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Record Group/Collection: George H.W. Bush Presidential Records
Collection/Office of Origin: Speechwriting, White House Office of
Series: Snow, Tony, Files
Subseries: Subject File, 1988-1993

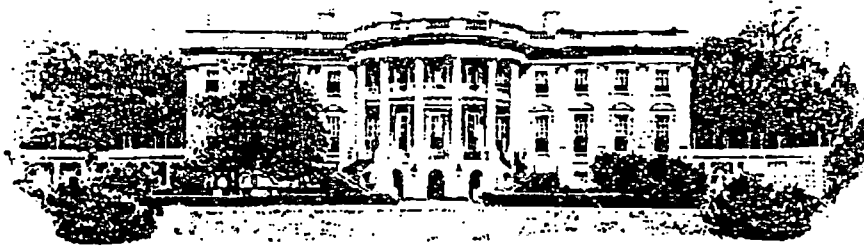
OA/ID Number: 13892
Folder ID Number: 13892-008

Folder Title:
[Background Material-Speeches]

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TIME OF TRANSMISSION

TIME OF RECEIPT



THE SITUATION ROOM

#27

PRECEDENCE: IMMEDIATE
PRIORITY
ROUTINE

CAMP 25

RELEASER: B. J. 6-11DTG: 20 1507Z SEP 91MESSAGE NO. 09 CLASSIFICATION UNCLAS PAGES 2FROM Bob Simon 7750 111
(Name) (Phone Number) (Room No.)

MESSAGE DESCRIPTION _____

TO (Agency) AF-1 DELIVER TO: TONY SNOW DEPT/ROOM NO. AF ONE PHONE NUMBER _____

EDITORIAL

This a copy of the editorial ran in April '90 when the clock moved back.

Ten minutes to midnight

A solitary Chinese nun standing in the path of a column of tanks. Demonstrating South African women being attacked by police dogs. A playwright named president of Czechoslovakia. The bodies of six Salvadoran priests. All are faces of human courage in the struggle for freedom and dignity.

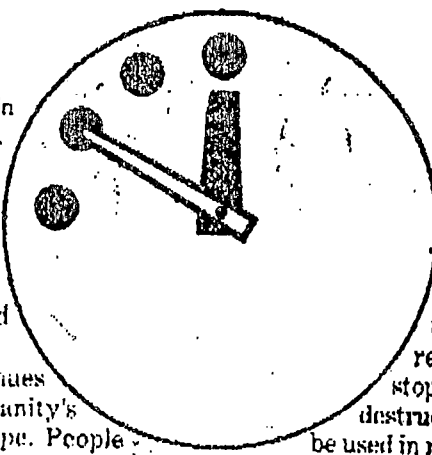
While aware that the struggle continues around the world, we rejoice in humanity's momentous victory in Eastern Europe. People revolted against the communist leaders whose power, exercised through rigid bureaucracies and brutal police apparatuses, ultimately rested on the Soviet army. This time, in contrast to 1956 and 1968, the Soviets did not intervene.

Now, 44 years after Winston Churchill's "Iron Curtain" speech, the myth of monolithic communism has been shattered for all to see, the ideological conflict known as the Cold War is over, and the risk of global nuclear war being ignited in Europe is significantly diminished. Although success is in no way guaranteed, this is the greatest opportunity in four decades to create a safe, sustainable world. In response, we turn back the hands of the *Bulletin* clock four minutes, to stand at 10 minutes to midnight.

The Cold War mindset interpreted world events through the distorting prism of East-West conflict. The competition was labeled "cold" to distinguish it from World War II, a hot war where guns were fired, bombs exploded, tens of millions of people killed. Yet, during the past 45 years approximately 125 wars were fought, more than 20 million people killed.

The conflict was cold only in that World War III did not happen. Aside from the close call in Cuba in 1962, U.S. and Soviet leaders didn't square off in a direct fight that could have led to nuclear disaster. Instead, they grudgingly respected each other's right to police their respective empires, demonstrated restrained opposition to each other's bloody interventions in Vietnam and Afghanistan, fought proxy wars, and profited by becoming the world's largest arms suppliers. They popularized language that segregated most people on earth into a separate "Third World."

Through it all, the people of the United States and Soviet Union put the world at greater risk than at any time in history. Mesmerized by Cold War rhetoric, they allowed, even urged, their governments to build massive nuclear arsenals, amounting today to one million times the explosive power of the Hiroshima bomb. Until those arsenals are eliminated, the danger persists that an accident, a miscalculation, or irrational act will cause nuclear holocaust. We urge speedy conclusion of a U.S.-Soviet Strategic Arms Reduction Treaty (START) as a next step.



Rapid progress toward nuclear disarmament by the superpowers and other nuclear-armed nations has become urgent for other reasons. Domestic strife in a nation with nuclear weapons stockpiles opens the possibility that weapons could fall into the hands of unstable groups. Furthermore, deep reductions would strengthen the case for stopping the proliferation of weapons of mass destruction and minimize the risk that they will be used in regional wars. All nuclear weapons tests should be halted.

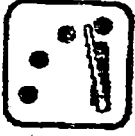
Due to Cold War rationales, the two military superpowers are organized as national security states upheld by vast military and intelligence bureaucracies and shielded from public scrutiny by layers of secrecy. These powerful infrastructures must now be dismantled and sensible defense policies established. "National security" should no longer justify bankrupt policies and conceal misdeeds. American and Soviet citizens are just beginning to reassess their countries' genuine defense needs, a prerequisite for drastic reductions in military spending and the reallocation of resources. People must work more vigorously to demilitarize their societies and effectively address fundamental issues of poverty, hunger, and environmental damage.

The transition into the post-Cold War era will not be painless. Along with the joy and promise, the demise of the order, as witnessed in Eastern Europe and the Soviet Union, can unleash previously suppressed ethnic and religious rivalries. The quest throughout the world for economic structures that avoid the unjust extremes of monopoly communism and laissez-faire capitalism will produce instability and conflict. That this is now less likely to trigger global war offers no solace to the victims.

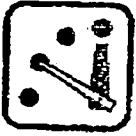
The difficulties in creating a better world should not be underestimated, but we believe that the overall trend is positive. We are encouraged, for example, by the impressive United Nations efforts to resolve international conflicts in Namibia, Iran and Iraq, and elsewhere. The actual dismantling of U.S. and Soviet intermediate-range ballistic missiles under the INF Treaty and the unilateral Soviet withdrawals of thousands of tanks and troops from central Europe are significant deeds.

Much remains to be done before the greatest short-term threat to the planet—the risk of nuclear war—is eliminated. Additional concrete actions that disarm the relations among nations are needed before the hands of the clock can be turned back further. Still, the termination of the Cold War has lifted a grim weight from the human psyche. It has returned to humanity its hope for a future, and the chance to create one. ■

The Bulletin of the Atomic Scientists has told the world what time it is since 1947, when its famous clock appeared on the cover. Since then, the clock has moved forward and back, reflecting the state of international security.

- 1947** *Seven minutes to midnight*
 The clock first appears on the Bulletin cover as a symbol of nuclear danger.
- 1949** *Three minutes to midnight*
 The Soviet Union explodes its first atomic bomb.
- 1953** *Two minutes to midnight*
 The United States successfully tests a hydrogen bomb in late 1952.
- 1960** *Seven minutes to midnight*
 The clock moves in response to the growing public understanding that nuclear weapons made war between major technical nations irrational. International scientific cooperation and efforts to aid poor nations are cited.
- 1963** *Twelve minutes to midnight*
 The U.S. and Soviet signing of the Partial Test Ban Treaty "provides the first tangible confirmation of what has been the Bulletin's conviction in recent years—that a new cohesive force has entered the interplay of forces shaping the fate of mankind."

- 1968** *Seven minutes to midnight*
 France and China acquire nuclear weapons; wars rage in the Middle East, the Indian subcontinent, and Vietnam; world military spending increases while development funds shrink.

- 1969** *Ten minutes to midnight*
 The U.S. Senate ratifies the Nuclear Non-Proliferation Treaty.

- 1972** *Twelve minutes to midnight*
 The United States and the Soviet Union sign the first Strategic Arms Limitation Treaty (SALT I) and the Anti-Ballistic Missile Treaty; progress toward SALT II is anticipated.

- 1974** *Nine minutes to midnight*
 SALT talks reach an impasse; India develops a nuclear weapon. "We find policymakers on both sides increasingly ensnared, frustrated, and neutralized by domestic forces having a vested interest in the amassing of strategic forces."

- 1980** *Seven minutes to midnight*
 The deadlock in U.S.-Soviet arms talks continues; nationalistic wars and terrorist actions increase; the rift between rich and poor nations grows wider.



Tony:

The clock hasn't been moved since Apr. 90. The Board of Directors will vote on what to do in late October. No word on what they'll do.

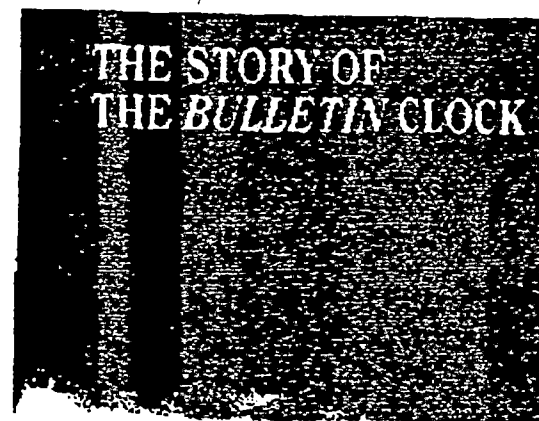
Bob

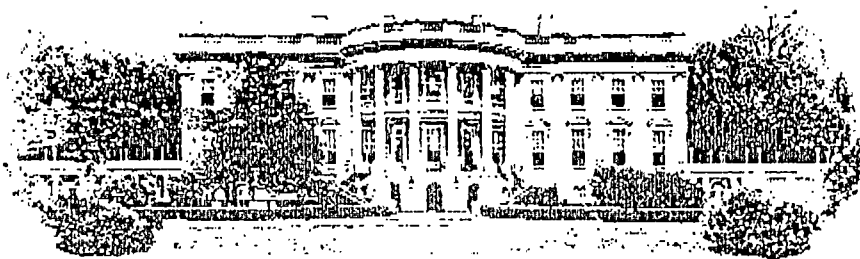
- 1981** *Four minutes to midnight*
 Both superpowers develop more weapons for fighting a nuclear war. Terrorist actions, repression of human rights, conflicts in Afghanistan, Poland, South Africa add to world tension.

- 1984** *Three minutes to midnight*
 The arms race accelerates. "Arms control negotiations have been reduced to a species of propaganda, ... The blunt simplicities of force threaten to displace any other form of discourse between the superpowers."

- 1988** *Six minutes to midnight*
 The United States and the Soviet Union sign a treaty to eliminate intermediate-range nuclear forces (INF); superpower relations improve; more nations actively oppose nuclear weapons.

- 1990** *Ten minutes to midnight*
 (In Oct. 1989, the clock is redesigned to show the need for an expanded view of global security.) Democratic movements in Eastern Europe shatter the myth of monolithic communism; the Cold War ends.





THE SITUATION ROOM

PRECEDENCE: IMMEDIATE
PRIORITY
ROUTINE

RELEASER: Chen

DTG: 201345Z SEP 91

MESSAGE NO. 03 CLASSIFICATION UNCLASSIFIED PAGES 8
FROM BUNTON 7750 111.5
(Name) (Phone Number) (Room No.)

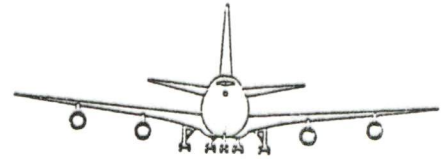
MESSAGE DESCRIPTION

TO (Agency)	DELIVER TO:	DEPT/ROOM NO.	PHONE NUMBER
	<u>BNY SNOW - AFL</u>		

REMARKS

UNCLASSIFIED

CLASSIFICATION



AIR FORCE 1 FAX # 06

HEADQUARTERS 89TH MILITARY AIRLIFT WING
AIR FORCE ONE

ANDREWS AFB, MD 20331-7004

WHCA COMMUNICATIONS CENTER

TELEFAX SECURE # (202) 395-1206/07

TELEFAX ADMIN # (202) 395-5521/22

DATE/TIME: 201515Z Sep '91

FROM: Air Force One/Tony Snow

TO: White House/Dan McGroarty X2930

REMARKS: _____

4 PAGES

UNCLASSIFIED

CLASSIFICATION

I'm proud to take part again in this special week, turning the spotlight on men and women who have transformed the American Dream into a series of all-American success stories. I like your theme -- "Building a Stronger America through Minority Business Development." It touches upon two principles dear to me.

First, we cannot build an America worthy of its people if we do not extend real opportunity to everyone -- regardless of race, creed and background -- and give all American a chance to go as far as their abilities will take them. Second, a strong and vibrant economy holds the key to our future as a nation. If we do not produce new products and opportunities -- if we do not give people of modest means an chance to become wealthy by virtue of their boldness, diligence, and genius -- then we lose the very foundation of democracy. Our lives degenerate into a scramble for scarce goods, rather than in a march toward a better future.

Our free enterprise system cannot survive without minority business. It cannot survive if it offers opportunities to some and not to others. And it cannot survive if it does not produce new success stories -- stories like yours -- that inspire young men and women to look up and say: I want to be like them.

Our free enterprise system also rewards a very important set of values. It rewards those with the courage to act on their dreams. It rewards people who believe in themselves, believe in the virtue of hard work, and believe in serving the public. After all, a business can't succeed if it does not provide products and services that the public wants.

Too often we forget that hard work and success also are forms of public service: They address people's needs; they draw upon individual abilities; they provide role models for youngsters who too often draw their conclusions about life from television shows or brash hoods on the street.

As a nation, we stand on the verge of a new age of freedom. Countries around the globe have rejected central economic planning because it just doesn't work: It cannot work. Instead, nations in Europe, Asia, Africa and Scandanavia have acknowledged that freedom works. More precisely: Individual freedom works.

We rejoice that so much of our world now believes in unrestricted, individual enterprise -- the kind of enterprise demonstrated by the people we salute today. These awards celebrate the American spirit -- a spirit that looks past obstacles and challenges, identifies a goal, and says: I can do it.

Eleven years ago, Richard Chang left the safe haven of academia, founded Eastern Computers, and said: I can do it. His company has pioneered the business of producing multilingual computer systems. [[Now, if he could only produce a system that would enable parents to understand their kids!]]

Today, Eastern Computers employs nearly 350 people. It generated sales of 34 million dollars last year.

Hugh Brown had an idea for a technical and engineering services company and said: I can do it. With help from the Small Business Administration's Section 8-a program, he did more than

compete. He found his own place in our competitive economy. Today, BAMSI employs more than 1,300 people and its sales last year exceeded 39 million dollars.

Raymond Haysbert persevered for nearly 40 years in his quest to overcome resistance to minority enterprise. But he knew he could do it. He transformed H.G. Parks into a household name. Kids across this country call: "More Parks Sausages, Mom. Please?" [[His customers even have good manners.]] His company consistently ranks within the top hundred Black-owned businesses in America. Its sales under his leadership have risen from 30,000 dollars a year to more than 36 million dollars.

Gae Veit [VITE] said "I can do it" in a business in which women form a significant minority: The construction industry. She set out to create her own construction firm in 1982. Roadblocks surrounded Gae. Doubters accosted her. But she knew what she wanted, and she got it.

She shaped her vision by naming her company Shingobee [[SHIN-go-bee]] -- which means "beautiful evergreen tree" in her Sioux language. Gae's beautiful evergreen tree has grown from a small sapling into a thing to behold: A company that expects to do more than ten million dollars' worth of business this year.

These winners, and many more like them, show that you don't have to be rich to make a difference in America. All you need is a fair chance.

These people know: No nation ever drowned in sweat. They know: America's strength comes from those willing to take a risk,

make a difference, and build the foundations of a more prosperous future. They know that none of us can forget the privilege and responsibility we share -- to contribute to our communities. These winners think of others -- not just in building businesses that serve their communities and neighbors -- but also in volunteer activities. They each serve as points of light...

PLEASE PLEASE PLEASE check to see if these folks really do have volunteer records. If so, gin up some stories, some examples. If not, send the points of light talk into the circular file....

thought of helping disadvantaged Americans gain access to business resources and said: I can do it. Hefounded a technical and engineering service company, BAMSI, [?????] years ago. After eight years in the SBA's section 8-a program

Boys Mtg.
3/25

15 up:

Governmental Reforms:

plus elec. branch reforms.

"long needed change."

Tester: ~~speech~~ Mr. Thomas Confinement.

Provo: like the rest -

but not paid by boring Congress.
→ Don't forget ourselves.

Each grounds on reform.

Problem in principle → practice.

"Congress that chases its tail."

accountability -
decentralization -
quality...

no longer areas of debate in private sector.

Problem really affecting you & that needs to be addressed.

2 or 3 5 pillar speeches?

ABC
5 pillars:

Apr 9:

Key...
Fish Commission
Under Nixon?



"Third, [and I know you're going to like this one] we need fundamental legal reform -- to stop the epidemic of Lawsuits." (long, vigorous applause) [adlibbed bracketed]

"... compelling Congress to be governed by the law they impose on people like you."

Term limits on Congress

Overall, I think the speech went over very well to the people in the room. (They announced that in a straw poll of the audience, 80% supported the President's reelection.)

However, as an attempt to communicate the President's message to the country, it was a non-event.

One footnote: the language in the speech about being for change and against the status quo Congress and special interests is good and should be put to use in the future. Example: "The system is not accountable, effective, efficient, or even compassionate."

"There are two roads to take: one is reform, the other protects the status quo."

