

Global Change Acronyms & Abbreviations

May 1995

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WDC-A

CARBON DIOXIDE INFORMATION ANALYSIS CENTER
WORLD DATA CENTER – A FOR ATMOSPHERIC TRACE GASES
OAK RIDGE NATIONAL LABORATORY

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Carbon Dioxide Information Analysis Center
World Data Center-A for Atmospheric Trace Gases

Oak Ridge National Laboratory

GLOBAL CHANGE

ACRONYMS AND ABBREVIATIONS

May 1995

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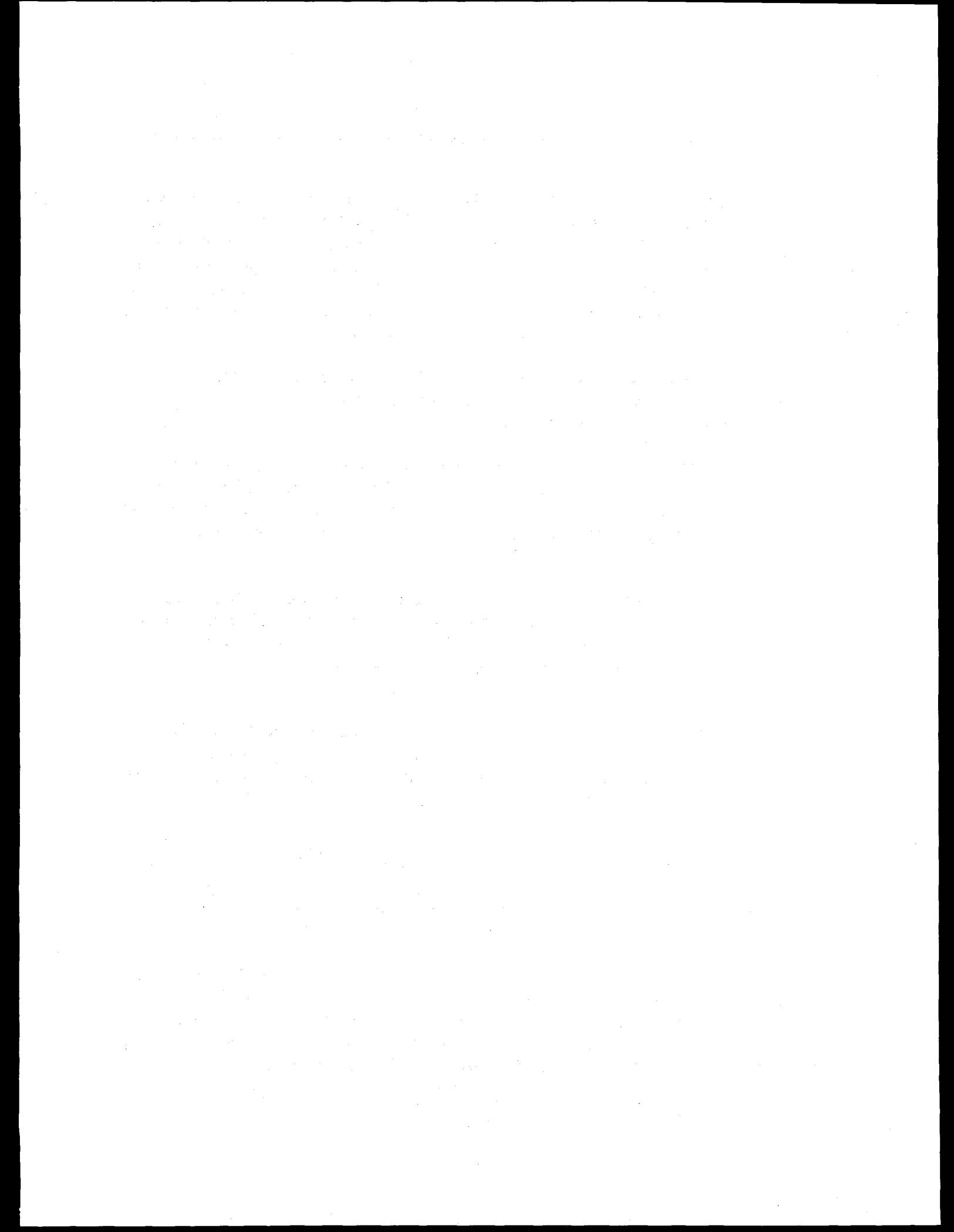
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FOREWORD

The environmental literature of science and policy is filled with numerous acronyms and abbreviations that for the uninitiated seemingly represent a jargon unto itself. It is often frustrating and sometimes embarrassing to be involved in a scholarly discussion when participants have a raft of acronyms rolling off their tongues and speak with such authority, all the while assuming *everyone* knows what they mean. The listener is left wondering what these experts just tried to say. Of course, the same holds true for scholarly works peppered with these capitalizations as well. It is no wonder that the cross-disciplinary exchange of ideas can be such a baffling experience!

In the global change community, acronyms and abbreviations are abundant. Program names, instruments, agencies, geographic reference points, and administrative bodies all are represented with unique and sometimes clever aggregations of letters.

This inventory of *Global Change Acronyms and Abbreviations* greatly expands the short list of 60 entries included in the *Glossary: Carbon Dioxide and Climate* [1], produced by the Carbon Dioxide Information Analysis Center. This current document consolidates acronyms and abbreviations from many disciplines: agriculture, atmospheric science, ecology, environmental science, oceanography, policy science, and other fields.

Items included in this first edition of *Global Change Acronyms and Abbreviations* have been collected from a number of sources: technical reports, policy documents, global change program announcements, newsletters, and other periodicals. In addition to the hard-copy version of this document, this list of acronyms and abbreviations is available in DOS-formatted diskettes and in CDIAC's anonymous File Transfer Protocol (FTP) area on the Internet.

Included in this work are abbreviations [e.g., Carbon Dioxide Information Analysis Center (CDIAC), Oak Ridge National Laboratory (ORNL)], and acronyms—words formed from the letters in a series of related words [e.g., Terrestrial Initiative in Global Environmental Research (TIGER), Tropical Ocean and Global Atmosphere (TOGA)].

All entries are arranged in alphabetical order with lower case entries appearing first (i.e., aa before AA) and unpunctuated entries appearing before punctuated entries (i.e., AA before A.A.). Foreign acronyms are included in this document. The language of origin and the English equivalent are provided when possible. If the definition in the language of origin is not available, the English equivalent is provided.

Every effort will be made to keep this reference tool current. Hard copy editions will be revised, and the electronic versions on diskette and on the Internet will also be routinely updated prior to distribution. This document is intended to be a dynamic work, changing as new acronyms and abbreviations arise through the creative talents of bureaucratically driven science and policy personnel. We invite you to make this *your* document by sending us new entries.

Individuals responsible for preparing written and oral presentations are encouraged to use this document as an aid for defining acronyms and abbreviations. The editorial standard is to define the acronym or abbreviation (usually as a parenthetical note) the first time it appears in the text. If a lengthy document or report is prepared in which many acronyms and abbreviations appear, a "List of Acronyms and Abbreviations" is commonly appended to the work. The identification of acronyms and abbreviations is a value-added consideration for which many readers will be grateful.

It is hoped you, as readers, benefit from this work. As compilers, we delight in our knowledge that the end of our quest is not in sight.

Cindy Woodard
Fred Stoss

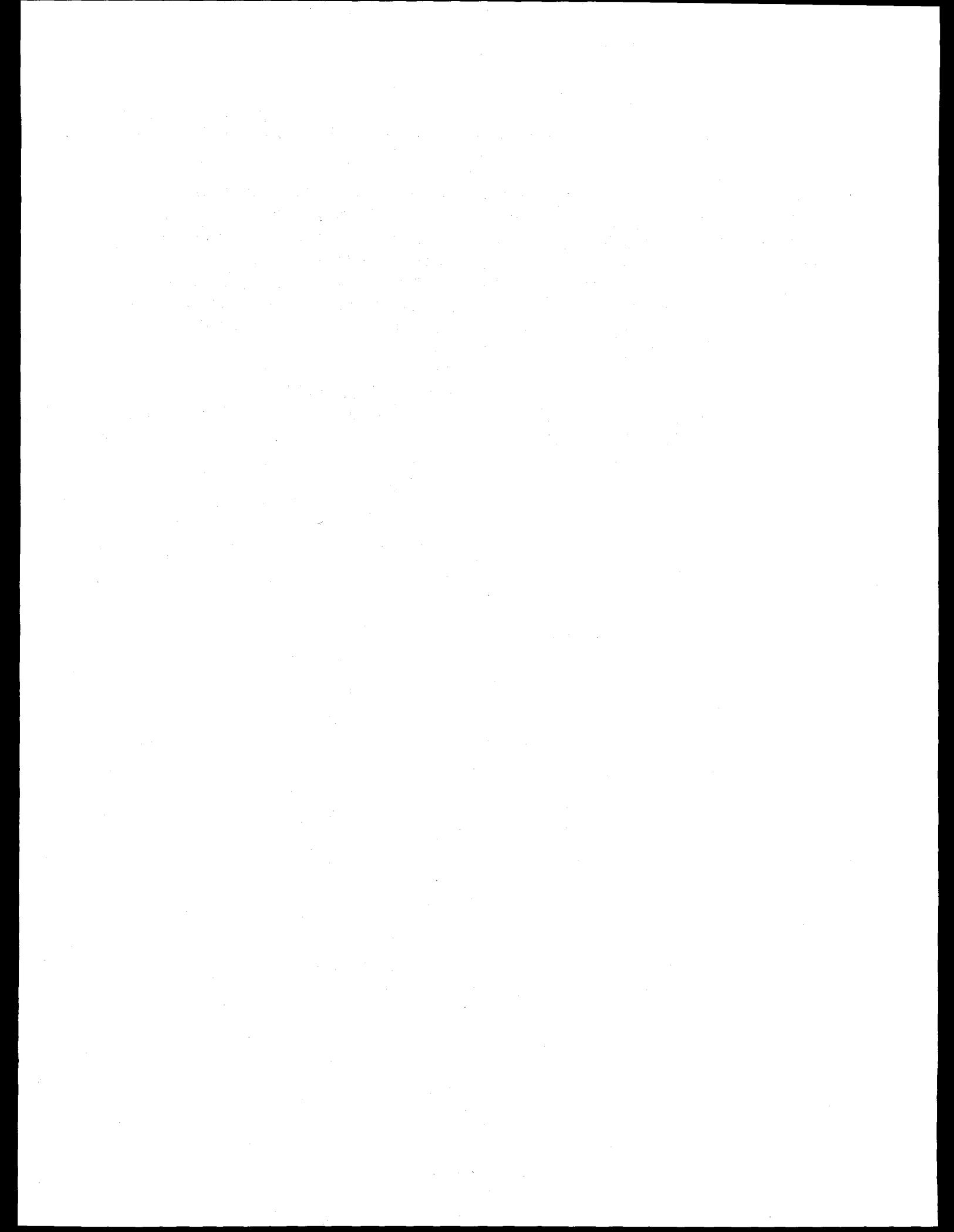
[1] Glossary: Carbon Dioxide and Climate, ORNL/CDIAC-39, F.M. O'Hara, Jr. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory. 1990.

ABSTRACT

Woodard, C.T., and F.W. Stoss. 1994. *Global Change Acronyms and Abbreviations*. ORNL/CDIAC-83 and Environmental Sciences Publication No. 4415. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, Oak Ridge, Tennessee. 77pp.

This list of acronyms and abbreviations is compiled to provide the user with a ready reference to decipher the linguistic initialisms and abridgements for the study of global change. The terms included in this first edition were selected from a wide variety of sources: technical reports, policy documents, global change program announcements, newsletters, and other periodicals. The disciplinary interests covered by this document include agriculture, atmospheric science, ecology, environmental science, oceanography, policy science, and other fields. In addition to its availability in hard copy, the list of acronyms and abbreviations is available in DOS-formatted diskettes and through CDIAC's anonymous File Transfer Protocol (FTP) area on the Internet.

Key words: Abbreviations, acronyms, agriculture, air pollution, atmospheric chemistry, carbon dioxide, climate change, climatology, chlorofluorocarbons, Earth atmosphere, ecology, global warming, greenhouse effect, meteorology, and oceanography.



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CDIAC is located in the Environmental Sciences Division of Oak Ridge National Laboratory (ORNL), which is managed by Martin Marietta Energy Systems, Inc., for the U.S. Department of Energy under contract DE-AC05-84OR21400.

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

A a a

A-S	Arakawa-Schubert	ACCM	Atmospheric General Circulation Model
AA	atomic absorption	ACCP	Atlantic Climate Change Programme
AAAS	American Association for the Advancement of Science	ACD	Aeronautical Charting Division (NOS)
AAF	Association Aeronautique et Astronautique de France	ACE	Advisory Committee on the Environment (ICSU)
AAG	American Association of Geographers	ACE	Aerosol Characterization Experiment (IGAC)
AAOE	Airborne Antarctic Ozone Experiment	ACE	Atmospheric Chemistry Education in Global Change (IGAC)
AAS	atomic absorption spectrometry (spectrometer, spectroscopy)	ACGIH	American Conference of Governmental Industrial Hygienists
AASE	Airborne Arctic Stratospheric Expedition	ACID	Acidification Chemistry
AASP	American Association of Stratigraphic Palynologists	ACL	Information Data Base (BNL)
AASSREC	Association of Asian Social Science Research Councils	ACM	alternate concentration level (limit?)
AATSR	advanced along-track scanning radiometer	ACMAD	advanced climate model
AAWORD	Association of African Women for Research and Development	ACP	African Centre of Meteorological Applications for Development
ABE	Advisory Board on Energy (India)	ACR	Atmospheric Chemistry Program (DOE)
ABL	atmospheric boundary layer	ACRIM	active cavity radiometer
ABLE	Atmospheric Boundary Layer Experiment	ACS	active cavity radiometer irritancy monitor
ACA	Advanced Computer Applications (project)	ACSM	American Chemical Society
ACABQ	Advisory Committee on Administrative and Budgetary Questions	ACSyS	American Congress of Surveying and Mapping
ACARS	Aircraft Communication and Recording System	ACTS	Arctic Climate System Study
ACARS	ARINC Communications and Reporting System	ADAAC	African Centre for Technology Studies
ACAST	Advisory Committee on the Application of Science and Technology to Development (UN)	ADALT	Affiliated Distributed Active Archive Center
ACATS	Airborne Chromatograph for Atmospheric Trace Species	ADB	Advanced Radar Altimeter
ACC	Administrative Coordination Committee (ECOSOC)	ADC	Asian Developing Bank
ACC	Air Combat Command (formerly TAC)	ADCLS	Affiliated Data Center
ACC	Antarctic Circumpolar Current	ADDNET	Advanced Data Collection and Location System
ACCI	Advisory Committee on Climate Applications and Data (WMO)	ADEOS	Acid Deposition Data Network (EPA)
		ADEOS	Advanced Earth Observation Satellite (Japan)
		ADP	Advanced Earth Observing System
			automatic data processing

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

ADPE	automatic data processing equipment	AIBS	American Institute of Biological Sciences
AE	Atmosphere Explorer	AIChE	American Institute of Chemical Engineers
AEC	U.S. Atomic Energy Commission (now DOE)	AICRIP	All India Coordinated Programme for Rice Improvement
AEDD	Arctic Environment Data Directory	AID	Agency for International Development (U.S.)
AAEI	Atmospheric Emitted Radiance Instrument	AIHA	American Industrial Hygiene Association
AAEI	Autonomous energy-efficiency index	AIM	approximate inertial manifold
AER	Atmospheric and Environmental Research, Inc. (Cambridge, Mass.)	AIME	American Institute of Mining and Metallurgical Engineers
AER	atmospheric and environmental research (DOE)	AIP	Algorithm Intercomparison Programme
AERI	Atmospheric Emitted Radiance Instrument	AIP-1	Algorithm Intercomparison Project-1
AERI	Atmospheric Emitted Radiance Interferometer	AIP-2	Algorithm Intercomparison Project-2
AERI-FEP	AERI Front End Processor	AIP-3	Algorithm Intercomparison Project-3
AEROCE	Atmosphere/Ocean Chemistry Experiment	AIREP	Aircraft Weather Report
AES	Atmospheric Environment Service (Canada)	AIRS	atmospheric infrared sounder
AEST	Australian Eastern Standard Time	AIRS-AMSU	Atmospheric Infrared-Advanced Microwave Sounding Unit
AET	actual evapotranspiration	AIS	airborne imaging spectrometer
AFDM	ash free dry mass	AIT	Asian Institute of Technology
AFGL	Air Force Geophysics Laboratory	AL	Aeronomy Laboratory (Boulder, Colo.) (ERL)
AFGWC	Air Force Global Weather Central (U.S.)	Al	aluminum
AFS	American Fisheries Society	ALA	American Library Association
AGA	American Gas Association	ALADIN	Atmospheric Laser Doppler Instrument
AGAL	Australian Government Analytical Laboratories	ALARA	as low as reasonably achievable
AGASP	Arctic Gas and Aerosol Sampling Programme	ALBIOS	Aluminum Biogeochemistry in Soils (EPRI)
AGCM	Atmospheric General Circulation Model	ALE	Atmospheric Lifetime Experiment
AGID	Association for Geoscientists for International Development	ALE/GAGE	ALE/Global Atmospheric Gases Experiment
AGL	above ground level	ALEXIS	Array of Low-Energy X-Ray Imaging Sensors
AGU	American Geophysical Union	Alf	Grimco A-700 processor used for data analysis
Agr.	Agriculture (USDA)	ALFA	AER Local Forecast and Assimilation (Model)
AGRHYMET	Agronmeteorology and Operational Hydrology and Their Applications	ALK	alkalinity
AGU	American Geophysical Union	ALOHA	A Long-term Oligotrophic Habitat Assessment
AGWAT	Agriculture and Water Project (JECOR)	ALPEX	Alpine Experiment
AIAA	American Institute of Aeronautics and Astronautics	ALS	Adirondack Lake Survey (ALSC)

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

ALSC	Adirondack Lake Survey Corporation	ANSTO	Australian Nuclear Science and Technology Organization (Menai, New South Wales)
ALSS	Aluminum in Streams Study (EPRI)	ANT	Antarctica (START)
ALT	altimeter	ANTARES	Antarctic research (France) (JGOFS)
ALTA	Active Long Term Archive	ANTARFIX	Antarctic fixed station (France) (JGOFS and WOCE)
AMA	African Mountains Association	ANU	Australian National University (Canberra, Australia)
AMAD	activity median aerodynamic diameter	AO	announcement of opportunity
AMAP	Arctic Monitoring and Assessment Programme	AO	atmosphere-ocean
AMeDAS	Automated Meteorological Data Acquisition System	AODC	acridine orange direct count
AMEX	Atlantic Meteorology Experiment	AOIPS	Atmospheric and Oceanographic Information Processing System
AM/FM	Automated Mapping/Facilities Management (Society)	AOL	Airborne Oceanographic Lidar
AMI	active microwave instrumentation	AOML	Atlantic Oceanographic and Meteorological Laboratory (Miami) (ERL)
AMIE	Automated Methane Instrument Evaluation	AOSB	Arctic Ocean Sciences Board
AMIGO	America's Inter-hemispheric Geobiosphere Organization	AOSIS	Association of Small Island States
AMIP	Atmospheric Model Intercomparison Project	APA	Adirondack Park Agency
AMQUA	American Quaternary Association	APA	alkaline phosphatase activity
AMRIR	advanced medium resolution imaging radiometer	APAFO	Advanced Particles and Fields Observer
AMS	accelerator mass spectrometry	APAR	absorbed photosynthetically active radiation
AMS	American Mathematical Society	APARE	East Asian-North Pacific Regional Experiment (IGAC)
AMS	American Meteorological Society	APCA	Air Pollution Control Association (Pittsburgh)
AMS	Applied Mathematical Sciences (DOE)	APEC	Asia Pacific Economic Cooperation Organization
AMSR	advanced microwave scanning radiometer	APHA	American Public Health Association
AMSU	advanced microwave sounding unit	API	American Petroleum Institute
AMSU-A	advanced microwave sounding unit-A	APMP	Acid Precipitation Mitigation Program (NAPAP)
AMTS	advanced moisture and temperature sounder	APN	Asia-Pacific Network (for Global Change Research) (START)
AMU	atomic mass unit	APSRS	Aerial Photo Summary Records System
ANARE	Australian National Antarctic Research Establishment	APT	automatic picture transmission
ANBS	Asian Network of Biological Sciences	AQA	American Quaternary Association
ANC	acid-neutralizing capacity	ARA	atmospheric radiation analysis
ANL	Argonne National Laboratory	ARAC	Atmospheric Release Advisory Capability (program)
ANL/ACRF	ANL's Advanced Computing Research Facility	ARC	Ames Research Center
ANSI	American National Standards Institute	ARC	Antarctic Research Center

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

ARC/INFO	GIS software	ASCEND	Agenda of Science for Environment and Development into the 21st Century
ARCS	Atmospheric Radiation and Cloud Station	ASChE	American Society of Chemical Engineers
ARCSS	Arctic System Science (program)	ASCII	American Standard Code for Information Interchange
ARGOS	Argos Data Collection and Position Location System (France)	ASCOT	Atmospheric Studies in Complex Terrain (program)
ARINC	Aeronautical Radio, Inc.	ASCS	Agricultural Stabilization and Conservation Service
ARINC	Aeronautical Research, Inc.	ASDAR	Aircraft-to-Satellite Data Relay
ARISTOTELES	Applications and Research Involving Space Technologies Observing the Earth's Field from a Low Earth Orbiting Satellite	ASE	Air Sea Experiment
ARL	Air Resources Laboratory (NOAA)	ASEAMS	Association of Southeast Asian Marine Scientists
ARL	Australian Radiation Laboratory (Melbourne, Victoria)	ASEAN	Association of Southeast Asian Nations
ARM	Atmospheric Radiation Measurement (program) (DOE)	ASF	Alaska SAR Facility
ARMA	Autoregressive moving-average	ASI	Agenzia Spaziale Italiana (Italian Space Agency)
ARMSAT	Atmospheric Radiation Measurement Satellite	ASK	Assisted Search for Knowledge above sea level
ARRCC	Analysis of Rapid and Recent Climate Change (project)	ASL	atmospheric surface layer
ARS	Agricultural Research Service (USDA)	ASLO	American Society of Limnology and Oceanography
ARSMC	ASEAN Regional Specialized Meteorological Centre	ASM	Applied Simulation and Modelling (IASTED)
ART	Arctica (START)	ASME	American Society of Mechanical Engineers
ARTEMIS	Advanced Relay and Technology Mission Satellite (ESA)	ASOEN	ASEAN Senior Officials on the Environment
ARTEP	Ariane Technology Experiment Platform (European)	ASOS	Automated Surface Observing System
ARW	Advanced Research Workshop	ASPP	American Society of Plant Physiologists
AS	Anti-Spoofing on GPS Transmissions	ASPRS	American Society for Photogrammetry and Remote Sensing
ASA	American Statistical Association	ASR	aerosol solar radiation
ASA	Antarctic Support Association	ASSAS	Advanced Solid State Array Sensor
ASA	Atmosphere Spectroscopy Applications	ASTER	Advanced Spaceborne Thermal Emission and Reflection (radiometer)
ASAP	Automated Shipboard Aerological Programme	ASTER	Atmosphere-Surface Turbulent Exchange Research (formerly ITIR)
ASAR	Advanced Synthetic Aperture Radar	ASTEX	Atlantic Stratocumulus Transition Experiment
ASAS	Advanced Solid State Array Sensor	ASTM	American Society for Testing and Materials (Philadelphia)
ASB	Association of Southeastern Biologists		
ASCAT	advanced scatterometer		
ASCATT	advanced scatterometer		
ASCE	American Society of Civil Engineers		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

