



# Findings and Analysis from External Stakeholder Interviews

*Prepared for ESIP*

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## PURPOSE

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- Engage key members, partners, and sponsors
- Test current perceptions of ESIP's programs, value proposition, and potential and areas for improvement
- Gauge key opportunities and challenges
- Gain actionable intelligence for organizational design



## PROCESS: WHAT WE DID

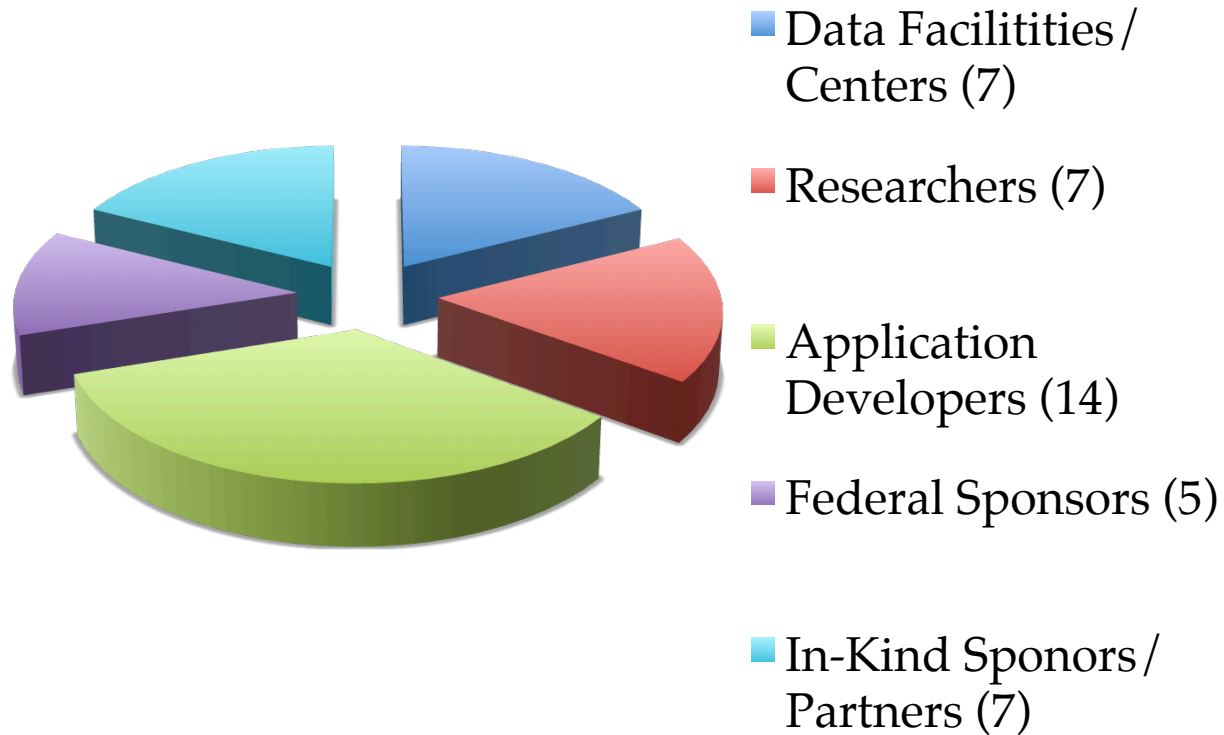
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- Scheduled and conducted confidential 30-45 minute interviews with 40 key stakeholders
- Participants were selected by ESIP; interview guide was developed in collaboration with B&W
- Participants demonstrated a high level of enthusiasm and openness—82% participation rate



## PROCESS: WHO WE INTERVIEWED

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## ABOUT QUALITATIVE RESEARCH

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- Candor explicitly encouraged – we were not asking for positive affirmation (interviews are confidential)
- Perceptions are inherently subjective, and not necessarily true
- Generally a lag between perception and reality when it comes to reputation
- Comments selected represent more than one opinion



## OVERVIEW

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- Key Insights
- ESIP In Your Own Words
- The Value of Membership
- ESIP's Collaborative Infrastructure
- Increasing Engagement
- Greatest Strengths
- ESIP's Impact
- Areas for Improvement
- Trends & Opportunities
- Key Challenges
- Final Thoughts



