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Introduction to ICID

The International Commission on Irrigation and Drainage (ICID) was established on 24 June, 1950 as a Scientific, Technical and Voluntary Not-for-profit Non-Governmental International Organization (NGO) with headquarters in New Delhi, India.



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The Mission of ICID

is to stimulate and promote the development and application of the arts, sciences and techniques of engineering, agriculture, economics, ecological and social sciences in managing water and land resources for irrigation, drainage, flood management and river training applications, including research and development and capacity building for achieving sustainable irrigated agriculture.



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Membership

Any geographical area independently administered by a sovereign government and having interest in the activities of the Commission is eligible to become a member, or National Committee.

Starting with 11 founding member countries in 1950, 110 countries have so far joined ICID to pool their efforts.



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Workbodies

The activities of the Commission are carried out through over 30 technical workbodies, dealing with various irrigation and drainage issues. Regional issues are addressed by special working groups covering Africa, Europe, Asia, Americas. National Committees nominate top experts to these workbodies.



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ICID and Agricultural Drought

Issues



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WORKING GROUP ON IRRIGATED AGRICULTURE UNDER DROUGHT AND WATER SCARCITY (WG-IADWS)

Mandate

- . To identify and study the phenomena of drought and water scarcity in their various manifestations, and the ecological, social, economic and political implications thereof in the context of irrigated agriculture.
- . To identify research priorities which will contribute to the achievement of the above-mentioned objectives, and to promote the execution of this research;



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**WORKING GROUP ON IRRIGATED AGRICULTURE UNDER DROUGHT
AND WATER SCARCITY (WG-IADWS)**

Mandate

- .To promote the development of appropriate technology packages to manage irrigated agriculture in situations of drought and water scarcity;**
- . To study and propose possible alternative cropping patterns suitable for situations of drought and water scarcity;**
- . To provide guidelines for the formulation of policies and decision support strategies for the management and utilization of water resources for irrigation under conditions of drought and water scarcity.**



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Sub Themes Activities (WG- IADWS)

- 1. Survey of publications on irrigation under condition of drought and water scarcity**
- 2. Select appropriate indices to describe and quantify the implications of drought and aridity in relation to agricultural ecological, social, economic and political issues.**
- 3. Develop guidelines for assessment of drought on irrigated agriculture – Development of policies and management strategies for various drought and water scarcity situations.**



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- 4. Investigate the application of long term weather forecasting for drought prediction and economic viability of drought early warning systems**
- 5. Investigate on suitable technologies and agro-irrigation practices for the utilization of nonconventional water resources under conditions of drought and water scarcity.**
- 6. Dissemination of products of this Working Group.**



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IRRIGATION UNDER DROUGHT AND WATER SCARCITY

Table of Contents

Foreword by Chairman

Acknowledgement of Members of the Working Group

Executive Summary

Chapter 1: Background and Introduction

Chapter 2: Literature overview/synthesis

Chapter 3: Indices to describe and quantify the implications of drought and aridity

Chapter 4: Suitable technologies and irrigation practices for utilization of water under conditions of drought and water scarcity

Chapter 5: Application of long-term weather forecasting for drought prediction

Chapter 6: Policy guidelines for the evaluation of social, economic and political impacts of drought and aridity

Chapter 7: Conclusion and Recommendations

Appendix:

Workshop proceedings

Publications of the Working Group

Membership and involvement of Young Professionals

Newsletters



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WORKING GROUP ON WATER MANAGEMENT IN WATER STRESSED REGIONS (Erstwhile WG-IADWS) WG-DROUGHT

Mandate:

- **Drought Management Strategies:**
 - field experiences of the implementation of drought risk management strategies in member countries
- **Coping with water scarcity**
 - Critical evaluation of the validity of the crop water requirement computations based on climate data
 - Strategies for incorporating economical justification in agricultural water allocation;
 - Re-defining the conventional irrigation efficiency concepts; and ...
- **Rainfall management for sustainable agriculture:**
 - Innovation and implementation of smart rainfall management technologies,
 - effective rainfall enhancement



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Some Technical Notes for Consultation



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Hazard

Is a physical event , phenomena or a substance with potential causes of harm. Including losses of life, injuries, financial losses and social –environmental negative impacts.



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Vulnerability

Is a multitude of conditions and processes based on physical , social technological and management factors which reflects the sensitivity of a society upon a hazard.



