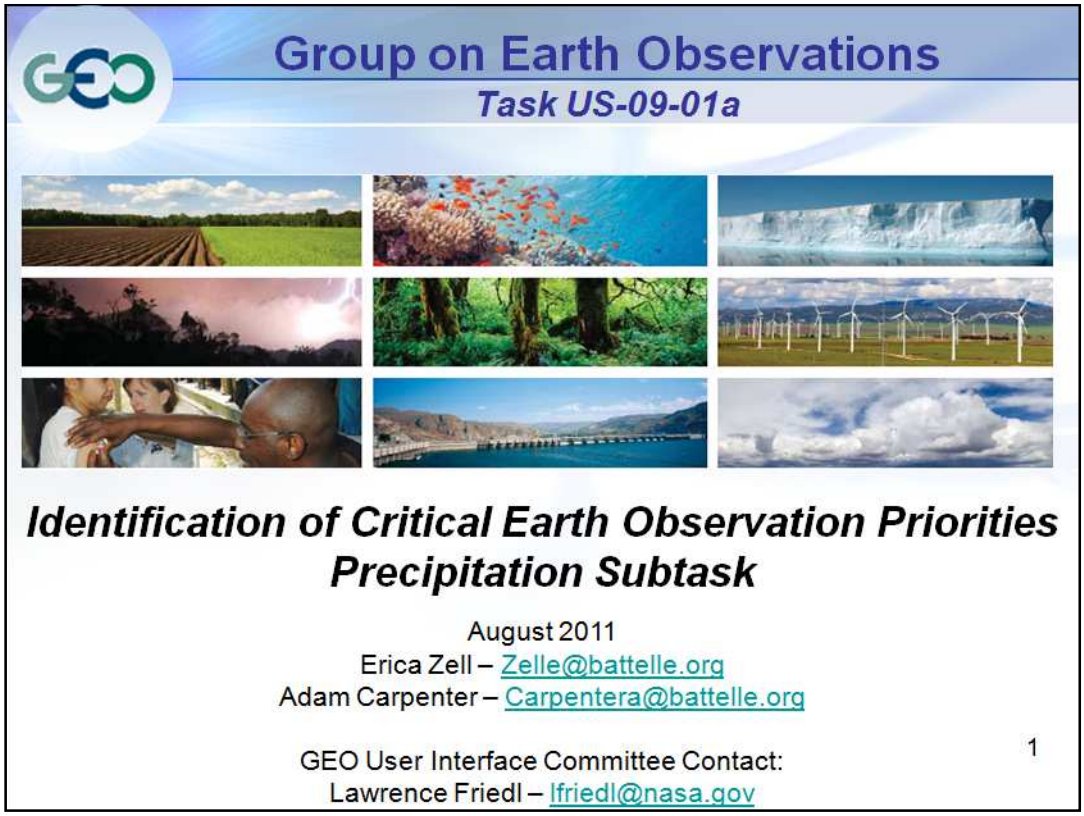

For any questions about this presentation, or to provide feedback, please contact:

