

The Missouri Drought Plan

Approaching a drought

presented by
Charlie DuCharme

at the

NOAA Midwest Drought Early Warning System Kickoff meeting
in St. Louis, MO, Feb. 9, 2016



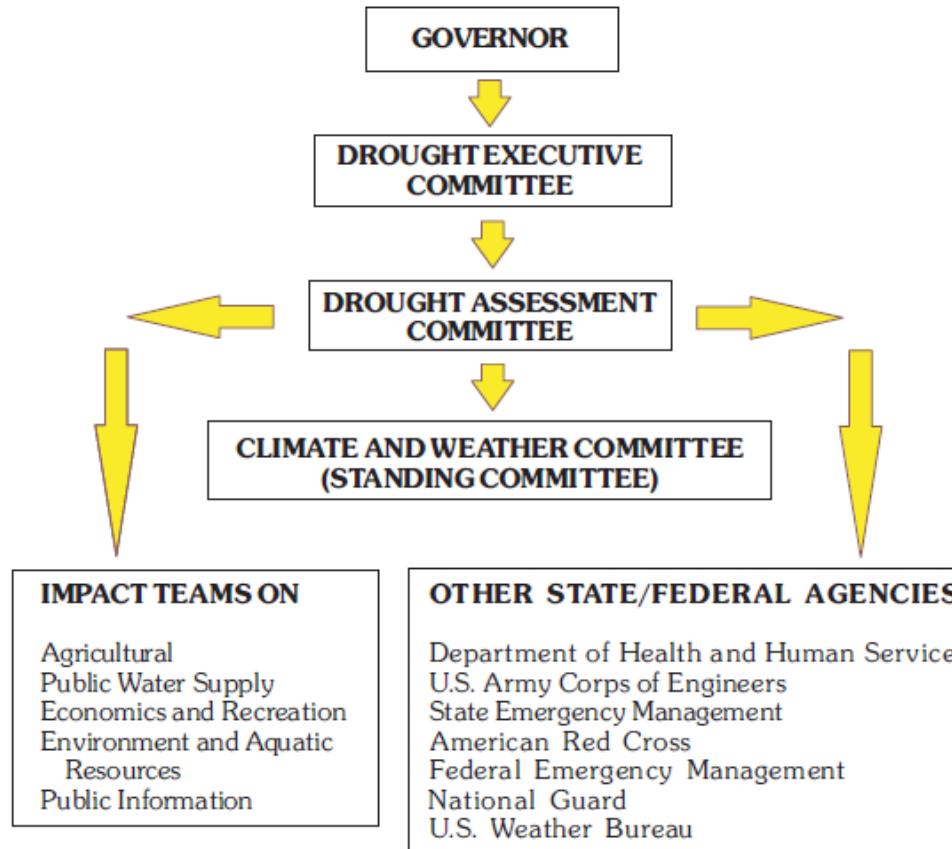


CONTENTS

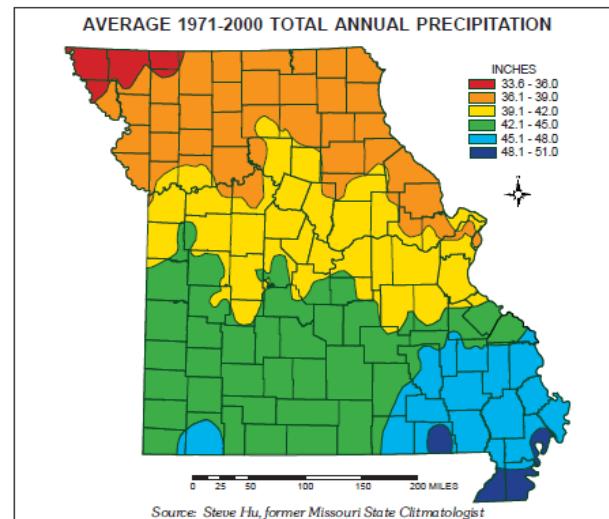
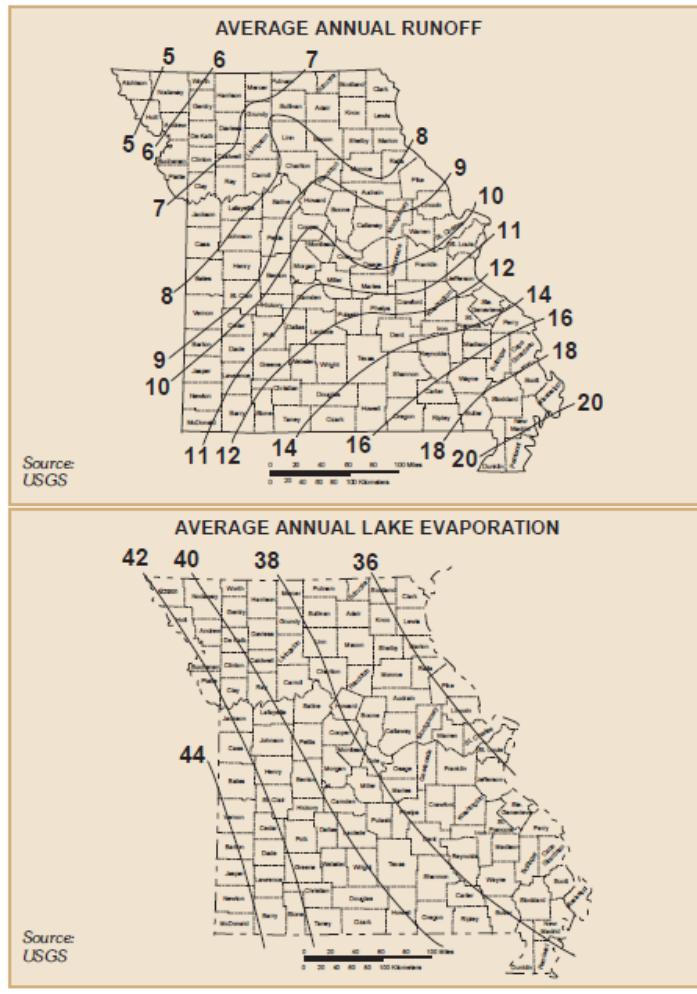
Preface	v
Foreword	vi
Introduction	1
Problem	2
Drought Planning	3
Defining Drought	4
Monitoring Drought	5
Categories of Drought	7
Overview of Missouri Drought Susceptibility	9
Southern Missouri	9
Northern and West-Central Missouri	12
Concept of Response Plan Operations	14
Phases of Drought Response System	14
Organization and Assignment of Responsibilities	20
Organizational Overview	20
Assignment of Responsibilities	21
Conclusions	26
Appendix 1: Missouri Drought Plan Organizational Chart	27
Appendix 2: State Drought Impact Teams	28
Appendix 3: Suggested Response Priority Water-Use Class	29
Appendix 4: A Local Water Shortage Response Plan	31
Appendix 5: Evaluating Vulnerability and Demand	36
Appendix 6: Post-Drought Evaluation Procedures	38
Appendix 7: Water Conservation	40
Appendix 8: The Local Water Shortage Management Team	44
Appendix 9: Pricing	45
Appendix 10: Assessment and Recommendations for Drought Plans	46
Appendix 11: Alternatives	49
Appendix 12: Maps	52
Appendix 13: Reservoir Firm Yield Water Supply Studies	67

APPENDIX 1

Missouri Drought Plan Organizational Chart



Climate maps included in MO Drought Plan



Drought Indices

- Palmer Drought Severity Index (PDSI)
- Crop Moisture Index (CMI)
- Standardized Precipitation Index (SPI)
- Streamflow percentiles
- Recent precipitation amounts and percent of normal, e.g. 7-day, 30-day, 90-day

Phases of Drought Response

Phase 1 - Advisory Phase

A Climate and Weather Committee, referred to as a standing committee of several state and federal government agencies in Missouri who usually would be at least keeping an eye on meteorologic and climatic conditions. As conditions get dryer and appear they will get worse the Climate and Weather Committee would recommend declaring a Drought Alert and activating the Drought Assessment Committee.