## KEY INSIGHTS

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- ESIP is well respected—enormous good will and enthusiasm
- An effective model admired by others—but benefiting from continuous refinement and innovation
- Growth is necessary but will require a delicate balance
- Unique culture and strong sense of community are central assets and should be preserved at all costs
- Diversifying funding sources is critical, but independence has been invaluable
- Widening ESIP's circle of members—and end connecting with end users—is essential
- ESIP needs to consider and articulate its role and strategy internationally
- In general, ESIP needs to make itself more visible, and draw clearer connections between its work and how data is ultimately accessed and used



## AREAS FOR IMPROVEMENT

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- Stay agile and accountable, even (and especially) as ESIP grows:
  - “The continuing challenge that ESIP faces is maintaining the agility that the organization has had since its creation, in terms of being able to support and accommodate the evolving needs of the membership.” *-Developer*
  - “We need to try to keep the ‘overhead’ low for exploring ideas and bringing new groups together to work – we need to avoid “creeping bureaucracy.” This is more of a risk than a reality, but something we need to be thinking about.” *-Developer*
  - “Also, with the growth of ESIP, it’s a challenge to be maintaining a high-level sense of community.” *-Developer*
- Nourish and sustain the community ESIP has built:
  - “Virtual and volunteer nature are a bit of a challenge in keeping people constantly engaged—it’s more of a social challenge than a technological one.” *-Researcher*
- Diversify funding:
  - “It would be good to have a more diversified funding pool, that might make it more stable.” *-Federal Sponsor*
  - “The challenge that ESIP has is broadening its diversity of sponsorships.” *-Developer*
  - “I wouldn’t say it’s not working, but I do think that there are some opportunities that could be taken better advantage of.” *-Data Center*





## AREAS FOR IMPROVEMENT

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- Engage a broader set of members and partners—including end users:
  - “Maybe consider reaching even further into the user community to people who probably have not heard of ESIP but could use earth science data to make their decisions. It’s tricky: do you reach out all the way to the end user? Maybe it’s not saying inviting a city planner to our meeting per se but rather asking them, ‘What are your needs, what tools do you have, and let us help you fix that problem with those tools.’” –*Federal Sponsor*
  - “ESIP is still not well understood outside the core earth science data community.” –*Researcher*
- ...businesses:
  - “I would like to see more businesses being more involved in ESIP.” –*Developer*
  - “I would like to see ESIP serve as more of a forum or community for understanding earth science data businesses. It would be nice to make ESIP a more effective community for Type III’s. And they are not really that with how things are working now.” –*Developer*
- ...and academia:
  - “ESIP should establish a relationship with a publishing organization where work could be peer reviewed and published. This is happening in a diffuse way, but it could be more systematic. The evolution of ESIP as a community needs to involve a more academic component to it.” –*Data Center*



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## AREAS FOR IMPROVEMENT

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- Staff is strong, talented and effective, but small:
  - “They are an extremely good investment for a little money...they don't slow-roll things but they tend to suffer from people being spread pretty thin. I respect the way they do things, and am not being critical of the speed, but if I had my fairy godmother here I'd have her wave her wand and give them more resources so they could go even faster. If someone showed up with a million bucks and said spend it wisely, I'm pretty sure they'd hire some more people and I know they're working hard...they just don't have enough people on the staff.” *-Federal Sponsor*
  - “The curse of the nonprofit is that when anyone does anything well, they are told to do ten per cent more but that is a matter of resources. It would be great if they had the money to do more.” *-Researcher*



# ESIP'S GREATEST STRENGTHS

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- What do you see as ESIP's greatest strengths? What is it known for? How would you characterize its reputation?
  - Unique organizational culture and broadly-shared sense of community
    - Welcoming and inclusive
    - Collaborative
    - Adaptive and agile
    - Innovative
    - Outcome-oriented
    - Volunteer-driven
  - Community-driven, bottom-up not top-down
  - Productive forum for collaboration and escaping silos
  - A neutral, non-competitive environment, particularly attractive to Federal agencies
  - A home for data science, data professionals
  - ESIP's diverse and engaged membership is a central asset
  - An effective and pioneering virtual infrastructure
  - Well-respected for its innovation, integrity, and effectiveness
  - Highly-regarded staff and board



## ESIP'S GREATEST STRENGTHS

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- Community-driven, bottom-up not top-down:
  - “Its collaborative structure and existence of its committees, work groups, and clusters enables it to take on issues of concern to its members, without being driven by any one institution.” -*Data Center*
  - “ESIP has evolved, it wasn’t all roses to start with, but a lot has been worked out over the years. Governance and other topics get moved through working groups and clusters, and it has worked out pretty well.” -*Developer*
  - “ESIP's membership is open, and its self-governing nature is a strength. Top-down has its place within the agency organizations, but for collaboration and evolution of the community, its bottom-up nature is really great. ESIP is functioning very well as a self-governing organization.” -*Data Center*
  - “The current structure allows for good ideas that are applicable today to be put on the front burner instantly and advanced to help whatever issue they're trying to address.” -*Federal Sponsor*
  - “I think that part of ESIP's success is its grassroots, bottom-up approach.” -*Researcher*



