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040841

3/7/05

Sea Level Rise



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Gainesville City Commission
March 7, 2005

Planets and atmospheres

Mars
Thin atmosphere
(Almost all CO₂ in ground)
Average temperature : - 50°C



Earth
0,03% of CO₂ in the atmosphere
Average temperature : + 15°C



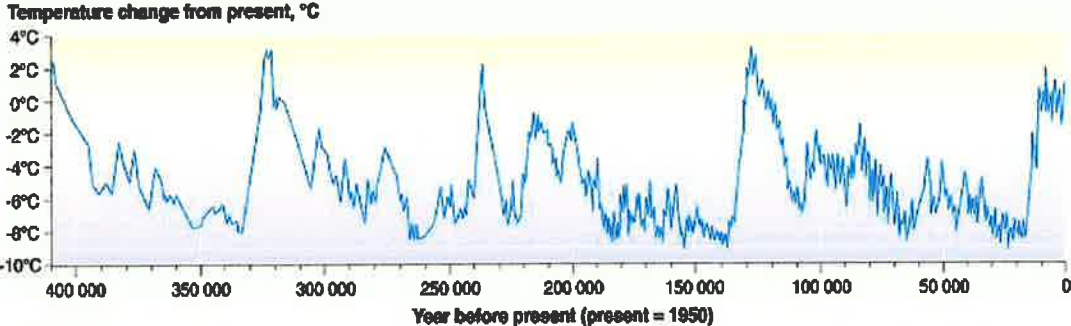
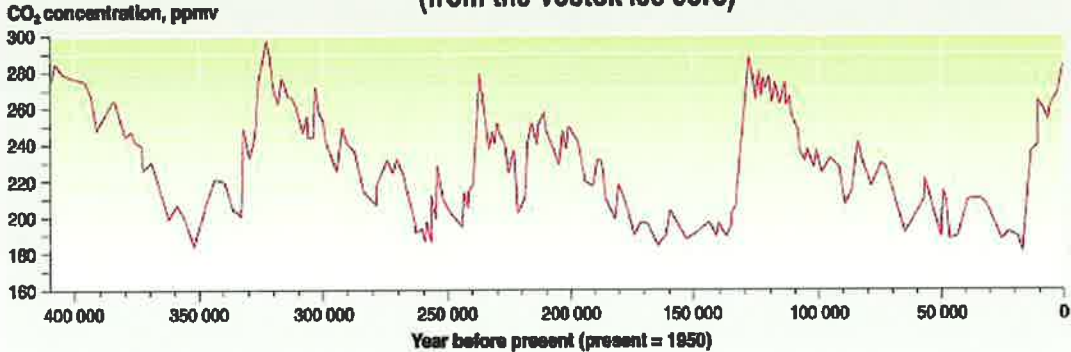
Venus
Thick atmosphere
containing 96% of CO₂
Average temperature : + 420°C



GRAPHIC DESIGN : THILFIRE RESIDENCE

Source: Calvin J. Hamilton, *Venus of the solar system*, www.planetbase.com; Bill Arnett, *The nine planets, a multimedia tour of the solar system*, www.seds.org/bills/nineplanets.html

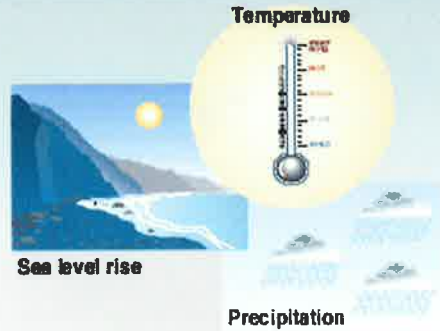
Temperature and CO₂ concentration in the atmosphere over the past 400 000 years (from the Vostok ice core)



