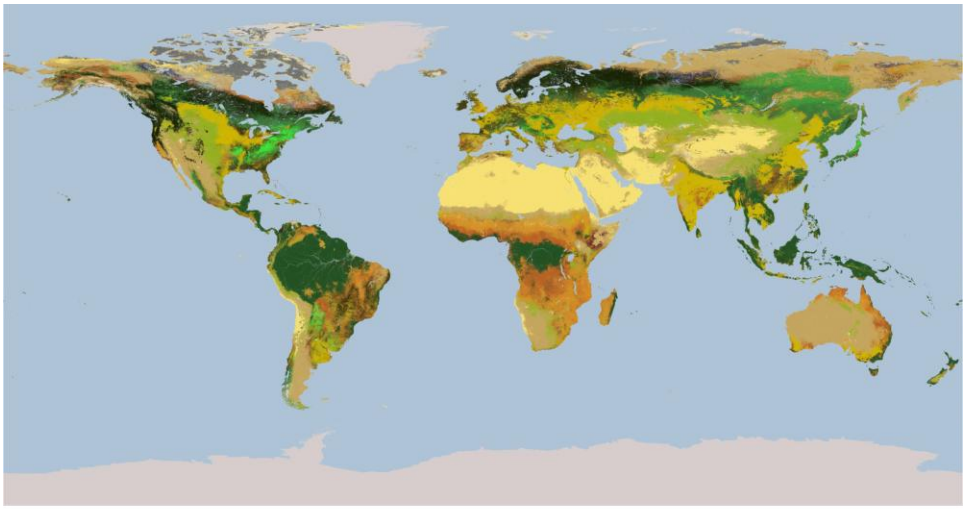


0 Water	6 Closed Shrublands	12 Croplands
1 Evergreen Needleleaf Forest	7 Open Shrublands	13 Urban and Built-Up
2 Evergreen Broadleaf Forest	8 Woody Savannas	14 Cropland/Natural Veg. Mosaic
3 Deciduous Needleleaf Forest	9 Savannas	15 Snow and Ice
4 Deciduous Broadleaf Forest	10 Grasslands	16 Barren or Sparsely Vegetated
5 Mixed Forests	11 Permanent Wetlands	17 Tundra

You can try it out for yourself with EdGCM!
http://edgcm.columbia.edu

Special Report on Emissions Scenarios (SRES)

- Available at http://www.grida.no/climate/ipcc/emission/
- 4 storylines
  - Consider future greenhouse gas pollution, land-use change, and other driving forces
  - Peak Oil is *not* discussed
  - *Do not* include additional climate initiatives (e.g., UNFCCC or Kyoto Protocol emissions targets
- 40 different scenarios, grouped by family into the storylines
  - These are not predictions or forecasts!
  - There is NO "best guess" scenario
  - Scenarios are NOT policy recommendations
- 6 scenario groups are considered equally sound and span a wide range of uncertainty

Special Report on Emissions Scenarios (SRES): Why storylines?

- To help the writing team to think more coherently about the complex interplay among scenario driving forces within each and across alternative scenarios;
- To make it easier to explain the scenarios to the various user communities by providing a narrative description of alternative futures that goes beyond quantitative scenario features;
- To make the scenarios more useful, in particular to analysts who contribute to IPCC WGII and WGIII;
  - The social, political, and technological context described in the scenario storylines is all-important in analyzing the effects of policies either to adapt to climate change or to reduce GHG emissions; and
- To provide a guide for additional assumptions to be made in detailed climate impact and mitigation analyses
  - At present no single model or scenario can possibly respond to the wide variety of informational and data needs of the different user communities of long-term emissions scenarios.

SRES: A1 Storyline – A more integrated world

- Rapid economic growth (~3%/year to 2100)
  - Strong commitment to market-based solutions
- Global population reaches 9 billion in 2050 and gradually declines
- Quick spread of new and efficient technologies
  - High rates of investment and innovation at national & international level
- Convergent world
  - Income and way of life converge between regions
  - Extensive social and cultural interactions worldwide

SRES: A1 Storyline Subsets

- A1F1
  - Emphasis on fossil fuels
- A1B
  - Balanced emphasis on all energy sources
- A1T
  - Emphasis on on-fossil energy sources

SRES: A2 Storyline – A more divided world

- World of independently operating, self-reliant nations (lower trade flow, less international cooperation)
- Continuously increasing population (15 billion by 2100)
- Regionally oriented economic development
  - Self-reliance and preservation of local identities
- Slower and more fragmented technological changes and improvements to per capita income
  - Primary changes in agricultural productivity to feed the 15 billion

