UNITED STATES DEPARTMENT OF COMMERCE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NOAA's Next Generation Strategic Plan

A Presentation to the MPA Federal Advisory Committee

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What is the Purpose of the NOAA Strategic Plan?

What are the trends that will shape our future?

How do we plan for an uncertain future?

How can MPA FAC contribute?

Why Have a Strategic Plan?

- To inform and respond to priorities of the new administration
- To engage and respond to stakeholders
- To understand and respond to long-term external challenges facing NOAA
- To meet GPRA and related requirements

The Strategic Plan is a Basis for…

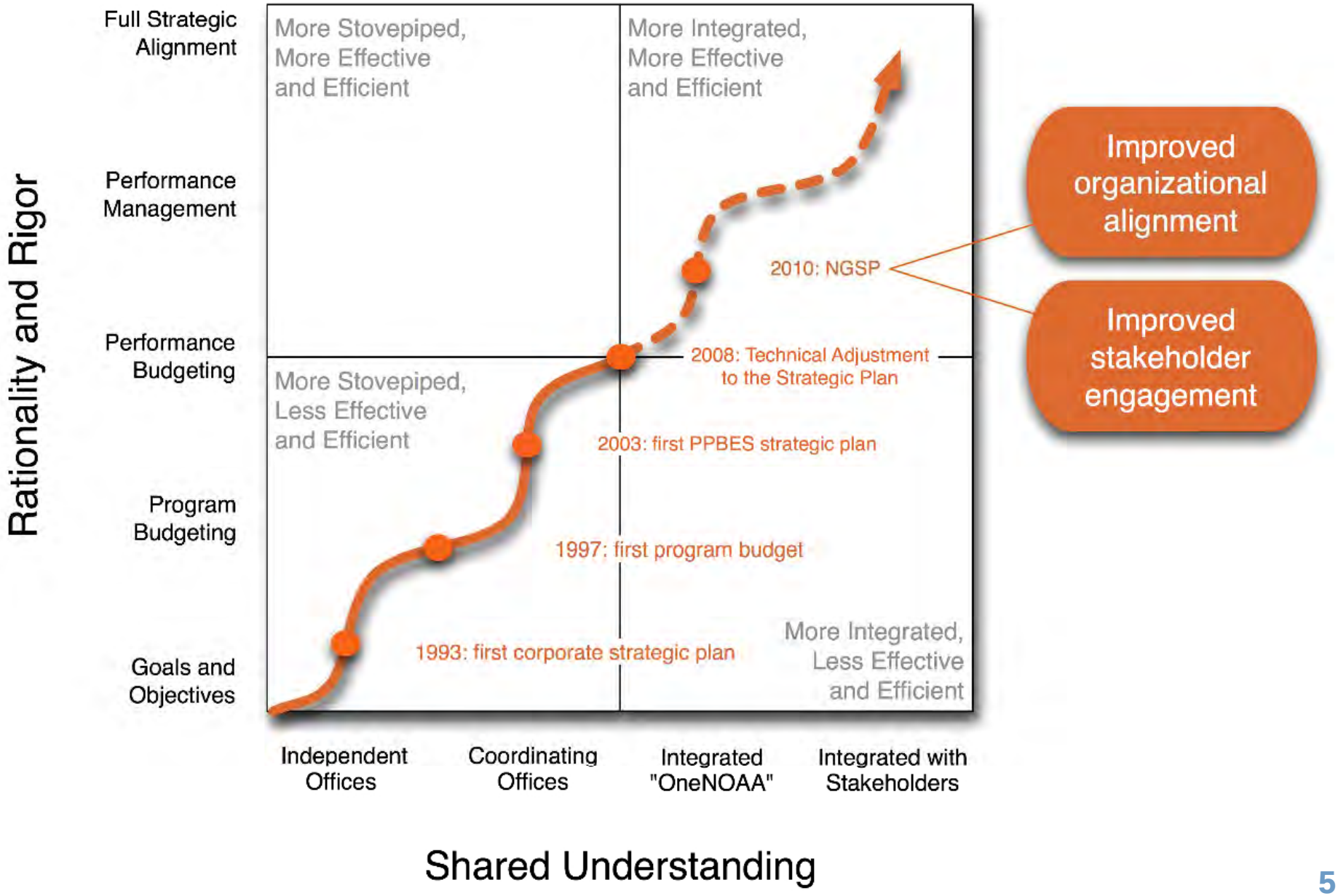
Organizational alignment

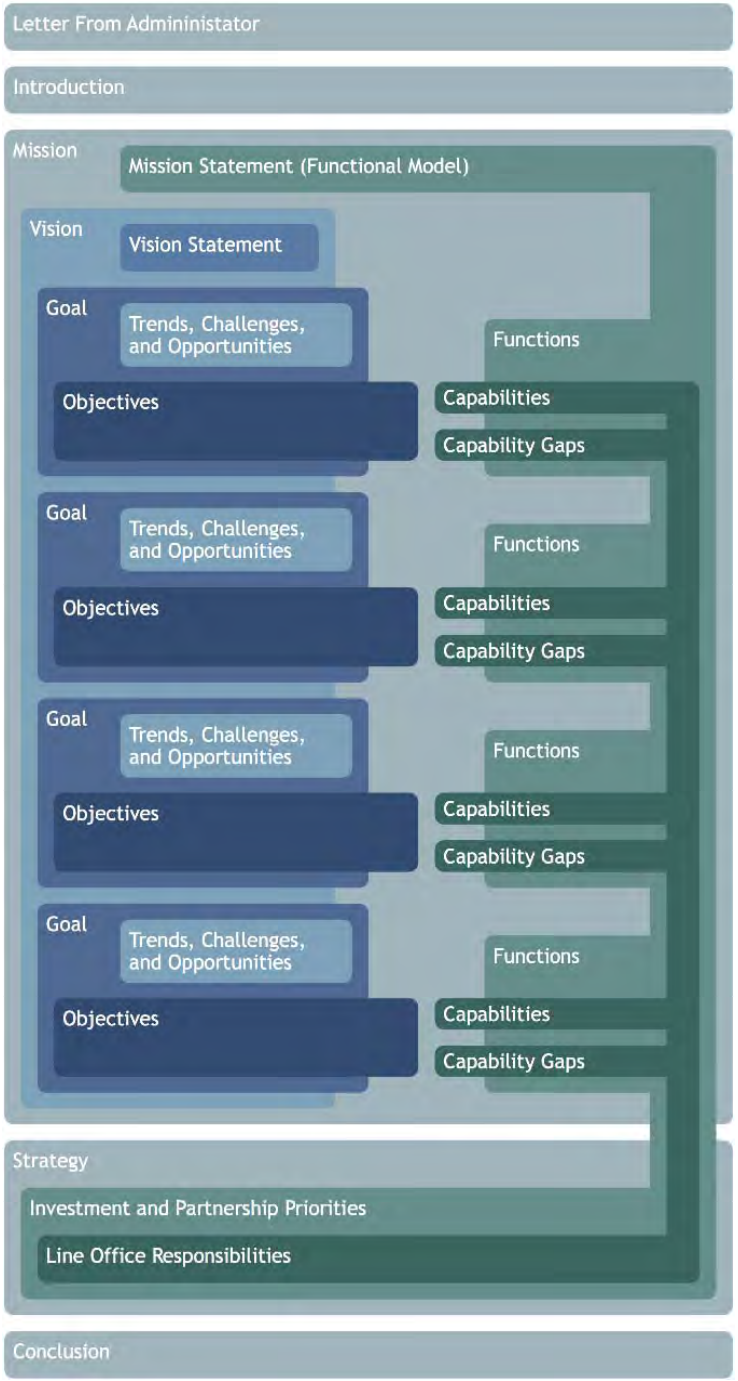
- Responsive to changes and uncertainties in the external environment
- Clearly states and explains common organizational goals
- Frames investment choices
- Links planning to budgeting
- Establishes a means for measuring progress to plan
- Establishes discipline in the process and stability in the organization