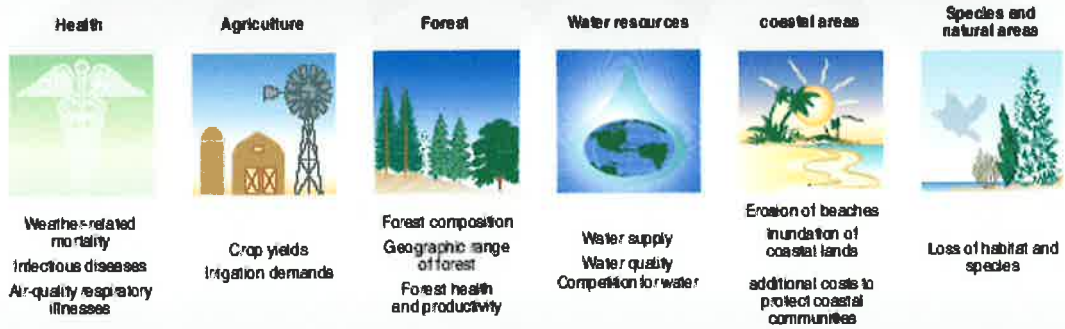
GRAPHIC DESIGN : PHILIPPE BAKAZIEWICZ

Source: J.R. Petit, J. Jouzel, et al. *Climate and atmospheric history of the past 420 000 years from the Vostok ice core in Antarctica*, Nature 399 (3 June), pp 429-436, 1999.

Potential climate changes impact according to IPCC 92 scenarios



Impacts on...