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Capability

Is the way by which people and institutes will react upon the occurrence of a hazard or disaster and using their available resources efficiently and effectively.



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Risk

Is the product of the extend of hazard and vulnerability relative to the capability of the society and community to control the damage.

$$\text{Risk} = \frac{\text{Hazard} \times \text{Vulnerability}}{\text{Capability}}$$



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Drought

Is a normal , recurring feature of climate; it occurs in virtually all climatic regions, It is the consequence of a natural reduction in the amount of precipitation received over an extended period of time, relative to the normal status of water demand, originated by *living macro and micro organism.*



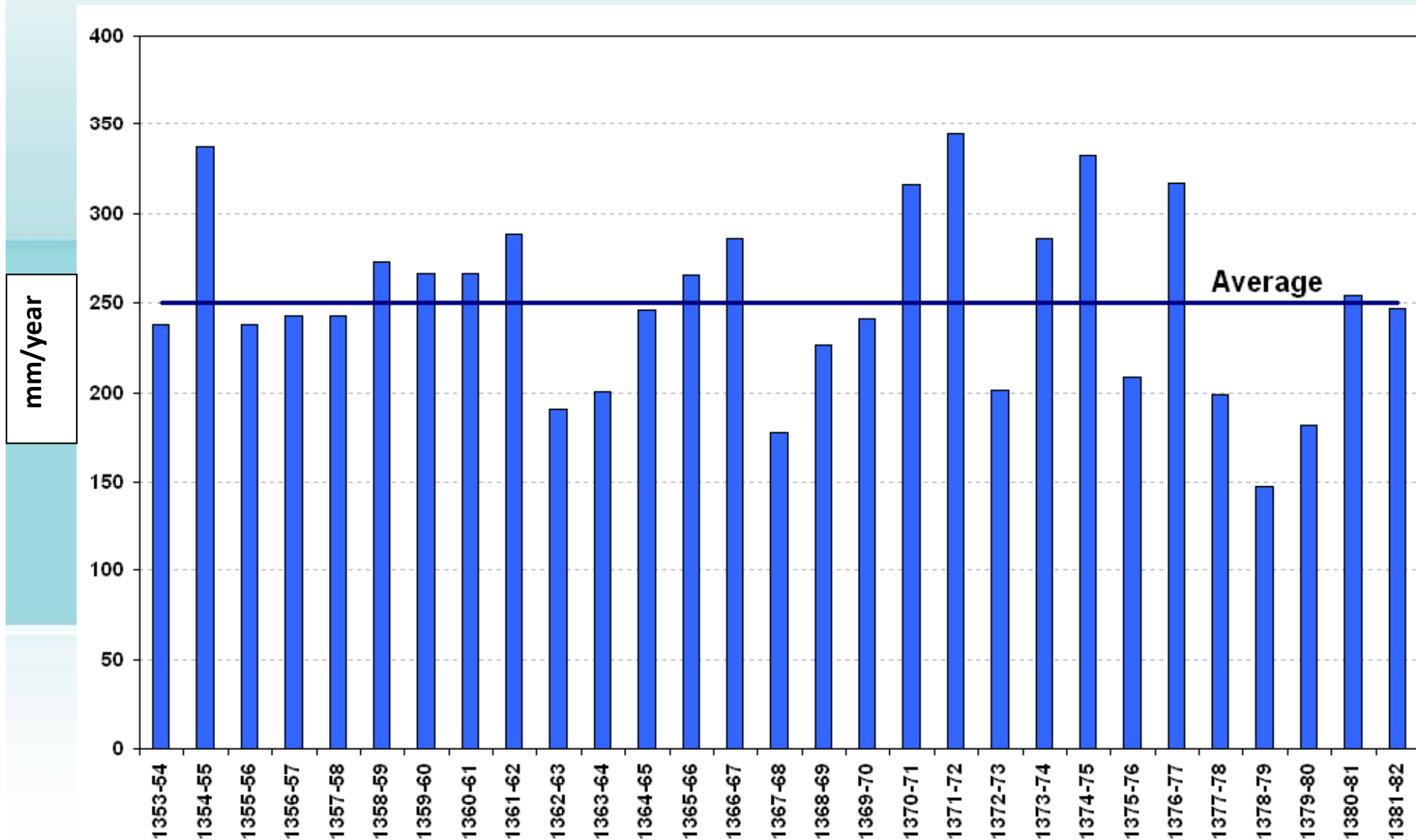
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**The Water demand management within
the *living macro and micro organism*. is
the key to reduce drought risks
and more...,**



