

# Centroamérica, Suramérica y el Caribe en el AR6: Bases físicas

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La Habana, Cuba

Enero 27 de 2023

#ClimateReport

#IPCC



# EL WGI AR6 EN NÚMEROS



**14,000** publicaciones científicas evaluadas

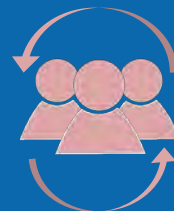


**Equipo de Autores**

**234** autores de **65** países

**28%** mujeres

**30%** investigadores participando por primera vez (63% ocupando nuevos roles)



**Proceso de revisión**

**78,000+** comentarios recibidos

**46** países comentaron la versión final de distribución a los gobiernos



## Latinoamérica y el Caribe en el WGI AR6

### Argentina



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(RE)



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Argentina  
University of Buenos Aires  
(RE)



Anna Amelia SÖRENSON  
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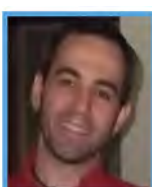
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Daniel MARTÍNEZ-CASTRO  
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Maisa ROJAS  
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### Brasil



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Marcos COSTA  
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The Federal University of Viçosa



Sergio Henrique FARIA  
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BC3 - Basque Centre for Climate Change



Lincoln MUNIZ ALVES  
Brazil  
National Institute for Space Research



Paulo Eduardo ARTAXO NETTO  
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University of the West Indies



Ruth CEREZO MOTA  
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Daniel RUIZ-CARRASCAL  
Estados Unidos/Colombia  
Columbia University in the City of New York

### Perú

### Jamaica

### México

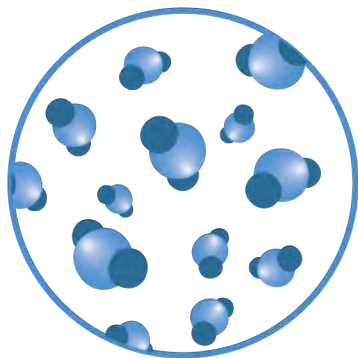
### Colombia



[Credit: NASA]

“ Los cambios recientes en el clima son generalizados, rápidos y cada vez más intensos, y no tienen precedentes en miles de años.

Concentración de  
**CO<sub>2</sub>**



**La más alta**

en al menos

**2 millones de años**

Aumento en el  
nivel del mar



**Ritmo más**

**rápido**

en al menos

**3000 años**

Área de  
**hielo marino**  
en el **Ártico**



**Nivel más bajo**

en al menos

**1000 años**

Retroceso de  
**glaciares**



**Sin precedentes**

en al menos

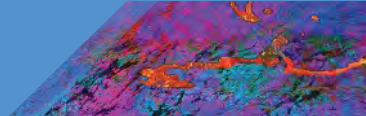
**2000 años**





[Credit: Peter John Maridable]

“ Se requiere reducciones inmediatas, rápidas y a gran escala de las emisiones de gases de efecto invernadero para limitar el calentamiento a 1.5°C.



## Las emisiones futuras provocan el calentamiento futuro adicional

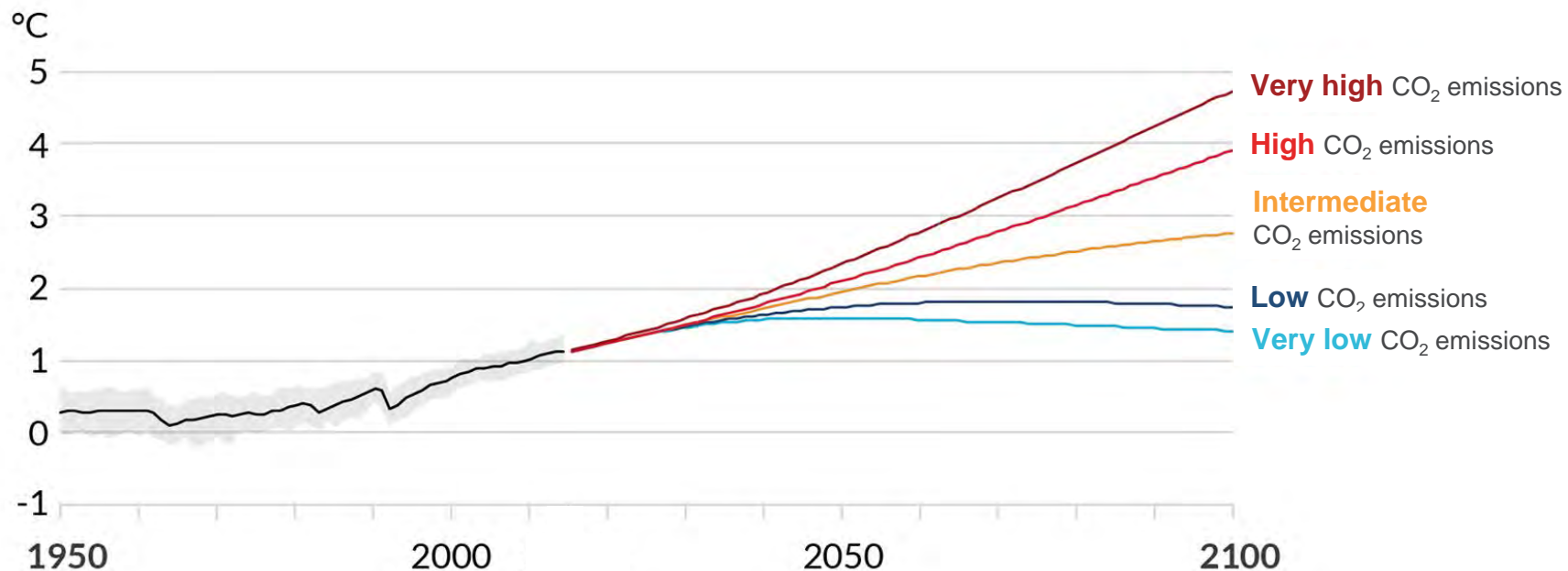


Figura 1 Box SPM.1



## Las emisiones futuras provocan el calentamiento futuro adicional

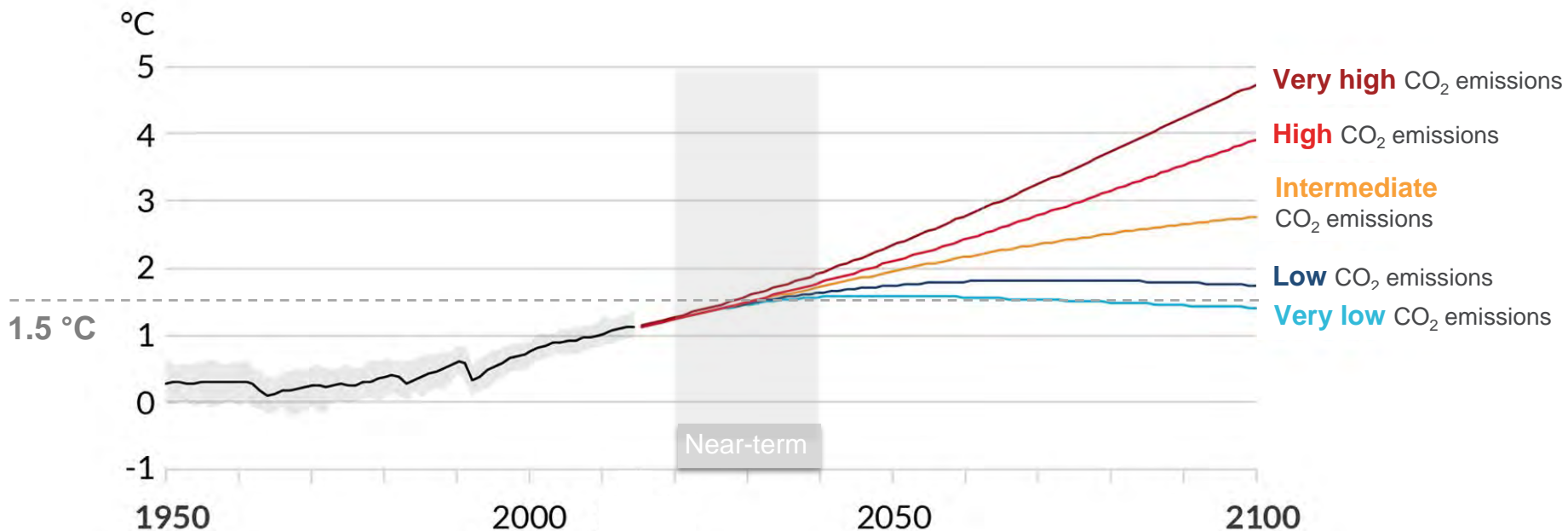
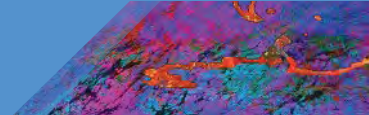


