

Climate Change and Food Security

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Declaration on World Food Security: The Challenges of Climate Change and Bioenergy

To alleviate the food crisis
and ensure long-term
improvement in agricultural
production



25 September 2008 UN High Level Meeting on World
Food Crisis

Declaration on World Food Security: The Challenges of Climate Change and Bioenergy

Article 4. Calls upon “all donors and the United Nations System to increase their assistance for developing countries, in particular least developed countries and those that are most negatively affected by high food prices.”

Article 5. “The first line of action is to respond urgently to requests for assistance from affected countries.”

Article 6. “The second line of action is immediate support for agricultural production and trade.”

Article 7. “The current crisis has highlighted the fragility of the world’s food systems and their vulnerability to shocks.

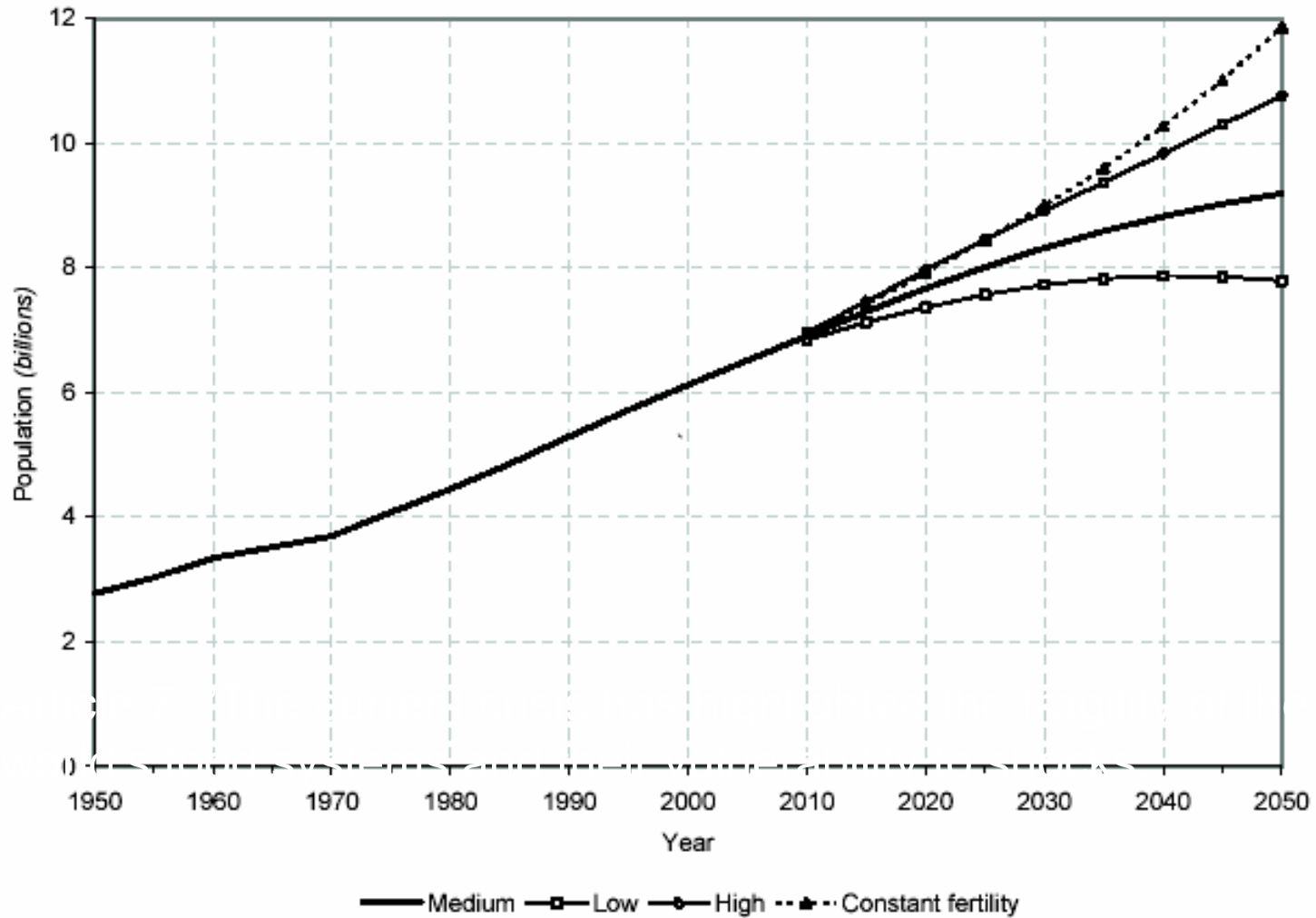
Demand Side

Supply Side

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Demand Side

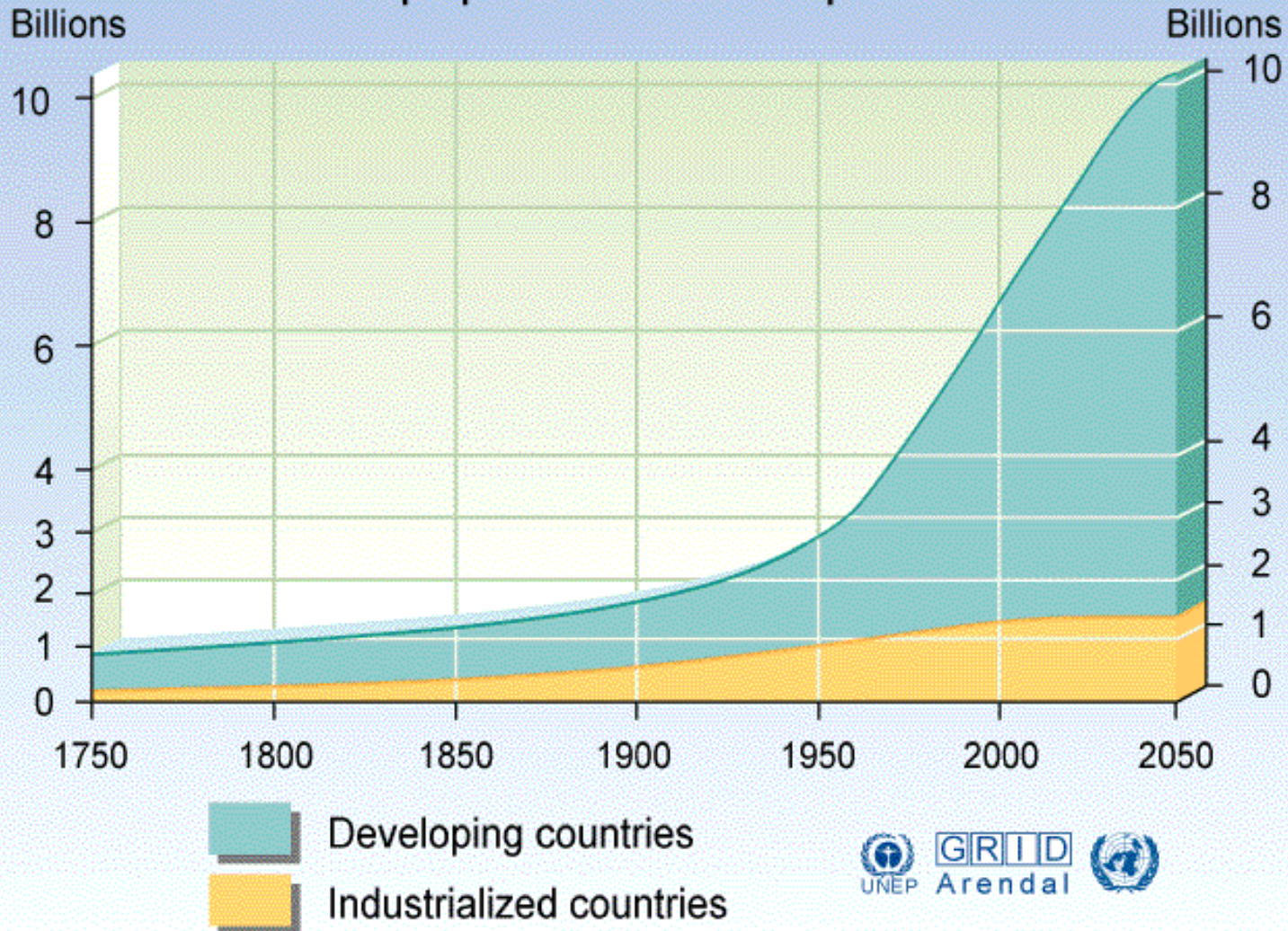
Supply Side



Demand Side

Supply Side

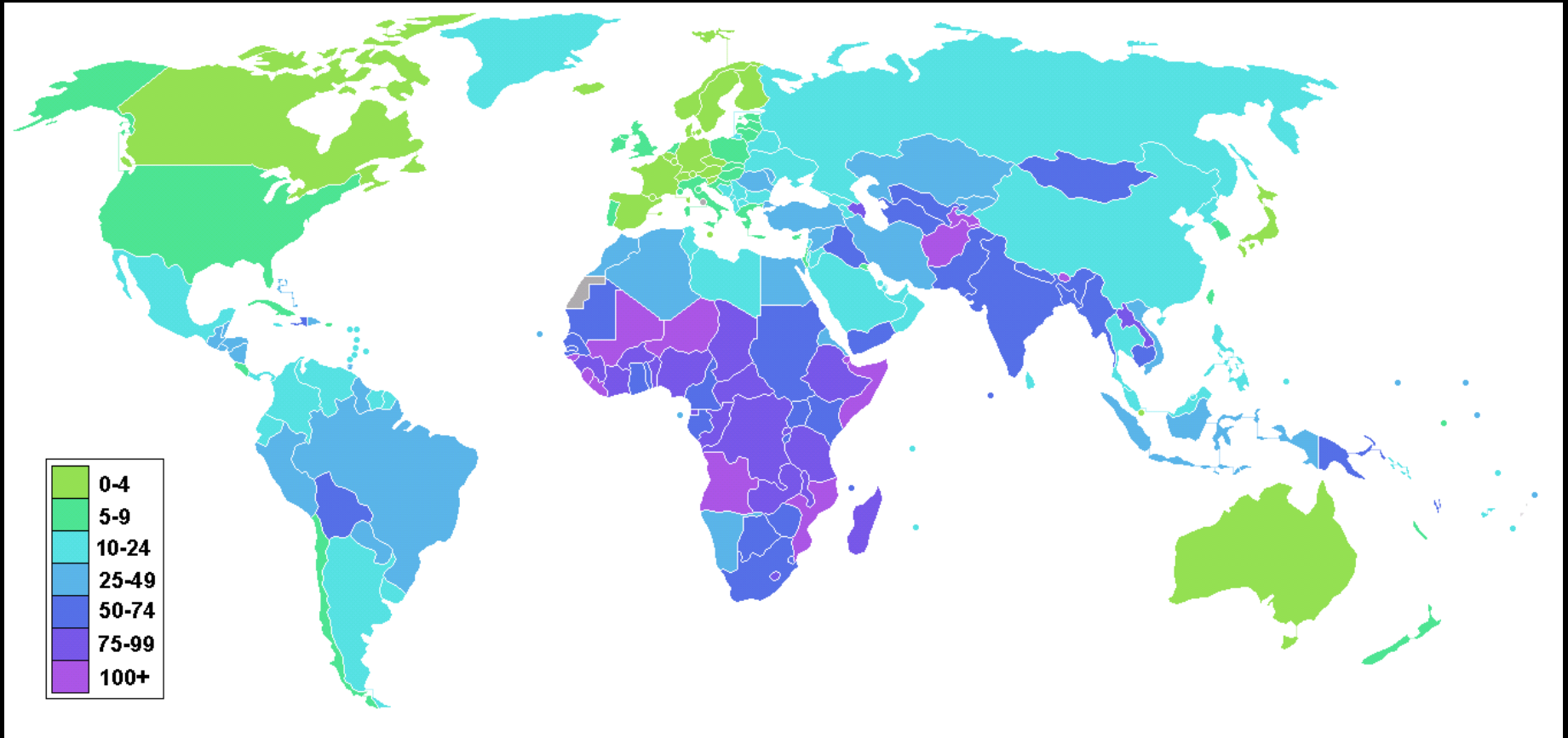
World population development



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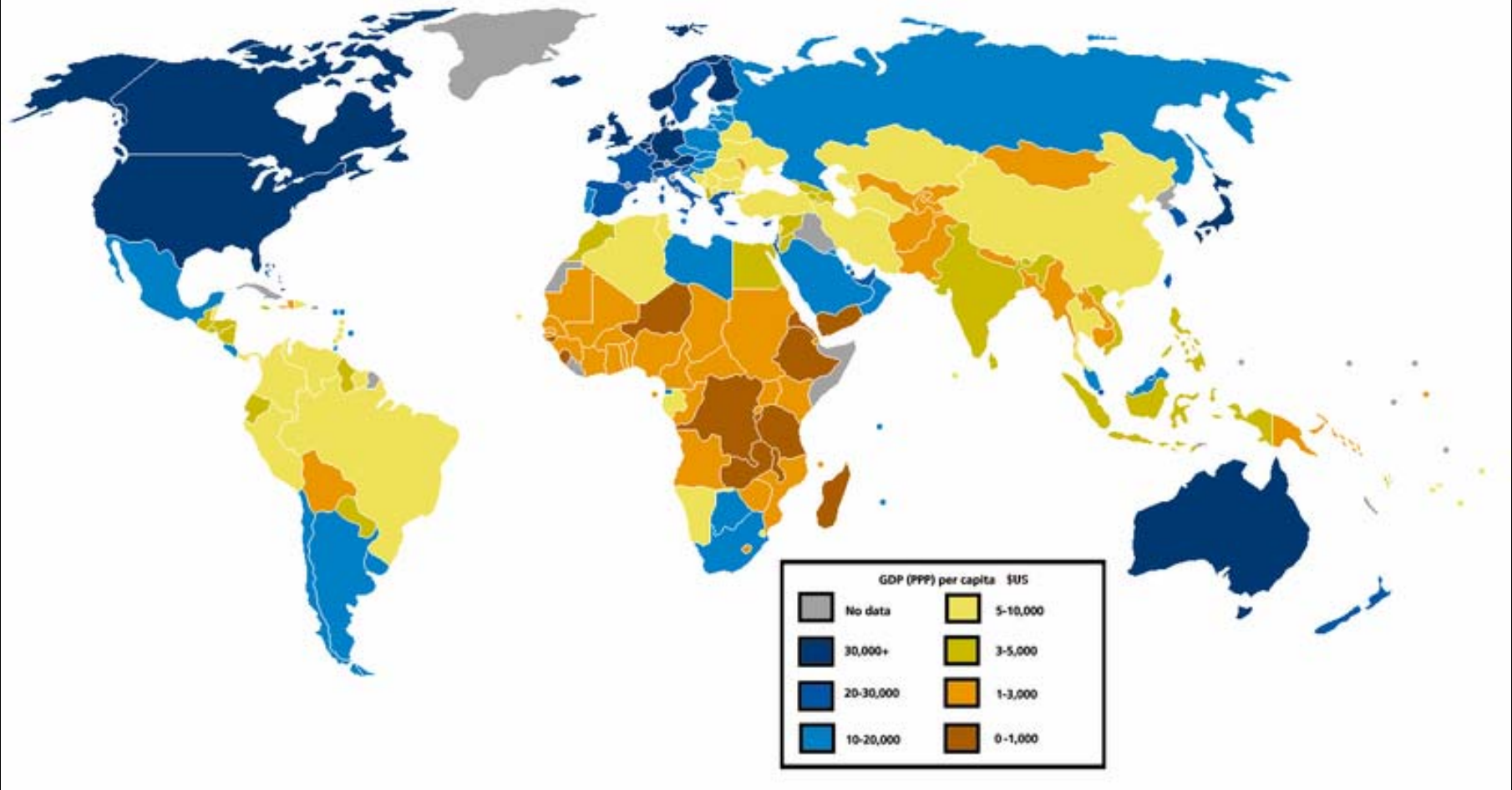
World Infant Mortality