Phase 2 – Drought Alert

PDSI is at least -1.0 and streamflow, reservoir levels and groundwater levels are below normal over a several month period. A Drought Alert might be declared by the Governor. Drought Assessment Committee is activated.

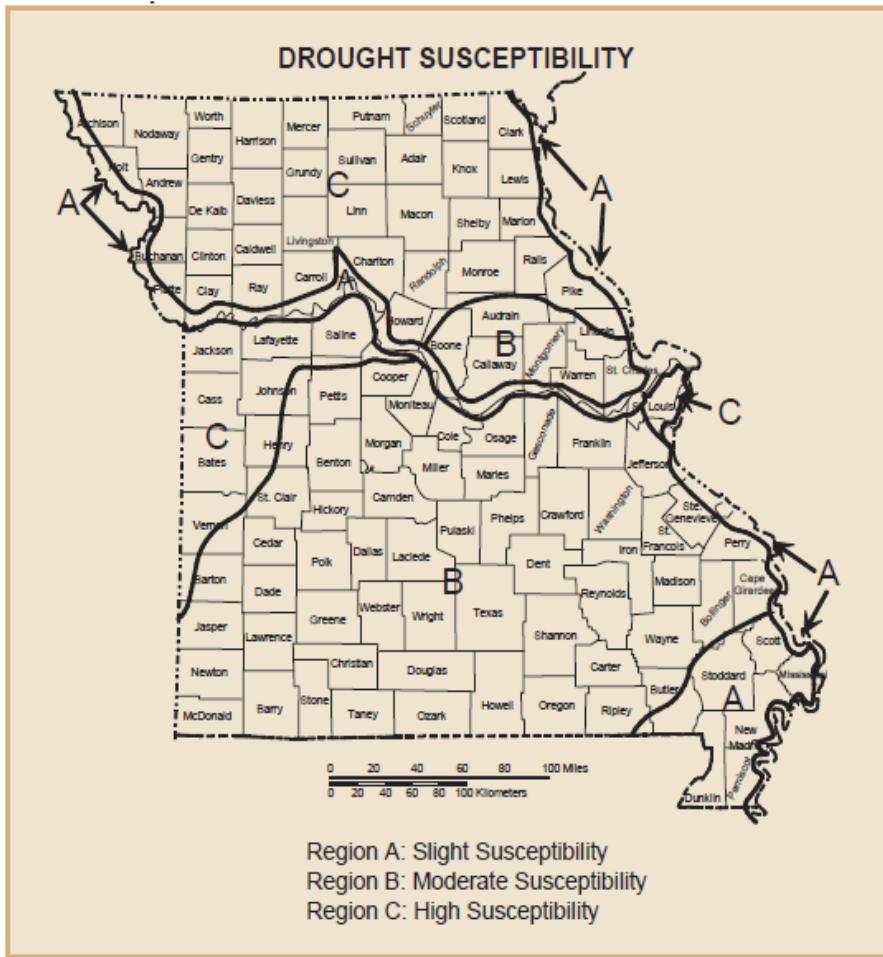
Phase 3 – Conservation Phase

PDSI is -2.0 to -4.0 and streamflow, reservoir levels and groundwater levels continue to decline;

Phase 4 – Drought Emergency (water rationing)

PDSI is less than -4.0 . A Drought Emergency might be declared by the Governor.

Drought Susceptibility Designations



Region A: Slight Susceptibility

Floodplains of the Missouri & Mississippi Rivers consisting of saturated sand and gravels (alluvial deposits).

Region B: Moderate Susceptibility

Groundwater resources are adequate to meet domestic and municipal water needs.

Region C: High Susceptibility

Groundwater resources are generally too mineralized and limited in production.

The Missouri Drought Plan, 2002 is available on the internet at <http://dnr.mo.gov/pubs/WR69.pdf>

It can also be accessed through the NIDIS web site.