

Global Drought Risk Management Activities at the NDMC: Where to From Here?

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NATIONAL DROUGHT MITIGATION CENTER
UNIVERSITY OF NEBRASKA

Drought Risk Management: The Three Pillars

Successful Drought Policy

**Monitoring &
Early Warning**

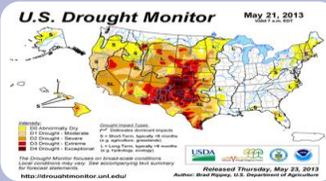
**Vulnerability &
Impact
Assessment**

**Mitigation &
Response**

Overall purpose: preparedness planning based on these pillars of risk reduction.

National Drought Mitigation Center Program Objectives

Mission: To lessen societal vulnerability to drought by promoting planning and the adoption of appropriate risk management techniques.



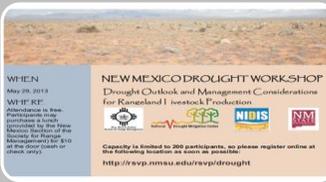
Improve the **science** of drought monitoring, planning, and mitigation



Build **awareness** of drought & its **impacts** on society and the environment, and how human actions affect our **vulnerability** to drought



Focus the attention of policy makers on the importance of **drought policy and planning** in the wise stewardship of natural resources



Develop, conduct and **maintain operational tools**, research, outreach and training

