

Statistical analysis of the European research fleet

By Marta Entradas and Laurent d'Ozouville, EurOcean, Lisbon, Portugal.

Research vessels (RVs), having a crucial role in marine research and being very expensive research infrastructures to operate, should be used efficiently and be well adapted to fulfill the requirements of the marine scientific community. In response to the need of being aware of what vessels already exist, EurOcean has made a comprehensive inventory of the RVs in Europe and carried out a statistical analysis to get an overview of the main characteristics of the European research fleet.

This study comprises all of the research vessels longer than 10 metres operating in the European seas from the non-private sector and with an endurance at sea of at least one day. Information on the RVs, including their specifications, onboard equipment and contact information, has been collected by EurOcean and validated by the vessel operators.

This information can be consulted on the EurOcean website at www.eurocean.org/contents.php?id=21 (privileged association has been established with the Ocean Information Centre of the University of Delaware, USA, which already maintained a worldwide database on research vessels. This database has been completed and updated by EurOcean).

Number and size of RVs operating in Europe

To facilitate this study the European fleet has been classified in two main categories, taking into account the length of the vessels and their area of operation:

- Vessels greater than 30 metres in length operating in the high seas (ocean-going vessels)
- Vessels less than 30 metres operating in coastal areas (coastal vessels).

The European research fleet is made up of some 211 research vessels from 24 European countries. When considering the two main length categories defined above (vessels >30 metres and vessels

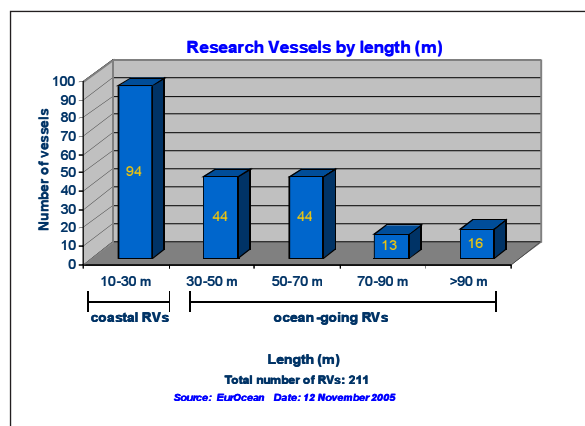


Figure 1. Different length classes of the European research fleet

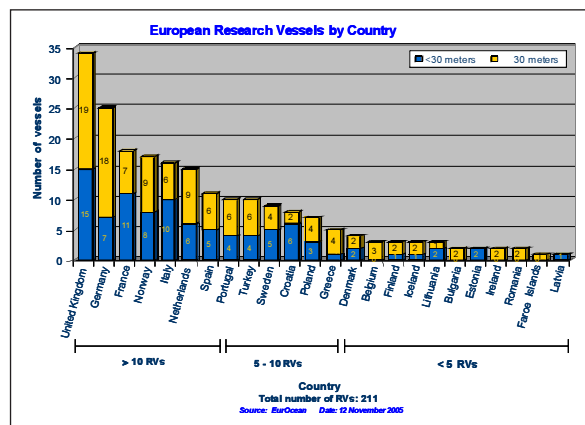


Figure 2. Distribution of European research vessels by country

<30 metres) the number of ocean-going vessels is quite similar to the number of coastal RVs: 94 RVs of the European fleet are less than 30 metres and 117 are longer than 30 metres (see Figure 1).

Distribution of the fleet by country

The graph in Figure 2 reveals a large discrepancy between the numbers of vessels operated by the European countries reported. It is possible to distinguish three main classes:

- Countries operating one to five RVs.
- Countries with five to 10 RVs.
- Countries with more than 10 RVs.

Countries such as the United Kingdom (34 RVs), Germany (25 RVs), France (18 RVs), Norway (17 RVs), Italy (16 RVs) and the Netherlands (15 RVs) belong to the third class (>10 RVs). When considered together they concentrate the majority of the European fleet (125 RVs). In contrast, there are countries such as Latvia and the Faroe Islands operating only one vessel. 12 European countries operate only one to five research vessels.

Further analysis showed that the countries operating the largest number of RVs (the UK, Germany, France, Italy, Norway and the Netherlands) are also the countries with the biggest ones, that is to say with vessels longer than 90 metres.

