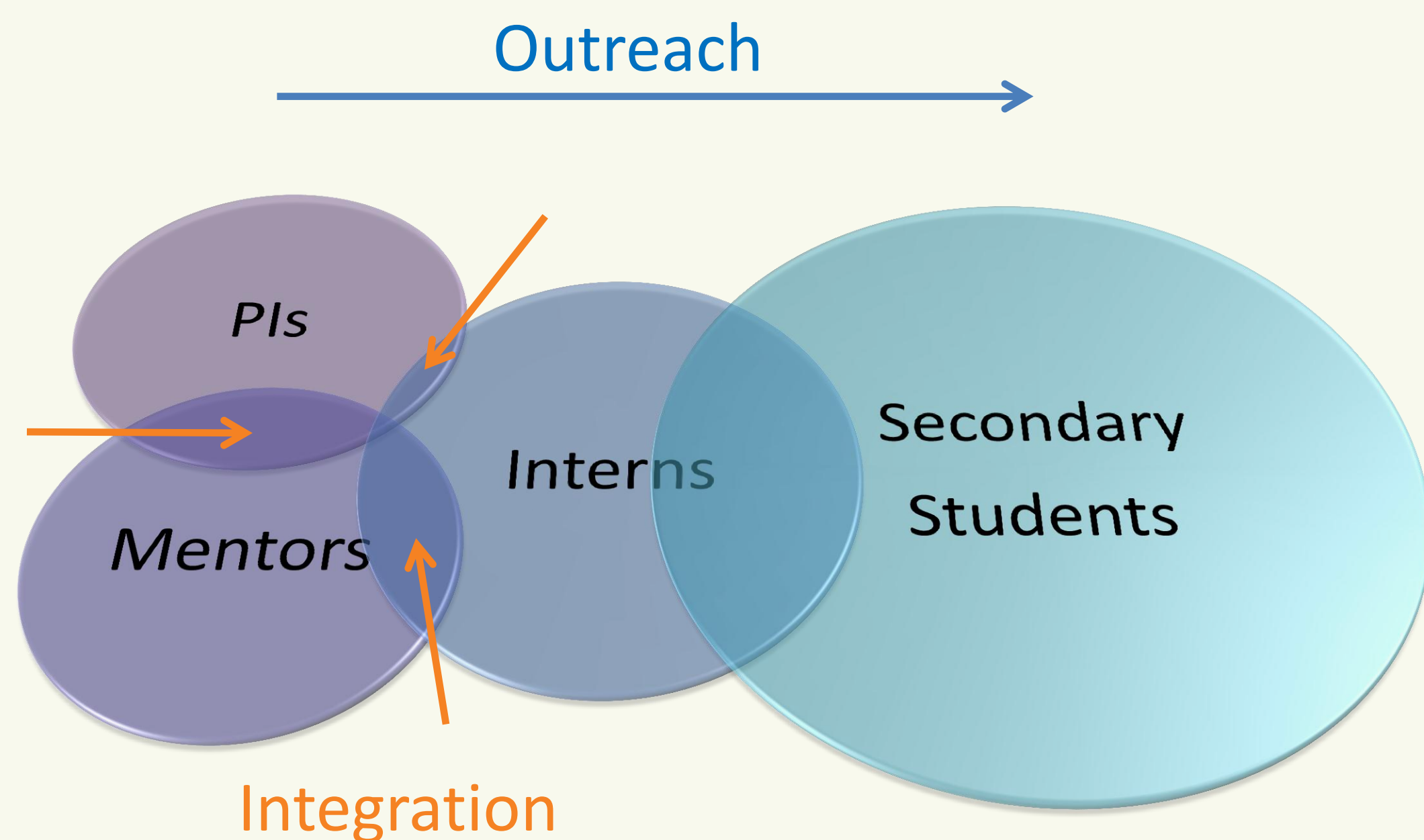


PROGRAM GOAL

Develop a program that **integrates undergraduate students** in interdisciplinary research, educational outreach and, potentially, future graduate studies.



PROGRAM OBJECTIVES

1. Engage undergraduate interns in research and teaching
2. Develop and deliver inquiry-based science lessons
3. Convey value and relevance of southern forests and climate change

MARKETING

We developed an **internship announcement** and a **call for proposals** to market the **internship** and graduate student **micro-grant** programs, respectively. Advertisements distributed through various channels contained:

- general information,
- eligibility criteria,
- financial compensation,
- links to detailed information, and
- links to relevant applications.

Intern eligibility criteria:

- sophomore or junior status
- southeastern US college or university
- any major

Mentor positions were for PINEMAP graduate students only.



APPLICATION AND SELECTION

We used an **online application** process open from Dec. 1, 2011 - Feb. 17, 2012. Submissions contained resume data, interest or research area, and either an essay for undergraduates (UG) or a proposal for graduates. **Six internships** (up to 12 and 18 in later years) were available for summer 2012. We identified the top 6 applicants for each submission pool. Successful graduate students were awarded a micro-grant to **mentor an intern**. Successful undergraduates were provided a **\$7,000 paid summer internship**.

