
Environmental & Societal Impacts Group

- Objectives
- Activities
- Research
- Outreach
- Organization

National Center for Atmospheric Research
Boulder, Colorado

Environmental & Societal Impacts Group

- Objectives
- Activities
- Research
- Outreach
- Organization

October 1990

ENVIRONMENTAL & SOCIETAL IMPACTS GROUP (ESIG)

- ESIG's research activities are focused on the interactions between climate and society.
- Our strategic objective is to improve the base of knowledge about societal implications of atmospheric processes so that decisionmakers might better understand, anticipate, and respond to atmospheric science-related issues.
- ESIG considers climate variability/change to be a key element of global change.

**ESIG ACTIVITIES CAN BE DIVIDED
INTO THREE CATEGORIES**

RESEARCH WITHIN ESIG

INTERACTION BETWEEN SOCIETY AND ATMOSPHERIC PROCESSES

LINKAGE

COLLABORATIVE RESEARCH BETWEEN ESIG AND OTHER
RESEARCH AND USER GROUPS

OUTREACH

PUBLICATIONS, VISITORS, WORKSHOPS, LECTURES,
QUARTERLY NEWSLETTER

**ESIG RESEARCH ACTIVITIES CAN GENERALLY BE
CATEGORIZED IN THE FOLLOWING THREE AREAS :**

- IMPACTS OF ATMOSPHERIC PROCESSES ON SOCIETY
- IMPACTS OF SOCIETY ON THE ATMOSPHERE
- USES OF ATMOSPHERIC SCIENCE-RELATED INFORMATION

IMPACTS OF ATMOSPHERIC PROCESSES ON SOCIETY

(SELECTION OF STUDIES UNDERTAKEN SINCE 1986)

RESOURCES

- MARINE** {
 - GULF OF MEXICO SHRIMP
 - CLIMATE CHANGE AND FISHERIES

- FOOD** {
 - FAMINES
 - SEASONAL POVERTY
 - DROUGHT & ECONOMIC DEVELOPMENT

- WATER** {
 - LEGAL ARRANGEMENTS
 - INSTITUTIONS
 - HYDROPOWER
 - NAVAJO INDIAN IRRIGATION PROJECT

EXTREME EVENTS

- TEMPERATURE** {
 - EXTREME HIGHS – CROP YIELDS
 - FREEZES – FLORIDA CITRUS

 - PRECIPITATION** {
 - FLOODS** {
 - GREAT SALT LAKE

 - DROUGHTS** {
 - SUB-SAHARAN AFRICA
 - US GREAT PLAINS/STATES' PLANS
 - MOROCCO
-
- EL NIÑO EVENTS** {
 - FISHERIES
 - TELECONNECTIONS

US-HUNGARIAN BILATERAL PROJECT

IMPACTS OF SOCIETY ON THE ATMOSPHERE

GREENHOUSE GASES

INTERNATIONAL POLICY ASPECTS OF CO₂ REDUCTION
GCM-RELATED REGIONAL SCENARIOS
OFFSETS IN EASTERN EUROPE/USSR

CHLOROFLUOROCARBONS

HISTORICAL ANALYSIS OF OZONE NEGOTIATIONS
COMPARISON OF CFC AND CO₂ POLICY ASPECTS

LAND USE

DESERTIFICATION IN THE THIRD WORLD
DROUGHT FOLLOWS THE PLOW

USES OF ATMOSPHERIC SCIENCE-RELATED INFORMATION

I. Descriptive Case Studies

Regional Climate Change Scenarios (Analogies)

El Niño/Forecast/Teleconnections Study

Florida Citrus Growers' Response Strategies

Value of Seasonal Information in Famine Prevention

Drought "Perception"—Survey Replication

II. Methods

Forecasting by Analogy

Extreme Value Theory

Decision Analysis—Fallowing/Planting Study

Inhomogeneity of Temperature Data

**EXPLICIT ATTEMPTS TO LINK
SOCIAL & PHYSICAL INFORMATION**

FORECASTING BY ANALOGY _____ { **LAND-BASED RESOURCES**
LIVING MARINE RESOURCES

TELECONNECTIONS _____ { **SOCIOECONOMIC IMPACTS OF EL NIÑO**
FORECASTING

DROUGHT & HUNGER IN AFRICA

HUMAN ASPECTS OF GLOBAL CHANGE

AREAS OF FUTURE RESEARCH

Atmospheric Resources for Development

- Climate Inventory

Climate Change and Competitiveness

- International Trade and Agricultural Commodities
- Gains and Losses in a Global Warming Context
- Environmental Conflict

Climate Variability/Change and Resource Management

- Water (African Highlands)
- Rates and Processes of Change
- Tropical Forest Management

Policy-Related Issues

- Regional Impacts of Climate Change
- Climate Change and US Water Institutions
- Toxic Waste and Climate Change (Great Lakes)
- Support for Energy Efficiency in Eastern Europe/USSR

