

## **Analysis of Participant Data from the 2020 GEO Virtual Symposium**

*This document is submitted by the GEO Secretariat to the Programme Board for discussion.*

### **1 INTRODUCTION**

The GEO Symposium has been a key annual event in the GEO calendar since it was first held in 2010. It typically takes place in the April to June period each year and, with a couple of exceptions, has been hosted at the WMO building in Geneva.

The primary purpose of the GEO Symposium is to encourage networking and sharing of experiences among the leads and participants of the various GEO Work Programme activities. Depending on the timing of each Symposium within the work planning cycle, particular Symposia may focus on the development of a new GEO Work Programme, assessment of progress of Work Programme activities, or other themes of interest to the GEO Work Programme community.

Attendance at previous Symposia has averaged about 100 (excluding Secretariat staff), ranging from a low of 71 in the first year to a high of 159 in 2018. Most participants have been active in GEO Work Programme activities or were invited speakers, although it is common to also have some participants who are new to GEO.

Due to the restrictions on international travel related to the COVID-19 pandemic, the Symposium Subgroup recommended that the 2020 GEO Symposium be redesigned as an online event. The agenda, presentations and session recordings may be accessed [here](#).

This document provides the results of analysis of three data sets regarding 2020 GEO Symposium participants:

- Symposium pre-registrants (as of 22 June);
- Viewer analytics from YouTube (as of 3 July); and
- Respondents to the Symposium participant survey (as of 6 July).

While there are limitations with each of these data sets, they are provided as input to the lessons-learned discussion at the 18<sup>th</sup> Programme Board meeting and to a prior meeting of the Symposium Subgroup. It is hoped that the information may provide some useful insights into the participants at the 2020 GEO Symposium and their opinions of the new format.

### **2 UNDERSTANDING THE DATA SETS**

As mentioned above, the analysis that follows is based on three mostly independent data sets, each with their own strengths and weaknesses.

The pre-registrants<sup>1</sup> data set was generated by self-registrations via the GEO website in response to the early announcement of the new format for the GEO Symposium. This pre-registration process was similar to that used for previous Symposia except that, unlike in-person Symposia, there was no ability to verify whether the person who pre-registered actually attended as would occur when participants register at the meeting site. Thus, while we have a good source of information about the pre-registrants, we do not know whether the actual participants differed in significant respects from the pre-registrants. As we will also see from the other data sets, the number of participants dropped off considerably over time, but we lack information on who continued and who did not.

The second data set is based on standard viewer analytics generated by YouTube, which was one of two video streaming services used to deliver the Symposium content to participants (the other was CDN Video). Two streaming services were used because participants in some countries (notably China) cannot access YouTube. The use of two services also helped to provide some degree of resiliency in case one of the services stops working. Only results from the YouTube analytics are provided here as similar information was not available from CDN. This means that the numbers of views and viewers are almost certainly understated, although this is believed to be relatively low due to the bandwidth used. There is also no reason to suspect that the overall pattern of viewing would have been different between the two platforms.

The third data set is based on voluntary responses to an online survey sent to all pre-registrants. All respondents indicated that they had attended at least one session, either during the live event or by watching the recorded videos. While the number of respondents was larger than for previous Symposia surveys, as a proportion of the number of pre-registrants it was about 5% as compared to 15-20% of registrants for in-person Symposia. A comparison between the countries of residence of survey respondents and of pre-registrants also suggests that the survey respondents are not representative of the pre-registrants, and both groups may also differ from the actual participants.

Keeping these limitations in mind, the data sets do offer some useful perspectives on the Symposium participants and their views.

### 3 KEY FINDINGS

The following are some initial key findings from the data analysis. A set of tables summarizing the data are provided in the Annexes to this document.

- The number of unique pre-registrations was 1,534, excluding the GEO Secretariat. Of these, 1,304 (86%) were from GEO Members, 127 (8%) were from Participating Organizations, 14 (1%) were from GEO Associates, and 8 were from GEO Observers. A total of 55 (3.5%) were from countries or international organizations having no current affiliation with GEO.
- The regional distribution of pre-registrants was 33% from Europe, 32% from the Americas, 21% from Asia-Oceania, 13% from Africa, and 1% from CIS.

