Factoid

The fastest wind speed ever recorded is 484±32 km/h (301±20 mph). This was a 3 second gust recorded by a Doppler on Wheels (DOW) radar unit in Oklahoma City, OK on May 3, 1999.

Season's Greetings

On behalf of the entire High Sierra Electronics, Inc. team, we once again give our deepest gratitude to all our clients and business partners that have helped make 2015 such a memorable year for us. We look forward to exploring opportunities and facing new challenges with you in the upcoming New Year. From our Family to yours, have a safe and happy holiday season.

The Sierra Summit is published by High Sierra Electronics, Inc. for companies, agencies, and individuals devoted to environmental monitoring. It is distributed without charge.

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THE SIERRA SUMMIT
A Newsletter for Customers of High Sierra Electronics

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ADDRESS CORRECTION REQUESTED

SIERRA SUMMIT CHALLENGE

Try answering these questions related to Remote Sensing. Enjoy and good luck.

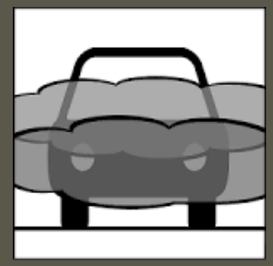
1. A satellite in a geosynchronous orbit circles the Earth along the equatorial plane at a speed matching the Earth's rotation.
   a) True
   b) False

2. GOES satellites are capable of providing image types of clouds and moisture in three primary forms:
   a) Visible, infrared, and water vapor imagery
   b) Liquid, solid, and gas
   c) Clear, cloudy, and rainy places

3. Concerning GOES satellites, which of the following are true?
   a) Always located in the same spot of the sky relative to the earth.
   b) Orbits at an altitude of about 22,000 miles.
   c) Can record images as fast as once every minute.
   d) View is always from same perspective so motion of clouds over the earth's surface can be computed.
   e) All of the above.

ANSWERS INSIDE

INSIDE THIS ISSUE



Dynamic Alert
Fog Warning System

Brunswick Road Project
Grass Valley, CA

Did You Know?

On Venus, and other moons and planets, rain is made of sulfuric acid or methane. Even stranger: on a planet 5,000 light years away, scientists found raindrops made of iron rather than water.

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Winter Issue: Volume 21: December 2015

GRATITUDE

Another year has almost come and gone before our very eyes. However you care to measure it — 12 months, 365 days, or 525,600 minutes, we now stand at the forefront of 2016. It's been a very busy year for HSE. We've reached new goals and met new challenges while experiencing one of the most successful years in our 23-year history. And we know that none of that would be possible without our customers and business partners. That is why we owe you, our valued clients, our gratitude and sincere thanks.

"Gratitude makes sense of our past, brings peace for today, and creates a vision for tomorrow."
-M. Beattie

SAFEGUARD YOUR SYSTEM

Trained field technicians can make scheduled visits to any site where HSE equipment is installed. Preventative maintenance contracts can be purchased on a one-time or annual basis. This service can include provision for spare parts and refurbishment materials. All maintenance activities are well documented for your records. To find out more, contact High Sierra Electronics, Inc. at: sales@highsierraelectronics.com or call us at 800-275-2080.

SURFACE SENTINEL

1. Do you need to accurately monitor pavement surface temperature?
2. Want to remotely trigger flashing beacons or an embedded LED sign to warn motorists of unsafe conditions?
3. Interested in a low-cost way to fill-in gaps between existing weather stations?

If you answered yes to any of these questions, then the Model 5349 Surface Sentinel is a wise choice. The Surface Sentinel is a non-intrusive surface temperature sensor for fixed locations. Mounted on a pole or tower next to the road surface, the sensor provides the user with surface temperature, relative humidity and dew point, and also air temperature. It can be used for remote monitoring or in an autonomous system.

In the remote monitoring configuration, the Surface Sentinel can be connected to the Model 3306 line of ALERT Transmitters or Model 3512 HydroMet Datalogger to send data to a central software system. The standard open-architecture data output is available via SDI-12 to provide a common interface to industry standard datalogger and telemetry options. In the autonomous system configuration, the contact output can be used to trigger ITS devices based on user-defined sensor thresholds. For more information, consult our web site at www.highsierraelectronics.com or call us at 1-800-275-2080.

6 THINGS YOU SHOULD KNOW

About the Wettest Year on Record for North Texas

1. On 11/30/15, Dallas-Fort Worth International Airport reported 58.78” for 2015. A normal season sees 36.14” in a year, according to the NWS.
2. November was the wettest on record at 9.86”. The previous record was 7.94” in November 1918. Between Thanksgiving and the following Monday morning, DFW International recorded 8”, while areas north of Dallas-Fort Worth saw nearly 12”, says the NWS.
3. September, October, and November noted a record 21.82” of rainfall in Dallas-Fort Worth. The previous wettest Fall was in 1981, when DFW recorded 18.11”.

4. The month of May was also very wet. DWF International recorded nearly 17” of rain in May, which smashed the May 1982 record of 13.66”.
5. More than 90% of the State of Texas is no longer experiencing any drought. Less than 1% of the State is still in a moderate drought, an area west of Wichita Falls including Wilbarger and Foard Counties.
6. According to NOAA, a strong El Nino will impact weather in Texas over the next few months. Much of the southern US will see wetter conditions. Texas is also expected to see below-normal temperatures in December, January, and February.

