

An end-user defined coastal climatology product for recreation and tourism in southeastern North Carolina

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Objective

❖ Develop a test coastal climatology product for recreation and tourism end-users in southeastern North Carolina to serve as a model for coastal climatology products applicable to the southeastern United States.

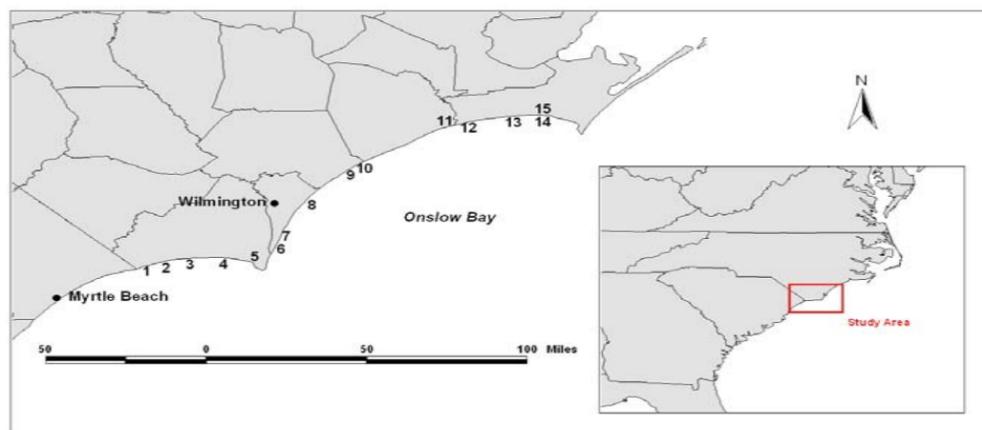
Two main tasks:

- ❖ A needs assessment of coastal climatology information required by both tourism and recreation participants and managers for decision making.
- ❖ Development of a test coastal climatology product for tourism and recreation participants and managers that provides this required information.

Study Area

Leisure and hospitality industry in five county study area

- ❖ \$148 million in wages
- ❖ \$592 million in gross state product
- ❖ 609 leisure and hospitality establishments
- ❖ 14,283 people employed in the industry (National Ocean Economic Program 2003)



Locations of coastal communities in which needs assessment interviews were conducted.

Recreation and tourism managers' responses to the question, *Individuals often consider a variety of marine and weather factors when making management decisions for recreation and tourism organizations. Which of the following factors do you consider when making management decisions for your organization?* (n = 116, multiple responses allowed)

Factor	Responses	Percent
Hurricane information	109	94.0
Wind speed	95	81.9
Air temperature	81	69.8
Likelihood of rainfall	78	67.2
Water temperature	72	62.1
Wind direction	68	58.6
Wave height	67	57.8
Tide level	57	49.1
Water quality	56	48.3
Potential for rip currents	45	38.8
Other (please specify)	8	6.9

Needs Assessment Interviews

- ❖ Four general areas of inquiry:
 - short-term information requirements
 - long-term information requirements
 - desired product format and delivery
 - basic demographic data
- ❖ 125 recreation and tourism managers
- ❖ 330 recreation and tourism participants
- ❖ 15 coastal communities in southeastern North Carolina

Interview Results

- ❖ A clear need for coastal climatology information exists.
- ❖ Few, if any, of the interviewees use information on the climatological time scale (month or longer).
- ❖ Interviewees use information in all seasons, particularly spring through fall.
- ❖ Little demand for interactive forecasting tools.
- ❖ Climate variable most frequently required was hurricane information, air temperature, and rain probability.
- ❖ Marine variable most frequently required was water temperature and wave height.
- ❖ Managers and participants rely heavily upon television, web-sites, and radio for marine and/or weather information.
- ❖ Future coastal climatology products should have the capability to be delivered via text-messaging, fax, and e-mail.

Recreation and tourism manager's responses to the question, *How do you currently get marine and/or weather information?* (n = 116, multiple responses allowed)