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<sup>1</sup> Initially, it was expected that a further registration step would be included through which participants would receive a link to view the sessions. This step was abandoned during the planning process as being cumbersome and potentially requiring too much intervention by Secretariat staff during the Symposium week.

- Unique live session viewers at the start of the Symposium were close to the pre-registrant numbers: 1,424 on the first day. However, these numbers dropped quickly to 266 on the second day and below 200 on the remaining days (compare to the average attendance of in-person Symposia of 100). Average view duration went up on days 2 to 5, suggesting that many viewers joined briefly on the first day and did not return.
- Recordings of the live sessions were not viewed often; the most viewed session was only watched by 14 unique viewers.
- By contrast, some of the pre-recorded videos had view numbers comparable to the live sessions (nine videos having more than 100 unique views).
- The sessions with the highest number of views for the pre-recorded videos were:
  - Leveraging Advanced Technologies;
  - Contributing to Reproducible Knowledge; and
  - Earth Observations for COVID-19 Response and Recovery.
- The video with the highest number of views was Sen2Agri: Operational System for Agricultural Products.
- Based on the participant survey, the numbers watching the recorded videos were similar to those watching the live sessions, though relatively few watched both for the same session. Many watched some sessions live and others by recorded videos.
- Satisfaction ratings by survey respondents were high, with combined scores above 80 (on a scale of 0 to 100). Highest ratings were for the sessions on COVID-19, Capacity Development, and the Closing Session.
- Most respondents said that they preferred that future Symposia combine in-person with remote participation or an all-virtual format. Only four respondents preferred only the in-person format.

#### 4 NEXT STEPS

The Symposium Subgroup will discuss the data and findings presented here and, along with their own observations and impressions, will prepare recommendations for consideration by the Programme Board.

ANNEX A

DATA TABLES – SYMPOSIUM PRE-REGISTRANTS

<b>Number of Registrants by GEO Affiliation</b>	<b>#</b>	<b>%</b>
GEO Member	1304	86%
Non-member country	35	2%
GEO Participating Organization	127	8%
Non-PO international organization	20	1%
GEO Associate	14	1%
Observer	8	1%
	<u>1508</u>	<u>99%</u>
Affiliation not identified	26	
GEO Secretariat	<u>10</u>	
	1544	

<b>Number of Registrants by GEO Region</b>	<b>#</b>	<b>%</b>
Africa	180	13%
Americas	456	32%
Asia-Oceania	302	21%
CIS	9	1%
Europe	464	33%
	<u>1411</u>	<u>100%</u>
Global organizations	107	
Affiliation not identified	<u>26</u>	
	1544	

