



Scientific Diving in France

Past and present situation

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Station Marine d'Endoume, Marseille

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Jean-Pierre FERAL

Advanced Scientific Diver

Chef de plongée scientifique du CNRS

- Certificat d'aptitude à l'hyperbarie : CAH 1B (40 m, air)
- Founder member of COLIMPHA (*French Association of Scientific Divers*) 1979
- Responsible for the CNRS/INSU scientific diving training course 1986-2003 in Banyuls sur Mer (*CNRS continuous education*)
- First scientific SCUBA diving in Antarctica (Terre Adélie, 1987)
- One of the redactor of the present French rules for scientific diving (in 1988 & 1993)
- 1998 (DG XII / ESF Brussels meeting) / 2000 Banyuls meeting (Chairman)
- Member of the CNPS : Comité National pour la Plongée Scientifique (2001) (French National Committee for Scientific Diving)
CNRS (Europe) & IPEV (French Polar Institute)



EU Scientific Diving meeting, Berlin, 25-26 June 2007

SCIENTIFIC DIVING IN FRANCE

Recognition of scientific diving

Difficulty : scientific diving uses mainly sports equipment and diving methods and shares responsibilities and employment obligations with professional diving

Colimpha (Association française des plongeurs scientifiques = *French Association of Scientific Divers*) was set-up in 1979 to unit scientific divers. It still provides a specific insurance for sport and scientific diving, day and night, in France and abroad.

There was no clear specific rule for scientific diving in France until 1982

Scientific diving regulation remained quite "fuzzy" until 1988, in the case of the C.N.R.S. (Centre national de la recherche scientifique = *National Centre for Scientific Research*) and until 1991 for other research establishments and universities.

Between 1991 and 1993, **recognition of equivalence** based on professional experience in scientific diving has been granted.

Since 1993 a special examination (practical and theoretical) is requested at the end of a specific training course to obtain the C.A.H. (**Certificat d'aptitude à l'hyperbarie** = *hyperbaric capacity certificate*)

SCIENTIFIC DIVING IN FRANCE

Scientific diving training and certification

Since 1985, two week specific training courses organised by the "Formation Permanente" (continuing education) of the CNRS, alternatively in 2 marine stations (Banyuls-sur-mer / Mediterranean and Roscoff / Channel).

Depending on the candidate's level, the qualification of " **plongeur scientifique du CNRS** " (= *scientific diver*) or of " **chef de plongée scientifique du CNRS** " (= *advanced scientific diver*) was delivered, or not.

In the CNRS ' laboratories, the diving officer was (and is) promoted by the director. He should be, or should have been, "chef de plongée scientifique du CNRS".

Since January 1995, the I.N.S.U. (Institut national des sciences de l'univers / C.N.R.S.) was one of the organisations entitled to train workers for hyperbaric activities.

Two week training courses were organised by the "Formation Permanente" (continuing education) of the C.N.R.S., alternatively in the previous 2 marine stations. A jury judges the candidates' ability: **for the C.A.H. mention B, Class 1**. If conditions are fulfilled, **the C.A.H. is delivered by the I.N.P.P.** (Institut national de la plongée professionnelle = *National Commercial Diving Institute*).

SCIENTIFIC DIVING IN FRANCE

Present status

There is a LEGAL STATUS of scientific divers in France.

Scientific diving is under official control according to the decree n° 90-277 of 20th March 1990 (relating to the protection of hyperbaric workers) and the decree of application of 28th January 1991 (relating to specifications of security training for personnel involved in hyperbaric activities).

French diving regulations stipulate the obligation for scientific divers to have a professional brevet: the **C.A.H.** which is valid for 10 years, always in the so-called "**mention B**" ("autres activités subaquatiques" = *other underwater activities*), and generally in "**Class I**" (air dives, to a maximum depth of 40 m).

There is a "**Subclass IA**" in this "mention B (maximal depth: 12m).

"**Class 2**" (down to 60m) may also be obtained (this mainly concerns archaeologists and professional divers in the marine stations).

There is also a "**Class 3**" in this mention which concerns *quasi* nobody for scientific diving (mixed gas, bell diving,...).

SCIENTIFIC DIVING IN FRANCE

Regulation

The **CNRS** has a regulation of its own for scientific diving (instruction of implementation of **March 1999**, n° 980002 IGHS, <http://www.dsi.cnrs.fr/bo/1999/03-99/5238-bo0399-ins980002ighs.htm>).

In fact, this instruction is followed by all French scientific institutions and scientific divers.

Since 1999, the **CNPS** (Comité national de la plongée scientifique: *National Commission for Scientific Diving*), created by INSU (Institut national des sciences de l'univers).