ATES	Alcatel Espace Systems
ATDD	Atmospheric Turbulence and Diffusion Division (formerly ATDL) (NOAA)
ATDL	Atmospheric Turbulence and Diffusion Laboratory (now ATDD)
ATLAS	Atmospheric Laboratory for Applications and Science
ATLID	atmospheric lidar
atm	atmosphere
ATM	Atmospheric Transport Model
ATMOS	Atmospheric Trace Molecules Observed by Spectroscopy
ATOVS	Advanced TOVS
ATP	adenosine triphosphate
ATPEX	ARM Tropical Pacific Experiment
ATS	Advanced Technology Satellite
ATS	Antarctic Treaty System
ATS	applications technology satellite
ATSR	along-track scanning radiometer
AURIO	Auroral Imaging Observatory
AV	acoustic velocity (geophysical logging)
AVCS	Advanced Vidicon Camera System
AVD	acoustic variable density (geophysical logging)
AVHRR	advanced very high resolution radiometer (NOAA)
AVHRR LAC	AVHRR Local Area Coverage
AVHRR GAC	AVHRR Global Area Coverage
AVIRIS	airborne visible and infrared imaging spectrometer
AVNIR	advanced visible and near-infrared radiometer
AWDB	Adirondack Watershed Data Base
AWIPS-90	Advanced Weather Interactive Processing System for the 90s
AWRA	American Water Resources Association
AWS	Association for Women in Science
AWWA	American Water Works Association (Denver)
AXCTD	autonomous expendable CTD profiler

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

B B D

b/w	black and white	Bet	Grimco A-700 processor used for data collection
BaA	benz[a]anthracene	BGC	biogeochemical cycle
BAAS	British Association for the Advancement of Science	BIA	Bureau of Indian Affairs (DOI)
BAHC	Biospheric Aspects of the Hydrological Cycle (program) (IGBP)	BIBEX	Biomass Burning Experiment (IGAC)
BAHC-SSC	BAHC Scientific Steering Committee	BIG-TT	BAHC-IGAC-GCTE Task Team
BALTEX	Baltic Sea Experiment	BIH	Bureau International de l'Heure
BAO	Boulder Atmospheric Observatory	BIOME	global biome model
BaP	benzo[a]pyrene	BIOMOVS	Biospheric Model Validation Study
BaPDE	chemically reactive diolepoxydes	BIOSYNOP	Biological Synoptic Ocean Prediction
BAPMoN	Background Air Pollution Monitoring Network	BIOTRANS	biological transformations (site at 47°N 20°W)
BASC	Board on Atmospheric Science and Climate (U.S.)	BIOTROP	Regional Center for Tropical Biology
BASE	Beaufort and Arctic Storms Experiment	BIPM	Bureau International de Poids et Mesures
BATAN	Reactor and Nuclear Research Facilities of the National Atomic Energy Agency	BLM	Bureau of Land Management (DOI)
BATERISTA	Biosphere-Atmosphere Transfers and Ecological Research in Situ Studies in Amazonia (BAHC and GEWEX)	BMAP	Biological Monitoring and Abatement Program
BATGE	Biosphere-Atmosphere Trace Gas Exchange (in the tropics) (IGAC)	BMC	Baltic Marine Cooperation
BATS	Bermuda Atlantic Time Series	BMFT	Bundes Ministerium fur Forschung und Technologie (Germany)
BATS	Biosphere-Atmosphere Transfer Scheme (NCAR)	BMG	Meteorological and Geophysics Agency
BAU	business-as-usual	BMRC	Bureau of Meteorology Research Centre (Australia)
BBHIR	broadband hemispherical in flux radiometer	BMWT	Biofuels and Municipal Waste Technology (Division) (DOE)
BBHSR	broadband hemispherical solar radiometer	BNA	Block Numbering Area
BBL	benthic boundary layer	BNAP	Basic Hydrological Network Assessment Project
BBSR	Bermuda Biological Station for Research	BNL	Brookhaven National Laboratory
BBSS	balloon-borne sounding system	BNSC	British National Space Center
BBZ	benthic boundary zone	BOB	Bureau of the Budget
BC	black carbon	BOC	Bureau of Census (DOC)
BCD	Binary Coded Decimal	BOD	Biochemical Oxygen Demand
BCF	bioconcentration factor	BODC	British Oceanographic Data Centre (Bidston)
BEMS	Bioelectromagnetics Society	BOF	basic oxygen furnace
BEST	Bilan Energetique du Systeme Tropical	BOFS	Biogeochemical Ocean Flux Study (U.K.)
		BOM	benthic organic matter
		BoM	Bureau of Meteorology (DASET)
		BOR	Bureau of Reclamation (DOI)

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

BOREAS	Boreal Ecosystems Atmosphere Study (BAHC and GEWEX)
BORIS	BOREAS Information System
BP	before present
BPA	Bonneville Power Administration
BPKM	billion passenger kilo metre
BPPT	Agency for Assessment and Application of Technology (Indonesia)
Bq	Becquerel (symbol) (SI unit of activity of ionizing radiation source)
BRDF	bidirectional reflectance distribution function
BrO	bromine monoxide
BRW	Barrow Observatory (Barrow, Alaska) (CMDL)
BSIP	Birban Sahani Institute of Paleobotany
BSRN	Baseline Surface Radiation Network
BTCs	breakthrough curves (column-elution tests)
BUFR	Binary Universal Form for the Representation (of data)
BuREC	Bureau of Reclamation (now WPR)
BUV	Backscatter Ultraviolet Radiometer
BVE	Barotropic vorticity equation
BW	bulk water
BWTP	Basalt Waste Isolation Project

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

C C C

C	carbon
C	Celsius, centigrade
C/A	Coarse/Acquisition GPS signal structure
C-MACCS	Centre for Mathematical Modeling and Computer Simulation
C3AT	Ch3 Albedo Test (AVHRR)
CAA	Central Arid Asia (START)
CAA	Clean Air Act (1970)
CAAP	Composition and Acidity of Southeast Asian Precipitation
CAC	Climate Analysis Centre (now CPC) (WMO)
CAC	Committee on Atmospheric Chemistry
CACGP	Commission on Atmospheric Chemistry and Global Pollution (IAMAS)
CAD	computer-aided design/drafting/drawing
CADD	computer-aided design and drafting
CAeM	Commission for Aeronautical Meteorology (WMO)
CAF	Clean Air Facility
CAgM	Commission for Agricultural Meteorology (WMO)
Cal/Val	calibration/validation
CAM	crassulacean acid metabolism
CAMS	Control and Monitoring System
CAO	cold air outbreak
CAP	Central Arizona Project (USBR)
CAPPI	Constant Altitude Plan Position Indicator
CAR	Caribbean (START)
CARBICE	Carbon Dioxide Intercalibration Experiment (IGAC)
CARDS	climatological aerological reference data set
CARS	Climate Applications Referral System
CARS	coherent anti-Stokes Raman scattering
CART	Cloud and Radiation Testbed (ARM)
CAS	Chemical Abstract Series
CAS	Chinese Academy of Science
CAS	Commission for Atmospheric Sciences (WMO)

CASA	Inter-Union Commission on the Application of Science to Agriculture, Forestry, and Aquaculture (ICSU)
CASSAD	Centre for African Settlement Studies and Development
CAST	Chinese Academy of Science and Technology
CAT	computerized axial tomography
CBA	cost benefit analysis
CBO	Congressional Budget Office (U.S.)
CBS	Commission for Basic Systems (WMO)
CCAM	Chikuko Cha Amayi M'Malawi (Women's NGO, Malawi)
CCAQ	Consultative Committee on Administrative Questions
CCCN	CDIAC Computing System Network
CCCO	Committee on Climate Changes and the Ocean (SCOR and IOC)
CCCP	California Institute of Technology
CCDP	Concurrent Computation Project
CCD	charge-coupled device (camera)
CCDP	Climate Change Detection Project
CCI	Commission for Climatology (WMO)
CCIR	International Radio Consultative Committee (ITU)
CCITT	International Consultative Committee on Telegraphs and Telecommunications (ITU)
CCIW	Canadian Centre for Inland Waters
CCM ₁	community climate model one
CCM ₂	community climate model two (NCAR)
CCM	community climate model
CCM0	Community Climate Model (National Center for Atmospheric Research)
CCM2	Community Climate Model (version 2)
CCMS	Committee on the Challenges of Modern Society
CCN	cloud condensation nucleus

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

CCOP	Committee for the Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas (Indonesia)	CEI	Center for Environmental Information
CCRS	Canadian Centre for Remote Sensing (Canada)	CEM	cumulus ensemble model
CCSDS	Consultative Committee for Standard Data Services	CEMA	Council of Mutual Economic Aid (Russian Federation, formerly U.S.S.R.)
CCT	computer-compatible tape	CEN	European Committee for Standardization (EC)
CD	Chemistry Division	CENELEC	European Committee for Electrotechnical Standardization (EC)
CD	community development	CENR	Committee on Environmental and Natural Resources (U.S. NCS&T)
CD	compact disc	CENTO	Central Treaty Organization
CDAS	Climate Data Assimilation System	CEOS	Committee on Earth Observation Satellites
CDC	Control Data Corporation	CEP	circular error probability
CDCR	conceptual design and cost review	CEP	Comite Ecumenico de Proyectos
CDDIS	Crustal Dynamics Data	CEPAL	Comision Economica para America Latina (Spain) (ECLA)
	Information System	CEPAL	Economic Commission for Latin America (Spain) (ECLA)
CDF	common data format	CEPEX	Central Equatorial Pacific Experiment
CDIAC	Carbon Dioxide Information Analysis Center (ORNL/DOE) (formerly CDIC)	CEPT	Conference Europeenne des Administrations des Postes et Telecommunications (European Conference of Postal and Telecommunications Administrations)
CDIC	Carbon Dioxide Information Center (now CDIAC)	CEQ	Council on Environmental Quality (U.S.)
CDMS	Cryospheric Data Management System	CER	carbon dioxide exchange rate
CDOS	Customer Data and Operations System	CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (1980) (Superfund)
CDP	Crustal Dynamics Project (NASA)	CERES	Clouds and the Earth's Radiant Energy System (EOS)
CDRD	Carbon Dioxide Research Division	CERES	Crop Environment Resource Synthesis
CD-ROM	compact disc-read only memory	CERGA	Centre d'Etudes et de Recherches Geodynamiques et Astronomiques
CDRP	Carbon Dioxide Research Program	CERL	Corvallis Environmental Research Laboratory (EPA)
CE	Office of Conservation and Renewable Energy	CERN	Chinese Ecological Research Network
CEA	cause-and-effect analysis	CERN	European Laboratory for Particle Physics
CEA	Central Electricity Authority (India)		
CEC	cation exchange capacity		
CEC	Commission of European Communities		
CEDAR	Coupled Energetics and Dynamics of the Atmospheric Regions		
CEDDA	Center for Experiment Design and Data Analysis (NOAA)		
CEEM	Center for Energy and Environmental Management		
CEES	Committee on Earth and Environmental Sciences (formerly CES; replaced by CENR)		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

CERN	European Organization for Nuclear Research	CHy	Commission for Hydrology (WMO)
CERP	Cooperative Ecological Research Project (PRC, Germany, and UNESCO)	CI	Conservation International (based in Washington, D.C.) (NGO)
CES	Committee on Earth Sciences (now CEES)	CIA	Central Intelligence Agency
CETA	Comprehensive Education and Training Administration	CIAP	Climate Impact Assessment Program
CF	concentration factor	CIAP	Inter-American Committee for the Alliance for Progress
CFC	chlorofluorocarbon	CIDA	Canadian International Development Agency
CFC	chlorinated fluorocarbon	CIE	Chinese Institute of Electronics
CFC-11	CCl ₃ F, trichlorofluoromethane, Freon-11	CIEA	Committee on International Environmental Activities
CFC-12	CCl ₂ F ₂ , dichlorodifluoromethane, Freon-12	CIESIN	Consortium for International Earth Science Information Network (U.S.)
CFEM	combined fates and effects model	CIG	Commonwealth Industrial Gases (U.K.)
CFR	Code of Federal Regulations	CIHEAM	Centre International de Hautes Etudes Agronomiques Mediterraneenes
CFRI	Central Fuel Research Institute (India)	CIL	Coal India Limited
CGBAPS	Cape Grim Baseline Air Pollution Station	CILSS	Comite Inter-Etats pour la Lutte Contre la Secheresse au Sahel (CH.SS) (consists of Chad, Gambia, Mali, Mauritania, Niger, Senegal, Upper Volta, and Cape Verde Islands)
CGC	Committee on Global Change	CIMO	Commission for Instruments and Methods of Observation (WMO)
CGC	Management and Coordination Advisory Committee	CIMSS	Cooperative Institute for Meteorological Satellite Studies
CGCM	coupled atmosphere/ocean general circulation model	CINOF	Campaign for Integrated Observations of Solar Flares
CGCP	Canadian Global Change Program	CIR	color-infrared (film)
CGED	Committee on Geophysical Environmental Data (NAS)	CIRAC	Canadian Institute for Research in Atmospheric Chemistry
CGES	Center for Global Environmental Studies	CIRES	Cooperative Institute for Research in Environmental Sciences
CGMS	Coordination of Geostationary Meteorological Satellites	CIRT	cirrus test
CGMW	Commission for the Geological Map of the World	CIS	CDIAC Information System
CGO	Cape Grim (Tasmania) (baseline station)	CIS	Commonwealth of Independent States
CH ₄	methane	CISPR	International Special Committee on Radio Interference
CH ₃ CL	methyl chloride	CISTI	Canada Institute for Scientific and Technical Information
CHAMMP	Computer Hardware, Advanced Mathematics, and Model Physics (Climate Modeling Program)	CIT	California Institute of Technology
CHEMRAWN	Chemical Research Applied to World Needs (IUPAC)		
CHRIS	Chemical Hazard Response Information System		
CH.SS	Permanent Interstate Committee for Drought Control in the Sahel (CILSS)		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

CIUS	Conseil International des Unions Scientifiques (ICSU)	CNR	Consiglio Nazionale delle Ricerche (Italy)
CKE	cumulus kinetic energy	CNRET	Centre for Natural Resources Energy and Transport (UN)
CLAES	cryogenic limb array etalon spectrometer	CNRS	National Scientific Research Center (Centre Nationale de la Recherche Scientifique) (France)
CLARET	Cloud Lidar and Radar Exploratory Test	CO	carbon monoxide
CLASS	Cross-chain Loran Atmospheric Sounding System	CO ₂	carbon dioxide
CLAVR	Clouds from AVHRR	COADS	Comprehensive Ocean-Atmosphere Data Set
CLI	Climate Change (project)	COARE	Coupled Ocean-Atmosphere Response Experiment (TOGA and WCRP)
CLIC	Climate Inventory and Catalog	COBIOTECH	Scientific Committee for Biotechnology (ICSU)
CLICOM	climate computing	CODATA	Committee on Data for Science and Technology (ICSU)
CLIMAP	Climate Long-Range Investigation Mapping and Prediction (project)	CODMAC	Committee on Data Management, Archiving, and Computation
CLIVAR	Climate Variability and Predictability	COE	Corps of Engineers (U.S. Army)
ClNO ₃	chlorine nitrate	COGEOMAP	Federal-State Cooperative Geologic Mapping
ClO	chlorine monoxide	COHMAP	Cooperative Holocene Mapping Project
ClO ₂	chlorine dioxide	Co-I	co-investigator
CLP	Contract Laboratory Program (EPA)	COLA	Center for Ocean-Land-Atmosphere Studies
CLRI	Central Leather Research Institute (India)	COM	Communication Department
cm	centimeter	CONA	Committee for OWS-North America
CMA	Cement Manufacturers' Association (U.S.)	COPS	continuously operating per fluorocarbon sniffer
CMAP	Climate Modeling, Analysis, and Prediction (program)	COPUOS	Committee on Peaceful Uses of Outer Space (UN)
CMC	Canadian Meteorological Centre	Corp.	Corporation (spell out in text; abbreviate in references, lists tables, footnotes, bibliographies, and indexes)
CMD	Coordinator for Multi-lateral Development Program	CoSAMC	Commission for Special Applications of Meteorology and Climatology (WMO)
CMDL	Climate Monitoring and Diagnostics Laboratory (Boulder, Colo.) (NOAA and ERL)	COSPAR	Committee on Space Research (ICSU)
CMIE	Centre for Monitoring the Indian Economy	COST	Committee on Science and Technology (ASEAN)
CMM	Commission for Marine Meteorology (WMO)	COSTED	Committee on Science and Technology in Developing Countries (ICSU)
CMP	Climate Modelling Programme	COW	Committee on Water
CMP	computer modeling package	COWAR	Committee on Water Research (ICSU and UATI)
CMRS	Coal Mines Research Station		
CMS	Configuration Management System		
CN	condensation nuclei		
CNC	condensation nucleus counter		
CNES	Centre Nationale d'Etudes Spatiales (French Space Agency)		
CNET	Centre National d'Etudes des Telecommunications (France)		
CNR	Committee on Natural Resources		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

COWRR	Committee on Water Resources Research	CSIR	Council of Scientific and Industrial Research (India)
CPC	Climate Prediction Center (formerly CAC)	CSIRO	Commonwealth Scientific and Industrial Research Organization (Australia)
CPM	critical path method	CSIRO/DAR	CSIRO/Division of Atmospheric Research (Australia)
CPMS	climatological prediction by model statistics	CSM	climate system monitoring
CPO	Core Project Office (IGBP)	CSMP	Climate System Modeling Program
CPP	cloud photopolarimeter	CSO	Central Statistical Organization
CPPC	Core Project Planning Committee (IGBP)	CSPP	Collaborative Special Project and Programme
CPRS	cloud-profiling radar system	CSR	Centra de Sensores Remotes (Italy)
CPS	certified professional secretary	CSRS	Cooperative State Research Service
CPU	central processing unit	CST	CHAMMP Science Team
CPUE	catch per unit effort	CSU	Colorado State University
CRC	Climate Research Committee	CTD	Chemical Technology Division
CREN	Chemical Research and Environmental Needs	CTD	conductivity, temperature, and depth sensor
CREO	Cryosphere Research on Qingzang Plateau	CTD	continuous-temperature-depth
CRESP	Coordinated Research and Environmental Surveillance Programme (NEA)	CTS	Committee on the Teaching of Science
CRF	cloud radiative forcing	CTSS	Cray time-sharing system
CRI	Climate Research Institute (Oklahoma State University)	CU	University of Colorado
CRIC	Computerized River Information System (U.S. Fish and Wildlife Service)	CUF	capacity utilization factor
CRM	certified reference material	C.V.	coefficient of variation (math)
CRP	Climate Research Program	CVS	Conference and Visitors' Services
CRPE	Centre de Recherches en Physique de l'Environnement Terrestre et Planetaria	CW	continuous wave
CRREL	Cold Regions Research and Engineering Laboratory (COE)	CWA	Clean Water Act (1977)
CRS	cavity-ringdown spectrometer	CWR	continuous-wave radar
CRT	cathode-ray tube	CWSF	Chemical Waste Storage Facility
CRYSYS	Cryospheric System	CZCS	coastal zone color scanner
CS	Computer Services Department	CZM	Coastal Zone Management
CSA	Canadian Space Agency	CZMA	Coastal Zone Management Act (1972)
CSA	Chinese Society of Astronautics		
CSATA	Centra Studi e Applicazioni in Tecnologie Avanzate (Italy)		
CSD	Commission on Sustainable Development		
CSELI	Centra Studi e Laboratori Telecommunicazioni (Italy)		
CSES	Center for the Study of Earth from Space (UC)		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

D D D

D/H	deuterium/hydrogen (ratio)	DC	developing country
1-D	one-dimensional	D.C.	District of Columbia
2-D	two-dimensional	DCAR	Danish Centre for Atmospheric Research
3-D	three-dimensional	DCDS	Digital Cartographic Data Standard
4-D	four-dimensional	DCDSTF	Digital Cartographic Data Standards Task Force (Composed of members of the NCDCTS and FICCD/SWG)
4DDA	four-dimensional (4D) data assimilation	DCP	data collection platform
1-D RCM	one-dimensional radiative-convective model	DCP-OES	direct coupled plasma—optical emission spectroscopy
2-D RCAM	two-dimensional radiative-advection-convective equilibrium model	DCS	data collection system
DAAC	Data Active Archive Center	DDF	descriptive data file
DAAC	Distributed Active Archive Center	DDL	direct downlink
DADS	Data Archive and Distribution System	DDMP	domain-decomposition-message-passing
DAR	Division of Atmospheric Research (CSIRO) (Aspendale, Victoria, Australia)	DDRP	Direct/Delayed Response Project
DARA	Deutsche Agentur fur Raumfahrtangelegenheiten (Germany)	DDT	dichlorodiphenyl-trichloroethane (insecticide)
DARE	data rescue	DE	dynamics explorer
DARPA	U.S. Defense Advanced Research Projects Agency	DEBITS	Deposition of Biogeochemically Important Trace Species (IGAC)
DAS	data-assimilation system	DEC	Digital Equipment Corporation
DAS	direct access system	DECNet	Digital Equipment Corporation Network
DASA	Deutsche Aerospace Administration	dE/dt	rate of evaporation (moisture loss from soil)
DASET	Department of the Arts, Sports, the Environment, Tourism, and Territories (formerly DASETT)	DEIS	Draft Environmental Impact Statement
DASETT	Department of the Arts, Sports, the Environment, Tourism, and Territories (now DASET)	DEM	digital elevation model
DAT	Department of Science and Technology	DEMR	Department of Energy, Mines, and Resources (Canada)
DB	direct-beam (irritancy)	DEW	distant early warning
DB	direct broadcast	DGCM	Dynamic Global Vegetation Model
dbh	diameter at breast height	DGLR	Deutsche Gesellschaft fur Luft-und Raumfahrt (Germany)
DBMS	data base management systems (Deutsche Forschungs-und Versuchsanstalt fur Luft-und Raumfahrt (Germany)	DGVM	Dynamic Global Vegetation Model (GAIM)
DBS	Doppler beam swinging	DH	chromosome-doubled haploid
DC	Department of Commerce (U.S.)	DHCN	Daily Historical Climate Network
		DHHS	U.S. Department of Health and Human Services
		DHS	Department of Human Services
		DI	Directorate