## ESIP'S GREATEST STRENGTHS

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- Productive forum for collaboration and escaping silos
  - “Providing the forum where people interested in a particular topic can come together and talk about it.” *-Federal Sponsor*
  - “ESIP is a good forum of people making decisions about the nation's data and information infrastructure.” *-Partner*
  - “It's nice to convene with people like me, who understand my challenges, and I have solutions to their problems and they have solutions for mine.” *-Researcher*
  - “Their strength is collaboration and they should leverage it to its greatest capacity.” *-Federal Sponsor*
  - “ESIP is a community of outreach-oriented people who like to share ideas -- unlike the more typical science and software people who are often working in silos.” *-Developer*
- ...even for other groups:
  - “ESIP is a gathering place for other groups to convene and co-locate their meetings. These co-meeting slots are coveted.” *-Developer*



## ESIP'S GREATEST STRENGTHS

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- A neutral, non-competitive environment:
  - “The argument for ESIP is that it provides the neutral landscape in which organizations that otherwise are competitive with each other can work and connect on shared problem solving, which is a rare space to be in.” -*Developer*
  - “There's a lot of competition, there can be a lot of suspicion--ESIP has really avoided that. The level playing field. Providing a service without a sort of aspiration for taking over the world. It's the only way to get such a variety of people together.” -*Federal Sponsor*
- ...particularly valuable for federal agencies:
  - “The fact that federal agencies came together to discuss data issues of mutual interest happened first through ESIP. Now it's happening with climate, too, but ESIP did it first.” -*Developer*
  - “There are federal agencies who see this community as their own and are helpful in sustaining it.” -*Partner*
  - “When I encountered ESIP, I was thrilled ESIP existed at an organization because it's one of the genuine places where federal agencies talk to each other.” -*Partner*



## ESIP'S GREATEST STRENGTHS

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- A home for data science and data professionals:
  - “It’s the community. It’s the networking. That’s the biggest value and what it’s known for. People say ‘Wow, this is so marvelous.’ Data people don’t have a clear professional home in many places, particularly in earth sciences. -*Developer*
  - “It is known for making data matter, and that is what it does and pretty successfully I think. In the data world, and I mean writ large, way beyond the borders of earth sciences, out into the social scenes and humanities, ESIP's name is well known because a lot of the things they tackled.” -*Developer*
  - “ESIP is one of the best groups I've found for having a larger community around what we do. And people at all levels of the data life cycle--a great cross section of that whole community.” -*Developer*
  - “ESIP treats data as a first-class citizen.” -*Data Center*





## ESIP'S GREATEST STRENGTHS

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- ESIP's diverse and engaged membership is a central asset:
  - “Widespread geographic community gives a variety of perspective, and helps ESIP be more innovative.” -*Federal Sponsor*
  - “Getting the right people in the room, with funding.” -*Researcher*
  - “I can be as technical as I want to be, or more broad as I like. I haven't found another community that provides this type of environment.” –  
*Data Center*
- An effective and pioneering virtual infrastructure:
  - “ESIP provides a lot of infrastructure to help people communicate and collaborate across agencies.” -*Developer*
  - “ESIP provides the backbone in the structure—a collaborative space for people to work together.” -*Data Center*
  - “The key thing about a virtual organization is that it requires a high degree of communication. The thing about ESIP that it's got its head around is the combination of technology infrastructure and an organizational infrastructure.” -*Partner*



## ESIP'S GREATEST STRENGTHS

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- Well-respected for its innovation, integrity, and effectiveness:
  - “ESIP’s reputation and brand are really good, including internationally.” - *Developer*
  - “The perception in the broader community is that ESIP is a stable, robust, engaged community of organizations that are focused on earth environmental informatics, and got the support of a fairly diverse set of funding agencies and sponsors.” -*Data Center*
  - “ESIP is a very well-respected organization. When a product or paper comes out of ESIP it tends to get more attention than if it had come out outside. That carries weight it might have if I got out and say something.” -*Developer*
- ESIP is known for achieving results:
  - “We get things done. I know that sounds trite, but if it's not your day job, things can happen slowly and involve a lot of herding cats. ESIP is not immune to this, people have demanding jobs. But, I'm pleasantly surprised to see that within a few months, things go from an initial thought to a clear work path or direction with ideas of how to get thing done, with a core small group being actively involved. This is a great strength.” -*Data Center*
  - “ESIP has gotten a reputation that if you want to get something discussed, figured out, and actually done, you can go to ESIP.” -*Developer*
  - “One of the few times I felt like I was getting anywhere, I was talking to ESIP people.” -*Partner*



