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**NEWS**

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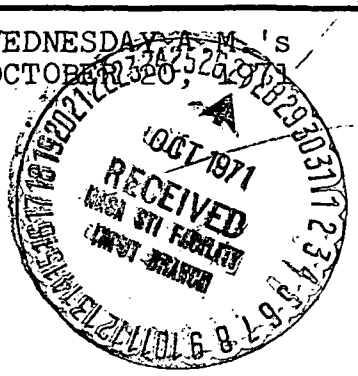


NASA TO SURVEY EARTH'S RESOURCES

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A wide variety of the natural resources of Earth and man's management of them will be studied by an initial group of scientists tentatively chosen by the National Aeronautics and Space Administration to analyze data to be gathered by two Earth-orbiting spacecraft.

The spacecraft are the first Earth Resources Technology Satellite (ERTS-A) and the manned Skylab which will carry an Earth Resources Experiment Package (EREP).

The initial group of experimenters are from 28 states and the District of Columbia and from 22 foreign countries.

In the United States, the initial experiments will study the feasibility of remote sensing from satellite in gathering information on such things as:

- vegetation damage from highway construction in Maine,
- pollution of Lake Pontchartrain, Louisiana,

- the effectiveness of measures to control pink bollworm infestation of cotton in the Imperial Valley of California,
- the color of the ocean for the improvement of commercial fishing off the coast of Oregon,
- the replanting of land used for strip mining in Ohio,
- county-wide land use planning in Florida,
- the grazing of wild and domestic animals on the public lands in the West,
- protection of the seacoast and tidal marshes in New Jersey,
- the role of the playa lakes in the resupply of ground water in the high plains of Texas,
- land use in BOSNYWASH, the megalopolis extending from Boston to Washington, D.C.
- the movement of sediment plumes in the Chesapeake and San Francisco Bays,
- permafrost and wildlife habitats in Alaska,
- the ecological effects of the meandering of the Gulf stream off the east coast of the U.S.,
- rural landscape changes in eastern Tennessee,
- the marine and coastal environment in Puerto Rico and the Virgin Islands,
- the formation and location of icebergs in the Antarctic,

- large scale weather effects on the lee or southeast shores of the Great Lakes,
- an active volcano in the Cascade mountains in Washington,
- storm and tidal erosion of the barrier islands chain off the Gulf coast of Texas,
- inventory of the timber resources in all the major types of forests in the U.S.,
- extent of snow cover for river and flood forecasting in the Sierra Nevada mountains, and
- analysis of the haze over Los Angeles.

Overseas, the first group of experiments will study the feasibility of surveying such things as:

- land use and soil erosion in Guatemala,
- a variety of ground resources in India,
- winter monsoon clouds and snow cover in Japan,
- the hydrologic cycle of the Santa River basin in Peru,
- urban and regional planning in Venezuela,
- snow surveys to assess the risk of spring floods in Norway, and
- detection of locust breeding sites in Saudi Arabia.

More than 700 scientists submitted proposals last June for experiments with ERTS and EREP data, the greatest number ever received by NASA.

The ERTS proposals selected in this initial group are those on which no negotiations on the experiment plan were required with the proposer. In the case of EREP, however, some negotiations may be necessary with some proposers to determine the operation of the experiment by the Skylab astronauts.

Still in the selection process are a number of proposals which require such negotiations. Announcement of additional selections will be made by NASA in the next several months.

About 270 proposals have been rejected.

NASA will fund the experiments selected from U.S. proposers. The experiments proposed by foreign scientists will be funded by the scientist's own country.

In addition to the foreign experiments in this initial selection, cooperative Earth resources projects have been established with Brazil, Canada and Mexico involving aircraft as well as spacecraft remote sensing techniques.

The objective of both ERTS and the EREP aboard Skylab is to obtain multispectral images of the surface of the Earth with high resolution remote sensors and to process and distribute the images to scientific users in a wide variety of disciplines.

ERTS-A is a 950 kilogram (2100-pound) automated satellite to be launched in the spring of 1972 by a Delta rocket from the Western Test Range into a Sun-synchronous, near polar orbit at an altitude of 910 kilometers (565 miles). ERTS-A will carry a return beam vidicon camera system using three vidicon cameras in three spectral bands and a multispectral scanner to sense in four spectral bands.