MR. SNOW



**WELCOME
A BOARD
Air Force One**

Three visions are jobs, home and family and peace.

The themes under each are:

Jobs

government spending / *taxes*
excessive regulations
international trade
legal reform
new technology
business investment
education

*our terms
not the voters*

Home and Family

welfare reform
drugs
crime
education
health care
environment
children
morals

*neighborhood
community*

Peace

*never discussed what the problem is
no G.S.*

vision

THE WHITE HOUSE **BULLETIN**

BULLETIN BROADCASTING NETWORK, 309 CAMERON ST., ALEXANDRIA, VA 22314 (703) 684-2020

MEMORANDUM FOR MARIA SHEEHAN
MEDIA AFFAIRS
THE WHITE HOUSE

SUBJECT: TODAY'S BRIEFING

DATE: TUESDAY, MARCH 17, 1992 - 11:45 AM EDT

SINCE THE MORNING PAPERS:

- o Three previously confiscated bombs exploded today in an Istanbul, Turkey police station as bomb squads tried to defuse them. The blast wreaked extensive damage on the building, killing at least two policemen.
- o A group of hard-line Communists met outside Moscow today, calling for the release of the perpetrators of last year's coup and the restoration of the former Soviet Union. The meeting did not go as well as had been planned, as many members of the so-called Sixth Congress of People's Deputies were seemingly confused about the site of the meeting and missed the event altogether.
- o Financial news as of 11:45 AM EDT:
 - DOW (30 Industrials): Up 9 points to 3245 on a volume of 82 million shares.
 - The Consumer Price Index rose 0.3 percent in February, and 0.4 percent excluding food and energy prices.
 - Housing starts jumped 9.6 percent in February, the largest increase in a year.
 - Industrial production rose 0.6 percent in February.

IN THE WHITE HOUSE AND AROUND TOWN:

- o With the President returning from the campaign trail this afternoon, the White House soon hopes to make a final decision on how to proceed once the March 20th deadline to Congress comes and goes without an acceptable economic growth bill on the President's desk. "There are some people agitating for a speech [to be delivered on March 20th]. Some want to wait and do something later, but at the very least, there will be something early next week," said a White House official this morning. "None of that has been decided. The President will return this afternoon and there will be a number of meetings on this over the next few days." Reportedly, OMB's Bob Grady has been asked by Chief of Staff Sam Skinner to begin work on a speech which could be delivered on Friday night to a prime-time television audience, or possibly at a later date. According to a White House official: "[Grady] is involved in developing the possible content of a possible speech. ... He is working on a speech that could be used at any time." It is still an open question, however, whether the major networks would cover the event should the White House request it. If the networks were willing to offer the President time, they would probably want the Democrats to have equal time, along with a few minutes for their own "talking-head"

The White House Bulletin is a fax-delivered bulletin board covering policy, political and personnel developments in the federal government and Washington. The Bulletin welcomes information from those in Washington. (Tel.) 703-684-2020
Paul Roellig, Publisher William Armistead, Managing Editor Richard Reed, Political Editor

Fighting Words:
War, Rhetoric and National Purpose
From The Great War to the Cold War and Beyond

Chapter One

Fighting Words: How America Goes to War

Part I: World War.

Chapter Two

"The War to End All Wars"

Chapter Three

World War II...

Part II: Cold War.

Chapter Four

The 40 Years' War

Chapter Five

Dominoes: From Korea to Vietnam

Chapter Six

From the Evil Empire to the Revolution of '89

Part III: New World.

Chapter Seven

Desert Storm: War in the New World Order

Chapter Eight

Postcript: War, Rhetoric and National Purpose

#

Hampden-Sydney College
P. S. 385 -- Rhetoric and Statesmanship

Prof. Wudel

Office: Morton B10

Office hours: Mon., Wed., Fri., 2:30-4:00, or by appointment

The purpose of this course is to introduce students to the study of rhetoric and statesmanship. Accordingly, we will address question such as these: What exactly is rhetoric meant to accomplish? What are the limits of what rhetoric can do? What does the accomplished rhetorician know? What makes a great speech? Why has the study and practice of rhetoric declined? How have the media affected rhetoric? How might rhetoric be rejuvenated? The course, at the same time, aims particularly to prepare students to write and to give speeches, and aims also to give students a wider appreciation of the possibilities for persuasive speech and writing.

Course Requirements

First exam	25%
Second exam	25%
Third exam	20%
Speech (written)	20%
Speech (oral)	5%
Participation	5%

Required Texts

Aristotle, Rhetoric and Poetics

David Cannadine (ed.), Blood, Toil, Tears and Sweat

Peggy Noonan, What I Saw at the Revolution (Revolution)

Richard M. Weaver, The Ethics of Rhetoric (Ethics)

Wudel (ed.), Readings: Rhetoric and Statesmanship (Readings)

Course Outline and Readings

I. Introduction (January 16)

II. Aristotle's Rhetoric

January 21

Rhetoric I.1-I.8

Revolution, Chap. 1

January 23

Rhetoric I.9-I.14

Miller and Bee, "Enthymemes: Body and Soul" Readings
Revolution, Chap. 13

January 28

Rhetoric II.1-II.5

January 30

Rhetoric II.6-II.11

February 4

Rhetoric II.12-II.22

February 6

Rhetoric III.1-III.4, III.6-7, III.10-III.12

February 11

Rhetoric III.14, III.17-III.19

First Exam—February 13

III. Great Leaders, Great Speeches (February 20-March 29)

A. Introduction

February 13

Weaver, "Abraham Lincoln and the Argument from Definition"
Ethics

B. Lincoln (speeches are in Readings)

February 18

"Address to the Young Men's Lyceum of Springfield, Illinois"
— January 27, 1838 (The Perpetuation of our Political
Institutions)

"Address to the Washington Temperance Society of Springfield,
Illinois" — February 22, 1842

"Portion of Speech at Havana, Illinois" — August 14, 1858

February 20

"Farewell Address at Springfield, Illinois" — February 11,
1861

"First Inaugural Address" — March 4, 1861

"Speech to Indian Chiefs, Washington, D. C. — March 27, 1863

"Address at Gettysburg, Pennsylvania" — November 19, 1863

"Second Inaugural Address" — March 4, 1865

C. Churchill (speeches are in Blood, Toil, Tears and Sweat)

February 25

Churchill, "The Scaffold of Rhetoric" Readings

"The Locust Years" pp. 114-128

"A Total and Unmitigated Defeat" pp. 129-143

"Blood, Toil, Tears and Sweat" pp. 147-149

"Be Ye Men of Valour" pp. 150-154

February 27

"Wars Are Not Won by Evacuations" pp. 155-165

"Their Finest Hour" pp. 166-178

"The Few" pp. 179-192

"An English Worthy" pp. 193-197

"Give Us the Tools" pp. 201-213

"Westward, Look, The Land is Bright" pp. 214-224

March 3

"I Offer No Excuses" pp. 234-245

"A Man of Action, Resource and Creative Energy" pp. 246-250

"The Greatest Champion of Freedom" pp. 251-256

"Forward, Till the Whole Task Is Done" pp. 257-266

"The Iron Curtain" pp. 295-308

"The King Walked With Death" pp. 315-319

D. Roosevelt (speeches are in Readings)

March 5

"Campaign Address on Progressive Government" — September 23, 1932

"Inaugural Address" — March 4, 1933

"The Right to a More Abundant Life" — December 6, 1933

"To the Young Democratic Clubs" — August 24, 1935

March 10

"Address on Constitution Day" — September 17, 1937

"Address at the Jackson Day Dinner" — January 8, 1940

"Address at University of Pennsylvania" — September 20, 1940

"Declaration of War" — December 8, 1941

Second Exam — March 12

IV. Rhetoric Today

March 12

Fairlie, "The Decline of Oratory" Readings

Sacks, "The President's Speech" Readings

Revolution, Chaps. 5, 11

March 17

Cesar et. al., "The Rhetorical Presidency" Readings

Sound, Chaps. 1-3
Revolution, Chap. 7
"The Perfect Speech" Readings

March 19
Mansfield, "The Media World and Democratic Representation"
Readings
Revolution, Chap. 2
Sound, Chaps. 4-5

March 31
George Bush, "Acceptance Speech"
Revolution, Chap. 17
George Bush, "War with Iraq"
"Peggy Noonan—Clipping File" Readings

April 2
Weaver, "The Rhetoric of Social Science" and "Ultimate Terms
in Contemporary Rhetoric" Ethics

April 7
Sound, Chap. 6
HRH Charles, "A Vision of Britain" Readings
"HRH Charles—Clipping File" Readings

Third exam—April 9

V. Speech-writing and Public Speaking

A. Speech-writing

April 14
Readings to be announced

B. Public Speaking (Dr. Frye)

April 16
Readings to be announced

VI. Speeches

April 21, 23
Weaver, "Some Rhetorical Aspects of Grammatical Categories"
Readings
Orwell, "Politics and the English Language" Readings

VII. Conclusion (April 28)

NSC Nixon draft (3/9/92) --
summary of central points.

Nixon's challenge: to maintain Twin Balances:

between confrontation and cooperation.

between withdrawal and engagement (?)

Our circumstances -- different, but our challenge remains:
balance between withdrawal and engagement

Coping with success:

Absence of over-riding threat.

Urge to bring troops home.

Historical parallels:

WWI: withdrawal and isolation.

WWII: (after temptation to withdraw) engagement --
alliances, institutions.

After Cold War, what?

Protectionism -- isolationism. Their dangers.

We must: aid reform in former USSR, Eastern Europe --
Democracy in the Americas.
Peace process in Middle East.
End of conflict in Cambodia.

Dangers remain: terrorism. Drugs. Disease. Pollution.
ballistic missiles, nuclear weapons.

Post-Cold War world -- more chance for conflict.

Rebut calls for peace dividend.

Resist deeper defense cuts.

Costs of isolationism:

Saddam and oil: Depression -- not just recession (!).

****Domestic caveat**** "This is not meant to suggest we should not
do more here at home. Of course we should."

Costs of Protectionism:

Bring down trade walls -- don't build new ones.

Conclusion:

Message: "No distinction between how we fare abroad and how we live at home."

Notes Cold War's "elegant simplicity" as counterpoint to our complex new world.

Ruffles, flourishes.

#

We're going to take a good look at what
we're going to see. I've been reading a history of

W.W.II. ~~There's a parallel.~~ Back
in the '30s before America moved in

isolationism -- Hitler's ~~rotten~~ turn
rotten & manipulated with Poland.
Behind Hitler's blitzkrieg came
the death's head Regiment. The
SS unit ~~was the most~~ cold, calculated, cruel &

The same is happening in K. today. (EX)
A syndemic is what is the soul of
a nation.

~~America is not a land made.~~

went in lined up the

the subject of this is not just a matter
of the mind, but a matter of the heart. It
is a matter of the soul. It is a matter of
the spirit. It is a matter of the life.
It is a matter of the love. It is a matter
of the truth. It is a matter of the
beauty. It is a matter of the good.
It is a matter of the right. It is a matter
of the just. It is a matter of the
honest. It is a matter of the pure.
It is a matter of the clean. It is a matter
of the clear. It is a matter of the
bright. It is a matter of the shining.
It is a matter of the glorious. It is a matter
of the magnificent. It is a matter of the
sublime. It is a matter of the divine.

⑤ The love is the power of the world.
It is the power of the life. It is the power
of the soul. It is the power of the spirit.
It is the power of the love. It is the power
of the truth. It is the power of the
beauty. It is the power of the good.
It is the power of the right. It is the power
of the just. It is the power of the
honest. It is the power of the pure.
It is the power of the clean. It is the power
of the clear. It is the power of the
bright. It is the power of the shining.
It is the power of the glorious. It is the power
of the magnificent. It is the power of the
sublime. It is the power of the divine.

Love is the power of the world.

Haas 15. McG.

7/9 w φ TV.

- 1) Bethel ✓
- 2) Schneider ✓
- 3) March 10, { Dem.?
Gov
A.C.
DD

Mar 7 →
Mar 8

60 + ?

Hotline
→ Clips
Mar 8, 8

TRADE

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DE-INDUSTRIALIZATION, MANAGED TRADE, AND
INDUSTRIAL POLICY: MYTHS AND MISTAKES

The premise that the U.S. is "de-industrializing" does not square with the facts.

- o In 1990, manufacturing accounted for 23% of U.S. GNP, a slightly higher percentage than in 1980.
- USE this → o || Manufacturing productivity rose by 3.9% a year over the last decade, the best performance since World War II.
- o An OECD study indicates that the U.S. share of industrial output among the OECD nations grew from 36% in 1973 to 39% in 1986.
- o The U.S. share of global high-technology output remained stable at 42% during the 1970s and 1980s.
- o Our share of OECD industrial employment rose from 24% in 1962 to 28% in 1985, while the shares of the U.K., France and Germany fell by 30%, 10%, and 20% respectively. In short, we managed to create jobs for baby boomers and also for women as they entered the work force. Other nations did not.

The United States does not need managed trade or a "strategic industrial policy" to catch up to foreign competition.

- o Industrial policy advocates propose that the U.S. Government supervise, subsidize, and protect selected "strategic" industries, just as Soviet planners selected, supervised, and subsidized chosen heavy industries.
- o There is no evidence that government officials are better than the marketplace at identifying "winners and losers" among industries.
- o Implementing an industrial policy or a managed trade regime usually requires detailed government intervention, which diminishes competition.
- o What the U.S. economy needs is less, not more, government intervention, taxation, and regulation.
- o Recent economic research shows that pursuing "strategic industrial policy" will likely lead to a lower level of national welfare.

I will not sign a COPE bill
that will destroy the outlandish & coal jobs.

~~in COPE~~

working side by side w/
to fight ~~workers~~
- eg. that would ~~abolish~~
thousands of jobs.
the industry &

NWIS.

COPE - 20 yrs. old.
may be time to ~~change~~
when it's outdated
it's antiquated...

Friday -
defending coal/c/loc.
not worried about powdering -
Shuman is.
"Powers taking hits"

NES. →

Corder - Polk credited
for Kissinger, etc.

Carson - aka Pink?

clunking - end.

COPE.
new wings to clean energy
face some way

For Pol-
Middle
East

The Strategic Importance of Israel After the Cold War (Including Lessons of the Gulf War)

"Strategic cooperation with Israel remains a cornerstone of American defense policy" --Defense Secretary Richard Cheney, Oct. 28, 1991

SUMMARY

While threats to America's interests have diminished in other parts of the world following the demise of the Soviet Union and the end of the Cold War, the Middle East remains a high-threat area according to the Pentagon's new Defense Planning Guidance. **Saddam Hussein proved to be a greater threat in 1990, without Soviet support, than he was in 1980 when he had Moscow's backing.** Rogue states like Iraq, Iran, Libya, and Syria are now so heavily armed and are so rapidly acquiring weapons of mass destruction that they pose a greater threat of independent action today than they did a decade ago when they depended on Soviet support.

As the military potential of radical Middle East states grows at a time when American global force projection capabilities are reduced due to cuts in the U.S. armed forces, our ability to deal effectively with regional crises will continue to diminish. Reliance on our strongest ally in the region, Israel, will therefore become increasingly important.

Israel is America's most reliable and capable strategic ally in the region, with the most capable armed forces and the best-located facilities for a "swing force" that might have to operate in the eastern Mediterranean, the Arabian Peninsula, North Africa, Southern Europe, or the Suez Canal. In an era of scarce resources, it makes sense to deploy and preposition American assets at such a key juncture between potential theaters of operation.

Vice President Dan Quayle said on April 7, 1992, "Since the U.S.-Israel relationship was not a product of the Cold War, it won't be diminished by the end of the Cold War...The world is still a dangerous place--in some respects, even more dangerous than it used to be...Cold War or no Cold War, Israel remains our closest and most reliable ally in the Middle East." Israeli Defense Minister Moshe Arens Said on March 9, 1992, "Our common strategic interests...have grown since the end of the Cold War because of the deep cuts which the U.S. defense establishment has made in manpower and weapons development, as well as the virtual elimination of the American military posture on the continent of Europe."

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OVERVIEW OF THE STRATEGIC RELATIONSHIP

Tom Friedman of the New York Times wrote on March 22, "With the end of the Cold War, a sea change has taken place in Israel's relationship with Washington and it can no longer argue as effectively as before that it is a strategic asset for the United States." David Hoffman of the Washington Post made the same argument on the 23rd: "Israel's strategic importance to the United States...lost its luster with the end of the Soviet Union and the Cold War." Bill Quandt of Brookings Institute said that "the strategic rationale which developed in the 1980s is essentially gone."

Yet, America just fought its first war in the Middle East, confronting an Arab aggressor who moved **after** the collapse of communism and the fall of the Berlin Wall. And, in April of 1992, the Middle East is full of expectation that there may be a resumption of hostilities between the United States and Iraq, or even an American strike against Libya. Looking further into the future, the Pentagon's new Defense Planning Guidance identifies potential Iranian aggression against neighboring countries as one of the principal threats for which U.S. armed forces must prepare for the coming decade.

Clearly, threats in the Eastern Mediterranean and the Middle East have not declined with the end of the Cold War; if anything, they have increased. How can this be so? The answer is the frantic pace at which potential aggressors in the Middle East like Iraq and Iran, as well Syria and Libya, have been able to build up their inventories of modern weapons, while at the same time acquiring missiles like the Scud as well as unconventional capabilities in chemical, biological, and even nuclear fields. Emboldened by its military strength, Syria has stepped up its support of PKK terrorism against Turkey, leading to a stern warning delivered Syrian President Assad in person by Turkish Interior Minister Ismet Sezgin on April, 1992, and Libya is defying U.N. Security Council demands that it end its support for international terrorists.

