

WILLIAM F. RUDDIMAN

EARTH'S CLIMATE

PAST and FUTURE

SECOND EDITION

CHAPTER 1

Overview of Climate Science



Part I Opener

Earth's Climate: Past and Future, Second Edition

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Part I Opener part 1

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Part I Opener part 2

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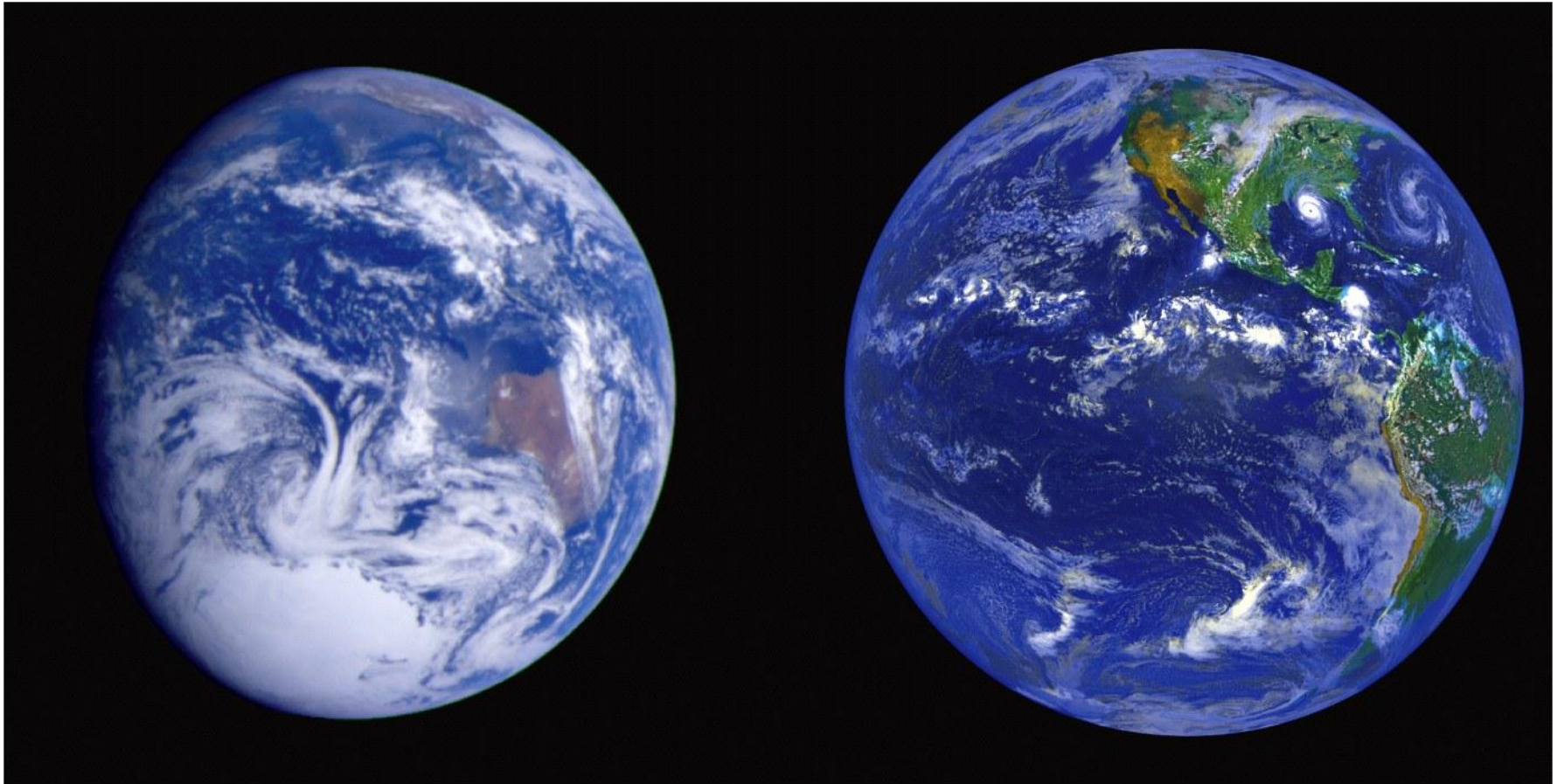
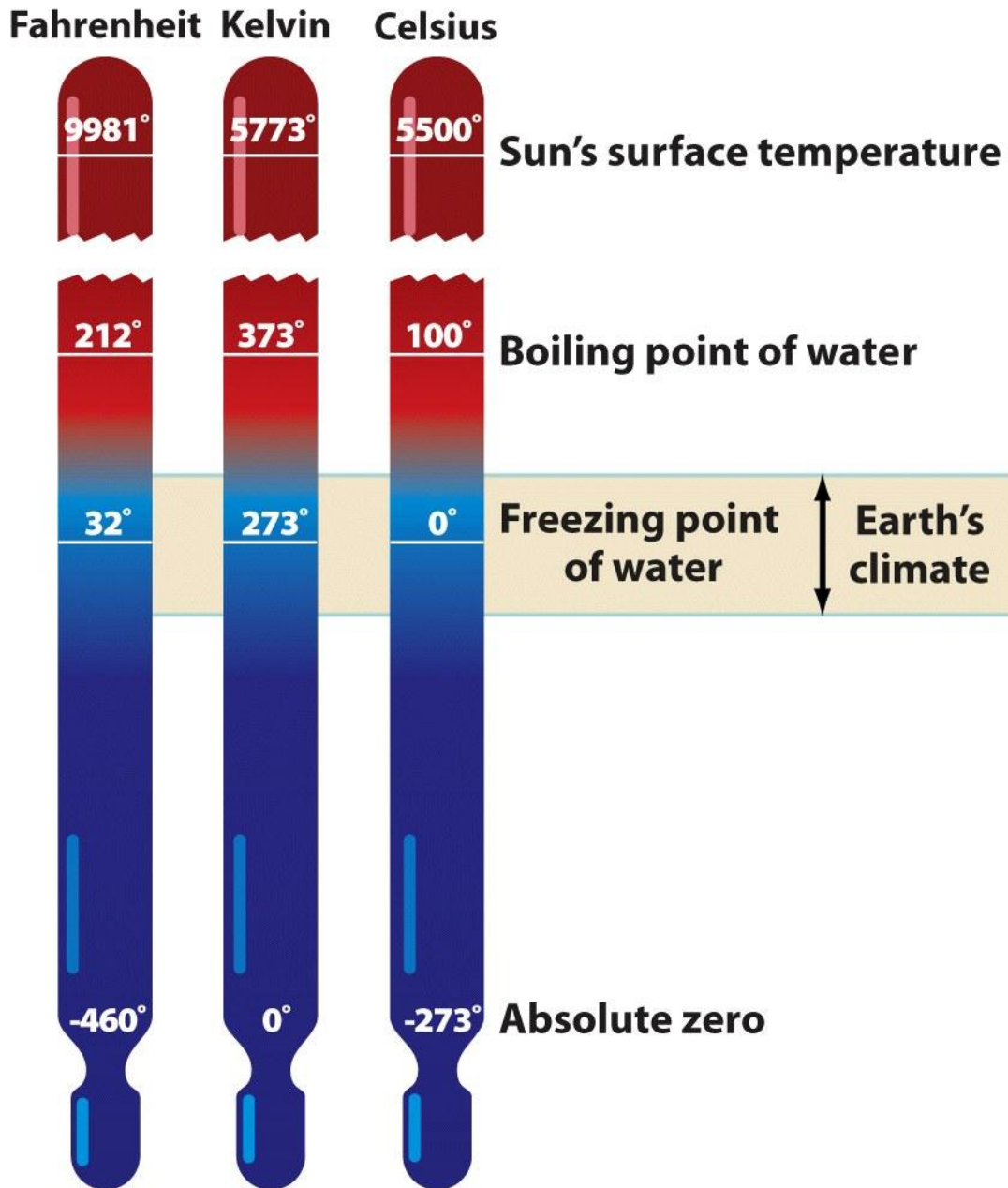