Data from ERTS will be telemetered to ground stations and then relayed to the NASA Data Processing Facility (NDPF) at the Goddard Space Flight Center, Greenbelt, Maryland. It is anticipated that a combination of more than 300,000 photographs and digital images will be produced each week. At the NDPF, the bulk of the ERTS data will be processed within ten days and made available to experimenters.

Skylab is an 86,000 kilogram (190,000-pound) spacecraft which will be launched unmanned in the spring of 1973 by a Saturn V from Cape Kennedy into a 435 kilometer (270 mile) orbit with an inclination of 50°. It will be manned by three-man crews for one 28-day and two 56-day periods over about eight months.

The EREP includes a six-camera multispectral photographic facility, an infrared spectrometer, a multispectral scanner, a K-band microwave radiometer, scatterometer, altimeter and L-band microwave radiometer.

At the end of each manned visit to Skylab, data from EREP will be returned to Earth in the command module on photographic film and digital data on magnetic tape. Processing of the data will be at the Manned Spacecraft Center, Houston, Texas, which will distribute the data to experimenters.

Processed data on terrain features will be stored in retrievable and reproducible form at the Department of Interior's Earth Resources Observation System Data Center at Sioux Falls, South Dakota. Oceanographic and meteorological data will be stored at the National Oceanic and Atmospheric Administration's National Environmental Satellite Service at Suitland, Maryland.

There follows a list of the scientific experiments in the initial group. They are categorized by the state of the principal investigator.

The ERTS or EREP notation on the Proposal Number column indicates whether the experiment will be conducted with ERTS or EREP data. ERTS/EREP indicates the experiment will use data from both satellites.