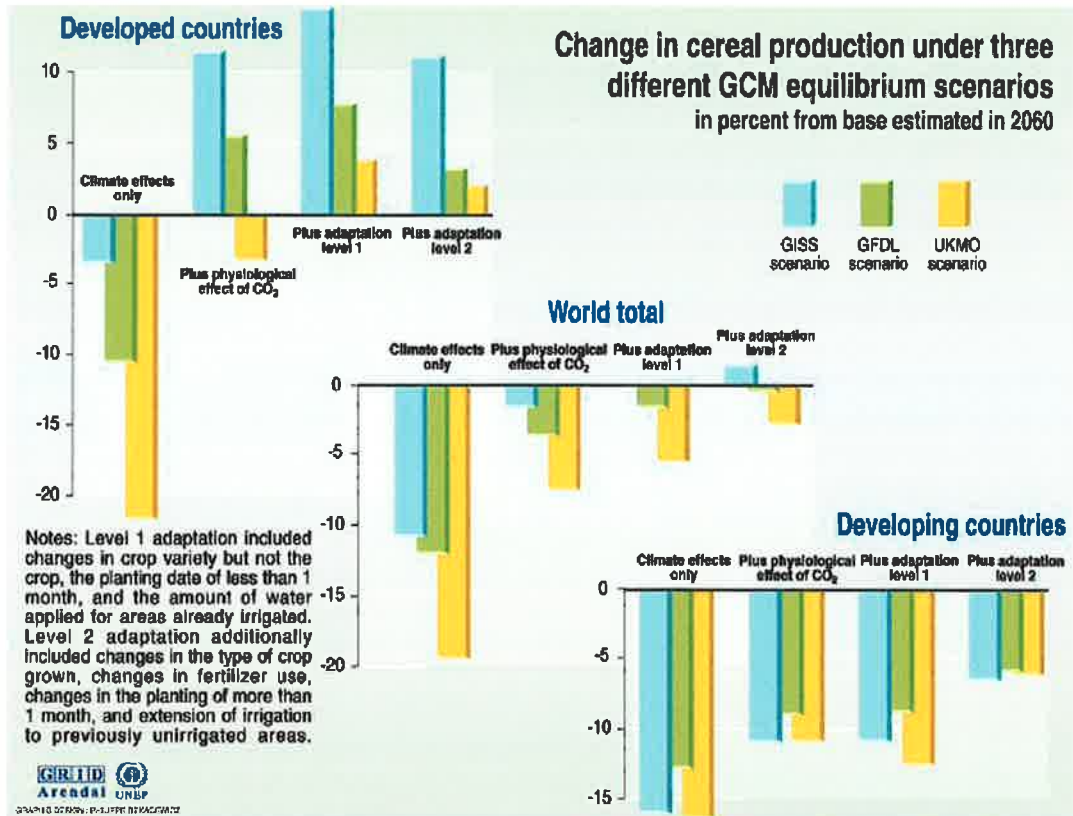


Disease	Vector	Population at risk (million) ¹	Number of people currently infected or new cases per year	Present distribution	Likelihood of altered distribution
Malaria	Mosquito	2,400 ²	300-500 million	Tropics and Subtropics	Highly likely
Schistosomiasis	Water snail	600	200 million	Tropics and Subtropics	Very likely
Lymphatic Filariasis	Mosquito	1 094 ³	117 million	Tropics and Subtropics	Likely
African Trypanosomiasis (Sleeping sickness)	Tsetse fly	55 ⁴	250 000 to 300 000 cases per year	Tropical Africa	Likely
Dracunculiasis (Guinea worm)	Crustacean (Copepod)	100 ⁵	100 000 per year	South Asia, Arabian Peninsula, Central-West Africa	Unknown
Leishmaniasis	Phlebotomine sand fly	350	12 million infected, 600 000 new cases per year ⁶	Asia, Southern Europe, Africa, Americas	Likely
Onchocerciasis (River blindness)	Black fly	123	17.5 million	Africa, Latin America	Very likely
American Trypanosomiasis (Chagas disease)	Triatomine bug	100 ⁷	18 million	Central and South America	Likely
Dengue	Mosquito	1,800	10-30 million per year	All Tropical countries	Very likely
Yellow Fever	Mosquito	480	more than 5 000 cases per year	Tropical South America, Africa	Likely

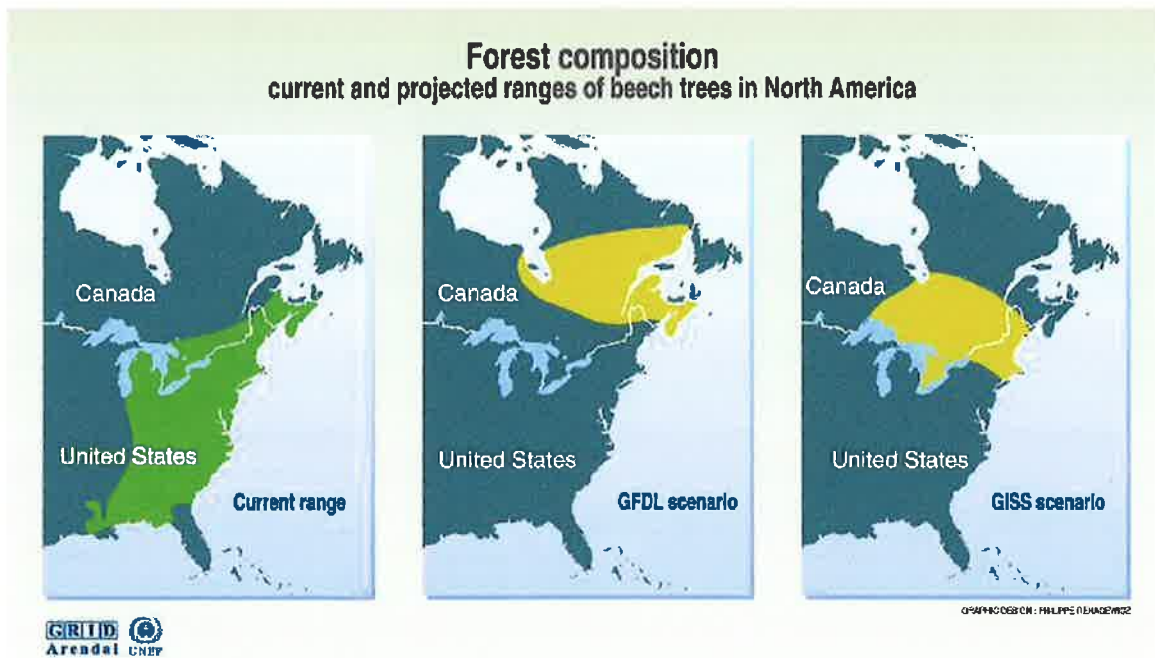
1. Top three entries are population-proxated projections, based on 1999 estimates.
 2. WHO, 1994.
 3. Michael and Bundy, 1996.
 4. WHO, 1994.
 5. Ranque, personal communication.
 6. Annual incidence of visceral leishmaniasis; annual incidence of cutaneous leishmaniasis is 1-1.5 million cases/yr (PAHO, 1994).
 7. WHO, 1995.