Stakeholder engagement

- Provides a starting point for conversation and debate
- Generates agreement on challenges and opportunities
- Codifies shared priorities of NOAA stakeholders and leadership
- Facilitates how NOAA works with partners
- Details societal benefits and how NOAA will achieve them

NOAA's Organizational Evolution





NGSP Design Criteria

- States NOAA's **mission** and **vision**
- Establishes outcome-oriented **goals** and **objectives** that:
  - Reflect Administration policy priorities
  - Respond to long-term threats and opportunities in the external environment
  - Specify long-term societal benefits
  - Are SMART (specific, measureable, attainable, realistic, and time-bound)
  - Are feasible with respect to NOAA's existing and potential functions
  - Build upon progress achieved under current Strategic Plan
- Describes the **functions** and **capabilities** that are required to meet NOAA's goals

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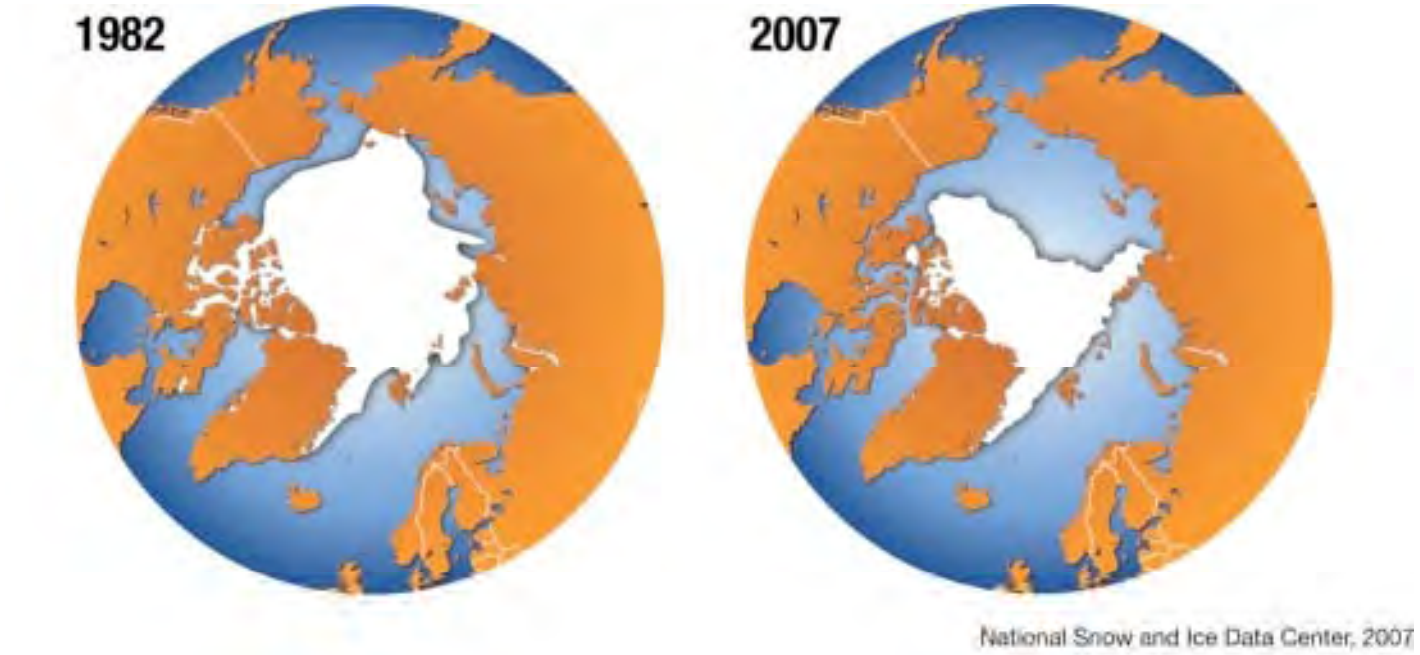
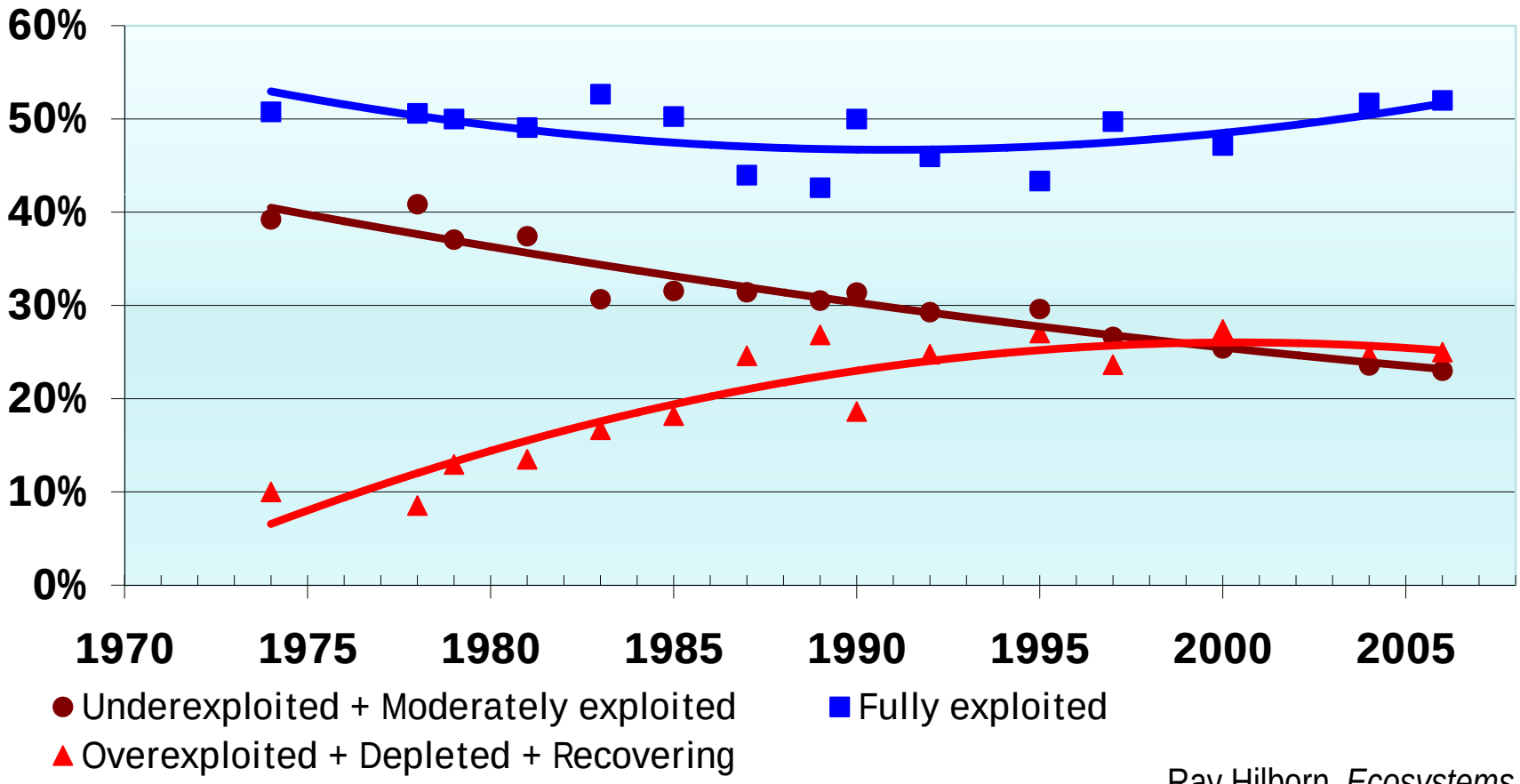