UNITED STATES

INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| CALIFORNIA | | | | |
| 027 ERTS | Dr. Ralph C. Hall Natural Resources Management Corp., Eureka | Detection and monitoring of forest insect infestation in the Sierra Nevada Mountains | Yosemite National Park | Environmental Quality, Ecology |
| 042 ERTS | Ernest I. Rich School of Earth Sciences Stanford University Palo Alto | Structural and lithologic study of north coast range | Northern California | Geology |
| 044 ERTS | Dr. Monem Abdel-Gawad North American Rockwell Thousand Oaks | Identification and interpretation of tectonic features from ERTS | Southwestern U.S., Red Sea and African Rift | Geology |
| 059 ERTS | John L. Hult Rand Corporation Santa Monica | Surveying Antarctic iceberg resources | Antarctica | Oceanography |
| 084 ERTS | Dr. Lowell N. Lewis University of California at Riverside | Remote sensing in controlling pink bollworm in cotton | Coachella, Imperial and Palo Verde Valleys | Agriculture, Forestry |
| 153 ERTS | Dr. Donald J. Spencer TRW Systems Group Redondo Beach | Image data compression technique | Worldwide | Interpretation Technique Development |
| 154 ERTS | John E. Taber TRW Systems Group Redondo Beach | Digital correction techniques | No specific site | Interpretation Technique Development |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **CALIFORNIA** | | | | |
| 206 ERTS | Dr. Erk Reimnitz U.S. Geological Survey Menlo Park | Studies of inner shelf and coastal sedimentation | North coast of Alaska | Oceanography |
| 207 ERTS | Oscar J. Ferrians U.S. Geological Survey Menlo Park | Permafrost and geologic hazards in Alaska | Alaska | Geology |
| 226 ERTS | Robert C. Heller U.S. Department of Agriculture, Berkeley | Identification of forest, rangeland, water resources and forest stress | Atlanta,Ga., Black Hills, S.D. and Manitou,Colo. | Agriculture, Forestry |
| 230 ERTS | Dr. Ernest H. Rogers Aerospace Corporation Los Angeles | Remote haze monitoring by satellite | Los Angeles | Environmental Quality, Ecology |
| 245 ERTS | Dr. Claus B. Ludwig General Dynamics Corp. San Diego | Determination of the aerosol content in the atmosphere | Southern California | Environmental Quality, Ecology |
| 409 EREP | James V. A. Trumbull U.S. Geological Survey Menlo Park | Marine and coastal processes on Puerto Rico and Virgin Islands | Puerto Rico and Virgin Islands | Geology |
| 438 EREP | Dr. Monem Abdel-Gawad North American Rockwell Thousand Oaks | Identification and interpretation of tectonic features | Southwestern U.S. | Geology |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **CALIFORNIA** | | | | |
| 463 EREP | Dr. Paul M. Merifield Earth Science Research Corp. Santa Monica | Investigate peninsula range | Southwestern California | Geology |
| 574 EREP | Dr. P. A. Davis Stanford Research Institute Menlo Park | Airborne lidar (light detection and ranging) observations in support of studies of atmospheric radiative transfer | Texas | Meteorology |
| 599 EREP | Dr. Dale F. Leipper Naval Postgraduate School Monterey | Remotely sensed data as a supplement to surface ocean observation | No site required | Oceanography |
| **COLORADO** | | | | |
| 131 ERTS | Edwin D. McKee U.S. Geological Survey Denver | Study of morphology | Africa and Asia | Geology |
| 147 ERTS | Thomas Heller U.S. Geological Survey Denver | Range quality during normal grazing sea on | Oregon, Arizona and Alaska | Agriculture, Forestry |
| 208 ERTS | Larry D. Cast U.S. Geological Survey Denver | Remote sensing of reclamation | Rocky Mountains, and Colo. and Wyoming | Geology |
| 234 ERTS | Lynn M. Shown U.S. Geological Survey Denver | Preparation of hydrological atlases of arid land watersheds | Northeastern Montana, Wyoming and New Mexico | Hydrology |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **COLORADO** | | | | |
| 236 ERTS | Harry W. Smedes U.S. Geological Survey Denver | Computer mapping of terrain | Yellowstone National Park, Wyoming, Montana and Idaho | Geology |
| 238 ERTS | Dr. Roger B. Morrison U.S. Geological Survey Denver | ERTS imagery of the Great Plains | Illinois, Iowa, Missouri, Nebraska and South Dakota | Geology |
| 381 EREP | Dr. P. M. Kuhn National Oceanic and Atmospheric Administration Boulder | Concentrated atmospheric radiation project | Texas and Arizona | Meteorology |
| 487 EREP | Kenneth Watson U.S. Geological Survey Denver | Remote sensing of geophysics | Southeastern Calif. and Mill Creek, Oklahoma | Geology |
| 491 EREP | Dr. Roger B. Morrison U.S. Geological Survey Denver | EREP imagery of the Great Plains | Central Great Plains: Ill., Iowa., Mo., Kan., Neb., S.D. | Geology |
| **DELAWARE** | | | | |
| 477 EREP | Dr. Vytautas Klemas University of Delaware Newark | Ecological, geological and oceanographic studies | Delaware Bay and estuaries | Ecology |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **DISTRICT OF COLUMBIA** | | | | |
| 140 ERTS | Dr. Richard R. Anderson American University | Monitoring wetlands and shallow water environments with ERTS | Chesapeake Bay, part of N. Carolina | Environmental Quality, Ecology |
| 141 ERTS | Dr. Frank J. Wobber Earth Satellite Corp. | Monitor snow cover and snow melting to obtain geological information | Mass. and W. Virginia | Geology |
| 186 ERTS | Dr. John L. Place U.S. Geological Survey | Land use mapping and modeling for the Phoenix quadrangle | Arizona ecological test site | Environmental Quality, Ecology |
| 235 ERTS | Bill J. Van Tries Bureau of Sport Fisheries and Wildlife | Management of wildlife habitat in Alaska | Alaska | Environmental Quality, Ecology |
