



Ecological Society of America
1990 M St, NW, Suite 700
Washington, DC 20036

December 18, 2020

Carissa Klemmer
Meteorologist
[NOAA/ National Weather Service](#)
[National Centers for Environmental Prediction](#)
NCO Implementation and Data Services Branch
5830 University Research Court
College Park, MD 20740

Dear Ms. Klemmer,

The Ecological Society of America (ESA) is the world's largest society of professional ecologists representing over 9,000 members across the country. We are submitting comments to the NWS National Centers for Environmental Prediction (NCEP) on the management of user access of the NCEP web services. While we acknowledge the need to safeguard web services, we respectfully oppose the proposed solution of limiting the number of users to 60 per minute. The proposed user limitations would disproportionately affect ecological researchers and the benefits they provide to society. Here we provide alternative solutions for consideration.

Forecasts of ecological processes require forecasted meteorology from the National Weather Service as inputs to ecological models. These ecological forecasts include water regulation, crop and timber production, fishery production, climate regulation and water quality which are crucial ecosystem services which benefit society. In many cases, forecasts of meteorology are needed for ecological models that are run multiple times a day and require near real-time access to NWS model guidance products.

Ecological forecasts commonly use the NOAA Global Ensemble Forecasting System (GEFS) and Climate Forecasting System (CFS) model output because they are forecasting at the day to seasonal time horizons. Moreover, they use all ensemble members and model runs from the GEFS and CFS to quantify the contribution of meteorological uncertainty to ecological forecasts. As a result, ecological forecasts can require the download of numerous files per day from the NOMADS server. For example, obtaining NOAA GEFS forecasts for all 81 National Ecological Observatory Network sites requires downloading 11,580 ~200 KB sized files per day (using the grib filter subset function on the NOMADS server). This is a small volume of data, but it is a large number of files. The number of files is even more when NOAA CFS forecasts are also downloaded. Limiting the rate that these small files can be downloaded creates a delay in the production of ecological forecasts.

To reduce the impact of the proposed change on the ecological forecasting community, we suggest the following alternative solutions: 1) Including days 17 through 35 from the NOAA GEFS in the OpenDAP so all required meteorological variables at all time horizons can be downloaded for a single location as one file (thus one hit to the NOMADS server); and 2) Adding the NOAA CFS to OpenDAP so that a single download can access the full forecast horizon for a single location.

While all the changes above would reduce the number of downloads required by the ecological forecasting community, they should occur in combination with an upgrade to the infrastructure which increases the total volume of downloads that the servers at NWS, particularly NOMADS, can handle at a time. However, if limits are imposed, we recommend limiting the size of downloads per minute rather than the number of hits per minute so that users who only need small sized files will not be impacted.

Thank you for your consideration. ESA stands ready to work with NCEP to achieve NWS website functionality while also providing the data needed for ecologists to conduct research for the benefit of society. Please contact Alison Mize, director of public affairs (alison@esa.org), if we may be of assistance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kathleen C. Weathers', with a long horizontal line extending to the right.

Kathleen C. Weathers, Ph.D.
President

Cc: Brian Gross, Ben Kyger