National Snow and Ice Data Center, 2007

Arctic Climate Impact Assessment, 2004

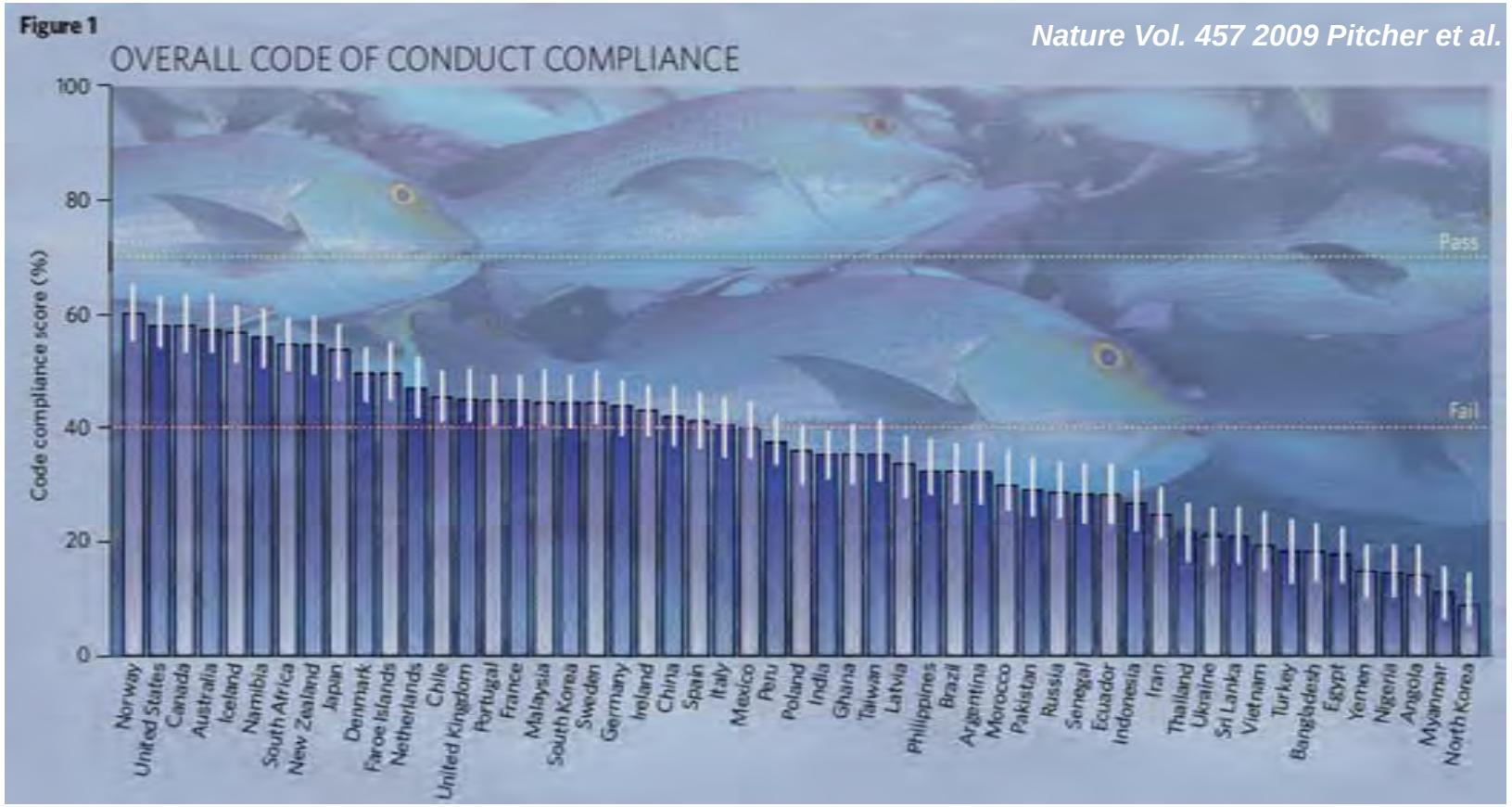
Global Trends in World Fish Stocks



Ray Hilborn, *Ecosystems* 2007

Global Trends in Sustainable Fisheries Management Practices

Compliance with UN Food and Agriculture Organization Voluntary Code of Conduct for Responsible Fishing



