

# Package ‘olctools’

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**Type** Package

**Title** Open Location Code Handling in R

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**Description** 'Open Location Codes' <<http://openlocationcode.com/>> are a Google-created standard for identifying geographic locations. 'olctools' provides utilities for validating, encoding and decoding entries that follow this standard.

**License** MIT + file LICENSE

**Suggests** testthat, knitr

**LinkingTo** Rcpp

**Imports** Rcpp

**VignetteBuilder** knitr

**RoxygenNote** 5.0.1

**URL** <https://github.com/Ironholds/olctools>

**BugReports** <https://github.com/ironholds/olctools/issues>

**NeedsCompilation** yes

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decode_olc	<i>Decode Open Location Codes into Latitude and Longitude Pairs</i>
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**Description**

decode\_olc takes Open Location Codes and, if they're valid (see [validate\\_full](#)) returns the minimum, centred and maximum latitude and longitude for those coordinates.

**Usage**

```
decode_olc(olcs)
```

**Arguments**

olcs	a vector of Open Location Codes, generated through encode_olc or an equivalent tool.
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**See Also**

[encode\\_olc](#) for the opposite operation, and [shorten\\_olc](#) to convert "full" Open Location Codes to "short" Open Location Codes.

**Examples**

```
decode_olc("7FG49Q00+")
```

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encode_olc	<i>Encode Latitude and Longitude Pairs as Open Location Codes</i>
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**Description**

encode\_olc creates Open Location Codes from latitude and longitude values, of a specified length.

**Usage**

```
encode_olc(lats, longs, length)
```

**Arguments**

lats	a numeric vector of latitudes.
longs	a numeric vector of longitudes, equivalent in size to lats
length	the length you want the resulting OLCs to be. The conventional lengths are 10 or 11, with any number above 8 and any <i>even</i> number below it being acceptable. length should consist of either a single value, if you want all codes to be calculated to the same length, or a vector of values the same size as lats and longs if you want to pre-set values.

**See Also**

[decode\\_olc](#) for the opposite operation, and [shorten\\_olc](#) to convert "full" Open Location Codes to "short" Open Location Codes.

**Examples**

```
encode_olc(20.375, 2.775,6)
```

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 olctools

*Tools for handling Open Location Codes*


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**Description**

**Open Location Codes** are a Google-created standard for identifying geographic locations. olctools provides utilities for validating, encoding and decoding entries that follow this standard.

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 recover\_olc

*Recover Full Open Location Codes From Shortened Codes*


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**Description**

[shorten\\_olc](#) (and other sources) shorten a code, reducing the space it occupies. They also limit its ability to be translated back into latitude/longitude pairs. `recover_olc` recovers a full code from a shortened one, allowing it to be decoded with [decode\\_olc](#). *Some* loss of accuracy or precision is expected - and as it finds the closest match to the coordinates rather than to the original code, the characters may be very different.

**Usage**

```
recover_olc(olcs, lats, longs)
```

**Arguments**

olcs	a vector of short open location codes, generated with <a href="#">shorten_olc</a> or through any other means.
lats	a numeric vector of latitudes.
longs	a numeric vector of longitudes, equivalent in size to lats.

**Examples**

```
# Shorten an OLC and then recover the nearest full code. Note the actual characters differ.
shortened_code <- shorten_olc("8FVC9G8F+6X", 47.5, 8.5);
recovered_code <- recover_olc(shortened_code, 47.4, 8.6);
```

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shorten_olc	<i>Shorten Full Open Location Codes</i>
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### Description

One of the things that makes OLCs useful is that they can be shortened - you can trim characters off them, saving space without substantially compromising the accuracy. `shorten_olc` takes full-length OLCs (generated with `encode_olc` or any other way) and shortens them.

### Usage

```
shorten_olc(olcs, lats, longs)
```

### Arguments

<code>olcs</code>	a vector of open location codes, generated with <code>encode_olc</code> or through any other means.
<code>lats</code>	a numeric vector of latitudes.
<code>longs</code>	a numeric vector of longitudes, equivalent in size to <code>lats</code> .

### See Also

`encode_olc` to create full Open Location Codes.

### Examples

```
#Encode an OLC and then shorten it
olc <- encode_olc(51.3708675,-1.217765625, 12)
validate_full(olc)
# [1] TRUE

olc <- shorten_olc(olc, 51.3708675,-1.217765625)
validate_short(olc)
# [1] TRUE
```

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validate_olc	<i>Check the Validity of Open Location Codes</i>
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### Description

These functions allow a user to check whether OLCs they've been provided are valid or not. `valid_short` identifies whether a vector of OLCs are valid "short" codes; `valid_long` identifies whether OLCs are valid "long" codes, and `valid_full` identifies whether OLCs are valid, full stop.

**Usage**

```
validate_olc(codes)
```

```
validate_short(codes)
```

```
validate_full(codes)
```

**Arguments**

codes                    a character vector containing Open Location Codes.

**Value**

a vector of TRUE and FALSE values, where TRUE corresponds to a valid code and FALSE an invalid.

**See Also**

[decode\\_olc](#) and [encode\\_olc](#) for creating and resolving valid Open Location Codes.

**Examples**

```
#Validate that a particular OLC is valid
validate_olc("WC2345+G6g")
#[1] TRUE

#It is! Is it a short?
validate_short("WC2345+G6g")
#[1] TRUE
#Yep!

#So it's not full?
validate_full("WC2345+G6g")
#[1] FALSE
#Nope!
```

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