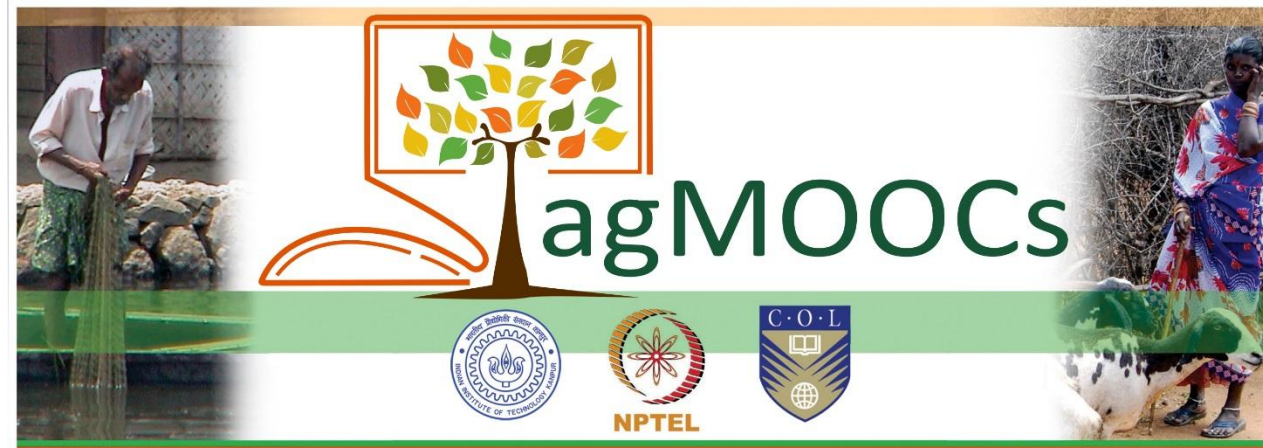


# Drought Risk and Vulnerability Assessment: a global perspective

*MOOC on GIS applications in agriculture*



# At the end of this talk.....

You would have learnt

Why context is important in risk and vulnerability assessment

Why micro-level assessment is important for mitigation

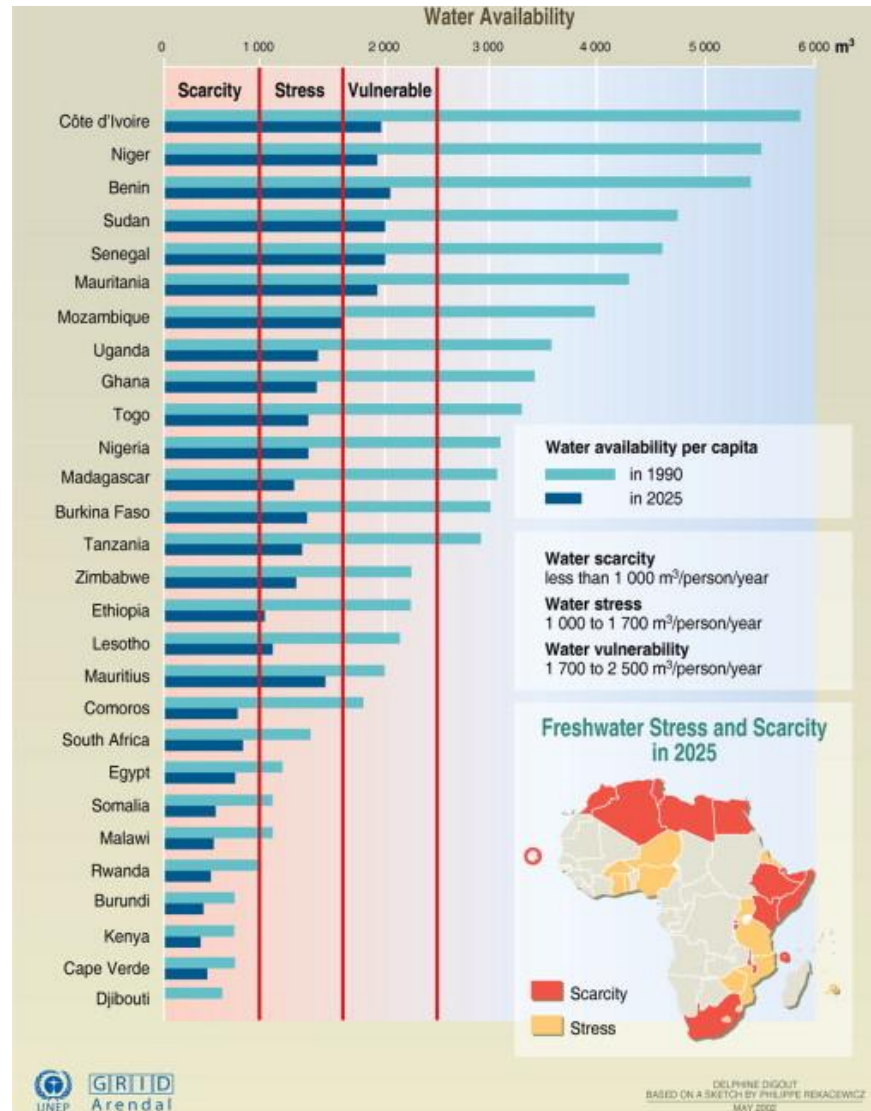
