



Sustainable Development Challenges and Green Purchasing

INDUSTRY MEET ON
GREEN SUPPLY & GREEN PURCHASING
Delhi, India
29 January 2006

INTERNATIONAL GREEN PURCHASING NETWORK



Ice Melt of Himalaya glacier AX010

Water flood of Mumbai
2005





Climate Change, plus 2

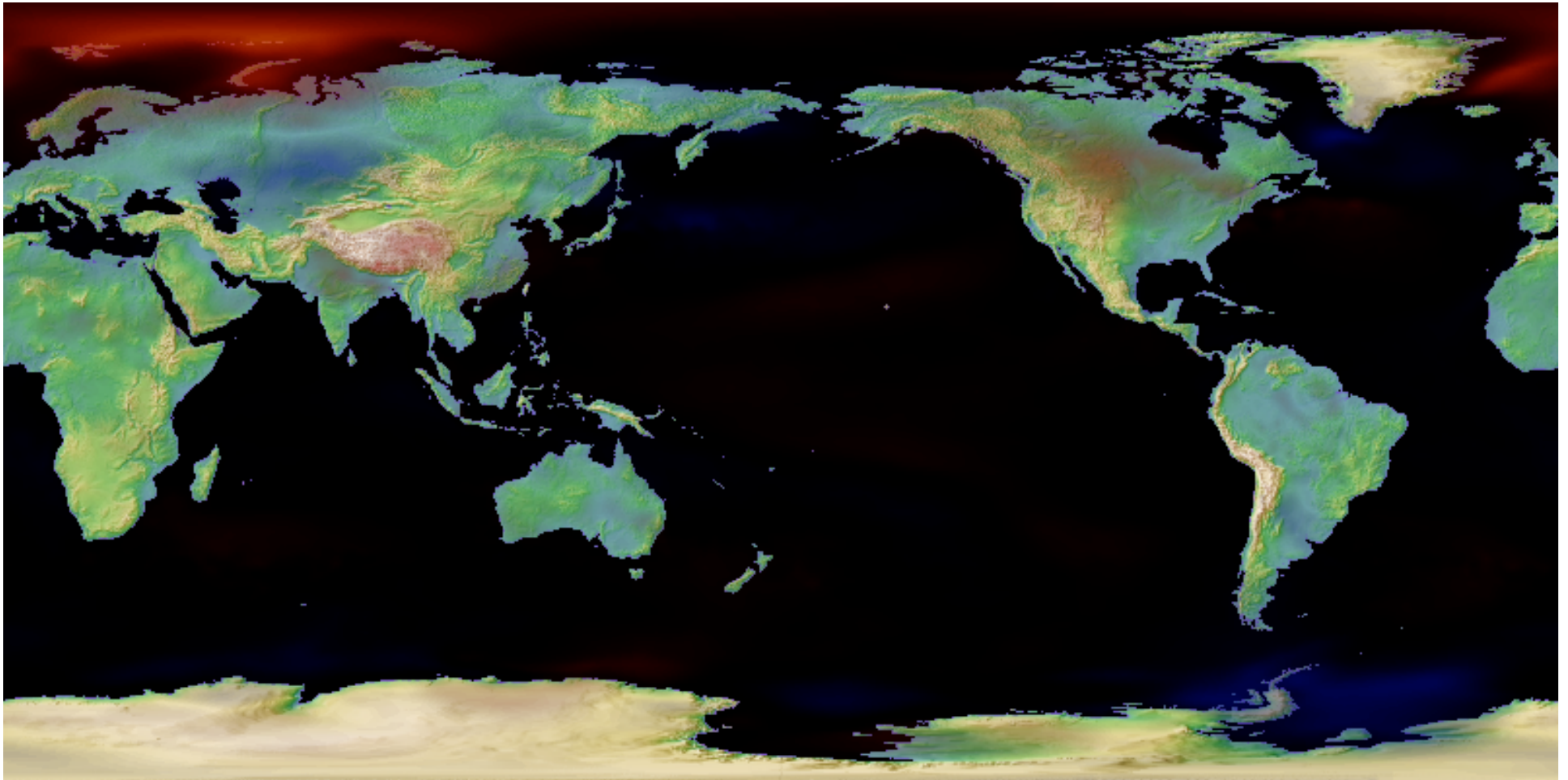
This is how the world
could change if the world
average temperature
rises by 2 !

