CHAPTER 1 - Project Dive Exploration

Introduction

Project Dive Exploration

Project Dive Exploration (PDE) is an observational research study designed to collect dive profile data on recreational divers and to compile information on the behavioral and health aspects of divers. The growing recreational diving database may serve as a resource for research into diving safety.

Using dive profiles recorded by dive computers, the study analyzes data for the risk of decompression illness. Personal information including, demographics, medical history, and dive experience are also collected. Signs and symptoms, of any type, are noted after each dive and the diver's health status is verified 48 hours after diving is completed.

All data is stored as confidential medical information [Institutional Review Board (IRB) approved; Health Insurance Portability and Accountability Act (HIPAA) compliant] in the central DAN database and used by scientists to study the incidence of decompression Illness (DCI), factors contributing to the onset of DCI and effectiveness of DCI therapy.

Participate

Divers who wish to participate in this project can get involved in the following ways:

Individual Volunteers

Divers who use Level 3 dive computers (Cochran, DiveRite, Suunto, Uwatec) can send their dive profiles directly from their respective dive computer manufacturer's dive log software. For information on how to send your data for PDE, consult the dive computer manual. User guides for Level 3 dive computer data are available for download from the DAN website.

Divers who use Level 2 dive computers (ReefNet Sensus Pro and Sensus-Ultra) will need to use both the manufacturer's software and DAN's Data Acquisition Software (DAS) to send in data to for PDE. DAS can be downloaded from the DAN website.

Dive with a DAN Research Intern

DAN Research Interns are stationed at various locations every summer to collect data for PDE. Visit the DAN Research Internship section of the DAN website to see where interns are collecting data.

Computer Loaner Program

A limited number of dive computers are available to borrow for data collection purposes. Field Research Coordinators (FRCs) need to submit a request for a loan to DAN Research by contacting research@dan.duke.edu or 800-446-2671 ext. 260. The loaner program is available for groups (dive clubs,
dive expeditions, etc.) who would like to volunteer their dive profiles for PDE. Approval of a loaner kit (data recorders & forms) is based on availability of the equipment and is reviewed on an individual basis.

What do I need to do first?

Level 3 dive computer users need to fill out the PDE Enrollment Form online. A unique diverID will be issued.

Level 2 dive computer users need to fill out the FRC Registration form online. An FRC code will be issued.

How to Collect PDE Data

Dive Computers
To participate in PDE you must use a PDE compatible (Level 3 or Level 2) dive computer to record your dives.

Paper Forms
Each volunteer diver must complete three forms:

- The Participant Enrollment Form: is completed once when diver enrolls in PDE program. This form is now available on the website for Level 3 dive computer users (this is the same form as the PDE Enrollment Form) to get the DiverID number.
  Level 2 dive computer users complete the Diver Information section of the Data Acquisition Software.

- The Daily Dive Log – is completed every day of diving to log activities related to the program. Complete the Daily Dive Log providing as much detail as possible for each dive. Divers using Nitrox will analyze and record the percentage of oxygen in their breathing gas and log it into their dive log. If anything extraordinary occurs, report it to DAN via the comments or notes section of the dive log.

- 48-hour Report Form: is completed 48 hours after the last dive or last flight. For scientific purposes it is most important to report any incident or symptoms occurring during or after the dive. If the 48-hour report is not received the diver’s data is not suitable for analysis.
  The 48-hour Report Form can be completed online on the DAN website or within the manufacturer’s dive log software and DASIND.

Data Acquisition Software for Individuals (DASIND)
DAN Research developed the Data Acquisition (DAS) software for PDE data collection. The DASIND is a version for individual divers and volunteers would only need to use the DASIND if they are using Level 2 dive computers (ReefNet). This software can be downloaded from the DAN website.
How to send your data to DAN Research

After the dive series is downloaded from the dive computers/data recorders and the divers’ data is entered into the manufacturer’s dive log software; you are now ready to send your dive data to DAN.