“End-to-End”: Research-Applications-Outreach-Operations Continuum



Planning Tools

Planning at *all scales*

Planning should start local and involve the *“locals”*

Planning is a *“living”* process



Nation



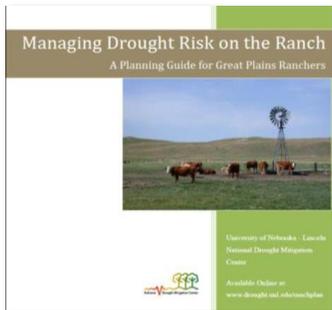
Basin



Tribal/
State

Community

Individual



Education, Feedback and Outreach



Managing Drought Risk on the Ranch Professional Development Webinar Series

10 am Central Time

January - May, 2013

Last Wednesday
of each month

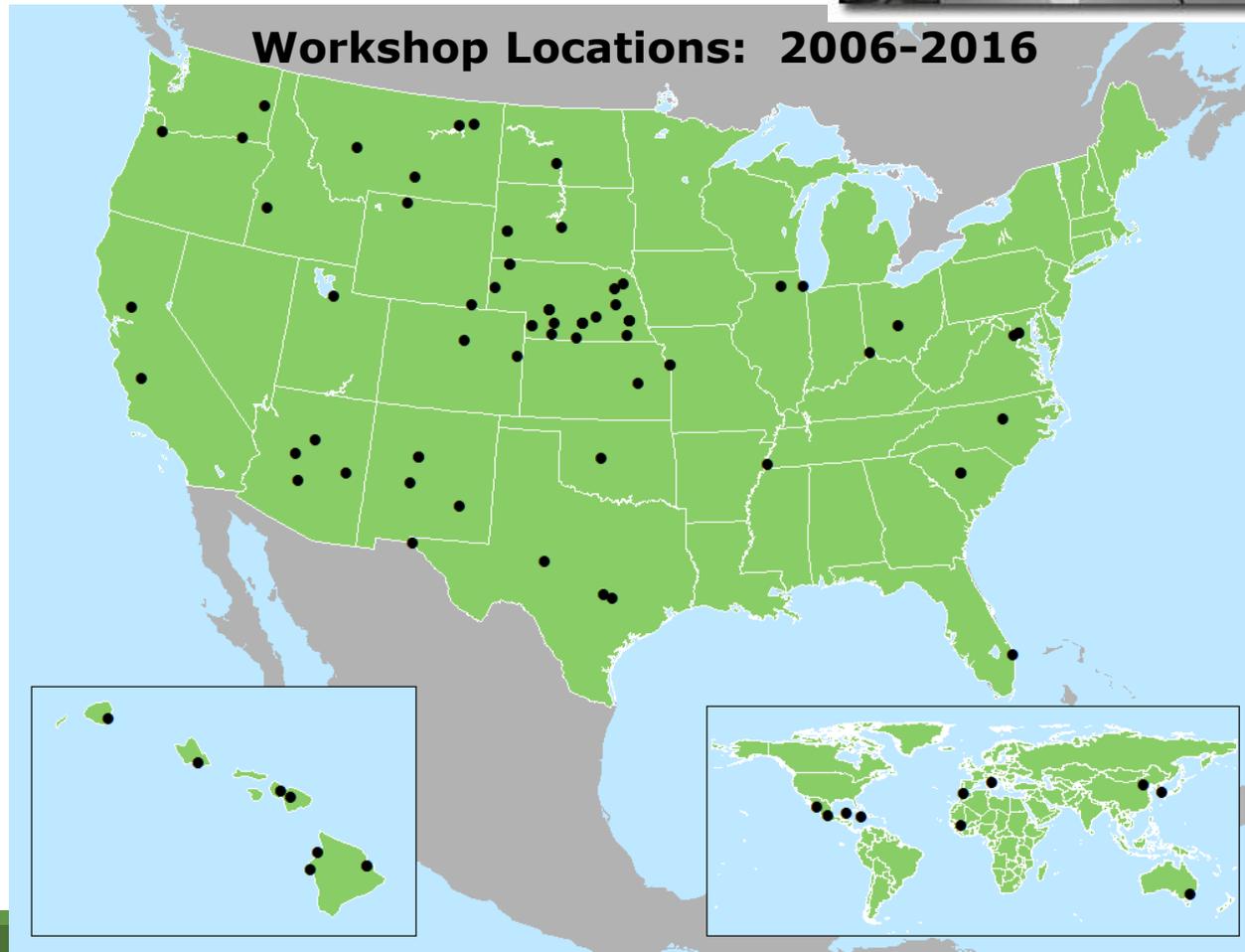
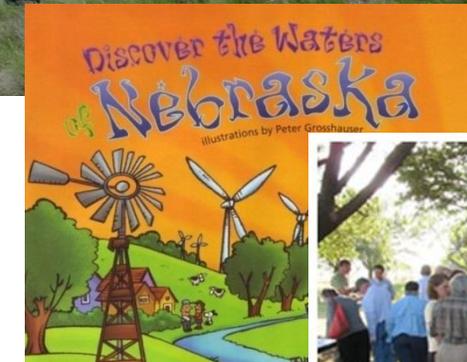
Each session will include a briefing on current drought status, followed by a session on a specific topic or tool related to drought planning.

January 30: Managing Drought Risk on the Ranch: The Planning Process

Jerry Volesky, Range and Forage Specialist at the West Central Research and Extension Center, and Lynn Myers, Tippetts-Myers Ranch

February 27: Avoiding Analysis Paralysis: Monitoring and Setting Critical Dates for Decision Making During Drought

Dwayne Rice, Rangeland Management



EDEN
EXTENSION DISASTER
EDUCATION NETWORK

Reducing the Impact of Disasters
Through Education

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Hazards & Threats

EDEN » Topics » Hazards & Threats » Drought » eXtension

Drought

Key & Emerging Issues

- Individuals & Families
- Crop and Livestock
- Community

Quick Find Key Current and Future Issue Resources

National VOAD Drought and Wildfire Taskforce

eXtension

The Drought articles and FAQs on eXtension can be reached through the

- eXtension Drought pages

Articles are grouped under the following headings:

- Livestock and Pasture
- Crops
- Home and Landscape

eXtension
more mind reach

Aggricultural Disasters

Families & Communities

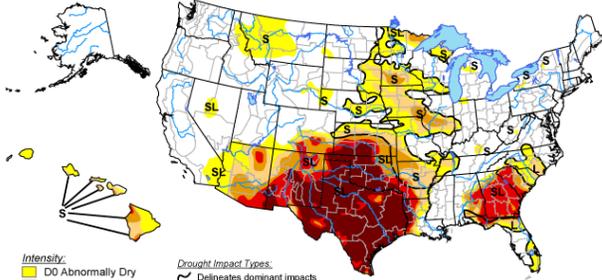
Hazards & Threats

Human Health

NDMC's Monitoring Program Area

U.S. Drought Monitor

October 4, 2011
Valid 8 a.m. EDT



Intensity:
 D0 Abnormally Dry
 D1 Drought - Moderate
 D2 Drought - Severe
 D3 Drought - Extreme
 D4 Drought - Exceptional