Annual Precipitation Trends, 1900-2000

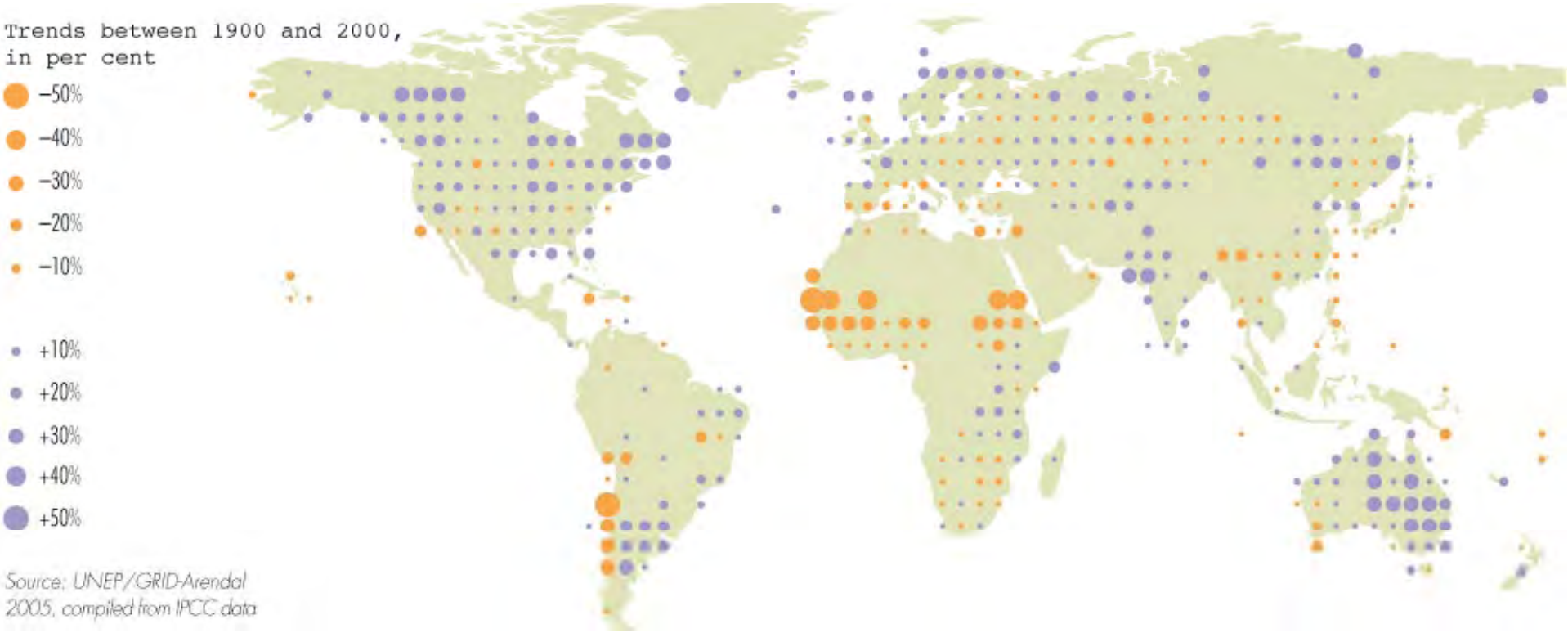
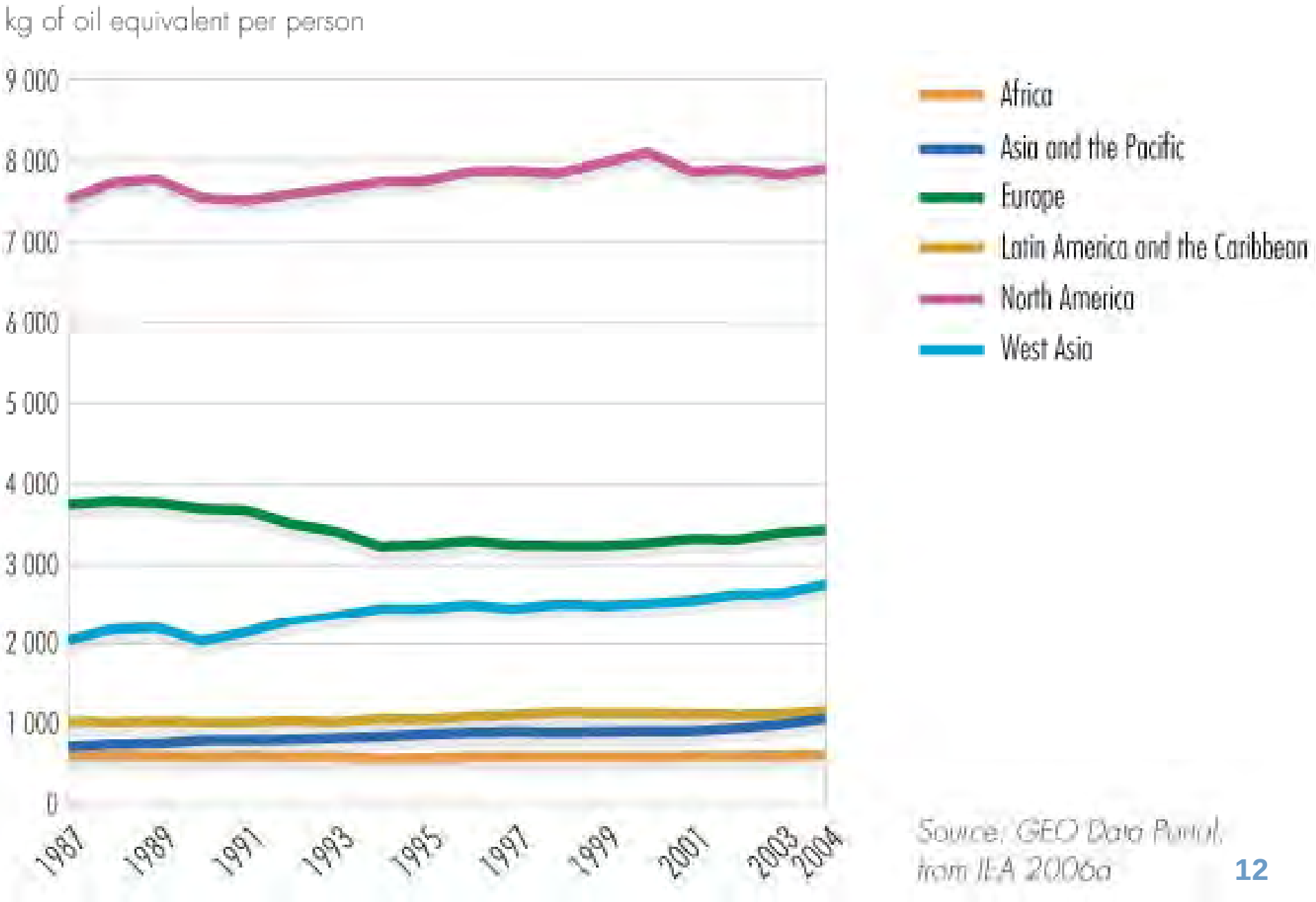


Figure 1.8 Primary energy supply per capita



Source: GEO Data Portal, from IEA 2006a

Google Finance BETA

INDEXDJX:DJI Get quotes Stock screener

e.g. "CSCO" or "Google"