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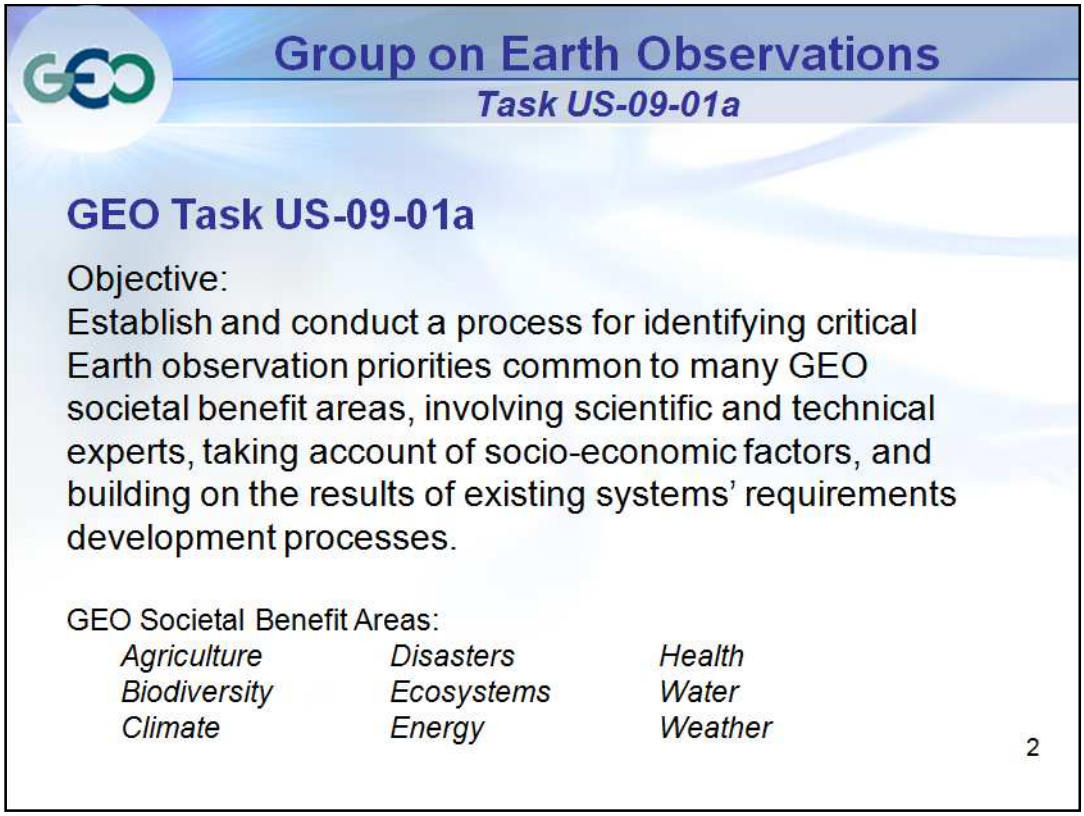
This presentation provides an overview of the Group on Earth Observations (GEO) Critical Earth Observation Priorities Project (US-09-01a) as a whole, with a focus on the precipitation subtask. Please feel free to distribute this presentation to colleagues who may be interested in providing feedback (questions are located on the last slide). We are especially interested in feedback from groups and representatives of groups that either are end-users of precipitation information or who represent end-users of precipitation information.