Drought Impact Types:
 S = Short-Term, typically <6 months (e.g. agriculture, grasslands)
 L = Long-Term, typically >6 months (e.g. hydrology, ecology)

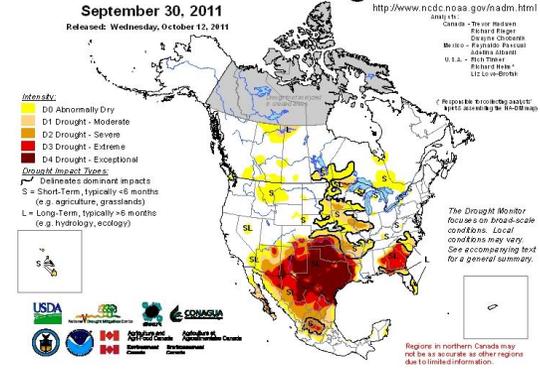
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu/>

North American Drought Monitor

September 30, 2011

Release: Wednesday, October 12, 2011



Intensity:
 D0 Abnormally Dry
 D1 Drought - Moderate
 D2 Drought - Severe
 D3 Drought - Extreme
 D4 Drought - Exceptional

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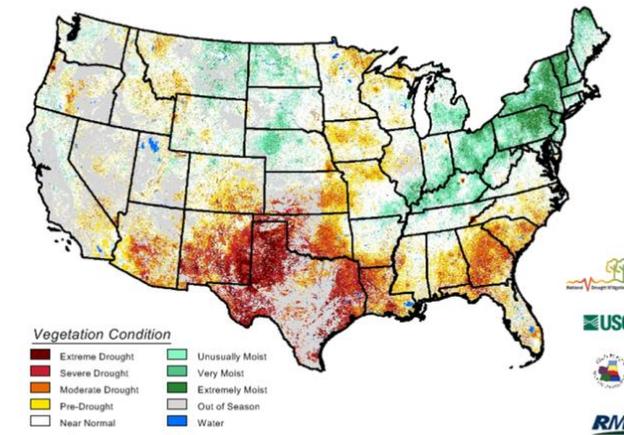
Monitoring

Activities

**U.S. Drought Monitor +
 N. American DM
 Combined Indicators
 Drought Impact Reporter
 SPI
 Drought Risk Atlas**

Vegetation Drought Response Index Complete

October 17, 2011



Vegetation Condition
 Extreme Drought
 Severe Drought
 Moderate Drought
 Pre-Drought
 Near Normal
 Unusually Moist
 Very Moist
 Extremely Moist
 Out of Season
 Water



Monthly SPI



Quick Drought Response Index (QuickDRI)

Drought Impact Reporter

Total Impacts All States		138	
Agriculture	68	Business & Industry	2
Energy	4	Fire	29
Plants & Wildlife	21	Relief, Response & Restrictions	29
Society & Public Health	22	Tourism & Recreation	17

NDMC National/International Activities

WHERE WE WERE

National Drought Mitigation Center faculty and staff have always worked across the nation and around the world. The map shows locations where the drought center has collaborated on research, facilitated drought planning, shared technical knowledge, or provided programmatic advice through 2016. The numbered items highlight key projects or partnerships in 2016.

Dark blue indicates countries where we worked in 2016. The lighter blue indicates countries where we worked in the past.

1 Midwest Drought Early Warning System Meetings *Ohio, Illinois, Iowa, Minnesota & Missouri**

The drought center joined the National Integrated Drought Information System to host Midwest DEWS workshops in five cities, fostering a network of drought planners.