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Supply Side

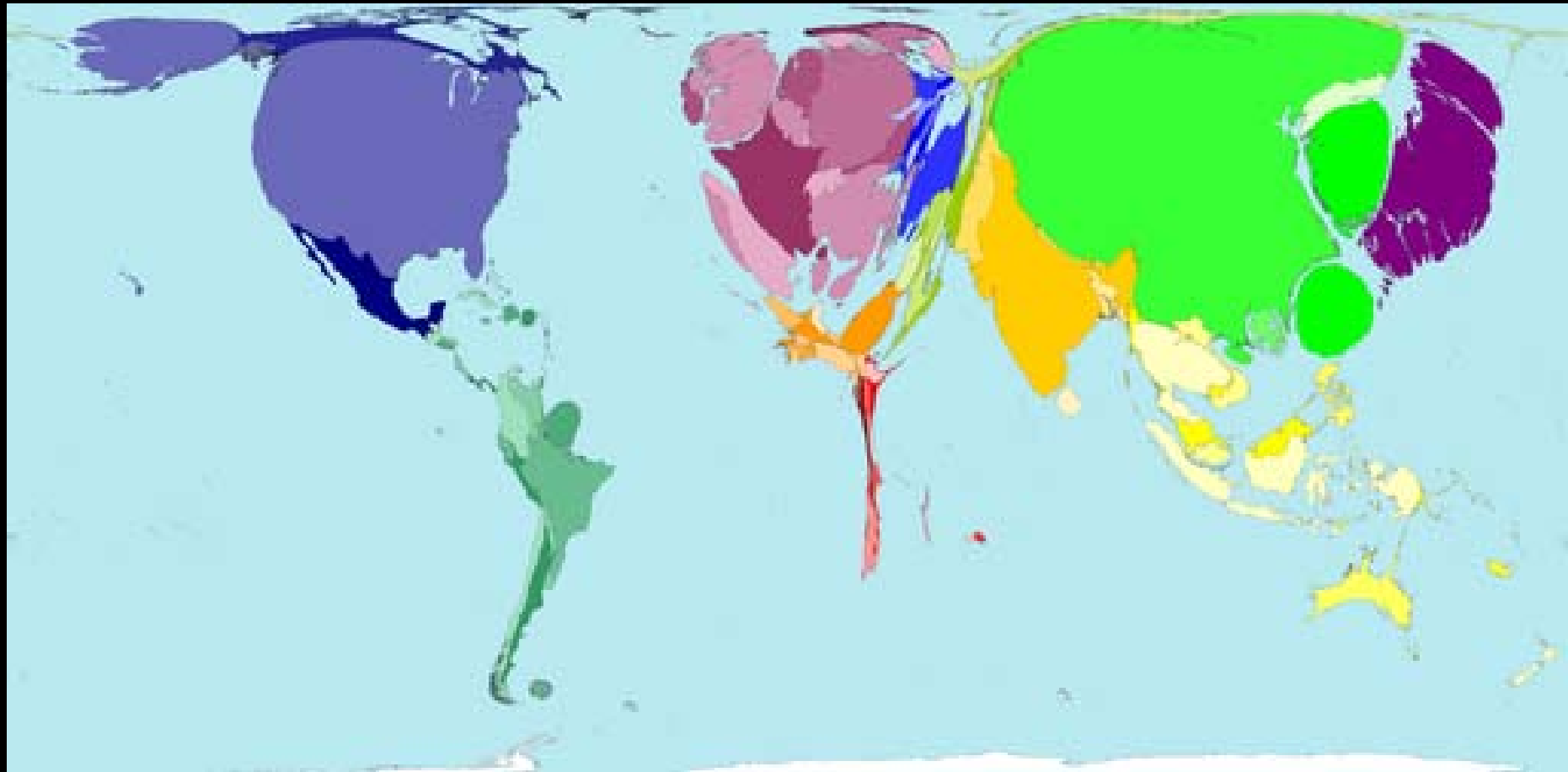
World GDP Per Capita



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Supply Side

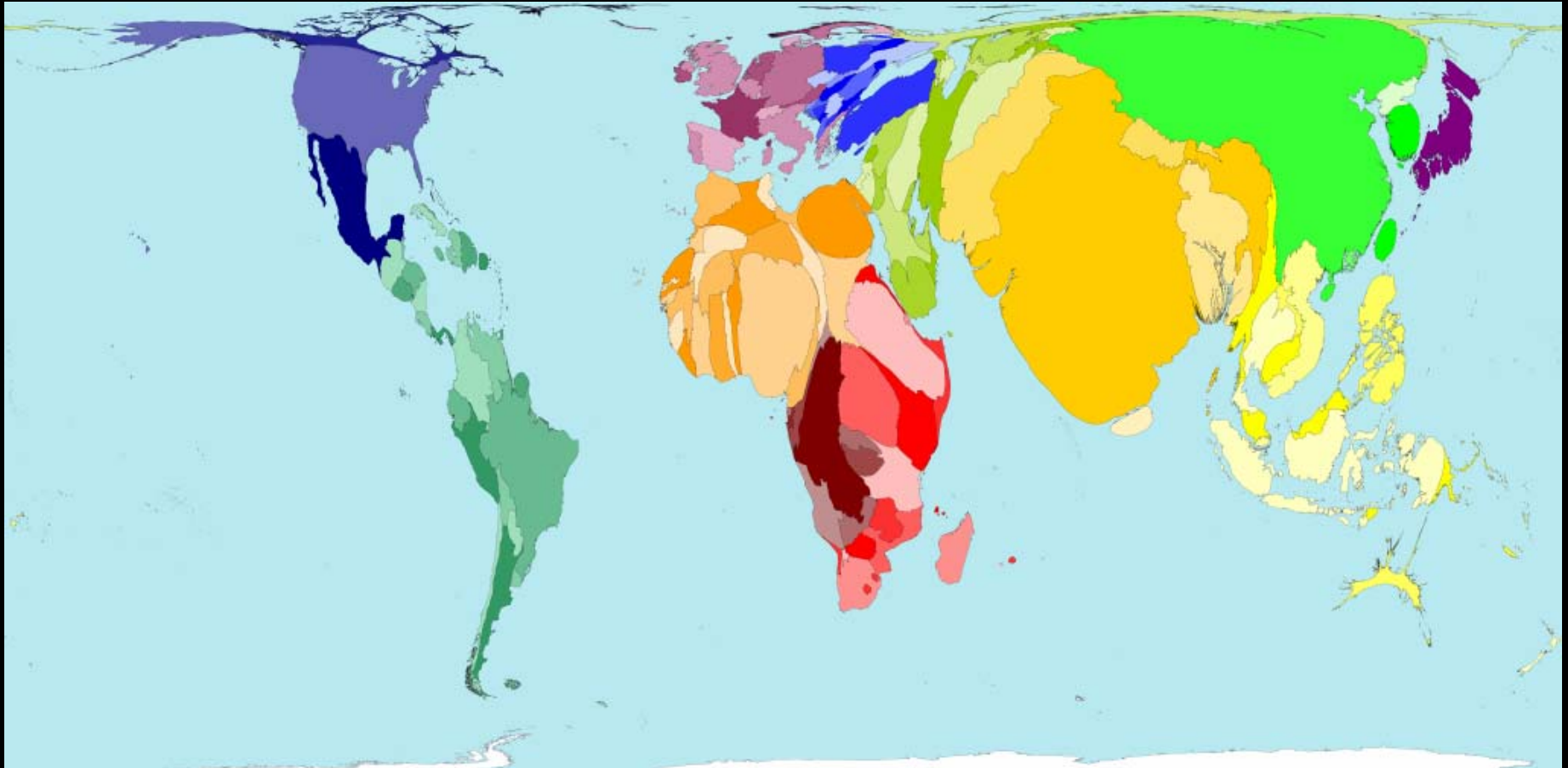
World GDP at 2015



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Supply Side

Proportional Distribution of World Population at 2050



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Supply Side

Demand Side

Supply Side

Demand Side

Supply Side

Supply Side Influences

1. Non-climate ecosystem services relating to food production
2. Climate change impacts
3. Escalating food prices
4. Competition from biofuels, and
5. Inadequate food distribution

Supply Side Influences

1. Non-climate ecosystem services relating to food production

Millennium Ecosystem Assessment

Water

From 5% to possible 25% of global freshwater use exceeds long-term accessible [supply]. Between 15% and 35% of irrigation withdrawals exceed supply rates

Supply Side Influences

1. Non-climate ecosystem services relating to food production

Millennium Ecosystem Assessment

Fisheries

In every ocean in the world, one or more important targeted stocks have been classified as collapsed, overfished, or fished to their maximum sustainable levels, and at least one quarter of important commercial fish stocks are over harvested (high certainty).