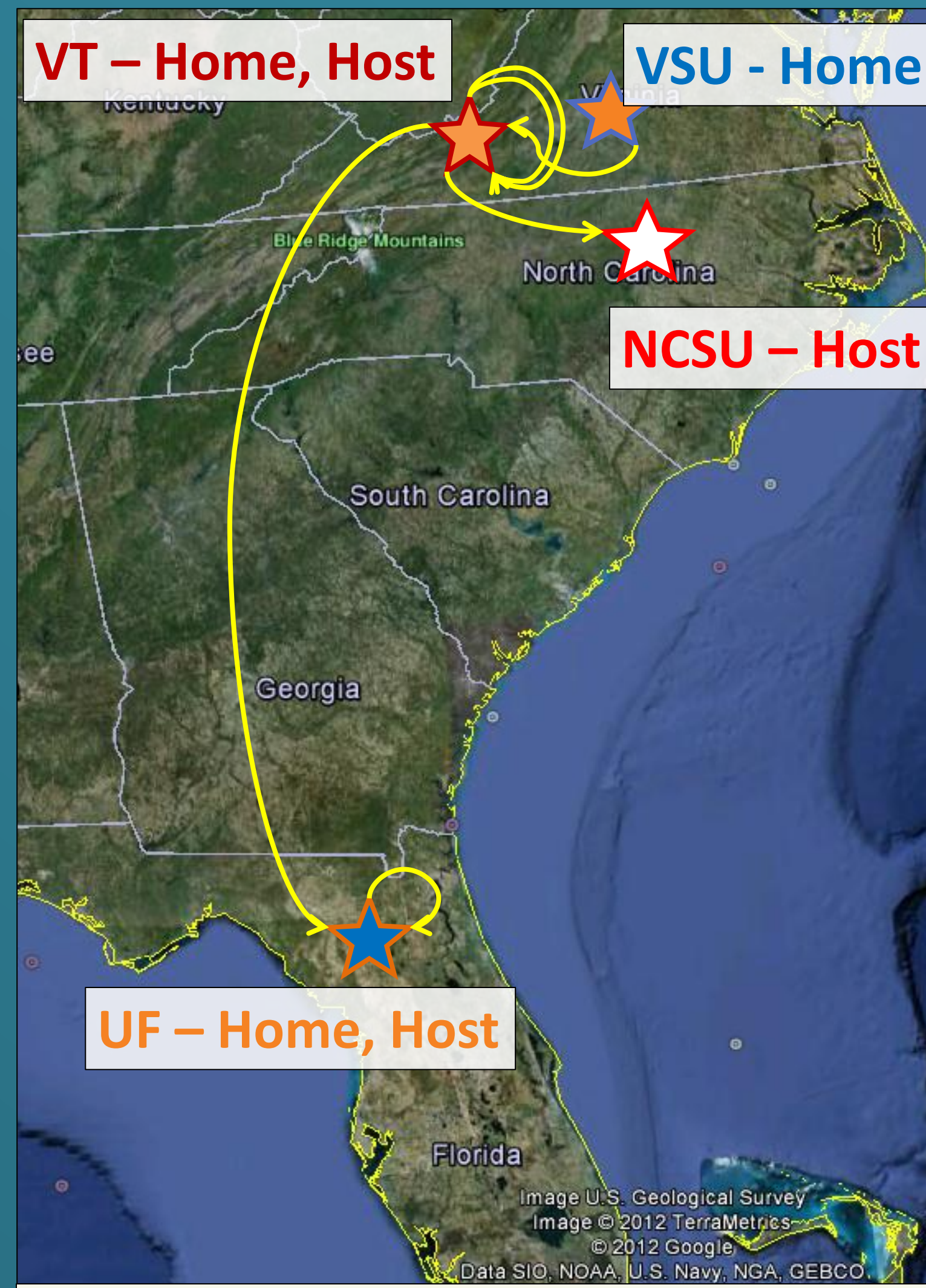


Fig. 1. Distribution of PINEMAP Interns for summer 2012; University of Florida = 2, North Carolina State University = 1, Virginia Tech = 3.

SUMMER INTERNSHIP

Interns **relocate to host universities** for the summer internship (Figure 1) for **integration** into their mentor's PINEMAP research lab for **12 weeks**. Mentors direct interns in proper **field and lab research procedures** and **data analysis**. We encourage interns to participate in **other research program activities** as allowed. Mentors and interns will communicate periodically with the program coordinator to provide updates and feedback on individual internships.



INITIAL RESPONSES

Initial responses by PIs, graduates and undergraduates were **underwhelming** (Figure 2). One UG had applied to the internship by Jan. 1, and a second UG applied by Feb. 6. There were **7 internship applicants** for the first year. Six of PINEMAP's 25 graduate students applied to be mentors in the program.