2 National Science Foundation-Belmont Forum workshops *North Carolina, United Kingdom & Australia*

Drought center faculty and staff on the Drought

Impacts: Vulnerability thresholds in Monitoring and Early Warning Research (DrIVER) project hosted drought impact and indicator workshops in North Carolina and Australia, and contributed to a workshop in the United Kingdom to help prepare for drought and anticipatory

3 Dubai UAE M *Dubai, UAE*

Drought center info with the International to help transfer a ne to open-source prod countries to tailor it

4 Great Plains Tribal Water Alliance Meeting *Rapid City, South Dakota*

The drought center is working with the Great Plains Tribal Water Alliance as part of a collaborative

6 Pacific Northwest DEWS Workshop *Boise, Idaho*

We worked with drought planners from the Pacific Northwest on incorporating triggers and indicators into drought plans.

We led a U.S. Drought Monitor user forum in Puerto Rico, with U.S. Department of Agriculture sponsorship.

9 NIDIS working groups and Engaging Preparedness Communities workshops *Lincoln, Nebraska*

and Hydrology conduct four writeshops to help island nations enhance drought resilience.

11 Pacific Northwest DEWS Meeting *Portland, Oregon*

The drought center is helping develop a network of drought planners in the region.

*Denoted by stars on map.

Events numbered from most to least recent and are only highlights from the 76 events NDMC was a part of in 2016.

- **UN organizations: FAO, ISDR, UNDP and CCD**
- **World Meteorological Organization (WMO)**
- **USAID, World Bank**
- **Global Water Partnership (Integrated Drought Management Program)**
- **Various regional and national drought centers**
- **Numerous government agencies and universities in different countries**

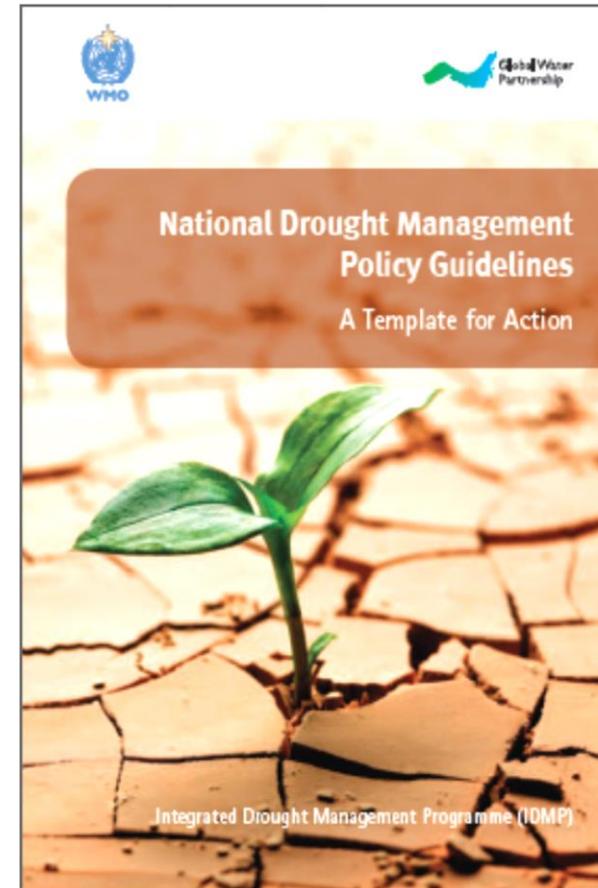
Integrated Drought Management Program (IDMP) Outcome: National Drought Management Policy Guidelines

