Introduction
GLOBE hosts data challenges, recognizing participants who collect the most data in a set period of time. In response to the COVID-19 pandemic, we did things a little differently this year, with safety as our guiding principle. Rather than putting the focus entirely on taking observations – which may not have been possible for everyone – we broadened our scope to encompass learning, creating and engaging with one another.

The 2020 Community Clouds Challenge
While planning for our summer cloud challenge, we quickly realized that our traditional challenge format was not going to work. Not only were many citizen scientists around the world being asked to stay inside their homes, but a competition (albeit friendly) seemed inappropriate. At the same time, with so many events being cancelled or postponed indefinitely, we felt that it was important to give our observers something to look forward to. The challenge included:

- a collection of activities accommodating a broad range of interests and abilities
- a worksheet allowing participants to set goals and track progress
- daily social media engagement
- six (6) live social media events featuring scientists and educators
- shareables and customizable certificates
- translated activity trackers provided by L.A. Public Library
- content formatted to work with assistive technologies

Pros
- Removed competition aspect
- Allowed more people to participate in different ways
- Developed observation skills and scientific literacy

Cons
- Required extensive staff time
- Received fewer observations
- Difficult to track participation

The 2020 Community Clouds Challenge was very staff-intensive because of the amount of new materials to produce. For the 2021 Trees challenge, we opted to use more existing materials and improved our workflow. While we received fewer observations than previous challenges, we believe these activities could potentially benefit observations long-term by helping users improve their observation skills and recognize why their data is important. In the future, we will likely combine aspects from both types of challenges.

Participation
The challenge was well-received and highly participated in. However, the lack of competition did not go unnoticed, as several users asked about top observers. Despite this, we still received more observations than average. In addition, we reached 4.7 million people on social media. Users shared how they were participating in the challenge by posting photos of interesting clouds, cloud art, and cloud activities.

Lessons Learned
The 2020 Community Clouds Challenge was immensely successful. It is unclear whether the drop in observations during the 2020 challenge was due to the pandemic, loss of interest, or other factors.

The Facebook Watch events paired scientists with educators to explain a topic and then do a related activity. Staff were available to answer questions live. View the Full Playlist

The activity tracker (above) was available in color, black and white, English, Spanish, Chinese, Korean, and Japanese. Participants were encouraged to color in completed clouds and set their own goals, such as, one activity from each section or an entire section.

Observations from Seasonal Cloud Challenges
GLOBE’s first seasonal cloud challenge was successful. It is unclear whether the drop in observations during the 2020 challenge was due to the pandemic, loss of interest, or other factors.

A New Model for Challenges
Due in part to the ongoing COVID-19 pandemic and thanks to the success of the Community Clouds Challenge, we have continued to use the “Science is Better Together” model for additional data challenges, including a Trees challenge and an upcoming Mosquitoes and Land Cover challenge.

Participation
The challenge was well-received and highly participated in. However, the lack of competition did not go unnoticed, as several users asked about top observers. Despite this, we still received more observations than average. In addition, we reached 4.7 million people on social media. Users shared how they were participating in the challenge by posting photos of interesting clouds, cloud art, and cloud activities.

Lessons Learned
The 2020 Community Clouds Challenge was very staff-intensive because of the amount of new materials to produce. For the 2021 Trees challenge, we opted to use more existing materials and improved our workflow. While we received fewer observations than previous challenges, we believe these activities could potentially benefit observations long-term by helping users improve their observation skills and recognize why their data is important. In the future, we will likely combine aspects from both types of challenges.

Participation
The challenge was well-received and highly participated in. However, the lack of competition did not go unnoticed, as several users asked about top observers. Despite this, we still received more observations than average. In addition, we reached 4.7 million people on social media. Users shared how they were participating in the challenge by posting photos of interesting clouds, cloud art, and cloud activities.

Lessons Learned
The 2020 Community Clouds Challenge was very staff-intensive because of the amount of new materials to produce. For the 2021 Trees challenge, we opted to use more existing materials and improved our workflow. While we received fewer observations than previous challenges, we believe these activities could potentially benefit observations long-term by helping users improve their observation skills and recognize why their data is important. In the future, we will likely combine aspects from both types of challenges.

