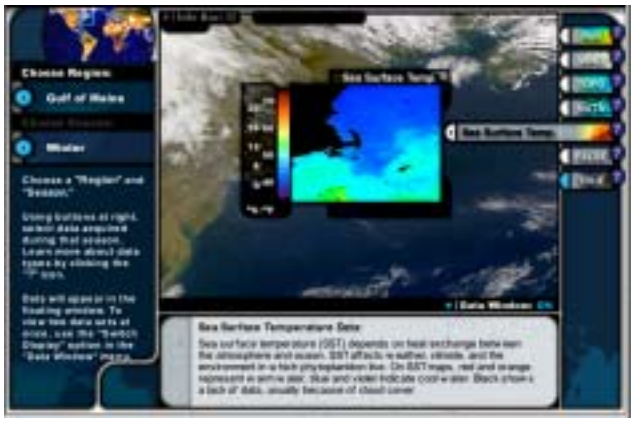
Phytopia: Discovery of the Marine Ecosystem is an educational CD-ROM developed by Bigelow Laboratory for Ocean Sciences, University of New England, and NASA's Jet Propulsion Laboratory. This resource promotes interaction with multimedia tools that enable users to discover why the marine ecosystem is critical to human existence. This product provides a window to the fascinating world of the oceans' microscopic life which, before *Phytopia*, only scientists saw.

Phytopia consists of three major modules: "Phyto Files," "Phyto Factors," and "Special Topics." The culmination of these modules is a truly hybrid project benefiting both research and education. Other notable features are an image-based glossary, a detailed tutorial on how to use the CD-ROM, and summaries of relevant topics (e.g., microscopy, data types) in Acrobat Reader format.

The core technology of *Phytopia* is a first-ever searchable database of many important phytoplankton from the world's temperate oceans: The Phyto Files. Also included in this module are three-dimensional cell models and a virtual microscope tool that allows for the viewing of organisms at various magnifications, under various epifluorescence techniques, and by scanning electron microscopy. Users can better understand each species' unique form and function including cell wall type, motility, and potential harmfulness.



The Phyto Factors module promotes discovery of the ties between physical forcing and marine ecosystem response, focusing on how environment affects the chlorophyll content and species composition of the upper ocean. It also helps users connect ocean primary productivity patterns with environmental factors in several geographic areas. Innovative tools allow investigation of co-registered temperature, wind, current, nutrient, and ocean color data.

Special Topics provides a link from *Phytopia* to related resources on the Bigelow Laboratory website (www.bigelow.org/phytopia). This module will provide access to material that is developed after the CD-ROM is distributed, including interesting topics such as harmful algal blooms.

To Start the CD:
Mac: Double click on "Run Phytopia"
Win: Double click on "PHYTOPIA.EXE"

SYSTEM REQUIREMENTS

MACINTOSH SYSTEM REQUIREMENTS
-Power Macintosh Power PC processor (G3 or higher recommended)
-MacOS 8 or above (MacOS 10 will open in “Classic Mode”)
-32 MB of "free" RAM (64 MB recommended)
-640 x 480 screen resolution (minimum)
-8X or faster CD-ROM player
-256 color monitor (minimum)
-QuickTime 3.0 or higher (QuickTime 5.0 Included on CD)
-Adobe Acrobat Reader 3.0 or higher (Adobe Acrobat Reader 5.0 Included on CD)

WINDOWS SYSTEM REQUIREMENTS
-Intel Pentium processor (Pentium II or higher recommended)
-Windows 95, 98, 2000, NT
-32 MB of "free" RAM (64 MB recommended)
-640 x 480 screen resolution (minimum)
-8X or faster CD-ROM player
-256 color monitor (minimum)
-QuickTime 3 or higher (QuickTime 5.0 Included on CD)
-Adobe Acrobat Reader 3.0 or higher (Adobe Acrobat Reader 5.0 Included on CD)

A note about Quick Time and Acrobat Reader...
If your computer doesn’t currently have QuickTime or Adobe Acrobat Reader installed, the *Phytopia* software should detect that you don’t and offer to install the software on your machine. It will look first to send you to the download web site for the software you are missing. If you do not have an Internet connection, you will be prompted to install the software directly from the CD. For the latest version of the software, it is recommended that you download the software from the company’s website. You may choose to disregard the installation prompts and run *Phytopia* without Adobe Acrobat or QuickTime. Some functionality will be impaired.

TECHNICAL SUPPORT
E-mail dynamic-media@sdsio.jpl.nasa.gov to address comments, concerns or problems that you may be having with the CD-ROM or any of the accompanying materials.

COPYRIGHTS AND ACKNOWLEDGEMENTS
Phytopia: Discovery of the Marine Ecosystem is a production of Bigelow Laboratory for Ocean Sciences, the University of New England and the NASA Jet Propulsion Laboratory. Funding was provided by the Jesse B. Cox Charitable Trust, the TOPEX/Poseidon project, the NASA Earth Sciences Oceans and Ice Element, and the Horizon Foundation, Inc. In addition, this material is based upon work supported by the National Science Foundation under Grant No. 0085447. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.