On March 11, 1992, General Norman Schwarzkopf's successor as the head of the United States Central Command in the Middle East, General Joseph Hoar, laid out to Congress the problem the U.S. armed forces could face if called upon to resist aggression in the Middle East in the future. "We know it will be very unlikely that we could replicate Operations Desert Storm and Desert Shield in the future...We doubt our adversary would grant us the reaction time...that Saddam Hussein provided in 1990." And, he continued, "as the U.S. military reduces its size" and withdraws from Europe, "our ability to respond quickly with decisive force is reduced." Under these circumstances, the head of the Central Command said, "We have neither the ability nor the desire to provide for security alone." We need to make an **"investment in coalition building with our friends in the region,"** and to do that "we must redouble our efforts to ensure that...we are able to call on a climate of trust" between ourselves and our regional allies. With respect to prepositioning of equipment in countries in the region, "we learned during the last conflict that prepositioning is key to our ability to respond."

Saddam Hussein had the fourth largest army in the world in 1990. The armies of Syria and Iran are almost as large, and like Iraq, they have missiles, chemical warheads, and other modern weapons. Syria's air force, and its SAM network, are more formidable than those Iraq had.

In a future war, the United States armed forces will be much smaller than those of 1990, and a higher percentage of them will be based in the continental United States rather than in Europe. But the forces of these threatening regional states are expected to grow. General Hoar told Congress that, after the U.S. armed forces are drawn down, the United States will not be able to deliver a force the size of that assembled for Desert Storm. "The force is not going to be available in a way that would allow it to be moved to the area." We will be able to "replicate the results of Desert Storm...with the [future] base force [only] if we have...coalition support and if we move early on ambiguous warning to move assets to the region." But, we may not be able to count on the support of the dozens of countries that aided in Desert Shield/Desert Storm.

What does this mean for U.S.-Israel strategic cooperation? Isn't it true that, far from relying on Israel in the Gulf War, the Administration mainly wanted Israel to stay out of the fray? As Tom Friedman put it, American officials "had to spend their energy keeping Israel out of the fighting so they could keep the Arabs in."

Israel was the first U.S. ally in the region to step forward and offer help after Saddam Hussein invaded Kuwait on August 2, 1990, offering on August 6 to participate in any military attempt to prevent an Iraqi attack on Saudi Arabia if asked by the United States. A special, secure communications link was established between the Pentagon and the Israeli Ministry of Defense, and it "enabled immediate and frequent contact between senior U.S. and Israeli officials," according to a U.S. DoD report. Yet, it is true that in the particular case of the Gulf War, the *active* role of Israeli forces and facilities was minimal. But this derived from a unique set of circumstances, not likely to be repeated. All of Iraq's neighbors directly or indirectly supported the U.S. in this conflict, and we had bases in Turkey to the north and Saudi Arabia to the south. In other scenarios, we will not have such a rich set of access arrangements. Secretary Cheney said in an April 1992 report to Congress, "We must remember that this war, like every other, was unique...We received ample support from the nations that hosted our forces and relied upon a well-developed coastal infrastructure that may not be available the next time." Egyptian

President Hosni Mubarak and Syrian President Hafez Assad have already stated, on March 18, 1992, that they will not participate in or support resumption of the use of force against Iraq even if it does not comply with U.N. requirements. The Government of Turkey, facing Islamic and nationalist opposition to U.S. use of Turkish bases for operations against Iraq, may not renew the agreement permitting use of Incirlik when it expires in June.

Also, the war would have been far more difficult for the U.S., as General Hoar told Congress, if "Saddam Hussein's forces had not paused at the southern border of Kuwait but had continued south" into Saudi Arabia. Secretary Cheney said, "Iraqi forces could have quickly moved down the Saudi coast to seize the oil-rich Eastern Province and threaten the Gulf sheikdoms. Iraqi control of Saudi Gulf ports...would have made military operations to recapture the seized territory extremely difficult." The Pentagon's Gulf War analysis concluded, "Although U.S. forces arrived quickly, there was a lengthy period of vulnerability during which Coalition forces could not have repulsed an Iraqi invasion into Saudi Arabia." Imagine that Iraqi forces were in artillery range of Saudi Arabia's crucial Dharan airfield complex. Would the Saudis have refused to accept American help involving the use of Israeli facilities, if the survival of the Kingdom were at stake? What if Iraqi forces had threatened to move into Jordan, as many feared in the opening days of the war?

Israel's support could be particularly important in a scenario involving Iraqi or Syrian aggression against Jordan, a Syrian conflict with Turkey (a possibility that is far from remote at the present time), a Syrian attack on a future Lebanese government that sought to exercise greater independence, a conflict involving Libya, or problems that could arise in the future if Algeria is radicalized by Islamic fundamentalists and pursues a militant foreign policy like that of Iran.

Israel remains the ally most likely to help when we ask, our most capable ally in the region and the one most critically located at the juncture of the Eastern Mediterranean, the Arabian Peninsula, North Africa and the Suez Canal, and southern Europe. As Israeli Defense Minister Moshe Arens said to the UJA Young Leadership Cabinet on March 16th, "The Middle East continues to be the most volatile area of the world, an area in which Arab dictators run rampant and endanger...vital interests of the United States. And just because...the United States is cutting back on defense expenditures, the relationship between the United States and Israel, the strategic interests will be stronger than ever in the years to come. And if there are some people in Washington that don't recognize that just yet, they will. It won't take very long."

But Israelis fear that, while the objective importance of the U.S.-Israel strategic relationship remains great, this is no longer well-understood by officials, journalists, and diplomats around the world. True, Defense Secretary Dick Cheney said that "strategic cooperation with Israel remains a cornerstone of American defense policy," and Secretary Baker said "Strategic cooperation is still important as far as the United States is concerned...I see the United States as a strong ally of Israel and I see Israel as a strong ally of the United States." And it is true that the concrete programs of the strategic relationship perception, shared by Arabs, Israelis, and Americans, that this strategic cooperation is no longer a serious commitment in the minds of American decisionmakers, not something that they take seriously into account when their minds turn to grand strategy.

What can be done to make perception a more accurate reflection of reality? To some degree, time itself will repair these misconceptions, as future crises will remind people that the threats to U.S. interests are real and that we will need closer U.S.-Israel cooperation if we are going to deter aggression and war in the region. But when there is a dangerous misconception afoot, and when people have lost sight of strategic realities, it is not enough to sit back and wait for an emergency to bring them to their senses. Those who understand the problem, and who have the ability to make themselves heard, need to stand up and be counted.

Another issue on which there has also been considerable misunderstanding and sometimes deliberately misleading statements by critics is the relationship between strategic cooperation and the **peace process**. It has been alleged more than a few times by critics of the U.S.-Israel relationship that advocacy of strategic cooperation is some kind of **diversionary tactic** to detract attention from the peace process. If America acknowledges Israel's importance as a strategic partner, so the theory goes, it will somehow reduce Israel's incentives to take the steps that are necessary for the pursuit of peace.

The people of Israel do not need to be reminded that there can be no lasting security without accommodation with and acceptance by their neighbors; both major political parties are strongly committed to the peace negotiations that are now underway.

Nor is it true that the peace process and close U.S.-Israel relations are **incompatible**. In fact, exactly the reverse is true: **The strategic relationship is a key foundation of the peace process**, for four reasons. First, it strengthens Israel's deterrence of Arab aggression, helping to channel and moderate Arab opinion away from the military option and toward negotiations. Second, it helps to give Israelis the confidence they must have if negotiations move toward agreements in which Israel must accept elements of risk to achieve peace. General Colin Powell, Chairman of the Joint Chiefs of Staff, said, "An Israel that is strong and secure is an Israel that can participate in the peace process with confidence and security." Third, it strengthens the U.S. role as a mediator, because it enables the Arabs to look to the U.S. as the one outside party with influence in Jerusalem, and it enables Israelis to trust the United States in a world that is often hostile. Finally, after peace treaties are signed, Israel will need assurances against the risk of Arab violations. Close strategic relations with the U.S. will contribute toward this end.

Overall, the U.S.-Israel strategic relationship serves American interests by supporting the search for diplomatic solutions to the problems of the region, while reducing the risks of war and serving the operational needs of the U.S. armed forces should they face another conflict in the region.

1. NOW THAT THE COLD WAR IS OVER, WHAT IS THE THREAT?

- ◆ An "arc of crisis" extends from Morocco to Pakistan, and includes all of the world's still-existing regimes that have committed acts of violence against U.S. citizens in recent years: Libya, Syria, Iraq, and Iran. All these predator states - even post-Desert Storm Iraq -- continue to threaten U.S. interests; other nations in the region may also do so in the future.
- ◆ The predator states have amassed vast quantities of powerful conventional and unconventional weapons, sufficient to pose a greater threat to U.S. interests today than they did in earlier years when they enjoyed Soviet backing but lacked the

capability to initiate independent military operations. Several possess ballistic missiles, chemical and biological weapons, and are frantically pursuing nuclear weapons capabilities. The Pentagon's April 1992 report to Congress on the Gulf War concludes that, "Prudence dictates that national defense planning assume future adversaries will be more adept, better equipped, and more effective than Saddam Hussein."

- ◆ Secretary of Defense Dick Cheney, reporting to Congress in April 1992 on the results of the Gulf War, said: "The Persian Gulf conflict reminds us that we cannot be sure when or where the next conflict will arise. In early 1990, many said there were no threats left because of the Soviet withdrawal from Eastern Europe; very few expected that we would be at war within a year...Looking back over the past century, enormous strategic changes often arise unexpectedly...No matter how hard we wish for a just peace, there will come a time when a future President will have to send young Americans into combat somewhere in the world."
- ◆ Iran is engaged in what Brent Scowcroft termed a "very massive military buildup," and has publicly announced its intention to acquire nuclear weapons. Vice President Mohadjerani stated on Nov. 16, 1991, "Yes, we are acting to attain a nuclear bomb... The Moslems must get ready to attain nuclear power which will make them strong." Libya and Syria are also engaged in the development of unconventional weapons capabilities. "Iraq preserved and salvaged a significant military capability and shows every intent of reconstituting its earlier strength at some point in the future," the head of the U.S. Central Command told Congress on March 11, 1992. "We believe that through continued rearmament, through rebuilding their lines of communication, through rebuilding ordnance factories, munitions factories, that they will continue to rebuild, and that sometime in the next five years, perhaps, they will have an offensive capability once again."
- ◆ Nearly three-quarters of the world's proven oil reserves are located within the "arc of crisis." The rapidly growing U.S. dependence on Arab oil imports (currently \$60 billion) is already responsible for a far larger share of the U.S. trade deficit than is the trade imbalance with Japan (\$40 billion). Should more Islamic states be radicalized at a time of growing Western dependence on their petroleum, the "oil weapon" could be unsheathed once again with a repeat of the devastating impact on the U.S. economy that occurred in 1974 and from which the U.S. still has not fully recovered.
- ◆ Radical Islam harbors implacable hostility toward the West and toward democracy and other basic Western values. It profoundly resents the Western "infidels'" military and material success, which it views as contrary to Islam's teachings. It regards the West as the underlying cause of the Islamic world's weakness and misfortunes, and as the main obstacle to Islamic reunification and return to medieval Islam's "Golden Age." As the West's undisputed military and political leader, radical Muslims throughout the Middle East regard the United States as the "Great Satan," their most hateful and dangerous enemy on earth.

- ◆ Militant Arab nationalism, embodied by Qaddafi's Libya, Assad's Syria, and Saddam Hussein's Iraq, shares radical Islam's hostility toward the U.S.-dominated West. It regards Western "imperialism" as the root cause of the breakup of the Arab world, and as the chief impediment to Arab power and reunification. Although the appeal of Arab nationalism has waned, its anti-Western message remains a potent force throughout the Arab world and can be mobilized even in currently pro-Western Arab countries, as evidenced in Jordan before and during Desert Storm.
- ◆ Syria's present posture of accommodating the West, and the stirrings of a similar trend in Iran, do not represent a fundamental reconciliation with the U.S. It is the result of economic need coupled with fear of the U.S. military might as displayed in Desert Storm. Should circumstances change, they could quickly revert to the pursuit of economic advantage through intimidation and aggression, much as Saddam Hussein surprised the West by dropping his facade of moderation and invading Kuwait in August 1990.

2. WHAT CAN ISRAEL DO TO HELP MEET THE THREAT?

A. ISRAEL IS OUR MOST RELIABLE ALLY IN THE REGION

- ◆ Israel was the first U.S. ally in the region to step forward and offer help after Saddam Hussein invaded Kuwait on August 2, 1990. "On August 6, Israel stated that it was prepared to participate in any military attempt to prevent an Iraqi attack on Saudi Arabia if asked by the United States," according to the Pentagon's April 1992 report to Congress on the Gulf War. "A special, secure communications link established between DoD and the Israeli Ministry of Defense enabled immediate and frequent contact between senior U.S. and Israeli officials" throughout the conflict.
- ◆ Egyptian President Hosni Mubarak and Syrian President Hafez Assad were allied to the U.S. in the Gulf War, but both have since stated, on March 18, 1992, that they will not participate in and will oppose any resumed use of force against Saddam Hussein, even if the U.S. finds this necessary to halt Iraqi violations of the U.N. resolutions. The Government of Turkey, facing Islamic and nationalist opposition to U.S. use of Turkish bases for operations against Iraq, may not renew the agreement permitting use of Incirlik when it expires in June.
- ◆ The moderate Arab states that were allied to the U.S. in the Gulf War have also stated that they will oppose any use of force against Libya in relation to Qaddafi's refusal to cooperate with the prosecution of those involved in the bombing of Pan Am 103.
- ◆ In April 1986, when the Reagan Administration conducted an air strike against Libya for its participation in international terrorism, Syria offered to fight along side Libyan troops and Saudi Arabia condemned the U.S. raid and said that it would support Libya. In April of 1992, Syria sought to defy the U.N. Security Council's airline boycott of Libya to symbolize support of Qaddafi.
- ◆ Israel is our only permanent ally and the only nation in the region permanently immune to Arab nationalist or radical Islamic takeover.

- ◆ As a Western democracy steeped in Western values, Israel is not only friendly to the West but an integral part of it. U.S. strategic agreements with authoritarian Arab regimes often do not have popular support in Arab countries, and are therefore effective only as long as a particular ruling elite remains in power and considers the alliance with the U.S. to serve its interests. In contrast, the four-decades-old U.S.-Israel alliance is supported by the great majority of the people of Israel and all the major political parties. Such depth of support is a prerequisite for a reliable and durable alliance, and is the reason that alliances with democracies are more deeply rooted than alliances with autocracies and tyrannies.
- ◆ As Israeli Ambassador Zalman Shoval said on April 5, 1992, "...Real, long-lasting alliances between nations...must be founded not only in political expediencies which are liable to change, especially in the Middle East, but in common values. This is why alliances between democracies endure...and why alliances with tyrannies last only for so long as they are convenient...Long before the government of the United States ever began military aid to Israel as a bulwark against Communism, it was the common values that lay at the heart of this rare and durable relationship."
- ◆ Building alliances with conservative Arab regimes is a temporary and uncertain solution. The pro-Western monarchies of Iraq, Libya, and Iran were all toppled (in 1958, 1969, and 1979 respectively) and replaced by virulently anti-Western regimes. All the surviving pro-Western Arab governments, as well as Turkey and Pakistan, are vulnerable to radical Islamic pressures, and most could be overthrown; the U.S. can help these fragile governments deal with external aggression, but not with internal threats.
- ◆ Although many Islamic regimes are currently moderate and friendly to the United States, no Islamic nation is immune to radicalization. Sudan has already joined Iran as a radical Islamic state harboring terrorist groups, and Algeria's march toward radical Islam, temporarily halted by last-minute army intervention, is by no means over. All the Arab countries are threatened by powerful radical Islamic forces.

B. SCENARIOS OF U.S.-ISRAEL STRATEGIC COOPERATION

- ◆ U.S.-Israel strategic cooperation serves the national interests of the United States by contributing to deterrence of a wide variety of threats in the Mediterranean and Persian Gulf regions, and by contributing to the effectiveness of military actions should they occur.

MEDITERRANEAN SCENARIOS

1) A Syrian Attack on Israel. Egypt signed a peace treaty with Israel in 1979, and much of Iraq's offensive potential was destroyed in the Gulf War. Most analysts believe that the principal remaining danger of a future Arab-Israeli war is a military initiative launched by Syria. Such an attack could draw in other Arab states and lead to an escalation spiral threatening to the interests of the United States. U.S.-Israel strategic cooperation acts as a deterrent to Syrian aggression by adding to the risks Assad would face in undertaking such an initiative.

2) An Iraqi Incursion in Jordan. Renewed Iraqi aggression in the future could take the form of an intrusion into Jordan, to achieve a direct role in the Palestinian question and frontline status against Israel, or to open an alternative Iraqi line of communication through Aqaba. Indeed, such an Iraqi move into Jordan was a concern during the "window of vulnerability" after Iraq's invasion of Kuwait on August 2, 1990, and before the Coalition forces achieved full strength months later. Israel made it clear during the war that it would regard an Iraqi incursion in Jordan as a *causis belli*. In such a scenario, U.S.-Israel cooperation could be critical for deterrence and defense.

3) A Syrian Incursion in Jordan. Syria threatened to intervene in Jordan's 1970 civil strife, and took the active step of sending tanks into the country, to support the PLO against King Hussein. Israeli-American cooperation succeeded in persuading the Syrians to withdraw, permitting the Hashemite Kingdom to prevail. Should Syria be tempted to exploit its great superiority over Jordan in the future, perhaps to secure Syrian hegemony in Jordan like that Assad now holds in Lebanon, Israel-U.S. cooperation could once again be the deterrent.

