

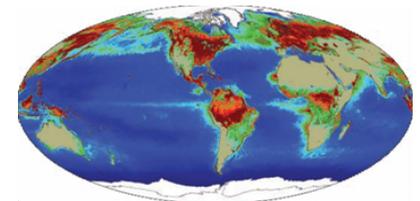
On the Need for RSPs: a Working Group II Perspective

Chris Field, Mike Mastrandrea, Katie Mach
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IPCC WGII
<http://www.ipcc-wg2.gov/>

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WGII

- 30 Chapters (20 in the AR4)
- CLA/LA/RE team of 302
- New themes
 - Integration of climate science & climate impacts
 - Broad range of assessed impacts
 - Climate change in the context of other stresses
 - Framing to support good decisions, including information on risk
 - Expanded treatment of adaptation
 - Integration of adaptation, mitigation, & development
 - Comprehensive treatment of regional aspects of climate change

Why RSPs?

- Context

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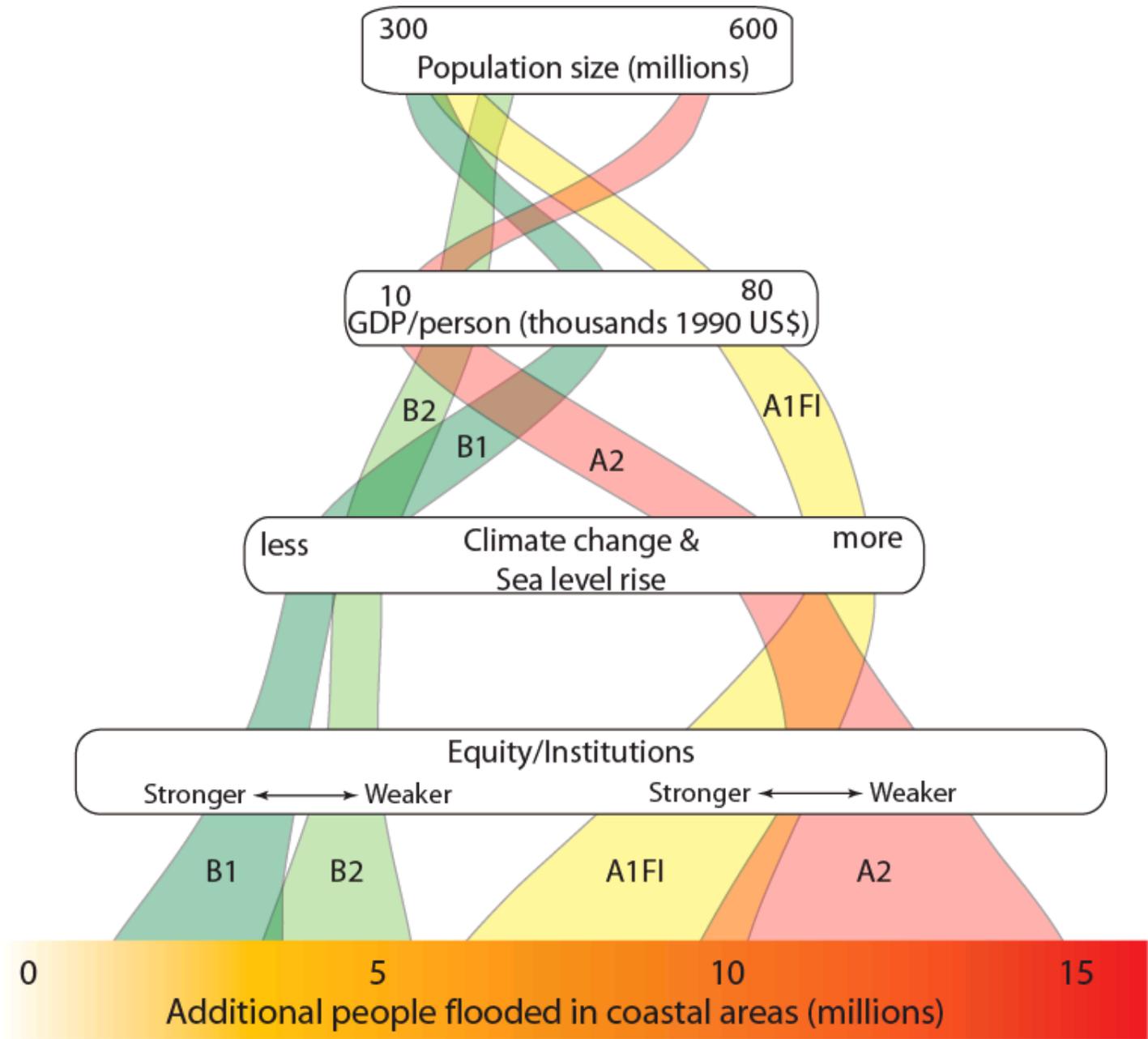
- Context

