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Environmental Aspects Of The Use Of Fishing Bio Resources Of Antarctic Krill In The Antarctical Part Of The Atlantic

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As the human population augments all the time, there is a necessity in new species of ocean fishing. The krill is the most perspective one but its extreme catching output can influence negatively on the Antarctic ecosystem.

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Antarctic environmental conditions and Antarctic krill

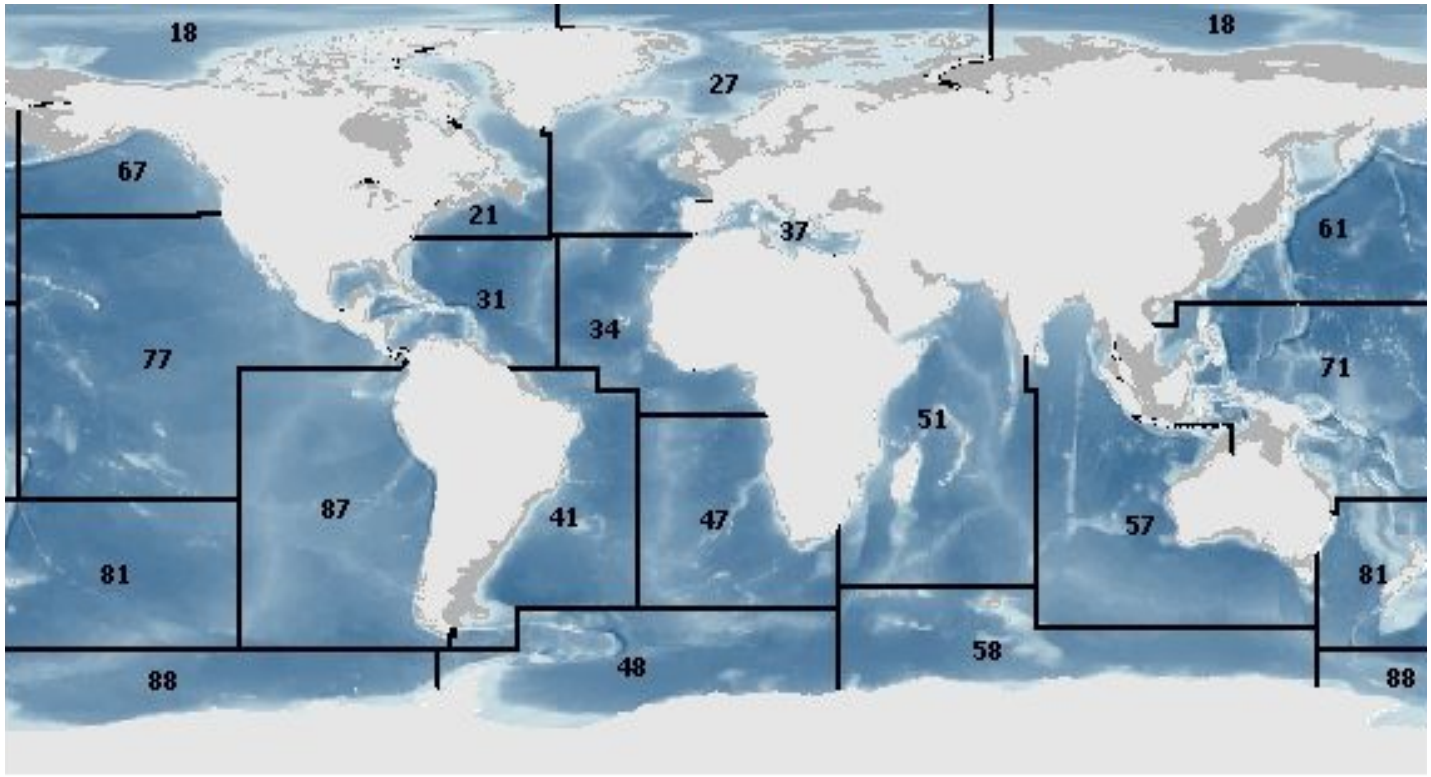
The subject of my research :

The impact of interannual and global climate change on the krill population, the impact of fishing on the krill population

Kill is not only a source of high-grade protein, but it also contains biologically active substances.

Krill biomass is between 200-750 million tones, but it depends on hydro meteorological conditions.