Prediction of global warming by the Earth Simulator

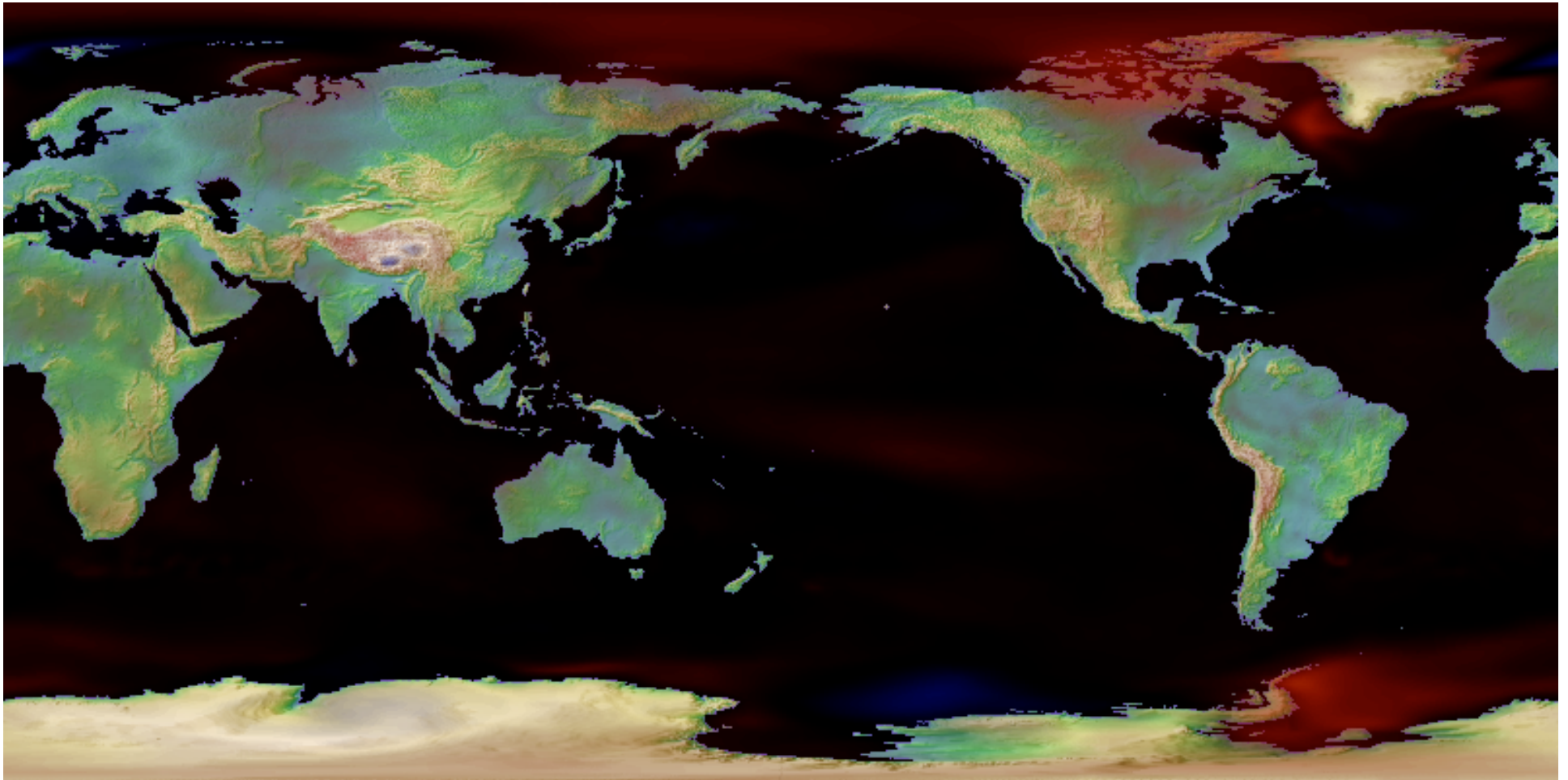
ref. Climate Change +2 (ed. by R. Yamamoto, Diamond Co., 2006)
Avoiding Dangerous Climate Change (2006)



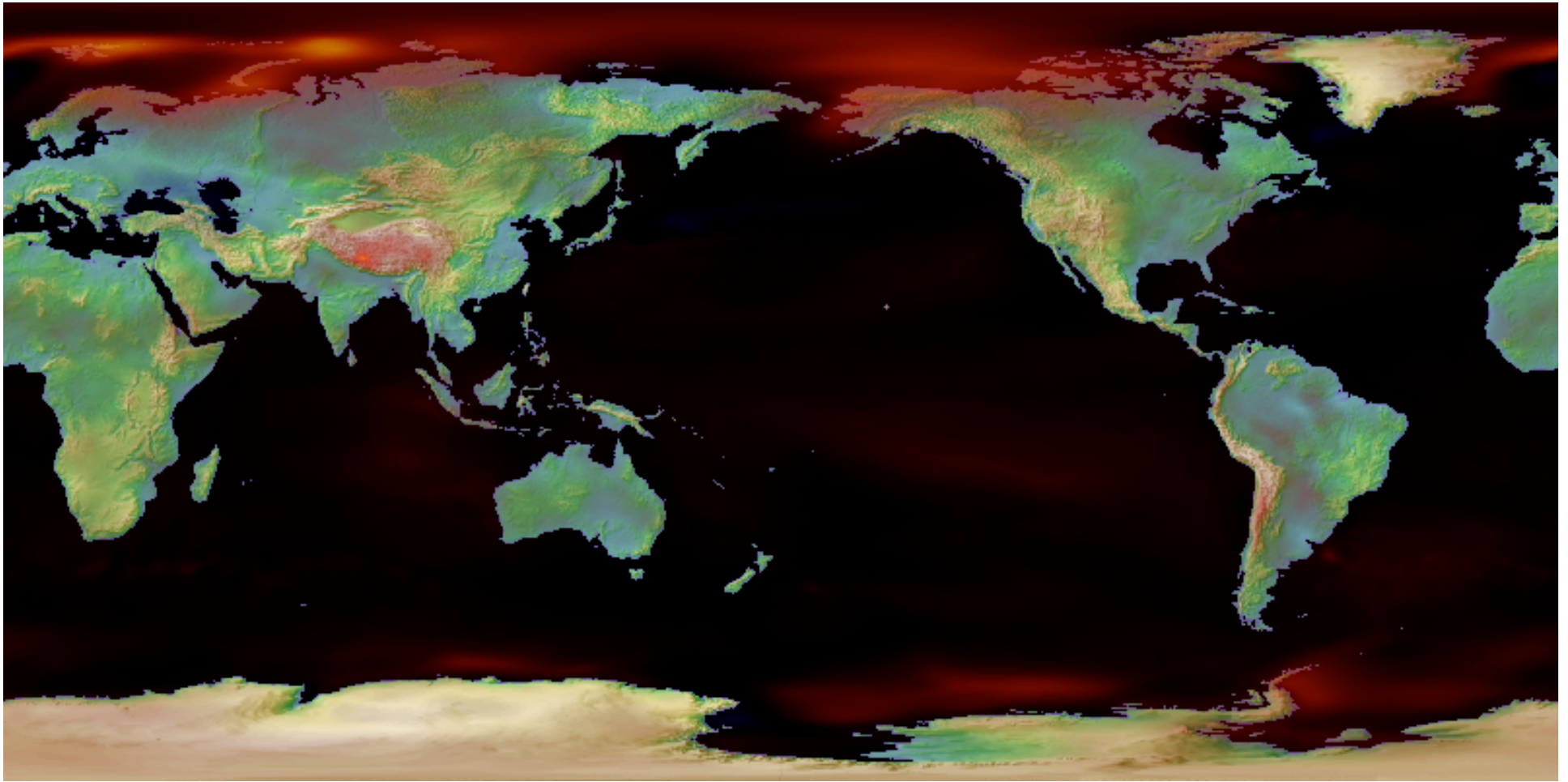
Temperature increase compared to pre- industrial level	Year predicted	Environmental impacts to be expected
1.5	2016	Trigger the melting of Greenland ice sheet, etc
2	2028	1.0 - 2.8 billions people would suffer from water shortage, etc
3	2052	Collapse of climate, such as unstablisation of West Antarctic ice sheet, etc
4	2070	Collapse of Australian Agriculture,etc