# **Importance of Context**

## **Vulnerability**

can be offset by

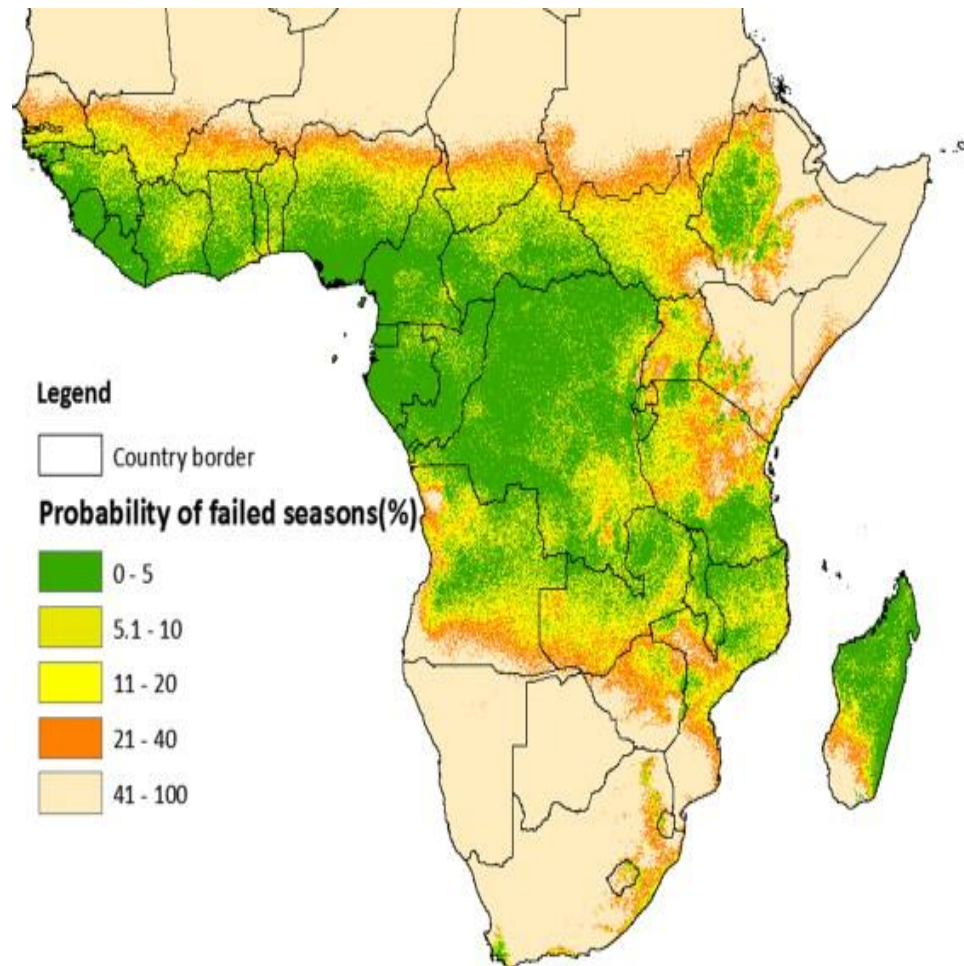
## **Adaptive Capacity**

# Very Large Scale Overview of Vulnerability



<http://dx.doi.org/10.1016/j.wace.2014.04.004>

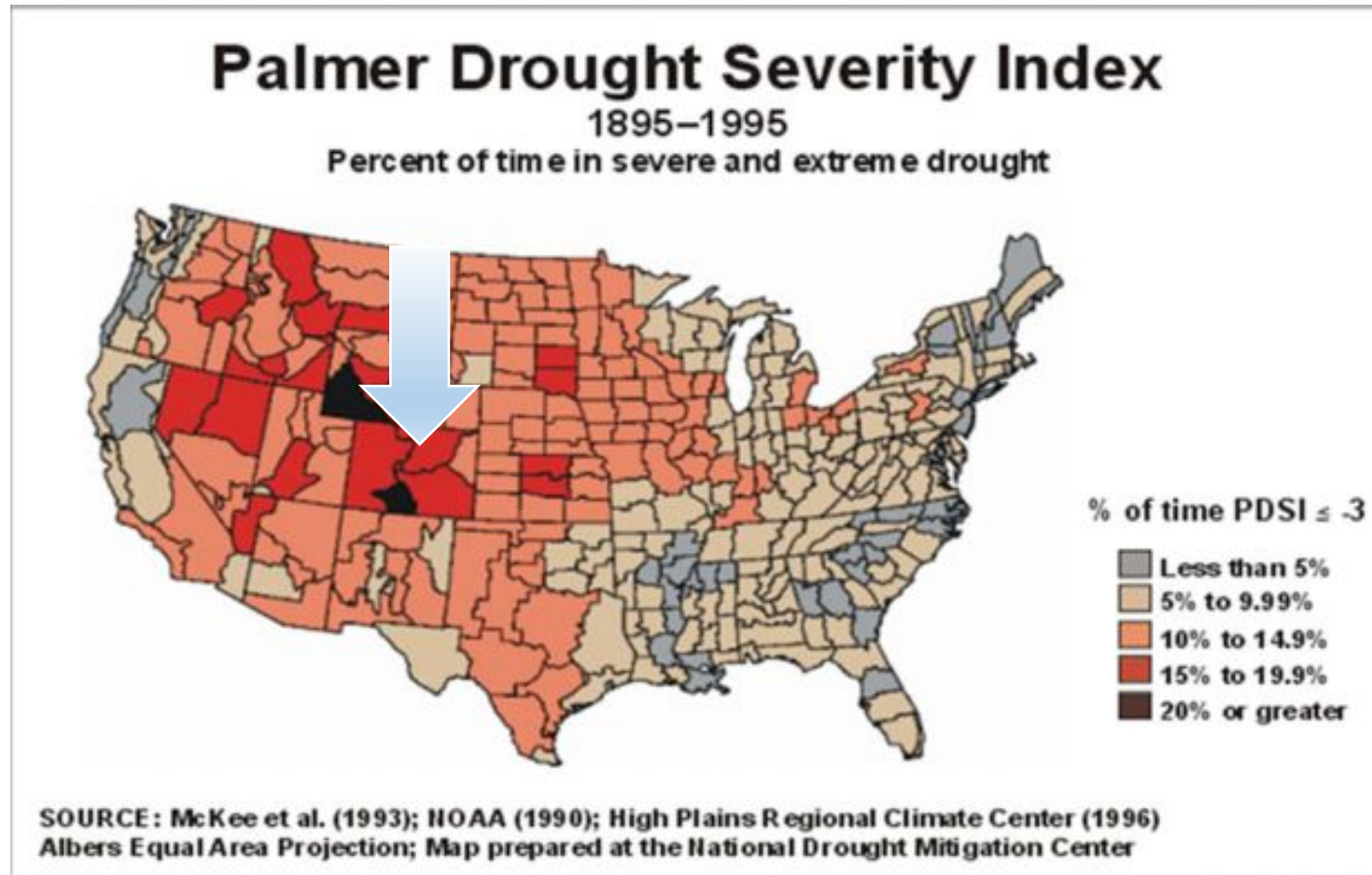
# Very Large Scale Overview of Vulnerability



<http://dx.doi.org/10.1016/j.wace.2014.04.004>

# Example: Colorado State, USA

<http://cwcb.state.co.us/water-management/drought/documents/statedroughtmitplan2013/coloradodroughtmitigationresponseplan2013.pdf>





# Colorado State, USA: Population Growth (estimated, 2013)

<http://cwc.state.co.us/water-management/drought/documents/statedroughtmitplan2013/coloradodroughtmitigationresponseplan2013.pdf>