Level 3 Users (Cochran, DiveRite, Suunto, Uwatec)
Follow manufacturer’s instructions or the DAN User Guide for exporting your data to DAN. User Guides can be downloaded from the DAN website.

Level 2 Users (ReefNet)
Level 2 users will need to use DASIND to complete the diver and divelog information before data can be sent. See Chapter 2 for detailed instructions on how to use the DASIND.
CHAPTER 2 – How to Use DASIND

DASIND (Data Acquisition Software for Individuals) is software designed and developed by DAN Research for data collection by individual divers. This section describes procedures that users should follow.

Before proceeding, make sure you have an FRC code to activate the DASIND software. An FRC code can be obtained by registering online.

Note: Level 3 Dive computer users do not need to use the DASIND nor the FRC code.

Overview of the Data Acquisition Software (DAS) Screens

**Database Administration**

When you click on DASIND.exe for the first time, it will bring up the database administration screen, which asks for your FRC code and other default information specific for you.

![Figure 1 Initial screen](image)

**Set Default Trip Values**

This will set the default values for the trip. Once set, it is in effect until the next change. The change of settings affects only the current trip and future trips. Previously entered trips will not be affected. Required information:

- **Organization**
- **Name of the operator (Company Name)**
Boat/Shop: Unit within the organization (i.e. individual boats, stores, etc.)
FRC Code: Four-letter code assigned by DAN Research
City: Dive location city
Country: Dive location country
Elevation: Elevation over sea level
Time zone: Dive location time zone
Platform: Liveaboard, Charter, Small boat, Beach, etc.
Environment: Sea/Ocean, River, Lake/Quarry, Cave/Cavern, Under Ice
Program: Recreational, Technical, Commercial, Scientific, Medical
Unit System: Imperial (ft/inch, fsw, lb) or Metric (cm, msw, kg)

Create a New Database File

Press the command button, [Create new database]. The dialog box will pop up and ask for the name of the database. Enter the name of the new database (can only be 8 characters) and click OK. Close the screen.

DAS Front Screen (Log In)

After you enter the information above initially, and close the window, the program will proceed to the next screen. Once installed on your computer and initialized, the screen will open in the login window immediately (see Figure 2).

![Diving Alert Network - DASND]

Figure 2 DASND Front/Login Screen

Enter your FRC code in the window to enter the application.
Main Menu
When you enter your FRC code in the box on the login screen and click OK, the DASIND Main Menu will appear:

![Main Menu](image)

The main Menu lets you choose a screen you want to work with.

If you need to revise any of the default information you initially entered (Fig. 1) e.g. database file, FRC code or default trip settings, click on **Database Administration** from the Main Menu and you will return to this window:

![User Information and Database Default Values](image)
**Diver Information**

This screen contains information about diver/divers such as: name, demographics, address, medical information, and dive experience. To add a new diver, click the [Add new] button on the upper right corner of the Diver Data window. Enter as much information as you can, from the Enrollment Form particularly First and Last Name, and Date of Birth. To move to the next screen, click on the desired tab (in blue).
After entering all the diver information, the [Save] button will activate. Click to save your data. If entering data for another diver, click the [Add New] button and enter the required fields. When done,
click the window [Close] and return to the Main Menu, or choose from the Submenu to switch to another screen.

**Submenus**

Click on the menu item Window or press Alt + W, and this will drop a submenu down. Each item on the submenu is a command to switch to another screen. To execute a selected submenu item, click on the item or press the underscored letter in its title.

**Window**

- **Dive Log**
- **Main Menu**
- **Exit DAS**

**Dive Log**
The Dive Log screen consists of three parts: Diver (1), Dive Series (2) and Dives (3)

![Dive Log Screen](image)

Figure 9 Dive Log Screen
Select Diver

The drop-down list displays all divers in the database based on the entries you made in the previous section (Diver Information). Select the diver that you want to enter data for.

![Select Diver](image1)

Dive Series and default parameters for Dive Log

![Dive Series and default parameters for Dive Log](image2)

Before you can upload the dive computer, you must have at least one dive series for the selected diver. The Dive Series grid lists all existing dive series for the selected diver.