Figure 1-1
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Box 1-1
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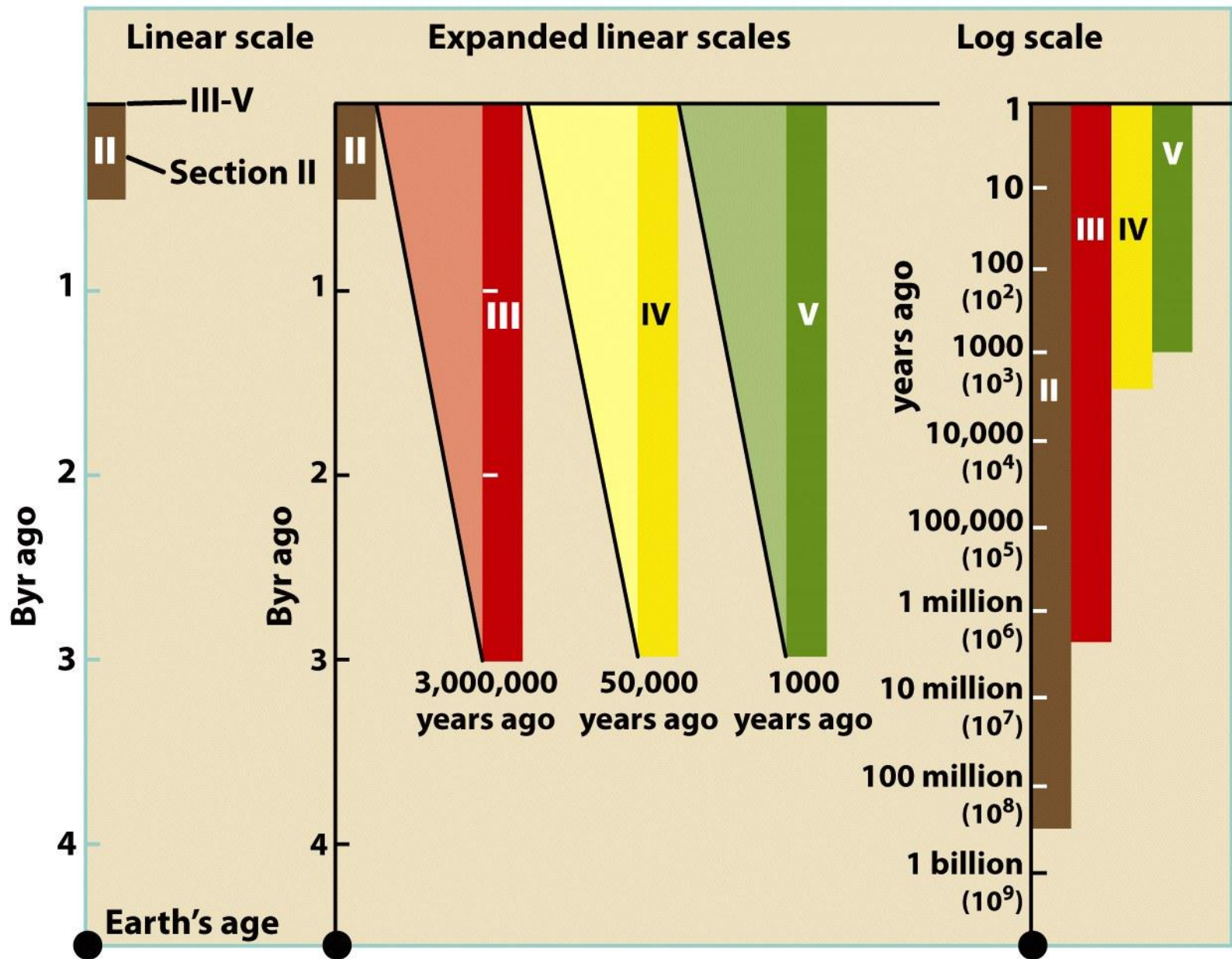


