

Abstract Submitted
for the DFD19 Meeting of
The American Physical Society

Baroclinic Energy Transfer in the Ocean¹ BENJAMIN STORER,
HUSSEIN ALUIE, University of Rochester — The role of baroclinicity, which arises
from the misalignment of pressure and density gradients, is well-known in the vortic-
ity equation, yet its role in the kinetic energy budget has never been obvious. Ref.
[1] has recently shown that baroclinicity appears naturally in the kinetic energy
budget after carrying out the appropriate scale decomposition. Here, we extend the
coarse-graining decomposition to study this process within the shallow water model
and apply it to numerical simulations as well as satellite data. [1] A. Lees and H.
Aluie, *Fluids* 4, 92 (2019).

¹Supported by NASA grant number 80NSSC18K0772

Benjamin Storer
University of Rochester

Date submitted: 30 Jul 2019

Electronic form version 1.4