

DIVERS ALERT NETWORK

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Project Dive Exploration



# PDE Manual

with Instructions for DASIND

Divers Alert Network

An Affiliate of Duke University Medical Center  
Durham, NC 27705

DIVERS ALERT NETWORK

# Project Dive Exploration Manual

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# 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](mailto: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

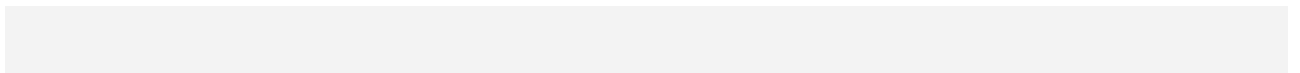
After the dive series is downloaded from the dive computers/data recorders and the divers' data is entered into the manufacturer's dive log software; you are now ready to send your dive data to DAN.

### 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 dive log 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.

The screenshot shows a dialog box titled "User Information and Database Default Values". It contains the following fields and controls:

- Organization: [Text Input]
- Boat/Unit: [Text Input]
- FRC Code: [Text Input]
- City: [Text Input] Country: [Text Input, value: US]
- Time zone: [Dropdown Menu, value: E (GMT - 5) Eastern Time (US & Canada), DAN International Headq]
- Elevation: [Text Input, value: 0]
- Platform: [Dropdown Menu, value: Other]
- Environment: [Dropdown Menu, value: Other]
- Program: [Dropdown Menu, value: Other]
- Unit system:  METRIC  IMPERIAL
- Database name: [Text Input, value: C:\PROGRAM FILES\DASIND\TEST0415]
- Buttons: "Create new database", "Browse...", "Update an existing database", "Close"

Figure 1 Initial screen

#### 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 Screenshot (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).

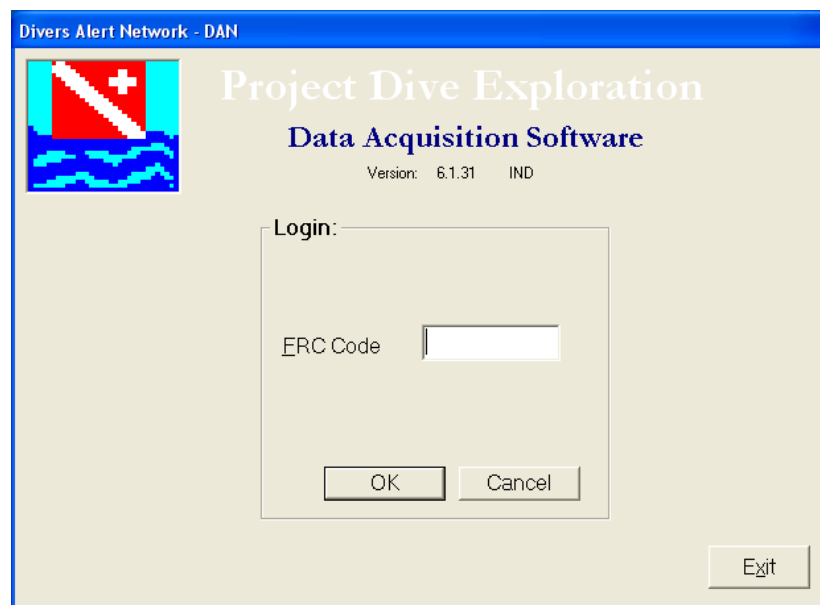


Figure 2 DASIND Front/Login Screen

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:

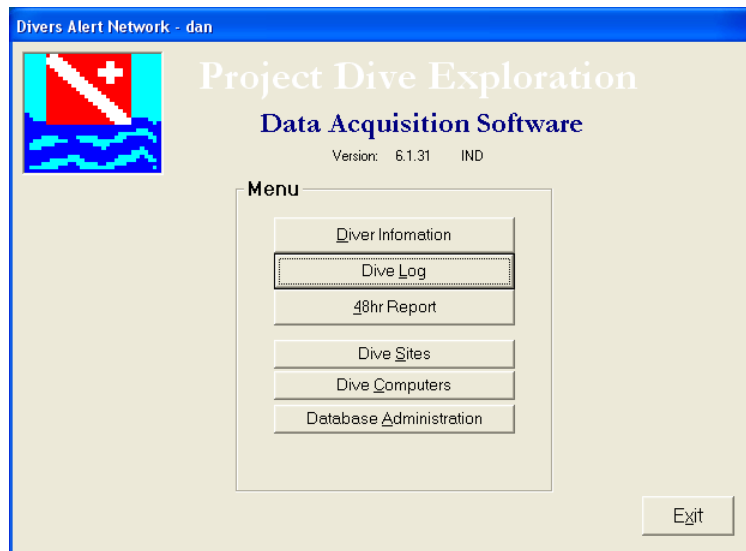


Figure 3 Main Menu

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:

