



Introduction on IBS Center for Climate Physics

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What is Institute for Basic Sciences (IBS)?

Making Discoveries for Humanity & Society

Institute for Basic Science (IBS) is

The Institute for Basic Science (IBS) pursues excellence in basic science research. The goal of IBS is to advance the frontiers of knowledge and to train the leading scientists of tomorrow.



ibS Institute for
Basic Science

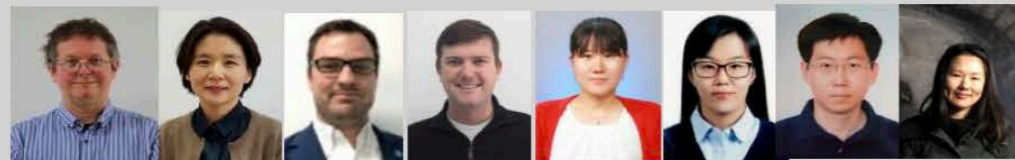


IBS Center for Climate Physics (ICCP)

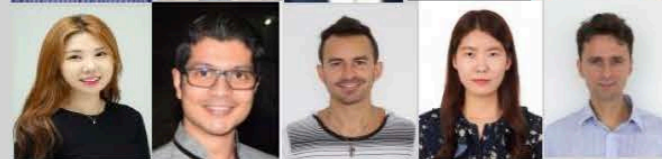
Director



Affiliate PNU Faculty



Researchers

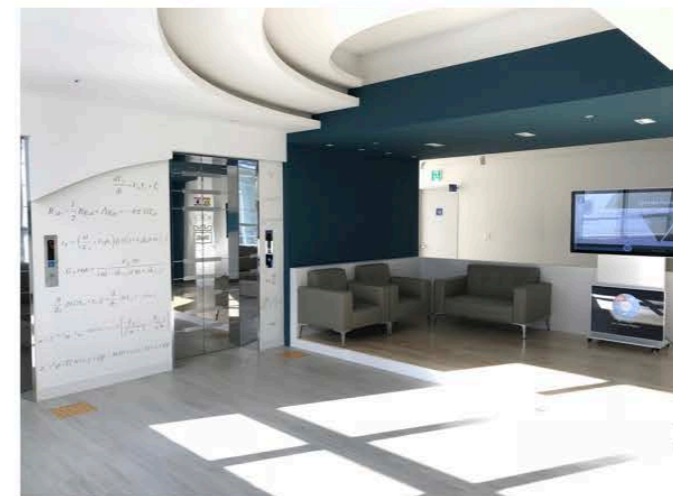


Graduate Students



Administrative support team

38 members of ICCP



1 Director, 2 affiliate PNU faculty, 13 researchers, 14 students, 8 support team members

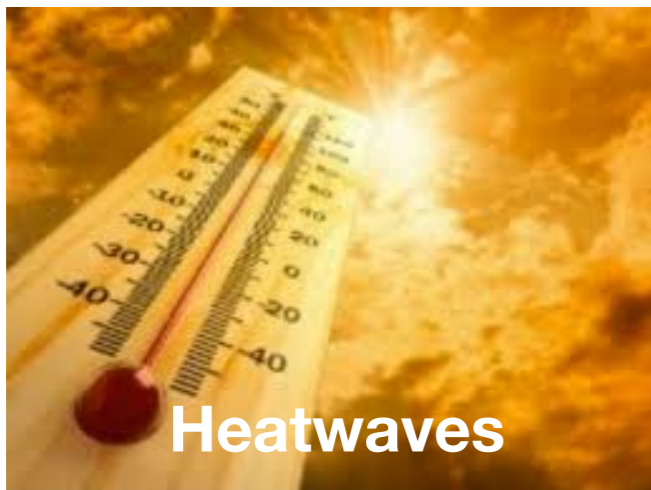


ICCP's mission is to enhance the understanding of natural climate variability and man-made climate change, and to improve the ability to predict climate impacts on the hydrological cycle, ice-sheets, sea level, and regional processes.

ICCP will provide basic scientific knowledge on the evolution of the climate system and its interactions with humans. This information can help the general public and policymakers in planning, decision making, and in optimizing adaption and mitigation efforts to climate-induced risks.







