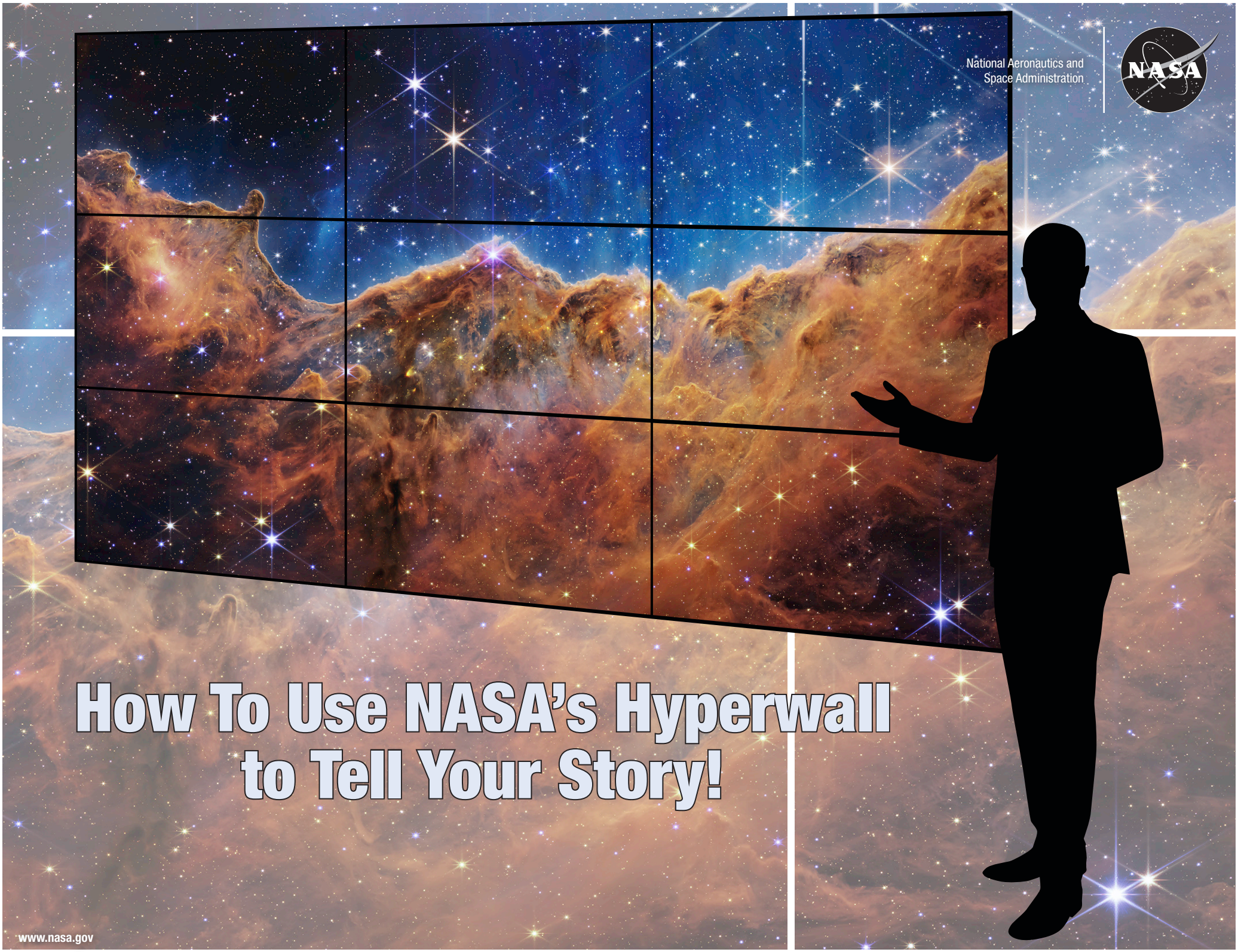