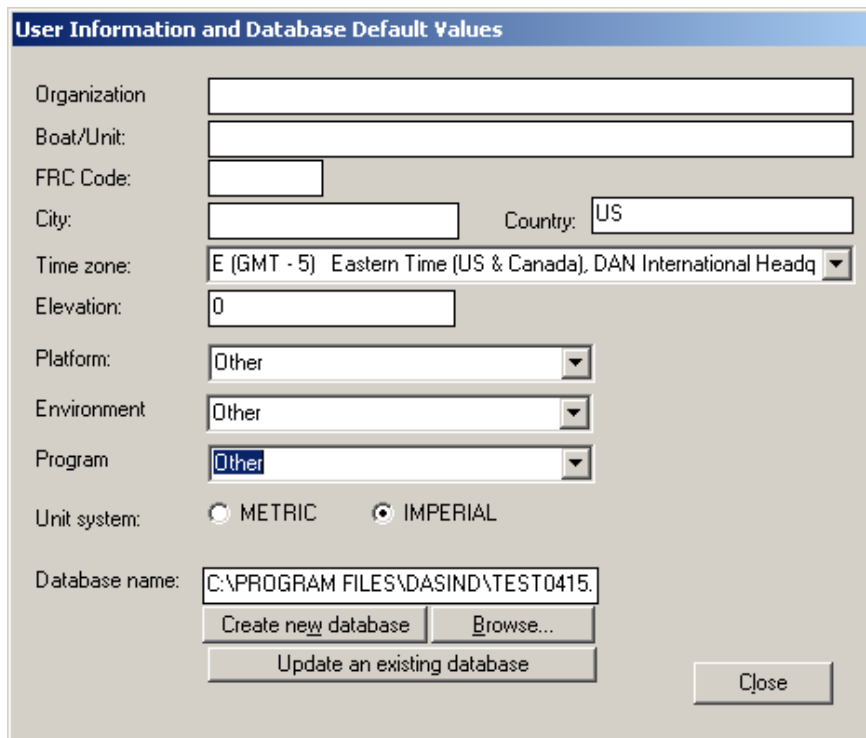
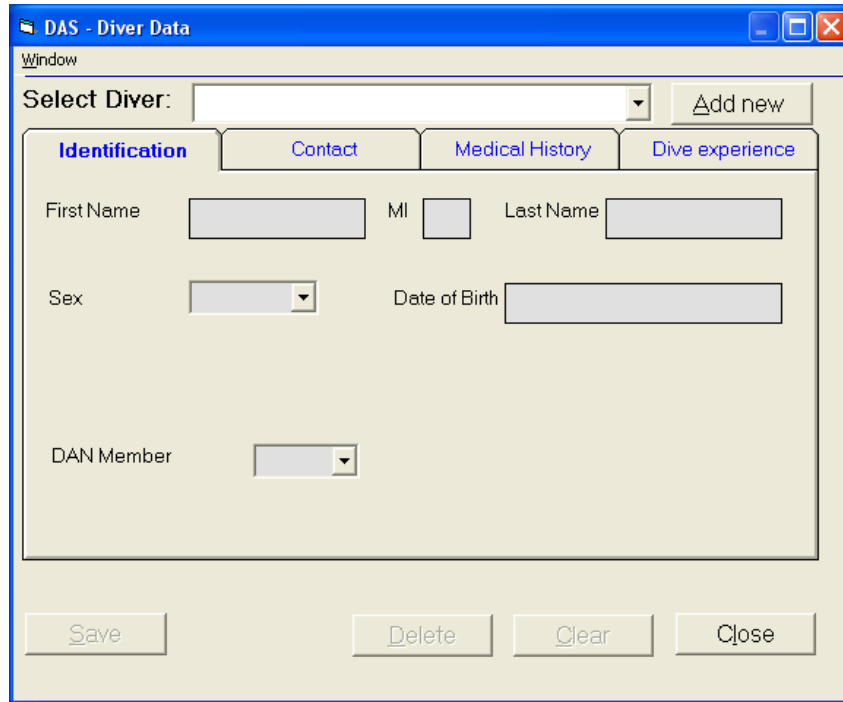


Figure 4 User Information and Database Default Values

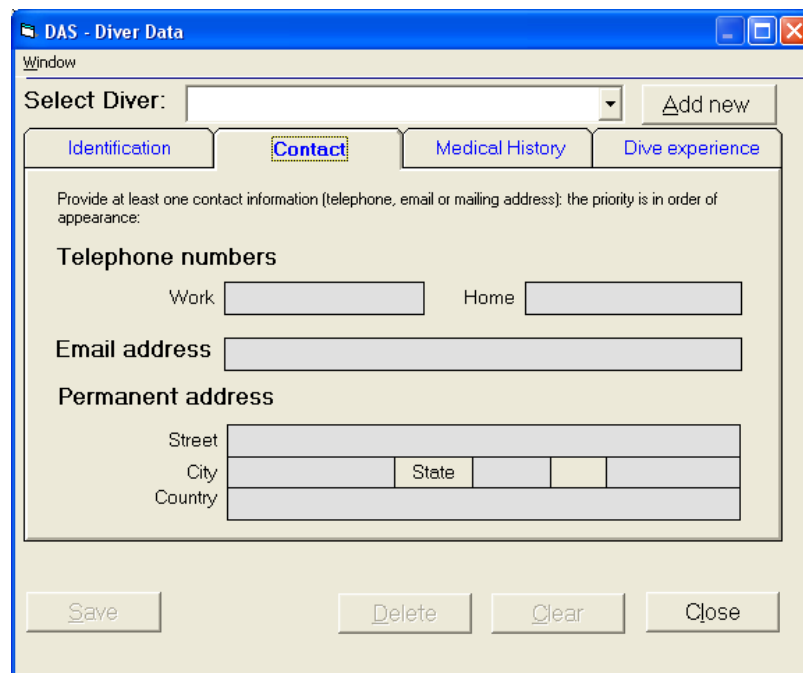
## Diver Information

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).