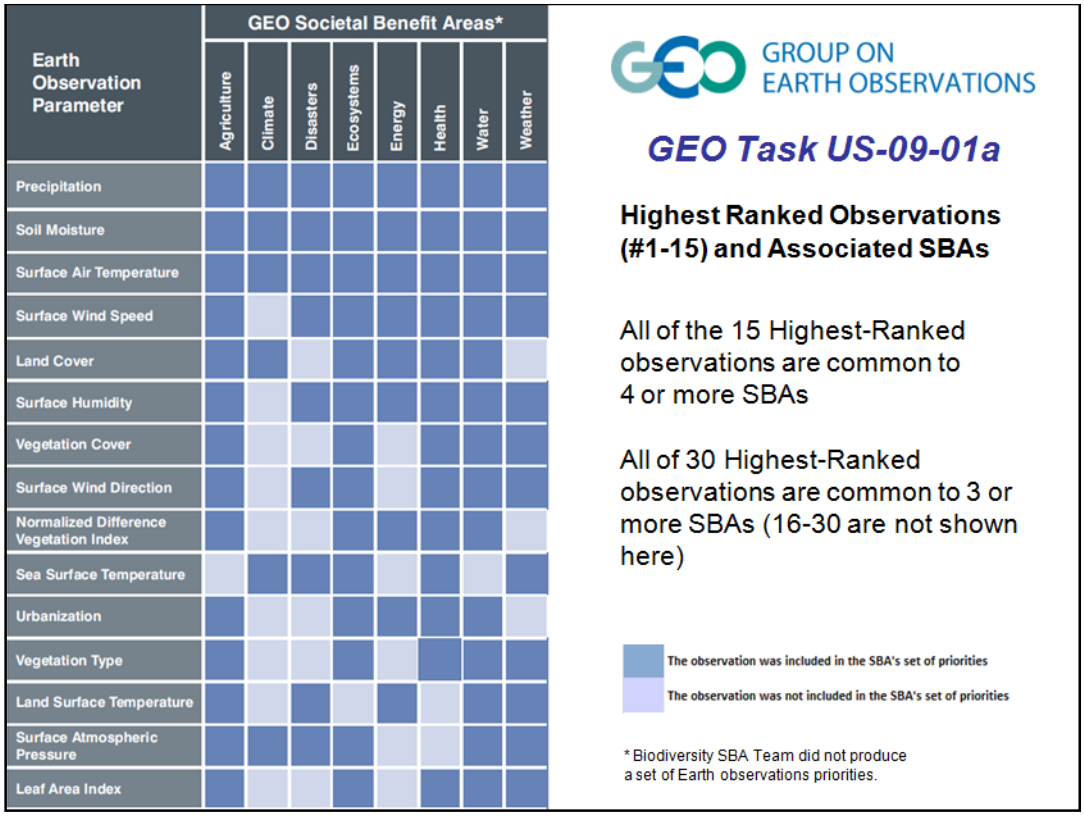


The report for GEO Task US-09-01a, Identification of Critical Earth Observation Priorities, was published in October 2010, with minor revisions in April 2011. The purpose of the task was to identify Earth observation priorities for the nine GEO societal benefit areas (SBAs), listed on the slide. This was accomplished by a team of analysts who reached out to other experts to form ad-hoc advisory groups. Under the advice and direction of the advisory groups, the analysts sought out hundreds of documents detailing Earth observation needs, priorities, and requirements from end-users. Each analyst wrote a report specific to their SBA. Once those reports had been written, they were reanalyzed and compiled into a cross-SBA report, detailing the overall Earth observation priorities across all the SBAs.

More information about GEO can be found at http://www.earthobservations.org

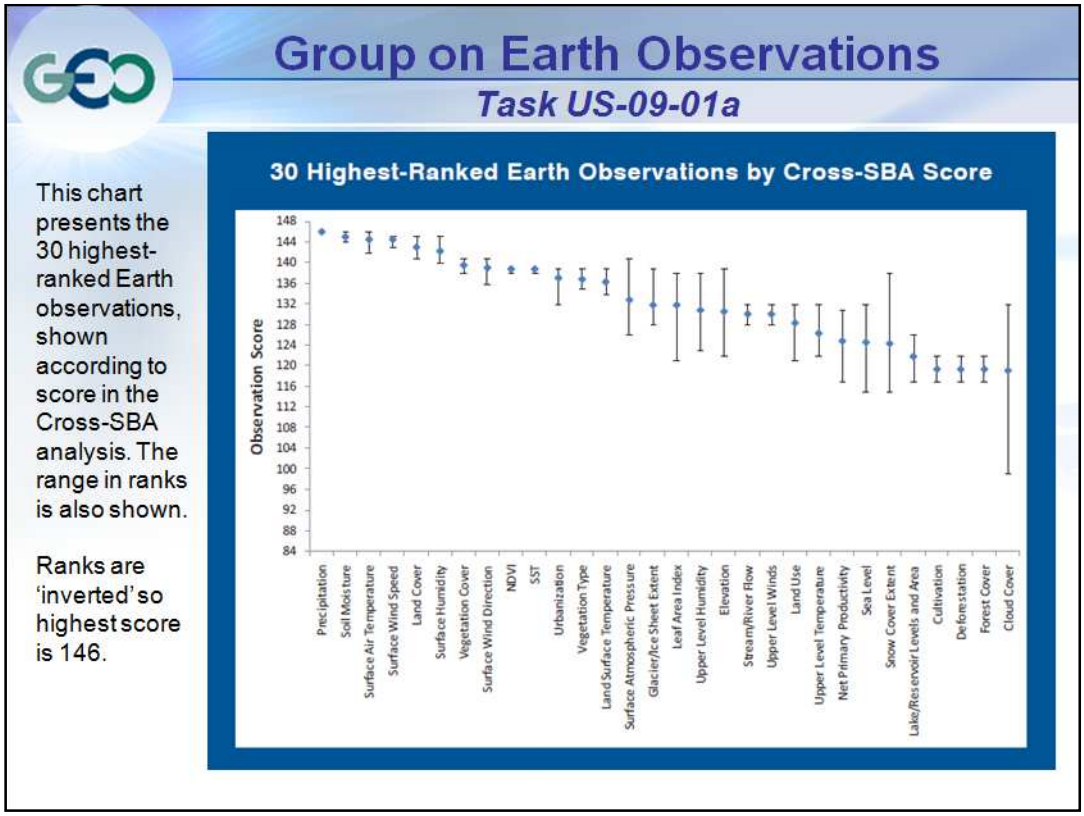
More information about GEO US-09-01a can be found at http://sbageotask.larc.nasa.gov/

The direct link to the US-09-01a report is http://sbageotask.larc.nasa.gov/Final_SBA_Report_US0901a_Apr2011.pdf



Precipitation was the highest ranked parameter by every analysis method used in preparing the cross-SBA report. All of the SBAs required precipitation measurements (Biodiversity is currently not listed because the biodiversity report did not include a list of priorities. An updated biodiversity report is currently in development).