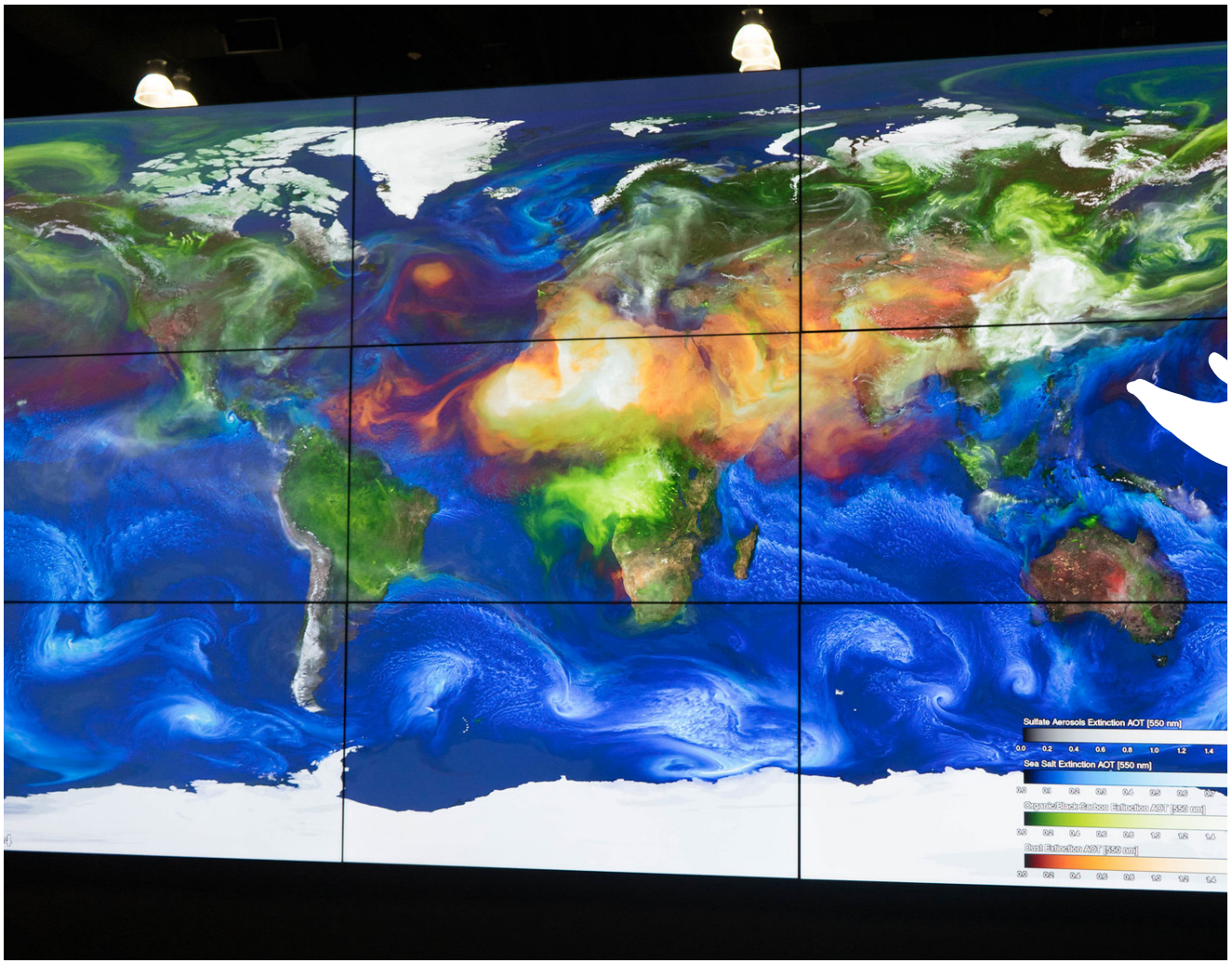

