

Motivation

Our main goal is to make processed satellite imagery of Antarctica more accessible by providing a tool that facilitates quick, large-scale visualization of this data.

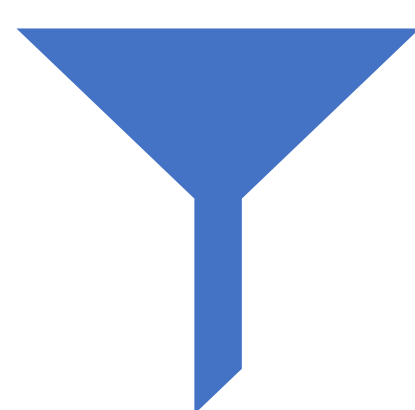
Improving geological research in this area has the potential to help solve the world's greatest challenges in the following areas:

- Energy
- Natural resources
- Environment and climate change
- Natural hazards and disasters

Key Features



Interactive Map Interface

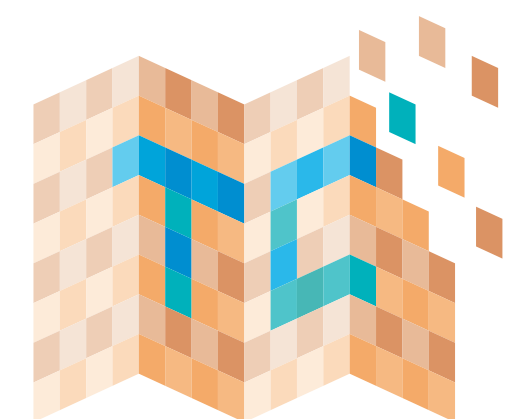


Filter & Select Bands and Regions

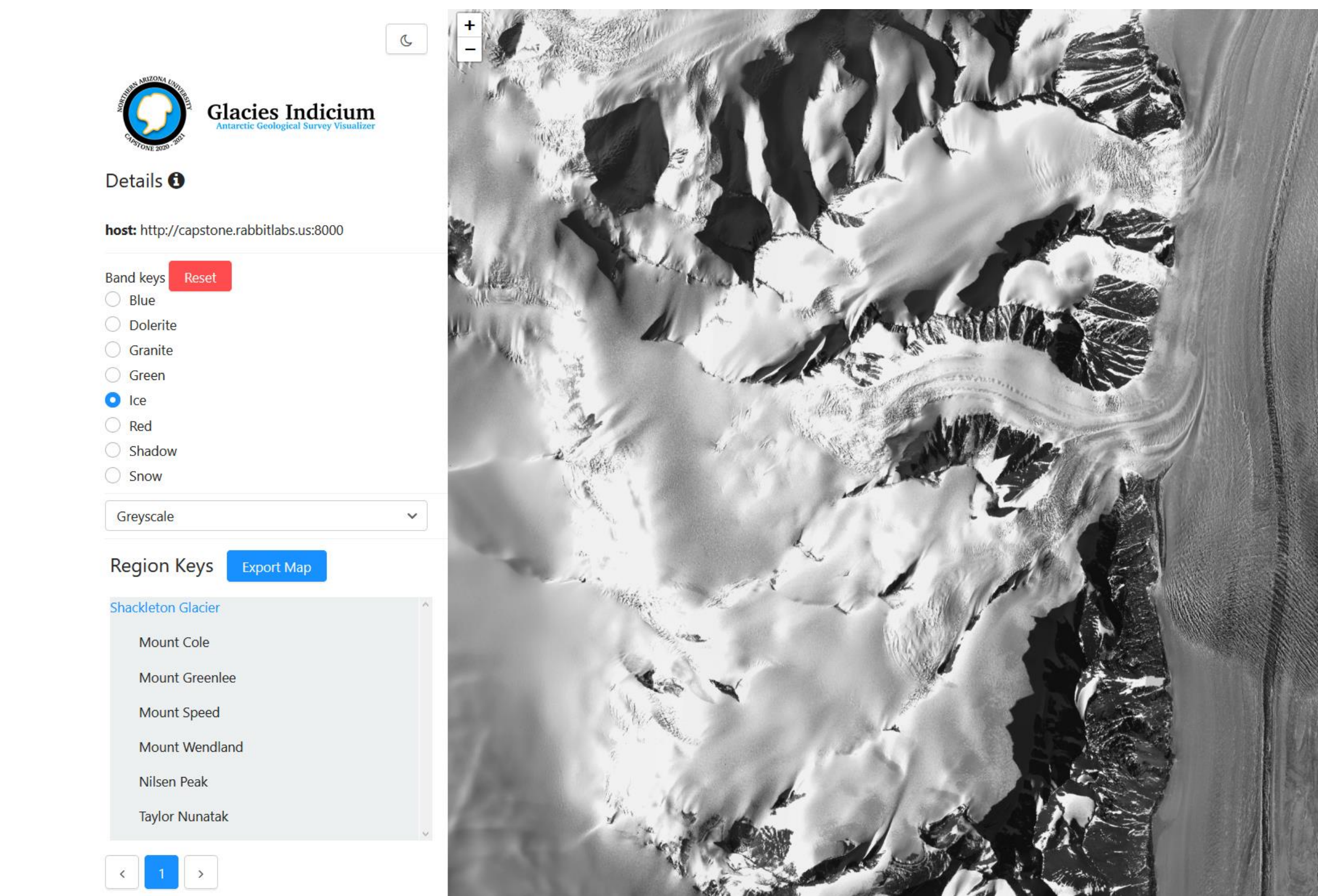
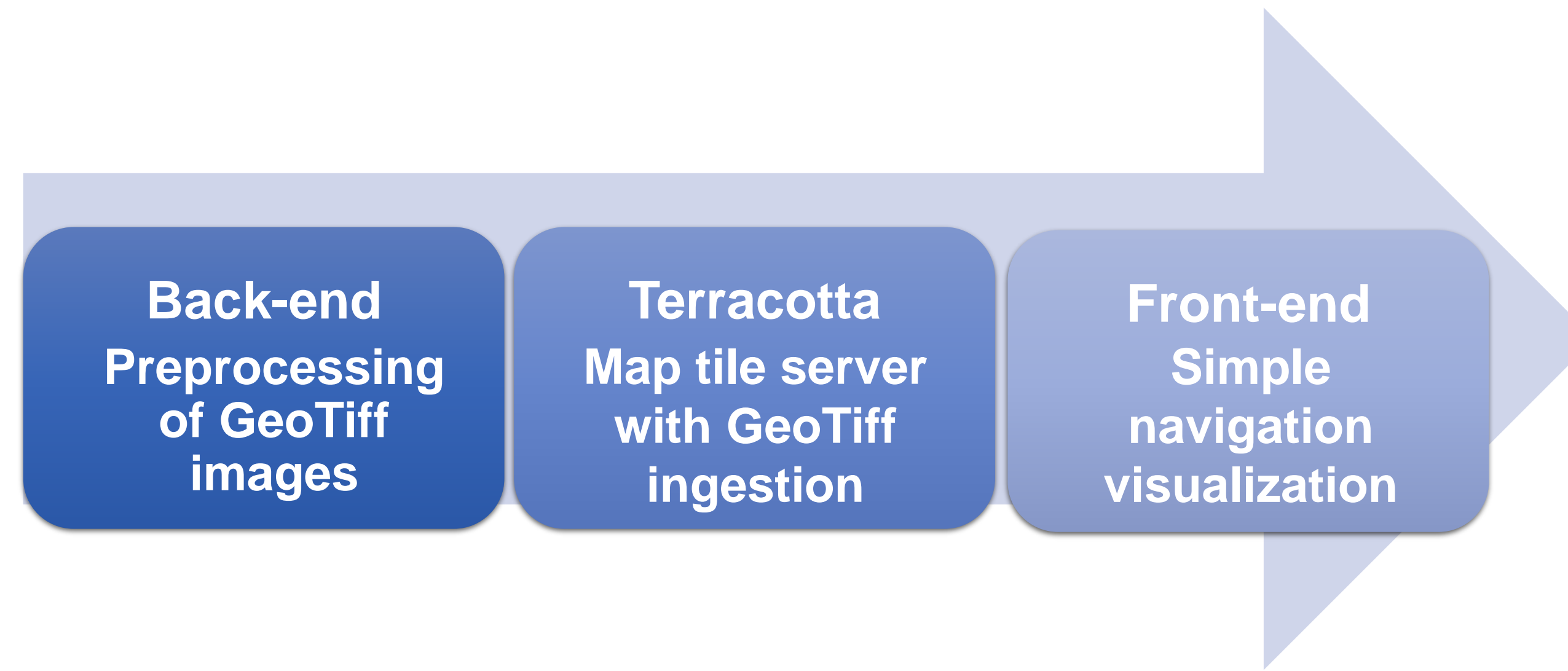