The screenshot shows a window titled "DAS - Diver Data" with a "Window" title bar. At the top, there is a "Select Diver:" dropdown menu and an "Add new" button. Below this are four tabs: "Identification" (highlighted in blue), "Contact", "Medical History", and "Dive experience". The "Identification" tab contains the following fields: "First Name" (text box), "MI" (text box), "Last Name" (text box), "Sex" (dropdown menu), "Date of Birth" (text box), and "DAN Member" (dropdown menu). At the bottom of the window are four buttons: "Save", "Delete", "Clear", and "Close".

Figure 5 Diver Identification



The screenshot shows the same "DAS - Diver Data" window, but with the "Contact" tab highlighted in blue. The "Contact" tab contains the following text: "Provide at least one contact information (telephone, email or mailing address); the priority is in order of appearance:". Below this are three sections: "Telephone numbers" with "Work" and "Home" text boxes; "Email address" with a text box; and "Permanent address" with "Street", "City", "State", and "Country" text boxes. At the bottom of the window are four buttons: "Save", "Delete", "Clear", and "Close".

Figure 6 Diver's Contact Information

DAS - Diver Data

Window

Select Diver:  Add new

Identification Contact **Medical History** Dive experience

Cigarettes Use:

Height  Ft/inch  meter/cm

Weight  pound  kg

Conditions

Medication

Save Delete Clear Close

Figure 7 Diver's Medical Information

DAS - Diver Data

Window

Select Diver:  Add new

Identification Contact Medical History **Dive experience**

**Your (diver's) dive certification**

Year of first certification:

Your Certification level:

**How many dives did you have in the past?:** 5 years  Last 12 months

**When did your last dive end:** Date

If your last dive was less than 48 hr ago, please enter the time also. Time

Save Delete Clear Close

Figure 8 Diver's Dive Experience

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)

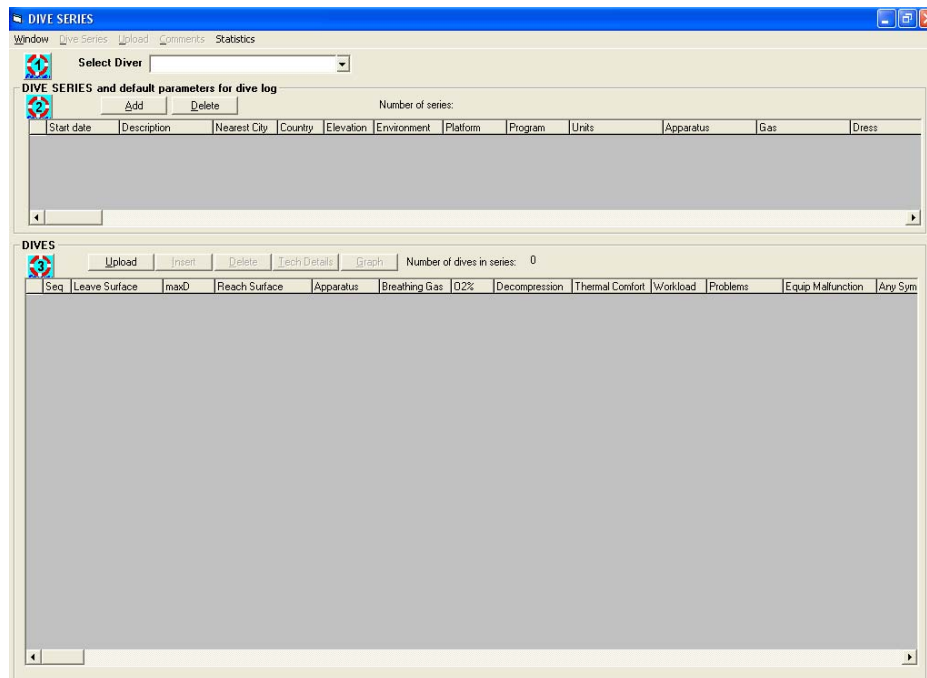


Figure 9 Dive Log Screen

## 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.

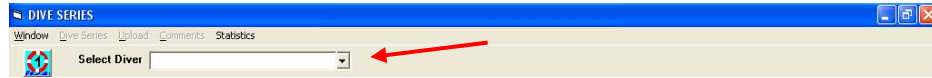


Figure 10 Part 1: Select diver from drop down list

## Dive Series and default parameters for Dive Log

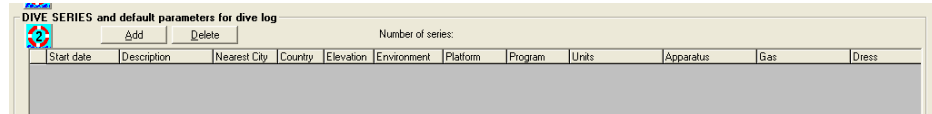


Figure 11 Part 2: DIVE SERIES and default parameters for dive log

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

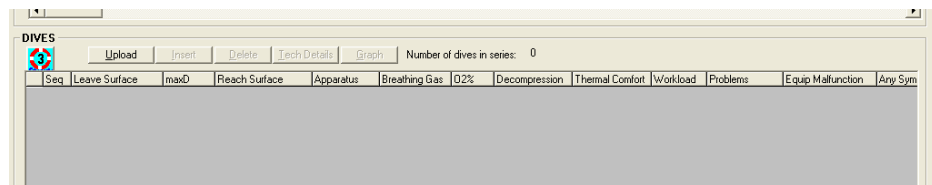


Figure 12 Part 3 DIVES upload

This grid displays several groups of data i.e.:

- Data imported from the dive computer
- Equipment data from the Dive Series (edit if needed)
- O<sub>2</sub> 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)

