

# GROUP ON EARTH OBSERVATIONS

## **GEO User Interface Committee Status of Task US-09-01a**

**Task Lead:**

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**Task Coordinator:**

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# Group on Earth Observations

## *Task US-09-01a*

### **GEO Task US-09-01a:**

**Establish a GEO process for identifying critical Earth observation priorities common to many GEOSS societal benefit areas, involving scientific and technical experts, taking account of socio-economic factors, and building on the results of existing systems' requirements development processes.**

#### **Resources to Support Task**

**Website:** <http://sbageotask.larc.nasa.gov/>

**Email address:** geo-task-us-0901@lists.nasa.gov



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## *Task US-09-01a*

### **Current Status**

#### ***Individual SBA Reports***

Biodiversity, Climate, Disasters (Part 1 & 2), Ecosystems (Part 1), Energy, Health, and Weather reports are complete and posted on website.

Agriculture, Ag/Forests, and Ecosystems (Part 2) are complete. Posting to website is pending.

Water report text is complete; formatting and posting to website is pending.



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## *Task US-09-01a*

### **Current Status**

#### ***Cross-SBA Report***

Preliminary draft complete with priority observations prioritized.

Task lead working with contractor to put it in form of a publishable report and formal document.

Executive Summary: Probably Plenary Document  
(Decision: Is UIC agreeable to this?)

Summary hand-out and formal document for Plenary.



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### Current Status

#### ***Cross-SBA Report – Notice on Biodiversity***

Biodiversity report is referenced in the Final Report. However, Biodiversity did not produce a set of Earth observations priorities. Thus, Cross-SBA team had no Biodiversity-specific observations to include in the Cross-SBA meta-analysis. It was assumed that the Ecosystems observations were likely similar, so Biodiversity is indirectly included.



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### Cross-SBA Analytic Methodologies

#### ***Method 1: Tally of All Priorities***

Frequency analysis is a tally of the SBAs that require a given observation, regardless of the high/medium/low importance assigned by the SBA Analysts. In Report, only parameters required for 4+ SBAs are displayed.

#### ***Method 2: Weighted Sum of All Priorities***

Weighted frequency analysis is a weighted sum of the number of SBAs that require a given observation, taking into account the high/medium/low importance assigned by the SBA Analysts. (Weightings: Run 2a were 3-2-1; Run 2b 6-3-1)

#### ***Method 3: Top 15 Priorities by SBA***

This key parameters method is based on each SBA Analyst preparing a list of the “top 15” for that SBA. (Health reduced to a single set of 15 across 3 reports)

***Final Set:*** Calculated mean rank and the range of ranks for all 137 parameters across methods. Natural break at top 42 parameters. Score calculation by rank to determine priorities. 6