National Aeronautics and
Space Administration
NASA
How To Use NASA's Hyperwall
to Tell Your Story!
www.nasa.gov

What is NASA's Hyperwall?

NASA's Hyperwall is a video wall capable of displaying multiple high-definition data visualizations and/or images simultaneously across an arrangement of screens. A 3 x 3 grid of nine screens is most common (5760 x 3240 pixels), with a vertical "tenth" screen alongside the display to showcase accompanying text, logos, legends, color bars, etc. The native resolution of each screen is 1920 x 1080 pixels. The Hyperwall software is provided by the Scientific Visualization Studio at NASA's Goddard Space Flight Center.



Functioning as a key component at many NASA exhibits, the Hyperwall is used as a visual storytelling platform to help explain phenomena, ideas, or examples of world change.

NASA Hyperwall QUICK TIPS

- Watch **go.nasa.gov/2Q8j2TH**
- Choose visual-forward content with minimal text.
- Use dark backgrounds. White backgrounds “glow” on the Hyperwall and leave the speaker in shadow.
- Use widescreen (16:9) format to design your Hyperwall layout.
- Images/videos can span one screen, a combination of screens, or all nine screens.
- Avoid placement of text or fine details across screen bezels, i.e., the thin frames between individual Hyperwall monitors (3 x 3 grid of 9 monitors).
- Videos should be 1080p, mp4, or mov encoded in H.264.
- The “tenth” screen of the Hyperwall can support caption text, logos, legends, color bars, etc.
- The Hyperwall can play audio, but presenters must request this capability one week in advance (i.e., before set up for an event begins). Audio sync can slip, so “talking head” videos are not recommended, but voiceovers and background audio are fine.

7 Steps for Preparing Hyperwall Content

These 7 steps will help you assemble content for your Hyperwall talk.

1. Watch **go.nasa.gov/2Q8j2TH**

2. Existing Media. Search Existing Media (animations, movies, still images) at **svs.gsfc.nasa.gov/hw**. Click Filter Results in the top right to help facilitate your search. As a rule of thumb, no more than 6-10 media items for a standard 15-minute talk.

3. New Media. In addition to Existing Media, decide if you want to submit New Media files. New Media files must meet Hyperwall requirements—see **HYPERWALL MEDIA REQUIREMENTS**.

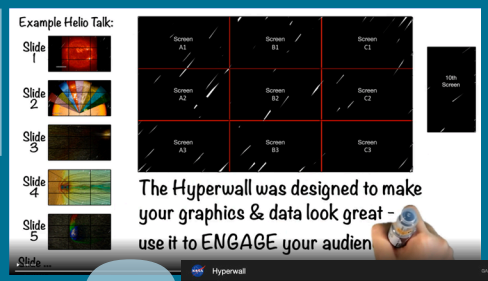
4. Design Layout. Design your layout, including layout notes and story text—see **DESIGNING YOUR HYPERWALL CONTENT**.

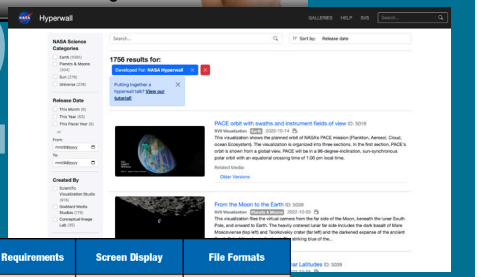
5. Upload Files to Box. Zip/compress all of your files into a single archive (ZIP) file to the Box link provided by the Science Support Office Hyperwall Team.

- Follow ZIP file naming convention: "EVENT_FIRSTNAME_LASTNAME_TITLE" e.g., "AGU_Han_Solo_EarthatNight"
- Your ZIP file should contain individual content files, design layout notes, instructions for "tenth" screen (e.g., caption text), and playlist notes (see **EXAMPLE PLAYLIST** on the page 7).
- Note: The Box link will be provided in the event planning Google Doc.

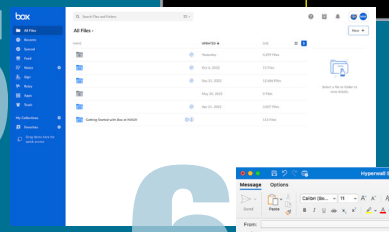
6. Confirm. **Email a Science Support Office Hyperwall Team Member** to confirm your files have been received by the Hyperwall Content Submission Deadline.

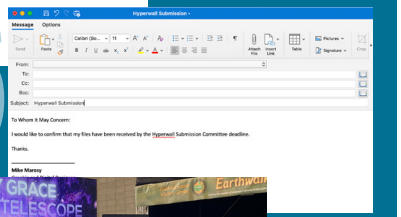
7. Share Your Science! Deliver a successful Hyperwall presentation.