## ESIP'S GREATEST STRENGTHS

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- Adaptive and innovative in its approaches and thinking:
  - “They allow for new forms of activities to spring up in an *ad hoc* manner. They try to keep up on what’s available and try new things. –*Data Center*
  - “There have been some rough spots, but what has impressed me more than anything is that they’ve been really effective at moving on if something hasn’t worked. ESIP is fairly light on its feet.” -*Researcher*
  - “They’re constantly trying new things.” -*Researcher*
  - “In my experience they are way ahead in thinking about standards and openness and the fact that they exist is a pretty big deal, that they have traction within their community, that alone is worthy of praise.” -*Researcher*
  - “It’s really innovative, and it’s known for that. People are drawn to that.” -*Developer*



## ESIP'S GREATEST STRENGTHS

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- Highly-regarded staff and board:
  - “The Board and areas I've worked on have had a sense of dedication and follow-through with promises, much more so than with other organizations. It's a great, dedicated group, and that's probably led by the great energy and enthusiasm of Erin and the staff.” –*Data Center*
- ESIP Stands Out
  - “A really important organization for the earth sciences community.” -*Partner*
  - “It's its own thing. It's pretty unique.” –*Data Center*
  - “It's the only organization in this space that's well run. Others have a lack of imagination and lack an understanding of what a virtual community does and can do, versus a funded research center. These are different animals.” -*Developer*
  - “You don't get the same flavor at from other groups or meetings.” -*Developer*
  - “Light-touch governance, but an efficient organization. There aren't many.” -*Researcher*
  - “ESIP is about building communities. Building communities is something that a lot of groups are trying to do, but in earth sciences right now, it's hard to point to other good examples.” –*Developer*



## ESIP'S IMPACT

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- Where as ESIP had a significant and lasting impact?
  - Directly contributed to a range of important topics, such as data citation, the semantic web, and data stewardship standards and best practices
  - Generates tangible products that have real value, and gained ESIP international recognition
  - Helped change how Federal agencies operate
  - Partnerships it facilitated continue to yield benefits
  - ESIP's durability alone is a success, and evidence of meaningful impact
  - Association with ESIP lends authority and credibility
  - ESIP's impact on the fields of data- and earth science are widely felt
  - ESIP serves as a model for other similar efforts
  - Even so, ESIP's impact is not always obvious, as its role is typically facilitative, and early on



## ESIP'S IMPACT

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- Generates tangible products that have real value:
  - “Stewardship Committee of ESIP is good at delivering actual products, and ESIP is getting better at demonstrating real deliverables with real value.” -*Researcher*
  - “People are genuinely getting stuff done. Hardest questions I ever got were at ESIP. A serious meeting that actually performs a function--the data are slightly more interoperable at the end of an ESIP meeting.” -*Partner*
- Helped change how Federal agencies operate:
  - “I do know that ESIP has transformed the way that data from agencies like NOAA and NASA becomes available to scientists I work with.” -*Federal Sponsor*
- Partnerships it has facilitated continue to yield benefits:
  - “It comes back to the connections that have been made between participants in the community, the new relationships and collaborations that have come out of the Federation.” -*Developer*



## ESIP'S IMPACT

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- ESIP's durability alone is a success, and evidence of meaningful impact:
  - “The membership-based model and nature of ESIP creates the perception that it is going to present through time and not just go away...it has been around for 20 years and we feel it will be around for 20 more - that is a big plus.” –*Data Center*
  - “Longevity is impressive, and growth has been phenomenal. No other group in earth science that looks like this or has been as successful.” –*Developer*
- Association with ESIP lends authority and credibility:
  - “ESIP generates influential recommendations and work products. Its members are asked to review and comment on work produced by other forums. Papers and recommendations from ESIP are taken by others.” –*Data Center*
  - “ESIP has had a lasting impact in the recommendation of standards. The very fact that ESIP has its name on things helps.” –*Data Center*