| 251 ERTS | Jules D. Friedman U.S. Geological Survey | Thermal surveillance of active volcano--Cascade range | Oregon, Wash. and California | Geology |
| 258 ERTS | Dr. Paul M. Maughan Earth Satellite Corp. | To improve menhaden fishery predictions | Gulf of Mexico | Oceanography |
| 297 ERTS | Dr. William A. Brewer Earth Satellite Corp. | Mineral exploration potential of ERTS data | Arizona (South Central) | Geology |
| 363 EREP | Allan Shapiro Naval Research Laboratory | Derive terrain properties and topography from shape of EREP | Across U.S.A. Atlantic and Pacific Oceans | Interpretation Technique Development |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **DISTRICT OF COLUMBIA** | | | | |
| 455 EREP | Morris Deutsch U.S. Department of Interior | Hydrologic significance of faults in the Great Smokey Mountains National Park | N.Carolina, Great Smokey Mountains National Park | Hydrology |
| 474 EREP | Dr. William A. Brewer Earth Satellite Corp. | Mineral exploration potential of EREP data | Arizona | Geology |
| 485 EREP | Dr. Richard R. Anderson American University | Wetlands ecology using EREP data | New Jersey, Maryland, N.Carolina and S.Carolina | Ecology |
| **FLORIDA** | | | | |
| 108 ERTS/EREP | George A. Maul National Oceanic and Atmospheric Administration Miami | Remote sensing of ocean currents | New York, Pennsylvania, Maryland, Florida and Gulf of Mexico | Oceanography |
| 196 ERTS | John W. Hannah Brevard County Planning Department, Titusville | Remote sensing in urban and regional planning | Florida | Geography |
| 385 EREP | John W. Hannah Brevard County Planning Department, Titusville | Remote sensing in urban and regional planning | Florida | Geography |
| **INDIANA** | | | | |
| 325 ERTS/EREP | Dr. Charles Wier Indiana Geological Society, Bloomington | Application of imagery to fracture-related mine safety hazards | Indiana | Geology |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **KANSAS** | | | | |
| 549-1 EREP | Dr. Richard K. Moore University of Kansas Lawrence | S-193 performance evaluation and data collection for future systems design | Various | Sensor Technology |
| 549-3 EREP | Dr. Richard K. Moore University of Kansas Lawrence | S-193 performance evaluation and radseat performance evaluation | Various | Sensor Technology |
| **LOUISIANA** | | | | |
| 295 ERTS | John U. Hidalgo Tulane University New Orleans | Study of ecology of Lake Pontchartrain | Lake Pont-chartrain | Environmen-tal Quality, Ecology |
| **MAINE** | | | | |
| 204 ERTS | Raymond G. Woodman Maine State Highway Commission, Bangor | Map glaciofluvial deposits and land forms | Maine | Geology |
| 205 ERTS | Ernest Stoeckeler Maine State Highway Commission, Bangor | Detection and monitoring of vegetation damage | Maine | Environmen-tal Quality, Ecology |
| 435 EREP | Ernest G. Stoeckeler Maine State Highway Commission, Bangor | Multidisciplinary analysis for highway engineering | Maine | Geology |
| **MARYLAND** | | | | |
| 113 ERTS | Allan Jelacic Wolf Research and Development Corp., Riverdale | Interdependence of lake ice and climate | Central North America | Meteorology |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **MARYLAND** | | | | |
| 161 ERTS | Ralph Bernstein I.B.M. Corp. Gaithersburg | All-digital precision processing of ERTS images | No site required | Interpretation Technique Development |
| 368 ERTS | Dr. Norman A. Macleod Goddard Space Flight Center Greenbelt | Observations of plant growth and annual flooding in Niger River, West Africa | Inland delta of Niger River, West Africa | Hydrology |
| 459 EREP | Morton Keller National Oceanic and Atmospheric Administration Rockville | Feasibility of EREP photography for coastal zone mapping at small scales | Chesapeake Bay and Delaware Bay | Geography |
| **MASSACHUSETTS** | | | | |
| 074 ERTS | Nicholas Gramenopoulos Itek Corp. Lexington | Automated thematic mapping and change detection | Lexington, Mass. | Environmental Quality, Ecology |
| 201 ERTS | James C. Barnes Allied Research Associates Concord | Application of imagery for snow cover surveys | Sierra Nev., Upper Columbia Basin, Salt River Project, Upper Miss.and Missouri Basins | Hydrology |
| 320 ERTS | Dr. Paul Mohr Smithsonian Institution Cambridge | Mapping major structures of African Rift system | Ethiopia, East and Central Africa | Geology |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **MASSACHUSETTS** | | | | |
| 389 EREP | David T. Chang Allied Research Associates Concord | Development of improved techniques for mapping sea and lake ice | Great Lakes and Eastern Canadian Seaboard | Oceanography |
| 439 EREP | David T. Chang Allied Research Associates Concord | Atmospheric effects on radiometric measurements using EREP | Continental U.S. | Interpretation Technique Development |
| 555 ERTS | Prof. H. T. U. Smith University of Massachusetts Amherst | Mapping and analysis of sand dune fields and related eolian erosional features | Africa and Asia | Geology |
| **MICHIGAN** | | | | |
| 077 ERTS | Frederick J. Thompson University of Michigan Ann Arbor | Map terrain features in Yellowstone National Park | Yellowstone National Park, Wyoming | Geology |
| 309 ERTS | Dr. John W. Petty Bendix Corporation Ann Arbor | Ecological effects of strip mining in Ohio | Eastern Ohio | Environmental Quality, Ecology |
| 321-4 ERTS | Prof. E. P. Whiteside Michigan State University East Lansing | Identification of soils and soil conditions | Michigan | Agriculture, Forestry |
| 421 EREP | John G. Braithwaite University of Michigan Ann Arbor | Investigate S-192 operations performance | No site required | Sensor Technology |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