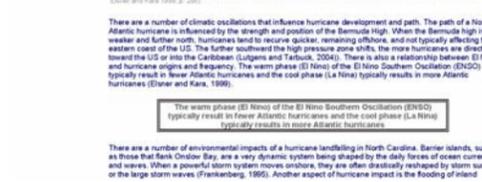
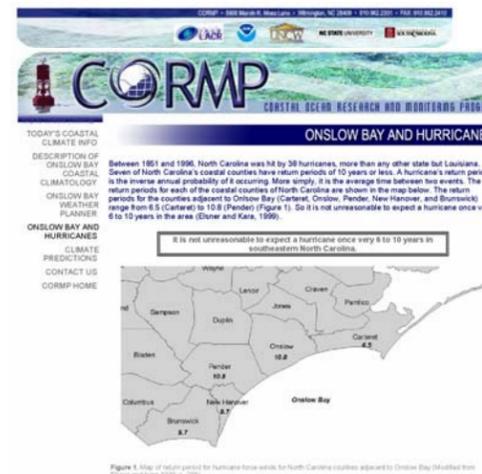
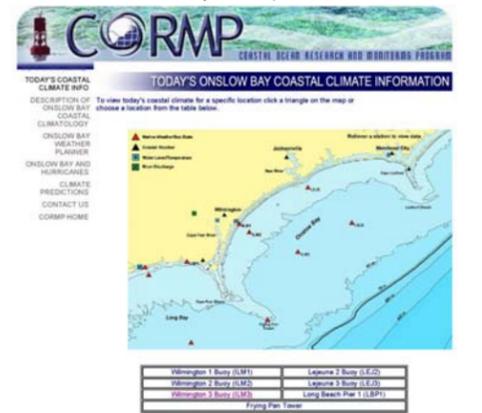
Factor	Responses	Percent
Television	100	86.2
Web site	89	76.7
Radio	76	65.5
Newspaper	47	40.5
Government publication	21	18.1
E-mail	20	17.2
Cell Phone	4	3.4
Text message	4	3.4
Fax message	4	3.4
CD-ROM	3	2.6
Other	0	0

Webpage Focus Group Results

- ❖ Need for more local data.
- ❖ Annoyance with the need to purchase or download software to further assess coastal climatology data.
- ❖ Simple web site is the most effective (e.g. limited amount of information, efficient and clear web navigation, limited use of scientific jargon, limited use of colors and 'flashy' graphics).

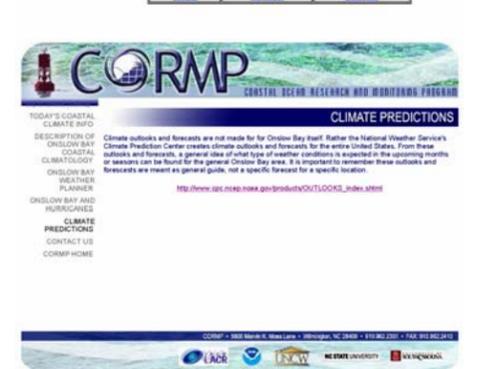
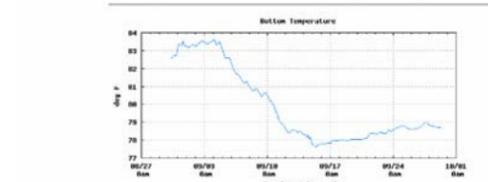
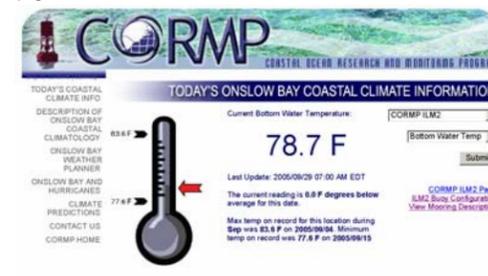
The Test Coastal Climatology Web Site (<http://www.cormp.org/climate/>)

One 'dynamic' web page with real-time observations placed in a climatological context and four static pages: description of Onslow Bay climate, hurricane information for Onslow Bay, climate predictions for the United States, and contact page.



Test Product Design Principles

- ❖ Web site favored delivery system.
- ❖ Simple and elegant; do not overwhelm the end-user.
- ❖ Place real-time observations within a climatological framework.
- ❖ Focus upon variables most frequently used in decision making.
- ❖ Present coastal climatology information on a local scale.



Conclusions: Five Cross-Cutting Issues

- ❖ The test product utilized five cross-cutting issues outlined by Janis and Gamble (2004) as important to the development of effective climatology products for coastal managers from Virginia to Florida:
 - Issue #1 User-defined coastal climatology:** interviews and focus group involving managers and participants from southeastern NC.
 - Issue #2 Appropriate scale of observations systems:** use of six CORMP observation stations in Onslow Bay.
 - Issue #3 Integrating forecast results across consistent spatial and temporal resolutions:** web site utilizes Climate Prediction Center forecasts.
 - Issue #4 Collective Design:** use of CORMP resources and needs assessment interviews.
 - Issue #5 Follow up:** information pamphlets during interviews, web site contact page, and CORMP outreach activities.

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