3 Pillars

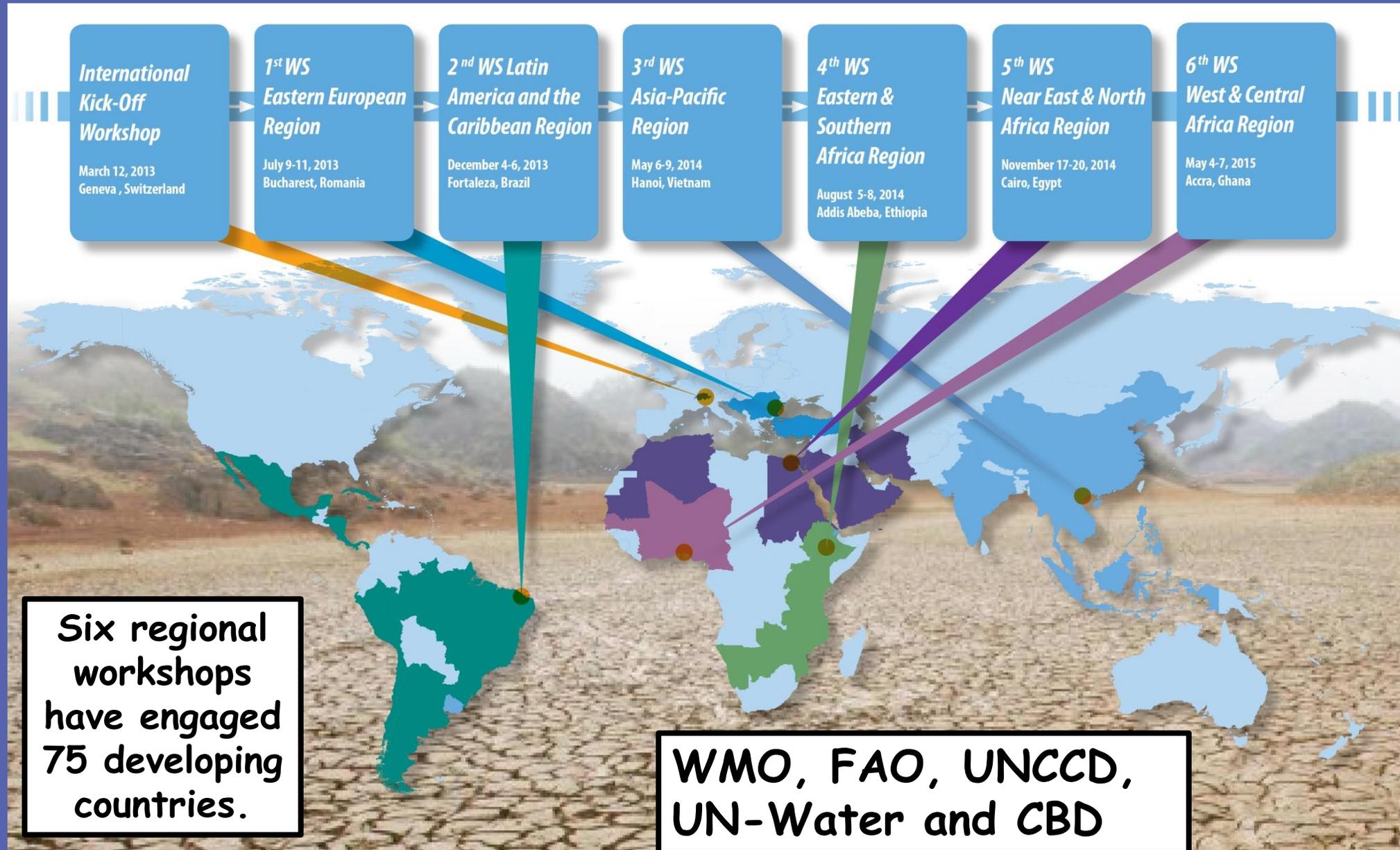
Response to need articulated at the High Level Meeting on National Drought Policy

10-Step Template that ***can be adapted to national realities and needs***

Building on existing risk management capacities



Timeline for the Regional Capacity Building Workshops



Regional Capacity Building Workshops: Key Lessons

Deficiencies in data networks, data sharing,
understanding of indicators and indices

Impact assessment/risk assessment methodology and
no archive of impact data

Lack of collaboration between critical ministries on all
aspects of the 3 Pillar approach

