# Replication files for "Ensemble Forecasting of Irregular Leadership Changes"

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To replicate the figures and tables in the article:

1. Download or cline the replication folder from github: https://github.com/andybega/rap-ensemble-forecasting
2. Download the 3 data files from dataverse and place them in `replication/data`: http://thedata.harvard.edu/dvn/dv/wardlab/faces/study/StudyPage.xhtml?globalId=doi:10.7910/DVN/27452
3. Change the working directory in `runme.R` to the path for the replication folder, then source or run through `runme.R`.

The replication script will attempt to install two required R packages that are include and not available on CRAN. You may have to manually install them if this fails. They are included in replication`/R/packages` as `EBMAforecastbeta_0.44` and `spduration_0.12`, with versions for Windows (.zip) and OS X (.tar.gz).

Files included in the replication folder:

`runme.R` – Replication R script to recreate figures and tables. Depends on the contents of the R and data subdirectories.

`/R`
`ensemble_forecast.R` – Defines several helper functions for calculating ensemble forecasts.
`worldMap.R` – Defines a generic function for thematic maps of the world.

`/R/packages`
`EBMAforecastbeta_0.44.tar.gz` – OS X source package
`EBMAforecastbeta_0.44.zip` – Windows source package
`spduration_0.12.tar.gz` – OS X source package
`spduration_0.12.zip` – Windows source package

`/data`
`readme.md` – Markdown file listing the included R data files.
`irc_data_v3.dta` – R data file that contains raw replication data. Two objects, base.data going back to 1955 and irc.data back to 2001.
`irc_data_mod.dta` – R data file that contains imputed and cleaned replication data. Three objects: train is data to estimate thematic models, test contains calibration and out of sample test data, irc.data is complete, unpartitioned data set.

`model_estimates.rda` – R data file with 7 objects that contain the thematic model estimates.
`ensemble_data.rda` – R data file of the thematic model predictions that are used to calibrate ensemble.
`ensemble.rda` – R data file of the estimated ensemble object.