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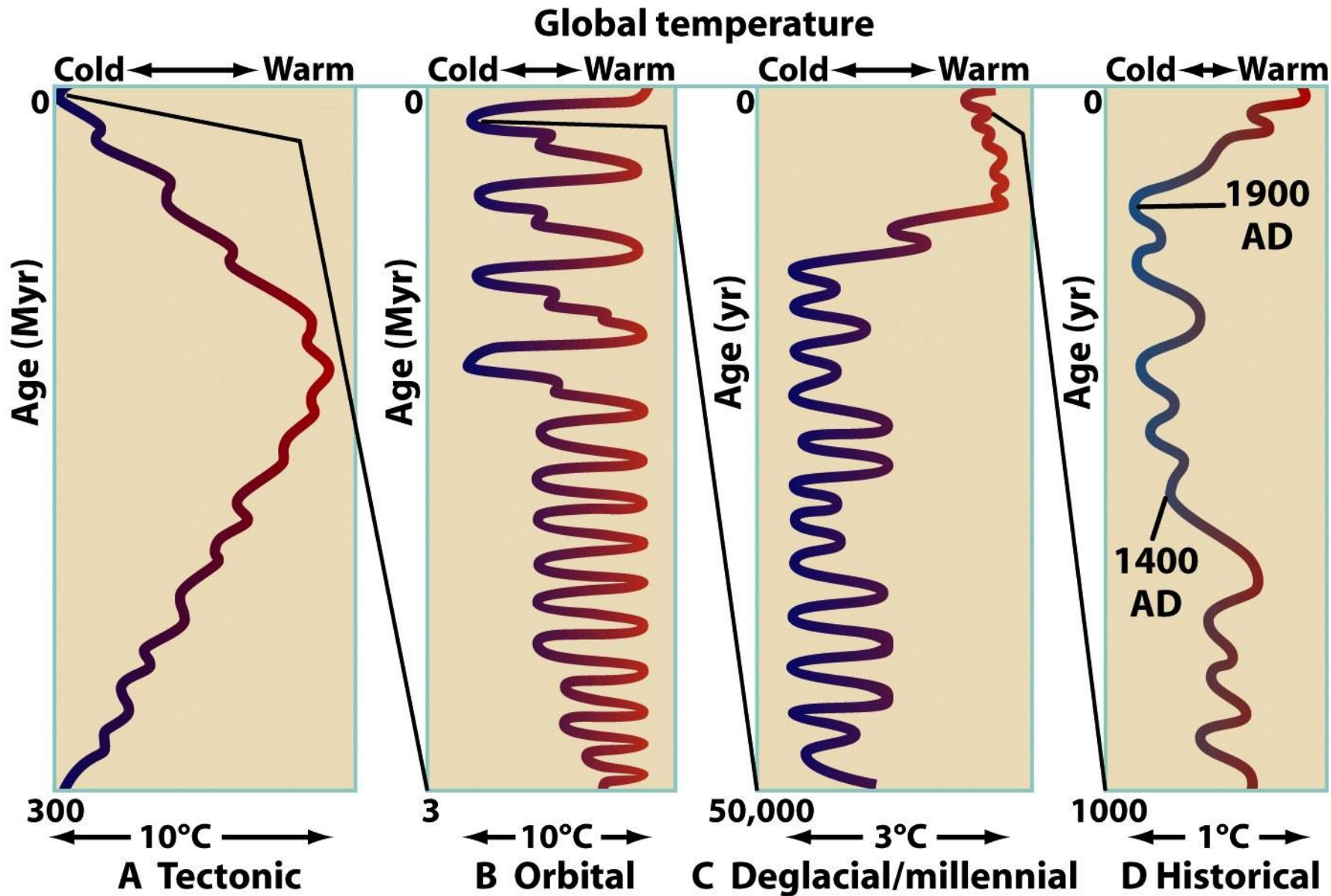


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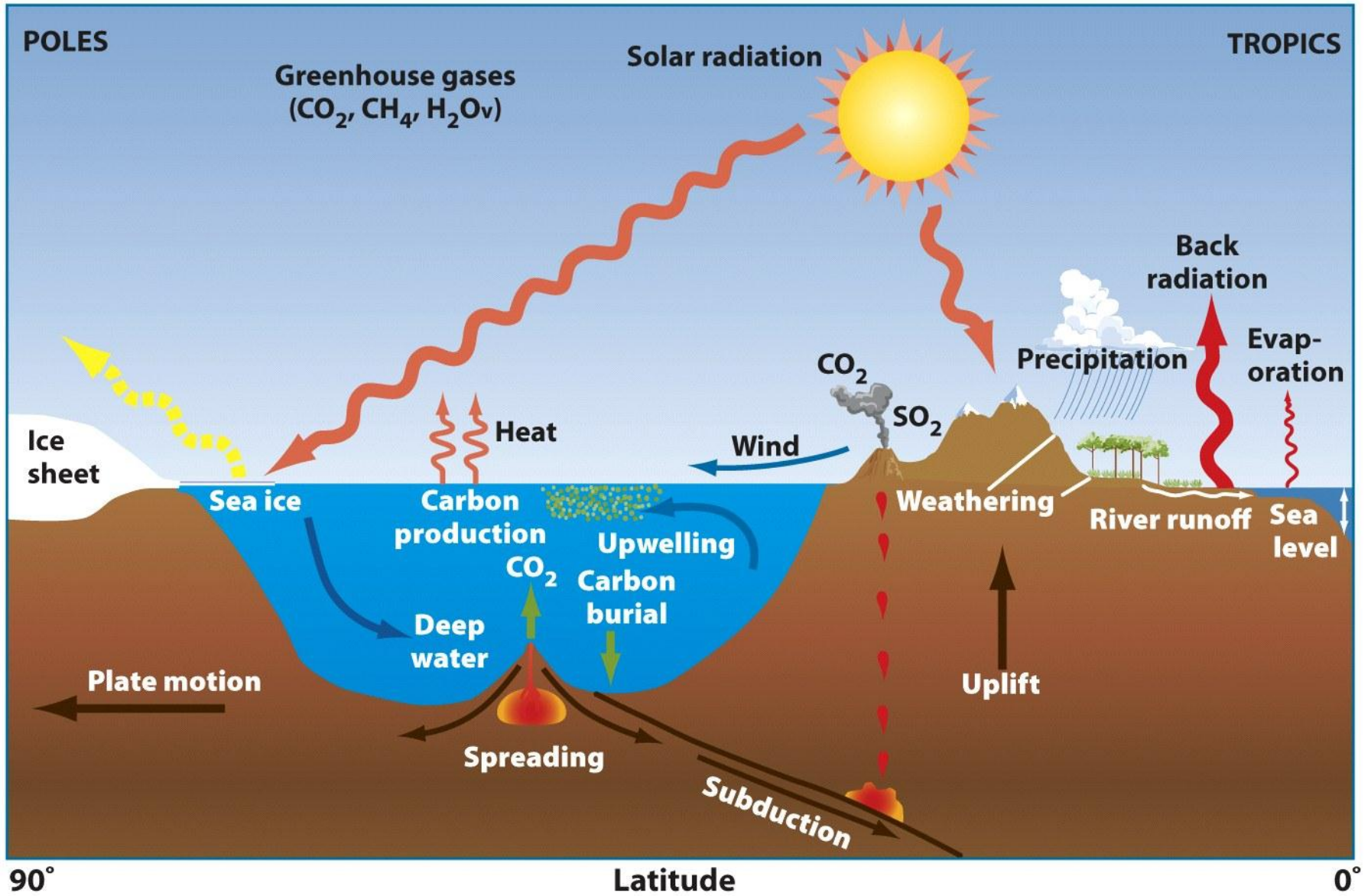


