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Educational, Scientific and  
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Organisation  
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la science et la culture

Organización  
de las Naciones Unidas  
para la Educación,  
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Организация  
Объединенных Наций по  
вопросам образования,  
науки и культуры

منظمة الأمم المتحدة  
للتربية والعلم والثقافة

联合国教育、  
科学及文化组织



# BUILDING AND MAINTAINING AN INTERDISCIPLINARY CLIMATE KNOWLEDGE BASE

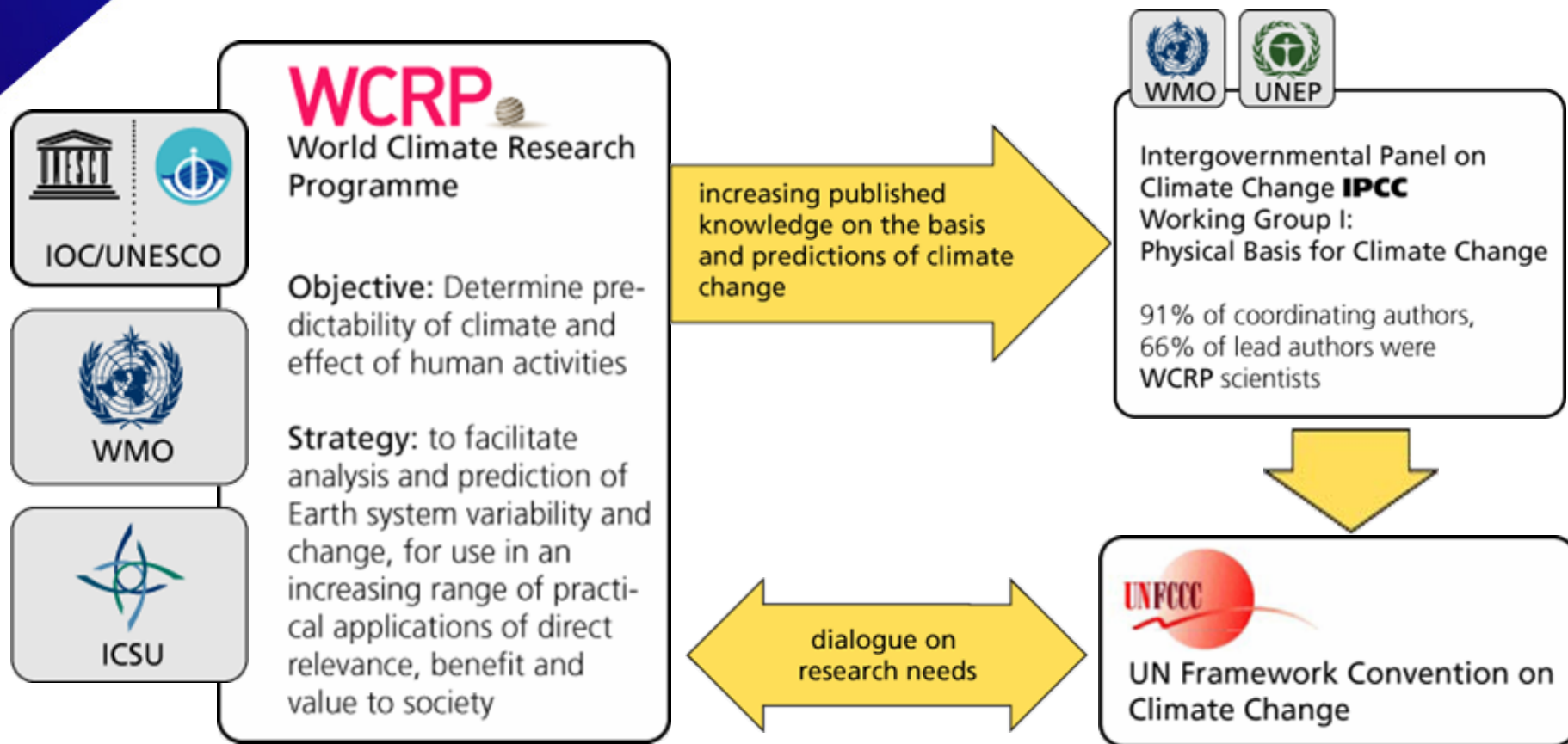
**Patricio Bernal**

Assistant Director-General, UNESCO  
Executive Secretary, Intergovernmental Oceanographic Commission of UNESCO