Teleconnections

- Global Climate Change and ENSO Events

Use and Value of Climate-Related Information

- Famine Early Warning Systems (FEWS)
- Regional Climate Change Scenarios—Third World
- Extreme Value Theory and Climate Change
- Decision Analysis and Climate Change

Workshops

Networking

OUTREACH

Lugano/Climate Crisis Report

Forecasting by Analogy (Public Report)

Quarterly Climate Impacts Newsletter

Institutional Directory: Climate-Related Impacts Network

US–Eastern Europe Cooperative Science Program
(Hungary)

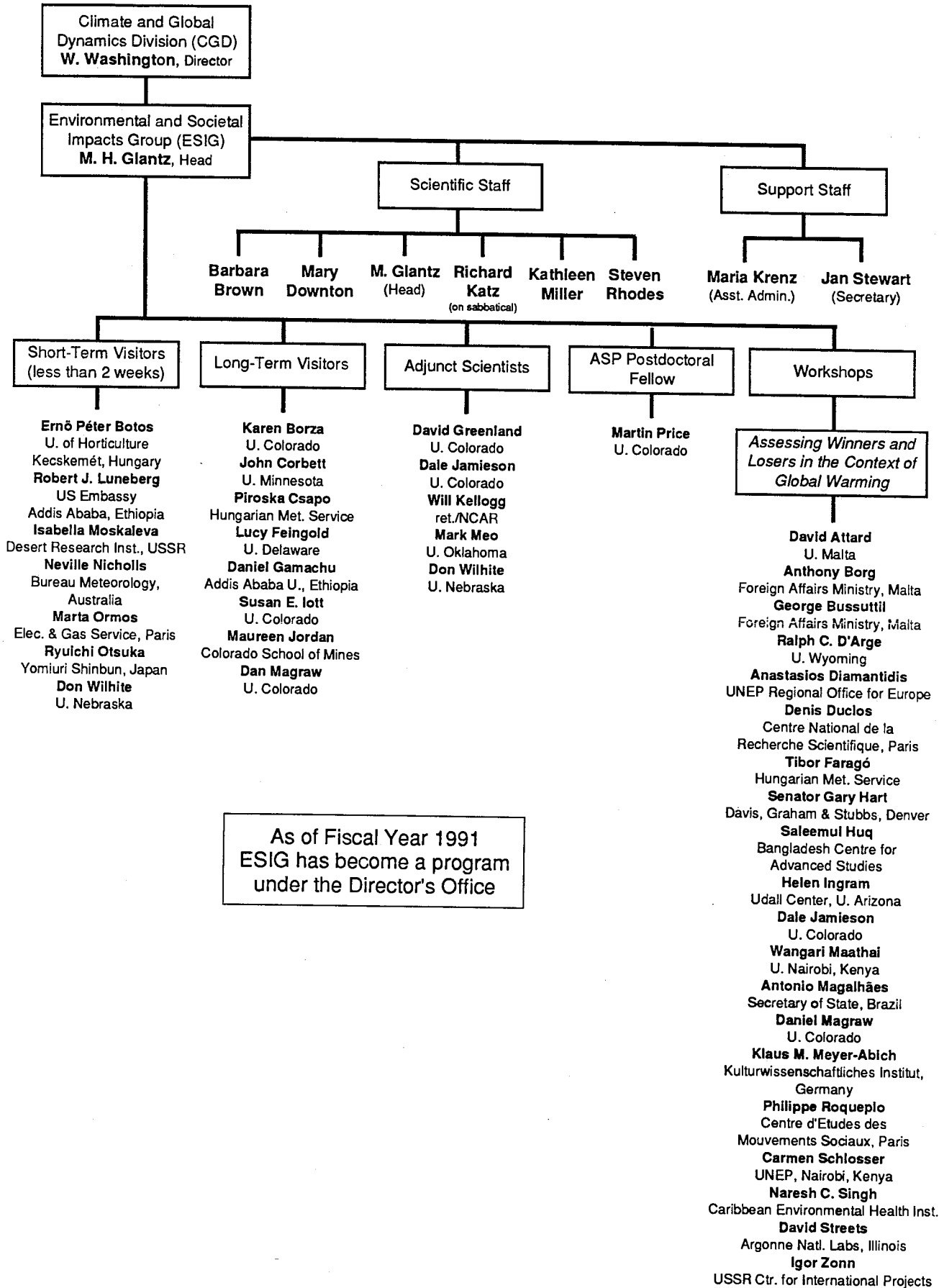
Greenhouse–Glasnost Network

International Networkshop

Fostering National Climate Impacts Network Development in Other Countries (e.g., Ethiopia, Hungary, Vietnam, Brazil)

Global Change and Human Activities Project

Environmental and Societal Impacts Group Staff and Visitors (FY 90)
 (1 October 1989 - 30 September 1990)



As of Fiscal Year 1991
 ESIG has become a program
 under the Director's Office