Train next generation
of earth system scientists

Scientific breakthroughs

Climate
Knowledge



Earth System Dynamics

Sensitivity to radiative forcing, climate modes, abrupt climate change, climate-vegetation coupling, human interactions, sea level rise

Hydroclimate

Extreme events, subtropical expansion, mega-droughts, and East Asian Monsoon systems

Earth System Predictability

Predictions of soil water, productivity, nutrients, forest fire, longterm migration stress, sea-ice and vegetation

Physical Oceanography

Polar oceanography, ice-sheet ocean interactions, inverse modeling, ocean-carbon cycle feedbacks, high resolution ocean modeling tracers

Director

**Associate Director
(from 2020)**



Compute



Cray XC50LC

468 compute nodes, 192 GB

40 Service nodes

4 Data analysis nodes, 768 GB

2 login nodes

Aleph IBS/ICCP supercomputer

Store



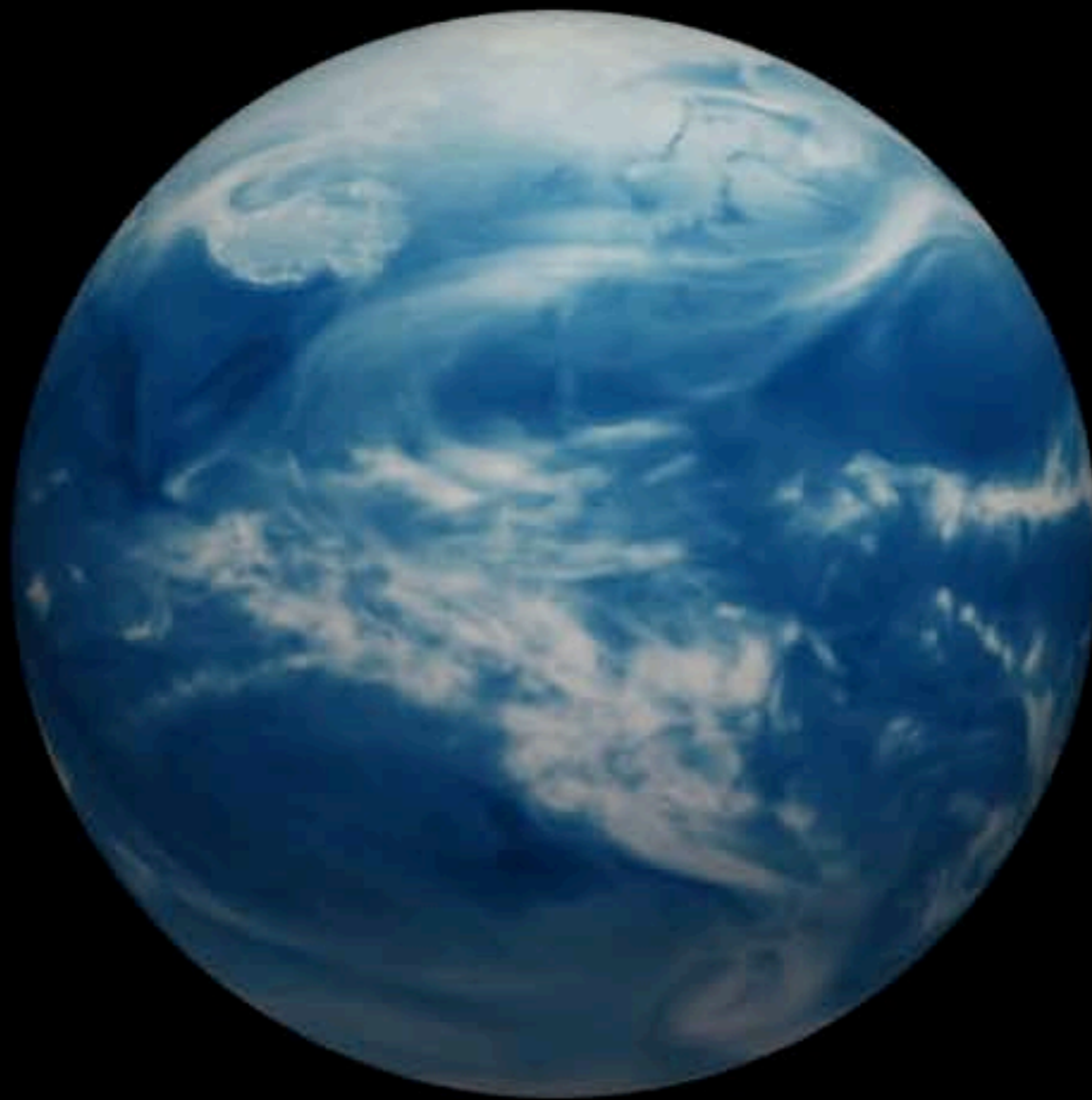
Cray Lustre L300
8.52 PB

Archive

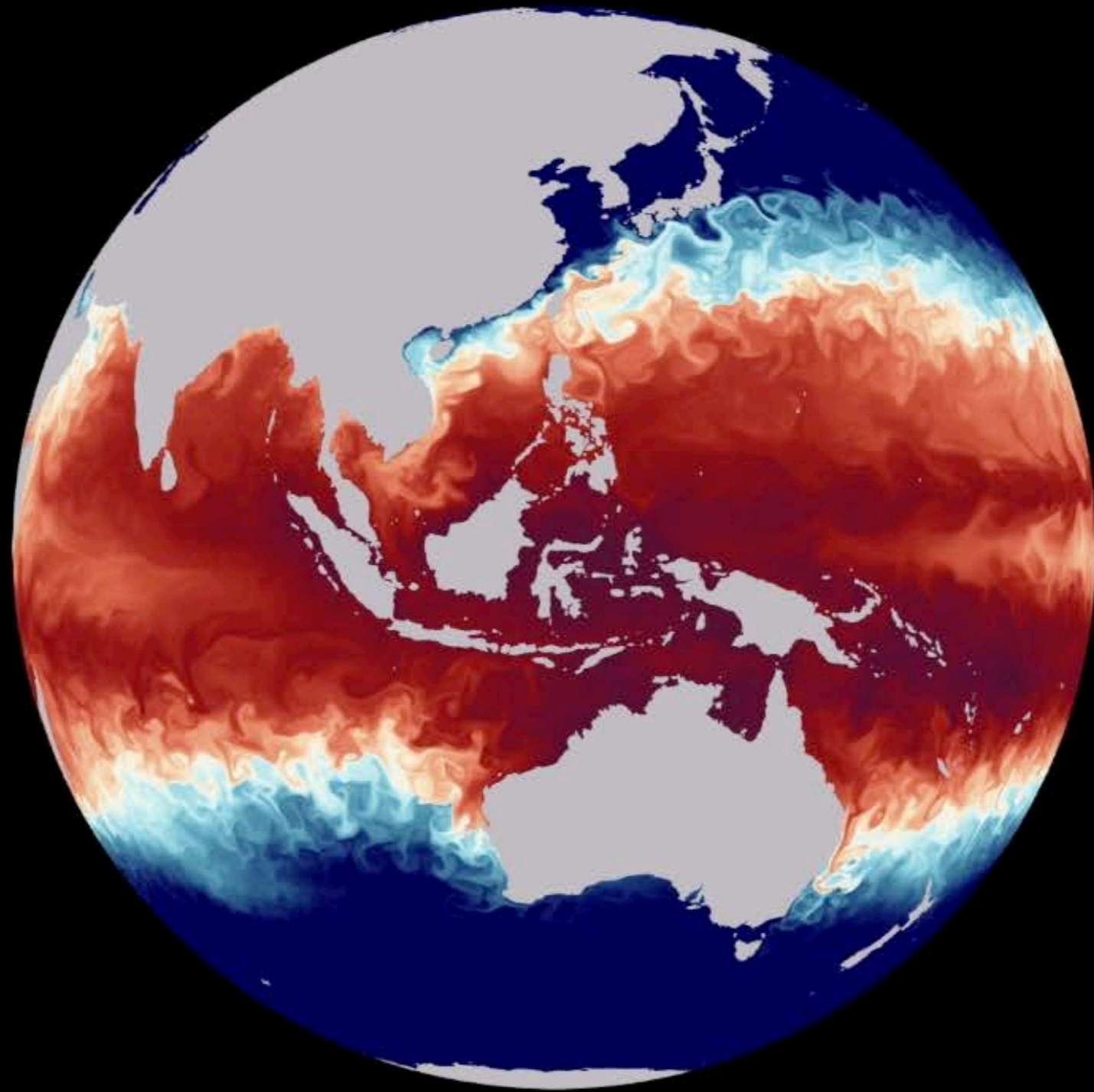


Cray, IBM TSMF
43 PB

Conduct frontier simulations of the climate system and all of its components in a) ultra-high resolution, b) running from past to future, and c) using large-ensembles. This research will provide breakthroughs in our understanding of regional climate change, sea level rise, earth system predictability, and extreme events.