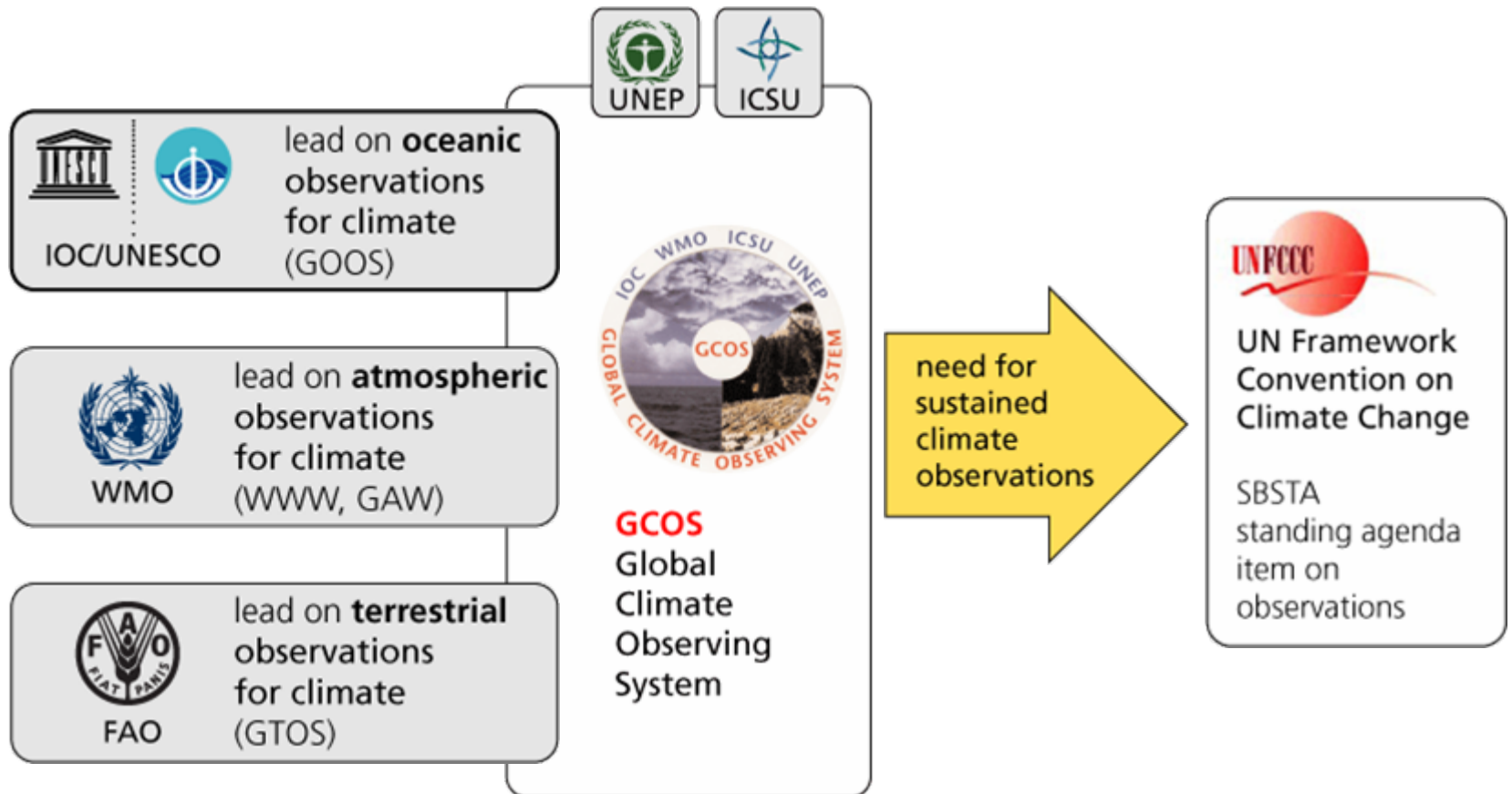
# Creating the Knowledge Base



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# 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

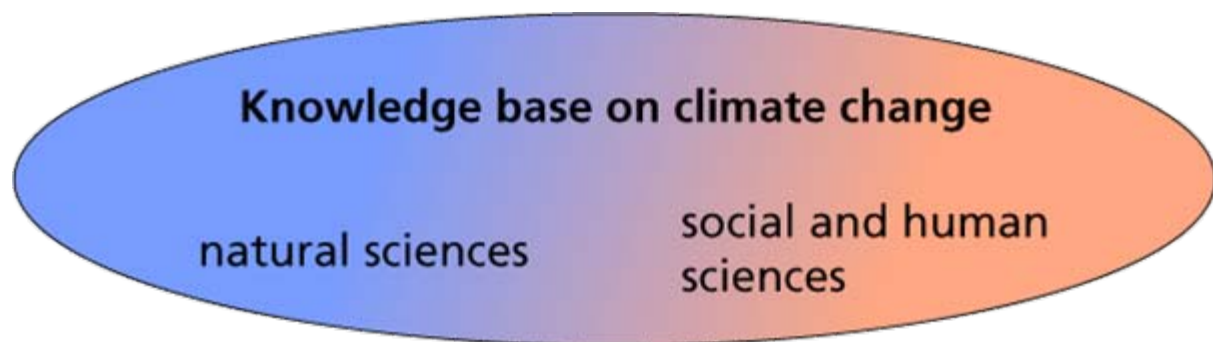
# IMPROVING THE FORECAST OF THE FUTURE TRAJECTORY OF CLIMATE

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



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# COPING WITH CLIMATE CHANGE



