats to companies associated with power grid operations.

A small DHS team compiles statistics about hacks and vulnerabilities on control systems powering the grid and other public infrastructure, and responds to some attacks. But former federal employees who spoke on the condition of anonymity because the information was sensitive said government red tape kept the team from thoroughly responding to the smaller municipal and rural utilities that most needed their help, and that the statistics overstated the agency's grasp of the problem.

The companies themselves say they are vigilant — though they caution no fortifications are foolproof.

Early this year, an operations supervisor in Virginia for a subsidiary of American Electric Power — the nation's largest power grid operator, with operations in 38 states — opened a personal email on a company laptop and unwittingly downloaded a piece of malware called CryptoLocker.

Known as "ransomware," CryptoLocker is a relatively common type of malware that reaches to outside servers, usually overseas, and downloads encryption instructions that scramble a computer's contents, making them inaccessible to anyone without a specific "key." The malware then moves through a computer — and computer network — and encrypts all the files it can, keeping users from accessing anything.

In exchange for a fee, the hackers provide the victim a key that allows the files to be unlocked.

Members of AEP's cyber-security team — housed in the company's Columbus, Ohio, headquarters behind an unmarked door that unlocks with a fingerprint scanner — saw the strange network behavior as soon as it started.

"When you see this (code) attempting to hit thousands of systems outside of the AEP network, that's a 'holy crap' moment," said Sean Parcel, AEP's lead cyberinvestigator.

Had CryptoLocker wormed its way into AEP's system, the business and operations networks could have locked up, experts say.

But Parcel said AEP's cyberteam already had blocked the foreign addresses that the malware needed to reach to start encrypting files, part of a policy of systematically blocking hundreds of Internet Protocol addresses each week to keep employees from inadvertently downloading malicious code.

AEP said the team remotely isolated and erased the supervisor's computer before its systems were affected.

Like most big utilities, AEP's power plants, substations and other vital equipment are managed by a network that is separated from the company's business software with layers of authentication, and is not

accessible via the Internet. Creating that separation, and making sure that separation is maintained, is among the most important things utilities can do to protect the grid's physical assets.

But cybersecurity experts say the protective gaps between computer systems that manage utilities' business operations and machines that manage their grids are not always as wide or as unbridgeable as utilities say they are. And even the utilities' own experts, who maintain it would be extraordinarily difficult for a hacker to knock out power to customers, admit there is always a way in.

"If the motivation is high enough on the attacker side, and they have funding to accomplish their mission," Parcel said, "they will find a way."

Clinton avoids campaign diet pitfalls with hot peppers, yoga

LISA LERER, Associated Press

WASHINGTON (AP) — Gone are the Bojangles fried chicken and biscuits. When supporters offer Tex-Mex, she takes a salad. And forget about cake (most of the time).

As Hillary Clinton knows from previous presidential campaigns, politicking means picking your food carefully.

When her staff laid out a spread of pulled pork and beans from Whole Hog Cafe after a stop in Little Rock, the Democratic front-runner ate a single tomato slice. Though she forgoes a Fitbit to count her steps, Clinton sends her campaign team to scout out secluded tracks for brisk walks and hotel rooms with space for yoga. And she swears by the weight-loss power of hot peppers, keeping red pepper flakes on hand when on the road.

Since launching her 2016 bid in April, Clinton has embarked on a diet and fitness regimen, hoping to stave off the pounds that afflict most every White House hopeful amid the near-sleepless nights and temptation of nonstop snacking during a campaign.

Among supporters, her significant weight-loss — along with a style makeover — are subjects of constant chatter.

"She must be doing something right that I couldn't figure out how to do politically and gastronomically," said former Vermont Gov. Howard Dean, a Clinton backer who said he added 35 pounds, ballooning up to 195, during his eight-month campaign for president in 2004. "I don't know how people stay trim on the campaign trail."

All candidates have their tricks for staying fit while hustling for votes. President Barack Obama has often complained about the fried food that is a staple of campaign stops and is a regular at the gym, even when traveling. Kentucky Sen. Rand Paul avoids fries. Republican Jeb Bush is a devotee of the Paleo diet, claiming to have lost 40 pounds by cutting carbs and dairy.