<b>Number of Symposium Registrants by GEO Member</b>		<b>Number of Symposium Registrants by PO</b>		<b>Non-member Country Symposium Registrants</b>	
United States	212	ESA	11	Afghanistan	6
United Kingdom	102	WFP	6	Tanzania	5
India	89	CEOS	5	Azerbaijan	3
Germany	63	FAO	5	Iraq	2
Brazil	52	EU SatCen	4	Saudi Arabia	2
Kenya	43	ICIMOD	4	Singapore	2
Australia	35	IEEE	4	Angola	1
Italy	35	RCMRD	4	Bhutan	1
Colombia	33	UNECE	4	Dominica	1
Indonesia	32	CI	3	Guyana	1
Canada	31	CODATA	3	Jamaica	1
South Africa	30	EEA	3	Lebanon	1
France	25	GBIF	3	Lesotho	1
China	24	IASA	3	Libya	1
Greece	23	ISPRS	3	Maldives	1
Netherlands	22	ITC	3	Mozambique	1
Spain	21	MRI	3	Namibia	1
Ghana	19	CLARA	2	Qatar	1
Nigeria	19	EARSC	2	Sri Lanka	1
Nepal	18	ESIP	2	Swaziland	1
Peru	18	EuroGeographics	2	Trinidad and Tobago	1
Japan	17	GPSDD	2		
Switzerland	17	GRSS	2		
Ecuador	16	IAG	2		
European Commission	14	IOC	2		
Mexico	14	OGC	2		
Portugal	13	SDSN	2		
Argentina	12	UN Environment	2		
Belgium	11	UNCCD	2		
Philippines	11	UNFCCC	2		
Turkey	11	WDS	2		
Bangladesh	10	WMO	2		
Chile	10	ACCREC	1		
Poland	10	ADPC	1		
Morocco	9	Afriterra	1		
Austria	8	CEOS	1		
Bulgaria	8	CMO	1		
Costa Rica	8	COSPAR	1		
Pakistan	8	ECMWF	1		
Finland	7	EUMETSAT	1		
New Zealand	7	Eurisy	1		
Sweden	7	FrontierSI	1		
Tunisia	7	GEANT	1		
Guatemala	6	GODAN	1		
Malaysia	6	HOT	1		
Niger	6	ICOS	1		
Norway	6	IISD	1		
Belize	5	ILTER	1		
Iran	5	IUGG	1		
Madagascar	5	POGO	1		
Croatia	4	SPC	1		
Cyprus	4	SWF	1		
Ethiopia	4	The World Bank	1		
Georgia	4	UCAR	1		
Ireland	4	UNDRR	1		
Thailand	3	UNESCWA	1		
United Arab Emirates	3	UNOOSA	1		
Uruguay	3	UNU	1		
Zimbabwe	3				
Armenia	2				
Burkina Faso	2				
Cameroon	2				
Cote d'Ivoire	2				
Czech Republic	2				
Kazakhstan	2				
Korea, Republic of	2				
Mauritius	2				
Mongolia	2				
Romania	2				
Russian Federation	2				
Serbia	2				
Somalia	2				
Ukraine	2				
Venezuela	2				
Viet Nam	2				
Algeria	1				
Bahamas	1				
Cambodia	1				
Congo, Republic of the	1				
Denmark	1				
Egypt	1				
El Salvador	1				
Estonia	1				
Honduras	1				
Israel	1				
Luxembourg	1				
Mali	1				
Malta	1				
Nicaragua	1				
Paraguay	1				
Senegal	1				
Sierra Leone	1				
Slovenia	1				
Sudan	1				
Uganda	1				
	<b>1304</b>				
		<b>GEO Associate Symposium Registrants</b>			
		Esri	7		
		CREAF	2		
		Acclimatise	1		
		PIESAT	1		
		Space Enabled	1		
		SuperMap Software	1		
		Trimble	1		
			<b>14</b>		
		<b>Non-PO International Organization Registrants</b>			
		IAEA	3		
		UNDP	3		
		Association of Caribbean States	1		
		CEPREDENAC	1		
		EuroGOOS	1		
		GCF	1		
		IAI	1		
		IDDRI	1		
		IDMC	1		
		IPBES	1		
		ITU	1		
		IUCN	1		
		PDC	1		
		UNCTAD	1		
		UNDSS	1		
		UN-Habitat	1		
			<b>20</b>		

## ANNEX B

### DATA TABLES – YOUTUBE VIEWER ANALYTICS

#### Live Sessions

Session_Name	Unique viewers	Watch time (hours)	Views	Average view duration
GEO Symposium Live - Monday 15 June	1424	538	1815	0:17:48
GEO Symposium Live - Tuesday 16 June	266	372	522	0:42:44
GEO Symposium Live - Wednesday 17 June	172	228	300	0:45:31
GEO Symposium Live - Thursday 18 June	143	193	252	0:46:03
GEO Symposium Live - Friday 19 June	144	212	220	0:57:45