To add a new dive series, click the [add] button. In the dialog box that pops-up, enter the date of the start of dive series (make sure it is the first day of diving or any date prior to the first day of diving). The series will occur in the grid. Some of the fields will automatically fill in with the default information you entered under database administration. Fields such as the equipment and environment may be empty. You will have to complete them for the series. You may also change the other fields as they apply to this particular series of dives.

The values entered in this section will be assigned to each dive in the series after the dive is uploaded. You will have a chance to edit it if needed in each dive's record. Make sure a dive Computer # is entered or you will be prompted for this information before you can move to the next step. The format used for ReefNet recorders is SP-xxxxx or SU-xxxxx. Make sure you enter the recorder’s number in this format or the application will not find the correct recorder.

Dives

![Dives](image3)

This grid displays several groups of data i.e.:
- Data imported from the dive computer
- Equipment data from the Dive Series (edit if needed)
- O₂ percentage, if diver was using Nitrox
- Outcome data

Please edit any data if needed.
Make sure the outcome field is checked. We must know if the diver has had any symptoms after or during the dive.

If a diver reports any symptoms or problems, a Comments screen will pop up so that you can briefly describe the symptom/problem.

If the diver flew between dives, please fill the FAD (Flying After Diving) column. This also applies to divers who travel to high altitudes after diving.

**UPLOAD**

Use this command to import dive computer data. When you click the command, it will pop up a sub-menu. Select Sensus.

ReefNet Sensus (will only import files previously downloaded by original software)

**INSERT**

If diver has missed recording one dive or the dive computer did not turn on for that dive, use this command to manually insert information about the missing dive.

**DELETE**

Use this very cautiously, only to correct mistakes in import. You will not be allowed to delete one dive from the middle of the series. You can delete only the last dive(s) in the series and then go re-import what you need.
TECH DETAILS

See next section for Technical Divers Only (page 18).

GRAPH DIVE

This command will produce a graphic image of the selected dive profile.

Comments (Narrative)

This screen should be used to record any free-style information requested (Symptom description) or at the discretion of the user.

The FRC can review all reports or subsets of it using the choices from the menu. Comments can be reviewed for one dive or for the whole dive series.
**48-Hour Report**

After all Dive Log Information has been entered, the 48-hour Report can be entered. Click on the 48-hr Report button.

Enter data from divers’ 48-Hr Report Form, to be completed 48-hrs after last dive. In special circumstances, the 48-hour reports may not be returned to FRC but will come directly to DAN Research (if mailed by individual divers).

![Data Acquisition Software](image)

**Figure 16  Main Menu**

The 48 Hour Report should list all of the divers in the database that have active and unsent dive series. Find the diver's name you’d like to enter information for, and add the details in the appropriate fields. Click the Save button when you’re done. Close will return you to the Main Menu.

![48 Hr Report](image)

**Figure 17  48 Hr Report**
Export to DAN

After you’ve completed the Diver Information, Dive Log and 48-hour Report, you are ready to send your dives to DAN. Go back to the Dive Log section (accessed from the Main Menu). The Export to DAN option is accessed via a drop down menu under Dive Series.

Click the [Export to DAN] button after the data entry is complete to export the data into a file ready for sending to DAN. Each dive series is exported separately. You will have a choice of [Selected Dive Series] or [All New Dive Series]. Whichever one you select, you will then have a choice of [Use Outlook] or [Export to File]

If Outlook is configured on your computer as your default email application, then choose [Use Outlook]. An email will be generated with the file for export attached and addressed to DASdata@dan.org.

If you are using another email application other than MS Outlook, choose [Export to file] and the DAS application will create an ASCII file with all the data for this dive series. The file will be saved in a subdirectory, ExpFile.

All DASIND files will be under the Program Files directory on your computer.

A zip file will be stored in ExpArchive. E-mail the zip file as an attachment to DASdata@dan.org.

Each dive series can be exported repeatedly if necessary. If the FRC updates the data after he has sent it to DAN he can repeat the export of the same dive series and resend it.
Dive Site (optional)

Enter information about the dive site.