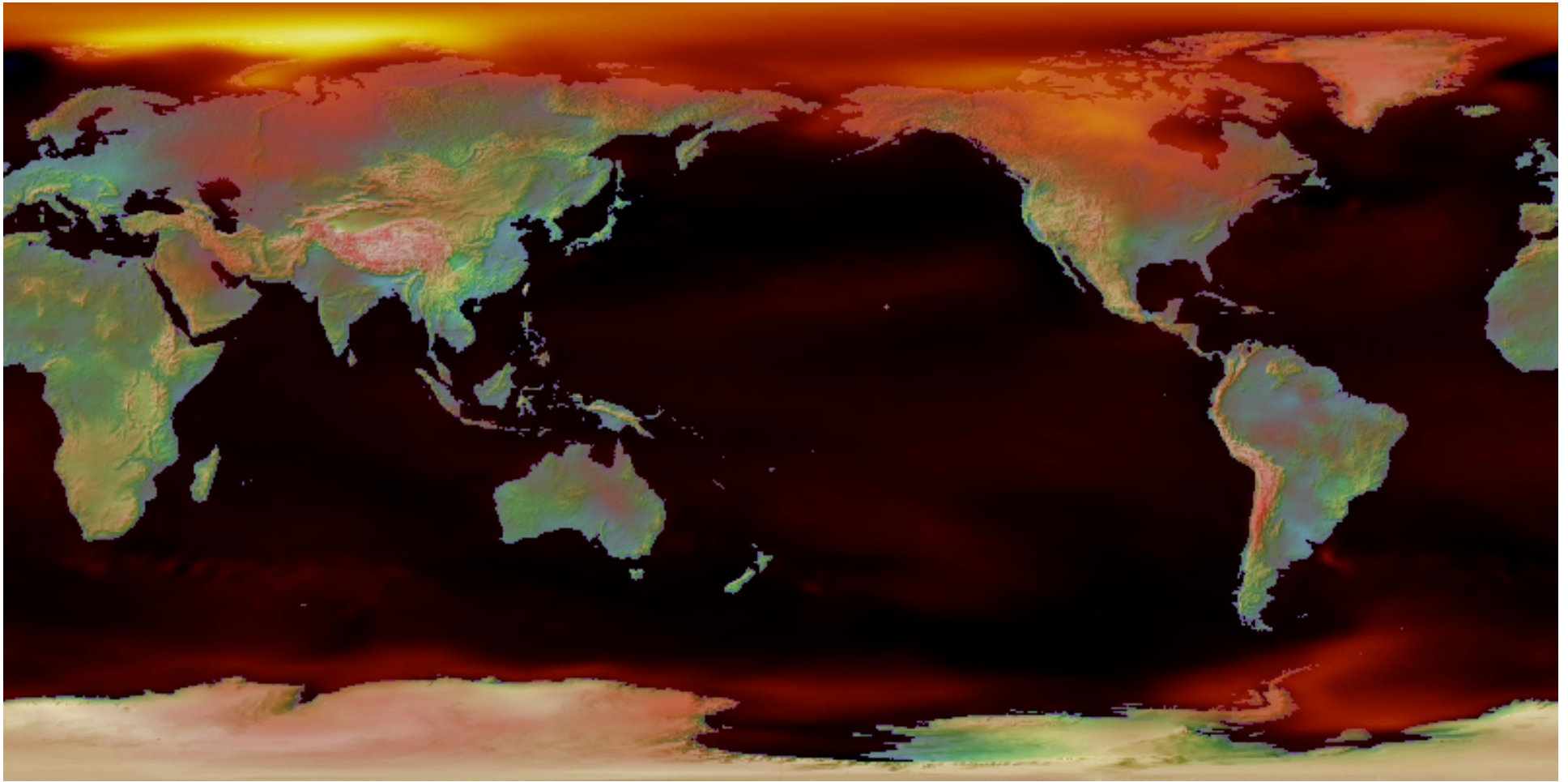
1950



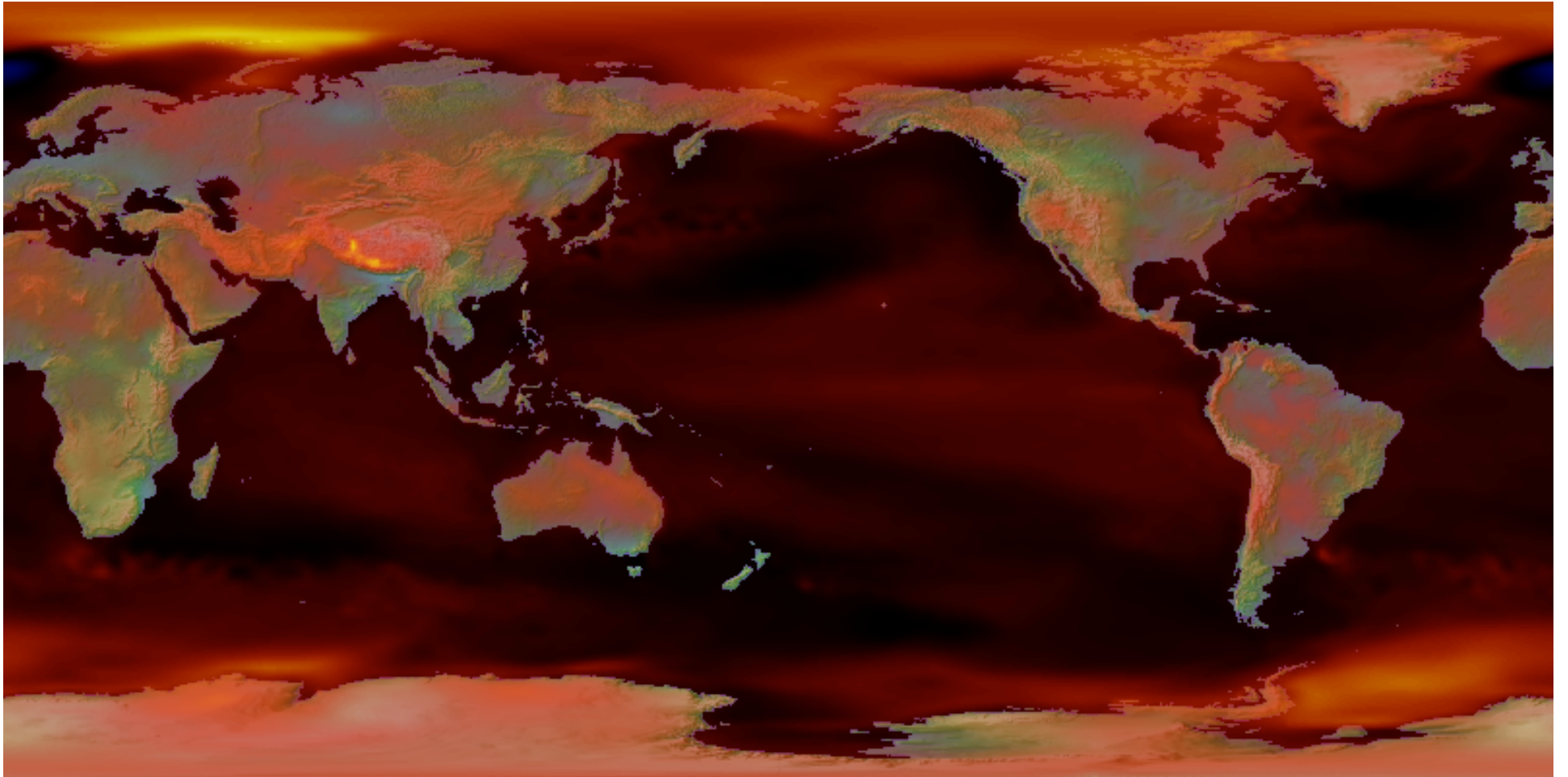
