

5-Year Research Plan Goal: Objective - Target	Primary NGSP Goal or Enterprise Evidence of Progress	Performance Measure and related milestones	Measure or Milestone Targets															
			Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target			
			FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18						
Climate: Improve understanding - Assess Natural Variability	Climate_Scientific	Cumulative number of ESRL-CSD articles published in the peer-reviewed literature.					35	54	89	123	158	200	235	305	340	375	410	445
Weather: Improved predictive guidance - Improve air quality modeling	Weather_AWQuality	Cumulative number of reports to stakeholders and decision-makers that provide a policy-relevant scientific synthesis of results from intensive field studies, process studies, and analyses.							1		2		5	6	6	6	7	
		Assessment of the impact of aerosols on cloud systems using data from the SE Pacific and the Caribbean							X	X	X	X	X	X				
		Assessment of black carbon emissions							X	X								
		Provide a policy-relevant scientific synthesis of results from the CalNex 2010 intensive field mission and from additional integrated analysis of historical air quality studies.									X	X						
		Provide a policy-relevant scientific synthesis of results from three Uintah Basin Winter Ozone Study (UBWOS) intensive field missions (2012, 2013, 2014).											X	X	X			
		Provide a scientific synthesis of results from the Las Vegas Ozone Study (LVOS) of pollutant transport that affects Clark County, NV, air quality											X	X				
Climate: Improve understanding of atmosphere - Evaluate effects of compounds	Climate_Services	Cumulative number of substances, proposed as replacements for stratospheric ozone depleting industrial compounds (e.g., solvents; refrigerants) whose ozone depleting potential and greenhouse-warming potential (GWP) have been evaluated.								1		2		2	3	3	4	4
		Evaluation of climate-related properties of one chemical compound proposed as a replacement for ozone-depleting substances							X	X	X	X			X		X	
Climate: Improve understanding of atmosphere - Quantify emissions	Climate_Scientific	Cumulative number of emission sources and source regions whose inventories have been evaluated for accuracy via top-down analyses								New Baseline		1		2	3	3	4	4
		Top-down evaluation of greenhouse-gas emission inventories using data from the California field campaign (CalNex)									X	X						
		Top-down evaluation of greenhouse-gas emission inventories using data from the southeast US field campaign (SENEX)											X		X			
		Top-down evaluation of greenhouse gas emissions inventories from the Shale Oil and Natural Gas NEXus (SONGNEX) mission and compare to previous data (SENEX)															X	
Climate: Obs - Integrate into short and long time scale models	Climate_Scientific	Cumulative number of intensive field studies planned and executed that provide 1) high quality data sets with defined uncertainties and 2) interpretations and analyses used to advance scientific understanding of atmospheric chemical and physical processes												New baseline	1			2
		Plan and execute the Shale Oil and Natural Gas NEXus (SONGNEX) mission to study emissions from energy development activities in the U.S.													X			
		Plan and execute the Fire Influence on Regional and Global Environments Experiment (FIREX) mission to study emissions from agricultural and wildland fires in the U.S.																X
		Number of Postsecondary Students in Higher Education Programs										5		9	4	3	2	2
		Number of Postsecondary Degrees in Higher Education Programs										1		0	1			