Content Type	Size Requirements	Screen Display	File Formats
Full HD movie	1080p (1920 x 1080) @ 30fps	1 screen, a 2 x 2 arrangement, and/or a 3 x 3 arrangement of screens	QuickTime H.264 MPEG
Large animation (frames)	3840 x 2160 up to 5760 x 3240	Any number of whole screens	PNG TIFF
Still images**	1920 x 1080 up to 5760 x 3240	Any number of whole screens	PNG TIFF
Text	~1600 characters per screen	1 screen	Plain text





Hyperwall Media Requirements

Content for the Hyperwall must meet the requirements listed below.*

Content Type	Size Requirements	Screen Display	File Formats
Full HD movie	1080p (1920 x 1080) @ 30fps	1 screen, a 2 x 2 arrangement, and/or a 3 x 3 arrangement of screens	QuickTime H.264 MPEG
Large animation (frames)	3840 x 2160 up to 5760 x 3240	Any number of whole screens	PNG TIFF
Still images**	1920 x 1080 up to 5760 x 3240	Any number of whole screens	PNG TIFF
Text	~1600 characters per screen	1 screen	Plain text

* While not the best use of NASA Hyperwall software—the Hyperwall can play high-definition (4K) data visualizations (and images) using PowerPoint and Keynote files in a special mode called “Matrix Mode.”

** Each screen of the Hyperwall system runs at 1920 x 1080 pixels. Images/videos can span one screen, a combination of screens, or all nine screens. If an image will span all nine screens, then the maximum (preferred) resolution for that image is 5760 x 3240.