Dow Jones Industrial Average - Add to Portfolio

7,409.56

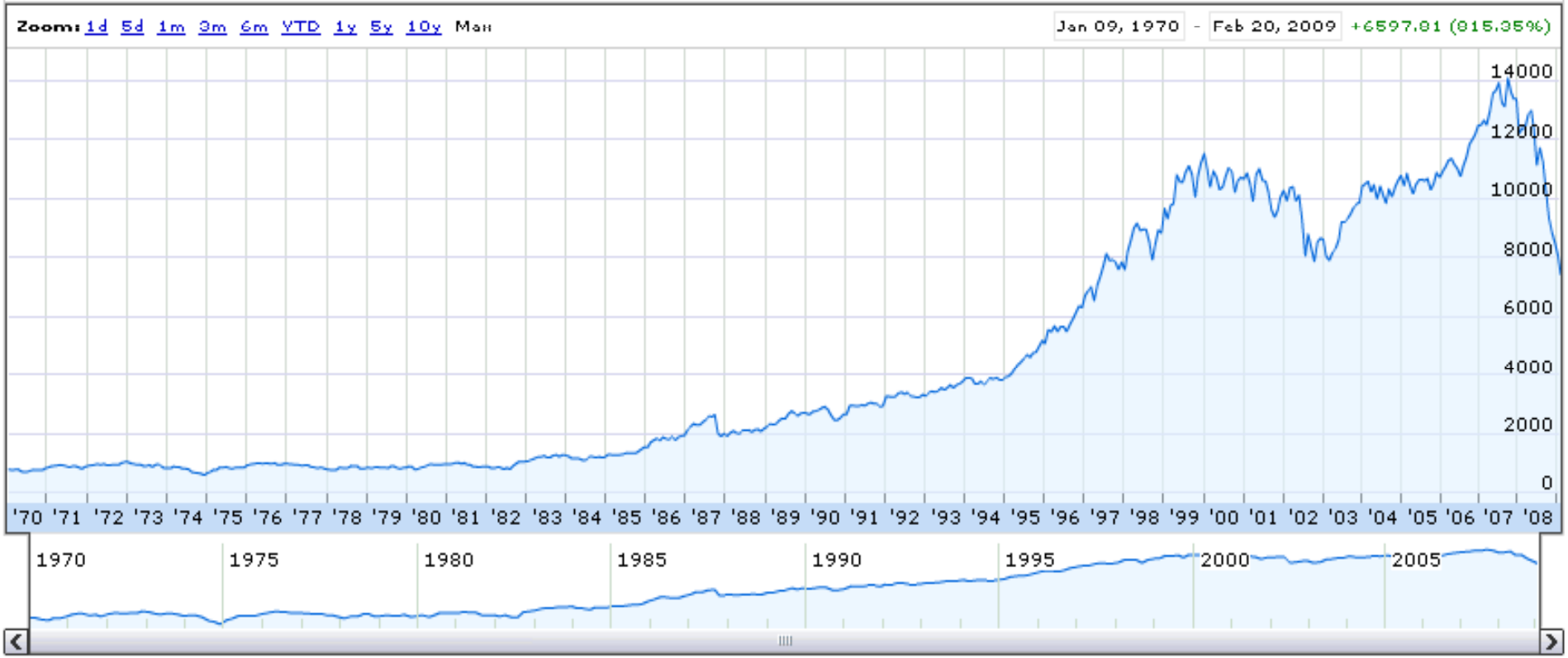
-56.39 (-0.76%)

Real-time: 10:10AM EST

Open:	7,461.49	Mkt Cap:	-	P/E:	-	Dividend:	-
High:	7,614.97	52Wk High:	13,191.49	F P/E:	-	Yield:	-
Low:	7,327.04	52Wk Low:	7,327.04	Beta:	-	Shares:	-
Vol:	138.91M	Avg Vol:	327.83M	EPS:	-	Inst. Own:	-

Compare Settings Historical Prices Link to chart

Enter ticker here Add



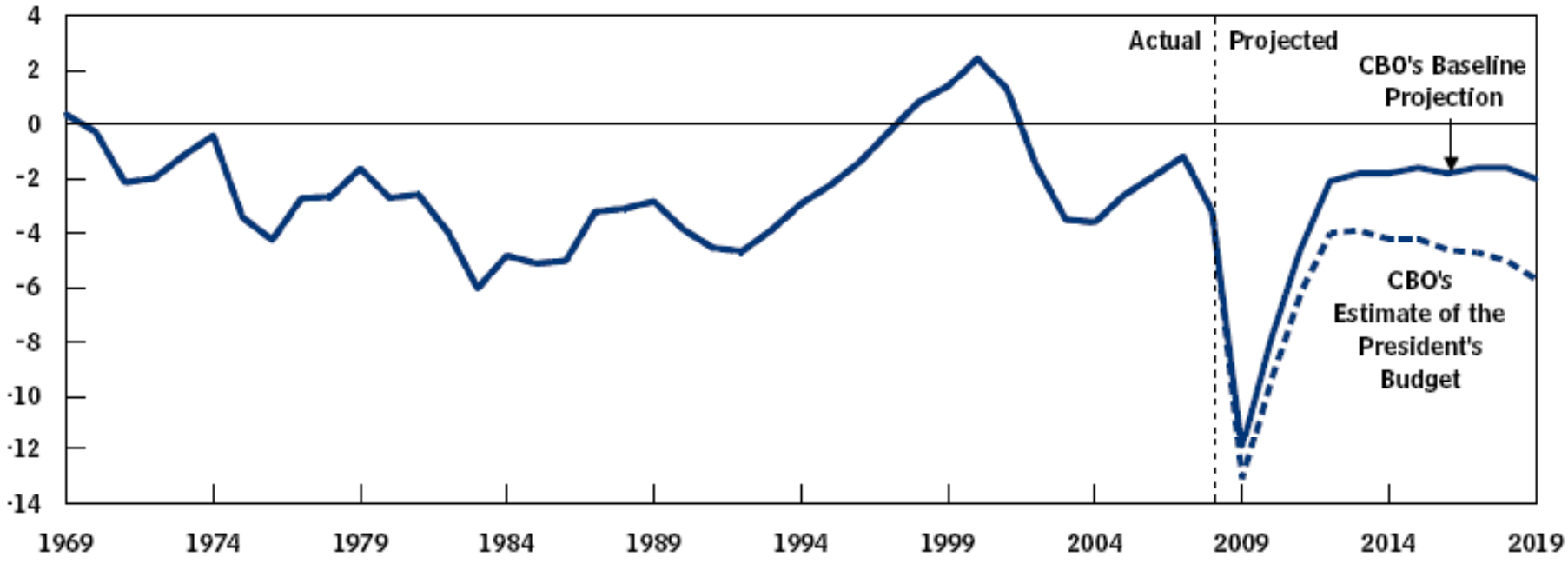
Tip: You can drag the chart.

Real-time data provided by INDEXDJX - Disclaimer

The Total Deficit or Surplus as a Share of GDP, 1970 to 2019

Total Deficits or Surpluses, 1969 to 2019

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Issues Most Important to the Public

NBC-WSJ, December 2007	
Iraq	34
Healthcare	15
Immigration	12
Terrorism	12
Economy / Jobs	8
Energy costs	6
Environment	**6**
Budget deficit	4
Other / Unsure	3
Education	--

CNN, November 2008	
Economy / Jobs	64
Iraq and Afghanistan	11
Federal Deficit	7
Energy	6
Healthcare	5
Something else	3

Note: "Environment" disappeared from the CNN list in September.

Environmental Policy Involves Multiple Trends and Uncertainties

Trend	One Extreme	Another Extreme
Economic Production	business as usual	green, sustainable
Economic Growth	GDP focus	quality-of-life focus
Energy Demand	high growth	low growth
Energy Supply	alternative options	mostly fossil
Climate Change	abrupt, irreversible	slow, manageable
Public Attitude	irresponsible, unaware	informed, active
Fishery Management	stocks, species disappear	biodiversity, resilience
Federal Policy	laissez-faire	aggressive, proactive
Federal Budget	tight purse strings	loose purse strings
International Law	fragmented	collaborative
Information Sharing	interoperable standards	no standards

Will Current Strategy Remain Relevant?