Web Application with Exporting

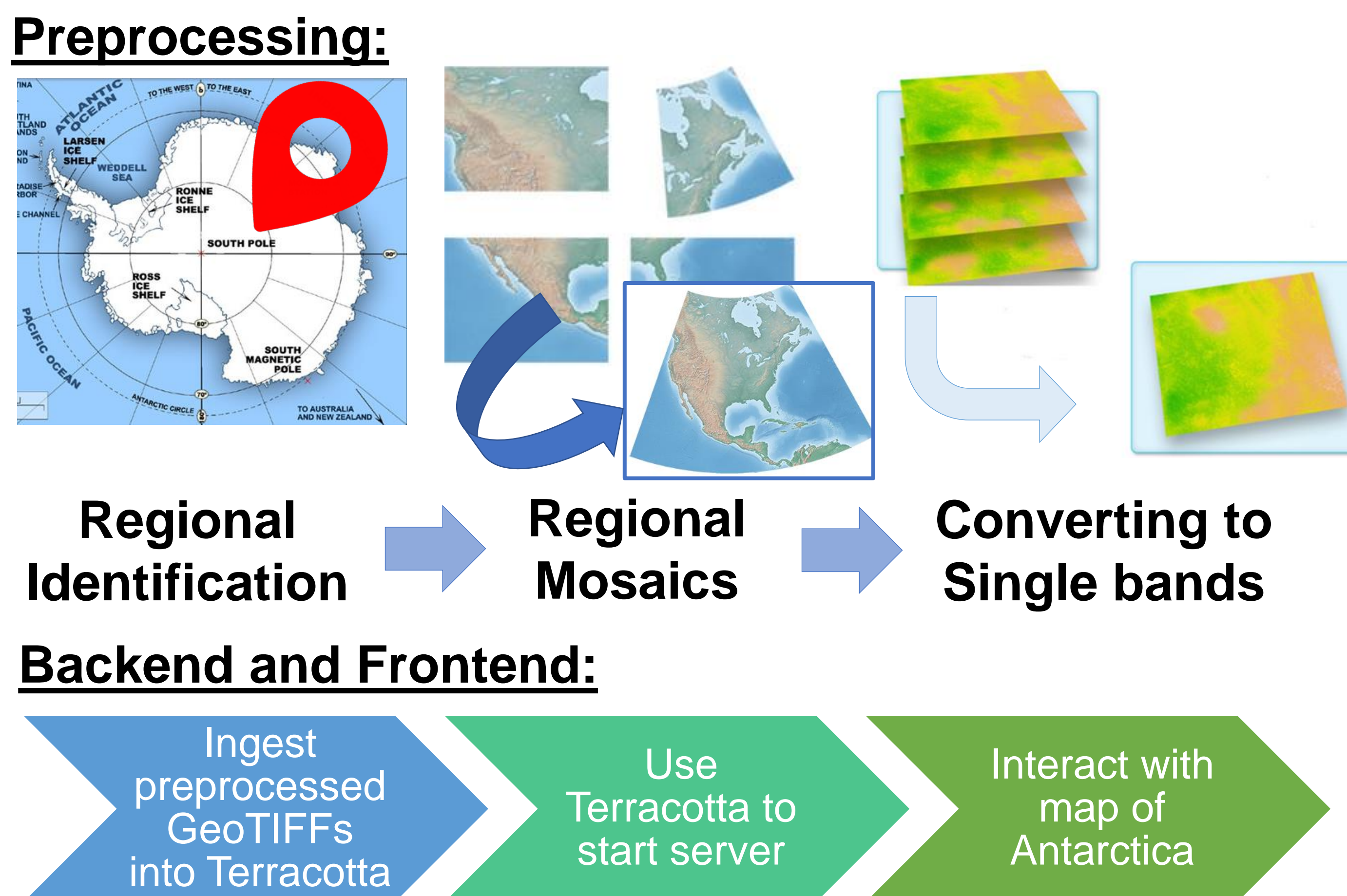
Technologies



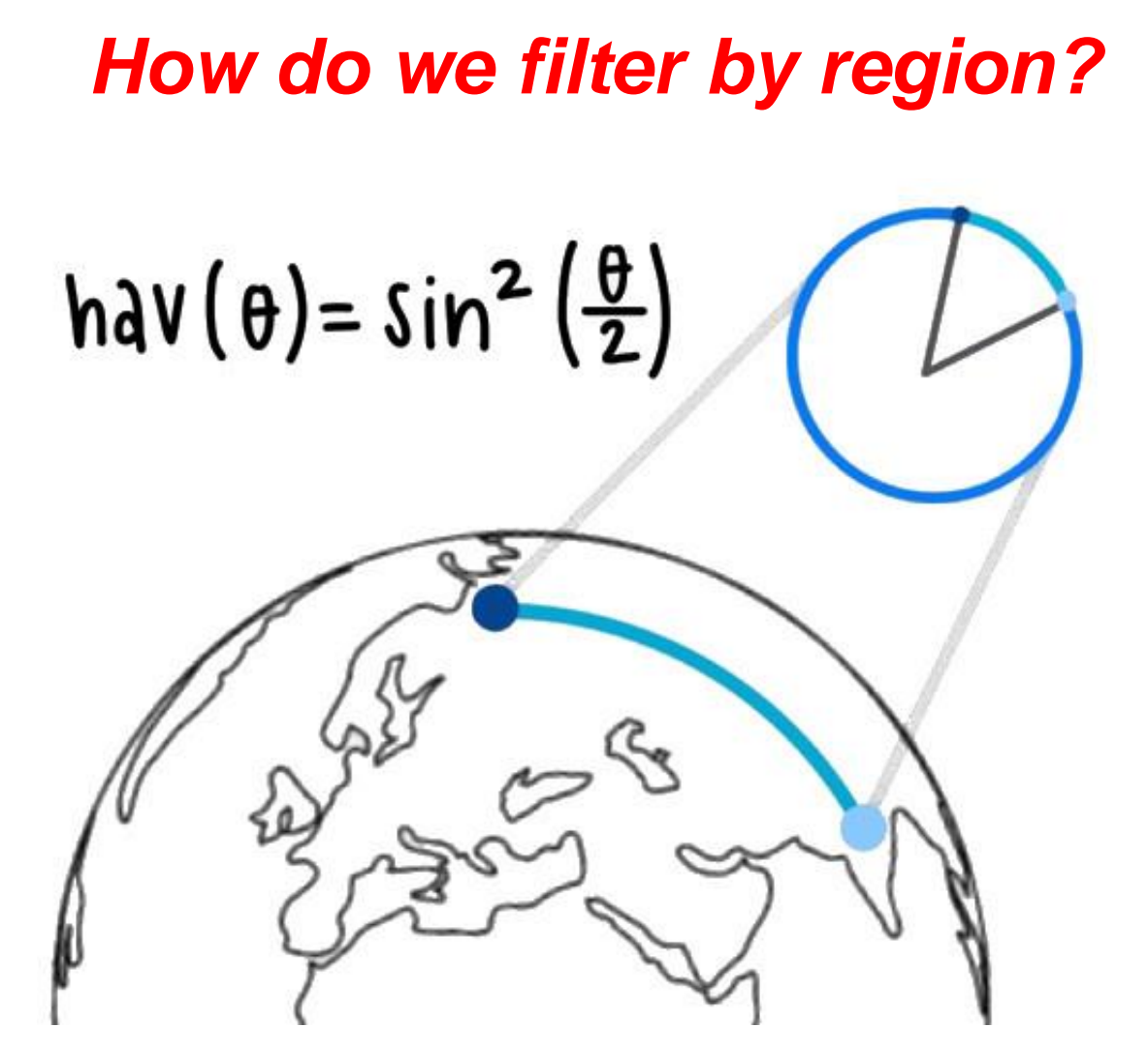
