国际高分辨率地球系统预测实验室
international Laboratory for High-Resolution Earth System Prediction

Office Policy & Procedures

Updated January 16, 2021

iHESP Laboratory
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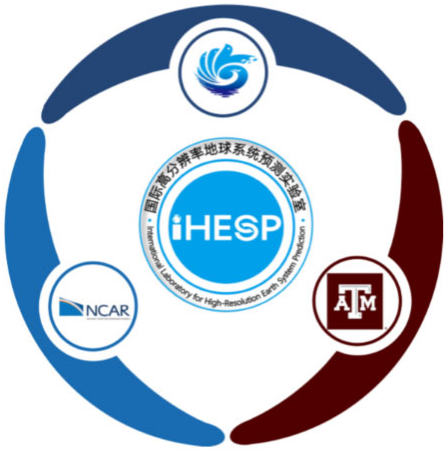
Created by: Kelly Williams, Project Coordinator (Jan. 2020)



青岛海洋科学与技术国家实验室
Qingdao National Laboratory for Marine Science and Technology

Qingdao Pilot National Laboratory for Marine Science and Technology

Qingdao National Laboratory for Marine Science and Technology (QNLM) was approved by the Ministry of Science and Technology in December, 2013, is under joint construction of the national ministries and departments, Shandong Province and Qingdao City. Based in Qingdao with a national and global vision, QNLM conducts researches of both basic and cutting edge levels in line with the national strategy of marine development. Aiming at a world-class comprehensive research center of marine science and technology as well as an open platform for collaborative innovation, QNLM brings in resources and professional teams of the original researches to upgrade China's competence of independent innovation, and take the lead in China's marine science and technology.

TEXAS A&M UNIVERSITY

Texas A&M University (TAMU) is a public research university in College Station, Texas, United States. It is a state flagship university and since 1948 is the founding member of the TAMU System. The TAMU system endowment is among the 10 largest endowments in the nation. As of 2017, TAMU's student body is the largest in Texas and the second largest in the United States. TAMU's designation as a land, sea, and space grant institution–the only university in Texas to hold all three designations–reflects a range of research with ongoing projects funded by organizations such as the National Aeronautics and Space Administration (NASA), the National Institutes of Health, the National Science Foundation, and the Office of Naval Research. In 2001, TAMU was inducted as a member of the Association of American Universities.

The main campus is one of the largest in the United States, spanning 5,200 acres and is home to the George Bush Presidential Library. TAMU has more than 1,000 officially recognized student organizations. Working with various A&M-related agencies, the school has a direct presence in each of the 254 counties in Texas. The university offers degrees in more than 150 courses of study through ten colleges and houses 18 research institutes. As a Senior Military College, TAMU is one of six American public universities with a full-time, volunteer Corps of Cadets who study alongside civilian undergraduate students.

NCAR

National Center for Atmospheric Research

National Center for Atmospheric Research (NCAR) provides the atmospheric and related Earth system science community with world-class facilities and services that were beyond the reach of any individual institution. This includes state-of-the-art resources such as a supercomputing center, research aircraft and observing tools, sophisticated computer models, and extensive data sets.

NCAR's in-house staff of preeminent researchers and engineers works with community collaborators to ensure that these resources and facilities are capable of meeting the demands of today's greatest scientific challenges. NCAR scientists also delve into fundamental research questions, producing a wealth of scientific publications that help lead the way for the broader Earth system science community. The organization also provides rich education and outreach opportunities, from scientific workshops and fellowships for early career scientists, to free public lectures.

NCAR is managed by the University Corporation for Atmospheric Research, a nonprofit consortium of more than 115 colleges and universities. It is headquartered in Boulder, Colorado, with additional facilities in Wyoming and Hawaii.

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What is iHESP?

iHESP is the **i**nternational Laboratory for **H**igh-Resolution **E**arth **S**ystem **P**rediction – a trilateral collaboration among the Qingdao Pilot National Laboratory for Marine Science and Technology (QNLM), Texas A&M University (TAMU) and the National Center for Atmospheric Research (NCAR).

iHESP addresses the urgent need to develop a new advanced modeling framework for high-resolution multiscale Earth system predictions, critical to understanding and developing solutions for risks associated with rapidly changing environmental conditions across the planet. The cutting-edge research conducted at iHESP represents an important step in closing the gap between climate and weather prediction by allowing climate model resolution to approach weather resolving scales.

iHESP's founding principle is strong international collaboration and open science. All products resulting from this collaborative research effort, including model software, data output and other deliverables will be made publically and freely available on basis of open access and appropriate terms of use through iHESP and/or institutional repositories and websites.

iHESP is envisioned to be a 15-year project. The initial phase of the iHESP project is five years, from 2018 to 2022.

iHESP is expected to produce results on a wide range of topics related to climate and Earth system modeling and prediction that will have high impacts on the broad research community for many years to come, including

- First complete set of high-resolution global CESM simulations, including an ensemble of climate projections, which can provide useful guidance for future climate projection and application research;
- High-resolution model output that will be used by a broad community for a wide range of multidisciplinary climate application studies, including impact of climate extremes, coastal sea-level rise, climate and agriculture, climate and infectious disease, climate and water resources;
- Unique contribution to the upcoming sixth report of the United Nations Intergovernmental Panel on Climate Change(IPCC) by providing the highest resolution model simulations and projections ever submitted to the Climate Model Inter-comparison Project Phase 6 (CMIP6).