Figura 1 Box SPM.1





## Las emisiones futuras provocan el calentamiento futuro adicional

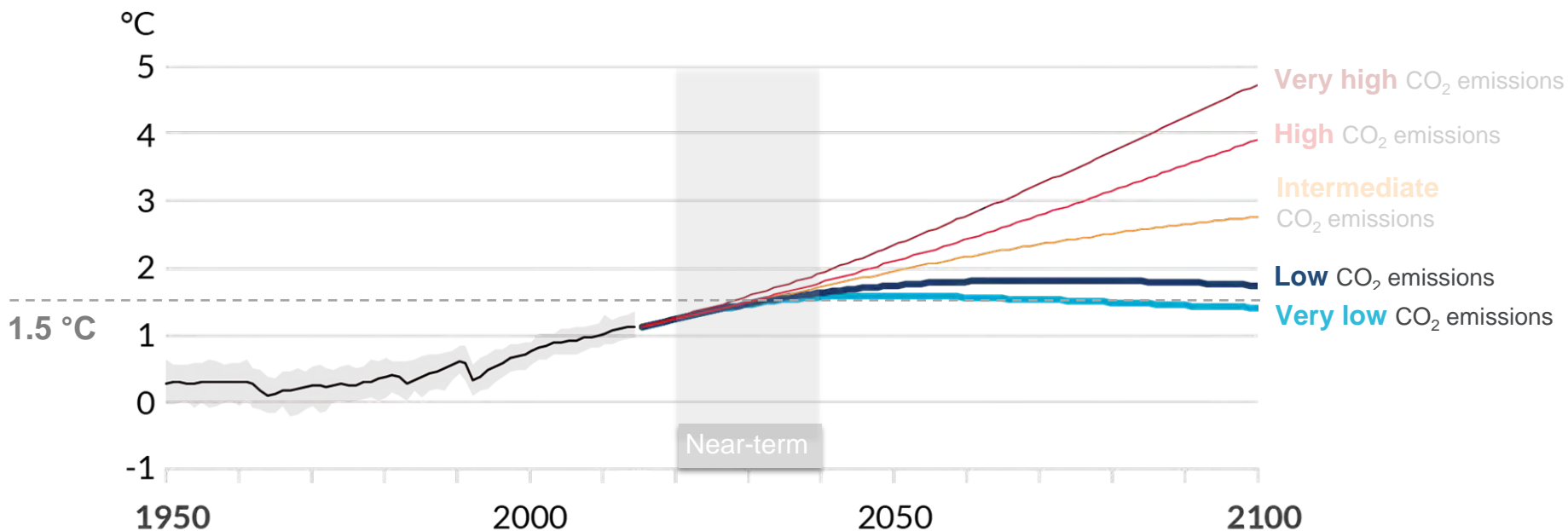
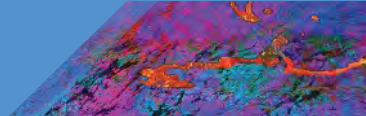


Figura 1 Box SPM.1



## Las emisiones futuras provocan el calentamiento futuro adicional

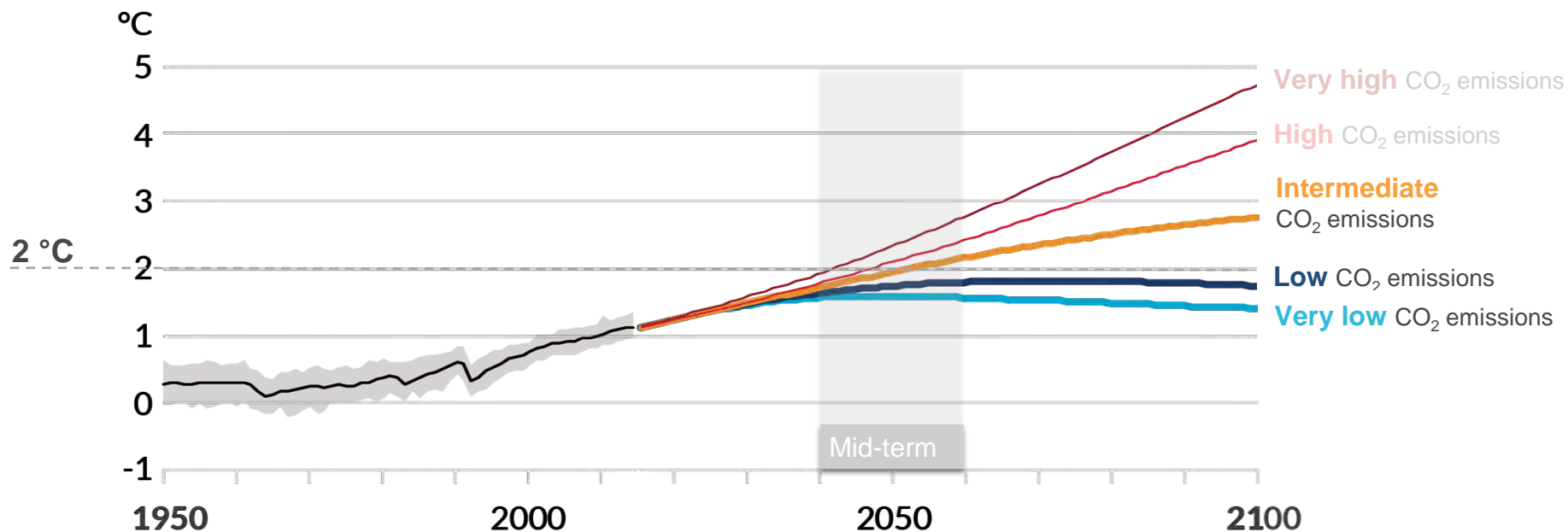
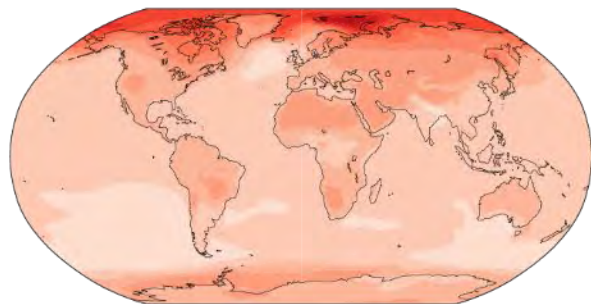


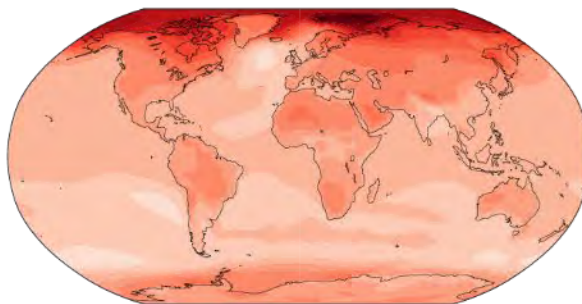
Figura 1 Box SPM.1

Con cada cantidad adicional de calentamiento global, los cambios se hacen mayores.

