Ocean & People

Working together to manage our Ocean interactions

Strengthen future trajectory prediction capacity of the Blue Economy to inform policy

Estimate how, where, when, and by whom Ocean values are used to build a model of human-Ocean interactions

Reform Ocean governance to ensure equitable community participation and consideration of values and knowledge

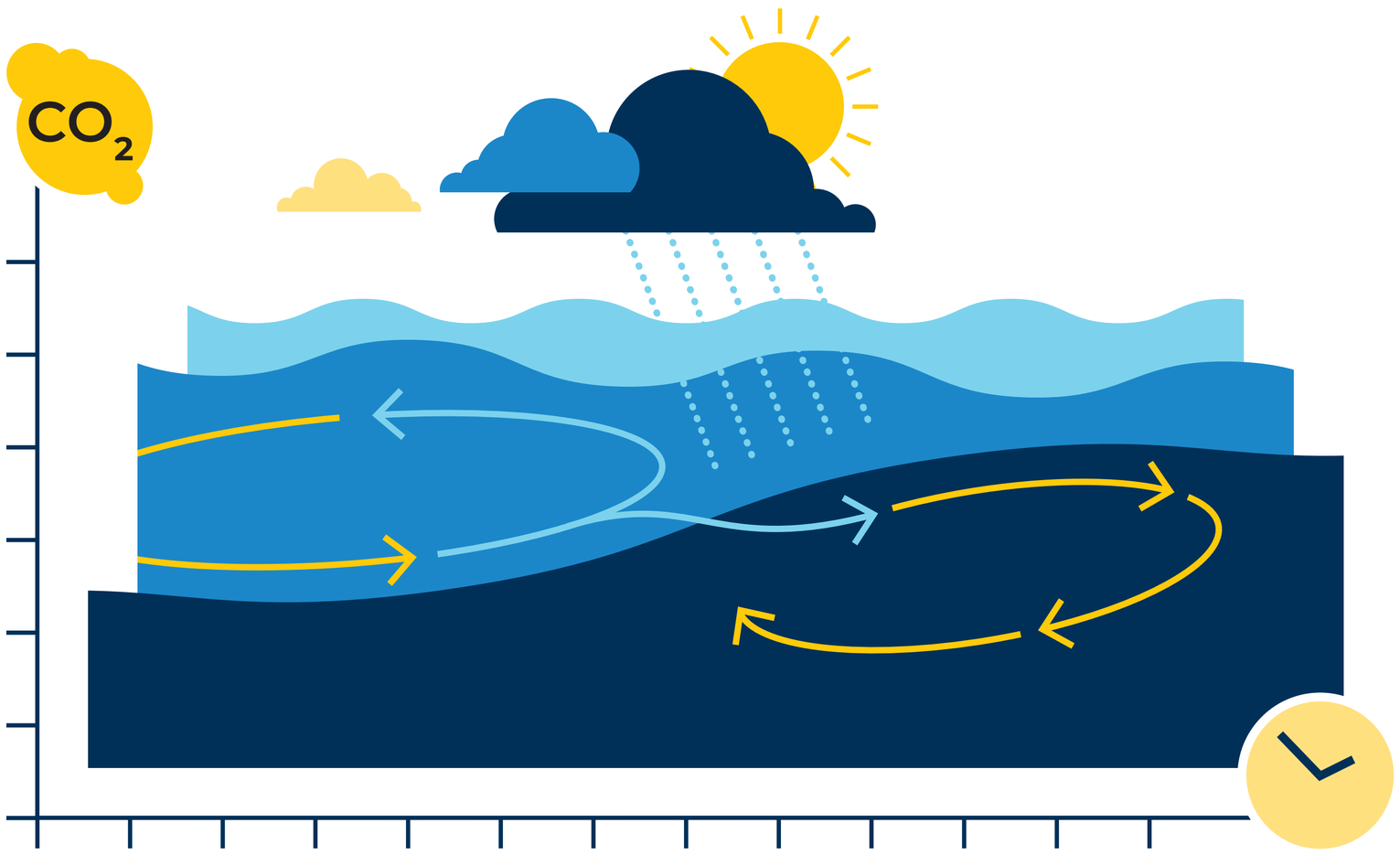
Recognise the need for structural change in Ocean policy and management