We expect the research products generated by iHESP will contribute significantly to improving predictive skill of weather and climate extremes on time scales from days to seasons to decades. Given that weather and climate extremes affect every aspect of our society, providing more accurate and reliable predictive information about occurrence of extremes on these climate time scales can have enormous implication for

mitigating risks to society and to ecosystems in the near-term (subseason to year) and for effective adaptation planning in the longer term (decade and longer). Therefore, the impact of new modeling and simulation technologies developed by iHESP will be long-lasting and far-reaching.

For more information about iHESP, please go to the iHESP website: ihesp.tamu.edu.

iHESP Governing Body

Steering Committee

Malcolm Roberts (Chair) (malcolm.roberts@metoffice.gov.uk)
Gokhan Danabasoglu (gokhan@ucar.edu)
Gongke Tan (gktan@qnlm.ac)
Kehou Pan (khpan@ouc.edu.cn)
R. Saravanan (sarava@geos.tamu.edu)
Shari Yvon-Lewis (syvon-lewis@tamu.edu)
Steve Yeager (yeager@ucar.edu)

Scientific Advisory Committee

Anne Marie Treguier (Chair) (anne.marie.treguier@ifremer.fr)
Arne Biastoch (abiastoch@geomar.de)
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Mark Taylor (mataylo@sandia.gov)

Director

Ping Chang
(ping@tamu.edu)
Tel: 979-845-8196

Project Coordinator

Kelly Williams
(klwilliams@ocean.tamu.edu)
Tel: 713-304-9204

Current Staff Member Listing

Updated Feb. 2020

iHESP Member Listing

Qingdao National Laboratory for Marine Science and Technology

Fangli Qiao – Co-PI and Scientist
Shaiquing Zhang – Co-PI and Scientist
Haohuan Fu – Professor of Ministry of Education Key Laboratory for Earth System Modeling
Yinglai Jia – Associate Professor College of Oceanic and Atmospheric Sciences
Zhao Jing – Professor of Key Laboratory of Physical Oceanography
Mingkui Li – Associate Professor of Key Laboratory of Physical Oceanography
Xiaohui Ma – Professor of Key Laboratory of Physical Oceanography
WeiWei Ma – Post-Doctoral Scholar
Zengrui Rong – Associate Professor
Xiaolin Yu – Research Scientist
Hong Wang – Software Engineer

Texas A&M University

Ping Chang – PI and Professor of Oceanography and Atmospheric Sciences
Kelly Williams – Project Coordinator
R. Saravanan – Professor and Department Head of Atmospheric Sciences
Robert Korty – Associate Professor Department of Atmospheric Sciences
Achim Stossel – Associate Professor Department of Oceanography
Jian Tao – Engineering Experiment Station Research Scientist and Adj. Professor
Dan Fu – Post-Doctoral Research Associate Department of Oceanography
Abishek Gopal – Assistant Research Scientist Department of Oceanography
Jaison Kurian – Assistant Research Scientist Department of Oceanography
Yun Liu – Assistant Research Scientist Department of Oceanography
Dapeng Li – Post-Doctoral Research Associate Department of Oceanography
Xue Li – Post-Doctoral Research Associate Department of Oceanography
Sanjiv Ramachandran – Assistant Research Scientist Department of Oceanography
Qiuying Zhang – Graduate Student Department of Oceanography

National Center for Atmospheric Research

Gokhan Danabasoglu – Co-PI and Senior Scientist
Stephen Yeager – Scientist in Climate & Global Dynamics Laboratory
Alpur Altuntas – Software Engineer
Julio Bacmeister – Atmospheric Modeling and Parameterization
David Bailey – Associate Scientist
Allison Baker – Project Scientist III in Application Scalability and Performance
Frederic Castruccio – Scientist in Climate & Global Dynamics Laboratory
Alice Duvivier – Paleo & Polar Scientist in Climate & Global Dynamics Laboratory
Jim Edwards – Senior Software Engineer
Lucas Laurindo – ASP Post-Doctoral Fellow
Nan Rosenbloom – Scientist for CESM Model
Justin Small – Scientist in Climate & Global Dynamics Laboratory

1. Visitation

1.1 General Visitors

iHESP is an international project whose goal is to prompt and enable strong scientific collaborations in high-resolution climate modeling and prediction. One of the primary functions of the iHESP office at Texas A&M University (TAMU) is to host visitors who come to collaborate on research and scholarly topics of mutual interests or to work on specific research. Being a part of TAMU, all visitors to iHESP must follow rules and regulations of the university.

a. US Visitors

All iHESP research is open to the public and we welcome any and all to visit the facility at any time. However, we please ask all visitors who wish to tour the iHESP facility, whether they are civilians, students, scholars, researchers, professors, or administrators (visitors) to please coordinate with the project coordinator, Kelly Williams, on an agreeable time to visit the office.