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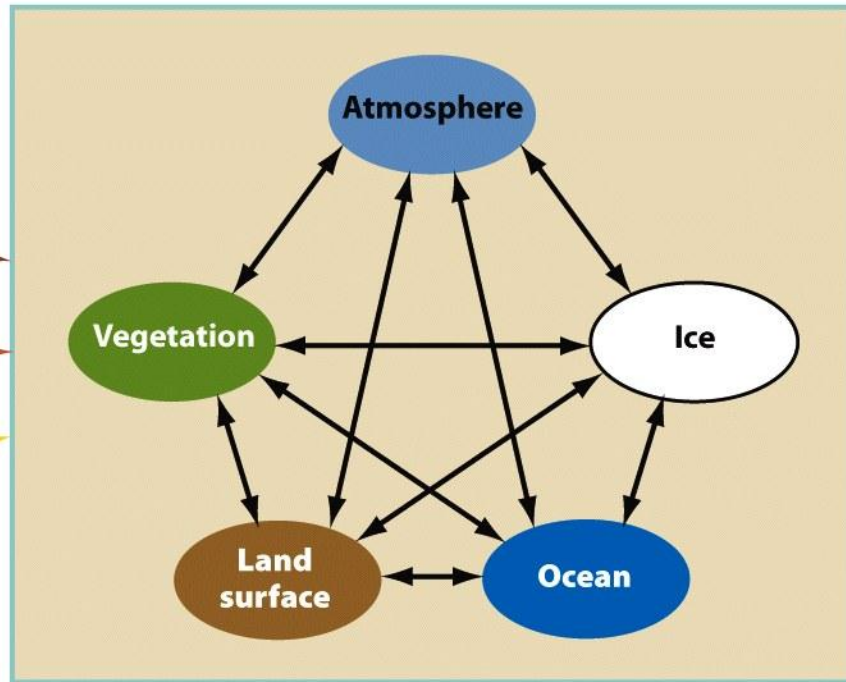
**CAUSES
(external forcing)**

**Changes in
plate tectonics**

**Changes in
Earth's orbit**

**Changes in
Sun's strength**

**CLIMATE SYSTEM
(internal interactions)**



**CLIMATE VARIATIONS
(internal responses)**

**Changes in
Atmosphere**

**Changes in
Ice**

**Changes in
vegetation**

**Changes in
Ocean**

**Changes in
land
surface**

Figure 1-5 part 2
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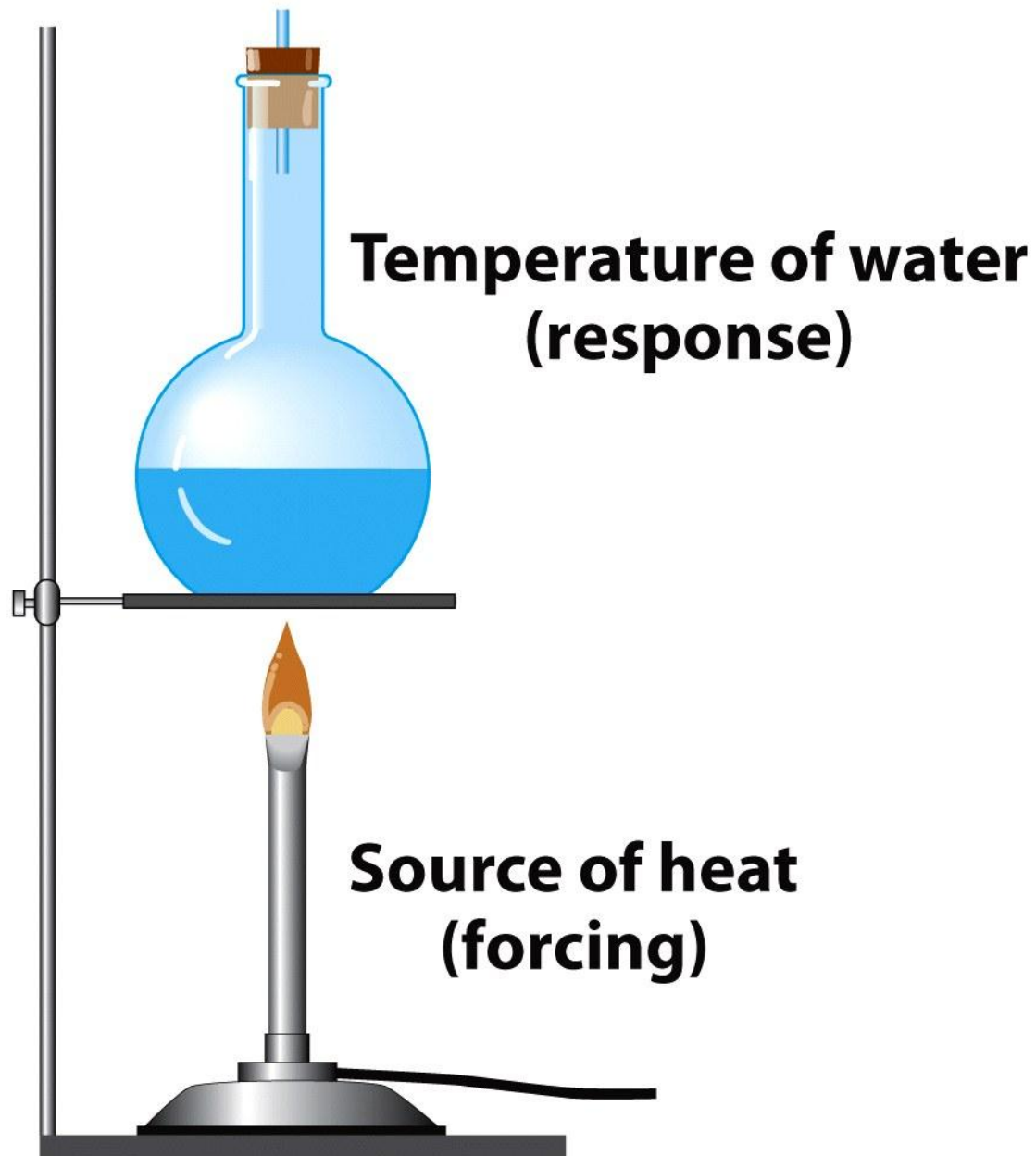


