The variability of preferred spawning grounds for Atlantic bluefin tuna (Thunnus thynnus) in the Gulf of Mexico during 1993-2011

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The Gulf of Mexico is a well-known spawning ground for the Atlantic bluefin tuna *(Thunnus thynnus,* BFT*)* during the spring. Spawning occurs preferentially within certain mesoscale features, such as anticyclonic boundaries, with sea surface temperatures (SST) between 22^{o}C-28^{o}C. In this work, previous information about the preferred spawning conditions are combined in one satellite-based index, the BFT Index (Figure), that is used to monitor the availability of favorable spawning grounds for BFTs in the GOM during 1993-2011. Preliminary results indicate that the overall temporal availability of favorable spawning grounds in the GOM is closely linked with the SST variability, whereas large spatial variability is linked with the mesoscale field. Years with poor (good) environmental conditions for spawning are linked with cold (warm) spring-time SSTs in the GOM during 1993-2011. This work is being developed in a close collaboration between researches at AOML and at the SEFSC. A manuscript entitled "The variability of preferred spawning grounds for Atlantic bluefin tuna (Thunnus thynnus) in the Gulf of Mexico during 1993-2011" is in preparation.

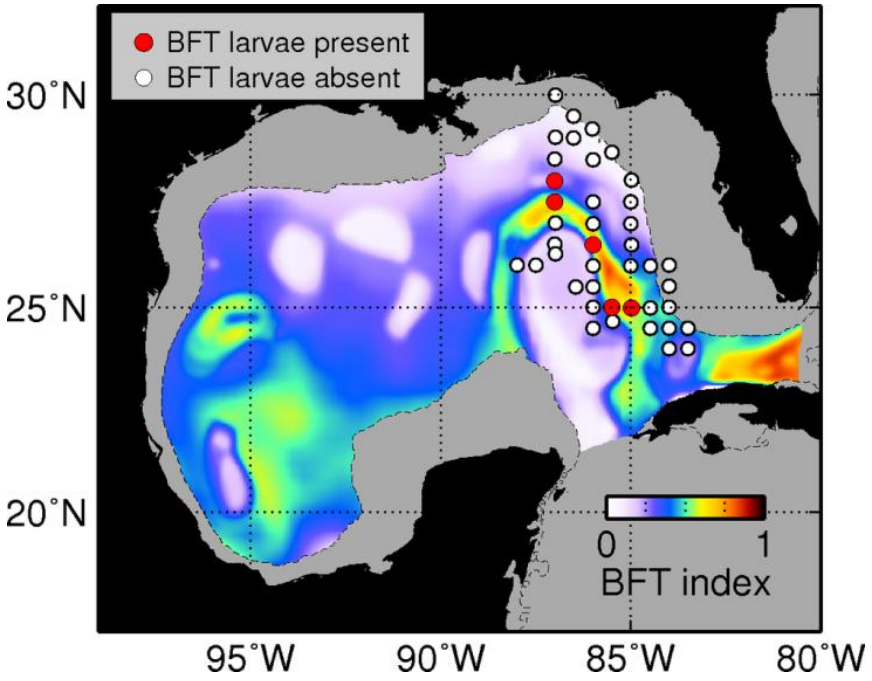

Figure: Sampling stations from the 2010 SEAMAP survey between April 28 and March overlaid on the averaged BFT-Index for the period. Stations where BFT larvae were captured are marked by red circles, whereas stations that did not capture BFT larvae are marked by white circles.