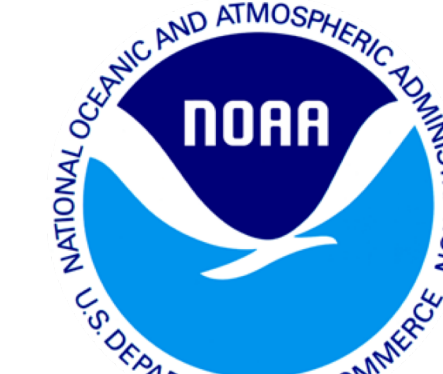
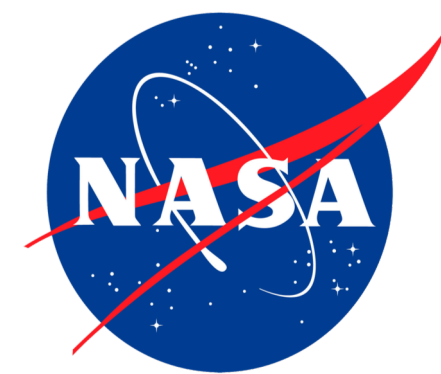


A COMMUNITY FOR GEOSCIENCE INFORMATION TECHNOLOGY RESEARCH AND DATA MANAGEMENT

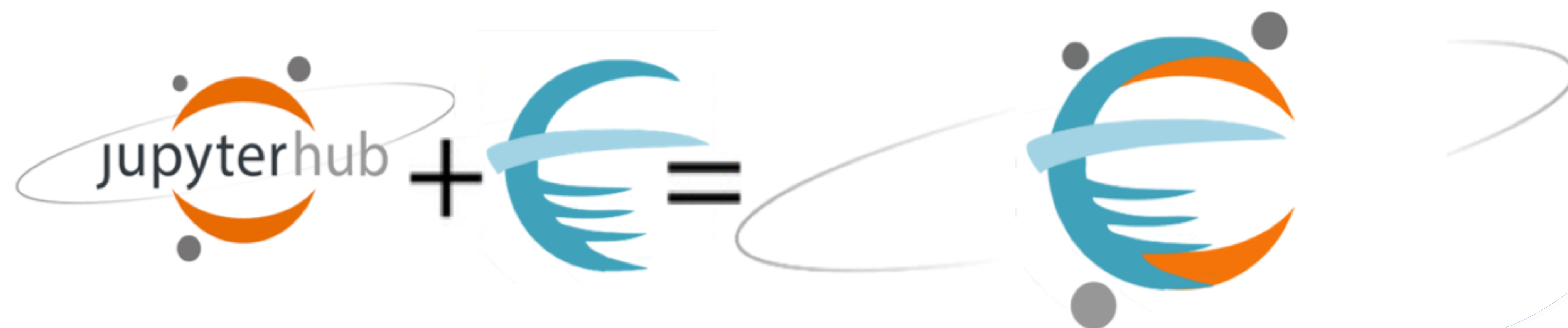
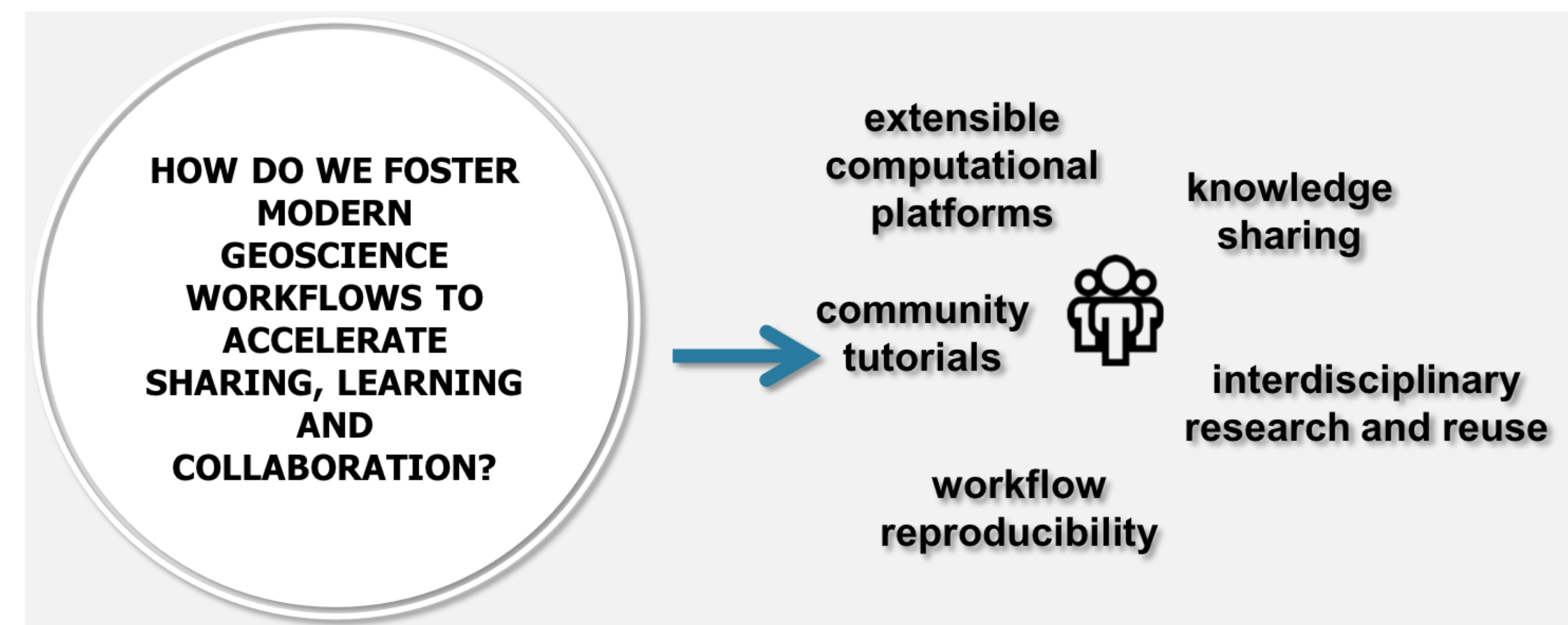
Earth Science Information Partners (ESIP) members **support the information and technology needs** of a broad community of **scientists, engineers, educators and practitioners** across the Geosciences. ESIP is supported by NASA NOAA and USGS.