2015 WEATHER ANOMALY

The first three months of 2015 were the warmest January-March on record for the globe according to NOAA. The first quarter of 2015 topped the previous record set in 2002.

In their annual state of the Climate report, March 2015 was the warmest March globally. Only two other months, February 1998 and January 2007, had higher global temperatures anomalies than March 2015.

PRODUCT ALERT

8” Tipping Bucket Rain Gauge

HSE has reintroduced the Model 2408 8” Tipping Bucket Rain Gauge. The new design incorporates a Tip Rate Compensator (TRC) for unparalleled performance and accuracy. The TRC adds a correction to the accumulated rain totals to compensate for very high rain rates. The 2408 has been designed to factor in losses in collected water that occur each time the tipping bucket passes through the center point.

The Model 2408 is constructed entirely of corrosion-resistant materials for trouble-free operation. The gauge’s 8” diameter enclosure is powder-coated and includes a cast aluminum base section with machined aluminum tipping bucket, and an 8” diameter funnel made of GE Xenoy® resin. (The same material used for the NWS 8” observer Rain Gauge.) The 2408 has a built-in level indicator and pre-drilled tabs for convenient mounting on either a platform or pole base-plate.

Learn more about the 2408 by visiting our web site at www.highsierraelectronics.com or calling 800-275-2080.

FIRMWARE UPDATE

HSE is pleased to announce the latest 3306/3316 Data Transmitter firmware updates:

- ✓ Vector Wind – Average Wind Speed and Direction Virtual Sensors
- ✓ SDI-12: Listen-Only Capability
- ✓ Two-way ALERT controller functionality
- ✓ Road-Ice Virtual sensor to detect road condition (dry, wet or icy)
- ✓ Support for interrogating the transmitter over a cell modem
- ✓ ALERT2 Specific:
  - Transmitter synchronizes to the UTC time from the encoder board
  - Cyclic PDU enabled for diagnostic purposes at the base station
  - GPS Status Sensor
  - Support of Multi-sensor Report type. This includes the use of the new Vector Wind Speed and Direction sensors

Please call us at 1-800-275-2080 or e-mail sales@highsierraelectronics.com to receive access to HSE’s FTP site and instructions on how to download firmware updates V4.00.00 and insight 4.05.00.

DYNAMIC ALERT

Fog Warning System

A good example of a Road Weather Alert System (RWAS) is a fog warning system HSE deployed in Southwest Illinois. There, a power plant creates localized, dense fog along the adjacent roadway. The power plant creates its own micro-climate by adding water vapor from its steam vents and when the atmospheric conditions are just right, fog forms, causing a major hazard for the traveling public.

A fog warning detection system, comprised of five visibility sensors, was installed along the roadway to increase public safety. When any of the sensors detect fog, a signal is sent over a radio system to activate a message sign that reads “Reduce Speed”. A pair of flashing beacons with a sign that reads “Fog/Ice Ahead” is installed at opposite ends of the roadway. This dynamic warning to motorists provides the information needed to make the decision to reduce their speed and proceed with caution.

The RWAS concept can be applied to many other weather-related hazards such as icy roads, flooded roadways and/or high winds. Please contact HSE to learn more about sensor options and system packages by calling 800-275-2080 or sending an email to sales@highsierraelectronics.com.

THINKING AHEAD

Flood warning systems need regular care. Batteries need replacing, solar panels need cleaning, instruments need calibration, and radios need tuning. HSE can help you with replacement parts and product support.

All of our technicians and engineers have extensive field experience, so they’re skilled in evaluating and troubleshooting hardware. Our Grass Valley-CA facility is equipped with environmental chambers, test equipment for tuning radios and calibrating pressure-sensitive devices, and computer systems for running diagnostic and test programs.

ADVICE FROM THE FIELD

Tip: Eliminating Spider Webs for Radar Sensors

Kim Spring, Lavaca Navidad River Authority – TX

“At LNRA we’re been gradually installing radar sensors for monitoring water level. We started having problems with spider webs, though, causing erratic readings. When I mentioned the problem to Terrell Fletcher, a respected colleague, he suggested inserting foam into the end of the horn. I cut pieces of foam slightly larger than the diameter and ‘jammed’ them in. Sure enough, that solved the spider problem”.

HOME GROWN

Brunswick Road Project, Grass Valley-CA

HSE was awarded a project this past June to manufacture and install an IceSight sensor for use along the Brunswick Road corridor in their home town of Grass Valley, CA.

The newly improved intersection at Brunswick Road and Loma Rica Drive includes an IceSight sensor, mounted on the signal cross arm, to monitor pavement conditions. When the road surface reaches a pre-determined unsafe level, a fixed message sign warns drivers to slow down. The site’s inaugural activation occurred on Sunday, 20 December 2015.

Answers to Sierra Summit Challenge on back page

1. *True*
2. *A –Visible, infrared, and water vapor imagery*
3. *E – All of the above*