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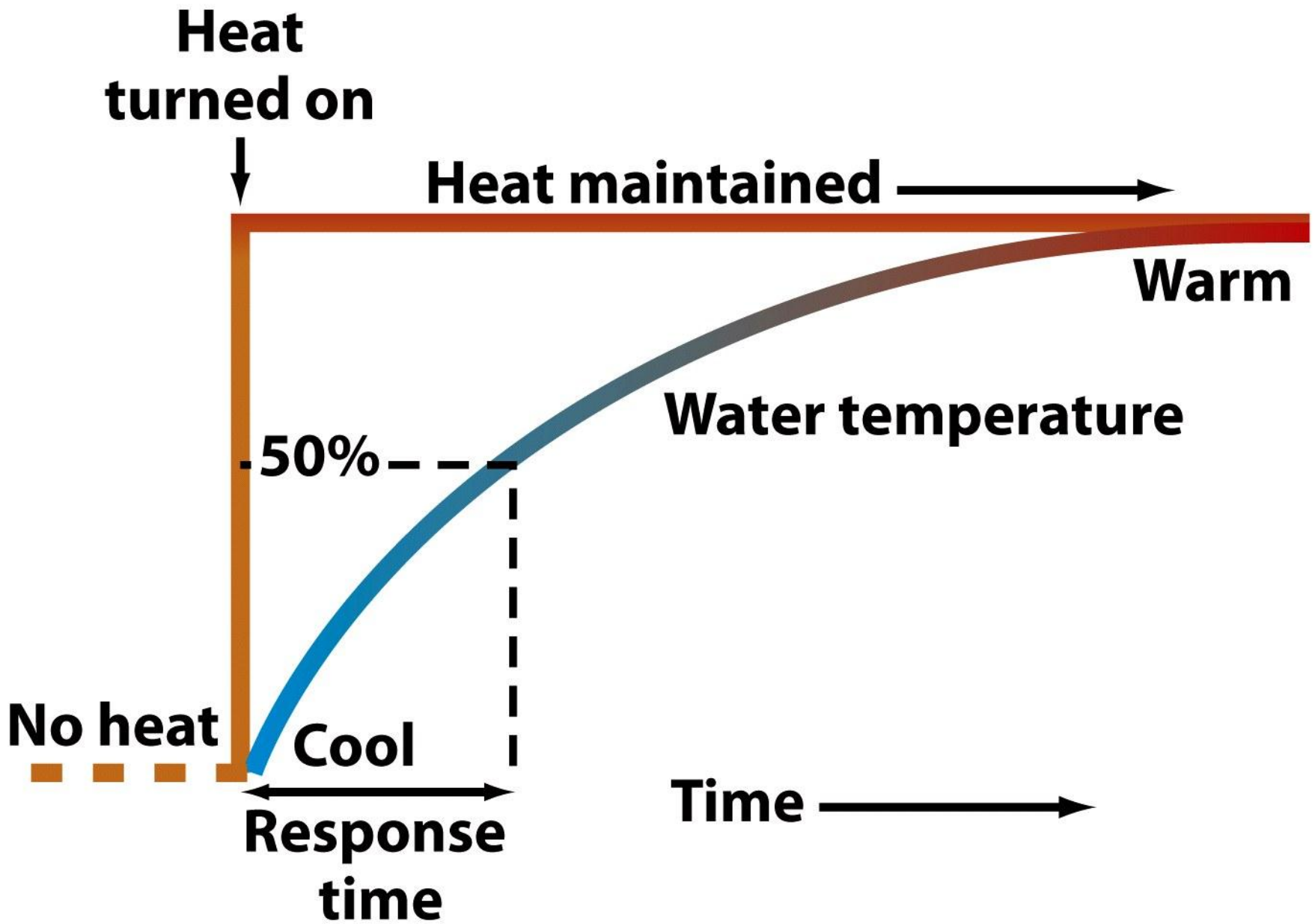


