

PROBABILITY OF SCENARIO:

MEAN NORTHERN HEMISPHERE TEMPERATURE CHANGE SINCE 1969:

PROBABILITY OF TEMPERATURE CHANGE BY LATITUDE

(Compared with 1970-75)

		1.0-1.5°C colder	0.5-1.0°C colder	0.0-0.5°C colder	0.0-0.5°C warmer	0.5-1.0°C warmer	1.0-1.5°C warmer	1.5-2.0°C warmer	2.0-3.0°C warmer	3.0-5.0°C warmer
Northern hemisphere	Polar									
	Higher mid-latitude									
	Lower mid-latitude									
	Subtropical									
Southern hemisphere	Subtropical									
	Lower mid-latitude									
	Higher mid-latitude									
	Polar									

PROBABILITY OF PRECIPITATION CHANGE BY LATITUDE

(Compared with 1941-70)

	ANNUAL			GROWING SEASON		
	Increase >10%	Change <10%	Decrease >10%	Increase >10%	Change <10%	Decrease >10%
Higher mid-latitude						
Lower mid-latitude						
Subtropical						

PROBABILITY OF PRECIPITATION VARIABILITY CHANGE BY LATITUDE

(Compared with 1950-75)

	ANNUAL			GROWING SEASON		
	Increase >25%	Change <25%	Decrease >25%	Increase >25%	Change <25%	Decrease >25%
Higher mid-latitude						
Lower mid-latitude						
Subtropical						

RELATIVE IMPORTANCE OF CARBON DIOXIDE AND TURBIDITY (PERCENT) DURING THE PERIOD 1975-2000	Carbon dioxide	Fluoro-carbons	Smoke	Volcanic dust	Other particles

	1977-80			1981-90			1991-2000		
	Frequent	Average	Infrequent	Frequent	Average	Infrequent	Frequent	Average	Infrequent
PROBABILITY OF MID-LATITUDE DROUGHT*									
United States									
Other									
PROBABILITY OF SAHEL DROUGHT**									
PROBABILITY OF MONSOON FAILURE***									
Northwest India									
Other India									
Other Monsoon Asia									

**Frequent*--similar to early to mid-1930s and early to mid-1950s; *average*--similar to the frequency over the longest period of record available; *infrequent*--similar to 1940s and 1960s.

***Frequent*--similar to 1940-50 and 1965-73 periods; *average*--similar to the frequency over the longest period of record available; *infrequent*--similar to 1950-65 period.

****Frequent*--similar to 1900-25 period; *average*--similar to the frequency over the longest period of record available; *infrequent*--similar to 1930-60 period.

WORLD CLIMATIC CHANGE AND VARIABILITY,
1977 - 1990: FIVE SCENARIOS

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CLIMATE SCENARIO 1:

LARGE GLOBAL COOLING

The global cooling trend that began in the 1940s accelerated rapidly in the last quarter of the 20th century. The average global temperature reached its lowest value of the past century a few years before the century ended. By the year 2000, the world on the whole was about 0.6°C colder than in the mid-'70s and climatic conditions showed a striking similarity to the period around 1820. Climatologists explained this large global cooling in terms of the natural solar-induced climatic cycles. The expected warming effects of increasing amounts of carbon dioxide in the atmosphere never materialized.

While temperature decreased over the entire globe, the largest drop occurred in the higher and lower middle latitudes of the northern hemisphere. On the average, these latitudes cooled by slightly more than 1°C compared to the early '70s.* Because of the expansion of the polar ice cap, however, the north polar latitudes only cooled by about 0.5°C.* The northern and southern subtropical latitudes showed a similar 0.5°C decrease in average temperature, while the rest of the southern latitudes showed a 1°C decrease.*

By the year 2000, it was also raining less. Annual precipitation levels in continental areas decreased on the average. Growing season precipitation declined in the higher middle and subtropical latitudes; it increased in the lower middle latitudes.*

Precipitation also became more variable. The westerlies showed a pronounced shift from the higher middle to lower middle latitudes. This shift brought temporary, yet severe, hit-and-run droughts (severe droughts for a year or two, reversing the next year) as well as severe cold spells (including early and late killing frosts) in the lower middle latitudes. The