This graph indicates which of the top 15 parameters were indicated to be a priority by each SBA. The focus of this subtask is precipitation because it is both common to all the reporting SBAs and is the top overall priority. Soil Moisture and Surface Air Temperature are also common to all reporting SBAs, and could be subjects of future subtasks.



The Cross-SBA analysis used several different statistical techniques to determine the overall ranking of the top parameters. Precipitation was the highest ranked parameter for every method, and had one of the lowest levels of uncertainty as to its ranking. On this graph, the overall score the parameter received is shown, with a bar depicting the variability of that parameter based on the different analysis techniques.

This is an example of the summary of findings from one of the component reports, the Water SBA. This report focused on four sub-areas: surface waters, ground waters, forcings, and Water Quality & Water Use. In the analysis, 200 documents were utilized, and the 15 most critical observations are listed. In this instance, the 15 top critical observations are unordered (all are equally high priority).

This is another example of the findings from a summary report, this time the Energy SBA. This report had six sub-areas, based upon different types of renewable energy. 54 documents were analyzed, and the 15 most critical observations are in priority order.

Group on Earth Observations

Task US-09-01a

Next Steps: US-09-01a Gap Analysis

Gap analysis of observation priorities relative to current and future availability.

Current & Future States of Critical Earth Observation Priorities

Results of Gap Analysis can be shown in such a diagram.

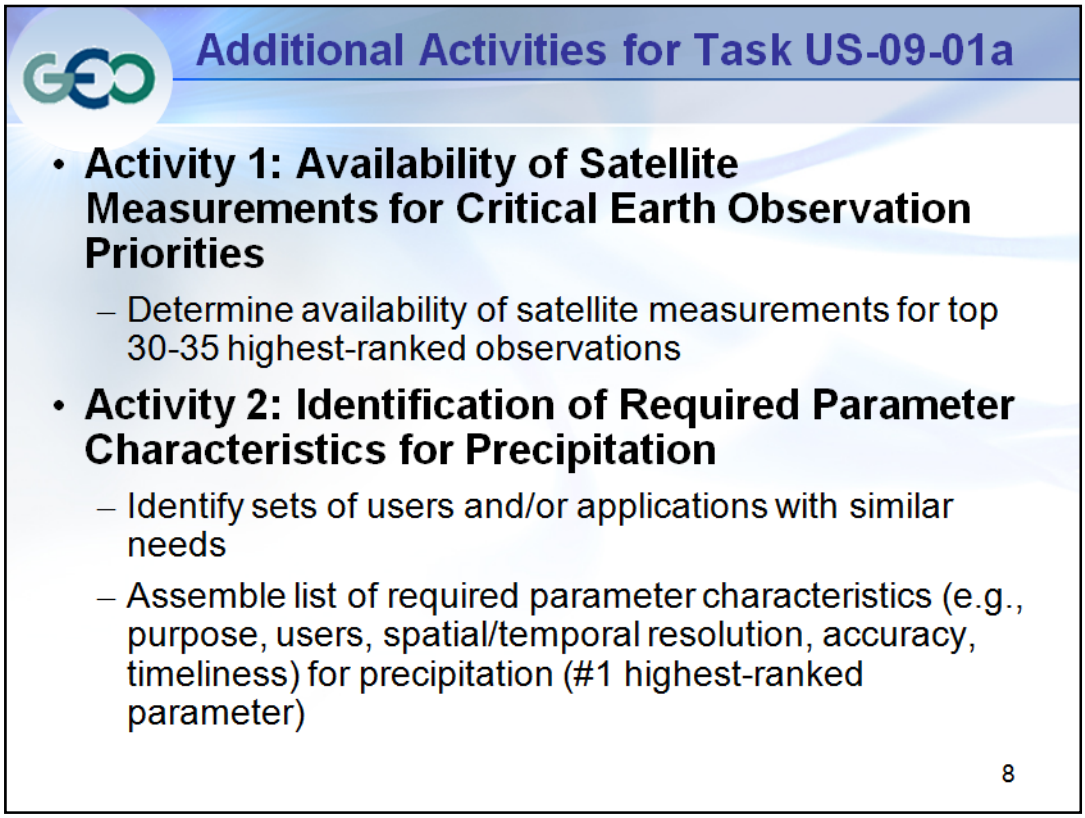
Critical Earth Observation Priorities		Currently Available	
		Yes	No
Available in Future	Planned	Good situation	In waiting
	No Plan	Possible crisis	Major gap

7

The next step in this process is to compare what is wanted with what is currently available and planned for future availability. First, more precise information about each Earth observation priority is needed to assess the specific requirements for that parameter, which is the focus of this subtask for precipitation.

