

## Global Change Master Directory (GCMD) Science Keywords

TOPIC > TERM > VARIABLE\_LEVEL\_1 > VARIABLE\_LEVEL\_2 > VARIABLE\_LEVEL\_3

Agriculture > Agricultural Aquatic Sciences > Aquaculture  
 Agriculture > Agricultural Aquatic Sciences > Fisheries  
 Agriculture > Agricultural Chemicals > Fertilizers  
 Agriculture > Agricultural Chemicals > Pesticides  
 Agriculture > Agricultural Engineering > Agricultural Equipment  
 Agriculture > Agricultural Engineering > Farm Structures  
 Agriculture > Agricultural Plant Science > Crop/Plant Yields  
 Agriculture > Agricultural Plant Science > Cropping Systems  
 Agriculture > Agricultural Plant Science > Irrigation  
 Agriculture > Agricultural Plant Science > Plant Breeding and Genetics  
 Agriculture > Agricultural Plant Science > Plant Diseases/Disorders/Pests  
 Agriculture > Agricultural Plant Science > Reclamation/Revegetation/Restoration  
 Agriculture > Agricultural Plant Science > Weeds, Noxious Plants Or Invasive Plants  
 Agriculture > Animal Commodities > Dairy Products  
 Agriculture > Animal Commodities > Livestock Products  
 Agriculture > Animal Commodities > Poultry Products  
 Agriculture > Animal Science > Animal Breeding and Genetics  
 Agriculture > Animal Science > Animal Diseases/Disorders/Pests  
 Agriculture > Animal Science > Animal Ecology and Behavior  
 Agriculture > Animal Science > Animal Management Systems  
 Agriculture > Animal Science > Animal Manure and Waste  
 Agriculture > Animal Science > Animal Nutrition  
 Agriculture > Animal Science > Animal Physiology and Biochemistry  
 Agriculture > Animal Science > Animal Yields  
 Agriculture > Animal Science > Apiculture  
 Agriculture > Animal Science > Sericulture  
 Agriculture > Feed Products > Feed Composition  
 Agriculture > Feed Products > Feed Contamination and Toxicology  
 Agriculture > Feed Products > Feed Processing  
 Agriculture > Feed Products > Feed Storage  
 Agriculture > Food Science > Food Additives  
 Agriculture > Food Science > Food Contamination and Toxicology  
 Agriculture > Food Science > Food Packaging  
 Agriculture > Food Science > Food Processing  
 Agriculture > Food Science > Food Quality  
 Agriculture > Food Science > Food Storage  
 Agriculture > Forest Science > Afforestation/Reforestation  
 Agriculture > Forest Science > Defoliant  
 Agriculture > Forest Science > Forest Conservation  
 Agriculture > Forest Science > Forest Fire Science  
 Agriculture > Forest Science > Forest Harvesting and Engineering  
 Agriculture > Forest Science > Forest Management  
 Agriculture > Forest Science > Forest Mensuration  
 Agriculture > Forest Science > Forest Products/Commodities  
 Agriculture > Forest Science > Forest Protection  
 Agriculture > Forest Science > Forest Yields  
 Agriculture > Forest Science > Reforestation  
 Agriculture > Plant Commodities > Field Crop Products  
 Agriculture > Plant Commodities > Fruit Products  
 Agriculture > Plant Commodities > Horticultural Products  
 Agriculture > Plant Commodities > Vegetable Products



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J.Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C.Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0

Agriculture > Soils > Calcium  
 Agriculture > Soils > Carbon  
 Agriculture > Soils > Cation Exchange Capacity  
 Agriculture > Soils > Denitrification Rate  
 Agriculture > Soils > Electrical Conductivity  
 Agriculture > Soils > Heavy Metals  
 Agriculture > Soils > Hydraulic Conductivity  
 Agriculture > Soils > Macrofauna  
 Agriculture > Soils > Magnesium  
 Agriculture > Soils > Microfauna  
 Agriculture > Soils > Microflora  
 Agriculture > Soils > Micronutrients/Trace Elements  
 Agriculture > Soils > Nitrogen  
 Agriculture > Soils > Organic Matter  
 Agriculture > Soils > Permafrost  
 Agriculture > Soils > Phosphorus  
 Agriculture > Soils > Potassium  
 Agriculture > Soils > Reclamation/Revegetation/Restoration  
 Agriculture > Soils > Soil Absorption  
 Agriculture > Soils > Soil Bulk Density  
 Agriculture > Soils > Soil Chemistry  
 Agriculture > Soils > Soil Classification  
 Agriculture > Soils > Soil Color  
 Agriculture > Soils > Soil Compaction  
 Agriculture > Soils > Soil Consistence  
 Agriculture > Soils > Soil Depth  
 Agriculture > Soils > Soil Erosion  
 Agriculture > Soils > Soil Fertility  
 Agriculture > Soils > Soil Gas/Air  
 Agriculture > Soils > Soil Heat Budget  
 Agriculture > Soils > Soil Horizons/Profile  
 Agriculture > Soils > Soil Impedance  
 Agriculture > Soils > Soil Infiltration  
 Agriculture > Soils > Soil Mechanics  
 Agriculture > Soils > Soil Moisture/Water Content  
 Agriculture > Soils > Soil pH  
 Agriculture > Soils > Soil Plasticity  
 Agriculture > Soils > Soil Porosity  
 Agriculture > Soils > Soil Productivity  
 Agriculture > Soils > Soil Respiration  
 Agriculture > Soils > Soil Rooting Depth  
 Agriculture > Soils > Soil Salinity/Soil Sodidity  
 Agriculture > Soils > Soil Structure  
 Agriculture > Soils > Soil Temperature  
 Agriculture > Soils > Soil Texture  
 Agriculture > Soils > Soil Water Holding Capacity  
 Agriculture > Soils > Sulfur  
 Agriculture > Soils > Thermal Conductivity  
 Atmosphere > Aerosols > Aerosol Backscatter  
 Atmosphere > Aerosols > Aerosol Extinction  
 Atmosphere > Aerosols > Aerosol Optical Depth/Thickness > Angstrom Exponent  
 Atmosphere > Aerosols > Aerosol Optical Depth/Thickness  
 Atmosphere > Aerosols > Aerosol Particle Properties  
 Atmosphere > Aerosols > Aerosol Radiance  
 Atmosphere > Aerosols > Carbonaceous Aerosols  
 Atmosphere > Aerosols > Cloud Condensation Nuclei



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 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0

Atmosphere > Aerosols > Dust/Ash/Smoke  
 Atmosphere > Aerosols > Nitrate Particles  
 Atmosphere > Aerosols > Organic Particles  
 Atmosphere > Aerosols > Particulate Matter  
 Atmosphere > Aerosols > Sulfate Particles  
 Atmosphere > Air Quality > Carbon Monoxide  
 Atmosphere > Air Quality > Emissions  
 Atmosphere > Air Quality > Lead  
 Atmosphere > Air Quality > Nitrogen Oxides  
 Atmosphere > Air Quality > Particulates  
 Atmosphere > Air Quality > Smog  
 Atmosphere > Air Quality > Sulfur Oxides  
 Atmosphere > Air Quality > Tropospheric Ozone  
 Atmosphere > Air Quality > Turbidity  
 Atmosphere > Air Quality > Visibility  
 Atmosphere > Air Quality > Volatile Organic Compounds  
 Atmosphere > Altitude > Barometric Altitude  
 Atmosphere > Altitude > Geopotential Height  
 Atmosphere > Altitude > Mesopause  
 Atmosphere > Altitude > Planetary Boundary Layer Height  
 Atmosphere > Altitude > Station Height  
 Atmosphere > Altitude > Stratopause  
 Atmosphere > Altitude > Tropopause  
 Atmosphere > Atmospheric Chemistry > Carbon and Hydrocarbon Compounds > Carbon Dioxide  
 Atmosphere > Atmospheric Chemistry > Carbon and Hydrocarbon Compounds > Carbon Monoxide  
 Atmosphere > Atmospheric Chemistry > Carbon and Hydrocarbon Compounds > Chlorinated Hydrocarbons  
 Atmosphere > Atmospheric Chemistry > Carbon and Hydrocarbon Compounds > Hydrogen Cyanide  
 Atmosphere > Atmospheric Chemistry > Carbon and Hydrocarbon Compounds > Hypochlorous Monoxide  
 Atmosphere > Atmospheric Chemistry > Carbon and Hydrocarbon Compounds > Methane  
 Atmosphere > Atmospheric Chemistry > Carbon and Hydrocarbon Compounds > Methyl Cyanide  
 Atmosphere > Atmospheric Chemistry > Carbon and Hydrocarbon Compounds > Non-methane Hydrocarbons/Volatile Organic Compounds  
 Atmosphere > Atmospheric Chemistry > Carbon and Hydrocarbon Compounds  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Bromine Monoxide  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Carbon Tetrachloride  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Chlorine Dioxide  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Chlorine Monoxide  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Chlorine Nitrate  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Chlorofluorocarbons  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Halocarbons  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Halons  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Hydrochlorofluorocarbons  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Hydrofluorocarbons  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Hydrogen Chloride  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Hydrogen Fluoride  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Hypochlorous Acid  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Methyl Bromide  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens > Methyl Chloride  
 Atmosphere > Atmospheric Chemistry > Halocarbons and Halogens  
 Atmosphere > Atmospheric Chemistry > Hydrogen Compounds > Hydroperoxy  
 Atmosphere > Atmospheric Chemistry > Hydrogen Compounds > Hydroxyl  
 Atmosphere > Atmospheric Chemistry > Hydrogen Compounds > Molecular Hydrogen  
 Atmosphere > Atmospheric Chemistry > Hydrogen Compounds  
 Atmosphere > Atmospheric Chemistry > Nitrogen Compounds > Ammonia  
 Atmosphere > Atmospheric Chemistry > Nitrogen Compounds > Dinitrogen Pentoxide  
 Atmosphere > Atmospheric Chemistry > Nitrogen Compounds > Molecular Nitrogen



