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ORIGIN OES-09

INFO	LOG-00	ADS-00	AID-00	INR-10	EUR-00	SS-00	OIC-02
	AF-00	CIAE-00	EB-00	DINT-05	DODE-00	H-01	IO-19
	NEA-04	NSCE-00	NSF-02	ARA-00	NSAE-00	COME-00	L-03
	PM-10	EAP-00	EPA-04	NAS-01	INRE-00	ACDA-12	USIE-00
	DOEE-00	CEQ-01	PRS-01	E-01	T-01	(AS-01	NSAE-00)

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APPROVED BY: OES/ENV:ADSENS
NASA:RWATSON
IO/T:KFIEDLER

EPA/OIA:JKOEHLER
L/OES:DKENNEDY

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Senior Reviewer

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TO ALL DIPLOMATIC POSTS

RELEASE IN FULL

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BRUSSELS ALSO FOR USEC

E.O. 12356: N/A

TAGS: SENV, TPHY, UNEP

SUBJECT: PROTECTION OF THE OZONE LAYER - SCIENTIFIC
DEVELOPMENTS

1. THIS IS AN ACTION REQUEST - SEE PARA 3.
2. PARA 6 BELOW REPORTS SIGNIFICANT FINDINGS ON GLOBAL AND POLAR OZONE MEASUREMENTS, INDICATING THAT THERE HAS IN FACT BEEN A MEASURABLE DECREASE IN GLOBAL AND POLAR OZONE IN THE PAST DECADE. THESE FINDINGS RECONFIRM THE IMPORTANCE OF ALL NATIONS MOVING RAPIDLY TO RATIFY AND IMPLEMENT THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE LAYER.

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3. WHILE SOME HAVE CALLED FOR INCREASING THE STRINGENCY OF THE PROTOCOL PROVISIONS, THE USG BELIEVES THE FIRST PRIORITY SHOULD BE TO COMPLETE THE RATIFICATIONS NECESSARY FOR THE PROTOCOL TO ENTER INTO FORCE ON THE

UNCLASSIFIED U.S. Department of State Case No. F-2008-03441 Doc No. C17575095 Date: 12/20/2016
TARGET DATE OF JANUARY 1, 1989. THE PARTIES WILL THEN BE
ABLE TO CONSIDER, UNDER THE PROTOCOL PROCEDURES FOR
REASSESSMENT OF THE PROTOCOL'S PROVISIONS ON THE BASIS OF
SCIENTIFIC, ENVIRONMENTAL, TECHNICAL AND ECONOMIC

INFORMATION, WHETHER THE PROTOCOL PROVISIONS SHOULD BE
ADJUSTED.

4. ACTION REQUESTED: EMBASSIES SHOULD BRING THESE
FINDINGS TO THE ATTENTION OF APPROPRIATE HOST GOVERNMENT
OFFICIALS, INCLUDING FOREIGN MINISTRIES, AND INFORM HOST
GOVERNMENT SCIENTISTS/OFFICIALS ABOUT THE POLAR OZONE
WORKSHOP IN MAY.

5. OZONE TRENDS PANEL REPORT

IN 1985, TWO IMPORTANT REPORTS OF CHANGES IN ATMOSPHERIC
OZONE WERE RELEASED. THE FIRST REPORT WAS OF A LARGE,
UNANTICIPATED DECREASE IN SPRINGTIME ANTARCTIC OZONE OVER
THE LAST DECADE. THE SECOND REPORT, BASED ON SATELLITE
DATA, WAS OF LARGE GLOBAL-SCALE DECREASES SINCE 1979 IN
BOTH THE TOTAL COLUMN OZONE AND IN ITS CONCENTRATION NEAR
50 KM ALTITUDE. WHILE WE WERE AWARE OF THESE REPORTS
DURING THE 1986-87 NEGOTIATIONS ON THE MONTREAL PROTOCOL,
THE USG POSITION WAS BASED ON MODEL PREDICTIONS OF FUTURE
DEPLETION RATHER THAN FINDINGS OF ALREADY-OBSERVED
DEPLETION, SINCE THE FINDINGS AND THEIR IMPLICATIONS WERE
UNCONFIRMED. IN OCTOBER 1986, NASA, IN COLLABORATION
WITH NOAA, FAA, WMO AND UNEP, FORMED AN OZONE TRENDS
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PANEL, INVOLVING OVER 100 SCIENTISTS, TO STUDY WHETHER
CAREFULLY RE-EVALUATED GROUND-BASED AND SATELLITE DATA
WOULD SUPPORT THESE FINDINGS.

6. THE REPORT OF THE OZONE TRENDS PANEL WAS RELEASED ON
MARCH 15, 1988. THE KEY FINDINGS INCLUDE:

(A) THERE IS UNDISPUTED OBSERVATIONAL EVIDENCE THAT THE
ATMOSPHERIC CONCENTRATIONS OF GASES IMPORTANT IN
CONTROLLING STRATOSPHERIC OZONE LEVELS CONTINUE TO
INCREASE ON A GLOBAL SCALE BECAUSE OF HUMAN ACTIVITIES.

(B) MODELS PREDICT THAT INCREASING ATMOSPHERIC
CONCENTRATIONS OF TRACE GASES WOULD HAVE CAUSED A SMALL
DECREASE IN OZONE GLOBALLY BETWEEN 1969 AND 1986.