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Variation of annual rainfall in Iran in mm (1974- 2003)

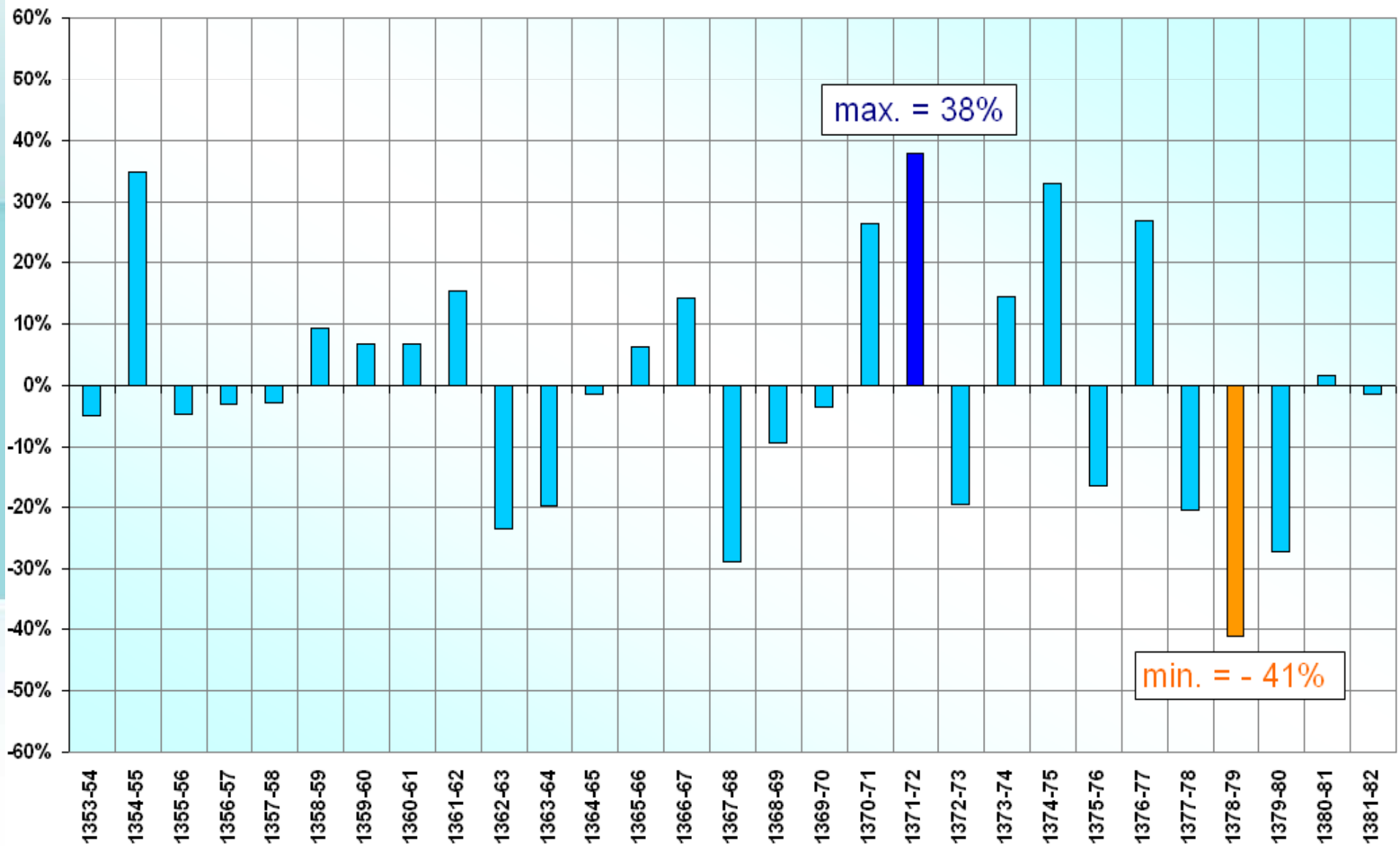




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Annual deviation of rainfall from average (1974- 2003) average = 250 mm

