



TOPSIDE

NOAA Diving Program Newsletter, February 2010

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FY 2010 Training Schedule

April 2010*
Refresher Class
Seattle, WA

May 3 – 21, 2010
Working Diver
Seattle, WA

May 17 – 21, 2010
Divemaster
Seattle, WA

Aug 9 – 20, 2010
Physicians Course
Seattle, WA

Aug 2010*
Refresher
Seattle, WA

Sep 13 – Oct 1, 2010
Working Diver
Seattle, WA

Sept 27 – Oct 1, 2010
Divemaster
Seattle, WA

FAIR WINDS AND FOLLOWING SEAS....

This marks the last issue of Topside for which LT Sean Cimilluca will be serving as the Executive Officer of the NOAA Diving Center. NDC would like to recognize some of his contributions during his 2 ½ years here. LT Cimilluca served as the OMAO Diving Officer for the fleet and NDC, encompassing approximately 100 divers. For the past year, Sean served as the Chair of the NOAA Diving Control and Safety Board, demonstrating excellent leadership as well as bringing positive administrative changes that will benefit the Board for years to come. This mimics the job he has done at NDC. The past two years have been extremely challenging for the Center and Program. LT Cimilluca played a significant role in helping to address the many issues confronting the NOAA diving community.



Sean was instrumental in helping to create the NOAA Medical Manual, the NOAA Working Diving Standards and Safety Manual, and the NOAA Scientific Diving Standards and Safety Manual. Many administrative processes, both within the NDC and in the Program, have been streamlined and made more efficient. He has worked hard to increase communications with those of you in the field and to assist units in complying with the new standards under which we currently operate. He was also the driving force behind the hugely successful 2009 UDS Conference. LT Cimilluca has served the Center, field and fleet admirably during his time here and will be missed. NDC wishes "Fair Winds and Following Seas" to LT Cimilluca as he reports to his next assignment as Executive Officer of NOAA Ship *Nancy Foster*.

Thanks Sean!

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NDC congratulates the graduates of the January, 2010 NOAA Working Diver and Divemaster classes held in Key West, FL.



Graduates of the Working Divers Class include– David Moehl, NOAA Ship *Fairweather*; Chris Briand, NOAA Ship *Delaware II*; Brain Kennedy, NOAA Ship *Okeanos Explorer*; Laura Gibson, NOAA Ship *Pisces*; Nickolas Mitchell, NOAA Ship *Rainier*; Heather Moe, NOAA Ship *Miller Freeman*; James Burkitt, NOAA Ship *Henry Bigelow*; Samantha Allen, NOAA Ship *Nancy Foster*; John Mills Dunlap, NOAA Ship *Oscar Elton Sette* and Joseph Carrier, NOAA Ship *Thomas Jefferson*.



Divemasters – Mike Judge, NMFS Miami; Pat Malecha, NMFS Auke Bay; Chris Gardener, NMFS; Colin Kliever, NOS Chesapeake; Jonathan Rockwell, NOAA Ship *Delaware II*; Ryan Wattam FKNMS; Robert Keeley, FKNMS; Christine Mallory, NOAA Ship *Fairweather*; Kyle Jellison, NOAA Ship *Henry Bigelow* and Brad Teer, CCFHR Beaufort.



Students practice their skills during the January Working Diver class.

Annual Medical History forms are due by March 1, 2010. Many divers unnecessarily restate their past medical history on this form. The intent of this form is to obtain any new information from the past year for evaluation.

The current form (NF56-59) can be found on the NDC website. Completed forms should be submitted to the NDC DMO (dmo@noaa.gov). All divers are required to submit a report.

This year's reports will also set the baseline for a new submission procedure NDC hopes to phase in this year. The purpose of the new procedure is to avoid receiving 500 reports at the same time. Under the new plan, the divers status report will be submitted annually on the month/day of the diver's physical due date.

In order to phase this in and ensure that no more than 15 months transpire without review, beginning on June 1, 2010, divers will submit another status report on the month/day of their physical exam due date. We understand that this will require some divers to report more often than would seem necessary, but please note this will be a one-time occurrence. Thank you for your cooperation as we shift to a better procedure.

Example 1: your 5-year physical exam due date is June 01, 2013. On June 01 this year, you will submit the form again (even though you just did it for March 1).

Example 2: your 2-year physical exam due date is July 04, 2011. On July 04 this year, you will submit the form (in addition to the March 1 form).

If you have any questions please contact Lt Sean Cimilluca, Pam Compton or Jennifer Carrier.