*The climatologists who participated in this study expressed a much higher degree of uncertainty than these statements reflect. See the attached tables for the range of uncertainty.

higher middle latitudes, particularly Canada, from which the westerlies were displaced, suffered an increased incidence of long-term drought and cold. In the subtropical latitudes, the subtropical highs tended to displace the tropical easterly rainbelt and, hence, increased the incidence of long periods of hot weather. The center and intensity of the Asiatic monsoon changed dramatically between the late '70s and the turn of the century. The frequency of monsoon failure in northwest India increased to such an extent that the last decade of the 20th century bore a strong resemblance to the period from 1900 to 1925. On the other hand, areas such as the Sahel region, which had experienced severe drought in the late '60s and early '70s, returned to more stable weather conditions, such as those which occurred during 1950-65.

LARGE GLOBAL COOLING

PROBABILITY OF SCENARIO: 0.08

MEAN GLOBAL TEMPERATURE CHANGE: between 0.4° and 1.2°C colder

PROBABILITY OF TEMPERATURE CHANGE BY LATITUDE

		1.0-1.5°C colder	0.5-1.0°C colder	0.0-0.5°C colder	0.0-0.5°C warmer	0.5-1.0°C warmer	1.0-2.0°C warmer	2.0-3.0°C warmer	3.0-4.0°C warmer	4.0-5.0°C warmer
Northern hemisphere	Polar	0.1	0.4	0.4	0.1					
	Higher mid-latitude	0.6	0.4							
	Lower mid-latitude	0.8	0.2							
	Subtropical		0.5	0.5						
Southern hemisphere	Subtropical		0.5	0.5						
	Lower mid-latitude	0.5	0.5							
	Higher mid-latitude	0.5	0.5							
	Polar	0.5	0.5							

PROBABILITY OF PRECIPITATION CHANGE BY LATITUDE

	ANNUAL			GROWING SEASON		
	Increase >10%	Change <10%	Decrease >10%	Increase >10%	Change <10%	Decrease >10%
Higher mid-latitude	0.2	0.5	0.3	0.2	0.5	0.3
Lower mid-latitude	0.2	0.5	0.3	0.3	0.5	0.2
Subtropical	0.2	0.5	0.3	0.2	0.4	0.4

PROBABILITY OF PRECIPITATION VARIABILITY CHANGE BY LATITUDE

	ANNUAL			GROWING SEASON		
	Increase >25%	Change <25%	Decrease >25%	Increase >25%	Change <25%	Decrease >25%
Higher mid-latitude	0.3	0.5	0.2	0.3	0.6	0.1
Lower mid-latitude	0.3	0.5	0.2	0.4	0.4	0.2
Subtropical	0.4	0.4	0.2	0.4	0.4	0.2

LARGE GLOBAL COOLING

	Carbon dioxide	Fluoro-carbons	Smoke	Volcanic dust	Other particles
RELATIVE IMPORTANCE OF CARBON DIOXIDE AND TURBIDITY (PERCENT)	20	50	10	20	-

	1977-80			1981-90			1991-2000		
	Frequent	Average	Infrequent	Frequent	Average	Infrequent	Frequent	Average	Infrequent
PROBABILITY OF MID-LATITUDE DROUGHT*									
United States	0.1	0.2	0.7	0.1	0.2	0.7		0.2	0.8
Other	-	-	-						
PROBABILITY OF SAHEL DROUGHT**		0.3	0.7		0.5	0.5		0.1	0.9
PROBABILITY OF MONSOON FAILURE***									
Northwest India	0.6	0.4		0.8	0.2		0.9	0.1	
Other India									
Other Monsoon Asia									

**Frequent*--similar to early to mid-1930s and early to mid-1950s; *average*--similar to the frequency over the longest period of record available; *infrequent*--similar to 1940s and 1960s.

***Frequent*--similar to 1940-50 and 1965-73 periods; *average*--similar to the frequency over the longest period of record available; *infrequent*--similar to 1950-65 period.

****Frequent*--similar to 1900-25 period; *average*--similar to the frequency over the longest period of record available; *infrequent*--similar to 1930-60 period.

