The Value Proposition for Using Component Libraries

1. Inclusion of the algorithmic capability into the climate code.
2. Access to the algorithmic expert for continued engagement, who can work in his/her own familiar code base.
   • From this foundation, fractional funding streams and even consultations can have large impact.
3. Automatic, free upgrades in capability as the library development continues through other funding sources and using developments motivated by other applications.
4. A decreased code base that must be supported, and ported to new architectures.
5. Encourages more modular code design, for improved agility and maintainability.
6. Broadening of the network of people thinking about your application.
7. Ability to leverage algorithm and inter-disciplinary funding streams to impact climate science application development.

The Value Proposition for Coding Algorithm Ideas Directly in Climate App

1. Inclusion of the algorithmic capability into the climate code.
2. Application expert has complete control of code base

A schematic showing the leverage of the AgileComponents code strategy, highlighting the slice of the code base written specifically for the Albany/FELIX ice sheet application. This figure illustrates how large parts of the code base are also used by other applications – several of which are listed in the right column – which all contribute to the development costs, research drivers, and creation of expertise.

References

8. B. L. Robards, T. Yong, “Advanced Topological Optimization Project,” SME.

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