What aspects of context?

- Wealth
- Equity
- Technology
- Ecosystem services
- Human population size
- Governance
- Conflict
- Priorities

Scenarios in the AR4

- Set important aspects of the baseline of non-climate context
- Sometimes dominated overall impacts



New understanding in the AR5

- Wide range of RSPs consistent with each of the RCPs

A Way Forward

- Acknowledge that context (constraints, other stresses) of key importance for climate impacts, adaptation, and vulnerability
- Acknowledge that a wide range of RSPs consistent with each of the RCPs
- Work with a small set of RSPs that illustrate possible interactions and consequences

Hierarchy for Socioeconomic Pathways and Narratives

Level 1: RCPs

(global radiative forcing levels)

Level 2: Global or large-region socioeconomic pathways and narratives

(e.g., for each RCP, 2-3 narratives & pathways for key socioeconomic parameters)

Level 3: Pathways at finer geographical scale, for more variables

(consistent with Level 2)

Level 4: Sectoral and regional-to-local narratives and pathways

(developed from bottom-up, consistent with higher levels)

Hierarchy for Socioeconomic Pathways and Narratives

Level 1: RCPs

(global radiative forcing levels)

Some ideas

Level 2: Global or large-region socioeconomic pathways and narratives

(e.g., for each RCP, 2-3 narratives & pathways for key socioeconomic parameters)

global

Level 3: Pathways at finer geographical scale, for more variables

(consistent with Level 2)

Level 4: Sectoral and regional-to-local narratives and pathways

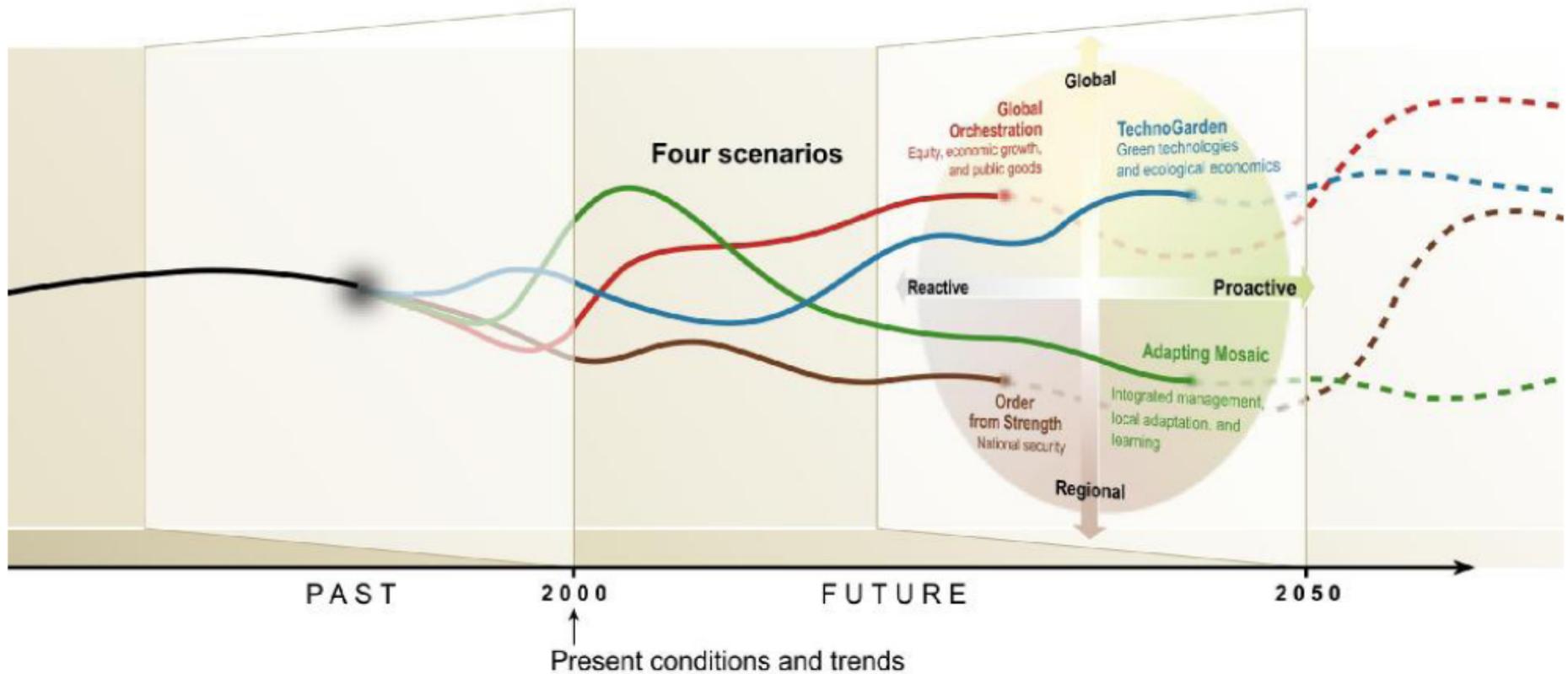
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Hierarchy for Socioeconomic Pathways and Narratives