4) Syrian Conflict with Turkey. Syria's support of growing PKK Kurdish terrorism and attacks on Turkish targets, including PKK infiltrations into Turkey from points along the Syrian border, has led to a strongly worded message from Turkey to Syrian President Assad that it will no longer tolerate the situation. While military conflict between the two states probably is not imminent, further escalation by Assad cannot be ruled out. U.S. cooperation with Turkey and Israel helps to constrain Assad.

5) Syrian Conflict with Lebanon. If a future Lebanese government attempts to assert its independence and act in its own national interest, rejecting Syrian domination, Assad could revert to military action to subdue Lebanon. U.S.-Israeli cooperation could be essential if Washington supports Lebanese sovereignty.

6) Libyan Adventurism. Colonel Qaddafi continues to acquire missiles, chemical weapons, and other modern arms. His erratic history of military adventurism and terrorism could lead to renewed threats that might force the U.S. to consider a military response again. Israeli-American cooperation could contribute to the effectiveness of the U.S. Sixth Fleet and Air Force in such a scenario.

7) Future Algerian Threats. If militant Islamic forces gain control of Algeria, and model their foreign policy on that of Iran, Algeria could pose a significant threat to Morocco, Tunisia, and others. Algeria's growing nuclear capability has also become a matter of international concern. Israeli cooperation could be useful to the Sixth Fleet, if it is called upon to contain such an Algerian threat.

GULF SCENARIOS

8) Iraqi Aggression Against Kuwait, Saudi Arabia, or the Gulf Emirates. As Secretary Cheney told Congress, a future Gulf war scenario could be more stressful than Desert Storm, if Iraq gained control of Saudi Arabia's infrastructure, and the access arrangements that we enjoyed in 1990-91 were not available. In such a stressful scenario, Israeli facilities and even direct military support might be sought by the United States.

9) Iranian Aggression Against Kuwait, Saudi Arabia, or the Gulf Emirates. Here, again, Israeli support might be sought by the United States in a scenario of high duress.

C. ISRAEL HAS THE MOST CAPABLE FORCES IN THE REGION

- ◆ Israel has the most capable air force and navy in its theatre, a fact often noted with admiration by U.S. experts. Because it is threatened by adversaries with more than 2000 combat aircraft and because it relies heavily on its air force to compensate for the great quantitative disadvantage it suffers in ground forces, the Israeli Air Force maintains an inventory of more than 600 modern combat aircraft. While intended primarily to protect the Jewish state from air attack and support the ground forces, the IAF could in particular circumstances join a coalition with the U.S. armed forces against a mutual threat. This was implied in Israel's offer on August 6, 1990, noted above, to join the United States in a military effort to prevent an Iraqi attack on Saudi Arabia if asked by the United States.
- ◆ Operating with an allied American force, the IAF could significantly augment U.S. capability. For example, it is estimated that Israel could generate twelve times as many combat sorties as a U.S. Navy aircraft carrier's air wing, and more than twenty times as many attack sorties. Even if only 20% of Israel's capability were engaged, the IAF could fly more sorties than a two-carrier U.S. task force operating at a maximum surge rate. Similarly, the Israeli Navy, although comprised mainly of small missile boats, has impressive capabilities against surface combatants in the eastern Mediterranean and, acting in combination with the Israeli Air Force, is capable of defeating any likely fleet of adversaries.
- ◆ By taking out Iraq's nuclear reactor, rescuing the Western hostages in Entebbe, and destroying the PLO headquarters in Tunis, Israel demonstrated a "long-arm" capability to reach any of the four predator states and beyond.
- ◆ Israel's 1981 surgical strike against Iraq's nuclear reactor, which was criticized at the time by Secretary of Defense Caspar Weinberger, is now generally acknowledged to have been greatly beneficial to the United States. On Oct. 28, 1991, Defense Secretary Richard Cheney publicly thanked Israel for its action, saying, "There were many times during the course of the buildup in the Gulf and the subsequent conflict that I gave thanks for the bold and dramatic action that had been taken some ten years before."

D. USE OF ISRAELI FACILITIES BY U.S. FORCES

- ◆ The Pentagon's April 1992 study of the lessons of the Gulf War concluded that, "Prepositioning equipment and sustainment supplies is an important strategic lift multiplier that reduces the initial strain of air and sealift and provides deploying commands with substantially increased flexibility...Prepositioning programs improved U.S. preparedness markedly...[and] proved... invaluable...As [U.S.] forces are drawn down and the defense budget becomes smaller, it is important to continue to improve...forward presence and military-to-military contacts to facilitate regional operations [and] joint and combined training and exercises under realistic conditions...Availability of staging bases and a well-developed infrastructure...were crucial to the Coalition's success. These facilities and resources may not be as readily available in future contingencies."
- ◆ Israel is an ideal location for prepositioned U.S. assets for a "swing force" that might have to be used in the Persian Gulf, Middle East, North Africa, Southern Europe, or the eastern Mediterranean. The distance from Israel to the Gulf is less than one-seventh that from the U.S. It is also half the distance of Diego Garcia to Kuwait. In an era of reduced resources, the U.S. armed forces need the flexibility that a site applicable to multiple scenarios affords. Israel is an excellent location for a "stepping-stone" to the Gulf, one whose use will be permitted in a wider variety of scenarios than prepositioning sites in Egypt or Turkey. The Pentagon's Gulf War report acknowledges the utility of prepositioning sites not in the Gulf but "closer...than if they had been stored in CONUS [the continental U.S.]."
- ◆ The quality of Israeli facilities and military manpower is unsurpassed for prepositioning U.S. materiel, maintenance assistance, training in a realistic environment (often not permitted in Arab countries), and joint exercises with U.S. armed forces. These programs, whose further expansion has recently been announced, are vital for a direct U.S. role if required in any future conflict. Given the uncertain prospects of their vulnerable regimes, Islamic countries can only serve as short-term substitutes.
- ◆ Secretary Cheney reported to Congress in April 1992, "The Persian Gulf War teaches us that our current planning should pay explicit attention to the kinds of relationships which might support future coalition efforts...Investments in infrastructure and practice in international cooperative efforts can be [important] to build the trust and capabilities that will be needed to put together future coalitions and to enable them to operate successfully in future crises. It takes years of working together to build these kinds of ties." General Hoar, the Chief of the Central Command said on March 11, 1992, that to deal with a threat, the lesson of the Gulf War is that "we need to act on ambiguous warning; we need to move forces to the region *before* a crisis."
- ◆ But General Hoar told the House Armed Services Committee on March 11, 1992, "The one thing we have been unable to do, which has been a disappointment to me, has been to preposition sufficient heavy assets, armor assets, in the region. We have been unable to find the few countries where they would be most accessible to respond to a crisis from the North, the right kind of agreement or the right formula, working with our coalition friends in the region, for placing that sizeable kind of force." The problem is that, "Each of these countries has radical

elements in the government, people that continually make the presence of U.S. forces in the region a subject of discussion. They believe that Western elements present in those countries will overturn the established order, that Western decadence will slip into those cultures. Much of this is encouraged by other countries that wish to limit U.S. presence in the region." As a result, Pentagon spokesman Pete Williams said on March 3, 1992, we still have no agreement to preposition U.S. ground forces equipment in Saudi Arabia, so in the event of a crisis, the equipment would have to be shipped back there again.

- ◆ Yet, General Hoar also indicated in his testimony that Israel is not considered a major candidate for a prepositioning site for Gulf contingencies because, he said, it is considered to fall within the scope of operations of the European Command rather than the Central Command that is responsible for the Gulf.
- ◆ The origin of this bureaucratic obstacle and anomaly (the Arabs themselves consider Israel to fall within the heart of the Middle East) was an American political decision, taken quietly in the mid-1980s, not to ruffle Arab sensibilities by putting U.S.-Israel strategic cooperation in the context of the Middle East. Friends of Israel who were aware of this decision at the time questioned its wisdom; the case against it is much stronger today. The Arabs have agreed to begin peace negotiations with Israel, the United States is attempting to eliminate vestiges of the old "rejectionism" like the Arab boycott and the Zionism-is-racism resolution, the Cold War is over, and the Gulf War demonstrated more than any previous event the reality that the threat to the moderate Arab regimes and the threat to Israel often comes from the same source. The very fact that the Central Command lacks prepositioning sites, but cannot consider Israel because it is assigned to the wrong command, should be reason enough to reevaluate Israel's command status.

D.(1) Israel's Value as a Port of Call

- ◆ The eastern basin of the Mediterranean is considered the most likely theatre of operation for the U.S. Sixth Fleet in the event of a conflict, according to Navy doctrine, but most of the Fleet's anchorages and bases in the Mediterranean are located much further west. Using Haifa and other Israeli facilities enhances the Fleet's deterrent effect and increases its operational readiness in the event of a conflict.
- ◆ Utilizing local port and training facilities of our capable allies -- such as Israel - becomes essential as the U.S. defense budget continues to shrink, the number of U.S. naval vessels declines, and regional force projection requirements increase.
- ◆ Israel's Haifa harbor continues to be the favorite port of call for the U.S. Navy's Sixth Fleet. In addition to the superior repairs, American sailors are warmly welcomed and do not encounter the kind of hostility with which they are frequently received in other countries. Currently a \$15-million Haifa port improvement is underway, and a study evaluating the cost of upgrading the existing facility to maintain an aircraft carrier battle group is being conducted.

D. (2) Israel as a Training Ground for U.S. Forces

- ◆ Israel is the only U.S. ally in the Middle East that can regularly provide target ranges and training centers as well as expertise in fighting in extreme heat and desert conditions.
- ◆ American air crews have difficulty getting weapons training in Europe because of the poor weather and range restrictions, so they are better able to deliver weapons and practice realistic combat missions in Israel, where the range facilities and climate are ideal for U.S. training requirements.
- ◆ Israel proved to be a useful training ground for operations used in Desert Storm. For example, U.S. Army and Marine Corps helicopters and Navy fighters trained on the Negev range in Israel during Desert Shield.
- ◆ Israeli pilots continue to share their combat experiences with their American counterparts, both in Israel and the U.S.

D. (3) Israel's Capability as a Maintenance and Repair Facility for U.S. Systems

- ◆ Larry Feltrup, the U.S. Navy's ship surveyor, wrote a letter to the General Manager of Israel's Shipyard in 1987 to say that Haifa "excelled in performance over any ship repair facility I have contracted in the Mediterranean area for the past four years."
- ◆ Because Israel and the United States use common weapon systems, and because Israel's repair facilities have a proven record of competitive performance, Israel is well suited to repair U.S. systems, either regularly or on an emergency basis.

E. THE VALUE OF ISRAELI TECHNOLOGY

Although Israel's defense industries are small compared with those of the United States, the intense commitment Israel has made to maintain its qualitative edge by developing unique technological solutions, as well as the excellent human capital on which the industry has been able to draw, have enabled the Israeli defense industry to make important contributions to U.S. defense needs.

Israel offers five special advantages to help meet U.S. needs.

First, while the U.S. enjoys overall technological superiority, Israeli firms have specialized in **gap-filling innovations**, based upon operational experience, that often begin where American and European designs leave off.

Second, Israel has developed, of necessity, a quick reaction capability to meet new technological threats on **short lead-times**, and Israeli innovations are often available off-the-shelf years before corresponding products from other producers come on line.

Third, Israeli products are heavily influenced by actual combat experience, and tend to be more realistic and practical than designs from other producers who are more often guided by studies and analyses than by combat experience. Indeed, the very scientists and engineers who produce Israeli weapons often have had recent battlefield experience.

Fourth, Israeli innovations are designed to counter both Soviet and Western systems, while those of other Western producers generally are not designed to meet the non-Soviet threats that are increasingly faced by the U.S. armed forces outside Europe. Like Saddam Hussein's forces, a future aggressor may have advanced European and even U.S. aircraft, armor, electronics, and other systems.

Finally, Israeli maintenance and repair facilities are located closer to the theaters where U.S. forces are deployed than many of the facilities on which we now rely. Their increased use could help improve U.S. readiness rates and reduce costs for the American taxpayer.

- ◆ Much of Israel's military technology is licensed in the U.S. for large scale production. The main benefactor of this technology is the U.S. military. The jobs created from the production of this technology are American jobs. The sales generated from this technology are to the benefit of the U.S. economy.

E. (1) Israel Military Technologies used during the Gulf War.

The value of Israeli technology to the U.S. armed forces was illustrated during the Gulf War:

- ◆ Israeli recommended software changes which improved the effectiveness of the Patriot missile system.
- ◆ U.S. forces had available Israeli-developed HAVE NAP air-to-ground missiles, which could be launched from B-52 bombers.
- ◆ Mobile towed-assault bridges provided by Israel Military Industries were deployed by the U.S. Army and Marine Corps.
- ◆ The Clear Lane Marking System (CLAMS), developed by IMI, was used by USMC tank crews to mark open paths in the Iraqi mine belt, saving the lives of many troops.
- ◆ Israeli Aircraft Industries developed conformal fuel tanks for the F-15 fighter that were used widely on long-range missions.
- ◆ General Dynamics has implemented a variety of Israeli modifications to the F-16 aircraft fleet, including structural enhancements, software changes, landing gear, radio improvements and avionic modifications.
- ◆ An Israeli-produced helicopter night-targeting system, the CLNAS, was used to increase the U.S. Cobra attack helicopter's night-fighting capabilities.
- ◆ Israel produced significant components of the highly successful Tomahawk cruise missile.
- ◆ Night vision goggles used by U.S. forces were supplied by Israel.

E. (2) Ongoing Joint Technology Development Programs

The potential for future cooperation is still greater.

- ◆ A September 1, 1991 DoD report to Congress on "Defense Cooperation with Israel" identified 21 technologies critical to the U.S. defense base, and said Israel has specific capabilities in 13 of them. Additionally, the Defense Department indicated "there are currently some 321 separate [U.S.-Israeli] cooperative efforts valued at approximately \$2.9 billion which are currently active or in the planning process."
- ◆ While much of the military technological cooperation between the U.S. and Israel is classified, many areas of cooperation on crucial future defense systems are public.
- ◆ The United States and Israel are working together to develop the Arrow, the world's most advanced Anti-Tactical Ballistic Missile (ATBM) system, to shoot down ballistic missiles (a highly advanced alternative to the Patriot missile). Secretary Cheney reported to Congress in April 1992, "While the Patriot helped to counter Saddam Hussein's use of conventionally-armed Scud missiles, we must anticipate that in the future more advanced types of ballistic missiles, some armed with nuclear, chemical, or biological warheads, will likely exist in the inventories of a number of Third World nations. More advanced forms of ballistic missile defense, as well as more effective methods of locating and attacking mobile ballistic missile launchers, will be necessary to deal with this threat."
- ◆ Israeli reconnaissance drones have proven themselves in the Gulf war and are considered a vital component of future defense systems. The Pentagon's Gulf War report finds that, "Perhaps the most innovative new [Marine Corps] item was the Pioneer Unmanned Aerial Vehicle (UAV) [which] allowed real time reconnaissance and provided a capability to adjust supporting arms fire in hostile enemy airspace virtually undetected." Navy use of the UAV on battleships "increased the battleship's flexibility" and accounted for 52% of target spotting and virtually all battle damage assessment. The maker of the drones, Israel Aircraft Industries, is currently working with the U.S. defense contractor, TRW's Avionics and Surveillance Group, to develop the most advanced version of such drones in the world.
- ◆ Israel's Popeye air-to-surface missile (long range, highly accurate attack weapon) is now being used by the U.S. Air Force to enhance the U.S.'s aging fleet of B-52 bombers for conventional missions.
- ◆ Israel has provided the United States with improvements on air intake valves for helicopters, helping prevent such problems as those that led to the failed U.S. rescue attempt in Iran in 1979.
- ◆ Other areas of technological military cooperation include: ship-to-ship missiles, electronic naval decoys and submarine technology.
- ◆ Israel and the U.S. are the world leaders in developing defenses against new weapons systems, such as ballistic missiles. Current joint U.S.-Israeli efforts in this area can enhance deterrent capabilities and persuade countries in the region

to cease relying on military force in their foreign relations.

F. THE VALUE OF ISRAELI INTELLIGENCE

- ◆ Israel has been a primary target of Arab military action. It has therefore traditionally focused its renowned intelligence apparatus on the radical states of the Middle East, toward which U.S. intelligence has only recently begun to direct its attention. Israel's experience and knowledge can fill gaps left by our high-tech intelligence-gathering systems.
- ◆ Israel's knowledge of Arab cultures, societies, language and behavior will continue to benefit the U.S. in dealing with the "arc of crisis." The Pentagon's April 1992 study of the Gulf War concluded that a "shortage of Arab linguists affected intelligence [and] counterintelligence...efforts." In 1978 Israeli intelligence provided the CIA with assessments predicting upheaval in Iran; before the Gulf War, Israeli leaders tried to warn U.S. officials about the scope of the Iraqi military buildup and Saddam Hussein's aggressive intentions.
- ◆ Israel is a leader in developing cost-effective intelligence gathering technology. Israeli technology in intelligence gathering systems, for which Israel assumed the development costs, has been shared with several U.S. companies including: Boeing, Sylvania, RCA, Beechcraft and 21st Century Robotics.
- ◆ Intelligence cooperation with Israel played an important role during the Gulf War. In addition to raw Israeli intelligence on Iraq provided to the United States, Israeli-developed remote controlled, Unmanned Aerial Vehicles (UAVs) which have the ability to gather "real war-time" information were used extensively by U.S. forces in the Gulf War. This reduced the risks to American air crews who would otherwise have had to expose themselves to enemy fire to do the same job as the UAVs.

