### **Topic: Climate Change and Coastal Communities**

**Climate change** profoundly impacts coastal communities, which are often on the front lines of environmental changes. These impacts are multi-dimensional, affecting ecosystems, livelihoods, infrastructure, and the social fabric of these communities. Here's an overview of the critical issues and challenges:

- What Is Climate Change? <a href="https://www.un.org/en/climatechange/what-is-climate-change">https://www.un.org/en/climatechange/what-is-climate-change</a>
   Retrieved from September 16, 2025
- The Ocean and Climate Change <a href="https://science.nasa.gov/climate-change/">https://science.nasa.gov/climate-change/</a>
   Retrieved from September 16, 2025
- The Effects of Climate Change <a href="https://science.nasa.gov/climate-change/effects/">https://science.nasa.gov/climate-change/effects/</a>
   Retrieved from September 16, 2025
- The Intergovernmental Panel on Climate Change <a href="https://www.ipcc.ch/">https://www.ipcc.ch/</a>
   Retrieved from September 16, 2025
- Global Climate Highlights 2024
   https://climate.copernicus.eu/global-climate- highlights-2024

   Retrieved from September 16, 2025

### Websites:

- 1. Intergovernmental Panel on Climate Change (IPCC):
  - Retrieved from September 19, 2025 URL: <a href="https://www.ipcc.ch/">https://www.ipcc.ch/</a>
  - Description: The official website of the IPCC, provides comprehensive assessments of climate change science.
- 2. National Oceanic and Atmospheric Administration (NOAA):
  - Retrieved from September 16, 2025 URL: <a href="https://www.noaa.gov/">https://www.noaa.gov/</a>
  - Description: A U.S. government agency offering information on climate change, including coastal impacts and adaptation strategies.



### 3. World Resources Institute (WRI):

- o Retrieved from September 16, 2025 URL: <a href="https://www.wri.org/">https://www.wri.org/</a>
- **Description:** A global research organization focused on sustainable development, with resources on climate change and coastal resilience.

#### 4. Climate Central:

- o Retrieved from September 16, 2025 URL: <a href="https://www.climatecentral.org/">https://www.climatecentral.org/</a>
- Description: A non-profit organization providing data and visualizations on climate change impacts, including sea-level rise and coastal flooding.

#### 5. Coastal Resilience Toolkit:

- Retrieved from September 16, 2025 URL: https://toolkit.climate.gov/tool/coastal-resilience
- Description: A resource hub offering information and tools for coastal communities to adapt to climate change.

#### **Articles in ScienceDirect:**

- "Climate Impacts on Coastal Areas" <a href="https://climatechange.chicago.gov/climate-impacts/climate-impacts-coastal-areas">https://climatechange.chicago.gov/climate-impacts/climate-impacts-coastal-areas</a>
- The impact of climate change on coastal communities"
   https://thenauticalnomad.com/environmental-responsibility/supporting-local-communities/the-impact-of-climate-change-on-coastal-communities/
- The Impact of Climate Change on Coastal Communities and How They Are Adapting to It
   https://medium.com/@m.asifrazamemon/the- impact-of-climate-change-on-coastal-communities-and-how-they-are-adapting-to-it- 40eaa215f241
  - Coastal communities need resilient ecosystems and infrastructure <a href="https://www.sei.org/features/coastal-communities-need-resilient-ecosystems-and-infrastructure/">https://www.sei.org/features/coastal-communities-need-resilient-ecosystems-and-infrastructure/</a>
- Turning the tide: adapting to climate change in coastal communities
   https://www.ifrc.org/document/turning-tide-adapting-climate-change-coastal-communities
- Recent Developments in Coastal Adaptation to Climate Change http://www.jstor.org/stable/24392651. Accessed 14 Jan. 2025.



### Theses & Dissertations in (eLibraryUSA):

- A Comparative Study on Perceptions of Coastal Community Resilience in the Context of Nuisance Flooding.
  - https://www.proquest.com/pqdtglobal/docview/3042969941/C4A0EB94C5A04FF8PQ/1 3?accountid=172684&sourcetype=Dissertations%20&%20Theses
- An Assessment of Efforts to Adapt and Mitigate Impacts of Human Driven Climate Change on US Coastal Communities
  - https://www.proquest.com/pqdtglobal/docview/2619206572/C4A0EB94C5A04FF8PQ/17?accountid=172684&sourcetype=Dissertations%20&%20Theses
- Advancing a Social Determinants Approach to Climate Change and Health <a href="https://www.proquest.com/pqdtglobal/docview/2792548548/C4A0EB94C5A04FF8PQ/1">https://www.proquest.com/pqdtglobal/docview/2792548548/C4A0EB94C5A04FF8PQ/1</a> 8?accountid=172684&sourcetype=Dissertations%20&%20Theses
- Wading Past Assumptions: Gender Dimensions of Climate Change Adaptation in Coastal Communities of the Philippines https://www.proquest.com/pqdtglobal/docview/1566498820/C4A0EB94C5A04FF8PQ/2
  - https://www.proquest.com/pqdtglobal/docview/1566498820/C4A0EB94C5A04FF8PQ/24?accountid=172684&sourcetype=Dissertations%20&%20Theses
- Local response to global climate change: The role of local development plans in climate change.com/pqdtglobal/docview/821553532/C4A0EB94C5A04FF8PQ/29?accountid=172684& sourcetype=Dissertations%20&%20Theses
- Natural Disasters and Firms' Climate Change Mitigation
   https://www.proquest.com/pqdtglobal/docview/3056846608/C4A0EB94C5A04FF8PQ/3
   9?accountid=172684&sourcetype=Dissertations%20&%20Theses