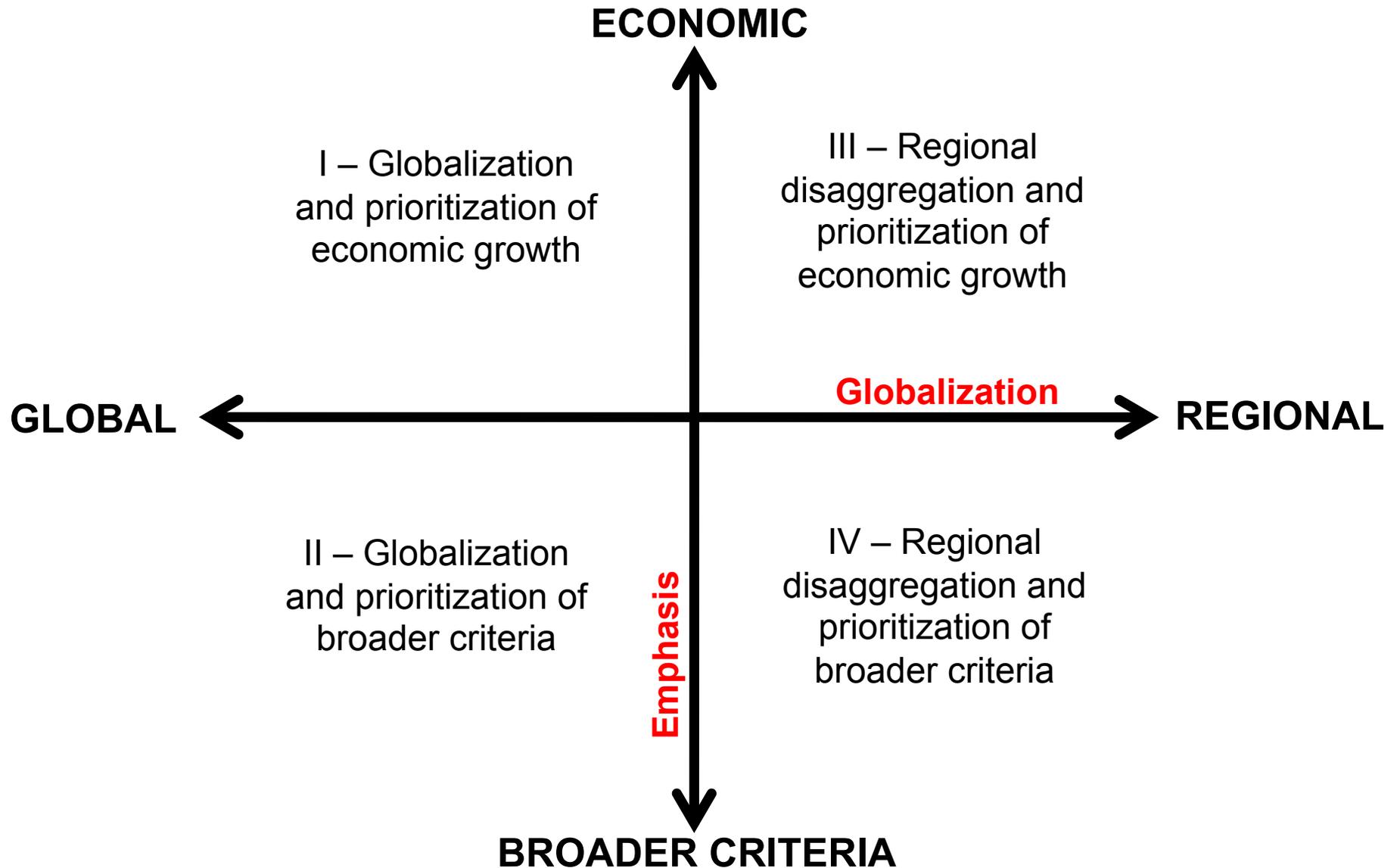
Level 2: Global or large-region socioeconomic pathways and narratives
(e.g., for each RCP, 2-3 narratives & pathways for key socioeconomic parameters)

