

Newsletter

March 2014

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- ROW 14 and WERA User Group Meeting
- WERA Operators Seminar – August 2014



WERA User Group
Meeting – May 15, 2014

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HELZEL Messtechnik GmbH recertificated in DIN ISO 9001: 2008 audit in January 2014



For the year's change, we took a new path for the Season's Greetings and decided to donate the amount which we normally spent for cards and presents to The German Maritime Search and Rescue Service (DGzRS).

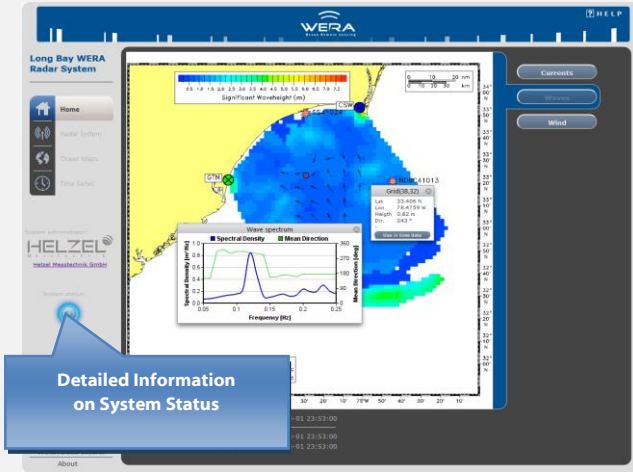
We received a very positive feedback from all of you. So, once again, "Thank you!" to you who with the donation support DGzRS and give their crews the security of a happy homeward journey in more than 2000 rescue operations per year.



Always a wavelength ahead!



The WERA DataViewer



From single stations:

Radial Current Maps

Wave Height Estimates

From two or more stations:

Current Vector Maps

Wave Height and Direction

Wind Direction

From single grid cells:

Time series of current and wave data in various formats

Directional Wave Spectra

The DataViewer provides all required tools to display current, wind and wave data from single WERA stations or from combined data of a WERA network and to generate animations.

- Configurable quality control on each grid point and **artifact removing** features
- Generation of **automatic ocean alerts** with programmable thresholds for current, waves and wind
- Data export in various formats including NetCDF, comma separated values (.CSV) and GRIB (maps or time series)
- Data management and archiving
- **Current Drift Prediction** for various applications
- **Full-Directional Wave Spectra** available via Synthetic Wave Buoy
- System Status Information and automatic e-mail warnings

Clearly represented data maps near real time

Easy generation of animated maps

Access to individual grid point data via mouse click

Access to archived data / maps

Options to include other sensors

Sultanate of Oman awarded WERA as component for their National Multi-Hazard Early Warning System NMHEWS



Under the umbrella of Oman’s National Multi-hazard Early Warning System (NMHEWS), Helzel Messtechnik from Germany has been awarded to deliver five latest state-of-art multi user HF Radar pairs for the measurement of coastal and ocean surface current, its direction as well as waves and swells and it’s potential of detecting Tsunami whenever deemed feasible.

Two WERA systems have already been deployed in the Sultanate of Oman in 2006. High quality data and reliability convinced the Directorate General of Meteorology and Air Navigation (DGMAN) of the Ministry of Transport & Communications in Muscat to extend the coastal ocean radar network so that the Oman coast will be monitored by 10 additional HF radar stations covering an overall sea surface area of 100.000 km².

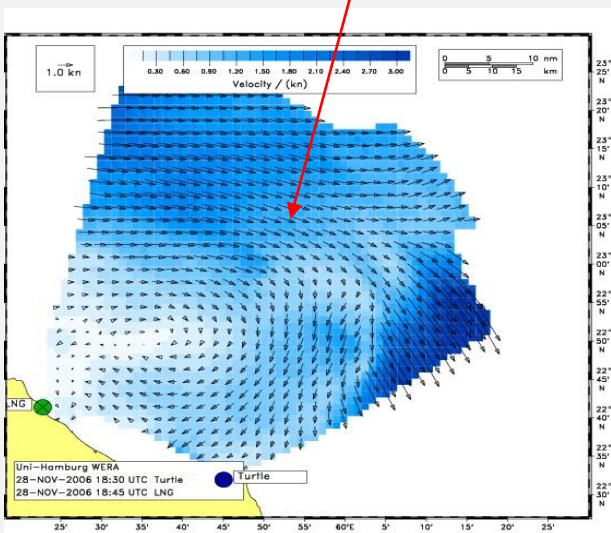


Future WERA network

The variety of application fields of these land-based ocean radar systems are wide; from simply monitoring the ocean currents over coast guard search and rescue to hazardous materials spill response, water quality monitoring, monitoring harmful algal bloom, fisheries management and marine navigation up to the support of the ocean energy sector. Oman has a special interest to improve the safety around the coastal areas of their LNG harbours by exact real-time measurements of the sea state in order to provide forecasts for marine navigation, track and predict oil spills & coastal discharges.

These radar can measure currents over a large region of the coastal ocean. It can be configured for short ranges with highest resolution or largest ranges up to 300 km. It can operate under any weather conditions without inwater components. The real-time met-ocean data delivered by the systems will contribute to a sustainable decision making support system in Oman.