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|---|---|---|---|---|
| **MICHIGAN** | | | | |
| 422 EREP | David C. Anding University of Michigan Ann Arbor | Measure sea temperature and cloud properties | Gulf of Mexico | Oceanography |
| 450 EREP | Dr. Robert E. Turner University of Michigan Ann Arbor | Determination of the earth's aerosol albedo | No site required | Meteorology |
| 598 ERTS | Dr. Vann Elliot Smith Bendix Corporation Ann Arbor | Study of eutrophication of inland lakes | Oakland County, Southeastern Michigan | Hydrology |
| **MINNESOTA** | | | | |
| 257 ERTS | George D. Swanlund Honeywell Minneapolis | Automatic photo interpretation for land use management | Minnesota | Interpretation Technique Development |
| **MISSOURI** | | | | |
| 168 ERTS | Jerry D. Vineyard Missouri Geological Survey Rolla | Land use planning in the St. Louis-Kansas City corridor | Missouri | Geology |
| 210 ERTS | James F. Daniel U.S. Geological Survey St. Louis | Performance of ERTS system on a total system context | Nationwide | Hydrology |
| 240 ERTS/EREP | William H. Stevenson National Oceanic and Atmospheric Administration St. Louis | Relate oceanographic data to fish resource abundance | Gulf of Mexico, Northeastern Coast of U.S. | Oceanography |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **NEBRASKA** | | | | |
| 020 ERTS | Dr. James V. Drew University of Nebraska Lincoln | Mapping and managing soil and range resources in the Sand Hills region | North central Nebraska | Agriculture, Forestry |
| **NEVADA** | | | | |
| 019 ERTS | Dr. Paul T. Tueller University of Nevada Reno | Develop method of satellite imagery for wildlife resource evaluation | Great Basin Nevada | Agriculture, Forestry |
| 289 ERTS | Dr. Joseph Lintz, Jr. University of Nevada Reno | Compilation of two photo maps of the State of Nevada | Nevada | Geography, Demography, Cartography |
| **NEW HAMPSHIRE** | | | | |
| 101 ERTS | Dr. Robert B. Simpson Dartmouth College Hanover | Land use of northern megalopolis | New England | Geography |
| **NEW JERSEY** | | | | |
| 169 ERTS | John M. Danko RCA, Princeton | Meteorological utility of high resolution multispectral data | To be determined | Meteorology |
| 304 ERTS | Roland Yunghans Department of Environmental Protection, Trenton | Protection and management of New Jersey coastal environment | N.J. coast, Sandy Hook to Cape May | Environmental Quality, Ecology |
| **NEW YORK** | | | | |
| 070 ERTS/EREP | Dr. Edward Yost Long Island University Greenvale | Estuarine and coastal oceanography of Block Island Sound and adjacent New York water | New York Block Island Sound | Oceanography |