Highly likely Very likely Likely Unknown

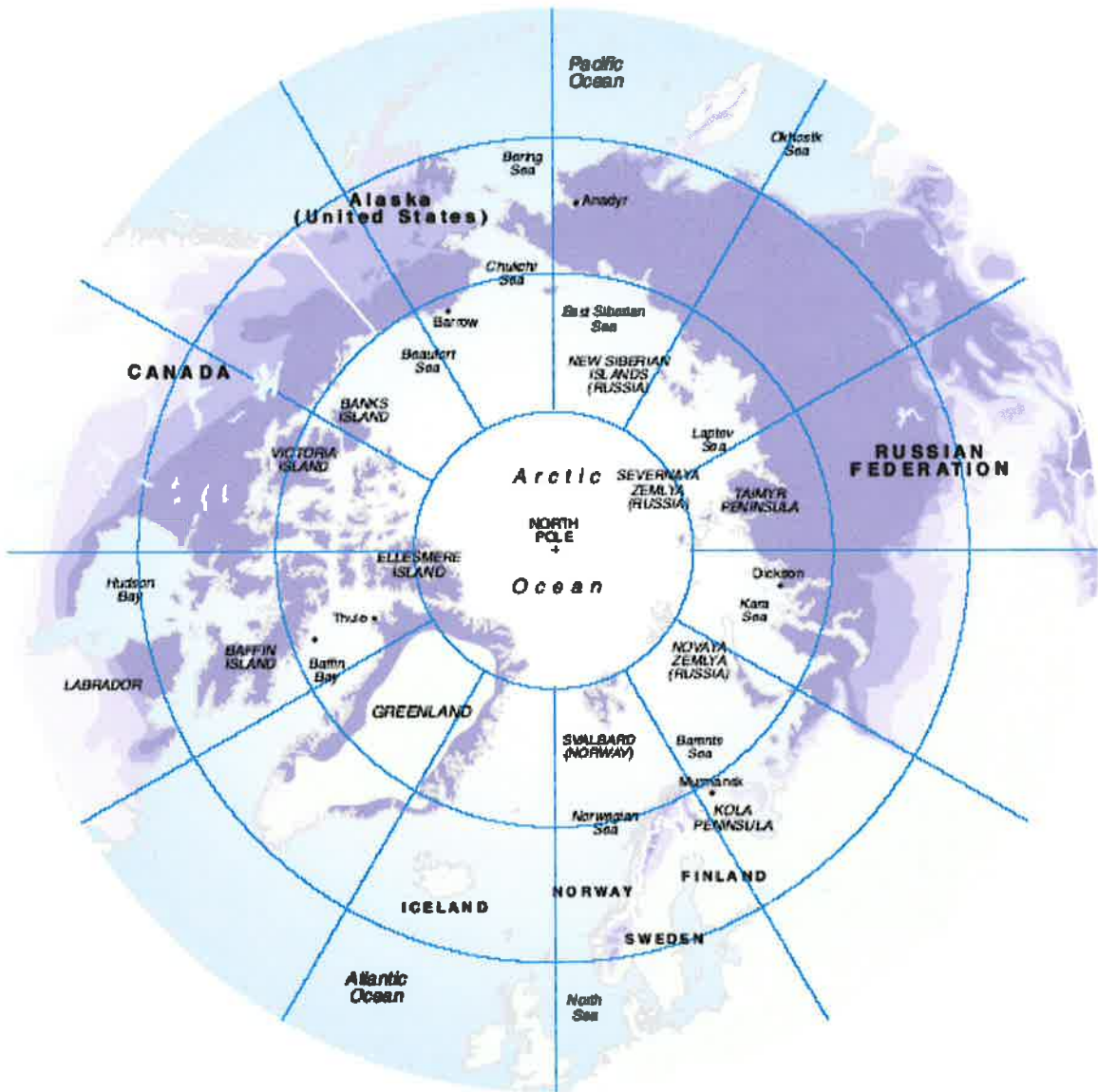




Source: Climate change 1995, Impacts, adaptations and mitigation of climate change: scientific-technical analysis, contribution of working group 2 to the second assessment report of the intergovernmental panel on climate change, UNEP and WMO, Cambridge press university, 1995.



Source : US Environmental Protection Agency (EPA), 1999.



People and global heritage on our last wild shores

Potential impact of sea level rise: Nile Delta

Population: 3 800 000
Cropland (Km²): 1 800



0.5 m

Population: 8 100 000
Cropland (Km²): 4 500



1.0 m



0 50 km

Source: Olo Ekenrot, UNEP/WHO, Prof. G. Sallin, Florence Remote Sensing Center, Olof GIERCKE Wolkstehtschalen