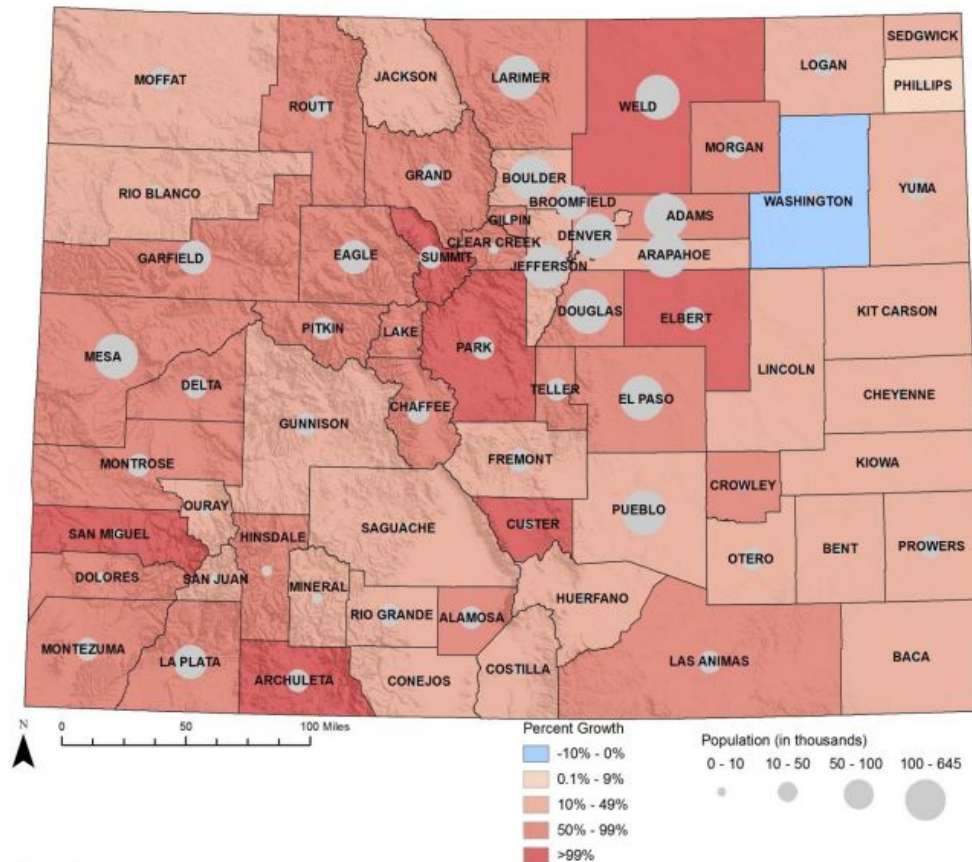
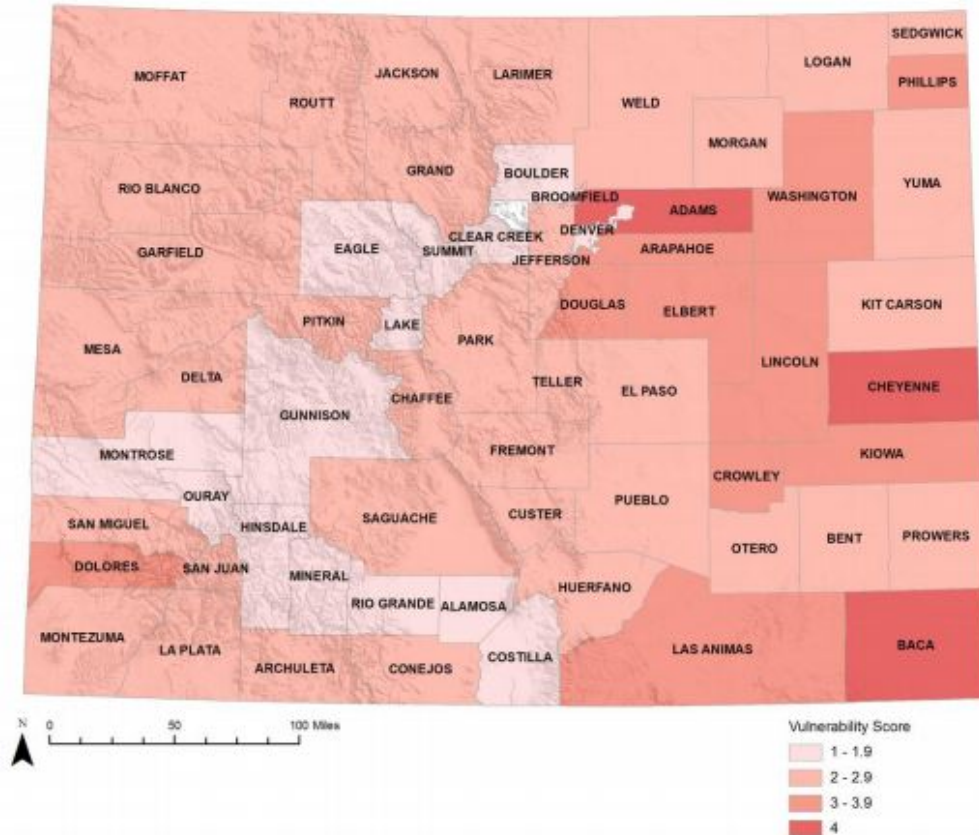