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

DIA	Denmark's Academy for Engineering	DOJ	U.S. Department of Justice
DIAL	Differential Absorption Lidar	DOL	U.S. Department of Labor
DIC	dissolved inorganic carbon	DOLY	Dynamic Global Phytogeography Model (GCTE)
DIDAC	digital data acquisition system	DOM	dissolved organic macromolecules
DIF	Data Interchange Format	DOM	dissolved organic matter
DIS	Data and Information Systems (EOS and IGBP)	DOMSAT	Domestic Communications Satellite
DISORT	discrete ordinate (model)	DOMSTAR	communications relay set
DIS-SC	DIS Standing Committee	DOPLID	Doppler lidar
DISSPLA	Display Integrated Software System and Plotting Language	DORIS	Determination d'Orbite et Radio Positionnement Integre par Satellite (France)
DIW	Department of Industrial Works	DORIS	Doppler Orbitography and Radio Positioning Integrated by Satellites
DKD	Deutscher Kalibrierdienst	DOS	Department of Space
DLG	digital line graph	DOS	U.S. Department of State
DLG-E	digital line graph-enhanced	DOST	Department of Science and Technology
DLR	Deutsche Forschungsanstalt fur Luft-und Raumfahrt (Germany)	DOT	U.S. Department of Transportation
DLS	dynamic limb sounder	DOY	day of year
DM	Data Management (WMO and WWW)	DP	direct playback
DM	deep monitoring (wells)	DPC	display code (CDC)
DMA	Defense Mapping Agency (U.S.)	DPR	development planning review
DMA	direct memory access (computer term)	(D)PR	dual precipitation radar
DMDS	dimethyl disulfide	DPS	Digital Photogrammetry System
DM-MIMD	distributed memory, multiple instruction, multiple data (computer)	DQO	Data Quality Objectives
DMS	data management system	DRAW	Direct Read After Write Animation System
DMS	dimethyl sulfide or dimethylsulphide	DRS	Data Relay Satellite
DMSO	dimethyl sulfoxide	DRSS	Data Relay Satellite System
DMSP	Defense Meteorological Satellite Program (U.S.)	DSB	direct sounding broadcast
DNA	deoxyribonucleic acid	DSDP	deep sea drilling project
DND	Department of National Defense (Canada)	DSIR	Department of Scientific and Industrial Research (now SRC) (U.K.)
DNES	Department of Non-conventional Energy Sources (India)	DSM	demand-side management
DOA	U.S. Department of Agriculture	DSN	Deep Space Network
DOAS	differential optical absorption spectroscopy	DSP	digital signal processing
DOC	dissolved organic carbon	DSS	Data Support Section (NCAR)
DOC	U.S. Department of Commerce	DST	data system tests
DOD	U.S. Department of Defense	DST	Department of Science and Technology
DOE	Department of the Environment (Canada)	DTD	digital terrain data
DOE	U.S. Department of Energy	DTH	Technical University of Denmark
DOI	U.S. Department of Interior	DU	Dobson units
		DUNDEE	Down Under Doppler and Electricity Experiment
		DWBM	Office of Defense Waste Byproducts Management
		DWS	Doppler wind sensor

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

DYFAMED	atmospheric dynamics and fluxes in the Mediterranean Sea (France) (JGOFS)
DYN	Dynamic Systems Project

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

E e e

EADS	Environmental Assessment Data System	ECLA	Economic Commission for Latin America
EARSeL	European Association of Remote Sensing Laboratories	ECLAC	Economic Commission for Latin America and the Caribbean (UN)
EAS	Environmental Analyses Section (ORNL)	ECLIPS	Experimental Cloud Lidar Pilot Study
EAs	Environmental Assessments	ECMWF	European Centre for Medium-Range Weather Forecasts
EASIZ	Ecology of the Antarctic Sea Ice Zone	Ecom.	EOS communications
EAWEP	East Asia and Western Pacific	ECOMARGE	ecology of the continental margins (France) (JGOFS)
EBBR	Energy-Balance Bowen Ratio	ECOSOC	Economic and Social Council (UN)
EBCDIC	Extended Binary Coded Data Interchange Code (IBM)	ECOWARM	European Committee for Water Resources Management (IAHS)
EBM	energy-balance model	ECS	Environmentally Compatible Energy Strategies (project)
EC	eddy correlation	ECS	EOSDIS Core System
EC	elemental carbon	ECSL	European Centre for Space Law
EC	Environment Canada	ECWA	Economic Commission for Western Asia
EC	European Community	ED	Energy Division
EC	European Communities or Commission of the European Communities	EDA	elevation difference accuracy
EC	executive committee	EDAS	particulate/radon data system
EC	Executive Council (WMO)	EDC	EROS Data Center
ECA	Economic Commission for Africa (UN)	EDD	Exchange of Digital Data
ECAFE	Economic Commission for Asia and the Far East	EDI	electronic Data Interchange
ECAMP	Environmental Compliance Assessment and Management Program (USAF)	EDI	Equivalent-damage index
ECC	electrochemical concentration cell	EDIS	Environmental Data and Information Service
ECD	effective cutoff diameter	EDOS	EOS Data and Operations System
ECD	electron capture detector (EC)	EDP	electronic data processing
ECDIS	Electronic Chart Display and Information Systems	EDS	Environmental Data Service
ECE	Economic Commission for Europe (UN)	EDSG	Energy Demand Steering Group
ECG	Ecosystem Conservation Group (UNEP, FAO, UNESCO, and IUCN)	EDTA	ethylenediaminetetraacetate
EC-GC	electron capture-gas chromatograph	EDTA	ethylenediaminetetraacetic (acid)
ECHIVAL	European International Project on Climate and Hydrological Interactions between Vegetation, Atmosphere, and Land Surfaces (BAHC and EPOCH)	EDX	energy-dispersive X-ray (analysis)
		EDXS	energy-dispersive X-ray spectroscopy
		EEC	European Economic Communities
		EEI	Edison Electric Institute
		EER	external engineering review
		EFEDTA	European Field Experiment in Decertification Threatened Area (ECHIVAL and BAHC)
		e.g.	<i>exempli gratia</i> (for example) use only in parentheses or footnotes, followed by a comma)

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

EG&G	Edgerton, Germeshauser, and Greer	EOF	empirical orthogonal function
EGS	European Geophysical Society	EO-ICWG	Earth Observations International Coordination Working Group
EIA	Energy Information Administration (DOE)	EOPM	electro-optic phase modulation
EIPO	European IGAC Project Office Steering Committee	EOS	Earth Observing System (U.S.)
EIS	environmental impact statement	EOS-AERO	EOS Aerosol Mission
EISCAT	European Incoherent Scatter Facility	EOS-ALT	EOS Altimetry Mission
EISMV	Ecole Inter-Etats des Sciences et de Medecine Veterinaire (Dakar)	EOS-AM	EOS Morning Crossing (ascending) Mission or Earth Observing System (morning pass)
E-LIDAR	experimental lidar	EOSAT	Earth Observation Satellite (commercial operator for satellite systems in the U.S.)
ELS	Eastern Lake Survey	EOS-CHEM	EOS Chemistry Mission
ELV	expendable launch vehicle	EOSDIS	EOS Data and Information System
EM	electromagnetic	EOSP	Earth Observing Scanning Polarimeter
EMAP	Environmental Monitoring and Assessment Program	EOS PM	Earth Observing System (afternoon pass) or EOS Afternoon Crossing (descending) Mission
EMEP	Cooperative Programme for Monitoring and Evaluation of Long-Range Transmission of Air Pollutants in Europe	EOTC	European Organization for Testing and Certification (EC)
EMEX	Equatorial Mesoscale Experiment	EP	Earth Probe
EML	Environmental Measurements Laboratory	EP	extraction procedure (RCRA and EPA)
EMOC	EOSDIS Mission Operations Center	EPA	Environmental Protection Agency (USDI)
EMR	electromagnetic radiation	EPA	Environmental Protection Authority (Victoria, Australia)
EMSL	Environmental Monitoring Systems Laboratory (EPA)	EPD	European Pollen Database
EMSL-LV	Environmental Monitoring Systems Laboratory - Las Vegas (Nevada) (EPA)	EPER	Environmental Processes and Effects Research (program)
ENRIC	Environment and Natural Resources Information Center	EPI	environmental productivity index
ENRICH	European Network for Research on Global Change (CEC)	EPICA	European Programme for Ice Coring in Antarctica (PAGES)
ENSO	El Nino/southern oscillation (coupled oceanic-atmospheric change)	EPOCH	European Programme on Climate and Hazards (EEC)
ENVISAT	environmental satellite	EPOP	European Polar-Orbiting Platform
EOC	Earth Observation Center (NASDA)	EPOPE	Etude de Processus dans l'Ocean Pacifique Equatorial
EOC	EOS Operations Center (NASA)	EPRI	Electric Power Research Institute (Palo Alto, Calif.)
EOCAP	Earth Observation Commercialization Application Program	EQPAC	Equatorial Pacific (JGOFS)
EODC	Earth Observing Data Center (U.K.)	ER	Office of Energy Research
		ER-2	Extended Range U-2 (aircraft)
		ERB	Earth Radiation Budget
		ERBE	Earth Radiation Budget Experiment
		ERBES	Earth Radiation Budget Explorer Satellite

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

ERBS	Earth Radiation Budget Satellite	ESAM	Institute for Environmental Science and Management
ERD	Ecological Research Division (DOE and OHER)	ESCAP	Economic and Social Commission for Asia and the Pacific (UN)
ERDA	U.S. Energy Research and Development Administration (formerly AEC; now DOE)	ESD	Environmental Sciences Division (ORNL)
ERDAS	Earth Resources Data Analysis Systems	ESDIS	Earth Science Data and Information System
ERFU	Environmental Restoration and Facilities Upgrade Program	ESF	European Science Foundation
ERIM	Environmental Research Institute of Michigan	ESF/EPC	ESF/European Palaeoclimate and Man Project (holocene climate)
ERL	Environmental Research Laboratory (Boulder, Colo.) (NOAA)	ESMAP	Energy Sector Management Assistance Programme
ERNets	Energy Research Networks	ESMR	electronically scanning microwave radiometer
ERNI	wet-only rainfall collector	ESOC	European Space Operations Center
EROC	Ecological Rates of Change (NSF)	ESRC	Environmental Science Research Center
EROS	Earth Resources Observation Satellite	ESRI	Environmental Systems Research Institute
EROS	Earth Resources Observation System	ESSA	U.S. Environmental Science Services Agency (forerunner of NOAA)
EROS	European River Ocean System (EEC)	ESSC	Earth System Sciences Committee
ERP	Environmental Research Parks	ESTAR	electronically scanned thinned array radiometer (ARM)
ERS	Economic Research Service	ESTEC	European Space Research and Technology Centre
ERS	ESA Remote Sensing Satellite	ESTEC	European Space Technology Centre (Netherlands)
ERS	European Remote-Sensing Satellite	ET	evapotranpiration
ERS-1	European Remote-Sensing Satellite-1	ETA	estimated time of arrival
ERS-2	European Remote-Sensing Satellite-2	ETAC	Environmental Technical Applications Center (U.S. Air Force)
ERTS	Earth Resources Technology Satellite (now Landsat)	ETAP	Expanded Technical Assistance Program
ERTS-1	Earth Resources Technology Satellite-1	ETC	Energy Technology Center
ESA	Ecological Society of America	ETC	European Telecommunications Standards Institute (EC)
ESA	Endangered Species Act (1973)	etc.	and others especially of the same kind; and so forth
ESA	Entomological Society of America	ETF	Engineered Test Facility
ESA	Equatorial South America (START)	ETF	Environmental Task Force
ESA	European Space Agency	ETI	Economic Transition and Integration (project)
ESA/IRS	European Space Agency/Information Retrieval Service	ETM	enhanced thematic mapper (Landsat)
ESAD	Earth Science and Applications Division (NASA HQ)	ETRP	Education and Training Programme (WMO)
ESAER	European Space Agency's Earth Resources (Satellite)		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

ETSA	electron transport system activity
ETV	electrothermal vaporizer
EUMELI	eutrophic, mesotrophic, and oligotrophic sites (France) (JGOFS)
EUMETSAT	European Organization for the Exploitation of Meteorological Satellites
EUR	Bureau of European Affairs
EURECA	European Retrievable Carrier
EUROSTART	European Planning Committee for START
EUROTRAC	European Experiment on Transport and Transformation of Environmentally Relevant Trace Constituents (in the Troposphere over Europe)
EUV	extreme ultraviolet
EVA	extra vehicular activity
EXCOMM	Executive Committee
EZE	Asociacion Protestante de Cooperacion para el Desarrollo en Alemania

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

F f

FAA	Federal Aviation Administration (U.S.)	FEM	finite element method
FAB	Finance and Budget	FEMA	Federal Emergency Management Agency (U.S.)
FACE	free-air carbon dioxide enrichment (GCTE)	FEMA	Finite Element Model of Material Transport through Aquifers
FAGS	Federation of Astronomical and Geophysical Services (ICSU)	FERC	Federal Energy Regulatory Commission
FAI	Fertilizer Association of India	FEWA	Finite Element of Water Flow through Aquifers
FANGIO	Feedback Analysis for GCM Intercomparison and Observations	FF	free format
FAO	Food and Agriculture Organization (UN) (ICSU)	FFT	fast Fourier transformation
FAP	Food and Agriculture Project	FGCC	Federal Geodetic Control
FAPIS	Formation en Aménagement Pastoral Intégré au Sahel	FGDC	Committee (U.S. National Ocean Service)
FAQ	Frequently Asked Question	FGDC	Federal Geographic Data Commission
FAR	Federal Acquisition Regulations	FGEF	Federal Geographic Exchange Format
FARS	Facility for Atmospheric Remote Sensing	FGGE	First GARP Global Experiment (NAS)
FAST	Fourier amplitude-sensitivity test	FGGE SOP	FGGE Special Observing Period
FATE	Formation of Aerosol and their Transformation over Europe (EUROTRAC)	FICCDC	Federal Interagency Coordinating Committee on Digital Cartography (USGS)
FBS	Frontal Boundary Study	FICCDC/SWG	FICCDC/Standards Working Group (U.S.)
FCC	Federal Communications Commission	FID	flame ionization detector (GC)
FCCC	Framework Convention on Climate Change	FIELD	Foundation for International Environmental Law and Development
FCCSET	Federal Coordinating Council for Science, Engineering, and Technology	FIFE	First ISLSCP Field Experiment
FCDS	Fleet Consolidated Data Set (U.S. Navy)	FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FCST	Federal Council for Science and Technology	FIN	Fish Information Network (data base)
FDA	facility disposal area	FIPS	Federal Information Processing Standard
FDI	field data investor	FIRE	First ISCCP Regional Experiment
FDM	finite difference method	FIT	Field Investigation Team (EPA)
FE	Fossil Energy Program (DOE)	FIZ	Fachinformationszentrum
Fe	iron	FLAIR	Measurement of Micronutrient Absorption and Status
FEDC	Fusion Energy Design Center	FLINN	Fiducial Laboratories for an International Natural Sciences Network
FEDMAP	Federal Geologic Mapping Project		
FEIS	final environmental impact statement		
FeLINE	Iron as a Limiting-Nutrient Experiment (CSIRO)		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

FLM	federal land manager (e.g., National Park Service)	FTP/A	field task proposal/agreement
FLUPAC	flux dans l'ouest du Pacifique equatorial (France) (JGOFS)	FTS	Flourier transform spectrometer
FMFR	four-minus-five restoral	FTS	full turbulence simulation
FMFT	four-minus-five test	FTU	Formazin turbidity unit
FNOC	Fleet Numerical Oceanographic Center (U.S. Navy)	FUA	Fuel Use Act
FNWC	Fleet Numerical Weather Center (U.S. Navy)	FW	filter wheel
FO	furnace oil	FWCA	Fish and Wildlife Coordination Act (1958)
FOAM	Fates of Aromatic Model	FWM	food web model
FOLD	federally owned Landsat data	FWP	Field Work Proposal
FOR	Forestry Resources (project)	FWPCA	Federal Water Pollution Control Act (1972)
FORAST	Forest Response to Anthropogenic Stress (model)	FWS	Fish and Wildlife Service (U.S.)
FORET	Forest of East Tennessee (model)	FY	fiscal year
FORTE	fast on-orbit recording of transient events		
FORTAN	FORMula TRANslation (a computer language)		
FOT	flight operations team		
FOT	Fourier Optical Transform		
FOV	field-of-view (of vision)		
FPD	flame photometric detector		
FR	<i>Federal Register</i> (use with numbers in text; use "Fed. Regis." in reference lists)		
FRG	Federal Republic of Germany		
FRI	Forest Research Institute		
FRLAB	Front Range Lidar, Aircraft, and Balloon (experiment)		
FRONTAL	frontal process studies (France) (JGOFS)		
FRR	fast repetition rate		
FRRPA	Forest and Rangeland Renewable Planning Act (1974)		
FS	Forest Service (USDA)		
FSI	Forest Survey of India		
FSL	Forecast Systems Laboratory (ERL and NOAA)		
FSSP	forward scattering spectrometer probe		
FST	field support terminal		
FSU	Florida State University (Miami)		
FTIR	Fourier transform infrared		
FTIR	Fourier transform infrared radiometer (spectroscopy)		
FTP	file transfer protocol		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

G g g

G-1	Gulfstream-1 (airplane)	GC/MS	gas chromatography/mass spectrometry
g	gram	GCO	Generation Certification Official
GA	geographic analysis	GCOS	(waste generation)
GAC	global area coverage	GCP	Global Climate Observing System (WMO, IOC, UNEP, and ICSU)
GAGE	Global Atmospheric Gases Experiment	GCPI	Ground Control Point
GAIM	Global Analysis, Interpretation, and Modelling (IGBP)	GCRCIO	Cape Grim Photochemical Intensive (CSIRO)
GALE	Genesis of Atlantic Lows Experiment	GCRP	Global Change Research
GAME	GEWEX-related Asian Monsoon Experiment	GCSS	Information Office
GAMETAG	Global Atmospheric Measurements Experiment of Tropospheric Aerosols and Gases	GCSS	Global Change Research Program
GARP	Global Atmospheric Research Program (WMO, ICSU, and NOAA)	GCTE	GEWEX Cloud System Study
GATE	GARP Atlantic Tropical Experiment	GCTE-SSC	Global Cloud Systems Study
GATE	Global Atmosphere Tropical Experiment	GCTM	Global Change and Terrestrial Ecosystems (program) (IGBP)
GATT	General Agreement on Tariffs and Trade	GCRIO	GCTE Scientific Steering Committee
GAW	Global Atmosphere Watch (WMO)	GCSS	Global Chemical Transport Model
GBF/DIME	Geographic Base Files/Dual Independent Map Encoding (U.S. Census Bureau)	GCTE	Global Change Research
Gbps	gigabits per second	GCV	Information Office
GBSRN	Global Baseline Surface Radiation Network	GDAAC	Global Cloud Systems Study
GC	gas chromatography	GDAS	Global Change in Terrestrial Ecosystems
GCC	global change category	GDP	Gross calorific value
GCCD	Global Climate Change Digest (CEI)	GDPS	Goddard Distributed Active Archive Center
GCDB	Geographic Coordinates Data Base	GDR	Grimco data acquisition system
GCDIS	Global Change Data and Information System	GEBA	gross domestic product
GCEP	Global Change Education Program	GEC	Global Data-Processing System (WMO and WWW)
GCHC	Gulf Coast Hydroscience Center (USGS)	GEDEX	Geophysical Data Record
GCIP	GEWEX Continental-Scale International Project	GEF	Global Energy Balance Archive
GCM	General Circulation Model	GEIA	global environment change
GCM	Global Climate Model	GEISA	Greenhouse Effect Detection Experiment
		GEF	Global Environmental Facility (WB, UNDP, and UNEP)
		GEIA	Global Emissions Inventory
		GEISA	Activity (IGAC)
		GEM	Gestion et d'Etude des Information Spectroscopiques Atmosphériques
		GEM-HEX	Geospace Environment Modeling
			Geochemical, Microbiological, and Hydrological Experiment

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

GEMS	Global Environmental Monitoring System (UNEP)	GISP II	Second Greenland Ice Sheet Project (U.S.)
GENESIS	Global Environmental and Ecological Simulation of Interactive Systems	GISS	Goddard Institute for Space Studies (NASA)
GENLEAF	generic models of leaf response	GIT	gastrointestinal tract
GEO	Geostationary Earth Observation	GIT	Georgia Institute of Technology (Atlanta)
GEOM	geographically detailed model	GJ	giga joule
GEOS	Geodynamics Experimental Ocean Satellite	GL	Geophysics Laboratory
Geos-3	Geodetic Satellite Mission (NASA)	GLAS	Geoscience Laser Altimeter System (formerly GLRS-A)
Geosat	Geologic Satellite (program) (USN)	GLAS	Goddard Laboratory of Atmospheric Sciences
GEOSECS	Geochemical Ocean Sections Study	GLBC	Great Lakes Basin Commission
GER	Global Environmental Research (U.K.)	GLI	global imager
GESAMP	Group of Experts on the Scientific Aspects of Marine Pollution	GLIS	Global Land Information System
GEWEX	Global Energy and Water Cycle Experiment (WCRP)	GLL	Galileo
GFDL	Geophysical Fluid Dynamics Laboratory (NOAA)	GLOBE	Global Land One kilometer Base Elevation (DIS)
GFDL	Goddard Fluid Dynamics Laboratory	GLOBE	Global Learning and Observations to Benefit the Environment
GFLOPS	one gigaflops equals 1 billion (10^9) floating point operations per second (measure of computer processing capability)	GLOBEC	Global Ocean Ecosystem Dynamics (SCOR)
GFO	Geosat follow-on	GLOBEC	Global Marine Ecosystem Dynamics (program)
GGI	GPS geoscience instrument	GLOCARB	Global Tropospheric Carbon Dioxide Network (IGAC)
GGI	greenhouse-gas indices	GLOCHANT	Global Change Research in the Antarctic (SCAR)
GGS	global geospace science	GLOCHEM	Global Atmospheric Chemical Survey (IGAC)
GHCN	Global Historical Climatology Network	GloED	Global Emissions Database
GHG	greenhouse gas	GLONET	Global Tropospheric Ozone Network (IGAC)
GHz	gigahertz	GLRC	Great Lakes Research Center (LSC and NOAA)
GIF	Graphical Interchange Format	GLRD	Great Lakes Research Division
GIM	Global Integration and Modeling (IGAC)	GLRS	Geoscience Laser Ranging System
GIMMS	Global Inventory Modeling and Monitoring Study	GLRS-A	Geoscience Laser Ranging System-Altimeter (now GLAS)
GIS	geographic information system (a system for management, manipulation, analysis, and display of spatial data)	GLRS-R	Geoscience Laser Ranging System-Ranger
GISMO	graphic-information-system modeling	GMCC	Geophysical Monitoring for Climate Change
GISP	Greenland Ice Sheet Project (NSF and PAGES)	GMDSS	Global Maritime Distress and Safety System (IMO)
GISP2	Greenland Ice Sheet Project	GMP	genetically modified plants
		GMS	Geostationary Meteorological Satellite (Japan)

