

## ***Interactive comment on “Public Perceptions of a Rip Current Hazard Education Program: ‘Break the Grip of the Rip!’” by Chris Houser et al.***

**Chris Houser et al.**

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Reviewer #1

Comment 1: I understand that the aim of the Authors is to analyze the results of the survey and that the article is not focused on the phenomenon “per se”, nevertheless I think that they presume that all the readers know about it, while this is not true. For example, describing figure 2 they assume that all the readers know what are the most dangerous sectors, but it is not true instead (or it is not for me that only know Mediterranean Sea and swimming pools). Maybe some notes in the caption of figure 2 could avoid that a reader having no experience with this type of phenomenon does not understand its importance and only can appreciate the correct scientific analysis of data.

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\*We agree with the reviewer that this level of detail is a needed revision to the manuscript. We will add notations to Figure 2 to identify the safe and unsafe areas in each picture, including the location of the rip current in each photograph. An additional annotation will be added to the Figure heading to let readers know that the annotation was not included in the original survey.

Comment 2: The same impression reading the section Forecast. The Authors should first give clear information on the “right message”, the right definition of high/low risk and then present the different people answers. In my opinion, this lack of information can generate confusion and obstruct a complete comprehension of the importance of the different answers.

\*The question raised by the reviewer represents one of the problems with the current warning systems for rips - there is no ‘right message’ for the definition of high or low risk. The forecast used by different agencies and in different areas are not consistent (as discussed on page 6, line 141), which means that it is not possible to identify the ‘right message’ for readers. However, we will add a statement to the methodology and results section on forecasts to remind the reader that there is no ‘right message’ and that we are only concerned about whether the respondent believed the message to be consistent with their observations.

Comment 3: The Authors, in my opinion, are too much focused on the results of their analysis and neglect to consider that not all the readers know the analyzed phenomenon.

\*We will add a section in the introduction that describes rips in more detail and explain their formation. This will be combined with the suggestion by Reviewer #2 to describe how rip forcing and behavior may vary in different regions.

Comment 4: The paper is very fluent, but also very long and not schematic. I think that a further effort should be done to summarize the main results of each paragraph in a table for each paragraph, and also in a general table summarizing all the findings in the

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discussion. Otherwise, as the paper is structured, the reader can not perceive each of the results obtained. Considering that this paper should be the starting point of an improvement of the Campaign, I think that the results should appear more clearly from the paper, in form of a list of bullets.

\*This is a very interesting suggestion that will help to summarize the main findings from each section. We will add this table to the beginning of the discussion section. In response to Reviewer #2 we will also be modifying the conclusion section to include bulleted outcomes of the study.

Comment 5: Figure 2: The authors have the answer in mind but also the readers would like to know it.

\*As noted above, we will add notations to Figure 2 to show the location of safe and unsafe swimming areas, as well as the location of the rip current in each photograph.

Comment 6: Figure 3: some of the characters are impossible to read. I suggest reducing the description, reducing the size of the diagram, increasing the size of the characters and putting the labels vertically (print to understand if it is readable).

\*We will increase the size of the text in the revised manuscript to ensure that all characters are readable.

Comment 7: Figure 4: reduce the size of the diagram and increase the size of captions that currently are impossible to read

\*We will increase the size of the text in the revised manuscript to ensure that all characters are readable.

Comment 8: Figure 5, 6 and 7: as for fig. 3

\*We will increase the size of the text in the revised manuscript to ensure that all characters are readable.

Reviewer #2

This paper presents results from an online survey of beach visitors in the USA which was directed at determining their perceptions of the ‘break the grip of the rip’ program specifically and, more generally, their knowledge of rip hazards and how to deal with them. The paper provides a useful introduction to the hazards posed by rip currents and the literature on this. It gives details of the break the grip program and also of related safety programs in place in the US to reduce drowning deaths related to rip currents. The methodology is clearly presented and illustrated with photographs and diagrams from the campaign and the questionnaire. The results are organised in sections around various themes which relate to the swimming ability and experience of the visitors with rip currents. These provide a useful means of evaluating the overall knowledge of rip currents and the hazards associated with them and also provide a means of assessing future directions in terms of rip safety.

Comment 1: There is, however, no section that focusses on familiarity with the ‘break the grip’ program itself and it might be useful to tackle this first and then go on to the detailed analysis.

\*This is a valid criticism and we will add a section about the ‘break the grip’ program at the start of the results section and use that as an introduction to the other results.

Comment 2: The results section is a little lengthy and could be shortened a bit by confining the quotes to one or two per section since they are provided purely for illustration.

\*We included as many quotes as possible to ensure that we provided as much context and detail as possible for the readers. However, we recognize that there are large number of quotes and that they are only used for illustration. In this respect, we will reduce the number of quotes in the results section.

Comment 3: The discussion is quite lengthy, but serves a useful purpose in drawing out the relevant messages from the survey itself and especially the contrast between frequent visitors, who were knowledgeable of the hazard, and infrequent visitors who were not knowledgeable and therefore likely to be most at risk. However, the key take-

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home messages in the discussion are not always apparent and it might be better to make them clearer in the conclusions by presenting them (the conclusions) as a set of concise bullet points that bring out the key results and recommendations rather than as a lengthy paragraph.

\*This is consistent with the comments of Reviewer #1, and we will include a table at the start of the discussion section to highlight the most important findings presented in the results section. We will also rewrite the conclusion section to be a set of bullets that summarizes the primary results of the study.

Comment 4: The authors note in the introduction that the US has 4 coastlines (presumably the Arctic coast is omitted because of limited swimming opportunities) and that they differed considerably in terms of wave climate and beach systems. They also differ in the role of winds in generating or exacerbating the hazard. Thus, on the Great Lakes rip currents always occur in the presence of moderate to strong winds while on the west coast rip currents are often associated with large swell events and wind may be light. In the Great Lakes, most rip current deaths appear to be associated with natural headlands, or with the presence of large groins or harbor jetties but in Florida or Texas this is probably not the case. It might be useful therefore to comment on whether there were differences in responses based on which coast people used and to assess whether the education program should be tailored to individual coasts.

\*In response to Reviewer #1 we will be adding a paragraph to the introduction to describe rip currents and will use this section to describe the differences in the rip problem amongst the different coasts. While there is not enough information to determine whether location had an influence on the responses, we will add this as a qualifier and possible complicating factor in the discussion section.

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2017-16/nhess-2017-16-AC1-supplement.pdf>

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