Pic. 1 : Antarctic krill *Euphausia superba*



Pic. 2 : Fishing areas of World Ocean according the classification of FAO

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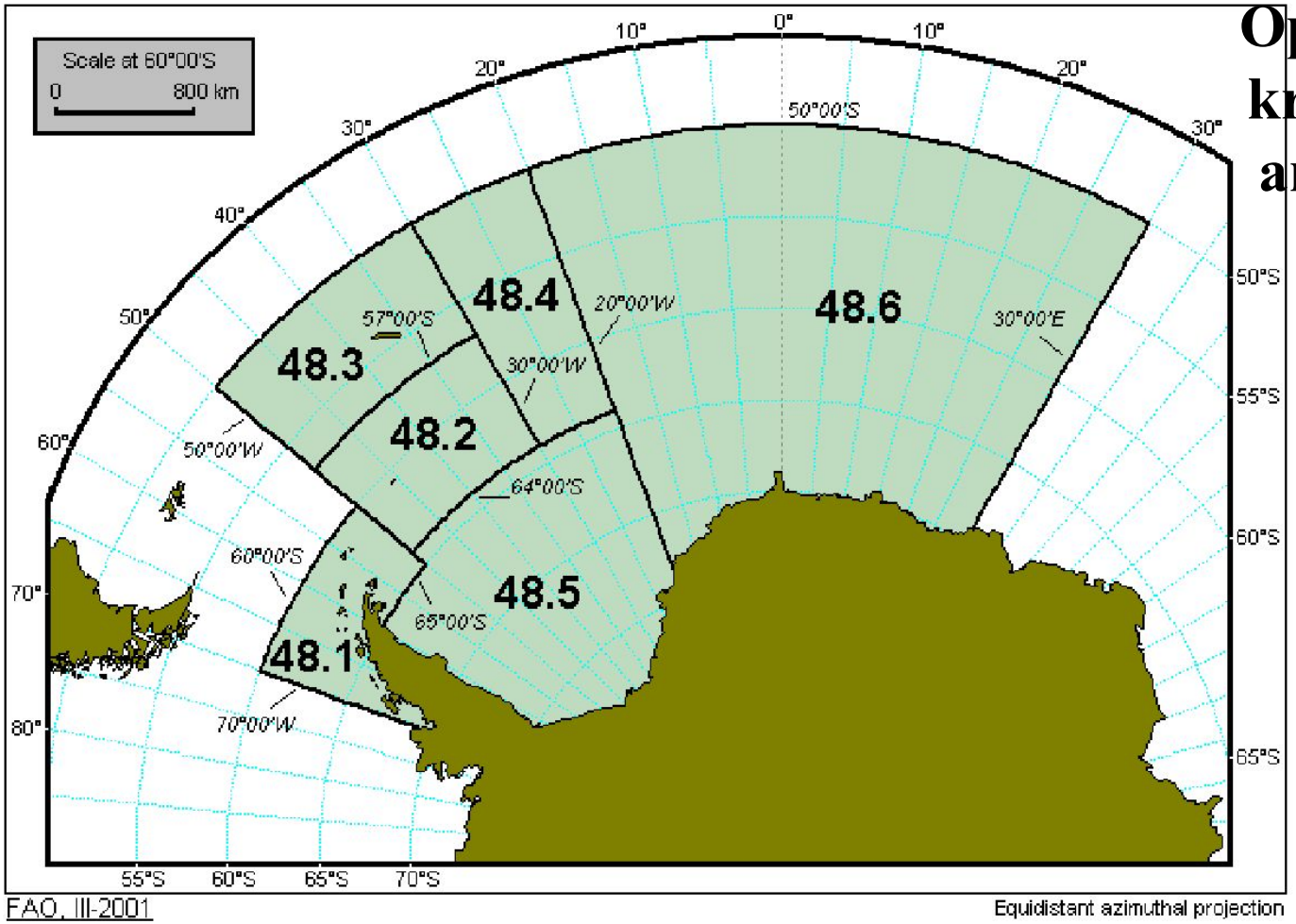
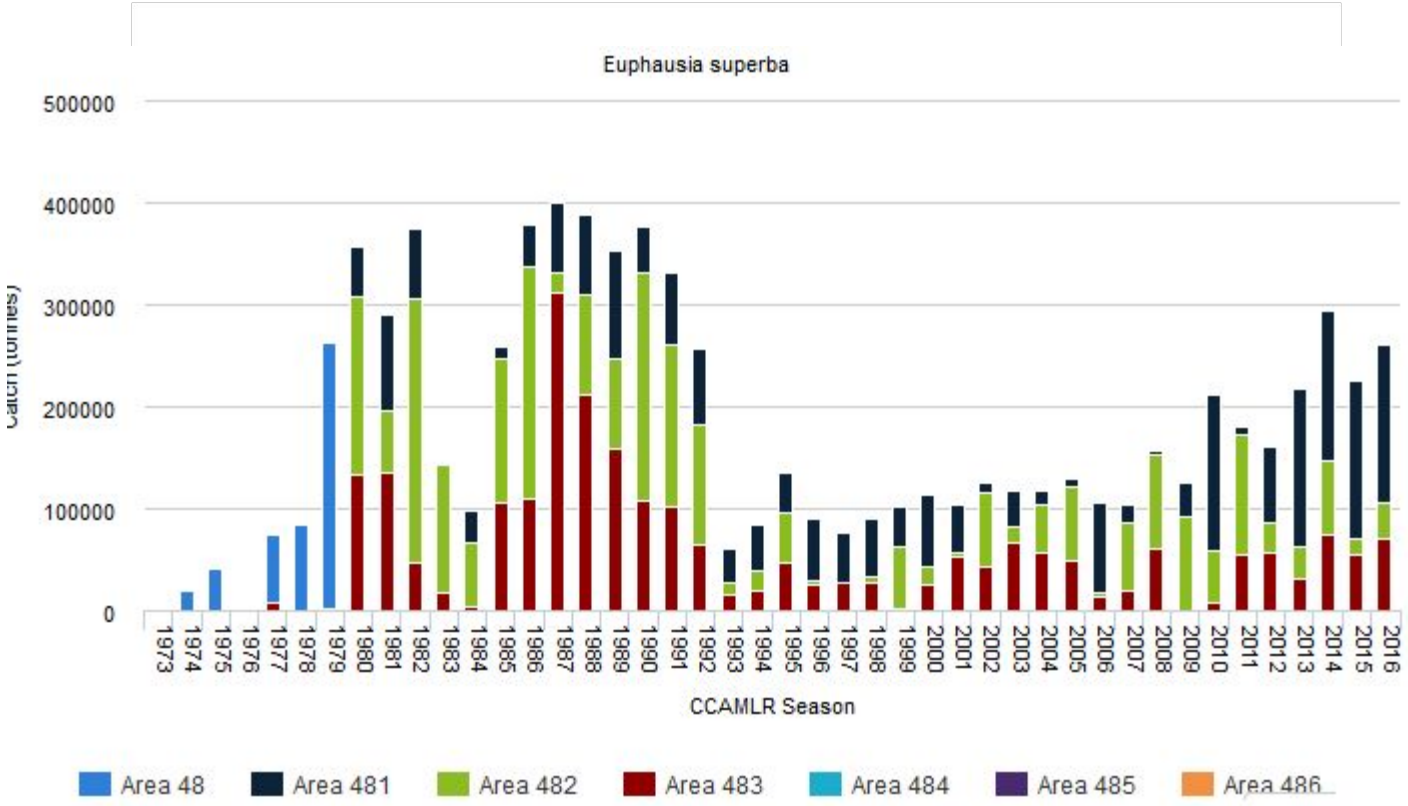


Optimal amount o krill fishery in this area is 5.6 million tons.

Pic. 3 : Subareas of Antarctic part of Atlantic



Pic. 3 : The main catch of krill from 1973-2016 in Antarctic part of Atlantics

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The main Problem：

- increasing commercial interest in Antarctic krill resources.

Profit from one ship 55 million dollars a year

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PURPOSE:

Development of mathematical model of describing interannual changes of krill

TASKS:

1.Research existing mathematical models

2. Research approaches to modeling

3. Adapt existing information

4. Make up a actual working program

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1. Multuiple Linear Regression
2. Method of main components
3. Factor analysis
4. Cluster analysis

MAJOR DATA RESOURCES:

1. http://iridl.ldeo.columbia.edu/
2. https://www.ccamlr.org/
3. http://wwwpolarview.aq/
4. https://data.add.gov.au/
5. https://www.bas.ac.uk/
6. http://www.aari.ru/

- Create a mathematical model describing interannual changes of krill biomass. **This developed model will help to make krill fishery rationally, to receive economical effect without negative influence on environment.**

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Thank you for your attention!