1989



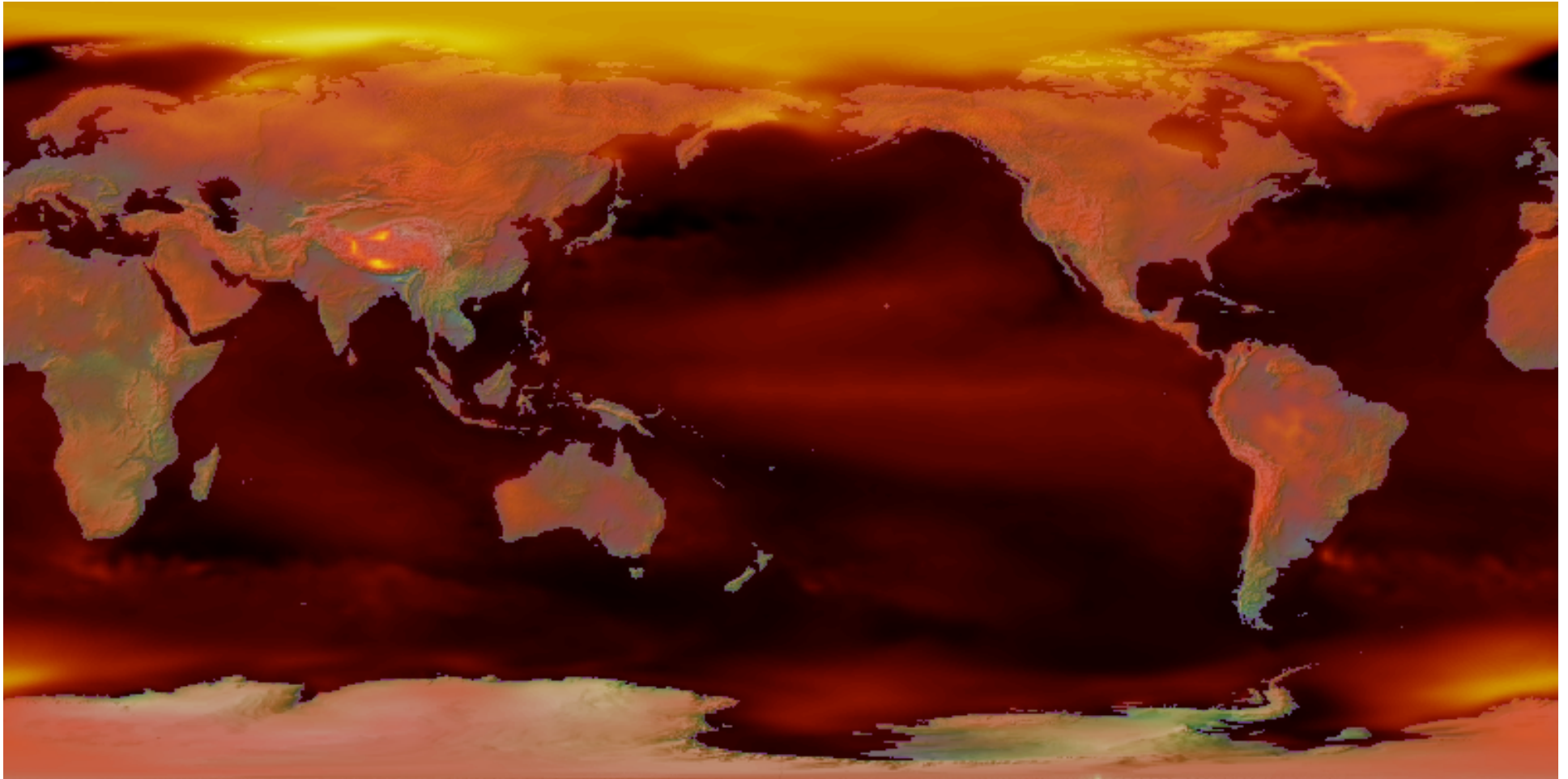
1998



