Quad Chart for: *Integrating the Colorado Western Slope Research and Education (R&E) Community into the National R&E Infrastructure*

Continental Divide
Independence Pass - Colorado

BiSON-West Proposal
Expansion of BiSON fiber to the Western Slope.

Legend
- Available Fiber
- BiSON Existing
- Continental Divide
- Participant Location
- Planned Fiber
- Planned Wireless
- Secondary Location

Challenge Project Seeks to Address:

- Western Colorado's mountains and geography exacerbate the digital divide for research and education in rural areas
- Students & faculty have inadequate network access to R&E tools and resources
- Commercial providers lack a business case to justify fiber builds to these communities
- Available fiber is cost-prohibitive

Deliverables:

- Design the BiSON-West network to expand FRGP network and expertise to the western slope
- Collaborate with colleges, communities, state and regional entities to establish redundant, high-speed network connectivity
- Create a sustainable model to perpetuate equitable access to these underserved communities
- Partner and collaborate with CDOT, CenturyLink, WAPA, Region10

Broader Impact:

- Enable research and discovery for underserved communities
- Deliver a network poised to support leading edge, interactive STEM education modalities to students in remote, rural, underserved areas
- Engage diverse, underserved, and non-traditional students
- Facilitate rural colleges and universities to accelerate and expand their educational mission
- Enhance economic and workforce development and job opportunities
- Build inter-regional partnerships and collaboration
- Expand state, federal, commercial relationships

Metadata tag:

https://sites.google.com/ucar.edu/bison-west-nets/nets-projects/bison-west-planning-grant

Quad Chart for: Project Title: "Nilch' bee naa alkaa go ohooa doo eidii t'įį. Translation: Using air (technology) to learn and understand new things.

Challenges:

- Tribal colleges and universities prepare for participation in regional and national networking.
- TCUs faculty and students are underserved.
- Research networking design for small institutions underway – fiber availability limited and costs prohibitive.
- Collaboration between TCU faculty and information technologies undeveloped.
- Sustainability of the research network.
- Homework gap requires alternative wireless solutions to deliver STEM distance education.

Deliverables:

- NTU research network planning active for small institutions.
- Tribal Consortium fully engaged - New Mexico and Arizona.
- FRGP engineering leadership delivered 2 workshops.
- Network design in development.
- Collaboration with WRN, I2, NAU, ASU, U of South Carolina, EPOC, and Sun Corridor.

Broader Impact:

- Tribal college centered research design and planning for small institutions.
  - NTU (Crownpoint, NM)
  - Dine College (Tsaile, NM)
  - Tohono O'odham Comm. College (Sells, AZ)
  - Southwest Indian Polytechnic Institute (Albuquerque, NM)
  - Institute of American Indian Arts (Santa Fe, NM)
  - Ashiwi College and Learning Center (Zuni, NM)
- Tribal College Expansion of NSF TCU CI Project (#1655185)
- Build a regional tribal consortium.
- Deliver science and math instruction to extremely rural and isolated Navajo Nation.
- Supports leadership model with FRGP and regional universities.
- Related NSF CC* awarded.

Metadata tag:

https://sites.google.com/navajotech.edu/navajotech-cc/

Quad Chart for: *Women in IT Networking at SC (WINS)*

Challenges:

- Scaling - how many women can SCinet support - new and returning (14 total to date)
- How many women can the WINS Management team support, e.g. travel, logistics, report-outs
- Funding: report outs, international participants, alternative funding (non-NSF), workforce grants, SC, scholarships
- Sustainability of the program
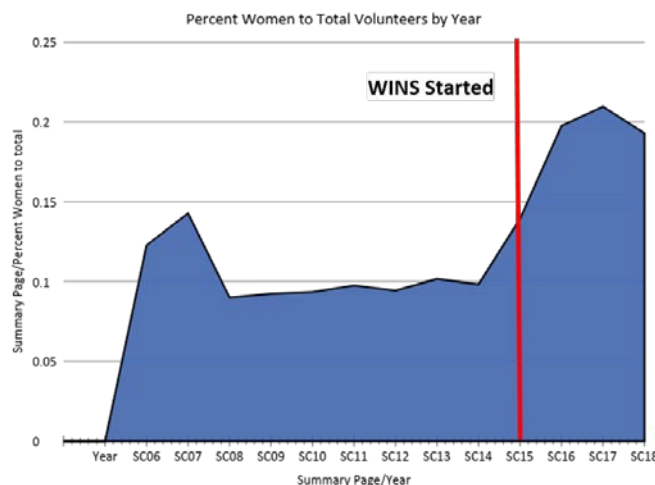- "Fairness" to other staff gender and diversity

Broader Impact:

- Measurable increase in women in SCinet
- Professional development
- Build professional network
- Raise awareness throughout broad community
- Create a more diverse pipeline for SCinet volunteers while raising overall visibility of the SC volunteer opportunity
- Regional diversity programs developing
- WINS awardees now leaders in SCinet and other community efforts

Deliverables:

- Have funded 31 women to participate in SCinet as first time WINS awardees
- Have partially funded 23 returning WINS
- Have provided 25 reports outs to diverse communities (2 scheduled)
- Have successfully partnered with Internet2 Inclusivity Initiative and SC diversity efforts
- Grant supplement for sustainability plan

Percent Women to Total Volunteers by Year

WINS Started

Metadata tag:

- http://www.women-in-networking.net/

![WINS logo] WINS Women in IT Networking at SC