Demand Side

Supply Side

Supply Side Influences

1. Non-climate ecosystem services relating to food production
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Supply Side Influences

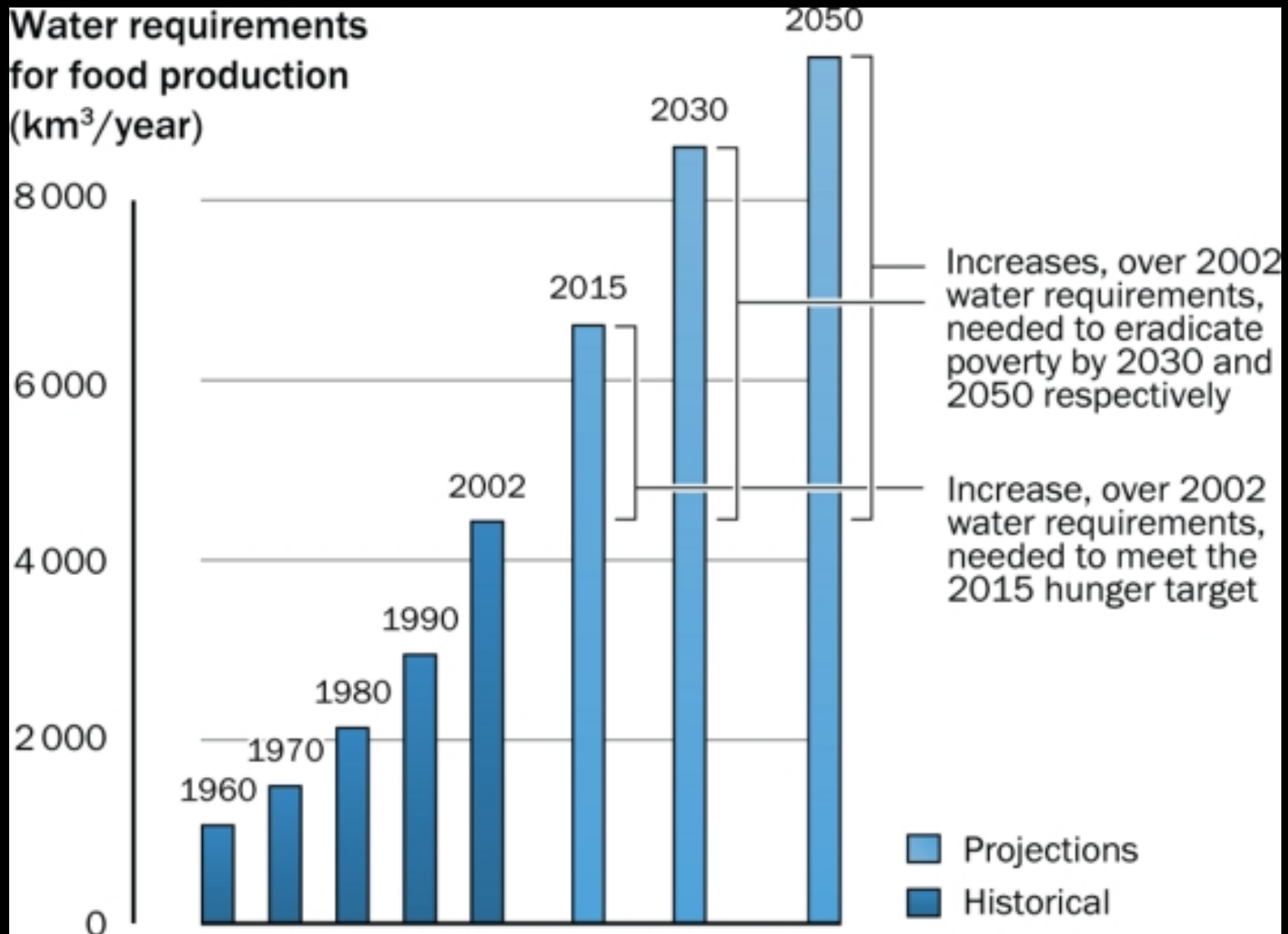
2. Climate change impacts

Key Challenges

1. Fresh water availability
2. Crop Productivity
3. Impacts on coastal food supply regions
4. Ocean food resources