CLIMATE SCENARIO 2:
MODERATE GLOBAL COOLING

The global cooling trend that began in the 1940s continued through the last quarter of the 20th century. By the year 2000, average global temperature had decreased by approximately 0.25°C compared to the mid-'70s; it was now beginning to show signs of increasing again. Climatologists explained this trend principally in terms of a natural, solar-induced cooling cycle, moderated by the warming effects of increasing amounts of carbon dioxide in the atmosphere.

While temperature decreased over the entire globe, the largest temperature decreases occurred in the higher latitudes of the northern hemisphere. Specifically, the polar latitudes of the northern hemisphere cooled by 1°C; the upper middle latitudes by 0.5°C; the lower middle latitudes by 0.35°C; and the subtropical latitudes by 0.25°C.* The southern hemisphere, with its more zonal circulation and larger ocean area, cooled more uniformly and slowly; here, the polar latitude cooled by 0.15°C; the higher and lower middle latitudes by 0.20°C; and the subtropical latitudes by 0.25°C.*

The growing season as well as annual precipitation levels remained unchanged in the lower middle latitudes but decreased slightly in the higher middle and subtropical latitudes.* Annual precipitation variability increased slightly compared to the 1940-70 period. In addition, there was a tendency toward increased variability during the growing season, especially at lower latitudes.*

Drought conditions again plagued the mid-latitude areas of the United States, corroborating the 20- to 22-year drought cycle hypothesis. In the other mid-latitude areas of the world, the drought conditions of the '70s persisted. Droughts were also more frequent in the Sahel region, as was monsoon failure in Asia.

*The climatologists who participated in this study expressed a much higher degree of uncertainty than these statements reflect. See the attached tables for the range of uncertainty.

MODERATE GLOBAL COOLING

PROBABILITY OF SCENARIO: 0.25

MEAN GLOBAL TEMPERATURE CHANGE: between 0.1° and 0.4°C colder

PROBABILITY OF TEMPERATURE CHANGE BY LATITUDE

		1.0-1.5°C colder	0.5-1.0°C colder	0.0-0.5°C colder	0.0-0.5°C warmer	0.5-1.0°C warmer	1.0-2.0°C warmer	2.0-3.0°C warmer	3.0-4.0°C warmer	4.0-5.0°C warmer
Northern hemisphere	Polar	0.7	0.1	0.1	0.1					
	Higher mid-latitude	0.1	0.4	0.4	0.1					
	Lower mid-latitude	0.1	0.1	0.7	0.1					
	Subtropical		0.2	0.7	0.1					
Southern hemisphere	Subtropical		0.2	0.6	0.1	0.1				
	Lower mid-latitude	0.1	0.2	0.3	0.3	0.1				
	Higher mid-latitude	0.1	0.2	0.3	0.4					
	Polar	0.2	0.2	0.2	0.3	0.1				

PROBABILITY OF PRECIPITATION CHANGE BY LATITUDE

	ANNUAL			GROWING SEASON		
	Increase >10%	Change <10%	Decrease >10%	Increase >10%	Change <10%	Decrease >10%
Higher mid-latitude	0.2	0.5	0.3	0.2	0.5	0.3
Lower mid-latitude	0.2	0.6	0.2	0.2	0.6	0.2
Subtropical	0.2	0.5	0.3	0.2	0.5	0.3

PROBABILITY OF PRECIPITATION VARIABILITY CHANGE BY LATITUDE

	ANNUAL			GROWING SEASON		
	Increase >25%	Change <25%	Decrease >25%	Increase >25%	Change <25%	Decrease >25%
Higher mid-latitude	0.3	0.5	0.2	0.2	0.7	0.1
Lower mid-latitude	0.3	0.5	0.2	0.3	0.6	0.1
Subtropical	0.3	0.5	0.2	0.4	0.5	0.1

MODERATE GLOBAL COOLING

	Carbon dioxide	Fluoro-carbons	Smoke	Volcanic dust	Other particles
RELATIVE IMPORTANCE OF CARBON DIOXIDE AND TURBIDITY (PERCENT)	20	8	25	30	17

