Climate change: threat or opportunity for Belgian sea fisheries?

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Describe fleet/fisheries sector
- Important for coastal community of Flanders
- 54 vessels large fleet segment, 48 small fleet segment
- Strong specialization
  - Fishing method: > 90% beam trawling
  - Target species: mainly flatfish
- Complex/changing circumstances:
  - regulations, fuel prices, fish stocks, fish prices, etc

Identify impact climate change
- Primary effects
  - defined and modelled by CLIMAR partner
- Secondary effects
  - assessed per effect category (ecologic, economic, social)

Develop adaptation strategies
- Identify possible measures
  - Changing operation and fleet structure
  - Other target species
  - Other fishing methods, etc
  - Develop mid- and long term adaptation strategies for the fleet (2040–2100)

Evaluate adaptation strategies
- take into account implications of the strategies
- evaluate the strategies on their sustainability using a model based evaluation framework

Formulate recommendations
Which should contribute to the development of the Belgian fishery into an
- innovative, flexible and sustainable activity
- able to cope with changing circumstances, including climate changes.

Effect categories
- Ecologic
  - Water quality
  - Habitat quality
  - Geographical shift
  - Biodiversity
  - Ecosystem interactions

- Economic
  - Production
  - Exploitation costs
  - Damage costs
  - New opportunities
  - Economic result

- Social
  - Employment
  - Safety
  - Health
  - Cultural value
  - Welfare

- (In) direct effect on
  - Operational functioning of the fleet:
    - gear efficiency
    - accessibility fishing grounds
    - risks crew/vessels, etc
  - (Potential) commercial stocks:

Characteristics fish populations
- relative large populations
- migration possibilities
- high fecundity
- #live stages
- benthic or pelagic
- natural fluctuations

# response levels
- Behaviour
- Population dynamic
- Ecosystem response

Influences (in)direct
- Migration
- Growth
- Recruitment
- Mortality

Adaptive capacity influenced negatively by
- high rate (expected) climate change
- additional pressure (e.g. fishing pressure)
- changed densities and/or geographical shift

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