Dive Computers

Enter serial number assignment for each computer used. (optional). This is useful when using a number of computers with long serial number. You can assign a shorter # on the label.
Sub-menu - Edit

**Save Record:** Save dive profile details. The save function is automatic when closing the screen. If you want to build a new template, use this command to save previously entered data.

**Save Template:** Save a new template. This will save only the fields in the column Node and Description. You will be asked to assign a name to the new template.

**Cancel**

**Insert Line:** Insert one line before the current line in the grid.

Sample of the template in Add Details

Leave Surface: 10:11 AM

<table>
<thead>
<tr>
<th>Node</th>
<th>Description</th>
<th>Time</th>
<th>Chronometer</th>
<th>Depth</th>
<th>Gas Mix</th>
<th>O2%</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reach 20 ft</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Gas switch air to mix</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Reach bottom</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td>4</td>
<td>Leave bottom</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Reach 1st deco stop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Gas switch to deco mix</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>7</td>
<td>Reach 20 ft stop</td>
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</tr>
</tbody>
</table>
User can enter time as a clock time in column “Time”, or a cumulative time since the beginning of the dive (in minutes and decimal fractions of the minutes) in the column “Chronometer”. For each data entered into Time, DAS will automatically calculate the cumulative time and display it in Chronometer field.

The Gas Mix is an auto-matching field for mixes air, nitrox, heliox, trimix, oxygen, combination, other. User can also enter a mix not listed above, but to enter an item from the list it is enough to type in the first letter.

**Exit DAS**

Log off the DAS system
Trouble Shooting

Dive computer will not upload:

If using a laptop disconnect the laptop power supply and run the laptop from the battery only.

Make sure the interface is connected to the proper comport.
Boot computer with interface connected.
• Ensure that you are using the correct version of upload software and that it is set up correctly.
• Make sure the dive computer is in the correct mode for data transfer.
• Clean any salt build-up from the contacts on the dive computer and interface with an eraser to remove traces of corrosion.

Comport not set- check comport selection. This should be accomplished when first installing the manufacturer’s software.
For Suunto software check, com delay, time out feature and increase setting to 30 seconds

DAS

• Divers will not save in trip. Entry was corrupted in database. Re-enter divers in Diver Data who are not being saved.
• Profile will not import. Check start date of trip. The start date should be the first day of diving. Only dives performed after the start date of the trip will import.
• Profile will not import. File extensions must be displayed in Windows Explorer. If the File Extensions are hidden, DAS cannot identify the file to import. To prevent that happening do this:
  ▪ Windows (97) Explorer: in Settings, Control Panel select View _Options from the menu bar. On the tab View select option Show All Files
  ▪ Windows NT Explorer: in Settings, Control Panel select View _Folder Options

Tips for Working with Sensus –Pro

Answers provided by Chris Wilk of ReefNet

Q-1: Artificial depth spikes in downloaded dive profile.
Depth spikes to 489 fsw have been occasionally noticed in downloaded dive profile. What causes it and how to prevent it?

A-1
Although it's probably not a great idea to let the recorder(s) bake at high temperatures regularly (only because it might reduce the battery life), that is NOT the cause of the problems you are seeing. Here's the lowdown:
A few users of our original SENSUS recorders reported seeing unusual depth "spikes" near the beginning and end of the occasional dive. For a long time, I suspected that these might be due to water splashing or being sprayed on the pressure sensor during entry, exit, or gear rinsing.

A few months ago, while running some diagnostic tests on a recorder in the office, I was surprised to find a "dive" full of these spikes, just like the ones you sent. The funny thing was that the recorder had been sitting on my desk for the past week.

That's when I discovered the root of the problem. I had left the recorder upside-down, with the sensor vent facing up -- facing a very bright halogen desk lamp.

It turns out that the silicon pressure sensor we use is ALSO sensitive to certain wavelengths of light, a lot like a solar cell (!!). On a sunny day, if the recorder is turned to face the sun for a while, it may register some of these spurious signals. The spikes almost always show up just before or after a dive, while the diver is assembling or disassembling gear.