The Central Data Processing station will be located at the National Multi-Hazard Early Warning Centre (NMHEWC) south of the Muscat International Airport.



Current Map from already existing WERA stations

Welcome to our Helzel Team

It is a pleasure for us to announce that the Helzel Messtechnik family is growing:



March 1, 2014, **Dr. Anna Dzvonnkovskaya** joined our team in the field of R&D. Anna received a PhD Degree in Applied Mathematics and Mathematical Modelling from the Bauman Moscow State Technical University, Russia, in 2003. After finishing her postdoctoral fellowship by the German Academic Exchange Service (DAAD) in 2007, she moved to Germany to join the remote sensing group at the Institute of Oceanography, University of Hamburg, and to work together with Dr. Klaus-Werner Gurgel on Tsunami and ship tracking research.

Later she continued these research topics with the scientific team of Prof. Dr. Hermann Rohling at the Institute of Telecommunications, Hamburg University of Technology (TUHH). Her research interests include HF radar signal Processing algorithms, mathematical modelling, remote sensing and data analysis. Most of you have already met Anna at international conferences and meetings. Having several paper publications on Tsunami detection and ship tracking by HF radar WERA, Anna is already well-known in our HF radar community.

Also March 1, 2014 **Mohamed El Hamdaoui** joined our team as Development Engineer.

Mohamed holds a Diploma Engineer in Electrical Engineering and Information Technology from the University of Bremen (Germany) and a Bachelor of Science in Physics from the University of Moulay Ismail (Morocco).

He is experienced in Hardware Development, Communication Engineering as well as RF & Microwave Engineering.



From January 1, 2014 **Valeri Lorenz** joined us to support the smooth production flow for our WERA systems.

Valeri is Electrical Technician and has many years of experience in the field of maintenance of electronic construction machines and mechanics for medical and military equipment.

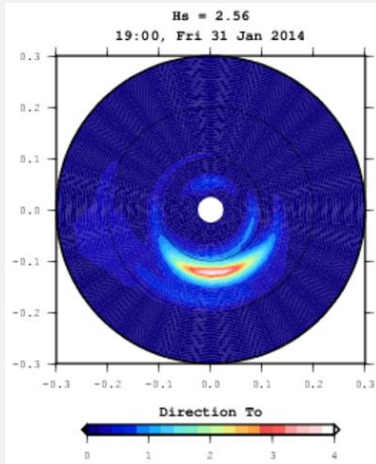
Roberto Gómez joined our WERA team in 2012 as Development Engineer.

Roberto holds a Master of Sciences in Mechatronics from the Technical University of Hamburg Harburg (TUHH) with main emphasis on measurement and testing technology.

He is concentrating on software development for WERA and masterminded our new DataViewer software.



Additional Feature: Synthetic Wave Buoy



Get the best out of your wave information!

The WERA Synthetic Wave Buoy is an optional package that performs an integral inversion technique from the second-order Doppler returns at specific locations in the coverage area.

It provides wave and wind parameters such as significant wave-height, mean wave period and direction, peak wave period and direction, wind speed and direction and a full-directional wave spectra.

International Radiowave Oceanography Workshop ROW-14

We would like to draw your attention to the upcoming ROW-14 workshop which will be held May 11-15, 2014 at the Skidaway Institute of Oceanography, University of Georgia, Savannah.

This workshop is a technical and scientific orientated workshop for all groups working with Ocean Radar or interested in this technique. It is a perfect occasion to get manufacturer independent feedback from Ocean Radar users.

Details on the ROW-14 meeting, venue, accommodation and agenda could be found on the official ROW webpage at <http://radiowaveoceanography.org/>

Directly following on ROW-14, we will have our:

WERA User Group Meeting Thursday – May 15, 2014

We would like to invite the WERA User Group to meet on Thursday from 9:00 -12:00 am for exchange and discussions. Please note that there is no extra registration fee for the WERA User Group meeting.

Additional suggestions for agenda topics are welcome.
Please give us your feedback on participation and topics until May 1, 2014.

WERA Operators Seminar



The last WERA Operators Seminar beginning of November 2013 has been an entire success and fruitful exchange among all participants. We had a mixed group from all over the world.

Due to the high demand, we will plan an additional WERA Operators Seminar in Kaltenkirchen, Germany for

August 2014



This one-week intensive seminar is an excellent opportunity for potential users or for operators who already work with the WERA system and data on a daily basis to get to know all they need to experience about our Ocean Remote Sensing Technology.

Understanding the physics and technology behind WERA, an overview on the system hard- and software structure, basics for site planning will be explained to enable users or consultants to carry out future site planning, introduction to the software tool box and tools for quality assurance will be points on our agenda.

One day is reserved for a field trip to one of the WERA sites at the North Sea coast to carry out practical training.

The dates will be announced soon on our webpage.



Mark your calendar to meet us:



Radiowave Oceanography Workshop 2014

Date: May 11-15, 2014

Location: Coastal Georgia Center, Savannah, GA ^{USA}