Use appropriate criteria to monitor engagement in citizen science projects

Increase capacity in and appreciation of all forms of collaboration

Ocean & Climate

An Ocean that is no longer impacted by climate change



Gain full understanding of marine ice sheet instability and impacts of melting

Build holistic coastal management plans to ensure adaptation and liveability

Address knowledge gaps highlighted by IPCC as ‘low’ or ‘very low’ confidence

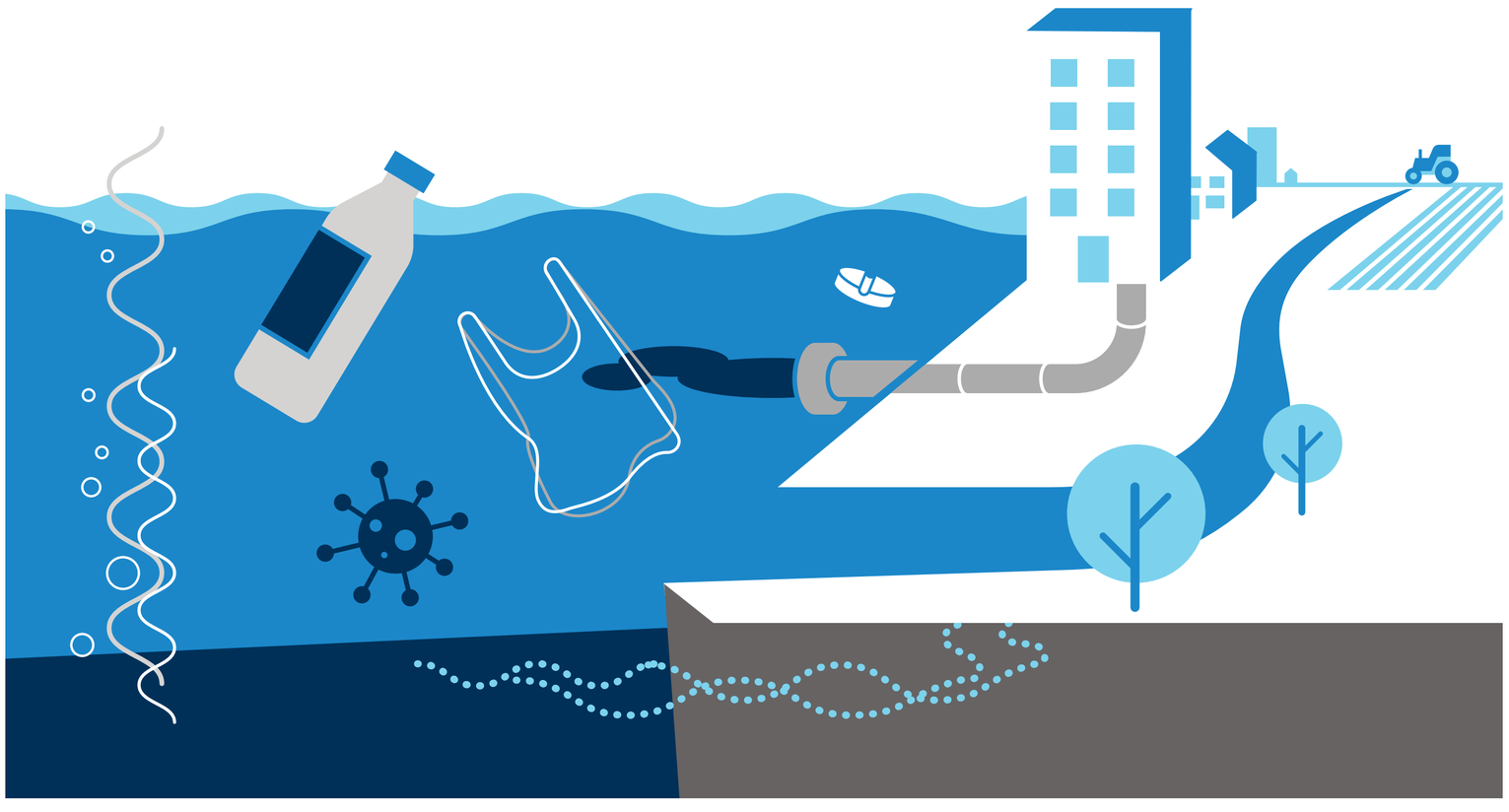
Conduct research to identify Ocean signals for coastal adaptation tipping points

Measure and map naturally occurring CO_2 and methane to address uncertainties related to potential release

Research the ‘triple threat' synergistic effects of warming, deoxygenation and acidification

Ocean & Fresh Water

Clean and safe waters available to all communities



Include all contaminants and discharge pathways in risk assessments and EU Directives

Monitor deteriorating coastal freshwater reserves and submarine discharges

Broaden monitored parameters to understand salination impacts

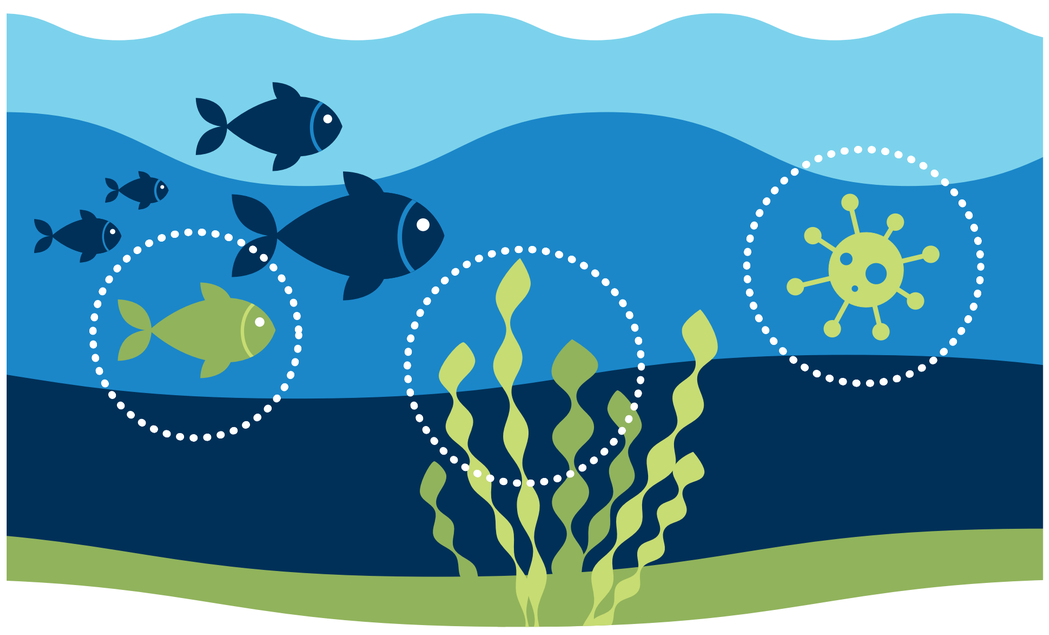
Create nature-based cost-effective technologies for emerging and legacy pollutants

Monitor biochemical and genetic markers to prevent the spread of diseases

Harmonise monitoring and reporting methods between freshwater and marine systems

Ocean & Biodiversity

A biodiverse Ocean that continues to provide ecosystem services



Study and effectively manage the impacts of emerging and expanding human activities on marine biodiversity

Assess the impact of human activities on ecosystems using cost-benefit analysis of their conservation or restoration

Study and monitor the spatial-temporal distribution and adaptive potential of marine organisms

Evaluate the epidemiological, genetic, and ecological consequences of invasive species

Study the distribution of marine microorganisms to predict future epidemic risks from invasive microbes or resistance to antibiotics

Promote all initiatives to increase biodiversity knowledge and capacity building, including the European Digital Twin, citizen science, recovering lost knowledge, and using traditional and new tools

Ocean & People

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How will our use of the Ocean evolve?

What do changes in Ocean use mean for people?

Whose perspective of the Ocean is it?

How can stakeholders work together better?

