Pathfinder Version 5.0 Sea Surface Temperature Example Applications
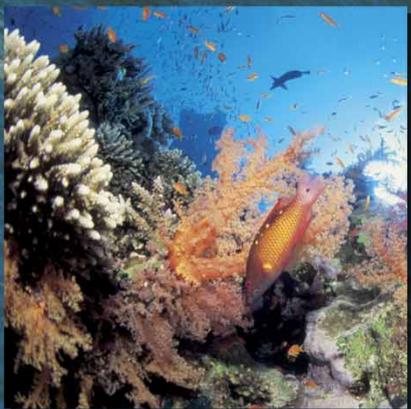
NOAA National Oceanographic Data Center

Fisheries and Aquaculture

- Migration

- Recruitment

- Ocean productivity
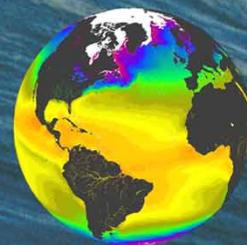
- Marine mammal and reptile distribution

Climate Studies

- El Niño

- Arctic studies

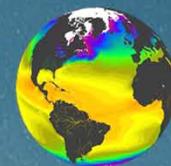- Climate change

- Oceans and human health

Marine Ecosystem Applications

- Coral bleaching and diseases

- Habitat studies

- Marine Protected Areas management

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The Pathfinderfinder Version 5 sea surface temperature (SST) datataset is a joint project of the NOAA National Oceanographic Data Center, The University of Miami, and the NASA Physical Oceanography Distributed Active Archive Center (PO.DAAC). The project goal is to create the longest, highest resolution, and most accurate SST climate data record from space. Pathfinder data have been used in a wide range of applications from commercial fisheries to climate change science. In 2004 and 2005, 19,000 users accessed 14 terabytes of Pathfinder data.

Fisheries and Aquaculture
- Marine scientists at the NOAA/NMFS Southwest Fisheries Science Center's Environmental Research Division use Pathfinder SSTs in fisheries habitat characterization studies

- Consultants in Fisheries and Aquaculture Sciences and Technologies, Inc. in Wilmington, N.C. used Pathfinder climatologies to identify potential areas within the U.S. Exclusive Economic Zone for open ocean aquaculture

- A graduate student at Cornell University was provided Pathfinder SST information for research on loggerhead turtles in the North Atlantic

Climate Studies
- Navy Research Lab personnel in Mississippi recently published on the use of Pathfinder data for Navy model validation studies
- A scientist at the University of Delaware's Department of Geography was provided with Pathfinder SST data and information for work on predicting El Niño events
- A researcher in the Department of Ecology, Evolution, and Marine Biology at the University of California, Santa Barbara, is using the data for an analysis of links between coastal ecology and oceanography in western North America, Chile, South Africa, and New Zealand

Marine Ecosystem Applications
- Ecologists at the University of North Carolina used Pathfinder data to understand temperature impacts on coral disease on the Great Barrier Reef and are currently expanding their investigation to reefs world-wide
- A principal oceanographer at Ocean Environment, Marine and Coastal Management of the Department of Environment Affairs and Tourism, South Africa is using Pathfinder data to understand coastal upwelling off Cape Town
- An educator at James Carroll University used Pathfinder SST animations in curriculum materials on the El Niño Southern Oscillation (ENSO) and the Great Barrier Reef

Online Access to the entire data set is possible through the NOAA National Oceanographic Data Center at: http://pathfinder.nodc.noaa.gov. In addition, the V5 data are also being served in partnership with the NASA PO.DAAC's online interface - http://podaac.jpl.nasa.gov/poet.