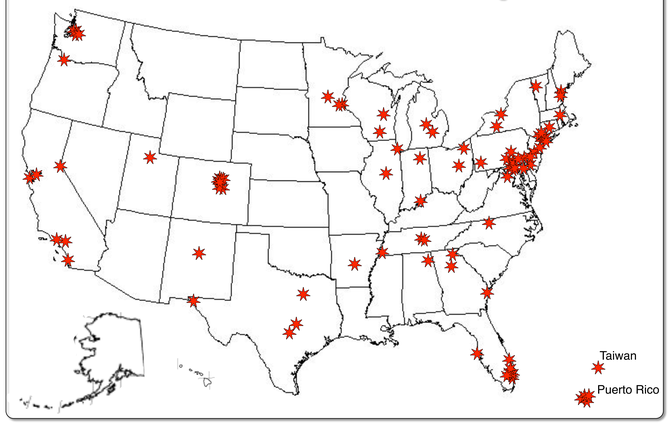
Summer Internship Program

Where do we come from?



2009

Ten interns spent a summer at CMMAP in 2009.

Laura Witte worked with the Ft Collins Sustainability Group estimating how much CO2 would be conserved by implementation of policies.

Lance Vanden Boogart worked with the land-surface modeling group comparing a chemistry transport model with observed CO2 concentrations in the midwest.

Katie Riley researched and summarized trends in the carbon offset market. She also created a hypothetical model of offset design.

Samantha McGraw conducted interviews and researched New Jersey city climate action plans.

Katherine Heal learned to use an aerosol mass spectrometer to analyze aerosol emissions from types of biodiesel and later, perform sampling in Rocky Mountain Nat'l Park.

Having a strong passion for disaster research, Heather Morgan tried to find a connection between the MJO and Atlantic hurricanes.

Cara Tabor performed research with a spin tank to compare mathematical models of a balanced vortex and what she observed in ice-generated vorticies in the spin tank.

Terreka Hart focused her research on how concentric eyewalls and mesovorticies influence the intensity of hurricanes in the Atlantic basin.

JoBeth Minniear came to CMMAP to research how water vapor, temperature, and vertical velocity relate to one another in a very high resolution simulation of a tropical convection

Liz Huddle spent the summer determining parameters for a mist chamber to try to increase its efficiency.

2012

We welcomed 12 interns in 2012!

Raymond Ruiz investigated the enhancing of the entrainment rate in the lower troposphere of a GCM and the effect on Kelvin waves.

Catie DeMets investigated what barriers exist to restaurants locally sourcing food and solutions to those barriers.

Noel Hilliard's research was based in Rocky Mountain National Park and looked at how nitrogen comes from the Front Range of Colorado up into the park.

Dan Miller looked at the ClimateWise program for Fort Collins, CO and what recommendations are implemented by businesses for lowering greenhouse gas emissions.

Lindsey Hayden examined growing cumulus and cumulus congestus clouds sampled during the Ice in Clouds Experiment.

Heather Vazquez studied the differences between Mesoscale Convective Vorticies (MCV) that produce heavy precipitation and those that do not.

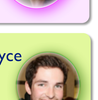
Matt Muscato created a database and used GPROF to validate rainfall products from the recently launched Chinese FengYun-3B

Climate Chaos : Josh Anderson created an Apple IOS / iPad application/game to enhance climate change education.

Steven Brey showed how distinguishing tropical and extratropical dynamical regimes can be done based on Rossby number statistics.

Aryeh Drager studied deep convection in tropical oceans: how sea-surface temperature affects cloud morphology, convective core vs anvil and what deep-convective clouds look like.

Anthony Cosio studied the balanced wind, mass and potential vorticity structure of warm-ring tropical cyclones.



Leah Lindsey studied the effects of horizontal resolution on cumulus cloud simulations using the SAM model.

2007

CMMAP welcomed three interns in our first year.

Parker Kraus investigated land-atmosphere interactions in the West African country of Mali, looking at evaporation and photosynthesis rates.

Claudette Ojo worked on the Tropical Ozonesonde Dataset for Satellite Validation Processing and Modeling looking at spatial and temporal relationships between ozone and termperature as a function of height.

One of our first summer interns, Beth Beckel explored cloud and precipitation chemistry. She learned the basics of gas-phase atmospheric chemical sampling techniques and spent most of the summer learning about the mist

2008

CMMAP enjoyed six interns in 2008.

Claudette Ojo, a business major, interviewed companies for the organization Climate Wise to learn the progress they were making in reducing greenhouse gas emissions.

Alice Duvivier and Jette Petersen worked together on a numerical approximation for mathematical operators used in climate modeling.

Tyler Ruggles, interested in environmental science and policy, helped a city become part of the Mayors for Climate Change organization.

David Sullivan studied carbon pricing and taxation for the National Conference of State Legislators finding advantages and disadvantages of different methods and creating a booklet.

Zoe Keve has a strong interest in helping people and improving our world. She worked at the National Conference of State Legislators constructing a booklet on biofuels.

2010

We hosted 12 interns this year!