	1977-80			1981-90			1991-2000		
	Frequent	Average	Infrequent	Frequent	Average	Infrequent	Frequent	Average	Infrequent
PROBABILITY OF MID-LATITUDE DROUGHT*									
United States	0.6	0.3	0.1	0.3	0.6	0.1	0.6	0.3	0.1
Other	0.6	0.3	0.1	0.5	0.4	0.1	0.5	0.4	0.1
PROBABILITY OF SAHEL DROUGHT**	0.4	0.5	0.1	0.4	0.4	0.2	0.5	0.4	0.1
PROBABILITY OF MONSOON FAILURE***									
Northwest India	0.4	0.5	0.1	0.3	0.5	0.2	0.4	0.5	0.1
Other India	0.5	0.4	0.1	0.3	0.5	0.2	0.5	0.4	0.1
Other Monsoon Asia	0.5	0.4	0.1	0.3	0.5	0.2	0.4	0.5	0.1

*Frequent--similar to early to mid-1930s and early to mid-1950s; average--similar to the frequency over the longest period of record available; infrequent--similar to 1940s and 1960s.

**Frequent--similar to 1940-50 and 1965-73 periods; average--similar to the frequency over the longest period of record available; infrequent--similar to 1950-65 period.

***Frequent--similar to 1900-25 period; average--similar to the frequency over the longest period of record available; infrequent--similar to 1930-60 period.

CLIMATE SCENARIO 3:

SAME AS THE LAST 30 YEARS

The global cooling trend that began in the 1940s leveled out in the '70s. Average global temperature in the last quarter of the 20th century increased slightly; thus, temperatures were more consistent with those in the period from 1940 to 1970. By the year 2000, average global temperature had risen approximately 0.05°C compared to the mid-'70s. Climatologists explained that the warming effects of increasing amounts of carbon dioxide in the atmosphere had balanced the cooling effects of a natural, solar-induced cooling cycle. Temperature increases were uniform throughout the northern and southern hemispheres, with slightly more warming in the northern hemisphere than in the southern.*

The annual precipitation levels as well as the growing season remained unchanged from the 1940-70 period.* So did variability of annual precipitation.* However, a small shift toward increased variability in the growing season was detected.*

Drought conditions again plagued the mid-latitude areas of the United States, corroborating the 20- to 22-year drought cycle hypothesis. In other mid-latitude areas of the world, drought conditions recurred also, but not to the same extent as in the United States. On the other hand, favorable climatic conditions returned to India and other parts of Asia. Monsoon failure became more infrequent. Also, the Sahel region, which had suffered severe drought from 1965 to 1973, returned to average weather conditions.

*The climatologists who participated in this study expressed a much higher degree of uncertainty than these statements reflect. See the attached tables for the range of uncertainty.

SAME AS THE LAST 30 YEARS

PROBABILITY OF SCENARIO: 0.35

MEAN GLOBAL TEMPERATURE CHANGE: between 0.1°C colder and 0.2°C warmer

PROBABILITY OF TEMPERATURE CHANGE BY LATITUDE

		1.0-1.5°C colder	0.5-1.0°C colder	0.0-0.5°C colder	0.0-0.5°C warmer	0.5-1.0°C warmer	1.0-2.0°C warmer	2.0-3.0°C warmer	3.0-4.0°C warmer	4.0-5.0°C warmer
Northern hemisphere	Polar	0.1	0.1	0.1	0.3	0.2	0.2			
	Higher mid-latitude		0.1	0.2	0.4	0.2	0.1			
	Lower mid-latitude		0.1	0.2	0.4	0.2	0.1			
	Subtropical		0.1	0.2	0.5	0.1	0.1			
Southern hemisphere	Subtropical			0.4	0.4	0.1	0.1			
	Lower mid-latitude			0.3	0.4	0.2	0.1			
	Higher mid-latitude		0.1	0.3	0.4	0.1	0.1			
	Polar		0.1	0.3	0.4	0.1	0.1			

PROBABILITY OF PRECIPITATION CHANGE BY LATITUDE

	ANNUAL			GROWING SEASON		
	Increase >10%	Change <10%	Decrease >10%	Increase >10%	Change <10%	Decrease >10%
Higher mid-latitude	0.2	0.6	0.2	0.2	0.6	0.2
Lower mid-latitude	0.2	0.6	0.2	0.2	0.6	0.2
Subtropical	0.2	0.6	0.2	0.2	0.6	0.2

