

# Requirements

This page represents a provisional model of the essential requirements for the SKOPE system. The model is based on the approach described in the book [Exploring Requirements: Quality Before Design](#) (Gause & Weinberg, 1989) and comprises three types of elements: *users*, *functions*, and *attributes*.

The purpose of this model is to **ensure that we are building the right system**.

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## SKOPE Users

In this model a *user* represents someone who (1) will be affected in some way by the SKOPE system, and (2) we choose to take into account when designing, implementing, or deploying the system.

<b>Researcher</b>	Scholar in the social and natural sciences who wants browser-based access to the best-available reconstructions of key environmental variables for a given location and temporal interval.
<b>Tinkerer</b>	Researcher with a more focused interest in a specific reconstruction model, and who wishes to adjust parameters and rerun the models.
<b>Modeler</b>	Researcher who seeks to build and offer broad access to new or modified models and/or retrodicted environmental data through SKOPE.
<b>Provider</b>	Representative of an organization that provides access to data or services via the SKOPE system.
<b>Devop</b>	Person responsible for developing, testing, deploying, configuring, administering or troubleshooting the SKOPE system.

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## SKOPE Functions

These are the essential capabilities of the system including things that the system does and that users do with the system.

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## SKOPE Attributes

Sometimes referred to as *non-functional* requirements, these are the qualities that make it beneficial to use the SKOPE system compared to using *ad hoc* scripts, running individual programs directly, managing data manually, etc.

<b>Transparent</b>	Easy to determine the <b>provenance</b> , ownership, usage rights, and citations <b>for any</b> digital <b>artifacts</b> either <b>available</b> to researchers <b>through SKOPE</b> , or used to produce or deliver the artifacts available through SKOPE, where digital artifacts include data sets, visualizations, scripts, and software packages.
<b>Repeatable</b>	Practical within the SKOPE environment to <b>repeat</b> all or a subset of the sequences of <b>computations</b> and other operations involved in <b>producing any data set or visualization</b> previously created through the SKOPE system. Feasible to <b>reproduce</b> the steps necessary to produce <b>any</b> such <b>artifact or visualization outside</b> of the <b>SKOPE</b> system.
<b>Responsive</b>	
<b>Available</b>	
<b>Scalable</b>	
<b>Modular</b>	
<b>Secure</b>	
<b>Testable</b>	