Clouds calculated on Aleph

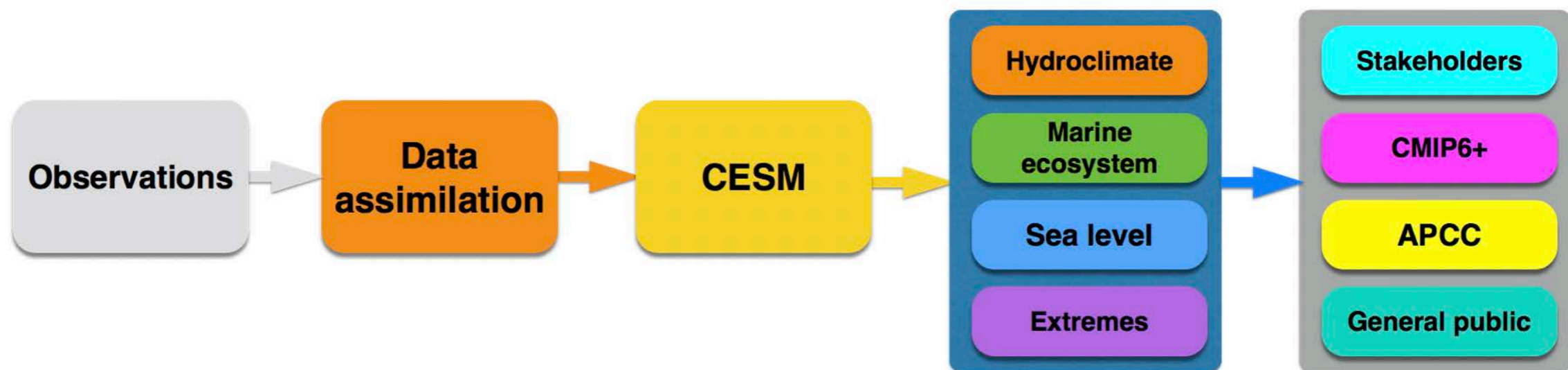


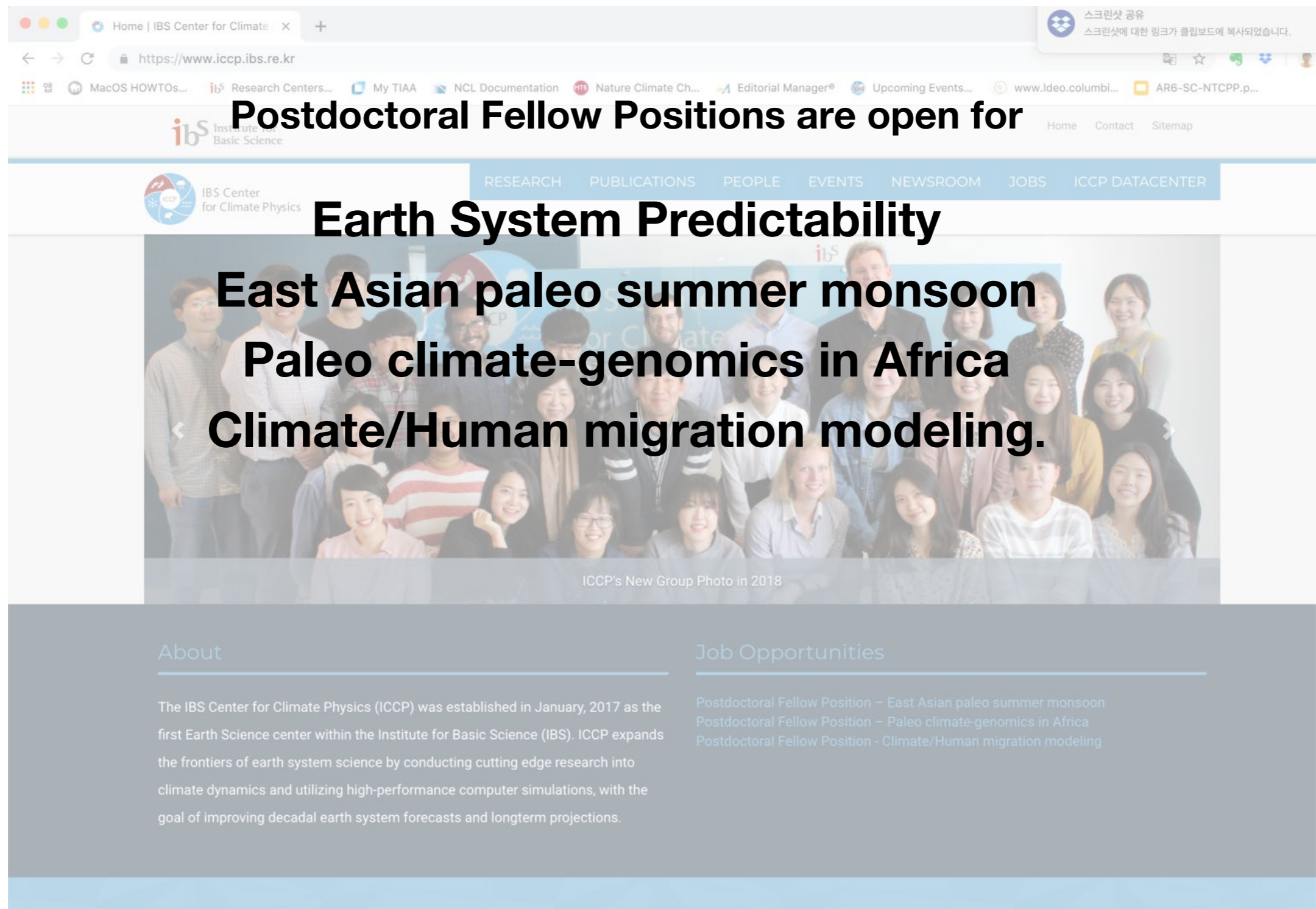
Ocean temperatures calculated on Aleph

Mission of the Earth System Predictability Project in ICCP

To enhance our predictive capability of Earth System components such as **total soil water, wildfire occurrence, marine biogeochemical process, sea level, and statistics of climate extremes** on timescales of months to decades using comprehensive Earth System models.

- Understanding of sources of short and longterm predictability
- Development of a high-resolution earth system forecasting framework
- Improvement of prediction of earth system components





The screenshot shows the homepage of the ICCP (IBS Center for Climate Physics) website. The browser address bar displays <https://www.iccp.ibs.re.kr>. The website header includes the IBS logo and navigation links: Home, Contact, Sitemap. A secondary navigation bar lists: RESEARCH, PUBLICATIONS, PEOPLE, EVENTS, NEWSROOM, JOBS, and ICCP DATACENTER. The main content area features a large group photo of the ICCP team with the caption "ICCP's New Group Photo in 2018". Overlaid on this photo is the text: "Postdoctoral Fellow Positions are open for Earth System Predictability East Asian paleo summer monsoon Paleo climate-genomics in Africa Climate/Human migration modeling." Below the photo, there are two columns: "About" and "Job Opportunities". The "About" section states: "The IBS Center for Climate Physics (ICCP) was established in