

INSIDE THIS ISSUE

Surface Sentinel
Mobile Road Surface Condition Sensor

Advice from the Field:
Solar Radiation Sensors

HydroMet Data Logger



THE SIERRA SUMMIT

A Newsletter for Customers of High Sierra Electronics

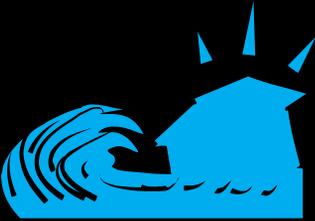
Spring Issue : Volume 17 : December 2012

Product "ALERT"

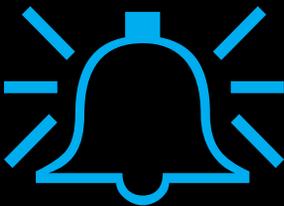
Levee Erosion
Monitoring System



Flood Risk
After a Wildfire



SPOTLIGHT:
RWIS for NYSDOT



Did you Know?

Of the 80,000 dams in
the U.S., only 3% currently
create electricity.

-HydroReview Magazine 7/2012

CELEBRATION

As 2012 comes to a close, we are pleased to acknowledge and celebrate our customer successes. These include helping the City of Overland Park, KS transition to ALERT2, upgrading the Papio-Missouri River NRD's legacy flood warning system, and developing new partnerships with agencies like PennDOT to improve public safety along potentially hazardous roadways. There are any number of stories and solutions that we've been a party to this year, each unique and always gratifying when up 'n running. Here's a fine example:

"Just wanted to let you know that I appreciate the guidance Jim shared with me in tuning my Receiver. It has worked well. The resolution of this historical issue has resulted in a major improvement to our system and has meant a great reduction of received transmissions from all areas of California and even Nevada. Thanks to you and all the High Sierra staff for your support over the years."

Ken Stumpf
Supervising Hydrographer
Santa Clara Valley Water District

Example of work performed for
City of Grand Prairie, TX



CHA-CHING!

HSE is pleased to offer our customers flexible financing options from Marlin Business Service Corp. This program provides an effective solution for purchasing equipment, software and services.

Why Finance?

Leasing is an effective alternative to large capital purchases. It helps cut through the red tape of securing approval on large purchases by offering affordable payments that can often be authorized within the department requesting the equipment.

Who is Eligible?

County and City Governments
State Agencies
School, Fire & Water Districts
Municipal Corporations

Why Marlin?

Marlin Business Services Corp. is a nationwide provider of equipment and software financing, specializing in innovative solutions for small and mid-size agencies. They offer personalized one-to-one service from an experienced account manager. Terms and a payment schedule are tailored to fit your cash flow with pre-approval notification usually within 2 hours and funding within 24 hours of acceptance. Marlin is well capitalized and acquires funding support internally through Marlin Business Bank.

Visit HSE's web site, click on Customer Service Financing to learn more. There's even an online finance calculator to help show the monies saved through equipment leasing.

FLOOD RISK AFTER A WILDFIRE

Many areas in the western states are at an increased flood risk due to wildfires in recent years. After a wildfire, the charred ground where vegetation has burned away cannot easily absorb rainwater, increasing the risk of flooding and mudflows over a number of years.

Properties directly affected by fires are those located below or downstream of burn areas. Watershed assessments are performed post-fire and often include detailed maps depicting hazards and low lying areas that may be threatened by mudslides, debris flows, or prone to contaminated water supplies. The fact of the matter is: when fires and floods mix, bad things happen.

Post-wildfire debris flows can destroy houses, bury or wash out roads, contaminate reservoirs, block drainages and water pipes, and threaten lives. Some flows are strong enough to carry boulders, cars and parts of houses. This threat can last for years or decades. Larger trees that are killed by fire leave their roots in the ground, and as those decay or give way during the coming years, can perpetuate the risk of debris flows.



Example of a debris flow. Photo taken near Big Sur, CA following the Basin Complex / Indians fires.

An unfortunate example is the aftermath of the Waldo Canyon Fire near Colorado Springs, CO. In late July one area between Denver and Colorado Springs received 2.5 inches of rain in a single hour. A mudslide from the High Park burn area covered the highway with ash, branches, and black mud up to a foot deep. Another example are the flows from Colorado's 2002 Hayman fire, which destroyed homes and washed out a highway *four* years after the fire.