Figure Revised 2013

# Colorado, USA

## Agricultural Vulnerability to Drought (2010-

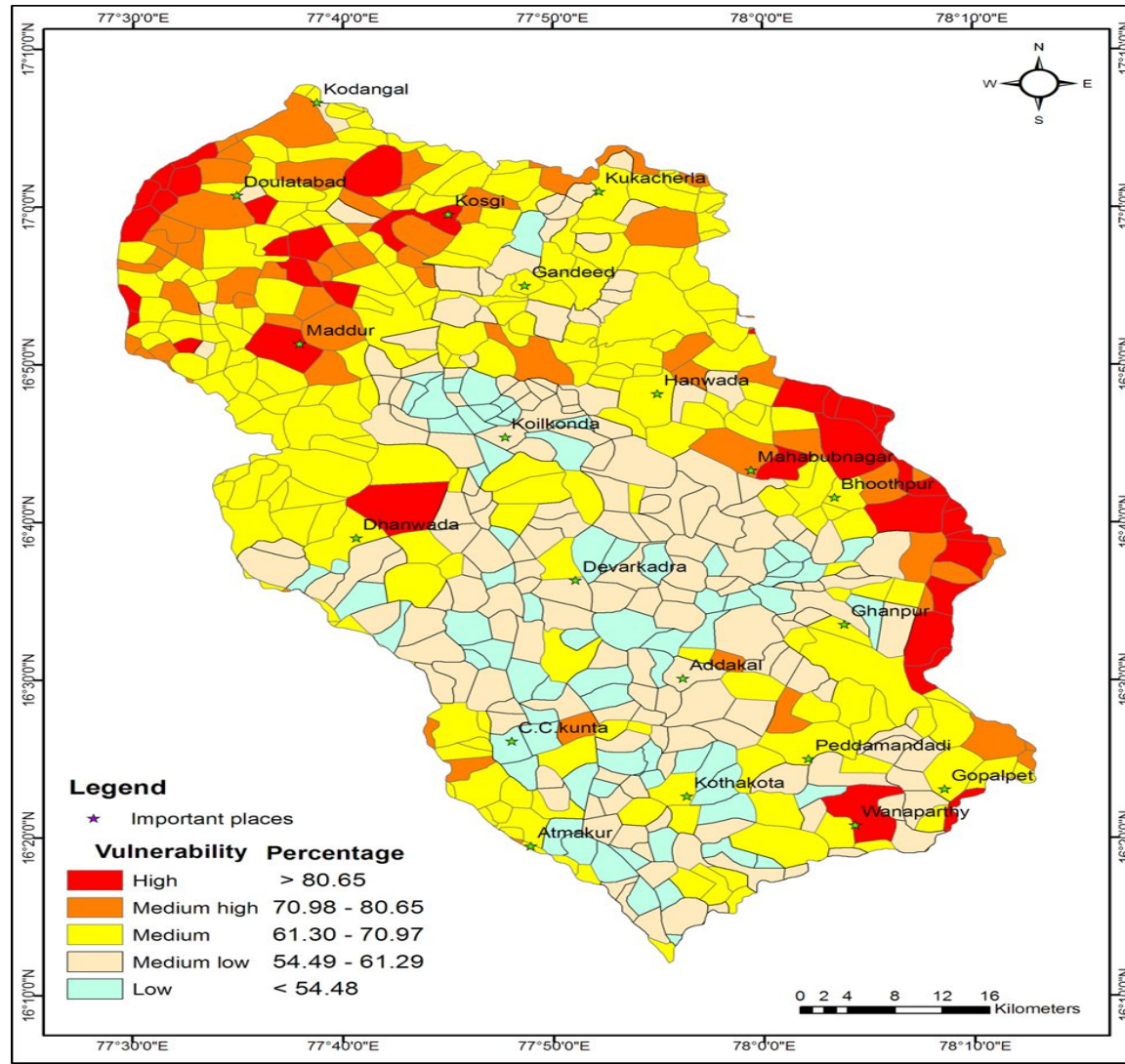


<http://cwcb.state.co.us/water-management/drought/documents/statedroughtmitplan2013/coloradodroughtmitigationresponseplan2013.pdf>