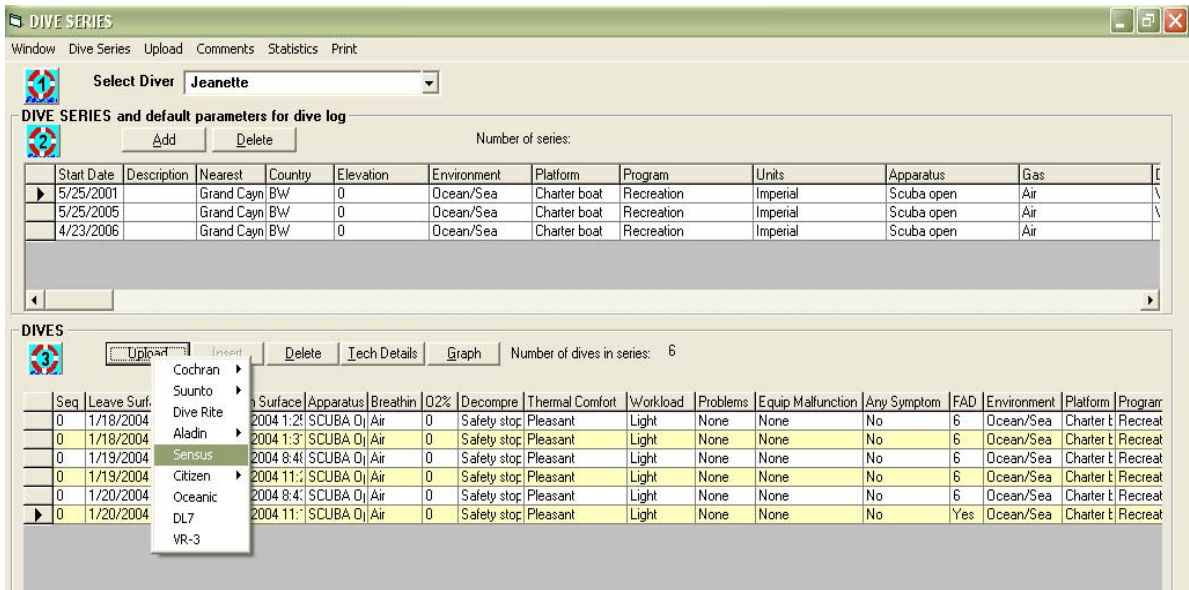


Figure 13 Select Sensus

## 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)

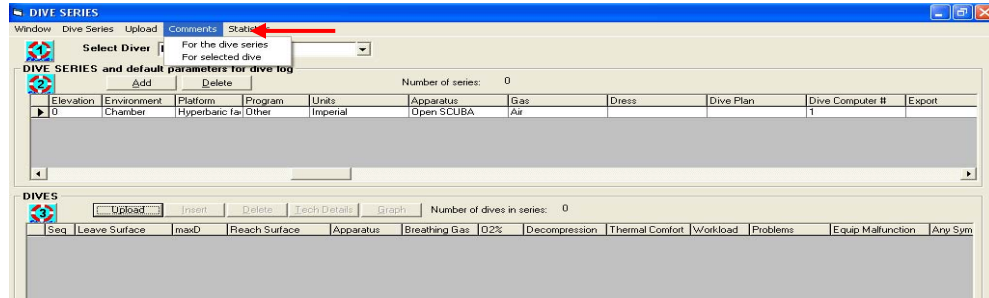


Figure 14 Comments Option

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.

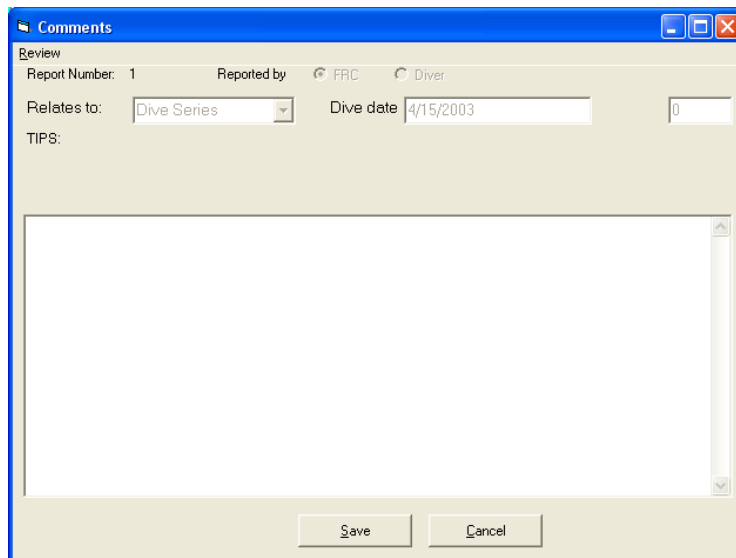


Figure 15 Comments Screen

## 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)

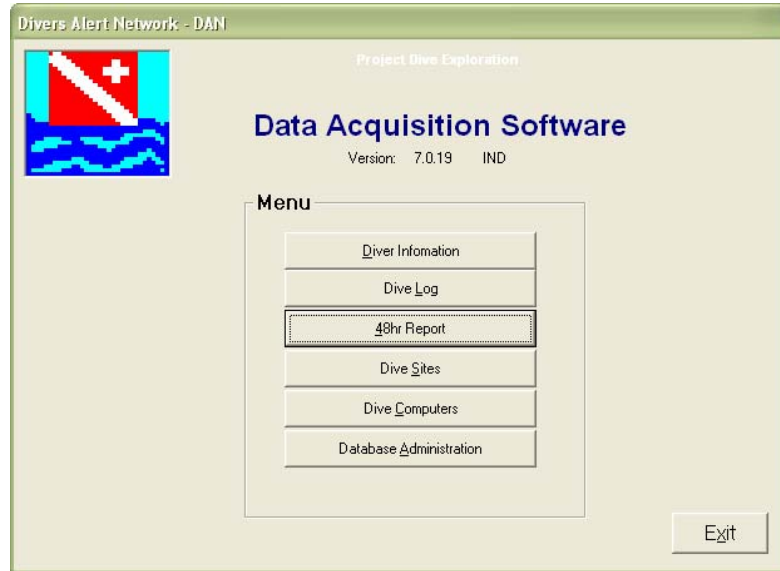


Figure 16 Main Menu

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.