If you are from a university and wish to bring a group of students, researchers, professors, or administrators to visit the facility, please contact the College of Geosciences at:

Email: dean@geos.tamu.edu Tel: (979) 845-3651

All visitors are required to sign-in at the reception desk when arriving at the iHESP offices for their appointment, and we ask they remain with a staff member while at the facility.

b. International Visitors

An international visitor is classified as any person(s) whose nationality is any other than the United States. Due to regulations at Texas A&M University, all international visitors are required to register with Kelly Williams, the iHESP Project Coordinator, who will collect required documentation - Visiting Scholars Form 5VS (https://vpr.tamu.edu/manage-research/visiting-scholars-program/visiting-scholars-form-5vs.pdf) and will the coordinate with the University Research Compliance Coordinator, for the required approval prior to visiting the office.

University administrators must receive all notices prior to any visit, and credentials may be required before visitation is authorized, so please make sure to notify the iHESP Project Coordinator prior to scheduling any travel. More details about international visitors can be found at:

(https://www.tamu.edu/ visitors/ index.html).

Once approved, all international visits must be coordinated with the iHESP Project Coordinator so an agreeable time can be scheduled and any travel arrangements can be made.

When arriving at the office, all foreign visitors must sign-in at the reception desk, and we ask they remain with a staff member during their stay at the facility.

1.2 Visiting Scholars & Students

A visiting scholar is an individual employed or affiliated with another organization who has been invited and approved by Texas A&M University to work/learn at iHESP for an extended period of time to collaborate on specific research and/or other scholarly activities.

Visitors who:

1. are accompanied by authorized university personnel;
2. do not need access to facilities or resources;
3. are not performing "hands-on" research or teaching; and
4. are visiting only for a short duration of time (approximately 10 days)

are not considered to be visiting research scholars. Examples of these visits include campus tours, conferences, collaboration meetings, presentation of a paper, etc.

All visiting scholars to iHESP who will have access to **Texas A&M Research Facilities and Resources** must have prior approval from the department dean of Oceanography and/or the dean, and the Division of Research.

Although, visiting scholars are not employees of the University, through the appropriate approval process, they can be allowed access to university facilities and resources, issued a UIN, and NetID that will allow them to obtain an official Texas A&M email address, visitor identification card, and/or library card.

All individuals assigned under a visiting scholar title are subject to and are required to observe all applicable federal, state, and local laws, including, but not limited to, export control laws and regulations, and requirements of Texas A&M University rules and regulations, including intellectual property rights and obligations. The rules may be found at:

http://rules.tamu.edu/TAMURulesAndSAPs.aspx.

The Form 5VS is to establish administrative approval of a visiting scholar agreement and will be initiated at the department level and approved by the department head (or associate department head) and the college dean (or associate dean or other alternate) then approved by the vice president for research or designee. The Division of Research will screen the application for export controls and other compliance issues. Upon approval by the Division of Research the applications for international visitors will be forwarded to Immigration Services for Faculty and Scholars http://isfs.tamu.edu/.

These agreements are of a temporary nature. Generally, visiting scholars are approved for a period of up to one year, but extensions for subsequent years may be granted on a case-by-case basis.

Visiting Scholars Form 5VS – (https://vpr.tamu.edu/manage-research/visiting-scholars-program/visiting-scholars-form-5vs.pdf)

The 5VS form or any modifications to a previously approved form (related to a change in the original agreement such as visitation period, host, research project, etc.) along with a resume or

CV in English and the signed visiting scholar agreement must be submitted to the Division of Research for approval.

All visiting scholar forms, agreements and/or any questions can be submitted electronically to visitingscholar@tamu.edu.

Please Contact:
Autumn Biggers, Director
Division of Research
Texas A&M University
autumnbiggers@tamu.edu

Additional information on visiting scholars can be found in the Standard Administrative Procedure:

University SAP 15.99.99.M0.01 Visiting Scholars Not Involved in an Employer/ Employee Relationship with Texas A&M University
(https://rules-saps.tamu.edu/PDFs/15.99.99.M0.01.pdf)

2. iHESP Export Control Compliance

Last updated 14 November 2019

Export control (a) regulates the conditions under which certain items, software, and information can be transferred out of the United States or transmitted to foreign persons or entities in the United States or abroad; and (b) restricts or prohibits the transaction of business with certain countries, persons, and entities that have been sanctioned by federal agencies as a threat to important U.S. interests.

Being a part of the College of Geosciences and Texas A&M University, iHESP's goals are to comply with US export control laws and regulations while maintaining an open research environment that welcomes the participation of researchers from around the world. There are severe institutional and individual sanctions for violations of export controls laws including the loss of research funding, loss of export privileges, as well as civil and criminal penalties including imprisonment. All university employees, students, visiting scientists, postdoctoral fellows, and other persons retained by or working at or for the iHESP must conduct their affairs in accordance with United States export control laws and regulations. Therefore, it is essential that these individuals are familiar with and adhere to the International Traffic in Arms Regulations (ITAR), Export Administration Regulations (EAR), and the Office of Foreign Assets Control (OFAC) regulations. To ensure all individuals will be required to complete TAMU export control training prior to iHESP research engagement.