- Key issues for agreement:
 - Number of pathways & narratives, & their association with the four RCPs
 - The minimum set of socioeconomic parameters needed

M.A. Scenarios: The Core Contrasts



Narrative Axes: Small Adjustment of SRES Scenarios



Major Components of Narratives

- Socioeconomic parameters: demographics, economic growth
- Nature of technology introduction
- Trends in governance and interactions
- Income distributions – convergence or divergence
- Approach to adaptation – reactive or proactive
- Nature of mitigation efforts
 - Extent and success of mitigation efforts determine corresponding RCP

- Additional components?
 - Incorporation of failures
 - Second-best worlds
 - Land use

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For example, Narrative I:

The first narrative describes a future world of very rapid economic growth, low population growth, and the rapid introduction of technologies more efficient in energy, material, and possibly carbon use. Major underlying themes are convergence and cooperation among regions, a substantial reduction in differences in per capita income, and increased cultural and social interactions. The approach to adaptation is reactive, with investments in adaptive capacity in response to realized climate impacts. If present, mitigation efforts are globally coordinated, and the carbon intensity of human activities is dependent on the direction of technological change.

Comparison of Narratives: First Sentence

Narrative I:

The first narrative describes a future world of **very rapid** economic growth, **low** population growth, and **rapid** introduction of technologies more efficient in energy, material, and possibly carbon use.

Narrative II:

The second narrative describes a future world of **rapid** economic growth, **low** population growth, and **rapid** introduction of technologies, with a focus on reductions in energy, material, and carbon intensity.

Narrative III:

The third narrative describes a future world of **slow** economic growth, **high** population growth, and **slow** introduction of technologies, with limited and heterogeneous focus on reductions in energy, material, and carbon intensity.

Narrative IV:

The fourth narrative describes a future world of **moderate** economic and population growth, and **heterogeneous** introduction of technologies focused on reductions in energy, material, and carbon intensity.

Moving Forward

- Are these the axes?
- Do we need more than 1 “Broader criteria” axis?
- How well does this scheme capture second best options, policy failures, conflicts, and bad governance?
- How many specific examples?
- Connecting with regional approaches?

Comparison of Narratives: Second Sentence

Narrative I:

Major underlying themes are **convergence and cooperation** among regions, **a substantial reduction** in differences in per capita income, and **increased** cultural and social interactions.

Narrative II:

Major underlying themes are **convergence and cooperation** among regions; **global solutions** to economic, social, and environmental sustainability; **a substantial reduction** in differences in per capita income; and **increased** cultural and social interactions.

Narrative III:

Major underlying themes are **regionally focused** governance and development, **increasing** differences in per capita income, and an emphasis on **self-reliance and preservation** of local identities.