#### **Interactive Tools:**

1. Sea Level Rise Viewer by Climate Central

**Description:** This tool allows users to visualize the potential impacts of sea level rise along U.S. coasts. It provides maps showing where flooding might occur due to different levels of sea rise, coastal flooding frequency, and social vulnerabilities.



### Features:

- Interactive flood maps
- Habitat impacts visualization
- Community vulnerability layers

Access: NOAA Sea Level Rise Viewer

# 2. Adaptation Resource Center (ARC-X)

• **Description:** This tool by the U.S. Environmental Protection Agency (EPA) provides customized climate adaptation strategies for local governments, including coastal adaptation techniques.

#### Features:

- Step-by-step adaptation guidance
- Risk assessment and planning strategies
- Resource links for community action

Access: ARC-X

### 3. The Nature Conservancy's Coastal Resilience Tool

**Description:** This tool offers interactive mapping and data on sea level rise, storm surge, and coastal habitat loss. It helps communities and governments plan for more resilient coastlines.

### Features:

- · Global and local risk mapping
- Natural solutions for coastal protection
- Decision support for planners and policymakers

Access: Coastal Resilience Tool

- Relevance: Particularly useful for policymakers in developing nations looking to integrate climate resilience into national and local development frameworks.
- Access: World Bank Report



### **Organizations and Initiatives:**

## 1. National Oceanic and Atmospheric Administration (NOAA)

- Initiative: NOAA's Climate Program Office supports research to understand climate variability and change, with a focus on impacts to coastal communities. Programs like the Sea Grant and Coastal Resilience Networks provide resources and funding for local climate adaptation projects.
- Key Actions: NOAA provides interactive tools like the Sea Level Rise Viewer and supports initiatives like the Digital Coast, which offer data and tools for coastal management.
- Relevance: NOAA plays a critical role in providing climate data and adaptation tools for policymakers, scientists, and coastal planners.

Access: <u>NOAA</u>

### 2. The Nature Conservancy's Coastal Resilience Program

- Initiative: This program focuses on nature-based solutions to enhance the resilience of coastal communities against rising seas, stronger storms, and other climate impacts.
- Key Actions: The Coastal Resilience Tool provides interactive maps and data on risk scenarios, helping communities plan for natural disasters while conserving ecosystems like mangroves and coral reefs.
- Relevance: It emphasizes the use of ecosystems to buffer communities from climate threats, aligning conservation goals with human resilience.
- Access: The Nature Conservancy

#### 3. C40 Cities - Coastal Cities at Risk

- Initiative: The C40 Cities network brings together mayors from coastal megacities to share knowledge and strategies for reducing climate risks, including sea level rise and extreme weather events.
- Key Actions: C40 Cities focuses on initiatives such as creating resilient urban infrastructure, promoting sustainable energy, and protecting vulnerable coastal populations.
- Relevance: With the increasing urbanization of coastal areas, this initiative plays a vital role in helping cities address unique climate risks.

Access: <u>C40 Cities</u>



# 4. Global Commission on Adaptation (GCA)

- Initiative: The GCA works on scaling up climate adaptation solutions globally, with a focus on protecting coastal regions through nature-based solutions, infrastructure upgrades, and policy reforms.
- Key Actions: Projects include the Nature-Based Solutions Action Track, which focuses on using natural ecosystems to shield communities from climate impacts.
- Relevance: GCA partners with global institutions to mobilize resources and implement effective adaptation strategies, particularly in vulnerable coastal regions.
- Access: Global Commission on Adaptation