3. THE U.S.-ISRAEL STRATEGIC RELATIONSHIP HAS CONTINUED TO GROW SINCE THE END OF THE COLD WAR

The past year has seen a noticeable growth in a wide range of areas involving the strategic relationship. Indeed, Vice President Dan Quayle recently revealed that "U.S.-Israeli military-to-military contacts and cooperation are now wider in scope than ever before."

- ◆ **Overseas Workload:** Israel's role in maintaining U.S. equipment is growing. In March 1992, after an open competition, Israel Aircraft Industries was awarded a \$68 million contract by the U.S. Air Force to perform depot maintenance and upgrades on European-based F-15 fighters. Up to 60 aircraft will rotate through Israel for servicing over the next five years.
- ◆ **Arrow Missile:** In April, 1992, the two nations announced agreement on continued development and enhancement of the joint Arrow ATBM program. The U.S. is committing \$320 million towards this phase of the project, which was described by Lt.Gen. Robert Hammond, commander of the Army's Strategic

Defense Command in January as having "unshaking support from the highest levels of the government."

- ◆ **Missile Defense Simulation Program:** U.S. and Israeli defense personnel are finalizing negotiations on a simulation project to make use of the Israeli Test Bed facility to conduct anti-ballistic missile exercises using computer models. Both governments would equally share the estimated \$6 million cost.
- ◆ **F-16 Falcon Fighter Coproduction:** IAI and General Dynamics agreed on starting full production and assembly of the F-16 in Israel if it is chosen as the next IAF fighter, according to an April 1992 report. Many Israeli firms are already subcontractors for U.S. defense industries, supplying a wide range of components and sub-assemblies for USAF and export weapons systems.
- ◆ **Joint Political Military Group:** High level officials from the U.S. Defense and State Departments travelled to Israel in April, 1992, for the latest semi-annual meetings with top Israel defense leaders to discuss the implementation of strategic cooperation and joint security planning.
- ◆ **Cooper and Stone Trips to Israel:** Secretary of the Army Michael Stone and Director of the Strategic Defense Initiative Organization Henry Cooper made separate visits to Israel this spring to review existing cooperative programs and explore new areas of joint activity.
- ◆ **Medical Cooperation:** For many years, the United States and Israel have had an agreement on the use of Rambam Hospital in Haifa by U.S. troops during emergencies, and Israel made 1,500 beds available to the U.S. for contingency-use during the Gulf crisis. Now the Defense Department is examining the establishment of an expanded joint trauma care program with Israel. The need for such a trauma center was underscored after the accident involving the U.S.S. Saratoga in December 1990.
- ◆ **Haifa Port Improvement:** The U.S. Navy recently contracted the firm of Israel Shipyards to upgrade the capabilities of the Haifa naval port in order to expand its availability to the Sixth Fleet. The \$15 million program, now underway, will deepen the harbor and install a range of improvements to the facility's infrastructure.
- ◆ **Advance Positioning and Prepositioning:** Currently, \$100 million in dual-use war reserve stocks is prepositioned in Israel and another \$200 million is currently authorized. Expansion of the prepositioning program could allow the basing of heavy ground equipment for future use by U.S. forces. Advanced positioning may be instrumental in a future conflict, particularly if the United States is unable to conclude similar agreements with Saudi Arabia.
- ◆ **Helicopter and Heavy Mechanized Training Facility:** The U.S. Army is currently studying upgrading and expanding current IDF helicopter and heavy mechanized training bases so they can accommodate American forces. Such facilities could be modelled on the highly successful National Training Center at Fort Irwin, California, but would have the advantage of proximity to probable theaters of operation.

4. THE VALUE OF ISRAELI TECHNOLOGY IN ASSISTING AMERICA'S WAR ON DRUGS

Israel's advancements in interdiction technology, a major component in the war on drugs, have been highly successful.

Israel's coast has been successfully sealed both against terrorist penetration and against the inflow of contraband.

Israel has achieved advancements in the following areas that can be of great benefit to the U.S. war on drugs: reconnaissance drones; x-ray and detection machines; fast patrol boats; radar systems; integrated command and control; and advanced land interdiction systems.

5. ISRAEL REMAINS TOP U.S. ALLY AT THE UNITED NATIONS

In 1990, Israeli backed the United States at the UN 88% of the time. For the tenth year in a row, Israeli support outpaced that of other key American allies such as Great Britain (82%), Germany (69%), Japan (58%), and Canada (60%) (State Department Report to Congress, 1991).

In contrast, the Arab nations voted against the United States more than 84% of the time.

- ◆ None of the Arab countries, including U.S. allies such as Saudi Arabia, Egypt, Kuwait, and Jordan, supported the United States more than 17% of the time.
- ◆ Egypt, the recipient of \$2.3 billion a year in U.S. foreign aid, opposed the United States on 84% of the votes.

Notable Quotables

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March 18, 1991 (Vol. Four; No. 6)

Baghdad Bowen Comes Clean...

"The message that came from them very strongly in Baghdad was that they're pretty sick of Saddam Hussein. They don't like the man, they don't like what he's done to their country, and they'd like to be rid of him." -- BBC Baghdad reporter Jeremy Bowen on *NBC News at Sunrise* after reporters were kicked out of Baghdad, March 8.

"But the air war itself, as it goes on, has shown no sign of diminishing Saddam's support here....all the people that we talk to with the television cameras say that the continuing air attacks have in fact strengthened their desire, their will to resist the Allied coalition." -- Bowen on the *NBC Nightly News*, Feb. 16.

...And So Does Baghdad Betsy

"The one thing people have to know is that this man privately, Saddam Hussein, is a hated man." -- Baghdad reporter Betsy Aaron on the March 7 *CBS Evening News*.

"With their city in ruins, what is left on the street is pride....The average citizen here is confused by the politics swirling around him. He thinks the Iraqi government has made every concession it can make for a peace with honor. He believes Iraq is due at least that, and tonight, this (bombing) is what the Allies have to say to the Iraqis." -- Betsy Aaron reporting from Baghdad on the February 27 *CBS Evening News*.

Saddam's Real Appeal

"(Saddam's speech) drew a captive audience, in hotel lobbies, tea houses, and on the street. All day long, they waited to see if the United States would stop the war." -- CBS reporter Betsy Aaron, February 26 *Evening News*.

"The signs of the breakdown were small but real....a bomb shelter full of people sitting through a night of attack, playing cards, sleeping, and talking among themselves in complete disdain for the address from Saddam playing on the radio." -- Freelance reporter Michael Kelly in the February 11 *New Republic*.

Credible Falsehoods

"'In a battle lasting eight hours,' the communique said, 'Iraqi forces destroyed many tanks and pushed the Allied troops back.' Communique 63, issued tonight, says 'Iraqi troops have recaptured all ground lost to the Allies since Sunday.' The communiqués, broadcast to the people on Baghdad radio, lifted spirits here, however temporarily. The radio station, the main source of information here, seems to have gained new credibility lately." -- NBC reporter Tom Aspell from Baghdad, February 25 *Nightly News*.

Back to Silly Sovietology

"I'm just talking about image, reputation when it's over -- that we're going to come out looking like the bad guys, and the Soviets are going to walk away looking like all they care about is peace and they will have won the hearts and minds of the Arab world, and we will have lost that." -- *Face the Nation* host Lesley Stahl discussing the Soviet peace plan with National Security Adviser Brent Scowcroft, February 17.

"The Bush Administration has also muted its criticism of Gorbachev's law-and-order campaign, assuming that he must secure his domestic front in order to preserve his cooperative foreign policy...But in the end, who can criticize a Nobel Peace Prize winner for pursuing peace?" -- *Newsweek's* Steven Strasser, March 4.

Bill Moyers: Partisan No More?

"I left partisanship behind when I left the White House in 1967, but my roots are all tangled with yours."

-- Former CBS reporter and commentator and current PBS omnipresence Bill Moyers in an address to the March 8 Democratic Issues Conference, aired on C-SPAN.

"By the 1980s, when the Democrats in Congress colluded with Ronald Reagan and the Republicans to revise the tax code on behalf of the rich, it appeared that the party had lost its soul." -- Moyers, same speech.

"We spend four times as much on the Strategic Defense Initiative, Star Wars, than we do on the early education program Head Start, which works." -- Moyers, same speech.

"I tell you there is in this country a hunger for a vision. Otherwise....we would not be investing so much transcendental significance in a triumph of overwhelming technology and unchallenged power over a country no bigger than Texas and with roughly the same amount of people, ruled over by a paranoid psychopath, who proved to be a video tiger, all growl and no guts." -- Moyers, same speech.

Mourning Liberal Losses

Cranston: A Sad Tale of a Good Man Gone Wrong

-- Headline to March 3 *Los Angeles Times* op-ed by former *Wall Street Journal* reporter Ellen Hume.

Forced to Raise State Taxes

"Every Governor in America last year could have recited the Jim Florio rule of political survival: never mount an honest attack against a state deficit. The New Jersey Governor, who combined service cuts with the highest tax hike in the state's history, was all but tarred and feathered for his efforts. But now, with at least 29 states facing potential deficits, Florio's approach is beginning to seem almost prescient." -- *Time* Associate Editor Priscilla Painton, March 4.

"And while President Bush and a number of other administration officials are confident that the recession will be short and shallow and the federal budget is on its way to repair, a lot of governors would say, yeah, and the states are left holding the bag. Two of them were forced to ask today for state income taxes." -- Tom Brokaw referring to Tennessee and Connecticut on the February 14 *NBC Nightly News*.

Time's Vote of Confidence

"For American artists today, censorship or repression usually means not getting a (NEA) grant. Jesse Helms may be a bigot, but he is not Dr. Goebbels..." -- *Time* art critic Robert Hughes, March 4.

More Conveyors of Truth

"In the wake of a successful war, reporters -- who ask tough questions and sometimes bring bad news -- can seem to many Americans like the nerdy hall monitors at a senior prom. To others, journalists covering the war appeared all too eager to accept the military's version of the story. The press's job, however, is not necessarily to please either side -- only to look for the truth." -- *Time* media writer Richard Zoglin, March 11.

"Remember all the chatter about a short war? Well, forget it." -- *Time*'s George J. Church, March 4 issue.

Trouble Ahead

"The problem now may be to contain the surge of pride and unity before it bursts the bounds of reason and passes into jingoism, even hubris." -- *Time* Senior Editor George J. Church, March 11 issue.

-- L. Brent Bozell III; Publisher; Brent H. Baker, Tim Graham; Editors

-- Jim Heiser, Marian Kelley, Callista Gould, Nicholas Damask; Media Analysts

-- Jennifer Hardebeck; Administrative Assistant

ENVIRO
4/22/92

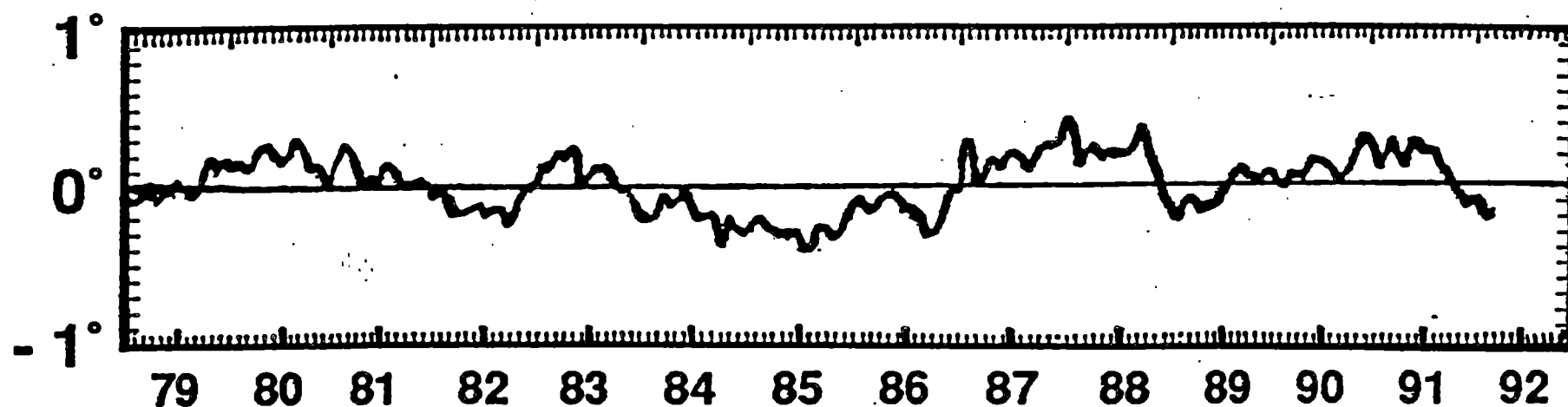
GLOBAL WARMING UPDATE
Recent Scientific Findings

FACT SHEET

Available scientific data on climate change do not support the idea that human activity has caused, or will cause, a dangerous increase in global temperature. Following are highlights of a new report by the George C. Marshall Institute.

1. **Satellite temperature measurements suggest only slight global warming in the next century.** The satellite data show that temperature change in the 1980s was only a fifth of the increase quoted by the U.N. Intergovernmental Panel on Climate Change (IPCC). When the IPCC "best estimate" of a 2.5 degrees C warming in the 21st century is corrected for this disparity, the result is a projected warming of no more than 0.5 degrees C. This change would be indistinguishable from natural climate fluctuations. (see *Report* pp. 8-10) *Chart A*
2. **The missing greenhouse signal.** If the greenhouse effect were as large as some believe, clear signs would have appeared in climate records. But these signs — the greenhouse signal — have not appeared. (see *Report* pp. 5-10)
 - a. **Rapid warming in the 1980s.** Precise satellite measurements of global temperature show no significant warming during the decade. The IPCC report quotes a 0.3 degree C change, but satellite measurements showed only 0.06 degree increase in the 1980s. (see *Report* p. 7; attached Chart A)
 - b. **Warming in the United States.** Temperatures increased 0.5 degrees C in the last 100 years, but most of the increase occurred before 1940, while most of the CO₂ and other greenhouse gases entered the atmosphere after 1940. Increased concentrations of greenhouse gases clearly could not explain the temperature rise. (see *Report* pp. 7, 9; attached Chart B)
 - c. **Warming in the Northern Hemisphere.** A greenhouse signal would include greater warming in the Northern Hemisphere by about 0.5 degrees C. Observed temperatures, however, show no significant difference in temperature trends in the Northern and Southern Hemispheres. (see *Report* pp. 6-7)
 - d. **Warming at high latitudes.** Greenhouse calculations suggest that high latitudes should already have warmed 1 degree C more than low latitudes. Temperature records show no significant difference in trends between high and low latitudes. (see *Report* pp. 6, 8)
3. **Effect of pollution on the greenhouse signal.** Some experts argue that the large greenhouse signal has been masked by pollution. However, pollution in the U.S. has decreased since 1970. Thus, pollution cannot explain the absence of a greenhouse signal in the 1970s and 1980s. Pollution in other countries probably has increased in the last 20 years, but polluting particles only stay in the atmosphere for a few days, and disappear before the winds can carry them to the U.S. (see *Report* pp. 11-12)
4. **Climate change research contradicts apocalyptic predictions.** With \$1 billion spent yearly on climate change research, our knowledge is increasing rapidly, and some old predictions are falling to a better understanding of the facts. For example, a frequently predicted consequence of global warming is a melting of the polar ice caps and catastrophic flooding of low-lying areas. New research, however, shows that sea levels will change very little and may even drop if the earth continues to warm. (see *Report* pp. 22-24; attached chart C)
5. **No cost if policy action is delayed.** A five-year delay in action to restrict carbon dioxide emissions will produce at most an additional warming of a tenth of a degree spread over decades. (see *Report* pp. 27-28)

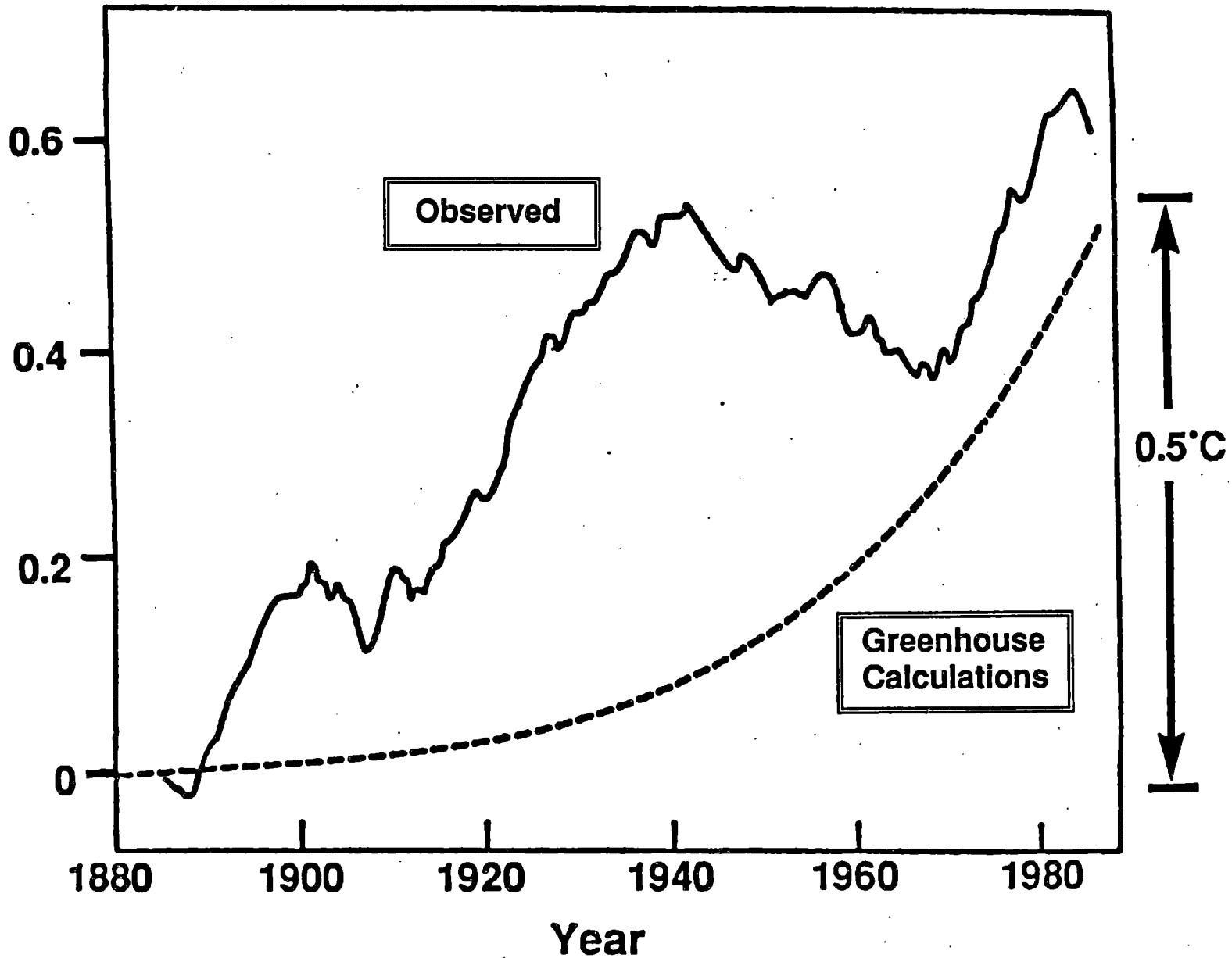
CHART A



1. Satellite measurements of global temperature 1979-1991. The results do not show the large expected upward trend due to the greenhouse effect. Increases in some years are balanced by decreases in others. The average increase in the data is 0.06°C/decade. The 1992 Scientific Assessment report of the IPCC gives 3°C/decade as the consensus of theoretical predictions for the temperature increase due to the greenhouse gases — five times greater than the effect revealed by the satellite measurements.