Benefits of action vs. costs of inaction

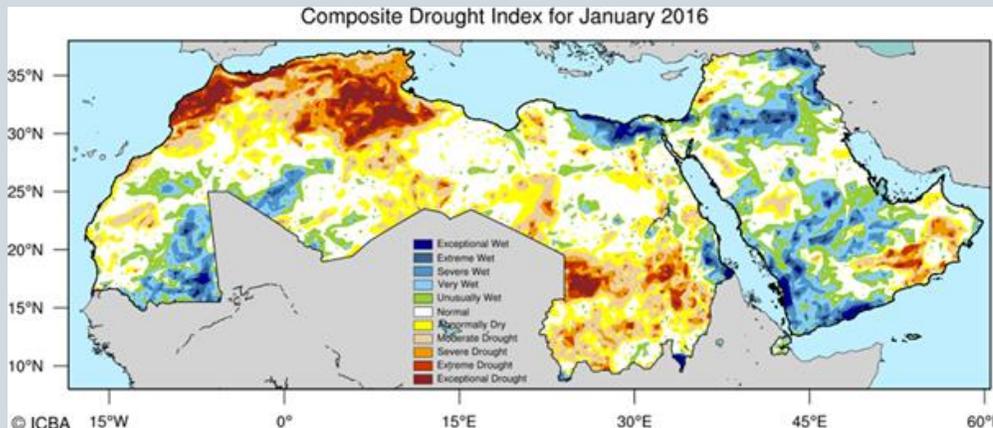
Political will is lacking

NDMC International RDMS Activities



Caribbean (I, II, III)

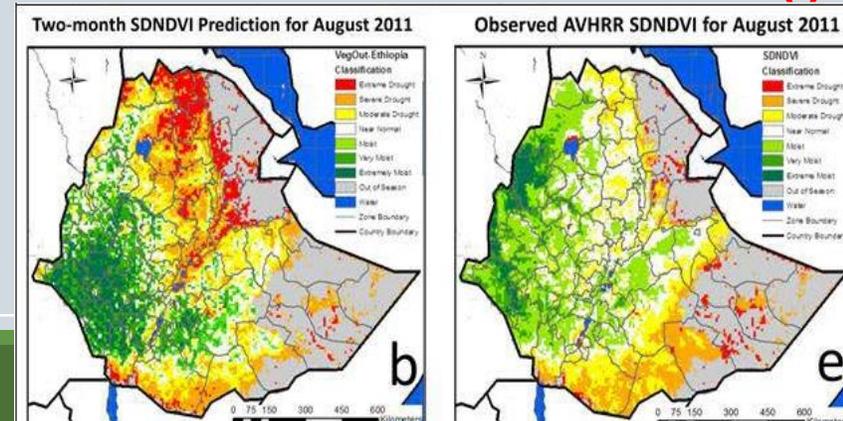
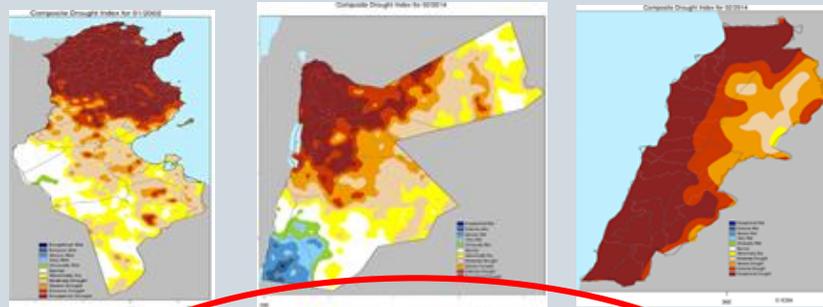
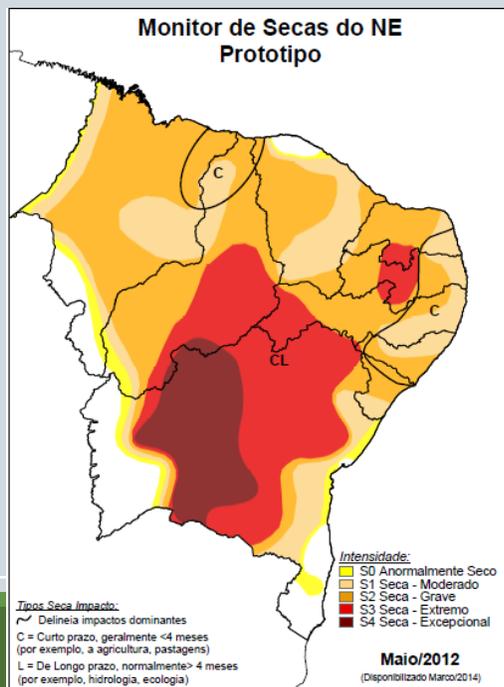
MENA (I, II, III)



