

Maury Project 2013

Report by the Canadian Representative
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The Maury Project completed its 20th season this year, from July 8th to 19th, 2013. Teachers from all over the continent studied physical oceanography in Annapolis, Maryland. Workshops were conducted at the historic and august United States Naval Academy.



Leslie Hussmann in Annapolis, Maryland, USA

Among the 24 participants of Maury 2013, was the Canadian representative Leslie Hussmann. The Canadian Meteorological and Oceanographic Society generously cooperated with the American Meteorological Society to send a Canadian to the Maury Project. Leslie is from Langley, British Columbia, and teaches Late French Immersion, grade 6, at Sunrise Ridge Elementary in the Surrey School District of British Columbia. Other Maury participants included secondary school math and science teachers and elementary school teachers. They came from all over continental United States, including one Department of Defense teacher, who teaches children on an military base in Okinawa, Japan.

Dr. David Smith who has been the Chair of the Maury Project for 20 years has recently retired. The new Chair of the Maury Project is Captain Bill Schultz. Other professors of the oceanography department contributed their expertise to the project including Professor Don McManus, Dr. Andrew McManus and Commander Emil Petruncio.

During the Maury Project, Rear Admiral Brian Brown also addressed the participants about the future of the U. S. Navy and its need for oceanographic data.

The 24 elementary and high school teachers involved in the Maury Project were housed at Saint John's College in Annapolis, founded in the 1600s. Many of the colonial-style buildings at Saint John's College were built in the 1800s.

The Maury Project included a number of excellent hands-on field studies. Two afternoons were spent on the Naval Craft YP 686. Teachers conducted a variety of water tests, from the boat, on the Chesapeake Bay. The aquatic environment of the Chesapeake is greatly impacted by the six states, with significant human population, which border the bay and supply its tributaries. The U. S. Naval Academy is located between two tributaries of the Bay, the Severn River and the South River.



Leslie Hussmann, Kevin Weatherbee, Jen White and Jennifer Wiggins prepare to lower the C.T.D. into the water.

Conductivity, temperature and depth are measured by the sensors on the C.T.D., which are connected to computers in the ship's cabin. Many of the traditional instruments have been made redundant by modern technology.



Water temperature manual measurement

Leslie measures the temperature of the water of Chesapeake Bay. Sensors on the C.T.D., pictured previously, confirmed this manual method of data collection.

A second afternoon of field study was conducted at a beach on the Chesapeake Bay. Joe Zuniga, Commander Emil Petruncio and the team, measure the slope of the beach on the Chesapeake Bay, on this very blustery day.

This field study also included a visit to an estuary, where an invasive plant was observed. Phragmites is a perennial plant that is invasive to wetlands.



Angie McKay and Bill Licopoli net white perch, which were blown close to shore by the strong winds at the beach off Chesapeake Bay. Observation of the fish indicated that they were free of external growths that plague some fish in the Bay.

A white perch caught in the net

On Saturday, July 13, the Maury teachers undertook a field trip to Baltimore. The National

Aquarium in Baltimore, with marine and non-marine life exhibits, was outstanding. Among the exhibits was a display of live jelly fish, which revealed their beauty and their detrimental aspects.

Animators bring nature and the environment to life at the Aquarium, including a sloth exhibit.

A final field trip took the Maury participants to two facilities of NOAA, the National Oceanic and Atmospheric Administration, in Washington D.C. The scientists at NOAA indicated that there were 3 large forest fires burning in Canada on July 17, and that almost half of the country was affected by light smoke from those fires.



NOAA facility

During the two-week workshop, each Maury participant did a demonstration of an oceanographic effect or phenomenon. Leslie Hussmann and Tania Coffin demonstrated the effects of water pressure.

Throughout the Maury Project, the participants enjoyed many excellent power point presentations and lectures. Several of the modules that were explored, were of particular interest to Leslie Hussmann as an elementary school teacher and a resident of the Pacific Coast. These included:

- El Niño, la Niña;
- Ocean tides;
- Ocean sound and the Deep Sound Channel;
- Deep and shallow ocean waves;
- Pacific Ocean currents;
- Estuaries and deltas;
- Deep-ocean Assessment and Reporting of Tsunamis (D.A.R.T.);
- Arctic and Antarctic conditions.

Leslie looks forward to presenting this material in workshops and conferences.

During the two-week workshop there was ample time for conferring with colleagues from other jurisdictions. Leslie Hussmann appreciated the opportunity to learn about differences between the American and Canadian educational systems. Having a provincially regulated system appears to offer more autonomy and more variability than a nationally administered system. Also, there seems to be more focus on standardized tests, which are conducted annually in each grade, south of the border. Undoubtedly, further comparison of the various school systems would provide opportunities for collaboration.

Maury 2013 was a "most excellent" two weeks of workshops and field studies. Leslie Hussmann thoroughly enjoyed and benefitted from her experience in Annapolis at the United States Naval Academy. Her understanding of oceanography has increased dramatically. She looks forward to sharing with other teachers in Western Canada. Leslie greatly appreciates the sponsorship of the Canadian Meteorological and Oceanographic Society. She encourages future participation with the American Meteorological Society in the Maury Project. *"Every physical fact, every expression of nature, every feature of the earth, the work of any and all of those agents which make the face of the world what it is, and as we see it, is interesting and instructive."* (Matthew Fontaine Maury in *The Physical Geography of the Sea*, 1855). The Maury Project is an 'interesting and instructive' instrument through which teachers, can spread the science of physical oceanography to fellow teachers and to students of all ages.

Note from the Editor: Leslie Hussman's original report was modified slightly to fit the format of the *CMOS Bulletin SCMO*.