NOAA Mission: To understand and predict changes in Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs

NOAA Vision: An informed society that uses a comprehensive understanding of the role of the oceans, coasts, and atmosphere in the global ecosystem to make the best social and economic decisions

- **Ecosystem Goal:** Protect, Restore, and Manage the Use of Coastal and Ocean Resources Through an Ecosystem Approach to Management — EC
- **Climate Goal:** Understand Climate Variability and Change to Enhance Society's Ability to Plan and Respond — CL
- **Weather & Water Goal:** Serve Society's Needs for Weather and Water Information — WW
- **Commerce & Transportation Goal:** Support the Nation's Commerce with Information for Safe, Efficient, and Environmentally Sound Transportation — CT
- **Mission Support Goal:** Provide Critical Support for NOAA's Mission — MS

3 Fundamental Questions

1. What trends will shape our long-term future?

   Think as broadly as you can about long-term (~25-year) external trends that are relevant to NOAA's mission. Trends can include environmental, scientific, technological, economic, organizational, cultural, geo-political, and related conditions.

2. What challenges or opportunities will we face?

   With those trends in mind, what corresponding challenges or opportunities may NOAA face over the long term?

3. What should NOAA strive to accomplish?

   Given those long-term trends, challenges, and opportunities, what would be the most important accomplishments that the agency could achieve in the next 25 years?

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How can MPA FAC contribute?

Scenario Planning

- No one can predict the future—but we can identify key forces and imagine how they might combine to form plausible alternative futures
- Scenarios allow people and organizations to grasp complex interactions among economic, political, social, and environmental forces
- Organizations use scenarios to choose goals and objectives that respond to long-term trends and uncertainties about the future

Scenarios Are a Set of Divergent Stories
about a future that is fundamentally unknown

Source: "Rehearsing for the Future: The World and Development in 2020," The World Bank

Two possible worlds

Given that profound change is inevitable, how will it happen? Will national governments simply **Scramble** to secure their own energy supplies? Or will new **Blueprints** emerge from coalitions between various levels of societies and government, ranging from the local to the international, that begin to add up to a new energy framework?

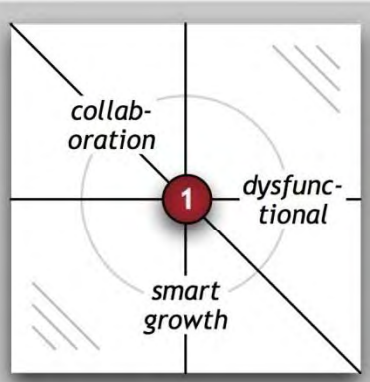
Focus Questions

- *How can the world attain a high level of sustainable economic growth given the rapidly changing geopolitical landscape of the early 21st century?*
- *What will the balance of power look like in 2025 and to what degree might collaborative policies and frameworks shape the global context?*

Focus Questions

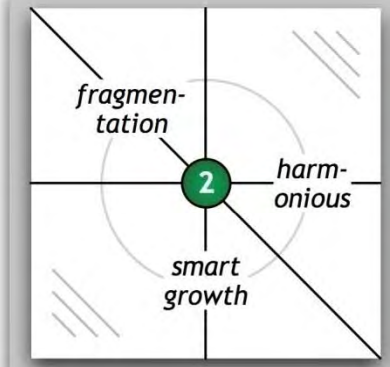
- *What should NOAA's vision, mission, and goals be to serve society for the next 25 years?*
- *What corresponding objectives and strategies should NOAA pursue in the next 5 years?*

Summary of NOAA's *Scenarios for 2035*



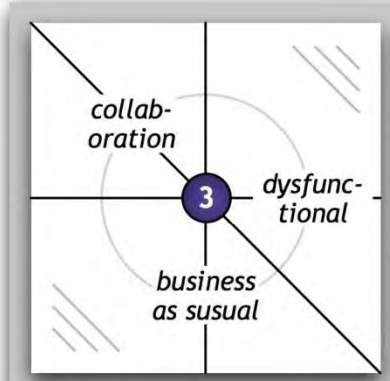
Too Little Too Late?

Despite smart economic growth based on alternative energy and sustainable production, and despite collaboration on environmental policy at all levels of government, it may be too late to stop abrupt climate change and its social, economic, and environmental impacts.



Green Chaos

Environmental policy at all levels of government is fragmented and disorganized, but a growing market for alternative energy and other sustainable products leads to smart economic growth and an increasingly harmonious relationship between man and nature through forces of supply and demand.



Carbon Junkies

Environmental policy at all levels of government is collaborative, particularly in developing advanced environmental science and technology, but business-as-usual practices in industry and public focus on traditional metrics of economic success lead, ultimately, to extensive environmental degradation.

