Preliminary results of use of satellite data for stock assessment in the GOM

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Introduction

The last BFT stock assessment (ICCAT, 2006) indicated that the stock is *overfished* and undergoing *overfishing*: NMFS implemented a 100% observer coverage in the GOM during April 15th – June 15th 2007.

Observers collect detailed information about the fishing operations, gear configuration, environmental observations, etc.

Data collected by observers and satellite oceanographic data (*i.e.*, SST, SH, SHA, EKE, color) were used to link catches to environmental observations.
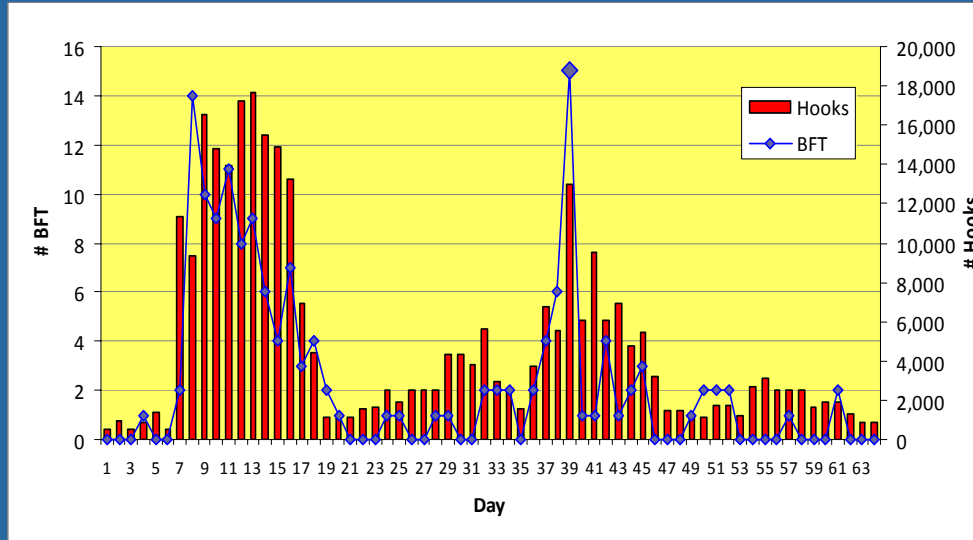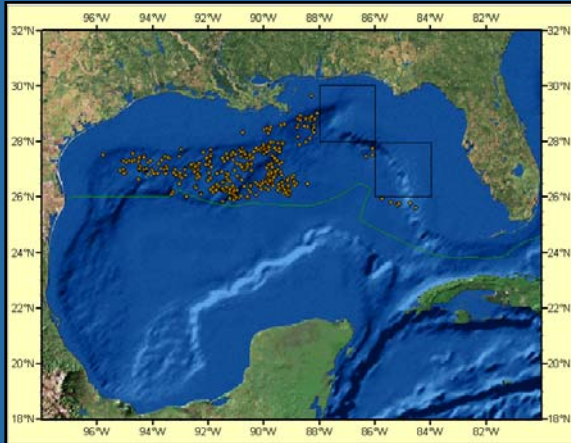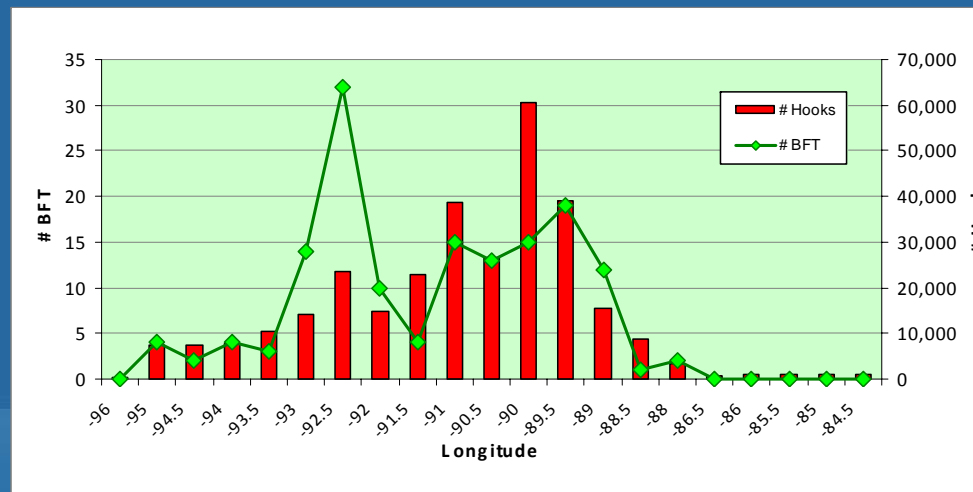
Introduction
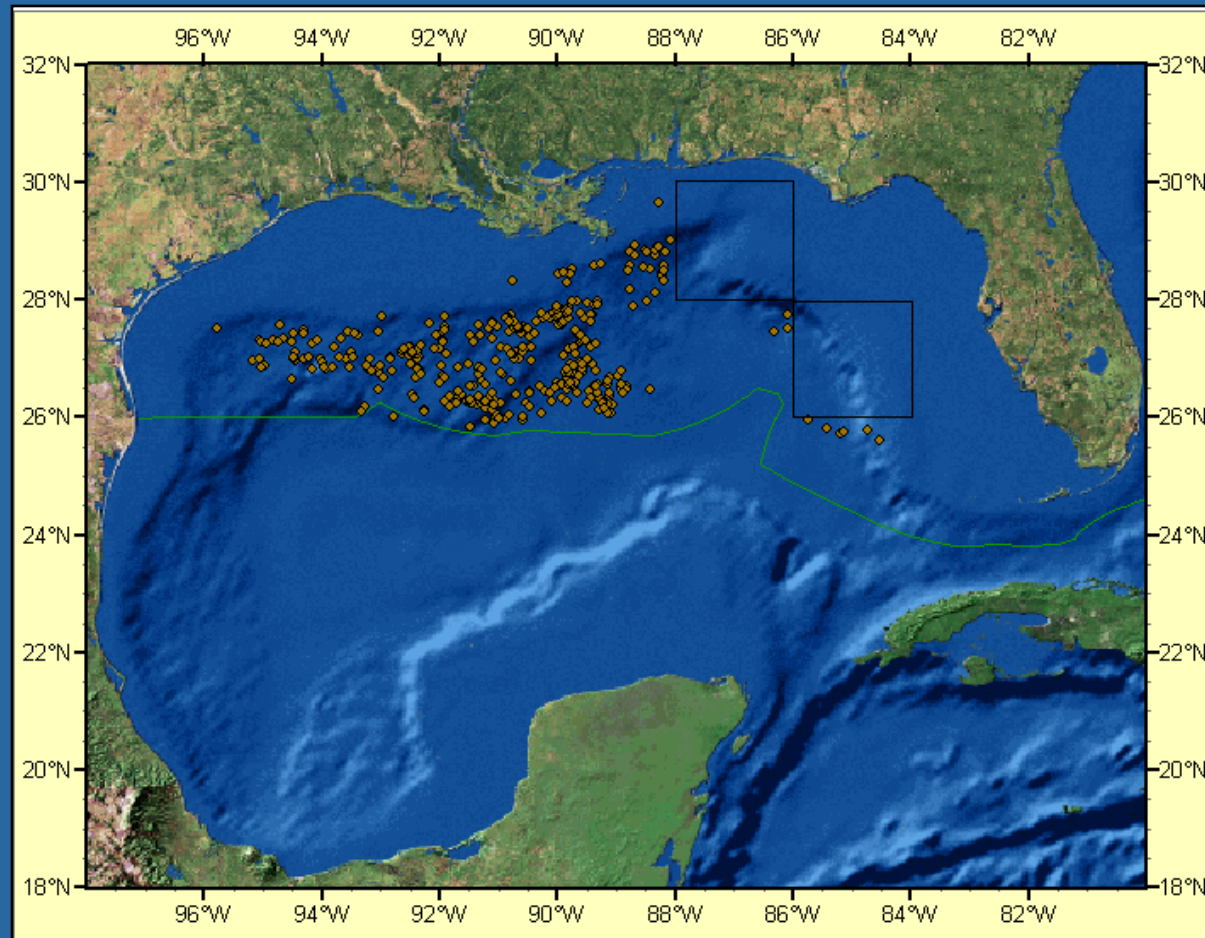
Location of pelagic longline sets (orange dots), boundary of the US EEZ (green line) and areas closed to fishing (black squares)
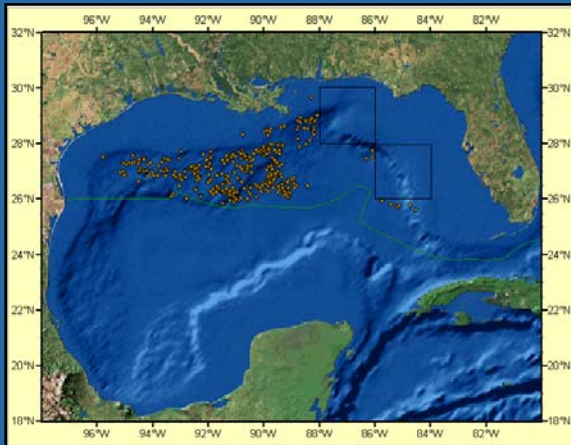
Introduction