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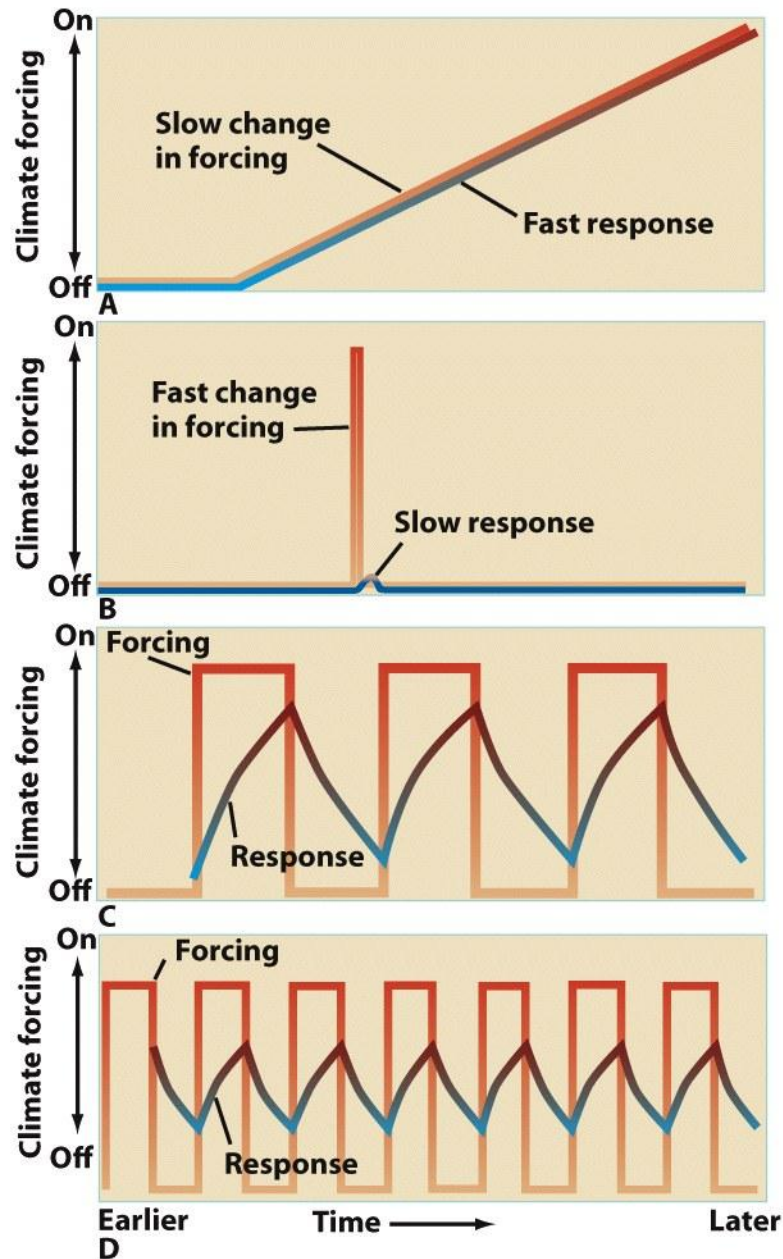
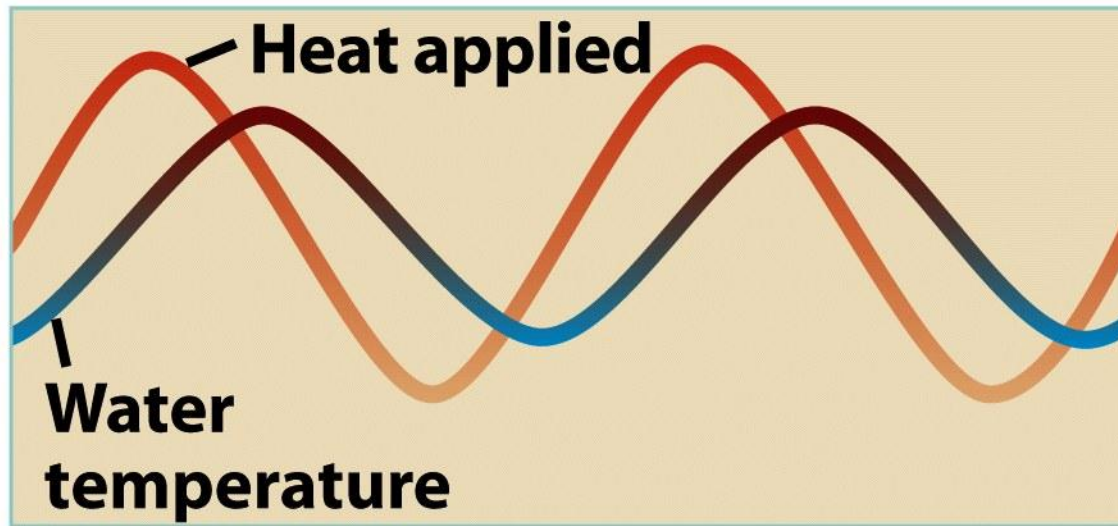
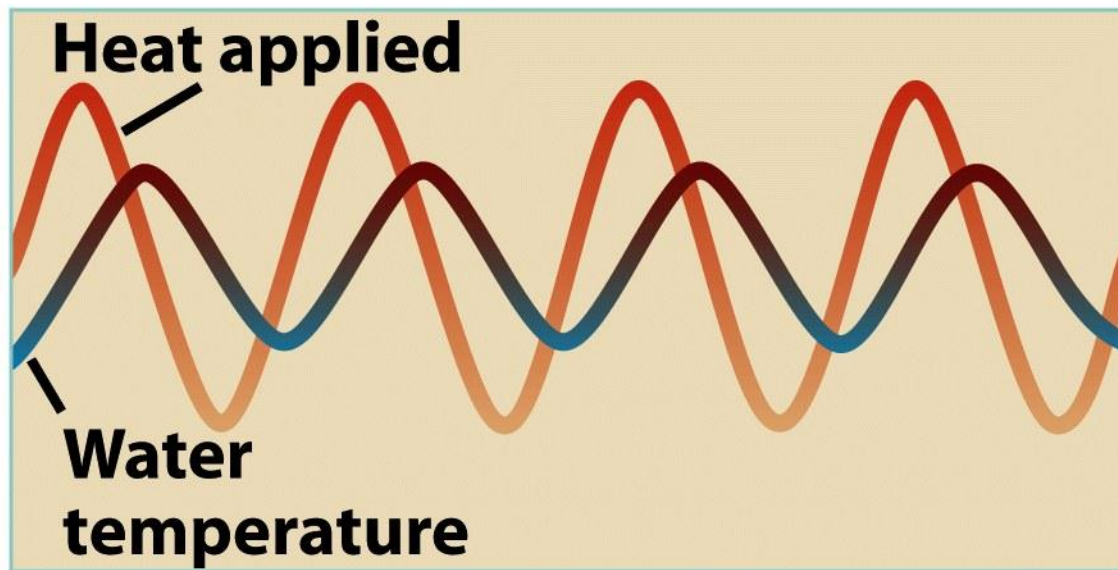


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A



B

Time →

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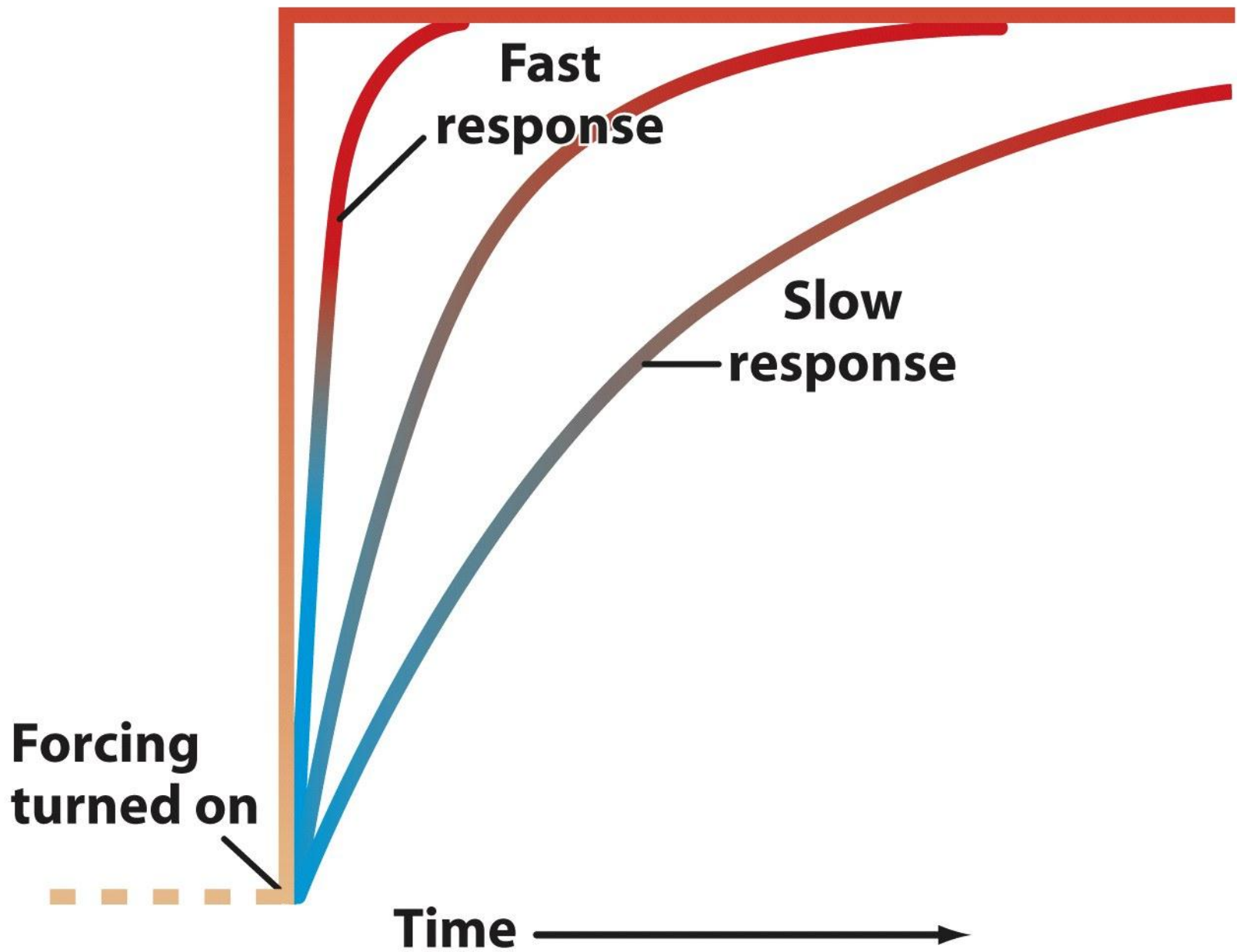