## ESIP'S IMPACT

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- ESIP's impact on the fields of data- and earth science are widely felt:
  - “ESIP is developing into a destination for the middle-future term of science. Demonstrating how groups can intentionally produce cultural work within the organization, supporting the culture of science in a positive way.” -*Developer*
  - “ESIP networking has led to the creation of projects that I’m involved with.” -*Partner*
  - “ESIP is internationally known and will have lasting impact on earth science.” -*Data Center*
  - “Going back to the 90s, ESIP made the recommendation of pushing the envelope a bit, pushing research directions based on utilization of our collective backgrounds. Earth Science itself is such a varied field that ESIP has done a good job getting its name out, through the publication standards and scholarly literature. On top of that, we're not just informing government and agencies in the US and abroad, but the academic community in fields of information science to geology and geography, etc.” -*Data Center*





## ESIP'S IMPACT

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- Impact on the fields of data- and earth science (*continued*)
  - “They've really contributed strongly to changing the culture of science (with) great inroads in making data more accessible and understandable, useful, discoverable. I mean we have this law right now going through supported by both Republicans and Democrats on open data and that's not negligible.” - *Developer*
  - “Helping to nurture and provide data science professional development experiences. This is an area that did not exist at all before.” -*Developer*
- This impact is also felt internationally:
  - “ESIP is known to other international organizations to the point that we've been approached by other groups to be involved in their planning efforts. The fact that this organization is getting recognition worldwide is a testament to the job that we do.” -*Data Center*



## ESIP'S IMPACT

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- ESIP serves as a model for other similar efforts:
  - “Many have sprung up that emulate ESIP that might look at narrower or broader issues, or more internationally. They tend to follow what has worked for ESIP. They’re definitely copying ESIP.” *-Data Center*
- Even so, ESIP’s impact is not always obvious, as its role is typically facilitative, and early on
  - “ESIP spurred a lot of follow up things that I get credit for, though really ESIP should get credit for.” *-Developer*
  - “The impact that happens at ESIP is the sum of the small things that happen across the agencies. It's not like sending something to the moon, or a big event. It's the small nudges that sum up to impact.” *-Developer*
  - “I think because of the meetings, people are more aware of community standards and protocols, and more likely to adopt those than they would have been otherwise. People forget where they learned of things, so it's hard to quantify, but that impact is huge I think.” *-Data Center*
  - “I see a lot of collaborative efforts come out of ESIP. They're not necessarily branded to ESIP, but it is well known in the informatics, geoscience and ocean community. That work is important.” *-Developer*



# TRENDS & OPPORTUNITIES

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- What are some of the key trends and opportunities that ESIP needs to be aware of or engage in over the next few years?
  - ESIP is well positioned to engage in key emerging issues and growth areas, including:
    - Federal data management plans
    - Cloud computing
    - Citable data
    - Developing a global cyber infrastructure
    - Greater openness and transparency in science and data
    - Crowd-sourcing data
    - Role of mobile devices in producing and consuming information
    - Data usability and access
  - Climate change presents an especially urgent, relevant, and multi-disciplinary opportunity for ESIP:
  - Earth science data is global—ESIP needs a global strategy
  - Expanding partnerships and connecting with end users of data will become increasingly critical
  - It will also be essential to keep tabs on a rapidly changing landscape and profession
  - ...and with an eye on the next generation of scientists and leaders



## TRENDS & OPPORTUNITIES

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- ESIP is well positioned to engage in key emerging issues and growth areas:
  - “ESIP is very well-suited and situated to pull together data policies, principles, and standards in the US, and taking an aggressive leadership role to pull these together. I don't know of any other entity in the US that's as well situated or placed to take issues these on.” -*Partner*
  - “ESIP membership is uniquely positioned to know the issues coming down the pike, and are already involved in the efforts because so many of the agencies are represented. Nothing will catch us by surprise.” -*Data Center*
  - “Increasing trend towards openness and transparency in science, and reproducibility -- a major growth area down the road. Everything related to supporting more open science.” -*Data Center*
  - I don't see anything on the horizon that will render ESIP less relevant, the tea leaves are all in their favor...it is in this real organizational sweet spot...with all of the mechanics down in that there is the (foundation) but then everything else belongs to the users and that is in the DNA of the organization and I'm encouraged by that, and how that is always going to be there. -*Researcher*