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Atmosphere > Atmospheric Chemistry > Nitrogen Compounds > Nitric Acid  
 Atmosphere > Atmospheric Chemistry > Nitrogen Compounds > Nitric Oxide  
 Atmosphere > Atmospheric Chemistry > Nitrogen Compounds > Nitrogen Dioxide  
 Atmosphere > Atmospheric Chemistry > Nitrogen Compounds > Nitrogen Oxides  
 Atmosphere > Atmospheric Chemistry > Nitrogen Compounds > Nitrous Oxide  
 Atmosphere > Atmospheric Chemistry > Nitrogen Compounds  
 Atmosphere > Atmospheric Chemistry > Oxygen Compounds > Molecular Oxygen  
 Atmosphere > Atmospheric Chemistry > Oxygen Compounds > Ozone  
 Atmosphere > Atmospheric Chemistry > Oxygen Compounds  
 Atmosphere > Atmospheric Chemistry > Photochemistry > Photolysis Rates  
 Atmosphere > Atmospheric Chemistry > Sulfur Compounds > Carbonyl Sulfide  
 Atmosphere > Atmospheric Chemistry > Sulfur Compounds > Dimethyl Sulfide  
 Atmosphere > Atmospheric Chemistry > Sulfur Compounds > Sulfate  
 Atmosphere > Atmospheric Chemistry > Sulfur Compounds > Sulfur Dioxide  
 Atmosphere > Atmospheric Chemistry > Sulfur Compounds > Sulfur Oxides  
 Atmosphere > Atmospheric Chemistry > Sulfur Compounds  
 Atmosphere > Atmospheric Chemistry > Trace Elements/Trace Metals  
 Atmosphere > Atmospheric Chemistry > Trace Gases/Trace Species  
 Atmosphere > Atmospheric Electricity > Atmospheric Conductivity  
 Atmosphere > Atmospheric Electricity > Electric Field  
 Atmosphere > Atmospheric Electricity > Lightning  
 Atmosphere > Atmospheric Electricity > Total Electron Content  
 Atmosphere > Atmospheric Phenomena > Cyclones  
 Atmosphere > Atmospheric Phenomena > Drought  
 Atmosphere > Atmospheric Phenomena > Fog  
 Atmosphere > Atmospheric Phenomena > Freeze  
 Atmosphere > Atmospheric Phenomena > Frost  
 Atmosphere > Atmospheric Phenomena > Hurricanes  
 Atmosphere > Atmospheric Phenomena > Lightning  
 Atmosphere > Atmospheric Phenomena > Monsoons  
 Atmosphere > Atmospheric Phenomena > Storms  
 Atmosphere > Atmospheric Phenomena > Tornadoes  
 Atmosphere > Atmospheric Phenomena > Typhoons  
 Atmosphere > Atmospheric Pressure > Anticyclones/Cyclones  
 Atmosphere > Atmospheric Pressure > Atmospheric Pressure Measurements  
 Atmosphere > Atmospheric Pressure > Differential Pressure  
 Atmosphere > Atmospheric Pressure > Gravity Wave  
 Atmosphere > Atmospheric Pressure > Hydrostatic Pressure  
 Atmosphere > Atmospheric Pressure > Oscillations  
 Atmosphere > Atmospheric Pressure > Planetary Boundary Layer Height  
 Atmosphere > Atmospheric Pressure > Planetary/Rossby Waves  
 Atmosphere > Atmospheric Pressure > Pressure Anomalies  
 Atmosphere > Atmospheric Pressure > Pressure Tendency  
 Atmosphere > Atmospheric Pressure > Pressure Thickness  
 Atmosphere > Atmospheric Pressure > Sea Level Pressure  
 Atmosphere > Atmospheric Pressure > Static Pressure  
 Atmosphere > Atmospheric Pressure > Surface Pressure  
 Atmosphere > Atmospheric Pressure > Topographic Waves  
 Atmosphere > Atmospheric Radiation > Absorption  
 Atmosphere > Atmospheric Radiation > Airglow  
 Atmosphere > Atmospheric Radiation > Albedo  
 Atmosphere > Atmospheric Radiation > Anisotropy  
 Atmosphere > Atmospheric Radiation > Atmospheric Emitted Radiation  
 Atmosphere > Atmospheric Radiation > Atmospheric Heating  
 Atmosphere > Atmospheric Radiation > Emissivity  
 Atmosphere > Atmospheric Radiation > Heat Flux



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 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0

Atmosphere > Atmospheric Radiation > Incoming Solar Radiation  
 Atmosphere > Atmospheric Radiation > Longwave Radiation  
 Atmosphere > Atmospheric Radiation > Net Radiation  
 Atmosphere > Atmospheric Radiation > Optical Depth/Thickness  
 Atmosphere > Atmospheric Radiation > Outgoing Longwave Radiation  
 Atmosphere > Atmospheric Radiation > Radiative Flux  
 Atmosphere > Atmospheric Radiation > Radiative Forcing  
 Atmosphere > Atmospheric Radiation > Reflectance  
 Atmosphere > Atmospheric Radiation > Scattering  
 Atmosphere > Atmospheric Radiation > Shortwave Radiation  
 Atmosphere > Atmospheric Radiation > Solar Irradiance  
 Atmosphere > Atmospheric Radiation > Solar Radiation  
 Atmosphere > Atmospheric Radiation > Sunshine  
 Atmosphere > Atmospheric Radiation > Transmittance  
 Atmosphere > Atmospheric Radiation > Ultraviolet Radiation  
 Atmosphere > Atmospheric Temperature > Air Temperature  
 Atmosphere > Atmospheric Temperature > Atmospheric Stability  
 Atmosphere > Atmospheric Temperature > Boundary Layer Temperature  
 Atmosphere > Atmospheric Temperature > Degree Days  
 Atmosphere > Atmospheric Temperature > Deiced Temperature  
 Atmosphere > Atmospheric Temperature > Dew Point Temperature  
 Atmosphere > Atmospheric Temperature > Inversion Height  
 Atmosphere > Atmospheric Temperature > Maximum/Minimum Temperature  
 Atmosphere > Atmospheric Temperature > Potential Temperature  
 Atmosphere > Atmospheric Temperature > Skin Temperature  
 Atmosphere > Atmospheric Temperature > Static Temperature  
 Atmosphere > Atmospheric Temperature > Surface Air Temperature  
 Atmosphere > Atmospheric Temperature > Temperature Anomalies  
 Atmosphere > Atmospheric Temperature > Temperature Profiles  
 Atmosphere > Atmospheric Temperature > Temperature Tendency  
 Atmosphere > Atmospheric Temperature > Virtual Temperature  
 Atmosphere > Atmospheric Water Vapor > Condensation  
 Atmosphere > Atmospheric Water Vapor > Dew Point Temperature  
 Atmosphere > Atmospheric Water Vapor > Evaporation  
 Atmosphere > Atmospheric Water Vapor > Evapotranspiration  
 Atmosphere > Atmospheric Water Vapor > Humidity  
 Atmosphere > Atmospheric Water Vapor > Precipitable Water  
 Atmosphere > Atmospheric Water Vapor > Sublimation  
 Atmosphere > Atmospheric Water Vapor > Water Vapor  
 Atmosphere > Atmospheric Water Vapor > Water Vapor Profiles  
 Atmosphere > Atmospheric Water Vapor > Water Vapor Tendency  
 Atmosphere > Atmospheric Winds > Boundary Layer Winds  
 Atmosphere > Atmospheric Winds > Convection  
 Atmosphere > Atmospheric Winds > Convergence/Divergence  
 Atmosphere > Atmospheric Winds > Flight Level Winds  
 Atmosphere > Atmospheric Winds > Streamfunctions  
 Atmosphere > Atmospheric Winds > Surface Winds  
 Atmosphere > Atmospheric Winds > Turbulence  
 Atmosphere > Atmospheric Winds > Upper Level Winds  
 Atmosphere > Atmospheric Winds > Vertical Wind Motion  
 Atmosphere > Atmospheric Winds > Vorticity  
 Atmosphere > Atmospheric Winds > Wind Chill  
 Atmosphere > Atmospheric Winds > Wind Profiles  
 Atmosphere > Atmospheric Winds > Wind Shear  
 Atmosphere > Atmospheric Winds > Wind Stress  
 Atmosphere > Atmospheric Winds > Wind Tendency



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 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0



Atmosphere > Clouds > Cloud Amount/Frequency  
 Atmosphere > Clouds > Cloud Asymmetry  
 Atmosphere > Clouds > Cloud Base  
 Atmosphere > Clouds > Cloud Base Pressure  
 Atmosphere > Clouds > Cloud Base Temperature  
 Atmosphere > Clouds > Cloud Ceiling  
 Atmosphere > Clouds > Cloud Condensation Nuclei  
 Atmosphere > Clouds > Cloud Emissivity  
 Atmosphere > Clouds > Cloud Forcing  
 Atmosphere > Clouds > Cloud Height  
 Atmosphere > Clouds > Cloud Liquid Water/Ice  
 Atmosphere > Clouds > Cloud Mass Flux  
 Atmosphere > Clouds > Cloud Midlayer Temperature  
 Atmosphere > Clouds > Cloud Optical Depth/Thickness  
 Atmosphere > Clouds > Cloud Precipitable Water  
 Atmosphere > Clouds > Cloud Reflectance  
 Atmosphere > Clouds > Cloud Top Pressure  
 Atmosphere > Clouds > Cloud Top Temperature  
 Atmosphere > Clouds > Cloud Types  
 Atmosphere > Clouds > Cloud Vertical Distribution  
 Atmosphere > Clouds > Droplet Concentration/Size  
 Atmosphere > Precipitation > Acid Rain  
 Atmosphere > Precipitation > Droplet Size  
 Atmosphere > Precipitation > Freezing Rain  
 Atmosphere > Precipitation > Hail  
 Atmosphere > Precipitation > Hydrometeors  
 Atmosphere > Precipitation > Liquid Water Equivalent  
 Atmosphere > Precipitation > Precipitation Amount  
 Atmosphere > Precipitation > Precipitation Anomalies  
 Atmosphere > Precipitation > Precipitation Rate  
 Atmosphere > Precipitation > Rain  
 Atmosphere > Precipitation > Sleet  
 Atmosphere > Precipitation > Snow  
 Biological Classification > Animals/Invertebrates > Acorn Worms  
 Biological Classification > Animals/Invertebrates > Arrow Worms  
 Biological Classification > Animals/Invertebrates > Arthropods > Chelicerates > Arachnids  
 Biological Classification > Animals/Invertebrates > Arthropods > Chelicerates  
 Biological Classification > Animals/Invertebrates > Arthropods > Crustaceans > Amphipods  
 Biological Classification > Animals/Invertebrates > Arthropods > Crustaceans > Barnacles  
 Biological Classification > Animals/Invertebrates > Arthropods > Crustaceans > Copepods  
 Biological Classification > Animals/Invertebrates > Arthropods > Crustaceans > Decapods  
 Biological Classification > Animals/Invertebrates > Arthropods > Crustaceans > Euphausiids (krill)  
 Biological Classification > Animals/Invertebrates > Arthropods > Crustaceans > Isopods  
 Biological Classification > Animals/Invertebrates > Arthropods > Crustaceans > Mysids  
 Biological Classification > Animals/Invertebrates > Arthropods > Crustaceans > Ostracods  
 Biological Classification > Animals/Invertebrates > Arthropods > Crustaceans  
 Biological Classification > Animals/Invertebrates > Arthropods > Hexapods > Entognatha  
 Biological Classification > Animals/Invertebrates > Arthropods > Hexapods > Insects  
 Biological Classification > Animals/Invertebrates > Arthropods > Hexapods  
 Biological Classification > Animals/Invertebrates > Arthropods > Myriapods > Centipedes  
 Biological Classification > Animals/Invertebrates > Arthropods > Myriapods > Millipedes  
 Biological Classification > Animals/Invertebrates > Arthropods > Myriapods  
 Biological Classification > Animals/Invertebrates > Arthropods  
 Biological Classification > Animals/Invertebrates > Bryozoans/Moss Animals  
 Biological Classification > Animals/Invertebrates > Burrows/Spoon Worms  
 Biological Classification > Animals/Invertebrates > Cnidarians > Anthozoans/Hexacorals > Hard Or Stony Corals



