Humans effortlessly recognize water, but what makes recognition possible? We conducted empirical studies where target images of water are paired with similar distractors.

Initial experiments produced little discernible pattern. Contextually or visually similar distractors make users slow down and make mistakes, but unrelated distractors can isolate salient aspects of the target.

Experiments were conducted on a laptop screen with ten volunteer participants each.

Users as quickly as possible press the key corresponding to the image that represents water. We record and analyse error rates and response times using ANOVA and formulate a hypothesis of efficient water recognition.

## Data Pre-processing
- Average mistake rate is 5%.
- Outliers more than 3SD from the mean are removed.
- Regression is used to remove trends because users speed up or slow down during a session.
- Responses faster than 280ms precede ERP and are ignored.
- Responses longer than 900ms are labeled as failure to respond.
- Sessions with mistake rates above 5% are discarded.

## Conclusion
Efficient recognition of water depends on discernible wave structure (ripples, circles or caustics), color and contrast.

Distractors containing simple visual features common to water, which are registered preattentively, affect the response.

Verifying our hypothesis with formal experiments will provide designers with a toolbox for efficiently modelling and rendering water.