CHART B

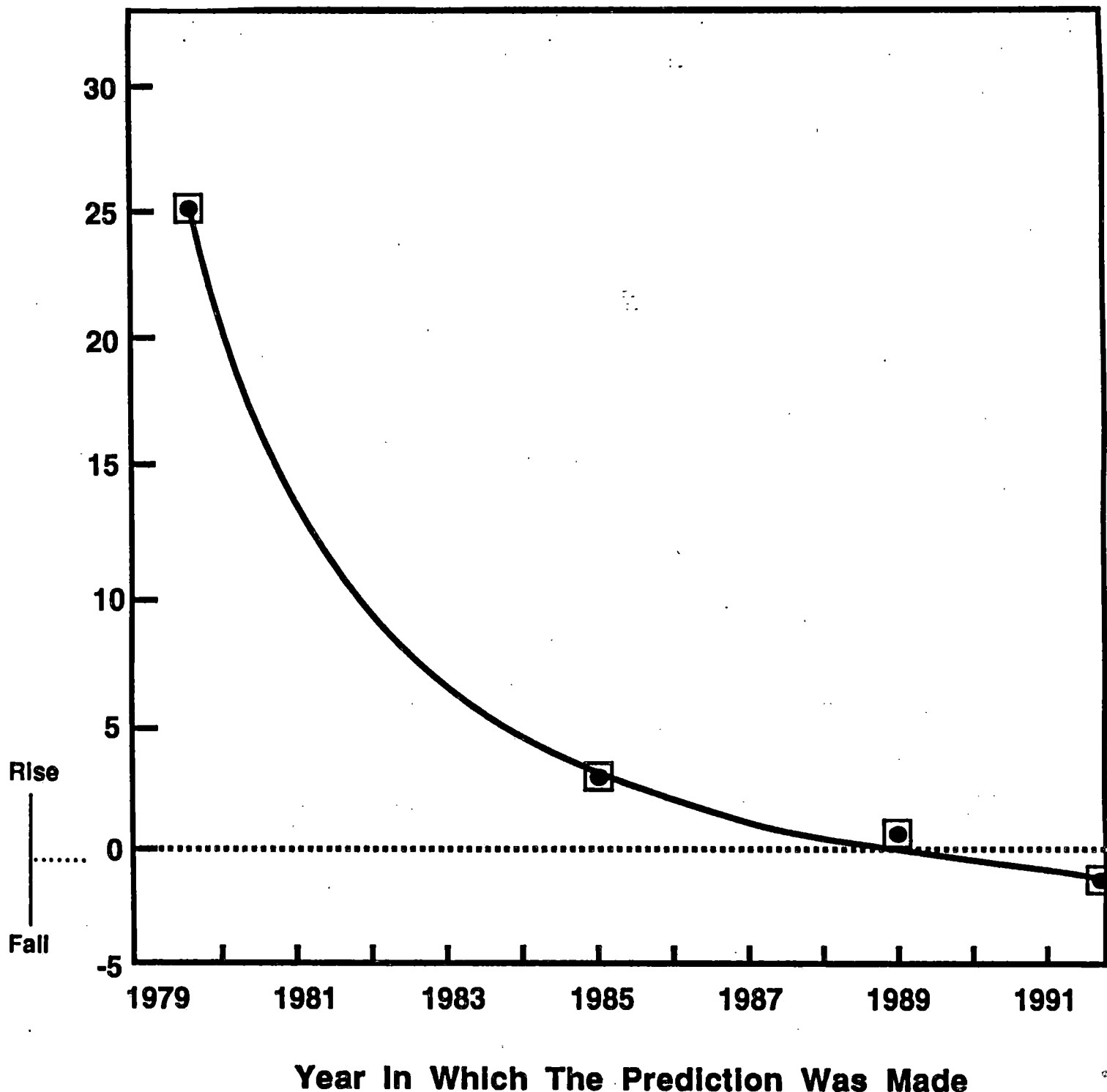
Temperature
Change ($^{\circ}\text{C}$)



3. Greenhouse calculations compared with observed temperature changes. The chart shows the greenhouse calculations and the observed global temperatures of the last 100 years. Both show a temperature rise of about 0.5°C . However, most of the observed rise occurred before 1940, while most of the greenhouse gases entered the atmosphere after 1940. The greenhouse gases cannot be the cause of a temperature rise that occurred before these gases existed.

CHART C

PREDICTED SEA LEVEL CHANGE (FEET)



2. Changing predictions of global flooding. Predictions of a rise in sea level resulting from the greenhouse effect have dropped markedly in recent years. Commonly quoted numbers for a greenhouse-induced sea level rise changed from 25 feet in 1979 to three feet in 1985, and decreased further to one foot in 1989. The trend in changing predictions, shown in the chart, suggests that in the early 1990s the predictions for sea level rise would decline to zero or negative values.

In 1992, a report based on the study of 130,000 years of geological records confirmed this expectation, projecting a *fall* in sea level of about one foot in the next century as a result of the greenhouse effect. The episode suggests that apocalyptic forecasts in this area should be greeted with caution if not skepticism.

GLOBAL WARMING UPDATE

RECENT SCIENTIFIC
FINDINGS

**George C. Marshall Institute
Washington, D.C.**

GLOBAL WARMING UPDATE

RECENT SCIENTIFIC
FINDINGS

George C. Marshall Institute
Washington, D.C.

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I. INTRODUCTION

A great deal of research has been devoted in recent years to the technical problems involved in calculating the man-made greenhouse effect. This study, the third in a series by scientists associated with the George C. Marshall Institute, considers recent findings on the extent of human-induced global warming. One of the main reasons for concern over this aspect of climate change is the fact that the earth's temperature has risen by approximately half a degree Celsius in the last 100 years. This increase coincided with a substantial increase in the amount of carbon dioxide and other greenhouse gases in the atmosphere. The increased concentration of these greenhouse gases in the atmosphere is apparently the result of human activity, such as burning coal, oil and gas.

Several scientific groups have concluded that the greenhouse effect caused by the manmade emissions of carbon dioxide and other gases has produced much or all of the recent rise in global temperatures. They predict that there will be an increase in greenhouse gases equivalent to a doubling of carbon dioxide by the middle of the 21st century, and that this will cause the temperature of the earth to rise by as much as 5°C.

According to these scientists, a temperature rise of this magnitude would cause major disruptions in the earth's ecosystem, including severe summer drought in the mid-western United States and other agricultural regions. The

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worst-case scenarios predict a major rise in sea level as a result of the greenhouse warming, inundating areas of New York, Miami and other coastal cities as well as low-lying river deltas and islands. The lives of hundreds of millions of individuals would be disrupted.

The available data on climate change, however, do not support these predictions, nor do they support the idea that human activity has caused, or will cause, a dangerous increase in global temperatures. As we make this statement, we are aware that it contradicts widespread popular opinion, as well as the technical judgments of some of our colleagues on the magnitude and importance of the greenhouse warming. But it would be imprudent to ignore the facts on global warming that have accumulated over the last two years. These facts indicate that theoretical estimates of the greenhouse problem have greatly exaggerated its seriousness.

Enormous economic stakes ride on forthcoming government decisions regarding carbon taxes and other restrictions on CO₂ emissions. Due attention must therefore be given to the scientific evidence, no matter how contrary to popular opinion its implications appear to be.

II. ARE THE GREENHOUSE FORECASTS RELIABLE?

Concentrations of carbon dioxide and other greenhouse gases in the atmosphere have increased substantially in the last 100 years, mostly as a result of burning coal, oil and gas, as well as other human activities. The increase in the totality of greenhouse gases is equivalent to a 50% rise in carbon dioxide. According to computer simulations of the greenhouse effect, this large increase in greenhouse gases should have produced a rise of about 0.5°C in the average temperature of the earth's surface. The dashed line in Figure 1 on the following page shows the 0.5°C temperature rise in the last 100 years, calculated from a theoretical model of the effect of greenhouse gases.

The theoretical result for the greenhouse effect is in good agreement with actual measurements of the average temperature on the earth's surface, shown as the solid line in Figure 1. The measurements reveal that the earth's temperature has gone up about 0.5°C since 1880. This agreement seems to suggest that the increase in greenhouse gases was the cause of the temperature rise. It implies further that the greenhouse predictions for the next century must be taken seriously.

However, another look at Figure 1 places this conclusion in doubt. The chart shows that nearly the entire ob-

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served rise of 0.5°C occurred before 1940. However, most of the manmade carbon dioxide entered the atmosphere after 1940. The greenhouse gases cannot explain a temperature rise that occurred before these gases existed.

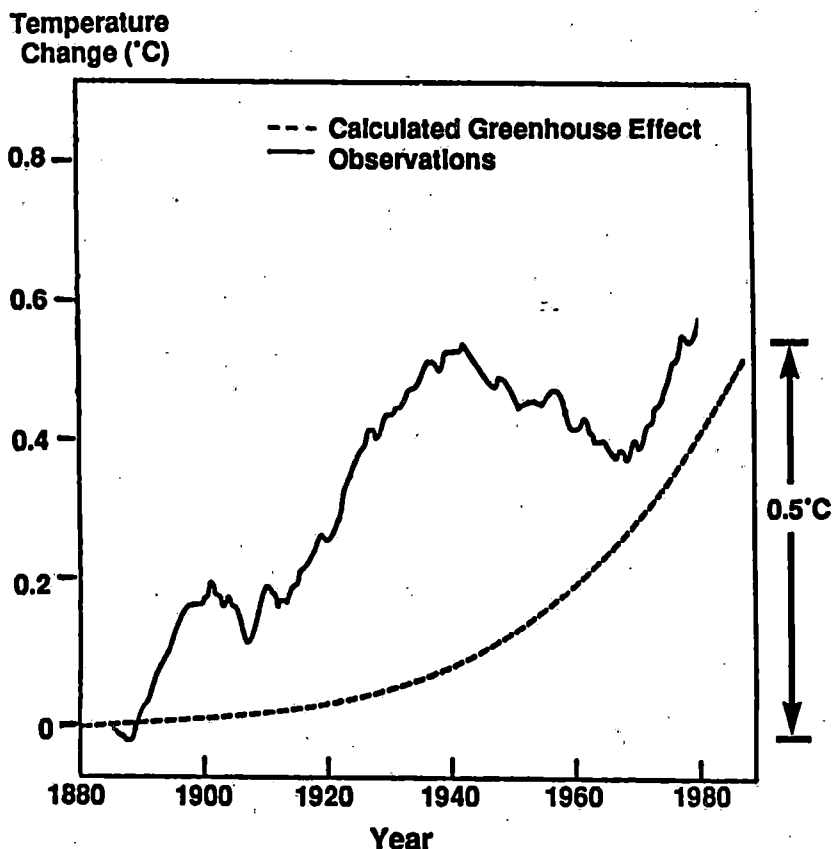


Figure 1. Calculated warming due to the increase in greenhouse gases in the last 100 years (dashed line), compared with observed temperature changes (solid line).¹

Furthermore, from 1940 to 1970, carbon dioxide built up rapidly in the atmosphere. According to the greenhouse calculation, the temperature of the earth should have risen rapidly. Instead, the chart shows that the temperature actually *dropped*.

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The fall in temperature between 1940 and 1970 is particularly difficult to explain as a greenhouse phenomenon, because, as noted, this entire period was one of strong economic growth and increasing emission of greenhouse gases. According to the greenhouse predictions, it should have been a period of rapidly accelerating temperature rise. Even allowing for a delay in the earth's response to the increase in greenhouse gases, the 1970s should have been appreciably warmer than the 1940s.

The fact that this was not the case indicates that the greenhouse effect could not have been the only cause or even the principal cause of the climate change that took place between 1880 and 1970. As the report of the U.N. Intergovernmental Panel on Climate Change states:

"It is still not possible to attribute any or all of the warming of the last century to greenhouse gas-induced climate change."²

Heating by greenhouse gases cannot explain the rapid rise in temperature prior to 1940, and cannot explain the fact that the temperature dropped between 1940 and 1970. *The predictions of the greenhouse theory are contradicted by the temperature record to such a degree as to indicate that the anthropogenic greenhouse effect has not had any significant impact on global climate in the last 100 years.*

The Missing Greenhouse Signal

There are other checks on the reliability of the greenhouse forecasts. These forecasts are based on computer simulations of global climate that not only predict a general warming of the earth, but also predict certain special characteristics of the warming. These special characteristics make up the so-called *greenhouse signal*.

For example, calculations of the greenhouse effect show a particularly large temperature increase at high latitudes. A pattern of warming that showed greater temperature increases at high latitudes than at low latitudes would be a sign that the greenhouse effect is probably the cause of the warming. It would be a "greenhouse signal."

According to the climate calculations, several types of greenhouse signal should have appeared clearly in the temperature records for the last 100 years. The detection of these signals would indicate that the greenhouse effect is already substantial and the greenhouse theories are relatively reliable.

Warming in the Northern Hemisphere. All the greenhouse calculations predict that there should have been more warming in the Northern Hemisphere than in the Southern Hemisphere, as a result of the increase in greenhouse gases in the last 100 years. According to these calculations, the Northern Hemisphere should already be warmer than the Southern Hemisphere by about 0.5°C .³ *However, the observed temperatures show no significant difference in temperature trends in the two hemispheres.*⁴ (Figure 2, p. 7)

Warming at High Latitudes. The greenhouse computations also predict more warming at high latitudes than at tropical latitudes, particularly in the Northern Hemisphere. According to one representative calculation, the high latitudes should already have warmed by about 1°C more than the low latitudes as a consequence of the greenhouse warming.⁵ *However, the temperature records shown in Figure 3 (p. 8) indicate no significant difference in trends between the high and low latitudes.*

In fact, the records for the period after 1940 show no net warming trend at all, although it was in this more recent period that most of the greenhouse gases entered the atmosphere. Instead, the charts show a greater warming trend at low latitudes than at high latitudes in the last 50 years —

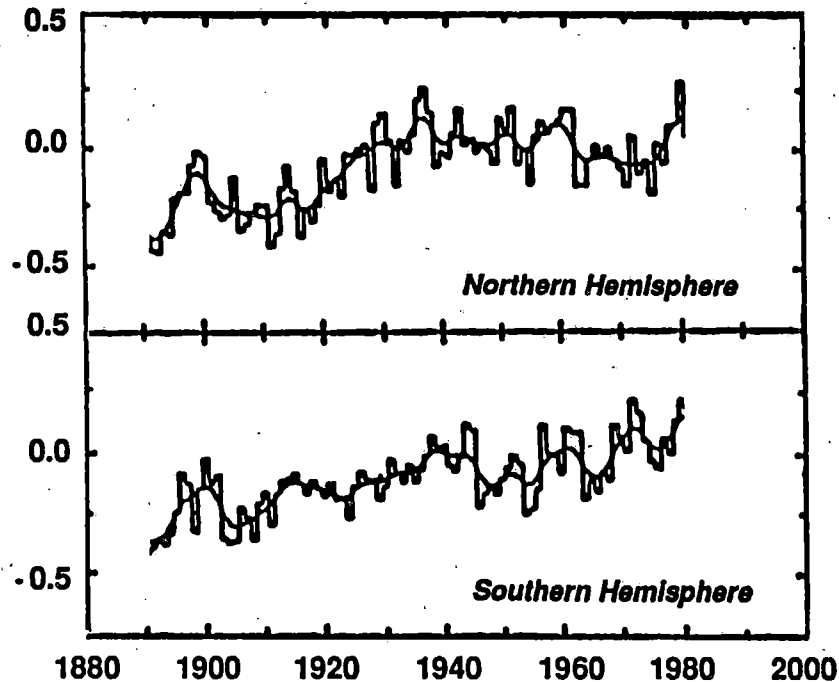


Figure 2. Observations of mean temperature in the Northern and Southern Hemispheres.

directly opposite to the greenhouse predictions.

