



# WSC

REQUEST FOR PROPOSAL

RFP #: TF – F1.H3

TITLE: WELL XXXXX FORECAST

CLOSING DATE AND TIME: SEPTEMBER 21. 2018 @ 5:00 PM

# Well Forecast: TF – F1.H3

---

## Background and Purpose

By responding to this Request for Proposal (RFP), the Proposer agrees that s/he has read and understood all documents within this RFP package.

## Submission Details

Responders to this RFP should supply:

- A business report up to 5 pages (not including cover page or table of contents), including any supporting plots and tables.
- The commented code (in a separate file) used to produce the results.

The report should address **all points described in the “Objective” section** below.

The report should be returned in the following way:

- Electronic (mailto: [sjsimmo2@ncsu.edu](mailto:sjsimmo2@ncsu.edu); Subject Line: Well XXXXX Forecast)

## Objective

The US Department of Agriculture’s program on Water, Sustainability and Climate (hereafter the “client”) is seeking proposals for predicting monthly well water height. The scope of services includes the following:

- Evaluation of the data to handle further time series modeling:
  - Check the stationarity of the well depth including seasonality, trend and/random walks; the analysts recommend using the Augmented Dickey-Fuller tests up to lag 2 for the results, however, you are welcome to suggest other techniques as long as the reasons are clearly stated and supported.
  - What strategies (if any) should the marketing analysis team take to make the data stationary?
  - Provide a graph of the stationary time series that will be used for further modeling.

## Data Provided

- The data is provided in an excel workbook with three tabs: Well, Tide and Rain. The client would like to focus on the well water data that is located in the Well tab.