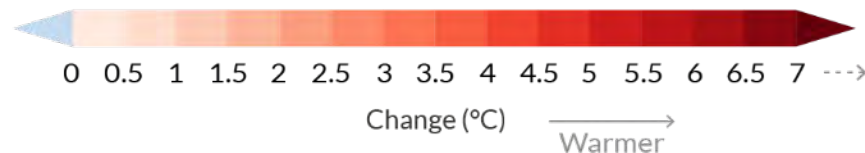
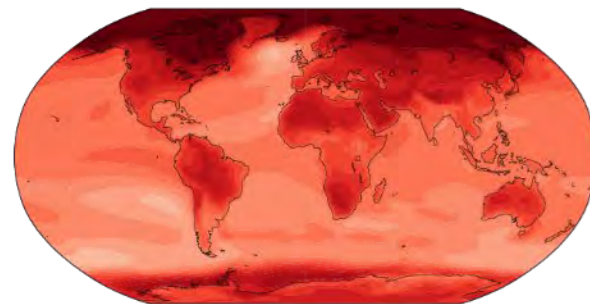
...at 1.5°C



...at 2°C



...at 4°C



Cambios proyectados en la temperatura media anual

Figura SPM.5



[Credit: Yoda Adaman | Unsplash]

“ Es indiscutible que las actividades humanas están causando el cambio climático, haciendo que los eventos climáticos extremos, como olas de calor, lluvias torrenciales y sequías, sean más frecuentes y severos.



## Calor extremo

Más frecuente

Más intenso

## Lluvias torrenciales

Más frecuentes

Más intensas

## Sequías

Incrementos en algunas regiones

## Clima de incendios

(combinación de condiciones cálidas, secas y ventosas que conducen a incendios)

Más frecuente

## Océanos

Calentamiento

Acidificación

Pérdida de oxígeno



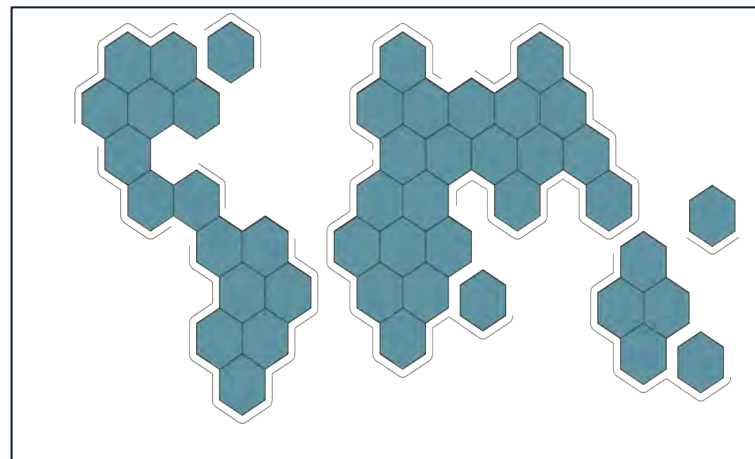
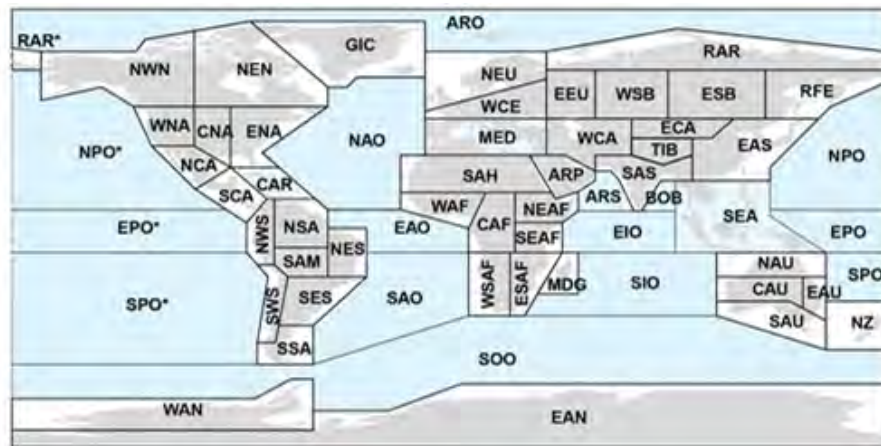


[Credit: Hong Nguyen | Unsplash]

“ El cambio climático ya está afectando a todas las regiones del planeta, de múltiples formas.

Los cambios que experimentamos aumentarán con un mayor calentamiento.

## 45 nuevas regiones terrestres (y su representación con hexágonos)





**El cambio climático ya está afectando a todas las regiones habitadas del mundo, y la influencia humana contribuye a muchos cambios, incluyendo fenómenos climáticos extremos.**

Figura SPM.3

## Extremos cálidos

Type of observed change in hot extremes

Increase (41)

Decrease (0)

Low agreement in the type of change (2)

Limited data and/or literature (2)

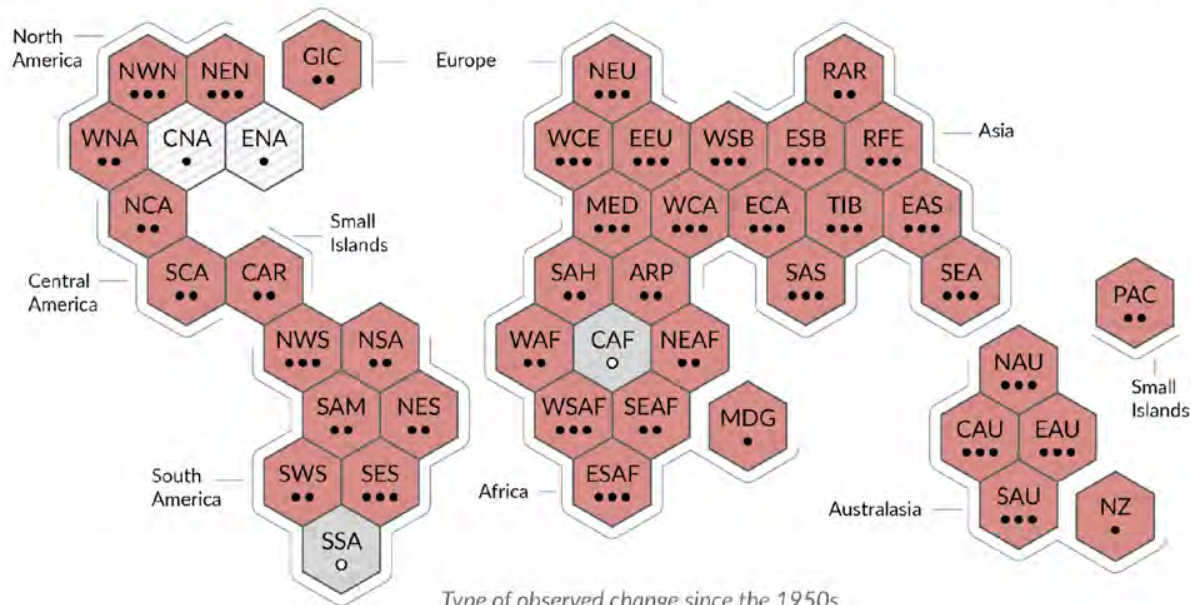
Confidence in human contribution to the observed change

●●● High

●● Medium

● Low due to limited agreement

○ Low due to limited evidence





**El cambio climático ya está afectando a todas las regiones habitadas del mundo, y la influencia humana contribuye a muchos cambios, incluyendo fenómenos climáticos extremos.**

