Southern Plains Drought Assessment 2010-2012

South Florida Water Management District
Drought Assessment

• **purpose:**
  – develop a framework to assess and understand droughts so that future events could be better anticipated and managed

• **New Mexico, Oklahoma, and Texas**

• **October 2010-December 2012**
Outline

• Climatological overview

• Environmental and economic impacts

• Regional climate services provided

• Lessons learned, best practices, and next steps
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<th>Height</th>
<th>J. Nielsen-Gammon</th>
<th>D. Dubois</th>
<th>K. Robbins</th>
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<td>M. Shafer</td>
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Climatological overview

– Observations
  • SRCC/NCDC – climate variables
  • NDMC – DM statistics/summary/time series
  • NRCS – soil moisture

– Forecasts
  • CPC – seasonal T/P/drought outlooks
  • CIRES – experimental outlooks
  • WRCC/CLIMAS – wildfire outlooks
  • NWS/RFC – 90-day stream flow forecasts
  • NRCS – stream flow forecasts
  • USACE – water supply forecasts

– Attribution: Hoerling et al. 2012, J. of Climate
  • identify physical processes, underlying causes, and predictability.
Environmental & Economic Impacts

- **Ag: Farming and Ranching**

- **Water Supply**
  - Municipal
  - Irrigation

- **Wildfire**

- **Tourism and Rec.**

- **Societal Well-being**

- **Wildlife**

- **Vegetation**

Volunteer-submitted reports from the region valid within month
Regional Climate Services Provided

- Outlook and assessment forums
- Management webinars
- State planning workshops + state drought monitoring coordination
- Media outreach
  - Social media
  - Press releases
  - Teleconferences
- User engagement
  - SCs – talks
  - Extension
  - NWS
  - Town halls
- WFO Drought Information Statements (Victor Murphy)
- Workshop for TX wildfire (A&M, NWS) (Victor Murphy)
Lessons Learned: **What Worked**

Benefits of NDMC/RMA 2010 user workshops for 2010-2012 response

SCIPP webinar survey and feedback

Partnering of resources for product development

Use of the Drought Monitor (media exposure, web hits, etc.) to keep informed

Coordinated state drought input

Improved provider-user networks: CPC drought briefings –

OCS engagement experiences with local offices re: DIR

High skill seasonal outlook for winter of 2010-2011

Also, partners “stuck with us” during subsequent busted forecasts

Improved provider-media engagement
Lessons Learned: Challenges

- Information demand exceeded provider “bandwidth”
- High degree of provider and user time investment
- Variability of state drought plan quality, timeliness, and use
- c. Forecast “bust” for winter of 2011-2012 & misuse/overuse of probabilistic and national-scale CPC products
- Customer fatigue/apathy as drought persisted
  - Fewer inputs to Drought Impact Reporter
Next Steps

• Identify what is transferrable: regions and for other extreme events
  – Users can help guide – “help us plan for next extreme event” – Memphis

• Identify what could be done with additional resourcing

• Find ways to convey more science and less impacts information to users
  – Practitioners requesting – how stuff works, how forecast is made, etc.
  – Meet users in their settings – professional conferences, trade meetings, etc.
Next Steps

- Focus on seasonal-to-interannual time scales, less on long-term change

- Find ways to construct and sustain more regional-scale information
  - Forecasts; Local input to ground truth regional drought signal/intensity; Assessments; Regional research

- State and community drought planning – revisiting Memphis
  - Support drought-ready communities and early warning systems
  - Increase user education on drought monitoring processes and products
I need you to write a white paper for an industry trade association.

Fine, but that will leave me with less time to work on my project.

Do the trade association stuff during your unproductive time.

What exactly is my “unproductive time”?

It goes by many names, including sleep, leisure and healthy lifestyle.

If I do less of those things it will reduce the quality of my life below the point at which good hygiene has any utility.

I don’t want to make out with you. I just want you to work harder for no extra money.

I spend too much time explaining the obvious.
Lessons learned about the process

• Funding for assessment important

• Working out framework

• Framework in place prior to event