## TRENDS & OPPORTUNITIES

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- Climate change presents an especially urgent, relevant, and multi-disciplinary opportunity for ESIP:
  - “Society is starting to feel much more impact from climate and climate changes, and ESIP has a better chance to get some funding for climate work from a higher level than where it currently gets its funding.” -*Developer*
  - “Climate change is one of the hottest research areas in the world right now. Education, awareness, and the idea of data for the public good is going to be an increasing issue. ESIP is working on this, but needs to be more visible.” -*Researcher*
  - “Being engaged in climate change conversations provides a strategic opportunity to raise visibility for ESIP and bring in new members or partnerships.” -*Developer*
  - “ESIP, with government, nonprofit and commercial participants, that uniquely positions ESIP to be a player in the climate space.” -*Developer*



## TRENDS & OPPORTUNITIES

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- Earth science data is global—ESIP’s strategy should be, too:
  - “I think they've done a nice job in the US, with a strategic question then about going international...and I think they could develop more on the international front but maybe pick a region or two, two or three countries or Europe in the near term, not try to get global in the near term....even in the most selfish terms we are going to be using more data not produced in the US so start investing now so that the different systems in different parts of the world can talk to each other.” -*Federal Sponsor*
  - “There's a lot of international stuff going on that ESIP might want to move towards. A trend towards internationalism could be useful for ESIP.” -*Developer*
  - “ESIP's national versus global orientation is a critical strategic choice that's never really explicitly made. If you are a global org, trends are different from if you are a national one. Everything ESIP deals with are global not just national issues.” -*Researcher*



## TRENDS & OPPORTUNITIES

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- Need for a global strategy (*continued*)
  - “How do we not reinvent the wheel at the global scale? Just keeping track of who's doing what. Is connecting with bigger efforts enough?” -*Researcher*
  - “The data world has been global for quite some time. The international scene is a big deal, and structurally and culturally very different than the US. ESIP has made good progress, and will need to nurture and learn from its strategic relationships.” -*Data Center*
  - “It’s a community engagement question. Being able to go beyond what have historically been the linkages that individual member organizations have with the international network of like-minded or overlapping international entities. There are a lot of opportunities for international collaborations that we have not yet figured out.” -*Developer*



## TRENDS & OPPORTUNITIES

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- Expanding partnerships and connecting with end users of data will become increasingly critical:
  - “Thinking very broadly about how environmental data is applied.” –*Federal Sponsor*
  - “ESIP is focused around earth science data and effective use of it beyond the earth scientists. In climate change, it's even more imperative, because climate change impacts public health, urban planning, economics. I mostly deal with scientists, but there are journalists, artists, and other communities that need to be able to access information that is relevant to them in their own professions. ESIP could figure out a way to engage those communities -- to partner in some way, to enable a broader reach -- they could communicate information more effectively for broader and non-technical audiences.” –*Developer*
  - “It takes an ecosystem: government agencies, NGOs, private sector, educational entities. You need a way to reach out to a broad set of partners. There's a growing recognition that it's a community, and that partnerships are essential.” –*Partner*





## TRENDS & OPPORTUNITIES

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- Expanding partnerships and connecting with end users (*continued*)
  - “ESIP could reach out into totally different disciplinary areas and engage educational professionals and those who can think outside the box in terms of informatics education.” –*Data Center*
  - “There can be too much "inbreeding" in the sciences. ESIP could play a role in trying to reduce that by bringing in some dynamic outside thinkers. Shaking it up a little bit in new and innovative ways would be quite valuable.” –*Data Center*
  - “What ESIP could do is continue to be the home of expanding the circle of data interoperability with federal and non-federal partners.” –*Partner*
  - “ESIP could better formalize its input and participation in other organizations that members could learn from, including global and domain-agnostic forums like RDA.” –*Researcher*



## TRENDS & OPPORTUNITIES

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- Also essential will be keeping tabs on a rapidly changing landscape and profession:
  - “The whole position of data scientists within science--not just universities, but companies too--need to keep looking at how data science is evolving as a profession as a career and support them in it.” -*Developer*
  - “Everybody is trying to get their data out and used by policy makers etc. We're all converging, and so the sooner that we get relevant agencies involved in ESIP or its future incarnations, the better.” -*Developer*
  - “A lot of the ways we've done science and thought about data, are going to begin to break. We need to think about data in a different way. -*Federal Sponsor*”
- ...and with an eye on the next generation of scientists and leaders:
  - “Because ESIP is bringing together people from different stages in their careers and diverse research fields, it really is a safe neutral space, so it will be important to grow new leaders in this space, as ESIP can help raise up the next batch of influential people.” -*Developer*