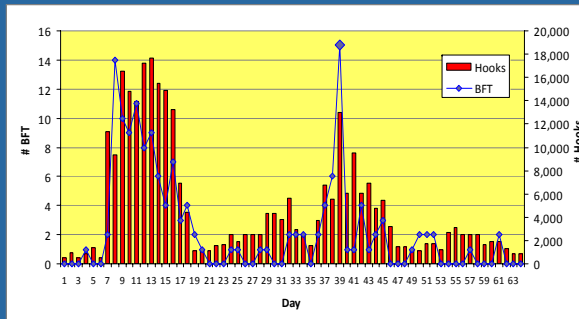Total No. of hooks fished and BFT caught per day

Total No. of hooks fished and BFT caught by 0.5 degree of longitude
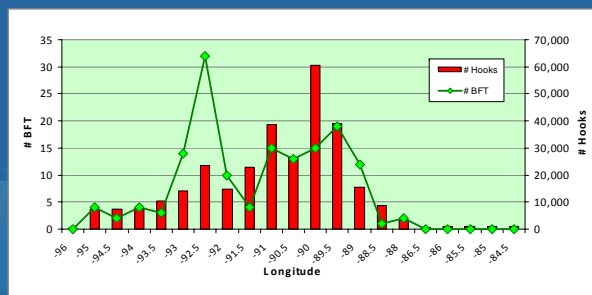
Introduction

No. of BFT landed: **26**
No. of BFT discarded dead: **75**
No. of BFT released alive: **41**
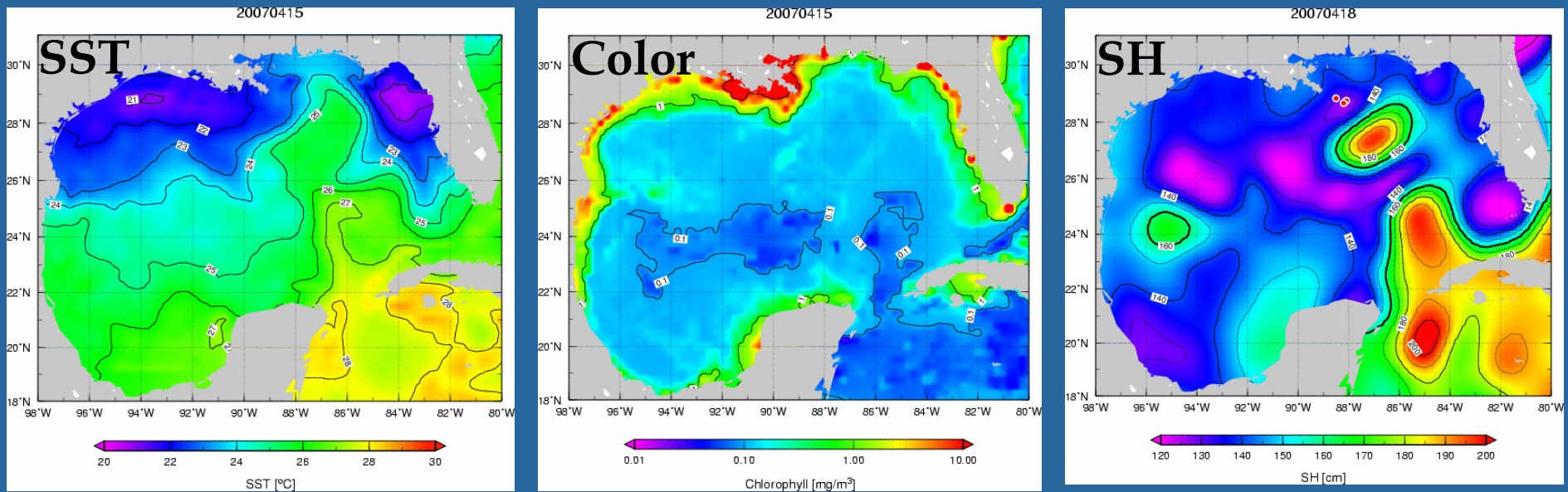No. of BFT lost at surface: **8**