It gathers **most of the scientific research institution**, including universities. Permanent guests are the director of I.N.P.P., the executive secretary of EMaPS, a representative of the minister of labour and solidarity.

However, the problem remains partially unsolved with students (including non granted PhD) and free-lance participants involved in a scientific underwater activity

SCIENTIFIC DIVING IN FRANCE

Diving Permit

When certified, the scientific diver (**occupying a permanent position in an institution**) have an **"administrative" authorisation** for one year or six months after 40 years old, thanks to a **specific diving medical examination**.

The decree of 28th March 1991 defines recommendations to the attention of physicians in charge of workers' medical control related to hyperbaric activities.

- To keep his(her) permit, a scientific diver must train (at least 12 dives in 12 months, 6 of them with scientific purpose).
- A personal diving log is required.
- For each dive, an allowance which amount depends on the depth is due by the employer.
- A record of dive for all dives under institute auspices is also required.
- The standard air decompression tables that must be used by scientific divers were published in the decree of 15th May 1992 defining the procedures of access, stay, exit and organisation of hyperbaric activities.

SCIENTIFIC DIVING IN FRANCE

Temporary diving permit for (PhD) students

A special permission for **unpaid, temporary hyperbaric activities at less than 40 m of depth, in a cultural or scientific context**, can be granted to graduate students and PhD students **having no income**.

- This permission is given for 1 year and it can be renewed once.
- The responsible of the site and other divers involved in such activities must be in possession of a C.A.H..
- A PhD student receiving research subsidies or having a grant is considered as employed with salary, and is liable to the legislation of labour. He(she) is no longer considered a voluntary or temporary worker and is obliged to have a C.A.H..

A written request for permission must be done. The list of elements required to accompany such a request is given in the regulation. In particular a CV with specifications on the personal experience in diving, a copy of the highest degree, a medical certificate, and a description of the work program (signed by the responsible) are requested.

SCIENTIFIC DIVING IN FRANCE

Temporary diving permit for visitor scientists

There are **no defined rules** for foreign scientists visiting French laboratories.

- Their diving must fit with the French regulation
- They must be certified by the diving officer of the institute they are visiting
- In the CN.R.S.' laboratories, the visiting diver must provide an up to date diving permit from his(her) institution (if it has a formal diving program).
- Otherwise he(she) must provide:
 - ✦ documentation of having passed a physical examination (less than one year ago) for diving including at least a statement (signed by the physician) that the candidate is medically qualified for diving
 - ✦ a certificate from a nationally recognised diver training agency. The minimal level accepted must be equivalent to the CMAS** (2-stars) qualification
 - ✦ his(her) personal log book
 - ✦ a personal insurance covering the specific risks of diving
 - ✦ an authorisation to dive as part of his(her) scientific work signed by the president of the university or the director of the institute he(she) depends on, stipulating that it is fully responsible of any kind of accident which may occur during diving

SCIENTIFIC DIVING IN EUROPE

***The Challenge:
Mobility of researchers and technicians
using SCUBA diving
in European laboratories***

		members	
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ESF	ESF	Laurent d'Ozouville	dozouville@esf.org
INSU	INSU	Guy Boucher	guy.boucher@cns-dir.fr
Allemagne	Germany	Klaus Schwarzer	kschwarzer@email.uni-kiel.de
Belgique	Belgium	Alain Norro	A.Norro@mumm.ac.be
Danemark	Denmark	Svend Åge Bendtsen ?	saab@nja.dk
Espagne	Spain	Manuel Martin-Bueno	mmartin@posta.unizar.es
Finlande	Finland	Juha Flinkman	flinkman@fimr.fi
France	France	Jean-Pierre Féral	feral@arago.obs-banyuls.fr
Grèce	Greece	Vasilios Lykousis	vlikou@erato.fl.ncmr.gr
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Portugal	Portugal	Manuel Biscoito	manuel.biscoito@mail.cm-funchal.pt
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Suède	Sweden	Roger Lindblom	roger.lindblom@matnat.gu.se