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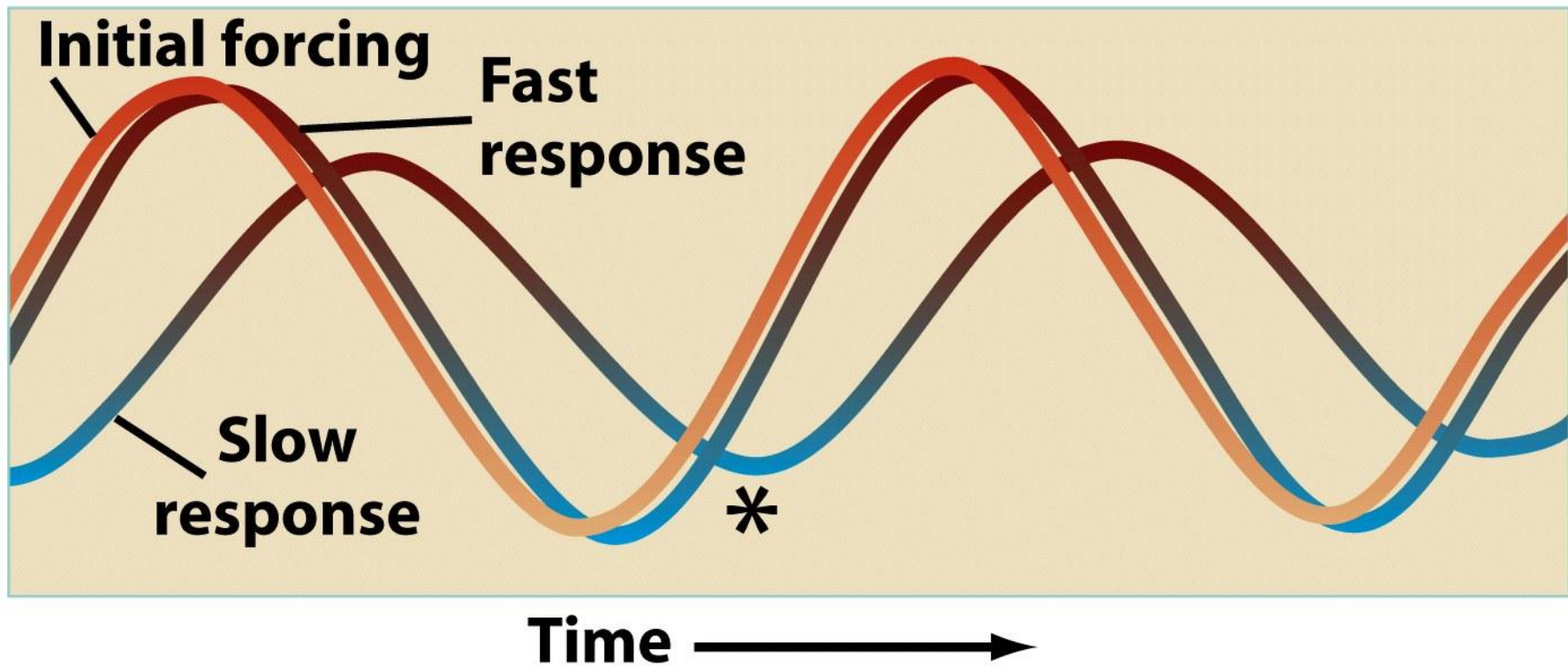
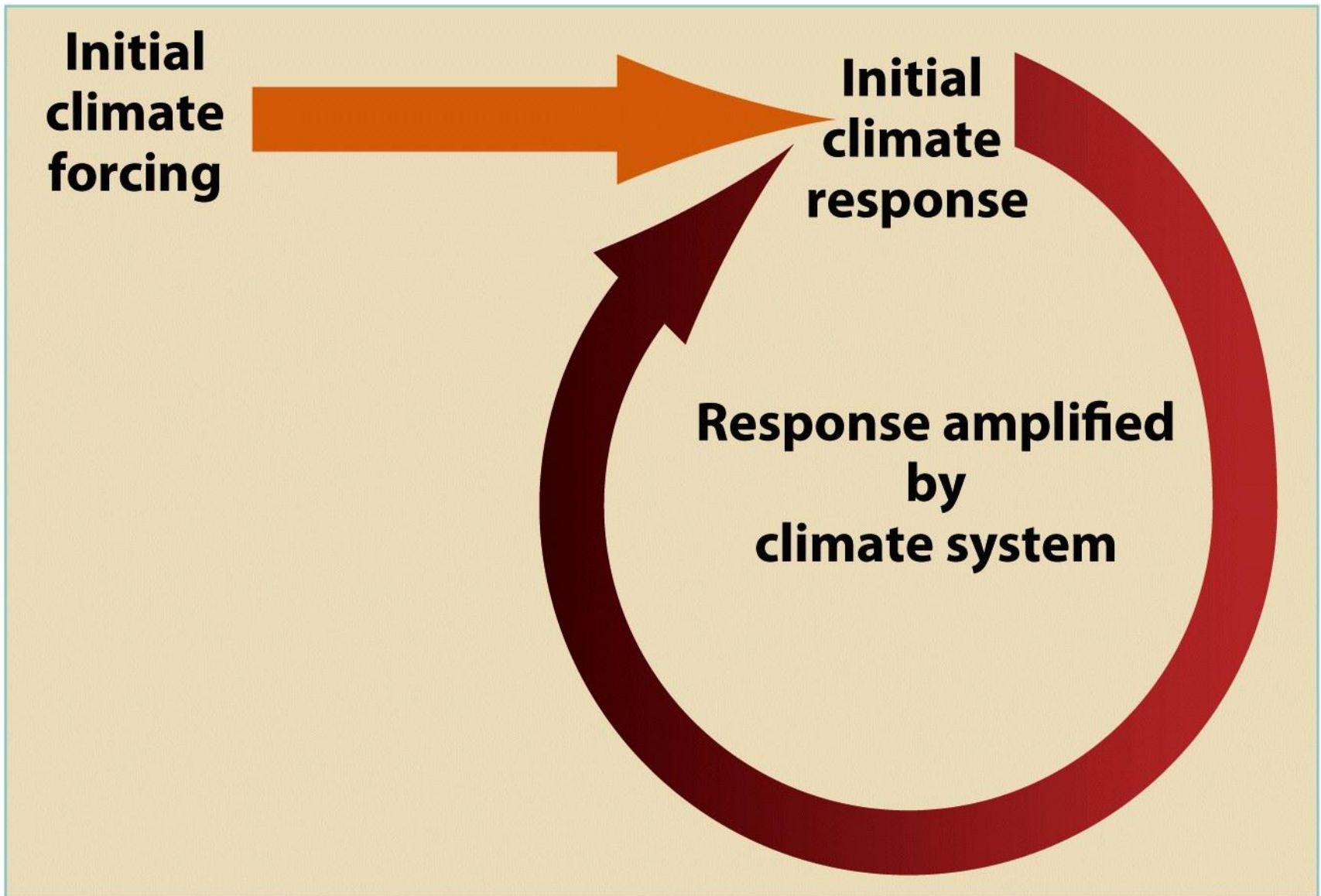