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Supply Side



Demand Side

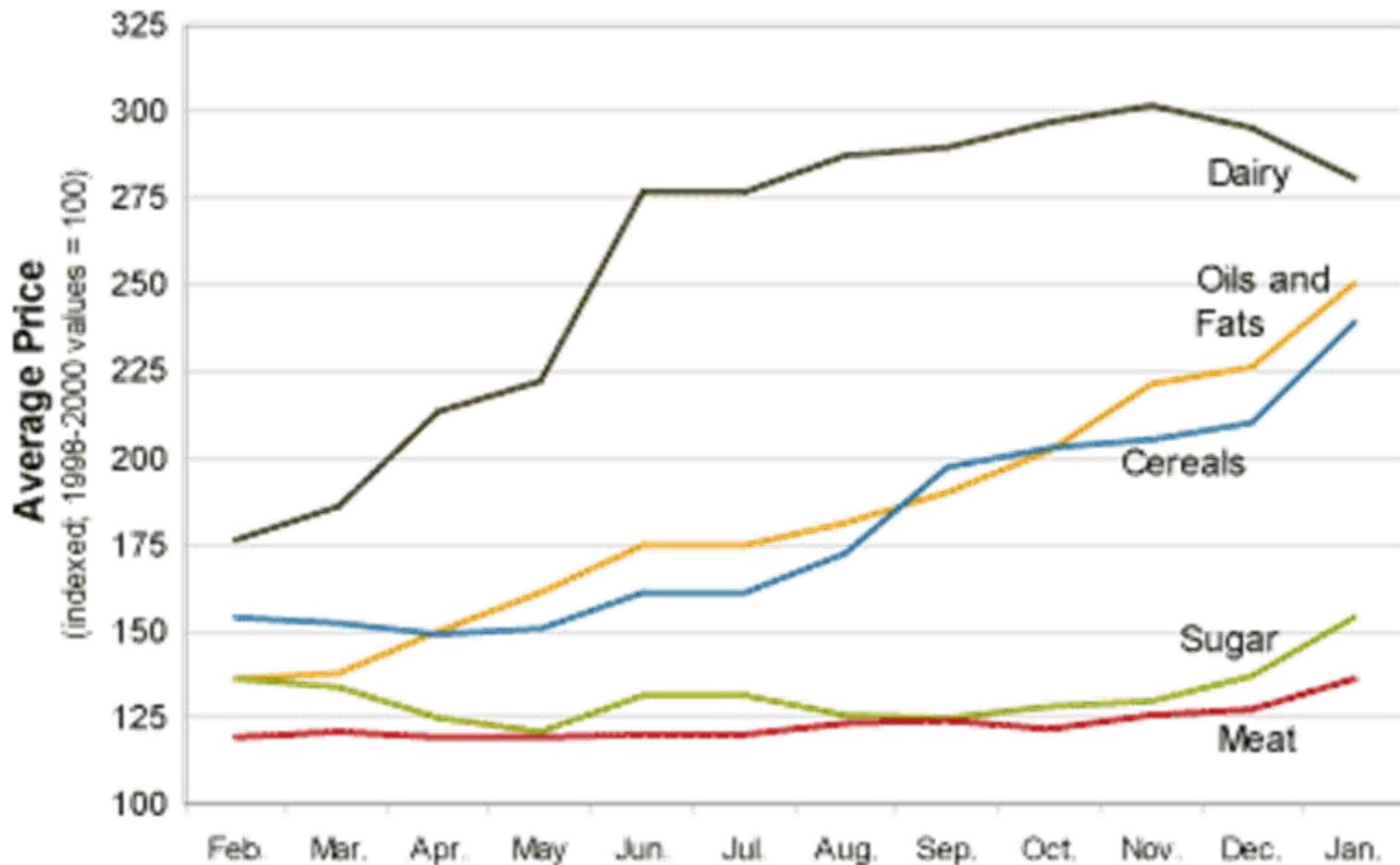
Supply Side

Soil Water Retention

Demand Side

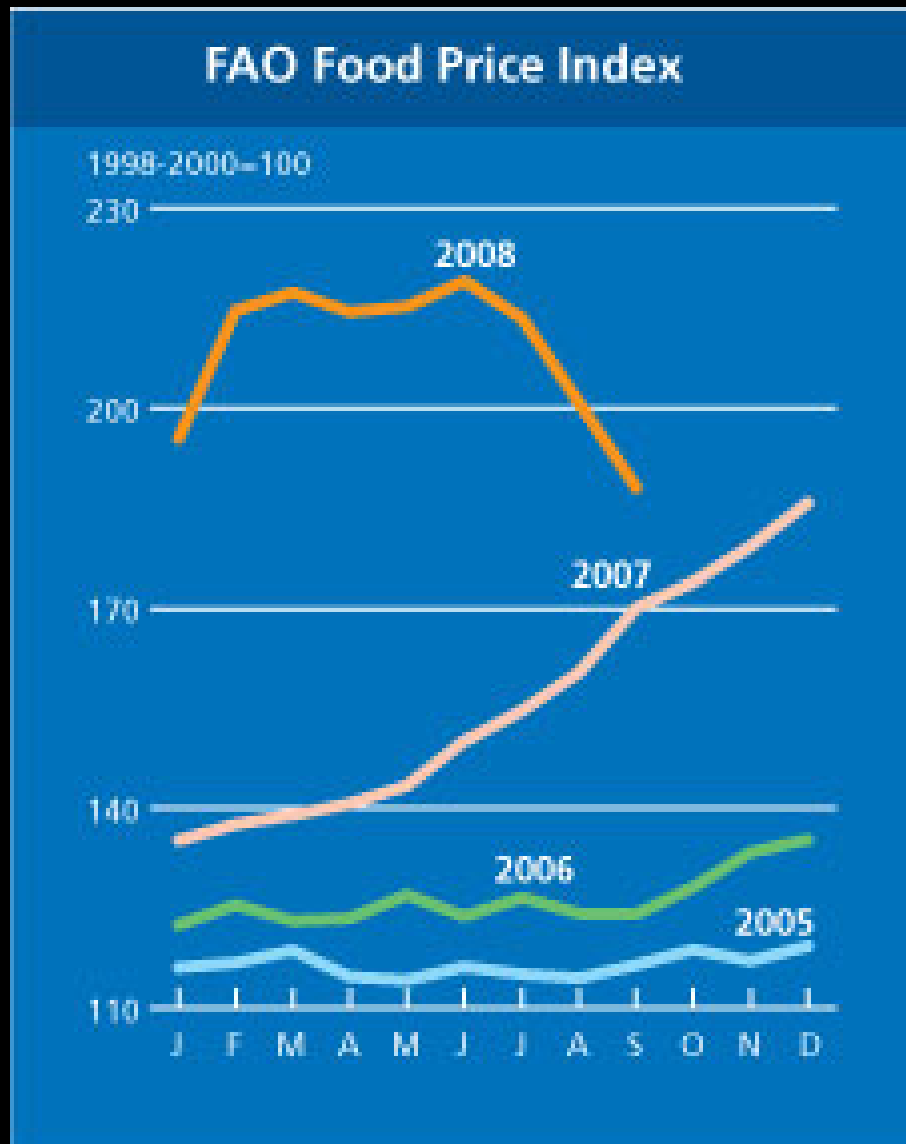
Supply Side

FAO Food price index Feb 2007 - Jan 2008



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Supply Side



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Supply Side