Figura SPM.3

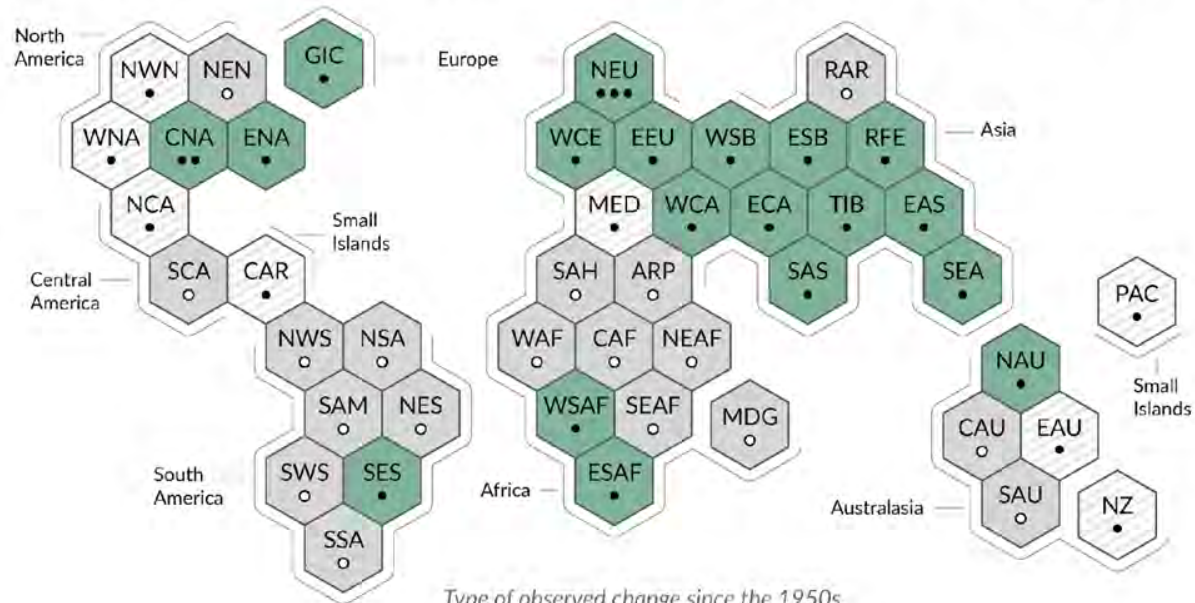
## Extremos de precipitación diaria

Type of observed change in heavy precipitation

- Increase (19)
- Decrease (0)
- Low agreement in the type of change (8)
- Limited data and/or literature (18)

Confidence in human contribution to the observed change

- High
- Medium
- Low due to limited agreement
- Low due to limited evidence







El cambio climático ya está afectando a todas las regiones habitadas del mundo, y la influencia humana contribuye a muchos cambios, incluyendo fenómenos climáticos extremos.

Figura SPM.3

## Sequías agrícolas y ecológicas

### Type of observed change

in agricultural and ecological drought

Increase (12)

Decrease (1)

Low agreement in the type of change (28)

Limited data and/or literature (4)

### Confidence in human contribution

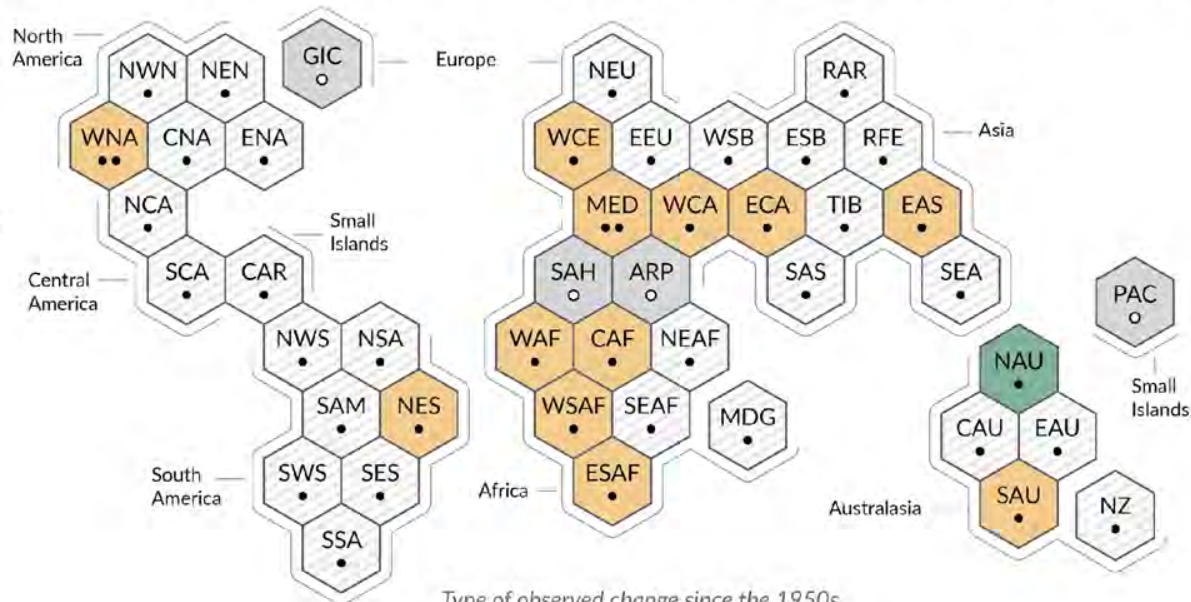
to the observed change

●●● High

●● Medium

● Low due to limited agreement

○ Low due to limited evidence



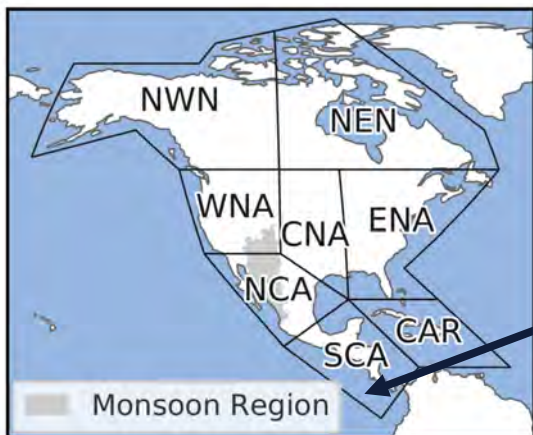
Type of observed change since the 1950s





## Caribe (CAR)

- Se observa un **aumento** en la ocurrencia de sequías (*confianza alta*).
- Se proyecta que las **reducciones** de precipitación durante Junio-Agosto **continuarán** durante las próximas décadas (*confianza alta* para 2°C de calentamiento).
- Se proyecta un **aumento** en la aridez y la ocurrencia de sequías (*confianza media* para 2°C de calentamiento).



## Sur de Centroamérica (SCA)

- Se observan  **aumentos**  en la frecuencia e intensidad de extremos cálidos desde 1950 debido a la actividad humana (*confianza media*).
- La aridez y ocurrencia de sequías está  **aumentando**  (*confianza media*).
- **Aumentará**  la ocurrencia de la combinación de condiciones cálidas, secas y ventosas que conducen a incendios forestales (*confianza media*).



## Cambios observados y proyectados en Centro y Suramérica



|                                  | Climatic Impact-Driver |              |            |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |
|----------------------------------|------------------------|--------------|------------|-------|--------------------|-------------|---------------------------------------|-----------|---------|----------------------|-------------------------------------|--------------|-----------------|-------------------|------------------|---------------------|-----------------------------|------------|-------------------------|------------------------------|------|----------------|--------------------|---------------|-----------------|-----------------|------------------------|-----------------------|--|----------------------|
|                                  | Heat and Cold          |              |            |       | Wet and Dry        |             |                                       |           |         |                      | Wind                                |              |                 |                   | Snow and Ice     |                     |                             |            | Coastal and Oceanic     |                              |      |                | Other              |               |                 |                 |                        |                       |  |                      |
|                                  | Mean air temperature   | Extreme heat | Cold spell | Frost | Mean precipitation | River flood | Heavy precipitation and pluvial flood | Landslide | Aridity | Hydrological drought | Agricultural and ecological drought | Fire weather | Mean wind speed | Severe wind storm | Tropical cyclone | Sand and dust storm | Snow, glacier and ice sheet | Permafrost | Lake, river and sea ice | Heavy snowfall and ice storm | Hail | Snow avalanche | Relative sea level | Coastal flood | Coastal erosion | Marine heatwave | Ocean and lake acidity | Air pollution weather | Atmospheric CO <sub>2</sub> at surface | Radiation at surface |
| <b>Central and South America</b> |                        |              |            |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |
| Southern Central America         | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   | 2                |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Northwestern South America       | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Northern South America           | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   | 2                |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| South American Monsoon           | ↗                      | ↗            | ↘          | ↘     |                    | ↗ 1         |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Northeastern South America       | ↗                      | ↗            | ↘          | ↘     | ↘                  |             |                                       |           |         |                      | ↗                                   |              |                 |                   |                  |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Southwestern South America       | ↗                      | ↗            | ↘          | ↘     | ↘                  |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
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| Southern South America           | ↗                      |              | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |

**Key for observational trend evidence**

|   |   |
|---|---|
| ↗ | Past upward trend (medium or higher confidence)   |
| ↘ | Past downward trend (medium or higher confidence) |

**Key for level of confidence in future changes**

|              |                                       |
|--------------|---------------------------------------|
| Dark Purple  | High confidence of increase (or more) |
| Light Purple | Medium confidence of increase         |
| White        | Low confidence in direction of change |
| Light Orange | Medium confidence of decrease         |
| Dark Orange  | High confidence of decrease (or more) |
| Grey         | Not broadly relevant                  |

**Key for attribution evidence**

|     |                           |
|-----|---------------------------|
| *** | High confidence (or more) |
| **  | Medium confidence         |

Tabla TS.5



## Cambios observados y proyectados en Centro y Suramérica



|                            | Climatic Impact-Driver |              |            |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    |               |                 |                 |                        |                       |  |                      |  |
|----------------------------|------------------------|--------------|------------|-------|--------------------|-------------|---------------------------------------|-----------|---------|----------------------|-------------------------------------|--------------|-----------------|-------------------|------------------|---------------------|-----------------------------|------------|-------------------------|------------------------------|-------|----------------|--------------------|---------------|-----------------|-----------------|------------------------|-----------------------|--|----------------------|--|
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| Southern Central America   | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   | 2                |                     |                             |            |                         |                              |       |                |                    |               |                 |                 |                        |                       |  |                      |  |
| Northwestern South America | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   | 2                |                     |                             |            |                         |                              |       |                |                    |               |                 |                 |                        |                       |  |                      |  |
| Northern South America     | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   | 2                |                     |                             |            |                         |                              |       |                |                    |               |                 |                 |                        |                       |  |                      |  |
| South American Monsoon     | ↗                      | ↗            | ↘          | ↘     |                    | ↗ 1         |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    |               |                 |                 |                        |                       |  |                      |  |
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| Southwestern South America | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    |               |                 |                 |                        |                       |  |                      |  |
| Southeastern South America | ↗                      | ↗            | ↘          | ↘     | ↘                  |             | ↗                                     |           |         | ↘                    |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    |               |                 |                 |                        |                       |  |                      |  |
| Southern South America     | ↗                      |              | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    |               |                 |                 |                        |                       |  |                      |  |

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| Light Purple  | Low confidence in direction of change |
| Light Blue    | Medium confidence of decrease         |
| Dark Blue     | High confidence of decrease (or more) |
| Grey          | Not broadly relevant                  |

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Table TS.5





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| Northeastern South America       | ↗                      | ↗            | ↘          | ↘     | ↘                  |             |                                       |           |         |                      | ↗                                   |              |                 |                   |                  |                     |                             |            |                         |                              |      |                | ↗                  | ↗             | ↗               | ↗               |                        | ↗                     |  |                      |
| Southwestern South America       | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |      |                | ↗                  | ↗             | ↗               | ↗               |                        | ↗                     |  |                      |
| Southeastern South America       | ↗                      | ↗            | ↘          | ↘     | ↗                  |             | ↗                                     |           |         | ↘                    |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |      |                | ↗                  | ↗             | ↗               | ↗               |                        | ↗                     |  |                      |
| Southern South America           | ↗                      |              | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |      |                | ↗                  | ↗             | ↗               | ↗               |                        | ↗                     |  |                      |

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|-----|---------------------------|
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| **  | Medium confidence         |

Tabla TS.5





## Cambios observados y proyectados en Centro y Suramérica



|                            | Climatic Impact-Driver |              |            |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    |               |                 |                 |                        |                       |  |                      |
|----------------------------|------------------------|--------------|------------|-------|--------------------|-------------|---------------------------------------|-----------|---------|----------------------|-------------------------------------|--------------|-----------------|-------------------|------------------|---------------------|-----------------------------|------------|-------------------------|------------------------------|-------|----------------|--------------------|---------------|-----------------|-----------------|------------------------|-----------------------|--|----------------------|
|                            | Heat and Cold          |              |            |       | Wet and Dry        |             |                                       |           | Wind    |                      |                                     |              | Snow and Ice    |                   |                  |                     | Coastal and Oceanic         |            |                         |                              | Other |                |                    |               |                 |                 |                        |                       |  |                      |
|                            | Mean air temperature   | Extreme heat | Cold spell | Frost | Mean precipitation | River flood | Heavy precipitation and pluvial flood | Landslide | Aridity | Hydrological drought | Agricultural and ecological drought | Fire weather | Mean wind speed | Severe wind storm | Tropical cyclone | Sand and dust storm | Snow, glacier and ice sheet | Permafrost | Lake, river and sea ice | Heavy snowfall and ice storm | Hail  | Snow avalanche | Relative sea level | Coastal flood | Coastal erosion | Marine heatwave | Ocean and lake acidity | Air pollution weather | Atmospheric CO <sub>2</sub> at surface | Radiation at surface |
| Central and South America  |                        |              |            |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    |               |                 |                 |                        |                       |  |                      |
| Southern Central America   | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   | 2                |                     |                             |            |                         |                              |       |                | ↘                  | ↘             | ↘               | ↘               |                        | ↘                     |  |                      |
| Northwestern South America | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                | ↘                  | ↘             | ↘               | ↘               |                        | ↘                     |  |                      |
| Northern South America     | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   | 2                |                     |                             |            |                         |                              |       |                | ↘                  | ↘             | ↘               | ↘               |                        | ↘                     |  |                      |
| South American Monsoon     | ↗                      | ↘            | ↘          |       |                    | ↗ 1         |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                | ↘                  | ↘             | ↘               | ↘               |                        | ↘                     |  |                      |
| Northeastern South America | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         |                      | ↘                                   |              |                 |                   |                  |                     |                             |            |                         |                              |       |                | ↘                  | ↘             | ↘               | ↘               |                        | ↘                     |  |                      |
| Southwestern South America | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                | ↘                  | ↘             | ↘               | ↘               |                        | ↘                     |  |                      |
| Southeastern South America | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         | ↘                    |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                | ↘                  | ↘             | ↘               | ↘               |                        | ↘                     |  |                      |
| Southern South America     | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                | ↘                  | ↘             | ↘               | ↘               |                        | ↘                     |  |                      |

**Key for observational trend evidence**

|   |   |
|---|---|
| ↗ | Past upward trend (medium or higher confidence)   |
| ↘ | Past downward trend (medium or higher confidence) |

**Key for level of confidence in future changes**

|               |                                       |
|---------------|---------------------------------------|
| Dark Purple   | High confidence of increase (or more) |
| Medium Purple | Medium confidence of increase         |
| Light Purple  | Low confidence in direction of change |
| Orange        | Medium confidence of decrease         |
| Dark Orange   | High confidence of decrease (or more) |
| Grey          | Not broadly relevant                  |

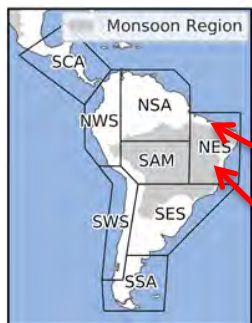
**Key for attribution evidence**

|     |                           |
|-----|---------------------------|
| *** | High confidence (or more) |
| **  | Medium confidence         |