How can we all help collect Ocean-relevant data?

Who gets a say in how the Ocean is managed?

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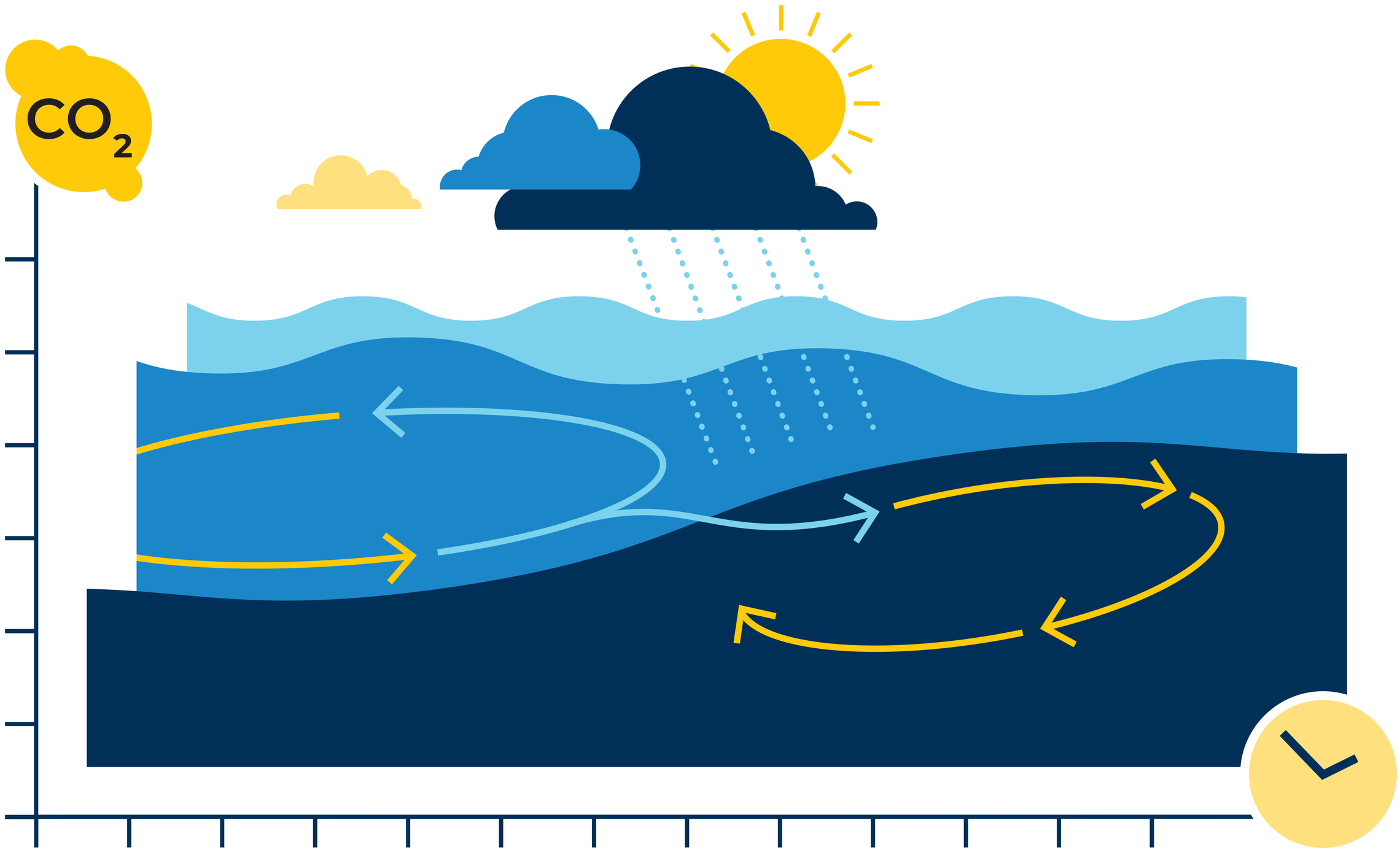
How will ice sheet melt impact coastal areas?

How will people be affected by Ocean changes?

What research needs to be prioritised?



What is happening and could happen to Ocean circulation?

Where is naturally-occurring CO_2 and methane found in the Ocean and what could happen if they are released?

How to future-proof living with and next to a changing Ocean?