	Last Name	Last Name	End of Series	N Dives	Altitude Between Dives	Exposure Type	SI before exposure (hrs)	Duration (hrs)	Elevation	Any Symptoms at 48hr?
▶	Nicole	Lyon	8/20/2004 10:13		<input type="checkbox"/>					
	Thomas	Lyon	8/20/2004 10:13		<input type="checkbox"/>					
	Jeanette		1/20/2004 8:4:6		<input type="checkbox"/>					
	Jeanette		4/23/2006 4:31:1		<input type="checkbox"/>					
	Elizabeth	MacNamara	11/2/2007 9:11:13		<input type="checkbox"/>					
	Gillian	Kent	11/1/2007 3:4:12		<input type="checkbox"/>					
	Del	Dorscheld	11/1/2007 3:4:11		<input type="checkbox"/>					
	Stephen	Lehner	11/2/2007 9:0:14		<input type="checkbox"/>					
	Roberta	Ekholm	11/2/2007 9:0:9		<input type="checkbox"/>					
	Lawrence	Holt	10/28/2007 2:1:8		<input type="checkbox"/>					

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.

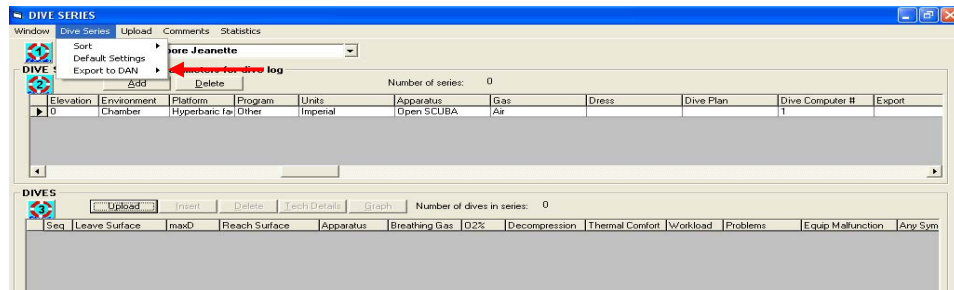


Figure 18. Export to DAN

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]

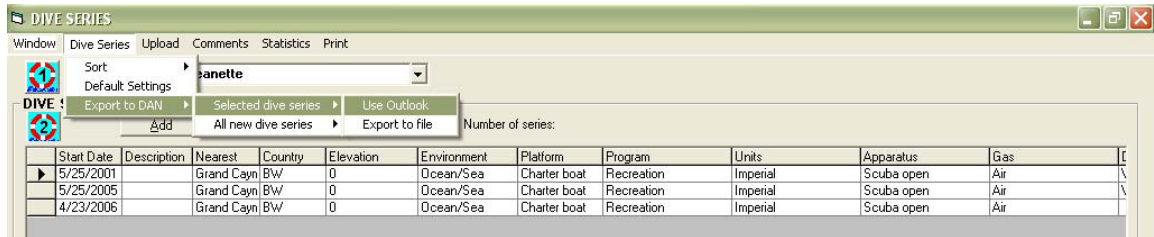
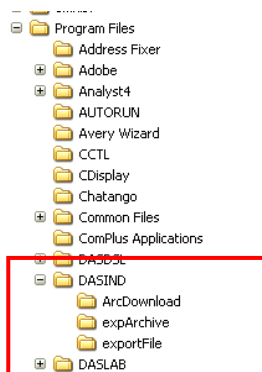


Figure 19 Use Outlook or Export to File

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](mailto: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](mailto: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)

The Dive Site dialog box contains a list of sites on the left and a form on the right. The form fields are:

- Name: Deep Reef
- Area: Indian Bay, Grand Bahamas
- Latitude: 45
- Longitude: 34
- Deep: 78
- Shallow: 15
- Description: 60 fsw, reef with plenty of yellowtails

Buttons at the bottom: Add, Save, Delete, Close.

Figure 20 Dive Site

Enter information about the dive site.

## Dive Computers

The Dive Computer Registry dialog box displays a table with the following data:

Label	Manufacturer	Model	Serial number	User	FRC Code
A	Suunto	Vyper	123456	Tony	ANKT
B					MEX1
C					MEXZ
*					

Buttons at the bottom: Data1

Figure 21 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.