Designing your Hyperwall Layout

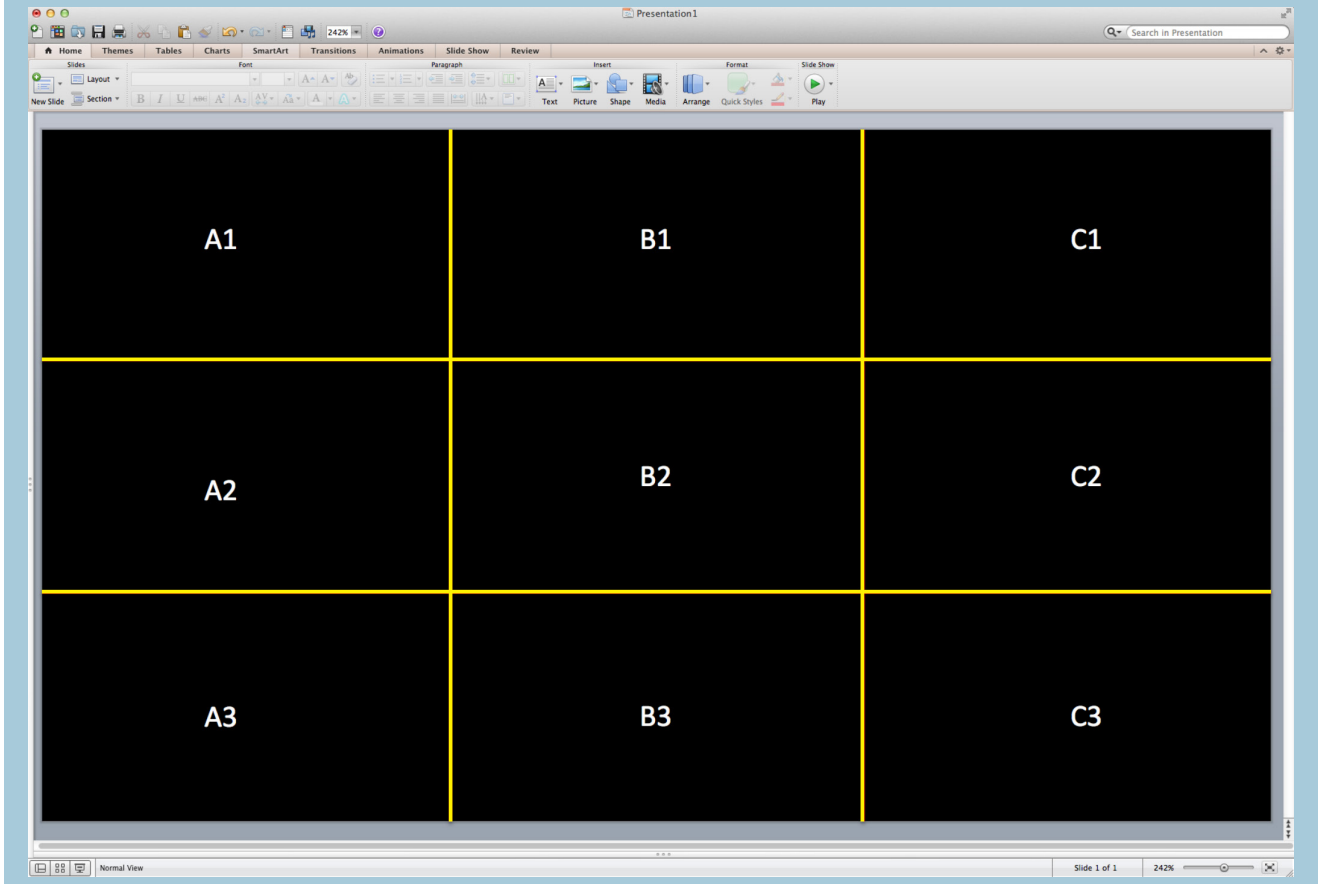


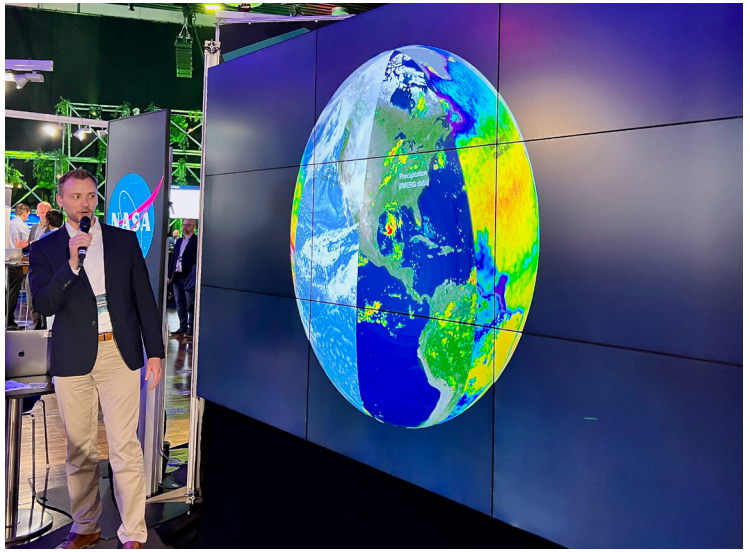
Figure 1. Download the **Keynote** or **PowerPoint** templates to view Hyperwall Guides (yellow lines).

1. Download the *Hyperwall Guide Template* in either **PowerPoint** or **Keynote** from Box. Guides (dashed gray lines in PowerPoint; solid yellow lines in Keynote) represent the screen bezels between individual Hyperwall monitors—see **Figure 1**. NOTE: You must "Download" these files from Box to see the Guides as they do not show up in Preview (in your browser). Be sure to turn on Guides in the application.
2. Arrange your content files across any number of screens (A1-C3)—see **EXAMPLE HYPERWALL LAYOUTS**—while avoiding screen bezels (i.e., use Guides in PowerPoint or Keynote). Images/videos can span one screen, a combination of screens, or all nine screens.
3. Individual content files should be submitted along with a set of Layout Notes.

Layout Notes should include:

- Slide number
- A listing of the individual content file names and position coordinates as described in *Example 1 Hyperwall Layout* and *Example 2 Hyperwall Layout*.
- Instruction for the "tenth" screen—e.g., caption text, logo, etc.

Example 1 Hyperwall Layout



10th Screen

Layout Notes for Example 1

A1-C3: EarthatNight.png (a single 5760x3240 pixel image displayed across all screens)

10th screen: Caption text:* One way to study the spatial distribution, or arrangement, of human settlements is to view the planet from space during nighttime hours. The brightest areas are generally the most urbanized but not necessarily the most populated. The Visible Infrared Imaging Radiometer Suite (VIIRS) "day-night band" onboard the Suomi National Polar-orbiting Partnership (NPP) satellite can observe dim signals such as city lights, wildfires, gas flares, auroras, and reflected moonlight during nighttime hours. Swaths of data are processed to find moonless, non-cloudy picture elements, or pixels. Over time, all moonless and non-cloudy pixels for a particular location during night-time hours are averaged to produce a global image that depicts the Earth's lights at night. The data are used to study settlement patterns and the effects of future population growth. Once other sources of light like fire and lightning are removed, the "human footprint" is revealed. The remaining light comes from stable light sources such as streetlights, headlights, store signs, etc. Areas with more of these stable light sources are usually more economically developed. The image shown here is a composite of data acquired over nine days in April and thirteen days in October 2012.