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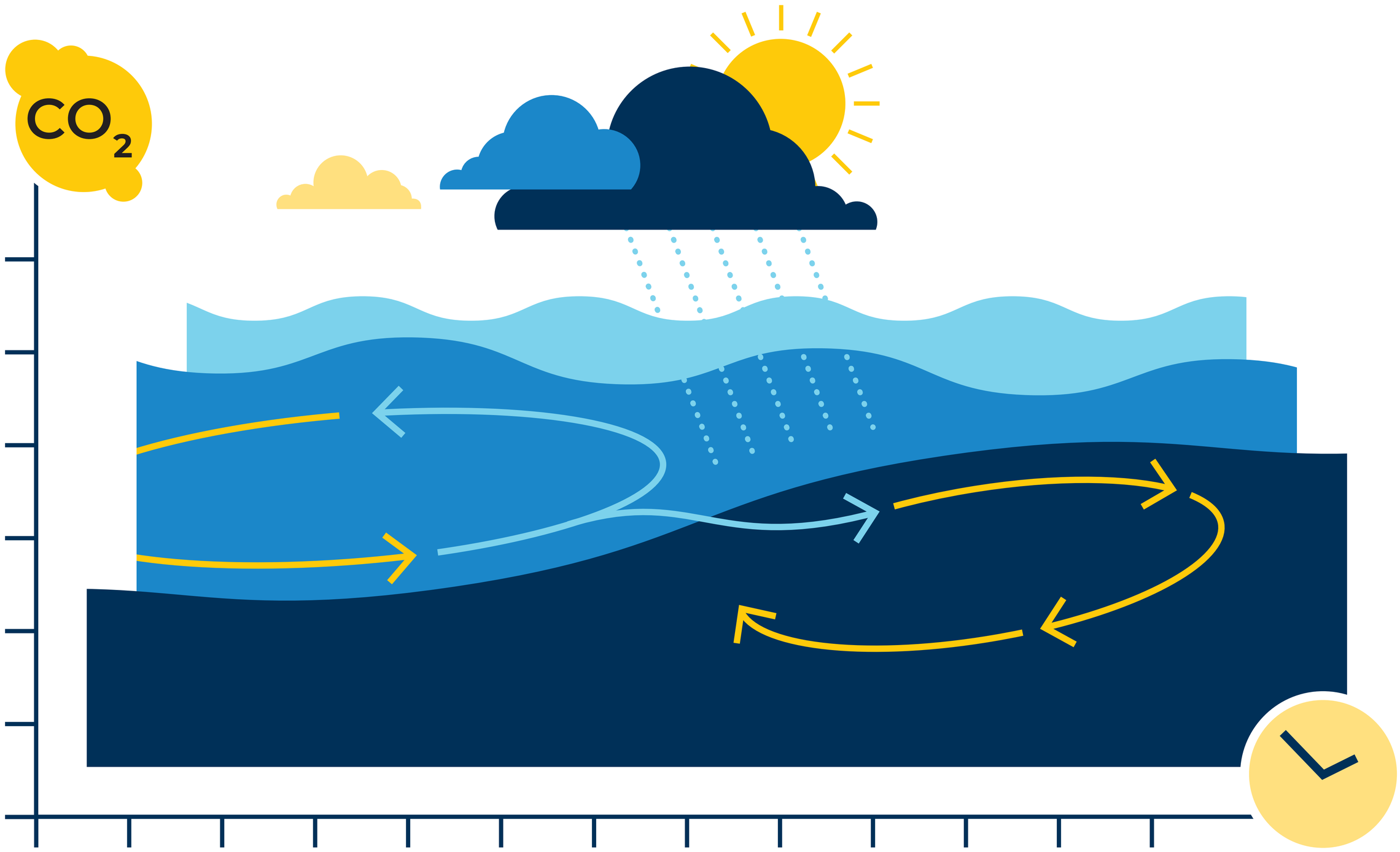

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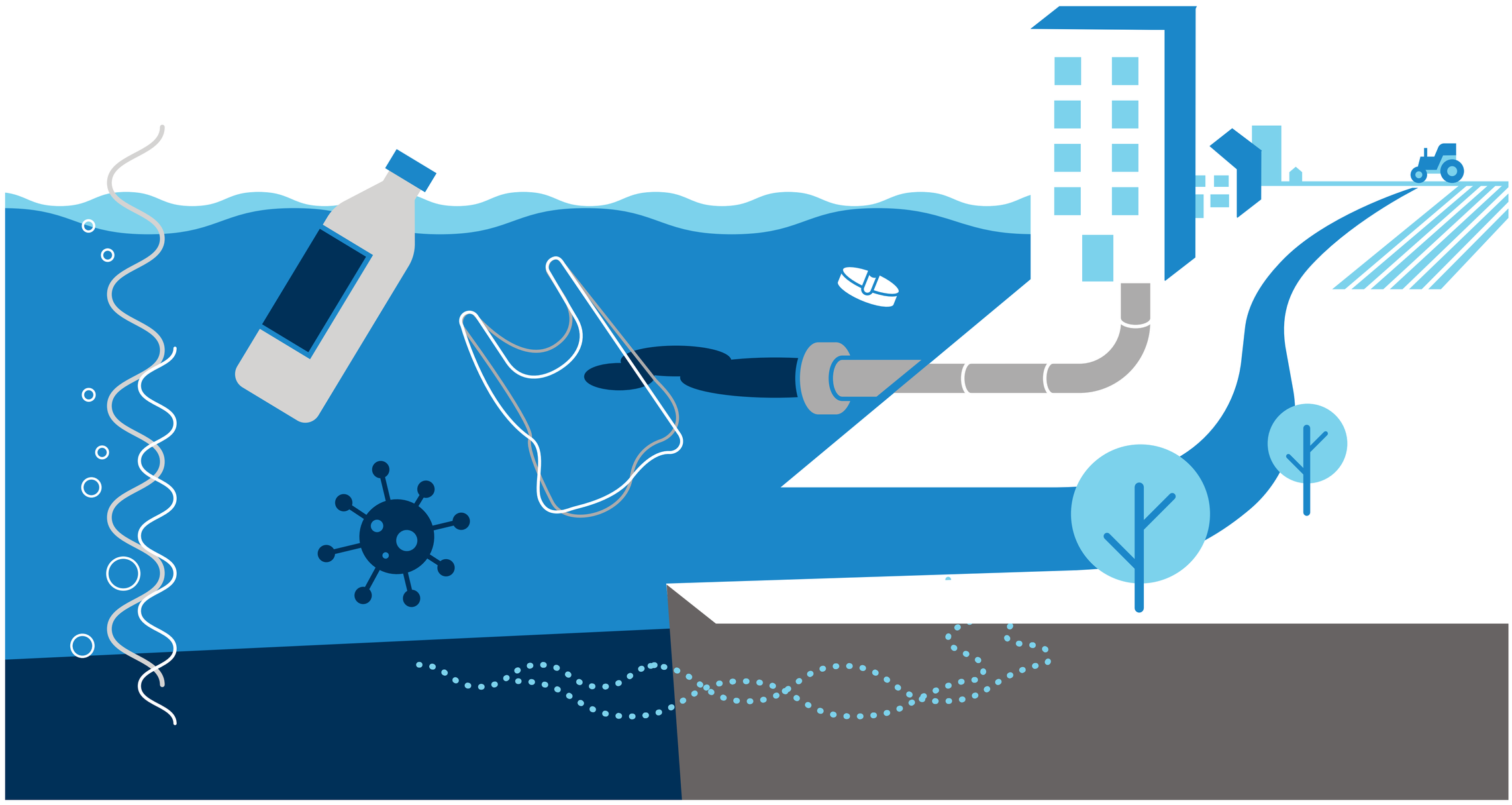
Ocean & Fresh Water

Clean and safe waters available to all communities

Is salt water intruding into our fresh water?

What dangers could climate change release into our water?