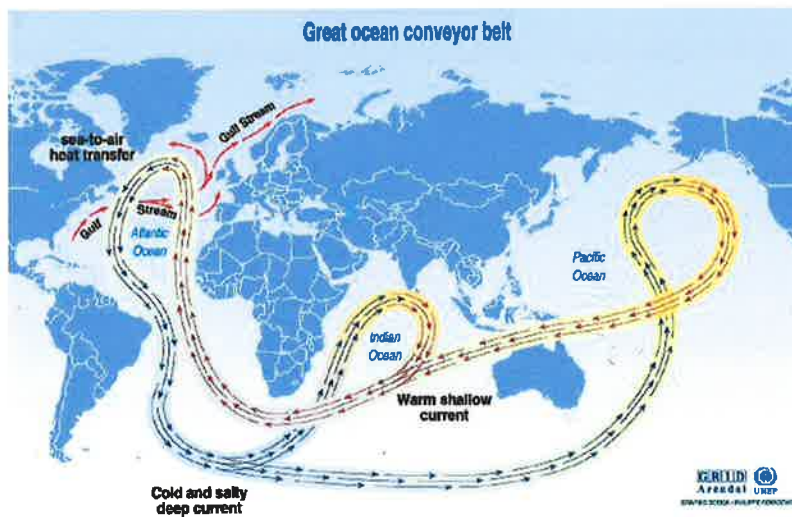
Chicago



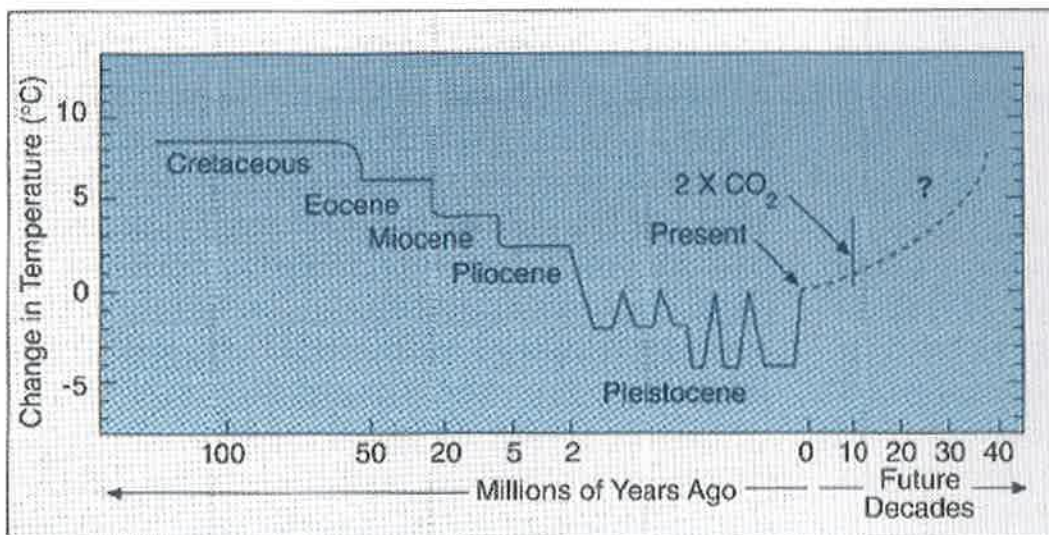
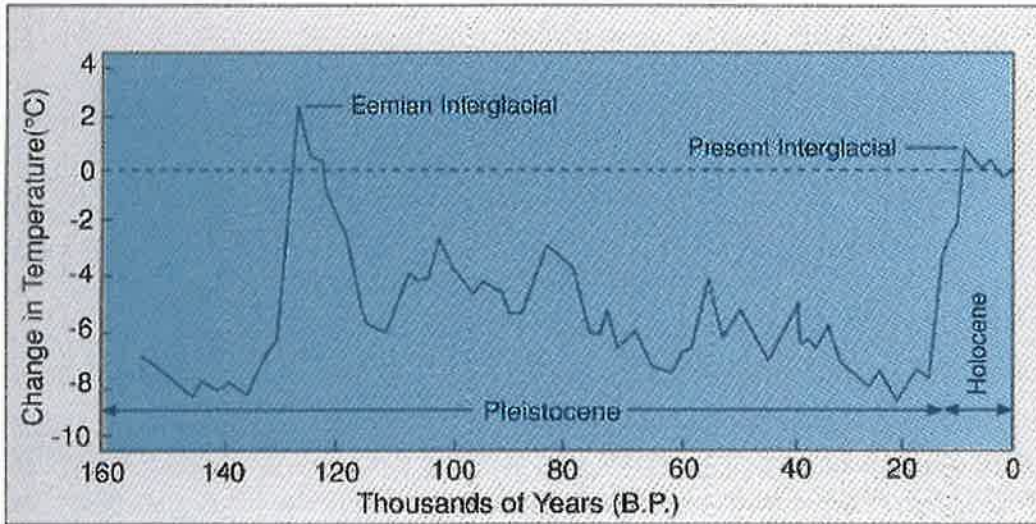
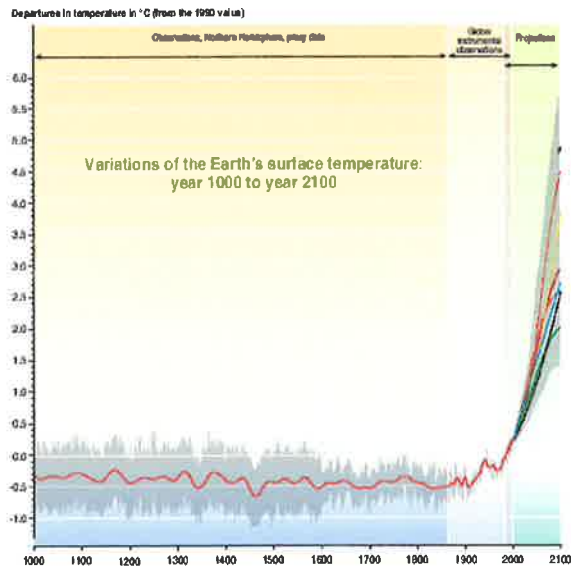
Dacca