Solution Overview



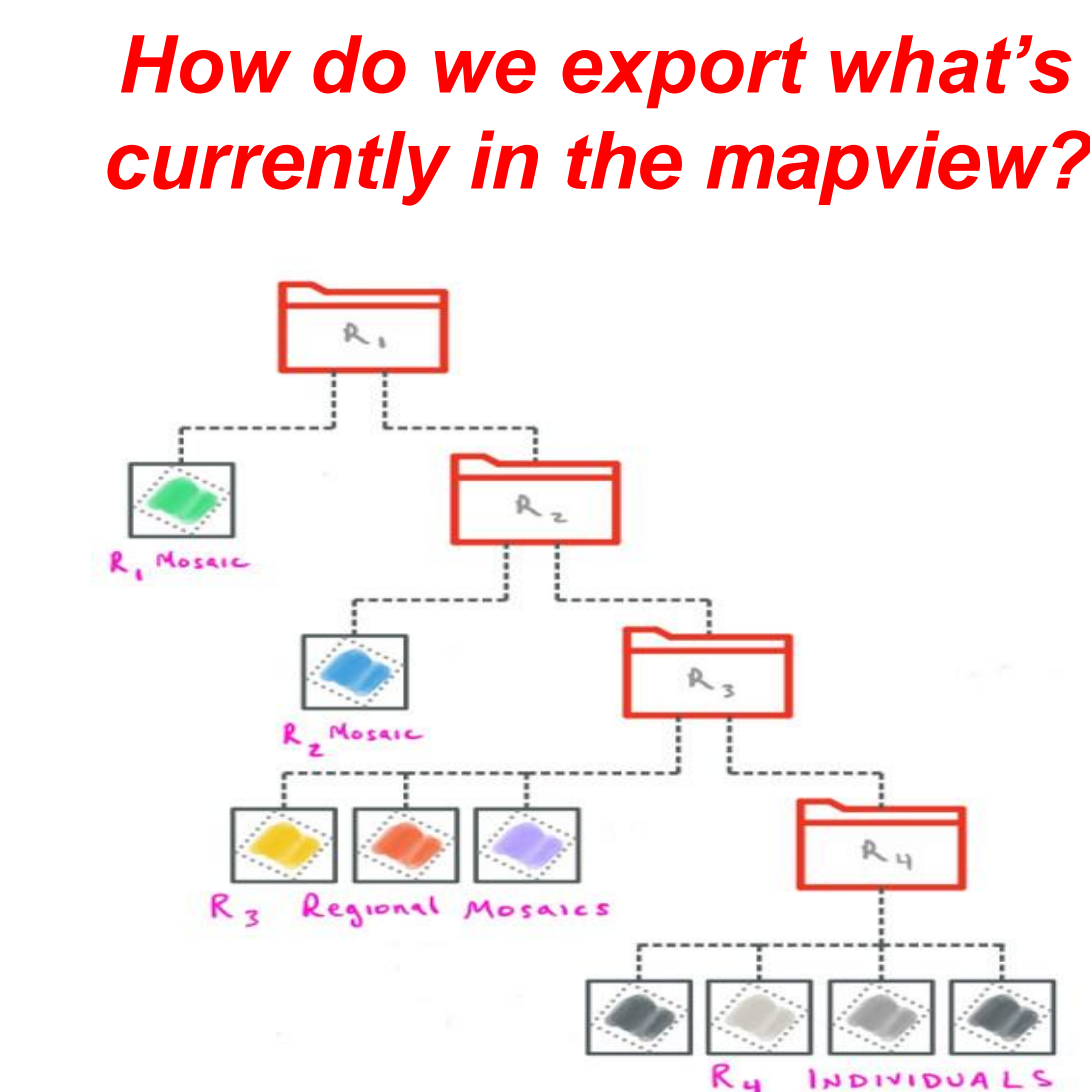
Architecture



Challenges



Using a haversine formula, we can find which region has the shortest distance to the center of each image.