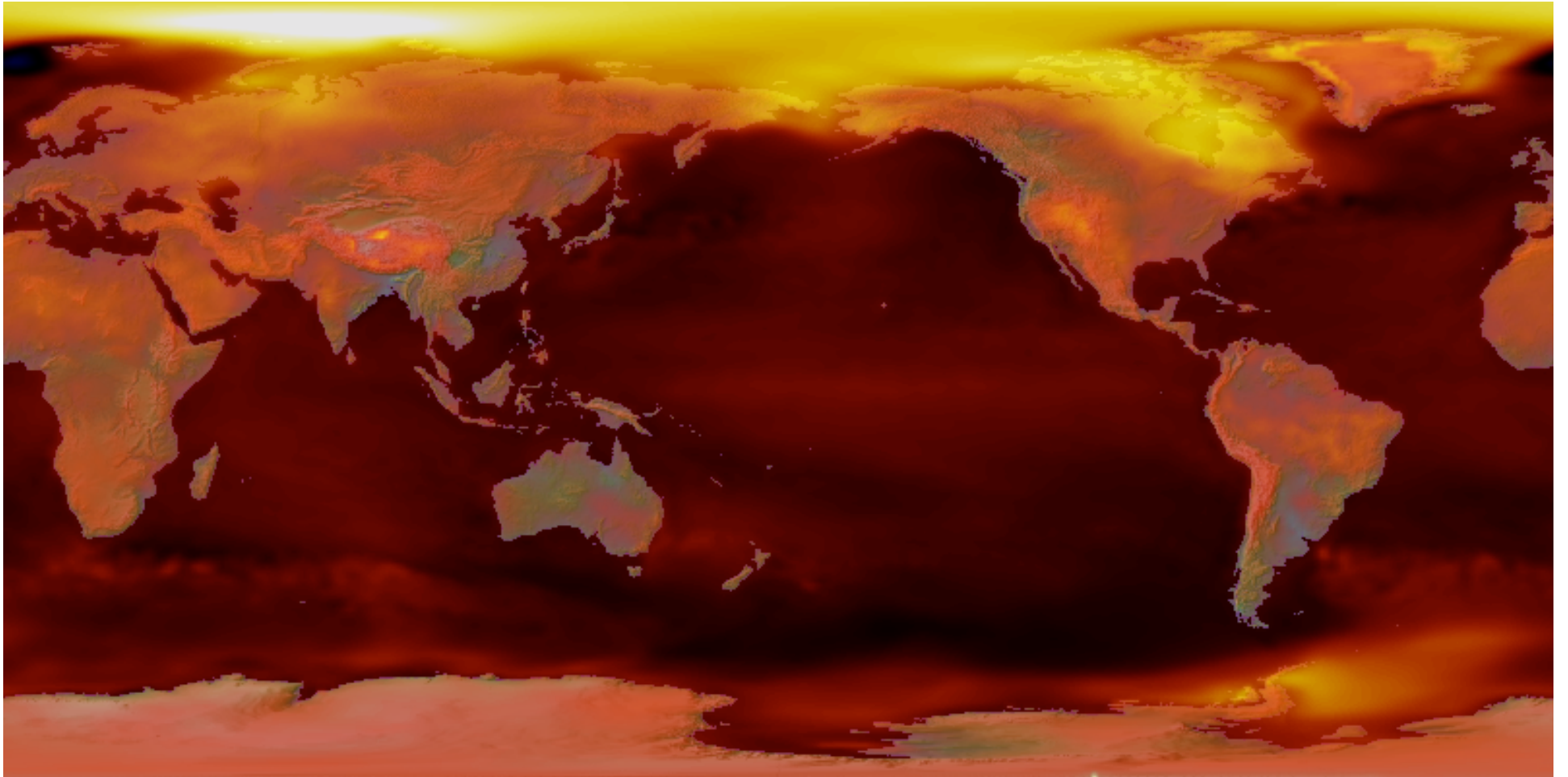
2016



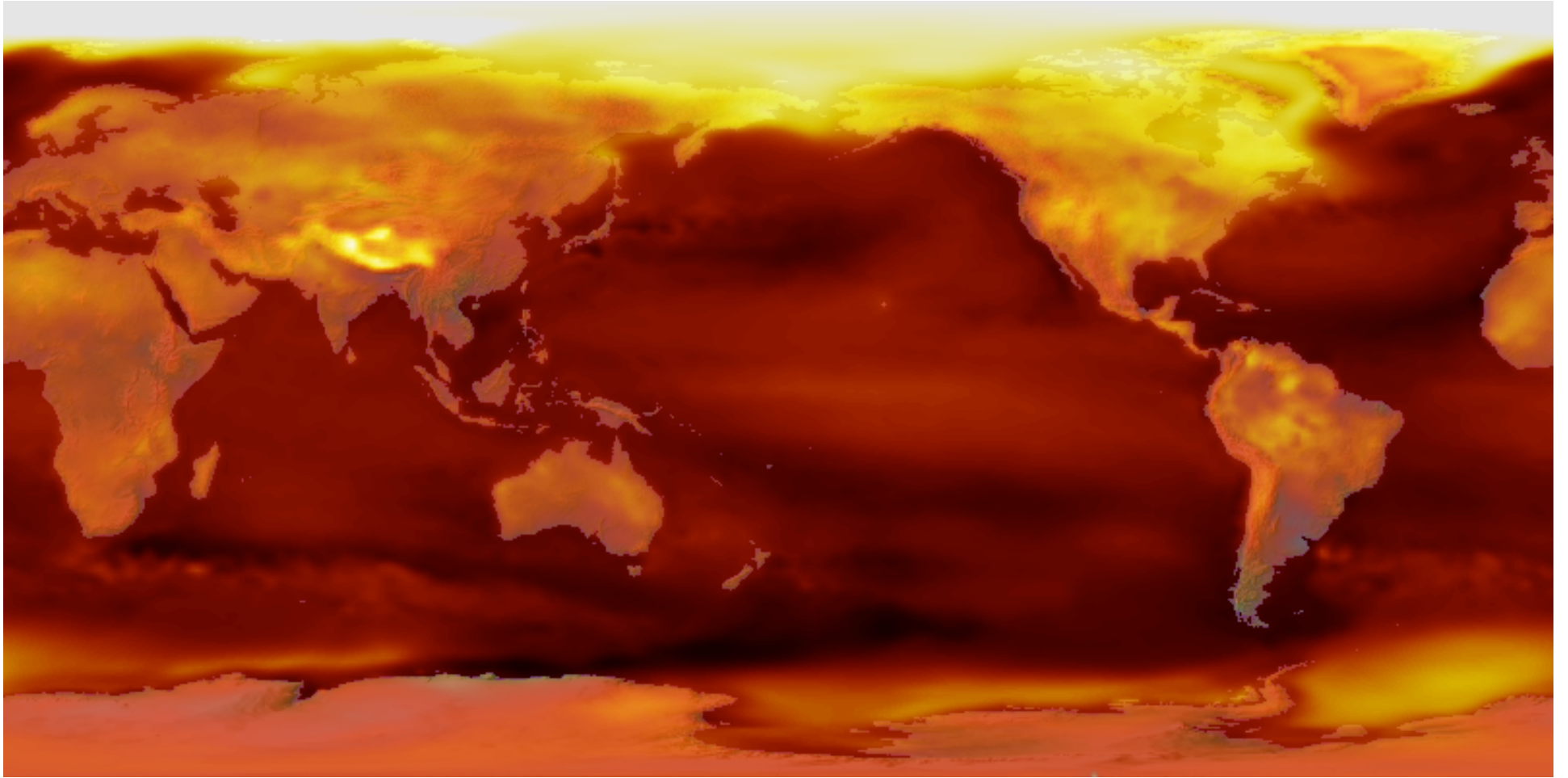