Excluded from Export Controls: iHESP will be used to further Fundamental Research. Fundamental research means research in science, engineering, or mathematics, the results of which ordinarily are published and shared broadly within the research community, and for which the researchers have not accepted restrictions for proprietary or national security reasons.

The iHESP results, including information, datasets and models, are intended to be published or otherwise made publically available and disseminated without restriction. There will be a limited (2 year) moratorium prior to release of datasets and models to allow publication of the results.

Once information is published or otherwise publicly available, it is no longer subject to export control regulations. Weather data in general is not subject to the Export Administration Regulations since it is publicly available. Furthermore, the software, models, and information necessary to accomplish the iHESP outcomes and the execution of models or products may be exchanged with anyone *as long as that information is publicly available or software is open source.*

Subject to Export Controls: *Commodities, software and technology (collectively "Items") are not excluded* from export controls regulations under the above-mentioned exclusions. As a general rule, equipment should be purchased in the country of destination rather than being acquired in the US and exported. Items within the iHESP that are subject to export control regulations, including items classified as EAR99, may not be exported outside the US without prior review by the *TAMU Export Controls Office (ECO).*

"Use", "development", or "production" technology associated with controlled items may also be subject to export control regulations, if such technology is not publicly available. Controlled

technology cannot be exported outside the US or "released" to a foreign (non-US) person in the US or abroad without prior review by the *TAMU ECO*.

The iHESP Director will work with the *TAMU ECO* to implement a Technology Control Plan (TCP) if determined to be necessary by the ECO. The purpose of a TCP is to control the access and dissemination of export controlled items and technology in accordance with federal export regulations.

Use of TAMU High Performance Computational resources: All users of the TAMU High Performance Computers are responsible for adhering to the TAMU Policies and Procedures including: acceptable use, resource allocations, dedicated use and batch processes, data storage, and software. These polices are available at **https://hprc.tamu.edu/policies/.** Specific to the iHESP, individuals must be approved for access to the TAMU-HPC by the TAMU HPC Director, which approval shall not be unreasonably withheld. The iHESP Director will assist individuals in requesting approval.

Access to iHESP: All users and long-term (more than two days) visitors (visiting researchers, post-docs, etc.) with access to the iHESP will be required to take TAMU Export Control Training and comply with export control regulations. These users and long-term visitors will also be subject to Restricted Party Screening (RPS). Restricted Party Screening is the process of determining whether a person or entity is included on a restricted party list. A restricted party list is maintained by the U.S. Government to include the names of prohibited and restricted end-users.

Any RPS hits will be forwarded to the *TAMU ECO* for further review, and may cause denial of the request for access. The iHESP Director is responsible to ensure that the iHESP follows this procedure and adheres to the regulations. Individual hosts of short term (less than two days) Foreign Visitors are responsible to ensure that export control regulations are adhered to. A log of all visitors will be maintained by the iHESP Director, and short-term visitors will not be unattended at any time during their visit.

Virtual Private Network (VPN): Client software may be export controlled. Pursuant to this agreement, TAMU will not export any such software. The Qingdao National Laboratory of Marine Science and Technology (QNLM) shall acquire (import) the appropriate Virtual Private Network Client software, necessary to meet their obligations pursuant to this agreement. iHESP participants may use software accessible on iHESP computers with the approval of the Director. Software used by iHESP participants will remain with iHESP.

Use of National Center for Atmospheric Research (NCAR) Computation Resources: Access to NCAR supercomputing resources is subject to NCAR allocation procedures and eligibility requirements as approved by the US National Science Foundation (NSF) and is, in part, conditional on users receiving funding from NSF to support their research efforts. Users who are granted access to use NCAR resources are responsible for adhering to all the NCAR policies and procedures available at https://www2.cisl.ucar.edu/user-support/user-responsibilities.

Use of Qingdao National Laboratory for Marine Science and Technology (QNLM) computational Resources: Users of QNLM High Performance Computers must abide by the regulations of QNLM HPC Management Method, help maintain the safe, stable and effective operation of computer system, ensure the security of database and network, and avoid illegal

operation or misuse of central resources on the cluster. Individual users of iHESP must be approved for access to QNLM High Performance Computers by the QNLM HPC Director and cooperate with QNLM to carry out resource allocation work.

International Travel: Individuals need to be aware that when traveling overseas, typical electronic devices, such as laptops, software, cell phones, flash drives, etc., may fall under export control regulations and that U.S. Customs and Border Protection may search and copy the content of travelers' laptops and expect travelers to divulge credentials and encryption keys as necessary. Travelers can expect similar treatment when visiting other countries. Refusal to comply can result in seizure of the device or denial of entry into the host country. Once in the country, risks to confidential, controlled and sensitive data continue. Some countries legally prohibit encryption, and others view all encryption suspiciously. Physical loss and digital espionage also put confidential information (or tools to access it) on your devices at risk. TAMU employees are required to submit a Travel Request in Concur to receive approval to travel to a foreign country. Answering the questions below will assist individuals to determine potential export control issues.

