```python

from skimage import io, color

import numpy as np

# Load your current binary map

current\_binary\_map = io.imread("current\_binary\_map.tif") # Adjust the filename and extension

# Load the image from a specific year (e.g., 2022)

year\_to\_compare = 2022 # Change to the year you want to compare

image\_path = f"{year\_to\_compare}\_cloud\_image.tif" # Adjust the filename and extension

# Read the image

image = io.imread(image\_path)

# Convert the image to grayscale

gray\_image = color.rgb2gray(image)

# Apply a threshold to create a binary map

binary\_map\_year = (gray\_image > 0.5).astype(np.uint8) \* 255 # Convert to 0 (cloudy) and 255 (cloud-free)

# Calculate the difference between the current binary map and the binary map of the chosen year

difference\_map = np.abs(current\_binary\_map - binary\_map\_year)

```