Second, an assessment of whether observations for a priority are currently available and whether they are likely to be available in the future can be used to place observations within this chart.

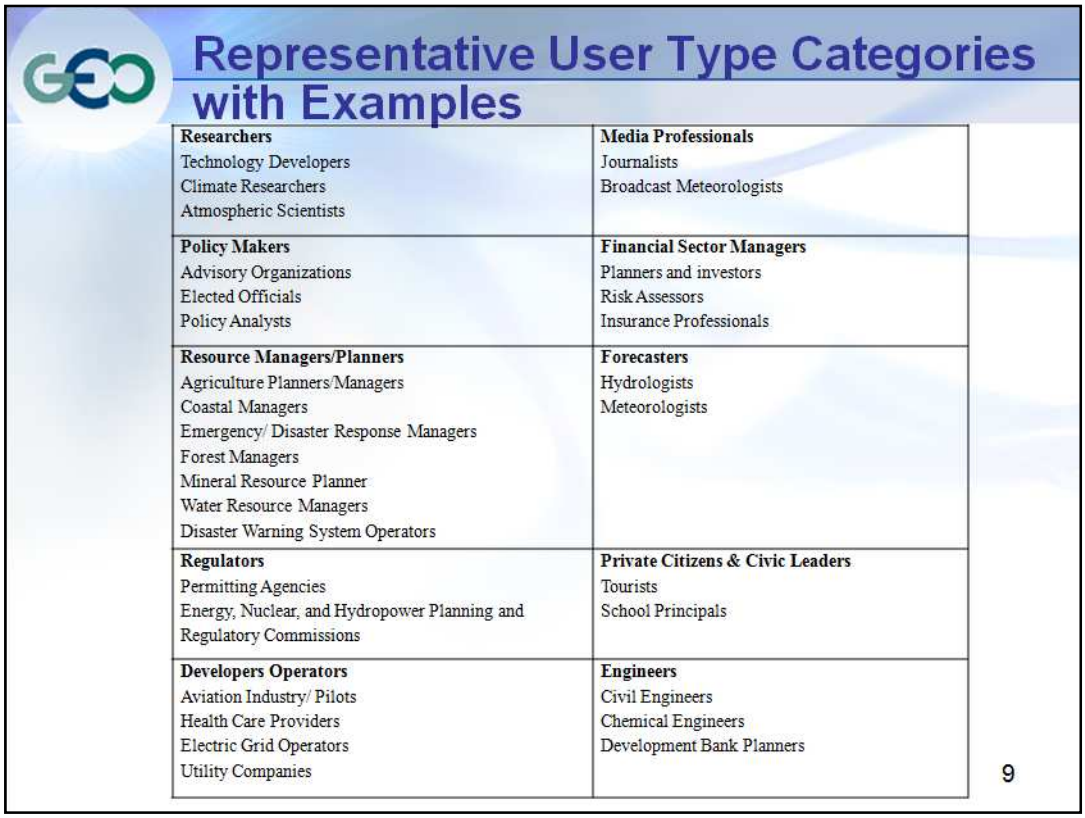
We recognize this chart simplifies many realities, and are using it simply as a framework for our analysis.