Participation
The challenge was well-received and highly participated in. However, the lack of competition did not go unnoticed, as several users asked about top observers. Despite this, we still received more observations than average. In addition, we reached 4.7 million people on social media. Users shared how they were participating in the challenge by posting photos of interesting clouds, cloud art, and cloud activities.

Lessons Learned
The 2020 Community Clouds Challenge was very staff-intensive because of the amount of new materials to produce. For the 2021 Trees challenge, we opted to use more existing materials and improved our workflow. While we received fewer observations than previous challenges, we believe these activities could potentially benefit observations long-term by helping users improve their observation skills and recognize why their data is important. In the future, we will likely combine aspects from both types of challenges.

Participation
The challenge was well-received and highly participated in. However, the lack of competition did not go unnoticed, as several users asked about top observers. Despite this, we still received more observations than average. In addition, we reached 4.7 million people on social media. Users shared how they were participating in the challenge by posting photos of interesting clouds, cloud art, and cloud activities.

Lessons Learned
The 2020 Community Clouds Challenge was very staff-intensive because of the amount of new materials to produce. For the 2021 Trees challenge, we opted to use more existing materials and improved our workflow. While we received fewer observations than previous challenges, we believe these activities could potentially benefit observations long-term by helping users improve their observation skills and recognize why their data is important. In the future, we will likely combine aspects from both types of challenges.

Participation
The challenge was well-received and highly participated in. However, the lack of competition did not go unnoticed, as several users asked about top observers. Despite this, we still received more observations than average. In addition, we reached 4.7 million people on social media. Users shared how they were participating in the challenge by posting photos of interesting clouds, cloud art, and cloud activities.

Lessons Learned
The 2020 Community Clouds Challenge was very staff-intensive because of the amount of new materials to produce. For the 2021 Trees challenge, we opted to use more existing materials and improved our workflow. While we received fewer observations than previous challenges, we believe these activities could potentially benefit observations long-term by helping users improve their observation skills and recognize why their data is important. In the future, we will likely combine aspects from both types of challenges.

Participation
The challenge was well-received and highly participated in. However, the lack of competition did not go unnoticed, as several users asked about top observers. Despite this, we still received more observations than average. In addition, we reached 4.7 million people on social media. Users shared how they were participating in the challenge by posting photos of interesting clouds, cloud art, and cloud activities.

Lessons Learned
The 2020 Community Clouds Challenge was very staff-intensive because of the amount of new materials to produce. For the 2021 Trees challenge, we opted to use more existing materials and improved our workflow. While we received fewer observations than previous challenges, we believe these activities could potentially benefit observations long-term by helping users improve their observation skills and recognize why their data is important. In the future, we will likely combine aspects from both types of challenges.

Participation
The challenge was well-received and highly participated in. However, the lack of competition did not go unnoticed, as several users asked about top observers. Despite this, we still received more observations than average. In addition, we reached 4.7 million people on social media. Users shared how they were participating in the challenge by posting photos of interesting clouds, cloud art, and cloud activities.

Lessons Learned
The 2020 Community Clouds Challenge was very staff-intensive because of the amount of new materials to produce. For the 2021 Trees challenge, we opted to use more existing materials and improved our workflow. While we received fewer observations than previous challenges, we believe these activities could potentially benefit observations long-term by helping users improve their observation skills and recognize why their data is important. In the future, we will likely combine aspects from both types of challenges.

Participation
The challenge was well-received and highly participated in. However, the lack of competition did not go unnoticed, as several users asked about top observers. Despite this, we still received more observations than average. In addition, we reached 4.7 million people on social media. Users shared how they were participating in the challenge by posting photos of interesting clouds, cloud art, and cloud activities.

Lessons Learned
The 2020 Community Clouds Challenge was very staff-intensive because of the amount of new materials to produce. For the 2021 Trees challenge, we opted to use more existing materials and improved our workflow. While we received fewer observations than previous challenges, we believe these activities could potentially benefit observations long-term by helping users improve their observation skills and recognize why their data is important. In the future, we will likely combine aspects from both types of challenges.