Tabla TS.5



## Cambios observados y proyectados en Centro y Suramérica



|                                  | Climatic Impact-Driver |              |            |             |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |  |
|----------------------------------|------------------------|--------------|------------|-------------|--------------------|-------------|---------------------------------------|-----------|---------|----------------------|-------------------------------------|--------------|-----------------|-------------------|---------------------|---------------------|-----------------------------|------------|-------------------------|------------------------------|------|----------------|--------------------|---------------|-----------------|-----------------|------------------------|-----------------------|--|----------------------|--|
|                                  | Heat and Cold          |              |            | Wet and Dry |                    |             |                                       | Wind      |         |                      | Snow and Ice                        |              |                 |                   | Coastal and Oceanic |                     |                             | Other      |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |  |
|                                  | Mean air temperature   | Extreme heat | Cold spell | Frost       | Mean precipitation | River flood | Heavy precipitation and pluvial flood | Landslide | Aridity | Hydrological drought | Agricultural and ecological drought | Fire weather | Mean wind speed | Severe wind storm | Tropical cyclone    | Sand and dust storm | Snow, glacier and ice sheet | Permafrost | Lake, river and sea ice | Heavy snowfall and ice storm | Hail | Snow avalanche | Relative sea level | Coastal flood | Coastal erosion | Marine heatwave | Ocean and lake acidity | Air pollution weather | Atmospheric CO <sub>2</sub> at surface | Radiation at surface |  |
| <b>Central and South America</b> |                        |              |            |             |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |  |
| Southern Central America         |                        |              |            |             |                    |             |                                       |           |         |                      |                                     |              |                 |                   | 2                   |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |  |
| Northwestern South America       |                        |              |            |             |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |  |
| Northern South America           |                        |              |            |             |                    |             |                                       |           |         |                      |                                     |              |                 |                   | 2                   |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |  |
| South American Monsoon           |                        |              |            |             |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |  |
| Northeastern South America       |                        |              |            |             |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |  |
| Southwestern South America       |                        |              |            |             |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |  |
| Southeastern South America       |                        |              |            |             |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |  |
| Southern South America           |                        |              |            |             |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |  |

**Key for observational trend evidence**

|   |   |
|---|---|
| ↗ | Past upward trend (medium or higher confidence)   |
| ↘ | Past downward trend (medium or higher confidence) |

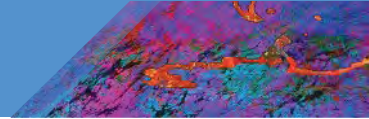
**Key for level of confidence in future changes**

|               |                                       |
|---------------|---------------------------------------|
| Dark Purple   | High confidence of increase (or more) |
| Medium Purple | Medium confidence of increase         |
| Light Purple  | Low confidence in direction of change |
| Light Blue    | Medium confidence of decrease         |
| Dark Blue     | High confidence of decrease (or more) |
| Grey          | Not broadly relevant                  |

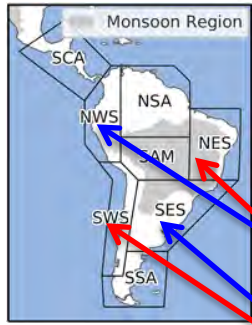
**Key for attribution evidence**

|     |                           |
|-----|---------------------------|
| *** | High confidence (or more) |
| **  | Medium confidence         |

Tabla TS.5



## Cambios observados y proyectados en Centro y Suramérica



|                                  | Climatic Impact-Driver |              |            |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    |               |                 |                 |                        |                       |  |                      |
|----------------------------------|------------------------|--------------|------------|-------|--------------------|-------------|---------------------------------------|-----------|---------|----------------------|-------------------------------------|--------------|-----------------|-------------------|------------------|---------------------|-----------------------------|------------|-------------------------|------------------------------|-------|----------------|--------------------|---------------|-----------------|-----------------|------------------------|-----------------------|--|----------------------|
|                                  | Heat and Cold          |              |            |       | Wet and Dry        |             |                                       |           | Wind    |                      |                                     |              | Snow and Ice    |                   |                  |                     | Coastal and Oceanic         |            |                         |                              | Other |                |                    |               |                 |                 |                        |                       |  |                      |
|                                  | Mean air temperature   | Extreme heat | Cold spell | Frost | Mean precipitation | River flood | Heavy precipitation and pluvial flood | Landslide | Aridity | Hydrological drought | Agricultural and ecological drought | Fire weather | Mean wind speed | Severe wind storm | Tropical cyclone | Sand and dust storm | Snow, glacier and ice sheet | Permafrost | Lake, river and sea ice | Heavy snowfall and ice storm | Hail  | Snow avalanche | Relative sea level | Coastal flood | Coastal erosion | Marine heatwave | Ocean and lake acidity | Air pollution weather | Atmospheric CO <sub>2</sub> at surface | Radiation at surface |
| <b>Central and South America</b> |                        |              |            |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    |               |                 |                 |                        |                       |  |                      |
| Southern Central America         | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   | 2                |                     |                             |            |                         |                              |       |                | ↗                  | ↗             | ↗               | ↗               |                        | ↗                     |  |                      |
| Northwestern South America       | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Northern South America           | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   | 2                |                     |                             |            |                         |                              |       |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| South American Monsoon           | ↗                      | ↘            | ↘          |       |                    | ↗           | 1                                     |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Northeastern South America       | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         |                      | ↗                                   |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Southwestern South America       | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Southeastern South America       | ↗                      | ↘            | ↘          |       |                    |             | ↗                                     |           |         | ↗                    |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Southern South America           | ↗                      | ↘            | ↘          |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                  |                     |                             |            |                         |                              |       |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |

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**Key for attribution evidence**

|     |                           |
|-----|---------------------------|
| *** | High confidence (or more) |
| **  | Medium confidence         |

Tabla TS.5





## Cambios observados y proyectados en Centro y Suramérica



|                                  | Climatic Impact-Driver |              |            |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |
|----------------------------------|------------------------|--------------|------------|-------|--------------------|-------------|---------------------------------------|-----------|---------|----------------------|-------------------------------------|--------------|-----------------|-------------------|---------------------|---------------------|-----------------------------|------------|-------------------------|------------------------------|------|----------------|--------------------|---------------|-----------------|-----------------|------------------------|-----------------------|--|----------------------|
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| <b>Central and South America</b> |                        |              |            |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    |               |                 |                 |                        |                       |  |                      |
| Southern Central America         | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 | 2                 |                     |                     |                             |            |                         |                              |      |                | ↗                  | ↗             | ↗               | ↗               |                        | ↗                     |  |                      |
| Northwestern South America       | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Northern South America           | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   | 2                   |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| South American Monsoon           | ↗                      | ↗            | ↘          | ↘     |                    |             | ↗ 1                                   |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Northeastern South America       | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     | ↗            |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Southwestern South America       | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Southeastern South America       | ↗                      | ↗            | ↘          | ↘     |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |
| Southern South America           | ↗                      |              | ↘          |       |                    |             |                                       |           |         |                      |                                     |              |                 |                   |                     |                     |                             |            |                         |                              |      |                |                    | ↗             | ↗               | ↗               | ↗                      |                       | ↗                                      |                      |

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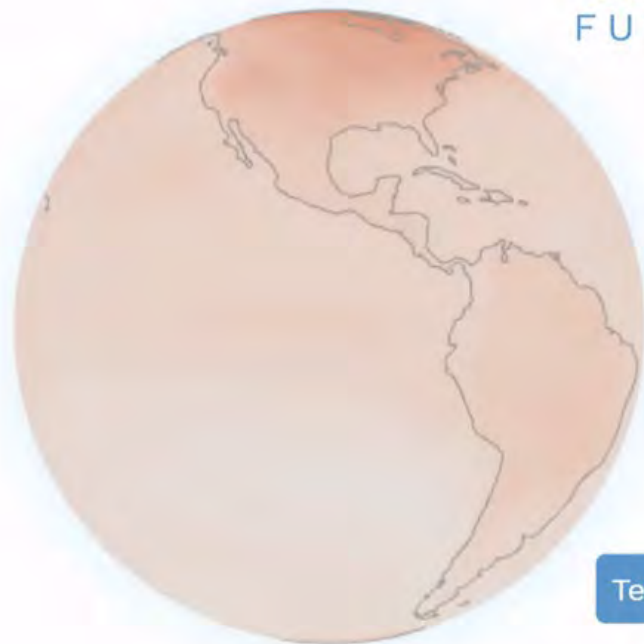
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|     |                           |
|-----|---------------------------|
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Tabla TS.5

## Atlas Interactive

OUR POSSIBLE  
CLIMATE  
FUTURES



+1.5°C

+2°C

+3°C

+4°C

Temperature

Precipitation

<https://interactive-atlas.ipcc.ch/>

#IPCCData

#IPCCAtlas





[Credit: Jenn Caselle | UCSB]

“ “ No hay vuelta atrás de algunos cambios en el sistema climático...

## Océanos y criósfera



El retroceso de los glaciares y la pérdida del hielo marino en el Ártico continuarán por varias décadas.