PROBABILITY OF PRECIPITATION VARIABILITY CHANGE BY LATITUDE

	ANNUAL			GROWING SEASON		
	Increase >25%	Change <25%	Decrease >25%	Increase >25%	Change <25%	Decrease >25%
Higher mid-latitude	0.2	0.6	0.2	0.2	0.7	0.1
Lower mid-latitude	0.2	0.6	0.2	0.2	0.7	0.1
Subtropical	0.2	0.6	0.2	0.3	0.6	0.1

SAME AS THE LAST 30 YEARS

	Carbon dioxide	Fluoro-carbons	Smoke	Volcanic dust	Other particles
RELATIVE IMPORTANCE OF CARBON DIOXIDE AND TURBIDITY (PERCENT)	50	9	8	17	16

	1977-80			1981-90			1991-2000		
	Frequent	Average	Infrequent	Frequent	Average	Infrequent	Frequent	Average	Infrequent
PROBABILITY OF MID-LATITUDE DROUGHT*									
United States	0.5	0.4	0.1	0.2	0.6	0.2	0.5	0.4	0.1
Other	0.5	0.4	0.1	0.4	0.5	0.1	0.4	0.5	0.1
PROBABILITY OF SAHEL DROUGHT**	0.2	0.6	0.2	0.2	0.7	0.1	0.2	0.7	0.1
PROBABILITY OF MONSOON FAILURE***									
Northwest India	0.4	0.5	0.1	0.2	0.6	0.2	0.2	0.5	0.3
Other India	0.4	0.5	0.1	0.2	0.6	0.2	0.2	0.5	0.3
Other Monsoon Asia	0.3	0.6	0.1	0.3	0.6	0.1	0.2	0.6	0.2

**Frequent*--similar to early to mid-1930s and early to mid-1950s; *average*--similar to the frequency over the longest period of record available; *infrequent*--similar to 1940s and 1960s.

***Frequent*--similar to 1940-50 and 1965-73 periods; *average*--similar to the frequency over the longest period of record available; *infrequent*--similar to 1950-65 period.

****Frequent*--similar to 1900-25 period; *average*--similar to the frequency over the longest period of record available; *infrequent*--similar to 1930-60 period.

CLIMATE SCENARIO 4:

MODERATE GLOBAL WARMING

The global cooling trend that began in the 1940s was reversed in the last quarter of the 20th century. By the year 2000, average global temperature had risen by approximately 0.35°C, compared to the mid-'70s. Climatologists explained that this increase in temperature was due principally to the warming effects of increasing amounts of carbon dioxide in the atmosphere, which predominated over a slow, natural cooling effect.

While average global temperature increased moderately, the largest temperature increases came in the higher latitudes. The northern hemisphere warmed slightly more than the southern hemisphere due to its greater land area and the larger thermal inertia of the southern oceans. In the northern hemisphere, the polar latitudes warmed by 1.2°C; the higher middle latitudes by 0.6°C; the lower middle latitudes by 0.4°C; and the subtropical latitudes by 0.35°C.* In the southern hemisphere, average temperature over the polar latitudes increased by 0.75°C; the higher middle latitudes by 0.5°C; the lower middle latitudes by 0.4°C; and the subtropical latitudes by 0.35°C.*

The growing season as well as annual precipitation levels increased slightly, except in the lower middle latitudes where growing season precipitation remained unchanged.* Both growing season and annual precipitation variability remained essentially unchanged, except in the lower middle and subtropical latitudes where variability of growing season precipitation increased slightly.*

Drought conditions again plagued the mid-latitude areas of the United States, corroborating the 20- to 22-year drought cycle hypothesis. Climatic

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conditions were somewhat more favorable in the Asiatic region and in Africa. The frequency of monsoon failure, especially in northwest India, resembled more closely the long-term average; so did the frequency of drought in the Sahel region.