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| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **NEW YORK** | | | | |
| 159-9 ERTS | Dr. Bernard E. Dethier Cornell University Ithaca | Evaluate satellite data as a source of useful information for agriculture/forestry | Alaska, Indiana, Maine, Mich., New York, Puerto Rico, Pennsylvania, Texas, Vermont and Virginia | Agriculture, Forestry |
| 219 ERTS/EREP | William Harting Tri-State Transportation New York City | Investigate satellite imagery for regional planning | New Jersey, New York and Connecticut | Geography |
| 343 ERTS | Dr. Yngvar W. Isachsen University of State of New York, Albany | Evaluate usefulness of satellite imagery as geological sensor | New York State | Geology |
| 451 EREP | Dr. Edward Yost Long Island University Greenvale | Application of advanced image processing techniques to S-190 | No site required | Interpretation Technique Development |
| **NORTH CAROLINA** | | | | |
| 018 ERTS | Dr. Charles W. Welby North Carolina State University, Raleigh | Use of satellite data in geological data regional planning, forests, etc. | N.Carolina | Geology, Forestry, Hydrology |
| **OKLAHOMA** | | | | |
| 173 ERTS | Dr. Robert Collins Eason Oil Company Oklahoma City | Evaluation of suitability of ERTS data for petroleum exploration | Oklahoma and Texas | Geology |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **OKLAHOMA** | | | | |
| 495 EREP | Dr. Robert Collins Eason Oil Company Oklahoma City | Evaluation of suitability of EREP data for petroleum exploration | Oklahoma and Texas | Geology |
| **PENNSYLVANIA** | | | | |
| 190 ERTS | Richard W. Paulson U.S. Geological Survey Harrisburg | Near real-time water resources data for river basin management | Pennsylvania, Delaware, New Jersey and New York | Sensor Technology |
| **SOUTH CAROLINA** | | | | |
| 507 EREP | N. K. Olson South Carolina State Development Board, Columbia | Applicability of multispectral photography to mineral and land resources of South Carolina | S. Carolina | Geology |
| **TENNESSEE** | | | | |
| 162-3 ERTS | John B. Rehder University of Tennessee Knoxville | Geographic applications of imagery to rural landscape change | East Tennessee | Geography |
| **TEXAS** | | | | |
| 010 ERTS | D. W. Fryrear U.S. Department of Agriculture, Big Springs | Wind erosion of soils | Big Springs, Texas | Agricultur Forestry |
| 0157 EREP | Grant H. Heiken Manned Spacecraft Center Houston | Observation of volcanic activity | Worldwide, Central and South America | Geology |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| TEXAS | | | | |
| 183 ERTS | Dr. Ralph E. Hunter U.S. Geological Survey Corpus Christi | Monitoring changing geologic features along the Texas Gulf coast | Texas Gulf coast | Geology |
| 342-3 ERTS | Dr. William D. Miller Texas Tech University Lubbock | Dynamics of playa lakes in the Texas high plains | Texas | Hydrology |
| 413 EREP | Dr. H. S. Hayrre University of Houston | Cross-correlation study of surface roughness effects on rolling terrain | Texas | Sensor Technology |
| 581 EREP | R. Bryan Erb Manned Spacecraft Center Houston | Utilization of EREP data in Houston test site | Texas | Ecology |
| 582 EREP | Dr. David E. Pitts Manned Spacecraft Center Houston | Investigation of severe storm environments | Worldwide, emphasis on Beta network in Central Oklahoma | Meteorology |
| 583 EREP | Dr. David E. Pitts Manned Spacecraft Center Houston | Land-use signature evaluation | Worldwide, emphasis on U.S. | Interpretation Technique Development |
| 584 EREP | Dr. Thomas L. Barnett Manned Spacecraft Center Houston | Comprehensive study of atmospheric attenuation | No site required | Interpretation Technique Development |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **TEXAS** | | | | |
| 587 EREP | David L. Tingley Manned Spacecraft Center Houston | Quantitative determination of stratospheric aerosol characteristics | No site required | Meteorology |
| 600 ERTS | R. Bryan Erb Manned Spacecraft Center Houston | Utilization of ERTS data for Houston area | Texas | Environmental Quality, Ecology |
| **VERMONT** | | | | |
| 347 ERTS | Dr. Aulis O. Lind University of Vermont Burlington | Environmental study of Lake Champlain Basin | Lake Champlain Basin | Hydrology |
| **VIRGINIA** | | | | |
| 116 ERTS | Dean T. Edson U.S. Geological Survey McLean | Application of ERTS imagery to thematic mapping | No site required | Geography |
| 150 ERTS | Dr. Robert B. McEwen U.S. Geological Survey McLean | Cartographic evaluation of satellite data | No site required | Geography |
| 160 ERTS | Dr. Lynn Glover III Virginia Polytechnic Institute, Blacksburg | Geological land form analysis in Virginia and North Carolina | Virginia and N. Carolina | Geology |
| 211 ERTS | Joseph T. Pilonero U.S. Geological Survey McLean | Compile small scale photomaps of U.S. from ERTS data | Chesapeake Bay, Arizona, Dakotas, and Lake Erie | Geography |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| VIRGINIA | | | | |
| 233 ERTS | Dr. Alden P. Colvocoresses U.S. Geological Survey McLean | Evaluation of ERTS imagery for cartographic application | No site required | Geography |
| 237 ERTS | Joseph W. Luckus U.S. Geological Survey McLean | Man-made culture interpretation and map revision from ERTS imagery | U.S. | Geography, Demography, Cartography |
| 497 EREP | John D. McLaurin U.S. Geological Survey McLean | Cartographic evaluation of S-192 scanner images | No site required | Geography |
| 498 EREP | Joseph T. Pilonero U.S. Geological Survey McLean | Compile small scale photomaps of U.S. from S-190 data | Chesapeake Bay, Lake Erie, Arizona and Dakotas | Geography |
| 499 EREP | Joseph W. Luckus U.S. Geological Survey McLean | Man-made cultural interpretation and map revision from EREP data | U.S. | Geography |
| 500 EREP | Dr. Alden P. Colvocoresses U.S. Geological Survey McLean | Overall evaluation of EREP images for cartographic application | U.S. and selected foreign areas | Geography |
| 501 EREP | Dean T. Edson U.S. Geological Survey McLean | Application of EREP imagery to thematic mapping | U.S. | Geography |
| 517 EREP | Dr. William V. Hargis, Jr. Virginia Institute of Marine Science, Gloucester Point | Southern Chesapeake Bay water color and circulation analysis | Southern Chesapeake Bay | Oceanography |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **WISCONSIN** | | | | |
| 058 ERTS | Prof. James L. Clapp University of Wisconsin Madison | Application of ERTS data to regional land use planning process | Wisconsin, Lakes Michigan and Superior | Environmental Quality, Ecology |
| 220 ERTS | Dr. Walter A. Lyons University of Wisconsin Madison | Use ERTS data for Great Lakes mesometeorological studies | Lake Mich. and Lake Ontario Basins | Meteorology |
| **WYOMING** | | | | |
| 353 EREP | Dr. Clarence F. Becker University of Wyoming Laramie | Energy exchange at the atmosphere-soil interface | Wyoming and Colorado | Ecology |