## TECHNICAL DIVERS ONLY

### Dive Profile Details (for technical divers only)

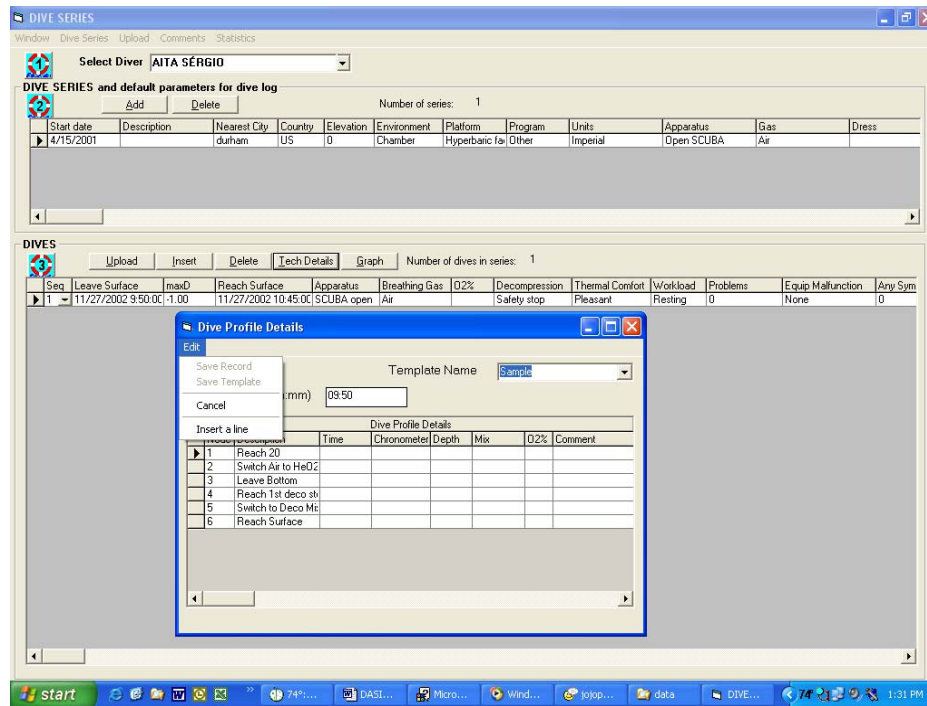


Figure 1022 Dive Profile Details

#### 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

Dive Profile Details							
Node	Description	Time	Chronometer	Depth	Gas Mix	O2%	Comments
1	Reach 20 ft						
2	Gas switch air to mix						
3	Reach bottom						
4	Leave bottom						
5	Reach 1st deco stop						
6	Gas switch to deco mix						
7	Reach 20 ft stop						

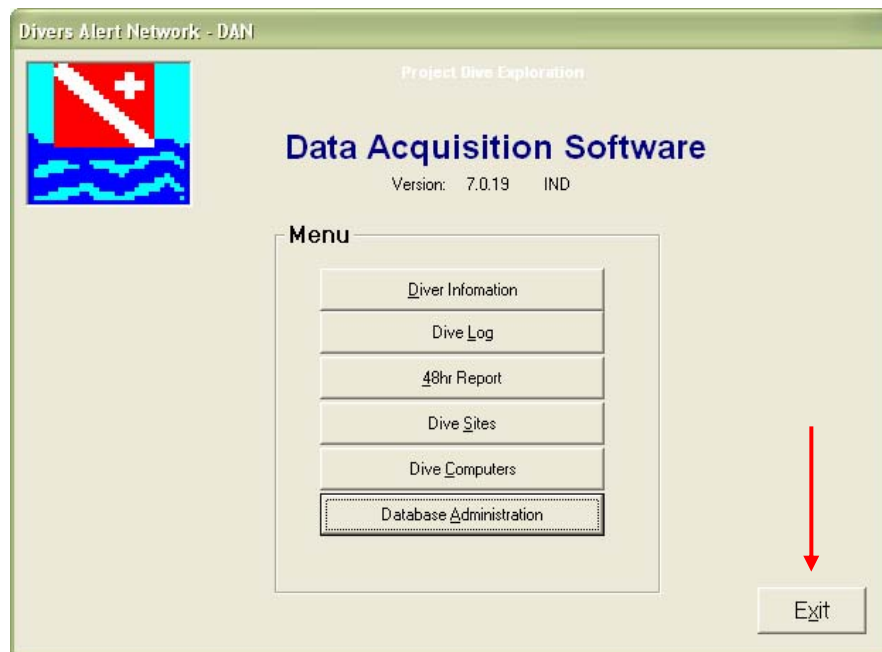
8	Gas switch to O2						
9	Reach surface						

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

Personal Information			
FIRST NAME	MI	LAST NAME	
STREET ADDRESS			
CITY	STATE	ZIP	COUNTRY
DAY PHONE	EVENING PHONE	FAX	DAN MEMBER? <input type="checkbox"/> No <input type="checkbox"/> Yes (# _____)
DATE OF BIRTH	SEX <input type="checkbox"/> M <input type="checkbox"/> F	E-MAIL ADDRESS	

Certifications			
SCUBA	FIRST AID	OXYGEN	CPR
Agency	Organization	Organization	Organization
Highest Level	Expires	Expires	Expires

Equipment Available
DIVE COMPUTERS
DIVE COMPUTER INTERFACES

Affiliation (if applicable)			
NAME OF STORE/CHARTER/RESORT/LIVE-ABOARD/CENTER			
STREET ADDRESS			
CITY	STATE	ZIP	COUNTRY
DAY PHONE	EVENING PHONE	FAX	DAN SPONSOR? <input type="checkbox"/> No <input type="checkbox"/> Yes (# _____)

Office Use Only			
FRC CODE	COURSE DATE	COURSE LOCATION	INSTRUCTOR

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>

# PROJECT DIVE EXPLORATION

## 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](mailto:Research@dan.duke.edu).
- Visit DAN on the Internet at <http://www.DiversAlertNetwork.org>.