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

GMSC	Geologic Map Standards Committee (USGS)	GR	growth rate
GMT	Greenwich Mean Time	GRASS	Geographic Resources Analysis Support System (U.S. Army Corps of Engineers)
GNIS	Geographic Names Information System (USGS)	GRDC	Global Runoff Data Centre
GOALS	Global Ocean-Atmosphere-Land System (program)	GRECA	Group of Experts on Accident Consequences (NEA and OECD)
GOED	Global Oceans Ecosystems Dynamics	GREENTIE	Greenhouse Gas Technology Information Exchange
GOES	Geostationary Operational Environmental Satellite	GRGS	Groupe de Recherches de Geodesic Spatiale (France)
GOES	Geosynchronous Operational Environmental Satellite	GRID	Global Resource Information Database (UNEP)
GOES	Global Oceans Ecosystems Dynamics	GRIP	Greenland Ice Project (PAGES) (Europe)
GOES	Global Omnibus Environmental Survey (HDGEC)	GRIMCO	CGBAPS computing system
GOEZS	Global Ocean Euphotic Zone Study (IGBP, SCOR, and WCRP)	GRO	Gamma Ray Observatory (NASA)
GOF	Global Ocean Flux	GSA	General Services Administration
GOFS	Global Ocean Flux Study	GSA	Geological Society of America
GOI	government of India	GS&M	Modeling (task team)
GOIN	Global Observation Information Network	GSC	Geological Survey of Canada (DEMR)
GOME	Global Ozone Monitoring Experiment	GSF	Gesellschaft fur Strahlen und Umweltforschung mbH Munchen (Germany)
GOMI	Global Ozone Monitoring Instrument	GSFC	Goddard Space Flight Center (NASA)
GOMOS	Global Ozone Monitoring by Occultation of Stars	GSL	Gulf Stream Locale
GOMR	global ozone monitoring radiometer	GSMNP	Great Smoky Mountains National Park
GONG	Global Oscillation Network Group	GSN	Global Seismic Network
GOOS	Global Ocean Observing System (IOC, UNESCO, WMO, and ICSU)	GSP	Greenland Sea Project
GOOS	Global Ozone Observing System (IOC, UNESCO, WMO, and ICSU)	GSPDC	Geostationary Satellite
GOS	Global Observing System (WMO and WWW)	GSRN	Precipitation Data Centre
GPC	Global Processing Center	Gt	Global Surface Radiation Network
GPCC	Global Precipitation Climatology Center (data base)	GtC	gigaton (1,000 million tons)
GPCP	Global Precipitation Climatology Project	GTCE	gigatons (or gigatonnes) of carbon
GPI	GOES Precipitation Index	GTE	Global Tropospheric Chemistry Experiment
GPO	Government Printing Office (U.S.)	GTOS	Global Tropospheric Experiment
GPS	Global Positioning System	GTS	Global Terrestrial Observing System
GPSDR	Global Positioning System Demonstration Receiver	GUI	Global Telecommunications System (WMO and WWW)
		GVap	graphical user interface
		GVaP	GEWEX Water Vapor Project ("GVaP" is preferred))
		GWE	GEWEX Water Vapor Project (preferred over "GVap")
		GWh	Global Weather Experiment
		GWP	giga watt hour
			greenhouse warming potential

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

H h h

H_2	hydrogen	HDP	Human Dimensions Program (SEDAC)
H_2O	water	HDP	Human Dimensions of Global Environmental Change Program (ISCC)
H_2O_2	hydrogen peroxide	HDRL	High-Dose Reference Laboratory
ha	hectare	HDTV	High-Definition Television
HAAP	high-altitude aerial photograph	HEC	Hydro-Electric Commission
HAE	height above ellipsoid	HECP	Herbaceous Energy Crops Program
HAGE	human activity and global environment	HEIFE	Heihe River Field Experiment
HALOE	Halogen Occultation Experiment	HELCOM	Helsinki Commission
HALSS	high-altitude lidar sensing station	HEM	Harmonizations of Environmental Measurement (program)
HAO	High Altitude Observatory (NCAR)	HESS	High Latitude Ecosystems as Sources and Sinks of Trace Gases (IGAC)
HAP	hazardous air pollutant	HEW	Health, Education, and Welfare
HAPEX	Hydrological-Atmospheric Pilot Experiment (GEWEX)	HF	hydrogen fluoride
HAPEX-MOBILHY	HAPEX-MOdelisation du BILan HYdrique	HFC	hydrofluorocarbon
HARM	Hazard Assessment Rating Methodology	HHMS	Hydrostatic Head Monitoring Station (program)
HASL	Health and Safety Laboratory	HHS	Department of Health and Human Services
HASP	High Altitude Sampling Program	HI	human interactions
HBJ	Hazira-Bijapur-Jagdishpur (India)	HIC	Habitat International Coalition
HBL	Hudson Bay Lowland	HILDA	high-latitude diffusive-advection model
HBr	hydrogen bromide	HIMSS	high-resolution microwave spectrometer sounder (now MIMR)
HBW	half band-width	HIRDLS	high-resolution dynamics limb sounder
HCBP	hexachlorobiphenol	HIRIS	high-resolution imaging spectrometer
HCFC	hydrochlorofluorocarbon	HIRS	high-resolution infrared radiation sounder
HCHO, CH_2O	formaldehyde	HIS	high-resolution interferometer sounder
HCl	hydrogen chloride	HIS	high-spectral resolution interferometer sounder
HCMM	Heat-Capacity Mapping Mission	HLQ	holocellulose/lignocellulose quotient
HCMM/AEM-1	HCMM/Applications Explorer Mission-1	HLW	high-level waste
HCMR	heat-capacity mapping radiometer	HMCRI	Hazardous Materials Control Research Institute
HCN	Historical Climatology Network		
HCN	hydrogen cyanide		
HCND	Historical Climatology Network-Daily		
HD	hierarchical diagnosis		
HDF	hierarchical data format		
HDGCB	Human Dimensions of Global Change (programme) (UNU, ISCC, and IFIAS)		
HDGEC	Human Dimensions of Global Environmental Change (programme) (ISCC)		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

HMMR	high-resolution multifrequency microwave radiometer	HSWA	Hazardous and Solid Waste Amendments (1984)
HMSU	high-resolution microwave sounding unit	html	hypertext markup language
HMTA	Hazardous Materials Transportation Act	http	hypertext transport protocol
HMW	high molecular weight	HUD	Department of Housing and Urban Development (U.S.)
HNO ₃	nitric acid	HVI	high-volume impactor
HNRC	HOMS National Reference Centre	HVS	high-volume sampler
HO _x	odd hydrogen (OH, HO ₂ , and H ₂ O ₂)	HWRP	Hydrology and Water Resources Programme (WMO)
HOC	hydrophobic organic compounds	HYNET	Intercomparison of Operational Hydrological Network Design Techniques
HOCl	hypochlorous acid	Hz	hertz (cycles per second)
HOMS	Hydrological Operational Multipurpose Subprogramme (OHP and WMO)		
HOT	Hawaii ocean time (series)		
HP	health physicist		
HP	health physics		
HP	Hewlett-Packard		
HPCC	High Performance Computing and Communications		
HPCRC	High Performance Computing Research Center (ORNL)		
HPD	Hydrometeorological Processes Division		
HPLC	high-precision liquid chromatography		
HPLC	high-pressure liquid chromatograph/chromatography		
HPS	Health Physics Society (Bethesda, Md.)		
HQ	headquarters		
HRDI	high-resolution Doppler imager		
HRE	Homogeneous Reactor Experiment (impoundment)		
HRIRS	high-resolution infrared radiation sounder		
HROI	high-resolution optical instrument		
HRPT	high-resolution picture transmission (AVHRR)		
HRS	Hazard Ranking System (EPA)		
HRV	high resolution video (SPOT)		
HRV	high resolution visible		
HSA	Historic Sites Act (1935)		
HSL	Hazardous Substance List (EPA)		
HSRL	High Spectral Resolution Lidar		
HST	Hawaii standard time		
HST	Hubble Space Telescope		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

I i i

3I	improved initialization inversion	IASI	infrared atmospheric sounding instrument
IAA	International Academy of Astronautics	IASI	infrared atmospheric sounding interferometer
IAC	International Activities Committee	IASPEI	International Association of Seismology and Physics of the Earth's Interior (IUGG)
IACG	Interagency Committee on Geomatics (DEMR)	IASTED	International Association of Science and Technology for Development
IAEA	International Atomic Energy Agency (UN)	IATA	International Air Transport Association
IAEG	International Association for Engineering Geology	IATUL	International Association of Technological University Libraries
IAF	International Astronautical Federation	IAU	International Astronomical Union
IAG	International Association of Geodesy (IUGG)	IAVCEI	International Association of Volcanology and Chemistry of the Earth's Interior (IUGG)
IAGA	International Association of Geomagnetism and Aeronomy (IUGG)	IAWPRC	International Association on Water Pollution Research and Control
IAGC	International Association of Geochemistry and Cosmochemistry	IBM	International Business Machines (Corp.)
IAH	International Association of Hydrogeologists (IUGS)	IBM PC	International Business Machines Personal Computer
IAHR	International Association for Hydraulic Research	IBP	International Biological Programme (ICSU)
IAHS	International Association of Hydrological Sciences (IUGG)	IBP	International Biophysical Program
IAI	Inter-American Institute for Global Change Research (START)	IBRD	International Bank for Reconstruction and Development
IAL	International Association of Theoretical Applied Limnologists	IBSRAM	International Board for Soil Research and Management
IAMAP	International Association of Meteorology and Atmospheric Physics (IUGG)	IBSS	Institute of Biology of the Southern Seas (Russian Federation; formerly U.S.S.R.)
IAMAP-IAHS	IAMAP-International Association of Hydrological Sciences (IUGG)	IBWC	International Boundary and Water Commission (Independent; U.S. and Mexico)
IAMAS	International Association of Meteorology and Atmospheric Sciences (IUGG and ICSU)	IC	industrialized country
IAOPA	International Aircraft Owners and Pilots Association	IC	interaction coefficient
IAP	Institute of Atmospheric Physics	IC	Intergovernmental Council
IAPSO	International Association for Physical Sciences of the Ocean (IUGG)	IC	ion chromatography
IAS	Image Analysis System	ICA	International Communication Agency
IASC	International Arctic Sciences Committee		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

ICACGP	International Commission on Atmospheric Chemistry and Global Pollution (IAMAS)	ICOLD	International Commission on Large Dams
ICALPE	International Centre for Alpine Environments (Chambery, France)	ICP	inductively coupled plasma emission (spectroscopy)
ICAO	International Civil Aviation Organization	ICP/MS	inductively coupled plasma/mass spectrometry
ICAR	Indian Council of Agricultural Research	ICP-OES	inductively coupled plasma—optical emission spectroscopy
ICAR	International Center for Action Research	ICPP	Idaho Chemical Processing Plant
ICARDA	International Center for Agricultural Research in Dry Areas	ICRAF	International Council for Research in Agroforestry
ICAS	International Council of the Aeronautical Sciences	ICRCCM	Intercomparison of Radiation Codes in Climate Models (program)
ICASVR	International Committee on Atmosphere-Soil-Vegetation Relations (IAHS)	ICRM	International Committee on Radionuclide Meteorology
ICC	Instrument Control Center	ICRP	International Commission on Radiological Protection
ICCE	International Commission on Continental Erosion (IAHS)	ICRSDT	International Committee on Remote Sensing and Data Transmission (IAHS)
ICDB	Ice Core Data Bank	ICRU	International Commission on Radiological Units
ICE	International Cirrus Experiment	ICSC	International Civil Service Commission
ICE	International Cometary Explorer	ICSD	International Continental Scientific Drilling (program)
ICEAR	International Centre for Equatorial Atmospheric Research (Indonesia)	ICSI	International Commission on Snow and Ice (IAHS)
ICES	International Council for the Exploration of the Seas	ICSTI	International Council for Scientific and Technical Information
ICF	Instrument Control Facility	ICSU	International Council of Scientific Unions
ICGW	International Commission on Ground Water (IAHS)	ICSU-ACE	ICSU Advisory Committee on the Environment
ICIC	Intercalibrations-Intercomparisons (IGAC)	ICSW	International Commission on Surface Water (IAHS)
ICICI	Industrial Credit and Investment Corporation of India	ICTP	International Centre for Theoretical Physics
ICID	International Commission on Irrigation and Drainage	ICWG	International Coordination Working Group
ICIMOD	International Centre for Integrated Mountain Development for the Hindu-Kush Himalayan Region (Kathmandu, Nepal)	ICWQ	International Commission on Water Quality (IAHS)
ICIP	International Conference on Image Processing	ICWRS	International Commission on Water Resources Systems (IAHS)
ICL	integrated cloud liquid	IDA	International Development Agency
ICL	International-Union Commission on the Lithosphere (ICSU)	IDASS	Integrated Data Assimilation and Sounding System
ICLD	International Commission on Large Dams	IDB	Inter-American Development Bank
ICN	ice condensation nuclei		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

IDCCC	Interior Department Cartographic Coordinating Committee (DOI)	IFREMER	Institut Francais de Recherche pour l'Exploration de la Mer
IDCS	Image Dissector Camera System	IFRTP	Institut Francais pour la Recherche et la Technologie Polaire (French Institute for Polar Research)
IDDSAC	Interim Data Documentation Standard for ARC/INFO Averages		Technology)
IDEAL	International Decade for the East African Lakes (project) (PAGES)	IFS	Integrated Forest Study on the Effects of Atmospheric Deposition
IDNDR	International Decade for Natural Disaster Reduction	IFS	International Foundation for Science
IDP	Instrument Development Program	IFYGL	International Field Year for the Great Lakes (IHD)
IDRI	Thailand Development Research Institute	IG	Institute of Geography
IDS	interdisciplinary science	IGAC	International Global Atmospheric Chemistry (program) (IGBP and ICACGP)
IDSS	Integrated Data Sounding System	IGAC-SSC	IGAC Scientific Steering Committee
IDRI	Thailand Development Research Institute	IGAP	International Global Aerosol Program
IEA	Institute of Energy Analysis	IGBP	International Geosphere-Biosphere Programme (ICSU)
IEA	International Energy Agency	IGBP-DIS	IGBP Data and Information System
IEA/ORAU	Institute of Energy Analysis/Oak Ridge Associated Universities	IGC	International Geophysical Cooperation
IEC	Implementation and Effectiveness of International Environmental Commitments	IGCP	International Geological Correlation Programme (IUGS and UNESCO)
IEE	Institution of Electrical Engineers	IGEA	International Group of Funding Agencies for Global Change Research
IEEE	Institute of Electrical and Electronics Engineers (Inc.)	IGFA	Inter-Governmental Funding Agencies
IEEE	Institute for Electronics and Electrical Engineering	IGFA	International Group of Funding Agencies (for Global Change Research)
IELV	intermediate expendable launch vehicle	IGLD	International Great Lakes Datum
IEM	Institute of Experimental Meteorology	IGN	Institut Geographique National
IEOS	International Earth Observing System	IGO	Intergovernmental Organization
IERS	International Earth Reference System	IGOSS	Integrated Global Ocean Services System
IFAD	International Fund for Agricultural Development (UN)	IGOSS	Integrated Global Ocean Station System (UNESCO)
IFDC	International Fertilizer Development Center	IGPO	International GEWEX Project Office
IFE	Institute for Energy Technology (Norway)	IGRSS	International Geoscience and Remote Sensing Society
IFIAS	International Federation of Institutes for Advanced Study	IGS	International Glaciological Society
IFIM	Instream Flow Incremental Methodology (U.S. Fish and Wildlife Service)	IGT	Institute of Gas Technology (Chicago)
IFO	intensive field observation		
IFOV	instantaneous field of view		
IFRB	International Frequency Registration Board		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

IGU	International Geographical Union (ICSU)	IMO	International Meteorological Organization (formerly WMO)
IGY	International Geophysical Year (1 July 1957 - 31 December 1958)	IMOP	Instruments and Methods of Observation Programme (WMO)
IHB	International Hydrographic Bureau	IMP	ice mass path
IHD	International Hydrological Decade (UNESCO)	IMS	Information Management Services
IHO	International Hydrographic Organization	IMS	International Mountain Society
IHP	International Hydrological Program (UNESCO)	IMU	International Mathematical Union
IHS	International Heliospheric Study	IN	ice nuclei
IHSS	International Humic Substances Society	in.	inch
II	interdisciplinary investigator	Inc.	Incorporated
IIASA	International Institute for Applied Systems Analysis (Vienna)	INC	Intergovernmental Negotiating Committee (for a Framework Convention on Climate Change)
IIG	Indian Institute of Geomagnetism	INC	International Negotiating Convention
IID	International Institute of Information Design	INCD	International Convention to Combat Decertification
IIOE	International Indian Ocean Expedition	IND	Industrial Metabolism Project
IISL	International Institute of Space Law	INEL	Idaho National Engineering Laboratory
IITM	Indian Institute for Tropical Meteorology	INFOCLIMA	World Climate Data Information and Referral System
IJC	International Joint Commission (Independent; Canada and U.S.)	INFOTERRA	International Referral System for Sources of Environmental Information (UNEP)
ILAS	Improved Limb Atmospheric Spectrometer	INPA	Instituto Nacional de Pesquisas da Amazona (Brazil)
ILO	International Labor Organization	INPE	Brazilian Institute for Space Research (Brazil)
ILWAS	Integrated Lake-Watershed Acidification Study (EPRI)	INPE	Instituto Nacional de Pesquisas Espaciais Brazilian (Brazil)
IMA	Information Management and Archives (Office)	INQUA	International Union for Quaternary Research
IM-AI	inorganic monomeric aluminum	INRA	Institut National de Recherche Agronomiques (France)
IMAGES	International Marine Global Change Study (PAGES and SCOR)	INS	inertial navigation system
IMB	Investigator of Micro-Biosphere	INS	Institute Scholars
IMC	ice mass content	INSA	Institut National des Sciences Appliques (France)
IMCO	Inter-Governmental Maritime Consultative Organization	INSAT	Indian Satellite
IMD	India Meteorological Department	INSTARR	Institute for Arctic and Alpine Research (University of Colorado, Boulder)
IMF	ice mass flux	INSULA	International Scientific Council for Island Development (NGO)
IMF	International Monetary Fund	INT	p-iodonitrotetrazolium
IMG	Interferometric Monitor for Greenhouse Gases	INTECOL	International Association of Ecology (ICSU and IUBS)
IMO	International Maritime Organization		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

INZN	Institut Zairois pour la Conservation de la Nature	IRIS	integrated radar imaging system
I/O	input/output	IRP	Installation Restoration Program
IO	input/output	IRRI	International Rice Research Institute
IOB	Inter-Organization Board for Information Systems and Related Activities	IRSS	Indian Remote Sensing Satellite
IOC	Intergovernmental Oceanographic Council (UNESCO)	IRSSP	Interactive Remote Sensing Software Package
IOC	Intergovernmental Oceanographic Commission (UNESCO)	IRTM	infrared thermal mapper
IOC	International Ozone Commission	IRTS	infrared temperature sounder
IOP	intensive observing period	IS	Image Subtraction
IOPG	Indian Ocean Planning Group (JGOFS)	ISA	Israel Space Agency
IP	independent pixel	ISA	Italian Space Agency
IP	Internet Protocol	ISAMS	improved stratospheric and mesospheric sounder
IPB	Bogor Agriculture Institute (Indonesia)	ISAR	Intelligent Synthetic Aperture Radar
IPCC	Intergovernmental Panel on Climate Change (WMO and UNEP)	ISAS	Institute of Space and Astronautical Science (Japan)
IPCC/RSWG /EIS	IPCC/Response Strategies Working Group/Energy and Industry Subgroup	ISC	International Seismological Centre
IPEI	Ionospheric Plasma and Electrodynamics Instrument	ISCCP	International Satellite Cloud Climatology Program (WCRP)
IPMS	International Polar Motion Service	ISEATRA	International Symposium on Ecological Aspects of Tree-Ring Analysis
IPOC	International Partner Operations Center	ISEB 10	Tenth International Symposium on Environmental Biogeochemistry
IPR	Intellectual Property Right	ISEE	International Sun-Earth Explorer
IPS	Inter Press Service	ISEM	International Society for Ecological Modelling
IPV	isentropic potential vorticity	ISFA	International Scientific Film Association
IQSY	International Quiet Sun Years	ISI	International Statistical Institute
ir	infrared (preferred over "IR")	ISLSCP	International Satellite Land-Surface Climatology Project (GEWEX and WCRP)
IR	Infrared ("ir" is preferred)	ISO	International Standards Organization
IRAP	Interdisciplinary Panel on Climate Change	ISP	International Society for Photogrammetry
IRC	International Radiation Commission	ISPRS	International Society for Photogrammetry and Remote Sensing
IRD	Instituto de Radioprotecao e Dosimetria (Brazil)	ISPs	Integrated Steel Plants
IRF	instantaneous radiative transfer	ISRIC	International Soil Reference and Information Centre
IRGA	infrared gas analyzer	ISRO	Indian Space Research Organization
IRI	International Reference Ionosphere		
IRIS	Incorporated Research Institution for Seismology		
IRIS	infrared interferometer spectrometer	ISS	integrated sounding system

