PECAN funding status

NSF support for PECAN

- $2.13 M in funds from the deployment pool
  - University of Wyoming King Air and WCL (120 research hours, double crew)
  - NCAR S-Pol Radar
  - NCAR 449 MHz Profiler
  - NCAR Mobile ISS and two fixed ISS
  - 400 GAUS up sondes
  - CSWR DOW6, DOW7 and DOW8

- $8.1 M committed in the grant pool
  - FY14: 2.7 M
  - FY15: 2.7M
  - FY16: 1.6 M
  - FY17: 0.5 M

- NSF support comparable to IHOP, VORTEX-II …

NSF support for PECAN

- several proposals have had to reduce their budget
- some are funded for just 1 year, basically to participate in data collection
- several groups only have an informal email confirmation of success

support from other agencies

- NOAA P-3: funded (Jorgensen)
  - about 85 flight hours and 27 days
- NASA: pending
  - DC-8 (Ferrare, Syed)
  - ground-based lidars (Demoz)
- DOE ARM: pending (Turner)
  - SGP scanning radars cloud and precipitation radars, 915 MHz RWPs, Raman lidar, Doppler lidar, AERI, and ECOR systems at SGP Central Facility
  - 3-hourly radiosonde launches at SGP CF at 21, 03, and 09 UTC (i.e., nighttime), a total of 135 extra sondes during PECAN
  - Additional radiosonde ground station and 150 sondes to be launched at a location in Kansas (e.g., near Pratt, KS, which was used during MC3E)
  - Four additional AERIs that can be deployed in Kansas with other PECAN resources

numbers …

Field phase	1 June –15 July 2015
Funding agencies	NSF AGS; NOAA; NASA; DOE
Participating groups	22 (incl. 14 universities)
PIs and co-PIs in funded or pending proposals	55
proposals to NSF and elsewhere	21 (3 international)
Education & outreach	30+ students in the field

PI name	first name	affiliation	co-PIs	proposal title	primary instrument / platform	S-POL	DOWS	UWKA	ISSs incl. GAUS	ISS-449	mini-DIAL
Nocturnal stable boundary layer, low-level jet											
Clark	Richard	Millersville	Todd Sikora	COLLABORATIVE RESEARCH: PECAN: Stable Boundary Layer Processes and Their Interaction with Nocturnal Convective Activities Over the Great Plains	PI-supplied (tethersonde, fluxes)	Y	Y	Y	Y	Y	Y
Wang	Qing	NPS				Y	Y	Y	Y	Y	Y
Geerts	Bart	Uwyo	Zhien Wang, Tom Parish	Airborne measurements of the nocturnal low-level jet and wave disturbances in the stable boundary layer in PECAN	UWKA with lidars	Y	N	Y	Y	Y	N
Klein	Petra	NSSL	Phil Chilson, Evgeni Fedorovich, Wayne Feltz, Alan Shapiro and David	Low-level jets in the nocturnal stable boundary layer: their structure, evolution and interactions with mesoscale convergent zones	PI-supplied (CLAMPS?)	Y	N	Y	Y	Y	perhaps
Nocturnal MCSs											
Jorgensen	David	NOAA	Terry Schuur, Conrad Ziegler, Steven Koch	Microphysics and cold-pool dynamics of nocturnal MCSs	NOAA P-3 radar	Y	Y	Y	Y	Y	Y
McFarquhar	Greg	UIUC	Bob Rauber, Brian Jewett	Microphysical processes within stratiform regions of deep nocturnal convective systems and their relationship to stable boundary layer dynamics	NOAA P-3 radar & microphysics	Y	Y	N	Y	Y	Y
Parker	Matthew	NCSU		COLLABORATIVE RESEARCH: Measurement and analysis of nocturnal mesoscale convective systems and their stable boundary layer environment during PECAN	modelling, diversity of data	Y	Y	Y	Y	Y	N
Schumacher	Russell	CSU			diversity of data	Y	Y	Y	Y	Y	N
Ziegler	Conrad	NSSL/CIMMS/OU	Michael Biggerstaff, Michael Coniglio, Edward Mansell, and Terry Schuur		SMART-Rs, mobile radars	Y	Y	Y	Y	Y	Y
Bell	Michael	U Hawaii Manoa		Convective and stratiform contributions to MCS longevity	NOAA P-3	Y	Y	N	N	N	N
Kosiba	Karen	CSWR	Josh Wurman, Jim Marquis, Glen Romine	Observations of upscale growth and development of severe winds in MCSs	DOWs	Y	Y	perhaps	Y	Y	perhaps
Gallus	William	ISU	Segal	Modelling nocturnal MCSs in PECAN	modelling	Y	Y	perhaps	Y	Y	N
Trier	Stan	NCAR		ARW-WRF Simulations of Thermodynamic Destabilization Supporting MCSs in PECAN	modelling						
Nocturnal bores											
Parsons	David	OU	Howie Bluestein	Investigating the Mechanism(s) for the Initiation and Maintenance of Nocturnal Convection Over the Great Plains; Clarifying the Role of Bores and other Wave-like Disturbances	diversity of data	Y	N	perhaps	Y	Y	Y
Demoz	Belay	Howard	Bruce Gentry, E. Joseph, D. Whiteman, D. Venable	Ground Based Lidar Profiling of the Thermodynamic and Dynamic Structure of the SBL in PECAN	NASA lidars	Y	perhaps	Y	Y	Y	Y
Ferrare	Richard	NASA	Syed Ismail, John Hair	LASE Measurements during PECAN	LASE	N	N	Y	Y	N	Y
Nocturnal convection initiation											
Weckwerth	Tammy	NCAR	James W. Wilson, Rita D. Roberts	Studying Elevated Convection Initiation in PECAN	S-POL	Y	Y	Y	Y	Y	Y
Knupp	Kevin	UAH		Examination of vertical motion forcing within the afternoon to evening transition and nocturnal boundary layers	MIPS + MAX	Y	Y	Y	Y	Y	Y
Hanesiak	John	U Manitoba	Tammy Weckwerth	Nocturnal Boundary Layer/LLJ evolution and Elevated Convection Initiation	PI-supplied (MR, wind lidar)	Y	Y	Y	Y	Y	Y
Data assimilation, NWP, Prediction											
Pinto	James	NCAR	Matthias Steiner, Joe Grim, Mei Xu	Object-based analysis of the short-term predictability of the macrophysical properties of nocturnal MCSs : Extending PECAN to other nocturnal CI regimes	modelling	N	N	Y	Y	Y	Y
Wang	Xuguang	OU	Dave Parsons, Dave Stensrud	Improving the understanding and predictive skills of nocturnal convection duirng PECAN through advanced ensemble-based data assimilation and ensemble simulation	modelling	Y	perhaps	N	Y	Y	Y