# 5. International Union for Conservation of Nature (IUCN) - Blue Carbon Initiative

- Initiative: The Blue Carbon Initiative focuses on protecting and restoring coastal and marine
  ecosystems like mangroves, seagrasses, and salt marshes, which sequester carbon and help
  mitigate climate change.
- Key Actions: The program supports research, conservation projects, and policy recommendations to help nations manage their blue carbon ecosystems and protect coastal communities.
- Relevance: This initiative underscores the importance of conserving coastal ecosystems as part of both climate mitigation and adaptation strategies.
- Access: IUCN
- Coastal Communities Network: Retrieved September 17, 2025 <a href="https://serc.si.edu/coastal-carbon">https://serc.si.edu/coastal-carbon</a>
- Coastal Conservation Coalition: Retrieved September 17, 2025 https://coastalconservationleague.org/
- 100 Resilient Cities: Retrieved September 17, 2025
   https://www.rockefellerfoundation.org/100-resilient-cities/

### **Online Courses and Training:**

### 1. Coursera – Climate Change: From Learning to Action (UN CC)

 Overview: This course is offered by the United Nations Climate Change Learning Partnership (UN CC) and focuses on understanding climate change, its impacts, and how to take

meaningful action. It covers how coastal communities are affected by climate changes, such as sea-level rise and extreme weather events.

- Key Topics:
  - o Basic climate change science
  - Climate resilience and adaptation strategies
  - o Real-life case studies in coastal regions

Access: Climate Change: From Learning to Action on Coursera

### 2. LinkedIn Learning – Sustainability Strategies

 Overview: This course teaches how businesses and communities can adopt sustainability strategies, including specific lessons on climate adaptation for coastal regions. The focus is on reducing carbon footprints and creating long-term resilience in the face of environmental challenges.

### **Key Topics:**

- Sustainability practices
- Climate change mitigation and adaptation strategies
- o Case studies of coastal community adaptation

Access: Sustainability Strategies on LinkedIn Learning

## 3. UN CC – Introduction to Climate Change

- Overview: A free, self-paced course by the United Nations that provides a broad introduction to climate change, including its effects on coastal ecosystems. The course covers the global impact and emphasizes how communities can adapt to environmental changes.
- Key Topics:
  - o Basics of climate change science
  - Coastal and oceanic impacts
  - o International climate adaptation efforts
- Access: Introduction to Climate Change on UN CC



Here are some informative blogs that focus on the impacts of climate change on coastal communities:

#### 1. Coastal Care: The Coastal Environment in Crisis

- Overview: Coastal Care's blog focuses on issues of coastal erosion, rising sea levels, and human intervention, offering both scientific analysis and updates on global coastal challenges.
- Popular Posts:
  - "Coastal Cities at Risk: The Global Threat of Sea Level Rise"
  - "Erosion and Climate Change: Saving Our Shores"
- Access: <u>Coastal Care Blog</u>

### 2. RealClimate

- Overview: RealClimate is a climate science blog written by climate scientists for the general public. It explains the latest research and clarifies common misconceptions about climate change. It is highly technical but accessible.
- Popular Posts:
  - "Explaining Climate Sensitivity"
  - o "The Role of Oceans in Climate Change"
- Relevance: Focuses on scientific accuracy, often debunking myths and addressing public misunderstandings.
- Access: RealClimate

### **3.** Skeptical Science

- Overview: This blog is dedicated to debunking common climate change myths. It provides
  easy-to-understand explanations of climate science and offers resources for readers to
  engage in informed discussions.
  - Popular Posts:
    - o "10 Climate Myths Debunked"
    - "How Do We Know Humans Are Responsible for Global Warming?"
- Relevance: A go-to source for fact-based discussions, great for those seeking evidence-backed arguments.



Access: <u>Skeptical Science</u>

### 4. InsideClimate News

- Overview: Inside Climate News is an award-winning non-profit news organization focusing on environmental issues, including climate change, energy, and environmental justice. Their blog provides in-depth reports, investigations, and daily updates.
- Popular Posts:
  - "The Climate Risks to U.S. Coastal Real Estate"
  - "How Global Warming is Affecting Weather Patterns Worldwide"
- Relevance: Known for high-quality journalism on environmental issues, offering a mix of news and analysis.
- Access: InsideClimate News

### 5. Yale Climate Connections

- Overview: A blog that delivers daily articles, radio segments, and short documentaries about the impacts of climate change, adaptation, and solutions. It is great for quick updates on the latest climate news.
- Popular Posts:
  - o "How Farmers Are Adapting to Climate Change"
  - "Five Key Takeaways from the IPCC's Latest Report"
- Relevance: Offers a diverse range of content, from news stories to personal narratives, making it highly engaging for all readers.
- Access: Yale Climate Connections

### 6. Carbon Brief

- Overview: Carbon Brief provides in-depth articles, data visualizations, and explainers on climate science and energy policy. It often publishes expert summaries of new scientific papers and IPCC reports.
- Popular Posts:
  - o "The Carbon Budget Explained"