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

ISSC	International Social Science Council	ITU	integrated terrain unit
ISSP	ICSU Solar System Panel	ITU	International Telecommunication Union
ISSS	International Society of Soil Science	IUAES	International Union of Anthropological and Ethnological Sciences
ISSMFE	International Society of Soil Mechanics and Foundation Engineering	IUB	International Union of Biochemistry (ICSU)
IST	Instrument Support Terminal	IUBMB	International Union of Biochemistry and Molecular Biology
ISTAP	International Space Technology Assessment Program	IUBS	International Union of Biological Sciences (ICSU)
ISTP	International Solar Terrestrial Physics	IUCAF	Inter-Union Commission on Frequency Allocation for Radio Astronomy and Space Science
ISU	International Space University	IUCC	Information Unit on Climate Change
ISWS	Illinois State Water Survey	IUCN	International Union for the Conservation of Nature and Natural Resources (now World Conservation Union) (Switzerland)
ISY	International Space Year (1992)	IUCr	International Union of Crystallography
ITASE	International Trans-Antarctic Scientific Expedition (PAGES)	IUCRM	Inter-Union Commission on Radio Meteorology
ITB	Bandung Institute of Technology (Indonesia)	IUCS	Inter-Union Commission on Spectroscopy
ITB	Intergovernmental TOGA Board	IUE	international ultraviolet explorer
ITC	International Institute for Aerospace Survey and Earth Sciences	IUFRO	International Union of Forestry Research Organizations (Secretariat, Schonbrunn, Vienna)
ITCZ	Intertropical Convergence Zone	IUGG	International Union of Geodesy and Geophysics (ICSU)
ITEM	International Technology Environmental (data base) Management (system)	IUGS	International Union of Geological Sciences (ICSU)
ITEX	International Tundra Experiment (USMAB Directorate on High Latitude Ecosystems)	IUHPS	International Union of the History and Philosophy of Science
ITIR	infrared thermal imaging radiometer (now ASTER)	IUNS	International Union of Nutritional Sciences
ITIR	intermediate and thermal infrared radiometer	IUPAB	International Union for Pure and Applied Biophysics (ICSU)
ITOS	Improved TIROS Operational System	IUPAC	International Union of Pure and Applied Chemistry (ICSU)
ITOY	International Tropospheric Ozone Year	IUPAP	International Union of Pure and Applied Physics (ICSU)
ITPP	International TOVS Processing Package	IUPHAR	International Union of Pharmacology
ITPR	infrared temperature profile radiometer	IUPS	International Union of Physiological Sciences
ITRA	intercomparison of transmittance and radiance algorithms		
ITRC	Industrial Toxicology Research Centre		
ITRDB	International Tree-Ring Data Bank		
ITSC	International TOVS Study Conference		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

IUPsyS	International Union of Psychological Science
IUR	International Union of Radioecologists
IUTAM	International Union of Theoretical and Applied Mechanics (ICSU)
IVA	intra vehicular activities
	Instituto Venezuelan de Investigaciones Cientificas
IVL	Swedish Environmental Research Institute
IV&V	independent verification and validation
IWG	Investigators Working Group
IWGDMGC	Interagency Working Group on Data Management for Global Change (U.S.)
IWRA	International Water Resources Association
IWSA	International Water Supply Association
IZMIRAN	Institute of Terrestrial Magnetism, Radio Research, and the Ionosphere (Academy of Sciences) (Russian Federation; formerly U.S.S.R.)

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

J J J

JASON	Scientific panel convened by the MITRE Corporation
JAWS	Joint Airport Weather Studies (project)
JECOR	U.S.—Saudi Arabian Joint Commission of Economic Cooperation
JEM	Japanese Experiment Module
JEOS	Japanese Earth Observing System
JEOS	Japanese Earth Observing Satellite
JERS-1	Japanese Earth Remote-sensing Satellite-1
JERS	Japanese Earth Resources Satellite (JPOP)
JGOFS	Joint Global Ocean Flux Study (program) (IGBP and SCOR)
JGOFS	JGOFS Global Synthesis and
JGOFS PM	JGOFS Photosynthetic Measurements (task team)
JGOFS-SSC	JGOFS Scientific Steering Committee
JICST	Japan Information Center of Science and Technology
JIU	joint inspection unit
JJA	June-July-August
JMA	Japan Meteorological Agency
JOC	Joint Organizing Committee
JOI	Joint Oceanographic Institutions (Inc.)
JPL	Jet Propulsion Laboratory (California Institute of Technology)
JPOP	Japanese Polar-Orbiting Platform (JERS)
JSC	Johnson Space Center
JSC	Joint Scientific Committee (ICSU, WCRP, and WMO)
JSC-WCRP	Joint Scientific Committee for the WCRP (ICSU and WMO)
JST	Japan Standard Time
JTC	joint transfer correlation
JTU	Jackson turbidity unit

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

K K K

K	kelvin, unit of thermodynamic temperature (the number of kelvins equals the number of degrees Celsius plus 273.15)
ka	thousands of years
KAHE	time series station off Kahe Point, Hawaii
kbps	kilobits per second
KEEP	Kuroshio Edge Exchange Processes
KERFIX	Kerguelen fixed station (France) (JGOFS)
keV	kilo electron volts
kg	kilogram
kHz	kilohertz
kJ	kilojoule (energy measure)
km	kilometer
K _{ow}	octanol-water partition coefficient
kPa	pressure above ambient (100 kPa = 1 atmosphere excess)
Kr	krypton
KSC	Kennedy Space Center (NASA)
kW	kilowatt

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

L

L/C	land cover
LAC	levelized annual cost
LAC	local area coverage
LAF	Lake Acidification and Fisheries (EPRI)
LAGCM	general circulation model at Los Alamos National Laboratory
LAGEOS	Laser Geodynamics Satellite
LAI	leaf area index
LAID	land-atmosphere interactions dynamics
LAMBADA	Large-scale Atmospheric Moisture Balance of Amazona using Data Assimilation (BAHC and GEWEX)
LAMP	Lake Acidification Mitigation Project (EPRI)
LAN	local area network
Landsat	Land Remote-Sensing Satellite
Landsat	land satellite (photographs of the ground) (formerly ERTS) (NASA)
LANL	Los Alamos National Laboratory
LANL/ACL	Los Alamos National Laboratory's Advanced Computing Laboratory
LAPAN	National Institute for Aeronautics and Space (Indonesia)
LaRC	Langley Research Center (NASA)
LASE	Lidar Atmospheric Sensing Experiment
LASER	light amplification by stimulated emission of radiation
LASR	Library Access, Search, and Retrieval
LASS	Local Area Sounding System
lat.	latitude
LAWS	laser atmospheric wind sounder
LBL	Lawrence Berkeley Laboratory (now Lawrence Livermore Laboratory) (University of California)
LBL	line-by-line
LBLRTM	line-by-line radiative transfer model
LCC	land cover change
LCL	lifting condensation level
LDC	less-developed country

LDEO	Lamont-Doherty Earth Observatory
LDGO	Lamont-Doherty Geological Observatory
LDR	linear depolarization ratio
LEADEX	Leads Experiment
LEAPS	Low Electron Attachment Potential Species
LEFI	local electric field instrument
LEMA	Long-term Ecological Modelling Activity (GCTE)
LERTS	Laboratoire d'Etudes et de Recherches en Télédétection Spatiale (France)
LES	Lincoln Experimental Satellite
LFM	limited fine-mesh model
LI	library
Lidar	laser-radar
Lidar	light detection and ranging (instrument)
LIDQA	Landsat Image Data Quality and Analysis
LIGA	Last InterGlacial in the Arctic (project)
LIMS	Limb Infrared Monitor of the Stratosphere
LIPI	Marine Pollution Monitoring Center (including LIPI's Network of the Center for Research and Development in Oceanography)
LIPI	Minister of State for Population and Research Environment (Indonesia)
LIPI	The Indonesian Institute of Sciences
LIRAD	lidar/radiometer
LIS	land information system
LIS	lightning imaging sensor
LITE	Lidar In-Space Technology Experiment
LLL	Lawrence Livermore National Laboratories
LLNL	Lawrence Livermore National Laboratory
LLW	low-level waste
LMA	Laboratoire de Meteorologie

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

LMD	Laboratoire de Meteorologie Dynamique	LWP	liquid water path
LMER	Land Margins Ecosystem Research	LWRM	longwave radiation model
LOICZ	Land-Ocean Interactions in the Coastal Zone (IGBP)		
LOICZ-SSC	LOICZ Scientific Steering Committee		
long.	longitude		
LORAN	Long-Range Navigation System		
LORCS	League of the Red Cross and Red Crescent Societies		
LOTREX	Land-Ocean Interactions in the Coastal Zone (IGBP)		
LOTREX	Longitudinal Land-Surface Traverse Experiment		
LPDA	laser-phased Doppler anemometer		
LPDM	Lagrangian particle dispersion model		
LPI	low-pressure impactor		
LPM	liters per minute		
LR	laser retroreflector		
LRA	laser retroreflector array		
LRP	Landscape Research Project (DOE)		
LRPT	low-resolution picture transmission		
LSC	Lake Survey Center (NOAA)		
LSD	least significant difference		
LSM	LAWS Simulation Model		
LSN	long- and short-normal resistivity (geophysical logging)		
LST	local solar time		
LST	local standard time		
LTER	Long-Term Ecological Research (program) (NSF)		
LTM	linear tangent model		
LTM	long-term monitoring		
LTREB	Long-Term Research in Environmental Biology		
LTRMP	Long-Term Resource Monitoring Program (U.S. Fish and Wildlife Service)		
LTRRS	Long-Term Regional Research Site		
LUCC	Land Use and Global Land-Cover Change (IGBP and HDP)		
LUCC-CPPC	LUCC Core Project Planning Committee		
LVS	low-volume sampler		
LW	longwave		
LWC	liquid water content		
LWIR	long-wavelength (thermal) infrared		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

M m m

m	meter	MARECO	Marine Radioecology Working Group (IUR)
M-region	Maunder region	MARIA	Methods for Assessing the Radiological Impact of Accidents (CEC)
M&CD	Metals and Ceramics Division	MASC	Mountain Administration Support Center (NOAA)
M&E	monitoring and enforcement	MASFLEX	Marginal Sea Flux Experiment (in the West Pacific) (IGOPS)
MAA	moist-adiabatic adjustment	MAST	Marine Science and Technology Programme (CEC)
MAB	Man and the Biosphere (programme) (UNESCO)	MATS	Mesoscale Atmospheric Transport Studies
MAC	Middle Atmosphere Cooperation (IGAC)	MAW	Ministry of Agriculture and Water (Saudi Arabia)
MAC	Multiphase Atmospheric Chemistry (IGAC)	MB	Manitoba
MACDIF	Mapping and Charting Data Interchange Format (Canada)	mb	millibar
MAGE	Marine Aerosol and Gas Exchange (IGAC)	Mbps	megabits per second
MAGE	Marine Gas Emissions, Atmospheric Chemistry, and Climate (IGAC)	MBL	marine boundary layer
MAGIC	Model of Acidification of Groundwater in Catchment	MBT	Mechanical Bathythermograph
MAGS	Mackenzie GEWEX Study (Canada)	MCC	mesoscale convective complex
Magsat	Magnetic Field Satellite	MCC	Mission Control Center
MAHLOVS	Middle and High Latitudes Oceanic Variability Study	McIDAS	Man-computer Interactive Data Access System
MAKS	Martin and Kitzis Sampler (portable air sampler)	MCL	maximum contaminant level
MAP	Middle Atmosphere Programme	mcm	million cubic metre
MAP3S	Multistate Atmospheric Power Production Pollution Study	MCP	Meteorological Communications Package
MAP3S/PCN	Multistate Atmospheric Power Production Pollution Study/Precipitation Chemistry Network	MCS	Mesoscale Cloud System
MAPS	Map Analysis Package System	MCS	Mesoscale Convective Systems
MAPS	Measurement of Atmospheric Pollution from Satellites	MCSST	Multi-Channel Sea Surface Temperature (algorithm)
MAPS	Mesoscale Analysis and Prediction System	MCZ	Mesoscale Compressible Community Model
MARC	The Middle Atmosphere Responses to Changes	MDA	Methodology of Decision Analysis (project)
MARDOS	IAEA CRP on "Sources of Radioactivity in the Marine Environment and Their Relative Contributors to Overall Dose Assessment from Marine Radioactivity"	MDC	more developed country
		MDR	minimum detectable radiance
		MDSRS	morphology-dependent stimulated Raman scattering
		MECCA	Model Evaluation Consortium for Climate Assessment
		MED	Mediterranean (the region) (START)
		MEDCOM	Mediterranean Planning Committee (START)

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

MEDCOM	Mediterranean Regional Committee (START)	MFRSR	multifilter rotating shadowband radiometer
MEDIAS	Mediterranean and Subtropical Africa	MGE	MicroStation Foundation and Modular GIS Environment (by intergraph)
MEDIAS	Mediterranean Basin and Sub-tropical Africa (regional research network)	Mha	million hectare
MEDIAS	Reseau de Recherche Regionale pour le Bassin Mediterraneen et l'Afrique Subtropicale	MHRS	Modified Hazard Ranking System (DOE)
MEHALICE	Methane and Halocarbons Intercalibrations Experiment (IGAC)	MHS	Message Handling System (electronic)
MELV	medium expendable launch vehicle	MHS	microwave humidity sounder
MEPED	medium energy proton and electron detector	MHz	megahertz
MERIS	medium-resolution imaging spectrometer	MIADS	map information assembly and display system
MERIT	Monitoring Earth's Rotation and Intercomparison of Techniques	MIBK	methyl isobutyl ketone
MERS	Medium Resolution Imaging Spectrometer	MILOX	Mid-Latitude Ecosystems and Photochemical Oxidants (IGAC)
MES	Military Engineering Services	MIMD	multiple instruction, multiple data (system)
MESOSOFT	Mesoscale Data Management Facility	MIMR	multifrequency imaging microwave radiometer (formerly HIMSS)
MESEEC	Methodologies to Estimate Social, Environmental, and Economic Consequences	MIMR	multiband/multifrequency imaging microwave radiometer
MESSR	multispectral electronic self-scanning radiometer	MINK	Missouri-Iowa-Nebraska-Kansas
METEOR	Operational Weather Satellite (Russian Federation; formerly U.S.S.R.)	MIPAS	Michelson interferometer for passive atmospheric sounding (sounder)
METEOSAT	Geosynchronous Meteorology Satellite (ESA)	MIPS	millions of instructions per second
METEOSAT	Meteorological Satellite (EUMETSAT)	MIRSL	Microwave Remote Sensing Laboratory
METOP	Meteorological Operational Satellite	MIS	management information system
MeV	mega electron volts	MISR	multi-angle imaging spectroradiometer
MFE	Magnetic Fusion Energy (program)	MIT	Massachusetts Institute of Technology (U.S.)
MFE/ MAGNOLIA	MFE/Magnetic Field Experiment	MITI	Ministry of International Trade and Industry (Japan)
Mflops	One megaflop equals 1 million (10^6) floating point operations per second	MITRE	Massachusetts Institute of Technology Research Establishment
MFO	mixed-function oxidase (enzyme system)	MITRE	Miniature Individual Transmitter Receiver Equipment
		MIZ	Marginal Ice Zone
		MIZEX	Marginal Ice Zone Experiment
		MJ	megajoule
		mks	meter-kilogram-second (measurement system; replaced by SI) (preferred over "MKS")

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

MKS	meter-kilogram-second (measurement system; replaced by SI) ("mksa" is preferred)	MOM	Mission Operations Manager
mksa	meter-kilogram-second-ampere (measurement system; replaced by SI) (preferred over "MKSA")	MOM	modular ocean model
MKSA	meter-kilogram-second-ampere (measurement system; replaced by SI) ("mksa" is preferred)	MOMS	modular optoelectronic multispectral scanner
MLE	maximum likelihood estimation	MONEX	Monsoon Experiment
MLO	Mauna Loa Observatory (Hawaii) (CMDL)	MONSEE	Monitoring of the Sun-Earth Environment
MLOPEX II	Mauna Loa Observatory Photochemical Experiment II	MOP	Meteosat Operational Programme
MLR	multiple linear regression	MOPITT	Measurements of Pollution in the Troposphere
MLS	microwave limb sounder	MORACC	modeling radiation clouds, and convection
mm	millimeter	MORFLOT	Ministry of the Merchant Marine of the Soviet Union (Russian Federation; formerly U.S.S.R.)
MM4	mesoscale model 4 (Pennsylvania State/National Center for Atmospheric Research)	MORS	Group of Experts Monitoring of Radioactive Substances in the Baltic Sea
MM5	Mesoscale model 5 (Pennsylvania State/National Center for Atmospheric Research)	MOS-1	Marine Observation Satellite-1 (Japan)
MMAD	mass median aerodynamic diameter	MOS	Marine Observation Satellite
MM-Al	total monomeric aluminum	MOS	model output statistics
MMES	Martin Marietta Energy Systems, Inc. ("Energy Systems" is preferred)	MOSS	Map Overlay Statistical System (by Autometrics)
MMI	Modified Mercalli Intensities	MOT	Ministry of Transport (Canada)
mmscmd	million metric standard cubic metre per day	MOU	Memorandum of Understanding
MMTS	Maximum-Minimum Temperature System	MPC	massively parallel computer
MNRT	Minister of State for Research and Technology	MPC	maximum permissible concentration
MOA	Memorandum of Agreement	MPE	Mission to Planet Earth
MOBILHY	Mobilisation du Bilan Hydrique	MPF	momentary power failure
MOC	Memorandum of Cooperation	MPI	Max Planck Institute (Germany)
MODECS	molecular design of chemical systems	MPL	Marine Physical Laboratory
MODIS	moderate-resolution imaging spectroradiometer	MPL	Micropulse Lidar
MODIS-N	moderate-resolution imaging spectrometer-Nadir	MR	Microwave Radiometer
MODIS-T	moderate-resolution imaging spectrometer-tilt	MRI	Meteorology Research, Inc.
MODMAP	modernization of mapping techniques	MRIR	medium resolution infrared radiometer
MOLA	Mars Observer Laser Altimeter	MS	mass spectrometry
		MSA	methanesulfonate
		MSC	Marine Sciences Council
		MSC	Meteorological Satellite Center
		MSFC	Marshall Space Flight Center
		MSL	mean sea level
		MSP	Motion-Sensing Platform
		MSR	microwave scanning radiometer
		MSS	multippectral scanner (Landsat)
		MSS	multippectral scanner system
		MSU	microwave sounding unit

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

MST	Ministry of Environment and Science
MT	million tonne
MTCE	million tonnes of carbon equivalent
MT-CLIM	Mountain Climate Model
MTCR	million tonnes of coal replacement
MTMC	Military Traffic Management Command
MTOE	million tonnes of oil equivalent
MTS	microwave temperature sounder
MU	microwave unit
MUID	map unit identification data
MUIR	map unit interpretation record
MVS	Minimum-Variance-Simultaneous
mW	milliwatt
MW	megawatt
MWDI	Master Water Data Index
MWIR	medium-wavelength infrared
MWL	municipal waste leachate
MWR	microwave radiometer
MWSR	microwave water substance radiometer

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

N n n

NA	North America(n)	NASC	North American Stratigraphic Code
N ₂ O	nitrous oxide	NASCOM	NASA Communications Network
N ₂ O ₅	nitrogen pentoxide, nitric anhydride	NASDA	National Space Development Agency (Japan)
NAAQ	National Ambient Air Quality	NASM	National Air and Space Museum
NAAQS	National Ambient Air Quality Standards	NASQUAN	National Stream Water Quality Accounting Network
NABE	North Atlantic Bloom Experiment (JGOFS and IGAC)	NAST	National Academy of Science and Technology
NAD 27	North American Datum of 1927	NATO	North Atlantic Treaty Organization
NAD 83	North American Datum of 1983	NATT	Northern Australian Tropical Transect
NADP	National Atmospheric Deposition Program (EPA)	NAVSTAR	Navigation Satellite Timing and Ranging
NADP/NTN	National Atmospheric Deposition Program/National Trends Network	Navstar	Global Positioning Satellite Communication Set
NADW	North Atlantic deep water	NAVSWC	Naval Surface Warfare Center (DOD)
NAEG	Nevada Applied Ecology Group	NAWDEX	National Water Data Exchange (USGS)
NAF	Northern Africa (START)	NBIOME	Northern Biosphere Observation and Modeling Experiment
NAFCOM	Northern Africa Committee (START)	NBIS	Northern Biosphere Information System
NAIC	Newly Agro-Industrialized Country	NBRF	National Biomedical Research Foundation
NAL	National Agricultural Library	NBRI	National Botanical Research Institute
NALMS	North American Lake Management Society	NBS	National Biological Survey
NAMAS	National Measurement Accreditation Service	NBS	National Bureau of Standards (now NIST)
NAPAP	National Acid Precipitation Assessment Program	NC	National Committee (IGBP)
NAR	net assimilation rate	NCAER	National Council of Applied Economic Research
NARA	National Archives and Records Administration	NCAR	National Center for Atmospheric Research (NOAA) (Boulder, Colo.)
NARC	National Atmospheric Radiation Centre (AES)	NCASI	National Council on Air and Stream Improvement
NARE	North Atlantic Regional Experiment (IGAC)	NCC	National Climatic Center (now NCDC)
NARL	National Arctic Research Laboratory (Barrow, Alaska)	NCC	Network Control Center
NARS	National Archives and Records Service (GSA)	NCDC	National Climatic Data Center (Asheville, N.C.) (NOAA)
NARSNDF	North Atlantic Regional Study Narrative Data File		
NAS	National Academy of Sciences (U.S.)		
NASA	National Aeronautics and Space Administration (U.S.)		
NASA/EDC	NASA/Environmental Data Centre		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