Warming in the U.S. According to other greenhouse computations, the continental U.S. should have warmed 0.5-1.0°C in the last 100 years, with most of the warming expected in the last 50 years. *However, a compilation of temperature records for the U.S. reveals no statistically significant warming trend over the last 50 years.*⁶ (Figure 4, p. 9) It is striking that in the largest area in the world for which reliable, well-distributed temperature records are available, the greenhouse predictions are not confirmed.

Rapid Warming in the 1980s. Moreover, the greenhouse theory indicates that a rapid rise in global temperatures should have occurred in the 1980s, as a result of the large

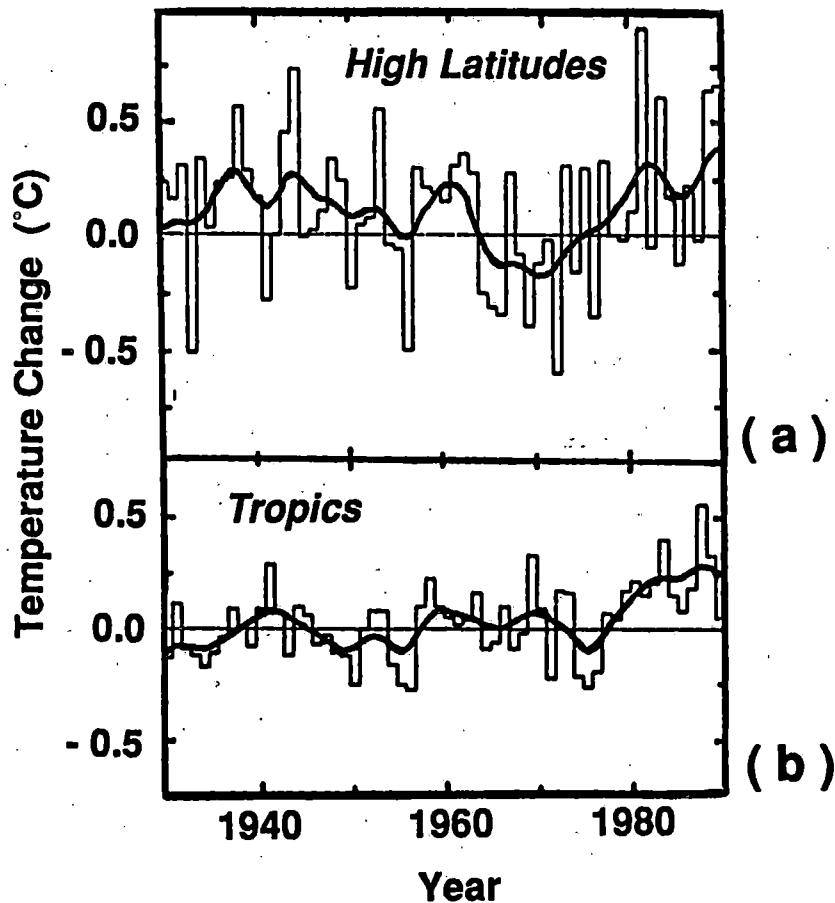


Figure 3. Observed variations in annual mean temperature in (a) high latitudes in the Northern Hemisphere; (b) the tropics.

increase in greenhouse gases in recent years. *However, precise satellite measurements of global temperatures show no significant warming during the 1980s.⁷* Figure 5 (p. 9) shows the results of satellite measurements of the earth's temperature, obtained by looking down at the surface of the planet from above.

The satellite results do not show the predicted trend to

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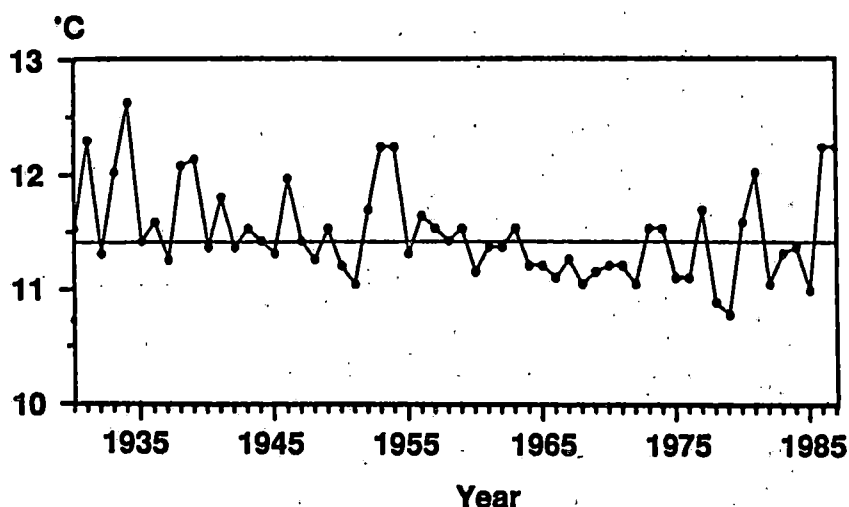


Figure 4. Annual average temperature for the contiguous U.S. 1900-1984, corrected for urban heat island effect.

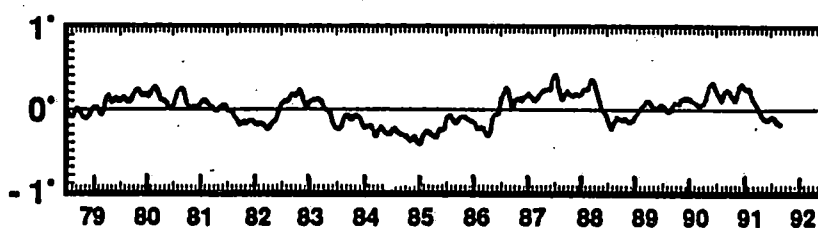


Figure 5. Satellite measurements of global average temperatures from 1979-1991. The data show an average increase of 0.06°C over the decade of the 1980s. The 1992 IPCC Report gives $0.3^{\circ}\text{C}/\text{decade}$ as the consensus of the computer models for the increase in greenhouse warming over a decade — five times the observed increase in the 1980s.

higher temperatures in the 1980s. Temperature increases in some years are balanced by decreases in others. The average increase in the satellite data is $0.06^{\circ}\text{C}/\text{decade}$. The IPCC report gives $3^{\circ}\text{C}/\text{decade}$ as the consensus of the theoretical predictions for the greenhouse-induced temperature in-

increase.⁸ *The greenhouse calculations appear to have exaggerated the magnitude of the greenhouse warming by roughly a factor of five.*

The accuracy of the satellite measurements can be tested by comparing them to temperatures obtained from ground stations in the U.S. Surface temperature measurements in the U.S. are well distributed and accurate, and do not suffer the defects of spotty coverage associated with the global network of surface stations. The correlation coefficient between satellite and surface measurements for the U.S is 0.98 — essentially a perfect correlation and a confirmation that the satellite data accurately represent the temperatures on the earth's surface.

In sum, the greenhouse calculations predict that during the last 50 years we should have detected: (i) a greater temperature rise in the Northern Hemisphere than the Southern Hemisphere; (ii) a greater temperature rise at high latitudes than at low latitudes; (iii) a substantial warming in the U.S.; and (iv) an accelerating global warming in the 1980s, reflecting the rapid increase in greenhouse gases in recent years.

None of these predictions is supported by the changes in climate that have actually been observed in the last 50 years. The greenhouse signal, which should have been readily detectable in temperature records, is not present.

It is clear that since the greenhouse gases have a heat-insulating effect, some degree of warming is likely to occur if their concentration in the atmosphere is increased. The question is: How much? If the greenhouse effect were as large as the commonly accepted forecasts predict, it would have produced a clear greenhouse signal in the temperature records of the last 100 years. But the signal is not present. Apparently, the greenhouse effect is considerably smaller than has been estimated.

Explanations Offered for the Failure of the Greenhouse Predictions

Atmospheric Pollution. Atmospheric pollution has been suggested as an explanation for the fact that the planet has not warmed as much as predicted by the greenhouse theories.⁹ A large part of the pollution consists of sulphur dioxide emitted by burning fossil fuels in heavily populated and industrialized regions. Sulphur compounds in the atmosphere form a haze or smog of very small particles — called aerosols — that shield the surface from the sun's rays and cool the earth. The aerosols also form nuclei for the condensation of cloud particles, increasing the amount of cloud cover and cloud brightness. The increased cloud cover further shields and cools the earth.

Effect of Pollution on Northern Hemisphere Temperatures. The cooling effect of the pollutant particles or aerosols should be particularly great in the heavily industrialized Northern Hemisphere. Consistent with this expectation, satellite data indicate a higher concentration of aerosols in the Northern Hemisphere than in the Southern Hemisphere.¹⁰ Charlson and others have suggested that this cooling effect of pollution-generated haze and clouds may cancel much of the warming effect of the greenhouse gases in the Northern Hemisphere.^{11,12}

However, an excess of Northern over Southern Hemisphere aerosols would not, in itself, explain the failure of the Northern Hemisphere to warm as predicted. For that explanation to be valid, the concentration of Northern Hemisphere aerosols would have to have been increasing rapidly at the same time that the greenhouse gases were increasing. If the concentration of Northern Hemisphere aerosols were approximately constant in time, this unchanging factor could not mask the effect of a rapid rise in the concentration of greenhouse gases in recent decades. Northern Hemi-

sphere temperatures would be lowered uniformly by the aerosols, but a rising trend due to the accelerating greenhouse effect would still be apparent against the constant background.

But Thomas Karl of the National Climate Data Center points out that sulphur emissions in the U.S. have neither been increasing rapidly, nor have they been approximately constant. They have, in fact, been decreasing in the U.S. since 1970.¹³ Therefore, they could not have masked the expected greenhouse temperature increase in the U.S.

Is it possible that pollution in Eastern Europe and the former USSR has spread to the U.S. and masked the greenhouse effect here? Aerosol pollution in these regions, which has probably increased in recent decades, could be carried to the U.S. by the large-scale circulation of the atmosphere, thus explaining the fact that the U.S. has not warmed in recent years.

However, this explanation cannot be valid, because the lifetime of anthropogenic aerosols in the atmosphere is only a matter of days.¹⁴ Thus, pollution originating in Eastern Europe, and travelling eastward with the general circulation of the atmosphere, does not stay in the air long enough to affect conditions in the U.S.*

Karl, et al. also note that no evidence exists for the view that an increase in cloud cover has been caused by pollution. The regions and seasons of increased cloud cover within the U.S. do not correspond with the regions and seasons of maximum pollutant concentration, as would be expected if pollution were the cause of the increased cloud cover.¹⁵

Delays in Warming Caused by Oceans. The warming of

* The general movement of air masses in the Northern Hemisphere is from west to east. Pollution originating in Europe must travel nearly 3/4 of the way around the globe to reach the U.S. The trip takes weeks, but, as noted, the aerosols are washed out of the atmosphere in days.

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the earth lags behind the actual increase in greenhouse gases because the oceans absorb much of this heat, but warm up very slowly. It has been suggested that this delay in warming caused by the oceans can amount to decades or even centuries, and may account for the fact that the greenhouse signal has not yet appeared in the temperature record.¹⁶

However, the calculations including the effect of ocean circulation demonstrate a much shorter delay, with approximately 3/4 of the full warming appearing in the first 10 years after the increase in greenhouse gases takes place.¹⁷ (Figure 6) The effect of this delay on the greenhouse warming to date would be a reduction of 0.1°C , which is not enough to explain the absence of the greenhouse signal.

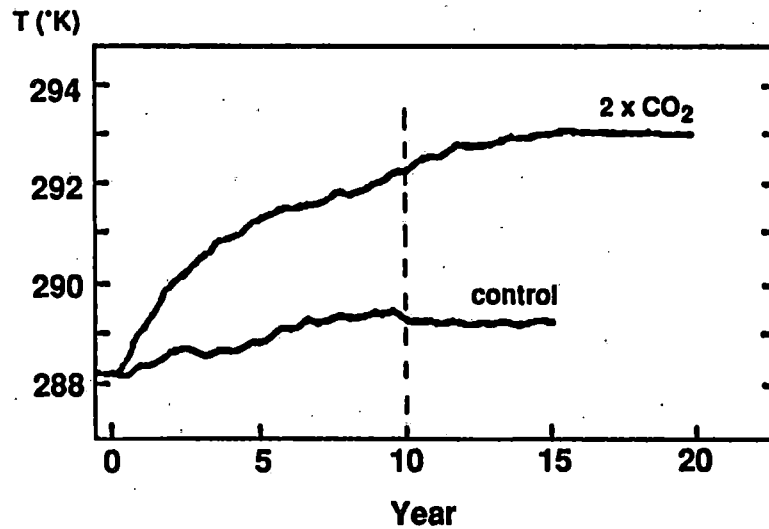


Figure 6. Globally averaged surface-air temperature versus time, showing the response of the earth's climate to a doubling of CO_2 . The calculations, which include the effects of ocean circulation, show that approximately 3/4 of the full warming produced by CO_2 occurs within 10 years.

Reasons for the Poor Quality of the Greenhouse Forecasts

It is straightforward to calculate the temperature increase directly caused by the addition of greenhouse gases to the atmosphere. These gases absorb certain wavelengths in the infrared radiation emitted from the planet's surface. The amount absorbed can be calculated from properties of the greenhouse gases that have been measured in the laboratory. The absorbed radiation heats the atmosphere. The atmosphere radiates part of the absorbed heat up to space and part back to the surface of the earth. The heat returned to the earth's surface increases its temperature, producing the greenhouse warming. These processes constitute the direct heating effect of the greenhouse gases.

For a greenhouse gas increase equivalent to a doubling of carbon dioxide, which is projected to occur in the next 50 years or so according to the 1990 IPCC report, the calculation indicates that the temperature increase caused directly by the greenhouse effect is approximately 1°C.

In that case, why do the greenhouse theories predict temperature increases of as much as 5°C?

The answer is that the modest warming, which is the direct effect of the greenhouse gases, is amplified by "feedbacks" in the climate system. One of the most important feedbacks involves clouds. The greenhouse heating may lead to the formation of more clouds, shielding the earth's surface and cooling the planet. That would make the net warming less than 1°C. The increase in cloud cover would be a *negative feedback*.

Or the greenhouse warming may lower the relative humidity of the air, leading to the formation of fewer clouds. That means more sunlight reaches the ground, and the final warming is greater than 1°C. In this case, the clouds

have created a *positive feedback*.

Which is correct? Do clouds make the greenhouse effect larger or smaller? No one knows. In a recent study of the greenhouse effect, the U.K. Meteorological Office made a change in the properties of the clouds assumed in the calculation and found that the predicted greenhouse warming dropped from 5.2°C to 1.9°C. Results obtained by other climate forecasting groups range from a warming of less than 1°C in the next century to as much as 5°C, largely as a consequence of the different assumptions by each group regarding cloud feedbacks and other types of feedbacks.

A global warming of 1°C, spread over 50 years or more, might not matter much, but 5°C would be a serious problem. Narrowing this enormous range of uncertainty would require calculating, *inter alia*, how large the cloud feedback is, and whether it is positive or negative, and that presents an extremely difficult problem for the climate forecaster.

III. THE CAUSE OF RECENT CLIMATE CHANGES

Yet the earth's temperature did rise in the last 100 years. Since there is no discernible greenhouse signal in the temperature record, and moreover, most of the temperature rise occurred before the bulk of the greenhouse gases were in the atmosphere, it is clear that the rise was not caused by the greenhouse effect. But what *did* cause the earth to become warmer in that interval?

In 1991, a paper appeared in *Science* which shed light on this question.¹⁸ This paper was based on a new analysis of changes in the sun. It showed an almost perfect correlation between the ups and downs of solar activity on the surface of the sun and the ups and downs of global temperature change.

The correlation is shown in Figure 7 on the following page. The figure shows that all the significant changes in global temperature in the last 100 years faithfully track the changes in solar surface activity. The agreement is too close to be readily dismissed as coincidence. This close correlation is in contrast to the marked disagreement between the global temperature record for the last 100 years and the predictions of the greenhouse theory, shown in Figure 1.

What physical mechanism can explain the correlation

RECENT CLIMATE CHANGES

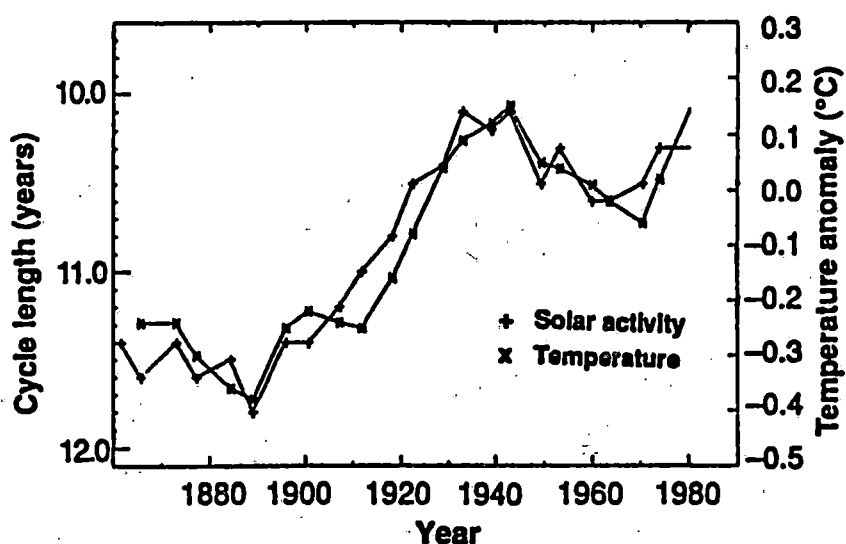


Figure 7. Comparison between global temperatures (x) and solar surface magnetic activity, measured by the length of the solar cycle(+). The cycle length has an inverse correlation with sunspot numbers: short cycles mean high sunspot numbers and a high level of surface magnetic activity.

between global climate and the sun's surface magnetic activity? This magnetic activity is caused by strong magnetic fields which erupt on the sun's surface in sunspots, bursts of energetic particles and radiation. The changes in the surface magnetic fields do not in themselves transfer enough energy to the earth and its atmosphere to have a direct impact on climate.