How do pollutants reach the Ocean and us?



What is the impact of multiple pollutants on Ocean health?

Can some pollutants be used?

How do we deal with new pollutants?

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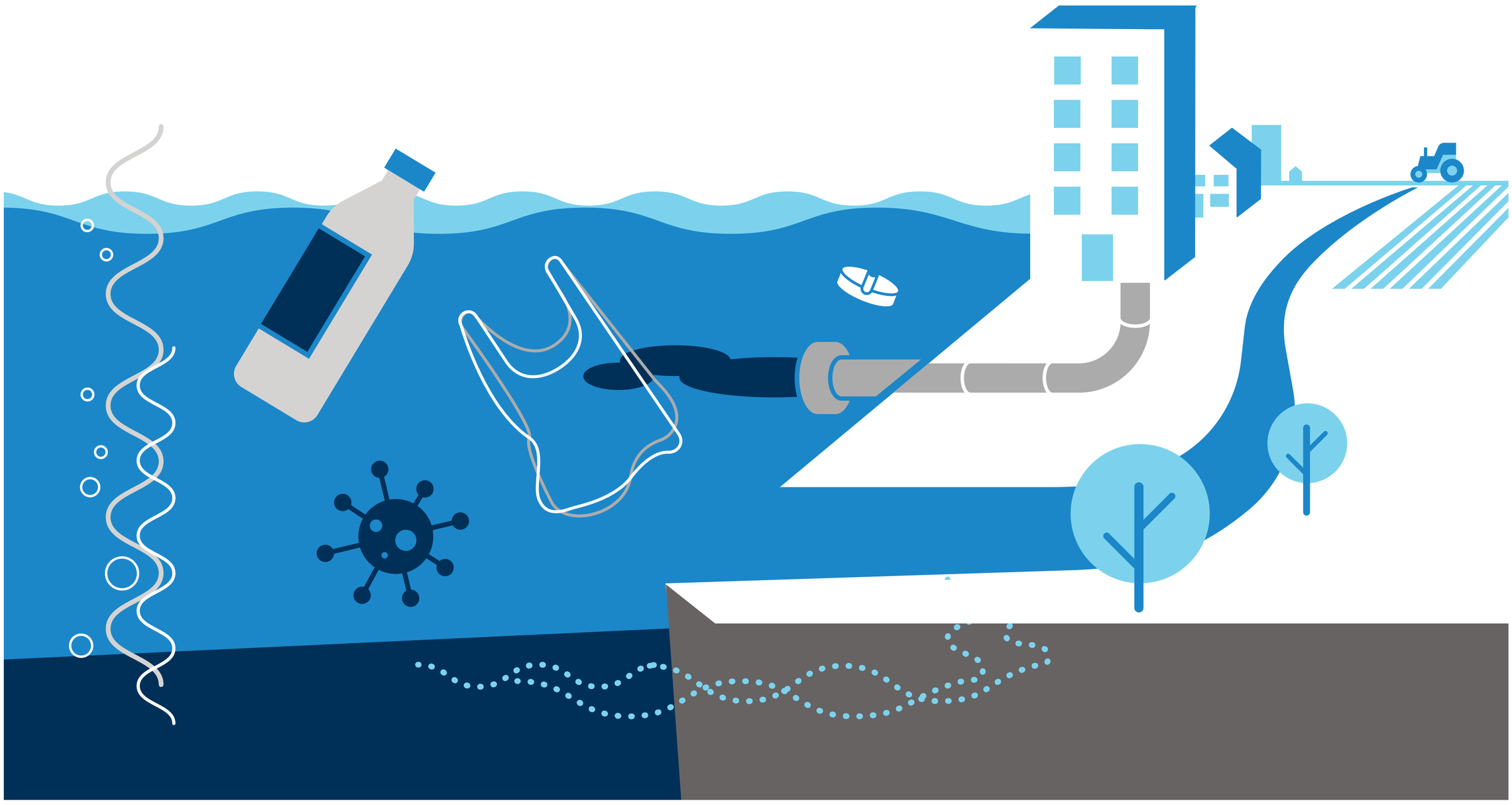

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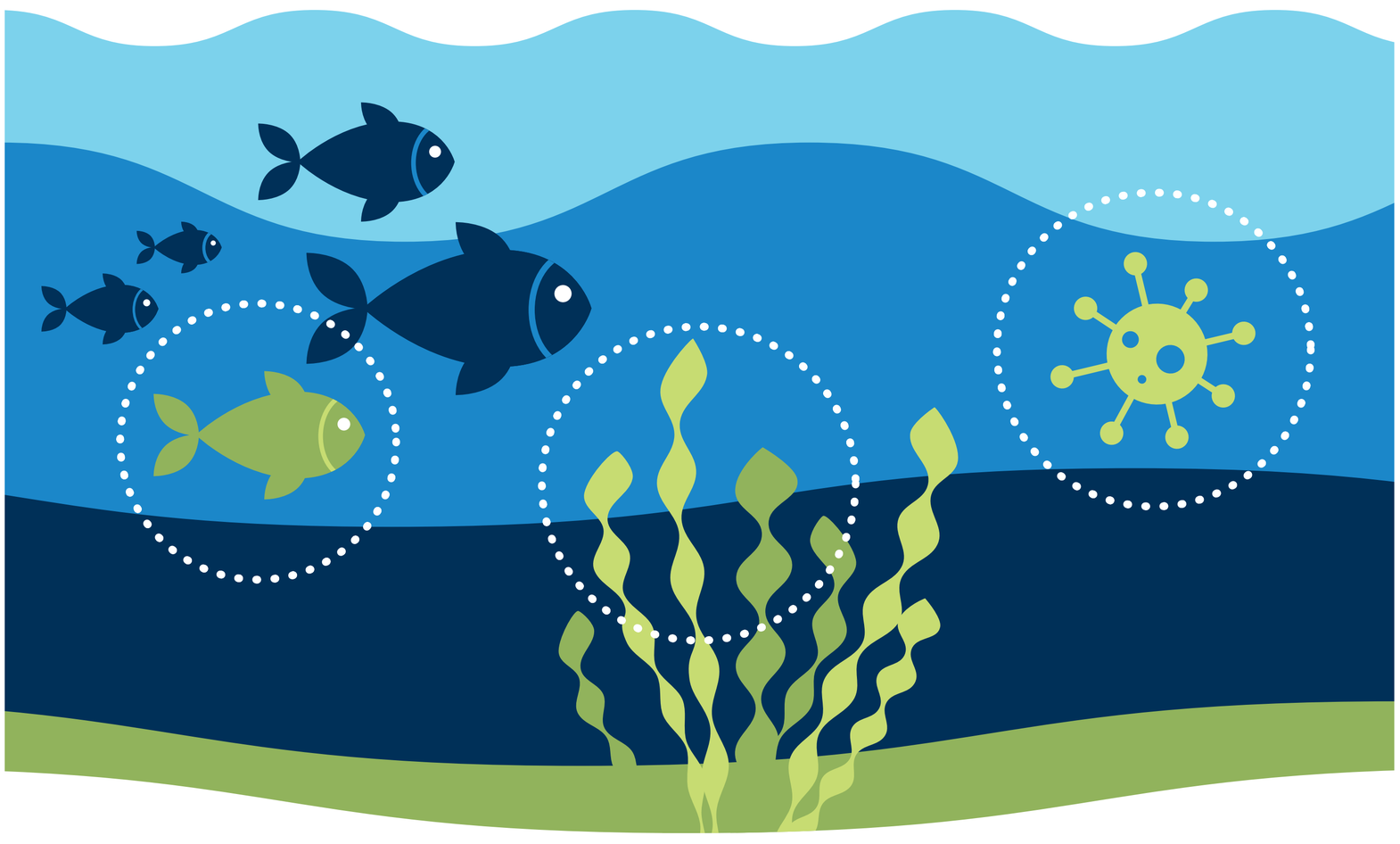
Ocean & Biodiversity