NCDCDS	National Committee for Digital Cartographic Data Standards (American Congress Surveying & Mapping; formed 1982)	NEP	Noise Equivalent Power
NCDS	NASA Climate Data System	NEPA	National Environmental Policy Act (1969)
NCEP	National Centers for Environmental Prediction (formerly NMC)	NEPP	National Energy Policy Plan (DOE)
NCGIA	National Center for Geographic Information and Analysis	NERC	National Environmental Research Centre
NCIC	National Cartographic Information Center	NERDDC	National Energy Research, Development, and Demonstration Council (Australia)
NCLAN	National Crop Loss Assessment Network (EPA)	NERI	National Environmental Research Institute
NCMC	National Critical Materials Council	NERP	National Environmental Research Park
NCMRWF	National Centre for Medium Range Weather Forecasting	NERSC	National Energy Research Supercomputer Center
NCPDI	National Coastal Pollutant Discharge Inventory	NES	National Energy Strategy
NCRP	National Council on Radiation Protection and Measurements	NES	National Eutrophication Survey
NCSA	National Center for Supercomputing Applications	NESDIS	National Environmental Satellite, Data, and Information Service (NOAA)
NCS&T	National Council for Science and Technology	NESDP	National Economic and Social Development Plan
NCV	net calorific value	NESHAP	National Emission Standards for Hazardous Air Pollutants
NDBC	National Data Buoy Center	NESS	National Environmental Satellite Service (NOAA)
NDCDB	National Digital Cartographic Data Base	netCDF	Network Common Data Format
NDF	Narrative Data File	NEXRAD	Next-Generation Weather Radar (NWS)
NDIR	non-dispersive infrared analyzer	nf-EBM	noise forced energy balance model
NDP	numeric data package	NFERC	National Fertilizer and Environmental Research Center
NDPD	National Data Processing Division (EPA)	NFMA	National Forest Management Act (1976)
NDSC	Network for Detection of Stratospheric Change	NGB	Nordic Gene Bank
NDVI	Normalized Difference Vegetation Index	NGDC	National Geophysical Data Center (NOAA) (Boulder, Colo.)
NE	Office of Nuclear Energy (DOE)	NGM	Nested Grid Model
NEA	Nuclear Energy Agency (OECD)	NGO	nongovernmental organization
NEB	National Environmental Board	NGRS	National Geodetic Reference System
NECT	National Research Council of Thailand	NGS	National Geodetic Survey (NOAA)
NEHA	National Environmental Health Association	NGSDC	National Geophysical and Solar-Terrestrial Data Center
NEIC	National Enforcement Investigations Center	NGVD 29	National Geodetic Vertical Datum of 1929
NEIDA	National Estuarine Inventory Data Atlas	NH ₃	ammonia
		NH ₄ ⁺	ammonium

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

NH	National Highway	NKA	Nordic Liaison Committee for Atomic Energy
NH	Northern Hemisphere	NKO	Nederlandse Kalibratie Organisatie
NHAP	National High-Altitude Photography Program	NKS	Nordic Nuclear Safety Project
NHC	U.S. National Hurricane Center	NLC	National Laboratory Consortium
NHEML	U.S. National Hurricane Experimental Meteorological Laboratory	NLE	National Library for the Environment
NHRC	National Hydrology Research Centre	NLVF	Norway Agricultural Research Council
NHRE	U.S. National Hail Research Experiment	nm ³	natural metre cube
NHRI	National Hydrology Research Institute	nm	nanometer
NHTSA	National Highway Traffic and Safety Administration (DOT)	NMC	National Meteorological Center (now NCEP) (WWW)
NIAES	National Institute of Agro-Environmental Studies	NMFECC	National Magnet Fusion Energy Computer Center
NIC	Newly Industrialized Country	NMFS	National Marine Fisheries Service (NOAA)
NIE	National Institute for the Environment	NMHC	nonmethane hydrocarbons
NIEHS	National Institute of Environmental Health Sciences	NMNH	National Museum of Natural History
NIES	National Institute for Environmental Studies	NNMI	Nonlinear Normal Mode Initialization
NIEs	newly industrializing economies	NNSF	National Natural Science Foundation
NIGEC	National Institute for Global Environmental Change	NNSS	Navy Navigational Satellite System
NIH	National Institutes of Health	NNWSI	Nevada Nuclear Waste Storage Investigation (project)
NILU	Norwegian Institute for Air Research	NO	nitric oxide
Nimbus	NASA Meteorological Satellites (1 through 7)	NO ₂	nitrogen dioxide, nitrogen peroxide
Nimbus	Satellite Series to Meet the Needs of Atmospheric and Earth Scientists	NO ₃	nitrate radical
NIO	National Institute of Oceanography	NO _x	nitrogen oxides (NO, NO ₂ , NO ₃ , etc.)
NIOSH	National Institute for Occupational Safety and Health	NO _y	total active nitrogen
NIP	normal incidence pyrheliometer	NOAA	National Oceanic and Atmospheric Administration (DOC)
NIPDWS	National Interim Primary Drinking Water Standards	NOAH	Nitrous Oxide and Halocarbons Division (CMDL)
NIR	near infrared	NODC	National Oceanographic Data Center (NOAA)
NIRP	National Institute for Radiation Protection	NODC	National Ozone Data Center (NOAA)
NIST	National Institute of Standards and Technology (formerly NBS)	NODS	NASA Ocean Data System
NISTEP	National Institute of Science and Technology Policy	NOMHICE	Non-Methane Hydrocarbon Intercomparison Experiment (IGAC)
		NOO	National Oceanographic Office
		NOPEX	Northern Hemisphere Climate Processes Experiment (BAHC)
		NORDA	Naval Ocean Research and Development Activity

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

NORDMAP	European Nordic Pollen Data Mapping Project	NSERC	Natural Sciences and Engineering Research Council (Canada)
NORPAX	North Pacific Expedition	NSF	National Science Foundation
NOS	National Ocean Survey (NOAA)	NSFNet	National Science Foundation Network
NOSS	National Oceanic Satellite System	NSIDC	National Snow and Ice Data Center (University of Colorado, Boulder)
NOWES	Northern Wetlands Study	NSN	NASA Space Network
NOZE	National Ozone Expedition	NSpC	National Space Council
NP	neutron porosity (geophysical logging)	NSPD	National Space Policy Directive
NPDES	National Pollutant Discharge Elimination System	NSS	National Stream Survey
NPIC	National Programme on Improved Chulhas	nss	non-sea-salt
NPL	National Physics Laboratory	NSSDC	National Space Science Data Center
NPOP	NASA Polar Orbiting Platform	NSSFC	National Severe Storms Forecast Center
NPP	Net Primary Production (IGBP-DIS, and GAIM Working Group)	NSSL	National Severe Storms Laboratory
NPS	National Park Service (USDI)	NSTC	National Science and Technology Council (U.S.)
NR	not reported	NSTL	National Space Technology Laboratories (NASA)
NRA	NASA Research Announcement	NSTS	National Space Transportation System
NRC	National Research Council (Canada)	NSWS	National Surface Water Survey (EPA)
NRC	National Research Council (U.S.) (NAS)	NTIS	National Technical Information Service (DOC)
NRCC	National Research Council of Canada	NTN	National Trends Network
NRCP	National Research Council for the Philippines	NTS	Nevada Test Site
NRCT	National Research Council of Thailand	NUC	National Underseas Research Center
NREN	National Research and Education Network	NVI	normalized difference vegetation index
NRL	Naval Research Laboratory	NWLISN	Northwest Land Information System Network
NROSS	Navy Remote Ocean Sensing System	NWP	numerical weather prediction
NRP	National Research Program	NWPA	Nuclear Waste Policy Act (1982)
NRPGC	National Research Program for Global Change	NWPM	Numerical Weather Prediction Model
NRSA	National Remote Sensing Agency (India)	NWR	Niwot Ridge (Denver)
NSA	Norther Slope of Alaska	NWRC	National Weather Records Center
NSBF	National Scientific Balloon Facility	NWRI	National Water Research Institute (Canada)
NSC	National Science Council	NWS	National Weather Service (formerly U.S. Weather Bureau)
NSC	National Security Council	NWSRFS	National Weather Service River Forecast System (U.S.)
NSC	Norwegian Space Center	NWWA	National Water Well Association
NSCAT	NASA scatterometer	NYU	New York University

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

NYU/Ultra	New York University's Ultracomputer (project)
NZOI	New Zealand Oceanographic Institute
NZP	National Zoological Park

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

O O C

O/N	oxygen-to-nitrogen ratio	OGIST	Oregon Graduate Institute of Science and Technology
O ₂	(normal) molecular oxygen	OGWP	Office of Ground Water Protection
O ₃	ozone	(EPA)	
O _x	odd oxygen (O + O ₃)	OH	hydroxyl radical
OAR	Office of Atmospheric Research (NOAA)	OHER	Office of Health and Environmental Research (DOE)
OARM	Office of Administration and Resources Management	OHF	Old Hydrofracture Facility (pond)
OAS	Organization of American States	OHP	Operational Hydrology Programme (WMO)
OASIS	Observation at Several Interacting Scales	OIEA	Office of Integrated Environmental Analysis (EPA)
OAST	Office of Aeronautics Space Technology (NASA)	OIRM	Office of Information Resources Management (EPA)
OAU	Organization of African Unity	OIS	Operational Information Service (WWW)
OAXTC	Ocean Atmosphere Exchange of Trace Compounds	OKCS	Oklahoma Climatological Survey
OCAM	Afro-Malagasy Common Organization	OLIPAC	Oligotrophic Pacific (France) (JGOFS)
OCC	Operations Control Center	OLR	outgoing long-wave radiation
OCE	Oceania (START)	OLS	operational license stage
OCTS	ocean color and temperature scanner	OLS	operational line scanner
ODA	Overseas Development Agency (U.K.)	OLS	optical line scanner
ODAS	Oceanic Data Assimilation System	OM-Al	organic monomeric aluminum
ODB	Orbit Determination Beacon	OMB	Office of Management and Budget (Independent)
ODC	other data center	OMCS	ozone monitor comparison system
ODP	Ocean Drilling Program	OMDR	Optical Memory Disk Recorder
ODP	ozone-depleting potential	OMEX	Animation System
OEC	Office of Environmental Compliance	OMP	Ocean Margin Exchanges
OECD	Organization for Economic Cooperation and Development	OMWOG	Ocean Margins Program
OEG	Office of Environmental Guidance	ONEB	Ocean-based Measurements Working Group
OEP	Office of Economic Planning	ONR	Office of National Environmental Board
OER	Office of Energy Research (DOE)	ONWI	Office of Naval Research (U.S.)
OES	Bureau of Oceans, International Environment, and Scientific Affairs (USDA)	OPAC	Office of Nuclear Waste Isolation
OFDA	Office of U.S. Foreign Disaster Assistance	OPC	Online Public Access Catalog
OFS	Office of the Foreign Secretary (NAS and NRC)	OPEC	ordinary portland cement
OGC	Oregon Graduate Center (Beaverton, Oreg.)	OPEX	Organization of Petroleum Exporting Countries
OGCM	ocean general circulation model	OPM	Operational and Executive Personnel for Civil Service
			Office of Personnel Management

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

OPPE	Office of Policy, Planning, and Evaluation (EPA)
OPS	optical sensor
OPT	Optimization Under Uncertainty Project
ORAU	Oak Ridge Associated Universities
ORD	Office of Research & Development (EPA)
ORISE	Oak Ridge Institute for Science Education
ORNL	Oak Ridge National Laboratory
ORNL/ACL	ORNL/Advanced Computing Laboratory
ORR	Oak Ridge Reservation
ORSTOM	Office de la Recherche Scientifique et Technique d'Outre-mer (Office of Overseas Scientific and Technical Research) (France)
OSB	Ocean Studies Board
OSC	Office of Scientific Computing (DOE)
OSC	Orbital Sciences Corporation
OSHA	Occupational Safety and Health Act (1970)
OSHA	Occupational Safety and Health Administration
OSR	Office of Sponsored Research
OSSA	Office of Space Science and Applications (NASA HQ)
OSSE	Observing System Simulation Experiments
OST	Office of Science and Technology
OSTI	Office of Scientific and Technical Information (DOE)
OSTP	Office of Science and Technology Policy
OSU	Oregon State University
OSWER	Office of Solid Waste and Energy Response (EPA)
OTA	Office of Technology Assessment
OTEC	ocean thermal energy conversion
OTS	Office of Toxic Substances (EPA)
OWDC	Office of Water Data Coordination (USGS)
OWRT	Office of Water Research and Technology (DOI)
OWSE	Operational WWW Systems Evaluation
OWSE-NA	Operational WWW Systems Evaluation-North America

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

P P D

P/R	productivity/respiration	PCR	polymerase chain technology
P-Code	GPS precision transmission code	PCSSD	Philippines Council for Sustainable Development
PAAD	Program Assistance Approval Document	PDA	phased-Doppler anemometer
PAC	Polar Atmospheric Chemistry	PDB	isotope standard for carbon
PACER	Program for the Acceleration of Commercial Energy Research	PDB	Pee Dee Belemnite (Pee Dee River, S.C.)
PAD	Program Approval Document	PDE	partial differential equation
PAGES	Past Global Changes (IGBP)	pdf	probability density function
PAGES-EXCOMM	PAGES Executive Committee	PDL	polarization-diversity lidar
PAGES-SSC	PAGES Scientific Steering Committee	PDRCA	Participatory Development Resource Centre for Africa
PAH	polycyclic aromatic hydrocarbon	PDS	Planetary Data System
PAHO	Pan American Health Organization	PDS	photothermal deflection
PALE	Palaeoclimate from Arctic Lakes and Estuaries (PAGES)	PDSI	spectroscopy
PAM	Portable Automated Mesonet	PECO	Palmer Drought Severity Index
PAN	peroxyacetyl nitrate	PEM	CEC-COPERNICUS Program
PANASH	Paleoclimates of the Northern and Southern Hemisphere (PAGES)	PEMD	Particle Environment Monitor
PAR	photosynthetically active radiation	PEP	personalized educational materials development
PAR	photosynthetically available radiation	PEPCase	Pole-Equator-Pole (PAGES)
PAR	Project Appraisal Report	PER	(Palaeoclimates Initiative for the Western Hemisphere)
PARCC	precision, accuracy, representativeness, completeness, and comparability	PERD	Phosphoenol-pyruvate carboxylase
PASA	Participating Agency Service Agreement	PFCs	Program for Ecological Research
PASC	Polar Atmospheric and Snow Chemistry (IGAC)	PFRA	Panel for Energy Research and Development
PASE	Polar Air-Snow Experiment	PFTs	perfluorocarbon compounds
PBL	planetary boundary layer	Pg	Prairie Farm Rehabilitation Administration
PBM	peribacteroid membrane	PG	perfluorocarbon tracers
PBMR	Pushbroom Microwave Radiometer	PGC	pentagram
PBU	peribacteroid unit	PGS	planning group
PC	personal computer	PHOXA	Program Grande Carajas (Brazil)
PCA	principal components analysis		Product Generation System
PCAST	President's Council of Advisors on Science and Technology		photochemical oxidant and acid deposition model application within the framework of control strategy development
PCB	polychlorinated biphenyl	PHSA	Public Health Service Act (1965)
PCMDI	Program for Climate Model Diagnosis and Intercomparison	PI	principal investigator
p_{CO_2}	partial pressure of CO ₂	PIC	particle in cell
PCU	platinum cobalt unit	PIC	particulate inorganic carbon
		PICES	North Pacific Marine Science Organization

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

PILPS	Project for Intercomparison of Land-surface Parameterization Schemes (GCIP/GEWEX)	POEMS	positron electron magnetic spectrometer
PIO	Project Implementation Order (AID)	POES	Polar-Orbiting Environmental Satellite
PIO/C	PIO for Commodities	POES	Polar-Orbiting Operational Environmental Satellite
PIO/P	PIO for Participant Training	POGO	Polar-Orbiting Geophysical Observatory
PIO/T	PIO for Contract Technicians or Contract Services	POLDER	Polarization and Directionality of the Earth's Reflectances
PIP	Performance Improvement Program	POLES	polar exchange at the sea surface
PIP	Project Implementation Plan (AID)	POM	particulate organic matter
PIP	WetNet Precipitation (algorithm)	POM	polycyclic organic matter
PIR	Intercomparison Project	PON	particulate organic nitrogen
PIRLA	precision infrared radiometer	POOZ	Permanently Open Ocean Zone
PJ	Paleoecological Reconstruction of Recent Lake Acidification (EPRI)	PP	perfect program (approach)
PL	petajoule	ppb	parts per billion
PLDS	public law	ppbv	parts per 10^9 by volume
PLDS	Planetary Land Data System	PPFD	photosynthetic photon flux density
PM	Pilot Land Data System	ppm	parts per million
PM	photosynthetic measurements (JGOFS)	ppmv	parts per 10^6 by volume
PM-10	particulate matter less than 10 micrometers	PPP	Polluter pays principle
PMC	pollen mother cell	PPR	photopolarimeter radiometer
PMC	Pressure-Modulator Cell	ppt	parts per trillion
PMEL	Pacific Marine Environmental Laboratory (NOAA and ERL)	pptv	parts per 10^{12} by volume
PMF	probable maximum flood	PR	precipitation radar
PMIP	Paleoclimate Modeling Intercomparison Project (NATO and PAGES)	PRARE	precise range and range-rate equipment
PMIR	Pressure Modulator Infrared Radiometer	PRAREE	precise range and range rate equipment-extended
PMOD	Physikalisch-Meteorologisches Observatorium Davos (WRC)	PRC	People's Republic of China
PMP	probable maximum precipitation	PRF	precipitation
PMR	pressure-modulated radiometer	PRL	pulse repetition frequency
PNEDC	Programme Nationale d'Etude de la Dynamique du Climat (France)	PRN	Physical Research Laboratory
PNL	Pacific Northwest Laboratory	PROBE	Pseudo-Random Noise
PO ₄	phosphate	PRT	Pilot Radiation Observation Experiment
POC	particulate organic carbon	PSA	precision radiation thermometer
POCC	Payload Operations Control Center	PSAC	Pacific Sciences Association
POCM	parallel ocean-climate model	PSC	President's Science Advisory Committee
POD	Precision Orbit Determination	PSD	polar stratospheric clouds
POEM	polar-orbiting earth observation mission (ESA)	PSDPC	prevention of significant deterioration (NPS, regulations of the CAA)
		Psfc	Polar Satellite Data Processing Centre
		PSFG	surface pressure
			Permanent Service on the Fluctuation of Glaciers

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

PSL	polystyrene latex
PSO	Project Science Office
PSPDC	Polar Satellite Precipitation Data Centre
PSSI	Pacific/Sulfur/Stratus Investigation
PSU	Pennsylvania State University
PTB	Physikalisch-Technische Bundesanstalt, Braunschweig
PU	processing unit
PUMS	Public Use Microdata Samples
PUSPITEK	Training Facilities in the Centre for Research, Science, and Technology
PV	potential vorticity
PVC	polyvinyl chloride
PW	precipitable water
PWD	Public Works Department
PWV	precipitable water vapor

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

Q a a

QA	quality assurance
QAMS	Quality Assurance Management Staff
QA/QC	quality assurance/quality control
QBO	quasi-biennial oscillation
QC	quality control
QLN	Quantitative Links Networks
QN	quinoline
QTL	Quantitative Trait Loci
QTO	quasi-triennial oscillation

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

R r r

r^2	coefficient of determination	
R&D	research and development	
R&SSD	Radiation and Safety Surveys	
	Department (ORNL)	
RA	Radar altimeter	
RA	Regional Association (WMO)	
RA-2	POEM altimeter (ESA)	
RA I	Regional Association I - Africa (WMO)	
RA II	Regional Association II - Asia (WMO)	
RA IV	Regional Association IV - North and Central America (WMO)	
RAD	Radioecology Programme (NKS)	
radar	radio detection and ranging	
Radarsat	Radar Satellite (Canada)	
RADCAL	Radiation Calibration Laboratory	
RADPATH	Biochemical Pathways of Artificial Radionuclides (CEC)	
RAE	Royal Aircraft Establishment	
RAM	random-access memory	
RAMP	Remote Atmospheric Measurements Program	
RAMP	Remote Atmospheric Monitoring Project	
RAMS	regional atmospheric modeling system	
RAMS	Remote Atmospheric Measurements Systems	
RAMS	Results Analysis and Management System (EPA)	
RANN	Research Applied to National Needs (NSF)	
RAOB	Radiosonde or Rawindsonde Observation	
RAP	Remedial Action Program (DOE)	
RAPD	Random Amplified Polymorphic DNA Technique	
RASC	Radio Atmospheric Study Centre	
RASS	radio-acoustic sounding system	
RAWG/	Regional Associations' Working	
Hydrology	Groups on Hydrology (WMO)	
RBV	return-beam Vidicon	
ref	relative centrifugal force	
RCM	radiative-convective model	
		RCRA
		Resource Conservation and Recovery Act (1976)
		RCRE
		required collaborative research experience
		RCS
		Remote Data, Analysis, and Archive Center
		RDBMS
		Relational Data Base Management System (Oracle)
		RDP
		Radar Development Project
		RDT
		remote data transmission
		REFLEX
		Remote Fluvial Experimental Series
		REKLIP
		Regional Climate Project (REgio-KLima-Projekt)
		RES
		Regional Evaporation Study
		RESA
		Scientific Research Society of America
		RESSAC
		The Consequence of a Major Nuclear Accident on the Surrounding Environment: Soil and Surface Rehabilitation (CEC)
		RET
		renewable energy technologies
		RF
		radio frequency
		RFE
		Regional Finite Element (model)
		RFD
		Royal Forestry Department
		RFLP
		restriction fragment length
		RGA
		reduction gas analyzer
		RGA
		relative growth rate
		RGB
		red-green-blue (signal)
		RGCT
		Reflective Gross Cloud Test
		RGI
		regional-global interactions
		RGIS
		regional geographic information system
		RGR
		relative growth rate
		RH
		relative humidity
		RHIESSys
		Regional Hydro-Ecological Simulation System
		RI
		radar interferometry
		RIC
		Regional Information Center
		RICE
		Rice Cultivation and Trace Gases Exchange (India) (IGAC)
		RIDGE
		Ridge Inter-Disciplinary Global Experiment