Narrative IV:

Major underlying themes are **regionally focused** governance and development; **regional solutions** to economic, social, and environmental sustainability; **a reduction** in differences in per capita income; and an emphasis on **self-reliance and preservation** of local identities.

Comparison of Narratives: Third Sentence

Narrative I:

The approach to adaptation is **reactive**, with investments in adaptive capacity in response to realized climate impacts.

Narrative II:

The approach to adaptation is **proactive**, with globally supported investments in adaptive capacity in anticipation of projected climate impacts.

Narrative III:

The approach to adaptation is **fragmented and reactive**, with investments in adaptive capacity in response to realized climate impacts.

Narrative IV:

The approach to adaptation is **proactive to the extent that regional resources allow**, with investments in adaptive capacity in anticipation of projected climate impacts.

Comparison of Narratives: Final Sentence(s)

Narrative I:

If **present**, mitigation efforts are **globally coordinated**, and the carbon intensity of human activities is dependent on the **direction** of technological change.

Narrative II:

Mitigation efforts are **present** and **globally coordinated**, and the carbon intensity of human activities is dependent on the **extent and success** of these actions.

Narrative III:

Any mitigation efforts are **limited in scope** and **not coordinated** across regions. The carbon intensity of human activities is dependent on the **extent and success** of such actions, which are less effective than in the second scenario.

Narrative IV:

Mitigation efforts are **present** but **not coordinated** across regions. The carbon intensity of human activities is dependent on the **resources available** regionally and on the **extent and success** of these actions.

Components To Define Quantitatively with Pathways

- Socioeconomic parameters: demographics, economic growth
- Nature of technology introduction
- Trends in governance and interactions
- Income distributions – convergence or divergence
- Approach to adaptation – reactive or proactive
- Nature of mitigation efforts
 - Extent and success of mitigation efforts determine corresponding RCP

- Additional components:
 - Land use

- Considerations:
 - More components for short-term pathways than for long-term pathways
 - Correlations between variables
 - Likelihood of reaching Millennium Development Goals?

Narrative Text

I (analogous to A1):

The first narrative describes a future world of very rapid economic growth, low population growth, and the rapid introduction of technologies more efficient in energy, material, and possibly carbon use. Major underlying themes are convergence and cooperation among regions, a substantial reduction in differences in per capita income, and increased cultural and social interactions. The approach to adaptation is reactive, with investments in adaptive capacity in response to realized climate impacts. If present, mitigation efforts are globally coordinated, and the carbon intensity of human activities is dependent on the direction of technological change.

II (B1):

The second narrative describes a future world of rapid economic growth, low population growth, and the rapid introduction of technologies, with a focus on reductions in energy, material, and carbon intensity. Major underlying themes are convergence and cooperation among regions; global solutions to economic, social, and environmental sustainability; a substantial reduction in differences in per capita income; and increased cultural and social interactions. The approach to adaptation is proactive, with globally supported investments in adaptive capacity in anticipation of projected climate impacts. Mitigation efforts are present and globally coordinated, and the carbon intensity of human activities is dependent on the extent and success of these actions.

III (A2):

The third narrative describes a future world of slow economic growth, high population growth, and slow introduction of technologies, with limited and heterogeneous focus on reductions in energy, material, and carbon intensity. Major underlying themes are regionally focused governance and development, increasing differences in per capita income, and an emphasis on self-reliance and preservation of local identities. The approach to adaptation is fragmented and reactive, with investments in adaptive capacity in response to realized climate impacts. Any mitigation efforts are limited in scope and not coordinated across regions. The carbon intensity of human activities is dependent on the extent and success of such actions, which are less effective than in the second scenario.

IV (B2):

The fourth narrative describes a future world of moderate economic and population growth, and heterogeneous introduction of technologies focused on reductions in energy, material, and carbon intensity. Major underlying themes are regionally focused governance and development; regional solutions to economic, social, and environmental sustainability; a reduction in differences in per capita income; and an emphasis on self-reliance and preservation of local identities. The approach to adaptation is proactive to the extent that regional resources allow, with investments in adaptive capacity in anticipation of projected climate impacts. Mitigation efforts are present but not coordinated across regions. The carbon intensity of human activities is dependent on the resources available regionally and on the extent and success of these actions.