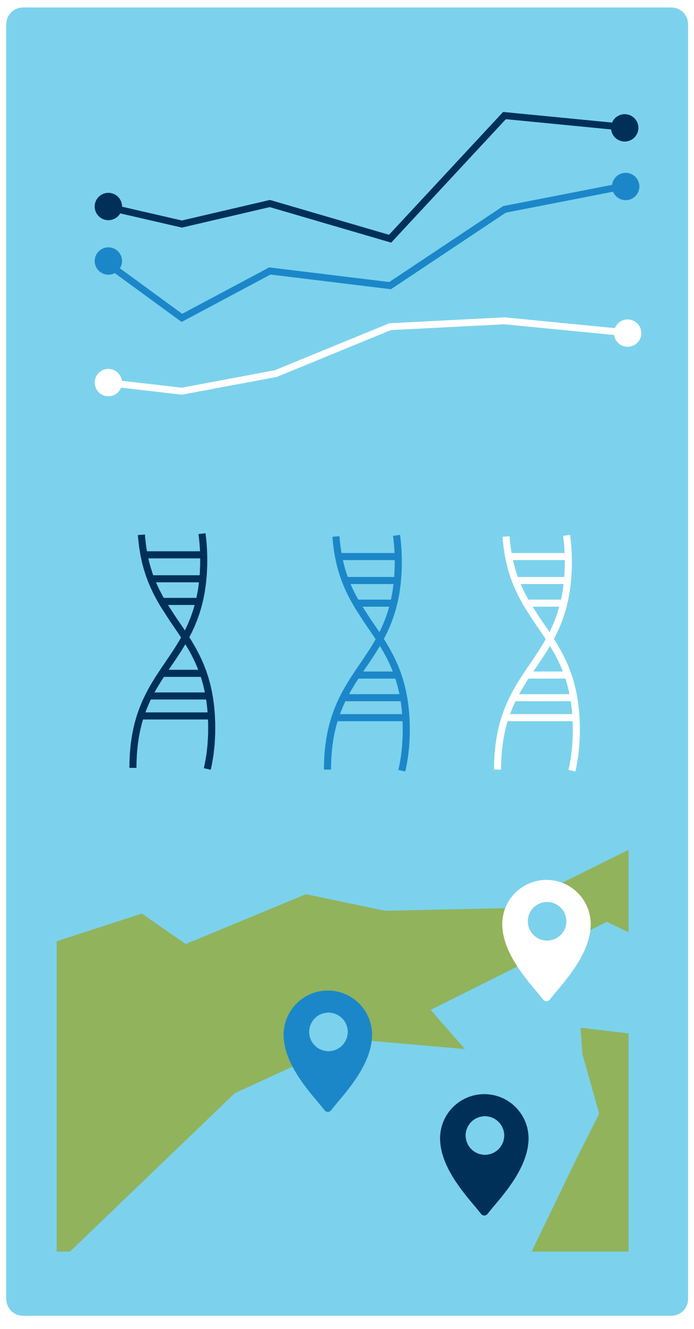
A biodiverse Ocean that continues to provide ecosystem services

What is the cost if we don't restore/conserve the Ocean?

What are the epidemic risks from marine microorganisms?

How will invasive species affect marine ecosystems?





What emerging human activities will affect marine biodiversity in the future?

How will species move and adapt as climate changes, and how do we avoid the resulting conflict in new areas?

How can we combine old and new methods to identify and monitor species?