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Biological Classification > Animals/Invertebrates > Cnidarians > Anthozoans/Hexacorals > Sea Anemones  
 Biological Classification > Animals/Invertebrates > Cnidarians > Anthozoans/Hexacorals  
 Biological Classification > Animals/Invertebrates > Cnidarians > Anthozoans/Octocorals > Sea Fans/Sea Whips  
 Biological Classification > Animals/Invertebrates > Cnidarians > Anthozoans/Octocorals > Sea Pens  
 Biological Classification > Animals/Invertebrates > Cnidarians > Anthozoans/Octocorals > Soft Corals  
 Biological Classification > Animals/Invertebrates > Cnidarians > Anthozoans/Octocorals  
 Biological Classification > Animals/Invertebrates > Cnidarians > Hydrozoans  
 Biological Classification > Animals/Invertebrates > Cnidarians > Jellyfishes  
 Biological Classification > Animals/Invertebrates > Cnidarians  
 Biological Classification > Animals/Invertebrates > Comb Jellies  
 Biological Classification > Animals/Invertebrates > Echinoderms > Brittle/Basket Stars  
 Biological Classification > Animals/Invertebrates > Echinoderms > Sea Stars  
 Biological Classification > Animals/Invertebrates > Echinoderms > Sea Urchins  
 Biological Classification > Animals/Invertebrates > Echinoderms  
 Biological Classification > Animals/Invertebrates > Entoprocts  
 Biological Classification > Animals/Invertebrates > Flatworms/Flukes/Tapeworms  
 Biological Classification > Animals/Invertebrates > Gnathostomulids  
 Biological Classification > Animals/Invertebrates > Horsehair Worms  
 Biological Classification > Animals/Invertebrates > Lamp Shells  
 Biological Classification > Animals/Invertebrates > Loriciferans  
 Biological Classification > Animals/Invertebrates > Mollusks > Aplacophorans  
 Biological Classification > Animals/Invertebrates > Mollusks > Bivalves > Clams  
 Biological Classification > Animals/Invertebrates > Mollusks > Bivalves > Mussels  
 Biological Classification > Animals/Invertebrates > Mollusks > Bivalves > Oysters  
 Biological Classification > Animals/Invertebrates > Mollusks > Bivalves  
 Biological Classification > Animals/Invertebrates > Mollusks > Cephalopods > Squids  
 Biological Classification > Animals/Invertebrates > Mollusks > Cephalopods  
 Biological Classification > Animals/Invertebrates > Mollusks > Chitons  
 Biological Classification > Animals/Invertebrates > Mollusks > Gastropods  
 Biological Classification > Animals/Invertebrates > Mollusks  
 Biological Classification > Animals/Invertebrates > Peanut Worms  
 Biological Classification > Animals/Invertebrates > Phoronids  
 Biological Classification > Animals/Invertebrates > Priapulans  
 Biological Classification > Animals/Invertebrates > Ribbon Worms  
 Biological Classification > Animals/Invertebrates > Rotifers  
 Biological Classification > Animals/Invertebrates > Roundworms  
 Biological Classification > Animals/Invertebrates > Segmented Worms (annelids) > Bristle Worms  
 Biological Classification > Animals/Invertebrates > Segmented Worms (annelids) > Earthworms  
 Biological Classification > Animals/Invertebrates > Segmented Worms (annelids) > Leeches  
 Biological Classification > Animals/Invertebrates > Segmented Worms (annelids)  
 Biological Classification > Animals/Invertebrates > Spiny-headed Worms  
 Biological Classification > Animals/Invertebrates > Sponges  
 Biological Classification > Animals/Invertebrates > Tunicates > Larvaceans  
 Biological Classification > Animals/Invertebrates > Tunicates > Salps  
 Biological Classification > Animals/Invertebrates > Tunicates > Sea Squirts  
 Biological Classification > Animals/Invertebrates > Tunicates  
 Biological Classification > Animals/Invertebrates > Water Bears (tardigrades)  
 Biological Classification > Animals/Invertebrates > Wheel Weavers (cycliophorans)  
 Biological Classification > Animals/Vertebrates > Amphibians > Frogs/Toads  
 Biological Classification > Animals/Vertebrates > Amphibians > Salamanders  
 Biological Classification > Animals/Vertebrates > Amphibians  
 Biological Classification > Animals/Vertebrates > Birds > Albatrosses/Petrels and Allies  
 Biological Classification > Animals/Vertebrates > Birds > Cranes and Allies  
 Biological Classification > Animals/Vertebrates > Birds > Ducks/Geese/Swans  
 Biological Classification > Animals/Vertebrates > Birds > Eagles/Falcons/Hawks and Allies  
 Biological Classification > Animals/Vertebrates > Birds > Grebes



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Biological Classification > Animals/Vertebrates > Birds > Herons/Egrets and Allies  
 Biological Classification > Animals/Vertebrates > Birds > Ibises/Spoonbills  
 Biological Classification > Animals/Vertebrates > Birds > Loons  
 Biological Classification > Animals/Vertebrates > Birds > Pelicans and Allies  
 Biological Classification > Animals/Vertebrates > Birds > Penguins  
 Biological Classification > Animals/Vertebrates > Birds > Perching Birds  
 Biological Classification > Animals/Vertebrates > Birds > Sandpipers  
 Biological Classification > Animals/Vertebrates > Birds > Waders/Gulls/Auks and Allies  
 Biological Classification > Animals/Vertebrates > Birds  
 Biological Classification > Animals/Vertebrates > Fish > Lampreys/Hagfishes  
 Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes > Anchovies/Herrings  
 Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes > Catfishes/Minnows  
 Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes > Cods/Haddock  
 Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes > Flounders  
 Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes > Needlefishes  
 Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes > Perch-like Fishes  
 Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes > Pupfishes  
 Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes > Salmon/Trouts  
 Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes > Sturgeons/Paddlefishes  
 Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes  
 Biological Classification > Animals/Vertebrates > Fish > Sharks/Rays/Chimaeras  
 Biological Classification > Animals/Vertebrates > Fish  
 Biological Classification > Animals/Vertebrates > Mammals > Bats  
 Biological Classification > Animals/Vertebrates > Mammals > Carnivores > Bears  
 Biological Classification > Animals/Vertebrates > Mammals > Carnivores > Dogs/Foxes/Wolves  
 Biological Classification > Animals/Vertebrates > Mammals > Carnivores > Martens/Weasels/Wolverines  
 Biological Classification > Animals/Vertebrates > Mammals > Carnivores > Otters  
 Biological Classification > Animals/Vertebrates > Mammals > Carnivores > Seals/Sea Lions/Walrus  
 Biological Classification > Animals/Vertebrates > Mammals > Carnivores  
 Biological Classification > Animals/Vertebrates > Mammals > Cetaceans > Baleen Whales  
 Biological Classification > Animals/Vertebrates > Mammals > Cetaceans > Toothed Whales  
 Biological Classification > Animals/Vertebrates > Mammals > Cetaceans  
 Biological Classification > Animals/Vertebrates > Mammals > Dugongs/Manatees  
 Biological Classification > Animals/Vertebrates > Mammals > Elephants  
 Biological Classification > Animals/Vertebrates > Mammals > Even-toed Ungulates > Cattle/Sheep  
 Biological Classification > Animals/Vertebrates > Mammals > Even-toed Ungulates > Deer/Moose  
 Biological Classification > Animals/Vertebrates > Mammals > Even-toed Ungulates > Hogs/Pigs  
 Biological Classification > Animals/Vertebrates > Mammals > Even-toed Ungulates  
 Biological Classification > Animals/Vertebrates > Mammals > Rodents  
 Biological Classification > Animals/Vertebrates > Mammals  
 Biological Classification > Animals/Vertebrates > Reptiles > Alligators/Crocodiles  
 Biological Classification > Animals/Vertebrates > Reptiles > Lizards/Snakes  
 Biological Classification > Animals/Vertebrates > Reptiles > Turtles  
 Biological Classification > Animals/Vertebrates > Reptiles  
 Biological Classification > Bacteria/Archaea > Cyanobacteria (blue-green Algae)  
 Biological Classification > Fungi > Lichens  
 Biological Classification > Fungi > Mushrooms  
 Biological Classification > Fungi > Slime Molds  
 Biological Classification > Fungi > Yeasts/Truffles  
 Biological Classification > Plants > Angiosperms (flowering Plants) > Dicots  
 Biological Classification > Plants > Angiosperms (flowering Plants) > Monocots > Seagrass  
 Biological Classification > Plants > Angiosperms (flowering Plants) > Monocots  
 Biological Classification > Plants > Angiosperms (flowering Plants)  
 Biological Classification > Plants > Ferns and Allies > Club Mosses  
 Biological Classification > Plants > Ferns and Allies > Ferns  
 Biological Classification > Plants > Ferns and Allies > Horsetails



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J. Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C. Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007. NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.



Biological Classification > Plants > Ferns and Allies > Whisk Ferns  
 Biological Classification > Plants > Ferns and Allies  
 Biological Classification > Plants > Gymnosperms > Conifers  
 Biological Classification > Plants > Gymnosperms > Cycads  
 Biological Classification > Plants > Gymnosperms > Ginkgo  
 Biological Classification > Plants > Gymnosperms > Gnetops  
 Biological Classification > Plants > Gymnosperms  
 Biological Classification > Plants > Macroalgae (seaweeds) > Brown Algae  
 Biological Classification > Plants > Macroalgae (seaweeds) > Green Algae  
 Biological Classification > Plants > Macroalgae (seaweeds) > Red Algae  
 Biological Classification > Plants > Macroalgae (seaweeds)  
 Biological Classification > Plants > Microalgae > Cryptomonads  
 Biological Classification > Plants > Microalgae > Diatoms  
 Biological Classification > Plants > Microalgae > Dinoflagellates  
 Biological Classification > Plants > Microalgae > Haptophytes > Coccolithophores  
 Biological Classification > Plants > Microalgae > Haptophytes  
 Biological Classification > Plants > Microalgae  
 Biological Classification > Plants > Mosses/Hornworts/Liverworts  
 Biological Classification > Protists > Amoeboids > Amoebas  
 Biological Classification > Protists > Amoeboids > Foraminifers  
 Biological Classification > Protists > Amoeboids > Radiolarians  
 Biological Classification > Protists > Amoeboids  
 Biological Classification > Protists > Ciliates  
 Biological Classification > Protists > Diatoms  
 Biological Classification > Protists > Flagellates > Cryptomonads  
 Biological Classification > Protists > Flagellates > Dinoflagellates  
 Biological Classification > Protists > Flagellates > Haptophytes > Coccolithophores  
 Biological Classification > Protists > Flagellates > Haptophytes  
 Biological Classification > Protists > Flagellates  
 Biological Classification > Protists > Macroalgae (seaweeds) > Brown Algae  
 Biological Classification > Protists > Macroalgae (seaweeds) > Green Algae  
 Biological Classification > Protists > Macroalgae (seaweeds) > Red Algae  
 Biological Classification > Protists > Macroalgae (seaweeds)  
 Biological Classification > Protists > Slime Molds  
 Biological Classification > Protists > Sporozoans  
 Biosphere > Aquatic Ecosystems > Benthic Habitat  
 Biosphere > Aquatic Ecosystems > Coastal Habitat  
 Biosphere > Aquatic Ecosystems > Demersal Habitat  
 Biosphere > Aquatic Ecosystems > Estuarine Habitat  
 Biosphere > Aquatic Ecosystems > Lakes > Saline Lakes  
 Biosphere > Aquatic Ecosystems > Lakes  
 Biosphere > Aquatic Ecosystems > Marine Habitat  
 Biosphere > Aquatic Ecosystems > Pelagic Habitat  
 Biosphere > Aquatic Ecosystems > Plankton > Phytoplankton  
 Biosphere > Aquatic Ecosystems > Plankton > Zooplankton  
 Biosphere > Aquatic Ecosystems > Plankton  
 Biosphere > Aquatic Ecosystems > Reef Habitat  
 Biosphere > Aquatic Ecosystems > Rivers/Stream Habitat  
 Biosphere > Aquatic Ecosystems > Wetlands > Estuarine Wetlands  
 Biosphere > Aquatic Ecosystems > Wetlands > Lacustrine Wetlands  
 Biosphere > Aquatic Ecosystems > Wetlands > Marine  
 Biosphere > Aquatic Ecosystems > Wetlands > Marshes  
 Biosphere > Aquatic Ecosystems > Wetlands > Palustrine Wetlands  
 Biosphere > Aquatic Ecosystems > Wetlands > Peatlands  
 Biosphere > Aquatic Ecosystems > Wetlands > Riparian Wetlands  
 Biosphere > Aquatic Ecosystems > Wetlands > Swamps



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J.Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C.Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0

