



In This Issue ...

- **UAV Technologies**
GEM attends the AUVSI exhibition - very promising
- **Featured Application**
Earthquake Hazards
- **New Software**
Bug fixes and new functions for data improvements
- **Reps Needed**
GEM is looking for reps in multiple countries
- **EAGE 2014 Preview**
Featured Products, and GEM's newest team member
- **New GPS Available**
Better Accuracy

GEM's Upcoming Events

- **EAGE 2014**
 - June 16-19, Amsterdam RAI, Amsterdam, the Netherlands, **BOOTH #2114**
 - *The 76th annual EAGE Conference & Exhibition is expected to have one of the highest attendance numbers in recent history, bringing together geoscientists and engineers from all over the globe.*
- **URTeC 2014**
 - August 25-27, Colorado Convention Center, Denver, CO, United States of America, **BOOTH #1612**
 - *The Unconventional Resources Technology Conference is the "must see" event designed to reach all E&P professionals involved in unconventional resources, including members from SPE, AAPG, and SEG.*
- **Near Surface 2014**
 - September 14-18, Divani Caravel Hotel, Athens, Greece, **BOOTH #15**
 - *The Near Surface Geoscience 2014 exhibition will be held parallel to 3 other conferences, including the 20th European Meeting of Environmental and Engineering Geophysics and will be the central meeting place where companies display their products and services*
- **GSA 2014**
 - October 19-22, Vancouver Convention Centre, Vancouver, BC, Canada, **BOOTH #841**
 - *The Geological Society of America will be host to thousands of geoscience professionals from all different sectors, including academic, government, business, and industry.*

More Research being made regarding GEM's UAV Systems

Three representatives of GEM Systems attended AUVSI' (Association for Unmanned Vehicle Systems International) Unmanned Systems 2014 Conference and Trade Show in Orlando in May.

In addition to attending the Trade Show to reconnect with suppliers of fixed-wing and multi/single rotor UAV's exploring applications for their vehicles like high resolution magnetic and magnetic gradient mapping, the GEM Systems team also mapped in great detail, the magnetic interference generated by the popular Tempest UAV (its control surfaces, and propulsion system) with a GEM Systems GSMP-35G High Resolution Potassium Gradiometer system prior to the conference.



The results exceeded the GEM Systems team's expectations; at the wingtips of the Tempest, there is virtually no magnetic interference from the aircraft systems, making it an ideal platform for acquiring airborne magnetic data.

New GPS Options Available!

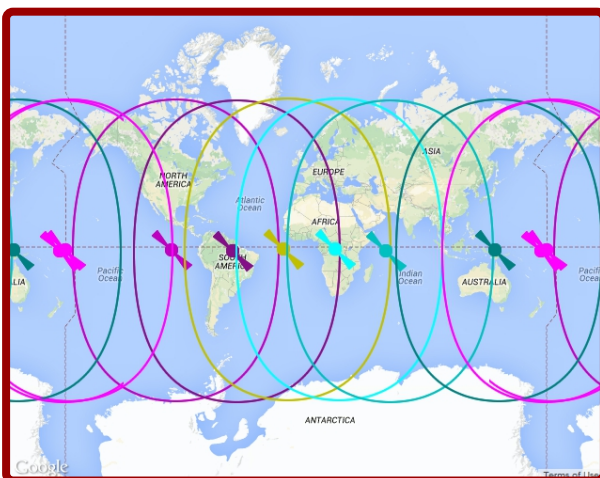


Image: Terrastar.net

As of March 31st, GEM is offering a new NovAtel GPS option which can be purchased with any of our instruments.

NovAtel CORRECT™ positioning technology is now available with TerraStar's precise point positioning (PPP) corrections. This system delivers *10 centimeter or better* accuracy with no additional base station infrastructure. Along with this feature, other benefits include improved accuracy and performance of solutions. This option optimally combines data from numerous GNSS satellite

constellations with corrections from a variety of sources, to deliver the best position solution possible.

For more information on how this GPS will increase efficiency in your next survey project, please contact Mr. Jacek Myzyk via email at jacek.myzyk@gemsys.ca

GEM will be an Exhibitor & Sponsor at the 76th EAGE Conference & Exhibition in Amsterdam, The Netherlands!

This year at the EAGE Conference & Exhibition **GEM** will be exhibiting as well as sponsoring the “afternoon drinks” on the Wednesday and Thursday. Come visit us at stand **#2114** to speak with experienced professionals who can help you determine the proper instrument for your intended application, and to meet the newest member of our team - Mr. Geraldo Pinto, International Business Development Manager.

Some of the technologies that GEM will be showcasing this year include:

- Potassium (Ground & Airborne)
- Overhauser
- UAV
- dIdD



To see a complete listing of **GEM**'s instruments, [click here](#)

Featured Application: Earthquake Hazards

Each year, earthquakes injure more than 17,000 people and cause more than \$40 billion in property and environmental damage globally.

In looking for ways to mitigate these losses, researchers are investigating different methods, including seismic, strong motion, GPS, electromagnetic, magnetic, radon and others.

Gradiometry is emerging as a promising method based on reports of piezomagnetic and/or piezokinetic effects prior to large earthquakes. Studies show large amplitude magnetic responses weeks and hours before events. Smaller events appear to exhibit less coherent patterns; likely due to the lack of sensitivity of traditional magnetic instruments.

GEM's SuperGradiometer (GSMP-20S3) is designed to improve detection of subtle responses and potentially lower the threshold of detectable earthquakes. SuperGrad is the highest sensitivity total field measuring device ever developed with a 0.05 pT root-mean-square (rms) sensitivity at a sampling rate of 20 Hz (averaged over a 1 second interval). This sensitivity is well over an order-of-magnitude more sensitive than any other system.



The GSMP-20S3 can achieve gradient sensitivities of 1fT/m (10-15 T/m) with a sensor spacing of 50m – a major advantage over traditional long-baseline magnetic measurements which have sensitivities on the order of 1nT.

For more information about GEM's instruments for Earthquake Hazards, please click [here](#)

GEM is Looking for Reps Worldwide!

We are currently looking for experienced representatives from all countries around the world to represent GEM and our high-quality products. We offer a very agreeable contract, along with appealing commission rates based on which instruments have been sold.

Main areas of Interest:

- USA
- Mexico
- Africa
(emphasis on
South Africa)



All interested parties are asked to contact GEM's International Business Development Manager, Mr. Geraldo Pinto with confidence via email at geraldpinto@gemsys.ca

GEMLink 5.3.1.9 Release

GEM has released new software for our systems. New updates include:

- Bug fix - users in Spain (Windows platform - comma now used as decimal symbol)
- Bug fix - GEMLink can now send char "tab" correctly
- Added function - "Sign Flip" function added for VLF data improvement

New software will be provided to all new purchases, and current users can download the updated software [here](#).

Important Note: Our goal is to only communicate with people who would like to hear from us. If you would like to stop your subscription, please click [here](#). If you have received this message through a colleague and would like to be added, please click [here](#).

Questions or comments about our e-newsletter? Write [Shannon](#) and let her know!

Copyright 2014. GEM Systems, Inc. Advanced Magnetometers. All rights reserved with the exception of organizations that have contributed links to this issue. Our thanks to the contributors who have made this edition possible, and who are identified in the text of related articles or through their company websites. Note that some quotes relating to industry-specific trends may have been obtained from public-domain sources, and are not intended to promote GEM Systems, Inc. Other examples may not necessarily reflect GEM products; rather these examples are intended to illustrate the use of magnetics and magnetometry for selected applications.