1. Will you travel to an embargoed destination (e.g. Cuba, Iran, North Korea, Sudan, Syria)? For current list see:

   http://www.treasury.gov/resourcecenter/sanctions/Programs/Pages/Programs.aspx

2. Will you take information, technology or items subject to export control regulations and not widely available in the public domain? (e.g. technology, software, and information related to the design, production, testing, maintenance, operation, modification, or use of controlled items or items with military applications. This does not include basic marketing information on function or purpose; information regarding general scientific, mathematical or engineering principles commonly taught in universities; or information that is generally accessible in the public domain.)

3. Will you take materials or equipment? (Advanced laptops, software or scientific equipment. Please note that this does not include basic/standard laptops, workstation, and/or tablet, operation general commercial software like Windows and Apple's IOS)
4. Will your activities involve presenting or sharing information not in the public domain?

5. Do you know or have any reason to believe that the information you will be sharing or the activities you will engage in while traveling will have a military use or will provide a military service?

6. Will you be furnishing financial assistance or anything of value, including services to a blocked or sanctioned country, individual or entity? This includes agreements performable outside the United States, making payments to foreign vendors, engaging collaborative projects/activities.

7. Will your activities involve sharing non-commercial encryption software in source or object code?

Contact the TAMU export control office prior to your departure if you have answered yes to any of these questions.

Best Practices when travelling include the following:

- International travelers should arrange to use loaner devices while traveling abroad. Load only essential data and information that will be needed while traveling and be sure to set-up password controls.
- If loaner devices are not available, take the following steps to prepare your system for international travel:
- Back up all data.
- Remove all information not essential to travel. Do not travel with confidential, sensitive, proprietary, research or export controlled information even if it is encrypted. Do not allow services or applications to store your passwords. Remove this option for your current systems, including email and Wi-Fi.
- Update all antivirus, security patches, and firewalls.
- Set up password protection on your devices. Require a password to start and unlock the device.
- Keep Devices with you; do not leave any electronic devices (cell phones, laptops, tablets, etc.) unattended, even in your hotel room or safe. Do not pack electronic devices in your checked bags or ask someone to watch them for you.
- Wi-Fi hotspots for public use are targets for information theft. While on public Wi-Fi, your device is vulnerable to data miners. You should connect to a Virtual Private Network (VPN) whenever possible or avoid visiting websites that contain confidential information, such as banking websites, to keep your information secure.
- Turn off Bluetooth, cellular services and Wi-Fi any time you are not using them.
- To prevent the interception of information without your knowledge, avoid accessing confidential, sensitive, proprietary, research or export restricted information from your electronic device. If you must access these items for presentations or collaboration, use a secure VPN connection, unless encryption is prohibited in the host country.

3. Data Release and Access

Restricted iHESP Data

Data pertinent to performing iHESP-related research activities are primarily stored on a dedicated 1.66 PB (raw space) fast data storage, called iHESP server, connected via a fast data transfer fabric, to the TAMU HPRC cluster, Ada. This storage space is only accessible to iHESP members with an HPRC account, and are given group read permissions as defined by an Access Control List. This Access Control List is managed by iHESP software engineer, Dr. Abishek Gopal, under the supervision of Dr. Ping Chang. To receive the necessary permissions to access the iHESP data server, new iHESP members will have to obtain approval from Dr. Ping Chang, along with a brief explanation for the request.

The iHESP data storage server is intended for archiving the raw output from iHESP model runs, along with the input, observation, and other configuration files required for the runs or for diagnostics later. The archive directory is read-only to iHESP members, except for Dr. Abishek Gopal, who has been assigned the owner of the archive directory, and is responsible for copying new datasets into the archive for safe keep.

In addition to read access to the archive directory, iHESP members on the access list also have read/write access to their personal directories on the data storage. This space is primarily intended to hold the output from the post-processing and diagnostic tools run on the raw model output in the archive directory.

Public Data

iHESP simulation datasets are being or will be made publically and freely accessible after a 6-month period of completion of the simulations. Specific datasets that need to be made publicly available, are transferred to the storage server, Data Hub, which has a current storage capability of 112 TB and is administered by the Texas A&M Institute of Data Science (TAMIDS). Ada cannot be used to host public-facing data, as it is behind a firewall.

iHESP being one of the contributors to the Coupled Model Intercomparison Project - Phase 6 (CMIP6) (https://www.wcrp-climate.org/wgcm-cmip/wgcm-cmip6), a select number of raw and processed datasets will be published to the Earth System Grid Federation (https://esgf.llnl.gov/), which provides a standardized public access to large climate datasets.

4. Data Transport Procedures

iHESP simulations being conducted on high-performance computing (HPC) systems outside of Texas A&M, need to be transferred to Ada to allow members to analyze the model output. This is performed using two different methods depending on the origin of the datasets.

1. For transferring raw datasets from computational resources in the Texas Advanced Computing Center (TACC) and NCAR, we use the Globus file transfer protocol to transfer files to the iHESP data server on Ada.