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

RIHMI-WDC	All-Russian Research Institute of Hydrometeorological Information-World Data Center	RPN	Division de la recherche en prevision numerique
RILWAS	Regional Integrated Lake-Watershed Acidification Study (EPRI)	RPSS	relative partial sum of squares
RIMI	Riso Integrated Environmental Project	RRC	Regional Research Centre (START)
RIS	reflector in space (laser beam adsorption, measures O ₃ , CFCs, etc.)	RRCT	Reflectance Ratio Cloud Test
RIS	retroreflector in space	RRN	Regional Research Networks (START)
RISC	reduced instruction set chip	RRN ANT	RRN Antarctic
RISC	reduced instruction set computer	RRN ART	RRN Arctic
RITS	radiatively important trace species	RRN CAA	RRN Central Arid Asia
RIVM	Netherlands National Institute of Public Health and Environmental Protection	RRN CAR	RRN Caribbean
RK	river kilometer	RRN ESA	RRN Equatorial South America
RLU	relative light unit	RRN MED	RRN Mediterranean
RM	reference material	RRN NAF	RRN Northern Africa
RM	river mile	RRN OCE	RRN Oceania
RMC	Regional Meteorological Centre (WWW)	RRN SAF	RRN Southern and Eastern Africa
RMES	Relay Mirror Experimental Satellite	RRN TAM	RRN Tropical Asian Monsoon Region
rms	root mean square (preferred over "RMS")	RRN TEA	RRN Temperate East Asia
RMS	root mean square ("rms" is preferred)	RRN TNH	RRN Temperate Northern Hemisphere
rmse	root mean square error (preferred over "RMSE")	RRN TSA	RRN Temperate South America
RMSE	root mean square error ("rmse" is preferred)	RRS	regional research sites (START)
RMTC	Regional Meteorological Training Centre	RRTM	rapid radiative transfer model
Rn	radon	RS	remote sensing
RNA	ribonucleic acid	RSAC	Remote Sensing Applications Center (China)
RNMI	Royal Netherlands Meteorological Institute	RSD	residual standard deviation
ROM	read-only memory	RSF	LANL computer code
ROPME	Regional Organization for the Protection of the Marine Environment (IOC)	RSMC	Regional/Specialized Meteorological Centre
RPA	remotely piloted aircraft	RSR	rotating shadowband radiometer
RPE	Office of OECD, European Community, and Atlantic	rss	root-sum-square
RPM	Office of NATO and Atlantic Political-Military Affairs	RSS	rotating shadowband spectrometer
rpm	revolutions per minute	RSSD	Responses of Savannas to Stress and Disturbance (IUBS and MAB)
		RT	radiative transfer
		RTD	real-time data
		RTH	Regional Telecommunication Hub
		RTNEPH	real-time nephanalysis
		RUC	Roskilde University Center
		RUT	reflectance uniformity test
		RVAU	Royal Veterinary and Agricultural University
		RVB	return-beam Vidicon
		RWC	Regional Warning Centre
		RWVL	Raman Water Vapor Lidar

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

S S S

s	second (do NOT use "sec" for "second;" use "sec" for "secant")	SARB	surface and atmospheric radiation budget
S&R	search and rescue	SARCS	Southeast Asia Regional Committee (START)
S&T	science and technology	SARCS-SAP	SARCS Scientific Advisory Panel
S-GCOS	Space-Based Global Change Observation System	SARSAT	Search and Rescue Satellite
SA	Selective Availability (on GPS transmissions)	SAS	Southern Asian Region (START)
SABLE	simulator atmospheric boundary layer environment	SAS	Statistical Analysis Systems
SAC	Satellite Application Centre	SASANEE	South and Southeast Asia Network for Environmental Education
SAC	Scientific Advisory Committee	SASS	Seasat A Scatterometer System
SAC	Scientific Advisory Council (IGBP)	SASI	Statistical Analysis Systems
SADC	Southern Africa Development Community	SAT	Institute (Raleigh, N.C.)
SADCC	Southern African Development Coordination Conference	SATOBS	surface air temperature
SAF	Society of American Foresters	SATOR	Satellite Observations
SAF	Southern, Central, and Eastern Africa (START)	SAVE	Stratospheric and Tropospheric Ozone Research
SAFCOM	Southern, Central, and Eastern Africa Regional Committee (START)	SAW	South Atlantic Ventilation Experiment
SAFIRE	spectroscopy of the atmosphere using far infrared emission	SBC	sawlog harvest
SAFISY	Space Agency Forum on International Space Year (1992)	SBC	Brazilian Society for Cartography, Geodesy, Photogrammetry, and Remote Sensing
SAGE	Stratospheric Aerosol and Gas Experiment	SBIR	sum of base cations
SAHC	South Asia Hydrological Cycle	SBUV	Small Business Innovation Research
SAIC	Science Applications International Corporation	SBUV-2	Solar Backscatter Ultraviolet (experiment)
SAIL	Steel Authority of India Limited	SC	Solar Backscatter Ultraviolet-2
SAM	Stratospheric Aerosol	SC	Scientific Committee (IGBP)
	Measurement	SCA	standing committee
SAMBO	Simultaneous Auroral Multi-Balloons Observations	SCANSCAT	snow-covered areas
SAMS	stratospheric and mesospheric sounder	SCAR	scanning scatterometer
SAO	Smithsonian Astrophysical Observatory (U.S.)	SCARAB	Scientific Committee on Antarctic Research (ICSU)
SAP	Scientific Advisory Panel (SARCS)	SCARABE	Scanner for the Radiation Budget
SAR	Subcommittee on Atmospheric Research	SCAT	Scanner for Radiative Budget Experiment
SAR	synthetic aperture radar	SCATT	radar scatterometer
		SCD	scatterometer
		SCF	Scientific Computing Division (NCAR)
			Scientific Computing Facility

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

SCIAMACHY	scanning, imaging, and absorption spectrometer for atmospheric cartography	SEATO	Southeast Asian Treaty Organization
SCIBP	Scientific Committee for the International Biological Programme	SeaWIFS	sea-viewing wide-field sensor
SC-IGBP	Special Committee of the International Geosphere Biosphere Programme (ICSU)	SEB	State Electricity Board
SCM	single-column model	SEBEX	Sahelian Energy Balance Experiment
SCOPE	Scientific Committee on Problems of the Environment (ICSU and IGBP)	SEC	Science Executive Committee of the IWG
SCOR	Scientific Committee on Oceanic Research (ICSU)	sec	secant (trigonometric function) (do NOT use "sec" for "second;" use "s" for "second")
SCOSTEP	Scientific Committee on Solar-Terrestrial Physics	SEDAC	Socio-Economic Data and Applications Center (CIESIN)
SCOT	Services Consultance en Observation de la Terre	SEL	Standard Elektrik Lorenz (AG Stuttgart, Germany)
SCPP	Seasonal to Interannual Climate Prediction Program	SELPER	Society of Latin American Remote Sensing Specialists
SCRIPPS	Scripps Institution of Oceanography (University of California at San Diego)	SELV	small expendable launch vehicle
SCS	Soil Conservation Service (Anchorage, Alaska) (USDA and DOA)	SEM	scanning electron microscope
SCS	Swiss Calibration Service	SEM	space environment monitor
SCST	State Commission for Science and Technology (Survey of India)	SERC	Smithsonian Environmental Research Center
SD	standard deviation	SERDP	Strategic Environmental Research and Development Program
SDAC	Satellite Data Analysis Center (SRB)	SERI	Solar Energy Research Institute
SDC	Swiss Development Corporation	SERON	Southeastern Regional Oxidant Network
SDS	site data system	SERP	Sedimentary Rock Program
SDS	sodium dodecyl sulfate	SESAME	Severe Environmental Storms and Mesoscale Experiment
SDSC	San Diego Supercomputer Center	SESC	Space Environment Service Center
SDSD	Satellite Data Services Division	SETAC	Society of Environmental Toxicology and Chemistry
SDSS	Spatial Decision Support System	SF	screening factor
SDTS	Spatial Data Transfer Standard	SFC	surface
SDWA	Safe Drinking Water Act	SGCR	Subcommittee on Global Change Research
SEAMEO	South East Asian Ministers Education Organization	SGM	second-generation model
SEAREX	Sea-Air Exchange (program)	SGP	single Gauss point
Seasat	sea satellite (an oceanographic research satellite) (NASA)	SGP	Southern Great Plains
SEASPAN	SEAREX South Pacific Aerosol Network	SGR	specific growth rate
SeaStar	Spacecraft flying SeaWIFS	SH	Southern Hemisphere
		SHARE	Software Help for Applications, Research, and Education
		SHPO	state historic preservation officer (Memphis)
		SHSG	Spherical Harmonic Spatial Grid (model)

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

SI	International System of Units (Système International d'Unités) (standard metric units; replaced mks and mksa systems)	SLS	stereo line scanner
SI	Smithsonian Institution (Washington, D.C.)	SLURP	Simple Linear Unit Reservoir Program
SI	solar influences	SMC	System Management Center
SIAM	Society for Industrial and Applied Mathematics (Philadelphia)	SMCRA	Surface Mining Control and Reclamation Act
SiB	simple biosphere (model)	SME	Society of Mining Engineers
SIDS	Sustainable Development of Small Island Developing States	SME	Solar Mesosphere Explorer
SIFE	Second ISCCP Field Experiment	SMM	Solar Maximum Mission
SIG-WAIS	Special Interest Group-Wide Area Information Server	SM-MIMD	shared memory, multiple instruction, and multiple data (computer)
SIMD	Single Instruction, Multiple Data (system) (processor)	SMMR	scanning multichannel microwave radiometer
SIO	Scripps Institution of Oceanography (San Diego, Calif.)	SMMR	scanning multifrequency microwave radiometer
SIO, SIP	silicate	SMO	Samoa Observatory (American Samoa) (CMDL)
SIR	Solar Influences Program	SMOS	surface meteorological observation system
SIR	Scientific Information and Retrieval (system)	SMOW	isotope standard for H ₂ O
SIR-C	Shuttle Imaging Radar	SMS	Synchronous Meteorological Satellite
SIROS	Spaceborne Imaging Radar	SMS/GOES	SMS/Geostationary Operational Environmental Satellite
SIRS	Shuttle Imaging Radar-C	SMY	solar maximum year
SISEX	solar and infrared radiation observation stations	SN	Space Network
SIT	satellite infrared spectrometer	SNAS	Strategic National Alternatives Study
SITE	Shuttle Imaging Spectrometer Experiment	SNL	Sandia National Laboratories
SIV	Servizio di Taratura in Italia	SNL/PPG	SNL/Parallel Processing Group
SIZ	Satellite Instructional Television Experiment	SNOTEL	snow survey and remote telemetry
SJVF	solar and interplanetary variability	SNR	signal-to-noise ratio
SK	Seasonal Ice Zone	SO	Southern Oscillation
SLA	Veterinary Agricultural Research Council	SO ₂	sulfur dioxide
SLAR	Saskatchewan	SO ₄	sulfate radical
SLB	Special Libraries Association	SOA	state-of-the-art
SLEJF	side-looking airborne radar	SOC	soil organic carbon
SLIES	shallow land burial	SOCC	Satellite Operation Command and Control
SLP	Sri Lanka Environmental Journalists Forum	SOCEX	Southern Ocean Cloud Experiment
SLR	stratospheric limb infrared emission spectrometer	SOHO	Solar Heliospheric Observatory
SLR	sea-level pressure	SOI	Southern Oscillation Index
	satellite laser ranging	SOI	Survey of India
	sea level rise	SOLSTICE	Solar Stellar Irradiance Comparison Experiment
		SOMMA	single-operator multiparameter metabolic analyzer
		SOP	standard operating procedures

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

SOPAC	South Pacific Applied Geosciences Commission	SRP	soluble reactive phosphorus
SORTI	solar-radiance-transmission interferometer	SRS	Statistical Reporting Service
SOS	Southern Oxidant Study	SRS1	South Research Station 1 (WOCE)
SP	spontaneous potential (geophysical logging)	SRWCP	Short Rotation Woody Crop Program
SPARC	stratospheric processes and their role in climate	SS	stainless steel (flasks)
SPADE	Stratospheric Photochemistry, Aerosols, and Dynamics Expedition	SSA	singular spectrum analysis
SPAN	Space Physics Analysis Network	SSALT	solid-state (radar) altimeter
SPARC	Stratospheric Processes and their Role in Climate	SSARR	Streamflow Synthesis and Reservoir Regulation (model)
SPAS	Shuttle Pallet Satellite	SSB	Space Science Board (NRC)
SPECMAP	Mapping Spectral Variability in Global Climate Project	SSB	Space Studies Board
SPECTRE	Spectral Radiance Experiment	SSBUV	shuttle solar backscatter ultraviolet (radiometer)
SPELDA	Structure Porteuse External pour Lancements Doubles Ariane (external support structure for Ariane dual-launches)	SSC	Scientific Steering Committee (JGOFS, PAGES, and IGBP)
SPIE	Society of Photo-Optical	SSEC	Space Science and Engineering Center
SPM	suspended particulate matter	SSG	Scientific Steering Group
SPO	South Pole Observatory (Antarctica) (CMDL)	SSH	Sea Surface Height (above some reference ellipsoid)
SPOT	Satellite Pour l'Observation de la Terre (France)	SSI	Spectral Statistical Interpolation
SPOT	Systeme Probatoire pour l'Observation de la Terre (France)	SSM	special sensor microwave
SPR	single point resistance (geophysical logging)	SSM/I	SSM/imager
SPREP	South Pacific Regional Environmental Programme	SSM/T	SSM/temperature
SPREX	Spring Runoff Experiment (DOE)	SSMR-SSM/I	scanning multichannel microwave radiometer-SSM/I
SPSO	Science Processing Support Office	SSP	scanning spectral polarimeter
SR	scanning radiometer	SSSA	Soil Science Society of America
SR	size-resolving	SSSD	state soil survey data base
SRA	Society for Risk Analysis	SST	sea-surface temperature
SRB	surface radiation budget	SSU	stratospheric sounding unit
SRC	Saskatchewan Research Council	SSURGO	soil survey geographic data base (USDA and SCS)
SRC	Science Research Council (formerly DSIR) (U.K.)	STA	Science and Technology Agency (Japan)
SRDC	Surface Reference Data Centre	STA	Strategic Transportation Analysis (integrated transportation networks for MTMC)
SRF	Solar Radiation Facility (CMDL)	STAP	Scientific and Technical Advisory Panel (GEF)
SRF	spectral response function	STAR	Space Three-Axis Accelerometer for Research
SRIC	short-rotation intensive culture	START	System for Analysis, Research, and Training (IGBP, WCRP, and HDP)
SRL	Shuttle Research Laboratory	START-SC	START Standing Committee
SRM	standard reference material	STEM	solar terrestrial environment model
		STEP	Solar Terrestrial Energy Program

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

STIB	Stratosphere-Troposphere Interaction and the Biosphere (IGBP)	SWH	significant wave height
STIKSCAT	stick scatterometer	SWIR	short wavelength infrared
STIP	Study of Travelling Interplanetary Phenomena	SWIRLS	stratospheric wind infrared limb sounder
STORET	Storage and Retrieval System (water quality data; EPA)	SWSA	solid waste storage area
STORM	Storm-scale Operational and Research Meteorology (program)		
STORM-FEST	Storm-scale Observations Regional Measurement Program-Fronts Experiment Systems Test		
STP	standard temperature and pressure (0° and 1 atm)		
STP	Subsurface Transport Program (DOE and OHER)		
STRESS	sediment transport events on shelves and slopes		
STRI	Smithsonian Tropical Research Institute		
STRIVE	Science Teachers Research Involvement for Vital Education (now TRAC)		
STSB	Scientific and Technical Services Branch (BoM)		
SUNY	State University of New York		
SUP	soluble unreactive phosphorus		
SUSIM	Solar Ultraviolet Spectral irradiance monitor		
SVAT	soil vegetation atmosphere transfer (model) (BAHC)		
SVATS	Surface Vegetation Atmosphere Transfer Scheme		
SW	shortwave		
SWACOM	Standard Water Column Model		
SWADE	Surface Wave Dynamic Experiment		
SWCA	Soil and Water Conservation Act (1977)		
SWCC	Second World Climate Conference (1990)		
SWDA	Solid Waste Disposal Act		
SWE	shallow-water equations		
SWEDAC	Swedish Board for Technical Accreditation		
SWF	social welfare function		
SWG	Science Working Group		
SWG	Standards Working Group		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

T T

T/P SWT	TOPEX/Poseidon Science Working Team	TDY	temporary duty
T	tonne	TEA	Temperate East Asia (START)
TA	trace analytical	TEA-COM	Temperate East Asia-Planning Committee (START)
TABLE	Tsukuba Atmospheric Boundary Layer Experiment	TEAM	Technology Base Enhancement for Autonomous Machines
TAC	Tactical Air Command (U.S. Air Force bases) (now ACC)	TEAMA	Terrestrial Ecosystems in Monsoon Asia
TAE	Transportable Applications Executive (a computer user interface)	TEC	total electron content
TAGA	trace atmospheric gas analyzer	TECO	Terrestrial Ecological Research Initiative
Talk	total alkalinity	TECO	terrestrial ecosystems
TAM	Tropical Asian Monsoon Region (START)	TED	Technological and Economic Dynamics
TAO	Tropical Atmosphere Ocean	TED	total energy detector
TAP	Transboundary Air Pollution (project)	TEDDY	TERI Energy Data Directory Yearbook
TAPPI	Technical Association of the Pulp and Paper Industry	TEESE	TERI Energy Economy Simulation Evaluation
TBD	to be determined	TEGD	Technical Enforcement Guidance Document (EPA)
TCA	trichloracetic acid	TEHM	Terrestrial Ecosystem Hydrology Model
TCDC	technical cooperation among developing countries	TEM	Terrestrial Ecosystem Model (GAIM)
TCLP	Toxicity Characteristic Leaching Procedure (EPA)	TERI	Tata Energy Research Institute
TCO	Technical Cooperation Activities (WMO)	TERLS	Thumba Equatorial Rocket Launching Station (India)
TCO ₂	total CO ₂	TERRA	Terrestrial Ecosystem Regional Research and Analysis (Laboratory)
TCP	Tropical Cyclone Programme (WMO)	TERSE	Tunable Etalon Remote Sounder
TCP/IP	Transmission Control Protocol/Internet Protocol	TES	tropospheric emission spectrometer
TCR	tonnes of coal replacement	TF	throughfall
TDDR	total direct diffuse radiometer	TFAP	Tropical Forestry Action Plan (coordinated by FAO)
TDL	Techniques Development	Tflops	One teraflops equals 1 trillion (10 ¹²) floating point operations per second
	Laboratory	Tg	Teragrams or million tonnes
TDLAS	tunable diode laser absorption spectrometer	TG	trace gas
TDMA	tandem differential mobility analyzer	TGCR	thermal gross cloud restoral
TDR	time domain reflectometry	TGCT	thermal gross cloud test
TDRS	Tracking and Data Relay Systems	TGDDIS	Trace Gas Dynamics Data Information System
TDRSS	Tracking and Data Relay Satellite System	TGI	temperature growth index
TDS	total dissolved solids		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

TGT	TDRSS Ground Terminal	TOCSEEG	Tradeoffs Among Competing Social, Environmental, and Economic Goals
TI	thermal imagery	TOF	theoretical orthogonal function
TIA	Territorial and International Affairs	TOGA	Tropical Ocean and Global Atmosphere (program) (WCRP)
TIC	total inorganic carbon	TOGA-COARE	TOGA Coupled Ocean-Atmosphere Response Experiment
TIGER	Terrestrial Initiative in Global Environmental Research (U.K.)	TOMS	total ozone mapping spectrometer (experiment)
TIGER	Topologically Integrated Geographic Encoding and Reference (system) (BOC)	TOMS	total ozone measuring satellite
TIGER/GICS	TIGER/Geographic Identification Code Scheme (U.S. Census Bureau)	TOMUIS	3-D ozone mapping with ultraviolet imaging spectrometer
TIGER/GRF-N	TIGER/Geographic Reference File-Names (BOC)	TON	total organic nitrogen
TIGR	TOVS initial guess retrieval	TOPEX	Topography Experiment
TIMSS	thermal infrared spectral scanner	TOPEX	Topography Ocean Experiment (NASA and CNES)
TIN	Triangular Irregular Network	TOR	Tropospheric Ozone Research (EUROTRAC)
TIR	thermal infrared	torr	pressure in millimeters of mercury with respect to vacuum
TIROS	Television and Infrared Observation Satellite	TOS	TIROS Observational System
TIRS	thermal infrared scanner	TOVS	TIROS operational vertical sounder
TISAB	total ionic strength adjustment buffer (analytical method)	TOX	total organic halides
TISGLOW	TERI Information Service on Global Warming	TRAC	Teacher Research Associate (program) (formerly STRIVE)
TKE	turbulent kinetic energy	TRAGEX	Trace Gas Exchange between Midlatitude Terrestrial Ecosystems and Atmosphere (IGAC)
TL	Team Leader	TREES	Tropical Ecosystem Environmental Observations by Satellite
TLCF	Team Leader Computing Facility	TRL	Transuranium Research Laboratory
TLV	threshold limit value	TRMM	Tropical Rainfall Measurement Mission
TM	team member	TROPOZ	Tropospheric Ozone
TM	Thematic Mapper	TRSC	Thailand Remote Sensing Centre
TMACS	International Mathematics and Computer Simulations	TRUCE	Tropical Urban Climate Experiment
TMC	Thinking Machine Corporation	TSA	Temperate South America (START)
TME	tropical mountain ecosystems (IUBS and MAB)	TSAR	Time-series Storage and Retrieval (system)
TMI	TRMM microwave imager	TSC	Transportation Systems Center (DOT)
TMR	TOPEX microwave radiometer	TSCA	Toxic Substances Control Act (1976)
TMS	thematic mapper simulator	TSD	Treatment, Storage, and Disposal (facilities)
TMS	Typical Shape Functions, Maximum A Posteriori Simultaneous	Tsfc	surface temperature
TNH	Temperate Northern Hemisphere (START)		
TOA	top of the atmosphere		
TOA	tropical ocean-atmosphere (array)		
TOC	total organic carbon		
TOCE	tonne of carbon equivalent		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

TSI	Thermo Systems, Inc.
TSP	total soluble phosphorus
TSP	total suspended particles
TSS	total suspended solids
TSS	Total Surveying Systems
TT	task team
TTO	total toxic organic (compounds)
TTO	transient tracers in the ocean
TUNES	Thomas Washington's Unexpected Nautical Extravaganza South-north (expeditions)
TUR	thermal uniformity restoral
TUT	thermal uniformity test
TVA	Tennessee Valley Authority (U.S. Independent)
TWAS	Third World Academy of Science
TWP	tropical Western Pacific
TWPO	Tropical Western Pacific Ocean
TWRA	Tennessee Wildlife Resources Agency
TWT	Traveling Wave Tube

