

THE METHODS

- I. Read the methods section of the scientific article “What’s harming our oceans” and complete the activities.

Methods

To answer these questions we developed a unique mathematical model that assesses the combined risks that come from all the different ways we interact with the ocean. We focused on the U.S. Northeast region (Maine to Connecticut) and the Mid-Atlantic region (New York to Virginia) (Fig.2a). Here’s what it considered:

Habitats

We classified a total of 13 habitats in the region: eight nearshore (near the land) habitats and five offshore habitats.

Stressors

We identified 31 stressors that are important for the region and grouped them into five themes:

- ① Fishing and *aquaculture* (farming the ocean)
- ② Man-made buildings and structures including buildings and machinery for generating electricity
- ③ Specific events impacting coastal and marine habitats including everything from shipwrecks and pollution to marine-based recreation such as snorkeling, swimming or

paddling

- ④ Impacts originating from the land (*land-based impact*) such as power plants and sources of pollution

- ⑤ Rising sea surface temperatures (Fig. 2b)

Our model combines two types of information:

Exposure tells us where and when these stressors are happening. This includes how much, how often, and how intensely they are happening.

Consequence is what happens to the habitat due to each stressor. Consequences include a change in *biomass* (the amount of living matter), *trophic impact* (changes to the food chain), and the time we would expect it to take for the habitat to recover.

We used publicly available data from regional and federal sources. Our model calculated a score for what each stressor would do to each habitat. We then used these scores to estimate the build-up of risk for each habitat.

- II. What is the purpose of the methods section?

- a) Persuade the reader into look after the oceans.
- b) Explain how we can look after the oceans.
- c) Explain how the investigation was conducted.
- d) Describe the main problems in the oceans.

III. Read the sentences and select True or False.

- a) **TRUE / FALSE** This study was conducted in English coasts.
- b) **TRUE / FALSE** There are more offshore habitats than nearshore habitats.
- c) **TRUE / FALSE** Water contamination is one of the stressors.
- d) **TRUE / FALSE** Surfing isn't one of the stressors.
- e) **TRUE / FALSE** Big companies are one of the stressors.
- f) **TRUE / FALSE** There aren't many consequences for the marine habitats.
- g) **TRUE / FALSE** There is public information to calculate scores and estimate risks for habitats.

IV. Complete the sentences using a word from the box.

FOCUS

BUILDINGS

AVAILABLE

PADDLING

EXPOSURE

RECOVER

- a) I like water sports such as
- b) After an illness we need time to
- c) We have toon recycling, reusing
and reducing pollution.
- d) Long..... to smoke may provoke health
problems.
- e) Now scientific studies are.....for all the
population.
- f) Biguse a lot of electricity.