2028



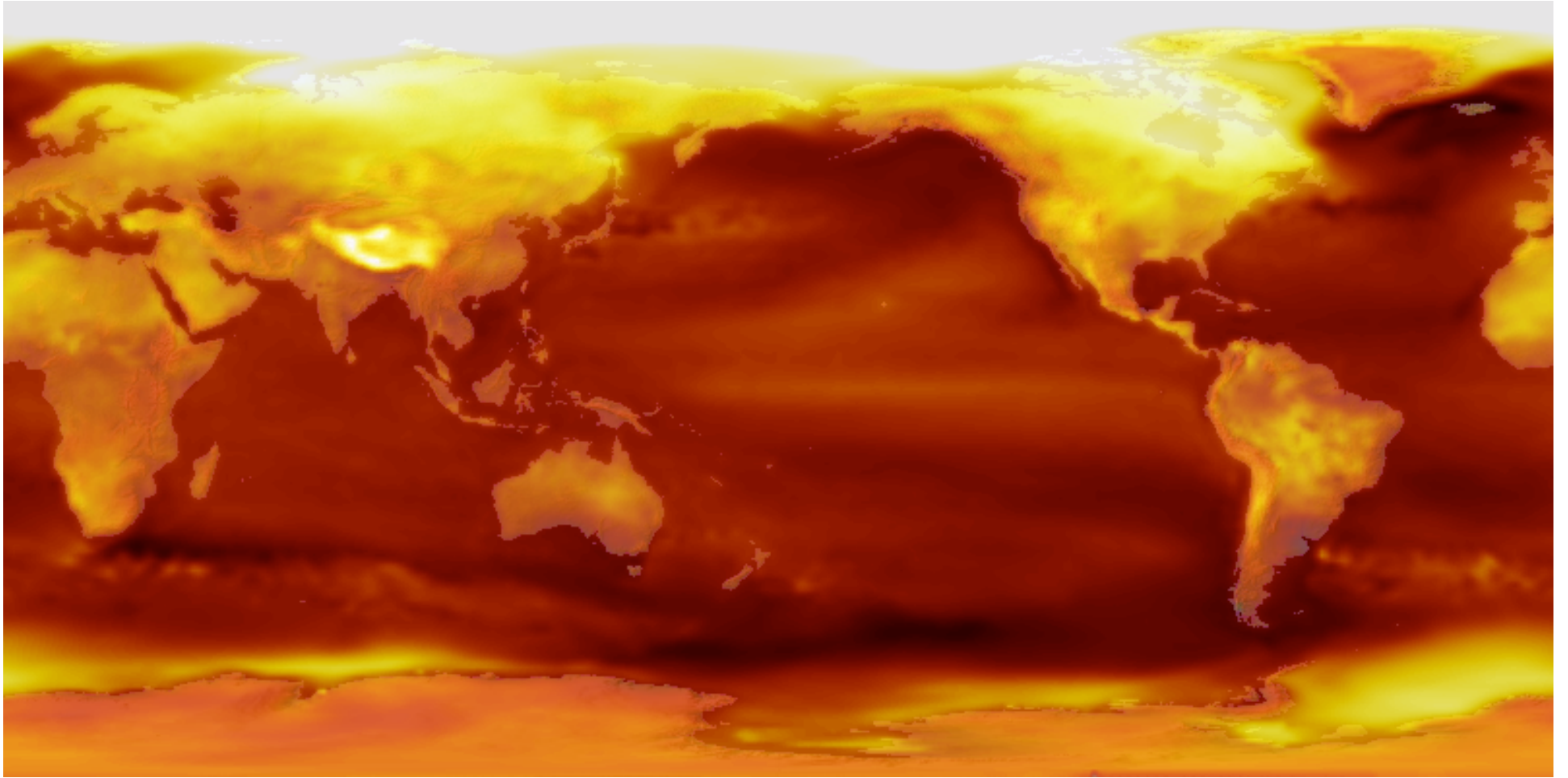
2040



2052