El derretimiento de capas de hielo de Groenlandia y la Antártida continuará por miles de años.

b) Extensión del hielo marino Ártico en septiembre

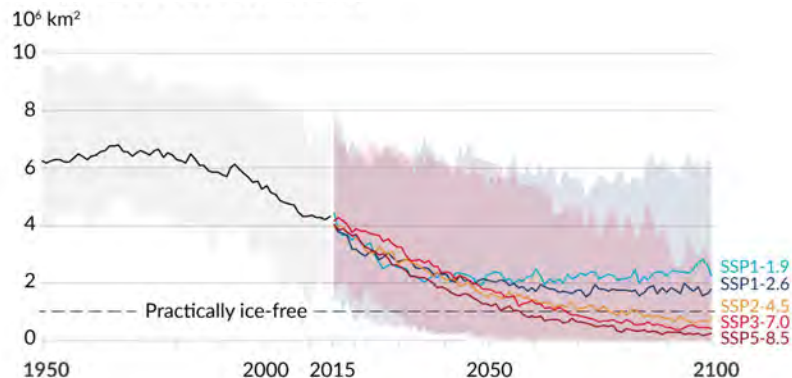


Figura SPM.8

## Océanos y criósfera



Los cambios en los océanos continuarán por cientos a miles de años.

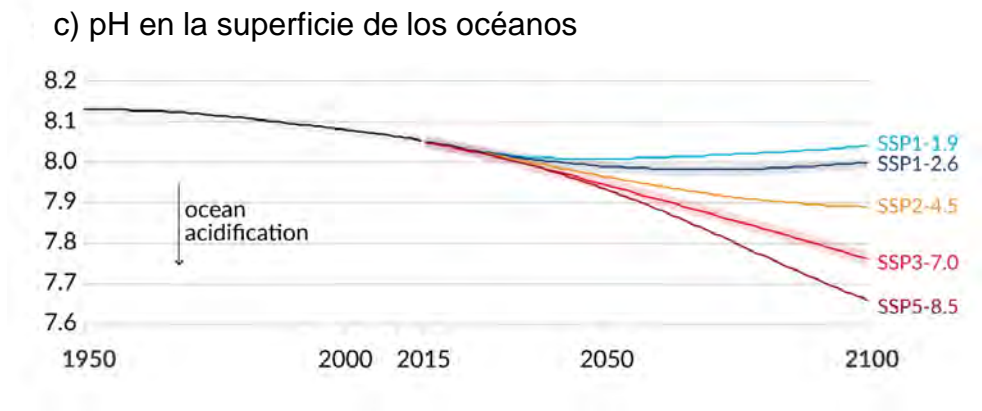


Figura SPM.8

## Océanos y criósfera



El nivel del mar continuará aumentando por miles de años.

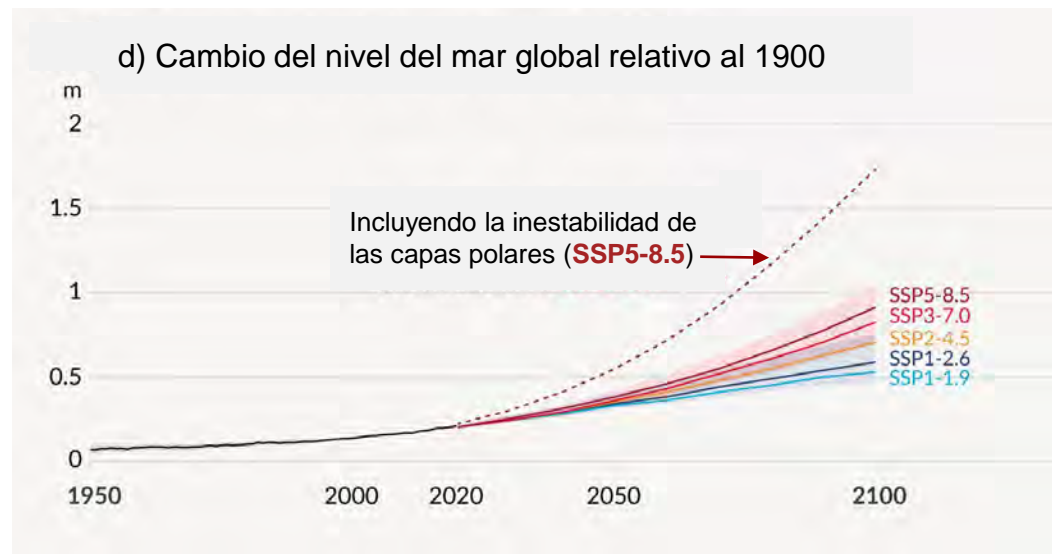


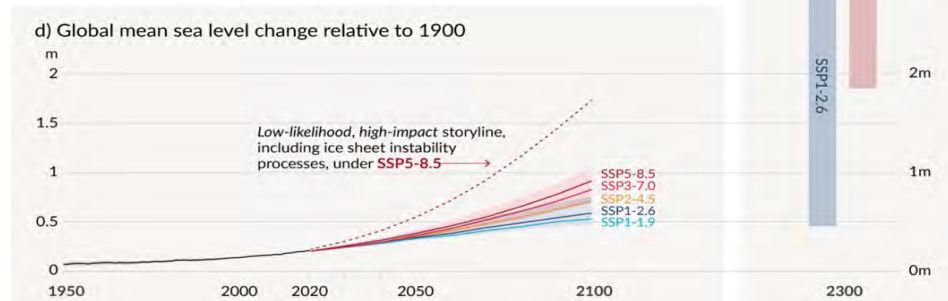
Figura SPM.8

## Océanos y criósfera



El nivel del mar continuará aumentando por miles de años debido al calentamiento de los océanos y el derretimiento de las capas de hielo.

e) Cambio del nivel del mar global en 2300 relativo al año 1900



Sea level rise greater than 15m cannot be ruled out with high emissions

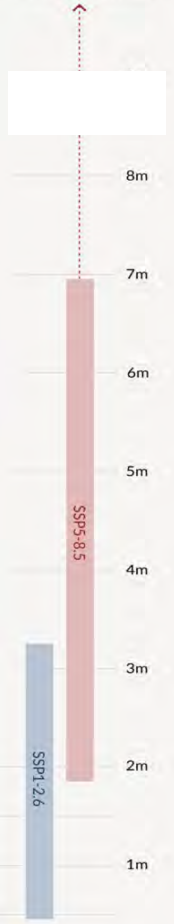


Figura SPM.8





[Credit: Andy Mahoney | NSIDC]

“...Sin embargo, algunos cambios podrían desacelerarse y otros podrían detenerse limitando el calentamiento.



[Credit: evgeny-nelmin.]

“ Para limitar el calentamiento global, son necesarias reducciones fuertes, rápidas y sostenidas de CO<sub>2</sub>, metano y otros gases de efecto invernadero.



