



Permitted activities: Pre-activity notice

Form 1 of Schedule 5 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Permitted Activities) Regulations 2013

How to use this form: This form must be completed by organisations planning to carry out a permitted activity (except seismic surveying) in accordance with:

- regulation 5, 6 or 8 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Permitted Activities) Regulations 2013 (PA Regulations 2013); or
- regulation 7, 8 or 9 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects – Discharge and Dumping) Regulations 2015 (D&D Regulations 2015).

This form fulfils the pre-activity reporting requirements under regulation 11(a) of the PA Regulations 2013 and regulation 12(2) of the D&D Regulations 2015.

Timeframe: You must provide this form to the Environmental Protection Authority (EPA) no less than 40 working days before starting the activity.

Note: Items marked in *italics* are not compulsory; however, including this information will help the EPA process the form.

This completed form, once received and processed by the EPA, will be posted on the EPA website.

Submitting in hard copy: If you wish to provide the completed form in hard copy, post it to Environmental Protection Authority, Private Bag 63002, Wellington 6140 or fax it to +64 4 914 0433.

Submitting electronically: If you wish to provide the completed form electronically, email it to permitted.compliance@epa.govt.nz.

Any form submitted electronically should be attached to an email that sets out:

- the details of the person undertaking the permitted activity (the operator)
- the name of the person supplying the completed form
- a statement that the person is authorised to supply the form on behalf of the operator.

Note: The EPA has an 8 MB limit on electronic files submitted by email.

You can find and download all forms prescribed by the PA Regulations 2013 and the D&D Regulations 2015, as well as suggested templates for providing other information, on our website at www.epa.govt.nz or request them from us by contacting:

Environmental Protection Authority,
Private Bag 63002, Wellington 6140
Email permitted.compliance@epa.govt.nz

Phone +64 4 916 2426
Fax +64 4 914 0433

Operation name: Waveglider for GPS-AName used by operator to reference the activity described in this form: *GNSPA10***Details of person undertaking permitted activity**

Name of company, organisation or person:	GNS Science		
Contact person:			
Phone number:			
Mobile number:		Fax number:	
Physical address:	1 Fairway Drive, Lower Hutt	Postcode:	5010
Postal address (if different):	PO Box 30368, Lower Hutt	Postcode:	5040
Email address:			

General description of permitted activity**Type of activity:**

Marine scientific research	<input checked="" type="checkbox"/>	Alteration, extension or removal of a permitted marine structure	<input type="checkbox"/>
Prospecting	<input type="checkbox"/>	Discharge of sediments from iron sand prospecting and exploration	<input type="checkbox"/>
Exploration	<input type="checkbox"/>	Incidental discharge of sediments from phosphate nodule or placer gold prospecting and exploration	<input type="checkbox"/>
Placement or removal of submarine cables	<input type="checkbox"/>	Discharge of sediments from seafloor massive sulphide prospecting and exploration	<input type="checkbox"/>

Description of methods to be used to undertake the activity:

A Wave Glider is an autonomous, remotely controlled vehicle that operates on the surface of the ocean. The Wave Glider uses mechanical wave motion of the ocean surface for propulsion (Figure 1), solar arrays for electrical power and Iridium satellite communications for command/control from shore. Given that both the sea-surface wave action and solar energy are renewable, the vehicle can operate for extended periods (months) remotely. It is in wide use for oceanographic observations around the globe.

We will be using the Wave Glider (with a GPS antenna mounted on it) to periodically survey in an array of acoustic transponders on the seafloor at various locations offshore the North Island's east coast. Each survey will allow us to establish the position of the array to within 1-3 cm. The periodic re-surveys of the arrays using the GPS-Acoustic method will thus allow us to monitor cm-level horizontal movement of the seafloor related to tectonic activity on the Hikurangi subduction zone. Each Wave Glider deployment will last less than one month, and will take place at least once per year (most likely in the summer months) over a period of 5 years. The vehicle will be launched from a boat in open ocean, and navigated remotely to seafloor transponder sites to collect the GPS-A data. Average speed is ~1 kt.

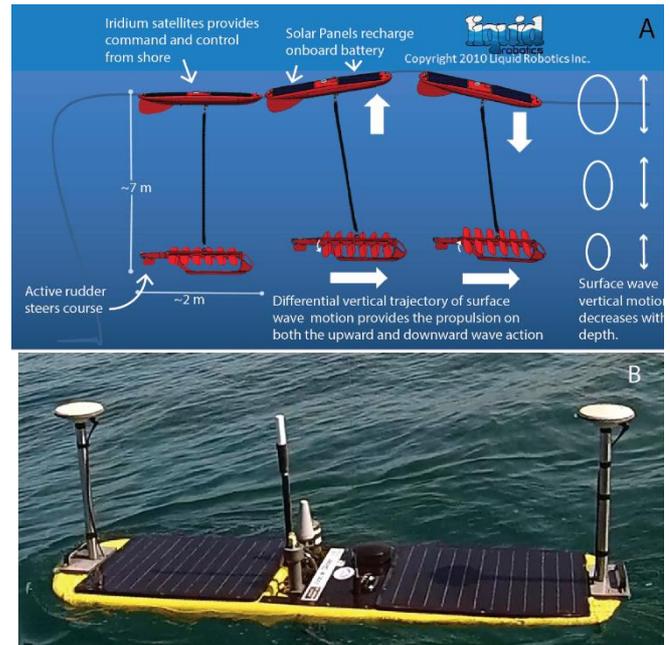


Figure 1: (A) Wave Glider concept for harvesting wave motion for propulsion. (B) Wave Glider configured for GPS-Acoustic operations underway at sea.

