

Papahānaumokuākea Marine National Monument Permit Application Cover Sheet

This Permit Application Cover Sheet is intended to provide summary information and status to the public on permit applications for activities proposed to be conducted in the Papahānaumokuākea Marine National Monument. While a permit application has been received, it has not been fully reviewed nor approved by the Monument Management Board to date. The Monument permit process also ensures that all environmental reviews are conducted prior to the issuance of a Monument permit.

Summary Information

Applicant Name: Umran S. Inan (contact for details is Kevin L. Graf)

Affiliation: Stanford University

Permit Category: Research

Proposed Activity Dates: January 2010 -- January 2012

Proposed Method of Entry (Vessel/Plane): Plane

Proposed Locations: Midway Atoll National Wildlife Refuge

Estimated number of individuals (including Applicant) to be covered under this permit:

1

Estimated number of days in the Monument: 10

Description of proposed activities: (complete these sentences):

a.) The proposed activity would...

reinstall our receiver which was previously located at Midway Atoll before construction at the site forced the temporary removal of our equipment. The reinstallation would allow us to complete our data sets for on-going studies of transmitter induced precipitation of electron radiation, and fill a critical hole in a global detection network of very low frequency (VLF) radio waves for the purposes of studying lightning activity, additional thunderstorm phenomena, the ionosphere, the Earth's near-space environment, and the propagation of VLF waves therein. Without our receiver at this location in the Monument, the data for our on-going studies lacks consistency, and a hole remains in the data for any new studies involving the Pacific Region.

b.) To accomplish this activity we would

send one person to Midway Atoll to reinstall our receiver. The receiver consists merely of a completely passive antenna with preamplifier and a computer with receiver inside to log the data. The antenna is only for receiving waves that are already present, which means it should have no environmental impact.

c.) This activity would help the Monument by ...

providing significant data on thunderstorm activity in the Pacific region, and continuing the study of VLF wave propagation and its potential uses. The studies pertaining to VLF waves are

critical to communications -- Naval communications rely directly on VLF waves, and communications satellites may have their lifetimes significantly extended through the proper use of VLF waves.

Other information or background: We have previously installed one of our receivers at Midway Atoll prior to the institution of the permit requirements. That receiver was shut down and placed in storage because the building in which it was located was being renovated. Our planned trip to reinstall the receiver had to be cancelled at the last minute when the new permit requirements were brought to our attention. This year, we hope to receive the required permit and return to bring our receiver back online.