Biosphere > Aquatic Ecosystems > Wetlands  
 Biosphere > Ecological Dynamics > Community Dynamics > Biodiversity Functions  
 Biosphere > Ecological Dynamics > Community Dynamics > Community Structure  
 Biosphere > Ecological Dynamics > Community Dynamics > Grazing Dynamics / Plant Ecology  
 Biosphere > Ecological Dynamics > Community Dynamics > Indicator Species  
 Biosphere > Ecological Dynamics > Community Dynamics > Invasive Species  
 Biosphere > Ecological Dynamics > Community Dynamics > Plant Succession  
 Biosphere > Ecological Dynamics > Community Dynamics > Species Dominance Indices  
 Biosphere > Ecological Dynamics > Community Dynamics > Species Recruitment  
 Biosphere > Ecological Dynamics > Community Dynamics  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Biogeochemical Cycles  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Biomass Dynamics  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Chemosynthesis  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Consumption Rates  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Decomposition  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Excretion Rates  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Food-web Dynamics  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Nutrient Cycling  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Oxygen Demand  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Photosynthesis  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Primary Production  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Respiration Rate  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Secondary Production  
 Biosphere > Ecological Dynamics > Ecosystem Functions > Trophic Dynamics  
 Biosphere > Ecological Dynamics > Ecosystem Functions  
 Biosphere > Ecological Dynamics > Ecotoxicology > Bioavailability  
 Biosphere > Ecological Dynamics > Ecotoxicology > Species Bioaccumulation  
 Biosphere > Ecological Dynamics > Ecotoxicology > Toxicity Levels  
 Biosphere > Ecological Dynamics > Ecotoxicology  
 Biosphere > Ecological Dynamics > Fire Ecology > Fire Dynamics  
 Biosphere > Ecological Dynamics > Fire Ecology > Fire Occurrence  
 Biosphere > Ecological Dynamics > Fire Ecology  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Bioluminescence  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Diurnal Movements  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Endangered Species  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Evolutionary Adaptation  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Exotic Species  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Extinction Rate  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Grazing Dynamics/Plant Herbivory  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Indigenous/Native Species  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Migratory Rates/Routes  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Mutation Rates  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Mutualism  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Natural Selection  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Parasitism  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Pollinator Species  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Population Dynamics  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Post-breeding Periods  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Range Changes  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Scavenging  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Species Competition  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Species Life History  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Species Predation  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Survival Rates  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Symbiosis  
 Biosphere > Ecological Dynamics > Species/Population Interactions > Use/Feeding Habitats



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J.Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C.Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0

Biosphere > Ecological Dynamics > Species/Population Interactions  
 Biosphere > Terrestrial Ecosystems > Agricultural Lands  
 Biosphere > Terrestrial Ecosystems > Alpine/Tundra  
 Biosphere > Terrestrial Ecosystems > Beaches  
 Biosphere > Terrestrial Ecosystems > Deserts  
 Biosphere > Terrestrial Ecosystems > Dunes  
 Biosphere > Terrestrial Ecosystems > Forests  
 Biosphere > Terrestrial Ecosystems > Grasslands  
 Biosphere > Terrestrial Ecosystems > Islands  
 Biosphere > Terrestrial Ecosystems > Karst Landscape  
 Biosphere > Terrestrial Ecosystems > Montane Habitats  
 Biosphere > Terrestrial Ecosystems > Savannas  
 Biosphere > Terrestrial Ecosystems > Shrubland/Scrub  
 Biosphere > Terrestrial Ecosystems > Urban Lands  
 Biosphere > Terrestrial Ecosystems > Wetlands > Estuarine Wetlands  
 Biosphere > Terrestrial Ecosystems > Wetlands > Lacustrine Wetlands  
 Biosphere > Terrestrial Ecosystems > Wetlands > Marine  
 Biosphere > Terrestrial Ecosystems > Wetlands > Marshes  
 Biosphere > Terrestrial Ecosystems > Wetlands > Palustrine Wetlands  
 Biosphere > Terrestrial Ecosystems > Wetlands > Peatlands  
 Biosphere > Terrestrial Ecosystems > Wetlands > Riparian Wetlands  
 Biosphere > Terrestrial Ecosystems > Wetlands > Swamps  
 Biosphere > Terrestrial Ecosystems > Wetlands  
 Biosphere > Vegetation > Afforestation/Reforestation  
 Biosphere > Vegetation > Biomass  
 Biosphere > Vegetation > Canopy Characteristics  
 Biosphere > Vegetation > Carbon  
 Biosphere > Vegetation > Chlorophyll  
 Biosphere > Vegetation > Crown  
 Biosphere > Vegetation > Deciduous Vegetation  
 Biosphere > Vegetation > Dominant Species  
 Biosphere > Vegetation > Evergreen Vegetation  
 Biosphere > Vegetation > Exotic Vegetation  
 Biosphere > Vegetation > Forest Composition/Vegetation Structure  
 Biosphere > Vegetation > Herbivory  
 Biosphere > Vegetation > Importance Value  
 Biosphere > Vegetation > Indigenous Vegetation  
 Biosphere > Vegetation > Leaf Characteristics  
 Biosphere > Vegetation > Litter Characteristics  
 Biosphere > Vegetation > Macrophytes  
 Biosphere > Vegetation > Nitrogen  
 Biosphere > Vegetation > Nutrients  
 Biosphere > Vegetation > Phosphorus  
 Biosphere > Vegetation > Photosynthetically Active Radiation  
 Biosphere > Vegetation > Pigments  
 Biosphere > Vegetation > Plant Characteristics  
 Biosphere > Vegetation > Plant Phenology  
 Biosphere > Vegetation > Pollen  
 Biosphere > Vegetation > Reclamation/Revegetation/Restoration  
 Biosphere > Vegetation > Reforestation  
 Biosphere > Vegetation > Tree Rings  
 Biosphere > Vegetation > Vegetation Cover  
 Biosphere > Vegetation > Vegetation Index  
 Biosphere > Vegetation > Vegetation Species  
 Climate Indicators > Air Temperature Indices > Common Sense Climate Index  
 Climate Indicators > Drought/Precipitation Indices > Central Indian Precipitation Index



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J.Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C.Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0

Climate Indicators > Drought/Precipitation Indices > Crop Moisture Index  
 Climate Indicators > Drought/Precipitation Indices > Enso Precipitation Index  
 Climate Indicators > Drought/Precipitation Indices > Fire Weather Index  
 Climate Indicators > Drought/Precipitation Indices > Forest Fire Danger Index  
 Climate Indicators > Drought/Precipitation Indices > Palmer Drought Crop Moisture Index  
 Climate Indicators > Drought/Precipitation Indices > Palmer Drought Severity Index  
 Climate Indicators > Drought/Precipitation Indices > Satellite Soil Moisture Index  
 Climate Indicators > Drought/Precipitation Indices > Standardized Precipitation Index  
 Climate Indicators > Drought/Precipitation Indices > Surface Moisture Index  
 Climate Indicators > Humidity Indices > Humidity Index  
 Climate Indicators > Ocean/SST Indices > Atlantic Multidecadal Oscillation  
 Climate Indicators > Ocean/SST Indices > Caribbean Index  
 Climate Indicators > Ocean/SST Indices > Kaplan SST Index  
 Climate Indicators > Ocean/SST Indices > Nino 3 Index  
 Climate Indicators > Ocean/SST Indices > Nino 4 Index  
 Climate Indicators > Ocean/SST Indices > Nino1+2 Index  
 Climate Indicators > Ocean/SST Indices > Nino3.4 Index  
 Climate Indicators > Ocean/SST Indices > North Tropical Atlantic Index  
 Climate Indicators > Ocean/SST Indices > Oceanic Nino Index  
 Climate Indicators > Ocean/SST Indices > Trans-nino Index  
 Climate Indicators > Ocean/SST Indices > Tropical North Atlantic Index  
 Climate Indicators > Ocean/SST Indices > Tropical South Atlantic Index  
 Climate Indicators > Ocean/SST Indices > Western Hemisphere Warm Pool  
 Climate Indicators > Teleconnections > Antarctic Oscillation  
 Climate Indicators > Teleconnections > Arctic Oscillation  
 Climate Indicators > Teleconnections > Bivariate Enso Timeseries Index  
 Climate Indicators > Teleconnections > Blocking Index  
 Climate Indicators > Teleconnections > East Atlantic Jet Pattern  
 Climate Indicators > Teleconnections > East Atlantic Pattern  
 Climate Indicators > Teleconnections > Eastern Pacific Oscillation  
 Climate Indicators > Teleconnections > El Nino Southern Oscillation  
 Climate Indicators > Teleconnections > Equatorial Pacific Meridional Wind Anomaly Index  
 Climate Indicators > Teleconnections > Equatorial Pacific Zonal Wind Anomaly Index  
 Climate Indicators > Teleconnections > Globally Integrated Angular Momentum  
 Climate Indicators > Teleconnections > Madden-Julian Oscillation  
 Climate Indicators > Teleconnections > North Atlantic Oscillation  
 Climate Indicators > Teleconnections > North Pacific Oscillation  
 Climate Indicators > Teleconnections > Northern Oscillation Index  
 Climate Indicators > Teleconnections > Pacific Decadal Oscillation  
 Climate Indicators > Teleconnections > Pacific/North American (PNA) Pattern  
 Climate Indicators > Teleconnections > Quasi-biennial Oscillation  
 Climate Indicators > Teleconnections > Tropical/Northern Hemisphere Pattern  
 Climate Indicators > Teleconnections > West Pacific Index  
 Climate Indicators > Teleconnections > Wind and Circulation Indices  
 Cryosphere > Frozen Ground > Active Layer  
 Cryosphere > Frozen Ground > Cryosols  
 Cryosphere > Frozen Ground > Ground Ice  
 Cryosphere > Frozen Ground > Periglacial Processes  
 Cryosphere > Frozen Ground > Permafrost  
 Cryosphere > Frozen Ground > Rock Glaciers  
 Cryosphere > Frozen Ground > Seasonally Frozen Ground  
 Cryosphere > Frozen Ground > Soil Temperature  
 Cryosphere > Frozen Ground > Talik  
 Cryosphere > Glaciers/Ice Sheets > Ablation Zones/Accumulation Zones  
 Cryosphere > Glaciers/Ice Sheets > Firn  
 Cryosphere > Glaciers/Ice Sheets > Glacier Elevation/Ice Sheet Elevation



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J.Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C.Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0

