nasa observes the earth from land air and space to better understand the environmental changes taking place on our home planet over the next several months the NASA airborne science program will send its fleet of flying laboratories to locations around the world to study the air we breathe tropical storms and hurricanes melting polar ice sheets and how ecosystems respond to climate change NASA scientists will study ground-level air pollution in the Denver area in the fourth and final field campaign of the
discover-aq mission the NASA P3 B and

b200 airborne laboratories will measure

pollution along Colorado's Front Range

which routinely experiences unhealthy

levels of ozone in the summer the goal

of discover-aq is to better understand

surface conditions where people live and

breathe

so future satellites can be used more

effectively to measure air quality in

the lower atmosphere the hurricane and

severe storm Sentinel or hs3 mission

will study hurricane intensity change in

the North Atlantic using two specially
equipped Global Hawk uninhabited aerial vehicles or UAVs the remotely piloted aircraft are uniquely suited for hurricane research they fly almost twice as high as commercial aircraft for as long as 30 hours providing continuous measurements above and around developing storms the use of the global Hawks is very complementary to satellites satellites give you a broad view of things over the entire Atlantic Basin but you only get maybe one or two snapshots a day with the global hawk you're not seen as why of an area but
you're seeing a fixed area for a fairly
continuous period of time 3 NASA

airborne campaigns will study changes in

earth's polar environments the

multi-year operation IceBridge mission

returns to Punta Arenas Chile where the
dc-8 airborne laboratory will fly south
to measure sea ice glaciers and ice

sheets over key regions in West

Antarctica we have

back every year over the same glacier in

Antarctica and measure with extreme

precision how the surface elevation has

changed from year to year and that tells

us how much ice Antarctica is losing to
other NASA airborne missions we'll study
the impact of warming temperatures in
the Arctic the arize campaign will use
the NASA c-130 aircraft to measure
Arctic cloud properties and surface characteristics over open water land and sea ice to see how the climate in the region is changing and the five-year carve experiment will measure carbon dioxide and methane in the atmosphere we are making airborne measurements of the principal gases that would be given off by the decomposition of thawing permafrost we think that they are
susceptible to very rapid release and
this could be a significant perturbation
to not only the climate in Arctic but
the entire world's climate system the
NASA airborne science program is on a
mission to monitor the health of our
planet