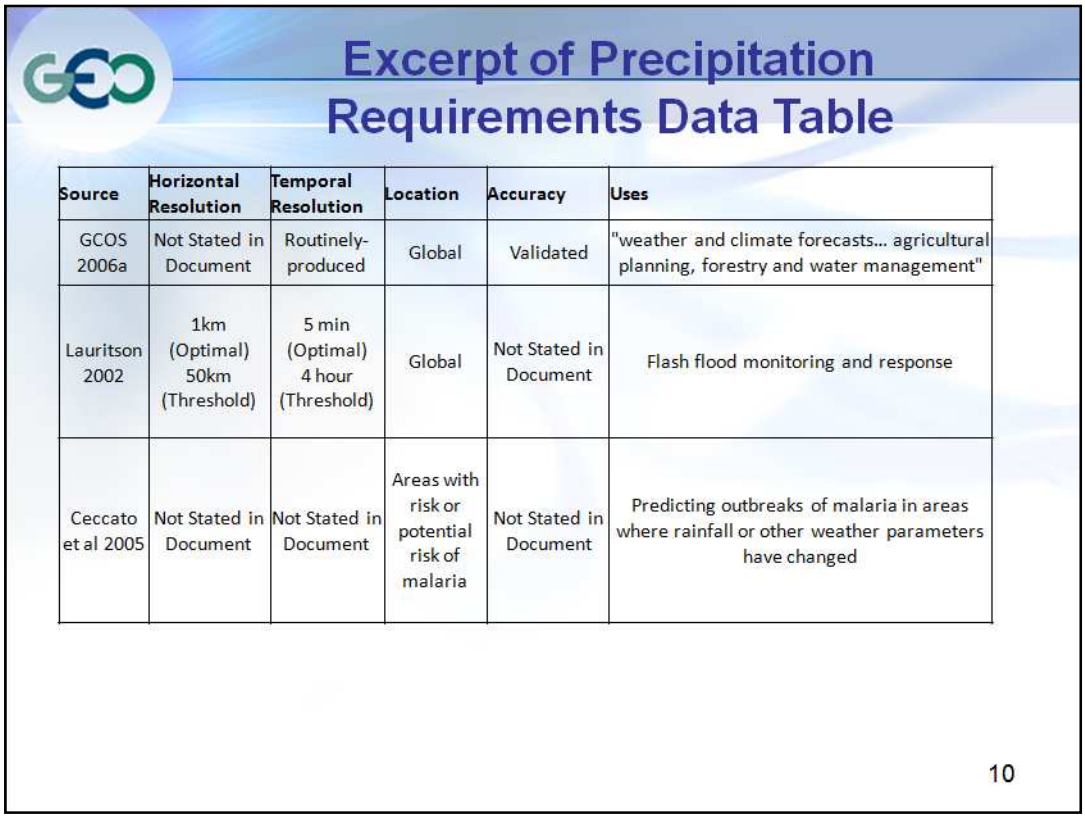
To accomplish these goals, two activities are currently underway:

Activity 1 is focused on determining the availability of satellite measurements for the highest ranked observations, and is being conducted in coordination with CEOS. Activity 1 is being undertaken concurrently with this activity (activity 2).

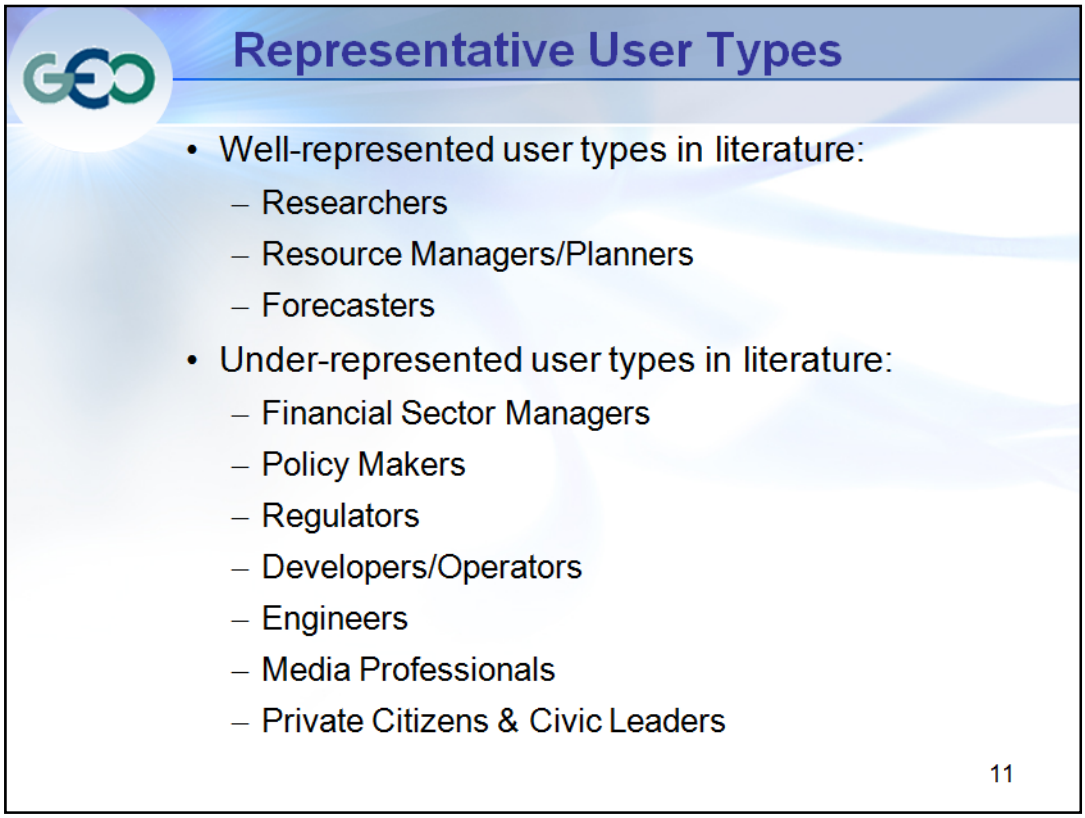
Activity 2, the activity for which we are currently presenting (and for which we need your help!), is identifying the required parameter characteristics for precipitation. Currently, it is focused only on precipitation, although it's possible we may examine some other parameters in the future.



