Key Concepts

What are some words you’ve seen or heard around the topic of climate change?
Climate vs weather

Climate is what you wish for.
Weather is what you get.
climate variability vs climate change

variability = short-term change in climate caused by changes in the ocean and atmosphere

climate change = change in mean and extremes and variability caused by human interference
Climate Variability
Climate Variability vs. Climate Change

- **Previous Climate**
- **New Climate**
- **Increase in mean**
- **More Hot Weather**
- **More Record Hot Weather**
- **Less Cold Weather**

- **Probability of occurrence**
- **Cold**
- **Average**
- **Hot**

(GIPCC 2007, WG1-AR4)

(WWF)
Key Concepts

vulnerability

the potential to be harmed
Key Concepts

impacts

the manifestation of vulnerability
Understanding Impacts

RESULT OF CLIMATE CHANGE

increased severity of storms

HAZARD

severe storm

HAZARD

flood

IMPACT

loss of wildlife

IMPACT

disease outbreak

IMPACT

damage to human settlements
Key Concepts

adaptation

actions to reduce vulnerability to actual and expected changes in climate
Key Concepts

mitigation

actions to reduce the sources or increase the sinks of greenhouse gases
Adaptation or Mitigation?

carbon source

climate change

carbon sink

hazard

vulnerability

impact
Adaptation or Mitigation?

- **Climate change**
- **Vulnerability**
- **Carbon source**
- **Carbon sink**
- **Hazard**
- **Impact**

**Mitigation**
- Decrease sources
- Increase sinks

**Adaptation**
- Reduce vulnerability
<table>
<thead>
<tr>
<th>Action</th>
<th>Mitigation</th>
<th>Adaptation</th>
</tr>
</thead>
<tbody>
<tr>
<td>using efficient lights</td>
<td>reduces energy demand</td>
<td>no significant effect</td>
</tr>
<tr>
<td>restoring mangroves</td>
<td>increases carbon sink</td>
<td>helps protect coastal areas</td>
</tr>
<tr>
<td>purchasing flood insurance</td>
<td>no significant effect</td>
<td>provides income after flood</td>
</tr>
<tr>
<td>building hydropower dams</td>
<td>increases clean energy</td>
<td>hinders species relocation</td>
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<tr>
<td>buying organic foods</td>
<td>no significant effect</td>
<td>no significant effect</td>
</tr>
<tr>
<td>planting drought-resistant crops</td>
<td>no significant effect</td>
<td>better in drier climate</td>
</tr>
</tbody>
</table>

Adapted from John Matthews, WWF
Key Concepts

mitigation vs adaptation

It’s not either or.
It’s both.
What’s so different about adaptation?
Key Concepts

climate change is not a threat

climate change is a driver that changes the nature of threats
### Key Concepts

example of inappropriate ranking of climate change as a threat

<table>
<thead>
<tr>
<th>Threats Across Targets</th>
<th>Lowland Forest (&lt;1,000 m)</th>
<th>Montane Forest (&gt;1,000 m)</th>
<th>Limestone Habitats</th>
<th>River Habitats</th>
<th>Tiger</th>
<th>Endemic Primates</th>
<th>Terrapins &amp; Tortoises</th>
<th>Overall Threat Rank</th>
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<tr>
<td>Project-specific threats</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>Low</td>
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</tbody>
</table>

**Overall Threat Status**

Very High | High | High | High | High | High | High | High | Very High
Key Concepts

process vs project

Adaptation is a journey, not a destination.
Mainstreaming

incorporating measures to reduce vulnerability to climate change into other existing policies and activities so that adaptation becomes part of other sectoral programs (adapted from Asian Development Bank)
Key Concepts

REDD

(Reducing Emissions from Deforestation and Forest Degradation)

actions designed to use market and financial incentives to reduce greenhouse gas emissions from deforestation and forest degradation
Key Concepts

Disaster Risk Reduction

Disaster Risk Reduction aims to reduce socio-economic vulnerabilities to disaster as well as dealing with the environmental and other hazards that trigger them.
Key Concepts

**maladaptation**

an adaptation action that leads to increased vulnerability to climate
Which of the following are maladaptation?

- Sea level rise destroys mangroves and fish breeding grounds. An NGO funds new boats for fishermen so that they can increase fishing effort to feed their families.

- A community restores a degraded forest so that they will have a better supply of wild foods during drought.

- Increasing drought reduces the river flows, affecting water supplies. Wells are drilled to provide water to villages along the river.
Key Concepts

**community-based adaptation**

A community-led process based on communities’ priorities, needs, knowledge, and capacities, which should empower people to plan for and cope with the impacts of climate change.

_Hannah Reid, Mozaharul Alam, Rachel Berger, Terry Cannon, Saleemul Huq, and Angela Milligan, Community-based adaptation to climate change: an overview, 2010_
Key Concepts

ecosystem-based adaptation

Ecosystem-based adaptation is the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change.
Key Concepts

ecosystem-based adaptation

Ecosystem-based adaptation is the use of biodiversity and ecosystem services to adapt to the adverse effects of climate change.
Key Concepts

coping
Building Resilience

building resilience

Well Being

Drought

Time

World Resources Institution, Enabling Adaptation
Key Concepts

adaptation
Climate Variability vs. Climate Change

![Graph showing climate variability vs. climate change](image-url)
Key Concepts

development

World Resources Institution, Enabling Adaptation
What is conservation?

Assumed Stationary Climate

Ecological Balance
- repair damaged places

Unchanging Preservation
- preserve undamaged places

Dynamic Climate

Facilitating Change
- promoting and maintaining flexibility
Key Concepts

adaptation

Don’t worry.
Keep Happy.

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