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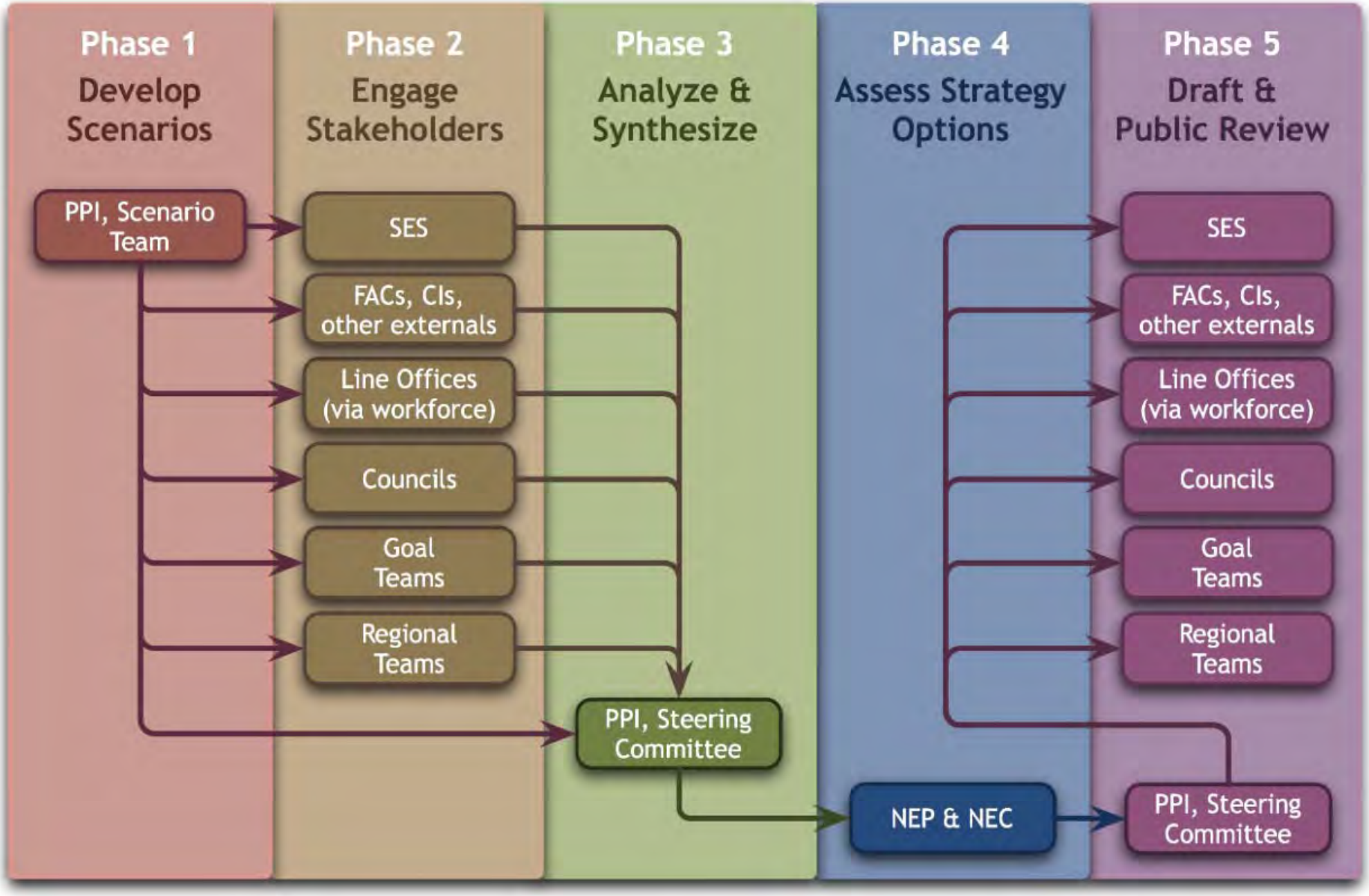
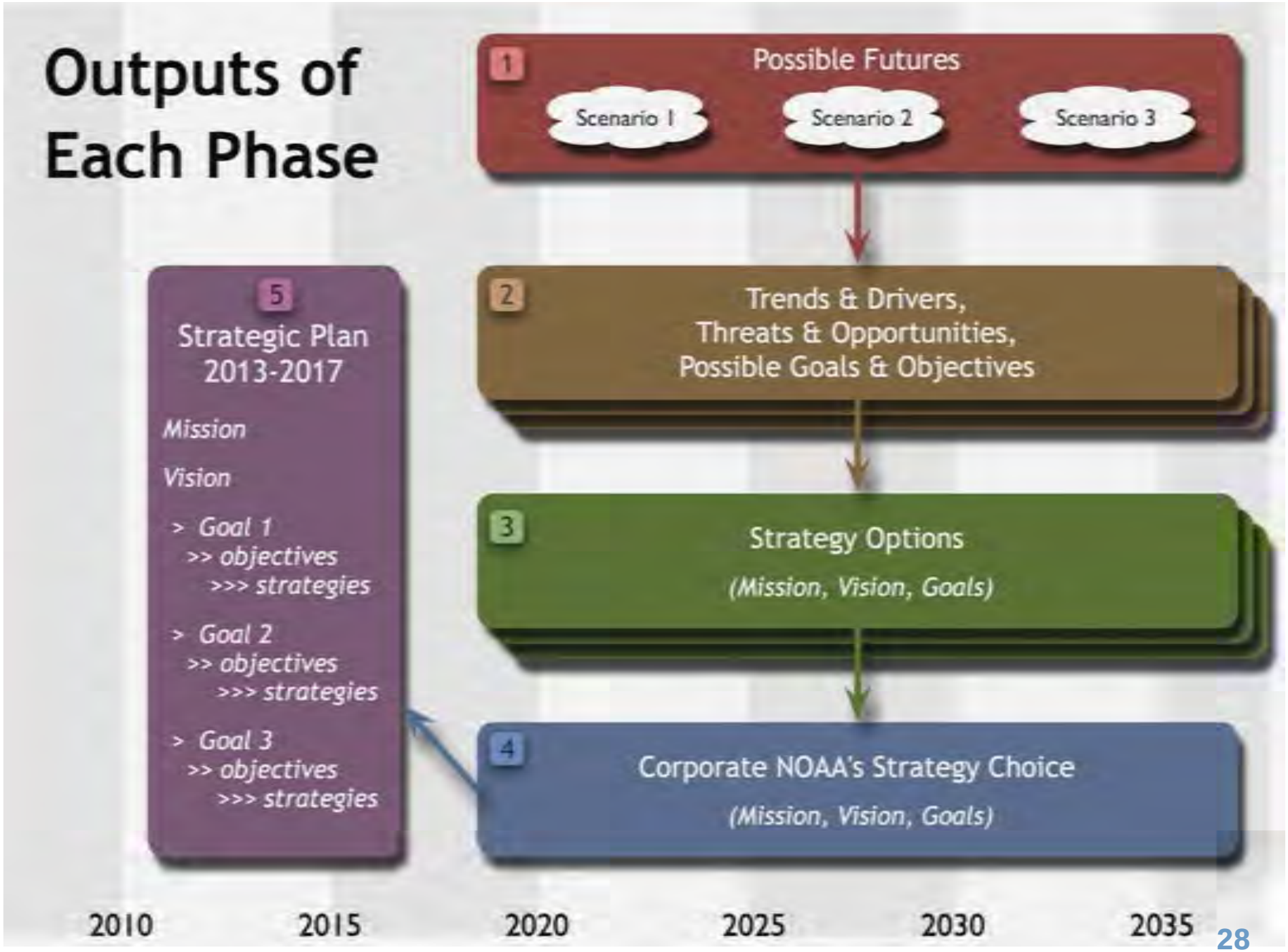
The NGSP will Have a Phased Approach to Development



Outputs of Each Phase



Strategy Development

- Potential goals, objectives, and strategies will be derived using input from
  - Line Offices, Councils, and Regional Teams
  - Goal Teams and Programs
  - Regional and national stakeholders (external and internal)
  - FACs, CIs, NGOs, and other agencies
  - Direct staff input
- Final goals, objectives, and strategies will be proposed and reviewed sequentially:

  Steering committee >> NEP-NEC >> SES Summit VII >> public review

How Can MPA FAC Participate?

1. Either through regional stakeholder events or directly to PPI, provide input on the 3 fundamental questions:
   - What trends will shape our long-term future?
   - What challenges or opportunities will we face?
   - What should NOAA strive to accomplish?

2. NOAA's *Scenarios for 2035* is designed to stimulate thinking on the above questions. Comments are welcome on the key trends and dynamics in the *Scenarios* document itself.