## Cada tonelada de emisiones de CO<sub>2</sub> suma al calentamiento global

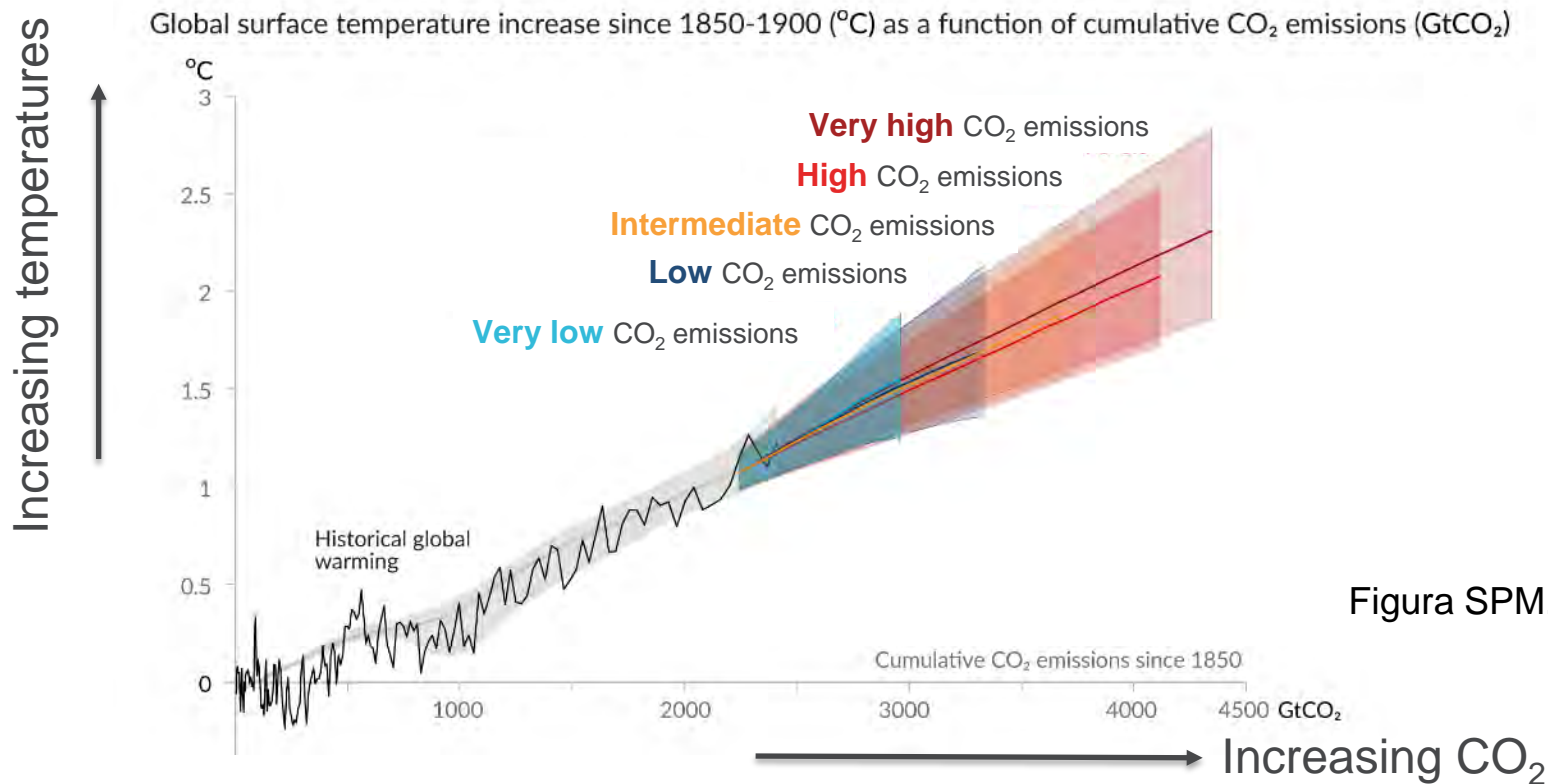


Figura SPM.10



## Cada tonelada de emisiones de CO<sub>2</sub> suma al calentamiento global

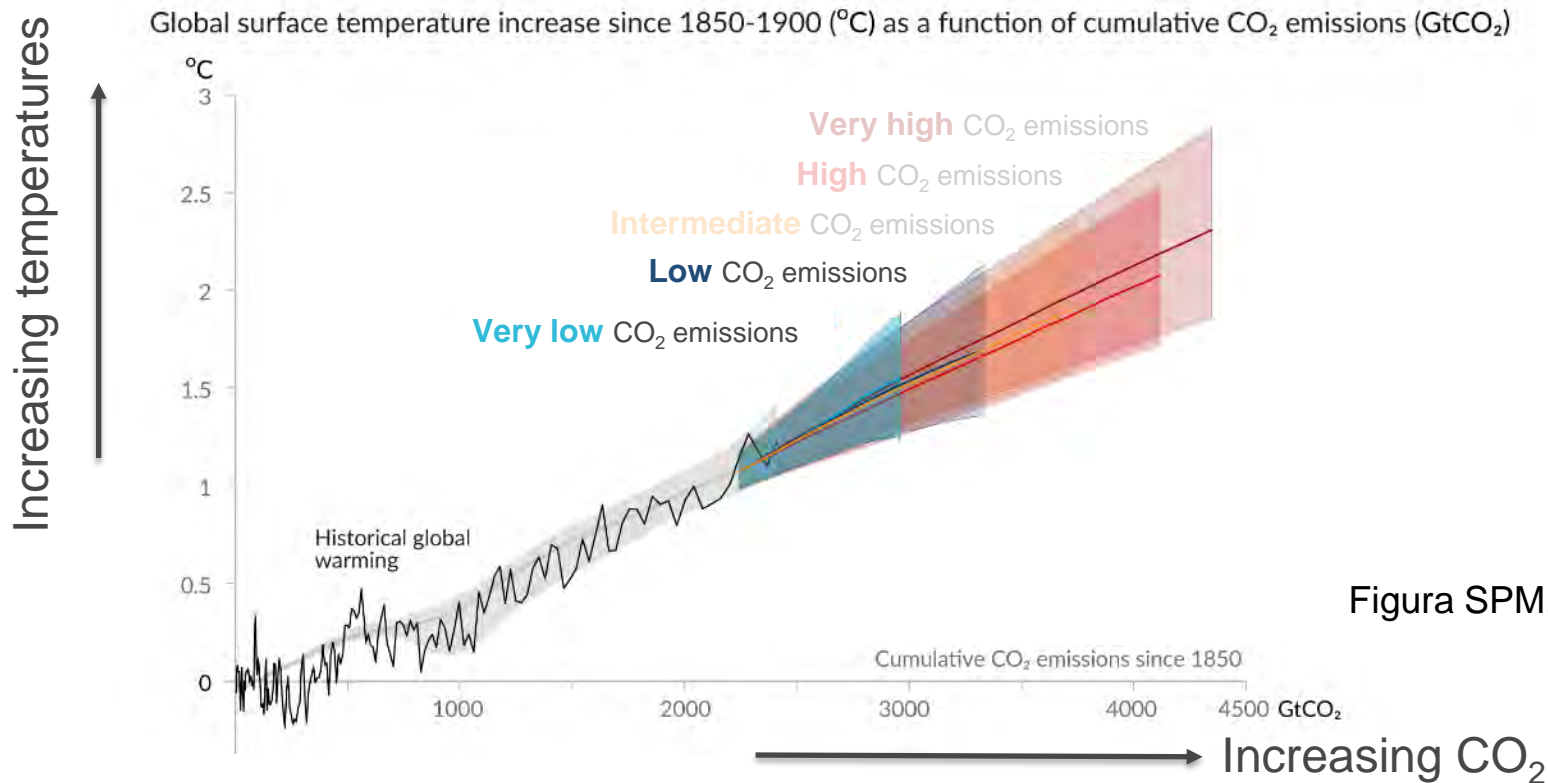
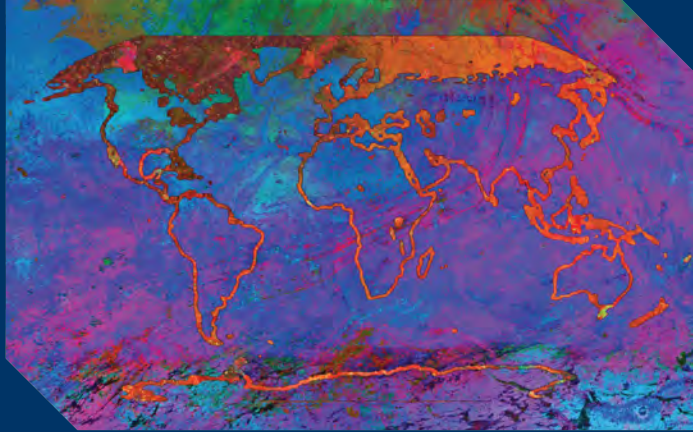


Figura SPM.10



El clima que experimentaremos en el futuro depende de nuestras decisiones ahora.







# ¡Gracias!

## Más Información:

IPCC: [www.ipcc.ch](http://www.ipcc.ch)  
Interactive Atlas: [interactive-atlas.ipcc.ch](http://interactive-atlas.ipcc.ch)  
IPCC Working Group I TSU:  
IPCC Press Office: [ipcc-media@wmo.int](mailto:ipcc-media@wmo.int)

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