Czech Republic (I)

Greater Horn of Africa (I)

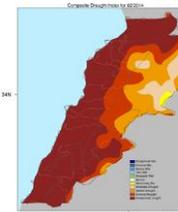
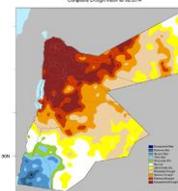
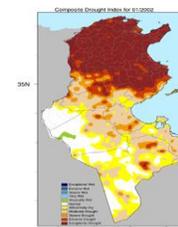
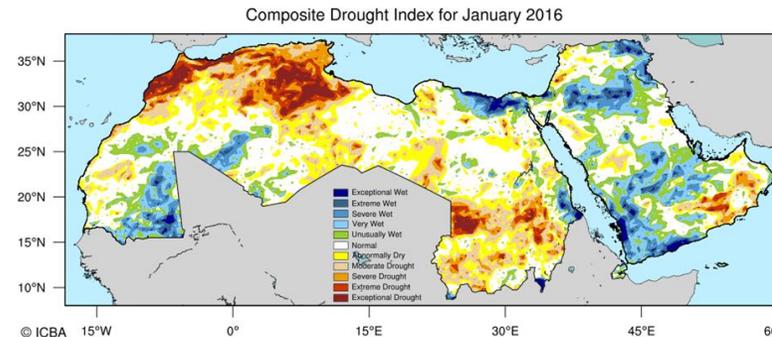
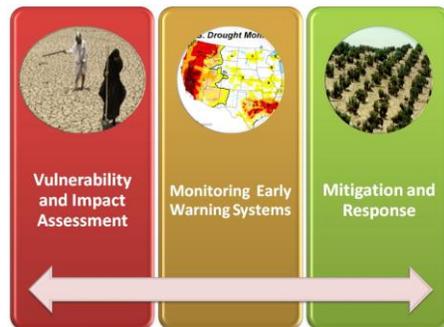
Brazil (I)



Managing Drought in the MENA region



(MENA RDMS – Morocco, Tunisia, Lebanon and Jordan)



Water SECURITY initiative with USAID
Water SCARCITY initiative with FAO, LAS endorsed, UNDP



USAID
FROM THE AMERICAN PEOPLE



NATIONAL DROUGHT
MITIGATION CENTER
UNIVERSITY OF NEBRASKA

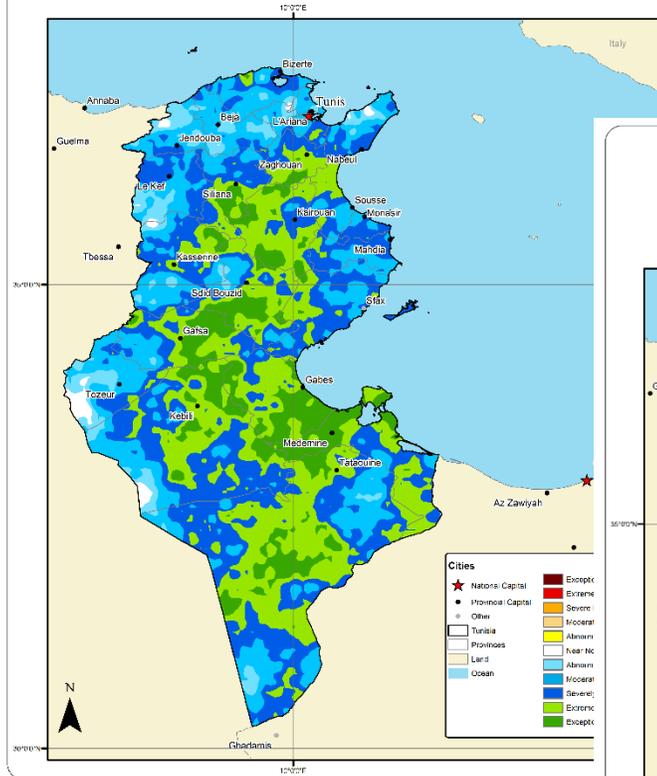


نزرع للغد
ICBA
AGRICULTURE FOR TOMORROW

Tunisian Composite Drought Index (TCDI)