2070



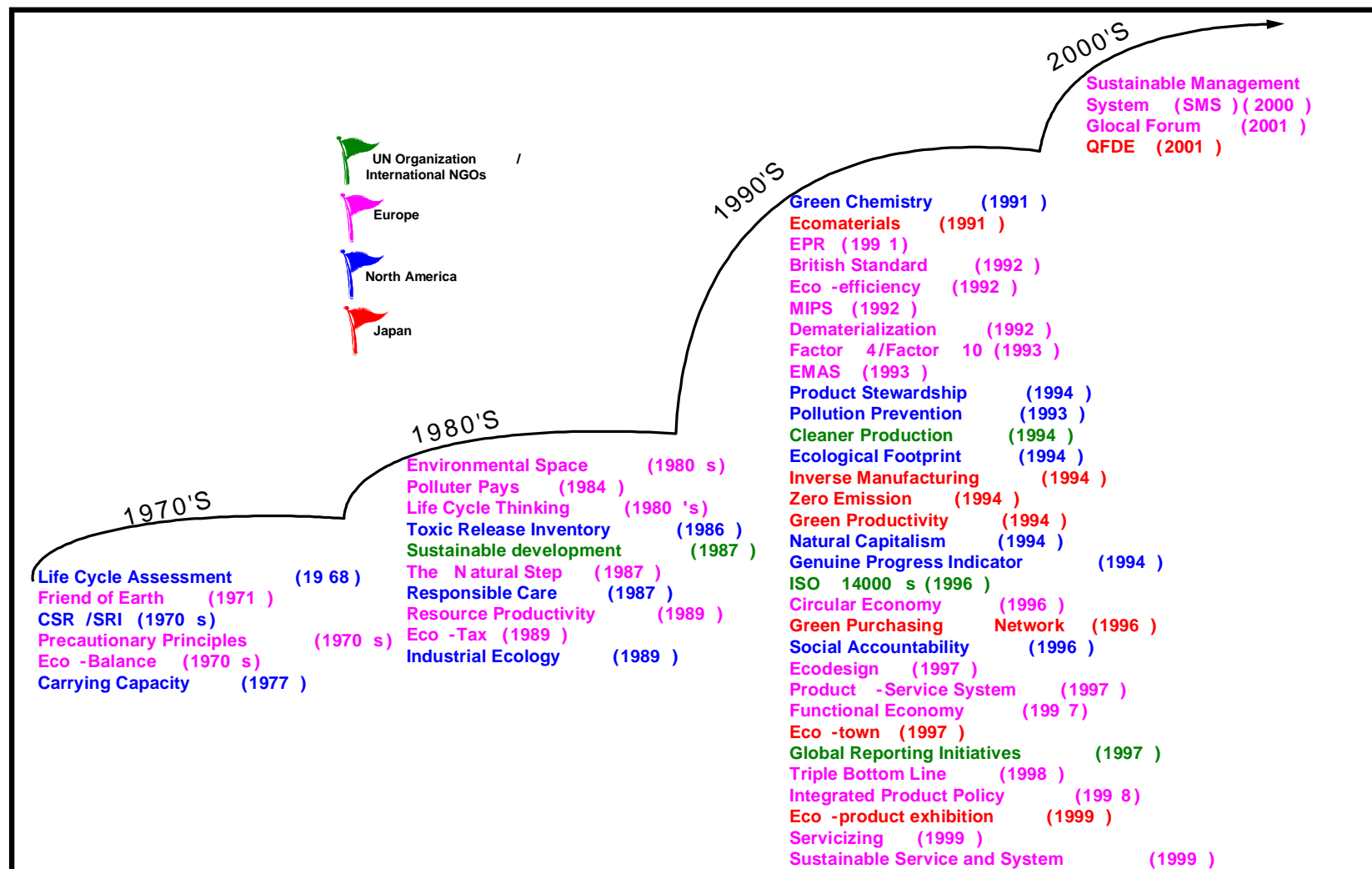
2100

Points of No Return?