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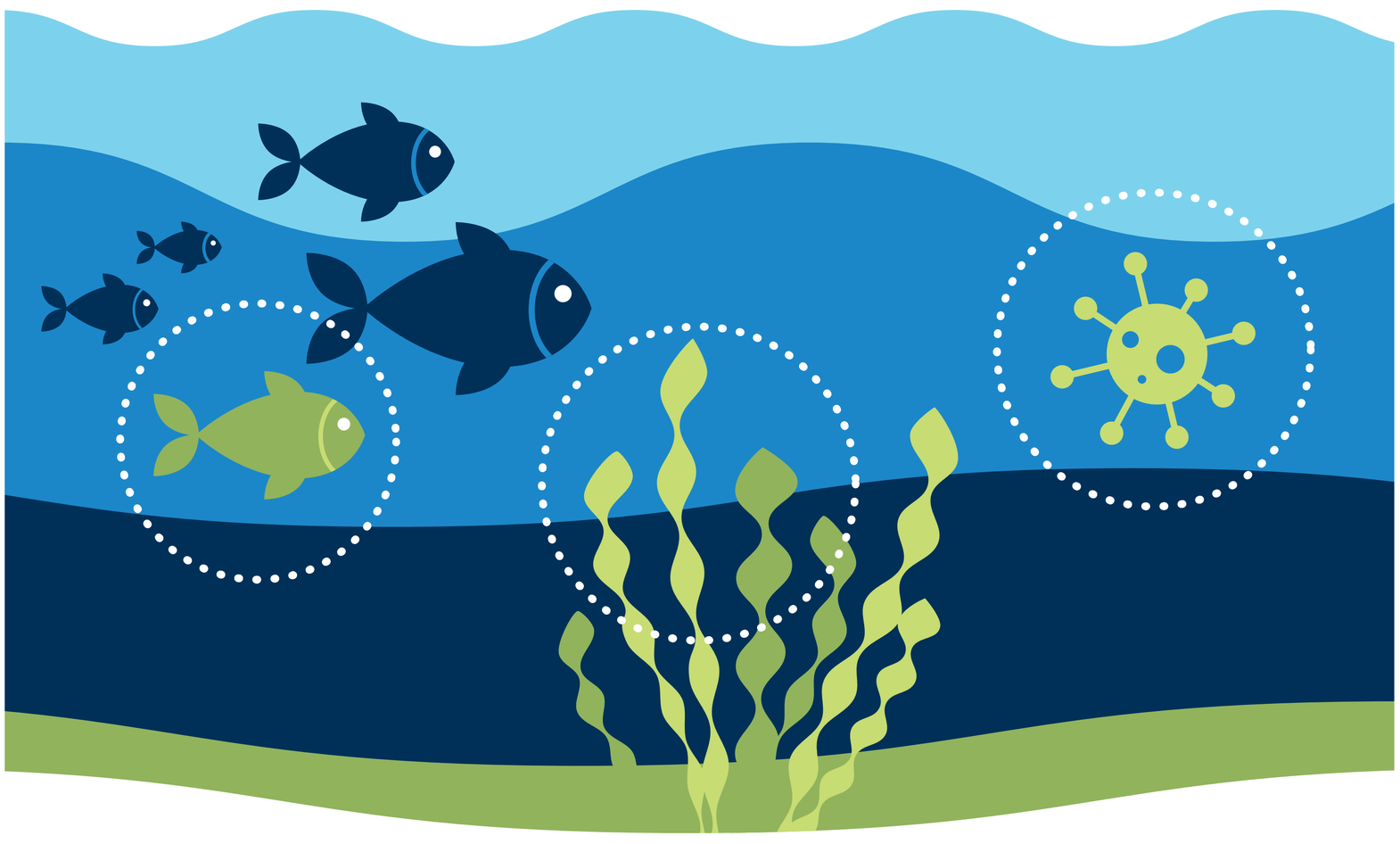