#### Session Recordings

Session_Name	Unique viewers	Watch time (hours)	Views	Average view duration
Opening Session	3	0.01	3	0:00:14
Earth Observations for COVID-19 Response and Recovery	14	0.72	14	0:03:04
Engaging UN Agencies and Intergovernmental Organizations Contributing to Reproducible Knowledge	3	0.18	3	0:03:41
GEO PB Co-Chairs: Ask Them Anything	9	0.22	13	0:01:00
GEO PB Co-Chairs: Ask Them Anything	0			
Leveraging Advanced Technologies - Focus on Data Cubes	10	1.02	18	0:03:24
GEOSS Infrastructure Development Task Team (GIDTT)	2	0.03	4	0:00:26
GEO Mid-Term Evaluation	2	0.01	2	0:00:09
Co-designing Capacity Development	3	0.37	5	0:04:26
Focus on Impact: Regional GEOs	3	0.03	6	0:00:15
Integrating Water and Coastal Datasets	6	2.84	11	0:15:29
Monitoring Essential Variables	11	3.50	16	0:13:07
Resource Mobilization and Sustainable Funding	7	0.07	8	0:00:33
Closing Session	2	0.23	3	0:04:34

#### Pre-recorded Videos (by session, sorted by total watch time)

Session_Name	Number of videos	Unique viewers (mean)	Total watch time (hours)	Total Views
Leveraging Advanced Technologies - Focus on Data Cubes	5	135	73.7	936
Contributing to Reproducible Knowledge	5	125	61.8	818
Earth Observations for COVID-19 Response and Recovery	6	92	43.7	690
Monitoring Essential Variables	4	60	31.3	302
Co-designing Capacity Development	5	75	28.1	522
Integrating Water and Coastal Datasets	4	46	23.2	240
Engaging UN Agencies and Intergovernmental Organizations	5	54	23.0	351
Opening Session	3	76	13.6	283
Focus on Impact: Regional GEOs	4	47	12.4	170
GEOSS Infrastructure Development Task Team (GIDTT)	4	27	8.2	131
Resource Mobilization and Sustainable Funding	7	18	6.4	156
GEO Mid-Term Evaluation	1	34	3.0	41

#### Pre-recorded Videos (by session, sorted by session order)

Session_Name	Number of videos	Unique viewers (mean)	Total watch time (hours)	Total Views
Opening Session	3	76	13.6	283
Earth Observations for COVID-19 Response and Recovery	6	92	43.7	690
Engaging UN Agencies and Intergovernmental Organizations	5	54	23.0	351
Contributing to Reproducible Knowledge	5	125	61.8	818
Leveraging Advanced Technologies - Focus on Data Cubes	5	135	73.7	936
GEOSS Infrastructure Development Task Team (GIDTT)	4	27	8.2	131
GEO Mid-Term Evaluation	1	34	3.0	41
Co-designing Capacity Development	5	75	28.1	522
Focus on Impact: Regional GEOs	4	47	12.4	170
Integrating Water and Coastal Datasets	4	46	23.2	240
Monitoring Essential Variables	4	60	31.3	302
Resource Mobilization and Sustainable Funding	7	18	6.4	156

ANNEX C

DATA TABLES – SYPOSIUM PARTICIPANT SURVEY RESPONSES

**Total number of respondents** 77

<b>Attendance</b>	<b>Live</b>	<b>Recording</b>	<b>Both</b>
S1-Opening Session	38	24	7
S2-COVID 19	34	21	4
S3-Engaging UN Agencies & IGOs	31	29	4
S4-Reproducible Knowledge	29	27	5
S5-PB Co-chairs AMA	23	23	3
S6-Data Cubes	34	28	4
S7-GEOSS Infrastructure Development	21	27	2
S8-Mid-term Evaluation	22	23	2
S9-Capacity Development	25	30	3
S10-Regional GEOs	31	30	4
S11-Water and Coastal	26	29	6
S12-Essential Variables	30	26	3
S13-Resource Mobilization	24	28	2
S14-Closing Session	27	25	4