Total No. of **BFT** caught : **150**
          YFT   : **2,106**
          SWO   : **1,775**

Use of Satellite Oceanographic Data

Sea surface temperature: Microwave, objective analyzed daily data, 25km spatial grid from TMI and Aqua. These data are not affected by cloud coverage. *Source: Remote Sensing Systems.*

Color: 9km, monthly, blended data from SeaWIFS and Modis. *Level 3 data from NASA/GSFC.*
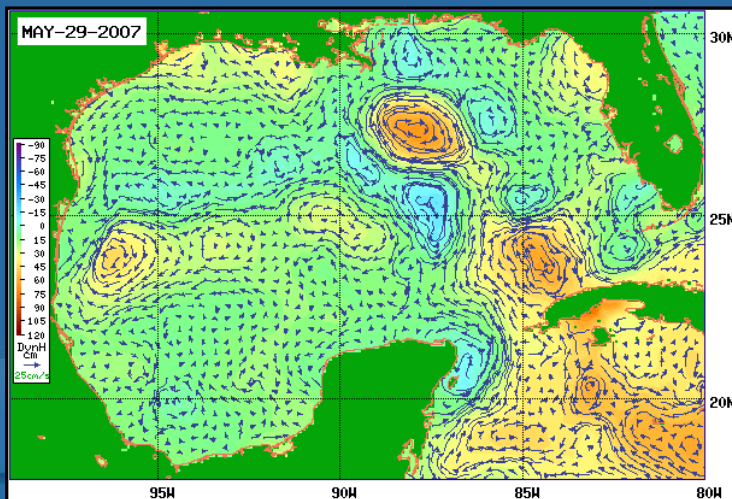
Sea surface height: Ssalto/Duacs blended altimetry delayed-time high resolution data in a 1/3x1/3 degree grid. *Data distributed by AVISO.* Surface currents from NOAA/AOML and NOAA/CoastWatch.

Use of Satellite Oceanographic Data
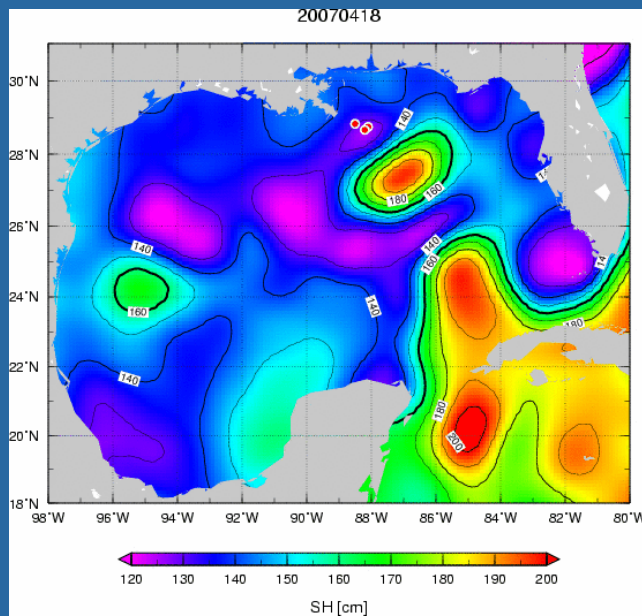
Sea surface height fields are characterized by high values in the Loop Current and the warm rings shed by it during May 29, 2007.

