

14th CHRIS MEETING
15-17 August, 2002, Shanghai, China

PRINT ON DEMAND FOR NAUTICAL CHARTS
(August 2002)

United States (NOAA)

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The United States (NOAA) reported at the 13th CHRIS meeting on its efforts to use Print-on-Demand technology for nautical charts. This report describes progress made since then.

1. NOAA has released over 930 of its approximately 1,000 nautical charts in the Print-on-Demand form. These charts are up-to-date with all Notice to Mariners at the time they are printed. They have extra information outside the neat line of the chart targeted towards professional mariners or recreational boaters. They are available on water-resistant paper for 21.35 USD or in a plastic laminated version for 23.85 USD.
 2. The Print-on-Demand charts have been well received by mariners. Professional mariners understand the value of charts that are always up-to-date. Recreational boaters appreciate the waterproof materials. Presently, chart sales agents are being added for this product, and marketing is being done to make mariners aware of the new product and its benefits.
 3. The Print-on-Demand technology at NOAA has 2 parts: a printing part, and an electronic commerce part. For printing, generic inkjet plotters are used. This technology has been relatively problem free. A wide variety of papers and inks are available that are suitable for nautical charts. The electronic commerce part provides an Internet-based ordering system for chart agents. It then translates the ordered items into assembly instructions for the printing system which dynamically assembles each chart from its component files at print time. The electronic commerce system works as anticipated, but like any custom software system has a number of bugs.
 4. The ability of the Print-on-Demand system to assemble a product from its component files at print time lets NOAA experiment easily with new products. This is done by entering the assembly parameters of the new product in a database. When the product is ordered, the appropriate files are accessed, processed if needed, and placed on the chart as it goes to the plotter. Two products are being tested this way. One is called the "Day Sailor's Pocket Chart." It is a much-reduced image (483mm x 329mm) of any NOAA chart with safety and recreational boating information on the back. The other is a "Small Bridge Chart." This is a book version of any NOAA chart (457mm x 305mm) with additional pages containing tide tables, Light List, and Coast Pilot data.
 5. NOAA's experience indicates that Print-on-Demand is ready for widespread use. It can be used as a substitute printing process, or as a means of making an improved product. It could permit a hydrographic office to print up-to-date charts on behalf of any other hydrographic office near the point of sale. The CHRIS is invited to consider the possibility of establishing standards for the exchange of chart files and printing metadata among hydrographic offices to support such an improved service for mariners.
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