- "What the Paris Agreement Means for Future Emissions"
- Relevance: A trusted source for accurate, data-driven climate information with detailed analyses.
- Access: <u>Carbon Brief</u>

### 7. The Guardian - Environment

- Overview: The Guardian's Environment section frequently updates readers with news and features on climate change, environmental policies, renewable energy, and biodiversity loss.
- Popular Posts:
  - o "Climate Crisis in the Global South: How Developing Nations Are Affected"
  - o "Global Climate Strikes: Young People Leading the Charge"
- Relevance: Combines hard-hitting journalism with climate activism, covering a broad range of climate-related topics.
- Access: The Guardian Environment
- Climate Reality Project: Retrieved September 17, 2025 https://www.climaterealityproject.org/
- The Guardian's Environment Blog: Retrieved September 17, 2025 https://www.theguardian.com/environment/blog
- Yale Climate Connections: Retrieved September 17, 2025 https://yaleclimateconnections.org/

### **Coastal Communities-Specific Blogs:**

- Coastal Resilience Network: Retrieved September 17, 2025
   https://coastalresilience.org/project/california-coastal-resilience-network/
- Coastal Conservation League: Retrieved September 17, 2025 https://coastalconservationleague.org/
- The Nature Conservancy's Coastal Blog: Retrieved September 17, 2025 https://www.nature.org/en-us/what-we-do/our-priorities/tackle-climate-change/climate-change-stories/coastal-risk-and-resilience/



### **Local and Regional Blogs (Philippines):**

#### **Government Websites:**

- Department of Environment and Natural Resources (DENR): Retrieved September 17, 2025 <a href="https://www.denr.gov.ph/">https://www.denr.gov.ph/</a>
  - Other coastal municipalities in Zamboanga Peninsula

### **Academic Institutions and Research Centers:**

- Ateneo de Zamboanga University: Retrieved September 17, 2025 https://www.adzu.edu.ph/
- Western Mindanao State University: Retrieved September 17, 2025 https://wmsu.edu.ph/

### **Environmental Organizations:**

- The Haribon Foundation: Retrieved September 17, 2025 https://haribon.org.ph/
- The Philippine Center for Environmental Law: [invalid URL removed] News

#### **Outlets:**

- Philippine Daily Inquirer: Retrieved September 17, 2025 https://www.inquirer.net/
- Manila Bulletin: Retrieved September 17, 2025 <a href="https://mb.com.ph/">https://mb.com.ph/</a>

### **Sea Level Rise Blogs:**

• **John Englender's Blog:** Retrieved September 17, 2025 https://johnenglander.net/wp/staging/blog/

### **Coastal Erosion Blogs:**

Coastal Erosion Blog: Retrieved September 17, 2025
 <a href="https://toolkit.climate.gov/topics/coastal-flood-risk/coastal-erosion">https://toolkit.climate.gov/topics/coastal-flood-risk/coastal-erosion</a>

### **Climate Refugees Blogs:**

Climate Refugees Blog: Retrieved September 17, 2025 <a href="https://www.climate-refugees.org/spotlight">https://www.climate-refugees.org/spotlight</a>

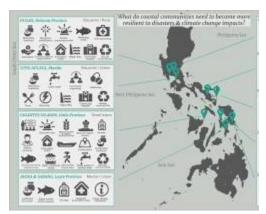


 Internally Displaced People Monitoring Center: Retrieved September 17, 2025 <a href="https://www.internal-displacement.org/">https://www.internal-displacement.org/</a>

## **Sustainable Coastal Development Blogs:**

- Sustainable Cities and Communities: Retrieved September 17, 2025 https://www.unhabitat.org/
- **Sea Level Rise Blog:** Retrieved September 17, 2025 https://johnenglander.net/wp/staging/blog/
- **Coastal Erosion Blog:** Retrieved September 17, 2025 https://toolkit.climate.gov/topics/coastal-flood-risk/coastal-erosion
- **Climate Refugees Blog:** Retrieved September 17, 2025 <a href="https://www.climate-refugees.org/spotlight">https://www.climate-refugees.org/spotlight</a>

Here are some images that depict the effects of climate change on coastal communities in the Philippines:



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saltwater intrusion in a coastal community in the Philippines





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www.highnorthnews.com

damaged infrastructure in a coastal community after a typhoon



Opens in a new window



www.unhcr.org

displaced people in a coastal community due to climate change





Opens in a new window www.alamy.com

mangrove forests being destroyed due to rising sea levels



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insideclimatenews.org

flooding in a coastal community in the Philippines





Opens in a new window



earthjournalism.net

coral reefs bleaching due to ocean acidification



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 $R^G$ 

www.researchgate.net

coastal erosion in the Philippines

Compiled by:

Leizl C. Ching | September 17, 2025