"I'm not skinny," he said this fall. "I'm perfectly sized."

But no politician's looks have been scrutinized as long or as intensely as Clinton's, whose appearance has been a topic of conversation for decades.

"It's a daily challenge," she said earlier this year to a participant in a Facebook chat, who asked how she manages to get camera-ready each morning. "I do the best I can — and as you may have noticed, some days are better than others!"

Unlike her self-described "vegan-ish" husband and gluten-free daughter, aides say Clinton doesn't follow a specific diet plan. Instead, they say, she goes by the general rule of "if it looks bad for you, it's probably bad for you."

Her one secret: Raw hot peppers. At a farm stand in Davenport, Iowa, this fall, Clinton detailed scientific research on the health effects of spicy food, telling a cashier that she finds eating raw jalapenos "so refreshing."

"During 2008, there was not a day or a minute that went by that we didn't have a full plate of raw jalapenos," said Jamie Smith, a 2008 campaign aide, who once received a pep talk from Clinton about her inability to handle their heat. "She ate them like potato chips."

Former and current staffers describe her food tastes as surprisingly normal, saying she snacks on cheddar Goldfish crackers.

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While she would occasionally indulge when she campaigned for fellow Democrats during the 2014 elections, snacking on fried chicken and Mexican food, Clinton has now adopted more discipline.

Dining with supporters in Washington earlier this month at Etto, an Italian restaurant known for its wood-fired pizzas, Clinton opted for a cauliflower salad.

At the Iowa State Fair, an annual calorie-rich stop for candidates, she picked up a pork chop on a stick, but ate only three bites in public. (Aides say she later ate the whole chop — not because it was a political obligation, but because she said it was “delicious.”)

Clinton has been fairly candid about the struggles of eating right during her time in public life and has over the decades met with a series of nutrition gurus. In the 1990s, with low-fat diets on the rise, she invited Dean Ornish into the White House to lighten up the presidential menu.

Eventually, Clinton fired chef Pierre Chambrin, known for his butter-laden French fare, and hired Walter Scheib, who specialized in lower-fat food — and would agree to provide meal-by-meal calorie counts. Any diet that Clinton tried, Scheib did, too.

Many of their meals centered on fish and vegetables. Clinton favored hummus, had a collection of more than 100 hot sauces and a weakness for mocha cake and Dove ice cream bars — a favorite of daughter Chelsea.

After leaving office, both Clintons flirted with the low-carb South Beach diet before meeting Mark Hyman, the director of the Cleveland Clinic Center for Functional Medicine, who advocates for a mix of whole foods, proteins and natural fats.

But some campaign rigors call for special indulgences. After her 11-hour testimony before congressional Republicans in October, Clinton took a quick break from calorie-counting.

“I had my whole team come over to my house, and we sat around eating Indian food and drinking wine and beer,” she said in an interview with MSNBC the next day. “That’s what we did. It was great.”

Today in History The Associated Press

Today in History

Today is Monday, Dec. 21, the 355th day of 2015. There are 10 days left in the year. Winter arrives at 11:48 p.m. Eastern time.

Today’s Highlight in History:

On Dec. 21, 1945, U.S. Army Gen. George S. Patton, 60, died in Heidelberg, Germany, 12 days after being seriously injured in a car accident.

On this date:

In 1620, Pilgrims aboard the Mayflower went ashore for the first time at present-day Plymouth, Massachusetts.

In 1864, during the Civil War, Union forces led by Maj. Gen. William T. Sherman concluded their “March to the Sea” as they captured Savannah, Georgia.

In 1879, the Henrik Ibsen play “A Doll’s House” premiered at the Royal Theater in Copenhagen.

In 1914, the first feature-length silent film comedy, Mack Sennett’s “Tillie’s Punctured Romance,” starring Marie Dressler, Mabel Normand and Charlie Chaplin, premiered. The U.S. government began requiring passport applicants to provide photographs of themselves.

In 1937, Walt Disney’s first animated feature, “Snow White and the Seven Dwarfs,” had its world premiere in Los Angeles.