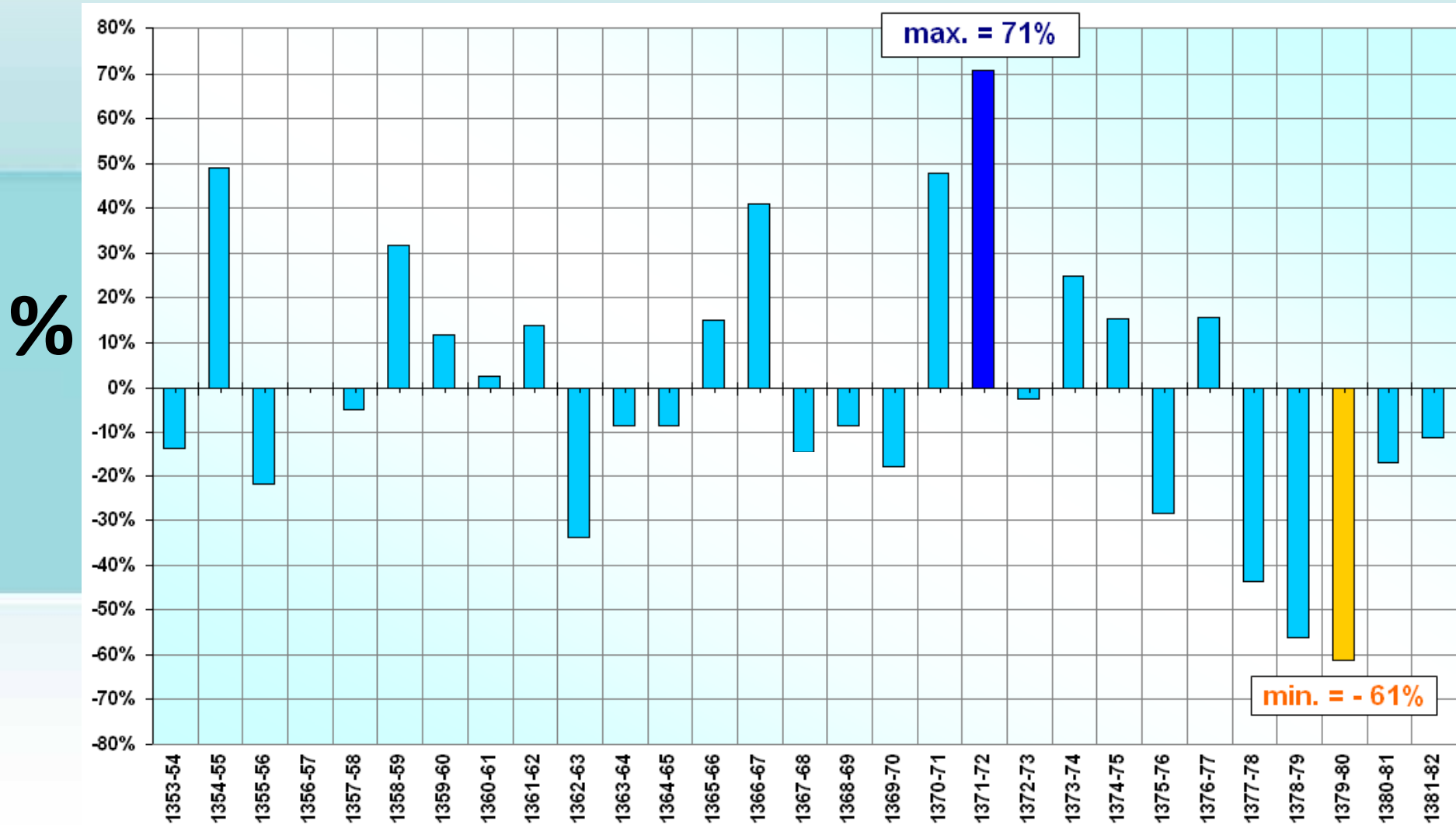
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Annual deviation of surface water resources from average (1974- 2003) average = 98 BCM





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- **Agricultural drought risk assessment should be incorporated in any water resources development plan base on long term climatic data aiming to: minimize the vulnerability and enhance the preparedness (capability) of the concerned communities**



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- **Human Intervention is exposing the agricultural communities to drought risk through over development of available limited water resources. There is a need for clear guidelines to consider the economical, social and environmental implication of such development.**