MODERATE GLOBAL WARMING

PROBABILITY OF SCENARIO: 0.21

MEAN GLOBAL TEMPERATURE CHANGE: between 0.2° and 0.5°C warmer

PROBABILITY OF TEMPERATURE CHANGE BY LATITUDE

		1.0-1.5°C colder	0.5-1.0°C colder	0.0-0.5°C colder	0.0-0.5°C warmer	0.5-1.0°C warmer	1.0-2.0°C warmer	2.0-3.0°C warmer	3.0-4.0°C warmer	4.0-5.0°C warmer
Northern hemisphere	Polar			0.1	0.1	0.3	0.3	0.2		
	Higher mid-latitude			0.2	0.3	0.4	0.1			
	Lower mid-latitude			0.1	0.5	0.3	0.1			
	Subtropical			0.1	0.6	0.2	0.1			
Southern hemisphere	Subtropical			0.1	0.6	0.2	0.1			
	Lower mid-latitude			0.1	0.5	0.3	0.1			
	Higher mid-latitude			0.1	0.3	0.5	0.1			
	Polar			0.1	0.2	0.5	0.2			

PROBABILITY OF PRECIPITATION CHANGE BY LATITUDE

	ANNUAL			GROWING SEASON		
	Increase >10%	Change <10%	Decrease >10%	Increase >10%	Change <10%	Decrease >10%
Higher mid-latitude	0.3	0.5	0.2	0.3	0.5	0.2
Lower mid-latitude	0.3	0.5	0.2	0.2	0.6	0.2
Subtropical	0.3	0.5	0.2	0.3	0.5	0.2

PROBABILITY OF PRECIPITATION VARIABILITY CHANGE BY LATITUDE

	ANNUAL			GROWING SEASON		
	Increase >25%	Change <25%	Decrease >25%	Increase >25%	Change <25%	Decrease >25%
Higher mid-latitude	0.2	0.6	0.2	0.2	0.6	0.2
Lower mid-latitude	0.2	0.6	0.2	0.3	0.5	0.2
Subtropical	0.2	0.6	0.2	0.3	0.5	0.2

MODERATE GLOBAL WARMING

	Carbon dioxide	Fluoro-carbons	Smoke	Volcanic dust	Other particles
RELATIVE IMPORTANCE OF CARBON DIOXIDE AND TURBIDITY (PERCENT)	59	15	3	13	10

	1977-80			1981-90			1991-2000		
	Frequent	Average	Infrequent	Frequent	Average	Infrequent	Frequent	Average	Infrequent
PROBABILITY OF MID-LATITUDE DROUGHT*									
United States	0.6	0.3	0.1	0.2	0.2	0.6	0.5	0.3	0.2
Other									
PROBABILITY OF SAHEL DROUGHT**	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.4	0.3
PROBABILITY OF MONSOON FAILURE***									
Northwest India	0.3	0.4	0.3	0.3	0.4	0.3	0.2	0.5	0.3
Other India									
Other Monsoon Asia									

**Frequent*--similar to early to mid-1930s and early to mid-1950s; *average*--similar to the frequency over the longest period of record available; *infrequent*--similar to 1940s and 1960s.

***Frequent*--similar to 1940-50 and 1965-73 periods; *average*--similar to the frequency over the longest period of record available; *infrequent*--similar to 1950-65 period.

****Frequent*--similar to 1900-25 period; *average*--similar to the frequency over the longest period of record available; *infrequent*--similar to 1930-60 period.

CLIMATE SCENARIO 5:

LARGE GLOBAL WARMING

The global cooling trend that began in the 1940s was dramatically reversed in the last quarter of the 20th century. By the year 2000, the average global temperature had increased by about 1°C compared to the mid-'70s. Climatologists explained that this trend was due principally to the warming effects of the increasing amounts of carbon dioxide in the atmosphere.

While temperature increased over the entire globe, temperature increases were more pronounced at higher latitudes. The subtropical latitudes warmed, on the average, by 0.75°C; the lower middle latitudes by 1.0°C; the higher middle latitudes by 1.4°C; and the polar latitudes by a remarkable 3.0°C, compared to the early '70s.* Symmetry prevailed: similar temperature changes were observed in both the northern and southern hemispheres.