upstream

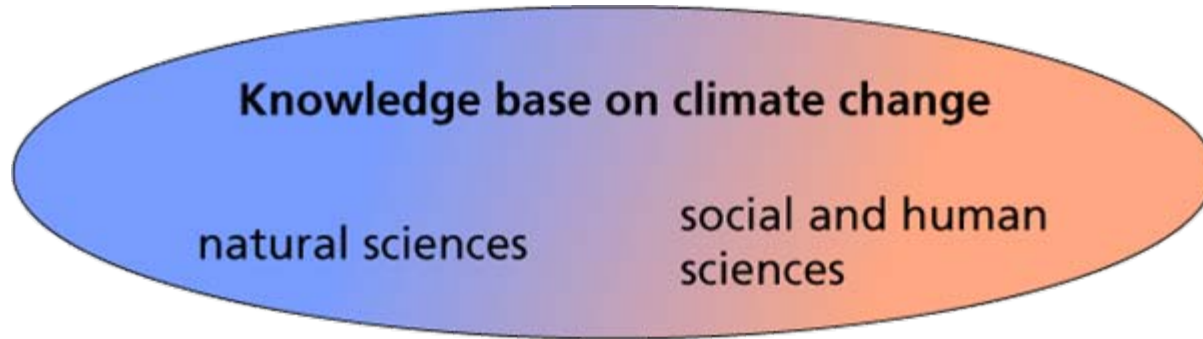


scientific research  
and monitoring  
building the  
knowledge  
base

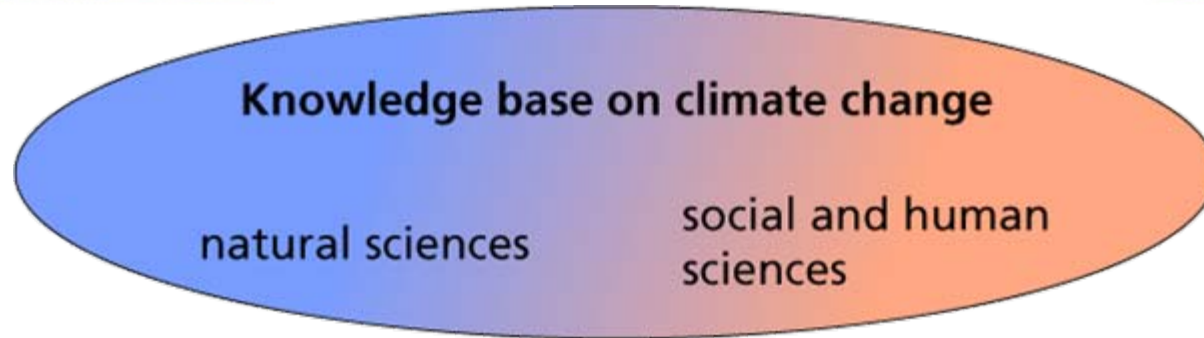
downstream



translation and application  
at local level  
to climate adaptation  
and mitigation

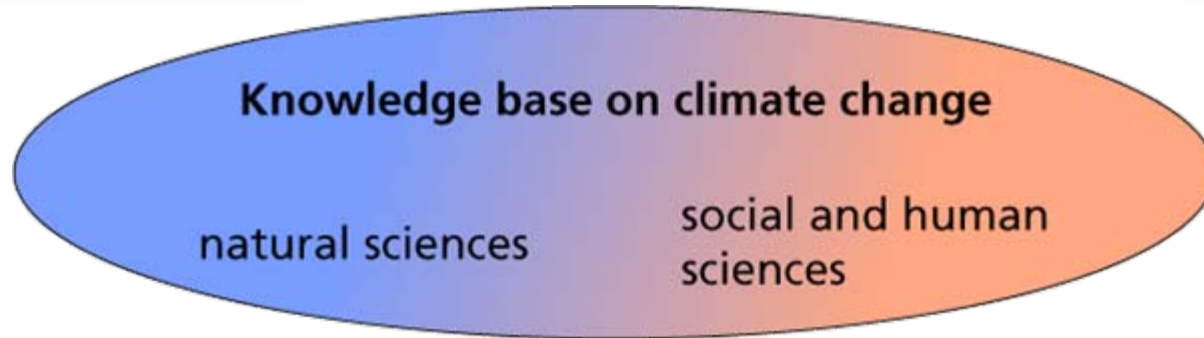


THE FULL DIMENSION OF THE  
CHALLENGE IS TO SUSTAIN  
PRODUCTION SYSTEMS, HEALTH,  
FOOD SECURITY, THE ENVIRONMENT,  
LIVELIHOODS AND LIFESTYLES  
IN A CHANGING CLIMATE



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.





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.