Studies in three different ports have shown over a 50% decrease in groundings following the installation of a PORTS®.

Typically located in estuaries, most ports are home to diverse forms of marine life, which also makes them attractive venues for 70% of US commercial and recreational fishing. PORTS® helps boaters and fishermen plan voyages and avoid dangerous weather conditions.

a day and have the ability to stop dissemination of any data which do not meet QC standards. CO-OPS also ensures quality by overseeing the design, installation, and maintenance of PORTS® instrumentation and communication systems. PORTS® observations are updated at 6-minute intervals and are available via the internet (*www.tidesandcurrents.gov/ports*) and toll-free phone calls.

The future holds many challenges for the US maritime transportation system. The total volume of domestic and international marine trade is expected to triple over the next 20 years. In that same time frame, commercial and recreational users are expected to grow by over 65%. The high quality, reliable information provided by PORTS® will support safe navigation and help port managers balance environmental and economic priorities as maritime activity increases.

PORTS® information is used by a broad group of commercial, recreational, and governmental organizations, as well as by individuals. Among its major user communities PORTS® has proven to deliver benefits that include:

- Safer shipping and boating
  - Fewer groundings and collisions
  - More accurate marine weather forecasts
  - Improved response to distress calls
- More efficient port operations
  - Optimized cargo loading
  - Increased throughput with fewer delays
- Improved environmental planning and protection
  - More effective response to hazardous spills
  - Better information for coastal management

Center for Operational Oceanographic Products and Services (CO-OPS)

Physical Oceanographic Real-Time System (PORTS®)

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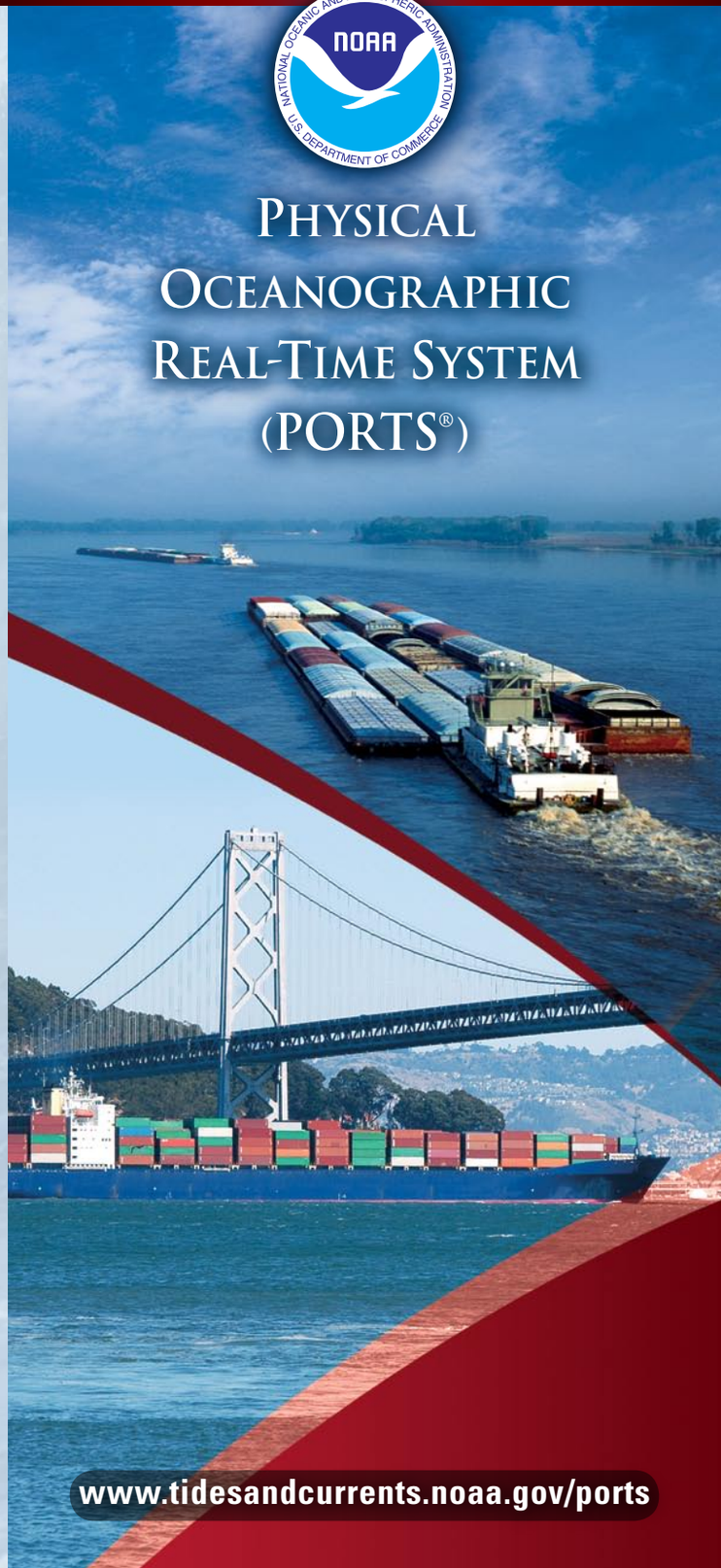
CO-OPS is a center of expertise whose mission is the collection, analysis, and dissemination of integrated oceanographic information to protect life, property, and the environment.