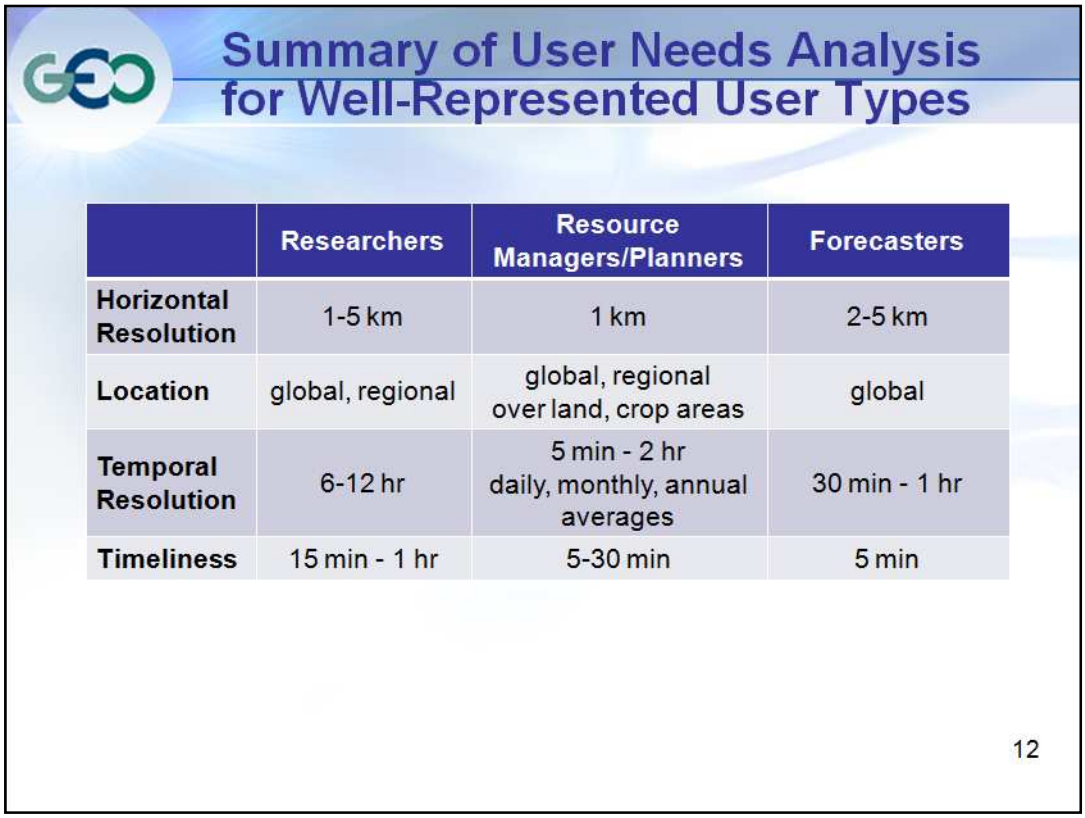
For Activity 2, we are looking to obtain input from a wide variety of end-users. This includes, but isn't limited to the groups listed above. The above list is based upon a sample taken from the US-09-01a SBA reports. It is important, for the purposes of our project, of our project that we include more than just the research community and have many end-users across all disciplines represented.