Age of the fleet

The average lifetime of the European fleet is approximately 20 years, even though there are vessels in service that are older than 50 years (seven RVs). These older vessels are from Turkey (two RVs), Germany

(two RVs), Croatia (two RVs) and Estonia (one RV). The Turkish vessel *MTA Sismik 1* is the oldest one in service, having been built in 1942 and rebuilt in 1976 (refits are quite common for research vessels but were not considered in this study. It should also be noted that vessels decommissioned in the last years of the study were not taken into account). 156 RVs are less than 30 years old. One half of the existing research fleet is between 10 and 30 years old and was built between 1975 and 1994, with an average number of 26 RVs in each five-year period. There is a significant decrease in the number of 50-metre to

70-metre long vessels built since the beginning of 1990s (Figure 3).

Over the last five years the average number of vessels constructed has increased slightly – 28 RVs were built from 2000 to 2005, opposed to only 17 RVs from 1995 to 1999. (Figure 4).

From 2000 to 2005, more than half of the fleet built is between 10 metres and 50 metres, illustrating a demand for research on the continental shelf including the coastal zone.

In the last 15 years, the United Kingdom, Italy and France have been the countries constructing the largest number of vessels (20 RVs, 10 RVs and eight RVs respectively). The Netherlands and Croatia have also had a good delivery of vessels, with 6 RVs and 5 RVs respectively. Eight of the considered countries did not construct vessels during this last period (Figure 5).

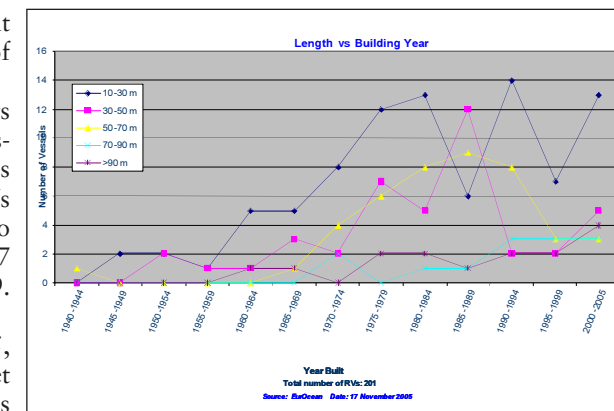


Figure 3. Length (metres) of European research vessels by year of build

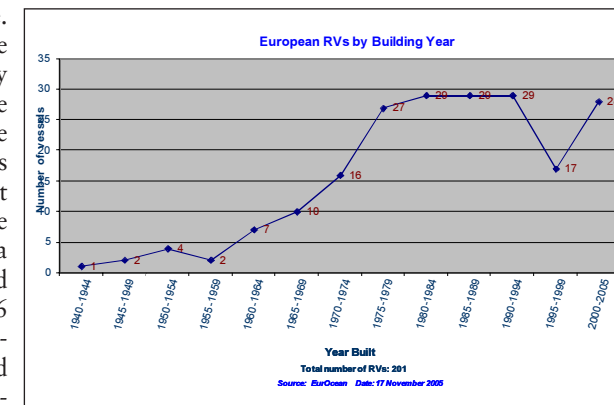


Figure 4. European research vessels by year of build

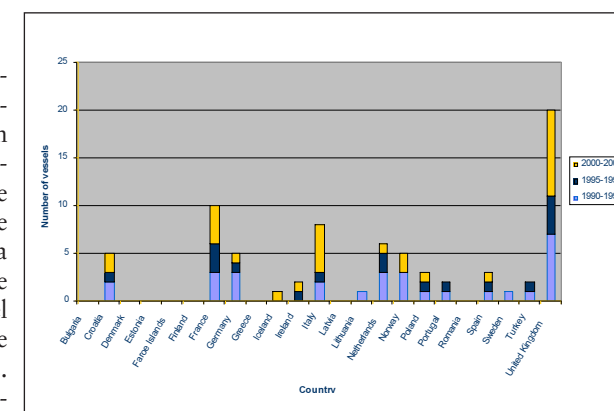


Figure 5. Building of RVs in the last 15 years

Conclusions

For the first time, it is possible to get a comprehensive view of the European research fleet. This information is essential for the decision makers and the scientific community at a time when initiatives are taken at a European level to improve the shared use of these infrastructures. This survey clearly indicates that the European research fleet is composed of two main categories of the RVs: the coastal ones and the ocean ones. This illustrates the importance of coastal research in Europe and also indicates the international dimension of marine research in Europe.

The European research vessel database should be considered as a first step to facilitate co-operation and exchange of information between operators, institutions

and scientists in order to get a better optimisation of access to and use of the vessels. Information about ship-time schedules and real-time positions of the research vessels at sea should also be compiled in order to further optimise the use of the European research fleet. To achieve these aims EurOcean would welcome support from all interested partners.