Daily arithmetic mean river flow data in units cubic feet per second (CFS) were gathered from the United States Geological Survey (USGS) at the most downstream gaging station that had a record that extended back to at least 1997 (Table 1). Data were converted to units of cubic meters per second. For rivers where the gage was far upstream from the estuary, flows were corrected to account for the flow increase due to watershed inputs between the gage and estuary by multiplying flows by the ratio of the total watershed area upstream of the estuary divided by the watershed area upstream of the gage. These flow correction factors are shown in Table 1. Daily mean flow data were averaged by season and by calendar year with seasons defined as winter (Jan-Mar), spring (Apr-Jun), summer (Jul-Sep) and autumn, (Oct-Dec). For the Neuse River, flows at Fort Barnwell (USGS 02091814) prior to October 1999 were estimated by an empirical linear regression model of upstream flows at Kinston (USGS 02089500) developed based on data from 1 January 2000 to 1 January 2020. The equation is

Fort Barnwell flow (m3/s) = 1.69 + 1.44 \* Kinston flow (m3/s), R2=0.97.

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| River | USGS Gage | Time span | Flow correction factor used |
| Cape Fear River | Cape Fear River near Kelly, USGS station 02105769 | 1974-2019 | 1 |
| Neuse River | Neuse River near Fort Barnwell, USGS station 02091814 | 1974-2019 | 1 |
| Tar River | Tar River at Tarboro, USGS station 02083500 | 1974-2019 | 1 |
| Roanoke River | Roanoke River at Roanoke Rapids USGS station 02080500 | 1974-2019 | 1.11 |
| Chowan River | Sum of Nottoway River at Sebrell (USGS station 02047000) and Blackwater River at Franklin (USGS station 02050000) | 1974-2019 | 1.19 for Nottoway River  1 for Blackwater River |