(C) ANALYSIS OF DATA FROM GROUND-BASED DOBSON INSTRUMENTS SHOWS MEASURABLE DECREASES FROM 1969 TO 1986 IN THE ANNUAL AVERAGE TOTAL COLUMN OZONE RANGING FROM 1.7 TO 3.0 AT LATITUDES BETWEEN 30 AND 64 DEGREES NORTH. THE DECREASES RANGED FROM 2.3 TO 6.2 DURING THE WINTER, AVERAGED FOR DECEMBER THROUGH MARCH.

(D) THE MODEL CALCULATIONS ARE BROADLY CONSISTENT WITH THE OBSERVED CHANGES IN COLUMN OZONE, EXCEPT THAT

OBSERVED DECREASES AT MID AND HIGH LATITUDES IN WINTER ARE LARGER THAN THE PREDICTED DECREASES.

(E) AFTER COMPARING THE SBUV AND TOMS SATELLITE DATA WITH GROUND-BASED DOBSON MEASUREMENTS, THE RESULTING COLUMN OZONE DATA, AVERAGED BETWEEN 53 DEGREES SOUTH AND 53 DEGREES NORTH, SHOW A DECREASE OF ABOUT 2.5 FROM 1978 TO 1985.

(F) THE OBSERVED DECREASE IS PREDICTED TO HAVE UNCLASSIFIED

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SIGNIFICANT CONTRIBUTION (.7 TO 2) FROM THE DECREASE IN SOLAR ACTIVITY DURING THIS PERIOD.

(G) THE PREVIOUS REPORTS OF LARGE GLOBAL DECREASES SINCE 1979 IN TOTAL COLUMN OZONE (ABOUT 1 PER YEAR) OR IN THE OZONE CONCENTRATION NEAR 50 KM ALTITUDE (ABOUT 3 PER YEAR) WERE ERRONEOUSLY LARGE BECAUSE OF INCORRECT ASSUMPTIONS ABOUT THE SATELLITE INSTRUMENTS.

(H) THERE HAS BEEN A LARGE, SUDDEN AND UNEXPECTED DECREASE IN SPRINGTIME ANTARCTIC OZONE OVER THE LAST DECADE. OZONE DECREASES OF MORE THAN 50 IN THE TOTAL COLUMN HAVE BEEN OBSERVED.

(I) THE TOTAL COLUMN OF OZONE IN THE AUSTRAL SPRING OF 1987 AT ALL LATITUDES SOUTH OF 60 DEGREES SOUTH WAS THE LOWEST SINCE MEASUREMENTS BEGAN 30 YEARS AGO.

(J) OZONE APPEARS TO HAVE DECREASED SINCE 1979 BY 5 OR MORE AT ALL LATITUDES SOUTH OF 60 DEGRESS SOUTH THROUGHOUT THE YEAR.

(K) THE WEIGHT OF EVIDENCE STRONGLY INDICATES THAT

COPIES OF THE EXECUTIVE SUMMARY OF THE REPORT WILL BE
POUCHED TO ALL POSTS.

7. WORKSHOP ON POLAR OZONE
MAY 9-13, 1988,
AN INTERNATIONAL WORKSHOP ON POLAR OZONE, COSPONSORED BY
NASA, NOAA, NSF, CHEMICAL MANUFACTURERS ASSOCIATION, WMO
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AND UNEP, WILL BE HELD AT SNOWMASS, IN ASPEN, COLORADO.
THE WORKSHOP WILL DEAL WITH ALL ASPECTS OF POLAR OZONE,
BUT WITH EMPHASIS ON THE BEHAVIOR OF ANTARCTIC OZONE.
THE GOALS OF THE WORKSHOP ARE TO:

- REVIEW AND SUMMARIZE THE LATEST FINDINGS ON POLAR
OZONE IN SITU AND REMOTE MEASUREMENTS AND THEORETICAL
DEVELOPMENTS.
- UNDERSTAND THE ROLES OF DYNAMICS AND CHEMISTRY IN THE
BEHAVIOR OF POLAR OZONE.
- DETERMINE THE NATURE AND CAUSE OF SEASONAL AND YEAR TO
YEAR CHANGES IN THE ANTARCTIC AND ARCTIC OZONE.
- REVIEW NEW LABORATORY FINDINGS.
- DISCUSS GLOBAL IMPLICATIONS OF THE ANTARCTIC OZONE
HOLE.
- IDENTIFY IMPORTANT AREAS WHERE OUR UNDERSTANDING NEEDS
NEEDS TO BE AUGMENTED.

8. EMBASSIES ARE ALSO REQUESTED TO CALL THE WORKSHOP TO
THE ATTENTION OF HOST GOVERNMENT SCIENTISTS/OFFICIALS WHO
MAY WISH TO PARTICIPATE AND ENCOURAGE THEM TO
PRE-REGISTER (ALTHOUGH THIS IS AN OPEN MEETING, SPACE
WILL BE LIMITED). TO PRE-REGISTER, PROVIDE NAME,
AFFILIATION, ADDRESS AND TELEPHONE TO: POLAR OZONE
WORKSHOP, DR. ROBERT T. WATSON, CODE EE, NASA
HEADQUARTERS, WASHINGTON, D.C. 20546.

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