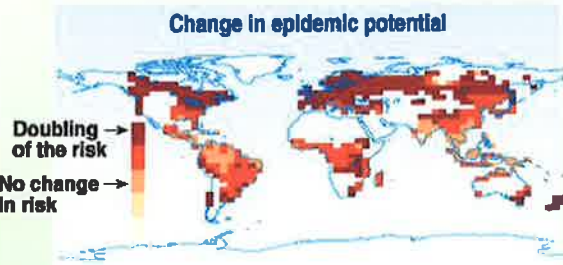
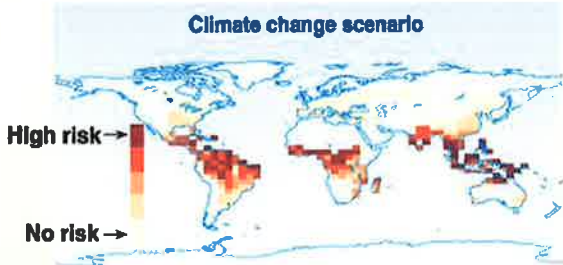
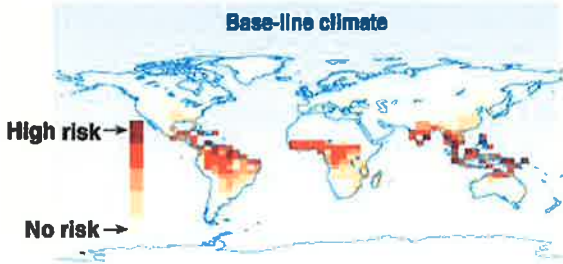
Paris



Source: Brackley, 1991, in Climate change 1995, impacts, adaptation and mitigation of climate change: scientific technical analysis, contribution of working group II to the second assessment report of the intergovernmental panel on climate change, UNEP and WMO, Cambridge press university, 1995.