2. Raw model output from QNLM, stored on external hard drives, is hand delivered by iHESP members traveling from China. iHESP purchased 10 external hard drives, each of which has a raw storage capability of 10 TB, for data transport purpose. All 10 external drives have been examined and approved by the TAMU export control office. Once the hard drives have reached iHESP, the following protocol is used:

    a. The hard drives are submitted to the Security Operations with the Division of IT, Texas A&M, to be scanned for malicious software. The contact person for the scanning operations is Christopher L. Wiley (chris.wiley@tamu.edu), Assistant Director of Security Operations.

    b. After the drives are checked to be free of malicious software, the drives are then hand delivered to the IT department, College of Geosciences, to be connected to the Data Hub server in TAMU's West Campus Data Center. The Geoscience IT System Administrators Greg Spiller (gspiller@tamu.edu), and José Arrisola Jr. (jarrisola1@tamu.edu) are to be contacted to initiate this process.

    c. Once connected to the Data Hub server, Dr. Jian Tao (jtao@tamu.edu) with TAMIDS, initiates the data transfer process from Data Hub to the iHESP data storage on Ada.

    d. To speed up the file transfer process, half of the external drives can also be connected to any desktop in the iHESP office. Dr. Abishek Gopal is then responsible for transferring the datasets to Ada using Globus file transfer.

    e. Dr. Abishek Gopal and Dr. Ping Chang are typically responsible for hand delivering the hard drives to the necessary groups in Step a) and b).

3. All access to the Ada account must be preapproved and this process can take up to a month to complete. In order to gain access, please complete the following instructions:

    a. Complete the Visiting Scholars Form 5VS (https://vpr.tamu.edu/manage-research/visiting-scholars-program/visiting-scholars-form-5vs.pdf) and send to Kelly Williams (klwilliams@ocean.tamu.edu) requesting access to the iHESP Ada account.
    b. Once received, an approval request notice will be sent by Ping Chang, iHESP Director, Shari Yvon-Lewis, Department Head of Oceanography, Ping Yang, Interim Associate Dean of Geosciences.
    c. Upon their approval, a new identification number (UIN) will be assigned and emailed to the applicant's email address on file.

e. The applicant will then be allowed to create a new basic High Performance Research Computing (HPRC) account by accessing (https://hprc.tamu.edu/apply/).
f. Once the HPRC account has been established, applicant must forward the new account to Kelly Williams, where she will transfer the account into her Ada account and time can then be added into their bank.
g. Please contact Kelly Williams for more time as needed.

5. Software Release Policy

iHESP research is based on a variety of open-source and freely available Earth systems modeling and associated tools. iHESP scientists do not develop or make direct contributions to any proprietary or export-controlled scientific software. All iHESP contributions to existing modeling tools, and newly developed tools are being or will be released publicly on the iHESP github page (https://github.com/ihesp), after the corresponding journal publications.

Some examples of such open-source modeling tools used are:

- NCAR's Community Earth System Model (CESM), which provides a fully-coupled earth systems modeling suite
- The Regional Ocean Modeling System (ROMS) ocean modeling framework
- NCAR's Weather Research and Forecasting (WRF) model for atmospheric research

6. Publication Policy and Guidelines

6.1 iHESP Publications and Authorship Policy - March 2020

The intellectual investment and time committed to the design and execution of all the simulations performed within the iHESP project, entitles its Principal Investigators (PIs) and the core group of iHESP scientists and software engineers to the first benefits obtained from the resulting data. Collectively, such groups of people are referred to as the Core Groups (CGs). Each iHESP subproject has its own CG whose members are determined by the respective lead PIs from each partner institution. Publication of descriptive or interpretive results derived immediately and directly from the data produced by the iHESP simulations is the privilege and responsibility of the CGs. However, to further iHESP science objectives, the CGs can provide early access to the data for their colleagues prior to the public release of the data sets. In such instances, the member of a CG intending to share the data with his / her colleagues must inform the iHESP director so that such collaborations can be tracked and, more importantly, coordinated. We anticipate the following publication categories and their associated authorships:

1. Overview Manuscript describing / introducing the primary simulations and presenting initial highlight results. The authorship is the entire CG for the relevant subproject.
2. Early (First-Order) Manuscripts that show major findings / results intended for submission to the so-called high-impact journals. One to two such manuscripts are anticipated. The authorship of these First-Order manuscripts is also expected to be rather comprehensive with a majority – but not necessarily all – of the relevant CG included.
3. Secondary Manuscripts that arise from early access to the iHESP data sets. These manuscripts are anticipated to have far fewer co-authors than in Overview and Early Manuscripts and do not need to include the relevant CG members as co-authors. As indicated above, the contents of these manuscripts should be coordinated to prevent any overlaps.
4. External Manuscripts that are written by the broader community after the public release of the data sets. iHESP does not control the authorships of such manuscripts.

The above order reflects the precedence of the manuscripts. The overview manuscript must be submitted first. The Early Manuscript submissions can then follow. The Secondary (and External) Manuscript submissions must wait until after the submissions of Overview and Early Manuscripts.

The lead authorships for the Overview and Early Manuscripts are decided by the SC in close consultation with the relevant subproject PIs.