## FOREIGN

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **AUSTRALIA** | | | | |
| 303 ERTS | Dr. N. H. Fisher Australian Committee for ERTS, Canberra | Earth resources imagery of Australia, Antarctica, Papua, and New Guinea | Australia, Papua, New Guinea | Geology |
| 557 EREP | Dr. N. H. Fisher Australian Committee for ERTS, Canberra | Usefulness of EREP data for Earth resources studies in Australia | Australia | Geology |
| **BRAZIL** | | | | |
| Data to be provided as part of a cooperative Brazil/U.S. remote sensing program for Earth resources energy. | | | | |
| **CANADA** | | | | |
| Data to be provided as part of a cooperative Canadian/U.S. program of experimental remote sensing from satellites and aircraft. | | | | |
| **CHILE** | | | | |
| 372 ERTS | Rene Saa Institute for Investigation of Natural Resources, Santiago | Annual and seasonal changes in the use of soil | Chile | Agriculture Forestry Geography |
| **COLOMBIA** | | | | |
| 305 ERTS | Dr. Bastian N. Koopmans Centro Interamericano de Fotointerpretacion, Bogota | Soil survey, land use and surface water in the savannah areas of Llanos Orientales | Llanos Orientales, Colombia | Agriculture Forestry Hydrology |
| 360 ERTS | Dr. Ramiro G. Delgado University Del Valle, Cali | Environmental quality assessment and ecological diagnosis for health actions | Cali, Colombia | Environmental Quality/ Ecology |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **ECUADOR** | | | | |
| 371 ERTS | Dr. Nester V. Moreno National Planning Council, Quito | Agricultural, forestry and hydrologic surveys in Ecuador | Andean plateau, Ecuador | Agriculture Forestry |
| **FRANCE** | | | | |
| 008 EREP | M. Villevieille French Weather Bureau | Meteorological research (cloud physics) | France | Meteorology |
| 031 ERTS | Dr. Fenand Verger Ecole Pratique des Hautes Etudes, Paris | Study of alluvial zones | Atlantic Littoral, France | Geography Geology Hydrology |
| 051 ERTS | Paul-Augustin Rey French National Center for Scientific Research, Toulouse | Development of automatic data interpretation | Southwest France | Agriculture Forestry |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| *524 ERTS | Dr. Jean-Claude M. Thomas Catholic University of America Washington, D.C. | Analysis and use in research, teaching and other applications of Rhone Delta and neighboring regions | Southern France | Geography Demography Cartography |
| GERMANY | | | | |
| 328 ERTS/EREP | Dr. Dieter Bannert Geological Survey, Federal Republic of Germany, Hannover-Buchholz | Multidisciplinary geoscientific experiments in Central Europe | W. Germany and adjacent areas | Geology Geography Cartography |
| GREECE | | | | |
| 053 ERTS | Dr. N. J. Yassoglou, Greek Nuclear Research Center, Athens | Land use map, forest, soil surveys | Greece | Agriculture Forestry |
| GUATEMALA | | | | |
| 369 ERTS | Dr. Luis Garcia National Geographical Institute, Guatemala City | Updating land use and resource data in Guatemala | Guatemala | Agriculture Forestry Hydrology |

* Dr. Thomas is a French citizen and his experiment is to be funded by France.