Since discovering the cause of the problem, we have begun looking into coating the sensors with an opaque protective gel.

Fortunately, the solution to your problem is simple: keep the recorders either in a BC pocket, or turned so that the pressure sensor is facing inward. That should completely eliminate the issue.

**Q-2 Altitude correction**

I have looked at graphs of dive profiles imported in DAS. They seemed to be not adjusted for altitude. When looking back into .dat files, it seems that ALTCORR always stays at 33. Did I miss something? Do I have to change the settings when diving at altitude?

**A-2**

The recorder does not automatically adjust for altitude. After downloading into Sensus Pro Manager. On the "Additional Information" page for each dive, you may select the altitude at which the dive was conducted. Changing this parameter will adjust the ALTCORR value in the data file.

Note that the original "Sensus Data Analyst" software for the old Sensus recorders did not do any altitude compensation, although they did offer a place to enter the altitude for the users' records.
APPENDIX

DATA COLLECTION FORMS:

FRC REGISTRATION FORM
PROJECT DIVE EXPLORATION INFORMATION SHEET
PARTICIPANT ENROLLMENT FORM
DAILY DIVE LOG
48-HOUR REPORT
# Project Dive Exploration

## FRC Registration

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### Equipment Available

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### Office Use Only

<table>
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<tr>
<th>Code</th>
<th>Course Date</th>
<th>Course Location</th>
<th>Instructor</th>
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Return this form by mail to: Divers Alert Network – Research Dept.
6 West Colony Place
Durham, NC 27705
By FAX: (919) 490-6630
YOU CAN ALSO REGISTER DIRECTLY FROM OUR WEBSITE AT:
http://www.diversalertnetwork.org/research/projects/pde/FRCregistration.asp
What is Project Dive Exploration?
Project Dive Exploration (PDE) was designed by DAN and is supported by most dive computer manufacturers. Its purpose is to establish a unique database of dive profiles from real dives and to compile information on the behavior and health of recreational divers. The collected data will be a resource for diving safety research including the study of dive styles, decompression practices, and the effects of individual characteristics such as age, sex, weight, and medical history. The ultimate goal of Project Dive Exploration is to make your dives safer, more pleasant, and as efficient as possible.

What are the Objectives of PDE?
• Collecting real-time depth/time profiles for analysis;
• Documenting the condition of the diver 48 hours after the end of the dive series;
• Documenting any health changes in the diver, whether or not related to diving;
• Investigating the relationship between diving and health effects by using statistical analysis;
• Developing flexible, low-risk decompression procedures for multi-level/multi-day repetitive diving;
• Studying the effects of flying after diving.

Why do I Need a Dive Computer?
In addition to tracking time and depth and providing guidelines for the execution of your dives, some dive computers precisely record your depth-time profiles. These can be transferred to a personal computer and sent to DAN for analysis. If you are issued a DAN dive computer, please plan & execute your dive the way you normally would. Under no circumstances should you ever use information displayed by these computers.

What does DAN Need Me to Do?
Volunteer by providing information about yourself, including:
• age, sex, height, weight, diving experience, and medical history;
• dive equipment and environment;
• depth-time profile downloaded from your computer;
• technical problems, mishaps, and symptoms.
All data you provide are handled as Confidential Medical Information.

Still Have Questions?
• Call DAN Research at (919) 684-2948 ext 260.
• Send a message to Research@dan.duke.edu.
# PROJECT DIVE EXPLORATION
## Participant Enrollment (Diver Data)

### Personal Identification

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<th>FIRST NAME</th>
<th>M.I.</th>
<th>LAST/FAMILY NAME</th>
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### Contact Information

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### Medical History

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<table>
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<th>Yes / No</th>
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</table>

- **ft** / **in**
- **cm**
- **lbs** / **kg**

Please read entire list and check any and all conditions or medications that apply to you.