The circulation in the Loop Current (LC) and the rings is anticyclonic (clockwise). The LC takes warm and salty waters from the Caribbean Sea into the Gulf of Mexico. The LC retroflects and sheds warm rings. After the retroflection the waters of the LC enter the Florida Straits to form the Florida Current.
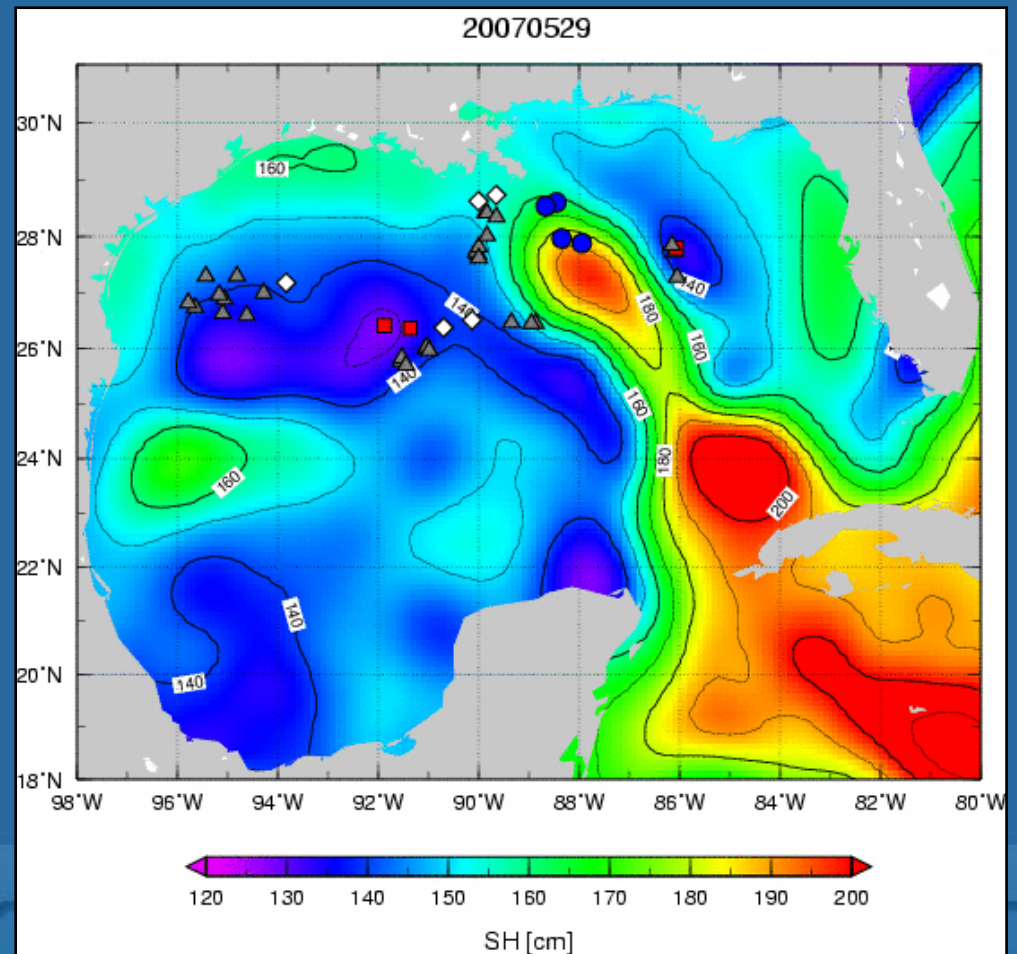
Use of Satellite Oceanographic Data