- ~ **2006** **Point of No Return for mass extinction of bio-species and triggering the melting of Greenland ice sheets**
- ~ **2016** **Point of No Return for avoiding great climate change for human beings**

Sustainable Development related concepts/methodologies proposed



Examples of Sustainable Development related concepts



Eco-materials

Definition

Eco-materials concept was proposed by Professor Yamamoto and his colleagues in 1991. They are those designed by environmental life cycle engineering and superior to conventional materials in term of LCA.



Ecological Rucksacks

Ecological Rucksacks was proposed by Schmidt Bleek in 1993 along with several terms such as Material Intensity Per unit Service (MIPS) and Factor 10.



The Natural Step

The Natural Step (TNS) concept was first introduced by Dr. Robert Karl-Henrik in 1989 with the help of 50 scientists in Sweden. At this moment, TNS has established its pathfinders in 7 countries including Sweden, UK, US, Canada, Australia, Japan and South Africa.

Definition

This concept consists of four ecological and social sustainable system conditions as well as a framework of ABCD-analysis which utilised the methodology of back-casting for envisioning the future before planning to tackle problem.



Zero Emission

Zero Emission concept was introduced first in 1994 by Gunter Pauli at United Nations University (UNU) in Japan.

Definition

ZE is a practical approach to satisfying humanity's needs for water, food, energy, jobs, shelter and more, in an environmentally sustainable manner, by applying science and technology and involving government, business and academia.



Eco-Products exhibition in Tokyo



Tokyo Big Sight East Exhibition Hall / 3 days in December / Every year since 1999 /
Organised by JEMAI and Nikkei Journal / Supported by METI Japan
<http://eco-pro.com>

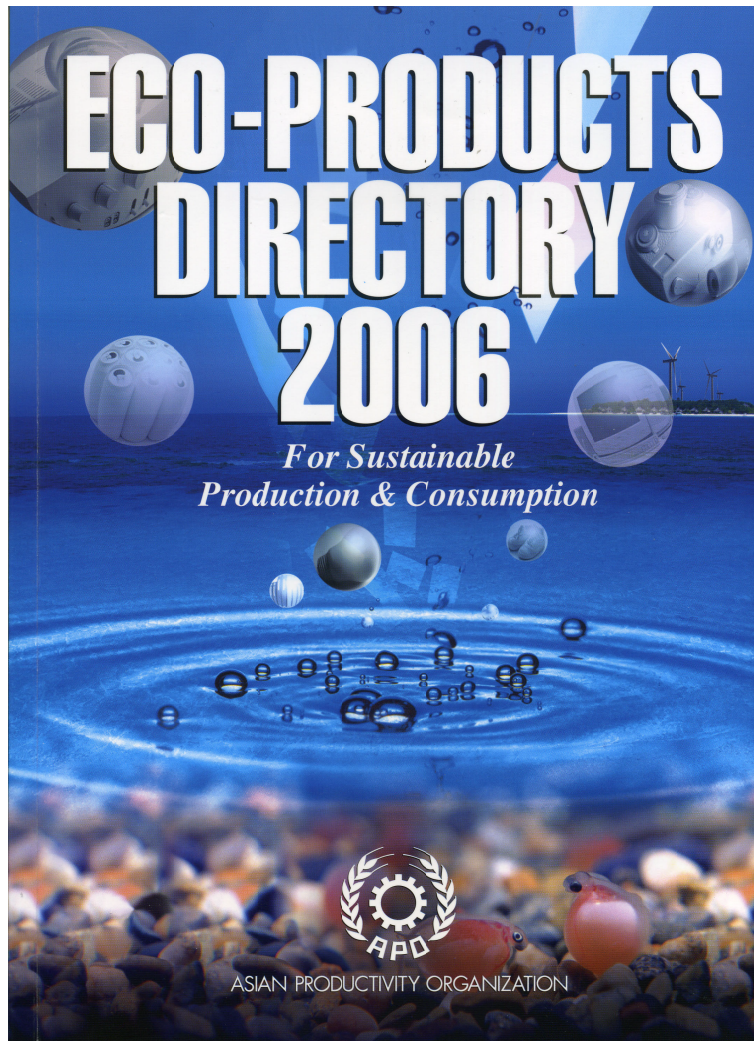
Objectives

- Transition from old industrial economy to circular economy (or new service economy)
- Revolutionising consumer awareness on wider use of eco-products and eco-services

<u>Year</u>	<u>Exhibitors</u>	<u>Visitors</u>	<u>Keynote Speaker</u>
1999	288	47,449	Prof. Von Weizsacker
2000	305	67,838	Dr. Stahel
2001	350	88,604	CEO of Hitachi, Dr. Stevel
2002	370	100,483	CEO of Ricoh
2003	416	114,000	CEO of National/Panasonic
2004	450	124,000	CEO of Sharp
2005	500	140,461	CEO of Toshiba
2006	572	152,966	CEO of Hitachi



Eco-Products exhibition in Tokyo 2006



- Eco-materials: 71
- Eco-components: 39
- Eco-products: 453
- Eco-services: 28

“Eco-products International Fair 2006” in Singapore, October 31 – November 2