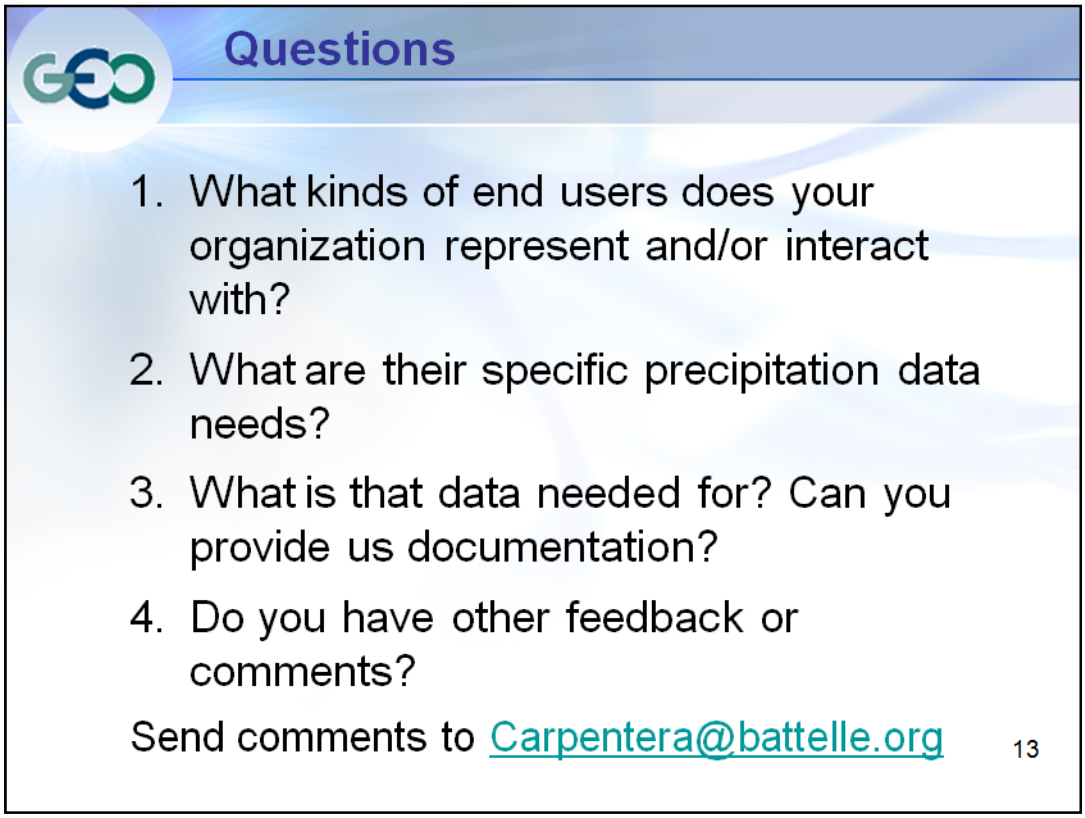
Here are a few examples of summarized information from documents we've analyzed. In some cases, a document will explicitly state end-user requirements (such as Lauritson 2002 above, which is clear about spatial and temporal resolution requirements). In other cases, a document will include only vague statements that add some value but are not highly specific (such as GCOS 2006a above).



Amongst the documents already analyzed, researchers, resource managers/planners, and forecasters are well-represented. However, many other types of end-users are under-represented, and in some cases not represented at all. We welcome all additional sources, but most specifically we are looking for information about the under-represented user types listed above.



Upon compiling information from the analyzed documents, we were able to determine the general needs of the well-represented user types, including horizontal (spatial) resolution, location, temporal resolution, and timeliness. Upon completion of the subtask, we hope to be able to compile much more thorough information for many more users.



In order to reach our goals, we need your help! Answering the above four questions will help us make sure that we have fully examined the available literature and successfully identified the end-user precipitation needs. Feel free to email us to ask any questions, and we greatly appreciate your help!

We would greatly prefer a single set of answers compiled by the group, rather than individual responses. If at all possible, please provide feedback by September 15, 2011.

Please send comments, questions, and feedback to Adam Carpenter at CarpenterA@battelle.org

Thank you!