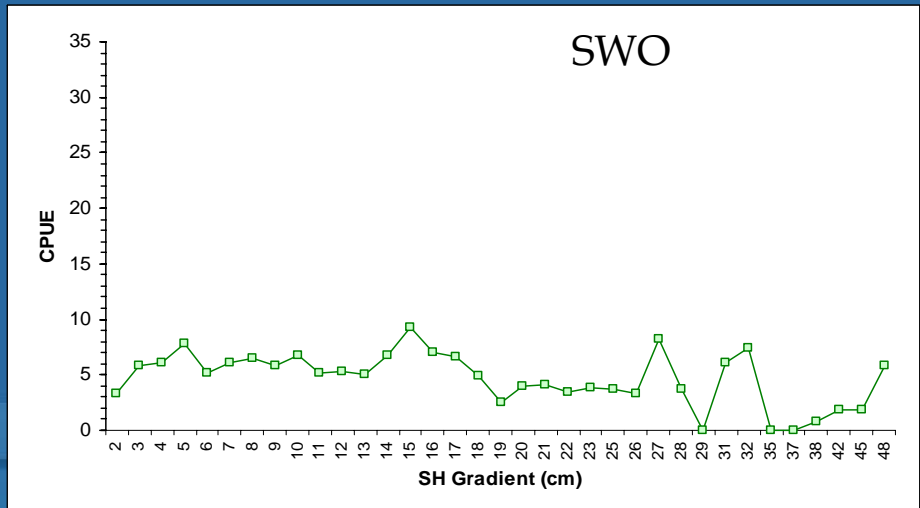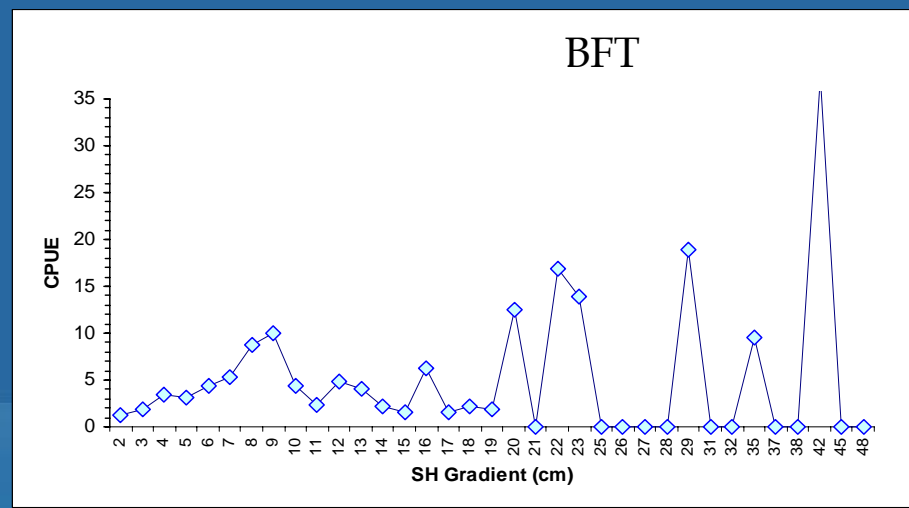Oceanographic features are determined based on the values of SH and grad(SH).
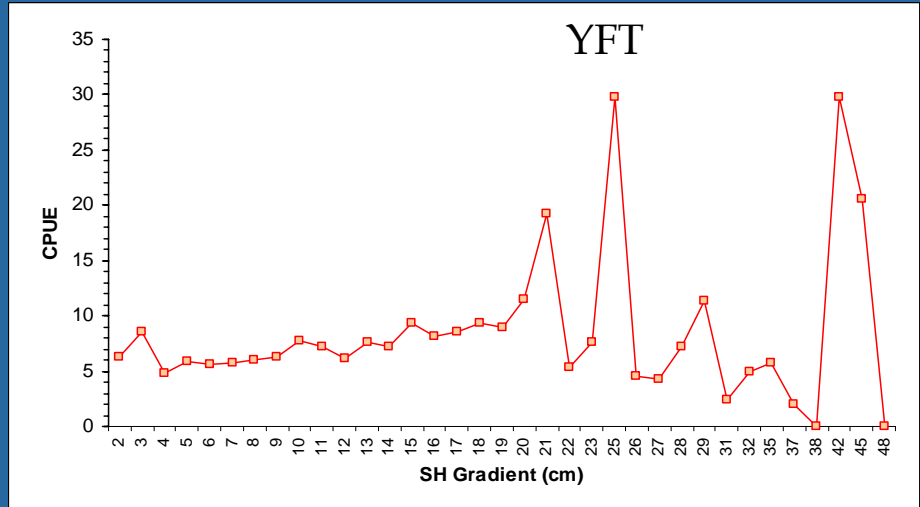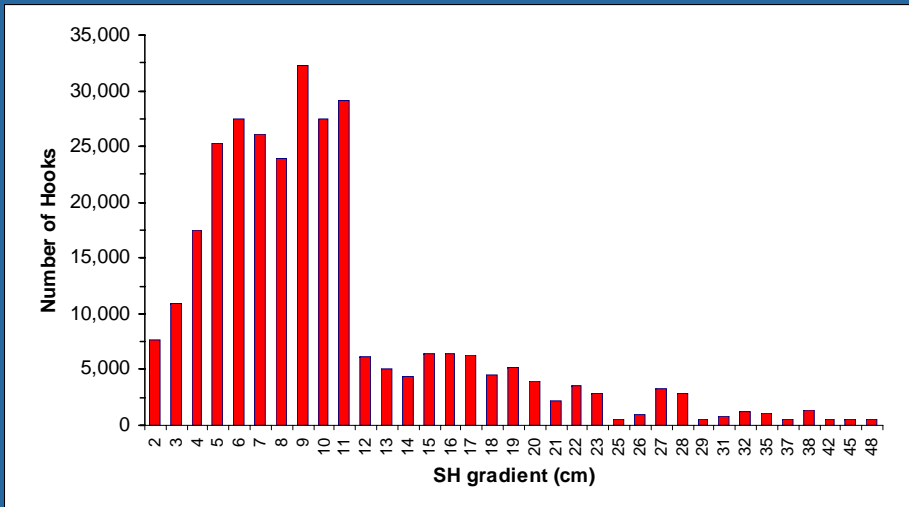

Catches in:
- ● = Loop Current
- ▲ = frontal areas
- ■ = cyclonic areas
- ◇ = common waters

Results

Results