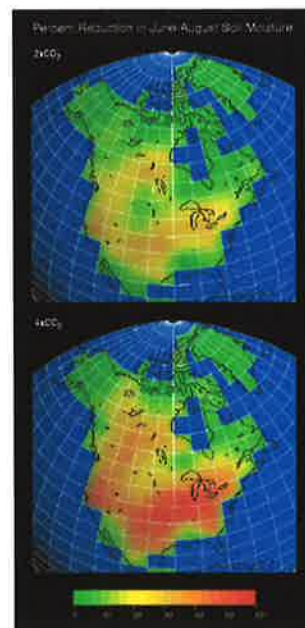
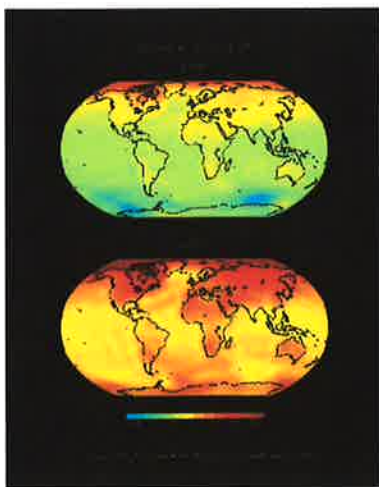
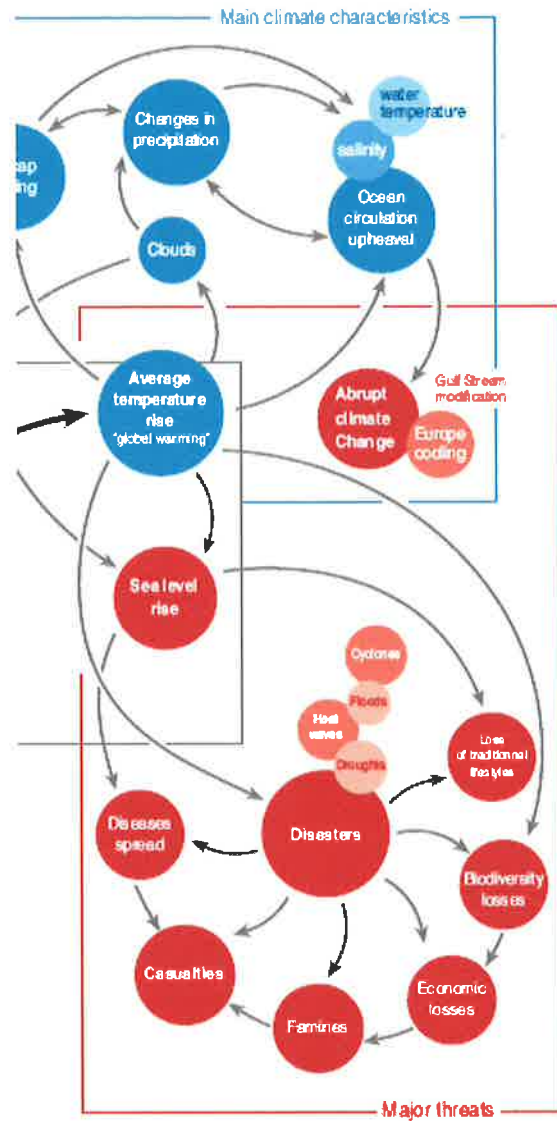


Malaria *Plasmodium vivax*



Potential malaria risk areas for base-line climate conditions (1831-1980) and for a global mean temperature increase of 1.16°C (based on the climate patterns generated by the ECHAM1-A GCM) and changes in average annual "epidemic potential" (EP), a measure of vectorial capacity, relative to base-line climate, for *P. vivax*.

Source: Martens, P. et al. (1995). Potential impacts of climate change on malaria risk. *Environment Health Perspectives*, 103(5), 458-464.



For the record.

I am not against coal, I'm against the incidental emissions of coal.

The trains that bring coal to Gainesville, go back empty. If we were really smart, we would put our waste wood into them, and have the miners store it underground. Then we would get carbon credits & create value on the return trip.

10 years from now, every Fortune 500 will have a Chief Climate Officer, or CCO.

Renewable energy is the new it, more money will be made in one decade in this sector than in 2 decades in the IT sector.

China will have more renewables than the US in less than 5 years.

The entire financial construct of plan A was between carbon, less carbon and rented carbon. This akin to a business plan that presumes all servers will either use Microsoft, less Microsoft, or rented Microsoft, while glossing over the fact that a 21 year old dude named Linus created the most popular server software in his attic, now with global market share of 37%, in less than 3 years.

As a shareholder in a utility, I am surprised that the fact that legislation is before congress today that makes the CO2 emissions of plan A legally impossible did not even get one bullet out of the 18 months, hundreds of staff hours and 23.8MB of submitted information.

If this legislation passes after we build the plant, we'd have to abandon it.

From a business perspective, I'd say we have a problem if a half billion \$ decision fails to even articulate both the market fundamentals and regulatory barriers.

I suspect some bias in the current management that may be financially unhealthy for both ratepayers and anticipated transfer.

I think we will have a new Manager of Utilities within a year, not because this one is not a nice guy, but this one simply doesn't recognize the changing landscape.

We will have 10,000 electric generators in our grid by 2020.

We have more pressing issues than debating the technical merits of a modern coal plant. For example, how do position ourselves so that we continue to money in a decarbonizing economy?