New Science Diver Training and Certification Program

In reviewing NOAA's current diver training and certification requirements, the NOAA Diving Control and Safety Board (NDCSB) determined that NOAA Science Divers do not receive the same level of instruction in NOAA diving equipment, techniques, policies and procedures as do NOAA Working Divers. To address this shortfall, the NDC awarded a contract to Diving Science and Technology (DsAT) to develop and produce a science diver training program for NOAA. Although DsAT is leading the effort, NOAA is heavily involved in the development of the training program. Successful completion of the program, which includes both academic instruction and "hands-on" skill evaluation, will qualify individuals to receive a NOAA science diver certification.

The academic portion of the course includes information taken directly from the NOAA Diving Manual and can be completed on-line or via instructor-lead classes. Student and instructor guides, as well as PowerPoint presentations, will be available to guide students and instructors through the academic material. Tests of knowledge and a final examination are also included in the course.

The skills evaluation portion includes instruction in the specific equipment and techniques used by NOAA divers. Students will have to successfully demonstrate a variety of swimming and diving skills in a swimming pool or confined-open water and open-water in order to pass the course.

The prerequisites for the course are:

- Advanced diving certification and rescue diver certification from a nationally or internationally recognized sport diving training agency (e.g., NAUI, PADI, IANTD, SSI)
- Cardiopulmonary resuscitation, first aid and oxygen administration
- Twenty-five logged dives
- Pass the NOAA swim test
- An approved NOAA diving physical examination

The above diving prerequisites can be completed by taking classes at any dive shop. Additionally, the NDC intends to offer a compressed course to meet the requirements.

NOAA expects to receive the training materials from DsAT by this summer. The training program will be offered at the NDC, but it can also be conducted at the unit level by NOAA-approved instructors. The minimum qualifications for becoming a NOAA-instructor for the science diver training program are still being considered, but those individuals meeting the minimum requirements will have to complete a "train-the-trainer" course at the NDC in order to be approved.

Assuming that everything goes as planned, it is anticipated that the new science diver training program will be instituted not later than January 1, 2011. In order to meet this timeline, a "train-the-trainer" class will need to be conducted prior to this date.

Ultimately, this training program will ensure that all our divers receive the same instruction in the "NOAA way" of diving.

More information will be forthcoming on this issue in the months to come.

~NDP Manager Dave Dinsmore

ANALYZE THIS

Normally we would use dry air from another source, such as a scuba bottle, to calibrate the oxygen analyzer. When this is not practical or one is unable to do so, use the chart below to calibrate your analyzer to ambient air. You're going to need to get the relative humidity and temperature also and the ships bridge is a good place to get this information when aboard one of NOAA's fine vessels such as the *Hi'lalakai*.

~ Jim Bostick

Atmosphere Oxygen Percent in relation to temperature and Relative Humidity										
Temp F Temp C	32 0	40 4	50 10	60 16	70 21	80 27	90 32	100 38	110 43	120 49
RELATIVE HUMIDITY	ATMOSPHERIC OXYGEN PERCENT									
10	20.9	20.9	20.9	20.9	20.8	20.8	20.8	20.8	20.7	20.7
20	20.9	20.9	20.8	20.8	20.8	20.8	20.7	20.6	20.5	20.4
30	20.9	20.8	20.8	20.8	20.7	20.7	20.6	20.5	20.4	20.2
40	20.8	20.8	20.8	20.7	20.7	20.6	20.5	20.4	20.2	19.9
50	20.8	20.8	20.8	20.7	20.6	20.5	20.4	20.2	20.0	19.7
60	20.8	20.8	20.7	20.7	20.6	20.5	20.3	20.1	19.8	19.5
70	20.8	20.8	20.7	20.6	20.5	20.4	20.2	19.9	19.6	19.2
80	20.8	20.8	20.7	20.6	20.5	20.3	20.1	19.8	19.5	19.0
90	20.8	20.7	20.7	20.6	20.4	20.3	20.0	19.7	19.3	18.7
100	20.8	20.7	20.6	20.5	20.4	20.2	19.9	19.5	19.1	18.5
H2O at 100% RH	0.6	0.8	1.2	1.8	2.5	3.4	4.7	6.5	8.6	11.5

If the temperature and RH axis meet in this part of the chart, calibrate to the chart O2 level or with dry air to maintain 0.5% accuracy in **NITROX**.

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Explanation of Chart

The accuracy of all oxygen analyzers are affected by high humidity levels if ambient air is used for calibration, **regardless of brand!**

This effect is not noticeable on many analyzers because their accuracy is only 1-2% of full scale. When combined with temperature compensation problems associated with remote sensors, this error could be as high as 3%.

Cool, dry air consists of 20.9% oxygen, 78.0% nitrogen, and 1.1% other gases to equal 100%. When the atmosphere heats up and humidity rises, (as found in tropical regions), the increased moisture in the air actually displaces the oxygen and nitrogen so they each represent a lower percentage of the 100% total. When using ambient air to calibrate your oxygen monitor, use the Oxygen Compensation Chart.