Cryosphere > Glaciers/Ice Sheets > Glacier Facies  
 Cryosphere > Glaciers/Ice Sheets > Glacier Mass Balance/Ice Sheet Mass Balance  
 Cryosphere > Glaciers/Ice Sheets > Glacier Motion/Ice Sheet Motion  
 Cryosphere > Glaciers/Ice Sheets > Glacier Thickness/Ice Sheet Thickness  
 Cryosphere > Glaciers/Ice Sheets > Glacier Topography/Ice Sheet Topography  
 Cryosphere > Glaciers/Ice Sheets > Glaciers  
 Cryosphere > Glaciers/Ice Sheets > Ice Sheets  
 Cryosphere > Glaciers/Ice Sheets > Icebergs  
 Cryosphere > Sea Ice > Heat Flux  
 Cryosphere > Sea Ice > Ice Deformation  
 Cryosphere > Sea Ice > Ice Depth/Thickness  
 Cryosphere > Sea Ice > Ice Edges  
 Cryosphere > Sea Ice > Ice Extent  
 Cryosphere > Sea Ice > Ice Floes  
 Cryosphere > Sea Ice > Ice Growth/Melt  
 Cryosphere > Sea Ice > Ice Roughness  
 Cryosphere > Sea Ice > Ice Temperature  
 Cryosphere > Sea Ice > Ice Types  
 Cryosphere > Sea Ice > Icebergs  
 Cryosphere > Sea Ice > Isotopes  
 Cryosphere > Sea Ice > Leads  
 Cryosphere > Sea Ice > Pack Ice  
 Cryosphere > Sea Ice > Polynyas  
 Cryosphere > Sea Ice > Reflectance  
 Cryosphere > Sea Ice > Salinity  
 Cryosphere > Sea Ice > Sea Ice Age  
 Cryosphere > Sea Ice > Sea Ice Concentration  
 Cryosphere > Sea Ice > Sea Ice Elevation  
 Cryosphere > Sea Ice > Sea Ice Motion  
 Cryosphere > Sea Ice > Snow Depth  
 Cryosphere > Sea Ice > Snow Melt  
 Cryosphere > Snow/Ice > Albedo  
 Cryosphere > Snow/Ice > Avalanche  
 Cryosphere > Snow/Ice > Depth Hoar  
 Cryosphere > Snow/Ice > Freeze/Thaw  
 Cryosphere > Snow/Ice > Frost  
 Cryosphere > Snow/Ice > Ice Depth/Thickness  
 Cryosphere > Snow/Ice > Ice Extent  
 Cryosphere > Snow/Ice > Ice Growth/Melt  
 Cryosphere > Snow/Ice > Ice Motion  
 Cryosphere > Snow/Ice > Ice Velocity  
 Cryosphere > Snow/Ice > Lake Ice  
 Cryosphere > Snow/Ice > Permafrost  
 Cryosphere > Snow/Ice > River Ice  
 Cryosphere > Snow/Ice > Snow Cover  
 Cryosphere > Snow/Ice > Snow Density  
 Cryosphere > Snow/Ice > Snow Depth  
 Cryosphere > Snow/Ice > Snow Energy Balance  
 Cryosphere > Snow/Ice > Snow Facies  
 Cryosphere > Snow/Ice > Snow Melt  
 Cryosphere > Snow/Ice > Snow Stratigraphy  
 Cryosphere > Snow/Ice > Snow Water Equivalent  
 Cryosphere > Snow/Ice > Snow/Ice Chemistry  
 Cryosphere > Snow/Ice > Snow/Ice Temperature  
 Cryosphere > Snow/Ice > Whiteout  
 Human Dimensions > Attitudes,preferences,behavior > Consumer Behavior



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J.Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C.Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0



Human Dimensions > Attitudes,preferences,behavior > Recreation  
 Human Dimensions > Attitudes,preferences,behavior > Social Behavior  
 Human Dimensions > Boundaries > Administrative Divisions  
 Human Dimensions > Boundaries > Boundary Surveys  
 Human Dimensions > Boundaries > Political Divisions  
 Human Dimensions > Economic Resources > Agricultural Economics  
 Human Dimensions > Economic Resources > Oil/Gas Production  
 Human Dimensions > Environmental Impacts > Acid Deposition  
 Human Dimensions > Environmental Impacts > Agricultural Expansion  
 Human Dimensions > Environmental Impacts > Biochemical Release  
 Human Dimensions > Environmental Impacts > Biomass Burning  
 Human Dimensions > Environmental Impacts > Chemical Spills  
 Human Dimensions > Environmental Impacts > Civil Disturbance  
 Human Dimensions > Environmental Impacts > Conservation  
 Human Dimensions > Environmental Impacts > Contaminants  
 Human Dimensions > Environmental Impacts > Environmental Assessments  
 Human Dimensions > Environmental Impacts > Fossil Fuel Burning  
 Human Dimensions > Environmental Impacts > Gas Explosions/Leaks  
 Human Dimensions > Environmental Impacts > Gas Flaring  
 Human Dimensions > Environmental Impacts > Heavy Metals  
 Human Dimensions > Environmental Impacts > Industrial Emissions  
 Human Dimensions > Environmental Impacts > Industrialization  
 Human Dimensions > Environmental Impacts > Mine Drainage  
 Human Dimensions > Environmental Impacts > Nuclear Radiation  
 Human Dimensions > Environmental Impacts > Oil Spill  
 Human Dimensions > Environmental Impacts > Sewage  
 Human Dimensions > Environmental Impacts > Urbanization  
 Human Dimensions > Environmental Impacts > Water Management  
 Human Dimensions > Habitat Conversion/Fragmentation > Deforestation  
 Human Dimensions > Habitat Conversion/Fragmentation > Desertification  
 Human Dimensions > Habitat Conversion/Fragmentation > Eutrophication  
 Human Dimensions > Habitat Conversion/Fragmentation > Irrigation  
 Human Dimensions > Habitat Conversion/Fragmentation > Reclamation/Revegetation/Restoration  
 Human Dimensions > Habitat Conversion/Fragmentation > Reforestation  
 Human Dimensions > Human Health > Anatomical Parameters  
 Human Dimensions > Human Health > Diseases/Epidemics  
 Human Dimensions > Human Health > Physiological Parameters  
 Human Dimensions > Human Health > Psychological Parameters  
 Human Dimensions > Human Health > Public Health  
 Human Dimensions > Human Health > Radiation Exposure  
 Human Dimensions > Human Health > Vital Statistics  
 Human Dimensions > Infrastructure > Buildings  
 Human Dimensions > Infrastructure > Communications  
 Human Dimensions > Infrastructure > Cultural Features  
 Human Dimensions > Infrastructure > Electricity  
 Human Dimensions > Infrastructure > Pipelines  
 Human Dimensions > Infrastructure > Transportation  
 Human Dimensions > Land Use/Land Cover > Land Management  
 Human Dimensions > Land Use/Land Cover > Land Tenure  
 Human Dimensions > Land Use/Land Cover > Land Use Classes  
 Human Dimensions > Natural Hazards > Biological Hazards  
 Human Dimensions > Natural Hazards > Fires  
 Human Dimensions > Natural Hazards > Geological Hazards  
 Human Dimensions > Natural Hazards > Hydrological Hazards  
 Human Dimensions > Natural Hazards > Meteorological Hazards  
 Human Dimensions > Population > Population Distribution



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J.Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C.Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0

Human Dimensions > Population > Population Size  
 Land Surface > Erosion/Sedimentation > Degradation  
 Land Surface > Erosion/Sedimentation > Entrainment  
 Land Surface > Erosion/Sedimentation > Erosion  
 Land Surface > Erosion/Sedimentation > Landslides  
 Land Surface > Erosion/Sedimentation > Sediment Chemistry  
 Land Surface > Erosion/Sedimentation > Sediment Composition  
 Land Surface > Erosion/Sedimentation > Sediment Transport  
 Land Surface > Erosion/Sedimentation > Sedimentation  
 Land Surface > Erosion/Sedimentation > Sediments  
 Land Surface > Erosion/Sedimentation > Stratigraphic Sequence  
 Land Surface > Erosion/Sedimentation > Suspended Solids  
 Land Surface > Erosion/Sedimentation > Weathering  
 Land Surface > Frozen Ground > Active Layer  
 Land Surface > Frozen Ground > Cryosols  
 Land Surface > Frozen Ground > Ground Ice  
 Land Surface > Frozen Ground > Periglacial Processes  
 Land Surface > Frozen Ground > Permafrost  
 Land Surface > Frozen Ground > Rock Glaciers  
 Land Surface > Frozen Ground > Seasonally Frozen Ground  
 Land Surface > Frozen Ground > Soil Temperature  
 Land Surface > Frozen Ground > Talik  
 Land Surface > Geomorphology > Coastal Landforms/Processes  
 Land Surface > Geomorphology > Eolian Landforms/Processes  
 Land Surface > Geomorphology > Fluvial Landforms/Processes  
 Land Surface > Geomorphology > Glacial Landforms/Processes  
 Land Surface > Geomorphology > Karst Landforms/Processes  
 Land Surface > Geomorphology > Tectonic Landforms/Processes  
 Land Surface > Land Temperature > Land Heat Capacity  
 Land Surface > Land Temperature > Land Surface Temperature  
 Land Surface > Land Temperature > Skin Temperature  
 Land Surface > Land Use/Land Cover > Land Cover  
 Land Surface > Land Use/Land Cover > Land Productivity  
 Land Surface > Land Use/Land Cover > Land Resources  
 Land Surface > Land Use/Land Cover > Land Use Classes  
 Land Surface > Landscape > Landscape Ecology  
 Land Surface > Landscape > Landscape Management  
 Land Surface > Landscape > Landscape Patterns  
 Land Surface > Landscape > Landscape Processes  
 Land Surface > Landscape > Reclamation/Revegetation/Restoration  
 Land Surface > Landscape > Reforestation  
 Land Surface > Soils > Calcium  
 Land Surface > Soils > Carbon  
 Land Surface > Soils > Cation Exchange Capacity  
 Land Surface > Soils > Denitrification Rate  
 Land Surface > Soils > Electrical Conductivity  
 Land Surface > Soils > Heavy Metals  
 Land Surface > Soils > Hydraulic Conductivity  
 Land Surface > Soils > Macrofauna  
 Land Surface > Soils > Magnesium  
 Land Surface > Soils > Microfauna  
 Land Surface > Soils > Microflora  
 Land Surface > Soils > Micronutrients/Trace Elements  
 Land Surface > Soils > Nitrogen  
 Land Surface > Soils > Organic Matter  
 Land Surface > Soils > Permafrost



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J. Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C. Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007. NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.

Land Surface > Soils > Phosphorus  
 Land Surface > Soils > Potassium  
 Land Surface > Soils > Reclamation/Revegetation/Restoration  
 Land Surface > Soils > Soil Absorption  
 Land Surface > Soils > Soil Bulk Density  
 Land Surface > Soils > Soil Chemistry  
 Land Surface > Soils > Soil Classification  
 Land Surface > Soils > Soil Color  
 Land Surface > Soils > Soil Compaction  
 Land Surface > Soils > Soil Consistence  
 Land Surface > Soils > Soil Depth  
 Land Surface > Soils > Soil Erosion  
 Land Surface > Soils > Soil Fertility  
 Land Surface > Soils > Soil Gas/Air  
 Land Surface > Soils > Soil Heat Budget  
 Land Surface > Soils > Soil Horizons/Profile  
 Land Surface > Soils > Soil Impedance  
 Land Surface > Soils > Soil Infiltration  
 Land Surface > Soils > Soil Mechanics  
 Land Surface > Soils > Soil Moisture/Water Content  
 Land Surface > Soils > Soil pH  
 Land Surface > Soils > Soil Plasticity  
 Land Surface > Soils > Soil Porosity  
 Land Surface > Soils > Soil Productivity  
 Land Surface > Soils > Soil Respiration  
 Land Surface > Soils > Soil Rooting Depth  
 Land Surface > Soils > Soil Salinity/Soil Sodidity  
 Land Surface > Soils > Soil Structure  
 Land Surface > Soils > Soil Temperature  
 Land Surface > Soils > Soil Texture  
 Land Surface > Soils > Soil Water Holding Capacity  
 Land Surface > Soils > Sulfur  
 Land Surface > Soils > Thermal Conductivity  
 Land Surface > Surface Radiative Properties > Albedo  
 Land Surface > Surface Radiative Properties > Anisotropy  
 Land Surface > Surface Radiative Properties > Emissivity  
 Land Surface > Surface Radiative Properties > Reflectance  
 Land Surface > Surface Radiative Properties > Thermal Properties  
 Land Surface > Topography > Contours  
 Land Surface > Topography > Landforms  
 Land Surface > Topography > Surface Roughness  
 Land Surface > Topography > Terrain Elevation  
 Land Surface > Topography > Topographic Effects  
 Land Surface > Topography > Topographical Relief  
 Oceans > Aquatic Sciences > Aquaculture  
 Oceans > Aquatic Sciences > Fisheries  
 Oceans > Bathymetry/Seafloor Topography > Abyssal Hills/Plains  
 Oceans > Bathymetry/Seafloor Topography > Bathymetry  
 Oceans > Bathymetry/Seafloor Topography > Continental Margins  
 Oceans > Bathymetry/Seafloor Topography > Fracture Zones  
 Oceans > Bathymetry/Seafloor Topography > Ocean Plateaus/Ridges  
 Oceans > Bathymetry/Seafloor Topography > Seafloor Topography  
 Oceans > Bathymetry/Seafloor Topography > Seamounts  
 Oceans > Bathymetry/Seafloor Topography > Submarine Canyons  
 Oceans > Bathymetry/Seafloor Topography > Trenches  
 Oceans > Bathymetry/Seafloor Topography > Water Depth