Distribution of Interns Among PINEMAP Aims

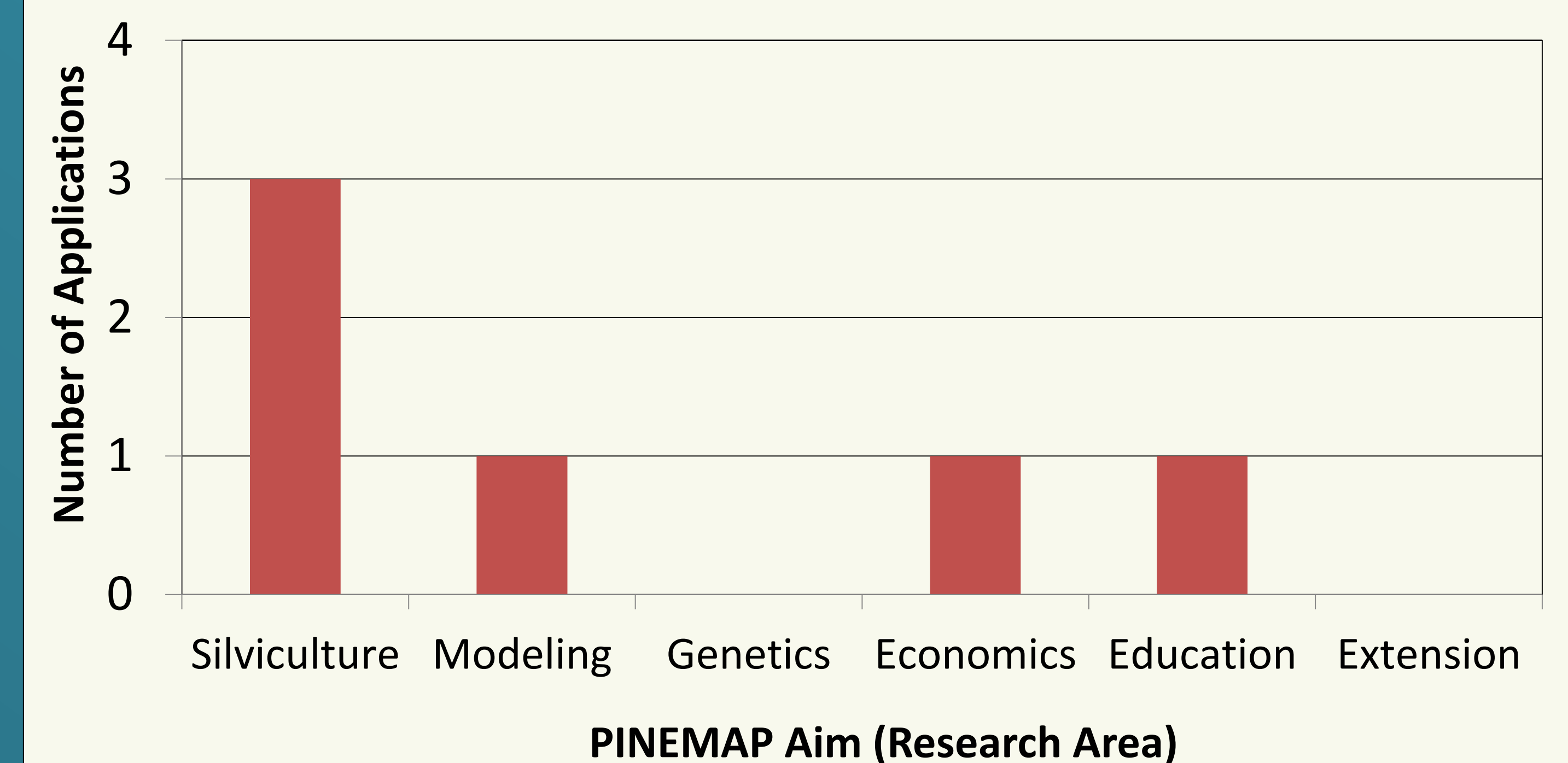


Fig. 2. Distribution of applicants for internships across PINEMAP research Aims for summer 2012.

FALL DISTANCE COURSE

Interns return to their home university and participate in a **distance-based course** conducted by staff at Virginia Tech. The syllabus is currently in development, and classes are expected to be held twice a week during evenings. The course includes **3 units** where students:

- **learn principles of communication and science education,**
- **create inquiry-based science presentations,** and
- **deliver multiple presentations** to nearby public secondary schools. Hosting teachers will evaluate students' presentations for constructive feedback and as a grade.



EXPECTED OUTCOMES

- Interns will gain:
- Increased **understanding of scientific research**
 - **Enhanced skills** in research, communication, and education
 - Experience with **service learning**
- Mentors will gain:
- **Supervisory experience** with undergraduates
 - **Preparedness for academic and research positions**

PROGRAM EVALUATION

We are evaluating the program to **make improvements where needed**. Potential problems noted:

- under marketing the program
- initial lack of PINEMAP graduate students and
- rare flaws in the online application process.

Improvements may include:

- increasing direct marketing to additional colleges/universities,
- opening up micro-grants to non-PINEMAP conifer research,
- allowing non-graduating seniors to apply,
- increasing clarity on marketing documents, and
- advertising a low number of pilot year applicants.

ACKNOWLEDGMENTS

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