In 1940, author F. Scott Fitzgerald died in Hollywood, California, at age 44.

In 1958, Charles de Gaulle was elected to a seven-year term as the first president of the Fifth Republic of France.

In 1968, Apollo 8 was launched on a mission to orbit the moon.

In 1971, the U.N. Security Council chose Kurt Waldheim to succeed U Thant as Secretary-General.

In 1976, the Liberian-registered tanker Argo Merchant broke apart near Nantucket Island, off Massa-

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achusetts, almost a week after running aground, spilling 7.5 million gallons of oil into the North Atlantic.

In 1988, 270 people were killed when a terrorist bomb exploded aboard a Pam Am Boeing 747 over Lockerbie, Scotland, sending wreckage crashing to the ground.

In 1995, the city of Bethlehem passed from Israeli to Palestinian control.

Ten years ago: The Senate rejected opening the Arctic National Wildlife Refuge to oil drilling. The Senate approved a six-month extension of the USA Patriot Act to keep the anti-terror law from expiring on Dec. 31, 2005.

Five years ago: The Census Bureau announced that the nation's population on April 1, 2010, was 308,745,538, up from 281.4 million a decade earlier. A divided Federal Communications Commission approved, 3-2, new rules known as "net neutrality" meant to prohibit broadband companies from interfering with Internet traffic flowing to their customers. The No. 1-ranked Connecticut women's basketball team topped the 88-game winning streak by John Wooden's UCLA men's team from 1971-74, beating No. 22 Florida State 93-62. Chip Kelly, in just his second season leading Oregon, was voted AP Coach of the Year.

One year ago: Jordan Axani, a 28-year-old businessman from Toronto, and a woman he'd never met before, Elizabeth Quinn Gallagher, a 23-year-old student from Nova Scotia, set out on a round-the-world trip. (Axani had advertised on social media for a travel companion after breaking up with his girlfriend, also named Elizabeth Gallagher; the companion was required to be a Canadian named Elizabeth Gallagher to take advantage of the non-refundable, non-exchangeable airline tickets.) Actress Billie Whitelaw, 82, died in London.

Today's Birthdays: Country singer Freddie Hart is 89. Talk show host Phil Donahue is 80. Movie director John Avildsen is 80. Actress Jane Fonda is 78. Actor Larry Bryggman is 77. Singer Carla Thomas is 73. Musician Albert Lee is 72. Conductor Michael Tilson Thomas is 71. Actor Josh Mostel is 69. Actor Samuel L. Jackson is 67. Movie producer Jeffrey Katzenberg is 65. Singer Betty Wright is 62. International Tennis Hall-of-Famer Chris Evert is 61. Actress Jane Kaczmarek is 60. Country singer Lee Roy Parnell is 59. Entertainer Jim Rose is 59. Former child actress Lisa Gerritsen is 58. Actor-comedian Ray Romano is 58. Country singer Christy Forester (The Forester Sisters) is 53. Rock musician Murph (The Lemonheads; Dinosaur Jr.) is 51. Actor-comedian Andy Dick is 50. Rock musician Gabrielle Glaser is 50. Actress Michelle Hurd is 49. Actor Kiefer Sutherland is 49. Actress Karri Turner is 49. Actress Khristyne Haje is 47. Country singer Brad Warren (The Warren Brothers) is 47. Actress Julie Delpy is 46. Country singer-musician Rhean (rehn) Boyer (Carolina Rain) is 45. Contemporary Christian singer Natalie Grant is 44. Actor Glenn Fitzgerald is 44. Singer-musician Brett Scallions is 44. World Golf Hall of Famer Karri Webb is 41. Rock singer Lukas Rossi (Rock Star Supernova) is 39. Actress Rutina Wesley (TV: "True Blood") is 37. Rock musician Anna Bulbrook (Airborne Toxic Event) is 33. Country singer Luke Stricklin is 33. Actor Steven Yeun is 32. Actress Kaitlyn Dever is 19.

Thought for Today: "It is not necessary to understand things in order to argue about them." - Pierre Augustin Caron de Beaumarchais, French author and dramatist (1732-1799).