The key, according to the U.S. Department of Agriculture Undersecretary Harris Sherman is a solid post-fire recovery effort. "Obviously if we can deal with potential flooding and erosion concerns early on, we will all be much better off." Tactics include building water bars, removing hazardous trees and spreading seed to help offset the damage done by the fire(s). HSE can also assist agencies with flood safety precautions by helping to replace damaged equipment and/or adding new sites for additional monitoring.

PRODUCT "ALERT" Remote Erosion Monitoring System

HSE is pleased to introduce an innovative early warning Levee Erosion Monitoring System. Applications include known sites where erosion has already occurred, but repairs have not yet taken place; areas upstream and downstream of stretches of levee that have been rock faced; locations exposed to potential high flow velocities (as determined by hydraulic modeling); and, urban levees where advance warning can provide a more timely evacuation and reduce loss of life.

During high water events, erosion can take place at or below the water surface. Even if a levee is being patrolled during an event, unseen erosion can be threatening the levee's structural integrity. The Remote Erosion Monitoring System (REMS) can provide advance warning that erosion has taken place before the water recedes. This early warning can provide time to fight the problem immediately where possible, warn emergency managers and when appropriate, evacuate citizens that are at risk behind the levee.



Embedded Beacon

Roughly the size of a softball and constructed from a high impact plastic. "Asleep" until it is released into the flow by erosion and awakened by an internal motion sensor. Floats downstream continuously transmitting its identification number. Battery life greater than 25 years.

Signal Receiver

Installed at strategic locations, plus in mobile patrol trucks. Beacon ID is transmitted to a data center that is continuously monitoring the system. Transmission of the signal can be via commercial satellite or GPRS.

Data Center

All beacon IDs are entered into a database that links each ID to a specific location and depth embedded in the levee. When a signal is received, alarm messages are sent immediately to personnel via text message and e-mail.

For additional information please contact HSE at 800-275-2080 or send an e-mail to sales@highsierraelectronics.com.

ADVICE FROM THE FIELD

Jerry Bloom, Field Service Technician
High Sierra Electronics, Inc.
Tip: Mounting Solar Radiation Sensors

Solar radiation sensors can be mounted on a standpipe or pole. They should always be located in an open area, in full view of the sun at all times. When mast-mounting or placing in an area where nearby obstructions are present, locate the sensor to the south of all obstacles. This will prevent shadows created by the nearby obstacles from passing over the sensor. These sensors are usually mounted a minimum of two meters above ground level.

HOSTED DATA MONITORING SERVICES

In addition to delivering outstanding products, HSE is now offering it's customers Hosted Data Monitoring Services.

Visualization of information from flood warning and RWIS networks in a matter of seconds is critical in the decision-making process. Allowing multiple viewers to access that real-time data anywhere they can access the web is of even more value. With HSE's Hosted Data Monitoring Service, authorized users can quickly see the information they need on their web-enabled devices.

Contact us at 800-275-2080 for more details.



CHECK IT OUT HydroMet Data Logger

HSE is pleased to announce the Model 3512 HydroMet Data Logger . . . A powerful and flexible addition to our family of products designed with the field technician in mind.

The 3512 is typically installed in a gage house or NEMA-4 enclosure to protect it from the elements. Connections are made using plug-in terminal strips that allow quick disconnect for easy installation or replacement. It will accept up to 8 analog (plus internal battery), up to 2 shaft encoders, up to 2 precipitation, SDI-12, wind speed, wind direction and peak gust. The 3512 is also compatible with HSE's ALERT2 modulator board option.



For more information, please call 800-275-2080 and ask for the Sales Department.

SPOTLIGHT: RWIS FOR NYSDOT

HSE has expanded its presence in New York with the award of a Road Weather Information System (RWIS) for the state's Department of Transportation. With help from our ITS reseller, Traffic Systems Incorporation, HSE supplied and helped install a station for monitoring atmospheric conditions and the sub-surface road temperature. This is the first RWIS for NYSDOT in the Fort Drum area of Watertown that employs the use of both intrusive and non-intrusive road condition sensors.