SCIENTIFIC DIVING IN EUROPE Recognition of ESD and AESD

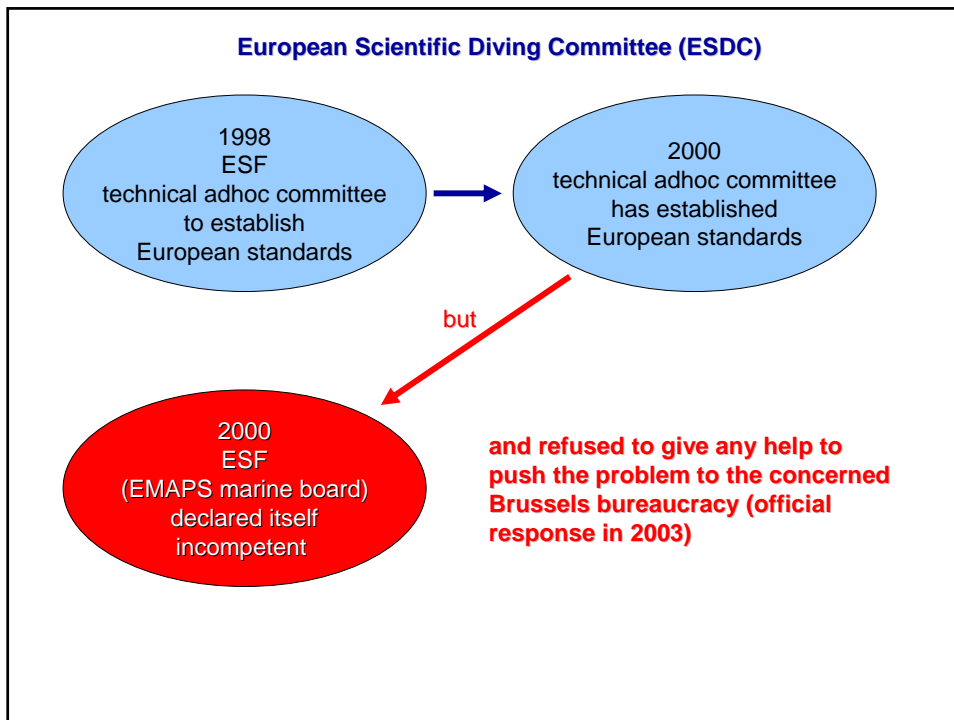
- Harmonization of the regulations, as far as they exist, is necessary.
- In the case of the countries that do not have such regulations, it will provide the basis to make some progress in this direction.
- But most important is to define a standard level for scientific divers, a "minimum" qualification common to all the countries concerned.
- The current proposal is to get recognition for two levels, both of which are professional: European Scientific Diver (ESD) and Advanced European Scientific Diver (AESD).
- The aims of the European Standards for Scientific Diving are:
 - ✦ to assure the mobility of fully trained scientific divers
 - ✦ to allow member states (EU and EAA (associated countries)) to assess the training level of a migrant applicant
 - ✦ to enable specialized courses and optional training, above the minimum level, to be developed on a European basis, so as to provide a more effective use of diving techniques in science.

Process that has led to the proposed standards, ESD and AESD

Date	Venue	Title / organisers	Financial support	Products
26-27 April 1993	Brussels	Workshop on advanced training and standard in Scientific Diving (co-chairpersons: Marco Weydert (EU) and Nic Flemming (UK))	DGXII-MAST	State of the art in European Scientific Diving. Two resolutions: 1 concerning organisation of symposia and specific courses +1 recommending CMAS*** diver certification as a technical baseline for scientific diving. Draft report N° CAN/MAST 93/17
1-2 Feb. 1996	Brussels	<i>Workshop on Scientific Diving</i> (Chairperson: Paul Ryan [IE], organisers Marco Weydert [EU])	DGXII-MAST	State of the art in European Scientific SCUBA diving Draft standard dated 25/09/1995 and 10/06/1996
1-11.May 1997	Elba	<i>Course/Seminar for the Instructors of European Scientific Divers</i> (organiser: Marco Abbiati [IT])	DGXII-MAST	Tests of potential minimum standards for Scientific Diving new version of standards labelled <i>Elba version</i>
19 January 1998	Brussels	<i>Workshop on Scientific Diving</i> (Chairperson: Paul Ryan [IE], organisers Marco Weydert [EU] & Laurent d'Ozouville [ESF])	DGXII-MAST	European Scientific Diving Committee + draft standards dated 04/02/1998 send by Paul Ryan to Marco Weydert / DGXII
24 October 2000	Banyuls-sur-mer	<i>Workshop of the European Scientific Diving Committee</i> (Chairperson: Jean-Pierre Féral [FR])	CNRS-INSU (partly)	European standards for Scientific Diving dated 24/10/2000