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J.Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C.Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0

Oceans > Coastal Processes > Barrier Islands  
 Oceans > Coastal Processes > Beaches  
 Oceans > Coastal Processes > Coastal Elevation  
 Oceans > Coastal Processes > Coral Reefs  
 Oceans > Coastal Processes > Deltas  
 Oceans > Coastal Processes > Dunes  
 Oceans > Coastal Processes > Erosion  
 Oceans > Coastal Processes > Estuaries  
 Oceans > Coastal Processes > Fjords  
 Oceans > Coastal Processes > Inlets  
 Oceans > Coastal Processes > Intertidal Zone  
 Oceans > Coastal Processes > Lagoons  
 Oceans > Coastal Processes > Local Subsidence Trends  
 Oceans > Coastal Processes > Longshore Currents  
 Oceans > Coastal Processes > Mangroves  
 Oceans > Coastal Processes > Marshes  
 Oceans > Coastal Processes > Rocky Coasts  
 Oceans > Coastal Processes > Saltwater Intrusion  
 Oceans > Coastal Processes > Sea Level Rise  
 Oceans > Coastal Processes > Sea Surface Height  
 Oceans > Coastal Processes > Sediment Transport  
 Oceans > Coastal Processes > Sedimentation  
 Oceans > Coastal Processes > Shoals  
 Oceans > Coastal Processes > Shoreline Displacement  
 Oceans > Coastal Processes > Shorelines  
 Oceans > Coastal Processes > Storm Surge  
 Oceans > Coastal Processes > Tidal Height  
 Oceans > Marine Environment Monitoring > Marine Obstructions  
 Oceans > Marine Geophysics > Magnetic Anomalies  
 Oceans > Marine Geophysics > Marine Gravity Field  
 Oceans > Marine Geophysics > Marine Magnetism  
 Oceans > Marine Geophysics > Plate Tectonics  
 Oceans > Marine Sediments > Biogenic Sediments  
 Oceans > Marine Sediments > Bioturbation  
 Oceans > Marine Sediments > Diagenesis  
 Oceans > Marine Sediments > Geotechnical Properties  
 Oceans > Marine Sediments > Hydrogenous Sediments  
 Oceans > Marine Sediments > Particle Flux  
 Oceans > Marine Sediments > Sediment Chemistry  
 Oceans > Marine Sediments > Sediment Composition  
 Oceans > Marine Sediments > Sediment Transport  
 Oceans > Marine Sediments > Sedimentary Structures  
 Oceans > Marine Sediments > Sedimentary Textures  
 Oceans > Marine Sediments > Sedimentation  
 Oceans > Marine Sediments > Stratigraphic Sequence  
 Oceans > Marine Sediments > Suspended Solids  
 Oceans > Marine Sediments > Terrigenous Sediments  
 Oceans > Marine Sediments > Turbidity  
 Oceans > Marine Volcanism > Benthic Heat Flow  
 Oceans > Marine Volcanism > Hydrothermal Vents  
 Oceans > Marine Volcanism > Island Arcs  
 Oceans > Marine Volcanism > Mid-ocean Ridges  
 Oceans > Marine Volcanism > Rift Valleys  
 Oceans > Ocean Acoustics > Acoustic Attenuation/Transmission  
 Oceans > Ocean Acoustics > Acoustic Frequency  
 Oceans > Ocean Acoustics > Acoustic Reflectivity



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J. Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C. Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0

Oceans > Ocean Acoustics > Acoustic Scattering  
 Oceans > Ocean Acoustics > Acoustic Tomography  
 Oceans > Ocean Acoustics > Acoustic Velocity  
 Oceans > Ocean Acoustics > Ambient Noise  
 Oceans > Ocean Chemistry > Alkalinity  
 Oceans > Ocean Chemistry > Ammonia  
 Oceans > Ocean Chemistry > Biogeochemical Cycles  
 Oceans > Ocean Chemistry > Biomedical Chemicals  
 Oceans > Ocean Chemistry > Carbon  
 Oceans > Ocean Chemistry > Carbon Dioxide  
 Oceans > Ocean Chemistry > Carbonate  
 Oceans > Ocean Chemistry > Chlorophyll  
 Oceans > Ocean Chemistry > Dissolved Gases  
 Oceans > Ocean Chemistry > Dissolved Solids  
 Oceans > Ocean Chemistry > Hydrocarbons  
 Oceans > Ocean Chemistry > Inorganic Carbon  
 Oceans > Ocean Chemistry > Inorganic Matter  
 Oceans > Ocean Chemistry > Marine Geochemistry  
 Oceans > Ocean Chemistry > Nitrate  
 Oceans > Ocean Chemistry > Nitric Acid  
 Oceans > Ocean Chemistry > Nitrite  
 Oceans > Ocean Chemistry > Nitrogen  
 Oceans > Ocean Chemistry > Nitrogen Dioxide  
 Oceans > Ocean Chemistry > Nitrous Oxide  
 Oceans > Ocean Chemistry > Nutrients  
 Oceans > Ocean Chemistry > Ocean Tracers  
 Oceans > Ocean Chemistry > Organic Carbon  
 Oceans > Ocean Chemistry > Organic Matter  
 Oceans > Ocean Chemistry > Oxygen  
 Oceans > Ocean Chemistry > pH  
 Oceans > Ocean Chemistry > Phosphate  
 Oceans > Ocean Chemistry > Pigments > Chlorophyll  
 Oceans > Ocean Chemistry > Pigments  
 Oceans > Ocean Chemistry > Radiocarbon  
 Oceans > Ocean Chemistry > Radionuclides  
 Oceans > Ocean Chemistry > Silicate  
 Oceans > Ocean Chemistry > Stable Isotopes  
 Oceans > Ocean Chemistry > Suspended Solids  
 Oceans > Ocean Chemistry > Trace Elements  
 Oceans > Ocean Circulation > Advection  
 Oceans > Ocean Circulation > Buoy Position  
 Oceans > Ocean Circulation > Convection  
 Oceans > Ocean Circulation > Diffusion  
 Oceans > Ocean Circulation > Eddies  
 Oceans > Ocean Circulation > Fresh Water Flux  
 Oceans > Ocean Circulation > Fronts  
 Oceans > Ocean Circulation > Gyres  
 Oceans > Ocean Circulation > Ocean Currents  
 Oceans > Ocean Circulation > Ocean Mixed Layer  
 Oceans > Ocean Circulation > Thermohaline Circulation  
 Oceans > Ocean Circulation > Turbulence  
 Oceans > Ocean Circulation > Upwelling/Downwelling  
 Oceans > Ocean Circulation > Vorticity  
 Oceans > Ocean Circulation > Water Masses  
 Oceans > Ocean Circulation > Wind-driven Circulation  
 Oceans > Ocean Heat Budget > Advection



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J. Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C. Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0



Oceans > Ocean Heat Budget > Bowen Ratio  
 Oceans > Ocean Heat Budget > Condensation  
 Oceans > Ocean Heat Budget > Conduction  
 Oceans > Ocean Heat Budget > Convection  
 Oceans > Ocean Heat Budget > Diffusion  
 Oceans > Ocean Heat Budget > Evaporation  
 Oceans > Ocean Heat Budget > Heat Flux  
 Oceans > Ocean Heat Budget > Heating Rate  
 Oceans > Ocean Heat Budget > Longwave Radiation  
 Oceans > Ocean Heat Budget > Reflectance  
 Oceans > Ocean Heat Budget > Shortwave Radiation  
 Oceans > Ocean Optics > Absorption  
 Oceans > Ocean Optics > Aphotic/Photic Zone  
 Oceans > Ocean Optics > Attenuation/Transmission  
 Oceans > Ocean Optics > Bioluminescence  
 Oceans > Ocean Optics > Extinction Coefficients  
 Oceans > Ocean Optics > Fluorescence  
 Oceans > Ocean Optics > Gelbstoff  
 Oceans > Ocean Optics > Irradiance  
 Oceans > Ocean Optics > Ocean Color  
 Oceans > Ocean Optics > Optical Depth  
 Oceans > Ocean Optics > Photosynthetically Active Radiation  
 Oceans > Ocean Optics > Radiance  
 Oceans > Ocean Optics > Reflectance  
 Oceans > Ocean Optics > Scattering  
 Oceans > Ocean Optics > Secchi Depth  
 Oceans > Ocean Optics > Turbidity  
 Oceans > Ocean Optics > Water-leaving Radiance  
 Oceans > Ocean Pressure > Sea Level Pressure  
 Oceans > Ocean Pressure > Water Pressure  
 Oceans > Ocean Temperature > Ocean Mixed Layer  
 Oceans > Ocean Temperature > Potential Temperature  
 Oceans > Ocean Temperature > Sea Surface Temperature  
 Oceans > Ocean Temperature > Thermocline  
 Oceans > Ocean Temperature > Water Temperature  
 Oceans > Ocean Waves > Gravity Waves  
 Oceans > Ocean Waves > Rossby/Planetary Waves  
 Oceans > Ocean Waves > Sea State  
 Oceans > Ocean Waves > Seiches  
 Oceans > Ocean Waves > Significant Wave Height  
 Oceans > Ocean Waves > Storm Surge  
 Oceans > Ocean Waves > Surf Beat  
 Oceans > Ocean Waves > Swells  
 Oceans > Ocean Waves > Topographic Waves  
 Oceans > Ocean Waves > Tsunamis  
 Oceans > Ocean Waves > Wave Fetch  
 Oceans > Ocean Waves > Wave Frequency  
 Oceans > Ocean Waves > Wave Height  
 Oceans > Ocean Waves > Wave Length  
 Oceans > Ocean Waves > Wave Period  
 Oceans > Ocean Waves > Wave Spectra  
 Oceans > Ocean Waves > Wave Speed/Direction  
 Oceans > Ocean Waves > Wave Types  
 Oceans > Ocean Waves > Wind Waves  
 Oceans > Ocean Winds > Convergence/Divergence  
 Oceans > Ocean Winds > Surface Winds



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J. Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C. Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0