The station utilizes HSE's NTCIP-compliant mini-RWIS Remote Processing Unit and IceSight Remote Surface Condition Sensor. Other sensors include EnviroTech's Sentry Visibility Sensor, Lufft's IRS31-UMB IRS Sub-surface Temperature Sensor and their WS500 Combination Sensor for monitoring wind speed and direction, air temperature, relative humidity and barometric pressure. The system will be monitored remotely via a RavenX cellular modem at the site providing real-time information to the NYSDOT via remote-hosted services.



For additional information regarding the project, please visit Traffic Systems website at www.trafficsystemsinc.com.

SURFACE SENTINEL Mobile Road Surface Condition Sensor

The Surface Sentinel is a powerful addition to HSE's road weather products supporting the Intelligent Transportation industry . It provides real-time surface conditions of a roadway using laser and infrared technology to detect hazardous ice, snow or wet conditions. The Sentinel is ideal for use on road maintenance vehicles, and for integration with portable Message Signs for reporting hazardous winter road surface conditions.



The Surface Sentinel continuously monitors the road surface as well as the pavement and air temperature. The sensor provides instantaneous feedback for decision-making, supplementing fixed information from RWIS sites. It can be calibrated in the field ensuring the most accurate readings.

Call, e-mail, or visit our web site for additional information.

Really?

In 2011 alone, there were 58 Federal flood disaster declarations, covering 33 different states. The 2011 flooding damages cost over \$8 billion and caused 113 deaths, both exceeded the 30-year averages.



20th ANNIVERSARY

1992 to 2012

This year marks HSE's 20th anniversary of supporting our customers in fulfilling their mission to protect lives and property... During this time our goal has never wavered: To supply high quality hydrological monitoring systems and meteorological instruments to the world . . . for the conservation and optimization of the earth's water resources.

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

Editor Sue Swenor
sue@highsierraelectronics.com

Layout Will Trant
will@highsierraelectronics.com



THE SIERRA SUMMIT

A Newsletter for Customers of High Sierra Electronics

HIGH SIERRA ELECTRONICS

155 Spring Hill Drive, Suite 106
Grass Valley, CA 95945

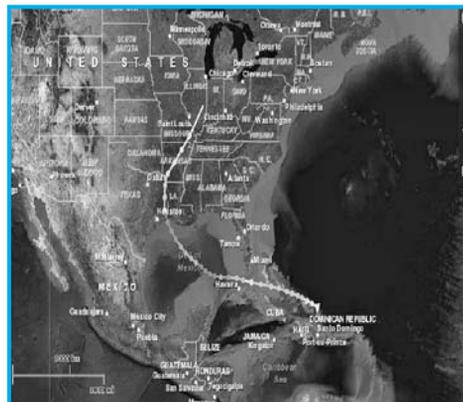


ADDRESS CORRECTION REQUESTED

HURRICANE MAPPING TOOL

NOAA has developed a fascinating interactive mapping application called Digital Coast that allows users to query hurricanes by storm name, zipcode, city, state, geographic region, or latitude/longitude coordinates. Data can be extracted and downloaded and can build custom URL strings that enable users to follow storm tracks from personal websites.

Digital Coast can be found at <http://www.csc.noaa.gov/hurricanes/#>.



Hurricane Rita 2005

SIERRA SUMMIT CHALLENGE

Test your skill and knowledge of these flood facts:

1. Wetlands in the U.S. save more than \$30 billion in annual flood damage repair costs.
A) True
B) False
2. Over the past century, we have experienced less intense, less frequent storms.
A) True
B) False
3. Roughly 17% of all the urban land in the U.S. is located in the 100-year or high risk flood zone.
A) True
B) False

1. True. Wetlands act as natural sponges, storing and slowly releasing floodwaters after peak flood flows have passed. A single acre of wetland, saturated to a depth of one foot, will retain 300,000 gallons of water.
2. False. Over the past 50 years, Americans have seen a 20% increase in the heaviest downpours. With a changing climate, we know that the size of the nation's floodplains will grow by 40 to 45% over the next 90 years, putting more people in harms way.
3. True.