January, 2017 as the first Earth Science center within the Institute for Basic Science (IBS). ICCP expands the frontiers of earth system science by conducting cutting edge research into climate dynamics and utilizing high-performance computer simulations, with the goal of improving decadal earth system forecasts and longterm projections." The "Job Opportunities" section lists three positions: "Postdoctoral Fellow Position – East Asian paleo summer monsoon", "Postdoctoral Fellow Position – Paleo climate-genomics in Africa", and "Postdoctoral Fellow Position - Climate/Human migration modeling".

Postdoctoral Fellow Positions are open for

Earth System Predictability

East Asian paleo summer monsoon

Paleo climate-genomics in Africa

Climate/Human migration modeling.

ICCP's New Group Photo in 2018

About

The IBS Center for Climate Physics (ICCP) was established in January, 2017 as the first Earth Science center within the Institute for Basic Science (IBS). ICCP expands the frontiers of earth system science by conducting cutting edge research into climate dynamics and utilizing high-performance computer simulations, with the goal of improving decadal earth system forecasts and longterm projections.

Job Opportunities

Postdoctoral Fellow Position – East Asian paleo summer monsoon
Postdoctoral Fellow Position – Paleo climate-genomics in Africa
Postdoctoral Fellow Position - Climate/Human migration modeling

Detail info: <https://www.iccp.ibs.re.kr/jobs>





Thank you very much!

Any Question?