Each year, ESIP **hosts annual Summer and Winter Meetings** where participants convene to **discuss** their work, **share** ideas and **learn** new tools and techniques **through a variety of sessions, including workshops**. The workshops are interactive and some have been developed around applications such as Jupyter Notebooks. Using **notebooks enhances interactivity and engagement during workshops**, but can present many setup challenges during shorter workshops for participants.

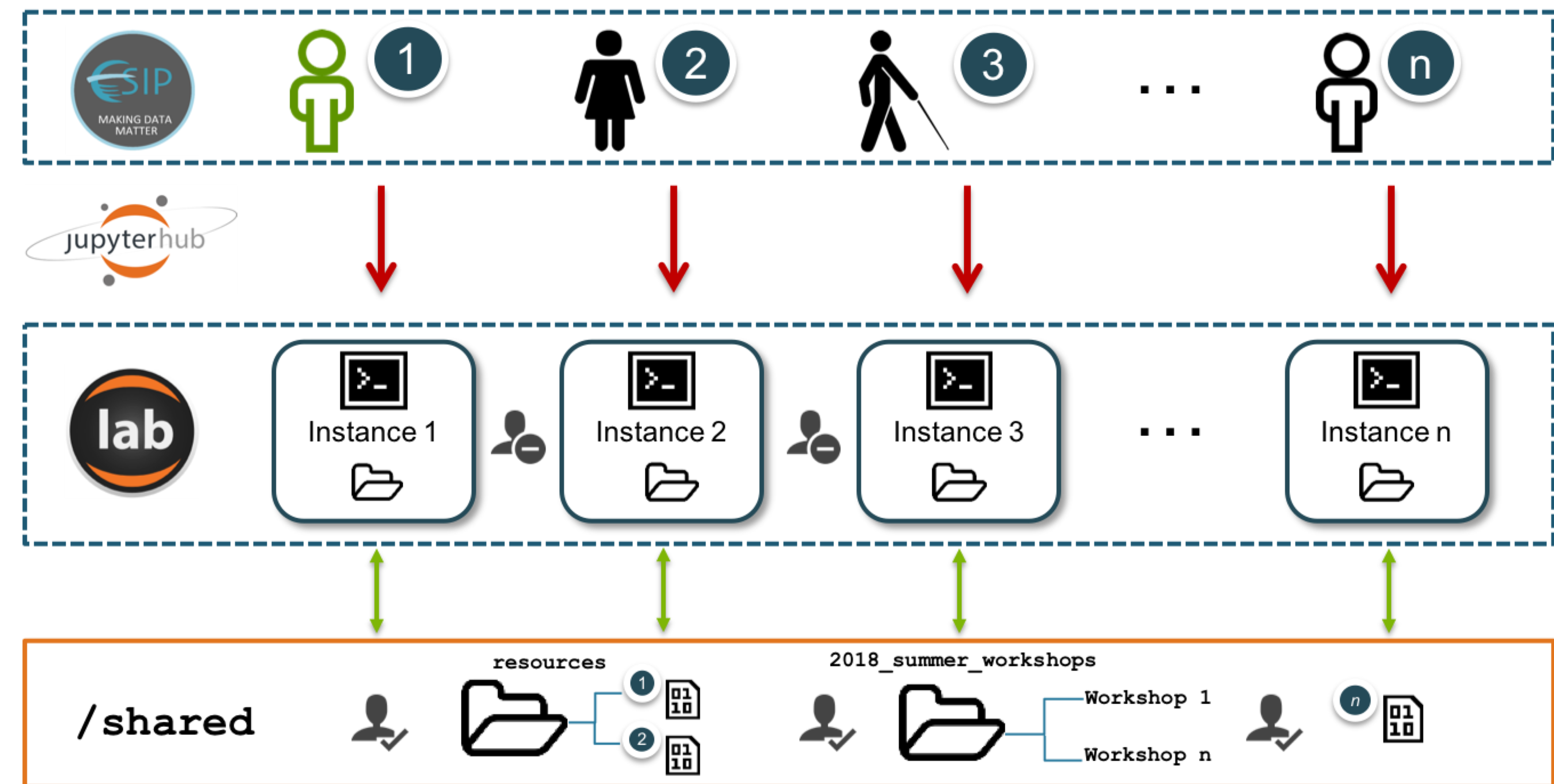
THE PROBLEM

- A variety of technological literacies exist in the ESIP community
- Learning environments that require significant setup **reduce participant engagement and contribution**
- Lack of a **scalable platform for standardizing access** to environments and computational toolsets **reduces reproducibility**



AN INITIAL INFRASTRUCTURE

By piloting an incubator partnership between ESIP Labs and the National Data Service (NDS) to setup ESIPhub in the San Diego Super Computing Cloud, we were able to support the 2018 Summer Meeting workshops leaders to give participants the ability to try out their scientific workflows and build upon existing and new collaborations. The infrastructure configuration is intended to be reused and is openly available at <https://git.io/fNjb1>.



A TALE OF THREE WORKSHOPS



METADATA IMPROVEMENT LAB

Participants learned a how to translate their dataset XML into schema.org JSON-LD for large-scale discovery beyond their own search and discovery platforms.

<https://git.io/fNjbv>

CLOUD BASED ANALYSIS

Participants of this workshop learn about using Jupyter notebooks to interact with cloud-based services for scientific research and analysis.

CUSTOM WIDGETS FOR EARTH SCIENCE

Participants leveraged ESIPhub and Google Earth Engine for exploratory data analysis of tera- to peta-byte scale geospatial data datasets.

<https://git.io/fNjbw>

WORKSHOP OUTCOMES

- Acquired **new knowledge** about in-workshop **scalability** and notebook **availability**
- Participants were successful executing **complex in-workshop analyses with no prior** Jupyter application experience
- Platform and community **use case** interests **extended beyond Meetings** and cluster telecons, into outward facing events, training and other activities

ESIPHUB COMMUNITY FEEDBACK

- Confusion** about shared directory permissions and notebook execution protocols
- Science educators using the Hub interested in **coding support** to implement their workshop ideas
- Notebook metadata would facilitate **search and discovery**
- Notebook **provenance** is important to scientific workflows and should be collected
- Expand Hub utilization and integration into **future** ESIP Meetings