**Medical Conditions:**
- Allergies
- Asthma
- Back Pain
- Back Surgery
- Diabetes
- Ear/Sinus Surgery
- Ear/Sinus Problems
- Flu or Cold
- Heart Disease
- High Blood Pressure
- Joint/Muscle Pain
- Nervous System Disorder
- Previous Treatment for DCI
- Pregnant (currently)
- Peripheral vascular disease
- Pulmonary
- Surgery of any kind
- Sealsickness
- Other (Describe on next page)
- Nothing Significant

**Current Medications:**
- Allergy
- Antibiotics
- Anti-depressants
- Anti-epileptics
- Anti-Malaria
- Asthma (Inhaler)
- Asthma (Oral Drug)
- Birth Control
- Blood Pressure
- Decongestant
- Diarrhea
- Flu or Cold
- Heart & Circulation
- Insulin
- Oral Diabetics
- Pain Relief
- Seasickness
- Vitamins/Dietary Supplements
- Other:
- I am not taking ANY medications

**Diving Experience**

**YEAR OF FIRST CERTIFICATION:**

<table>
<thead>
<tr>
<th>HIGHEST LEVEL OF CERTIFICATION (Pick only one – highest level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
</tr>
<tr>
<td>Dive Master</td>
</tr>
<tr>
<td>Scientific</td>
</tr>
</tbody>
</table>

Estimate how many dives have you made in the past:
- 5 years: ________
- 12 months: ________

When was your last dive before volunteering for PDE?
- Date: _____/_____/_______ (mm/dd/yyyy)
- If that dive was less than 48 hours before volunteering, please specify the end time: _____:____ (hh:mm)

**ADDITIONAL COMMENTS:** Please describe health problems or significant details about your medical history on the back.
ADDITIONAL COMMENTS: Please describe health problems or significant details about your medical history on the back of this form.

ADDITIONAL COMMENTS May be entered in narrative in Daily Report

Please describe any significant details about your medical history that would be of interest to DAN.

Thank you for deciding to participate in DAN’s Project Dive Exploration. You are taking a big step to help shape the future of dive safety. Please fill out all forms accurately and completely. All information collected here will only be used for research purposes and will be kept strictly confidential. If necessary, a staff member of the Divers Alert Network may need to contact you for further clarification of this personal information. Only the study staff will have access to the information. Your name will not appear when the results are reported in medical journals or at meetings. In addition, your records may be reviewed in order to meet federal or state regulations. Reviewers may include, for example, representatives from the Duke University Health System (DUHS) Institutional Review Board. The study results will be retained in your research record for at least six years or until after the study is completed, whichever is longer. At that time either the research information not already in your record will be destroyed or information identifying you will be removed from such study results at DUHS. Any research information in your medical record will be kept indefinitely.

I have received information explaining my participation in Project Dive Exploration. Initials ________
## Project Dive Exploration
### Daily Dive Log (Dive Series)

<table>
<thead>
<tr>
<th>DATE (mm/dd/yy)</th>
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</thead>
<tbody>
<tr>
<td><strong>DAY 1</strong></td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>COMMENTS:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DATE (mm/dd/yy)</th>
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</thead>
<tbody>
<tr>
<td><strong>DAY 2</strong></td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>COMMENTS:</td>
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</tbody>
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<tr>
<th>DATE (mm/dd/yy)</th>
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</thead>
<tbody>
<tr>
<td><strong>DAY 3</strong></td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt;  dive</td>
</tr>
<tr>
<td>COMMENTS:</td>
</tr>
</tbody>
</table>

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**Diver:** ________________   **Dive computer #: _____**   **Week Start Date:** ________
<table>
<thead>
<tr>
<th>DATE</th>
<th>1st dive</th>
<th>2nd dive</th>
<th>DAY 7</th>
<th>1st dive</th>
<th>2nd dive</th>
<th>DAY 6</th>
<th>1st dive</th>
<th>2nd dive</th>
<th>DAY 5</th>
<th>1st dive</th>
<th>2nd dive</th>
<th>DAY 4</th>
<th>DATE</th>
<th>1st dive</th>
<th>2nd dive</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