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **INDIA** | | | | |
| 054 ERTS | Dr. P. R. Pisharoty Indian Space Research Organization, Ahmedabad | Survey of Indian ground resources using ERTS data | India and adjacent seas and Arabian Sea | Agriculture Hydrology Oceanography |
| 373 EREP | Dr. P. R. Pisharoty Indian Space Research Organization, Ahmedabad | Survey of Indian ground resources using EREP data | India and adjacent Seas | Oceanography Hydrology Geology |
| **INDONESIA** | | | | |
| 004 ERTS | Dr. John A. Katili Indonesian Institute of Science, Djakarta | Investigation of satellite use in acceleration of natural resource exploration | Indonesia | Geology |
| **ISRAEL** | | | | |
| 568-3 EREP | Prof. Joseph Otterman Tel Aviv University | Surveys in hydrology, agriculture and oceanography | Israel | Hydrology Agriculture Oceanography |
| 568-4 EREP | Prof. Joseph Otterman Tel Aviv University | Survey of agriculture, forestry and natural vegetation | Israel | Agriculture Forestry |
| **JAPAN** | | | | |
| 021 ERTS/EREP | Dr. Takakazu Maruyasu Science and Technology Agency Tokyo | Investigation of the environmental change pattern of Japan | Japan and sea areas | Environmental Quality/ Ecology |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **JAPAN** | | | | |
| 022 ERTS/EREP | Kiyoshi Tsuchiya Japan Meteorological Agency Tokyo | Study of mesoscale phenomena, winter monsoon clouds and snow area | Japan | Meteorology |
| **KOREA** | | | | |
| 570 ERTS | Dr. Joung Hwan Lee Geological Survey of Korea | Geological and structural features of Korean Peninsula | Korea | Geology |
| **MEXICO** | | | | |
| Data to be provided as part of a cooperative Mexico/U.S. remote sensing program for Earth resources survey. | | | | |
| **NORWAY** | | | | |
| 374 ERTS | Ole H. Bremne, Norwegian Meterological Institute, Oslo | Studies of sea ice in the Spitzbergen area | Greenland and Barents Sea | Oceanography |
| 375 ERTS | Helge Odegaard State Power Board, Oslo | Snow surveying to assess risk of spring flooding | Southern Norway | Hydrology |
| 378 ERTS | Olav M. Skulberg Royal Norwegian Council for Scientific and Industrial Research, Oslo | Study of environmental quality | Norway and Spitzbergen Archipelago | Environmental Quality/ Ecology |
| **PERU** | | | | |
| 302 ERTS | Dr. Jose C. Pomalaza Institute Geofisico Del Peru, Lima | Application of remote sensing techniques to the study of the Santa River Basin | Santa River Basin, Peru | Hydrology |

## INITIAL GROUP OF ERTS-A/EREP SCIENTIFIC EXPERIMENTS

| PROPOSAL NUMBER | EXPERIMENTER AND INSTITUTION | EXPERIMENT | SITE | DISCIPLINE |
|---|---|---|---|---|
| **SOUTH AFRICA** | | | | |
| 577 ERTS | B. P. Gilbertson Spectral Africa (PTY) Limited, Randfontein | Monitor vegetation growth on mine dumps | Republic of South Africa | Environmental Quality/ Ecology |
| **SWITZERLAND** | | | | |
| 323 ERTS/EREP | Dr. Harold Haefner University of Zurich | Snow survey and vegetation growth in Swiss Alps | Switzerland | Geography Hydrology |
| **UNITED KINGDOM** | | | | |
| 032 ERTS | D. E. Pedgley Anti-Locust Research Center, London | Detection of potential locut breeding sites | South-West Saudi Arabia | Agriculture Forestry |
| 033 ERTS | D. P. Bickmore Royal College of Art London | Experimental cartography using ERTS Data | South Central England | Geography |
| 034 ERTS | P. G. Mott Hunting Surveys, LTD., Herts | Cartographic research programming for small scale mapping | U.K. | Geology |
| **VENEZUELA** | | | | |
| 117 ERTS | Manuel J. Corao Ministery of Public Works, Caracas | Urban and regional planning in Venezuela | Northern Venezuela | Geography |
| 120 ERTS | Dr. Adolfo C. Romero Cartografia Nacional, Caracas | Investigate natural resources in remote areas | South Venezuela | Geology |

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