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

U u u

UAF	University of Alaska-Fairbanks	UMTA	Urban Mass Transportation Administration (DOT)
UAOB	Upper Air Observation	UMTRAP	Uranium Mill Tailings Remedial Action Program
UARP	Upper Atmosphere Research Program	UMTRCA	Uranium Mill Tailings Radiation Control Act
UARS	Upper Atmosphere Research Satellite (NASA)	UN	United Nations
UATI	Union des Associations Techniques Internationals	UNARS	Upper Atmosphere Research Satellite
UAV	unmanned aerospace vehicle	UNCED	United Nations Conference on Environment and Development
UC	University of California	UNCHS	United Nations Commission for Human Settlement
UCAR	University Corporation for Atmospheric Research	UNCTAD	United Nations Commission on Trade and Development
UCI	University of California, Irvine	UNCTAD	United Nations Conference on Trade and Development
UCLA	University of California at Los Angeles (U.S.)	UNDP	United Nations Developmental Program
UCR	University of California at Riverside	UNDRC	Office of the United Nations Disaster Relief Coordinator
UCS	Secretariat to the U.S. National Commission	UNEC	United Nations Economic Committee
UCSB	University of California, Santa Barbara	UNEP	United Nations Environmental Programme (ICSU)
UCSF	University of California at San Francisco	UNESCO	United Nations Educational, Scientific, and Cultural Organization
UDF	UAV demonstration flights	UNFCCC	UN Framework Convention on Climate Change
UFACNC	ultrafine aerosol condensation nucleus counter	UNFPA	United Nations Program for Population
UGM	University of Gadjah Mada, Indonesia	UN GA	UN General Assembly
UH	University of Heidelberg (Germany)	UNGCRP	UN Global Change Research Program
UHF	ultra high frequency	UNHCR	Office of the United Nations High Commissioner for Refugees
UIC	Ukpeagvik Inupiat Corp.	UNICEF	United Nations Children's Fund
UIC	Underground Injection Control (program)	UNIDO	United Nations Industrial Development Organization
UI/CSRD	University of Illinois/Center for Supercomputing Research and Development	UNIFEM	United Nations Development Fund for Women
UITA	Union of International Technical Associations	UNISIST	United Nations System for Scientific and Technological Information
U.K.	United Kingdom (preferred over "UK"; use as adjective only; spell out as noun)		
UKAEA	U.K. Atomic Energy Authorities		
UKMO	U.K. Meteorological Office		
ULST	uniform low stratus test		

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

UNITAR	United Nations Institute for Training and Research	USDOD	U.S. Department of Defense (also DOD and USDD)
UNJSPF	United Nations Joint Staff Pension Fund	USDOE	U.S. Department of Energy (also DOE)
UNM	University of New Mexico	USDOI	U.S. Department of the Interior (also DOI and USDI)
UNO	United Nations Organization	USDW	usable supply of drinking water
UNP	United Nations Political Affairs	USEPA	U.S. Environmental Protection Agency (also EPA)
UNRWA	United Nations Relief and Works Agency	USFS	U.S. Forest Service (USDA)
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation	USFWS	U.S. Fish and Wildlife Service
UNSO	United Nations Sudano-Sahelian Office	USGCRP	U.S. Global Change Research Program
UNTAB	United Nations Technical Assistance Board	USGS	U.S. Geological Survey (DOI)
UNU	United Nations University	USIA	U.S. Information Agency
UPS	uninterruptible power supply	US-IGBP	U.S. Geosphere/Biosphere Program
UPU	Universal Postal Union	USJGOFS	U.S. Joint Global Ocean Flux Study
URAS	(a commercial CO ₂ analyzer)	USMAB	U.S. Man and the Biosphere
URI	University of Rhode Island	USMAPS	U.S. Map Analysis Package System
URL	Uniform Resource Locator (Mosaic)	USN	U.S. Navy
URSI	International Union of Radio Science	USNC/IHP	U.S. National Committee for IHP
US-AID	U.S. Agency for International Development	USNC/SH	U.S. National Committee on Scientific Hydrology
U.S.	United States	USNMAS	U.S. National Map Accuracy Standard
USACE	U.S. Army Corps of Engineers (DOD)	USO	ultra-stable oscillator
USAF	U.S. Air Force	U.S.S.R.	Union of Soviet Socialist Republics (now Russian Federation)
USBCF	U.S. Bureau of Commercial Fisheries	USWB	U.S. Weather Bureau
USBM	U.S. Bureau of Mines	UT	universal time
USBR	U.S. Bureau of Reclamation (USDI)	UT	University of Tennessee
USCG	U.S. Coast Guard	UTC	Universal Time Coordinate
USCGS	U.S. Coast and Geodetic Survey	UTM	Unified Transport Model
USDA	U.S. Department of Agriculture	UTM	university transverse mercator (cartography)
USDA-SCS	U.S. Department of Agriculture-Soil Conservation Service	uv	ultraviolet (preferred over "UV")
USDC	U.S. Department of Commerce (also DOC and USDOC)	UV	ultraviolet ("uv" is preferred)
USDD	U.S. Department of Defense (also USDOD and DOD)	uv-A	ultraviolet type A
USDI	U.S. Department of the Interior (also DOI and USDOI)	uv-B	ultraviolet type B
USDOC	U.S. Department of Commerce (also DOC and USDC)	UVR	ultraviolet radiation
		uv-vis	ultraviolet-visible (spectroscopy)
		UW	University of Wisconsin
		UWG	user working group
		UW/UD	University of Wisconsin/University of Denver

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

V V V

VAD	velocity azimuth display
VAM	vesicular-arbuscular mycorrhiza
VAMP	Validation of Model Project (IAEA)
VAS	VISSR atmospheric sounder (GOES)
VEI	volcano explosivity index
VCP	Voluntary Cooperation Program (Equipment and Services) (UN)
VCP (ES)	Voluntary Cooperation Program (Equipment and Services) (UN)
VCP (F)	Voluntary Cooperation Program (fund)
vfr	very far radiation
vhf	very high frequency
VHRR	very high resolution radiometer
VHSA	variable hydrologic source areas
VIRS	visible infrared scanner
VIRSR	visible infrared scanning radiometer
VIS	visible
VISSR	visible and infrared spin scan radiometer (GOES)
VLBI	very long baseline interferometry
VLSI	very large scale integration
VNIR	visible and near infrared
VOC	volatile organic compound
VOS	voluntary observing ship
VSSC	Vikram Sarabhai Space Center
VTIR	visible and thermal infrared radiometer
VTPR	vertical temperature profile radiometer
VTR	video tape recording

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

W W W

w	watt	WEFAX	weather facsimile
WAIS	West Antarctic Ice Sheet (project) (PAGES)	WENPEX	Western North Pacific Cloud-Radiation Experiment
WAMEX	West African Monsoon Experiment	WEO	Western European Organization (ECOSOC region comprising W. Europe, Canada, U.S., and Japan)
WARC	World Administrative Radio Conference	WES	Waterways Experiment Station (USACE)
WATOX	Western Atlantic Ocean Experiment	WESTPAC	IOC - Programme Group on the Western Pacific
WATFLOOD	University of Waterloo Flood Forecasting System (Canada)	WET	waste extraction test
WATSTORE	Water Data Storage and Retrieval System (USGS)	WETNET	Network for Distribution and Joint Analysis of SSM/I Data (MSFC)
WB	World Bank	WEV	Water Energy-Vegetation
WBC	Western Boundary Current	WEVS	Wetland Ecosystem Vulnerability Study
WBDCS	Wide-Band Data Collection System	WFC	World Food Council (UN)
WBIS	Walker Branch Information System	WFEO	World Federation of Engineering Organizations
WBW	Walker Branch Watershed (introduced as an "experimental facility")	WFF	Wallop Flight Facility
WCAP	World Climate Applications Program (WMO)	WFOV	Wide Field of View
WCASP	World Climate Applications and Services Program (WMO)	WFP	World Food Program
WCDMP	World Climate Data and Monitoring Program (WMO)	WG	working group
WCDP	World Climate Data Program	WGEP	working group on energy policy
WCIP	World Climate Impact Program	WGDM	working group on data management
WCIRP	World Climate Impact Assessment and Response Strategies Program (UNEP)	WGGC	working group on global change
WCP	World Climate Programme (WMO)	WGNE	working group on numerical experimentation
WCRP	World Climate Research Programme (WMO, ICSU, and IOC)	WGRF	working group on radiative fluxes
WCRP-JSC	Joint Scientific Committee (WCRP)	WHO	World Health Organization
WDC	World Data Center (ICSU)	WHOI	Woods Hole Oceanographic Institution
WDSD	Water Data Sources Directory (USGS)	WHP	WOCE Hydrographic Programme
WEAVE	Water and Energy: Atmospheric, Vegetative, and Earth Interactions	WIHG	Waclia Institute of Himalayan Geology
WEBB	Water, Energy, and Biogeochemical Budget (USGS)	WILASS	Water Infiltration in Layered Subfreezing Snow (program)
WECC	Western European Calibration Cooperation	WIND	weather information display
		WINDII	Wind Imaging Interferometer
		WIPO	World Intellectual Property Organization
		WIRP	Watershed Integrated Research Program (DOE)
		WISP	Winter Icing and Storms Programs

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

WITS	World Ionosphere Thermosphere Study
WMC	World Meteorological Center (WWW)
WMO	World Meteorological Organization (ICSU)
WMS	World Magnetic Survey
WOCE	World Ocean Circulation Experiment (WCRP)
WOCE/HP	WOCE/Hydrographic Program
WODC	World Ozone Data Center
WOVO	World Organization of Volcano Observatories
WP	wind profilers
WPCF	Water Pollution Control Federation
WPL	Wave Propagation Laboratory (NOAA)
WPR	Water Resource Planning
WRC	Water Resources Council
WRC	World Radiation Center
WRD	Water Resources Division (USGS and DOI)
WRDD	Water Resources Development Department (MAW)
WRI	World Resources Institute (Washington, D.C.)
WRR	World Radiometric Reference
WRRC	Water Resources Research Center
WSC	Water Survey of Canada
WSI	whole-sky imager
WSMC	Western Space and Missile Center
WST	Whitecap simulation tank
WTH	whole-tree harvest
WTR	Western Test Range (NASA)
WUA	weighted usable area
WVR	water vapor radiometer
WWB	Women's World Banking
WWF	World Wildlife Fund
WWW	World Weather Watch (WMO)
WWW	World Wide Web

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

X X X

X-SAR	X-Band synthetic aperture radar
XBT	expendable bathythermograph (oceanography)
XDR	external data representation
XIE	X-ray Imaging Experiment
XMM	X-ray Multi-mirror Mission
XRD	X-ray diffraction

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

Y y y

year (do not abbreviate this word)
yr year (spell out)

GLOBAL CHANGE ACRONYMS AND ABBREVIATIONS

ZZZ

ZEEI	Exclusive Economic Zone of Indonesia
ZPC	zero point of change (hydrous iron and aluminum oxides)

APPENDIX A. CARBON DIOXIDE INFORMATION ANALYSIS CENTER

The Carbon Dioxide Information Analysis Center (CDIAC), located in the Environmental Sciences Division of Oak Ridge National Laboratory (ORNL), has been in operation since 1982. CDIAC provides the international research, policy, and education communities with information about the evaluation of environmental issues associated with elevated atmospheric carbon dioxide (CO₂) and other greenhouse gases, including potential climate change. The U.S. Department of Energy's (DOE) Environmental Sciences Division funds CDIAC to support its Global Change Research Program. CDIAC is one of three global change information programs in ORNL's Environmental Information Analysis Program. The other two programs are the ORNL Earth Observing System Distributed Active Archive Center and the Atmospheric Radiation Measurement (ARM) Archive.

CDIAC's principal information products are quality-assured, fully documented numeric data packages (NDPs) and computer model packages (CMPs). These products provide comprehensive documentation of benchmark data sets and models provided by investigators from around the world. NDPs consist of written documentation and transfer media containing machine-readable text, retrieval codes, and data files. CDIAC has produced more than 50 of these specialized NDPs and has supplied copies of NDPs and CMPs to thousands of researchers, policymakers, students, and educators worldwide.

A NDP contains sections with the following information:

- Contributors
- Keywords
- Background information
- Source and scope of data
- Applications of data
- Data limitations and restrictions
- References
- Literature reprints
- Summary of data checks
- Ordering information
- Transfer media descriptions
- Data retrieval programs
- Verification of data transport
- Tabular listings and graphic output

The most critical components of the NDP process are quality assurance, documentation of the data, and thorough review and approval by the principal investigators before distribution of their repackaged data sets. CDIAC puts the data through a rigorous and extensive quality assurance review. After the data are checked, they are documented with text, data listings, illustrations, and computer codes. Unabridged reprints of pertinent literature are included with the documentation. Individuals contributing data participate in the documentation process, and no NDP is distributed without written permission from the data contributor. NDPs are updated as new data become available.

In addition to evaluating data and producing digital NDPs and CMPs, CDIAC's activities include distributing CO₂-related reports and producing the newsletter *CDIAC Communications*, which is distributed to more than 10,000 subscribers in approximately 150 countries. CDIAC has also published *Trends '93: A Compendium of Data on Global Change*, *Catalog of Data Bases and Reports*, *Catalog of Numeric Data Packages and Computer Model Packages*, *Glossary: Carbon*

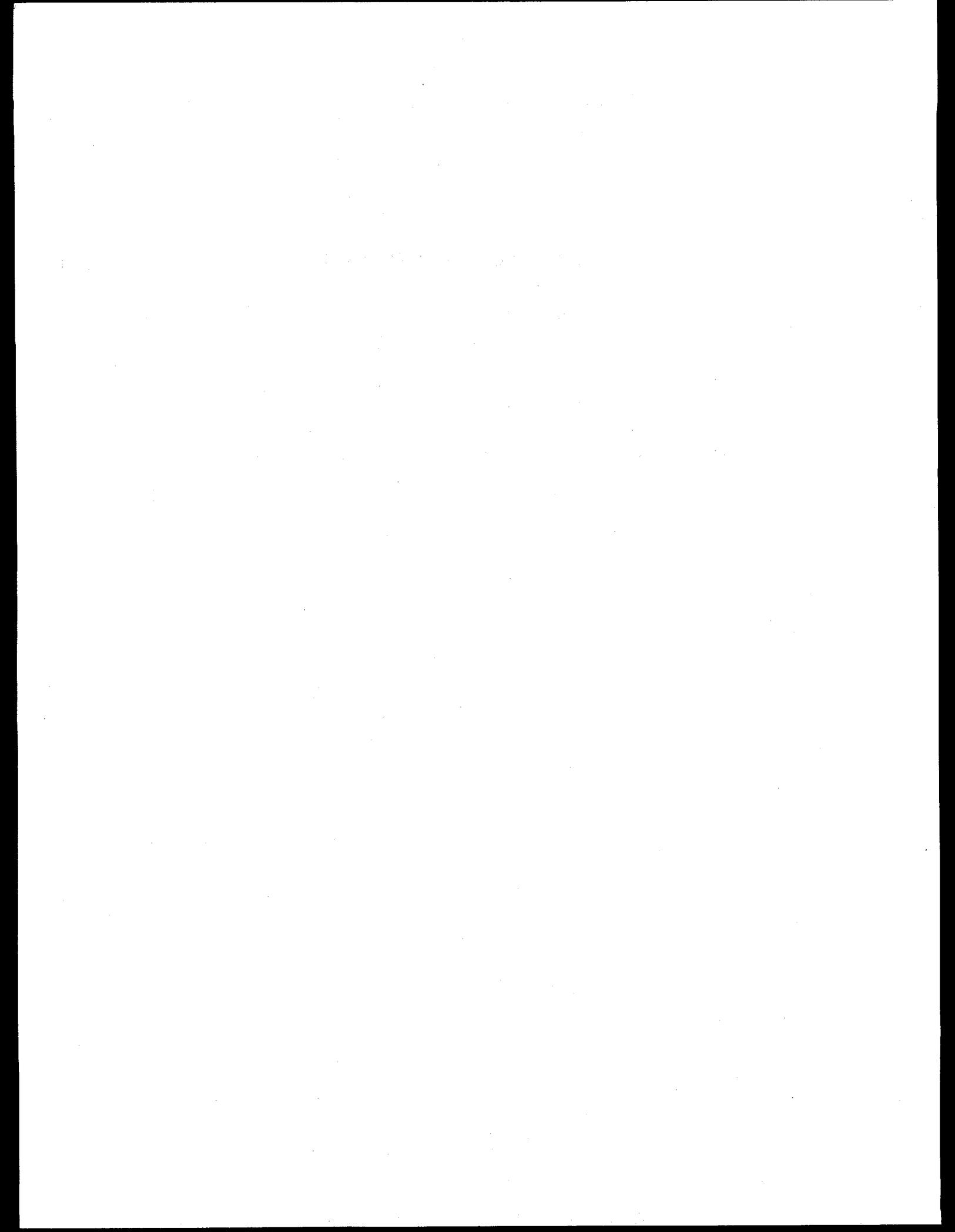
Dioxide and Climate, and *DOE Research Summary* (a four-page newsletter highlighting a specific DOE-sponsored research project). CDIAC also produces *ARM Outreach*, a newsletter for DOE's Atmospheric Radiation Measurement Program.

Since 1985, CDIAC staff have responded to tens of thousands of requests for information. CDIAC staff are available to discuss both general and technical aspects of issues related to the carbon cycle; CO₂, methane, and other trace gas emissions; and other climate change topics, including data and information management issues.

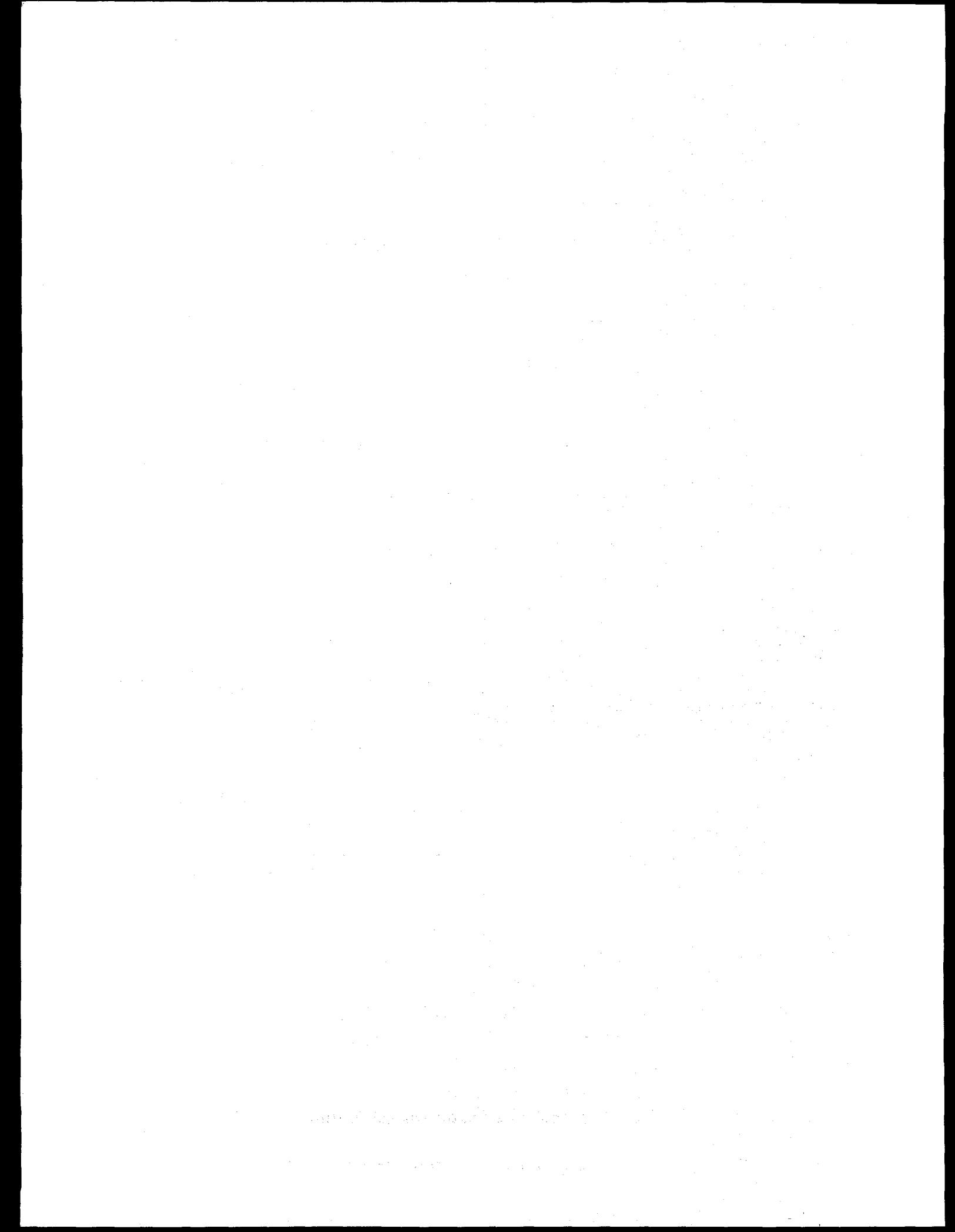
The goal of DOE's Global Change Research Program (GCRP) is to develop sound scientific information for policy formation and government action in response to changes in atmospheric CO₂. GCRP's mission during the past decade has been to (1) elucidate processes that control the global carbon cycle and provide predictions of future atmospheric CO₂ change; (2) develop data and models of the processes by which changes in the Earth's radiative balance may affect climate at global and regional scales and predict rates of potential climate change; and (3) develop data and models required to define and predict the combined effect of climate and CO₂ on plants, crops, and ecosystems.

CDIAC operates World Data Center—A for Atmospheric Trace Gases. The International Council of Scientific Unions established the World Data Centers (WDCs) in 1956. The U.S. National Academy of Sciences oversees World Data Center—A, which includes 12 data centers throughout the United States. As a WDC, CDIAC can better obtain and disseminate information.

CDIAC shares responsibility with the ORNL Central Research Library for operating a Regional Information Centre established by the International Geosphere-Biosphere Programme (IGBP). There are 50 IGBP information centers in 37 countries, which expand the information services for the international global change community.



APPENDIX B. CDIAC ORDER FORM



CDIAC Order Form

Check boxes for materials you would like to receive. All information is provided free of charge.

- ARM Outreach*, newsletter of the ARM (Atmospheric Radiation Measurement) Program
- Catalog of Data Bases and Reports*
- CDIAC Catalog of Numeric Data Packages and Computer Model Packages*
- CDIAC Communications* (newsletter)
- DOE Research Summary* (newsletter)
- Fact Sheet: *Specialty Newsletters — Global Studies and Climate Change*
- Glossary: Carbon Dioxide and Climate*
- Selected Translated Abstracts of Russian-Language Climate-Change Publications: Vol 1. Surface Energy Budget, Vol. 2 Clouds*
- Trends '93: A Compendium of Data on Global Change*
- Trends '93* data on DOS-formatted floppy diskette: 3½" 5¼"
- Instructions for accessing CDIAC's File Transfer Protocol (FTP) Area on the Internet

Name _____
(Last) _____ (First) _____ (M.I.) _____

Organization _____

Mailing Address _____

City _____ State _____ ZIP _____ Country _____

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