	<b>Live</b>	<b>Recording</b>	<b>Combined</b>
Median number of sessions attended	5.0	3.0	10.0
Mean number of sessions attended	5.1	3.0	9.9
Minimum number of sessions attended	0	0	1
Maximum number of sessions attended	14	14	28

<b>Reasons for not attending sessions</b>	<b>#</b>	<b>%</b>
Conflict with another meeting	22	29%
Unable to use the conference software	11	14%
Other technical difficulties	8	10%
Not interested in the topics discussed	4	5%
Other	5	6%

<b>Satisfaction</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>Total resp</b>	<b>Score</b>
S1-Opening Session	25	21	5	0	2	53	82
S2-COVID 19	27	19	4	0	1	51	85
S3-Engaging UN Agencies & IGOs	23	24	6	0	1	54	81
S4-Reproducible Knowledge	18	24	6	2	0	50	79
S5-PB Co-chairs AMA	21	12	8	2	0	43	80
S6-Data Cubes	25	21	8	1	1	56	80
S7-GEOSS Infrastructure Development	21	14	6	1	1	43	81
S8-Mid-term Evaluation	17	16	7	1	0	41	80
S9-Capacity Development	25	21	3	1	0	50	85
S10-Regional GEOs	22	23	10	0	1	56	79
S11-Water and Coastal	25	14	5	2	0	46	84
S12-Essential Variables	25	22	3	0	1	51	84
S13-Resource Mobilization	24	14	8	2	0	48	81
S14-Closing Session	26	14	7	0	0	47	85
Mean	23.1	18.5	6.1	0.9	0.6	49.2	81.9

<b>Comments regarding satisfaction ratings</b>	<b>#</b>	<b>%</b>
Generally positive	25	61%
Mixed	7	17%
Generally negative	5	12%
Neutral	4	10%
	<u>41</u>	

**Specific comments:**

Reproducible knowledge session not on reproducibility.  
 Data cubes session should have addressed federating the various data cubes.  
 Informality of the sessions reduced the sense of importance.  
 Not enough speakers from the Asia-Oceanian region.  
 Technical glitches in the opening session suggested insufficient preparation.  
 Use of Slido is not very engaging.  
 Electronic format made it difficult to follow.  
 Talks were either too generic or too technical.

<b>Difficulties in participating in the sessions</b>	<b>#</b>	<b>%</b>
Accessing the videos in advance	4	6%
Unable to hear the speakers clearly	10	14%
Using the Slido tool to enter questions	3	4%
No difficulties	46	64%
Other	9	13%
	<u>72</u>	

**Specific comments:**

Blurred videos 2  
 Live session dropped 2  
 Poor network connections 2



<b>Ratings on various aspects of the Symposium</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>Total resp</b>	<b>Score</b>
Duration of the sessions	26	22	20	6	1	75	72
Quality of the speakers	32	25	13	4	1	75	78
Diversity of the speakers	30	27	14	0	2	73	78
Topics addressed	30	28	13	3	1	75	78
Access to the presentations	37	26	10	1	1	75	82
Opportunity for discussion and questions	19	27	21	4	3	74	69
Inclusion of regional content	20	24	23	6	1	74	69

**Suggested topics for future Symposia:**

Disaster risk reduction  
 Evolution of Earth observations in a 4th Industrial Revolution world  
 Satellite hydrology  
 GNSS  
 Climate change; monitoring GHG mitigation  
 Nature-based solutions  
 Demo-geography and migrations  
 Regional topics  
 How to access geospatial data sets (for beginning researchers)  
 Opportunities for involvement in the GEO Work Programme

**Other comments:**

Request certificates of attendance  
 Unclear who else is attending. Prefer being able to see and interact with other participants.  
 Prefer a live session for presenters in addition to prepared videos.  
 Would be better if application cases could be described in detail.

<b>Preference for future Symposia</b>	<b>#</b>
Face to face format	15
Virtual format	26
Face to face with option for remote participation	54

Only 4 respondents chose only F2F format (3 from Nigeria, 1 from Philippines).