However, satellite observations of the sun have shown that when its surface magnetism changes, its energy output also changes. When the sun's surface magnetic activity goes up, its energy output increases; when the surface magnetic activity diminishes, its energy output decreases.

Apparently, the changes in surface magnetism and changes in energy output are two independent manifestations of a deeper phenomenon occurring in the body of the

sun — two effects of one underlying cause.*

The satellite measurements are available thus far for only the 10-year period 1978-1988, for which they show a change of 0.1% in solar energy output. This variation is too small to explain the global temperature changes observed in the last 100 years. However, larger variations in the sun's magnetism occur over timescales of centuries, and may be accompanied by correspondingly larger changes in the sun's energy output. Studies of convection in the sun indicate that changes in the state of the magnetic field within the sun's convective zone could, in fact, produce changes in solar luminosity of the order of 1%. An increase of 0.5-1.0% is estimated to be sufficient to explain the entire 0.5°C global warming of the last 100 years.

Baliunas, et al. have combined observations of the sun and solar-type stars to obtain the relationship between solar luminosity and changes in the sun's surface magnetic activity.¹⁹ Their results indicate that the marked increase in

* One possible physical mechanism relating solar magnetism to solar luminosity is the inhibiting effect of magnetic fields in the solar interior on convective energy transport in the sun.

Suppose, for instance, that when the surface of the sun is not erupting in sunspots and flares, the magnetic field in the solar interior is a smooth, well-ordered azimuthal field. At such times, this subsurface field is most effective in blocking the convective transport of energy to the surface, and the sun's luminosity decreases. At these times, the surface is also relatively quiet and undisturbed, i.e., the sun is at a minimum in its 11-year cycle.

When the surface of the sun is magnetically active, with many sunspots, it is plausible to assume that the subsurface magnetic field is in a relatively disordered state. At such times, the field is less effective in blocking the transport of energy, hence the sun is more luminous.

These qualitative conclusions agree with the satellite observations, which show that the sun's luminosity and surface magnetic activity rise and fall in phase. The key to the physical mechanism is the suggestion that when the average magnetic field on the sun's surface is at a minimum, the subsurface field is at a maximum.

solar surface activity recorded in the last 100 years corresponds to a brightening of the sun by 0.7%, in good agreement with the estimated change in solar brightness needed to explain the recent global warming.

Additional Evidence for Solar Control of Climate. Figure 7 suggests that the sun, and not the greenhouse effect, has been the controlling factor in climate changes over the last 100 years. However, this is not the only evidence for a connection between the sun and climate change. Other evidence for a sun-climate connection extends over thousands of years of geological records.

Records of changes in the amount of C-14 in tree rings — an isotope of carbon which is known to be a good indicator of levels of solar magnetic activity — reveal that during the last 6,000 years, solar activity has risen and fallen by substantial amounts every 200-300 years. Figure 8 (p. 20) shows one of the carbon-14 records. A comparison between the carbon-14 record and the record of ancient climates, obtained from geologic evidence of the advance and retreat of glaciers, reveals that all but one of the major decreases in solar activity in the last 8000 years were accompanied by cold spells in the climate record.

The most recent and best-known instance was the Little Ice Age of the 17th century. This cool period in the earth's climate history coincided with the pronounced 17th-century lull in solar activity known as the Maunder Minimum.

Evidence for a Small Greenhouse Effect

Figure 7 shows changes in solar activity and changes in global temperatures in the last 100 years so closely correlated that the two curves seem to be wrapped around one another. This close correlation suggests a means of estimating

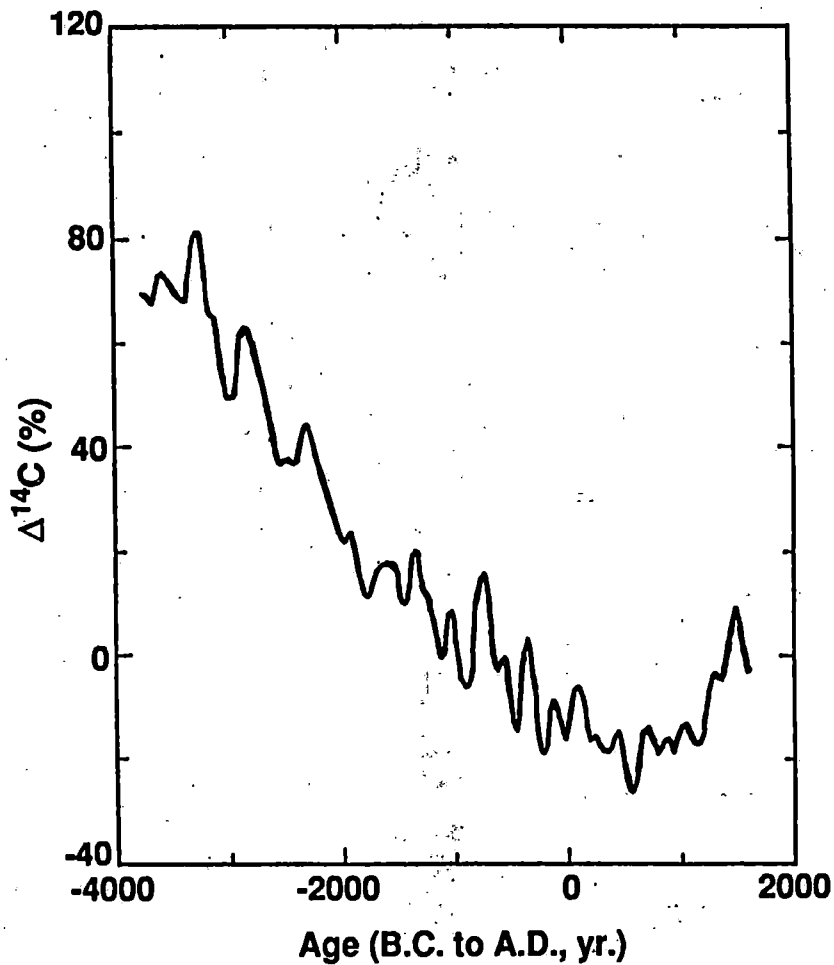


Figure 8. Concentrations of Carbon-14 in tree rings over the last 6,000 years, resulting from changes in solar magnetic activity. The average peak-to-peak separation is approximately 200 years. The decline from 4,000 B.C. to 500 A.D., and subsequent rise, are the product of long-term changes in the geomagnetic field and are not related to solar activity.

a limit to the size of the greenhouse effect.

As noted on page 4, the calculations of the greenhouse effect show that prior to 1940 its climate impact must have been fairly modest, no more than 0.1°C. Thus, the green-

house effect could not have been responsible for the entire 0.5°C rise that was observed to occur prior to 1940. An increase in the sun's brightness is a more likely candidate for the cause of that early rise.

However, according to the calculations, after 1940 the greenhouse effect should have increased rapidly. Thus, if the calculations were correct, in the post-1940 period the pattern of global temperature changes should have begun to show a marked divergence from the pattern of solar activity changes, as greenhouse gases began to have an appreciable impact on the climate. The divergence should have become particularly pronounced in recent decades.

But this gradually developing separation between the temperature chart and the solar activity chart does not appear. The agreement between the two charts continues to be remarkably close after 1940. Allowing for the uncertainties in both charts, room remains for only a very small greenhouse contribution of a few tenths of a degree at most, in the post-1940 period.

As noted, the increase in the concentration of all the greenhouse gases in the last 100 years is equivalent to a 50% rise in the amount of carbon dioxide in the atmosphere. It appears that this increase has produced a modest global warming of no more than a few tenths of a degree. If the 50% increase in carbon dioxide up to the present time has produced a warming of a few tenths of a degree, the 100% rise projected for the next century will produce a warming of twice that amount, or roughly half a degree in round numbers.

This upper limit on global warming in the next century is five times smaller than the value cited in the IPCC report as "the best estimate" for the magnitude of the greenhouse effect produced by a 100% rise in CO₂. It is, however, consistent with the greenhouse warming inferred from satellite temperature measurements (p. 9).

IV. NEW RESULTS ON GLOBAL FLOODING

Major new findings relating both to the greenhouse effect and to its impact on human affairs appear almost monthly in the technical literature. With roughly one billion dollars a year going into climate change research in the U.S. alone, such rapid progress is not surprising. New results on the magnitude of the threat posed by global warming have already been reported in the first two months of 1992.

Threat of Major Floods

Melting of the polar ice sheets and a consequent rise in sea level have been viewed as among the most alarming potential effects of the greenhouse warming. An increase in sea level of several feet, projected by some experts, would cause destructive flooding of low-lying areas over the entire globe. The 1990 IPCC report gives a "best estimate" of about 66 cm. (2 feet) for the sea level rise expected from the greenhouse effect in the next century.²⁰ A March 1992 press article refers to global warming as the source of "rising seas inundating island nations, wiping out coastal marshlands and creating millions of environmental refugees."

New Evidence for a Future Drop in Sea Level. However,

recent research indicates that sea levels will fall rather than rise in response to the greenhouse warming. In 1992, a Canadian-American team of scientists reported that the warming could be expected to lead to a growth in the size of the ice sheets, locking up more water and causing sea levels to drop by as much as two feet in the next century.²¹

Their conclusions were based on an examination of the geological record over the last 130,000 years. This examination indicated that a warm climate, similar to that projected by greenhouse calculations for the next century, favored the formation and growth of ice sheets, rather than their shrinkage.

How can a temperature increase cause ice sheets to grow? The answer to this seeming paradox is that Arctic and Antarctic air is normally too cold to hold much moisture. Therefore, these regions experience relatively little snowfall. With rising temperatures, the air holds more moisture, snowfall increases, and the size of the ice sheets also increases.

In 1980, some experts considered a 25-foot rise in sea level in the next century to be a possibility.²² In 1985, the estimate was reduced to three feet.²³ In 1989, it was reduced again to one foot. Now the predicted "rise" has passed through zero heading downward, and become negative.²⁴ (Figure 9, p. 24) According to these results, the problem of rising sea levels and destructive floods has disappeared for the foreseeable future.

Lessons Drawn from the History of Sea Level Predictions. Two lessons may be learned from this series of developments. One is that the flooding of coastal cities and low-lying islands like the Maldives no longer appears to be a serious possibility. That is important, because some journalists and policymakers still refer to a catastrophic rise in sea level as a major threat requiring prompt measures aimed at restricting the burning of coal, oil and gas.

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The second lesson is that the apocalyptic forecasts of scientists in this area must be greeted with extreme caution, if not skepticism, by policymakers and the public. If the government had undertaken a massive program for construction of seawalls on the U.S. coast five or ten years ago on the basis of what was then the accepted scientific wisdom, policymakers would look foolish now and a great deal of money would have gone into a wasteful and fruitless effort.

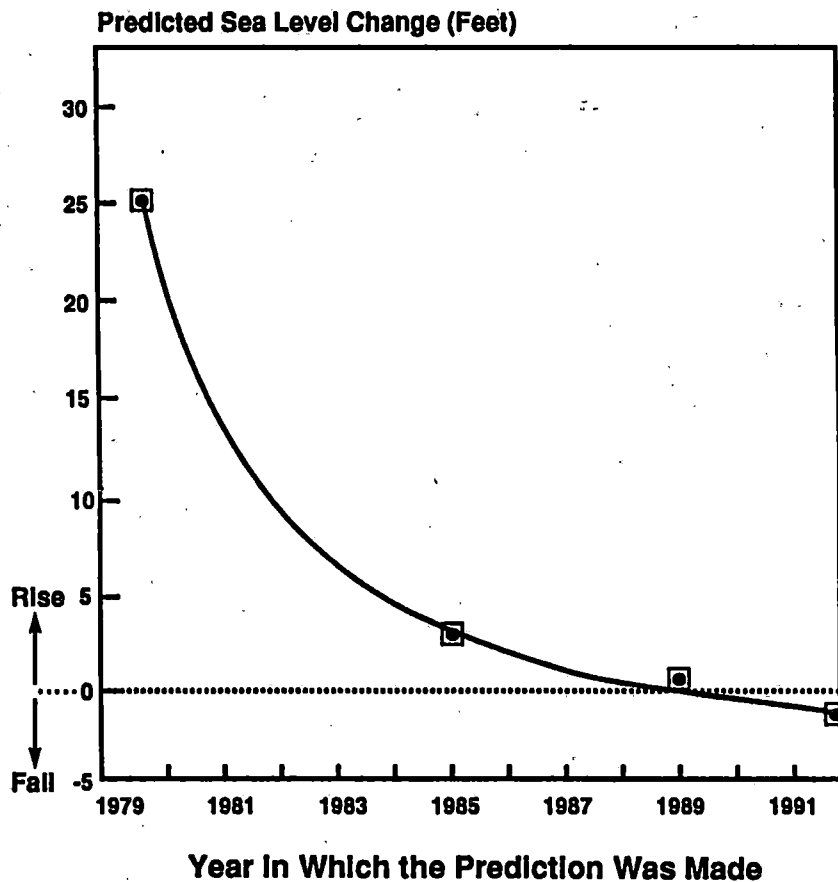


Figure 9. Predicted change in sea level resulting from the greenhouse effect, plotted against the year the prediction was made.

V. CONCLUSIONS

Computer simulations of the earth's climate predict how much warming will result from a doubling of today's levels of carbon dioxide in the atmosphere — a condition that could be reached in the second half of the 21st century. The results obtained from the computer models used by various scientific groups range from roughly 1°C to 5°C, with 2.5°C as the "best guess" proposed by the U.N. Intergovernmental Panel on Climate Change.

Reduced Estimates of the Greenhouse Effect. If the greenhouse effect were as large as any of the results yielded by these computer models, the effect would already have shown up clearly in the temperature record. The fact that the expected "greenhouse signal" is missing from the record suggests that the computer models have considerably exaggerated the size of the greenhouse effect.

Additional evidence, reported in the last year and based on satellite measurements of global temperatures, indicates that the greenhouse warming produced by a doubling of CO₂ in the next century will be less than 1°C, and may be as small as 0.5°C.

Independent support for this conclusion comes from a comparison between changes in solar activity and changes in global temperature. The very close correlation between the solar changes and the changes in temperature suggests that the sun has been the controlling influence on climate in the last 100 years, with the greenhouse effect playing a

smaller role. The solar data and the temperature data fit so closely in their time dependence as to imply that the greenhouse contribution to global warming up to the present time cannot be more than a few tenths of a degree. If the concentration of greenhouse gases rises in the course of several decades by an amount equivalent to a 100% increase in carbon dioxide, as some have predicted, the warming to be expected in the next century may be as large as twice a few tenths of a degree, or 0.5°C in round numbers.

Spread over a number of decades, a warming of half a degree would be a relatively small effect and lost in the noise of natural climate fluctuations.

These limits, while approximate, have more validity than the theoretical estimates of climate change, because they are not based on computer programs simulating the earth's climate but on the response of the real climate to a real increase in greenhouse gases over the last 100 years.

VI. POLICY IMPLICATIONS

Recent findings, based on observations of actual temperature changes, suggest that the greenhouse warming will be considerably smaller than commonly accepted estimates based on computer simulations. Temperature increases in the next century, assuming a greenhouse gas increase equivalent to a doubling of carbon dioxide in the atmosphere, will almost certainly be less than 1°C and may be less than 0.5°C. Temperature changes of this magnitude are commonplace in the earth's recent history, and are not a particular cause for concern.

How do the new results affect energy policy? Some scientists and policymakers want the U.S. to adopt laws severely restricting carbon dioxide emissions, because they regard carbon dioxide as the primary cause of global warming. Congress has asked the Department of Energy for an estimate of the cost of policies that would reduce carbon dioxide emissions by 20% in the next 10 years. According to the Department of Energy, the cost at the end of the decade can be as much as \$95 billion/year. The cost of electricity would double. The cost of oil would increase by \$60/barrel, and gasoline would go up \$1.30/gallon. A privately funded study estimates an accumulated cost of \$3.6 trillion over the next 100 years for comparable restrictions.^{25,26} Loss of jobs in the U.S. is estimated to be in the millions.

But the scientific evidence does not support a policy of carbon dioxide restrictions with its severely negative impact on the U.S. economy. Important new findings on the greenhouse effect and global warming are reported nearly every month. Several of the major findings discussed in this report were released in the last year. Suppose policymakers wait five years to get still more results, before undertaking the drastic measures proposed by concerned scientists and politicians. What will that cost the U.S.?

The Marshall panel did a study on this problem, using data from the 1990 report of the U.N. Intergovernmental Panel on Climate Change. M.E. Schlesinger and X. Jiang did a similar study.²⁷ Both studies yielded the same answer. A five-year delay on major policy decisions regarding carbon dioxide limits will lead to a small amount of additional warming in the next century. How small will the additional warming be?

The calculations show that a five-year delay in limiting carbon emissions will make the world warmer in the next century by at most one tenth of a degree, compared to how warm it would be if there were no delay.

A very rapid evolutionary process is occurring in the field of greenhouse research, with major improvements likely in basic understanding and in the accuracy of the greenhouse forecasts in the next few years. An additional warming of one tenth of a degree in the 21st century is a very small penalty to pay for better information on government decisions that, if taken unwisely, can be extraordinarily costly to the U.S. economy.

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