# KEY CHALLENGES

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- Key challenges ESIP faces:
  - ESIP needs to be more visible and differentiated
  - What's the right size? Can ESIP be too small? Too big?
  - Growth is necessary but comes with risks, so it will be a delicate balance
  - ESIP needs to be more visible and differentiated
  - Diversifying funding won't be easy, but it is essential



## KEY CHALLENGES

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- ESIP needs to be more visible and differentiated:
  - “Is ESIP's model to support and take some credit, or to really own its own stuff? Depends in part on funding. People say some things couldn't have happened without ESIP, but yet ESIP's fingerprints are not always visible.” –*Federal Sponsor*
  - “ESIP is well known to those who know it well, but I think the visibility of ESIP is a challenge and if there is a big challenge for them to address that is it. I think it is important that people who could benefit from ESIP know about it.” –*Researcher*
- What's the right size for ESIP?
  - “One of the issues with ESIP is how big should it be? We're finally beyond the point of wondering if we are relevant and interesting--to be bigger might makes interactions more diffuse and less valuable. Is there an optimum size? At some point do we clone into two.” –*Developer*
  - “They're small can punch above their weight, but they're small size can be a disadvantage, for example in having the ability to comply with onerous federal oversight requirements.” –*Federal Sponsor*



## KEY CHALLENGES

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- Growth is necessary but comes with risks, so it will be a delicate balance:
  - “The meetings are far and away the most important for me, as people like me make a point to make those meetings and it is an environment where can actually sit and get some work done. I think you’d lose that if they got too big. It would stop being a working meeting and turn into a conference and I’ve already got enough of those.” –*Data Center*
  - “If ESIP were four times as large, the charming, go down to the town coffee shop kind of thing (and share ideas) becomes hard to do. That is a growth problem for ESIP. It doesn't scale to a really large group.” –*Federal Sponsor*
  - “There is almost now too much of a good thing as ESIP is growing so much that the growth has become the challenge. With the meetings, I’ve actually stopped proposing sessions because there are usually so many I have a dozen places I want to be at once.” –*Developer*
  - “If we have large enough groups working on projects in their interest areas, we can lose the broader perspective on what the community can bring, as the sub-focus areas continue to grow. I don’t see that as a problem now, but it’s a risk we may be exposed to as the organization continues to grow.” –*Developer*



## KEY CHALLENGES

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- Diversifying funding won't be easy, but it is essential:
  - “The biggest challenge that everyone faces in the field, including ESIP, is the fact that people recognize the value of informatics and organizations behind it, but no one wants to pay for it.” –*Federal Sponsor*
  - “The sustainability of cyber-infrastructure and the organizations that support it (like ESIP) are going to become more of a challenge down the road.” –*Data Center*
  - “ESIP's biggest strategic move will be going to higher levels in the main funding agencies for support. ESIP is vulnerable because it was funded from low in the organizational hierarchy of NASA and NOAA. We need to increase the visibility in the agencies so the ESIP budget line is higher up in the organizational hierarchy. However, this can be a risky strategy: if ESIP's support comes from higher levels in the agencies, and political appointees change, it can threaten continuity in in support.” –*Developer*



## FINAL THOUGHTS

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- If you could give one piece of advice to Erin Robinson and ESIP's board, what would it be?
- Key themes:
  - **Keep the community (and culture) strong and engage members**
  - Navigate growth mindfully
  - Widen the circle--with a particular eye on end users
  - Diversify funding
  - Assess and document impact
  - Increase visibility
  - Build on strengths, continue to be innovative and hopeful



## FINAL THOUGHTS

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- Keep the community (and culture) strong and engage members:
  - “Continue to listen closely to what the community is doing, and try to keep up with what they want and need for the collaborative work that they want to do.” - *Developer*
  - “It’s often easy to look at our existing set of abilities and see them as adequate to meet our current needs, but as we start to see emerging interest areas or technological capabilities for our community to more effectively work together, we need to pay attention to those, especially when they are coming from within the community.” - *Developer*
  - “Help members stay involved If you're not working at a place that understands the value of places like ESIP, you're not going to have that (funding to participate) so you hear that a lot now from ESIP members that they are stressed for support to stay involved, so helping them make that case to participate is important. ESIP people are not your traditional academic people and making the whole world better is not necessarily part of their job so they need help to make that case to their bosses to be involved.” - *Developer*





