

**NASA/TM-2002-210004/Rev3-Vol2**

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**Ocean Optics Protocols For Satellite Ocean Color Sensor  
Validation, Revision 3, Volume 2**

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**February 2002**

## Chapter 18

### SeaBASS Data Protocols and Policy

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#### 18.1 INTRODUCTION

The SeaWiFS Project developed the SeaWiFS Bio-optical Archive and Storage System (SeaBASS) to be a local repository for *in situ* optical and pigment data products regularly used in a variety of scientific analyses. Information on the original SeaBASS design is provided in Hooker et al. (1994), and has since been expanded to contain data sets collected by participants of the SIMBIOS Project. A detailed description of the SeaBASS system is available via the World Wide Web:

<<http://seabass.gsfc.nasa.gov>>.

Both the SeaWiFS and SIMBIOS Projects use *in situ* bio-optical data for the validation of SeaWiFS and other satellite (e.g., OCTS and POLDER) data products, and for the development of new ocean color algorithms. In addition, SeaBASS supports international protocol workshops, data merger studies, and time-series studies. Archived data include measurements of water-leaving radiance, chlorophyll *a*, and other related optical and pigment parameters. When available, additional oceanographic and atmospheric data (given in Table 2.1) are also archived in SeaBASS. Data are collected by a number of different instrument packages, such as profilers, buoys, and above-water measurement devices, on a variety of platforms, including ships, moorings, and drifters. The contents of SeaBASS are made readily available to the SIMBIOS and MODIS Science Team Members, and to other approved individuals (e.g., members of other ocean color instrument teams, volunteer-contributing researchers, etc.) on a case-by-case basis. Access to the database and data archive is available to authorized users through the SeaBASS Web page.

As SIMBIOS US Science Team members are contractually obligated to provide data to SeaBASS, the volume of archived data is rapidly increasing (McClain and Fargion 1999a and 1999b). With the launch of MODIS, as well as a number of present and upcoming international missions (e.g., GLI, POLDER-2, MERIS, OCI, OCM, etc.), the use of the SeaBASS data archive is expected to increase dramatically as these missions begin to require validation data.

#### 18.2 SeaBASS DATA FORMAT

SeaBASS presently contains over 22,000 bio-optical data files, encompassing more than 650 separate experiments. In addition, its historical pigment database holds over 286,000 records of phytoplankton pigment data. To account for the continuous growth of the data archive, the Project believed it essential to develop efficient data ingestion and storage techniques. Such ingestion procedures and protocols were designed to be as straightforward and effortless as possible on the part of the contributing investigators, while still offering a useful format for internal analysis efforts. The Project considered the following to be the most important in the design of the system:

1. Simple data format, easily read and updated;
2. Global portability across multiple computer platforms; and
3. Web accessible data holdings.