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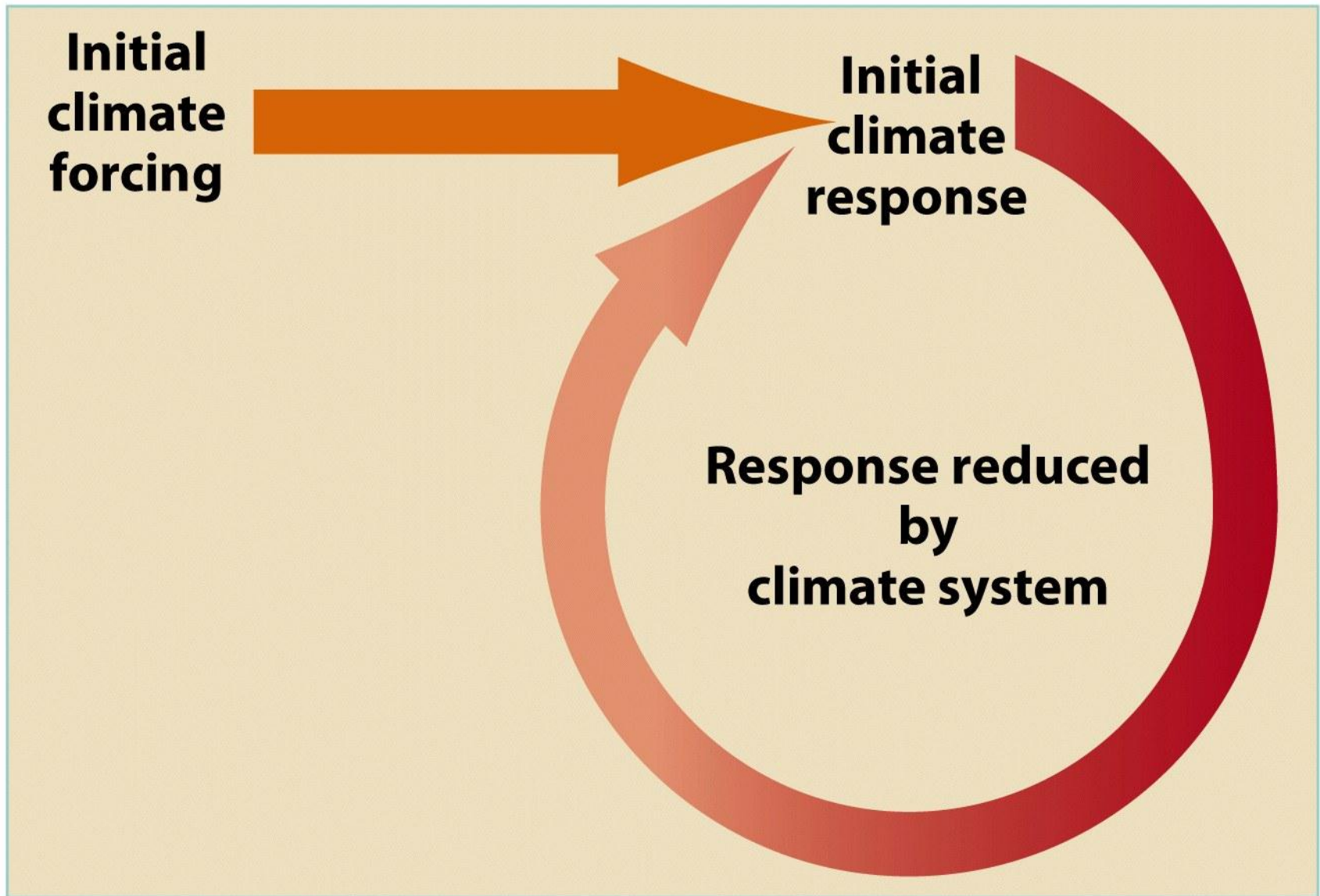


Positive feedback

Figure 1-11a

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Negative feedback

Figure 1-11b

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