Timing of permitted activity

Proposed start date:	6/10/2018
Approximate duration of activity:	1825 days (~5 years)
Timetable:	<p>We are deploying 2 GPS-Acoustic arrays in October of 2018, one offshore Hawke Bay and another offshore the Wairarapa coast. We might be installing 1 or 2 additional arrays offshore the east coast of the North Island in 2019 or 2020. Deployment of the seafloor transponder arrays are permitted under an existing EPA permit to GNS Science (see permit REF:0557332).</p> <p>We will survey in each transponder array with the Wave Glider for 2-3 weeks, at least once per year for the next 5 years, with a maximum of 20 deployments within the 5 year period. These repeated surveys will enable us to build up a picture of the horizontal rates of motion of the offshore Hikurangi subduction zone.</p>

Location of permitted activity

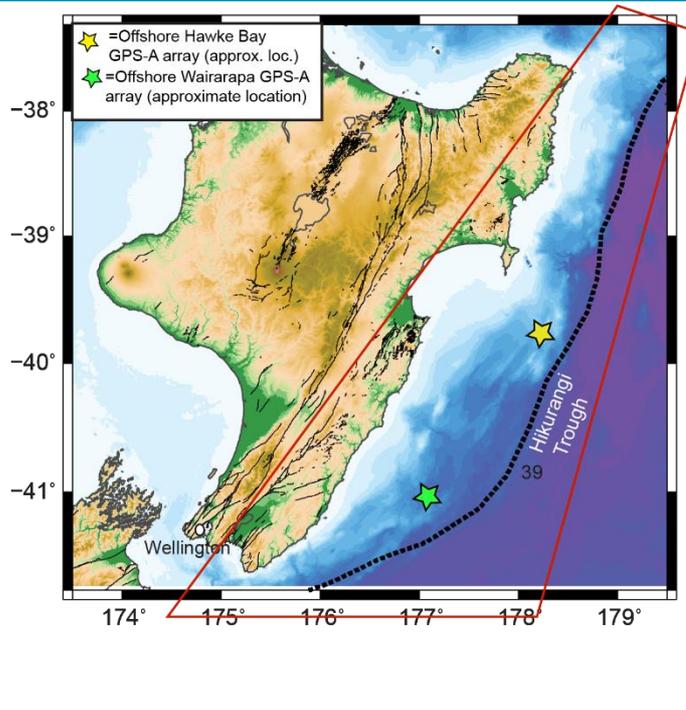
Co-ordinates of area where activity will be undertaken:

(Provide four sets of co-ordinates in latitude and longitude or submit a shape file or KML/KMZ file.)

Set 1	179°10' E, 37°S
Set 2	179°50', 37.25°S
Set 3	178°10' E, 42°S
Set 4	174°45' E, 42°S
<input type="checkbox"/>	I have attached a shape or KML/KMZ file

Map:

(Provide a map that shows the location of your activity relative to the New Zealand coastline)



The map shows the location of the two planned GPS-A transponder arrays that will be surveyed in by the Wave Glider. The red box outlines the possible area of operations as part of our research.

Describe the current state of the area and the surrounding environment, including any known sensitive environments:

The Wave Glider will be operating in open ocean, more than 12 nm from the coastline. To our knowledge this surface-based platform will not encounter any sensitive environments.

Describe the likely effects of the activity on the environment:

As the Wave Glider travels along the ocean surface, there will be minimal to no effects on the environment. It will be deployed for short periods of time (less than one month), and therefore will not be susceptible to overgrowths or biological accumulations. Any unexpected growth that may occur affects the successful operation of the vehicle, and will be cleaned appropriately before any redeployment.

Other information

Name of the ship involved in the activity:	R/V Tangaroa, or other vessels based on availability
International call sign or vessel number of the ship:	
Associated licence number (under the Continental Shelf Act 1964):	
Associated permit number (under the Crown Minerals Act 1991):	

The EPA recovers costs in accordance with section 143 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, Exclusive Economic Zone and Continental Shelf (Fees and Charges) Regulations 2013, and EPA Cost Recovery Policy for the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 and Regulations. The policy specifies that the EPA will not recover costs for domestic or international marine scientific research where proof of government funding is provided.

To help the EPA determine whether you are eligible for cost recovery exemption under the policy, fill out the section below.

Is this activity receiving any government funding?

<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No (go to the next section)
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If yes, provide details and attach any proof of such funding:

This research is funded by the MBIE Endeavour fund, under a project entitled “Diagnosing the perils posed to New Zealand by the Hikurangi subduction zone”

Where the EPA is required to recover costs associated with the permitted activity to which this form relates, it will invoice the company, organisation or person named on this form. The invoice will be addressed to the named contact person.

Delivery details for the invoice if different from those given on page 2

Postal address	
Contact person	
Email address	
Purchase order number (if applicable)	

Payment is expected by the 20th of the month following the month of issue of the invoice.

Signature of authorised contact person

Date 10/08/2018

Name:

Title:

Note: A signature is not required for electronic (email) forms.