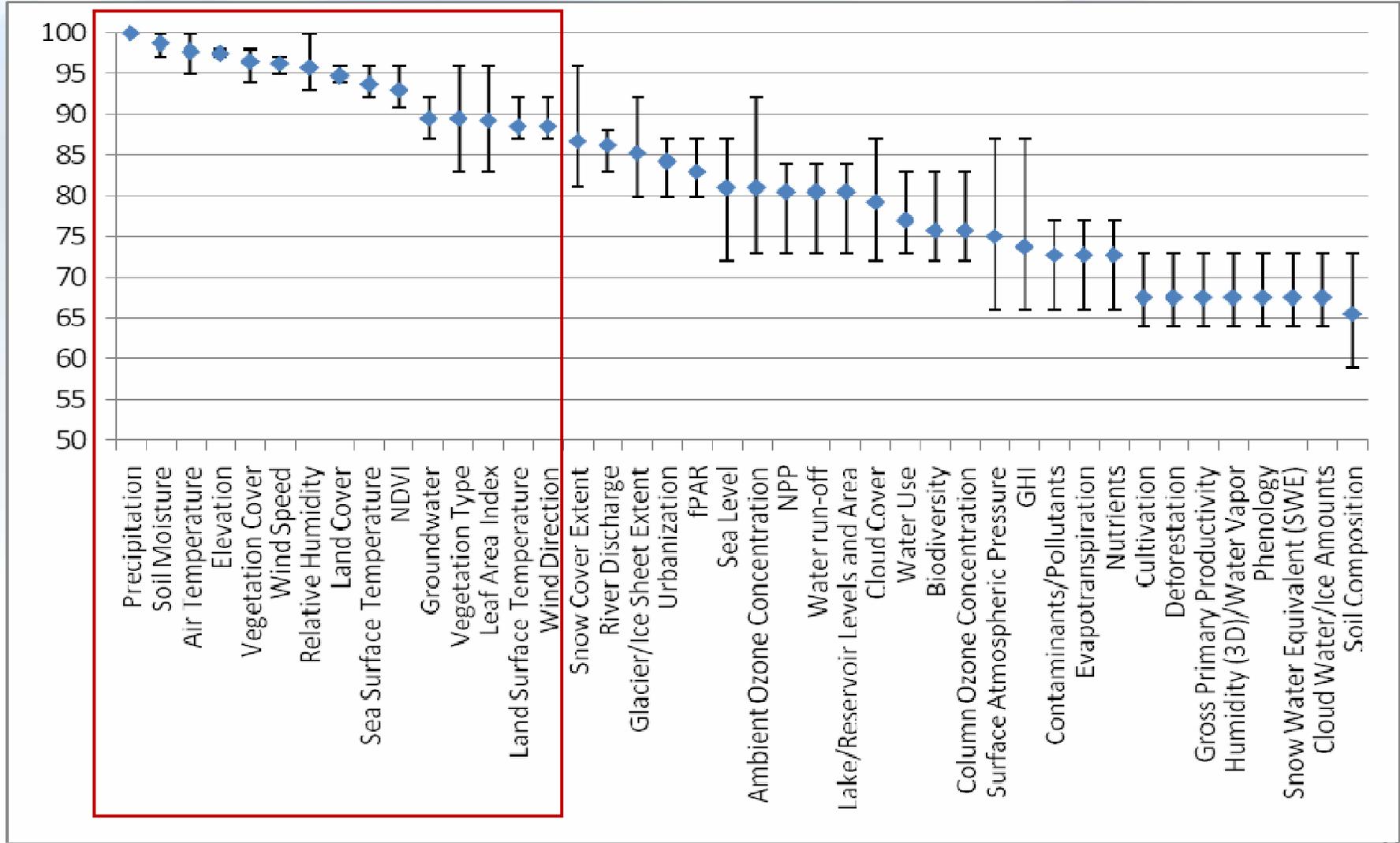
### Priority Parameters

- Precipitation**
- Soil Moisture**
- Air Temperature**
- Elevation**
- Vegetation Cover**
- Wind Speed**
- Relative Humidity**
- Land Cover**
- Sea Surface Temperature**
- Normalized Difference Vegetation Index (NDVI)**
- Groundwater Observations**
- Vegetation Type**
- Leaf Area Index (LAI)**
- Land surface temperature**
- Wind direction**



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## **Future Considerations & UIC Discussion**



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### 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



### **US-09-01a Gap Analysis I**

NASA will sponsor analysis of Cross-SBA and SBA Observation Priorities relative to current and future availability.

Issue: SBA Reports and Cross-SBA report do not provide specific parameter characteristics (eg., resolution, latency) of user needs and desires. Gap analysis will largely be on of presence/absence of current and future-planned observations.

GEO Workplan: Need to articulate this gap analysis in next work plan.



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### **US-09-01a Gap Analysis II**

Analysis of SBA Observation Priorities relative to availability in GEOSS.



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## **US-09-01a User Requirements Registry**

Incorporation of observations priority parameters in URR



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### **GEO Plenary Prep**

UIC might consider briefing key organizations on results of US-09-01a

Possible organizations:

- CEOS (CEOS Plenary in Oct., CEOS SIT in Sept.)  
CEOS provided numerous Analysts
- WMO
- Others?



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## *Task US-09-01a*

### **Current Status**

#### ***Schedule***

Final reports for all SBAs    Posted ~15-Sept-2010

Cross-SBA – Summary        Posted ~15-Sept-2010

Cross-SBA Final Report    ~October 2010

Hand-out                      ~October 2010

Gap Analysis Spring 2011



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## **Back-up Materials**



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### **GEO UIC US-09-01a Process: Nine Steps**

-The process lists the steps serially, yet some of them can be done in parallel.

Step 1: UIC Members identify Advisory Groups and Analysts for each SBA

Step 2: Determine scope of topics for the current priority-setting activity

Step 3: Identify existing documents regarding observation priorities for the SBA

Step 4: Develop analytic methods and priority-setting criteria

Step 5: Review and analyze documents for priority Earth observations needs

Step 6: Combine the information and develop a preliminary report on the priorities

Step 7: Gather feedback on the preliminary report

Step 8: Perform any additional analysis

Step 9: Complete the final report on Earth observations for the SBA

Based on the SBA reports, perform a meta-analysis on the 9 SBA reports and parameter lists and prepare over-arching report to identify “Earth observation priorities common to many SBAs.” The report includes findings, lessons learned, and recommendations.