Idamis Del Valle came from Puerto Rico to study the effects of enhanced moisture triggers on precipitation and winds.

Jackie Gushue looked at electrical rate structures and their impact on demand response decision making with a company in Fort Collins.

Marie-Christine Razaire examined the responses of the ocean carbon cycle to climate change.

Daniel Rothenberg got into the nuts and bolts of a climate model dynamical core.

Kyle Hemes researched the spatiotemporal influence of vegetation on global surface-atmosphere exchange.

Stormy Stevens looked at the impact of tropical cyclone rainfall on drought in Alabama.

Nick Geyer used the Vector Vorticity Model to simulate the Tropical Western Pacific-ICE case.

Erin Kashawlic compared data assimilation schemes used by operational forecast centers.

Tina Laboy spent her summer researching the propogation of the Madden-Julian Oscillation

Ariana Marrero, from Puerto Rico, studied the variability of the seasonal cycle in the Tropical Eastern Pacific and Caribbean.

Chris Alston researched hurricane activity along the US northeast coast.

Christina McCluskey researched nitrogen samples collected from Rocky Mountain National Park.

2011

2011 brought us eleven summer interns.

Julie investigated approaches to local Climate Action Programs and model practices in Colorado.

Brittany compared and analyzed total precipitable water from ground-based GPS and SSM/I Satellite Remote Sensing.

The moisture cycle of the Madden-Julian Oscillation (MJO) was the focus of Jennifer's research this summer

Jason looked at the seasonal variability of the width of the tropical belt from GPS radio occultations and reanalyses

Dustin performed an error analysis of SSM/I F08 antenna temperatures to produce an extended record of observations for climate applications.

Molly studied the sources and trends of free tropospheric aerosols measured at Mauna Loa.

Moises performed studies of variability in fire count in Indonesia: Effects of ENSO and MJO phase.

David looked at the diurnal cycles characteristics of disturbed and undisturbed periods during TiMREX.

Evaluating the response of the terrestrial biosphere to significant drought was the focus of Ian's summer research.

Keri's research modeled the West African Monsoon and looked at the formation of African easterly waves.

Jessica did a comparison of model precipitation forecasts for hurricane Ida which ocurred in 2009.

2013

A record 14 interns visited us in 2014.

Justin used a Cloud Resolving Model (CRM) to evaluate a statistical model of thunderstorm behavior.

Kate looked at how well a precipitation algorithm works over land.

Shannon Thomas & Emily Fish used the Life Cycle Assessment Tool to investigate four product groups.

Katerina studied ozone pollution at the surface for her CMMAP summer research project.

Ernesto's research focused on the eastern Pacific and the formation of easterly waves.

Certain non-spherical kinds of cloud condensation nucei were the focus of Madeline's summer research.

Albert was in up to his ears in NVAP data and how tropical cyclones affect it.

Alli looked at the effect the Balcones Escaparpment in west central Texas has on flooding in that state.

Brandon looked at patterns in tropical cyclones to develop an algorithm to estimate tropical cyclone intensity.

Emily looked at sensitivities to precipitation in single-moment microphysical schemes using the RAMS model.

Aaron researched what sudden stratospheric warmings are and the results of changing their definition.

Dakota Smith investigated using fluorescence as an indicator of vegetation productivity in West Africa.

Using the CMIP5 climate model, Abby researched cloud feedbacks and arctic ice.

2014

We hosted 12 interns in 2014.

Sara took early data from FRAPPE to find if nitrates from oil and gas are affecting a local park.

Michael used satellite observations of CO2 to evaluate carbon models.

This summer, Bryce went "boundary hunting" for the earth's tropical belt.

Lauren studied volatile organic compounds and their effect on urban areas.

Renee researched the microphysical differences between clean clouds and pyrocumulus clouds from wildfires.

Franchesca studied warm-ring structures in intense hurricanes.

Brian's research involved the understanding of thermodynamic stability/ instability during convective activity.

Mikey looked at improving satellite precipitation detection.

Julia studied the Baroclinic Annular Mode at different scales and geographic locations

Rachel investigated the role of aqueous-phase chemistry in aerosol-cloud interactions.

Andrea studied the FAT hypothesis and it's implications for cloud feedbacks and climate modeling.

Jessica studied the origins of aerosols reaching the top of Whistler Mountain in the free troposphere.

Radha looked at the factors leading to strong and unpredictable precipitaion in a global circulation model.

Kyle looked at impacts of "atmospheric rivers" near the coast of southern Alaska.

Rachel researched domestic trash burning in developing countries and how it increases carbonaceous aerosol.

Acetone is a volatile compound in the atmosphere and Makoto researched it's sources.

Rachel looked at aerosol size distribution with the RoMANS study done in Rocky Mountain National Park.

Katie studied Ice Nucleating Particles at a site on the western U.S. coast.

Ryan's work focused on precipitation over the tropics in response to increased water vapor.

2015

9 interns for our finale year!

Emily compared cloud and aerosol measurements from the OCO-2 and CALIPSO programs.

Justin looked at intensity trends in during a phase tropical cyclones go through.