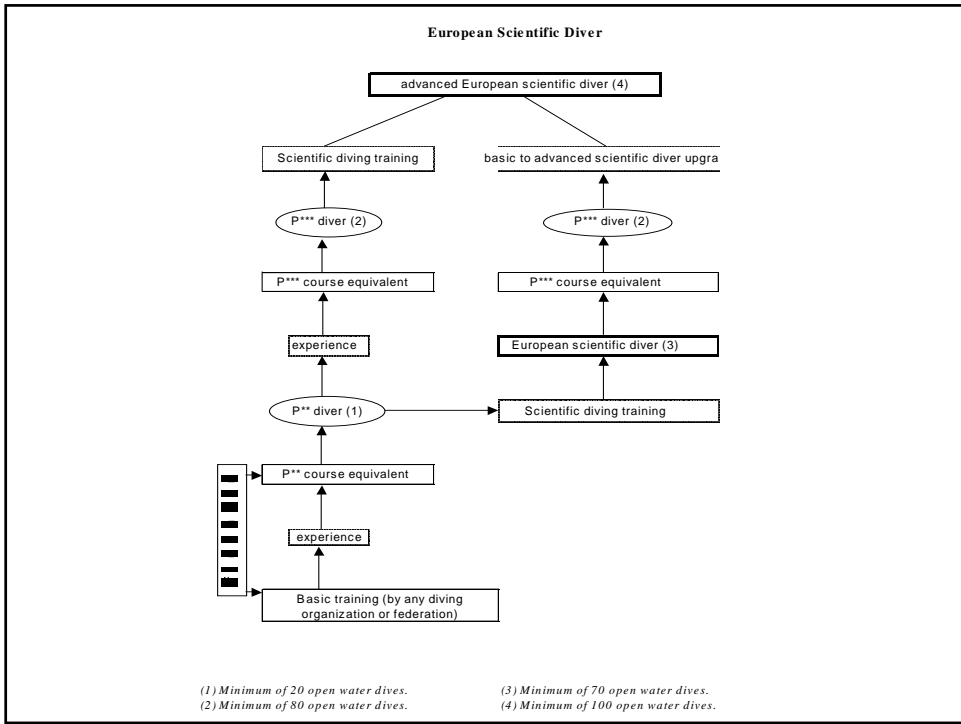
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European Scientific Diving Committee (ESDC) requests that a “EU body”:

- recognizes the proposed standards
- recognizes the competence of the Committee
- brings forward the whole at the highest possible level of the Brussels bureaucracy



European Scientific Diver

Pays / country : United Kingdom
 Nom / last name : BOND
 Prénom / first name : James
 Né le / born : 09/12/1812
 Adresse professionnelle / n° 44/007
 Professional address : _____

 Qualifications nationales / national qualifications : CAH 1B

Advanced European Scientific Diver

Pays / country : FRANCE
 Nom / last name : FERAL
 Prénom / first name : Jean-Pierre
 Né le / born : 09/12/1947
 Adresse professionnelle / n° 33/0001
 Professional address : UMR 6540 -DIMAR
 COM, Station Marine d'Endoume, Rue de la Batterie des Lions
 13007 Marseille
 Qualifications nationales / national qualifications : CAH 1B, CPS-CNRS

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Comité National de la Plongée Scientifique
European Scientific Diving Commission



Livret individuel
INPP Mention B

Logbook



Advanced European Scientific Diver

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Téléphone ***, télécopie *** e-mail ***
CNRS - DRASM - IFREMER - IFRTP - INRA - IRD - MNHN - universités

Livret individuel de plongée
INPP Mention B
Scientific diver logbook

ouvert le / open on : _____

Nom / last name : _____

Prénom / first name : _____

Né le / born : _____

Adresse / address : _____

Photo du
titulaire

Signature du titulaire

Téléphone / voice : _____ Holder's signature

e-mail : _____

Changement d'adresse / change of address : _____

Téléphone / voice : _____

e-mail : _____

QUALIFICATION :

Date de délivrance du C.A.H. : _____

Mention B, classe _____ ou sous-classe _____

Numéro : _____

Livret / logbook N° : _____

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Aptitude médicale à la plongée scientifique
Medical capacity for scientific diving

La visite médicale doit être en accord avec l'arrêté du 28 mars 1991.
The medical examination must be in accordance with the French decree of application of March 1991, 28th.

date	Décision	signature

Toute décision d'inaptitude, même temporaire, doit être inscrite dans une case « plongée », à la suite de la dernière plongée effectuée.
Any decision of inability, even temporary, must be written in as a record of dive, after the last dive.

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Date <i>date</i>		Chantier/mission <i>Working site</i>	
Soutien de surface <i>Surface support</i>		température (°C) <i>water temperature</i>	
Méthode de plongée <i>type of dive</i>	Autonome / <i>scuba</i> Narguilé/surface demand	mélange respiratoire <i>breathing mixture</i>	Air / <i>air</i> Mélange / <i>mixed gas</i>
Profondeur <i>depth (m)</i>		Durée <i>bottom time</i>	
mise à l'eau <i>left surface</i>		Surface <i>surface</i>	
palier(s) <i>decompression stop(s)</i>		Incident <i>near miss</i>	oui / non <i>yes / no</i>
observations <i>observations</i>		chef de service ou de mission/ diving officer nom et signature / name and signature	

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