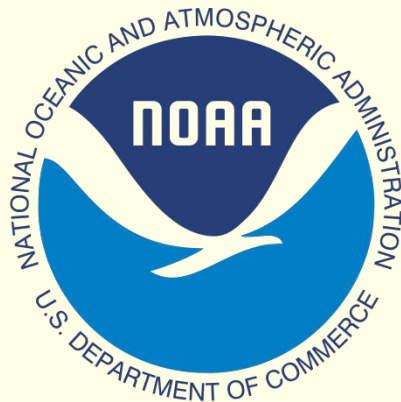


# The Adventures of Owlie Skywarn and Sanctuary Sam

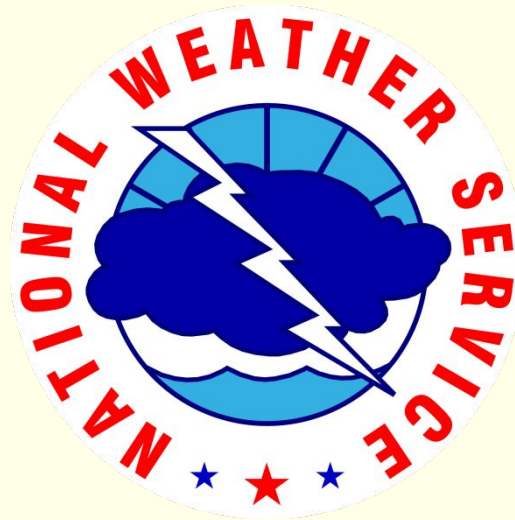


Welcome to the Adventures of NOAA's Owlie Skywarn and Sanctuary Sam! This book will highlight numerous resources related to protecting the environment and preparing for hazardous weather in a relatable adventure.





Hi, I'm Owlie Skywarn! I am the National Weather Service's go-to-owl for weather science and safety information.



At the National Weather Service (NWS), we provide weather, water, and climate data, forecasts, and warnings in order to protect life and property.

And I'm Sanctuary Sam, the National Marine Sanctuary System's resident California sea lion!



At NOAA's Office of National Marine Sanctuaries (ONMS), we manage a national system of marine protected areas so that you and future generations can continue to explore and enjoy the wonders of the sea. Join us on our adventure!



Join us as we embark on an adventure -- exploring locations from the summit of the mountains to the depths of the ocean!



Our first stop on our adventures is in the mountains!



Today we hiked up a mountain and the view was amazing! From the top of the mountain, we could see the whole water cycle.



First, we saw lots of white puffy clouds. Did you know they are made of little drops of water called water vapor?

Weather changes fast on a mountain,  
and before we knew it, we could see  
a rain shower in the distance.



When it falls, rain soaks into the ground or runs  
down the mountain into a lake or river.



Water that starts as a small stream or snow at the top of the mountain will eventually make its way down to the ocean.



Next we'll learn about the things that water can pick up on its journey!

It looks like some of the water from yesterday's rain showers made it to this river!



When it rains on a mountain, the water flows to the bottom and collects towards the base.

But what happens if there is too much water?  
Water rises over the river bank and  
spreads out -- that's called river flooding.



Flooding usually happens over days or weeks, but sometimes the water rises quickly, in just a few hours. That's called a flash flood. And we know it's important to never walk or drive through floodwaters!



Even when it doesn't flood, as rainwater moves over the ground it can pick up natural and human-made pollution.



Because all rivers lead to our one ocean, they can carry pollution all the way from mountains -- or your backyard -- to the sea.



On our way to the ocean, let's explore a bay!

Did you know this beautiful bay is part of an estuary?



Estuaries provide many different types of habitats, including shallow waters, open waters, marshes and wetlands, sandy beaches, mudflats, and oyster reefs, which are important to all sorts of animals.



We want to keep our estuaries healthy.  
And for that to happen, we have to limit pollution.



Pollution is one of the most important threats to water quality in estuaries. Poor water quality affects many of the creatures that call estuaries home.

But there's good news!

You can help keep estuaries healthy when you visit them and when you're at home.

When we visit estuaries, we also need to check the forecast! It's important before you do any activity outside like camping, kayaking, fishing, or going to the beach. We just go to <http://www.weather.gov/>.



It looks like we better be prepared for storms today! We will bring a charged cellphone and our NOAA Weather Radio. We can use those to get instant alerts about the latest forecast and new warnings and watches posted, along with the new Wireless Emergency Alerts.



Because we're prepared, we can have even more fun when we go canoeing today!



Welcome to our last stop, the beach! Did you know that this beach is part of a network of underwater parks called national marine sanctuaries?



The network includes 13 national marine sanctuaries and Papahānaumokuākea and Rose Atoll marine national monuments.

We're excited to play in the waves! Look! The lifeguard has a green flag. It is safe to swim today.



Beach hazard signs, flags, and the lifeguard can tell us about rip currents, dangerous waves, marine life, or other hazards happening at the beach. When we pay attention to these signs, we can be safe and have a fantastic time playing in the ocean.

Our final day in our adventure is here, and the weather forecast is hot and sunny!



Perfect for going to the beach again.  
It's time to put on our sunscreen!



Even though the thermometer says 85°F, it may feel hotter to us because of the humidity.



This feeling is called heat index. By wearing our sunscreen, taking breaks in the shade, and wearing loose clothing, we can beat the heat and stay safe!

Swimming and relaxing in our national marine sanctuary, it's easy to see how, no matter where we live, we are all connected to the ocean.



From this beach, we can see that we must all work together to protect these special places for future generations.

# The End



Thanks for joining us on our adventure  
from the mountains to the ocean and  
learning how water ties all of NOAA together!



# More Information

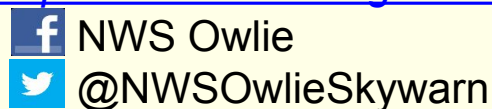
## National Weather Service

[www.weather.gov/](http://www.weather.gov/)



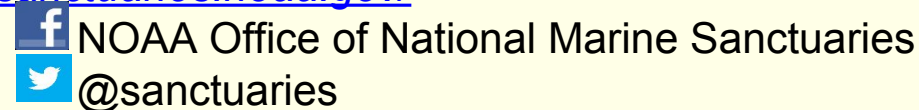
## Owlie Skywarn

<http://www.weather.gov/owlie/>



## Office of National Marine Sanctuaries

[sanctuaries.noaa.gov/](http://sanctuaries.noaa.gov/)



## Sanctuary Sam

<http://sanctuaries.noaa.gov/education/sam/welcome.html>

# More Information

## **Water Cycle**

<http://www.srh.noaa.gov/jetstream/atmos/hydro.htm>

<http://oceantoday.noaa.gov/watercycle/> (Video)

## **Flooding**

<http://www.nws.noaa.gov/os/water/tadd/>

<https://www.youtube.com/watch?v=eI6mIIHKrVY> (Video)

## **Bay/Estuary**

<http://estuaries.noaa.gov/>

## **Water Safety**

<http://www.ripcurrents.noaa.gov>

## **Marine Sanctuaries**

<http://sanctuaries.noaa.gov/earthisblue.html>

# More Information

## **Pollution**

[http://sanctuaries.noaa.gov/education/kids\\_club/pledge.html](http://sanctuaries.noaa.gov/education/kids_club/pledge.html)

<http://sanctuaries.noaa.gov/protect/oceanetiquette.html>

## **Become Weather Ready**

<http://www.nws.noaa.gov/com/weatherreadynation/>

<http://www.ready.gov/alerts>

## **Heat Safety**

<http://www.nws.noaa.gov/om/heat/index.shtml>