3. Comment on draft Next Generation Strategic Plan during formal review phase.

Backup

Key External Forces in *Scenarios for 2035*

Nature and Mix of Economic Activity	Environment and Society Interaction	Governance and Decision-making
Global demographics	Water supply variability and change	International laws and agreements
Coastal population growth	GHG emissions (carbon and methane)	US ocean policy
Water supply	Climate change	Cap and trade legislation
Maritime trade	Rapid changes in glaciers and ice sheets	Carbon taxes
Industrial activities in the Arctic	Ocean circulation; AMOC	Climate science research
Level and composition of US economic growth	Arctic sea ice	Government budgets and debt
Level and composition of global economic growth	Ocean acidification	Collaborative modes of governance
U.S. urbanization	Catastrophic events	Privatization
Megacity development	Aquatic resources	Structure of Federal environmental agencies
Food supply and demand	Marine species	Demand for emergency management services
Computer technology	Coastal and ocean water quality	International information sharing
Private sector water and climate information services	Coastal zones	Global environmental information integration
Energy prices	Coastal erosion, inundation	U.S. energy policy; energy “independence”
Energy demand growth	Public opinion	
Electrification of transport	Observing system gaps (esp satellites)	
Alternative energy supplies	GIS tools and data	
	Evolution of models	

Types of Uncertainty that Affect NOAA and Three Possible Futures

	Too Little, Too Late?	Green Chaos	Carbon Junkies
Nature and mix of economy	**Smart Growth** vs Business As Usual	**Smart Growth** vs Business As Usual	Smart Growth vs **Business As Usual**
Governance and Decision-Making	**Collaboration** vs Fragmentation	Collaboration vs **Fragmentation**	**Collaboration** vs Fragmentation
Environment and Society Interaction	Harmonious vs **Dysfunctional**	**Harmonious** vs Dysfunctional	Harmonious vs **Dysfunctional**

Scenario 1: *Too Little Too Late?*

Despite smart economic growth based on alternative energy and sustainable production, and despite collaboration on environmental policy at all levels of government, it may be too late to stop abrupt climate change and its social, economic, and environmental impacts.

	2009-2020	2021-2035
Nature and Mix of Economy: SMART GROWTH	Strong economic growth is fueled by alternative energy investments and global trade. New energy technology facilitates rapid economic development in developing countries. Sustainability as a way of life leads to comprehensive new fisheries management practices, sensible crop rotation, and more efficient water use.	Significant benefits of smart growth are achieved worldwide in less than 20 years, but it's still unknown whether they are forestalling an "abrupt" climate change. Some scientists are beginning to believe the policies were too late and were always too little to halt abrupt climate change.
Governance and Decision-Making: COLLABORATION	A new collaborative ethic takes hold at all levels of government (international, federal, state, and local). Substantial investments are made to build capabilities and reach effective multiparty agreements on the major environment, economic, and social issues. The US forms a new Department of the Environment.	Economic impacts are greatest outside the United States. Tensions between governments in the East and West begin to fray as it is becoming clear that an entirely new level of commitment will probably be needed to address the relationship between people and the planet.
Environment and Society Interaction: DYSFUNCTIONAL	An explosion in maritime trade has significant impact on the natural environment. Coastal populations grow, exposing more people to severe weather and climate effects. Severe geomagnetic storms wreak havoc. Water shortages around the world are exacerbated in many places by biofuels production.	Climate change effects are everywhere. Antarctic ice sheets continue to lose mass. Arctic sea ice disappears in the summertime. Drought conditions are more frequent and severe. Ocean acidification is increasing. Ecosystem disruptions lead to territorial conflicts in Africa, the Middle East, and Central Asia.

Scenario 2: *Green Chaos*

Environmental policy at all levels of government remains fragmented and disorganized but a growing market for alternative energy and other sustainable products leads to smart economic growth, and market incentives reinforce an increasingly harmonious relationship between society and nature.

	2009-2020	2021-2035
Nature and Mix of Economy: SMART GROWTH	Green markets flourish. Major multinationals, venture capital firms, and state-owned enterprises in Asia invest aggressively in sustainable development solutions. Carbon taxes in the US spur innovation, and the consequences from externality pricing and heavily regulating resource usage do not materialize.	By 2035, global consumers are sophisticated and green, as are many new industries. Asian players control the biggest market share. Green goods and services in developed economies are slowly replacing energy-intensive solutions, while green goods and services growth in developing countries occurs as a result of their rapid economic change.
Governance and Decision-Making: FRAGMENTATION	Policy makers are overwhelmed by the environmental and economic uncertainties, but a patchwork of regional and local policies succeeds. In-fighting among US agencies abounds and the private sector assumes more government functions. No nation shows leader-ship as politicians focus on domestic problems. No international standards for environmental data evolve.	The Arctic nations never reach an agreement on sovereignty claims, development of the Arctic, and how to best protect the environment. Russia is constantly using its Navy to try to resolve disputes over the seabed, navigation, and fishing, but lacks the investment funds to pursue much industrial development. The US, Canada, and Norway generally coordinate, but still largely go their separate ways.
Environment and Society Interaction: HARMONIOUS	Carbon tax revenue is returned to individuals by contributing to their retirement accounts and health care insurance costs. There is a trend of counter urbanization, with cities losing population to rural areas because of better living conditions. Economic incentives are also used by states and federal agencies to change agricultural and fishing practices.	Scientists can't agree on whether abrupt climate change is taking place. While the changes are muted they're still visible in a number of places. Water scarcity is getting worse around the world, while at the same time demand for food is rising faster than anyone expected. Fish stocks improve because of new regulations and commercial innovation.

Scenario 3: *Carbon Junkies*

Environmental policy at all levels of government is collaborative, particularly in developing advanced environmental science and technology, but business-as-usual practices in industry and public focus on traditional metrics of economic success lead, ultimately, to extensive environmental degradation.

	2009-2020	2021-2035
Nature and Mix of Economy: BUSINESS AS USUAL	In both developed and developing countries, old economic systems continue to exploit energy for economic growth. Consumer products like cars and appliances are cheap due to global demand, global trade agreements, and massive energy- and water-development investments. GDP growth is the highest priority, but the US economy falters and deficits rise.	Energy demand rises dramatically, while supply is still mainly oil and coal. Marine transport activity is increasingly significant because of economic growth in developing countries and open trade policies around the world. Arctic waters open, and substantial industrial activity is already occurring above the Arctic Circle.
Governance and Decision-Making: COLLABORATION	Institutions around the world cooperate on environmental and disaster-relief issues, but budgets are tight, environmental programs are cut, and governments struggle to respond to continued catastrophic-events. A resource race to stake claims on the Arctic seabed spawns new international agree-ments. The effects of climate change drive new inter-national GHG agreements with binding commitments.	While progress was initially slow in implementing the GEOSS vision, the US, EU, and China ultimately agreed to support the effort. A global environment information utility becomes available. Scientists agree that large-scale change in the climate system is taking place and the change cannot be reversed for decades, even with major mitigation efforts worldwide.
Environment and Society Interaction: DYSFUNCTIONAL	Worldwide energy resource exploitation increases significantly. Hydrocarbon energy resources are further developed in the US and nuclear generating plants also see major increases. Water shortages in the developing world are a problem, as are major catastrophes from floods, earthquakes, and typhoons. Fish stocks around the world begin to disappear.	Sea levels rise, oceans acidify, droughts persist, Arctic ice disappears in the summer, cropland dis-appears in many countries, migration patterns in Asia and Africa change rapidly. Adaptation becomes the most important issue. A cap and trade system, supported by new climate observations and models, provides incentive for utilities to sequester CO_2.