Oceans > Ocean Winds > Turbulence  
 Oceans > Ocean Winds > Vertical Wind Motion  
 Oceans > Ocean Winds > Vorticity  
 Oceans > Ocean Winds > Wind Chill  
 Oceans > Ocean Winds > Wind Shear  
 Oceans > Ocean Winds > Wind Stress  
 Oceans > Salinity/Density > Conductivity  
 Oceans > Salinity/Density > Density  
 Oceans > Salinity/Density > Desalinization  
 Oceans > Salinity/Density > Halocline  
 Oceans > Salinity/Density > Potential Density  
 Oceans > Salinity/Density > Pycnocline  
 Oceans > Salinity/Density > Salinity  
 Oceans > Salinity/Density > Salt Transport  
 Oceans > Sea Ice > Heat Flux  
 Oceans > Sea Ice > Ice Deformation  
 Oceans > Sea Ice > Ice Depth/Thickness  
 Oceans > Sea Ice > Ice Edges  
 Oceans > Sea Ice > Ice Extent  
 Oceans > Sea Ice > Ice Floes  
 Oceans > Sea Ice > Ice Growth/Melt  
 Oceans > Sea Ice > Ice Roughness  
 Oceans > Sea Ice > Ice Temperature  
 Oceans > Sea Ice > Ice Types  
 Oceans > Sea Ice > Icebergs  
 Oceans > Sea Ice > Isotopes  
 Oceans > Sea Ice > Leads  
 Oceans > Sea Ice > Pack Ice  
 Oceans > Sea Ice > Polynyas  
 Oceans > Sea Ice > Reflectance  
 Oceans > Sea Ice > Salinity  
 Oceans > Sea Ice > Sea Ice Age  
 Oceans > Sea Ice > Sea Ice Concentration  
 Oceans > Sea Ice > Sea Ice Elevation  
 Oceans > Sea Ice > Sea Ice Motion  
 Oceans > Sea Ice > Snow Depth  
 Oceans > Sea Ice > Snow Melt  
 Oceans > Sea Surface Topography > Sea Surface Height  
 Oceans > Sea Surface Topography > Sea Surface Slope  
 Oceans > Tides > Storm Surge  
 Oceans > Tides > Tidal Components  
 Oceans > Tides > Tidal Currents  
 Oceans > Tides > Tidal Height  
 Oceans > Tides > Tidal Range  
 Oceans > Water Quality > Ocean Contaminants  
 Paleoclimate > Ice Core Records > Carbon Dioxide  
 Paleoclimate > Ice Core Records > Electrical Properties  
 Paleoclimate > Ice Core Records > Ice Core Air Bubbles  
 Paleoclimate > Ice Core Records > Ions  
 Paleoclimate > Ice Core Records > Isotopes  
 Paleoclimate > Ice Core Records > Methane  
 Paleoclimate > Ice Core Records > Nitrous Oxide  
 Paleoclimate > Ice Core Records > Particulate Matter  
 Paleoclimate > Ice Core Records > Volcanic Deposits  
 Paleoclimate > Land Records > Boreholes  
 Paleoclimate > Land Records > Cave Deposits



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J. Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C. Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0

Paleoclimate > Land Records > Glaciation  
 Paleoclimate > Land Records > Isotopes  
 Paleoclimate > Land Records > Loess  
 Paleoclimate > Land Records > Macrofossils  
 Paleoclimate > Land Records > Microfossils  
 Paleoclimate > Land Records > Paleomagnetic Data  
 Paleoclimate > Land Records > Paleosols  
 Paleoclimate > Land Records > Paleovegetation  
 Paleoclimate > Land Records > Pollen  
 Paleoclimate > Land Records > Radiocarbon  
 Paleoclimate > Land Records > Sediments  
 Paleoclimate > Land Records > Stratigraphic Sequence  
 Paleoclimate > Land Records > Tree Rings  
 Paleoclimate > Land Records > Volcanic Deposits  
 Paleoclimate > Ocean/Lake Records > Boreholes  
 Paleoclimate > Ocean/Lake Records > Coral Deposits  
 Paleoclimate > Ocean/Lake Records > Isotopes  
 Paleoclimate > Ocean/Lake Records > Lake Levels  
 Paleoclimate > Ocean/Lake Records > Macrofossils  
 Paleoclimate > Ocean/Lake Records > Microfossils  
 Paleoclimate > Ocean/Lake Records > Oxygen Isotopes  
 Paleoclimate > Ocean/Lake Records > Paleomagnetic Data  
 Paleoclimate > Ocean/Lake Records > Pollen  
 Paleoclimate > Ocean/Lake Records > Radiocarbon  
 Paleoclimate > Ocean/Lake Records > Sediments  
 Paleoclimate > Ocean/Lake Records > Stratigraphic Sequence  
 Paleoclimate > Ocean/Lake Records > Varve Deposits  
 Paleoclimate > Paleoclimate Reconstructions > Air Temperature Reconstruction  
 Paleoclimate > Paleoclimate Reconstructions > Atmospheric Circulation Reconstruction  
 Paleoclimate > Paleoclimate Reconstructions > Drought/Precipitation Reconstruction  
 Paleoclimate > Paleoclimate Reconstructions > Ground Water Reconstruction  
 Paleoclimate > Paleoclimate Reconstructions > Lake Level Reconstruction  
 Paleoclimate > Paleoclimate Reconstructions > Ocean Salinity Reconstruction  
 Paleoclimate > Paleoclimate Reconstructions > Sea Level Reconstruction  
 Paleoclimate > Paleoclimate Reconstructions > Sea Surface Temperature Reconstruction  
 Paleoclimate > Paleoclimate Reconstructions > Solar Forcing/Insolation Reconstruction  
 Paleoclimate > Paleoclimate Reconstructions > Streamflow Reconstruction  
 Paleoclimate > Paleoclimate Reconstructions > Vegetation Reconstruction  
 Solid Earth > Geochemistry > Biogeochemistry  
 Solid Earth > Geochemistry > Chemical Fixation  
 Solid Earth > Geochemistry > Chemical Weathering  
 Solid Earth > Geochemistry > Hydration  
 Solid Earth > Geochemistry > Ion Exchange  
 Solid Earth > Geochemistry > Isotopes  
 Solid Earth > Geochemistry > Major Elements  
 Solid Earth > Geochemistry > Marine Geochemistry  
 Solid Earth > Geochemistry > Minor Elements  
 Solid Earth > Geochemistry > Oxidation/Reduction  
 Solid Earth > Geochemistry > Trace Elements  
 Solid Earth > Geodetics/Gravity > Control Surveys  
 Solid Earth > Geodetics/Gravity > Crustal Motion  
 Solid Earth > Geodetics/Gravity > Geoid Properties  
 Solid Earth > Geodetics/Gravity > Gravitational Field  
 Solid Earth > Geodetics/Gravity > Gravity  
 Solid Earth > Geodetics/Gravity > Ocean Crust Deformation  
 Solid Earth > Geodetics/Gravity > Polar Motion



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J. Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C. Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0

Solid Earth > Geodetics/Gravity > Reference Systems  
 Solid Earth > Geodetics/Gravity > Rotational Variations  
 Solid Earth > Geodetics/Gravity > Satellite Orbits  
 Solid Earth > Geomagnetism > Electrical Field  
 Solid Earth > Geomagnetism > Geomagnetic Forecasts  
 Solid Earth > Geomagnetism > Geomagnetic Indices  
 Solid Earth > Geomagnetism > Geomagnetic Induction  
 Solid Earth > Geomagnetism > Magnetic Anomalies  
 Solid Earth > Geomagnetism > Magnetic Declination  
 Solid Earth > Geomagnetism > Magnetic Field  
 Solid Earth > Geomagnetism > Magnetic Inclination  
 Solid Earth > Geomagnetism > Magnetic Intensity  
 Solid Earth > Geomagnetism > Paleomagnetism  
 Solid Earth > Geomagnetism > Reference Fields  
 Solid Earth > Geomorphology > Coastal Landforms/Processes  
 Solid Earth > Geomorphology > Eolian Landforms/Processes  
 Solid Earth > Geomorphology > Fluvial Landforms/Processes  
 Solid Earth > Geomorphology > Glacial Landforms/Processes  
 Solid Earth > Geomorphology > Karst Landforms/Processes  
 Solid Earth > Geomorphology > Tectonic Landforms/Processes  
 Solid Earth > Geothermal > Geothermal Energy  
 Solid Earth > Geothermal > Geothermal Temperature  
 Solid Earth > Natural Resources > Coal  
 Solid Earth > Natural Resources > Gas Hydrates  
 Solid Earth > Natural Resources > Metals  
 Solid Earth > Natural Resources > Natural Gas  
 Solid Earth > Natural Resources > Non-metallic Minerals  
 Solid Earth > Natural Resources > Petroleum  
 Solid Earth > Natural Resources > Radioactive Elements  
 Solid Earth > Natural Resources > Reclamation/Revegetation/Restoration  
 Solid Earth > Rocks/Minerals > Age Determinations  
 Solid Earth > Rocks/Minerals > Bedrock Lithology  
 Solid Earth > Rocks/Minerals > Igneous Rocks  
 Solid Earth > Rocks/Minerals > Metamorphic Rocks  
 Solid Earth > Rocks/Minerals > Meteorites  
 Solid Earth > Rocks/Minerals > Mineraloids  
 Solid Earth > Rocks/Minerals > Minerals/Crystals  
 Solid Earth > Rocks/Minerals > Sedimentary Rocks  
 Solid Earth > Rocks/Minerals > Sediments  
 Solid Earth > Seismology > Earthquake Dynamics  
 Solid Earth > Seismology > Earthquake Occurrences  
 Solid Earth > Seismology > Earthquake Predictions  
 Solid Earth > Seismology > Seismic Body Waves  
 Solid Earth > Seismology > Seismic Profile  
 Solid Earth > Seismology > Seismic Surface Waves  
 Solid Earth > Tectonics > Core Processes  
 Solid Earth > Tectonics > Faults  
 Solid Earth > Tectonics > Folds  
 Solid Earth > Tectonics > Isostatic Rebound  
 Solid Earth > Tectonics > Lithospheric Plate Motion  
 Solid Earth > Tectonics > Neotectonics  
 Solid Earth > Tectonics > Plate Boundaries  
 Solid Earth > Tectonics > Plate Tectonics  
 Solid Earth > Tectonics > Strain  
 Solid Earth > Tectonics > Stratigraphic Sequence  
 Solid Earth > Tectonics > Stress



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J.Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C.Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0

Solid Earth > Volcanoes > Eruption Dynamics  
 Solid Earth > Volcanoes > Lava  
 Solid Earth > Volcanoes > Magma  
 Solid Earth > Volcanoes > Pyroclastics  
 Solid Earth > Volcanoes > Volcanic Ash/Dust  
 Solid Earth > Volcanoes > Volcanic Gases  
 Spectral/Engineering > Gamma Ray > Gamma Ray Flux  
 Spectral/Engineering > Infrared Wavelengths > Brightness Temperature  
 Spectral/Engineering > Infrared Wavelengths > Infrared Flux  
 Spectral/Engineering > Infrared Wavelengths > Infrared Imagery  
 Spectral/Engineering > Infrared Wavelengths > Infrared Radiance  
 Spectral/Engineering > Infrared Wavelengths > Reflected Infrared  
 Spectral/Engineering > Infrared Wavelengths > Sensor Counts  
 Spectral/Engineering > Infrared Wavelengths > Thermal Infrared  
 Spectral/Engineering > Lidar > Lidar Backscatter  
 Spectral/Engineering > Lidar > Lidar Depolarization Ratio  
 Spectral/Engineering > Microwave > Antenna Temperature  
 Spectral/Engineering > Microwave > Brightness Temperature  
 Spectral/Engineering > Microwave > Microwave Imagery  
 Spectral/Engineering > Microwave > Microwave Radiance  
 Spectral/Engineering > Microwave > Sensor Counts  
 Spectral/Engineering > Platform Characteristics > Airspeed/Ground Speed  
 Spectral/Engineering > Platform Characteristics > Attitude Characteristics  
 Spectral/Engineering > Platform Characteristics > Data Synchronization Time  
 Spectral/Engineering > Platform Characteristics > Flight Data Logs  
 Spectral/Engineering > Platform Characteristics > Line Of Sight Velocity  
 Spectral/Engineering > Platform Characteristics > Orbital Characteristics  
 Spectral/Engineering > Platform Characteristics > Viewing Geometry  
 Spectral/Engineering > Radar > Doppler Velocity  
 Spectral/Engineering > Radar > Radar Backscatter  
 Spectral/Engineering > Radar > Radar Cross-section  
 Spectral/Engineering > Radar > Radar Imagery  
 Spectral/Engineering > Radar > Radar Reflectivity  
 Spectral/Engineering > Radar > Return Power  
 Spectral/Engineering > Radar > Sensor Counts  
 Spectral/Engineering > Radar > Sigma Naught  
 Spectral/Engineering > Radio Wave > Radio Wave Flux  
 Spectral/Engineering > Sensor Characteristics > Dome Temperature  
 Spectral/Engineering > Sensor Characteristics > Electrical Properties  
 Spectral/Engineering > Sensor Characteristics > Phase and Amplitude  
 Spectral/Engineering > Sensor Characteristics > Sink Temperature  
 Spectral/Engineering > Sensor Characteristics > Thermal Properties  
 Spectral/Engineering > Sensor Characteristics > Total Pressure  
 Spectral/Engineering > Sensor Characteristics > Total Temperature  
 Spectral/Engineering > Sensor Characteristics > Ultraviolet Sensor Temperature  
 Spectral/Engineering > Sensor Characteristics > Viewing Geometry  
 Spectral/Engineering > Ultraviolet Wavelengths > Sensor Counts  
 Spectral/Engineering > Ultraviolet Wavelengths > Ultraviolet Flux  
 Spectral/Engineering > Ultraviolet Wavelengths > Ultraviolet Radiance  
 Spectral/Engineering > Visible Wavelengths > Sensor Counts  
 Spectral/Engineering > Visible Wavelengths > Visible Flux  
 Spectral/Engineering > Visible Wavelengths > Visible Imagery  
 Spectral/Engineering > Visible Wavelengths > Visible Radiance  
 Spectral/Engineering > X-ray > X-ray Flux  
 Sun-earth Interactions > Ionosphere/Magnetosphere Dynamics > Aurorae  
 Sun-earth Interactions > Ionosphere/Magnetosphere Dynamics > Electric Fields/Electric Currents



