

NAME

cproj, cprojf, cprojl – project into Riemann Sphere

LIBRARY

Math library (*libm*, *-lm*)

SYNOPSIS

```
#include <complex.h>
```

```
double complex cproj(double complex z);
```

```
float complex cprojf(float complex z);
```

```
long double complex cprojl(long double complex z);
```

DESCRIPTION

These functions project a point in the plane onto the surface of a Riemann Sphere, the one-point compactification of the complex plane. Each finite point *z* projects to *z* itself. Every complex infinite value is projected to a single infinite value, namely to positive infinity on the real axis.

ATTRIBUTES

For an explanation of the terms used in this section, see [attributes\(7\)](#).

Interface	Attribute	Value
cproj(), cprojf(), cprojl()	Thread safety	MT-Safe

STANDARDS

C11, POSIX.1-2008.

HISTORY

glibc 2.1. C99, POSIX.1-2001.

In glibc 2.11 and earlier, the implementation does something different (a *stereographic* projection onto a Riemann Sphere).

SEE ALSO

[cabs\(3\)](#), [complex\(7\)](#)