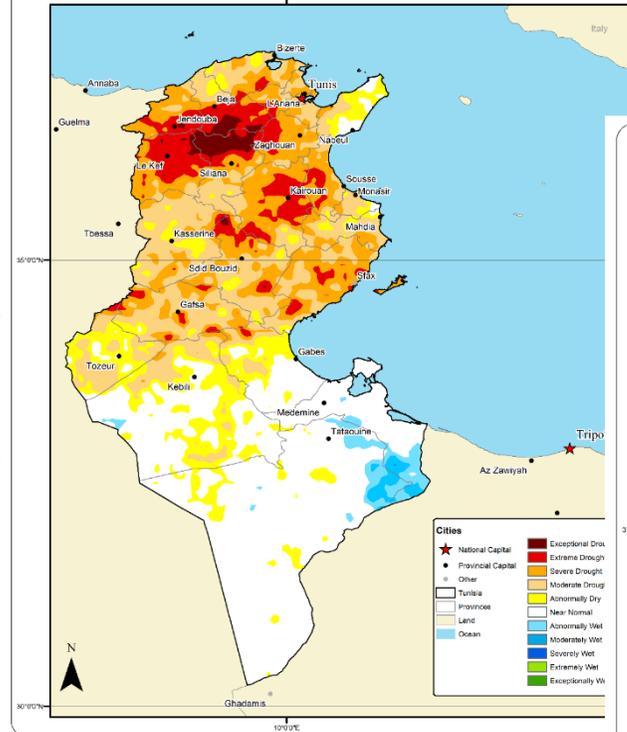
Tunisia Composite Drought Index

February 2012



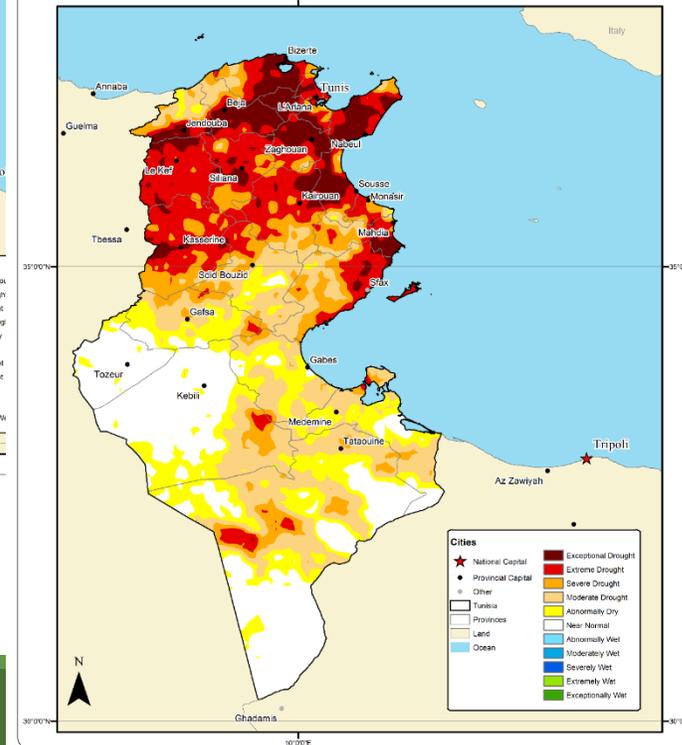
Tunisia Composite Drought Index

December 2015



Tunisia Composite Drought Index

August 2016



Final Thoughts

- * NDMC is dedicated to developing **usable** information and services
 - Involve **user feedback** at all times in what we do!
- * **Tools help bridge** the gap between monitoring/early warning, prediction and preparedness (triggers for decision support)
- * **Start simple**...the process is a journey...and the process is **not prescriptive**
 - * Build momentum off of early, visible success (e.g. DEWIS?)
- * Goal is to **link scientific knowledge w/ the actions** needed to reduce impacts and future risk to drought
- * Now what? This may be the end of this project, but it's **the beginning of a process for a more drought resilient Ethiopia!**

Thank You! Questions?

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