It also rained more. Annual precipitation levels increased. Similarly, the average growing season precipitation increased in the subtropical and higher middle latitudes; however, it remained the same in lower middle latitudes.* Annual precipitation variability decreased slightly compared to the 1940-70 period; precipitation variability during the growing season changed similarly in the higher middle latitudes, but increased slightly in the lower middle and subtropical latitudes.*

The warming trend also ushered in favorable climatic conditions in India and other parts of Asia. These conditions were similar to those of the 1930-60 period. Monsoon failure was infrequent, especially in northwest India. But in the mid-latitude areas of the United States, extending from the Rockies to the Appalachians, drought conditions similar to the mid-1930s

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and the early- to mid-1950s prevailed. In other mid-latitude areas of the world, however, the probability of drought declined. The increased levels of precipitation also returned the Sahel region to wetter weather conditions, even resembling the wet period from 1950 to 1965.

LARGE GLOBAL WARMING

PROBABILITY OF SCENARIO: 0.11

MEAN GLOBAL TEMPERATURE CHANGE: between 0.5° and 1.7°C warmer

PROBABILITY OF TEMPERATURE CHANGE BY LATITUDE

		1.0-1.5°C colder	0.5-1.0°C colder	0.0-0.5°C colder	0.0-0.5°C warmer	0.5-1.0°C warmer	1.0-2.0°C warmer	2.0-3.0°C warmer	3.0-4.0°C warmer	4.0-5.0°C warmer
Northern hemisphere	Polar					0.1	0.1	0.2	0.3	0.3
	Higher mid-latitude					0.1	0.9			
	Lower mid-latitude				0.1	0.5	0.4			
	Subtropical				0.1	0.8	0.1			
Southern hemisphere	Subtropical				0.1	0.8	0.1			
	Lower mid-latitude				0.1	0.5	0.4			
	Higher mid-latitude					0.1	0.9			
	Polar					0.1	0.2	0.2	0.3	0.2

PROBABILITY OF PRECIPITATION CHANGE BY LATITUDE

	ANNUAL			GROWING SEASON		
	Increase >10%	Change <10%	Decrease >10%	Increase >10%	Change <10%	Decrease >10%
Higher mid-latitude	0.4	0.5	0.1	0.4	0.4	0.2
Lower mid-latitude	0.4	0.4	0.2	0.3	0.4	0.3
Subtropical	0.4	0.4	0.2	0.4	0.4	0.2

PROBABILITY OF PRECIPITATION VARIABILITY CHANGE BY LATITUDE

	ANNUAL			GROWING SEASON		
	Increase >25%	Change <25%	Decrease >25%	Increase >25%	Change <25%	Decrease >25%
Higher mid-latitude	0.2	0.5	0.3	0.2	0.5	0.3
Lower mid-latitude	0.2	0.5	0.3	0.3	0.5	0.2
Subtropical	0.2	0.5	0.3	0.3	0.5	0.2

LARGE GLOBAL WARMING

	Carbon dioxide	Fluoro-carbons	Smoke	Volcanic dust	Other particles
RELATIVE IMPORTANCE OF CARBON DIOXIDE AND TURBIDITY (PERCENT)	90	8	2	0	0

	1977-80			1981-90			1991-2000		
	Frequent	Average	Infrequent	Frequent	Average	Infrequent	Frequent	Average	Infrequent
PROBABILITY OF MID-LATITUDE DROUGHT*									
United States	0.6	0.3	0.1	0.6	0.3	0.1	0.7	0.3	0.1
Other	0.5	0.3	0.2	0.5	0.3	0.2	0.3	0.3	0.4
PROBABILITY OF SAHEL DROUGHT**	0.1	0.8	0.1	0.1	0.7	0.2	0.1	0.6	0.3
PROBABILITY OF MONSOON FAILURE***									
Northwest India	0.1	0.8	0.1	0.1	0.6	0.3		0.2	0.8
Other India	0.1	0.8	0.1	0.1	0.6	0.3	0.1	0.2	0.7
Other Monsoon Asia	0.1	0.8	0.1	0.1	0.6	0.3	0.1	0.2	0.7

*Frequent--similar to early to mid-1930s and early to mid-1950s; average--similar to the frequency over the longest period of record available; infrequent--similar to 1940s and 1960s.

**Frequent--similar to 1940-50 and 1965-73 periods; average--similar to the frequency over the longest period of record available; infrequent--similar to 1950-65 period.

***Frequent--similar to 1900-25 period; average--similar to the frequency over the longest period of record available; infrequent--similar to 1930-60 period.