Corn Commodity Prices 2008



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Supply Side

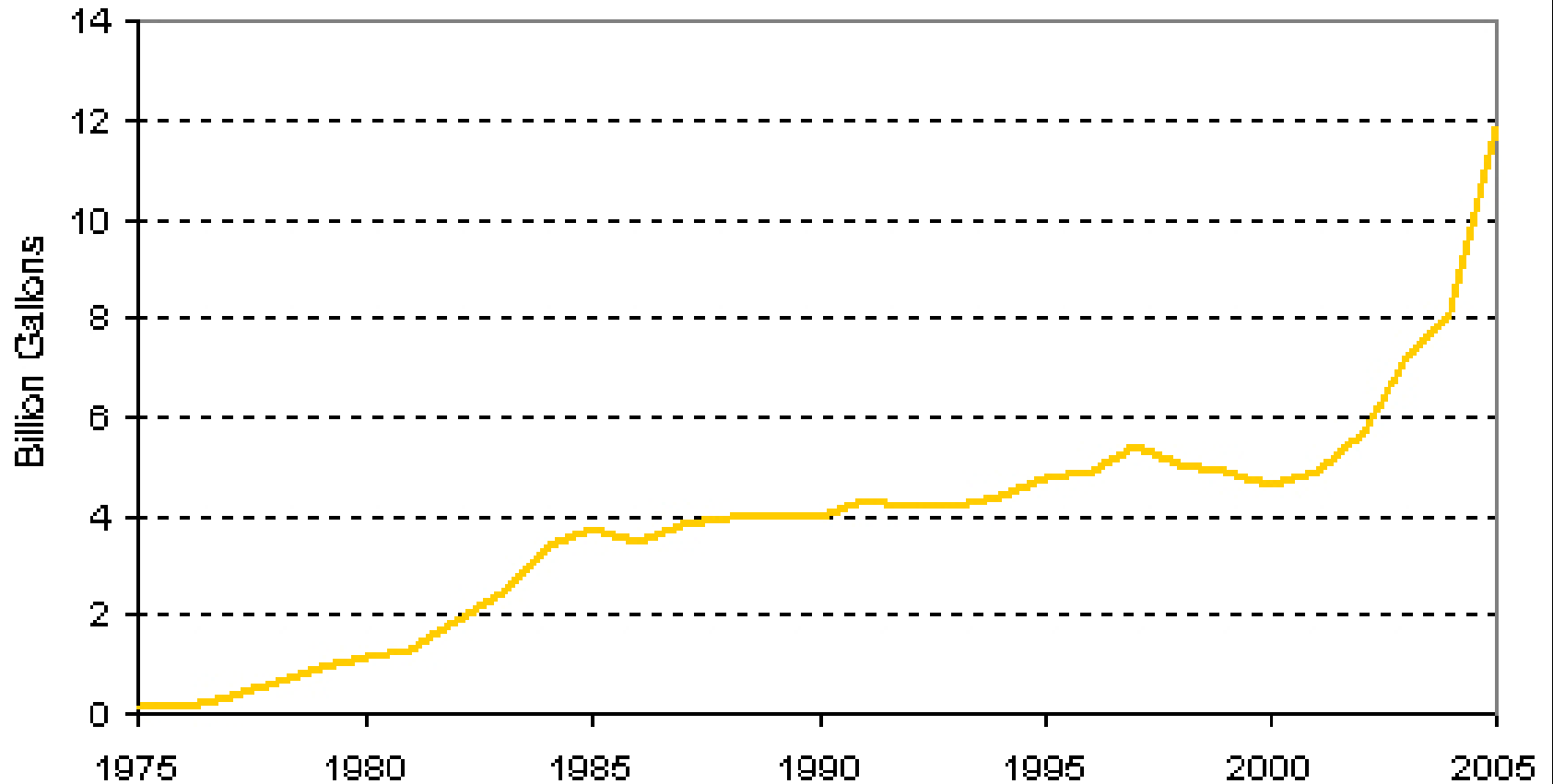
Oil Commodity Prices 2008



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Supply Side

World Ethanol Production 1975 - 2005



Implications for New Zealand

Direct

Indirect

Connected to the rest of the world