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J. Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C. Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007. NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0



Sun-earth Interactions > Ionosphere/Magnetosphere Dynamics > Geomagnetic Forecasts  
 Sun-earth Interactions > Ionosphere/Magnetosphere Dynamics > Geomagnetic Indices  
 Sun-earth Interactions > Ionosphere/Magnetosphere Dynamics > Ion Chemistry/Ionization  
 Sun-earth Interactions > Ionosphere/Magnetosphere Dynamics > Magnetic Fields/Magnetic Currents  
 Sun-earth Interactions > Ionosphere/Magnetosphere Dynamics > Magnetic Storms  
 Sun-earth Interactions > Ionosphere/Magnetosphere Dynamics > Plasma Waves  
 Sun-earth Interactions > Ionosphere/Magnetosphere Dynamics > Solar Wind  
 Sun-earth Interactions > Solar Activity > Corona  
 Sun-earth Interactions > Solar Activity > Corona Holes  
 Sun-earth Interactions > Solar Activity > Coronal Mass Ejections  
 Sun-earth Interactions > Solar Activity > Cosmic Rays  
 Sun-earth Interactions > Solar Activity > Solar Active Regions  
 Sun-earth Interactions > Solar Activity > Solar Flares  
 Sun-earth Interactions > Solar Activity > Solar Imagery  
 Sun-earth Interactions > Solar Activity > Solar Irradiance  
 Sun-earth Interactions > Solar Activity > Solar Oscillations  
 Sun-earth Interactions > Solar Activity > Solar Prominences/Solar Filaments  
 Sun-earth Interactions > Solar Activity > Solar Radio Wave Emissions  
 Sun-earth Interactions > Solar Activity > Solar Synoptic Maps  
 Sun-earth Interactions > Solar Activity > Solar Ultraviolet Emissions  
 Sun-earth Interactions > Solar Activity > Solar Velocity Fields  
 Sun-earth Interactions > Solar Activity > Solar X-ray Emissions  
 Sun-earth Interactions > Solar Activity > Sunspots  
 Sun-earth Interactions > Solar Energetic Particle Flux > Alpha Particle Flux  
 Sun-earth Interactions > Solar Energetic Particle Flux > Electron Flux  
 Sun-earth Interactions > Solar Energetic Particle Flux > Heavy Nuclei Flux  
 Sun-earth Interactions > Solar Energetic Particle Flux > Ion Flux  
 Sun-earth Interactions > Solar Energetic Particle Flux > Neutral Particle Flux  
 Sun-earth Interactions > Solar Energetic Particle Flux > Proton Flux  
 Sun-earth Interactions > Solar Energetic Particle Flux > Sub-atomic Particle Flux  
 Sun-earth Interactions > Solar Energetic Particle Flux > X-ray Flux  
 Sun-earth Interactions > Solar Energetic Particle Properties > Energy Deposition  
 Sun-earth Interactions > Solar Energetic Particle Properties > Particle Composition  
 Sun-earth Interactions > Solar Energetic Particle Properties > Particle Density  
 Sun-earth Interactions > Solar Energetic Particle Properties > Particle Distribution Functions  
 Sun-earth Interactions > Solar Energetic Particle Properties > Particle Speed  
 Sun-earth Interactions > Solar Energetic Particle Properties > Particle Temperature  
 Sun-earth Interactions > Solar Energetic Particle Properties > Total Electron Content  
 Terrestrial Hydrosphere > Glaciers/Ice Sheets > Ablation Zones/Accumulation Zones  
 Terrestrial Hydrosphere > Glaciers/Ice Sheets > Firn  
 Terrestrial Hydrosphere > Glaciers/Ice Sheets > Glacier Elevation/Ice Sheet Elevation  
 Terrestrial Hydrosphere > Glaciers/Ice Sheets > Glacier Facies  
 Terrestrial Hydrosphere > Glaciers/Ice Sheets > Glacier Mass Balance/Ice Sheet Mass Balance  
 Terrestrial Hydrosphere > Glaciers/Ice Sheets > Glacier Motion/Ice Sheet Motion  
 Terrestrial Hydrosphere > Glaciers/Ice Sheets > Glacier Thickness/Ice Sheet Thickness  
 Terrestrial Hydrosphere > Glaciers/Ice Sheets > Glacier Topography/Ice Sheet Topography  
 Terrestrial Hydrosphere > Glaciers/Ice Sheets > Glaciers  
 Terrestrial Hydrosphere > Glaciers/Ice Sheets > Ice Sheets  
 Terrestrial Hydrosphere > Glaciers/Ice Sheets > Icebergs  
 Terrestrial Hydrosphere > Ground Water > Aquifers  
 Terrestrial Hydrosphere > Ground Water > Dispersion  
 Terrestrial Hydrosphere > Ground Water > Drainage  
 Terrestrial Hydrosphere > Ground Water > Ground Water Discharge/Flow  
 Terrestrial Hydrosphere > Ground Water > Groundwater Chemistry  
 Terrestrial Hydrosphere > Ground Water > Infiltration  
 Terrestrial Hydrosphere > Ground Water > Land Subsidence



At this time, we are requesting that the following citation be used by those individuals and groups using the GCMD keywords.

Olsen, L.M., G. Major, K. Shein, J. Scialdone, R. Vogel, S. Leicester, H. Weir, S. Ritz, T. Stevens, M. Meaux, C. Solomon, R. Bilodeau, M. Holland, T. Northcutt, R. A. Restrepo, 2007 .  
 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0.0

Terrestrial Hydrosphere > Ground Water > Percolation  
 Terrestrial Hydrosphere > Ground Water > Saltwater Intrusion  
 Terrestrial Hydrosphere > Ground Water > Springs  
 Terrestrial Hydrosphere > Ground Water > Water Table  
 Terrestrial Hydrosphere > Snow/Ice > Albedo  
 Terrestrial Hydrosphere > Snow/Ice > Avalanche  
 Terrestrial Hydrosphere > Snow/Ice > Depth Hoar  
 Terrestrial Hydrosphere > Snow/Ice > Freeze/Thaw  
 Terrestrial Hydrosphere > Snow/Ice > Frost  
 Terrestrial Hydrosphere > Snow/Ice > Ice Depth/Thickness  
 Terrestrial Hydrosphere > Snow/Ice > Ice Extent  
 Terrestrial Hydrosphere > Snow/Ice > Ice Growth/Melt  
 Terrestrial Hydrosphere > Snow/Ice > Ice Motion  
 Terrestrial Hydrosphere > Snow/Ice > Ice Velocity  
 Terrestrial Hydrosphere > Snow/Ice > Lake Ice  
 Terrestrial Hydrosphere > Snow/Ice > Permafrost  
 Terrestrial Hydrosphere > Snow/Ice > River Ice  
 Terrestrial Hydrosphere > Snow/Ice > Snow Cover  
 Terrestrial Hydrosphere > Snow/Ice > Snow Density  
 Terrestrial Hydrosphere > Snow/Ice > Snow Depth  
 Terrestrial Hydrosphere > Snow/Ice > Snow Energy Balance  
 Terrestrial Hydrosphere > Snow/Ice > Snow Facies  
 Terrestrial Hydrosphere > Snow/Ice > Snow Melt  
 Terrestrial Hydrosphere > Snow/Ice > Snow Stratigraphy  
 Terrestrial Hydrosphere > Snow/Ice > Snow Water Equivalent  
 Terrestrial Hydrosphere > Snow/Ice > Snow/Ice Chemistry  
 Terrestrial Hydrosphere > Snow/Ice > Snow/Ice Temperature  
 Terrestrial Hydrosphere > Snow/Ice > Whiteout  
 Terrestrial Hydrosphere > Surface Water > Aquifer Recharge  
 Terrestrial Hydrosphere > Surface Water > Discharge/Flow  
 Terrestrial Hydrosphere > Surface Water > Drainage  
 Terrestrial Hydrosphere > Surface Water > Floods  
 Terrestrial Hydrosphere > Surface Water > Hydropattern  
 Terrestrial Hydrosphere > Surface Water > Hydroperiod  
 Terrestrial Hydrosphere > Surface Water > Inundation  
 Terrestrial Hydrosphere > Surface Water > Lakes  
 Terrestrial Hydrosphere > Surface Water > Rivers/Streams  
 Terrestrial Hydrosphere > Surface Water > Runoff  
 Terrestrial Hydrosphere > Surface Water > Stage Height  
 Terrestrial Hydrosphere > Surface Water > Surface Water Chemistry  
 Terrestrial Hydrosphere > Surface Water > Total Surface Water  
 Terrestrial Hydrosphere > Surface Water > Water Channels  
 Terrestrial Hydrosphere > Surface Water > Water Depth  
 Terrestrial Hydrosphere > Surface Water > Water Pressure  
 Terrestrial Hydrosphere > Surface Water > Water Yield  
 Terrestrial Hydrosphere > Surface Water > Watershed Characteristics  
 Terrestrial Hydrosphere > Surface Water > Wetlands  
 Terrestrial Hydrosphere > Water Quality/Water Chemistry > Acid Deposition  
 Terrestrial Hydrosphere > Water Quality/Water Chemistry > Alkalinity  
 Terrestrial Hydrosphere > Water Quality/Water Chemistry > Benthic Index  
 Terrestrial Hydrosphere > Water Quality/Water Chemistry > Carbon Dioxide  
 Terrestrial Hydrosphere > Water Quality/Water Chemistry > Carcinogens  
 Terrestrial Hydrosphere > Water Quality/Water Chemistry > Chlorophyll  
 Terrestrial Hydrosphere > Water Quality/Water Chemistry > Conductivity  
 Terrestrial Hydrosphere > Water Quality/Water Chemistry > Contaminants  
 Terrestrial Hydrosphere > Water Quality/Water Chemistry > Dissolved Gases



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 NASA/Global Change Master Directory (GCMD) Earth Science Keywords. Version 6.0.0.0

Terrestrial Hydrosphere > Water Quality/Water Chemistry > Dissolved Solids  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Hydrocarbons  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Inorganic Matter  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Light Transmission  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Nitrogen Compounds  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Nutrients  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Organic Matter  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Oxygen  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > pH  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Phosphorous Compounds  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Radioisotopes  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Stable Isotopes  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Suspended Solids  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Toxic Chemicals  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Trace Metals  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Turbidity  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Water Ion Concentration  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Water Potability  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Water Temperature  
Terrestrial Hydrosphere > Water Quality/Water Chemistry > Water Trace Elements



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