Standard Operating Procedure (SOP) for Providing On-Premise Resource Accounts to Researchers

1. Purpose

This SOP outlines the process for providing on-premise resource accounts to **consortium researchers** to support their work on water modeling technology. The goal is to ensure consistent, efficient, and secure access to on-premise resources.

2. Scope

This SOP applies to all **consortium researchers** who require on-premise resource accounts for their water modeling research related to NextGen.

3. Roles and Responsibilities

- **CIROH IT Administrator:** Responsible for managing on-premise resources, account provisioning, and security. – OIT Staff
- **HPC IT Architect** – OIT Architect and CIROH IT Staff
- **CIROH IT support** – OIT Staff
- **Researcher:** The individual requesting and using on-premise resource accounts for their research.

4. Request Process

1. **Submission of Request:** Researchers should submit CIROH IT on-premise infrastructure request form to the CIROH IT Administrator, providing the following information:
    - Name
    - Affiliation
    - CIROH project number
    - Research project title
    - Specific on-premise resources required (e.g., hardware, software, network access)
    - Estimated resource usage
    - Justification for the request
2. **Review and Approval:** CIROH IT head and CIROH Director will review the request to ensure it aligns with the consortium's research goals and resource allocation policies. If approved, the Administrator will proceed with account provisioning.

5. Account Provisioning

1. **Account Creation:** The CIROH IT Administrator will create a new on-premise account for the researcher, following the consortium's security and compliance guidelines.
2. **Resource Allocation:** The requested resources will be allocated to the account based on the researcher's needs and available resources.
3. **Access Provisioning:** The CIROH IT Administrator will provide the researcher with the necessary credentials (e.g., username, password, network access) to access the on-premise account.
4. **On-premise Admin passwords:** The CIROH IT Administrator will keep track of Admin passwords in UA recommended password management tool “Keeper”.

6. Account Management

- **Usage Monitoring:** The CIROH IT Administrator will monitor resource usage to ensure compliance with allocation limits and identify potential issues.
- **Security Updates:** The CIROH IT Administrator will regularly update the on-premise environment with security patches and best practices.
- **Account Deactivation:** If a researcher's project is completed or the account is no longer needed, the CIROH IT Administrator will deactivate the account to prevent unauthorized access.

7. Support and Troubleshooting

- **Helpdesk:** Researchers can contact the consortium's CIROH IT helpdesk for assistance with on-premise resource issues or questions.
- **Software Installation**: On-premises software request form is available.
- **Training:** The consortium may provide training sessions or documentation to help researchers effectively utilize on-premise resources.

8. Compliance and Security

- **Compliance:** All on-premise activities must adhere to the consortium's data privacy, security, and compliance regulations.
- **Security Best Practices:** Researchers are responsible for following best practices to protect their on-premise accounts and data, such as using strong passwords, enabling two-factor authentication, and avoiding sharing credentials.

  Pantarhei’s and Wukong’s best practices document is available in DocuHub.

9. Acknowledgement for papers using CIROH Cyberinfrastructure:

For presentation and papers:

For Pantarhei System

“This research utilized the Pantarhei HPC system managed by CIROH Cyberinfrastructure. This research was supported by the Cooperative Institute for Research to Operations in Hydrology (CIROH) with funding under award NA22NWS4320003 from the NOAA Cooperative Institute Program. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the opinions of NOAA. The authors appreciate support from the CIROH Cyberinfrastructure team and UA HPC Center Services team. Learn more: https://docs.ciroh.org/docs/services/intro”"

For Wukong System

“This research utilized the Wukong GPU cluster managed by CIROH Cyberinfrastructure. This research was supported by the Cooperative Institute for Research to Operations in Hydrology (CIROH) with funding under award NA22NWS4320003 from the NOAA Cooperative Institute Program. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the opinions of NOAA. The authors appreciate support from the CIROH Cyberinfrastructure team and UA HPC Center Services team. Learn more: https://docs.ciroh.org/docs/services/intro"

For CIROH On-prem + NSF ACCESS Resources (CIROH allocations)

“This research utilized [CIROH resources e.g., Pantarhei, Wukong] and NSF ACCESS allocation [CIROH allocation number] on [ACCESS systems e.g., Purdue's Anvil or Indiana University's Jetstream2] managed by CIROH Cyberinfrastructure. This research was supported by the Cooperative Institute for Research to Operations in Hydrology (CIROH) with funding under award NA22NWS4320003 from the NOAA Cooperative Institute Program. The statements, findings, conclusions, and recommendations are

those of the author(s) and do not necessarily reflect the opinions of NOAA. ACCESS is supported by NSF awards #2138259, #2138286, #2138307, #2137603, and #2138296. The authors appreciate support from the CIROH Cyberinfrastructure team and UA HPC Center Services team. Learn more: https://docs.ciroh.org/docs/services/intro "

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List of CIROH NSF Access allocations:

- EES250081: ML for National Water Model
- EES240082: Developing numerically robust terrestrial system models across continental
- EES240087: CIROH research with the Community Next Generation Water Resources Modeling

For poster:

For Pantarhei System

"This research utilized the Pantarhei HPC system managed by the CIROH Cyberinfrastructure team. Learn more: https://docs.ciroh.org/docs/services/intro"

For Wukong System

"This research utilized Wukong GPU clusters managed by CIROH Cyberinfrastructure team. Learn more: https://docs.ciroh.org/docs/services/intro"

For CIROH On-prem + NSF ACCESS Resources (CIROH allocations)

"This research utilized [CIROH resources e.g., Pantarhei, Wukong] and NSF ACCESS allocation [CIROH allocation number] on [ACCESS systems e.g., Purdue's Anvil or Indiana University's Jetstream2] managed by CIROH Cyberinfrastructure team. Learn more: https://docs.ciroh.org/docs/services/intro"

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10. **Appendix**

Additional details that support the main content of the SOP will be linked or explained in this section.

10.1 **Definitions**

- SOP: Standard Operating Procedure
- CIROH IT: Information Technology team at CIROH
- Consortium: A group of universities collaborating on water modeling research
- UA - The University of Alabama

10.2 **References**

- [Link to On-premise Project Request Form]
- [Link to On-premise Access Request Form]
- [Link to On-premise Software Installation Form]
- [Link to CIROH's On-premise documentation]
- [Link to Pantarhei's best practices]
- [Link to Wukong's best practices]

10. **Approval and Revision History**

Date	**Approved By**	**Changes Made**
9/17/24	Arpita Patel	Initial SOP Creation
9/23/24	Arpita Patel	Reformatted structure and updated contents
8/25/2025	Arpita Patel	Added responsible team member
11/25/2025	Arpita Patell	Updated approval process and added CIROH project number in IT request form
12/9/2025	Arpita Patel, Steve Burian	Updated Acknowledgment for CIROH IT usage