6.2 Acknowledgments

The following Acknowledgments must be used in the respective manuscripts:

For Overview and Early Manuscripts: This research is supported by the International Laboratory for High Resolution Earth System Predictions (iHESP), a collaboration among the Qingdao National Laboratory for Marine Science and Technology (QNLM), the Texas A & M University (TAMU), and the National Center for Atmospheric Research (NCAR). The computational resources were provided by the Sunway Systems in China; Texas A & M University; and the

Texas Advanced Computing Center. We thank all the scientists, software engineers, and administrators who contributed to the iHESP partnership.

For Secondary and External Manuscripts: The simulation data used in this study were provided by the International Laboratory for High Resolution Earth System Predictions (iHESP).

6.3 iHESP Virtual Special Issue

iHESP PIs and SC will arrange for an iHESP Virtual Special Issue (VSI) in a prominent, peer-reviewed journal. They will create a list of anticipated manuscripts for the VSI and coordinate their contents and authorships, where necessary, making sure that certain topics will be covered. The authors of the manuscripts that use and analyze iHESP data sets will be strongly encouraged to submit their manuscripts to this VSI.

7. External Collaboration Policy and Guidelines

iHESP is based on strong international collaborations and open science. iHSEP scientists conduct fundamental research to advance science for use by the international community. The models, codes, intermediate versions and simulations are publically accessible, or will be published in open scientific journals once completed to ensure the broadest distribution and use of these products. iHESP encourages all its members to collaborate domestically and internationally to develop joint research projects. However, any iHESP personnel who is interested in developing externally funded research projects with other scientists within and outside Texas A&M University is required to follow the following guidelines:

- Consult first with the iHESP Director, Ping Chang, by either arranging an in-person meeting or a written request describing the nature of proposed research and funding agency
- The Director, Ping Chang, will submit, on behalf of the iHESP personnel, request for approval by the Department of Oceanography, the College of Geosciences and Texas A&M University.
- Only after the University formally approves the request by the iHESP Director, any iHESP scientist can proceed to prepare and submit collaborative proposals to funding agencies.

This process is to ensure that all research efforts at iHESP, including external collaborations, are complied with the University policy, and are not classified and produced for nonmilitary purposes only.

8. Training Required

Required Employment Training

iHESP employees need to be aware of federal and state laws, and Texas A&M System regulations that affect them in the workplace. Human Resources has compiled summaries and links to information that requires annual posting and provided it below for employees to review.

If you have questions about the information listed here, please talk with the Human Resource officer in the Department of Oceanography, Debbie Odstrcil, or the indicated responsible office or agency.

Export Control Training
The basic course for export controls and embargo training (course number 2111212) is available through TrainTraq. Depending on the nature of an individual's activities and/or job functions, a university employee may be required to take supplemental export control training as deemed appropriate by the individual's supervisor and/or the empowered official. Questions about export control training or export controls should be directed to the program at exportcontrols@tamu.edu or 979.862.6419.

Equal Employment Opportunity
Federal regulations require that contractors and subcontractors *may* notify employees and applicants of their EEO rights electronically and must provide employees with knowledge that the electronically posted notice is otherwise accessible. Equal Employment Opportunity notices are available here: (https://www.dol.gov/ofccp/regs/ compliance/posters/pdf/eeopost.pdf).

— EEO is the Law Poster Supplement (https://www.dol.gov/ofccp/regs/compliance/posters/pdf/OFCCP_EEO_Supplement_Final_JRF_QA_508c.pdf)
— Also refer to A&M System Policy 08.01 Section 1.1(http://policies.tamus.edu/08-01-01.pdf)

Standards of Conduct Notice for State Employees
These (https://employees.tamu.edu/media/335418/TX_ConductStandards.pdf) are prescribed by the Texas State Legislature .

HIV/AIDS Notice
(www.dshs.texas.gov/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=22363) This brochure is offered by The Texas Department of Health (TDH). The Human Immunodeficiency Virus Service Act, Chapter 85, Texas Health and Safety Code, specifies that workplace guidelines be established to ensure that the rights and privileges of individuals infected with the Human Immunodeficiency Virus (HIV) are protected System Regulation 34.04.03: HIV/AIDS in the Workplace and Learning Environment (http://policies.tamus.edu/34-04-03.pdf).

Visit the TDH website (https://www.dshs.state.tx.us/hivstd/default.shtm) for additional information.

Alcohol and Drug Abuse and Rehabilitation Program (DAAPP) Notice
DAAPP Notice: Texas A&M University is committed to protecting the health and safety of its employees. Because alcohol and drug abuse is a significant problem in the United States, Texas A&M University is concerned about substance abuse on our campuses.

— System Policy 34.02: Drug and Alcohol Abuse (http://policies.tamus.edu/34-02.pdf)
— System Regulation 34.02.01: Drug and Alcohol Abuse and Rehabilitation Programs (http://policies.tamus.edu/34-02-01.pdf)
— University Rule 34.02.01.M1: Substance Abuse Prevention (https://rules-saps.tamu.edu/PDFs/34.02.01.M1.pdf)

Compensatory Time Notice
All state agencies are required to notify their employees of the state's policy on compensatory time. Read this summary, (https://employees.tamu.edu/employees/comp-time/) about federal and state compensatory time and how you may use it.