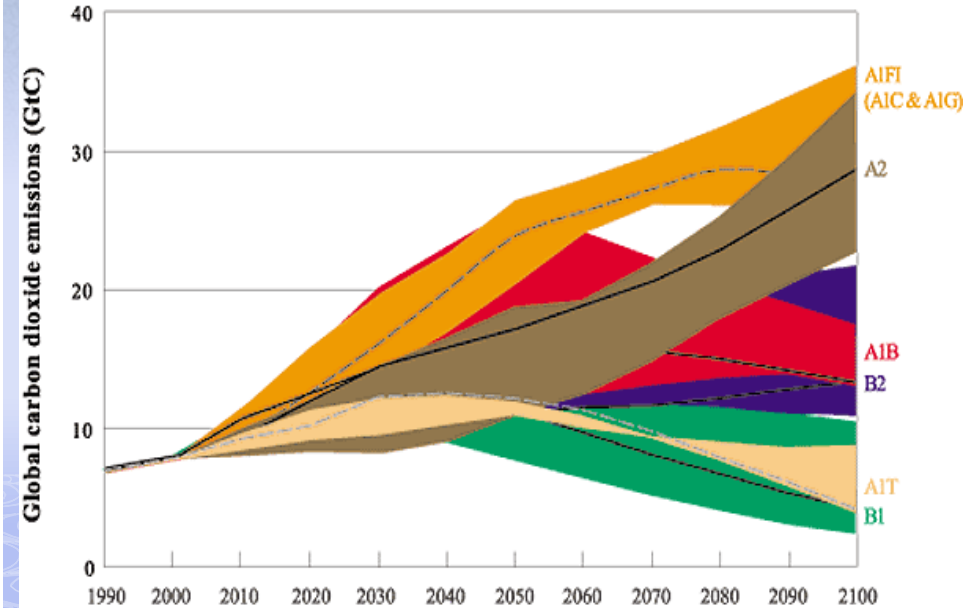
SRES: B1 Storyline – A more integrated, more ecologically friendly world

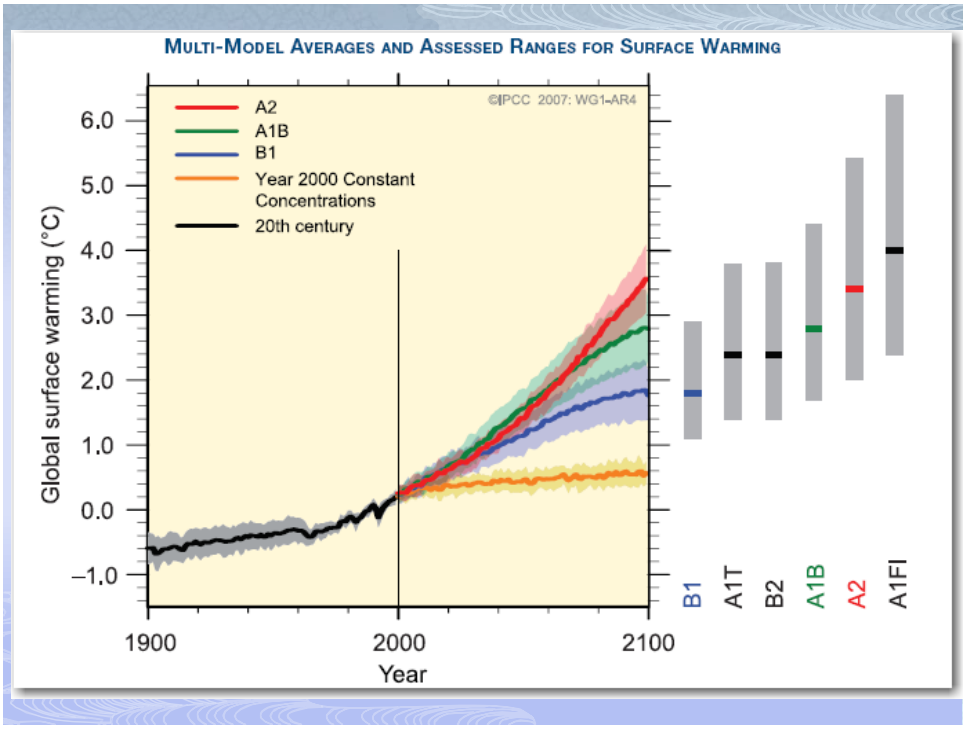
- High level of environmental and social consciousness; globally coherent approach to more sustainable development
- Rapid economic growth as in A1, but with rapid changes towards a service and information economy
- Global population reaches 9 billion in 2050 and gradually declines as in A1
- Reductions in material intensity and the introduction of clean and resource efficient technologies
  - Smooth transition to alternative energy systems as conventional oil and gas resources decline
- Emphasis on global solutions to economic, social and environmental stability

SRES: B2 Storyline – A more divided, but more ecologically friendly world

- Increased concern for environmental and social sustainability compared to A2, with shift to local and regional decisions
- Continuously increasing population, but at a slower rate than in A2
- Emphasis on local, rather than global, solutions to economic, social and environmental stability
- Intermediate levels of economic development
- Less rapid and more fragmented technological change than in B1 & A1.

Global annual CO_2 emissions – all sources (6 scenario groups)





Projected Globally Averaged Surface Warming and Sea-Level Rise at the End of the 21st Century

	Temperature Change (°F at 2090–2099 relative to 1980–1999)		Sea-Level Rise (inches at 2090–2099 relative to 1980–1999)
Case	Best estimate	Likely range	Model-based range excluding future rapid dynamical changes in ice flow
Constant Year 2000 concentrations	1.1	0.5 – 1.6	NA
B1 scenario	3.2	2.0 – 5.2	7.1 – 15.0
A1T scenario	4.3	2.5 – 6.8	7.9 – 17.7
B2 scenario	4.3	2.5 – 6.8	7.9 – 16.9
A1B scenario	5.0	3.1 – 7.9	8.3 – 18.9
A2 scenario	6.1	3.6 – 9.7	9.1 – 20.1
A1FI scenario	7.2	4.3 – 11.5	10.2 – 23.2

Source: Climate Change 2007: The Physical Science Basis—Summary for Policymakers.

Relative temperature change in °C is equal to °F / 1.8. 1" = 2.54 cm.
For example, the B2 Scenario has the best estimate of temperature change of 2.4 °C and a sea level rise of 20-43 cm by 2090-2099.