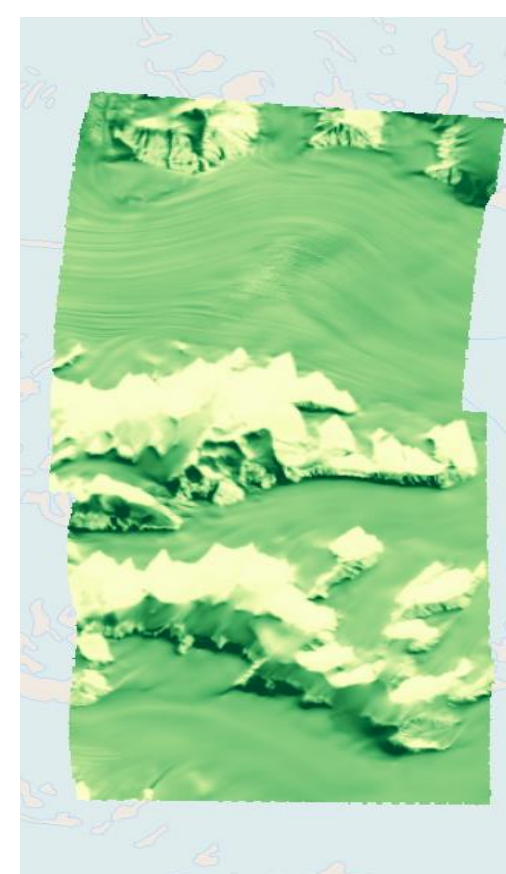


Keying the region and band into the filename allows us to quickly find the source data in our regional hierarchy.

Testing

Unit	Integration	Usability
<ul style="list-style-type: none"> Automated Code coverage 	Preprocess => Frontend	<ul style="list-style-type: none"> Admins End Users

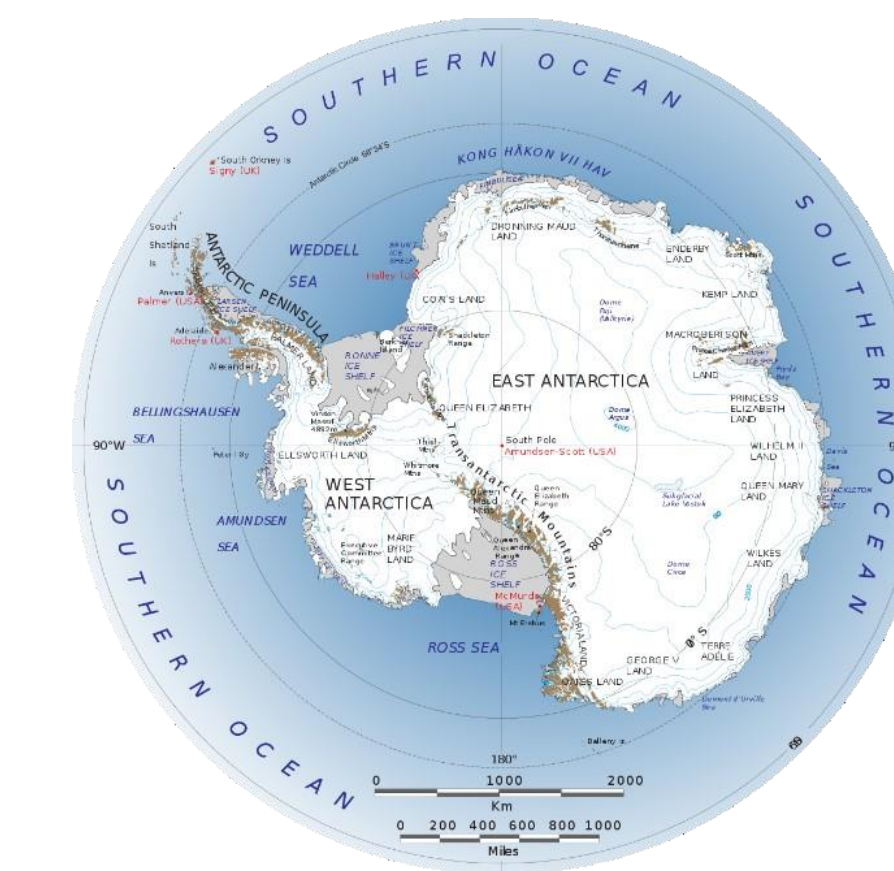
Outcomes



Before this application, it was not easy for others to view our clients' large-scale processed satellite images of Antarctica.

Now anyone can have access to this data!

Future Updates



- Map Projection Update:**
- Polar Stereographic (View Earth from above South Pole)
- Interpolate bands as RGB**
- Filter by imagery contents analysis**
- Search functionality**
- Scale bars**