*Shaping the Future of Dive Safety*



# PROJECT DIVE EXPLORATION

## Participant Enrollment (Diver Data)

FRC Code

Personal Identification			
FIRST NAME	M.I.	LAST/FAMILY NAME	
Contact Information			
WORK TELEPHONE		E-MAIL ADDRESS	
STREET ADDRESS			
SEX <input type="checkbox"/> M <input type="checkbox"/> F	DATE OF BIRTH (mm/dd/yyyy)	DAN MEMBER <input type="checkbox"/> Yes <input type="checkbox"/> No	MEMBER NUMBER
CITY	STATE	ZIP/POSTAL CODE	COUNTRY

Medical History		
CIGARETTE/TOBACCO SMOKING <input type="checkbox"/> Yes <input type="checkbox"/> No	HEIGHT _____ <input type="checkbox"/> ft/in <input type="checkbox"/> cm	WEIGHT _____ <input type="checkbox"/> lbs <input type="checkbox"/> kg

Please read entire list and check any and all conditions or medications that apply to you.		
Medical Conditions	Current Medications	Medication Name
<input type="checkbox"/> Allergies	<input type="checkbox"/> Allergy	
<input type="checkbox"/> Asthma	<input type="checkbox"/> Antibiotics	
<input type="checkbox"/> Back Pain	<input type="checkbox"/> Anti-depressants	
<input type="checkbox"/> Back Surgery	<input type="checkbox"/> Anti-epileptics	
<input type="checkbox"/> Diabetes	<input type="checkbox"/> Anti-Malaria	
<input type="checkbox"/> Ear/Sinus Surgery	<input type="checkbox"/> Asthma (Inhaler)	
<input type="checkbox"/> Ear/Sinus Problems	<input type="checkbox"/> Asthma (Oral Drug)	
<input type="checkbox"/> Flu or Cold	<input type="checkbox"/> Birth Control	
<input type="checkbox"/> Heart Disease	<input type="checkbox"/> Blood Pressure	
<input type="checkbox"/> High Blood Pressure	<input type="checkbox"/> Decongestant	
<input type="checkbox"/> Joint/Muscle Pain	<input type="checkbox"/> Diarrhea	
<input type="checkbox"/> Nervous System Disorder	<input type="checkbox"/> Flu or Cold	
<input type="checkbox"/> Previous Treatment for DCI	<input type="checkbox"/> Heart & Circulation	
<input type="checkbox"/> Pregnant (currently)	<input type="checkbox"/> Insulin	
<input type="checkbox"/> Peripheral vascular disease	<input type="checkbox"/> Oral Diabetics	
<input type="checkbox"/> Pulmonary	<input type="checkbox"/> Pain Relief	
<input type="checkbox"/> Surgery of any kind	<input type="checkbox"/> Seasickness	
<input type="checkbox"/> Seasickness	<input type="checkbox"/> Vitamins/Dietary Supplements	
<input type="checkbox"/> Other (Describe on next page)	<input type="checkbox"/> Other:	
<input type="checkbox"/> Nothing Significant	<input type="checkbox"/> I am not taking <b>ANY</b> medications	

Diving Experience	
YEAR OF FIRST CERTIFICATION: _____	HIGHEST LEVEL OF CERTIFICATION (Pick only one – highest level) <input type="checkbox"/> Student <input type="checkbox"/> Open Water <input type="checkbox"/> Advanced/Specialty (AOW) <input type="checkbox"/> Rescue Diver <input type="checkbox"/> Dive Master <input type="checkbox"/> Instructor <input type="checkbox"/> Technical: cave/cavern/deep diving <input type="checkbox"/> Scientific <input type="checkbox"/> Commercial <input type="checkbox"/> Military

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 _____
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# Project Dive Exploration