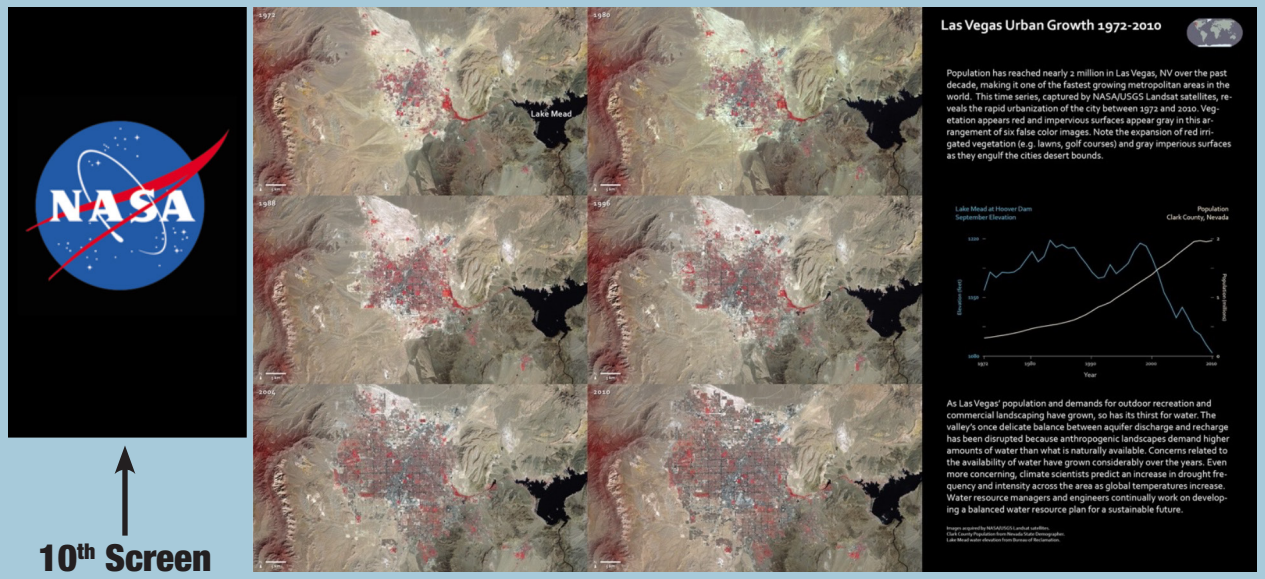
*Existing Media from svs.nasa.gov/hw will have existing "tenth" screen text.

EXAMPLE PLAYLIST

1. Existing: From a Million Miles Away, NASA Camera Shows Moon Crossing Face of Earth (svs.gsfc.nasa.gov/cgi-bin/details.cgi?aid=11971)
2. Existing: Current Earth Observing Fleet (svs.gsfc.nasa.gov/cgi-bin/details.cgi?aid=30496)
3. Existing: From Observations to Models (svs.gsfc.nasa.gov/cgi-bin/details.cgi?aid=30590)
4. Existing: Five Year Global Temperature Anomalies from 1880 to 2014 (svs.gsfc.nasa.gov/cgi-bin/details.cgi?aid=4252)
5. New: (New Content Title)

NOTE: Please indicate if media is Existing (from svs.gsfc.nasa.gov/hw) or New.

Example 2 Hyperwall Layout



10th Screen

Layout Notes for Example 2

10th screen: NASA logo	**A1:** las_vegas_1972.tif	**B1:** las_vegas_1990.tif	**C1:** las_vegas_intro_text.png
	A2: las_vegas_1978.tif	**B2:** las_vegas_2000.tif	**C2:** las_vegas_graph.png
	A3: las_vegas_1984.tif	**B3:** las_vegas_2010.tif	**C3:** las_vegas_closing_text.png