**APPARATUS**
- SCUBA open; Closed Rebreather
- Semi-Closed Rebreather; Surface supplied
- Chamber; Experimental; Other

**GAS**
- Air, Nitsrox, Heliox, Trimix
- Oxygen, Combination

**O2 % (Only for gases other than air)**

**DECOMPRESSION**
- Safety stop
- In water decompression
- Chamber; Other; None

**THERMAL COMFORT**
- Warm, Pleasant, Cold
- Very cold

**WORKLOAD**
- Resting, Light
- Moderate, Severe
- Exhauusting

**PROBLEMS**
- Equalization, Vertigo, Out of air
- Buoyancy, Shared Air, Rapid Ascent
- Seasickness; Other, None

**EQUIPMENT MALFUNCTION**
- Mask, Fins
- Weight belt, BC
- Thermal Protection, Computer
- Depth gauge, Pressure gauge, Regulator
- None

**SYMPTOMS (YES or NO)**
- If yes, please describe in detail in the COMMENTS box below, when it occurred and what you did about it.
- If YES, please ask your FRC for a 48-hr report

**WORKLOAD AFTER DIVE**
- None, Light
- Moderate, Severe
- Exhauusting

**ENVIRONMENT**
- Ocean/Sea
- Lake/Quarry
- River/ Spring, Cave, Canyem, Pool, Chamber
- Under Ice

**PLATFORM**
- Beach/Shore
- Pier, Small Boat
- Charter Boat, Liveaboard, Barge, Landside
- Hyperbaric Facility

**PROGRAM**
- Recreation, Training, Scientific
- Medical, Commercial, Military, Competitive

**DIVE PLAN**
- Dive Computer, Table
- Another Diver

**DRESS**
- Lycra/Skin, Wetsuit, Drysuit, Heated Suit
- Swimsuit
Thank you for participating in DAN’s Project Dive Exploration. **It is very important that you complete this questionnaire 48 hours after your last dive or altitude exposure. Without this information, your dive profiles cannot be considered for analysis.** After answering all of the questions, please fold, tape, and mail the questionnaire to your FRC at the address indicated on the front. Or, if instructed to do so, you may give this information to your FRC over the phone. If your FRC lives outside the United States, please send this form directly to DAN Research.

1. Did you make any additional dives within 48 hours after your last observed dive? □ Yes □ No
   If yes, please describe the dive(s) below.

<table>
<thead>
<tr>
<th>Dive</th>
<th>Date</th>
<th>Max Depth (ftsw)</th>
<th>Total Time (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Were you exposed to altitude within 48 hours after diving? □ Yes □ No
   If yes, please describe the exposure(s) below.

<table>
<thead>
<tr>
<th>Surface interval before exposure?</th>
<th>Hours</th>
<th>Minutes</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Type of exposure (Please check all that apply)</th>
<th>Altitude (feet)</th>
<th>Total Length of Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Commercial aircraft</td>
<td>8000</td>
<td>Hours</td>
</tr>
<tr>
<td>□ Ground transportation</td>
<td></td>
<td>Minutes</td>
</tr>
<tr>
<td>□ MedEvac aircraft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Unpressurized aircraft</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Did you experience any unusual symptoms within 48 hours after your diving or altitude exposure? □ Yes □ No
   If yes, please describe below giving as many details as possible (date, time, location, severity, etc.).

4. Were you treated in a hyperbaric chamber after your diving or altitude exposure? □ Yes □ No
   If yes, please describe below

<table>
<thead>
<tr>
<th>Name of Facility</th>
<th>Location</th>
<th># Treatments</th>
</tr>
</thead>
</table>

Return this form by mail to: Divers Alert Network – Research Dept. 6 West Colony Place Durham, NC 27705
By FAX: (919) 490-6630

YOU CAN ALSO COMPLETE THE FORM DIRECTLY FROM OUR WEBSITE AT:
http://www.diversalertnetwork.org/research/projects/pde/48hr.asp