



NCAR

# Lessons from NARCCAP

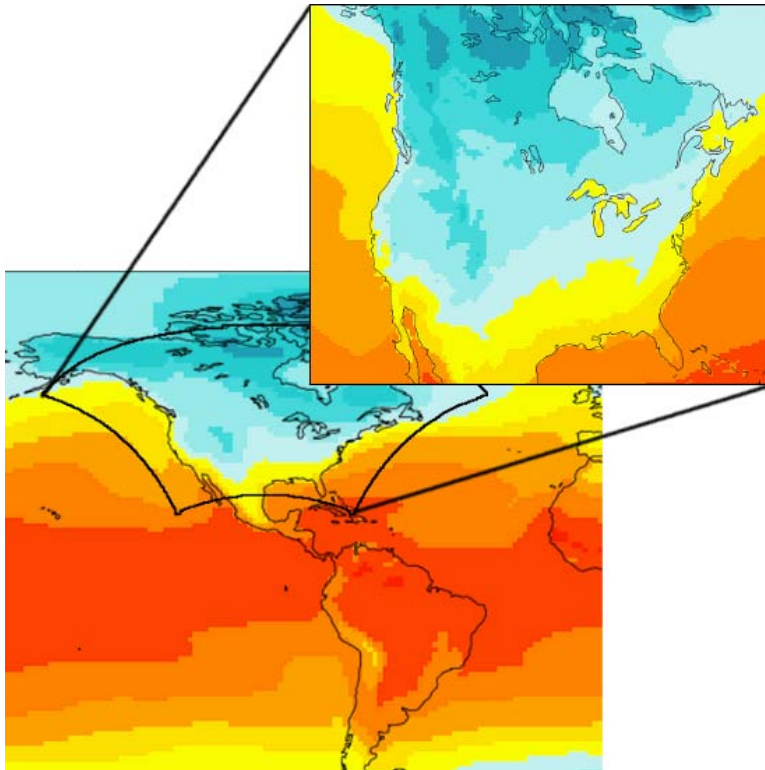
## Data Management Town Hall

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IMAGE – NCAR

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# NARCCAP: North American Regional Climate Change Assessment Program



Nest high-resolution regional climate models (RCMs) inside coarser global models (GCMs) over North America

# NARCCAP Output

	NCEP	CCSM	CGCM3	HADCM3	GFDL
CRCM	X	X	X	--	--
WRFG	X	X	X	--	--
MM5I	X	X	--	X	--
RCM3	X	--	X	--	X
ECP2	X	--	--	X	X
HRM3	X	--	--	X	X
Timeslices		X	--	--	X

- 6 Regional models
- 4 GCMs + NCEP
- 30 years current & future
- 3-hourly frequency
- 50-km spatial resolution
- 35 × 2-D variables
- 7 × 3-D vars on 28 levels

**~40 TB** total data volume

# NARCCAP Program Goals

- Evaluate model performance and uncertainty
- Support further dynamical downscaling experiments
- ***Generate high-res climate change scenario data for impacts analysis***

# Supporting Impacts Users

Real-world example:

***# days w/  $T_{max} \geq 90^\circ, 100^\circ F$  for Austin, TX***  
(current and future)

- land management
- power infrastructure decisions
- public health policies

# What slows down progress?

## DATA ACCESS

*# days  $T_{max} \geq 90^{\circ}F$  for Austin, TX?*

- Install tools to read netcdf
- Find grid index nearest to POI by hand using map
- Download 2 GB file (1 var, 5 yrs, full domain)
- Extract timeseries for cell
- Repeat for 5 more files
- Import data into Excel
- Concatenate time series
- Convert  $^{\circ}K$  to  $^{\circ}F$
- Calculate days over threshold
- Repeat entire procedure for 12 runs