## Daily Dive Log (Dive Series)

FRC Code

1 Diver: \_\_\_\_\_ Dive computer #: \_\_\_\_\_ Week Start Date: \_\_\_\_\_

<span style="border: 1px solid black; padding: 2px;">2</span>	DATE (mm/dd/yy)	APPARATUS ( <u>S</u> CUBA open: Closed <u>R</u> ebreather, <u>S</u> emi-Closed Rebreather, <u>S</u> urface supplied, <u>C</u> hamber, <u>E</u> xperimental, <u>O</u> ther)	GAS ( <u>A</u> ir, <u>N</u> itrox, <u>H</u> eliox, <u>T</u> rimix, <u>O</u> xygen, <u>C</u> ombination)	O <sub>2</sub> % (Only for gasses other than air)	DECOMPRESSION ( <u>S</u> afety stop, <u>I</u> n water deco stop, <u>C</u> hamber, <u>O</u> ther, <u>N</u> one)	THERMAL COMFORT ( <u>W</u> arm, <u>P</u> leasant, <u>C</u> old, <u>V</u> ery cold)	<span style="border: 1px solid black; padding: 2px;">3</span>	WORKLOAD ( <u>R</u> esting, <u>L</u> ight, <u>M</u> oderate, <u>S</u> evere, <u>E</u> xhausting)	PROBLEMS ( <u>E</u> qualization, <u>V</u> ertigo, <u>O</u> ut of air, <u>B</u> uoyancy, <u>S</u> hared Air, <u>R</u> apid Ascent, <u>S</u> ea sickness, <u>O</u> ther, <u>N</u> one)	EQUIPMENT MALFUNCTION ( <u>M</u> ask, <u>F</u> ins, <u>W</u> eight belt, <u>B</u> C, <u>T</u> hermal Protection, <u>C</u> omputer, <u>D</u> ePTH gauge, <u>P</u> ressure gauge, <u>R</u> egulator, <u>N</u> one)	SYMPTOMS (YES or NO) if yes, please describe in detail in the COMMENTS box below, when it occurred and what you did about it.	Flying After Diving – Did you go to altitude? <u>Y</u> es, <u>N</u> o	If YES, please ask your FRC for a 48-hr report and fill it out.	WORKLOAD AFTER DIVE ( <u>N</u> one, <u>L</u> ight, <u>M</u> oderate, <u>S</u> evere, <u>E</u> xhausting)	ENVIRONMENT (Ocean/ <u>S</u> ea, <u>L</u> ake/ <u>Q</u> uarry, <u>R</u> iver/ <u>S</u> pring, <u>C</u> ave, <u>C</u> avern, <u>P</u> ool, <u>C</u> hamber, <u>U</u> nder Ice, <u>O</u> ther)	PLATFORM ( <u>B</u> each/ <u>S</u> hore, <u>P</u> ier, <u>S</u> mall Boat, <u>C</u> harter Boat, <u>L</u> iveboard, <u>B</u> arge, <u>L</u> andside, <u>H</u> yperbaric Facility, <u>O</u> ther)	PROGRAM ( <u>R</u> ecreation, <u>I</u> rrigation, <u>S</u> cientific, <u>M</u> edical, <u>C</u> ommercial, <u>M</u> ilitary, <u>C</u> ompetitive, <u>O</u> ther)	DIVE PLAN (Dive <u>C</u> omputer, <u>I</u> able, <u>A</u> nother Diver, <u>O</u> ther)	DRESS ( <u>L</u> ycra/ <u>S</u> kin, <u>W</u> etsuit, <u>D</u> rysuit, <u>H</u> eated Suit, <u>O</u> ther, <u>S</u> wimsuit)	
DAY 1	/ /																			
1 <sup>st</sup> dive																				
2 <sup>nd</sup> dive																				
3 <sup>rd</sup> dive																				
4 <sup>th</sup> dive																				
5 <sup>th</sup> dive																				
COMMENTS:																				
DAY 2	/ /																			
1 <sup>st</sup> dive																				
2 <sup>nd</sup> dive																				
3 <sup>rd</sup> dive																				
4 <sup>th</sup> dive																				
5 <sup>th</sup> dive																				
COMMENTS:																				
DAY 3	/ /																			
1 <sup>st</sup> dive																				
2 <sup>nd</sup> dive																				
3 <sup>rd</sup> dive																				
4 <sup>th</sup> dive																				
5 <sup>th</sup> dive																				
COMMENTS:																				

2	DATE (mm/dd/yy)											APPARATUS (SCUBA open; Closed Rebreather, Semi-Closed Rebreather, Surface supplied, Chamber, Experimental, Other)	GAS (Air, Nitrox, Heliox, Trimix, Oxygen, Combination)	O <sub>2</sub> % (Only for gasses other than air)	DECOMPRESSION (Safety stop, In water deco stop, Chamber, Other, None)	THERMAL COMFORT (Warm, Pleasant, Cold, Very cold)	3	WORKLOAD (Resting, Light, Moderate, Severe, Exhausting)	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.	Did you go to a doctor, Yes, No	If YES, please ask your FRC for a 48-hr report	WORKLOAD AFTER DIVE (None, Light, Moderate, Severe, Exhausting)	ENVIRONMENT (Ocean/Sea, Lake/Quarry, River/Spring, Cave, Canyon, Pool, Chamber, Under Ice, Other)	PLATFORM (Beach/Shore, Pier, Small Boat, Charter Boat, Liveboard, Barge, Landside, Hyperbaric Facility, Other)	PROGRAM (Recreation, Training, Scientific, Medical, Commercial, Military, Competitive, Other)	DIVE PLAN (Dive Computer, Table, Another Diver, Other)	DRESS (Lycra/Skin, Wetsuit, Drysuit, Heated Suit, Other, Swimsuit)
DAY 4 / /	1 <sup>st</sup> dive	2 <sup>nd</sup> dive	3 <sup>rd</sup> dive	4 <sup>th</sup> dive	5 <sup>th</sup> dive	COMMENTS:																							
DAY 5 / /	1 <sup>st</sup> dive	2 <sup>nd</sup> dive	3 <sup>rd</sup> dive	4 <sup>th</sup> dive	5 <sup>th</sup> dive	COMMENTS:																							
DAY 6 / /	1 <sup>st</sup> dive	2 <sup>nd</sup> dive	3 <sup>rd</sup> dive	4 <sup>th</sup> dive	5 <sup>th</sup> dive	COMMENTS:																							
DAY 7 / /	1 <sup>st</sup> dive	2 <sup>nd</sup> dive	3 <sup>rd</sup> dive	4 <sup>th</sup> dive	5 <sup>th</sup> dive	COMMENTS:																							



# Project Dive Exploration

48-Hour Report

DIVER'S NAME	DATE OF TRIP	
	Start Date	End Date
DIVER'S EMAIL ADDRESS		
NAME OF TRIP/EVENT	FRC's NAME & CODE:	

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.

Dive	Date	Max Depth (fsw)	Total Time (min)
#1			
#2			
#3			

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

		Hours	Minutes
Surface interval before exposure?			
Type of exposure (Please check all that apply)	Altitude (feet)	Total Length of Exposure	
		Hours	Minutes
<input type="checkbox"/> Commercial aircraft	8000		
<input type="checkbox"/> Ground transportation			
<input type="checkbox"/> MedEvac aircraft			
<input type="checkbox"/> Unpressurized aircraft			

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

Name of Facility	Location	# Treatments

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>

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