## FINAL THOUGHTS

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- Community and culture (*continued*)
  - “There could be problems if we don’t keep the structure and the culture—the openness. It’s work great as it is now. It’s difficult to measure culture, but critical to protect it. You know when you have it, and when you’ve lost it.” -*Developer*
  - “Look at how we might increase volunteer efforts. Challenging to sustain projects when they are volunteer-based.” -*Researcher*
  - “Would like to see more members be more engaged. Lots of discussion at meetings, but between meetings there's a small group in each group who are highly engaged. Another group that participate in calls, participate in emails, but not much more.” -*Researcher*



## FINAL THOUGHTS

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- Navigate growth mindfully:
  - “As ESIP is trying to grow and sustain itself, there is a risk of being overwhelmed by many opportunities that might end up costing more than they're worth. ESIP is recognized as a very good, proactive community-engaged organization, so it gets overwhelmed by opportunities. But the opportunities have costs associated with them, like writing proposals and staff getting diverted into new and different areas. The opportunity costs really need to be thought through long and hard. A focus on pursuing fewer opportunities that are most closely aligned with the ESIP mission would be helpful.” -*Data Center*
  - “What I worry about with ESIP is they need to think about how they want to grow, and the organization they want to be, and that doesn't mean unregulated growth. It may be doing certain things and nothing more, as it may be in their business you don't have to grow to survive.” -*Federal Sponsor*
  - “I don't think there is anything fundamentally wrong with the organization, the concern is walking the tightrope between sustainability and growth for growth's sake.” -*Researcher*
  - “How do you build on a rich happy group of communities into delivering capabilities for the real world that will make a difference and get them national and international recognition.” -*Partner*



## FINAL THOUGHTS

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- Widen the circle—with a particular eye on end-users:
  - “How much does ESIP know about the big users on the corporate side, like the Thompson Reuters, the Googles, the Amazons, the corporate business sector intermediaries, and could it help the field understand the issues they are facing. At the same time, public sector and government agencies don't do enough market research to understand the users of data. Could ESIP help data systems people design their systems better than they might have in the past, so they can better understand who are their primary customers and also who might they partner with to serve their secondary and tertiary customers? -*Federal Sponsor*
  - “If there is one thing it would be push like crazy to bring in NSF - keep at it. -*Data Center*
  - “Network the networks--look for intersections and synergisms, with some select groups.” -*Developer*
  - “ESIP should think carefully about how they expand outside federal partnerships, without losing their federal partnerships. How do you reconcile that style with federal partners that are used to one way of doing things, and some not willing or able to engage in another style? How you change that community while keeping both sides happy is not going to be easy.” -*Developer*
  - “Repackage and broaden ESIP as data or information partners beyond the earth sciences.” -*Developer*



## FINAL THOUGHTS

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- Diversify funding:
  - “Diversify the sources of financial support...in the long run you make ESIP stronger if it diversifies its sources so it is not dependent on a few large agencies.” -*Developer*
  - “There’s nothing sexy about well-designed, well-run computer infrastructure. You only worry when it breaks. But this can make it hard to develop funding.”
- Assess & document impact:
  - “It is very easy to get stuck in conversation with people who believe in networks and community and forget to articulate the why, so a really relentless focus on the value and the why, constantly looking for use cases and stories, then go to metrics, and ask, 'how was it more productive?' Then feed all that back into a value add conversation. That's how you get horizontal messaging and better growth. It's not going to go viral, but that's how you get a beachhead, by showing proof of the value of the network.” -*Researcher*
  - “Make sure we have a plan in place to evaluate our progress.” -*Data Center*
  - “Assessment of impact has to start now as you have to have that data in a form that a skeptical scientist can't just dismiss it as mere sociology. So measure early, measure often and don't be afraid of qualitative based methods in addition to quantitative.” -*Partner*



## FINAL THOUGHTS

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- Increase visibility:
  - “Continue and step up efforts to be widely recognized for the opportunities they offer, to make people in Federal agencies aware that they don't have to stay in their own silo and that they can learn from others by networking with this group.” -*Developer*
- Build on strengths, continue to be innovative and hopeful:
  - “Keep doing what you've been doing! You've been successful, and to credit of the staff especially, it's an amazing group that gets out and beats the bushes and keeps things moving.” -*Developer*
  - “Erin deserves a lot of credit for rejuvenating ESIP, giving it a brighter, newer, more dynamic face and approach to things. Keep trying new things, be creative.” -*Researcher*
  - “Don't lose heart.” -*Partner*
  - “Keep up the good work.” -*Researcher; Data Center; Developer*
  - “Encourage staff to pursue new ideas.” -*Data Center*