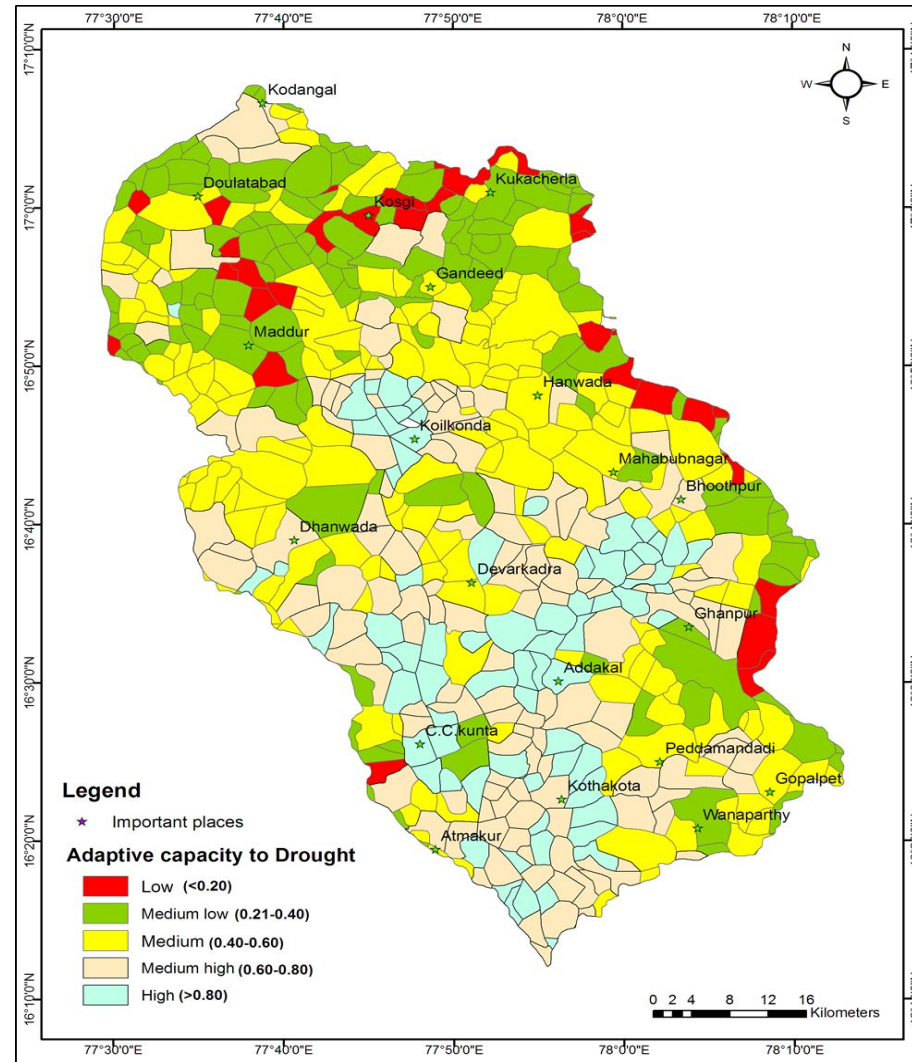


# Drought Vulnerability at a Micro-Scale

## (R Nagarajan, Week 7 Lecture 2)



# Adaptive Capacity to Drought-Micro-Scale (R Nagarajan, Week 7, Lecture 2)



# GIS can help in mitigation at micro-level

Crop planning advisory

Local water rights management

Water resources conservation

Forest resources management

In summary

**Global scale risk and vulnerability assessment**  
*good overviews*

# In summary

**Information on Context**

***Necessary to decide on mitigation steps***

In summary

To plan mitigation steps

**micro-level assessment is necessary**

**Not much progress here yet!**

*GIS tools can help at all scales*



# Copyright notes

## Screenshots

*Copyright ownership with URL owners*

**Slide text and maps with lat/long**



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