Notice of Privacy Practices for Medical Information
A federal regulation, the Health Insurance Portability and Accountability Act of 1996, known as the HIPAA Privacy Rule (http://assets.system.tamus.edu/files/benefits/ pdf/HIPAAprivacy.pdf) requires that we provide detailed notice in writing of our privacy practices. This notice describes how medical information about you may be used and disclosed and how you can get access to this information. Please review it carefully.

Safety and Security Notices
Campus Security Policies and Crime Statistics (CLERY Act) & Annual Fire Safety Report on Student Housing (https://employees.tamu.edu/media/519551/notification_ security_fire_reports.pdf)

Important Reminders for all iHESP Employees

Some information merits a reminder on a regular basis even though not required by laws, regulations or rules to be disseminated annually to all employees. If you have questions about the information listed here, please talk with Ping Chang or the indicated responsible office or agency.

Reporting Arrests, Charges or Convictions
Per University Rule 33.99.14.M1 (https://rules-saps.tamu.edu/PDFs/33.99.14.M1.pdf) existing employees must inform their supervisor or appropriate university office within 24 hours of any criminal arrests, criminal charges, or criminal convictions, excluding misdemeanor traffic offenses punishable only by fine. If circumstances prevent this, employees should notify their supervisor as soon as the situation allows it, and provide explanation for the delay. Employees should refer to University Rule 33.99.14.M1 to determine the appropriate university office to notify.

Sexual Harassment Survivors' Resources, Rights & Options

— **Texas A&M Resources, Rights, & Options for Complainants (Brazos County) (https://titleix.tamu.edu/get-help/resources-rights-options/for-complainants/)**
Texas A&M University is committed to providing an environment of academic study and

employment free from harassment or discrimination to all segments of its community including faculty, staff, students, guests and vendors. Harassment and discrimination, including sexual harassment and discrimination are illegal under federal and state statutes, including but not limited to Title IX of the Education Amendment of 1972 (https://titleix.tamu.edu/), and is prohibited by Texas A&M University. The university will promptly address all complaints of discrimination, sexual harassment, and related retaliation in accordance with applicable federal and state laws.

— **Quick Card: Title IX & You (https://employees.tamu.edu/media/1601272/titleixquickcard.pdf)**

Personal & Employment Information

Faculty and staff at Texas A&M University should annually review and update their personal and employment information via HRConnect. Instructions to update your information (https://employees.tamu.edu/employees/updateinfo/).

9. TAMU/iHESP WiFi Access

For general visitors and short-term (less than 10-days) visitors, TAMU provides WiFi access via *TAMU_Visitor.*

Connecting to TAMU_Visitor

To connect to the ***TAMU_Visitor WiFi***, please follow these instructions.

1. To gain access to the **tamulink-guest** account, the sponsoring department must request a *guest* ***NetID*** and a *guest* ***Password*** from the Identity Management Office prior to your login.
2. Once your credentials have been received, click on your internet browser selections on your device.
2. Tap or click on **tamulink-guest.**
3. You will be prompted for a "network password" or "pre-shared key (PSK)". Please enter **tamuguest.**
4. Depending on your device and operating system, you may see a message stating something similar to "You are connecting to the unsecured network 'tamulink-guest'. Information sent over this network is not encrypted and might be visible to other people." You will need to acknowledge this message before continuing.
5. Open a web browser. You should be taken to the "tamulink-guest" login page and asked to log in. Enter the *guest* ***NetID*** and *guest* ***Password*** that you received from the Identity Management Office. You should now be able to access the Internet normally.

For visiting scholars, TAMU provides WiFi access via tamulink-wpa.

Connect to tamulink-wpa

To connect to the **TAMU Visitor WiFi**, please follow these instructions.

1. Choose the **TAMU_Visitor** network from the list of available networks on your device.
2. You will be asked to enter an email address and a 24-hour password.
   - If you have been given TAMULink-guest account credentials through the Identity Management Office, you can enter your guest login ID and guest password that were provided to log on.
   - If you have created a TAMU_Visitor account and received your 24-hour password to log on.
   - If you do not have a TAMULink-guest account and have not set up a TAMU_Visitor account, clock on Create an Account.
3. Enter your full name, mobile telephone number, and email address in the fields provided. Click the box next to "I accept the terms of use" and then click Register.

4. You will receive both an email and a text message with your TAMU_Visitor username and password.
5. Enter the provided username and password. After a successful connection, you will be taken to the Texas A&M University web site.
6. You may close this connection browser window and use your device normally.

Access to eduroam.com

All employees and visitors may access http//: www.eduroam.com at any time.

10. iHESP Holiday Calendar

The iHESP office follows the campus holiday schedule, and will closed on the following days for the holiday:

Academic Year 2020-2021

Thanksgiving	November 26-27, 2020
Winter Break	December 23, 2020 – January 4, 2021
Martin Luther King Jr. Day	January 18, 2021
Spring Break	March 19, 2021
Memorial Day	May 28 & 31, 2021

11. Contacts

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