Physical Oceanographic Real-Time System (PORTS®)



www.tidesandcurrents.noaa.gov/ports

"The greatest safety concern...is the availability of timely, accurate, and reliable navigation information"

- 1999 Assessment of the U.S. Marine Transportation System- Report to Congress

The US marine transportation system consists of over 25,000 miles of waterways, ports, and other navigable waters, as well as over 3,700 marine terminals, and is the backbone for the movement of goods, services, and people throughout the nation and abroad. In fact, over the last decade, fueled by a rapidly growing global economy, more than 95% of all US trade has involved some form of maritime transportation. Recent estimates suggest that maritime commerce contributes in excess of $742 billion annually to the US Gross Domestic Product and sustains over 13 million jobs.

Our nation's ports have historically been centers of rapid industrial growth and prosperity. In fact, the nation's top ten ports handle 95% of all container shipping, providing over $70 billion in income and over 3 million jobs. PORTS® information helps maximize cargo load while minimizing risks associated with groundings and collisions.

Like any infrastructure system, the nation's network of waterways and ports faces the challenge of keeping up with growth, with the greatest challenges being safety and security. Not surprisingly, the rapidly increasing pace and volume of maritime commerce also corresponds to greater potential for accidents. With over 3,500 ships annually involved in accidents on the nation's waterways, and hundreds of groundings and collisions in the nation's major ports, developing a safe and efficient maritime transportation infrastructure is essential to the nation's economy and key to its ability to compete successfully in the expanding global economy.

Guided by the mission of promoting safe and efficient navigation in US waters, the Center for Operational Oceanographic Products and Services (CO-OPS), part of NOAA's National Ocean Service, developed the Physical Oceanographic Real-Time System (PORTS®). PORTS® integrates and delivers environmental observations in real-time and through nowcasts and near-term forecasts to users in many of the nation's major ports. Using PORTS® information in conjunction with NOAA Nautical Charts and US Coast Guard (USCG) Navigational Aids has proven to reduce groundings. PORTS® data will be integrated with other operational data disseminated via the USCG Automated Identification System (AIS).

One major oil spill can cost millions of dollars and destroy fragile coastal ecosystems. PORTS® gives ship pilots real-time, accurate information to help them navigate crowded waterways and avoid accidents. When an accident does occur, PORTS® information is critical for rapid response and damage mitigation.

Tailored to the specific needs of the local community, PORTS® measures, integrates, and disseminates observations of water levels, currents, salinity, wind, and bridge clearance, all of which help mariners successfully guide ships into and out of the nation's ports. In several locations PORTS® also provides forecast model guidance which supports informed decision making in advance of transit scheduling and loading operations.

Increased port traffic and larger vessels demand continuous quality control (QC) of PORTS® data. CO-OPS personnel monitor PORTS® operations 24 hours