

United Nations Educational, Scientific and Cultural Organization

> Organisation des Nations Unies pour l'éducation, la science et la culture

Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura

Организация Объединенных Наций по вопросам образования, науки и культуры

منظمة الأمم المتحدة للتربيـة والعلم والثقافة

> 联合国教育、· 科学及文化组织 .



# AND MAINTAINING AN INTERDISCIPLINARY CLIMATE KNOWLEDGE BASE

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#### Creating the Knowledge Base





World Climate Research Programme

Objective: Determine predictability of climate and effect of human activities

Strategy: to facilitate analysis and prediction of Earth system variability and change, for use in an increasing range of practical applications of direct relevance, benefit and value to society increasing published knowledge on the basis and predictions of climate change





Intergovernmental Panel on Climate Change **IPCC** Working Group I: Physical Basis for Climate Change

91% of coordinating authors, 66% of lead authors were WCRP scientists



**WMO** 

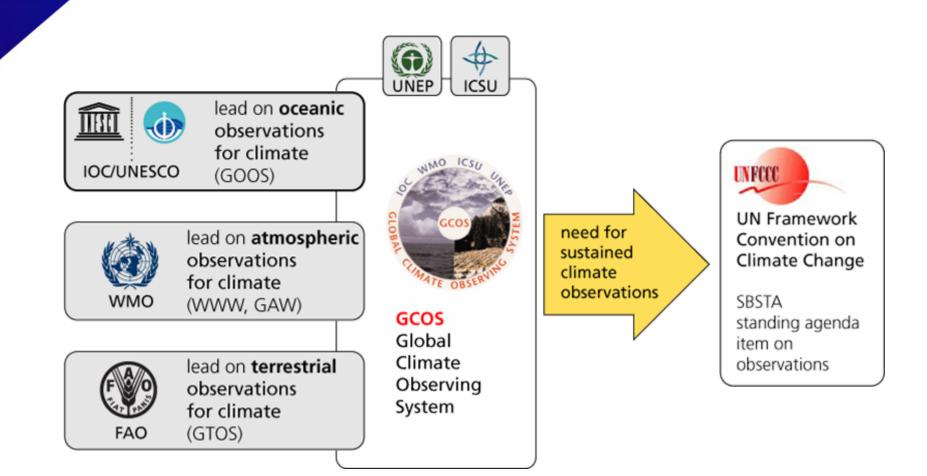
dialogue on research needs



UN Framework Convention on Climate Change



#### Creating the Knowledge Base



#### SUSTAINED OBSERVATIONS NETWORKS



# IMPROVING THE FORECAST OF IMPACTS

 Regional and local prediction are required for designing adaptation strategies

Decadal-scale variability can be much bigger than the long-term trend at a particular site, showing the importance of regional prediction

**IPCC 2007** 

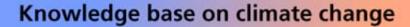


## IMPROVING THE FORECAST OF THE FUTURE TRAJECTORY OF CLIMATE

 Removing uncertainties and increasing the precision of forecasts is still an ongoing task.



#### COPING WITH CLIMATE CHANGE



natural sciences

social and human sciences



scientific research and monitoring building the knowledge base



translation and application at local level to climate adaptation and mitigation



#### **Building the K-BASE**

Knowledge base on climate change

natural sciences

social and human sciences

THE FULL DIMENSION OF THE CHALLENGE IS TO SUSTAIN PRODUCTION SYSTEMS, HEALTH, FOOD SECURITY, THE ENVIRONMENT, LIVELIHOODS AND LIFESTYLES IN A CHANGING CLIMATE



#### **Building the K-BASE**

Knowledge base on climate change

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THIS WILL REQUIRE IN ADDITION OF THE REFINEMENT AND APPLICATION OF EXISTING SCIENTIFIC KNOWLEDGE, THE DEFINITION OF ACCEPTABLE SOCIAL GOALS, THE USE OF AVAILABLE SOCIAL PRACTICES AND TRADITIONAL KNOWLEDGE AND THE PARTICIPATION OF THE COMMUNITIES AFFECTED AND INVOLVED.



#### **Building the K-BASE**

**Knowledge base on climate change** 

natural sciences

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IT WILL ALSO REQUIRE THE CAREFUL RECORDING AND WIDESPREAD DISSEMINATION OF THE NEW INVENTORY OF EXPERIENCES RESULTING FROM THE GIGANTIC WORLDWIDE EFFORT TO ADAPT SOCIETIES TO CLIMATE CHANGE



# AN EXAMPLE: CLIMATE CHANGE AND ARCTIC SUSTAINABLE DEVELOPMENT

### SCIENTIFIC, SOCIAL, CULTURAL AND EDUCATIONAL CHALLENGES

BRINGING TOGETHER KNOWLEDGE, CONCERNS AND VISIONS OF

- LEADING ARCTIC SCIENTISTS IN THE NATURAL AND SOCIAL SCIENCES
- CIRCUMPOLAR INDIGENOUS PEOPLES
- INTERNATIONAL EXPERTS IN EDUCATION, HEALTH AND ETHICS

This experience demonstrates the breath of disciplines and approaches that need to be addressed in order to Build a Climate Knowledge base useful for adapting to climate change.