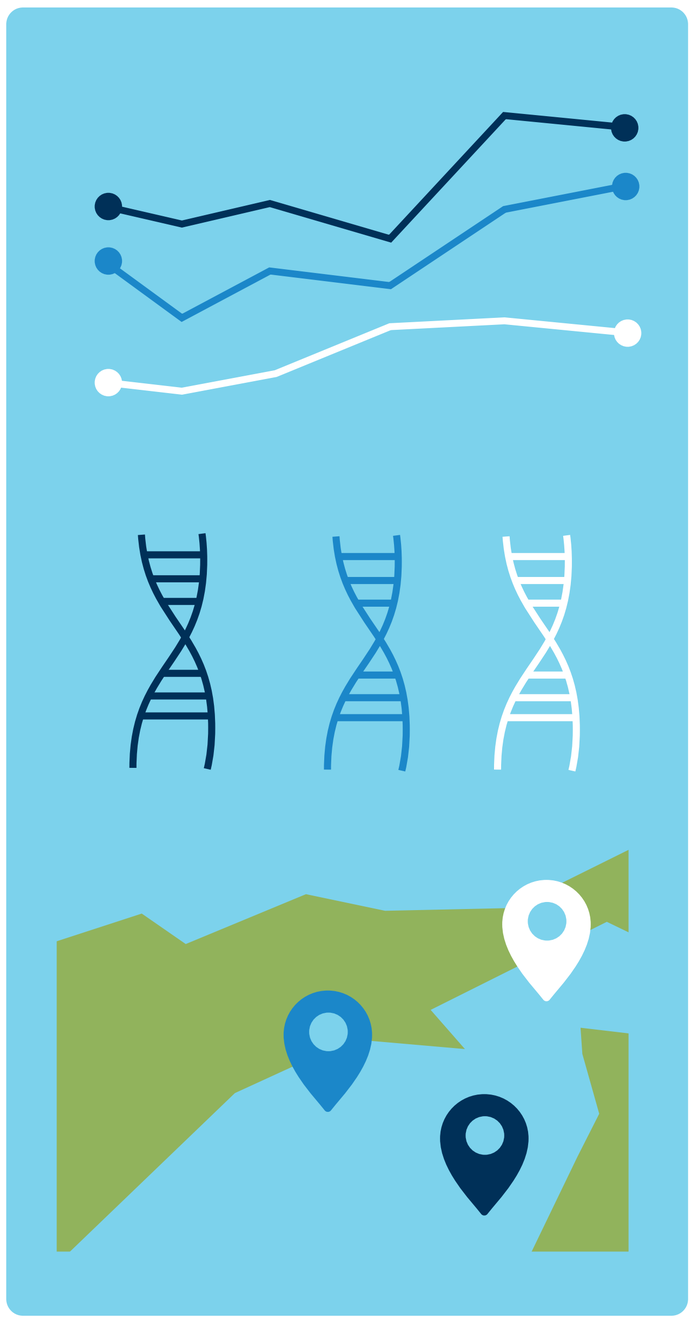

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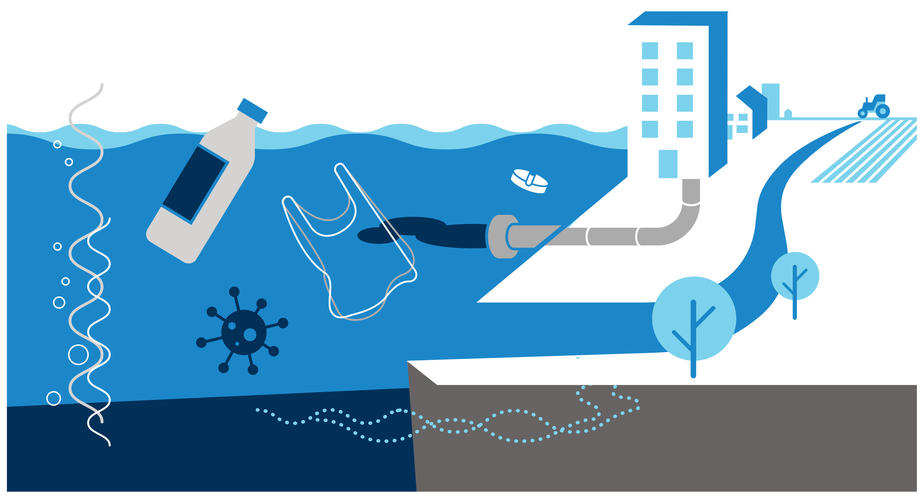

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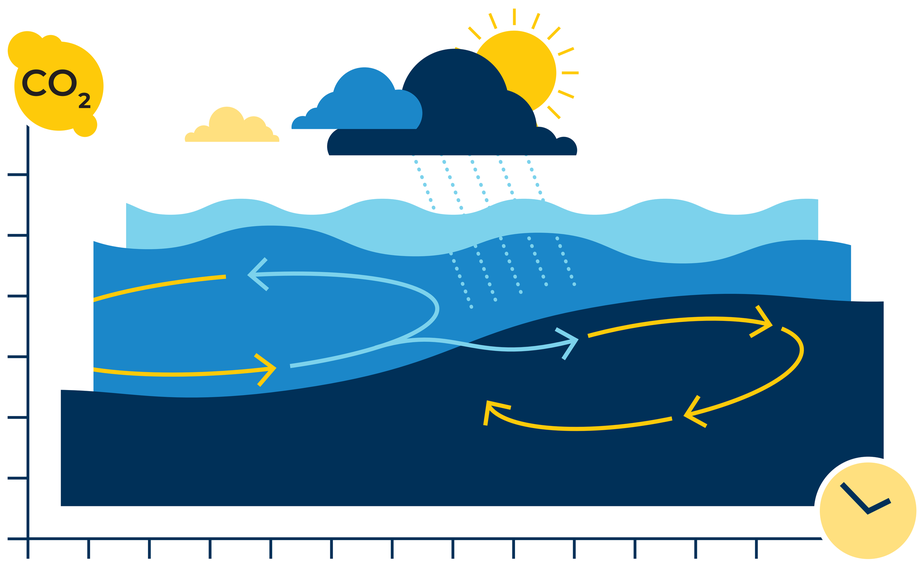

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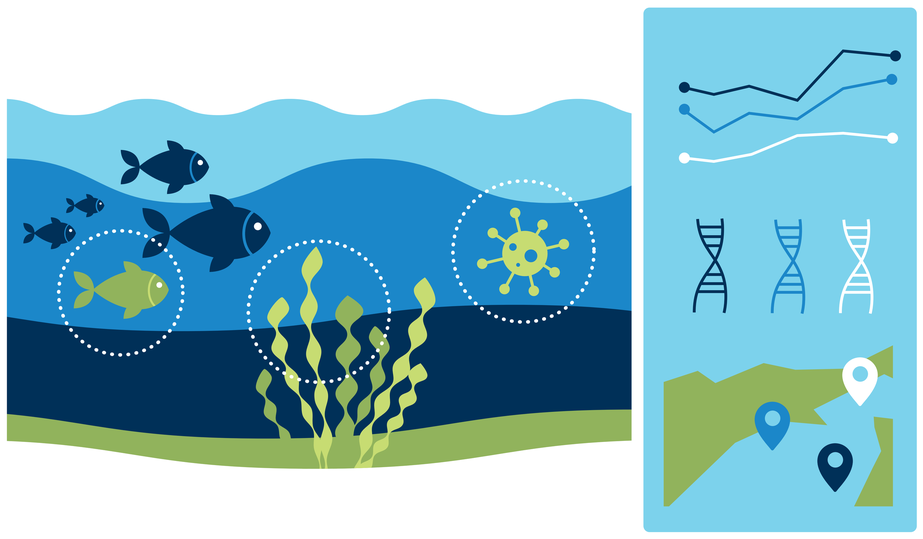

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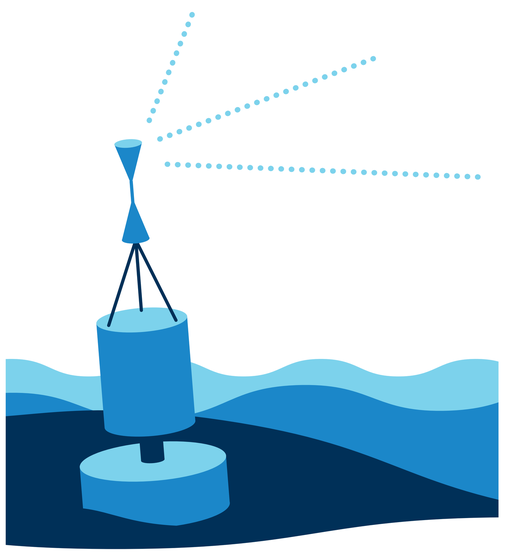
Requirements



– Sustained Ocean observations
– Balance between needs
and resources

– Accessible data
– Input for the Digital Twin
of the Ocean

– People trained to collaborate
– Research on impact of
multiple stressors

– Sustained, long-term research funding
– Substantial, sustainable Ocean finance

– Harmonised Ocean-coastal-land
management approaches
– Sustainable and equitable marine science